

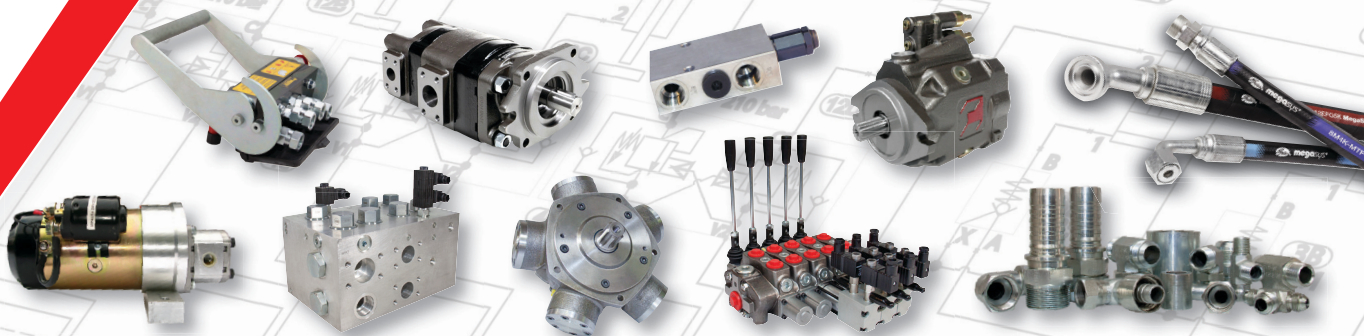
COMPLETE HYDRAULIC SOLUTIONS

# PRODUCT GUIDE

January 2022



## HYDRAULIC COMPONENTS



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Adelaide 08 8228 2411	Sydney 02 8814 2100	Newcastle 02 4033 6900	Melbourne 03 8793 6400	Laverton 03 9371 9000
Brisbane 07 3022 3700	Emerald 07 4988 1800	Mackay 07 4847 8800	Perth 08 6216 4600	Tasmania 03 6423 9900



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SAFETY+QUALITY+RELIABILITY



## SOUTHCOTT HYDRAULIC COMPONENTS PRODUCT GUIDE

Southcott's extensive product range has been developed over the years as a result of a comprehensive understanding of the hydraulics industry and our customers. Southcott is a reputable supplier of quality hydraulic components from local and world-leading brands.

The Hydraulic Components Product Guide is an informative guide to assist in the selection of hydraulic components. This is not a technical catalogue, and we recommend that you contact your local Southcott branch if you require technical product information.

## WHO WE ARE

### Australian Manufacturer

Southcott Pty Ltd is a privately owned Australian company. The Southcott family have been involved in designing and manufacturing for over 135 years, achieving significant accomplishments in engineering.

Today Southcott is the largest manufacturer of hydraulic hose couplings, adaptors and swage press machines in Australia and is recognised as a quality manufacturer of hydraulic pumps, motors, valves, manifolds and power units.

All manufacturing facilities are fitted with state-of-the-art CNC machinery, impulse & burst testing equipment. This enables Southcott to control the entire process from raw material to finished product to ensure precision and quality production.

Southcott is committed to continuing its success and is driven to further its research and development to ensure we meet the ever-evolving industry demands.

### Innovative Engineering

Southcott's multi-disciplinary engineers specialise in system solutions from initial concept to detailed mechanical design. They can also analyse your existing system and provide recommendations for improved performance and efficiency.

The Southcott team will work with you through every step of the process from hydraulic system design, component & kit supply, electronic control integration, installation, on-site service, commissioning, and training.

### National Distribution Network

Southcott is a significant force in hydraulics, fluid connectors, electronic controls and engineering with an extensive national network comprising of 10 sales & service branches to ensure support at a local level.

Our branches are equipped with hose assembly and testing equipment, hydraulic test benches and after-sales support vehicles. Through our experienced staff, we can provide customers with technical support, supply chain management and premium customer service.

## HYDRAULIC SYSTEM PARTNER *POWERING YOUR BUSINESS*



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# ELECTRIC MOTOR KILOWATTS REQUIRED TO DRIVE HYDRAULIC PUMP

PUMP PRESSURE (BAR)																
LPM	30	40	50	60	70	80	90	100	125	150	175	200	225	250	275	300
1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6
2	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
3	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.6	0.7	0.9	1.0	1.2	1.3	1.4	1.6	1.7
4	0.2	0.3	0.4	0.5	0.5	0.6	0.7	0.8	1.0	1.2	1.3	1.5	1.7	1.9	2.1	2.3
5	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.7	1.9	2.2	2.4	2.6	2.9
6	0.3	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.7	2.0	2.3	2.6	2.9	3.2	3.5
7	0.4	0.5	0.7	0.8	0.9	1.1	1.2	1.3	1.7	2.0	2.4	2.7	3.0	3.4	3.7	4.0
8	0.5	0.6	0.8	0.9	1.1	1.2	1.4	1.5	1.9	2.3	2.7	3.1	3.5	3.8	4.2	4.6
9	0.5	0.7	0.9	1.0	1.2	1.4	1.6	1.7	2.2	2.6	3.0	3.5	3.9	4.3	4.8	5.2
10	0.6	0.8	1.0	1.2	1.3	1.5	1.7	1.9	2.4	2.9	3.4	3.8	4.3	4.8	5.3	5.8
11	0.6	0.8	1.1	1.3	1.5	1.7	1.9	2.1	2.6	3.2	3.7	4.2	4.8	5.3	5.8	6.3
12	0.7	0.9	1.2	1.4	1.6	1.8	2.1	2.3	2.9	3.5	4.0	4.6	5.2	5.8	6.3	6.9
13	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.5	3.1	3.7	4.4	5.0	5.6	6.2	6.9	7.5
14	0.8	1.1	1.3	1.6	1.9	2.2	2.4	2.7	3.4	4.0	4.7	5.4	6.1	6.7	7.4	8.1
15	0.9	1.2	1.4	1.7	2.0	2.3	2.6	2.9	3.6	4.3	5.0	5.8	6.5	7.2	7.9	8.7
20	1.2	1.5	1.9	2.3	2.7	3.1	3.5	3.8	4.8	5.8	6.7	7.7	8.7	9.6	10.6	11.5
25	1.4	1.9	2.4	2.9	3.4	3.8	4.3	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4
30	1.7	2.3	2.9	3.5	4.0	4.6	5.2	5.8	7.2	8.7	10.1	11.5	13.0	14.4	15.9	17.3
35	2.0	2.7	3.4	4.0	4.7	5.4	6.1	6.7	8.4	10.1	11.8	13.5	15.1	16.8	18.5	20.2
40	2.3	3.1	3.8	4.6	5.4	6.2	6.9	7.7	9.6	11.5	13.5	15.4	17.3	19.2	21.1	23.1
50	2.9	3.8	4.8	5.8	6.7	7.7	8.7	9.6	12.0	14.4	16.8	19.2	21.6	24.0	26.4	28.8
60	3.5	4.6	5.8	6.9	8.1	9.2	10.4	11.5	14.4	17.3	20.2	23.1	26.0	28.8	31.7	34.6
70	4.0	5.4	6.7	8.1	9.4	10.8	12.1	13.5	16.8	20.2	23.5	26.9	30.3	33.6	37.0	40.4
80	4.6	6.2	7.7	9.2	10.8	12.3	13.8	15.4	19.2	23.1	26.9	30.8	34.6	38.4	42.3	46.1
90	5.2	6.9	8.7	10.4	12.1	13.8	15.6	17.3	21.6	26.0	30.3	34.6	38.9	43.3	47.6	51.9
100	5.8	7.7	9.6	11.5	13.5	15.4	17.3	19.2	24.0	28.8	33.6	38.4	43.3	48.1	52.9	57.7
125	7.2	9.6	12.0	14.4	16.8	19.2	21.6	24.0	30.0	36.0	42.1	48.1	54.1	60.1	66.1	72.1
150	8.7	11.5	14.4	17.3	20.2	23.1	26.0	28.8	36.0	43.3	50.5	57.7	64.9	72.1	79.3	86.5
175	10.1	13.5	16.8	20.2	23.5	26.9	30.3	33.6	42.1	50.5	58.9	67.3	75.7	84.1	92.5	100.9
200	11.5	15.4	19.2	23.1	26.9	30.8	34.6	38.4	48.1	57.7	67.3	76.9	86.5	96.1	105.7	115.3
225	13.0	17.3	21.6	26.0	30.3	34.6	38.9	43.3	54.1	64.9	75.7	86.5	97.3	108.1	118.9	129.8
250	14.4	19.2	24.0	28.8	33.6	38.4	43.3	48.1	60.1	72.1	84.1	96.1	108.1	120.1	132.2	144.2
275	15.9	21.1	26.4	31.7	37.0	42.3	47.6	52.9	66.1	79.3	92.5	105.7	118.9	132.2	145.4	158.6
300	17.3	23.1	28.8	34.6	40.4	46.1	51.9	57.7	72.1	86.5	100.9	115.3	129.8	144.2	158.6	173.0

This chart is based on the formula  $kW = \frac{LPM \times BAR}{612 \times EFFICIENCY}$   
For the purposes of this chart, pump efficiency was assumed to be 85%



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# OIL FLOW CAPACITY OF HOSE AND TUBING

INSIDE DIAMETER	SUCTION LINES (-0.25 TO 0 BAR)		HIGH EFFICIENCY LINES (0 TO 35 BAR)		CONTINUOUS RUN LINES (36 TO 207 BAR)		INTERMITTENT RUN LINES (208 BAR & ABOVE)	
	1.2M/SEC	4FT/SEC	3M/SEC	10FT/SEC	4.5M/SEC	15FT/SEC	6.1M/SEC	20FT/SEC
	LTR/MIN	US GPM	LTR/MIN	US GPM	LTR/MIN	US GPM	LTR/MIN	US GPM
1/4"	2.3	0.6	5.7	1.5	9	2.3	11	3
5/16"	3.8	1	9	2.4	14	3.6	18	4.8
3/8"	5.3	1.4	13	3.4	19	5	27	7
1/2"	9.5	2.5	23	6	34	9	45	12
5/8"	15	3.8	38	10	53	14	72	19
3/4"	21	5.5	53	14	79	21	106	28
7/8"	28	7.5	72	19	107	28	142	37
1"	38	10	85	25	140	37	185	49
1 1/4"	57	15	144	38	216	57	231	61
1 1/2"	83	22	209	55	314	83	416	110
1 3/4"	114	30	285	75	426	112	570	150
2"	148	39	371	97	556	147	742	196
2 1/2"	231	61	579	153	870	230	1158	306
3"	333	88	832	220	1249	330	1669	441

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# IMPERIAL FORMULAE

**NOTE: These formulae are theoretical and an allowance for inefficiency in practice should be made. For example, for a 10% margin, multiply results by 1.1.**

<b>HORSE POWER</b>	HP	=	$\frac{\text{PSI} \times \text{US GPM}}{1714}$
	HP	=	$\frac{\text{PSI} \times \text{C.IN} / \text{REV} \times \text{RPM}}{1714 \times 231}$
	HP	=	$\frac{\text{IN/LBS} \times \text{RPM}}{63025}$
<b>PRESSURE</b>	PSI	=	$\frac{\text{HP} \times 1714}{\text{US GPM}}$
	PSI	=	$\frac{\text{HP} \times 1714 \times 231}{\text{C.IN} / \text{REV} \times \text{RPM}}$
<b>PUMP DISPLACEMENT</b>	C.IN/REV	=	$\frac{\text{HP} \times 1714 \times 231}{\text{PSI} \times \text{RPM}}$
<b>FLOW RATE</b>	US GPM	=	$\frac{\text{HP} \times 1714}{\text{PSI}}$
<b>TORQUE</b>	IN/LBS	=	$\frac{\text{HP} \times 63025}{\text{RPM}}$
	IN/LBS	=	$\frac{\text{PSI} \times \text{C.IN} / \text{REV}}{2 \times \pi}$
<b>SPEED</b>	RPM	=	$\frac{\text{HP} \times 63025}{\text{IN} / \text{LBS}}$
<b>MOTOR DISPLACEMENT</b>	C.IN/REV	=	$\frac{\text{IN} / \text{LBS} \times 2 \times \pi}{\text{PSI}}$

---

Area of a circle =  $\frac{\pi D^2}{4}$

Where  $\pi$  = 3.1416

D = Diameter

**CYLINDER DISPLACEMENT (PUSH AND PULL)** = (PISTON AREA x STROKE x 2) - (ROD AREA x STROKE)



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# METRIC FORMULAE

**NOTE:** These formulae are theoretical and an allowance for inefficiency in practice should be made.  
For example, for a 10% margin, multiply results by 1.1.

**KILOWATTS**

$$\text{kW} = \frac{\text{BAR} \times \text{L} / \text{M}}{600}$$

$$\text{kW} = \frac{\text{BAR} \times \text{CC} / \text{REV} \times \text{RPM}}{600 \times 1000}$$

$$\text{kW} = \frac{\text{Nm} \times \text{RPM}}{9550}$$

**PRESSURE**

$$\text{BAR} = \frac{\text{kW} \times 600}{\text{L/M}}$$

$$\text{BAR} = \frac{\text{kW} \times 600 \times 1000}{\text{CC} / \text{REV} \times \text{RPM}}$$

**PUMP DISPLACEMENT**

$$\text{CC/REV} = \frac{\text{kW} \times 600 \times 1000}{\text{BAR} \times \text{RPM}}$$

**FLOW RATE**

$$\text{L/M} = \frac{\text{kW} \times 600}{\text{BAR}}$$

**TORQUE**

$$\text{Nm} = \frac{\text{kW} \times 9550}{\text{RPM}}$$

$$\text{Nm} = \frac{\text{BAR} \times \text{CC} / \text{REV}}{62.8}$$

**SPEED**

$$\text{RPM} = \frac{\text{kW} \times 9550}{\text{Nm}}$$

**MOTOR DISPLACEMENT**

$$\text{CC/REV} = \frac{\text{Nm} \times 20 \times \pi}{\text{BAR}}$$

Area of a circle

$$= \frac{\pi D^2}{4}$$

Where  $\pi$  = 3.1416

D = Diameter

**CYLINDER DISPLACEMENT (PUSH AND PULL)**

$$= (\text{PISTON AREA} \times \text{STROKE} \times 2) - (\text{ROD AREA} \times \text{STROKE})$$

## CONVERSION TABLE - METRIC TO IMPERIAL

METRIC	IMPERIAL	MULTIPLY BY
mm	in	0.039
cm <sup>2</sup>	in <sup>2</sup>	0.155
cm <sup>3</sup>	in <sup>3</sup>	0.061
lit.	in <sup>3</sup>	61.024
lit.	gall (US)	0.264
lit.	gall (Imp)	0.220
bar	psi	14.50
kPa	psi	0.145
mPa	psi	145.033
Nm	lb. ft.	0.738
Nm	lb. in	8.8496
M	ft	3.281
N	lb. (force)	0.225
tonne	ton (US)	1.102
tonne	ton (Imp)	0.984
kg	lb	2.204
kW	HP	1.341
J	Btu	0.00095
dm <sup>3</sup> /s	scfm	2.118

## CONVERSION TABLE - IMPERIAL TO METRIC

IMPERIAL	METRIC	MULTIPLY BY
in	mm	25.4
in <sup>2</sup>	cm <sup>2</sup>	6.452
in <sup>3</sup>	cm <sup>3</sup>	16.387
in <sup>3</sup>	lit.	0.0164
gall (US)	lit.	3.785
gall (Imp)	lit.	4.546
psi	bar	0.069
psi	kPa	6.895
psi	mPa	0.0069
lb. ft.	Nm	1.356
lb. in	Nm	0.1129
ft	M	0.3048
lb. (force)	N	4.448
ton (US)	tonne	0.907
ton (Imp)	tonne	1.016
lb	kg	0.454
HP	kW	0.746
Btu	J	1055
scfm	dm <sup>3</sup> /s	0.472



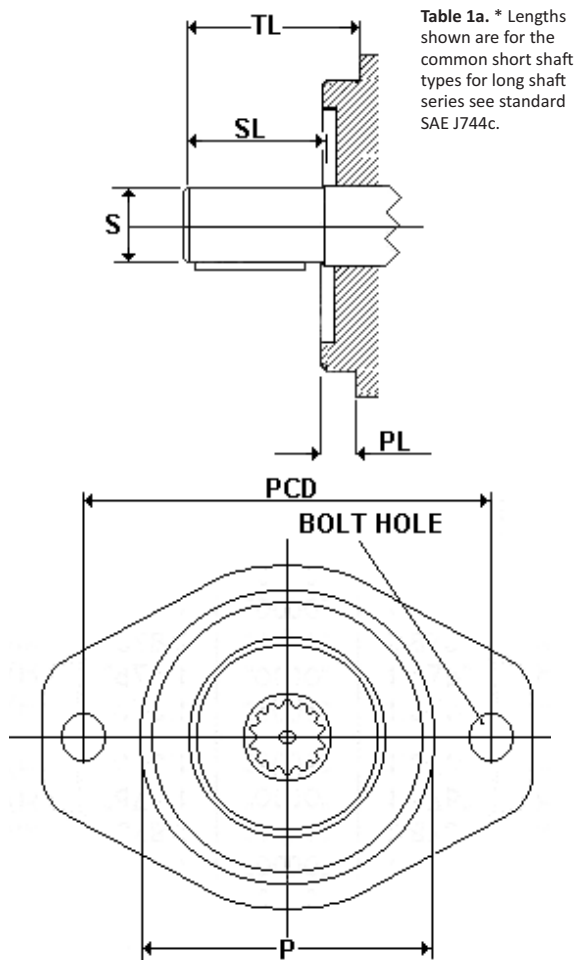
# HYDRAULIC PUMP & MOTOR MOUNT

## FLANGE & SHAFT INDUSTRY STANDARDS

EXTRACTS FROM SAE J74CC ANSI STANDARD FOR FLUID POWER PUMPS AND MOTORS

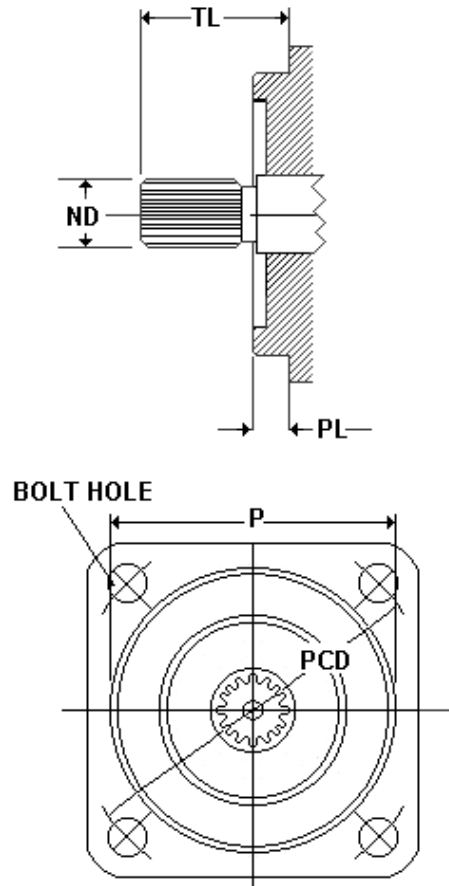
### STRAIGHT SHAFT TYPES

SAE Code	"S"	"SL"	"TL"	Key Width
AA	1/2"	0.750	1.062	0.125
A	5/8"	0.937	1.250	0.156
B	7/8"	1.3142	1.625	0.250
BB	1"	1.500	1.812	0.250
C	1.1/4"	1.875	2.187	0.312
CC	1.1/2"	2.125	2.437	0.375
D	1.3/4"	2.625	2.937	0.437



### 30 DEG INVOLUTE SPLINE TYPES

SAE Code	Spline Details	Nom Diameter	"TL"
AA	9T 20/40DP	1/2"	1.062
A	9T 16/32DP	5/8"	1.250
AH	11T 16/32DP	3/4"	1.250
B	13T 16/32DP	7/8"	1.625
BB	15T 16/32DP	1"	1.812
C	14T 12/24DP	1 1/4"	2.187
CC	17T 12/24DP	1 1/2"	2.437
D	13T 8/16DP	1 3/4"	2.937
E	13T 8/16DP	1 3/4"	2.937
F	15T 8/16DP	2"	3.437



### TWO BOLT MOUNTING FLANGE

SAE CODE	PILOT DIA	BOLT PCD	BOLT HOLE	PILOT LENGTH
AA	2.00"	3.250"	0.406"	0.250"
A	3.25"	4.187"	0.437"	0.250"
B	4.00"	5.750"	0.562"	0.375"
C	5.00"	7.125"	0.687"	0.500"
D	6.00"	9.000"	0.812"	0.500"
E	6.50"	12.500"	1.062"	0.625"
F	7.00"	13.781"	1.062"	0.625"

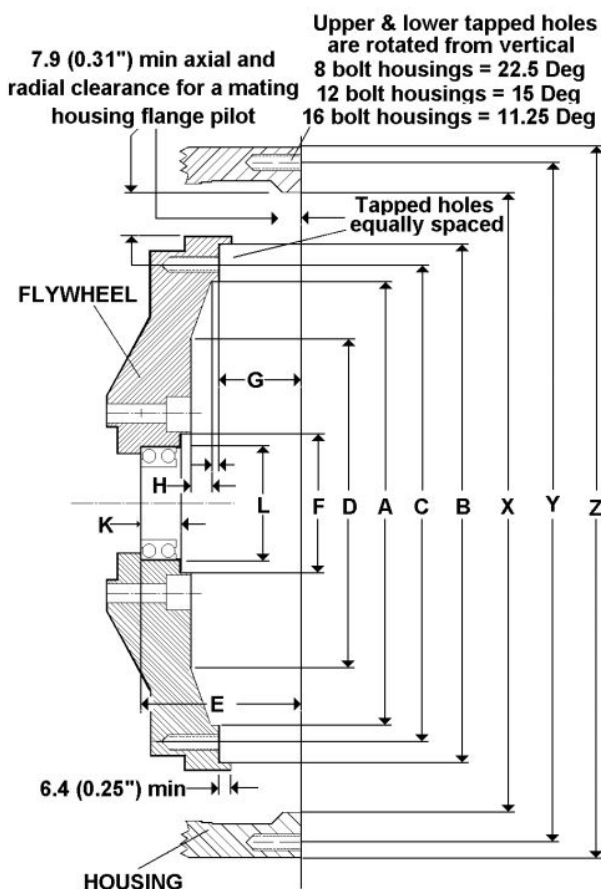
### FOUR BOLT MOUNTING FLANGE

SAE Code	PILOT DIA	BOLT PCD	BOLT HOLE	PILOT LENGTH
B	4.00"	5.000"	0.562"	0.375"
C	5.00"	6.375"	0.562"	0.500"
D	6.00"	9.000"	0.812"	0.500"
E	6.50"	12.500"	0.812"	0.625"
F	7.00"	13.781"	1.062"	0.625"

# DIESEL ENGINE FLYWHEEL

## EXTRACTS FROM SAE J620D FOR ENGINE FLYWHEELS AND SAE J617C FOR ENGINE FLYWHEEL HOUSINGS.

Flywheels to J620D are in common use on diesel engines supplied for industrial and marine applications. Engines supplied for the truck market are usually fitted with automotive type flywheels which do not conform to standard J620D. Also some engines from Europe and Japan have variations away from standard such as metric threads in the flywheel housing or non standard machining.



Flywheel No.	A	B	C	D
	mm	mm	mm	mm
6-1/2	184.2	215.9	200.02	127
7-1/2	206.2	241.3	222.25	-
8	225.6	263.52	244.48	-
10	276.4	314.32	295.28	196.8
11-1/2	314.5	352.42	333.38	203.2
14	409.4	466.72	438.15	222.2
16	460.2	517.52	488.95	254
Flywheel No.	E	F	G	H
	mm	mm	mm	mm
6-1/2	71.4	63.5	30.2	12.7
7-1/2	71.4	63.5	30.2	12.7
8	100.1	76.2	62	12.7
10	100.1	76.2	53.8	15.7
11-1/2	100.1	-	39.6	28.4
14	100.1	101.6	25.4	28.4
16	100.1	104.6	15.7	28.4
Flywheel No.	J	K	L	Tapped Holes No.
	mm	mm	mm	
6-1/2	9.7	17.5	52	6
7-1/2	12.7	17.5	52	8
8	12.7	19	62	6
10	12.7	28.4	72	8
11-1/2	22.4	31.8	72	8
14	22.4	38.1	80	8
16	22.4	44.4	100	8
Housing SAE No.	X	Y	Z	Tapped Holes No.
	mm	mm	mm	
6	266.7	285.75	307.8	8
5	314.32	333.38	355.6	8
4	361.95	381	403.4	12
3	409.58	428.62	450.8	12
2	447.68	466.72	489	12
1	511.18	530.22	552.4	12
1/2	584.2	629.12	647.7	12



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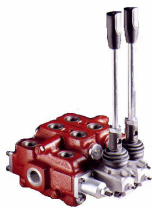


# SECTION A

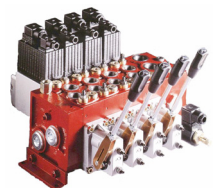
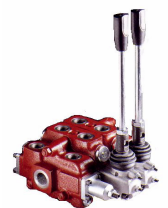
## DIRECTIONAL CONTROL VALVES

### MANUAL DIRECTIONAL VALVES

**Valve Type/Series** **Page**



<b>MONOBLOCK VALVES</b> .....	<b>A 2</b>
SDM080 Series .....	25 L/min ..... A 2
SD4 Series .....	45 L/min ..... A 3
SD14 Series .....	120 L/min ..... A 3
SD5 Series .....	45 L/min ..... A 4
SDM105 Series .....	40 L/min ..... A 5
SDM110 Series .....	45 L/min ..... A 5
SD11 Series .....	70 L/min ..... A 6
SD18 Series .....	150 L/min ..... A 7
SDM140 Series .....	80 L/min ..... A 8
SDM141 Series .....	80 L/min ..... A 9
CANE TRAILER BRAKE VALVE ..	45 L/min ..... A 10
LOG SPLITTER VALVE .....	95 L/min ..... A 10
MONOBLOCK SPOOLS .....	A 11



**WALVOIL FRONT-END LOADER VALVES** .....

**WALVOIL SECTIONAL VALVES** .....

**WALVOIL PROPORTIONAL VALVES** .....

**WALVOIL DIVERTER VALVES** .....

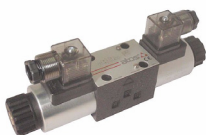
**CABLE CONNECTION KITS** .....

**JOYSTICK CABLE CONTROL** .....

**OIL PILOT CONTROLS** .....

**PNEUMATIC PILOT CONTROLS** .....

**CONTROLLER HANDLES** .....



### SOLENOID OPERATED VALVES

**ATOS SOLENOID VALVES** .....

**MAXMA SOLENOID VALVES** .....



1800-OILSOL  
1800-645765

<https://oilsolutions.com.au/>

[sales@oilsolutions.com.au](mailto:sales@oilsolutions.com.au)

NB: Models, codes and specifications may be subject to change without notice.

MONOBLOCK VALVES

# SDM080 Series

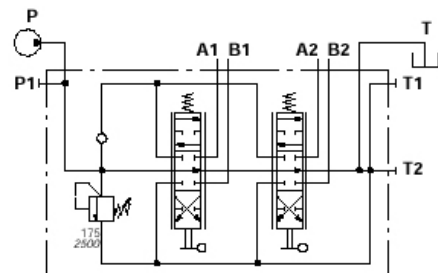
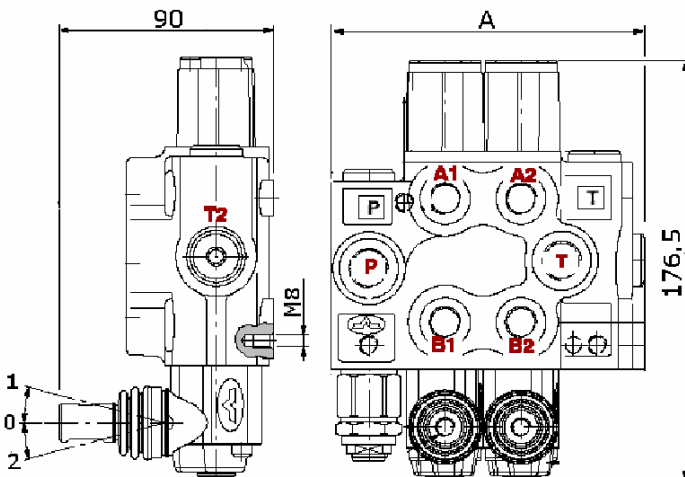
1 to 4 sections for open and closed centre.  
 Fitted with main pressure relief and load hold check.  
 Available in parallel or tandem circuit.  
 Optional high pressure carry-over port.  
 Ø14mm interchangeable spools.  
 Available with microswitch and cable spool controls.



Part Number	No. Spools	Nom. Flow L/min	Max. Press. P, A, B bar	Max. Press. T bar	Ports BSPP		Dim A mm
					P&T	A&B	
SDM080/1/18/PSA	1	25	315	25	3/8"	1/4"	95
SDM080/2/2X18/PSA	2						127
SDM080/3/3X18/PSA	3						159
SDM080/4/4X18/PSA	4						191
SDM080/5/5X18/PSA	5						223
SDM080/6/6X18/PSA	6						255

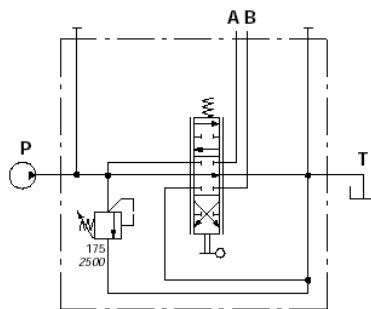
The above models are fitted with cylinder spools, spring centre kits and standard handles.

Options		
Type	Part Number	Description
1,2,3,4		Spool options - please refer to page A 11
8	5V08102000	Spring Centre Kit
11	5V11102000	Detent 3 Position
AE	4TAP310007	Plug - High Pressure Carry Over
AEK	4TAP310007 + 3XTAP722160	Plug - Closed Centre (fit 3/8" steel plug to top tank port)
LCB	5CLO102000	Joystick - Mechanical
		Microswitch option available upon request
		Cable Control - please refer to page A 46



### MONOBLOCK VALVES SD4 Series

Compact design - single spool for open and closed centre circuits.  
Fitted with main pressure relief.  
Ø16mm interchangeable spools.



### MONOBLOCK VALVES SD14 Series

Compact design - single spool for open and closed centre circuits.  
Fitted with main pressure relief.  
Ø20mm interchangeable spools.



Part Number	Nominal Flow L/min	Nominal Pressure bar	Ports BSPP
			P, A, B, T
SD4/1/18	45	250	1/2"
SD14/1/18	120	250	3/4"

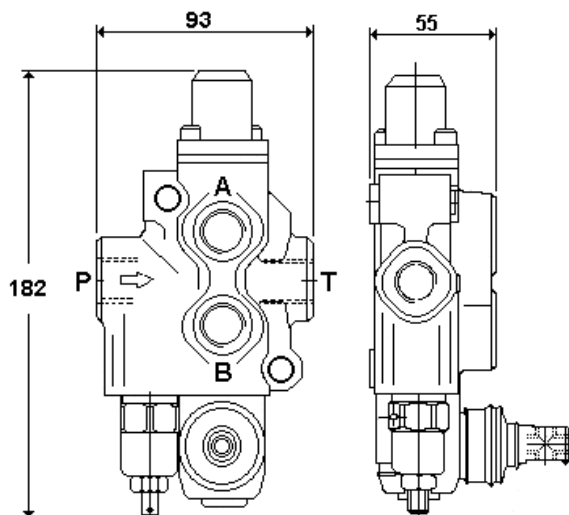
The above units are fitted with a cylinder spool and are spring-centred.

SD4 Options		
Type	Part Number	Description
1,2,3,4,6,7		Spool options - please refer to page A 11
8	5V08104000	Spring Centre Kit
11	5V11104000	Detent Kit 3 Position
12	5V12104000	Detent Kit 2 Position (1,2)
15	5V15105000	Detent Kit 2 Position (0,1)
		Cable Control - please refer to page A 46

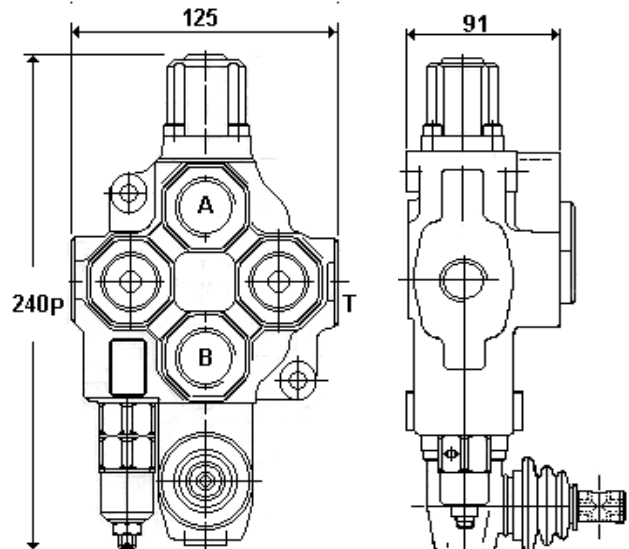
SD14 Options		
Type	Part Number	Description
1,2,3,4,6,7		Spool options - please refer to page A 11
8	5V08110000	Spring Centre Kit
11	5V11110000	Detent Kit 3 Position
12	5V12110000	Detent Kit 2 Position (1,2)
15	5V15110000	Detent Kit 2 Position (0,1)
		Cable Control - please refer to page A 46

Note: For Log Splitter Valve please use monoblock valve SD4/1/1N9A(80)LA

#### SD4 Series

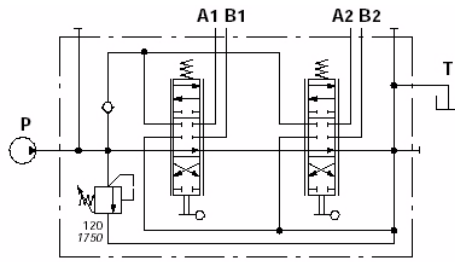


#### SD14 Series



## MONOBLOCK VALVES SD5 Series

Simple, compact and heavy duty design.  
1 to 7 sections.  
For open and closed centre circuits.  
Fitted with main pressure relief and load hold check.  
Available in parallel, series or tandem circuit.  
Optional high pressure carry over port.  
Ø16mm interchangeable spools.  
Available with solenoid and cable spool control.

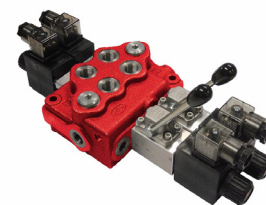
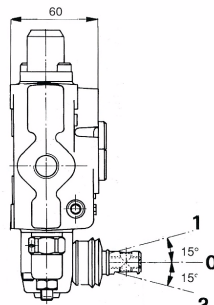
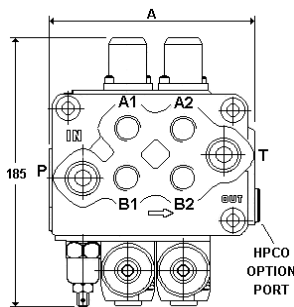


The below models are fitted with cylinder spools, standard handles and are spring-centred.

Part Number	No. Spools	Nom. Flow L/min	Max. Pressure P, A, B bar	Max. Pressure T bar	Ports BSPP	Dim A mm
SD5/1/18	1	45	315	25	3/8"	100.5
SD5/2/2X18	2					137.5
SD5/3/3X18	3					174.5
SD5/4/4X18	4	40				211.5
SD5/5/5X18	5					248.5
SD5/6/6X18	6					285.5
SD5/7/7X18	7					322.5

### Options

Type	Part Number	Description
1,2,3,4,5,6,7		Spool options - please refer to page A 11
8	<b>5V08105000</b>	Spring Centre Kit (Standard)
9	<b>5V09105010</b>	Detent in pos.1 (port A) & Spring return from Pos.2 (port B)
10	<b>5V10105010</b>	Detent in pos.2 (port B) & Spring return from Pos.1 (port A)
11	<b>5V11105000</b>	Detent - 3 position
12	<b>5V12105000</b>	Detent - 2 position (1 & 2)
15	<b>5V15105000</b>	Detent - 2 position (0 & 1)
513	<b>**SD5-513</b>	4th Position Float (Special Body)
AE	<b>3XGIU522460</b>	Plug - High Pressure Carry Over
AEK	<b>3XTAP522282</b>	Plug - Closed Centre
AET	<b>3XTAP623170</b>	Plug - Open Centre (Standard)
8P	<b>5V08105701</b>	Pneumatic Control
LCN1-4	<b>5CLO305100</b>	Joystick (on 2 spools)
LCN2-3	<b>5CLO305101</b>	
8IM	<b>5IDR205021</b>	Hydraulic Pilot - Proportional 5-15 bar
8ES3	<b>SD5/18ES3-12VDC</b>	Solenoid Kit 12 Volt (2 sides without handle)
8ES3	<b>SD5/18ES3-24VDC</b>	Solenoid Kit 24 Volt (2 sides without handle)
8ES3LHC	<b>SD5/18ES3LHC-12VDC</b>	Solenoid + Handle Control Kit 12 VDC (2 sides)(includes type 1 spool)
8ES3LHC	<b>SD5/18ES3LHC-24VDC</b>	Solenoid + Handle Control Kit 24 VDC (2 sides)(includes type 1 spool)
8MG3 (NO)	<b>5V08105660</b>	Kit 8MG3 N/O Microswitch 1&2
8MG3 (NC)	<b>5V08105662</b>	Kit 8MG3 N/C Microswitch 1&2
2RL	<b>SD5/5ROT-2</b>	Rotary Spool Kit - type 2 (motor) spool, also avail in type 1 (cyl)
		Cable Control - Please refer to page A 46



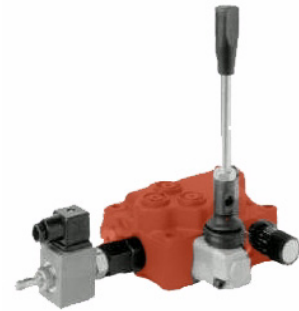
**SD5/2/2x18ES3LHC**  
Electric on/off + manual control  
available on request.



MONOBLOCK VALVES

## SDM105 Series

These directional control valves are the same as the SD5 series except they are fitted with a pressure compensated flow regulator on the inlet port to provide fine tuning of the actuator speeds, it can also be fitted with a solenoid unloader valve which enables remote stop/start.



Part Number	No. Spools	Nom. Flow L/min	Max. Press. P, A, B bar	Max. Press. on T bar	Ports BSPP		Dim A mm
					P&T	A&B	
SDM105/1/M/18L/LT	1	40	315	25	3/8"	3/8"	137.5

The above valve is fitted with a cylinder spool, without a solenoid unloader and is spring-centred. The spool and control options are the same as the SD5 series.

MONOBLOCK VALVES

## SDM110 Series

These directional control valves are the same as the SD5 series except they have the provision for port reliefs & anti-cavitation checks. They have a relief valve and load hold check valve on the spool pressure line and the provision for a high pressure carry over option.

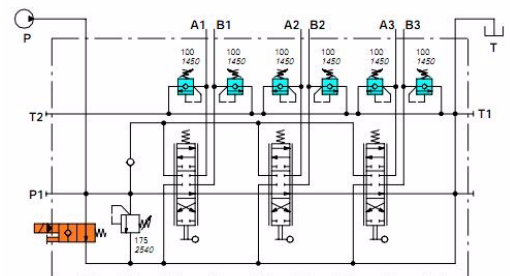
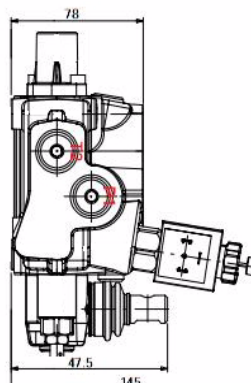
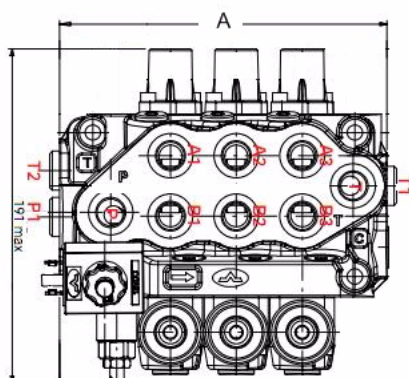
An unloader solenoid is also available as an option (as illustrated).

Also available in 5 or 6 sections upon request.



Part Number	No. Spools	Nom. Flow L/min	Max. Pressure P, A, B bar	Max. Pressure on T bar	Ports BSPP	Dim A mm
SDM110/1/18.U3T/AET	1	45	315	25	3/8"	100.5
SDM110/2/2X18.U3T/AET	2					137.5
SDM110/3/3X18.U3T/AET	3					174.5
SDM110/4/4X18.U3T/AET	4					211.5

Can use SD5 options and/or options listed below		
Type	Part Number	Description
UR	X222422170	Port Relief & Anti Cavitation Check 101-170 bar
UR	X222422250	Port Relief & Anti Cavitation Check 171-250 bar
UR	X222421250	Port Relief & Anti Cavitation Check 201-250 bar
ELP	EC08M/...	Unloader Valve 12VDC or 24VDC (available on request)



## MONOBLOCK VALVES SD11 Series

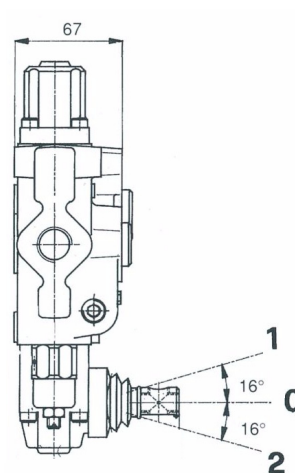
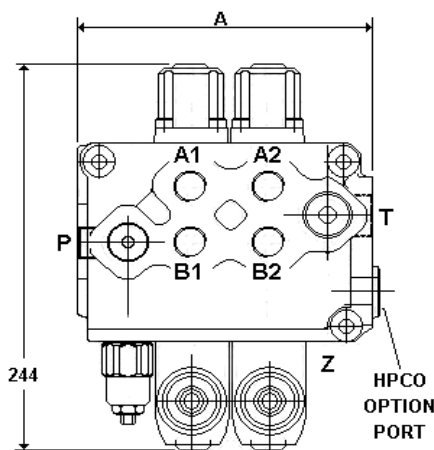
Simple, compact and heavy duty design - 1 to 6 sections.  
 For open or closed centre applications.  
 Available in parallel or series circuit.  
 Optional high pressure carry over port.  
 Ø20mm interchangeable spools.  
 Available with electro-hydraulic, pneumatic, hydraulic pilot and cable spool controls.



The below models are fitted with cylinder spools, standard handles and are spring centred.

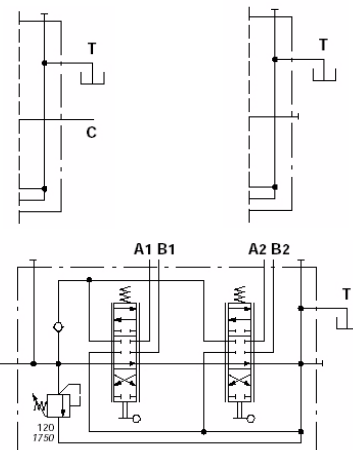
Part Number	No. of Spools	Nom. Flow L/min	Max. Pressure P, A, B bar	Max. Pressure T bar	Ports BSPP		Dim A mm
					P, A, B	T	
SD11/1/18	1	70	315	25	1/2"	3/4"	129
SD11/2/2X18	2						174
SD11/3/3X18	3	65					219
SD11/4/4X18	4						264
SD11/5/5X18	5	60					309
SD11/6/6X18	6						354

Options		
Type	Part Number	Description
1,2,3,4,5,6,7		Spool options - please refer to page A 11
9	<b>5V09110000</b>	Detent in pos.1 (port A) & Spring return from Pos.2 (port B)
11	<b>5V11110000</b>	Detent - 3 position
12	<b>5V12110000</b>	Detent - 2 Position (1 & 2)
15	<b>5V15110000</b>	Detent - 2 Position (0 & 1)
513	<b>**SD11-513</b>	4th Position Float
AE	<b>3XGIU532470</b>	Plug - High Pressure Carry Over
AEK	<b>3XTAP532450</b>	Plug - Closed Centre
8P	<b>5V08110701</b>	Pneumatic Control On/Off
8PZ	<b>5V08110714</b>	Pneumatic Control - Proportional
8IM	<b>5IDR210000</b>	Hydraulic Pilot 5.8-22.4 bar Range(max. Pilot =50 bar)
8EPG3	<b>5V08110735</b>	12VDC On/Off Electropneumatic Kit
8EPG3	<b>5V08110736</b>	24VDC On/Off Electropneumatic Kit
8EI3	<b>5V08110321</b>	Electric over hydraulic kit. Requires feeder kit <b>5KE*R30430</b> (replace * with number of working sections)
LCB	<b>5CLO211100</b>	Joystick (on 2 spools)
2RL	<b>SD11/5ROT-2</b>	Rotary Spool Kit - type 2 (motor) spool, also avail in type 1 (cyl)
		Cable Control -(Refer to page A 46)



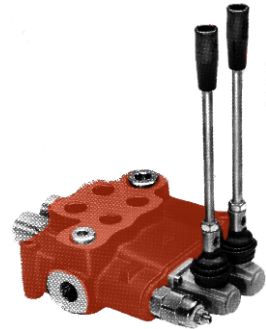
Power beyond

Closed centre



## MONOBLOCK VALVES SD18 Series

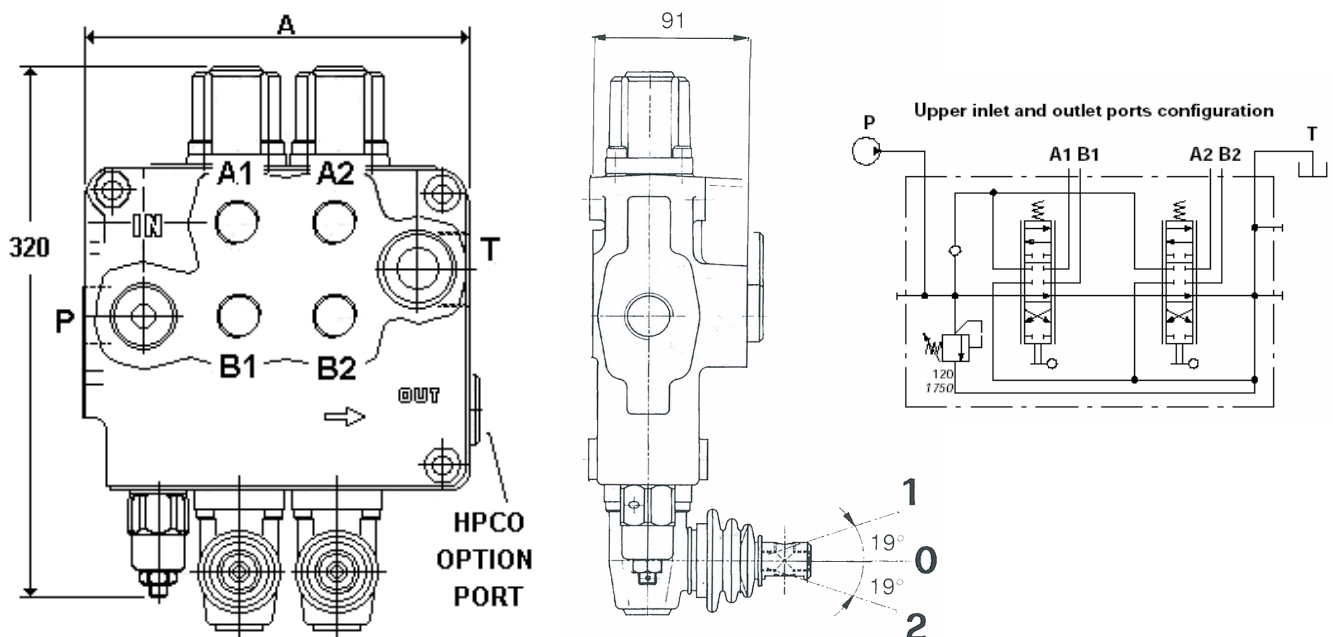
Simple, compact and heavy duty design.  
 1 to 3 spools for open or closed centre applications.  
 Fitted with direct or pilot operated main pressure relief.  
 Available in parallel circuit only.  
 Optional high pressure carry over port.  
 Ø25mm interchangeable spools.  
 Available with manual, electro-hydraulic, pneumatic, hydraulic pilot and cable spool control.



The below models are fitted with cylinder spools, standard handles and are spring centred.

Part Number	No. Spools	Nom. Flow L/min	Max. Press. P, A, B bar	Max. Press. T bar	Ports BSPP		Dim A mm
					P, A, B	T	
SD18/1/18	1	150	250	25	3/4"	1"	161
SD18/2/2X18	2	140					212
SD18/3/3X18	3						265

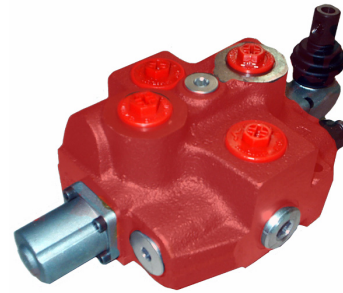
Options		
Type	Part Number	Description
1,2,3,4,7		Spool Options - please refer to page A 11
11	<b>5V11120000</b>	Detent - 3 position
15	<b>5V15120000</b>	Detent - 2 position (0 & 1)
AE	<b>3XGIU541600</b>	Plug - High Pressure Carry Over
AEK	<b>3XTAP540560</b>	Plug - Closed Centre
8P	<b>5V08120701</b>	Pneumatic Control on/off
8IM	<b>5IDR220000</b>	Hydraulic Pilot - Proportional 6-26 bar (50 bar max)
		Cable Control - please refer to page A 46



MONOBLOCK VALVES

# SDM140 Series

Fitted with direct or pilot operated main pressure relief.  
 Independent load check per spool.  
 Available in parallel circuit only.  
 Optional carry-over port.  
 Ø18mm interchangeable spools.  
 Available with manual, electro-hydraulic, pneumatic, hydraulic pilot and cable spool control.

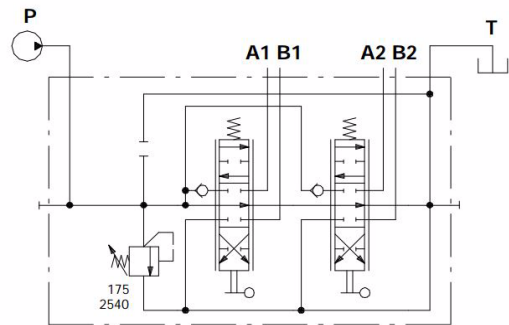
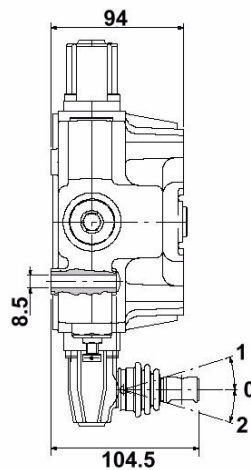
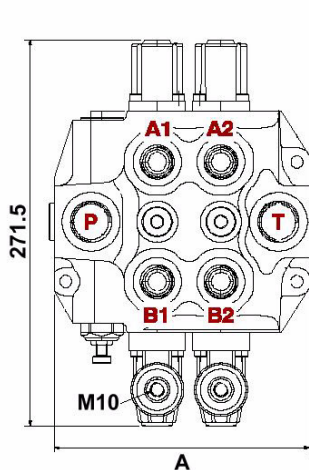


Applications:  
 Agricultural machinery, harvesters, front-loaders, earth movers, dumpers, shovels and mobile cranes.

Part Number	No. of Spools	Nominal Flow L/min	Max Pressure P, A, B bar	Max Pressure T bar	Ports BSPP	Ports BSPP	Dim A mm
					P&T	A&B	
SDM140/1/18	1	80	315	25	3/4"	1/2"	135
SDM140/2/2X18	2						180
SDM140/3/3X18	3						225
SDM140/4/4X18	4						270
SDM140/5/5X18	5						315
SDM140/6/6X18	6						360

The above with Cylinder Spool and Spring Centred. Standard handles included in the price

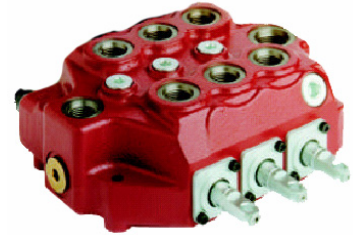
Options		
Type	Part Number	Description
1,2,3,4		Spool Options please refer to Page A 11
8	<b>5V08108010</b>	Spring Centre Kit
9B	<b>5V09108040</b>	Detent Pos 1 - Spring to neutral
10B	<b>5V10108040</b>	Detent Pos 2 - Spring to neutral
11B	<b>5V11108040</b>	Detent Pos 1 & 2 - Spring to neutral
AE	<b>XGIU536695</b>	G 3/4 Carryover Sleeve
AEK	<b>XGIU532465</b>	Plug for closed centre circuit
LCB	<b>5CLO308100</b>	Joystick lever for 2 sections
		Cable Control - Please refer to Page A 46



MONOBLOCK VALVES

# SDM141 Series

Simple, compact and heavy duty design - 3 sections for open centre.  
 Fitted with main pressure relief.  
 Available with series circuit only.  
 Optional carry-over port.  
 A wide variety of service port valves.  
 Available with manual, electro-hydraulic and remote cable control.  
 Ø18mm interchangeable spools.

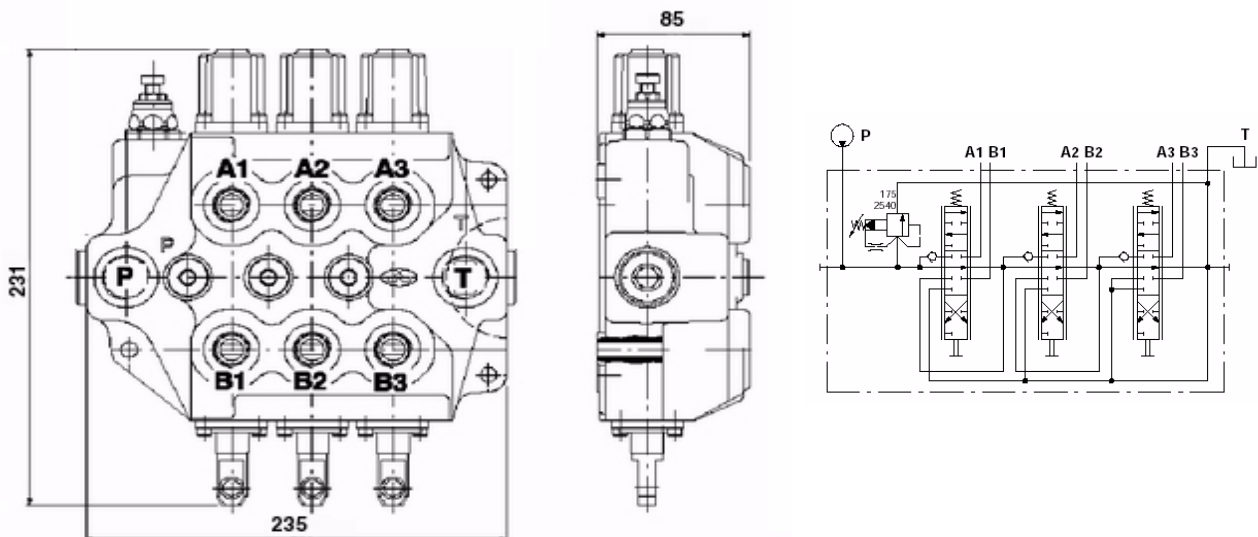


Application: Skid-steer loaders.

**Available on request only.**

Part Number	Nominal Flow L/min	Nominal Pressure bar	Ports BSPP	Ports BSPP
			P&T	A&B
<b>SDM141/3/3X18SLP</b>	80	250	3/4"	1/2"

Options		
Type	Part Number	Description
1,5		Spool options please refer to Page A 11
AE	<b>XGIU536695</b>	G3/4 carryover sleeve
L	<b>5LEV108000</b>	Standard lever box



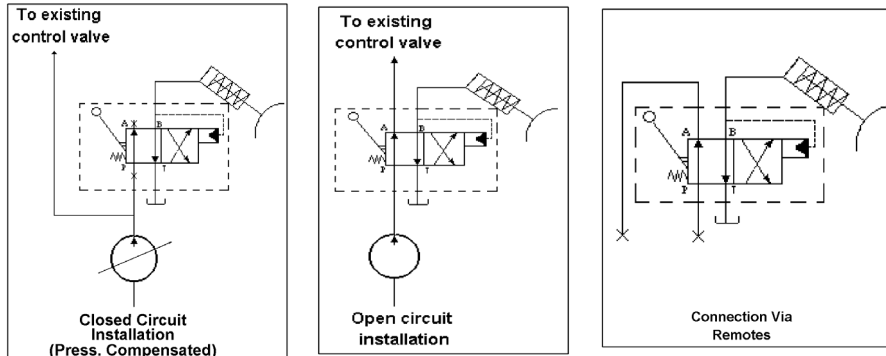


# CANE TRAILER BRAKE VALVE

The Southcott-Walvoil cane trailer brake valve is designed to meet the requirements of the Department of Transport for Cane Trailers.

The valve is inserted into the tractor hydraulic circuit as per the circuit options below.

NB: The brake is connected directly to tank when the valve is in neutral thus eliminating the signal entirely leaving no back pressure on the brake.

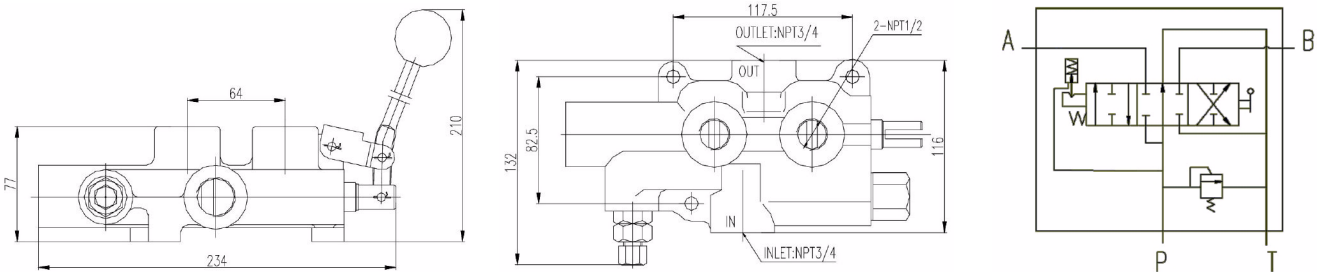
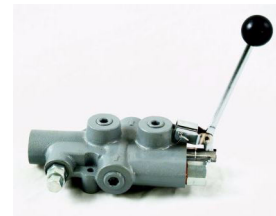


NB: 1/ Tank port must have separate connection to tank. 2/ The lever pivot box can be positioned at 90 degrees or 180 degrees as required.

Part Number	Circuit	Max. Rec. Flow		Max. Press.		Ports BSP
		L/min	US gpm	bar	psi	
SD4/1/TBV	Open	45	12	210	3000	1/2"
SD4/1/TBV/CC	Closed					

# LOG SPLITTER VALVE

- Primarily used for log splitters
- Spring centre to neutral in one direction
- Pressure release detent in the other direction (when cylinder completes its return stroke)
- Ports: P&T - 3/4" NPT; A&B - 1/2" NPT



Part Number	No. Of Spools	Nom. Flow L/min	Detent Release Pressure		Working Pressure		Ports NPT	
			bar	psi	bar	psi	P&T	A&B
LS-TW-20F	1	95	70 - 140	1015 - 2030	207	3000	3/4"	1/2"



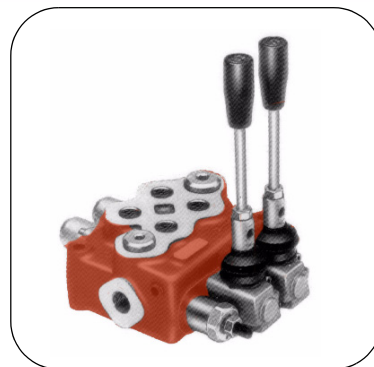
# MONOBLOCK SPOOLS



SDM080



SD4



SD5



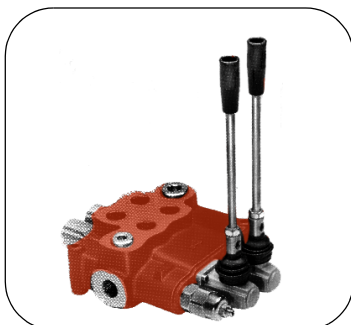
SD11



SDM140



SD14



SD18

Spool 4th Pos Float	Valve Series	Spool Type	Part Number
	SD5	5	3CU1242130*
	SD11	5	3CU1442200*

NB: This option requires a modified body.

Valves Series	Spool Types					
	1 Cylinder	2 Motor	3 Single-Acting on A	4 Single-Acting on B	6 All Ports Closed	7 P Closed A&B to T
SDM080	3CU1010130	3CU1025120	3CU1031130	3CU1035130	-	-
SD4	1CP = 3CU1110110 1N = 3CU1110120	3CU1125130	3CU1131130	3CU1135140	3CU1150130	3CU1155130
SD5	3CU1210130	3CU1225130	3CU1231130	3CU1235120 (requires kit 5V08105022)	3CU1250130	3CU1255130
SD11	3CU1410130	3CU1425130	3CU1431130	3CU1435130	3CU1450130	3CU1455130
SDM140	3CU1310401	3CU1325401	3CU1331130	3CU1335130	-	-
SD18	3CU1610130	3CU1625130	3CU1631130	3CU1635130	-	-



# SECTION A

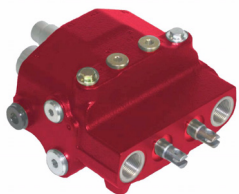
## FRONT END LOADER VALVES



Valve Series	Nominal Flow	PAGE
<b>WALVOIL FRONT-END LOADER VALVES</b>		
<b>SDM102 Series</b> .....	45 L/min .....	A 14
<b>SDM122 Series for open and closed centre systems</b> .....	80 L/min .....	A 15
<b>DLM122 Series for load sense systems</b> .....	80 L/min .....	A 15
<b>SDM143 Series for open &amp; closed centre systems</b> .....	80 L/min .....	A 16
<b>DLM142 Series for load sense systems</b> .....	80 L/min .....	A 16



**SDM102**



**SDM122**  
**DLM122**



**SDM143**  
**DLM142**

**NB: Models, Codes and Specifications may be subject to change without notice.**

FRONT-END LOADER VALVES

# SDM102 Series

Simple, compact and heavy duty design - twin spool  
 Open or closed centre circuit options.  
 Fitted with main pressure relief and load check on each working section.  
 Available with:  
 Port Relief and anticavitation circuit valves.  
 Power beyond port.  
 Ø16mm interchangeable spools.  
 Manual or cable spool control.

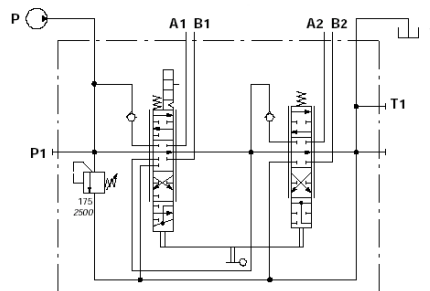
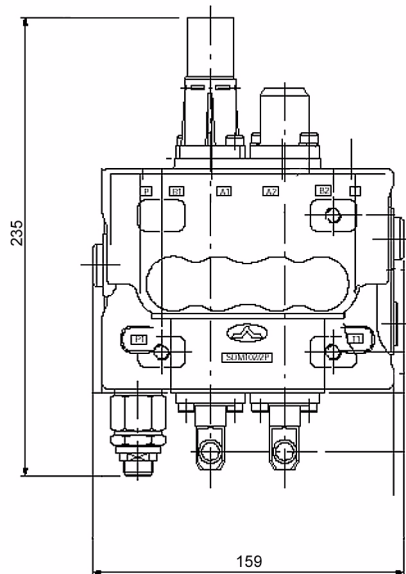
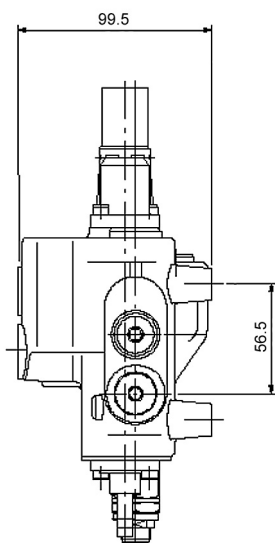
Application: Front-end loaders.



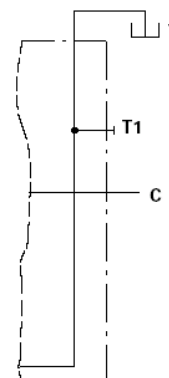
Standard handles included in price

Part Number	No. of Spools	Nominal Flow L/min	Max. Press. bar	Max. Press. on T bar	Ports BSSPP
					P, A, B, T
SDM102/2/513LCB/18/AE	2	45	250	25	3/8"

The above unit is fitted with a float spool on pos.1, Cylinder Spool on pos.2, Spring Centred, Port Reliefs on spool 2, HPCO and with Joystick. There are many other options available on request.



HP Carry-over Option



## FRONT-END LOADER VALVES

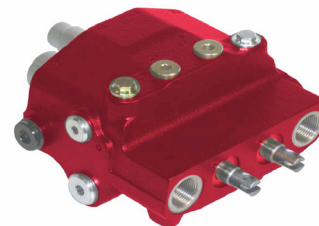
# SDM122 Series

For open and closed centre systems

# DLM122 Series

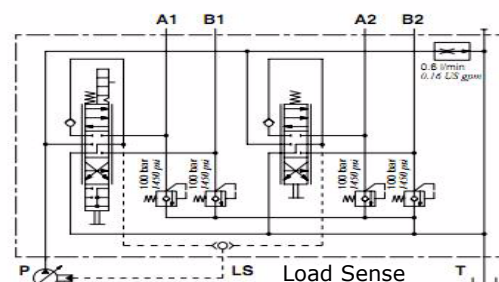
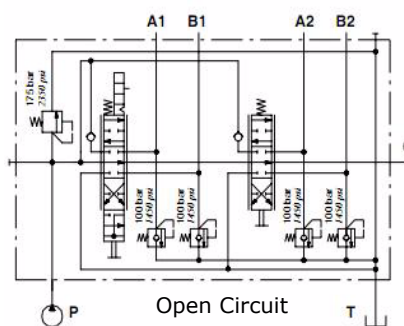
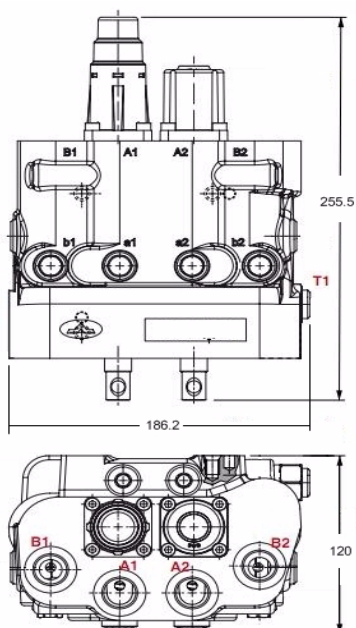
For load sense systems

Simple, compact and heavy duty design  
 Fitted with main pressure relief and load check on each working section.  
 Available with:  
 Port relief and anticavitation valves.  
 Power beyond port.  
 Ø16mm interchangeable spools.  
 Manual or cable spool control.



Part Number	No. Spools	Nom. Flow L/min	Max. Pressure P, A, B bar	Max. Pressure on T bar	Ports BSPP	
					P, T, C	A&B
SDM122/2-P/1S13TQ81/1	2	80	250	10	3/4"	1/2"
DLM122/2-AP/1(S)13TQ8						

Options		
Type	Part No.	Description
8MA	5V08108240	Spool Position - Spring Return to Neutral(Standard)
13	5V13108040	Detent in Float & Spring Return to Neutral
U1/U2	X222422170	Port Relief & Anti-Cavitation Check 101-170 bar
U1/U2	X222422250	Port Relief & Anti-Cavitation Check 171-250 bar
U1/U2	X222421250	Port Relief & Anti-Cavitation Check 201-250 bar
AET	3XTAP732201	Plug - Open Centre (Standard on SDM122)
AE	XGIU536692	Plug - High Pressure Carry Over(SDM122)
TQ		Cable Function - Please refer to Page A 46



### FRONT-END LOADER VALVES

## SDM143 Series

For open & closed centre systems

## DLM142 Series

For load sense systems

Simple, compact and heavy duty design - twin section for hydraulic systems with load sense variable displacement pump.

Available with:

Parallel circuit only.

Port Relief and anticavitation circuit valves.

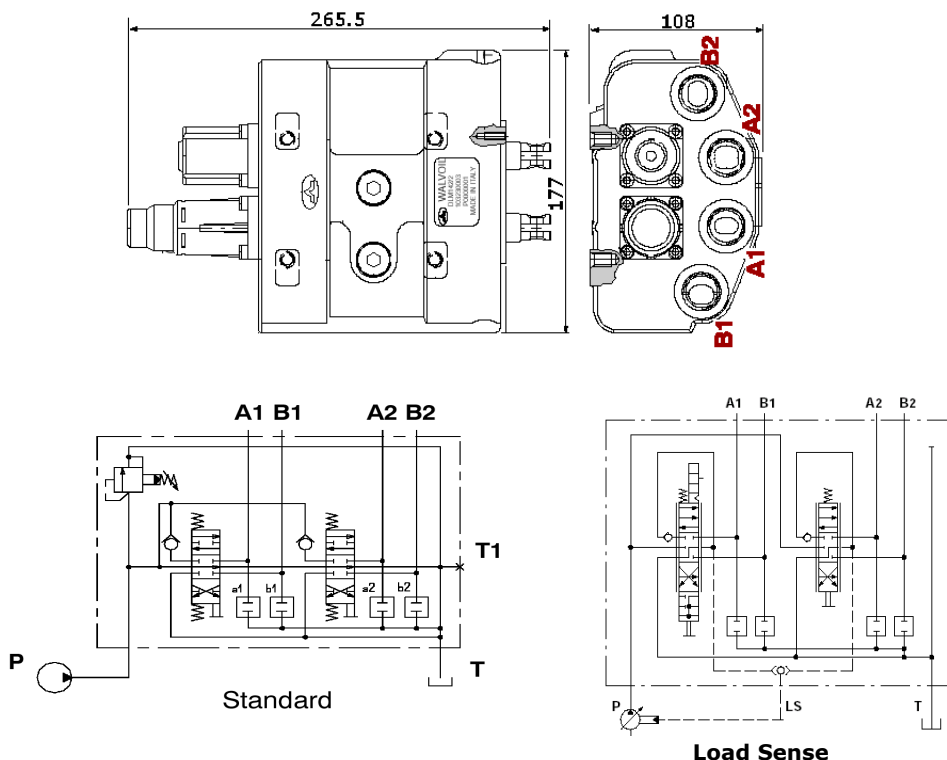
Ø18mm interchangeable spools.

Manual, electro-hydraulic or cable spool control.



Part Number	No. Spools	Nom. Flow L/min	Max Press. P, A, B bar	Max Press. on T bar	Ports BSPP	
					P&T	A&B
SDM143/2(XG)/113SL/18	2	80	250	10	3/4"	1/2"
DLM142/AP/113SL/18SL						

Options		
Type	Part No.	Description
8MA	5V08108240	Spool Positioner - Spring Return to Neutral
13	5V13108040	Detent in Float & Spring Return to Neutral
P1/P2	3XCAR208113	Port Relief Valve
U1/U2	3XCAR308115	Port Relief & Anti-Cav.
AET	3XTAP732201	Plug - Open Centre (Standard)(SDM143 only)
AE	XGIU536692	Plug - High Pressure (Carry Over)(SDM143 only)
TQ		Cable Function Refer to Page A 46



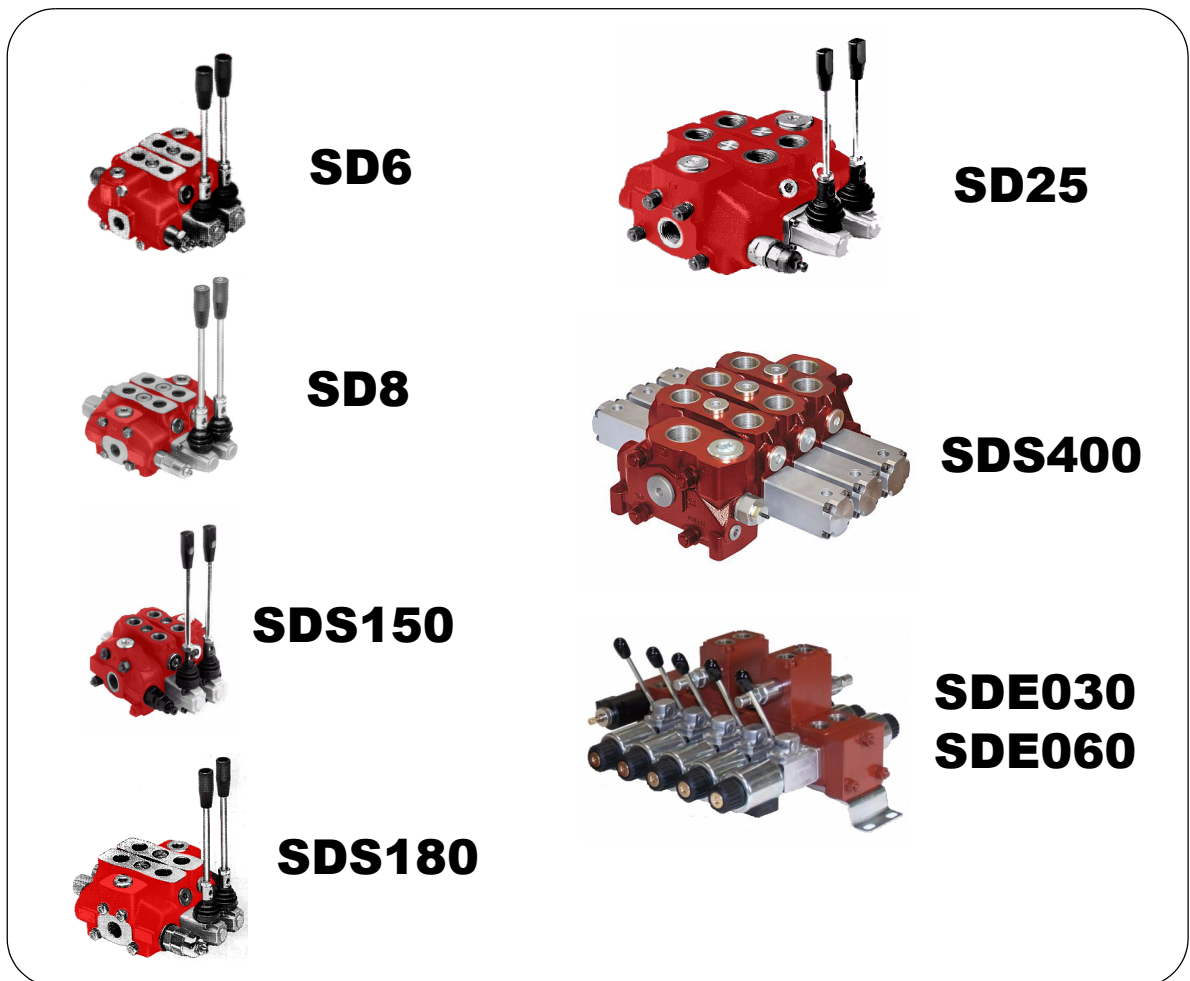


# SECTION A

## SECTIONAL VALVES



Valve Series	Nominal Flow	PAGE
<b>WALVOIL SECTIONAL VALVES</b>		
SD6 Series .....	45 L/min.....	A 18
SD8 Series .....	80 L/min.....	A 19
SDS150 Series .....	90 L/min.....	A 20
SDS180 Series (Formerly SD16) .....	140 L/min.....	A 21
SD25 Series .....	240 L/min.....	A 22
SDS400 Series .....	400 L/min.....	A 23
SECTIONAL SPOOLS.....		A 24
SDE030 & SDE060 Series.....		A 25



NB: Models, Codes and Specifications may be subject to change without notice.

## SECTIONAL VALVES SD6 Series

Small, compact and heavy duty design - 1 to 12 sections for open and closed centre circuit options.

Fitted with main pressure relief and load checks on each section.

Available with:

Parallel, tandem or series circuit.

Power beyond port.

Port Relief and anticavitation circuit valves.

Ø16mm interchangeable spools.

Manual, electric, electro-hydraulic, hydraulic pilot, pneumatic pilot or cable spool control.

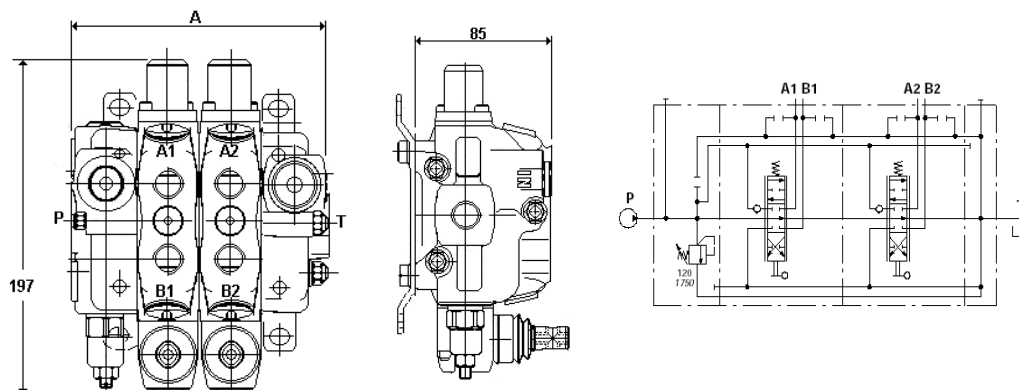


Part Number	No of Spools	Nom Flow L/min	MWP P, A, B Parallel bar	MWP P, A, B Series bar	MWP T bar	Leakage per 100 bar cm <sup>3</sup> /min	Tie Bolt Torque Nm	Ports BSPP		Dim A mm
								P, A, B	T	
SD6/1/AC/18/RC	1	45	315	210	25	3	30	3/8"	1/2"	118
SD6/2/AC/2X18/RC	2									156
SD6/3/AC/3X18/RC	3									194
SD6/4/AC/4X18/RC	4									232
SD6/5/AC/5X18/RC	5	40								270
SD6/6/AC/6X18/RC	6									308
SD6/7/AC/7X18/RC	7									346
SD6/8/AC/8X18/RC	8									384
SD6/9/AC/9X18/RC	9	35								422
SD6/10/AC/10X18/RC	10									460

The above fitted with cylinder spools and spring-centred. Standard handles included in the price.

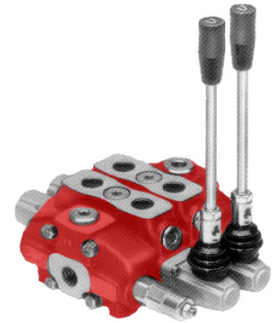
OPTIONS		
Type	Part No.	Description
1,2,3,4,5,6,7		Spool Options - refer to page A 24
11	5V11105000	Detent 3 Position
15	5V15105000	Detent 2 Position 0 & 1
513	**SD6/513	4th Position Float
S	**SD6-S	Series Circuit
CS	SD6/CS1	Mid Outlet
P1/P2	5KIT206113	Port Relief
U1/U2	5KIT306113	Port Relief & Anti-cavitation
RE	4TAP413210	Plug - High Pressure Carry Over
LCB	5CLO206100	Joystick - Mechanical
8P	5V08105701	Pneumatic Pilot On/Off
8IM	5IDR206010	Hydraulic Pilot, Proportional, 5-15 bar
8ES3	SD6/18ES3-12VDC	Solenoid Kit 12VDC (2 sides without handle)
8ES3	SD6/18ES3-24VDC	Solenoid Kit 24VDC (2 sides without handle)
8ESLHC	SD6/18ES3LHC-12VDC	Solenoid + Handle Control Kit 12VDC (2 sides incl.)
8ES3LHC	SD6/18ES3LHC-24VDC	Solenoid + Handle Control Kit 24VDC (2 sides incl.)
12VDC	4SOL412012	Coil
24VDC	4SOL412024	Coil
		Cable Control - refer to page A 64

**NB: For electro hydraulic spool control contact your Southcott representative**



## SECTIONAL VALVES SD8 Series

Simple, compact and heavy duty design - 1 to 12 sections for open or closed centre circuit options.  
Fitted with main pressure relief and load checks on each section.  
Available with:  
Parallel, tandem or series circuit.  
Power beyond port.  
Port Relief and anticavitation circuit valves.  
Ø18mm interchangeable spools.  
Manual, electric, electro-hydraulic, hydraulic pilot, pneumatic pilot or cable spool control.

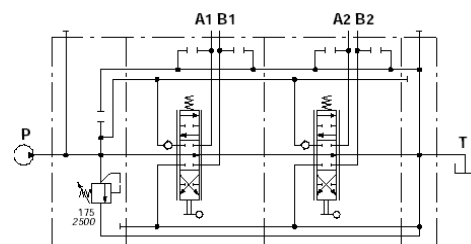
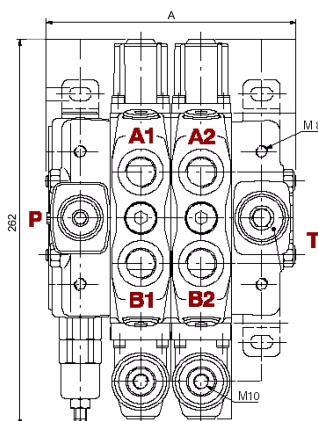
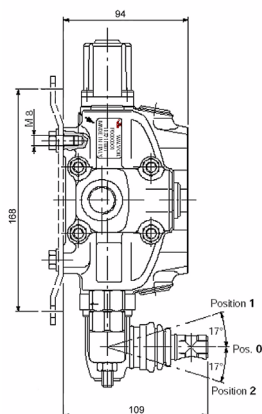


Part Number	No. of Spools	Nom. Flow L/min	MWP P, A, B Parallel bar	MWP P, A, B Series bar	MWP T bar	Leakage per 100 bar cm <sup>3</sup> /min	Tie Bolt Torque Nm	Ports BSPP		Dim A mm
								P, A, B	T	
SD8/1/AC/18/RC	1	80	315	210	25	3	30	1/2"	3/4"	128
SD8/2/AC/2X18/RC	2									169
SD8/3/AC/3X18/RC	3									210
SD8/4/AC/4X18/RC	4									251
SD8/5/AC/5X18/RC	5									292
SD8/6/AC/6X18/RC	6									333
SD8/7/AC/7X18/RC	7									374
SD8/8/AC/8X18/RC	8									415
SD8/9/AC/9X18/RC	9									456
SD8/10/AC/10X18/RC	10									497

The above model complete with cylinder spools & spring centred. Standard handles included in the price

Options		
Type	Part No.	Description
1,2,3,4		Spool Options - refer to page A 24
11	5V11108000	Detent 3 Position
15	5V15108000	Detent 2 Position 0 & 1
RE	4TAP318010	High Pressure Carry Over
P1,P2	3XCAR208113	Port Relief (G3) 63-220 bar
U1,U2	3XCAR308115	Port Relief & Anti Cav. (G3) 100-250 bar
LCB	5CLO208000	Joystick - Mechanical
8IMF3	5IDR208220	Hydraulic Pilot Kit (requires a special spool)
8PG	5V08108708	Pneumatic Pilot ON/OFF
8PZ	5V08108710	Pneumatic Pilot Proportional
8ES3	SD8/18ES3-12VDC	Solenoid Kit 12VDC (2 sides without handle)
8ES3	SD8/18ES3-24VDC	Solenoid Kit 24VDC (2 sides without handle)
S	**SD8-S	Series Section
CS	SD8/CS1	Mid Outlet
		Cable Control - refer to Page A 46

**NB: For electro hydraulic spool control contact your Southcott representative**



SECTIONAL VALVES

# SDS150 Series

Simple, compact and heavy duty design - 1 to 12 sections  
 For open and closed centre.  
 Fitted with a main pressure relief and load checks on each section.  
 Available with:  
 Parallel, tandem or series circuit.  
 Optional carry-over port.  
 Port Relief and anticavitation circuit valves.  
 Ø20mm interchangeable spools.  
 Manual, electro-hydraulic, hydraulic pilot, pneumatic pilot or cable spool control.

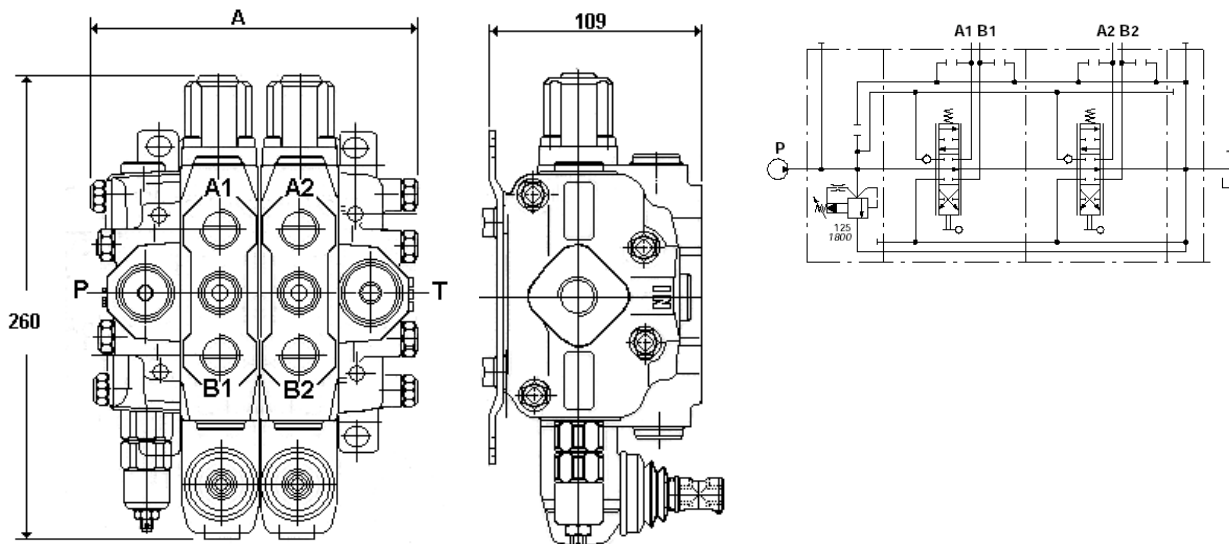


Part Number	No. of Spools	Nom Flow L/min	MWP P, A, B Parallel bar	MWP P, A, B Series bar	MWP T bar	Leakage per 100 bar cm <sup>3</sup> /min	Tie Bolt Torque Nm	Ports BSPP		Dim A mm
								P, A, B	T	
SDS150/1/AC/18/RC	1	90	315	210	25	3	40	1/2"	3/4"	154
SDS150/2/AC/2X18/RC	2									199
SDS150/3/AC/3X18/RC	3									244
SDS150/4/AC/4X18/RC	4									289
SDS150/5/AC/5X18/RC	5									334
SDS150/6/AC/6X18/RC	6									379

The above model with cylinder spools and spring centred. Standard handles included in the price.

OPTIONS		
Type	Model Code	Description
1,2,3,4		Spool Options - Please refer to Page A 24
11	5V11110000	Detent 3 Position
15	5V15110000	Detent 2 Position 0 & 1
513	**SDS150/513	4th Position Float
RE	4TAP318010	High Pressure Carry Over
P1,P2	5KIT210213	Port Relief (G3)
U1,U2	5KIT310113	Port Relief & Anti-cavitation. (G3)
8IM	5IDR216300	Hydraulic Pilot Kit (requires a special spool)
8P	5V08110701	Pneumatic Pilot ON/OFF
8PZ	5V08110714	Pneumatic Pilot Prop.
LCB	5CLO211100	Joystick - Mechanical
S	**SDS150-S	Series Section
CS1	SDS150/CS	Mid Outlet
		Cable Control - Please refer to Page A 46

**NB: For electro hydraulic spool control contact your Southcott representative**



SECTIONAL VALVES

# SDS180 Series (Formerly SD16)

Simple, compact and heavy duty design - 1 to 12 sections  
 For open and closed centre.  
 Fitted with main pressure relief and load check on each section.  
 Available with:  
 Parallel, tandem or series circuit.  
 Optional carry-over port.  
 Port Relief and anticavitation circuit valves.  
 Ø20mm interchangeable spools.  
 Manual, electro-hydraulic, hydraulic pilot and remote cable spool control.

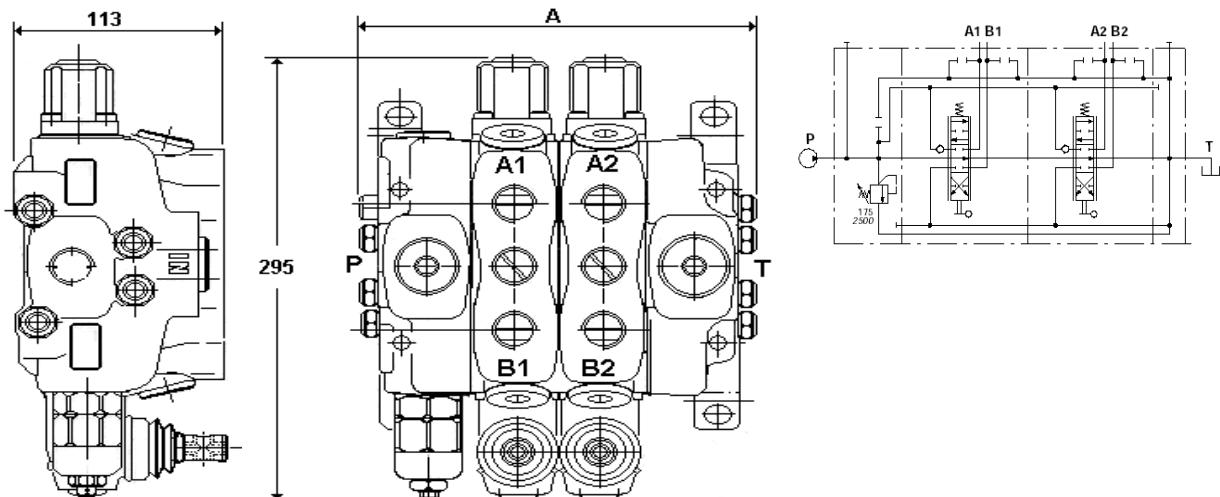


Part Number	No. of Spools	Nom. Flow L/min	MWP P, A, B Parallel bar	MWP P, A, B Series bar	MWP T bar	Leakage per 100 bar cm <sup>3</sup> /min	Tie Bolt Torque Nm	Ports BSPP		Dim A mm
								P, A, B	T	
SDS180/1/AC/18/RC	1	160	315	250	25	5	40	3/4"	1"	176
SDS180/2/AC/2X18/RC	2									224
SDS180/3/AC/3X18/RC	3									272
SDS180/4/AC/4X18/RC	4									320
SDS180/5/AC/5X18/RC	5									368
SDS180/6/AC/6X18/RC	6									416

The above Model Code complete with cylinder spools & spring centred. Standard handles included in the price.

Options		
Type	Part No.	Description
1,2,3,4		Spool Options - refer to page A 24
11	<b>5V11110000</b>	Detent 3 Position
15	<b>5V15110000</b>	Detent 2 Position 0 & 1
RE	<b>4TAP318010</b>	High Pressure Carry Over
P1,P2	<b>XCAR216116</b>	Port Relief (G3)
U1,U2	<b>X011411100</b>	Port Relief & Anti Cav. (G3)
LCB	<b>5CLO216100</b>	Joystick - Mechanical
8P	<b>5V08110701</b>	Pneumatic Pilot ON/OFF
8PZ	<b>5V08110714</b>	Pneumatic Pilot Proportional
S	<b>**SDS180-S</b>	Series Section
CS	<b>SDS180/CS1</b>	Mid Outlet
Cable Control - Please refer to Page A 46		

**NB: For electro hydraulic spool control contact your Southcott representative**





## SECTIONAL VALVES SD25 Series

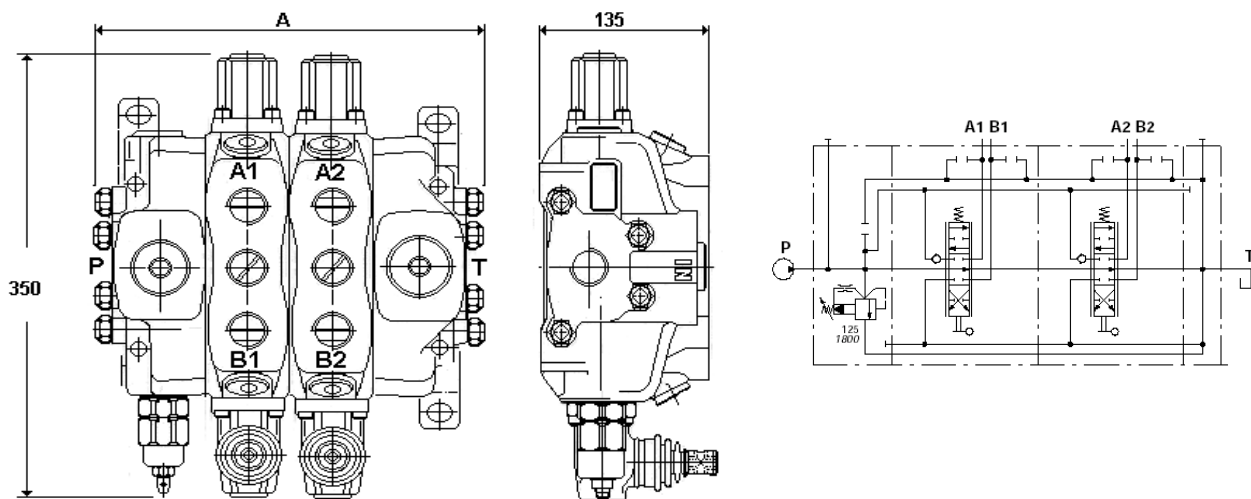
Simple, compact and heavy duty design - 1 to 12 sections  
 For open and closed centre.  
 Fitted with main pressure relief and load check.  
 Available with:  
 Parallel, tandem or series circuit.  
 Optional carry-over port.  
 Port Relief and anticavitation circuit valves.  
 Ø25mm interchangeable spools.  
 Manual, electro-hydraulic, hydraulic pilot or remote cable spool control.



Part No.	No. of Spools	Nom. Flow L/min	MWP P, A, B Parallel bar	MWP P, A, B Series bar	MWP T bar	Dim A mm	Leakage per 100 bar cm <sup>3</sup> /Min	Tiebolt Torque Nm	Ports BSPP	
									P, A, B	T
SD25/1/AC/18/RC	1	240	315	210	25	234	4	50	1"	1 1/4"
SD25/2/AC/2X18/RC	2					296				
SD25/3/AC/3X18/RC	3					358				
SD25/4/AC/4X18/RC	4					420				
SD25/5/AC/5X18/RC	5					482				
SD25/6/AC/6X18/RC	6					544				

The above Model complete with cylinder spools & spring centred. Standard handles included in the price

Options		
Type	Part No.	Description
1,2,3,4		Spool Options - refer to page A 24
11	<b>5V11120000</b>	Detent 3 Position
15	<b>5V15120000</b>	Detent 2 Position 0 & 1
RE	<b>4TAP426612</b>	High Pressure Carry Over
P1,P2	<b>XCAR216116</b>	Port Relief (G3)
U1,U2	<b>X011411100</b>	Port Relief & Anti Cav. (G3)
LCB	<b>5CLO225000</b>	Joystick - Mechanical
8P	<b>5V08120701</b>	Pneumatic Pilot ON/OFF
8PZ	<b>5V08120708</b>	Pneumatic Pilot Proportional
S	<b>SD25-S</b>	Series Section
CS1	<b>SD25/CS1</b>	Mid Outlet
Cable Control - Please refer to A 46		





SECTIONAL VALVES

# SDS400 Series

## 400 Litre flow capacity

Simple, compact and heavy duty design - 1 to 12 sections  
 For open and closed centre circuit applications.  
 Fitted with main pressure relief and load check.  
 Available with:  
 Parallel or series circuit.  
 Optional carry-over port.  
 Port relief and anticavitation circuit valves.  
 Ø30mm interchangeable spools.  
 4th position float  
 Manual and proportional hydraulic pilot spool control.

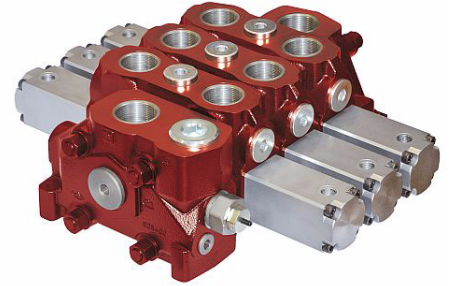
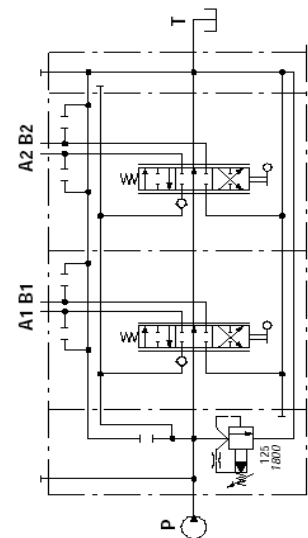
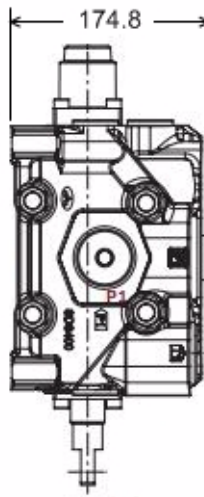
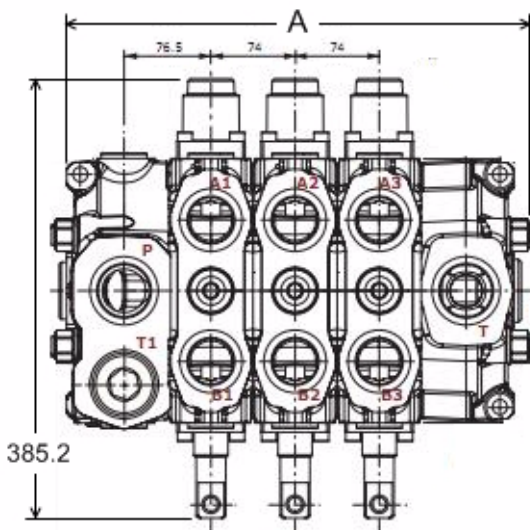


Image depicted with prop. hyd. pilot

Part No.	No of Spools	Nom Flow L/min	MWP P, A, B Parallel bar	MWP P, A, B Series bar	Max Press T bar	Dim A mm	Leakage per 100 bar cm <sup>3</sup> /min	Tie Bolt Torque Nm	Ports BSPP	
									P&T	A&B
SDS400/1/AC/18/RC	1	400	315	210	25	274	25	130	1-1/2"	1-1/4"
SDS400/2/AC/2X18/RC	2					348				
SDS400/3/AC/3X18/RC	3					422				
SDS400/4/AC/4X18/RC	4					496				
SDS400/5/AC/5X18/RC	5					570				
SDS400/6/AC/6X18/RC	6					644				

The above models complete with cylinder spools & spring centred. Standard handles included in price.

Options		
Type	Part No.	Description
1,2,3,4		Spool Options - refer to page A 24
8	<b>5V0810B000</b>	Spring centre kit
11	<b>5V1110B000</b>	Detent 3 Position
C	<b>X33132A000</b>	Anticavitation Valve
P1,P2	<b>X33121B150</b>	Port Relief (50-220 bar - std setting 150 bar)
P1,P2	<b>X33121B250</b>	Port Relief (150-350 bar - std setting 250 bar)
U1,U2	<b>X331421160</b>	Port Relief & Anti Cav. (50-350bar-std setting 160 bar)
P3T	<b>XTAP540110</b>	Port Relief Blanking Plug
8IM	<b>5IDR20B300</b>	Proportional Hydraulic Pilot Control c/w Spring Centre for each end
CS1	<b>SDS400/CS1-FS3-M</b>	Mid Outlet
RE	<b>3TAP640251</b>	High Pressure Carryover Plug
SLP	<b>5COP140000</b>	Dust Proof Plate & Seal





**SD6**



**SD8**



**SDS150**



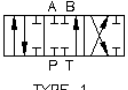
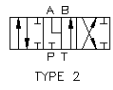
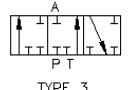
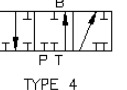
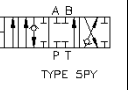


**SDS180**



**SD25**



**SDS400**

VALVE SERIES	SPOOL TYPES						
	1	2	3	4	5	6	7
	CYLINDER	MOTOR	SINGLE ACTING ON A	SINGLE ACTING ON B	4TH POS FLOAT	ALL PORTS CLOSED	P CLOSED A&B TO T
	 TYPE 1	 TYPE 2	 TYPE 3	 TYPE 4	 TYPE 5PY	 TYPE 6	 TYPE 7
SD6	3CU2210130	3CU2225130	3CU2231130	3CU2235100	Re: Note 1	Re: Note 2	Re: Note 3
SD8	3CU2310100	3CU2325100	3CU2331110	3CU2335100	Re: Note 1	Re: Note 2	Re: Note 3
SDS150	3CU2410120	3CU2425200	3CU2431100	3CU2435100	Re: Note 1	Re: Note 2	Re: Note 3
SDS180	3CU2510100	3CU2525100	3CU2531100	3CU2535100	Re: Note 1	Re: Note 2	Re: Note 3
SD25	3CU2710100	3CU2725100	3CU2731100	3CU2735100	Re: Note 1	Re: Note 2	Re: Note 3
SDS400	3CU2810002	3CU2825002	3CU2831000	N/A	Re: Note 1	Re: Note 2	Re: Note 3

**NOTE 1**

TYPE 5 (4th Position Float)

\* A modified section body is required & available only in a complete section

**NOTE 2**

TYPE 6 (All Ports Closed)

\* Use a Type 1 spool and configure with a plugged H.P.C.O. Port

**NOTE 3**

TYPE 7(P Closed A & B to T)

\* Use a Type 2 spool and configure with a plugged H.P.C.O. Port

SECTIONAL VALVES

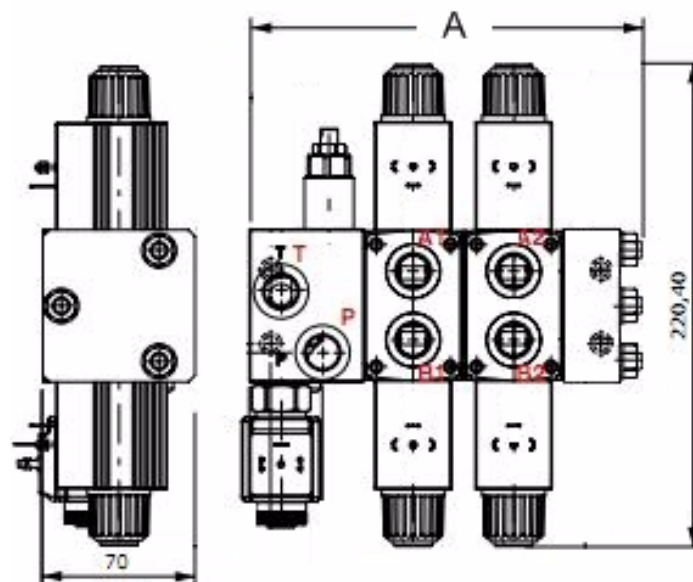
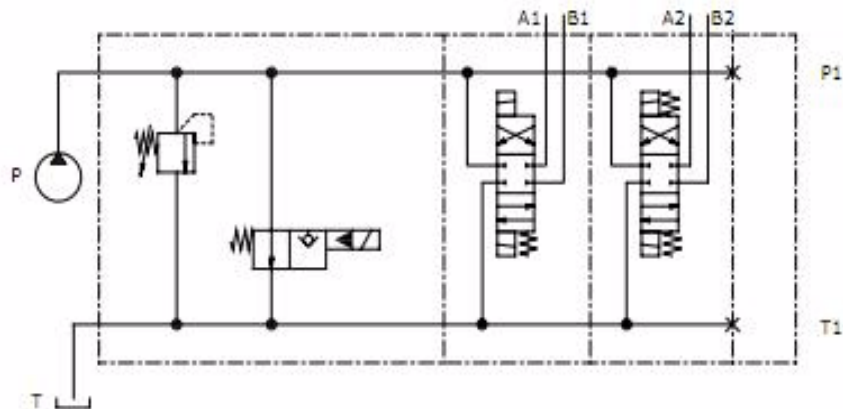
# SDE030 & SDE060 Series

Sectional directional control valves with direct acting on/off solenoids  
 1 to 10 sections  
 Fitted with main pressure relief and unloader on inlet section.  
 Available with parallel or series circuit.  
 Sections are arranged to easily add service valves bolted to the section  
 Emergency hand lever option available.  
**NB: This line by indent only**



Part No.	Nom. Flow L/min	Max. Press. P, A, B bar	Max. Press. on T bar	Leakage per 100 bar cm <sup>3</sup> /min	Tightening Torque Nm	Ports BSPP	
						P&T	A&B
<b>SDE030</b>	30	315	210	14	30	3/8	3/8
<b>SDE060</b>	60	315	210	14	30	1/2	3/8

Refer to Southcott branches for price and availability



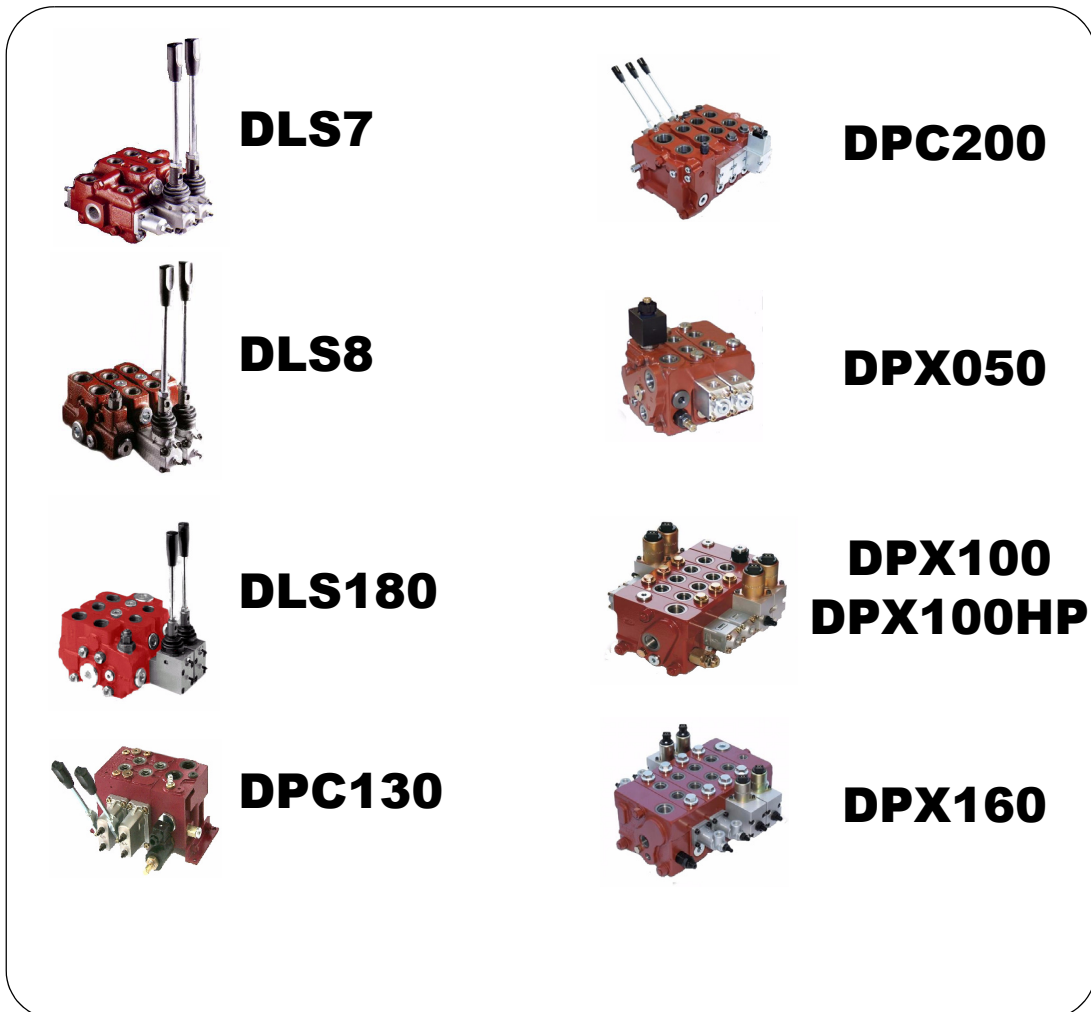


# SECTION A

## PROPORTIONAL VALVES



Valve Series	Nominal Flow	PAGE
<b>WALVOIL PROPORTIONAL VALVES</b>		
DLS7 Series.....Non-Compensated....	60L/Min .....	A 28
DLS8 Series.....Non-Compensated....	90L/Min .....	A 29
DLS180 Series.....Non-Compensated....	160L/Min .....	A 30
SPOOLS TO SUIT DLS SERIES.....		
DPC130 Series .....	Pre-Compensated.....140L/Min .....	A 32
DPC200 Series .....	Pre-Compensated.....260L/Min .....	A 34
DPX050 Series .....	Post-Compensated ...80L/Min .....	A 35
DPX100 Series .....	Post-Compensated ...120L/Min .....	A 35
DPX160 Series .....	Post-Compensated ...225L/Min .....	A 35

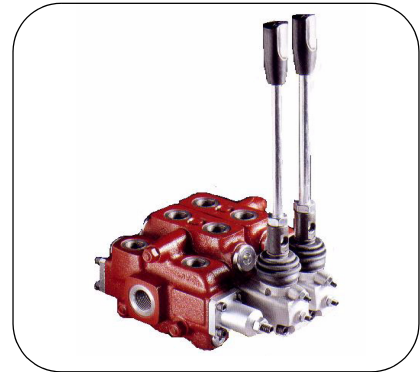


**NB: Models, codes and specifications may be subject to change without notice.**



PROPORTIONAL VALVES  
**DLS7 Series**

1 to 10 sections for systems with fixed displacement Pumps (open centre) and variable displacement pumps with Load sense and pressure compensation (closed centre).  
 Fitted with main pressure relief and load check.  
 Pressure gauge connectors on each section.  
 A wide variety of port service valves.  
 Ø16mm interchangeable spools.  
 Available with manual, electro-hydraulic and remote cable control.

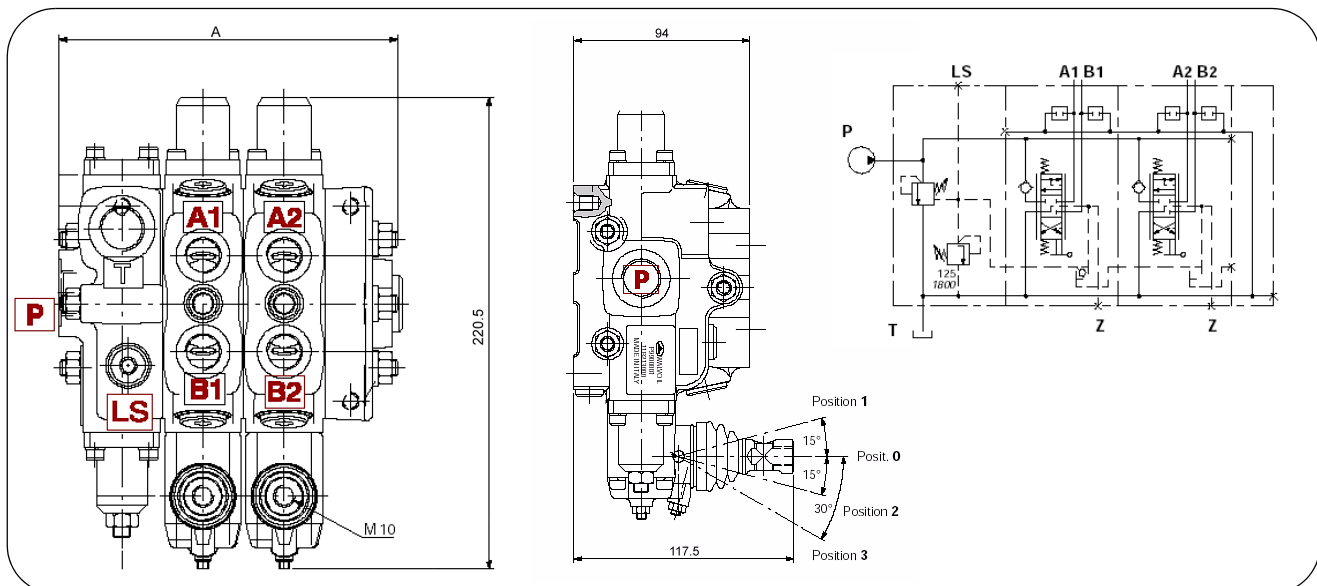


Part Number	No. of Spools	Nominal Flow L/min	Max. Press. bar	Max. Back Press. bar	Leakage @ 100 bar cm <sup>3</sup> /min	Tightening Torque Nm	Ports BSPP			Dim A mm
							P	A&B	T	
DLS7/1/AM/6S8LFG/RF	1	60	315	25	3	30	1/2"	3/8"	1/2"	121
DLS7/2/AM/2X6S8LFG/RF	2									159
DLS7/3/AM/3X6S8LFG/RF	3									197
DLS7/4/AM/4X6S8LFG/RF	4									235
DLS7/5/AM/5X6S8LFG/RF	5									273
DLS7/6/AM/6X6S8LFG/RF	6									311

The above with cylinder spool, spring-centred, open circuit and relief valve. Standard handles included in price

Options		
Type	Part Number	Description
M		INLET - Open Circuit with relief
N		INLET - Closed Circuit with relief
P		INLET - Closed Circuit without relief
6		Spool All ports closed refer to Page A29
7		Spool P closed A & B to tank refer to Page A29
11	<b>5V11105000</b>	Detent Control 3 Position
7FT	<b>5V07405000</b>	Friction Control
P1,P2	<b>5KIT206113</b>	Port Relief
U1,U2	<b>5KIT306113</b>	Port Relief & Anti. Cav.
LCB	<b>5CLO202000</b>	Joystick - Mechanical
8PZ	<b>5V08105709</b>	Pneumatic Pilot Proportional
8IMF3	<b>5IDR207000</b>	Hydraulic Pilot Proportional
		Cable Control please refer to Page A 46

Flow Options	
Flow Symbol	Range L/Min
D	0-10
V	0-20
T	0-30
Q	0-40
S	0-60





PROPORTIONAL VALVES

# DLS8 Series

1 to 10 sections for systems with fixed displacement pumps (open centre) and variable displacement pumps with load sense and pressure compensation (closed centre).  
Load independent flow control.

Fitted with main pressure relief and load check.

Pressure gauge connectors on each section.

A wide variety of port service valves.

Ø18mm interchangeable spools.

Available with manual, electro-hydraulic and remote cable control.

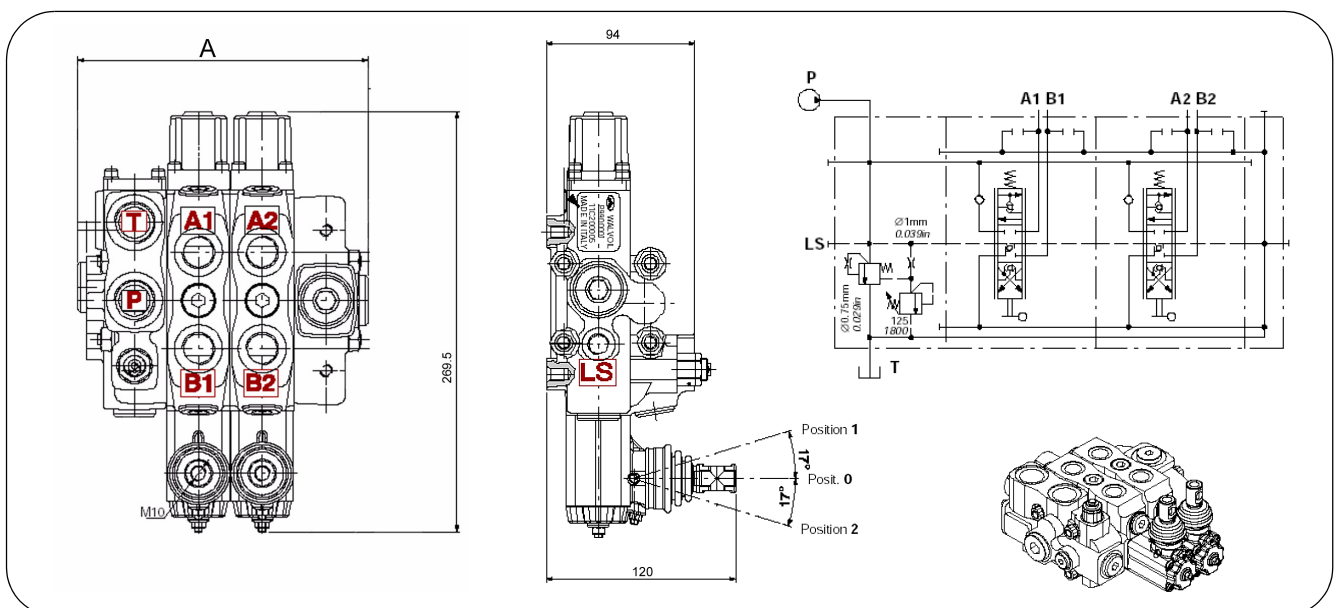


Part Number	No. of Spools	Nominal Flow L/min	Max. Pressure bar	Max. Back Pressure bar	Leakage @ 100 bar cm <sup>3</sup> /min	Tightening Torque Nm	Ports BSPP			Dim A mm
							P	A&B	T	
DLS8/1/AM/6N8LF3/RF	1	90	315	25	3	30	3/4"	1/2"	3/4"	145
DLS8/2/AM/2X6N8LF3/RF	2									186
DLS8/3/AM/3X6N8LF3/RF	3									227
DLS8/4/AM/4X6N8LF3/RF	4									268
DLS8/5/AM/5X6N8LF3/RF	5									309
DLS8/6/AM/6X6N8LF3/RF	6									350

The above with cylinder spool, spring-centred, open circuit and relief valve. Standard handles included in the price

Options		
Type	Part Number	Description
AM		INLET - Open Circuit with relief
AN		INLET - Closed Circuit with relief
AP		INLET - Closed Circuit without relief
6		Spool All ports closed - Refer to Page A29
7		Spool P closed A & B to tank - Refer to Page A29
11	<b>5V11108000</b>	Detent Control 3 Position
7FT	<b>5V07208100</b>	Friction Control
P1,P2	<b>3XCAR208113</b>	Port Relief
U1,U2	<b>3XCAR308115</b>	Port Relief & Anti. Cav.
LCB	<b>5CLO208000</b>	Joystick - Mechanical
8PF	<b>5V08108705</b>	Pneumatic Pilot Proportional
8IMF3	<b>5IDR208220</b>	Hydraulic Pilot Proportional

Flow Options	
Flow Symbol	Range L/Min
V	0-20
Q	0-40
S	0-60
N	0-90



PROPORTIONAL VALVES

# DLS180 Series

1 to 10 sections for systems with fixed displacement pumps (open centre).  
 Supporting variable displacement pumps with load sense compensation (closed centre).  
 Fitted with main pressure relief and load check.  
 Pressure gauge connectors on each section.  
 A wide variety of port service valves.  
 Ø20mm interchangeable spools.  
 Available with manual, electro-hydraulic and remote cable control.

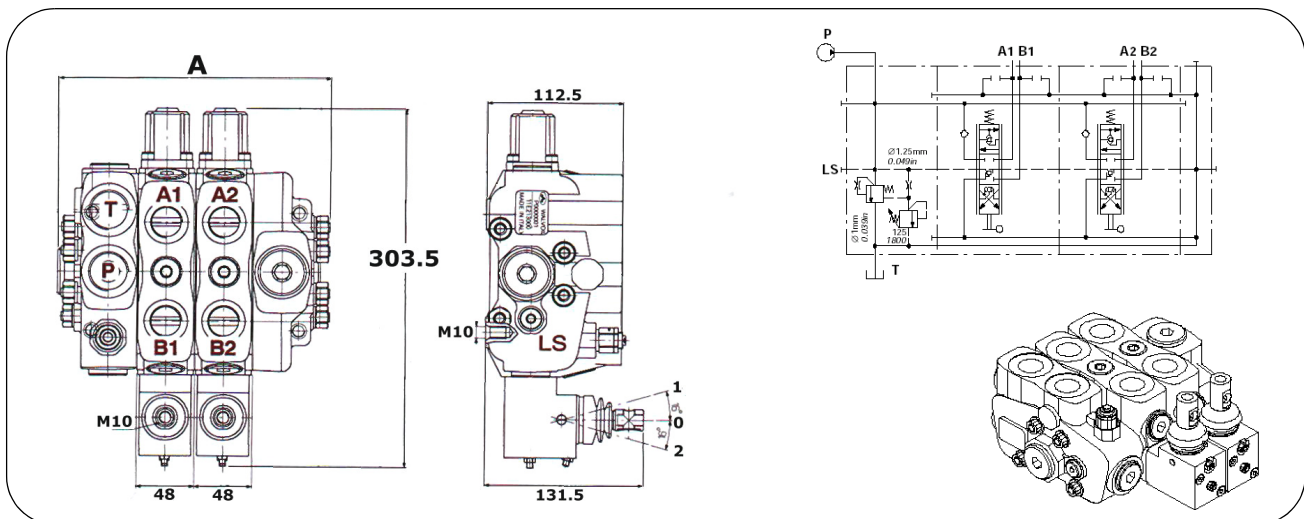


Part Number	No. of Spools	Nominal Flow L/min	Max. Pressure bar	Max. Back Pressure bar	Leakage @ 100 bar cm <sup>3</sup> /min	Tightening Torque Nm	Ports BSP			Dim A mm
							P	A&B	T	
DLS180/1/AM/6Z8LF3/RF	1	160	315	25	3	40	1"	3/4"	1"	177.5
DLS180/2/AM/2X6Z8LF3	2									225.5
DLS180/3/AM/3X6Z8LF3	3									273.5
DLS180/4/AM/4X6Z8LF3	4									321.5
DLS180/5/AM/5X6Z8LF3	5									369.5
DLS180/6/AM/6X6Z8LF3	6									417.5

The above with cylinder spool, spring-centred, open circuit and relief valve. Standard handles included in price.

Options		
Type	Part Number	Description
AM		INLET - Open Circuit with relief
AN		INLET - Closed Circuit with relief
AP		INLET - Closed Circuit without relief
6		Spool All ports closed - Refer to Page A29
7		Spool P closed A & B to Tank - Refer to Page A29
8MC	5V08210000	Spring Centre Kit
11BMC	5V11210000	Detent in positions 1 & 2, Spring return to neutral.
7FT	5V07210100	Friction Control
P1,P2	XCAR216116	Port Relief
U1,U2	XCAR316113	Port Relief & Anti. Cav.
8E13	5V08110320	Electric Control ON/OFF 12VDC
8E13	5V08110321	Electric Control ON/OFF 24VDC
LCB	5CLO216100	Joystick - Mechanical
8PF	5V08108708	Pneumatic Pilot Proportional
81MF3	5IDR216303	Hydraulic Pilot Proportional

Flow Options	
Flow Symbol	Range L/Min
Q	0-40
O	0-80
V	0-120
Z	0-140



## SPOOLS TO SUIT DLS SERIES

DLS 7			
Flow Range L/min	Flow Symbol	Spool Type	
		6 (All ports closed)	7 (P closed A&B to T)
0-10	D	3CU3110010	3CU3125010
0-20	V	3CU3110020	3CU3125020
0-30	T	3CU3110030	3CU3125030
0-40	Q	3CU3110040	3CU3125040
0-50	C	3CU3110051	3CU3125050
0-60	S	3CU3110060	3CU3125060

DLS 8			
Flow Range L/min	Flow Symbol	Spool Type	
		6 (All ports closed)	7 (P closed A&B to T)
0-20	V	3CU3410020	3CU3425020
0-40	Q	3CU3410040	3CU3425040
0-60	S	3CU3410060	3CU3425060
0-90	N	3CU3410091	3CU3425090

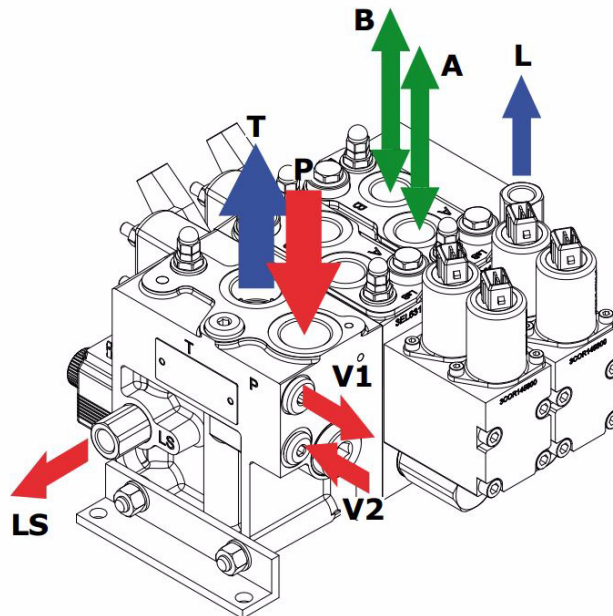
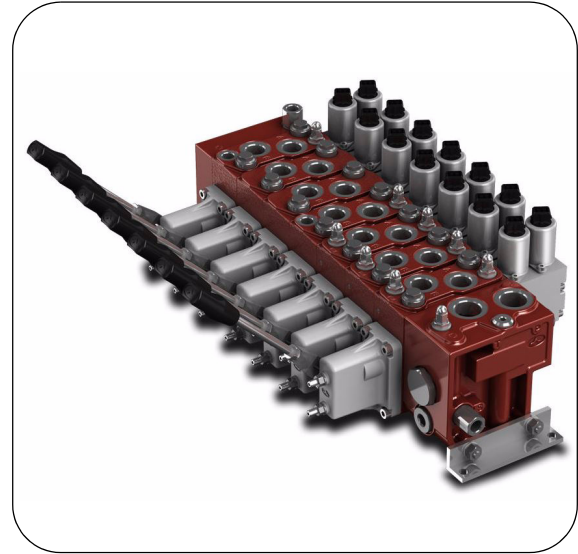
DLS 180			
Flow Range L/min	Flow Symbol	Spool Type	
		6 (All ports closed)	7 (P closed A&B to T)
0-40	Q	3CU3610040	N/A
0-80	O	3CU3610080	N/A
0-120	V	3CU3610120	3CU3625120
0-140	Z	3CU3610140	3CU3625140

## DPC130 Series

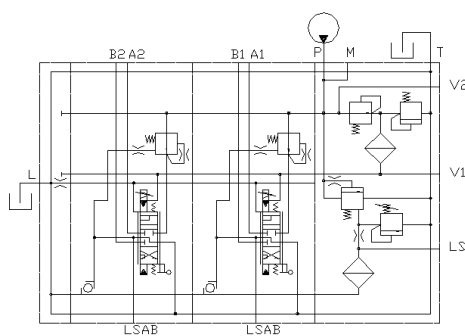
This sectional valve is normally used for mobile machinery, agricultural machines, cranes, drilling rigs and compactors. The spools have various configurations including double-acting, single-acting, 4th position float control and are pre-set for various flow rates.

### FEATURES:

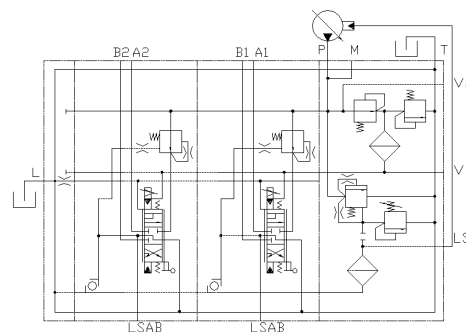
- Load-independent flow control.
- Internal pilot oil supply built into inlet cover.
- Options for electrical LS unloading valve.
- Interchangeable spools with a range of flow options.
- A wide variety of service port valves.
- Available manual, hydraulic and electro-hydraulic proportional spool control kits.
- Available with compensated or non compensated working sections.



### Open Circuit Fixed Delivery Pump

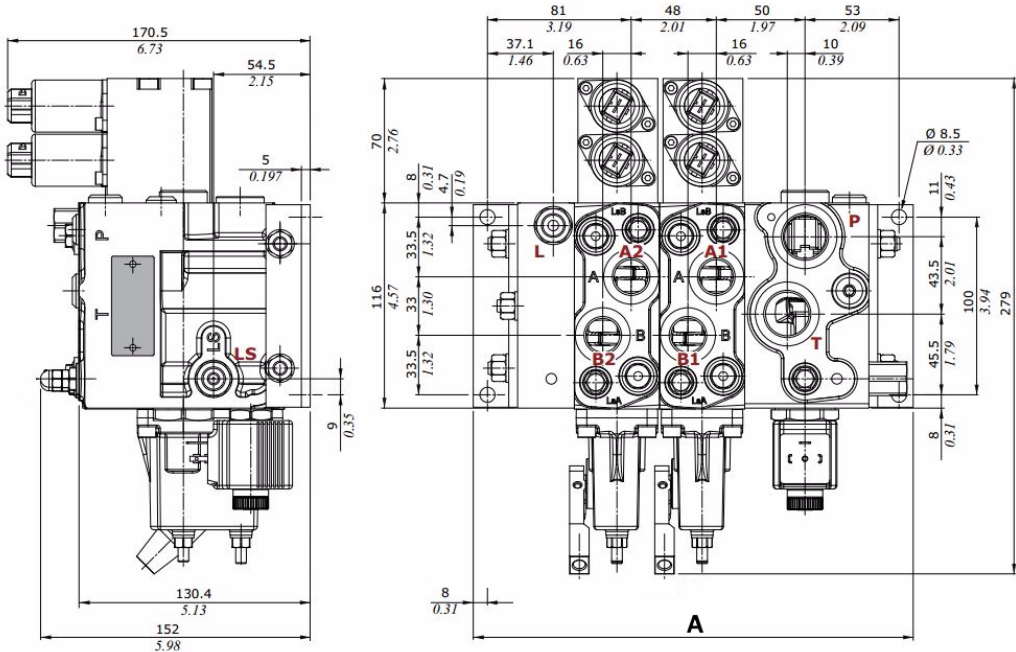


### Closed Circuit Load Sense Pump



PROPORTIONAL VALVES  
**DPC130 Series**

Proportional directional control valves with with pre-compensated sections and load sensing. These valves are suitable for load sensing variable displacement pumps or fixed displacement pumps. Available with manual handle, oil pilot or electro-proportional controls.



Inlet Flow L/min	Work Port Non-Comp L/min	Work Port Comp. L/min	Max. Pressure bar	Max. Back Pressure bar	Leakage @ 100 bar cm <sup>3</sup> /min	Tiebolt Torque Nm	Ports BSPP			
							P, T	A, B	LS	Drain
150	130	100	315	25	16	30	3/4"	1/2"	1/4"	1/4"

Filtration required: 18/15 ISO4406    Viscosity Range = 12 - 400cSt

Type	No. of Spools	Dim A (mm)
DPC130-1	1	200
DPC130-2	2	248
DPC130-3	3	296
DPC130-4	4	344
DPC130-5	5	392

Type	No. of Spools	Dim A (mm)
DPC130-6	6	440
DPC130-7	7	488
DPC130-8	8	536
DPC130-9	9	584
DPC130-10	10	632

Pricing includes solenoid control and manual override, cylinder spool, spring-centred, load sense circuit, relief valve and compensated sections

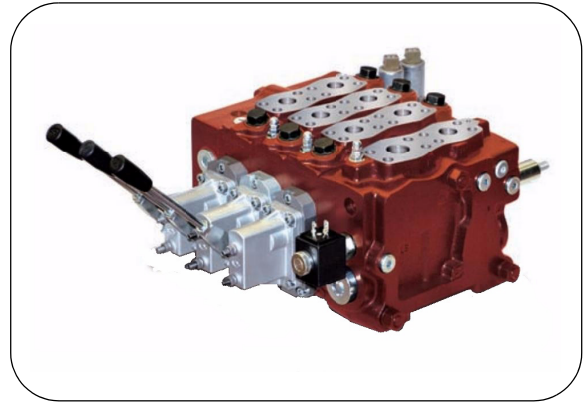
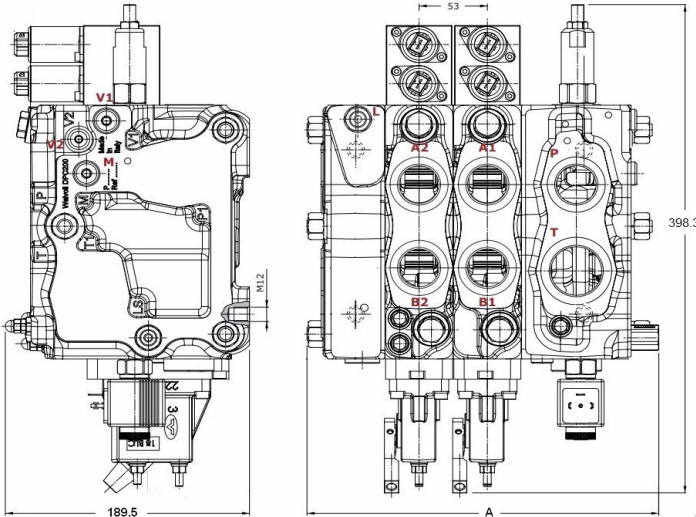
Options		
Type	Part Number	Description
BR11	5FIA631301	Inlet-open centre c/w relief valve
BR21	5FIA631300	Inlet-closed centre c/w relief valve
1	3CU4010010	Spool A & B closed
2H	3CU4025010	Spool A & B partially open to tank
3	3CU4031025	Spool single acting on A
5	3CU4041025	Spool 4th position float
ELP	EC08M/10PB	Unloader Sol. Op. 12VDC(24VDC)
8EZ3T4-12VDC	5V08130872	Proportional Sol. Op. 12VDC
8EZ3T4-24VDC	5V08130873	Proportional Sol. Op. 24VDC
8IM	5V08130800	Hydraulic pilot - proportional
U1/U2	5KIT330100	Port relief & anti-cavitation
8	5V08130000	Spool position - spring centre
7FT	5V07130000	Spool position - friction control
13	5V13130000	Float 4th position (manual)
13ZR3	5V13130900	As Type 13 for proportional sol.

Flow Options	
Flow Symbol	Range L/min
O	0-10
V	0-25
Q	0-40
S	0-60
N	0-80
P	0-100



PROPORTIONAL VALVES  
**DPC200 Series**

New line of Proportional Directional control valves with higher flow capacity with pre-compensated sections and load sensing. These valves are suitable for load sensing variable displacement pumps or fixed displacement pumps. Available with manual handle, oil pilot or electro-proportional controls. A transition plate is available to adapt to DPC130 sections



Inlet Flow L/min	Work Port Non-Comp L/min	Work Port Comp L/min	Max. Pressure bar	Max. Back Pressure bar	Leakage @ 100 bar cm <sup>3</sup> /min	Tiebolt Torque Nm	Ports Code 61 Flange (BSPP ports on request)			
							P, A, B	T	LS	Drain
260	240	200	350	25	20	50	3/4"C61	1"C61	1/4" BSPP	1/4" BSPP

Filtration required: 18/15 ISO4406 , Viscosity Range = 12 - 400cSt

Type	No. of Spools	Dim A (mm)
DPC200-1	1	220
DPC200-2	2	273
DPC200-3	3	326
DPC200-4	4	379
DPC200-5	5	432

Type	No. of Spools	Dim A (mm)
DPC200-6	6	485
DPC200-7	7	538
DPC200-8	8	591
DPC200-9	9	644
DPC200-10	10	697

Pricing includes solenoid control and manual override, cylinder spool, spring centred, load sense circuit, relief valve and compensated sections

Options		
Type	Part Number	Description
BR1-1	<b>5FIA620302</b>	Inlet-open centre c/w relief valve
BR2-1	<b>5FIA620304</b>	Inlet-closed centre c/w relief valve
BRF2-3	<b>5FIA620306</b>	Inlet-closed centre w/o compensator
C10	<b>5EL6201310</b>	Section c/w compensator
C11	<b>5EL6201311</b>	As C10 prearranged, LSA/LSB ports
C22	<b>5EL6201322</b>	As C10 prearranged anti-shock reliefs + press limits
1	<b>3CU4510201</b>	Spool A & B closed 200/200 (all spools same price)
2	<b>3CU4525200</b>	Spool A & B open to T
2H	<b>3CU4525200</b>	Spool A & B partially open to T 200/200
3	<b>3CU4530200</b>	Spool single acting on A
ELP	<b>EC08M/10PB</b>	Unloader 12VDC(24VDC)(inc. coil)
8EZ3T-12VDC	<b>5V08200722</b>	Proportional Solenoid 12VDC
8EZ3T-24VDC	<b>5V08200742</b>	Proportional Solenoid 24VDC
8IM	<b>5V08200801</b>	Oil pilot - proportional
U1 or U2	<b>5KIT330210</b>	Port relief & anti-cavitation
LSD	<b>XCAR126215</b>	Port Pressure Limiting
8	<b>5V08200000</b>	Spool position - spring centre

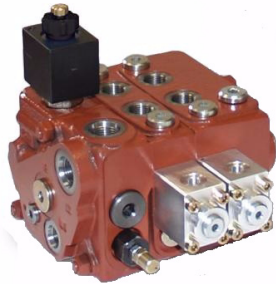
Std Flow Options (Port A/B)
Range L/min
25/25
50/50
75/75
100/100
125/125
150/150
175/175
200/200



PROPORTIONAL VALVES

**DPX050 Series**  
**DPX100 Series**  
**DPX160 Series**

New line of proportional directional control valves with post-compensated flow sharing sections. These valves are suitable for load sensing variable displacement pumps or fixed displacement pumps. Available with manual handle, oil pilot or electro-proportional controls. The DPX100 and DPX160 series are only available ex the Italian factory at present, but the DPX050 series is ex-stock.



**DPX050**



**DPX100**  
**DPX100HP**



**DPX160**  
**DPX160HP**

The DPX series is a proportional load-sensing directional control valve with **post compensated flow regulation** on each section. This design offers an advantage whereby if the flow demand exceeds the output flow from the pump, the flow output from each valve section falls in proportion to the pump output, thus maintaining operation of all functions at a slower rate. This differs from the **pre-compensated** design which, when the flow demand exceeds the pump flow, the flow is directed to the least loaded section.

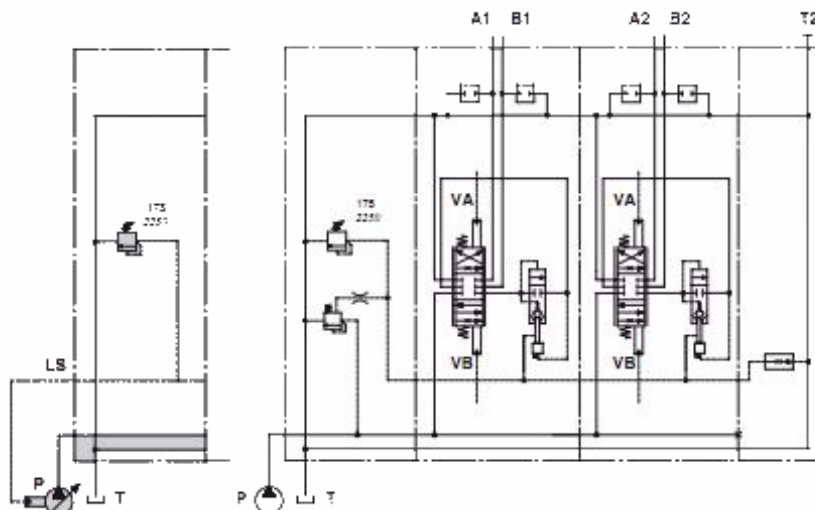
**NB:** When using the post compensated design there is no option for port pressure limiting.

For further information contact your Southcott representative

Part Number	Inlet Flow L/min	Work Port Comp L/min	Max. Pressure bar	Max. Back Pressure bar	Ports BSSPP			
					P & T	A & B	LS	Drain
DPX050	80	50	300	30	1/2	3/8	1/4	1/4
DPX100	120	80	300	10	1/2	3/4	1/4	1/4
DPX100HP								
DPX160	225	150	270	10	3/4 - 1	3/4	1/4	1/4
DPX160HP								

**Closed Centre**

**Open Centre**



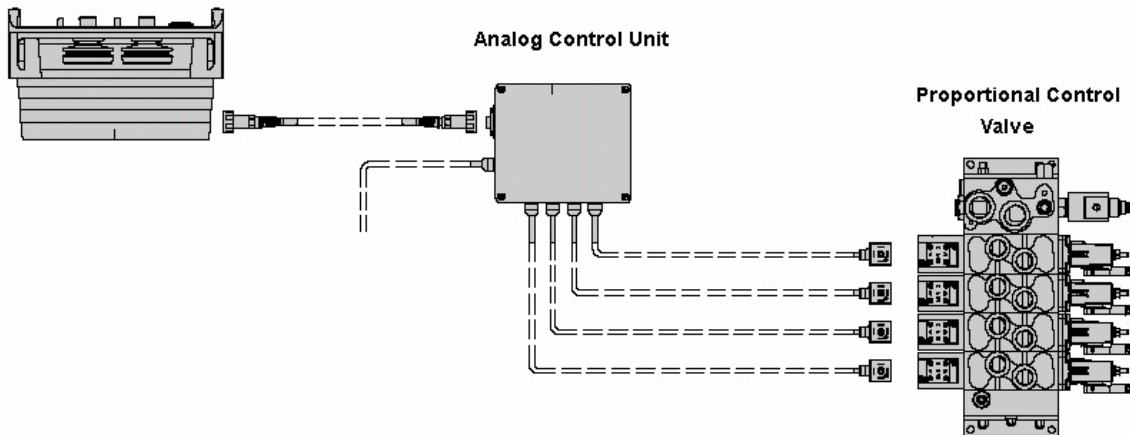
## ELECTRONIC CONTROL SYSTEMS

We can provide a fully integrated electronic control package for your electro proportional control valves. These systems amplify, clean and transform the joystick signal to a current that is supplied to the electro hydraulic control valve module.

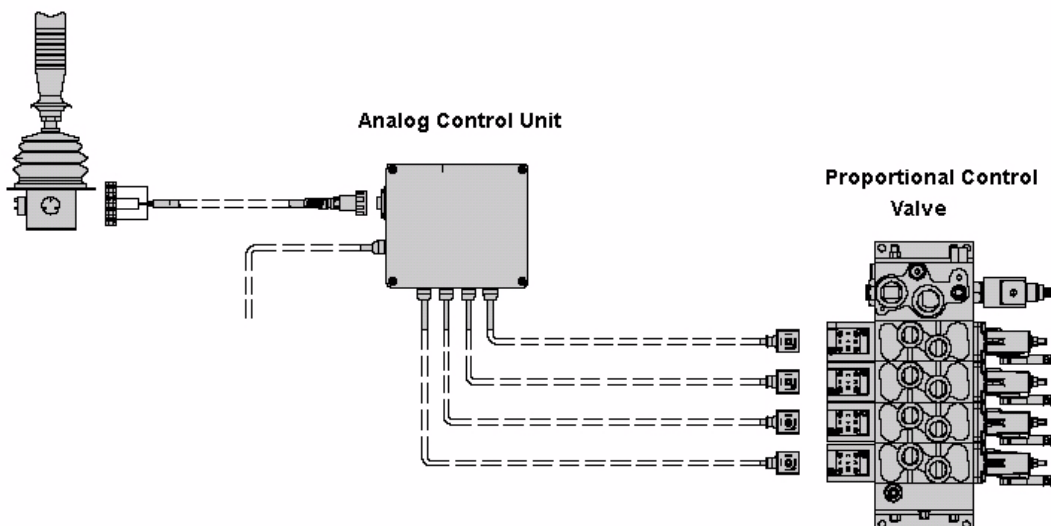
Please provide details of your system requirements and we will provide you with a package price.

For radio remote controls refer to Section P of this product guide.

Control console



Control joystick

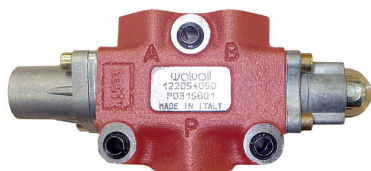


# SECTION A

## DIVERTER VALVES



PAGE DESCRIPTION	PAGE
<b>WALVOIL DIVERTER VALVES</b>	
DH Series .....	A 38
DF Series Spool Diverter Valves .....	A 40
DFE Diverter Valves-Solenoid Operated .....	A 42



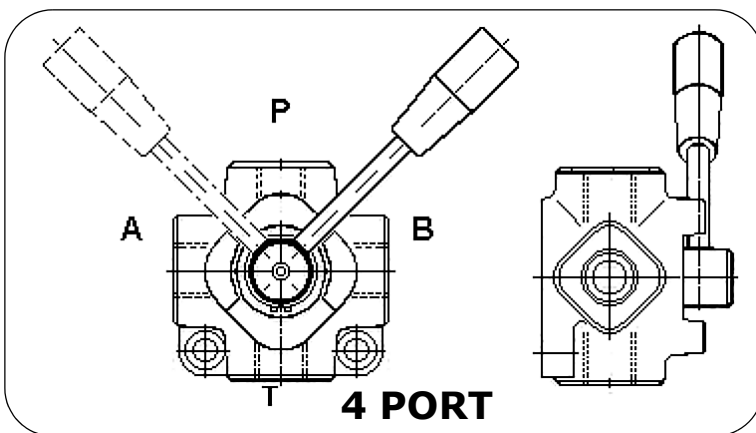
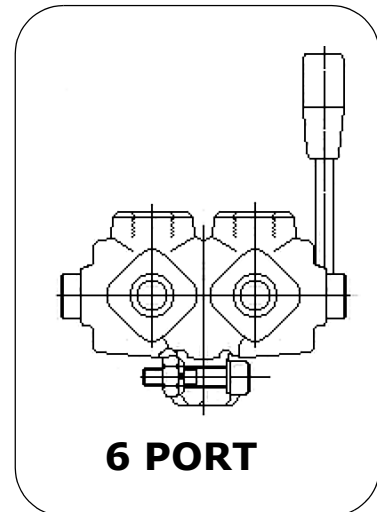
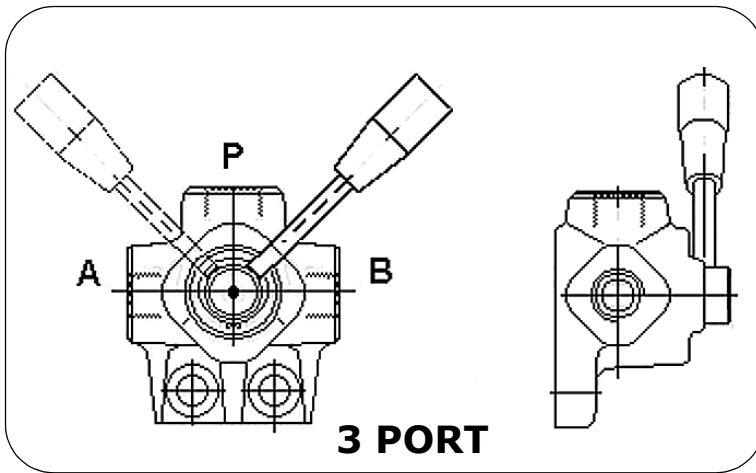
**NB: Models, codes and specifications may be subject to change without notice.**

## DH Series

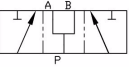
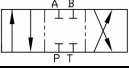
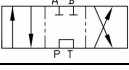

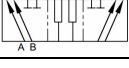
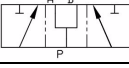
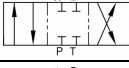
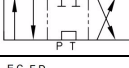
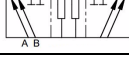
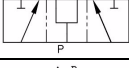
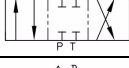
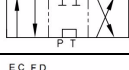
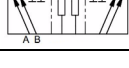
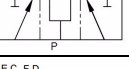

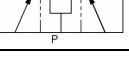


Simple, compact and heavy-duty designed, with cast iron bodies and steel spools.

Available in 3-, 4-, 6- and 8-way, diverter valves are suitable to intercept and divert the flow on hydraulic systems, wherever a movement sequence, a safety device or a control selection of different actuators is needed.



## DH Series

Part Number	Circuit	Number of Ports	Max Flow L/min	Max Press. bar	Port Size BSPP
DH5/3-A		3	60	315	3/8"
DH5/4-A		4			
DH5/4-B					
DH5/4-C					
DH5/6-A		6			
DH10/3-A		3	90	315	1/2"
DH10/4-A		4			
DH10/4-B					
DH10/6-A					
DH20/3-A		3	140	315	3/4"
DH20/4-A		4			
DH20/4-B					
DH20/6-A					
DH25/3-A		3	200	250	1"
DH25/6-A		6			
DH30/3-A		3	280	210	1-1/2"

## DF Series Diverter Valves



### Spool Diverter Valves

Flows up to 220 L/min

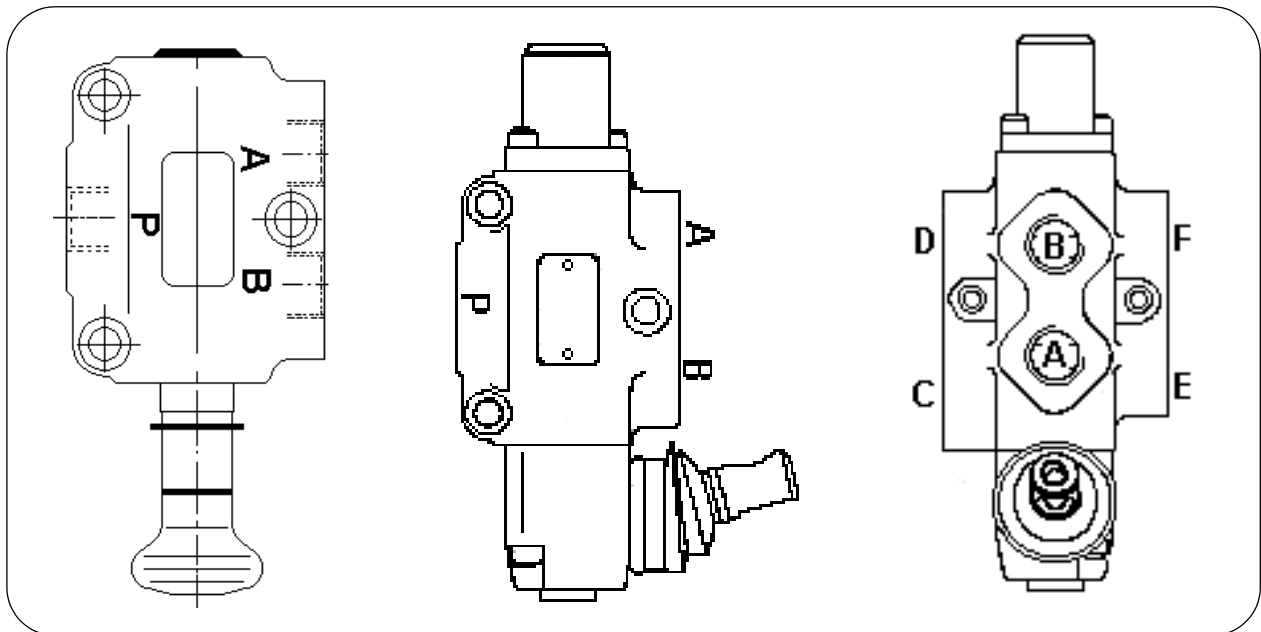
Pressures up to 350 bar (5100 psi).

Made in special high resistance cast iron with a nickel plated carbon steel spool.

Circuit can be 2-3-6 way.

Spool operation options - manual, pneumatic, hydraulic pilot, electro-hydraulic and cam controls are available.

**NB: Mining versions available with non alloy handles and end caps**

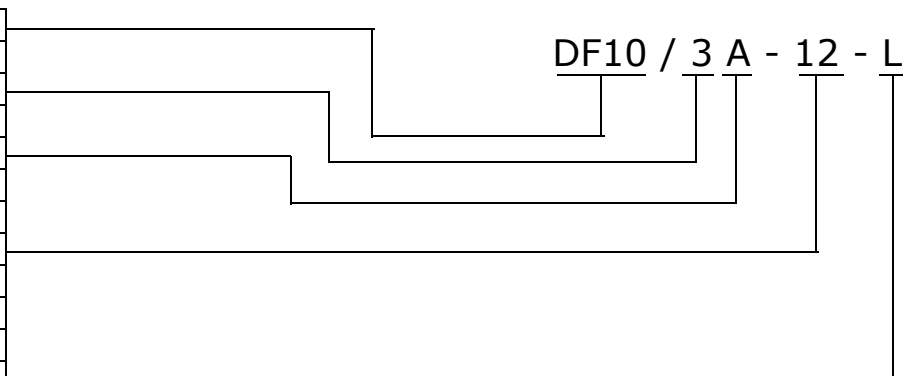


**3 WAY**  
Push - Pull

**3 WAY**  
Lever Operated

**6 WAY**  
Lever Operated

<b>Size</b>	DF5, DF10, DF20
<b>No. of Ports</b>	3, 6
<b>Spool Type</b>	Open in crossover = A Closed in crossover = B
<b>Spool Control</b>	2 position detent = 12 Spring offset P to B = 17 Spring offset P to A = 18
<b>Actuator</b>	Push/pull = MA Hand lever = L Cam = C



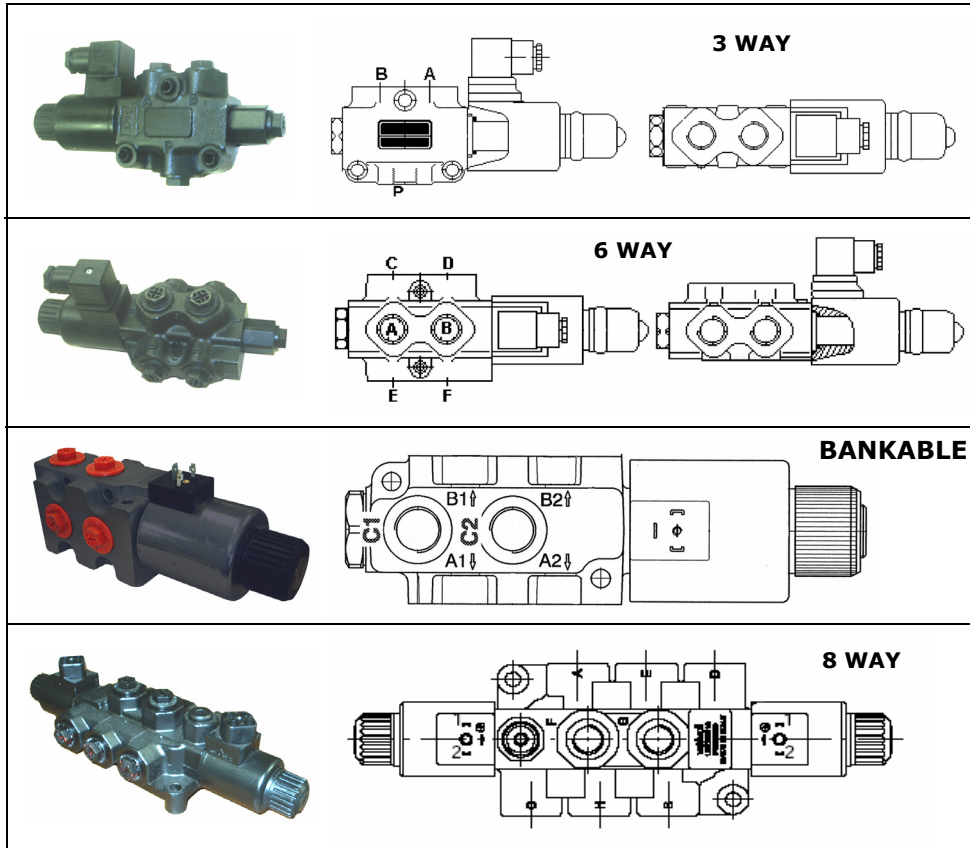


Part Number	Circuit	Num. of Ports	Max Flow L/min	Max Press. bar	Port Size BSP	Operation Control	Position Control
DF5/2B-12-L		2	60	315	3/8"	Lever Op.	Detent
DF5/2BC-17-CB						Cam Op.	Spring
DF5/2A-17-L						Lever Op.	Spring
DF5/3A-12-L		3				Lever Op.	Detent
DF5/3AC-17-CB						Cam Op.	Spring
DF5/3A-17-L						Lever Op.	Spring
DF5/3A-18-L						Lever Op.	Spring
DF5/3A-MA						Push Pull	N/A
DF5/3D-15-L						Lever Op.	Detent
DF5/6A-12-L		6				Lever Op.	Detent
DF5/6B-12-L						Lever Op.	Detent
DF10/3A-12-L		3	90	315	1/2"	Lever Op.	Detent
DF10/3A-17-L						Lever Op.	Spring
DF10/3A-MA						Push Pull	N/A
DF10/6A-12-L		6				Lever Op.	Detent
DF10/6B-12-L						Lever Op.	Detent
DF20/3A-12-L		3	140	315	3/4"	Lever Op.	Detent
DF20/3A-MA						Push Pull	N/A
DF20/6A-12-L		6				Lever Op.	Detent
DF20/6B-12-L						Lever Op.	Detent
DF25/3A-12-L		3	280	315	1"	Lever Op.	Detent

# DFE Series

## DFE Diverter Valves-Solenoid Operated

2 position diverter valves with solenoid control. The body is made of special cast iron and the spool of hardened steel. The solenoid is fitted with an emergency manual push button which can be used if there is a loss of power supply.



### ORDERING CODE

DFE20 / 6B - 18ES - Y - 12VDC

SIZE

NO. OF PORTS

SPOOL TYPE - A = Open in Crossover, B = Closed in Crossover

ELECTRONIC SOLENOID CONTROL

Y = Drained, W = No Drain

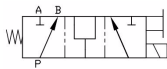
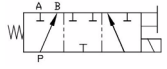
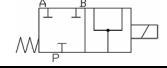
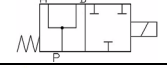
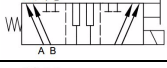

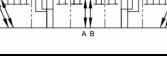
VOLTAGE: 12V DC

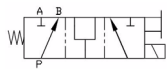
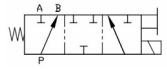
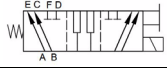
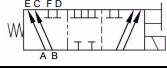
24V DC

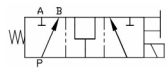
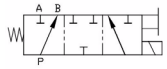
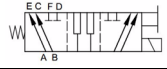
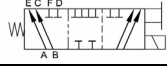
Coils to Suit DFE Series			
To Suit	Volts	Watts	Part Number
DFE052	12VDC	40	4SOL515012
	24VDC		4SOL515024
DFE10	12VDC	60	4SOL516012
	24VDC		4SOL516024
DFE20/DFE140	12VDC		4SOL519112
	24VDC		4SOL519124

Coil Connectors	
Part Number	Type
SP-666	Std Connector
SP-KA-DC	Connector with LED

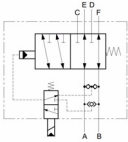
## DFE Series

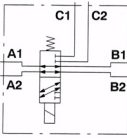
Part Number	Circuit	No. of Ports	Max. L/min	Max. Pressure bar		Ports BSPP
				without draining	with draining	
DFE052/3A-18ES-Y-12VD DFE052/3A-18ES-Y-24VD		3	60	200	315	3/8"
DFE052/3B-18ES-Y-12VD DFE052/3B-18ES-Y-24VD						
DFE052/3D-18ES-Y-12VD DFE052/3D-18ES-Y-24VD						
DFE052/3E-18ES-Y-12VD DFE052/3E-18ES-Y-24VD						
DFE052/6A-18ES-Y-12VD DFE052/6A-18ES-Y-24VD		6				
DFE052/6B-18ES-Y-12VD DFE052/6B-18ES-Y-24VD						
DFE052/8B-8ES3-W-12VD		8				

Part Number	Circuit	No. of Ports	Max. L/min	Max. Pressure bar		Ports BSPP
				without draining	with draining	
DFE10/3A-18ES-Y-12VDC DFE10/3A-18ES-Y-24VDC		3	90	200	315	1/2"
DFE10/3B-18ES-Y-12VDC DFE10/3B-18ES-Y-24VDC		3				
DFE10/6A-18ES-Y-12VDC DFE10/6A-18ES-Y-24VDC		6				
DFE10/6B-18ES-Y-12VDC DFE10/6B-18ES-Y-24VDC		6				

Part Number	Circuit	No. of Ports	Max. L/min	Max. Pressure bar		Ports BSPP
				without draining	with draining	
DFE20/3A-18ES-Y-12VDC DFE20/3A-18ES-Y-24VDC		3	140	200	315	3/4"
DFE20/3B-18ES-Y-12VDC DFE20/3B-18ES-Y-24VDC						
DFE20/6A-18ES-Y-12VDC DFE20/6A-18ES-Y-24VDC		6				
DFE20/6B-18ES-Y-12VDC DFE20/6B-18ES-Y-24VDC						

## DF/DFE Series

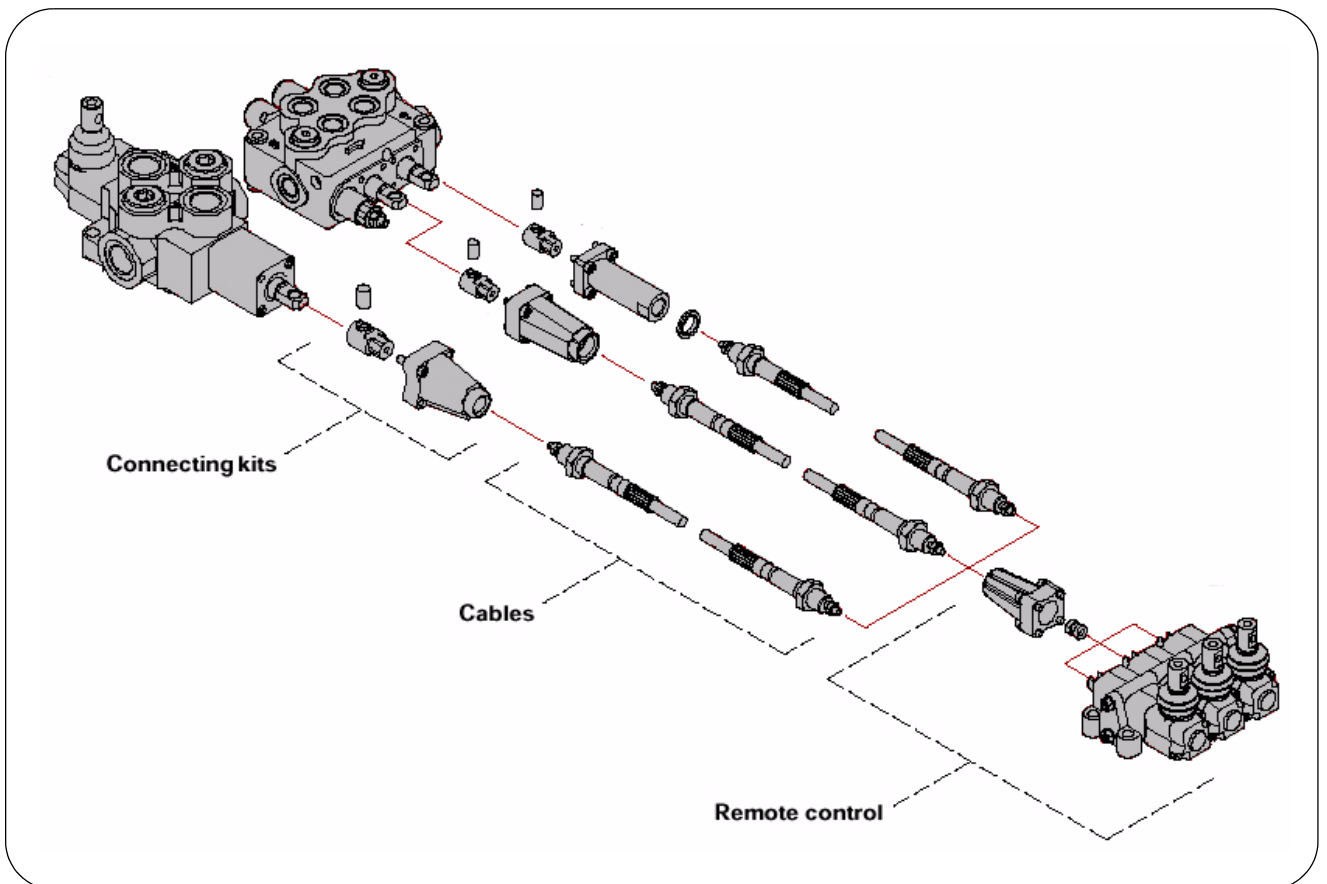
Part Number	Circuit	No. of Ports	Max. L/min	Max. Pressure bar	Ports BSPP
				without draining	
DF22/6A-18-EI1-24VDC		6	240	315	3/4"

Bankable Type Part Number	Circuit	No. of Ports	Max. L/min	Max. Pressure bar		Ports BSPP
				without draining	with draining	
DFE140/6B-18ES-W-12DC (without draining)		6	80	200	315	1/2"
DFE140/6B-18ES-Y-12DC (with draining)						



# SECTION A

## CABLE KITS

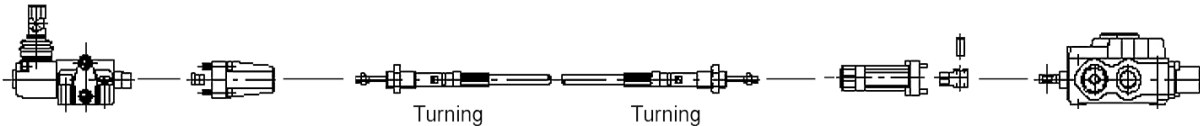


**NB: Models, codes and specifications may be subject to change without notice.**



## CABLE CONNECTION KITS

- ① **Lever Control**  
TCC5  
TCC10
- ② **Lever Control Connection Kit**  
GP50  
GP100
- ③ **Flexible Cables**  
4CAV70\*\*\*\*
- ④ **Valve Connection Kit**  
TQ Kit
- Valve



① **Lever Control Kit to Suit:**  
**SDM080, SD4, SD5, SD6, DLS7, DF5**

Part Number	Description
TCC5/1/TL	Lever Control 1 Bank
TCC5/2/TL	Lever Control 2 Bank
TCC5/3/TL	Lever Control 3 Bank
TCC5/4/TL	Lever Control 4 Bank
TCC5/5/TL	Lever Control 5 Bank
TCC5/6/TL	Lever Control 6 Bank
TCC5/7/TL	Lever Control 7 Bank

② **Control Connection Kit (use 1 per Lever Control)**

Part Number	Description
GP50	Control Connection Kit suit TCC5
GP100	Control Connection Kit suit TCC10

③ **Cables**

Part No.	Length
4CAV701000	1000mm
4CAV701250	1250mm
4CAV701500	1500mm
4CAV701750	1750mm
4CAV702000	2000mm
4CAV702500	2500mm
4CAV703000	3000mm
4CAV703500	3500mm
4CAV704000	4000mm
4CAV704500	4500mm
4CAV705000	5000mm

① **Lever Control Kit to Suit:**  
**SD11, SDM140, SD14, SD18, SDM140, SDM141, DLM142, SD8, SDS150, SD16, SD25, DF10, DF20**

Part Number	Description
TCC10/1/TL	Lever Control 1 Bank
TCC10/2/TL	Lever Control 2 Bank
TCC10/3/TL	Lever Control 3 Bank
TCC10/4/TL	Lever Control 4 Bank
TCC10/5/TL	Lever Control 5 Bank
TCC10/6/TL	Lever Control 6 Bank
TCC10/7/TL	Lever Control 7 Bank

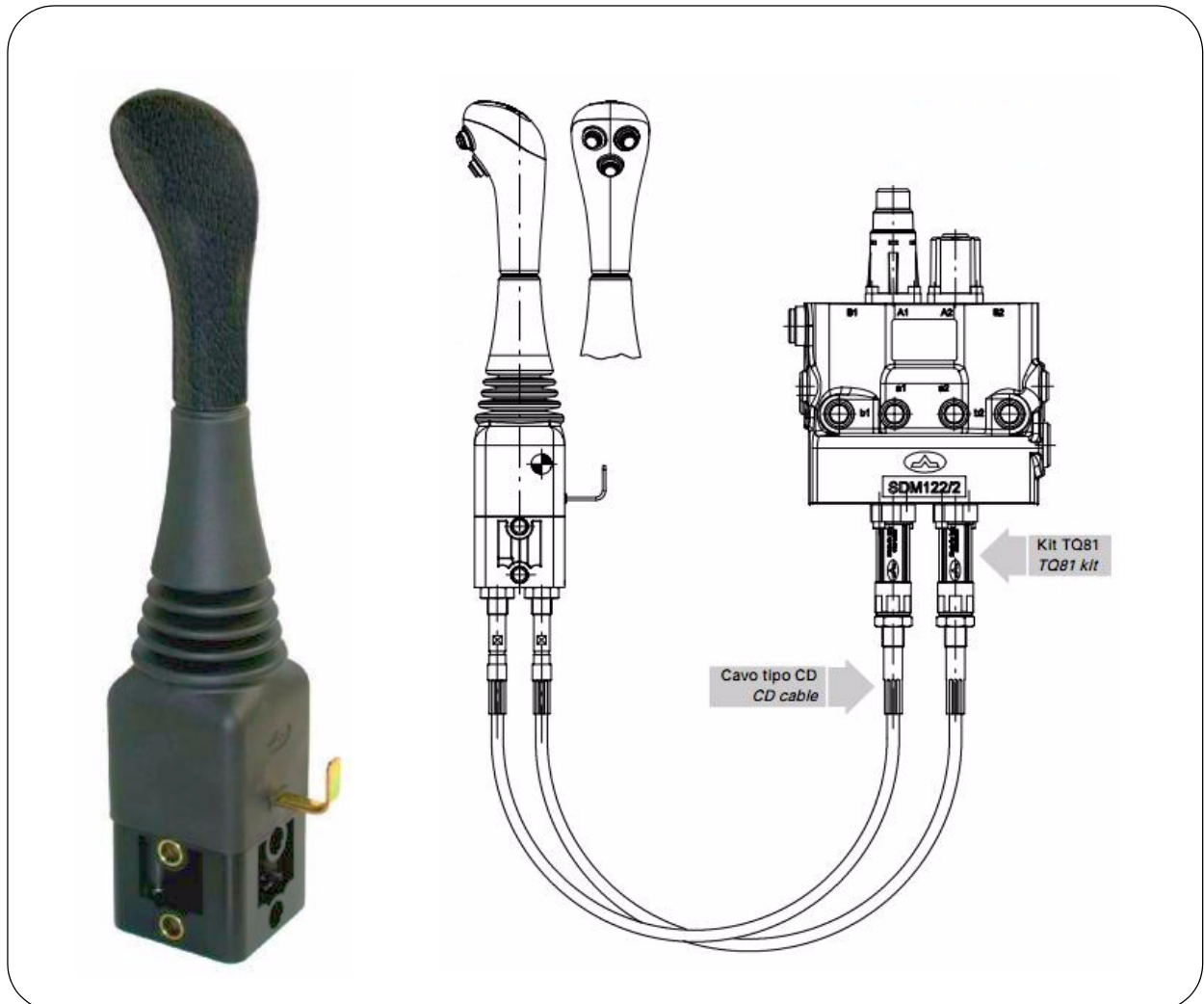
④ **Valve Connection Kits**

Part Number	To Suit
TQ08	SDM080, SDS100
TQ50	SD4, SD5, SD6, DF5
TQ70	SDM102, DLS7
TQ80	SD8, SDM140, SDM141
TQ81	SDM143, DLM142
TQ100	SDS150, SD11, SD14, SD16, DF10
TQ200	SD18, SD25, DF20

TL = No spring  
ML = Spring return



## JOYSTICK CABLE CONTROL



Part No.	Description
SCF031/02FW	Joystick with Ergo Handle no micro switch
SCF031/02FXS	Joystick with Anatomic Handle and front push button
SCF031/02K	Joystick with straight handle, on/off switch & protective cover
SCF031/02W	Joystick with straight handle & without switches
SCF031/02T	Joystick with straight handle & 3 pos. detent rocker switch on/off/on
SCF031/02Y	Joystick with straight handle & rocker switch
SCF031/02Z	Joystick with straight handle & 2 pos. detent rocker switch on/off

**NB: Cable and valve connection kits not included in the above**



# SECTION A

## OIL PILOT CONTROLS



**SVM400  
SV01**



**SV10**



**SV20**



**SV30**



**SV40**



**SV60**



**SV70**



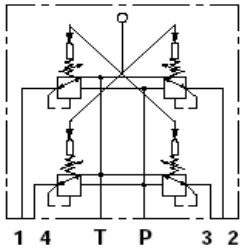
**SVP500**

VALVE SERIES	PAGE
Hydraulic Pilot Valves	
SVM400 Series (light weight dual axis joystick).....	A 50
SV01 Series (standard dual axis joystick) .....	A 51
SV10 Series.....	A 52
SV20 Series.....	A 53
SV30 Series.....	A 54
SV40 Series.....	A 56
SV60 Series.....	A 57
SV70 & SV71 Series.....	A 58
SVP500 Series.....	A 59
<u>CURVE OPTIONS FOR SV Series</u> .....	A 60
<u>CONTROLLER HANDLES</u> .....	A 66

**NB: Models, codes and specifications may be subject to change without notice.**

## HYDRAULIC PILOT VALVES SVM400 Series

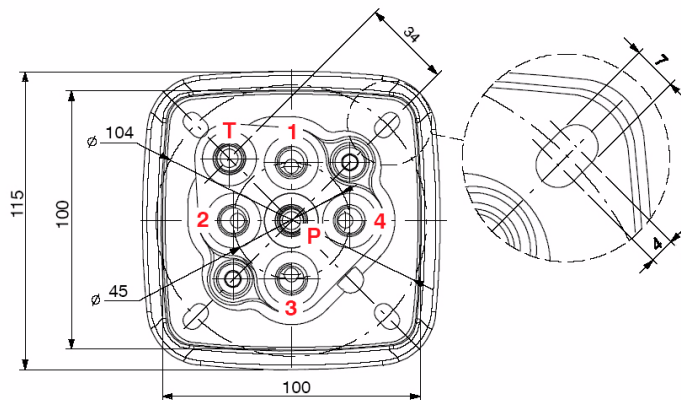
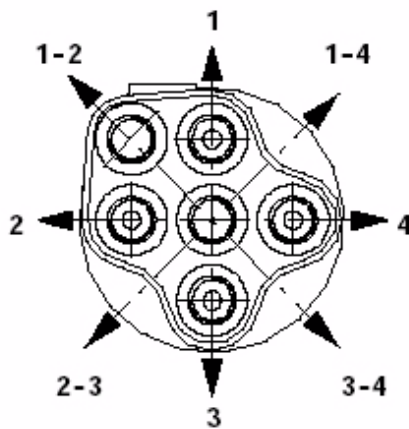
Monoblock dual axis joystick hydraulic pilot valve with 1 lever and 4 work ports for simultaneous operation of 2 valve sections. This unit can be arranged with several types of handles with or without electric controls. This is a new version with reduced weight and dimensions. Body in aluminium



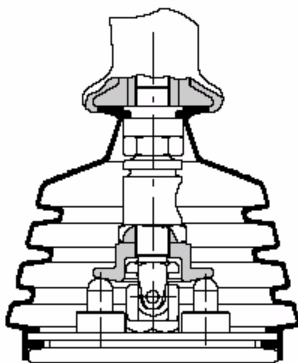
Part Number	Min Flow L/min	Max Flow L/min	Max Pressure on P bar	Max Back Pressure on T bar
<b>SVM400/01B/01V009M001</b>	5	20	100	3

The above unit is fitted with spring curve kit 001A = 5.8 to 22 bar  
Please refer to Page A 60 for other available spring curve kits (5CUR40...)

### Movements

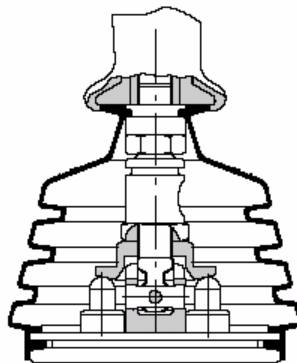


TYPE - 01



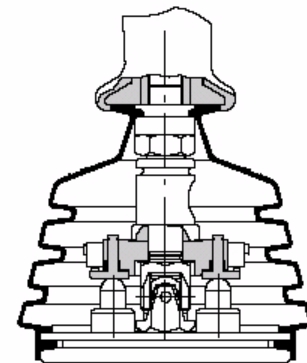
Spring return in neutral position.

TYPE - 09



Cross movement selector.

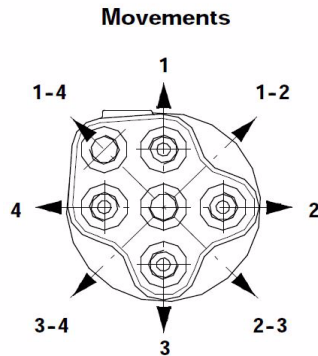
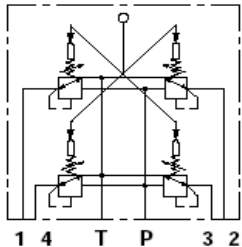
TYPE - 16



Movement detection on each port.

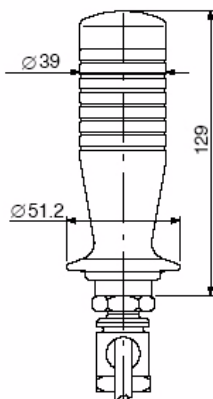
# SV01 Series

Monoblock Dual Axis Joystick Hydraulic Pilot Valve with 1 lever and 4 work ports for simultaneous operation of 2 valve sections. This unit can be arranged with several types of handles with or without electric controls. Body in cast iron



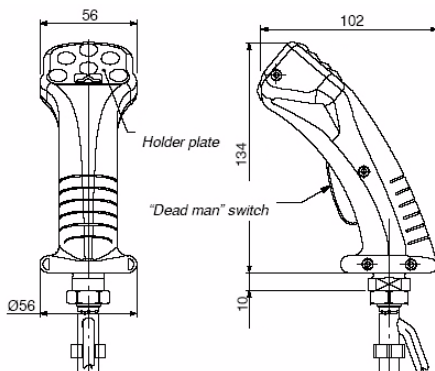
Part Number	Min Flow L/min	Max Flow L/min	Max Pressure on P bar	Max Back Pressure on T bar
<b>SV01-B/01W-001AX4</b>	5	20	100	3

The above unit is fitted with spring curve kit 001A = 5.8 to 22 bar  
Please refer to Page A 60 for other available spring curve kits (5CUR0...)



## Series 10 - optional handles

- W: Without switches
- X: With upper spring return push-button
- Z: With upper detent push-button
- Y: With 3 position spring return rocker switch
- K: With upper protected spring return push-button
- T: With 3 position detent rocker switch



## Series 40 - optional handles

- H: Fitted with up to 8 microswitch push-buttons, with rocker switch and dead man switch.
- HW: Fitted with up to 4 push-buttons (400mA types), with dead man switch.
- HT: Fitted with up to 4 push-buttons (5A types), with rocker switch, dead man switch and on/off switch.
- HZ: With potentiometer, fitted with up to 2 microswitch push-buttons, dead man and on/off switch.

HYDRAULIC PILOT VALVES

## SV10 Series

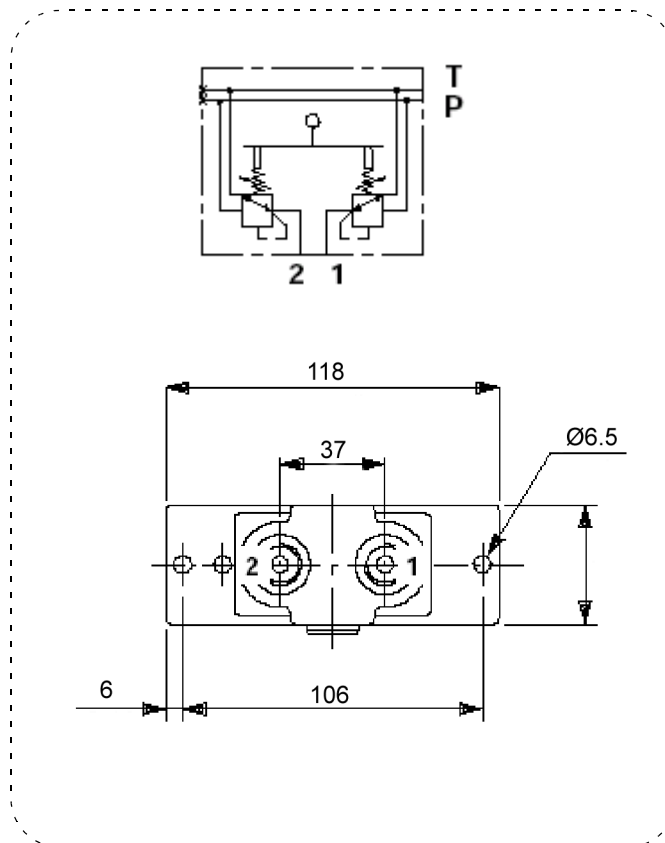
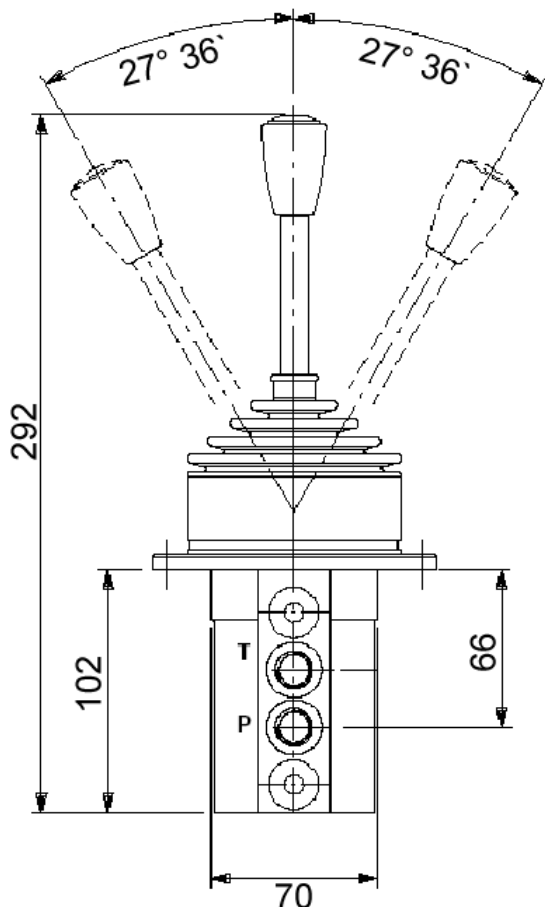
Monoblock single axis joystick hydraulic pilot valve with 1 lever and 2 work ports. Steel body (available with aluminium body in SVM100 series)

For handle options, please refer to page A 66.



Part Number	Min Flow L/min	Max. Flow L/min	Max Pressure on P bar	Controlled Pressure on P bar	Max Back Pressure on T bar
<b>SV10-B/01G-001A-001A</b>	5	15	100	64	3

The above unit is fitted with spring curve kit 001A = 5.8 to 22 bar  
Please refer to Page A 60 for other available spring curve kits (5CUR0...)





HYDRAULIC PILOT VALVES

# SV20 Series

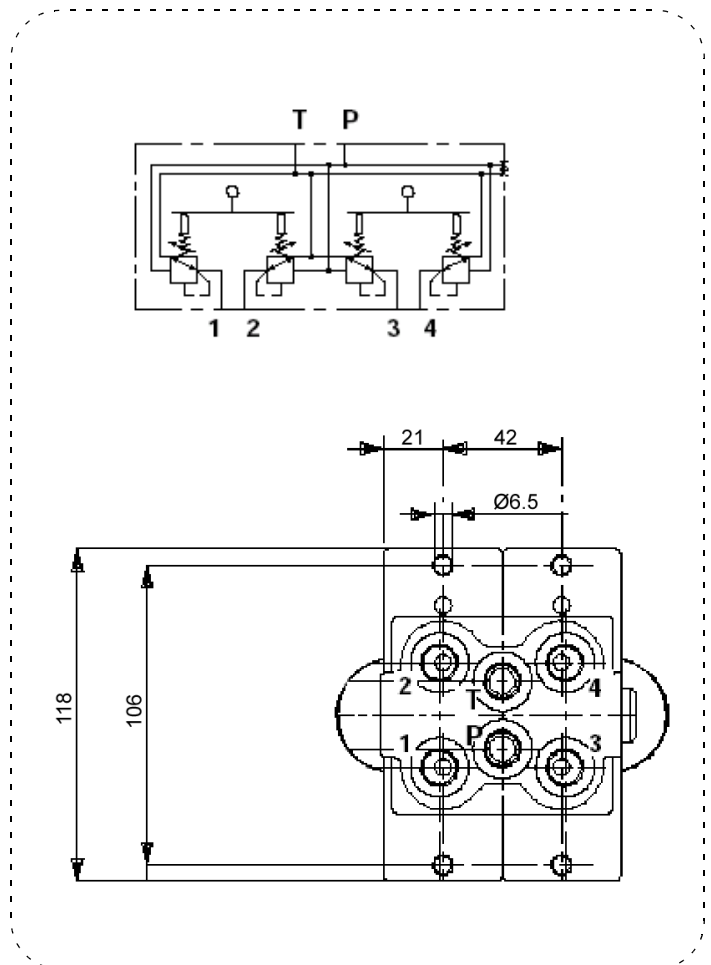
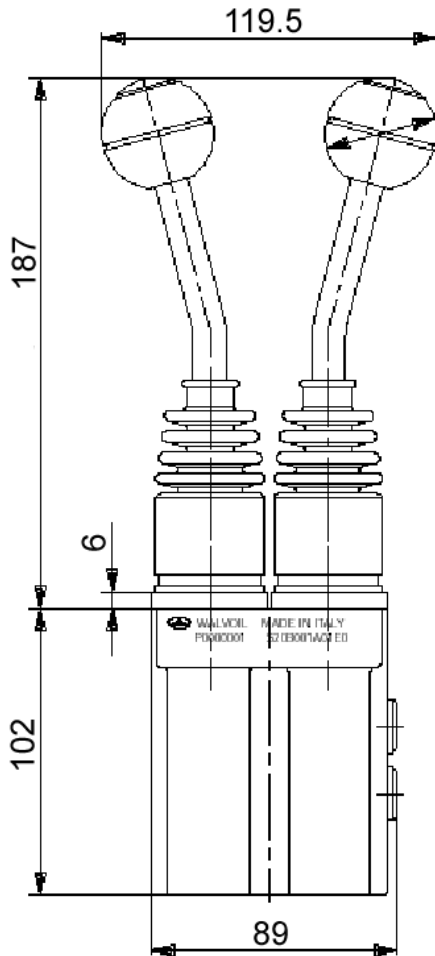
Monoblock hydraulic pilot valve with 2 levers and 4 work ports.  
Steel body (available with aluminium body in SVM100 series)

For handle options, please refer to page A 66.



Part Number	Min Flow L/min	Max Flow L/min	Max Pressure on P bar	Controlled Pressure on P bar	Max Back Pressure on T bar
<b>SV20-B/01G-001A-X4</b>	5	15	100	64	3

The above unit is fitted with spring curve kit 001A = 5.8 to 22 bar  
Please refer to Page A 60 for other available spring curve kits (5CUR0...)



HYDRAULIC PILOT VALVES  
**SV30 Series**

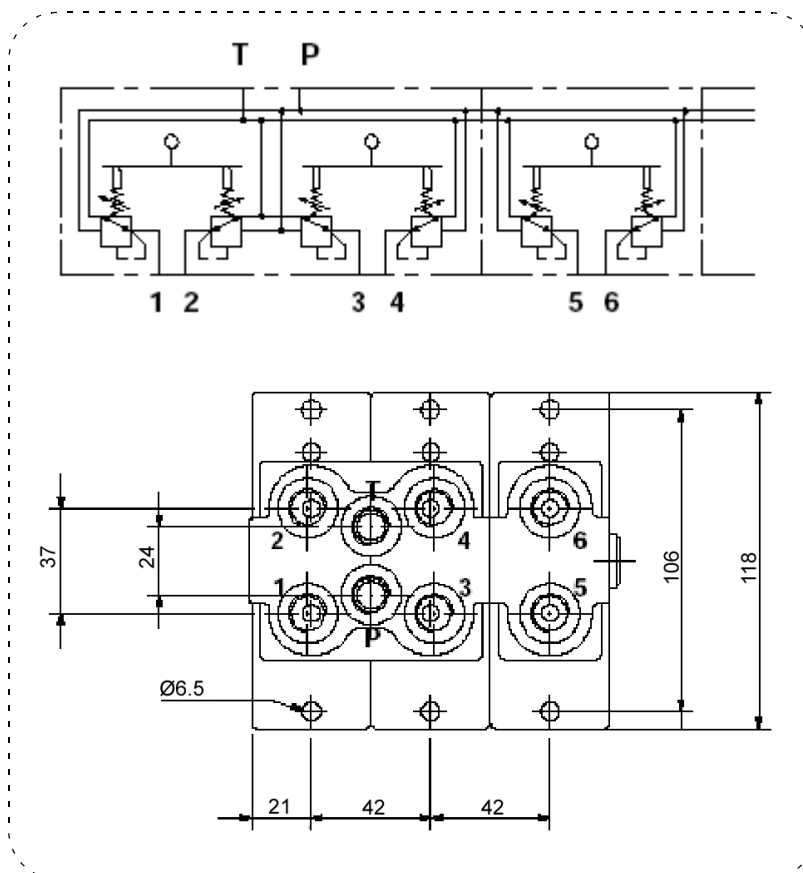
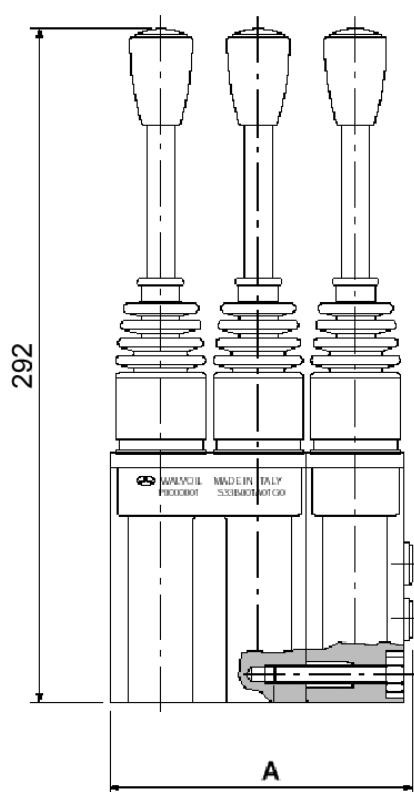
Sectional hydraulic pilot valves with 3 to 7 levers.  
 Steel body (available with aluminium body in SVM100 series)

For handle options, please refer to page A 66.

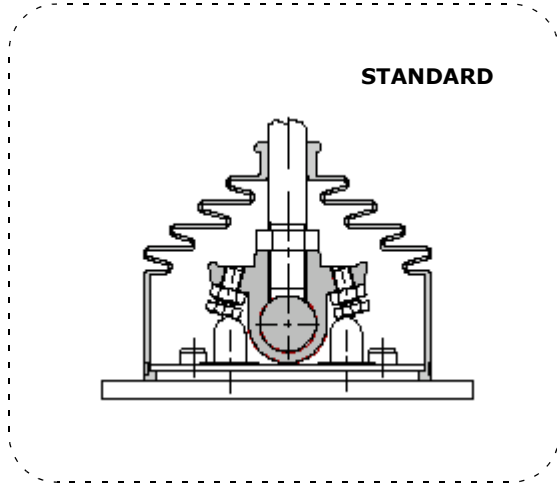


Part Number	Min Flow L/min	Max Flow L/min	Max Pressure on P bar	Controlled Pressure on A bar	Max Back Pressure on T bar
<b>SV30/3-B/01G-001A-X6</b>	5	15	100	64	3
<b>SV30/4-B/01G-001A-X8</b>					
<b>SV30/5-B/01G-001A-X10</b>					
<b>SV30/6-B/01G-001A-X12</b>					
<b>SV30/7-B/01G-001A-X14</b>					

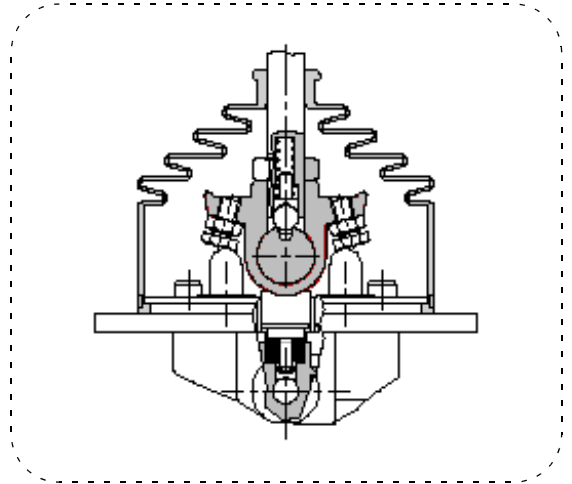
The above units are fitted with spring curve kit 001A = 5.8 to 22 bar  
 Please refer to page A 60 for other available spring curve kits (5CUR0...)



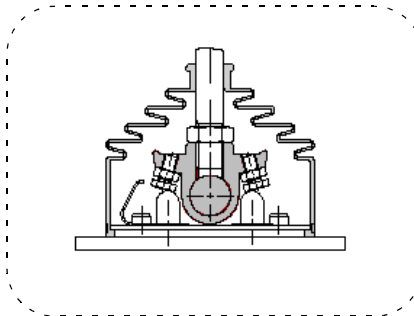
## CONTROL OPTIONS for SV10, SV20, SV30



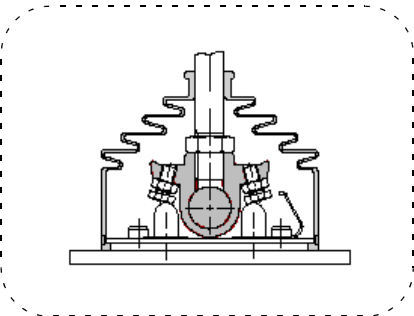
**01 Control** - Spring centred to neutral position. (STANDARD)



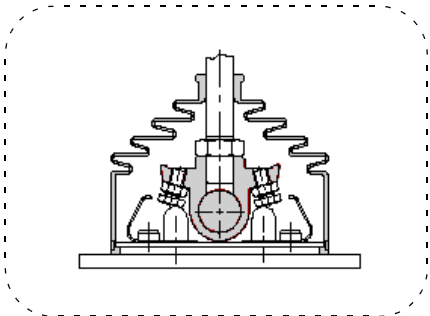
**03 Control** - With friction (stop in any position) and neutral sensing.



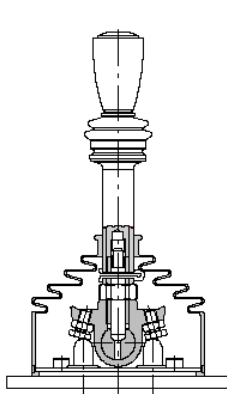
**05 Control** - Detent in position 1, spring centred to neutral position.



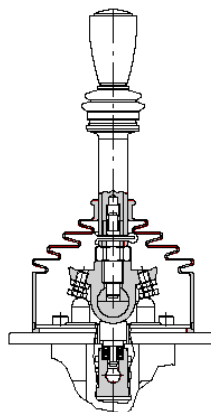
**06 Control** - Detent in position 2, spring centred to neutral position.



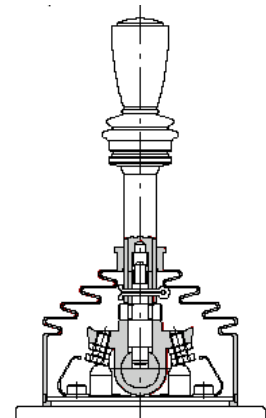
**07 Control** - Detent in position 1 and 2, spring centred to neutral position.



**02 Control**  
Detent in neutral, lift to release.



**10 Control** - With friction (stop in any position). Detent in neutral, lift to release.



**11 Control** - Detent in positions 1 and 2. Detent in neutral, lift to release.

For pricing and technical information please contact one of our sales staff.

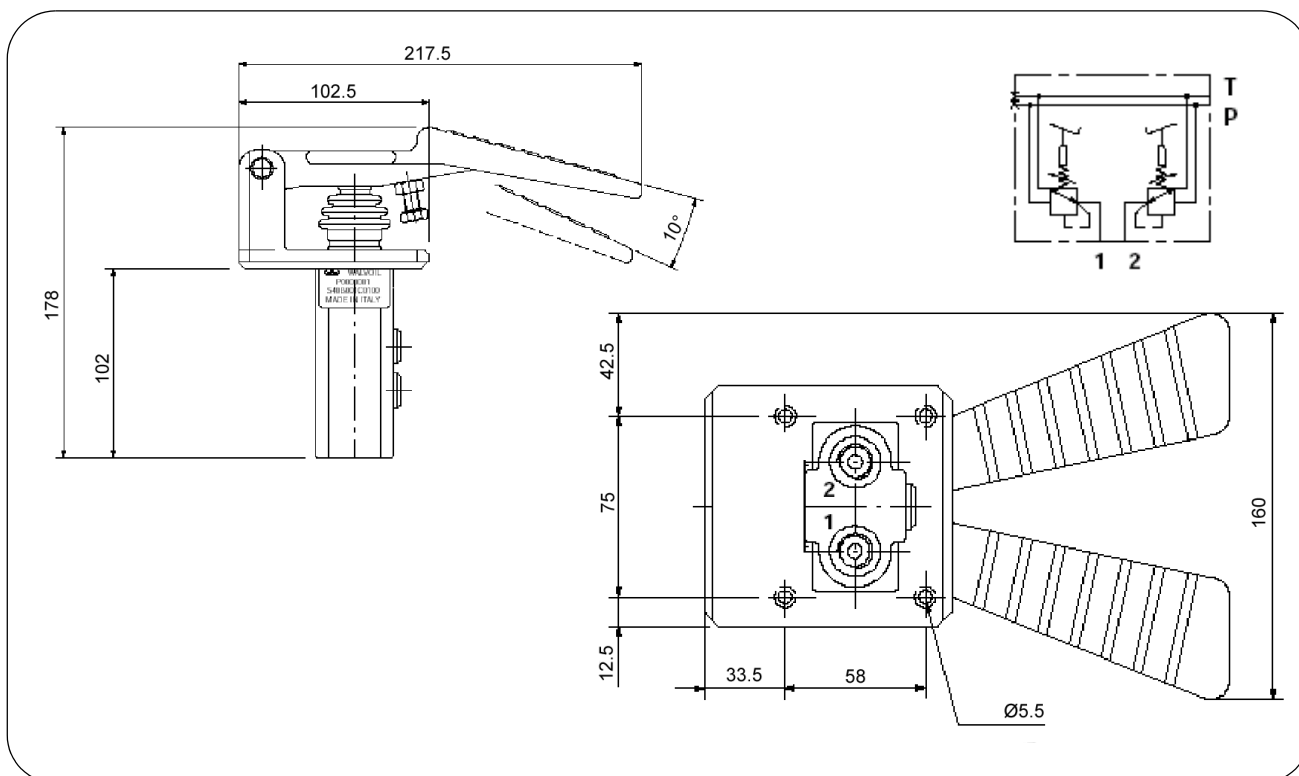
HYDRAULIC PILOT VALVES  
**SV40 Series**

Monoblock hydraulic pilot valve with 2 foot pedals and 2 work ports.  
 Steel body (available with aluminium body in SVM520 series)



Part Number	Min Flow L/min	Max Flow L/min	Max Pressure on P bar	Controlled Pressure on P bar	Max Back Pressure on T bar
<b>SV40-B/001C-001C</b>	5	15	100	64	3

The above unit is fitted with spring curve kit 001C = 5.8 to 22 bar  
 Please refer to Page A 60 for other available spring curve kits (5CUR0...)



HYDRAULIC PILOT VALVES

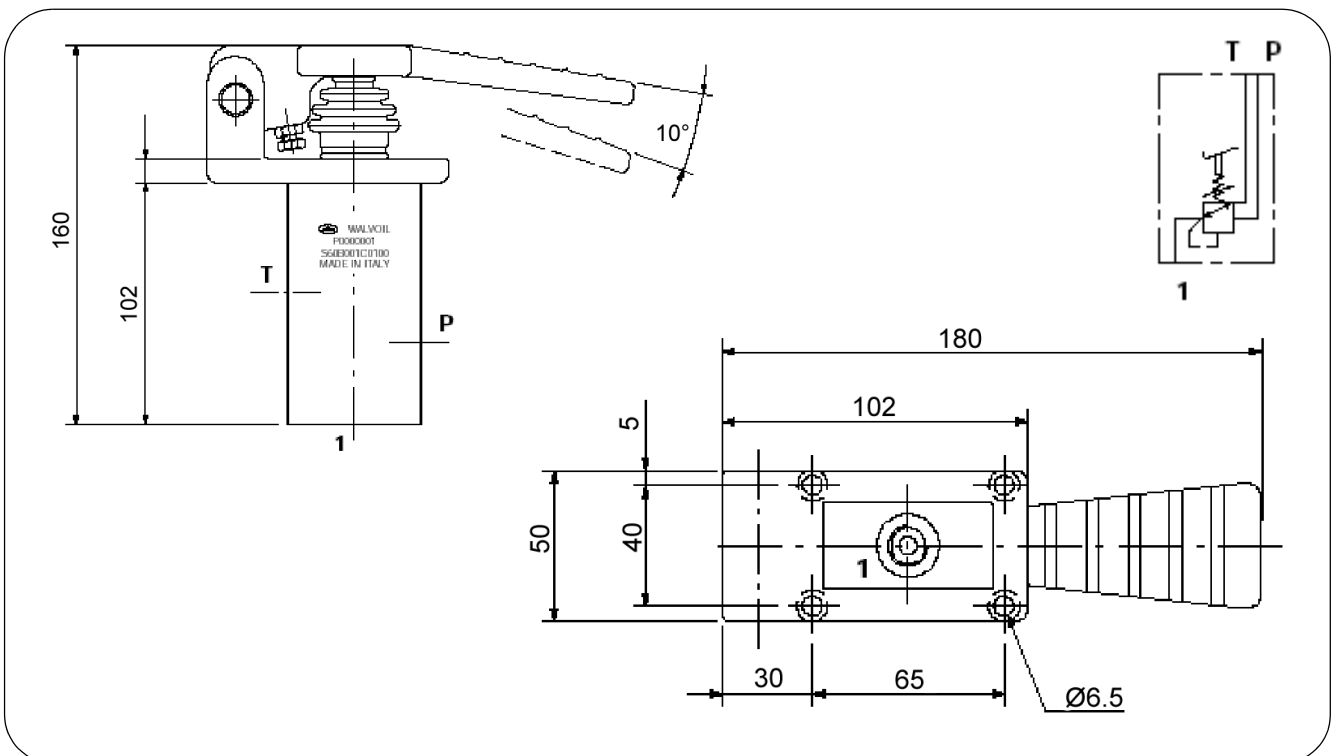
# SV60 Series

Monoblock hydraulic pilot valve with 1 foot pedal and 1 work port.  
Steel body (available with aluminium body in SVM510 series)



Part Number	Min Flow L/min	Max Flow L/min	Max Pressure on P bar	Controlled Pressure on P bar	Max Back Pressure on T bar
<b>SV60-B/001C</b>	5	15	100	64	3

The above unit is fitted with spring curve kit 001C = 5.8 to 22 bar  
Please refer to Page A 60 for other available spring centre kits (5CUR0...)



HYDRAULIC PILOT VALVES

# SV70 & SV71 Series

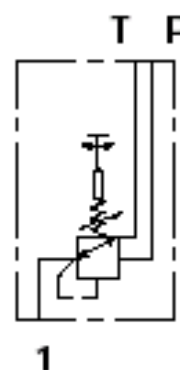
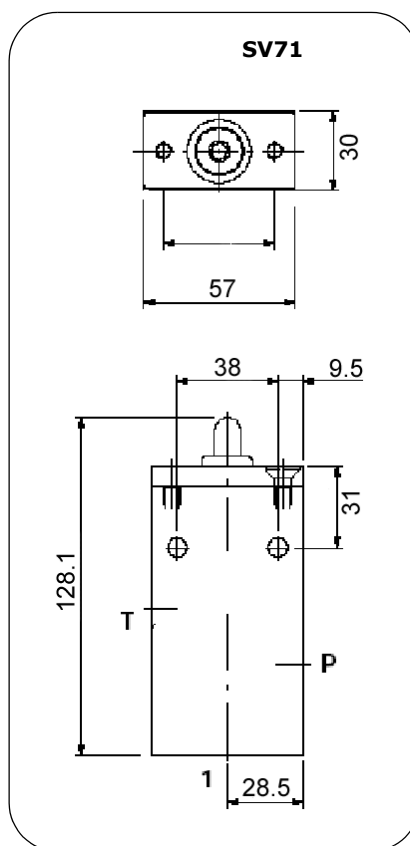
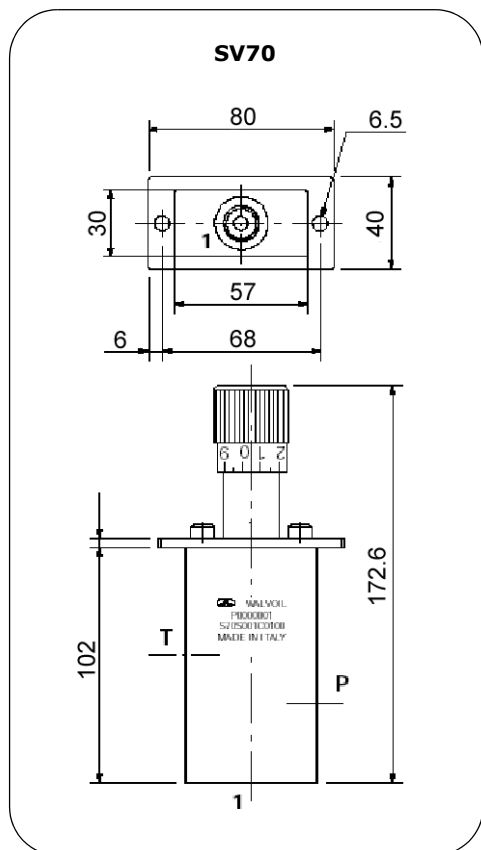
SV70 - Monoblock Unit with screw adjustable knobs 1 x work port.  
Steel body (available with aluminium body in SVM701 series)

SV71 - Monoblock Unit with push button 1 x work port.  
Steel body (available with aluminium body in SVM701 series)



Part Number	Min Flow L/min	Max Flow L/min	Max Pressure on P bar	Controlled Pressure on P bar	Max Back Pressure on T bar
<b>SV70-B/001C</b>	5	15	100	64	3
<b>SV71-B/001C</b>					

The above unit is fitted with spring curve kit 001C = 5.8 to 22 bar  
Please refer to Page A 60 for other available spring curve kits (5CUR0...)

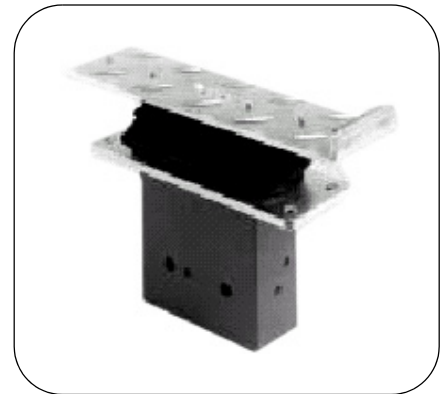




HYDRAULIC PILOT VALVES

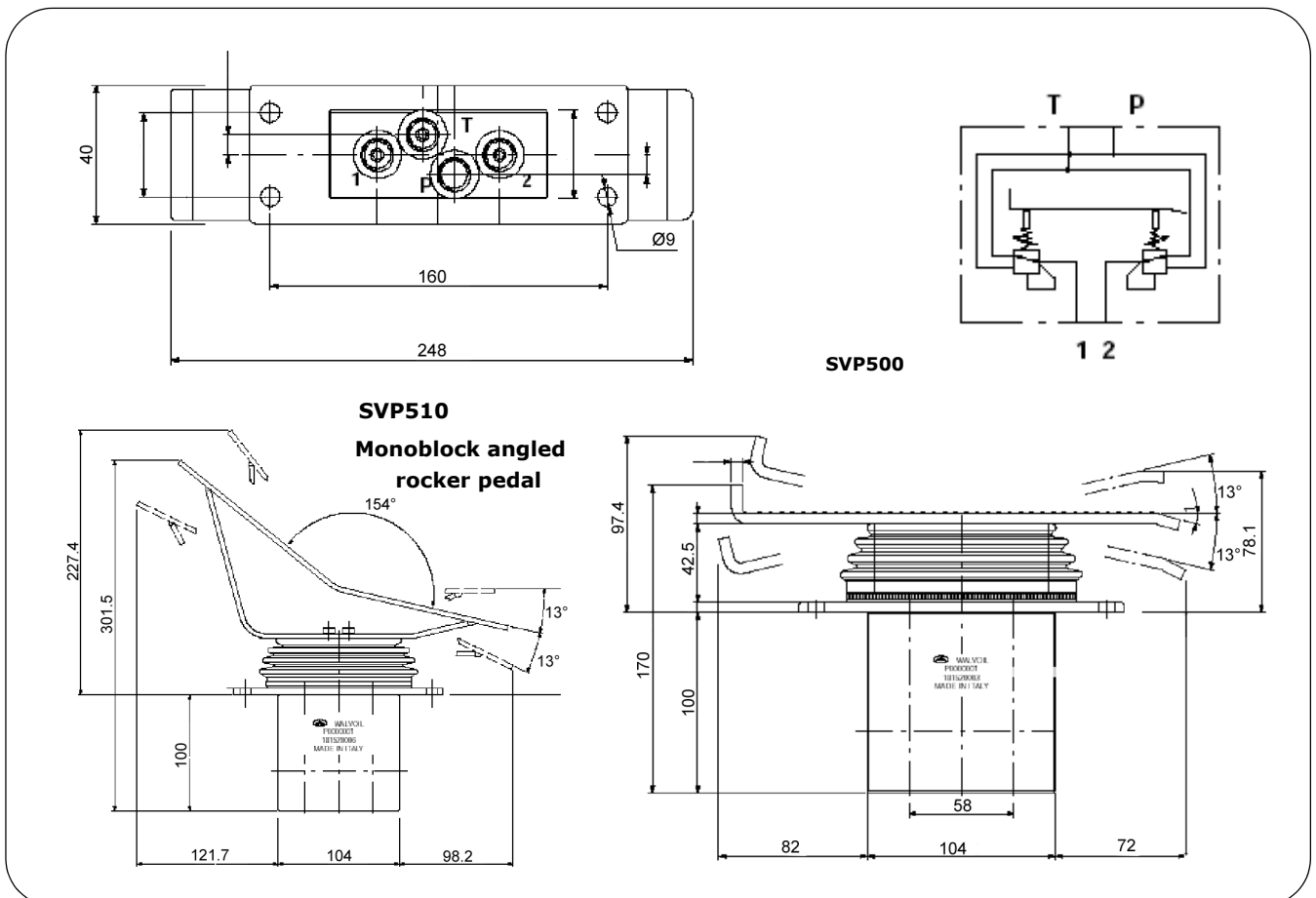
# SVP500 Series

Monoblock hydraulic pilot valve with rocker, foot pedal and 2 work ports.  
Steel body (available with aluminium body in SVM500 series)



Part Number	Min Flow L/min	Max. Flow L/min	Rocker Pedal	Max Pressure on P bar	Controlled Pressure on P bar	Max Back Pressure on T bar
<b>SVP500-B/01-P051BX2</b>	5	15	Flat	100	64	3
<b>SVP510-B/01-P051BX2</b>			Angled			

The above unit is fitted with spring curve kit P051B = 5 to 21 bar  
Please refer to page A 60 for other available spring curve kits (5CUR50...)

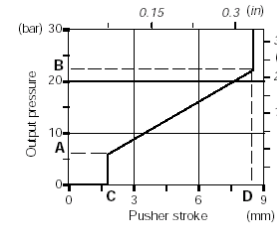


## CURVE OPTIONS FOR SV Series

For SVMxxx range, spring curve kit P/N = 5CUR40...

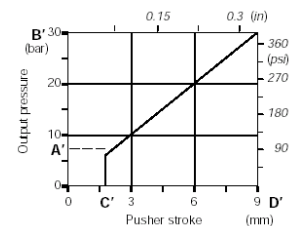
For SVxxx range, spring curve kit P/N = 5CUR0...

For SVPxxx range, spring curve kit P/N = 5CUR50...



### 0... Pressure control curves with STEP.

TYPE	PRESSURE BAR		STROKE mm		TYPE	PRESSURE BAR		STROKE mm	
	A	B	C	D		A	B	C	D
001	5.8	22	1.8	8.5	037	5	21	1.2	6.5
002	6	22.5	2	6.5	038	22	37	1	8.5
003	5.5	28.5	1	8.5	039	2	8	0.8	6.8
004	4.9	18.9	1	8.5	040	6.6	20.7	1	8.5
005	15.1	27.4	1.2	6.5	041	8	20.7	1.8	8.5
007	6	37	1	8.5	042	2	13	1	8.5
008	9.8	26	1.8	8.5	043	3.2	11.7	1.8	8.5
010	3.25	15.4	1	8.5	044	5.8	22.5	1.6	7.2
012	14	29	1	8.5	048	7	22.1	1.2	7.5
013	3	10	1	8.5	053	8	22.3	1	8.5
014	3.2	17.2	2	8.5	056	3.2	17.2	1	8.5
016	6	21.7	2	6.3	057	1	13	1.8	8.5
017	5	12	1	8.5	061	1.5	8.5	1	8.5
018	5.9	12.9	1	8.5	064	0.5	18.4	1	8.5
019	0.5	11.4	1.8	8.5	065	2	20.5	1	8.5
020	4.3	15.2	1	8.5	068	2	27.5	1	8.5
021	6	16.3	1.6	7.2	069	3	10.5	0.5	8.5
022	1	8	1	8.5	070	5.8	22.4	1	8.5
023	2	11.5	1	8.5	073	4	18	1	8.5
024	5.8	19	1.8	7.2	074	5	25	2	7.8
025	5.8	19	0.9	6.5	075	5	15	1	8.5
026	6.5	14	1	8.5	077	5	26.9	1.2	8.5
027	3	9	2	8.5	080	4	11	1	8.5
028	5	21	1.1	8.7	081	8	14.5	1	7.5
029	2	11.5	2	8.5	082	8	22.2	1	8.5
030	0	13	0.5	8.5	083	0	64	1.5	8.5
031	5.8	19	1.6	7.2	084	5.7	24.2	1	8.5
032	3.4	29.4	1	8.5	085	6	25	0.9	8.5
033	5.8	19	1	8.5	086	4	16.5	0.8	7.5



### 1... Pressure control curves without STEP.

TYPE	PRESSURE BAR		STROKE mm		TYPE	PRESSURE BAR		STROKE mm	
	A	B	C	D		A	B	C	D
101	4.4	19.8	0.4	9	136	5.8	23	1.8	9
103	6	30	2	9	150	8	15	2	9
104	8.2	55	1	9	151	0	40	1	5.4
105	2	8	2	9	152	3	23	0.9	9
106	6	40	0.9	9	154	2	15	0.9	9
107	4	19.4	0.4	9	162	0.7	30	1	9
111	5.5	25.5	0.9	9	163	1.4	11.5	1	9
113	5	21.7	1.2	9	166	4.3	15	1.6	9
114	4	10	2	9	167	5	18	2	9
128	0	64	2	9	169	9.8	21	1.1	7.4
134	5.8	23	1.6	9	175	5	16	1	9
135	5.8	23	0.9	9	178	6.5	17.8	1.1	7
					179	6.5	17	1.1	9

# SECTION A

## PNEUMATIC PILOT CONTROLS

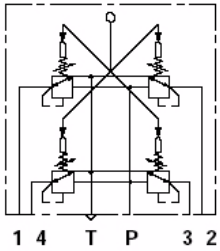


Valve Series	Nominal Flow	PAGE
<b>PNEUMATIC PILOT CONTROLS</b>		
<b>SP01 Series</b> .....		<b>A 62</b>
<b>SP30 Series</b> .....		<b>A 63</b>

**NB: Models, codes and specifications may be subject to change without notice.**

PNEUMATIC PILOT VALVES  
**SP01 Series**

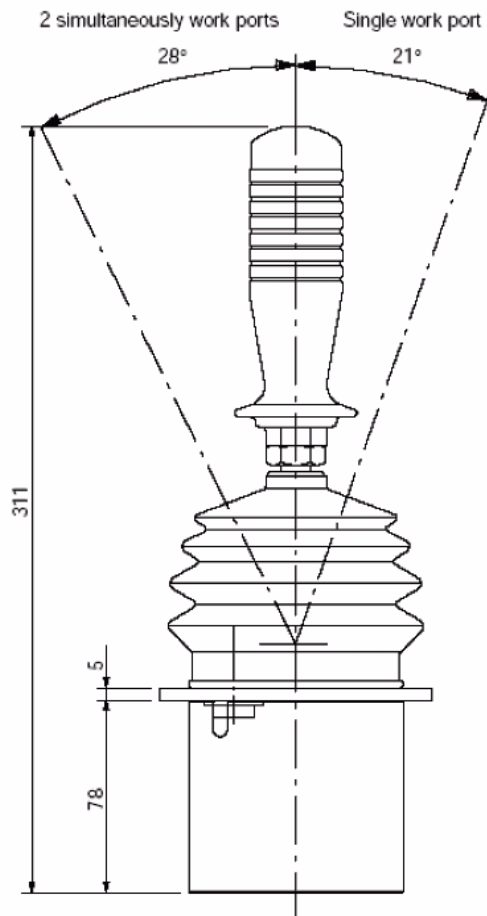
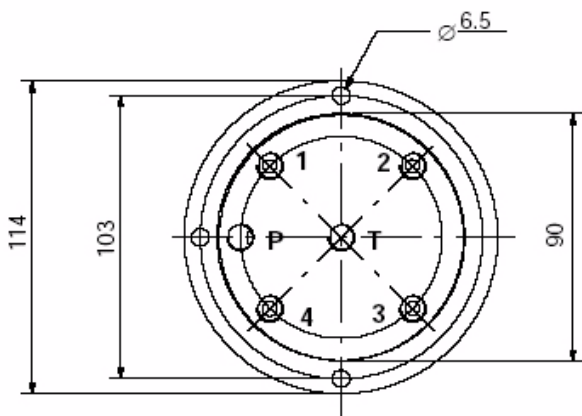
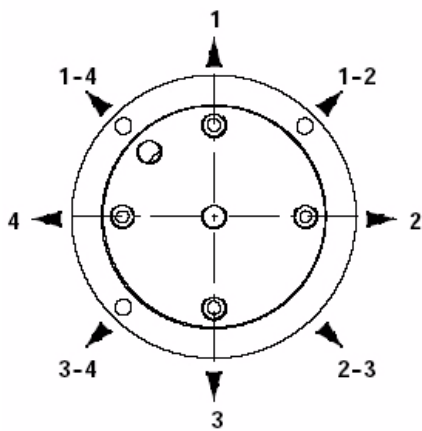
Monoblock dual axis joystick pneumatic pilot valve with 1 lever and 4 work ports for simultaneous operation of 2 valve sections.



Part Number	Ports NPT	Pressure Control Curve
<b>SP01-N/01W-501AX4</b>	1/8"	0-8 bar

For other handle options, please enquire at one of our branches.

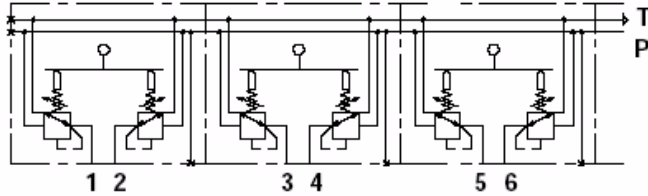
**Movements**



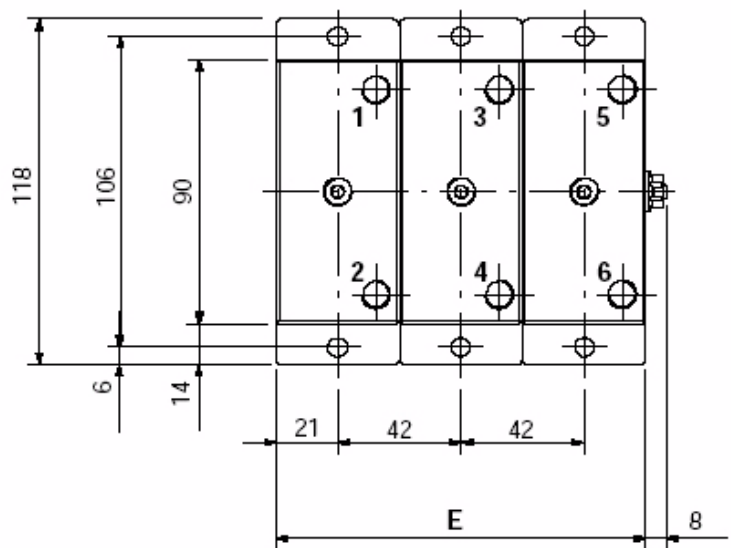
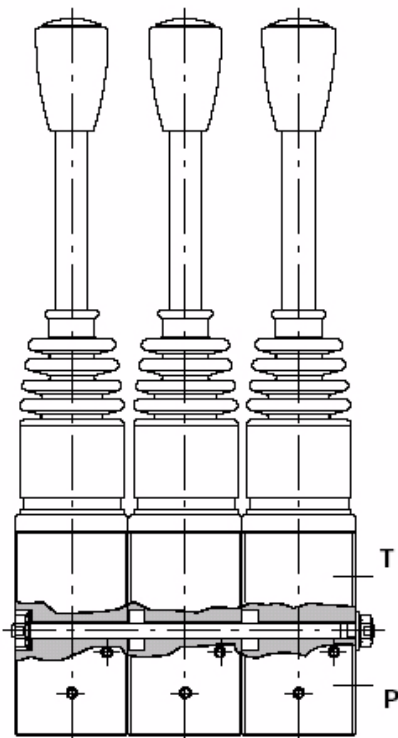
PNEUMATIC PILOT VALVES

# SP30 Series

Sectional pneumatic valves 1 to 8 levers.



Part Number	Ports NPT	Pressure Control Curve
<b>SP30/1-N/01G-501A-X2</b>	1/8"	0-8 bar
<b>SP30/2-N/01G-501A-X4</b>		
<b>SP30/3-N/01G-501A-X6</b>		
<b>SP30/4-N/01G-501A-X8</b>		
<b>SP30/5-N/01G-501A-X10</b>		
<b>SP30/6-N/01G-501A-X12</b>		
<b>SP30/7-N/01G-501A-X14</b>		







# SECTION A HANDLES

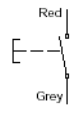


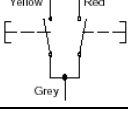
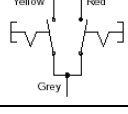


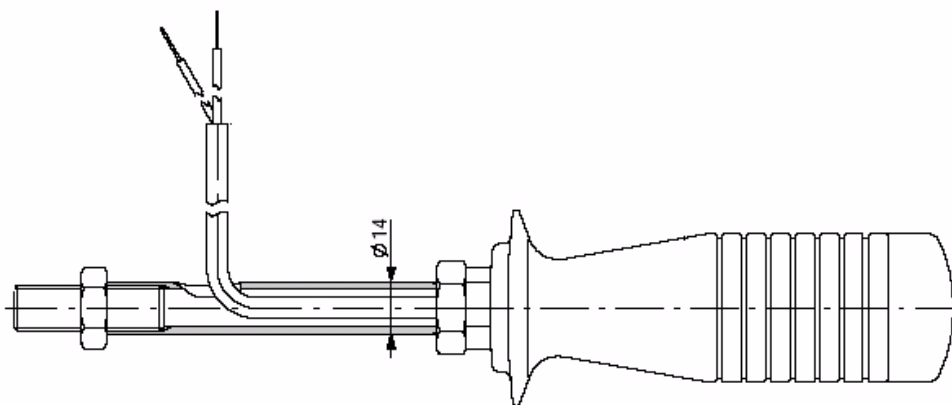
This section offers a range of ergonomic handles with or without microswitches for auxiliary function control and a range of hand levers for valve lever operation.

The range of options is extensive and is not covered fully in this section so please enquire about additional options from our sales centres.

**NB: Models, codes and specifications may be subject to change without notice.**

## CONTROLLER HANDLES Series 10

Part Number	Type	Electrical Circuit	Style	Function	Number of Positions	Button Control
<b>AL14/M10X250</b> <b>AL14/M12X250</b>	<b>W</b>	N/A	Moulded	None	N/A	N/A
<b>AL15/M10X250</b> <b>AL15/M12X250</b>	<b>X</b>		Push Button	On/Off	2	Spring Return
<b>AL18/M10X250</b> <b>AL18/M12X250</b>	<b>K</b>		Protected Push Button	On/Off	2	Spring Return
<b>AL16/M10X250</b> <b>AL16/M12X250</b>	<b>Z</b>		Rocker	On/Off	2	Detent
<b>AL17/M10X250</b> <b>AL17/M12X250</b>	<b>Y</b>		Rocker	On/Off/On	3	Spring Return
<b>AL19/M10X250</b> <b>AL19/M12X250</b>	<b>T</b>		Rocker	On/Off/On	3	Detent



## ERGONOMIC HANDLES H Series (40 Series)

Handles with up to 6 buttons

Part No.	TYPE	PLATE CONFIGURATION	NUMBER OF BUTTONS
2IM4000000	00		NIL
2IM4000002	02		2
2IM4000003	03		3
2IM4000004	04		4
2IM4000005	05		5
2IM4000006	06		6
5PER524700	Mounting Joint to suit SV01 Joystick (with 10mm female thread in the underside)		

**OPTIONS**

- A) - Deadman Switch
- B)- Potentiometer
- C)- Rocker Switches

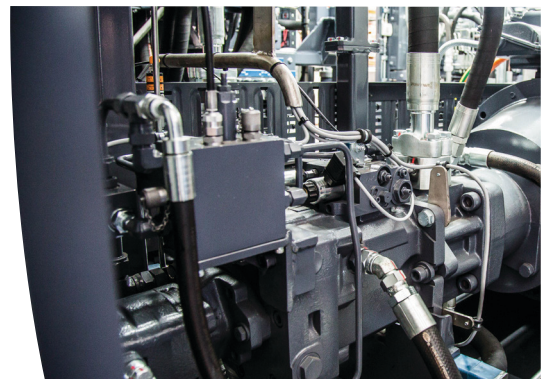
Please consult sales centre for pricing of these options

# ENGINEERING SERVICES

Southcott Hydraulic and Control Systems encompasses a team of Hydraulic Engineers and technical staff, capable of providing you with hydraulic system design. Through the use of Computer Aided Design (CAD) software, they can take your initial concept and turn it into a detailed design for prototyping and production. The entire project can be managed in-house through our engineering team.

Southcott are specialists in high performance system design. Our engineers utilise the latest software available to design custom solutions. Working together through every step of the process from design, development, prototyping and field testing, we offer options to improve reliability and efficiency.

- ✓ Hydraulic System Design
- ✓ Electronic Control System Design & Integration
- ✓ Integrated Manifold Design
- ✓ 3D Design Modelling
- ✓ Finite Element Analysis (FEA)
- ✓ Product Development & Prototyping
- ✓ Site Installation & Commissioning
- ✓ System Analysis & Auditing
- ✓ Asset Management
- ✓ Extensive Hydraulic Product Range



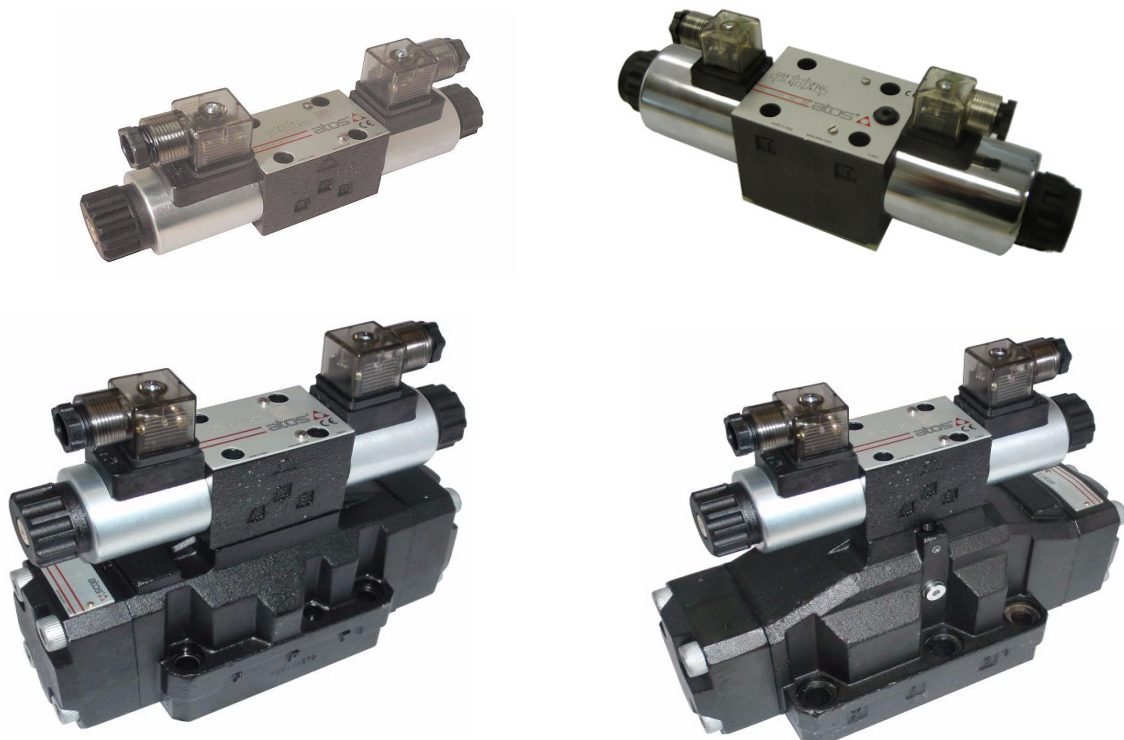
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# SECTION A

## ATOS SOLENOID VALVES



PAGE DESCRIPTION	PAGE
<b>SOLENOID VALVES - CETOP3</b>	
SDHL Series Max Flow 60 L/min .....	A 70
SH Series Cetop 3 Modular Function Valves Max Flow 60 L/min .....	A 71
DHE Series Max Flow 80 L/min .....	A 72
H Series Cetop 3 Modular Function Valves Max Flow 80 L/min .....	A 73
DHZO-A & DKZOR-A Series Proportional Valves .....	A 74
SDHZE-A & SDKZE-A Series Proportional Valves .....	A 75
DH Series .....	A 76
<b>SOLENOID VALVES - CETOP5</b>	
SDKE Series Max Flow 120 L/min .....	A 77
SK Series Cetop 5 Modular Function Valves Max Flow 120 L/min.....	A 78
DKE Series Max Flow 150 L/min .....	A 79
K Series Cetop 5 Modular Function Valves Max Flow 150 L/min.....	A 80
<b>CETOP 7 SOLENOID VALVES - DPHE-2.....</b>	<b>A 81</b>
<b>CETOP 8 SOLENOID VALVES - DPHE-4.....</b>	<b>A 82</b>



**NB: Models, codes and specifications may be subject to change without notice.**



## Solenoid Valves CETOP 3 SDHL Series

Max Flow 60 L/min

Spool Type Valves Direct Solenoid Operated  
Wet Armature Solenoids.

4 way, 2 or 3 position.

Nominal flow rates are based on a 12 bar pressure drop across the valve using oil to ISO VG 46 at 50°C



### SINGLE SOLENOID 2 POSITION NB: Valve pricing includes coil, LED coil connector & bolts

Circuit	Part Number	Type	Cross Over	Pressure bar			Nominal Flow L/min
				P, A, B	T(DC)	T(AC)	
	SDHL-0610-12VDC SDHL-0610-24VDC SDHL-0610-110VAC SDHL-0610-230VAC	Spring Centred	-	350	210	160	42
	SDHL-0611-12VDC SDHL-0611-24VDC SDHL-0611-110VAC SDHL-0611-230VAC	Spring Centred	-				40
	SDHL-0613-12VDC SDHL-0613-24VDC SDHL-0613-110VAC SDHL-0613-230VAC	Spring Centred	-				40
	SDHL-0614-12VDC SDHL-0614-24VDC SDHL-0614-110VAC SDHL-0614-230VAC	Spring Centred	-				24
	SDHL-0630/2-12VDC SDHL-0630/2-24VDC SDHL-0630/2-110VAC SDHL-0630/2-230VAC	Spring Offset	Open				40
	SDHL-0631/2-12VDC SDHL-0631/2-24VDC SDHL-0631/2-110VAC SDHL-0631/2-230VAC	Spring Offset	Closed				40

### DOUBLE SOLENOID 3 POS. SPRING CENTRED NB: Valve pricing includes coils, LED coil connectors & bolts

Circuit	Part Number	Pressure (bar)			Nominal Flow L/min
		P, A, B	T(DC)	T(AC)	
	SDHL-0710-12VDC SDHL-0710-24VDC SDHL-0710-110VAC SDHL-0710-230VAC	350	210	160	42
	SDHL-0711-12VDC SDHL-0711-24VDC SDHL-0711-110VAC SDHL-0711-230VAC				40
	SDHL-0713-12VDC SDHL-0713-24VDC SDHL-0713-110VAC SDHL-0713-230VAC				40
	SDHL-0714-12VDC SDHL-0714-24VDC SDHL-0714-110VAC SDHL-0714-230VAC				24

**NB:** Valve Pricing includes coils, LED coil connectors and bolts.

**NB:** Valve only bolt length is 30mm

Coils	
Part No.	Voltage
SP-COL-12VDC	12VDC
SP-COL-24VDC	24VDC
SP-COL-110/50/60AC	110VAC
SP-COL-230/50/60AC	230VAC

Coil Connectors	
Part No.	Type
SP-666	AC or DC Standard
SP-669	AC in rectified to DC
SP-KA-DC	DC Connector with LED
SP-KA-AC	AC Connector with LED

Bolt Kits	
Part No.	
BK-M5X30	
BK-M5X70	
BK-M5X110	
BK-M5X150	

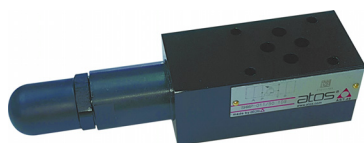


# SH Series Cetop 3 Modular Function Valves

Max Flow 60 L/min

These units mount between the directional valve and the sub-plates. The addition of these valves require longer bolt kits. Each valve block requires the addition of 40mm to the bolt length. Maximum inlet pressure 350 bar.

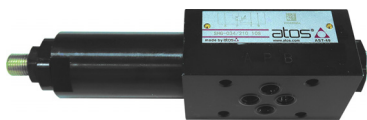
## PRESSURE RELIEF VALVES



Circuit	Part Number	Pressure Range (bar)	Function
	SHMP-011/210	10 to 210	P to T
	SHMP-012/210		A&B to T
	SHMP-013/210		A to T
	SHMP-014/210		B to T
	SHMP-015/210		Cross-line Relief

Other pressure ranges are available

## PRESSURE REDUCING VALVES



Circuit	Part Number	Pressure Range (bar)	Function
	SHG-031/32	3 to 32	Reduced on P
	SHG-031/210	50 to 210	
	SHG-033/210		Reduced on A
	SHG-034/210		Reduced on B

## FLOW CONTROL VALVES



Circuit	Part Number	Function
	SHQ-012	Meter out from cyl. on A&B
	SHQ-013	Meter out from cyl. on A
	SHQ-014	Meter out from cyl. on B
	SHQ-022	Meter in to cyl. on A&B
	SHQ-023	Meter in to cyl. on A
	SHQ-024	Meter in to cyl. on B

## CHECK VALVES



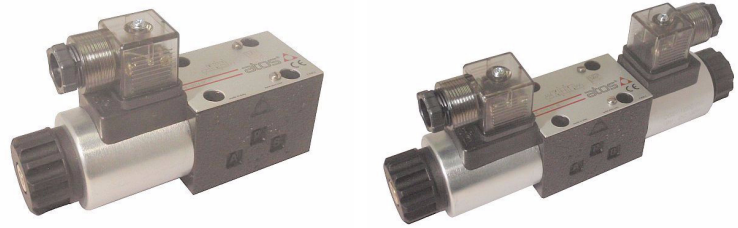
Circuit	Part Number	Function
	SHR-011	Check on P
	SHR-012	Pilot op check on A&B
	SHR-013	Pilot op check on A
	SHR-014	Pilot op check on B

## Solenoid Valves CETOP 3 DHE Series

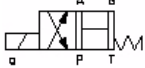
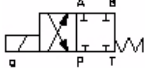
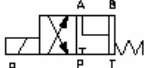
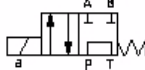

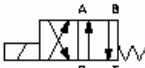
Max Flow 80 L/min

Spool Type Valves Direct Solenoid Operated  
Wet Armature Solenoids.  
4 way, 2 or 3 position.


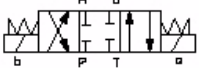

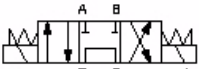
Nominal flow rates are based on a 12 bar pressure drop across the valve using oil to ISO VG 46 at 50°C



### SINGLE SOLENOID 2 POSITION NB: Valve pricing includes coil, LED coil connector & bolts

Circuit	Part Number	Type	Cross Over	Pressure bar			Nominal Flow L/min
				P, A, B	T(DC)	T(AC)	
	DHE-0610-12VDC DHE-0610-24VDC DHE-0610-110VAC DHE-0610-230VAC	Spring Centred	-	350	210	160	57
	DHE-0611-12VDC DHE-0611-24VDC DHE-0611-110VAC DHE-0611-230VAC	Spring Centred	-				55
	DHE-0613-12VDC DHE-0613-24VDC DHE-0613-110VAC DHE-0613-230VAC	Spring Centred	-				55
	DHE-0614-12VDC DHE-0614-24VDC DHE-0614-110VAC DHE-0614-230VAC	Spring Centred	-				27
	DHE-0630/2-12VDC DHE-0630/2-24VDC DHE-0630/2-110VAC DHE-0630/2-230VAC	Spring Offset	Open				53
	DHE-0631/2-12VDC DHE-0631/2-24VDC DHE-0631/2-110VAC DHE-0631/2-230VAC	Spring Offset	Closed				53

### DOUBLE SOLENOID 3 POS. SPRING CENTRED NB: Valve pricing includes coils, LED coil connectors & bolts

Circuit	Part Number	Pressure (bar)			Nom. Flow L/min
		P, A, B	T(DC)	T(AC)	
	DHE-0710-12VDC DHE-0710-24VDC DHE-0710-110VAC DHE-0710-230VAC	350	210	160	57
	DHE-0711-12VDC DHE-0711-24VDC DHE-0711-110VAC DHE-0711-230VAC				55
	DHE-0713-12VDC DHE-0713-24VDC DHE-0713-110VAC DHE-0713-230VAC				55
	DHE-0714-12VDC DHE-0714-24VDC DHE-0714-110VAC DHE-0714-230VAC				27

NB: Valve Pricing includes coils, led coil connectors and bolts.

NB: Valve only bolt length is 30mm

Coils	
Part No.	VOLTAGE
SP-COE-12DC	12VDC
SP-COE-24DC	24VDC
SP-COE-110DC	110VDC
SP-COE-110/50/60AC	110VAC
SP-COE-230/50/60AC	230VAC

Coil Connectors	
Part No.	TYPE
SP-666	AC or DC Standard
SP-669	AC in rectified to DC
SP-KA-DC	DC Connector with LED
SP-KA-AC	AC Connector with LED

Bolt Kits	
Part No.	
BK-M5X30	
BK-M5X70	
BK-M5X110	
BK-M5X150	

# H Series Cetop 3 Modular Function Valves

Max Flow 80 L/min

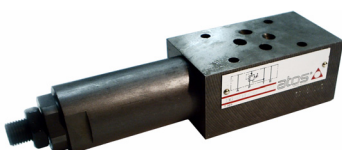
These units mount between the directional valve and the sub-plates. The addition of these valves require longer bolt kits. Each valve block requires the addition of 40mm to the bolt length.

## PRESSURE RELIEF VALVES



Circuit	Part Number	Pressure Range (bar)	Function
	HM-011/210	10 to 210	P to T
	HM-012/210		A&B to T
	HM-013/210		A to T
	HM-014/210		B to T
	HM-015/210		Cross-line Relief

## PRESSURE REDUCING VALVES



Circuit	Part Number	Pressure Range (bar)	Function
	HG-031/32	3 to 32	Reduced on P
	HG-031/210	50 to 210	
	HG-033/210		Reduced on A
	HG-034/210		Reduced on B

## FLOW CONTROL VALVES



Circuit	Part Number	Function
	HQ-012	Meter out from cyl. on A&B
	HQ-013	Meter out from cyl. on A
	HQ-014	Meter out from cyl. on B
	HQ-022	Meter in to cyl. on A&B
	HQ-023	Meter in to cyl. on A
	HQ-024	Meter in to cyl. on B

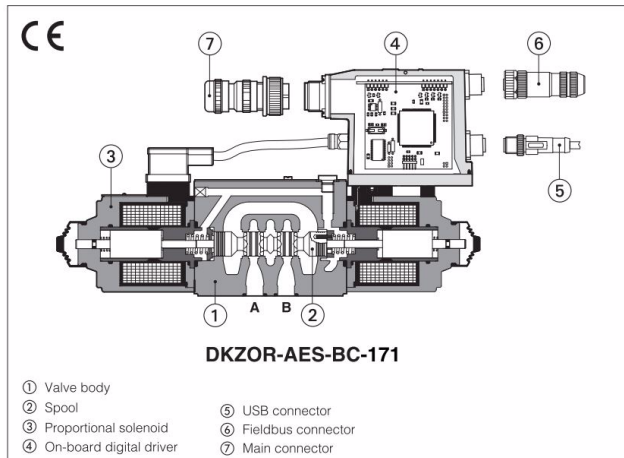
## CHECK VALVES



Circuit	Part Number	Function
	HR-011	Check on P
	HR-012	Pilot op check on A&B
	HR-013	Pilot op check on A
	HR-014	Pilot op check on B

Note: As an alternative to the HR-012 you can use B1025-NG06-D1-AL with POCI-10 (x2) or CPBA-10 (x2)

# Proportional Directional Valves - DHZO-A, DKZOR-A



## DHZO-A, DHZO-AEB, DHZO-AES DKZOR-A, DKZOR-AEB, DKZOR-AES

Digital proportional valves without position transducer and with positive spool overlap, for open loop directional controls and not compensated flow regulations.

**A** to be coupled with off-board drivers.

**AEB** basic execution, with on-board digital driver, analog reference signals and USB port for software functional parameters setting.

**AES** full execution, with on-board digital driver which includes also fieldbus interface for functional parameters setting, reference signals and real-time diagnostics.

**DHZO:** Size: **06 - Cetop 3** Max flow: **70 l/min** Max pressure: **350 bar**  
**DKZOR:** Size: **10 - Cetop 5** Max flow: **160 l/min** Max pressure: **315 bar**

### 1 MODEL CODE for STANDARD SPOOLS

<b>DHZO</b>	-	<b>AES</b>	-	<b>BP</b>	-	<b>0</b>	<b>71</b>	-	<b>L</b>	<b>5</b>	/	*	/	*	/	*
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**DHZO** = size 06 **Cetop 3**  
**DKZOR** = size 10 **Cetop 5**

**A** = for off-board driver, see section 2  
**AEB** = basic on-board digital driver (1)  
**AES** = full on-board digital driver (2)

**Fieldbus interfaces**, USB port always present (3):  
**NP** = Not present      **BC** = CANopen  
**BP** = PROFIBUS DP    **EH** = EtherCAT

**Valve size ISO 4401:**  
**0** = 06    **1** = 10

**Configuration (4):**

	<b>Standard</b>	<b>Option /B</b>
<b>51</b> =		
<b>53</b> =		
<b>71</b> =		
<b>73</b> =		

**Spool type**, regulating characteristics:  
**L** = linear      **S** = progressive      **D** = differential-progressive

P-A = Q, B-T = Q/2  
P-B = Q/2, A-T = Q

**Seals material**, see section 9:  
- = NBR  
**PE** = FKM  
**BT** = HNBR

Series number \_\_\_\_\_

**Coil voltage**, only for **A** - see section 14:  
**-** = standard coil for 24 Vdc Atos drivers  
**6** = optional coil for 12 Vdc Atos drivers  
**18** = optional coil for low current drivers

**Hydraulic options (5):**  
**B** = solenoid and on-board digital driver at side of port A  
**Y** = external drain

**Hand lever options**, only for **A**:  
**MO** = horizontal hand lever  
**MV** = vertical hand lever  
**BMO** = horizontal hand lever installed at side of port A  
**BMV** = vertical hand lever installed at side of port A

**Electronic options**, only for **AEB** and **AES (5)**:  
**C** = current feedback for pressure transducer 4 ÷ 20 mA (omit for std voltage 0 ÷ 10 Vdc) - only for **W**  
**I** = current reference input 4 ÷ 20 mA (omit for std voltage ±10 Vdc)  
**Q** = enable signal  
**Z** = double power supply, enable, fault and monitor signals - 12 pin connector  
**W** = power limitation function - 12 pin connector

<b>Spool size:</b>	<b>14 (L)</b>	<b>1 (L)</b>	<b>2 (S)</b>	<b>3 (L,S,D)</b>	<b>5 (L,S,D)</b>
DHZO =	1	4,5	8	18	28
DKZOR =	-	-	-	45	60

Nominal flow (l/min) at Δp 10bar P-T

- (1) Only for **NP**  
(2) Only for **BC, BP, EH**  
(3) Omit for **A** execution  
(4) Hydraulic symbols are represented with on-board digital driver  
(5) For possible combined options, see section 13

### 2 OFF-BOARD ELECTRONIC DRIVERS - only for A

Drivers model	E-MI-AC-01F		E-MI-AS-IR		E-BM-AS-PS		E-BM-AES
Type	Analog				Digital		
Voltage supply (VDC)	12	24	12	24	12	24	24
Valve coil option	/6	std	/6	std	/6	std	std
Format	plug-in to solenoid				DIN-rail panel		
Data sheet	G010		G020		G030		GS050

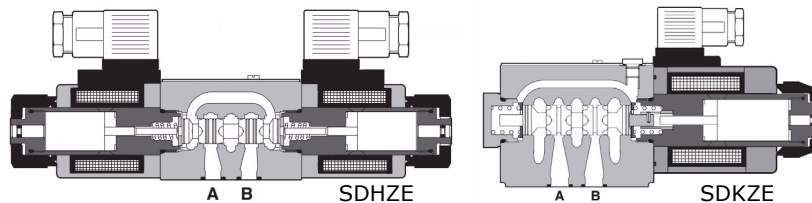


# Proportional Directional Valves - SDHZE-A, SDKZE-A

Direct operated, open loop

Direct operated proportional directional valves without position transducer and with positive spool overlap for open loop directional controls and not compensated flow regulations.

SDHZE - Cetop 3, SDKZE - Cetop 5



Part Number	Max Pressure bar		Spool Type	Nominal Flow L/min			Max Standard Solenoid Current	Max Power
	P, A, B	T		$\Delta p=10\text{bar}$	$\Delta p=30\text{bar}$	$\Delta p=70\text{bar}$		
SDHZE-A-071-L3/24DC	350	210	L3	18	30	45	2.2A	30W
SDHZE-A-073-L3/24DC				28	50	70		
SDHZE-A-071-L5-24DC			L5	60	105	160	2.6A	35W
SDHZE-A-073-L5/24DC								
SDKZE-A-171-L5/24DC								
SDKZE-A-173-L5/24DC								

Coils	
Part Number	Description
SP-SCOZE-12VDC	Coil - SDHZE Series - 12VDC
SP-SCOZE-24VDC	Coil - SDHZE Series - 24VDC
SP-SCAZE-12VDC	Coil - SDKZE Series - 12VDC
SP-SCAZE-24VDC	Coil - SDKZE Series - 24VDC

Coil Connectors	
Part Number	Description
SP-666	DC Standard
SP-KA-DC	DC Standard with LED

**SDHZE** - **A** - **0**      **71** - **S**      **5** / \* - \* / \*

SDHZE = Cetop 3  
SDKZE = Cetop 5

A = open loop

Valve size - ISO 4401  
0 = size 06 (SDHZE)  
1 = size 10 (SDKZE)

**Configuration:**

Standard

Option /B

51 =

53 =

71 =

73 =

Seals material, see section 4:

- = NBR
- PE = FKM
- BT = HNBR

Series number

**Coil option (only for -A execution)**  
see section 2 and 3:

- = standard coil for 24V<sub>DC</sub> Atos drivers
- 6 = optional coil for 12V<sub>DC</sub> Atos drivers
- 18 = optional coil for 24V<sub>DC</sub> low current drivers (1)

Coils with special connectors, see section 10

- = omit for standard DIN connector
- J = AMP Junior Timer connector
- K = Deutsch connector
- S = Lead Wire connection

**Hydraulic options**  
B = solenoid side of port A (only for valve configuration 5)

**Spool type - regulating characteristics:**

<b>L</b> = linear 	<b>S</b> = progressive 	<b>D</b> = differential-progressive 
-----------------------	----------------------------	---

P-A = Q, B-T = Q/2  
P-B = Q/2, A-T = Q

Spool size:	14 (L)	1 (L)	3 (L,S,D)	5 (L,S,D)
SDHZE =	1	4,5	17	28
SDKZE =	-	-	45	60

Nominal flow (l/min) at  $\Delta p$  10 bar P-T

(1) select valve's coil voltage /18 in case of electronic drivers not supply by Atos, with power supply 24V<sub>DC</sub> and with max current limited to 1A.

**DH Series = Cetop 3 (max 50L/min)**

**DK Series = Cetop 5 (max 100L/min)**

Manually Operated Spool Valves

4 way, 2 or 3 positions.

MWP on P.A.B. = 350 bar

MWP on T = 160 bar

Flow rates are based on a 12 bar pressure drop across the valve using oil to ISO VG 46 at 50°C



Circuit	Spool Controls	Cross Over	Cetop 3 Part No.	Nom. L/min	Cetop 5 Part No.	Nom. L/min
	Spring Offset	Open	<b>DH-0130</b>	50	<b>DK-1130</b>	100
	Spring Offset	Closed	<b>DH-0131</b>	40	<b>DK-1131</b>	85
	Spring Centred	N/A	<b>DH-0110</b>	50	<b>DK-1110</b>	100
	Spring Centred	N/A	<b>DH-0111</b>	40	<b>DK-1111</b>	85
	Spring Centred	N/A	<b>DH-0113</b>	40	<b>DK-1113</b>	85
	Spring Centred	N/A	<b>DH-0114</b>	30	<b>DK-1114</b>	100
	3 Position Detent	N/A	<b>DH-0140</b>	50	<b>DK-1140</b>	100
	3 Position Detent	N/A	<b>DH-0141</b>	40	<b>DK-1141</b>	85
	3 Position Detent	N/A	<b>DH-0143</b>	40	<b>DK-1143</b>	85
	3 Position Detent	N/A	<b>DH-0144</b>	30	<b>DK-1144</b>	100

DH Series: Cam Operated 4 way - 2 pos	Circuit	Part No.	Spool Control	Pressure bar		Nom. Flow L/min
				P, A, B	T	
		<b>DH-0281</b>	Spring Offset	350	120	40

DH Series: Oil Pilot	Circuit	Part No.	Spool Control	Pressure bar		Nom. Flow L/min
				P, A, B	T	
		<b>DH-0510</b>	Spring Centred	350	120	50
		<b>DH-0511</b>	Spring Centred			40
		<b>DH-0513</b>	Spring Centred			40
		<b>DH-0514</b>	Spring Centred			30



## Solenoid Valves CETOP 5

# SDKE Series

Max Flow 120 L/min

Spool Type Valves direct solenoid operated, wet armature solenoids, 4 way, 2 or 3 position.

Nominal flow rates are based on a 12 bar pressure drop across the valve using oil to ISO VG 46 at 50°C



### SINGLE SOLENOID 2 POSITION NB: Valve pricing includes coil, LED coil connector & bolts

Circuit	Part Number	Type	Cross Over	Pressure bar			Nom. Flow L/min
				P, A, B	T(DC)	T(AC)	
	SDKE-1610-12VDC SDKE-1610-24VDC SDKE-1610-110VAC SDKE-1610-230VAC	Spring Centred	-	350	210	160	84
	SDKE-1611-12VDC SDKE-1611-24VDC SDKE-1611-110VAC SDKE-1611-230VAC	Spring Centred	-				72
	SDKE-1613-12VDC SDKE-1613-24VDC SDKE-1613-110VAC SDKE-1613-230VAC	Spring Centred	-				68
	SDKE-1614-12VDC SDKE-1614-24VDC SDKE-1614-110VAC SDKE-1614-230VAC	Spring Centred	-				84
	SDKE-1630/2-12VDC SDKE-1630/2-24VDC SDKE-1630/2-110VAC SDKE-1630/2-230VAC	Spring Offset	Open				84
	SDKE-1631/2-12VDC SDKE-1631/2-24VDC SDKE-1631/2-110VAC SDKE-1631/2-230VAC	Spring Offset	Closed				84

### DOUBLE SOLENOID 3 POS. SPRING CENTRED NB: valve pricing includes coils, LED coil connectors & bolts

Circuit	Part Number	Pressure (bar)			Nominal Flow L/min
		P, A, B	T(DC)	T(AC)	
	SDKE-1710-12VDC SDKE-1710-24VDC SDKE-1710-110VAC SDKE-1710-230VAC	350	210	160	84
	SDKE-1711-12VDC SDKE-1711-24VDC SDKE-1711-110VAC SDKE-1711-230VAC				72
	SDKE-1713-12VDC SDKE-1713-24VDC SDKE-1713-110VAC SDKE-1713-230VAC				68
	SDKE-1714-12VDC SDKE-1714-24VDC SDKE-1714-110VAC SDKE-1714-230VAC				84

NB: T Port can accept 250 bar when the Y port is drained

Coils	
Part No.	Voltage
SP-CAE-12DC/10	12VDC
SP-CAE-24DC/10	24VDC
SP-CAE-110DC/10	110VDC
SP-CAE-110/50/60AC	110VAC
SP-CAE-230/50/60AC	230VAC

Coil Connectors	
Part No.	Type
SP-666	AC or DC Standard
SP-669	AC in rectified to DC
SP-KA-DC	DC Connector with LED
SP-KA-AC	AC Connector with LED

Bolt Kits	
Part No.	
BK-M6X40	
BK-M6X90	
BK-M6X140	

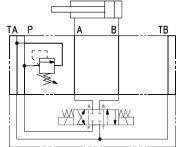
# SK Series Cetop 5 Modular Function Valves

Max Flow 120 L/min

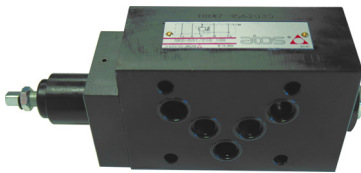
These units mount between the directional valve and the sub-plates. The addition of these valves require longer bolt kits. Each valve block requires the addition of 50mm to the bolt length.

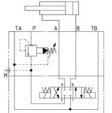
## PRESSURE RELIEF VALVES



Circuit	Part Number	Pressure Range (bar)	Function
	<b>SKM-011/210</b>	10 to 210	P to T
	<b>SKM-012/210</b>		A&B to T
	<b>SKM-013/210</b>		A to T
	<b>SKM-014/210</b>		B to T
	<b>SKM-015/210</b>		Cross-line Relief

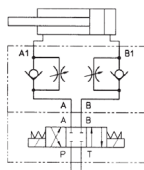
## PRESSURE REDUCING VALVES



Circuit	Part Number	Pressure Range (bar)	Function
	<b>SKG-031/32</b>	3 to 32	Reduced on P
	<b>SKG-031/210</b>	50 to 210	
	<b>SKG-033/210</b>		Reduced on A
	<b>SKG-034/210</b>		Reduced on B

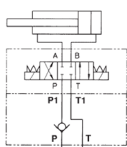
## FLOW CONTROL VALVES



Circuit	Part Number	Function
	<b>SKQ-012</b>	Meter out from cyl. on A&B
	<b>SKQ-013</b>	Meter out from cyl. on A
	<b>SKQ-014</b>	Meter out from cyl. on B
	<b>SKQ-022</b>	Meter in to cyl. on A&B
	<b>SKQ-023</b>	Meter in to cyl. on A
	<b>SKQ-024</b>	Meter in to cyl. on B

## CHECK VALVES



Circuit	Part Number	Function
	<b>SKR-011</b>	Check on P
	<b>SKR-012</b>	Pilot op check on A&B
	<b>SKR-013</b>	Pilot op check on A
	<b>SKR-014</b>	Pilot op check on B

## Solenoid Valves CETOP5

# DKE Series

Max Flow 150 L/min

Spool Type Valves direct solenoid operated, wet armature solenoids, 4 way, 2 or 3 position.

Nominal flow rates are based a 12 bar pressure drop across the valve using oil to ISO VG 46 at 50°C



**SINGLE SOLENOID 2 POSITION NB: Valve pricing includes coil, LED coil connector & bolts**

Circuit	Part Number	Type	Cross Over	Pressure bar			Nom. Flow L/min
				P, A, B	T(DC)	T(AC)	
	DKE-1610-12VDC DKE-1610-24VDC DKE-1610-110VAC DKE-1610-230VAC	Spring Centred	-	350	210	160	105
	DKE-1611-12VDC DKE-1611-24VDC DKE-1611-110VAC DKE-1611-230VAC	Spring Centred	-				90
	DKE-1613-12VDC DKE-1613-24VDC DKE-1613-110VAC DKE-1613-230VAC	Spring Centred	-				85
	DKE-1614-12VDC DKE-1614-24VDC DKE-1614-110VAC DKE-1614-230VAC	Spring Centred	-				105
	DKE-1630/2-12VDC DKE-1630/2-24VDC DKE-1630/2-110VAC DKE-1630/2-230VAC	Spring Offset	Open				105
	DKE-1631/2-12VDC DKE-1631/2-24VDC DKE-1631/2-110VAC DKE-1631/2-230VAC	Spring Offset	Closed				105

**DOUBLE SOLENOID 3 POS. SPRING CENTRED NB: valve pricing includes coils, LED coil connectors & bolts**

Circuit	Part Number	Pressure (bar)			Nominal Flow L/min
		P, A, B	T(DC)	T(AC)	
	DKE-1710-12VDC DKE-1710-24VDC DKE-1710-110VAC DKE-1710-230VAC	350	210	160	105
	DKE-1711-12VDC DKE-1711-24VDC DKE-1711-110VAC DKE-1711-230VAC				90
	DKE-1713-12VDC DKE-1713-24VDC DKE-1713-110VAC DKE-1713-230VAC				85
	DKE-1714-12VDC DKE-1714-24VDC DKE-1714-110VAC DKE-1714-230VAC				105

**NB:** Nom. flow rating with ISO VG 46 centistokes @ 50°C

**NB:** T Port can accept 250 bar when the Y port is drained

Coils	
Part No.	Voltage
SP-CAE-12DC/10	12VDC
SP-CAE-24DC/10	24VDC
SP-CAE-110DC/10	110VDC
SP-CAE-110/50/60AC	110VAC
SP-CAE-230/50/60AC	230VAC

Coil Connectors	
Part No.	Type
SP-666	AC or DC Standard
SP-669	AC in rectified to DC
SP-KA-DC	DC Connector with LED
SP-KA-AC	AC Connector with LED

Bolt Kits	
Part No.	
BK-M6X40	
BK-M6X90	
BK-M6X140	

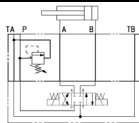
# K Series Cetop 5 Modular Function Valves

Max Flow 150 L/min

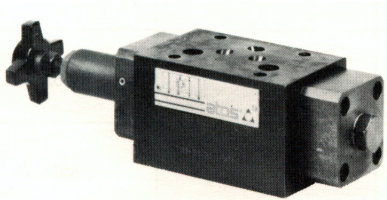
These units mount between the directional valve and the sub-plates. The addition of these valves require longer bolt kits. Each valve block requires the addition of 50mm to the bolt length.

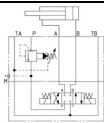
## PRESSURE RELIEF VALVES



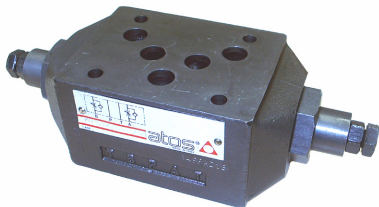
Circuit	Part Number	Pressure Range (bar)	Function
	<b>KM-011/210</b>	10 to 210	P to T
	<b>KM-012/210</b>		A&B to T
	<b>KM-013/210</b>		A to T
	<b>KM-014/210</b>		B to T

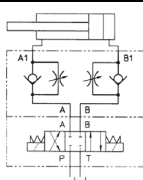
## PRESSURE REDUCING VALVES



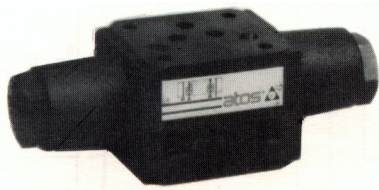
Circuit	Part Number	Pressure Range (bar)	Function
	<b>KG-031/32</b>	3 to 32	Reduced on P
	<b>KG-031/210</b>	50 to 210	
	<b>KG-033/210</b>		Reduced on A
	<b>KG-034/210</b>		Reduced on B

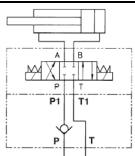
## FLOW CONTROL VALVES



Circuit	Part Number	Function
	<b>KQ-012</b>	Meter out from cyl. on A&B
	<b>KQ-013</b>	Meter out from cyl. on A
	<b>KQ-014</b>	Meter out from cyl. on B
	<b>KQ-022</b>	Meter in to cyl. on A&B
	<b>KQ-023</b>	Meter in to cyl. on A
	<b>KQ-024</b>	Meter in to cyl. on B

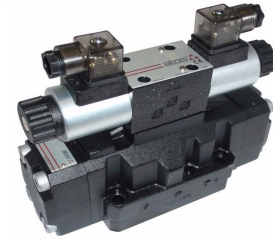
## CHECK VALVES

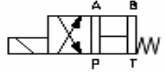
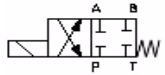
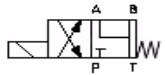
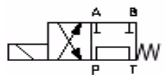
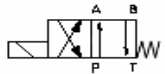
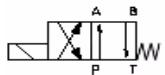


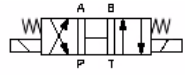
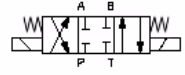
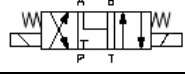
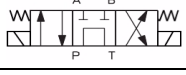
Circuit	Part Number	Function
	<b>KR-011</b>	Check on P
	<b>KR-012</b>	Pilot op check on A&B
	<b>KR-013</b>	Pilot op check on A
	<b>KR-014</b>	Pilot op check on B

## Solenoid Valves CETOP 7 DPHE Series

Spool Type Valves solenoid pilot operated, wet armature solenoids, 4 way, 2 or 3 position. Suitable for AC and DC supply. Standard valves have internal pilot and external drain



Circuit	Part Number	Type	Cross Over	Pressure (bar)			Nom. Flow L/min
				P, A, B, X	T	Y	
	<b>DPHE-2610-12VDC</b> <b>DPHE-2610-24VDC</b> <b>DPHE-2610-230VAC</b>	Spring Centred	-	350	250	0	300
	<b>DPHE-2611-12VDC</b> <b>DPHE-2611-24VDC</b> <b>DPHE-2611-230VAC</b>	Spring Centred	-				300
	<b>DPHE-2613-12VDC</b> <b>DPHE-2613-24VDC</b> <b>DPHE-2613-230VAC</b>	Spring Centred	-				300
	<b>DPHE-2614-12VDC</b> <b>DPHE-2614-24VDC</b> <b>DPHE-2614-230VAC</b>	Spring Centred	-				240
	<b>DPHE-2630/2-12VDC</b> <b>DPHE-2630/2-24VDC</b> <b>DPHE-2630/2-230VAC</b>	Spring Offset	Open				210
	<b>DPHE-2631/2-12VDC</b> <b>DPHE-2631/2-24VDC</b> <b>DPHE-2631/2-230VAC</b>	Spring Offset	Closed				210

Circuit	Part Number	Pressure (bar)			Nominal Flow L/min
		P, A, B, X	T	Y	
	<b>DPHE-2710-12VDC</b> <b>DPHE-2710-24VDC</b> <b>DPHE-2710-230VAC</b>	315	210	0	300
	<b>DPHE-2711-12VDC</b> <b>DPHE-2711-24VDC</b> <b>DPHE-2711-230VAC</b>				300
	<b>DPHE-2713-12VDC</b> <b>DPHE-2713-24VDC</b> <b>DPHE-2713-230VAC</b>				300
	<b>DPHE-2714-12VDC</b> <b>DPHE-2714-24VDC</b> <b>DPHE-2714-230VAC</b>				240

**NB: Valve pricing includes Cetop 3 pilot valve, coils & coil connectors**

**NB:** Nom. flow ratings displayed are with ISO VG 46 Centistokes @ 50°C at 210 bar, for higher pressures the flow must be reduced.

**NB:** Open centre valves are supplied complete with a back pressure check valve to provide a pilot pressure for spool shift

Coils	
Part No.	Voltage
<b>SP-COE-12DC</b>	12VDC
<b>SP-COE-24DC</b>	24VDC
<b>SP-COE-110DC</b>	110VDC
<b>SP-COE-110/50/60AC</b>	110VAC
<b>SP-COE-230/50/60AC</b>	230VAC

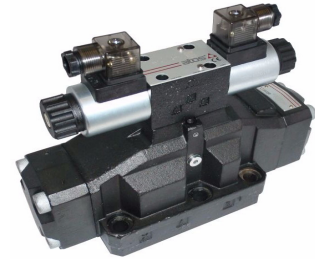
Coil Connectors	
Part No.	Type
<b>SP-666</b>	AC or DC Standard
<b>SP-669</b>	AC in rectified to DC
<b>SP-KA-DC</b>	DC Connector with LED
<b>SP-KA-AC</b>	AC Connector with LED


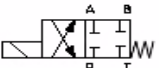
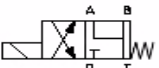
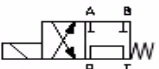

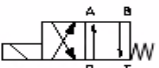
Bolt Kit
Part No.
<b>BK-DPHE-2</b>

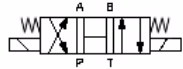
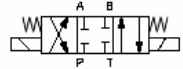




## Solenoid Valves CETOP 8 DPHE Series

Spool Type Valves solenoid pilot operated, wet armature solenoids, 4 way, 2 or 3 position. Suitable for AC and DC supply. Standard valves have internal pilot and external drain



Circuit	Part Number	Type	Cross Over	Pressure (bar)			Nom. Flow L/min
				P, A, B, X	T	Y	
	<b>DPHE-4610-12VDC</b> <b>DPHE-4610-24VDC</b> <b>DPHE-4610-230VAC</b>	Spring Centred	-	350	250	0	650
	<b>DPHE-4611-12VDC</b> <b>DPHE-4611-24VDC</b> <b>DPHE-4611-230VAC</b>	Spring Centred	-				650
	<b>DPHE-4613-12VDC</b> <b>DPHE-4613-24VDC</b> <b>DPHE-4613-230VAC</b>	Spring Centred	-				650
	<b>DPHE-4614-12VDC</b> <b>DPHE-4614-24VDC</b> <b>DPHE-4614-230VAC</b>	Spring Centred	-				450
	<b>DPHE-4630/2-12VDC</b> <b>DPHE-4630/2-24VDC</b> <b>DPHE-4630/2-230VAC</b>	Spring Offset	Open				600
	<b>DPHE-4631/2-12VDC</b> <b>DPHE-4631/2-24VDC</b> <b>DPHE-4631/2-230VAC</b>	Spring Offset	Closed				600

Circuit	Part Number	Pressure (bar)			Nominal Flow L/min
		P, A, B, X	T	Y	
	<b>DPHE-4710-12VDC</b> <b>DPHE-4710-24VDC</b> <b>DPHE-4710-230VAC</b>	350	250	0	650
	<b>DPHE-4711-12VDC</b> <b>DPHE-4711-24VDC</b> <b>DPHE-4711-230VAC</b>				650
	<b>DPHE-4713-12VDC</b> <b>DPHE-4713-24VDC</b> <b>DPHE-4713-230VAC</b>				650
	<b>DPHE-4714-12VDC</b> <b>DPHE-4714-24VDC</b> <b>DPHE-4714-230VAC</b>				450

**NB: Valve pricing includes Cetop 3 pilot valve coils & coil connectors**

**NB:** Nom. flow ratings displayed are with ISO VG 46 Centistokes @ 50°C at 210 bar, for higher pressures the flow must be reduced.

**NB:** Open centre valves are supplied complete with a back pressure check valve to provide a pilot pressure for spool shift

Coils	
Part No.	Voltage
<b>SP-COE-12DC</b>	12VDC
<b>SP-COE-24DC</b>	24VDC
<b>SP-COE-110DC</b>	110VDC
<b>SP-COE-110/50/60AC</b>	110VAC
<b>SP-COE-230/50/60AC</b>	230VAC

Coil Connectors	
Part No.	Type
<b>SP-666</b>	AC or DC Standard
<b>SP-669</b>	AC in rectified to DC
<b>SP-KA-DC</b>	DC Connector with LED
<b>SP-KA-AC</b>	AC Connector with LED

Bolt Kit	
Part No.	
<b>BK-DPHE-3</b>	

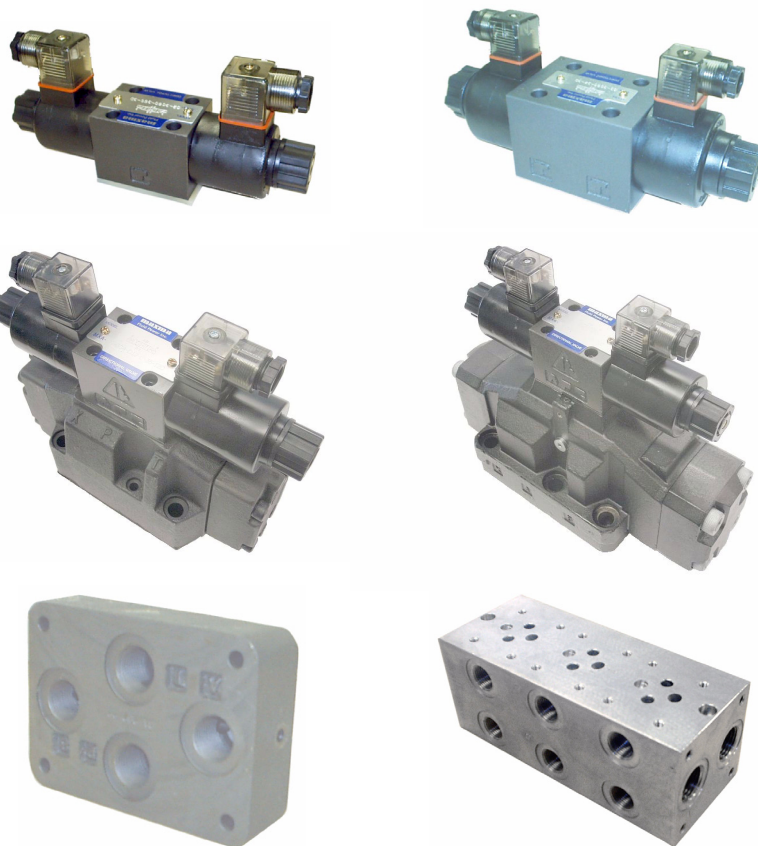


# SECTION A

## MAXMA SOLENOID VALVES



PAGE DESCRIPTION	PAGE
<b>SOLENOID VALVES - CETOP 3</b>	
MXA-02 Series .....	A 84
CETOP 3 Modular Function Valves .....	A 85
<b>SOLENOID VALVES - CETOP 5</b>	
MXA-03 Series .....	A 86
CETOP 5 Modular Function Valves .....	A 87
<b>CETOP 7</b>	
SFH-04 Series .....	A 88
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SFH-06 Series .....	A 89
CETOP 3 MANIFOLDS .....	A 90
CETOP 5 MANIFOLDS .....	A 91
CETOP 7 MANIFOLDS .....	A 92
CETOP 8 MANIFOLDS .....	A 92

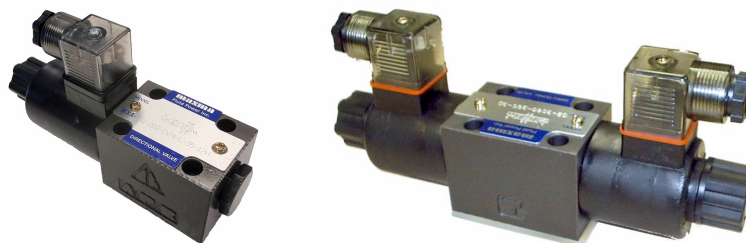


**NB: Models, codes and specifications may be subject to change without notice.**

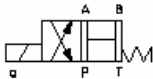


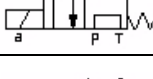
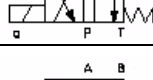
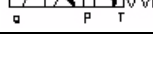
## Solenoid Valves CETOP 3 MXA-02 Series

Spool type valves, direct solenoid operated by wet armature solenoids, 4 way, 2 or 3 position.

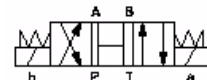
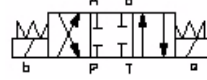

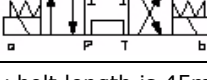
Nominal flow rate based on 12 bar pressure drop across the valve using oil ISO VG 32 @ 50°C



**SINGLE SOLENOID 2 POSITION NB: Valve pricing includes coil, LED connector & bolts**

Circuit	Part Number	Type	Cross Over	Pressure (bar)		Nom. Flow L/min										
				P, A, B	T											
	MXA-02-2B3B-D12 MXA-02-2B3B-D24	Spring Centred	-	350	210	50										
	MXA-02-2B3B-A110 MXA-02-2B3B-A240	Spring Centred														
	MXA-02-2B2B-D12 MXA-02-2B2B-D24	Spring Centred	-			350	210	45								
	MXA-02-2B2B-A110 MXA-02-2B2B-A240	Spring Centred														
	MXA-02-2B4B-D12 MXA-02-2B4B-D24	Spring Centred	-					350	210	45						
	MXA-02-2B4B-A110 MXA-02-2B4B-A240	Spring Centred														
	MXA-02-2B60B-D12 MXA-02-2B60B-D24	Spring Centred	-							350	210	22				
	MXA-02-2B60B-A110 MXA-02-2B60B-A240	Spring Centred														
	MXA-02-2B3-D12 MXA-02-2B3-D24	Spring Offset	Open									350	210	50		
	MXA-02-2B3-A110 MXA-02-2B3-A240	Spring Offset														
	MXA-02-2B2-D12 MXA-02-2B2-D24	Spring Offset	Closed											350	210	45
	MXA-02-2B2-A110 MXA-02-2B2-A240	Spring Offset														

**DOUBLE SOLENOID 3 POS. SPRING CENTRED NB: valve pricing includes coils, LED connectors & bolts**

Circuit	Part Number	Pressure (bar)		Nom. Flow L/min						
		P, A, B	T							
	MXA-02-3C3-D12 MXA-02-3C3-D24	350	210	50						
	MXA-02-3C3-A110 MXA-02-3C3-A240									
	MXA-02-3C2-D12 MXA-02-3C2-D24			350	210	45				
	MXA-02-3C2-A110 MXA-02-3C2-A240									
	MXA-02-3C4-D12 MXA-02-3C4-D24					350	210	45		
	MXA-02-3C4-A110 MXA-02-3C4-A240									
	MXA-02-3C60-D12 MXA-02-3C60-D24							350	210	22
	MXA-02-3C60-A110 MXA-02-3C60-A240									

**NB:** Valve-only bolt length is 45mm

Coils	
Part No.	Voltage
2AF-D12	12VDC
2AF-D24	24VDC
2AH-C1/C3	110VAC
2AH-C5/C6	240VAC

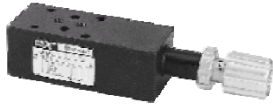
Coil Connectors	
Part No.	Type
SP-666	AC or DC Standard
SP-669	AC in Rectified to DC
SP-KA-DC	DC Connector with LED
SP-KA-AC	AC Connector with LED

Bolt Kits	
Part No.	
BK-M5X45M	
BK-M5X85M	
BK-M5X125M	
BK-M5X165M	

# CETOP 3 Modular Function Valves

These units mount between the directional valve and the sub-plates. The addition of these valves require longer bolt kits. Each valve block requires the addition of 40mm to the bolt length. Maximum inlet pressure 315 Bar.

## PRESSURE RELIEF VALVES



Circuit	Part Number	Pressure Range (bar)	Function
	<b>MRV-02-P-1-20</b>	3 to 70	P to T
	<b>MRV-02-P-2-20</b>	8 to 140	
	<b>MRV-02-P-3-20</b>	10 to 250	A to T
	<b>MRV-02-A-3-20</b>		B to T
	<b>MRV-02-B-3-20</b>		A&B to T
	<b>MRV-02-C-3-20</b>		Cross Port
	<b>MRV-02-D-3-20</b>		

## PRESSURE REDUCING VALVES



Circuit	Part Number	Pressure Range (bar)	Function
	<b>MBR-02-P-1-20</b>	3 to 35	Reduced on P
	<b>MBR-02-P-2-20</b>	3 to 70	
	<b>MBR-02-P-3-20</b>	5 to 210	
	<b>MBR-02-A-3-20</b>	5 to 210	Reduced on A
	<b>MBR-02-B-3-20</b>	5 to 210	Reduced on B

## FLOW CONTROL VALVES



Circuit	Part Number	Function
	<b>MTC-02-W-20</b>	Meter out from cyl. on A&B
	<b>MTC-02-A-20</b>	Meter out from cyl. on A
	<b>MTC-02-B-20</b>	Meter out from cyl. on B
	<b>MTC-02-W-1-20</b>	Meter in to cyl. on A&B
	<b>MTC-02-A-1-20</b>	Meter in to cyl. on A
	<b>MTC-02-B-1-20</b>	Meter in to cyl. on B

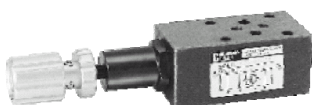
## CHECK VALVES



Circuit	Part Number	Function
	<b>MCV-02-P-1-20</b>	Check valve on P
	<b>MPC-02-W-20</b>	Pilot op check on A&B
	<b>MPC-02-A-20</b>	Pilot op check on A
	<b>MPC-02-B-20</b>	Pilot op check on B

Note: As an alternative to the MPC-02-W-20 you can use B1025-NG06-D1-AL with POCI-10 (x2)

## COUNTER BALANCE VALVES

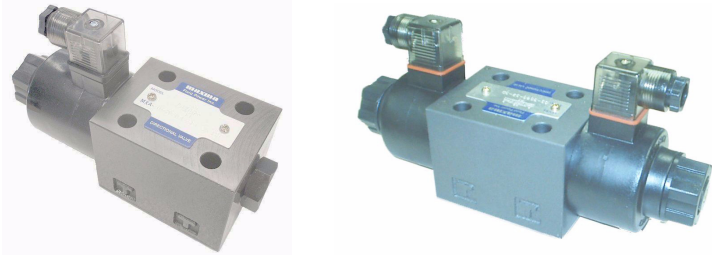


Circuit	Part Number	Function
	<b>MCB-02-A-2-20</b>	Counterbalance on A
	<b>MCB-02-B-2-20</b>	Counterbalance on B

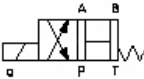
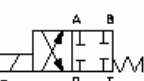


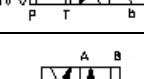

Note: For dual counterbalance on A&B you can use B1025-NG06-D1-AL with CBPA-10 (x2)

## Solenoid Valves CETOP 5 MXA-03 Series

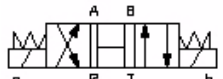
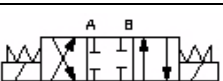
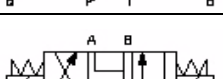
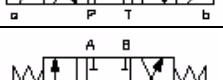
Spool type valves, direct solenoid operated by wet armature solenoids, 4 way, 2 or 3 position.  
Nominal flow rate based on 12 bar pressure drop across the valve using oil ISO VG 32 @ 50°C



### SINGLE SOLENOID 2 POSITION NB: Valve pricing includes coil, LED coil connector & bolts

Circuit	Part Number	Type	Cross Over	Pressure (bar)		Nom. Flow L/min										
				P, A, B	T											
	MXA-03-2B3B-D12 MXA-03-2B3B-D24	Spring Centred	-	315	160	110										
	MXA-03-2B3B-A110 MXA-03-2B3B-A240	Spring Centred														
	MXA-03-2B2B-D12 MXA-03-2B2B-D24	Spring Centred	-			315	160	100								
	MXA-03-2B2B-A110 MXA-03-2B2B-A240	Spring Centred														
	MXA-03-2B4B-D12 MXA-03-2B4B-D24	Spring Centred	-					315	160	100						
	MXA-03-2B4B-A110 MXA-03-2B4B-A240	Spring Centred														
	MXA-03-2B60B-D12 MXA-03-2B60B-D24	Spring Centred	-							315	160	53				
	MXA-03-2B60B-A110 MXA-03-2B60B-A240	Spring Centred														
	MXA-03-2B3-D12 MXA-03-2B3-D24	Spring Offset	Open									315	160	100		
	MXA-03-2B3-A110 MXA-03-2B3-A240	Spring Offset														
	MXA-03-2B2-D12 MXA-03-2B2-D24	Spring Offset	Closed											315	160	100
	MXA-03-2B2-A110 MXA-03-2B2-A240	Spring Offset														

### DOUBLE SOLENOID 3 POS, SPRING CENTRED NB: valve pricing includes coils, LED coil connectors & bolts

Circuit	Part Number	Pressure (bar)		Nom. Flow L/min						
		P, A, B	T							
	MXA-03-3C3-D12 MXA-03-3C3-D24	315	160	110						
	MXA-03-3C3-A110 MXA-03-3C3-A240									
	MXA-03-3C2-D12 MXA-03-3C2-D24			315	160	100				
	MXA-03-3C2-A110 MXA-03-3C2-A240									
	MXA-03-3C4-D12 MXA-03-3C4-D24					315	160	100		
	MXA-03-3C4-A110 MXA-03-3C4-A240									
	MXA-03-3C60-D12 MXA-03-3C60-D24							315	160	53
	MXA-03-3C60-A110 MXA-03-3C60-A240									

NB: Valve-only bolt length is 35mm

Coils	
Part No.	Voltage
3EA-D12	12VDC
3EA-D24	24VDC
3AH-C1/C3	110VAC
3AH-C2/C4	220VAC
3AH-C5/C6	240VAC

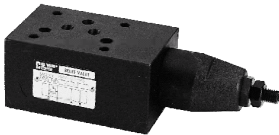
Coil Connectors	
Part No.	Type
SP-666	AC or DC Standard
SP-669	AC in Rectified to DC
SP-KA-DC	DC Connector with LED
SP-KA-AC	AC Connector with LED

Bolt Kits	
Part No.	
BK-M6X35M	
BK-M6X90M	
BK-M6X145M	

# CETOP 5 Modular Function Valves

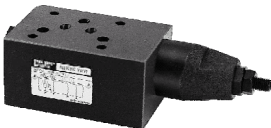
These units mount between the directional valve and the sub-plates. The addition of these valves require longer bolt kits. Each valve block requires the addition of 50mm to the bolt length.

## PRESSURE RELIEF VALVES



Circuit	Part Number	Pressure Range (bar)	Function
	<b>MRV-03-P-3-20</b>	10 to 250	P to T
	<b>MRV-03-A-3-20</b>		A to T
	<b>MRV-03-B-3-20</b>		B to T
	<b>MRV-03-D-3-20</b>		Crossover

## PRESSURE REDUCING VALVES



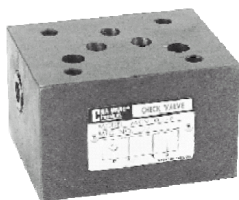
Circuit	Part Number	Pressure Range (bar)	Function
	<b>MBR-03-P-1-20</b>	8 to 70	Reduced on P
	<b>MBR-03-P-3-20</b>	10 to 250	
	<b>MBR-03-A-3-20</b>	10 to 250	Reduced on A
	<b>MBR-03-B-3-20</b>	10 to 250	Reduced on B

## FLOW CONTROL VALVES



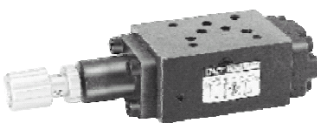
Circuit	Part Number	Function
	<b>MTC-03-W-20</b>	Meter out from cyl. on A&B
	<b>MTC-03-A-20</b>	Meter out from cyl. on A
	<b>MTC-03-B-20</b>	Meter out from cyl. on B
	<b>MTC-03-W-1-20</b>	Meter in to cyl. on A&B
	<b>MTC-03-A-1-20</b>	Meter in to cyl. on A
	<b>MTC-03-B-1-20</b>	Meter in to cyl. on B

## CHECK VALVES



Circuit	Part Number	Function
	<b>MCV-03-P-1-20</b>	Check valve on P
	<b>MPC-03-W-20</b>	Pilot op check on A&B
	<b>MPC-03-A-20</b>	Pilot op check on A
	<b>MPC-03-B-20</b>	Pilot op check on B

## COUNTER BALANCE VALVES



Circuit	Part Number	Function
	<b>MCB-03-A-3-20</b>	Counterbalance on A
	<b>MCB-03-B-2-20</b>	Counterbalance on B



## Solenoid Valves CETOP 7 SFH-04 Series

Pilot operated, wet armature solenoid spool valves, 4 way, 2 or 3 position.

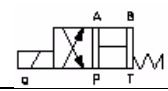


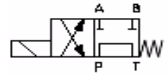
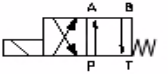
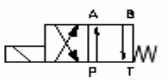
Suitable for AC and DC supply.

Standard valves configured with internal pilot and external drain.

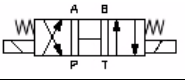
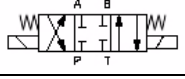


Open centre valves are equipped with an inbuilt back pressure valve to provide a pilot pressure of 4.5bar (P4.5) to shift the main spool.



### SINGLE SOLENOID 2 POSITION NB: Valve pricing includes coil & LED coil connector

Circuit	Part Number	Type	Cross Over	Pressure (bar)			Nom. Flow L/min
				P, A, B, X	T	Y	
	<b>SFH-04-2B3B-P4.5-12VD</b> <b>SFH-04-2B3B-P4.5-24VD</b> <b>SFH-04-2B3B-P4.5-230V</b>	Spring Centred	-	280	160	0	250
	<b>SFH-04-2B2B-12VDC</b> <b>SFH-04-2B2B-24VDC</b> <b>SFH-04-2B2B-230VAC</b>	Spring Centred	-	280	250	0	250
	<b>SFH-04-2B4B-12VDC</b> <b>SFH-04-2B4B-24VDC</b> <b>SFH-04-2B4B-230VAC</b>	Spring Centred	-	280	250	0	250
	<b>SFH-04-2B60B-P4.5-12V</b> <b>SFH-04-2B60B-P4.5-24V</b> <b>SFH-04-2B60B-P4.5-230V</b>	Spring Centred	-	280	260	0	200
	<b>SFH-04-2B3-P4.5-12VDC</b> <b>SFH-04-2B3-P4.5-24VDC</b> <b>SFH-04-2B3-P4.5-230VA</b>	Spring Offset	Open	280	260	0	250
	<b>SFH-04-2B2-12VDC</b> <b>SFH-04-2B2-24VDC</b> <b>SFH-04-2B2-230VAC</b>	Spring Offset	Closed	280	250	0	250

### DOUBLE SOLENOID 3 POS, SPRING CENTRED NB: valve pricing includes coils & LED coil connectors

Circuit	Part Number	Pressure (bar)			Nom. Flow L/min
		P, A, B, X	T	Y	
	<b>SFH-04-3C3-P4.5-12VDC</b> <b>SFH-04-3C3-P4.5-24VDC</b> <b>SFH-04-3C3-P4.5-230V</b>	280	160	0	250
	<b>SFH-04-3C2-12VDC</b> <b>SFH-04-3C2-24VDC</b> <b>SFH-04-3C2-230VAC</b>	280	250	0	250
	<b>SFH-04-3C4-12VDC</b> <b>SFH-04-3C4-24VDC</b> <b>SFH-04-3C4-230VAC</b>	280	250	0	250
	<b>SFH-04-3C60-P4.5-12V</b> <b>SFH-04-3C60-P4.5-24V</b> <b>SFH-04-3C60-P4.5-230V</b>	280	160	0	200

**NB:** Nom. flow ratings displayed are with ISO VG 46 Centistokes @ 50°C at 210 bar, for higher pressures the flow must be reduced.

**NB:** Open centre valves are supplied complete with a back pressure check valve to provide a pilot pressure for spool shift

**NB:** Manifold (subplate) required see page A86

Coils	
Part No.	Voltages
<b>SP-COL-12VDC</b>	12DC
<b>SP-COL-24VDC</b>	24DC
<b>SP-COL-110/50/60AC</b>	110AC
<b>SP-COL-230/50/60AC</b>	240AC

Coil Connectors	
Part No.	Type
<b>SP-666</b>	AC or DC Standard
<b>SP-669</b>	AC in Rectified to DC
<b>SP-KA-DC</b>	DC Connector with LED
<b>SP-KA-AC</b>	AC Connector with LED

Bolt Kit	
Part No.	
<b>BK-SFH-04</b>	

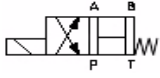
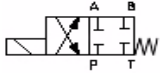
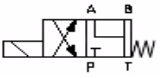
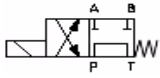
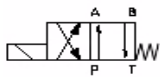
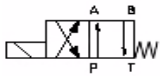


## Solenoid Valves CETOP 8 SFH-06 Series


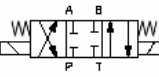

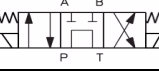
Spool type valves solenoid pilot operated, wet armature solenoids, 4 way, 2 or 3 position. Suitable for AC and DC supply.  
Standard valves configured with internal pilot and external drain  
Open centre valves are equipped with an inbuilt back pressure valve to provide a pilot pressure of 4.5bar (P4.5) to shift the main spool.



### SINGLE SOLENOID 2 POSITION NB: Valve pricing includes coil & LED coil connector

Circuit	Part No.	Type	Cross Over	Pressure (bar)			Nom. Flow L/min
				P, A, B, X	T	Y	
	<b>SFH-06-2B3B-P4.5-12V</b> <b>SFH-06-2B3B-P4.5-24V</b> <b>SFH-06-2B3B-P4.5-230V</b>	Spring Centred	-	280	160	0	650
	<b>SFH-06-2B2B-12VDC</b> <b>SFH-06-2B2B-24VDC</b> <b>SFH-06-2B2B-230VAC</b>	Spring Centred	-	280	250	0	650
	<b>SFH-06-2B4B-12VDC</b> <b>SFH-06-2B4B-24VDC</b> <b>SFH-06-2B4B-230VAC</b>	Spring Centred	-	280	250	0	650
	<b>SFH-06-2B60B-P4.5-12V</b> <b>SFH-06-2B60B-P4.5-24V</b> <b>SFH-06-2B60B-P4.5-230</b>	Spring Centred	-	280	160	0	450
	<b>SFH-06-2B3-P4.5-12VDC</b> <b>SFH-06-2B3-P4.5-24VDC</b> <b>SFH-06-2B3-P4.5-230V</b>	Spring Offset	Open	280	160	0	600
	<b>SFH-06-2B2-12VDC</b> <b>SFH-06-2B2-24VDC</b> <b>SFH-06-2B2-230VAC</b>	Spring Offset	Closed	280	250	0	600

### DOUBLE SOLENOID 3 POS, SPRING CENTRED NB: valve pricing includes coils & LED coil connectors

Circuit	Part No.	Pressure (bar)			Nom Flow
		P, A, B, X	T	Y	L/Min
	<b>SFH-06-3C3-P4.5-12VDC</b> <b>SFH-06-3C3-P4.5-24VDC</b> <b>SFH-06-3C3-P4.5-230V</b>	280	160	0	650
	<b>SFH-06-3C2-12VDC</b> <b>SFH-06-3C2-24VDC</b> <b>SFH-06-3C2-230VAC</b>	280	250	0	650
	<b>SFH-06-3C4-12VDC</b> <b>SFH-06-3C4-24VDC</b> <b>SFH-06-3C4-230VAC</b>	280	250	0	650
	<b>SFH-06-3C60-P4.5-12V</b> <b>SFH-06-3C60-P4.5-24V</b> <b>SFH-06-3C60-P4.5-230V</b>	280	160	0	450

**NB:** Valve pricing includes cetop 3 pilot valve, coils, LED coil connectors and subplate bolts

**NB:** Nom. flow ratings displayed are with ISO VG 46 Centistokes @ 50°C at 210BAR, for higher pressures the flow must be reduced.

**NB:** Open centre valves are supplied complete with a back pressure check valve to provide a pilot pressure for spool shift

**NB:** Manifold (subplate) required see page A86

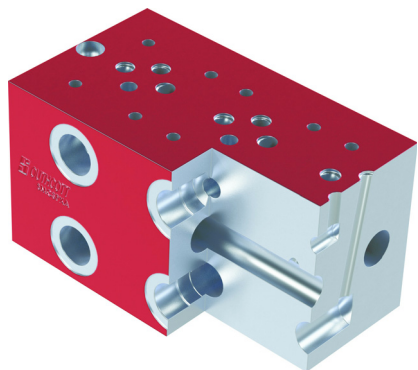
Coils	
Part Number	Voltage
<b>SP-COL-12VDC</b>	12VDC
<b>SP-COL-24VDC</b>	24VDC
<b>SP-COL-110/50/60AC</b>	110VAC
<b>SP-COL-230/50/60AC</b>	240VAC

Coil Connectors	
Part Number	Type
<b>SP-666</b>	AC or DC Standard
<b>SP-669</b>	AC in Rectified to DC
<b>SP-KA-DC</b>	DC Connector with LED
<b>SP-KA-AC</b>	AC Connector with LED

Bolt Kits	
Part Number	
<b>BK-SFH-06</b>	

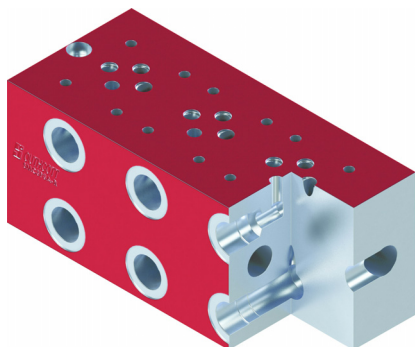
## CETOP 3 MANIFOLDS

### Without Relief Valve



Part Number	Ports BSPP		Stations	Circuit Type
	P & T	A & B		
SMC3P1A	1/2"	3/8"	1	Parallel
SMC3P2A			2	
SMC3P3A			3	
SMC3P4A			4	
SMC3P5A			5	
SMC3P6A			6	
SMC3P7A			7	
SMC3P8A			8	
SMC3S2A	1/2"	3/8"	2	Series
SMC3S3A			3	
SMC3S4A			4	

### With Relief Valve



Part Number	Ports BSPP		Stations	Circuit Type
	P & T	A & B		
SMC3P1A-R	1/2"	3/8"	1	Parallel
SMC3P2A-R			2	
SMC3P3A-R			3	
SMC3P4A-R			4	
SMC3P5A-R			5	
SMC3P6A-R			6	
SMC3P7A-R			7	
SMC3P8A-R			8	

### Single Station



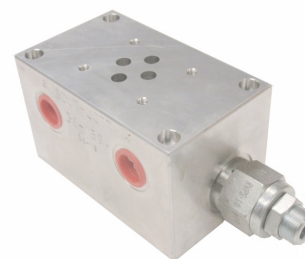
BA-202  
M02-03-B-PP-202-SG



S4224  
S4224S  
S4225



SMC3P1A-R-TT08  
Tank top c/w relief  
Nom. flow = 20L/min



SMC3P1A-R-TT10-30  
Tank top c/w relief  
Nom. flow = 30L/min

Part Number	Brand	Port Position	Ports BSPP	Pressure Range (bar)	Material
BA-202	Atos	Rear	3/8"	350	Cast Iron
M02-03-B-PP-202-SG	Maxma		3/8"	350	
S4224	Southcott	Side	3/8"	205	Aluminium
S4224S			3/8"	350	Steel
S4225		Rear	1/4"	205	Aluminium
SMC3P1A-R-TT08-15		Side & Rear	3/8"	103	
SMC3P1A-R-TT08-30			3/8"	205	
SMC3P1A-R-TT10	3/8"		205		
SMC3P1A-R-TT10-15	3/8"		103		
SMC3P1A-R-TT10-30	3/8"	205			
SMC3BP		Blanking Plate	-	-	Steel

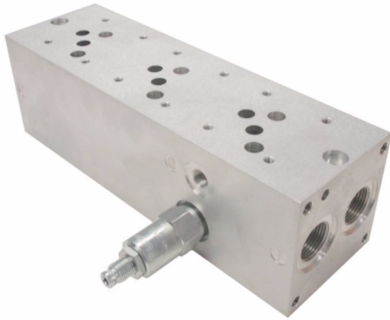
## CETOP 5 MANIFOLDS

### Without Relief Valve



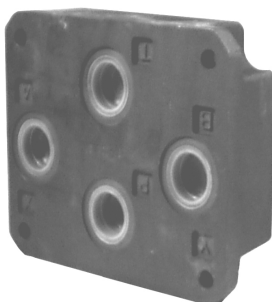
Part Number	Ports BSPP		Stations	Circuit Type
	P & T	A & B		
SMC5P2A	3/4"	1/2"	2	Parallel
SMC5P3A			3	
SMC5P4A			4	
SMC5P5A			5	
SMC5P6A			6	

### With Relief Valve



Part Number	Ports BSPP		Stations	Circuit Type
	P & T	A & B		
SMC5P1A-R	3/4"	1/2"	1	Parallel
SMC5P2A-R			2	
SMC5P3A-R			3	
SMC5P4A-R			4	
SMC5P5A-R			5	
SMC5P6A-R			6	

### Single Station



BA-308



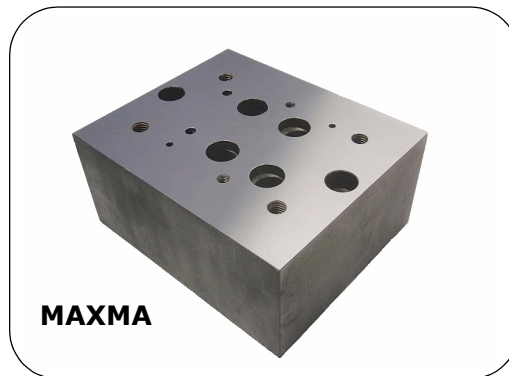
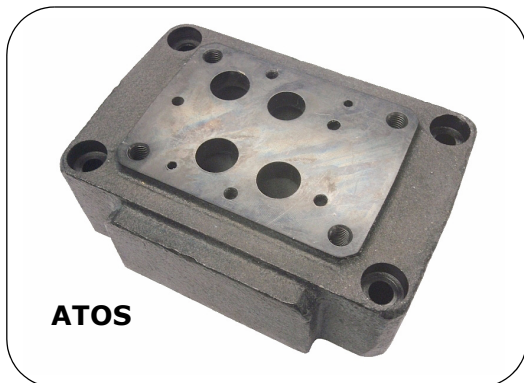
S310



SMC5P1A-R-TT10-30

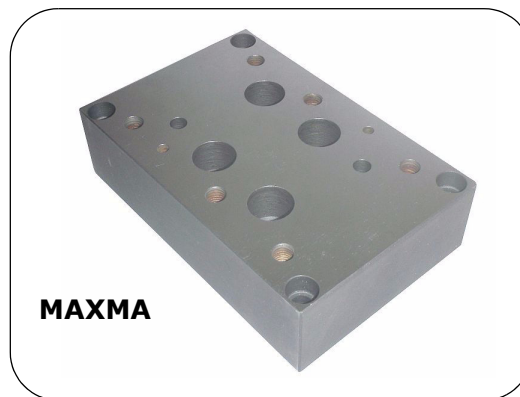
Part Number	Brand	Port Position	Ports BSPP	Pressure Range (bar)	Material
BA-308	Atos	Rear	1/2"	350	Cast Iron
S310	Southcott	Side		205	Aluminium
SMC5P1A-R-TT10-15		Side & Rear		103	
SMC5P1A-R-TT10-30		Side & Rear		205	

## CETOP 7 MANIFOLDS



Part Number	Brand	Port Position	Ports BSPP	Max Pressure (bar)	Material
<b>BA-418</b>	Atos	Rear	3/4"	350	Cast Iron
<b>BA-518/DR</b>			1"		
<b>DD07-SP-B-12B</b>	Maxma		3/4"		Ductile Iron
<b>DD07-SP-B-16B</b>			1"		

## CETOP 8 MANIFOLDS



Part Number	Brand	Port Position	Ports BSPP	Max Pressure (bar)	Material
<b>BA-508</b>	Atos	Rear	1"	350	Cast Iron
<b>BA-618</b>			1-1/4"		
<b>DD08-SP-B-16B</b>	Maxma		1"		Ductile Iron
<b>DD08-SP-B-20B</b>			1-1/4"		

# SECTION B

## GEAR PUMPS, GEAR MOTORS, HAND PUMPS & P.T.O GEARBOXES



PAGE DESCRIPTION	PAGE
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PHP20 - Group 2 Cast Iron .....	B 6
PLP30 - Group 3 .....	B 8
Circuit Options for Polaris Group 2 Pumps .....	B 10
<b>CASAPPA POLARIS GEAR MOTORS</b>	
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PLM20 - Group 2 .....	B 12
PLM30 - Group 3 .....	B 14
<b>PTO GEARBOXES</b>	
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70000 Series .....	B 17
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FP30/SFP30 SERIES.....	B 32
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EP(D) HAND PUMPS .....	B 34
HAND PUMP RESERVOIR KITS .....	B 35
HAND LEVER .....	B 36



**NB: Models, codes and specifications may be subject to change without notice.**



# HYDRAULIC GEAR PUMPS

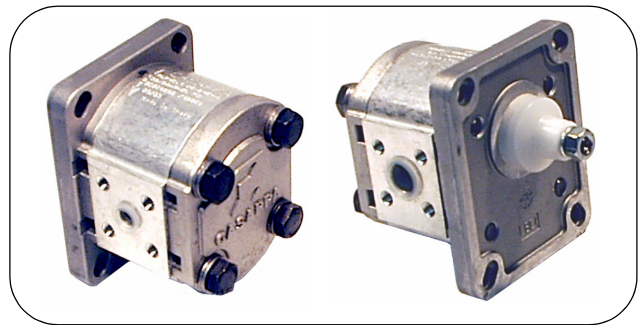
**Polaris Series - Group 1**

**Mount : Euro-Mount**

**Shaft : 1 in 8 Standard Duty Taper**

**Ports : Port adaptor**

## PLP10 Group 1 Euro-Mount



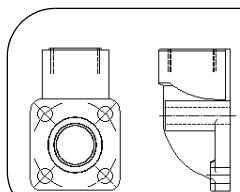
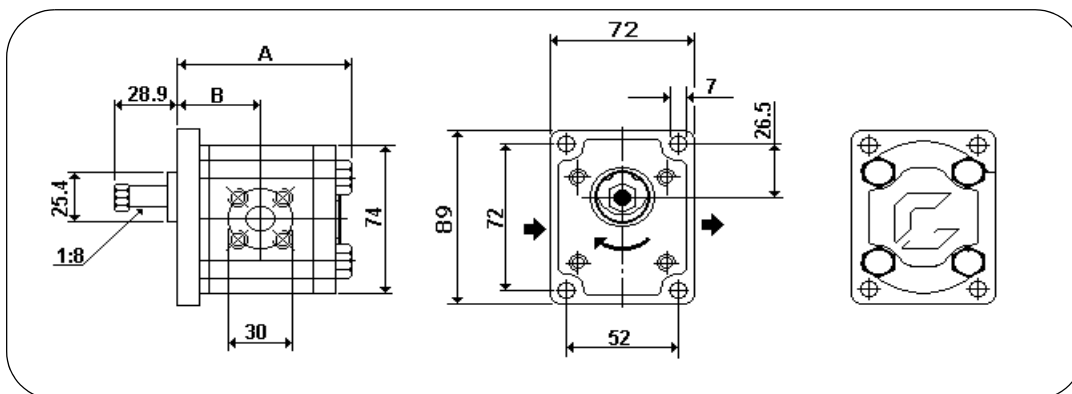
Part Number	Disp. cc/rev	Max Pressure bar			Max Shaft Speed rpm	Ports Adaptor		Dim mm	
		P1	P2	P3		In	Out	A	B
PLP10-1D-81E1-BBBA	1.07	260	280	290	4000	RPB1230-M		65.7	31.6
PLP10-2D-81E1-BBBA	2.13							68.9	33.2
PLP10-3.15D-81E1-BBBA	3.34							72.5	35
PLP10-4D-81E1-BBBA	4.27	250	270	280				75.3	36.4
PLP10-5D-81E1-BBBA	5.34							78.5	38
PLP10-6.3D-81E1-BBBA	6.67	230	250	260				3500	
PLP10-8D-81E1-BBBA	8.51	180	200	210	88	42.8			
PLP10-10D-81E1-BBBA	10.67	140	160	170	94.5	46			

p1 = continuous max. pressure      p2 = intermittent max. pressure      p3 = peak pressure

SERIES      **PLP10-10 D- 81 E1 - BBBA**

DISPLACEMENT CODE

Rotation Code	Shaft Code	Mount Code	Port Code
D = Clockwise	81 = 1 in 8 Std Taper	E1 = Euro Mount	BB = IN PORT
S = Counterclockwise			BA = OUT PORT



**Port Adaptors**  
Must be ordered separately

Part No.	Port
RPB1230-M	1/2" BSPP

**MULTIPLE PUMP PRICING**  
Refer Price List and use the price of each single pump plus Assembly Kit.

Assembly Kit	Inter. Plate
**PLP10/10	88V6
**PLP10/10/10	88V6 + 88V6





# HYDRAULIC GEAR PUMPS

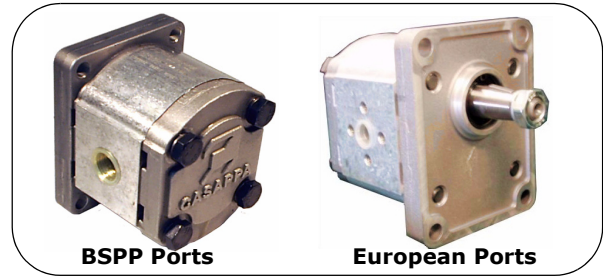
Polaris Series - Group 2

Mount : Euro-Mount

Shaft : 1 in 8 Taper

Ports : Threaded BSPP or European Ports

## PLP20 Group 2 Euro Mount



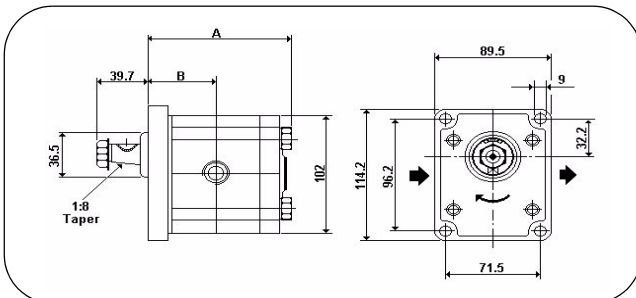
Part Number	Disp. cc/rev	Max Pressure bar			Max Shaft Speed rpm	Ports		Dim mm			
		P1	P2	P3		In	Out	A	B		
PLP20-4D-82E2-GDGD PLP20-4D-82E2-EAEA	4.95	250	280	300	4000	1/2" (GD) (EA)	1/2" (GD) (EA)	93.0	43.7		
PLP20-6.3D-82E2-GDGD PLP20-6.3D-82E2-EAEA	6.61							95.5	45.0		
PLP20-8D-82E2-GDGD PLP20-8D-82E2-EAEA	8.26							98.0	46.2		
PLP20-9D-82E2-GDGD PLP20-9D-82E2-EAEA	9.17							99.3	46.9		
PLP20-11.2D-82E2-GDGD PLP20-11.2D-82E2-EAEA	11.23							102.5	48.5		
PLP20-14D-82E2-GEGD PLP20-14D-82E2-EBEA	14.53							107.5	51.0		
PLP20-16D-82E2-GEGD PLP20-16D-82E2-EBEA	16.85				3000	220	240	3/4" (GE) (EB)	1/2" (GD) (EA)	111.0	52.7
PLP20-20D-82E2-GEGD PLP20-20D-82E2-EBEA	21.14									117.5	56.0
PLP20-25D-82E2-GEGD PLP20-25D-82E2-EBEA	26.42									125.5	60.0
PLP20-31.5D-82E2-GEGD PLP20-31.5D-82E2-EBEA	33.03									135.5	65.0

p1 = continuous max. pressure    p2 = intermittent max. pressure    p3 = peak pressure

SERIES    **PLP20-14 D- 82 E2 - GEGD**

DISPLACEMENT CODE

Rotation Code	Shaft Code	Mount Code	Port Codes	
			BSPP	European
D = Clockwise	82 = 1 in 8 Taper	E2 = Euro Mount	GD = 1/2"	EA = 1/2" Port Adp
S = Counterclockwise			GE = 3/4"	EB = 3/4" Port Adp



MULTIPLE PUMP PRICING  
Refer Price List and use the price of each single pump plus Assembly Kit.

Assembly Kit	Inter.Plates
**PL/PH20/20	86S6
**PL/PH20/10	51T6
**PL/PH20/20/20	86S6 + 86S6
**PL/PH20/20/10	86S6 + 51T6
**PL/PH20/10/10	51T6 + 88V6

Port Adaptors

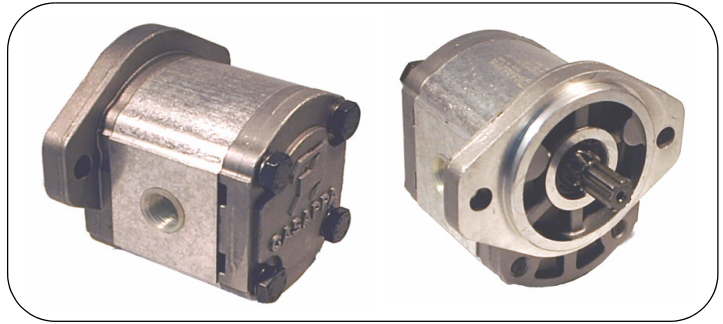
Type	Dim I	Part No
EA	30mm	RPA1/12-M
EB	40mm	RPA2/34-M

# HYDRAULIC GEAR PUMPS

**Polaris Series - Group 2**  
**Mount : SAE A 2-Bolt Mount**  
**Shaft : Splined or Keyed**  
**Ports : Threaded BSPP**

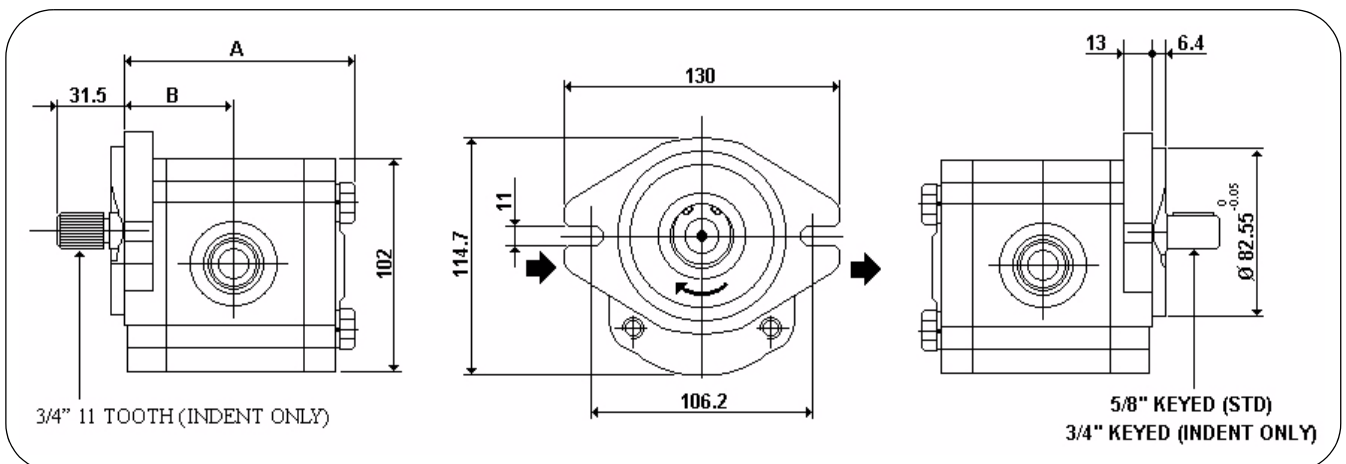
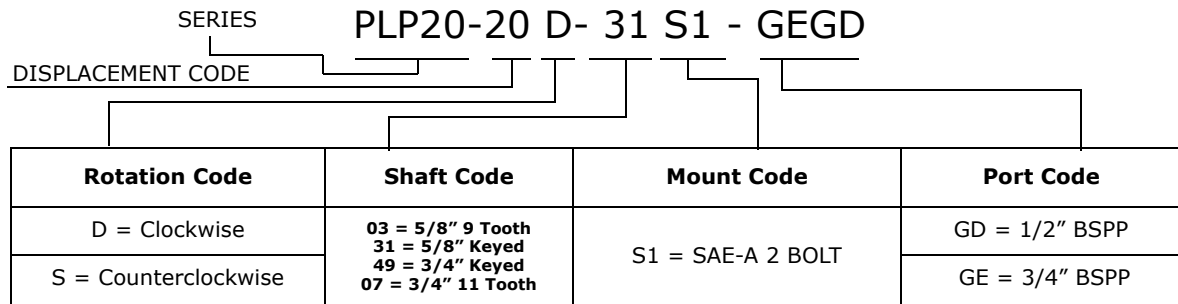
## PLP20 Group 2

### SAE A 2-Bolt Mount



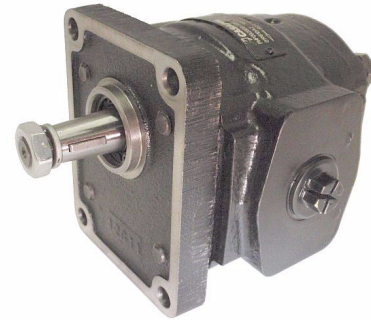
Part Number	Disp. cc/rev	Max Pressure bar			Max Shaft Speed rpm	Ports BSPP		Dim mm	
		P1	P2	P3		In	Out	A	B
<b>PLP20-4D-03S1-GDGD</b>	4.95	250	280	300	4000	1/2" (GD)	1/2" (GD)	95	45.7
<b>PLP20-6.3D-03S1-GDGD</b>	6.61							97.5	47
<b>PLP20-8D-03S1-GDGD</b>	8.26							100	48.2
<b>PLP20-9D-03S1-GDGD</b>	9.17				109.5			53	
<b>PLP20-11.2D-03S1-GDGD</b>	11.23								
<b>PLP20-14D-03S1-GE</b>	14.53								
<b>PLP20-16D-03S1-GE</b>	16.85	3000	113	54.7	3/4" (GE)	1/2" (GD)			
<b>PLP20-20D-03S1-GE</b>	21.14						119.5	58	
<b>PLP20-25D-03S1-GE</b>	26.42						127.5	62	
<b>PLP20-31.5D-03S1-GE</b>	33.03	130	150	170	2000			137.5	67

p1 = continuous max. pressure    p2 = intermittent max. pressure    p3 = peak pressure



MULTIPLE PUMP PRICING - Same price as single pumps plus assembly kit.

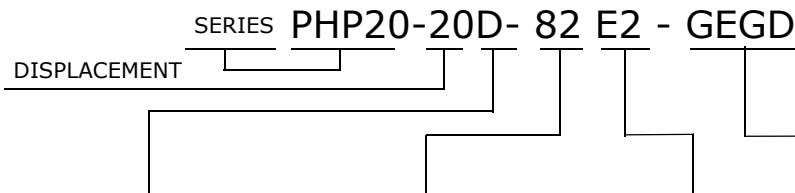
# PHP20 Group 2 Euro Mount Cast Iron Version Gear Pumps



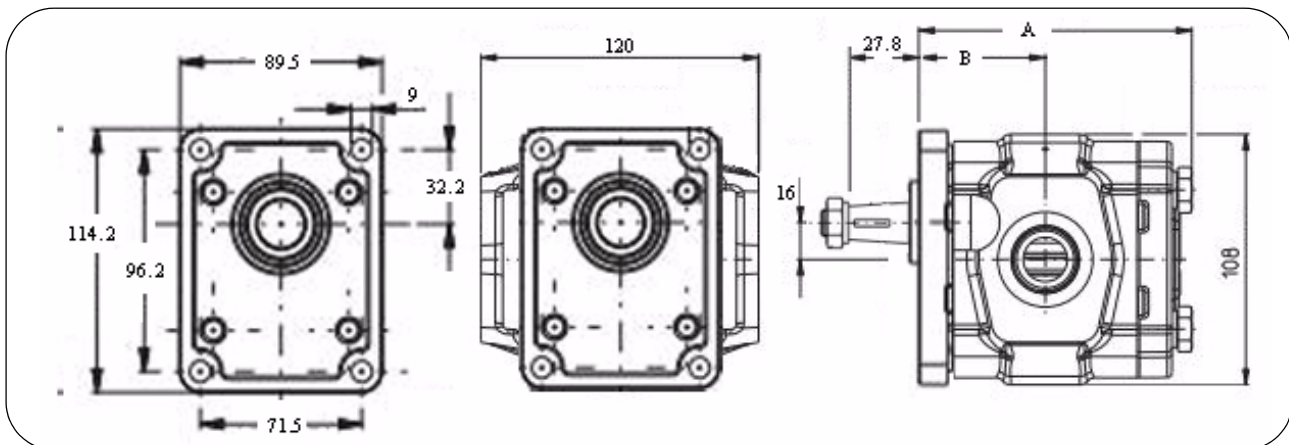
**Polaris Series - Group 2**  
**Mount : Euro-Mount**  
**Shaft : 1 in 8 Taper**  
**Ports : Threaded BSPP**

Part Number	Disp. cc/rev	Max Pressure bar			Max Shaft Speed rpm	Ports BSPP		Dim mm	
		P1	P2	P3		In	Out	A	B
<b>PHP20-16D-82E2-GEGD</b>	16.85	250	280	300	3500	3/4	1/2	111	52.75
<b>PHP20-20D-82E2-GEGD</b>	21.14	250	280	300	3500	3/4	1/2	117.5	56
<b>PHP20-25D-82E2-GFGD</b>	26.42	230	260	280	3000	1	1/2	125.5	60
<b>PHP20-31.5D-82E2-GFGD</b>	33.03	200	230	250	2500	1	1/2	135.5	65

p1 = continuous max. pressure    p2 = intermittent max. pressure    p3 = peak pressure



Rotation Code	Shaft Code	Mount Code	Port Code
D = Clockwise	82 = 1 in 8 Taper	E2 = Euro Mount	GD = 1/2" BSPP
S = Counterclockwise			GE = 3/4" BSPP
			GF = 1" BSPP



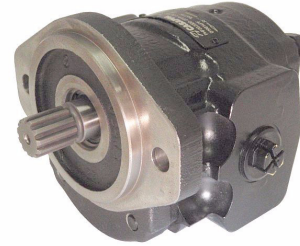
### MULTIPLE PUMP PRICING

Refer Price List and use the price of each single pump plus Assembly Kit.

Assembly Kit	Inter. Plate	Assembly Kit	Inter. Plate
<b>**PL/PH20/20</b>	86S6	<b>**PL/PH20/20/10</b>	86S6 + 51T6
<b>**PL/PH20/10</b>	51T6	<b>**PL/PH20/10/10</b>	51T6 + 88V6
<b>**PL/PH20/20/20</b>	86S6 + 86S6	-	-

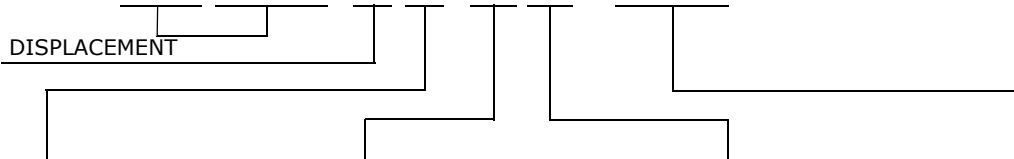
# PHP20 Group 2 SAE Mount Cast Iron Version Gear Pumps

**Polaris Series - Group 2**  
**Mount : SAE A 2-Bolt Mount**  
**Shaft : Splined or Keyed**  
**Ports : Threaded BSPP**

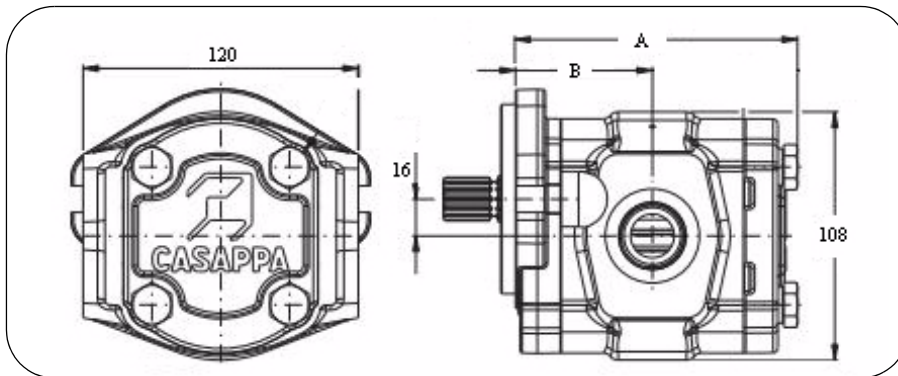


Part Number	Disp. cc/rev	Max Pressure bar			Max Shaft Speed rpm	Ports BSPP		Dim mm	
		P1	P2	P3		In	Out	A	B
PHP20-16D-07S9-GE GD	16.85	250	280	300	3500	3/4	1/2	113.1	54.8
PHP20-20D-07S9-GE GD	21.14	250	280	300	3500	3/4	1/2	119.5	58
PHP20-20D-04S5-GE GD	21.14	250	280	300	3500	3/4	1/2	119.5	58
PHP20-25D-07S9-GFGD	26.42	230	260	280	3000	1	1/2	127.5	62
PHP20-25D-04S5-GFGD	26.42	230	260	280	3000	1	1/2	127.5	62
PHP20-31.5D-07S9-GFGD	33.03	200	230	250	2500	1	1/2	137.5	67
PHP20-31.5D-04S9-GFGD	33.03	200	230	250	2500	1	1/2	137.5	67

## SERIES PHP20-20 D- 07 S9 - GEGD



Rotation Code	Shaft Code	Mount Code	Port Code
D = Clockwise	07 = 11 tooth spline 3/4"	S9 = SAE-A 2 bolt mount	GD = 1/2" BSPP GE = 3/4" BSPP GF = 1" BSPP
	49 = 3/4" keyed		
S = Counterclockwise	04 = 13 TOOTH SPLINE 7/8"	S5 = SAE-B 2 bolt mount	
	32 = 7/8" KEYED		



### MULTIPLE PUMP PRICING

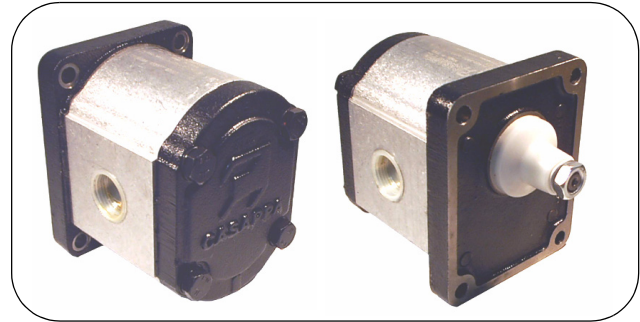
Refer Price List and use the price of each single pump plus Assembly Kit.

Assembly Kit	Inter. Plate	Assembly Kit	Inter. Plate
**PL/PH20/20	86S6	**PL/PH20/20/10	86S6 + 51T6
**PL/PH20/10	51T6	**PL/PH20/10/10	51T6 + 88V6
**PL/PH20/20/20	86S6 + 86S6	-	-



# HYDRAULIC GEAR PUMPS

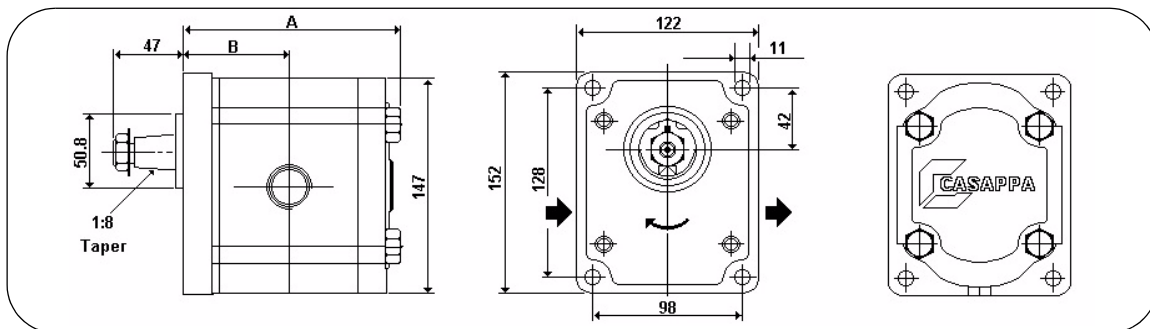
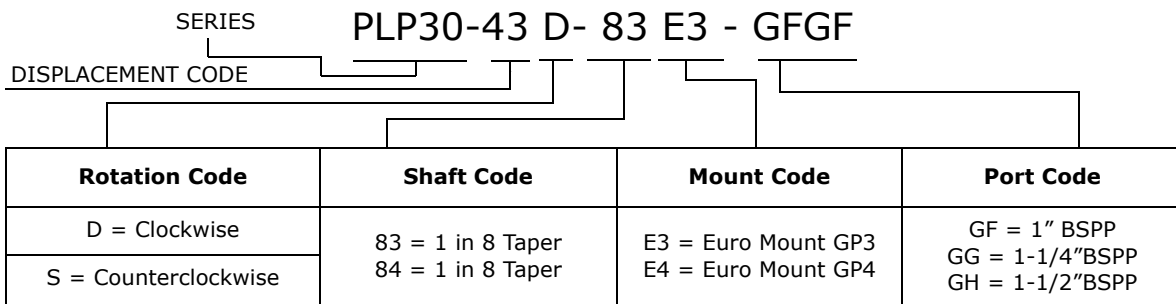
**Polaris Series - Group 3**  
**Mount : Euro-Mount**  
**Shaft : 1 in 8 Taper**  
**Ports : Threaded BSPP**



## PLP30 Group 3 Euro Mount

Part Number	Disp. cc/rev	Max Pressure bar			Max Shaft Speed rpm	Ports		Dim mm	
		P1	P2	P3		Adaptor		A	B
						In	Out		
<b>PLP30-22D-83E3-GFGF</b>	21.99	250	270	280	3000	1" (GF)	1" (GF)	130	63
<b>PLP30-27D-83E3-GFGF</b>	26.70							133	64.5
<b>PLP30-34D-83E3-GFGF</b>	34.55	240	260	270				138	67
<b>PLP30-38D-83E3-GFGF</b>	39.27							141	68.5
<b>PLP30-43D-83E3-GFGF</b>	43.98	230	250	260		144	70		
<b>PLP30-51D-83E3-GFGF</b>	51.83	210	230	240		149	72.5		
<b>PLP30-61D-83E3-GGGF</b>	61.26	190	210	220	2500	1-1/4" (GG)	1" (GF)	155	75.5
<b>PLP30-73D-83E3-GGGF</b>	73.82							163	79.5
<b>PLP30-82D-84E4-GHGG</b>	81.68	160	170	180	2200	1-1/2" (GH)	1-1/4" (GG)	169	83
<b>PLP30-90D-84E4-GHGG</b>	91.10	150	160	170				175	86

p1 = continuous max. pressure    p2 = intermittent max. pressure    p3 = peak pressure



MULTIPLE PUMP PRICING  
Refer Price List and use price of each single pump plus Assembly Kit.

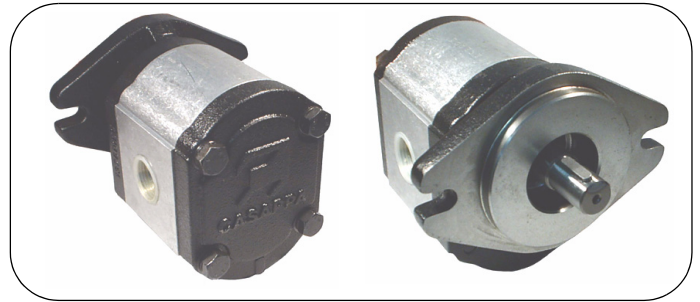
Assembly Kit	Inter. Plate	Assembly Kit	Inter. Plate
<b>**PLP30/30</b>	65M6	<b>**PLP30/30/10</b>	65M6 + 52Q6
<b>**PLP30/20</b>	83N6	<b>**PLP30/20/20</b>	83N6 + 86S6
<b>**PLP30/10</b>	52Q6	<b>**PLP30/20/10</b>	83N6 + 51T6
<b>**PLP30/30/30</b>	65M6 + 65M6	<b>**PLP30/10/10</b>	52Q6 + 88V6
<b>**PLP30/30/20</b>	65M6 + 83N6	-	-



## HYDRAULIC GEAR PUMPS

**Polaris Series - Group 3**  
**Mount : SAE B 2-Bolt Mount**  
**Shaft : Splined or Keyed**  
**Ports : Threaded BSPP**

### PLP30 Group 3 SAE B 2-Bolt Mount



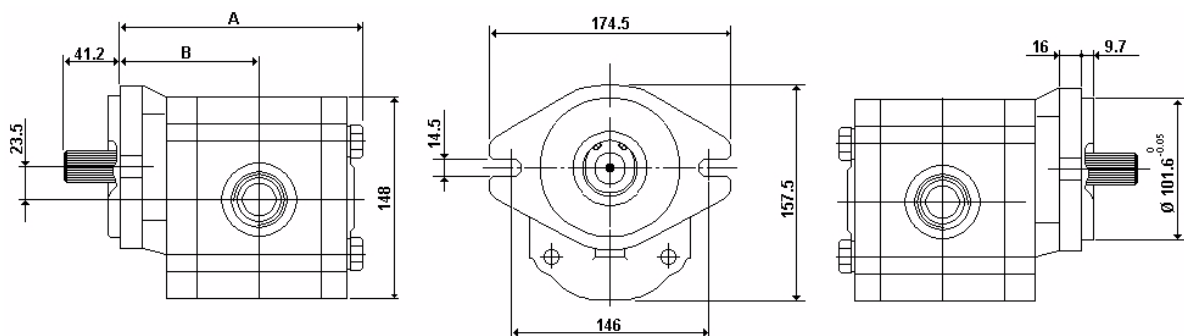
Part Number	Disp. cc/rev	Max Pressure bar			Max Shaft Speed rpm	Ports		Dim mm	
		P1	P2	P3		Adaptor		A	B
						In	Out		
PLP30-22D-04S5-GFGF	21.99	250	270	280	3000	1" (GF)	1" (GF)	158	92
PLP30-27D-04S5-GFGF	26.70							163	94.5
PLP30-34D-04S5-GFGF	34.55	240	260	270				168	97
PLP30-38D-04S5-GFGF	39.27							173	99.5
PLP30-43D-04S5-GFGF	43.98	230	250	260				174	100
PLP30-51D-04S5-GFGF	51.83	210	230	240	2500	1-1/4" (GG)	1" (GF)	179	102.5
PLP30-61D-04S5-GGGF	61.26	190	210	220				185	105.5
PLP30-73D-04S5-GGGF	73.82	170	190	200				193	109.5

p1 = continuous max. pressure      p2 = intermittent max. pressure      p3 = peak pressure

SERIES      **PLP30-43 D- 04 S5 - GFGF**  
DISPLACEMENT CODE

Rotation Code	Shaft Code	Mount Code	Port Code
D = Clockwise	04 = 7/8" 13 Tooth 05 = 1" 15 tooth 32 = 7/8" Keyed 33 = 1" keyed	S1 = SAE-A 2 BOLT S5 = SAE-B 2 BOLT	GF = 1" BSPP
S = Counterclockwise			GG = 1-1/4" BSPP

NB:the shaft option 33, 1" keyed requires a special front mount plate 61014990

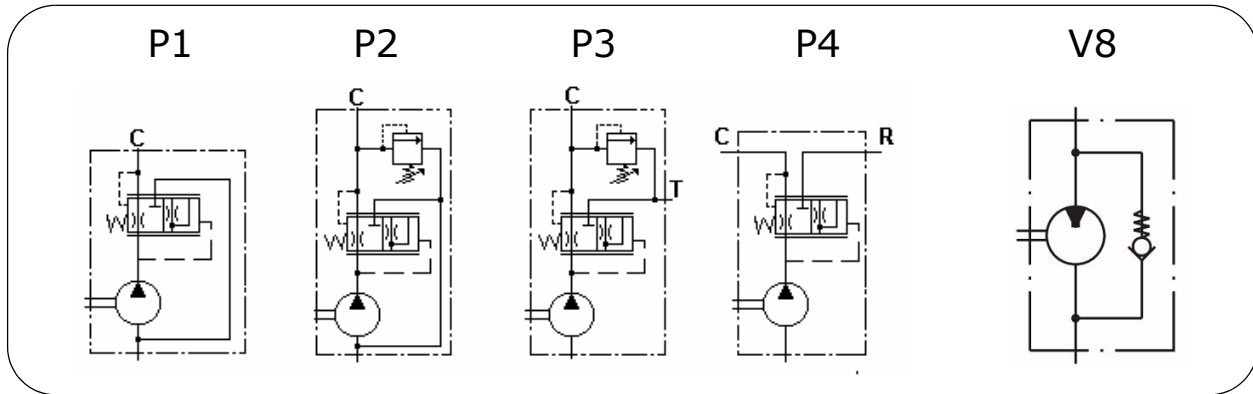


MULTIPLE PUMP PRICING - Same price as single pumps plus assembly kit.

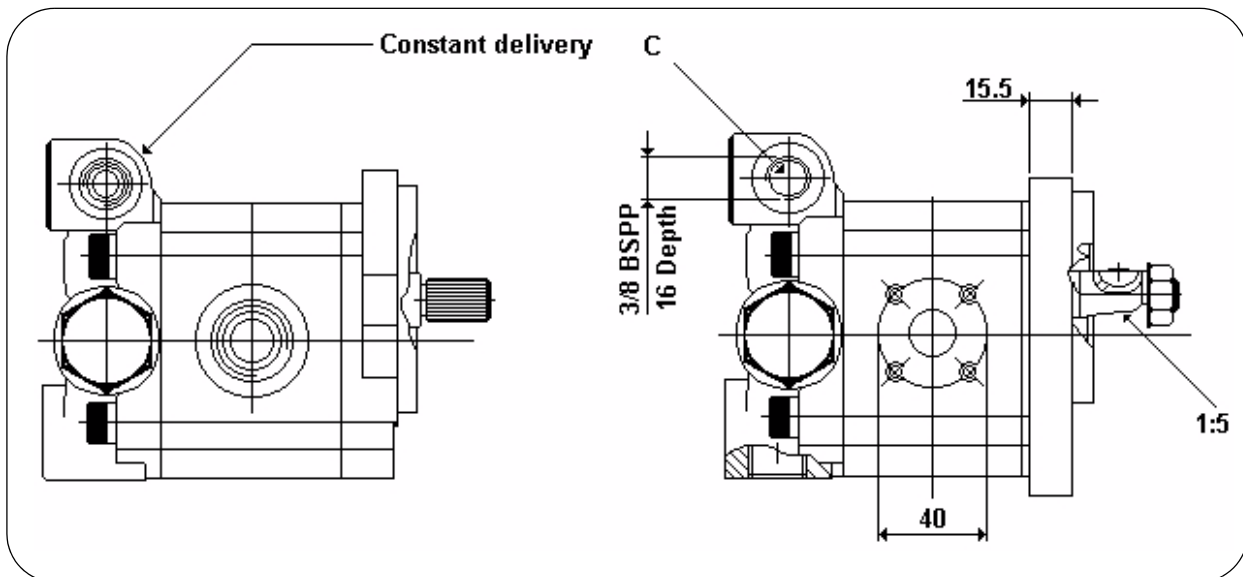
## HYDRAULIC GEAR PUMPS

### POLARIS SERIES GROUP 2

Circuit Options



- P1 = Constant flow at C; excess flow to inlet.
- P2 = Constant flow at C; with relief; excess flow to inlet.
- P3 = Constant flow at C; with relief; excess flow to tank.
- P4 = Constant flow at C; excess flow avail at R for second circuit.
- V8 = Anticavitation check valve for overrun motor applications  
To suit both E2 Euro mount and S1 SAE-A mount.

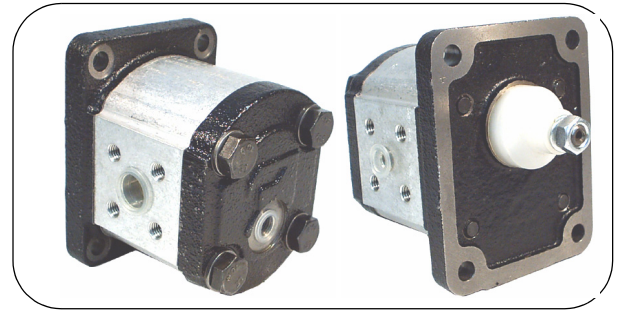


NB: Constant flow rate must be stated with order. Example pump code with P2 option and 8 L/min constant flow at C = PLP20-20-82E2-GEGD-P2-8

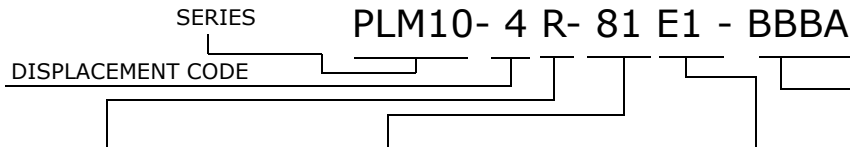
PRICING: Please consult the sales centre for pricing of these options.

# PLM10 Group 1

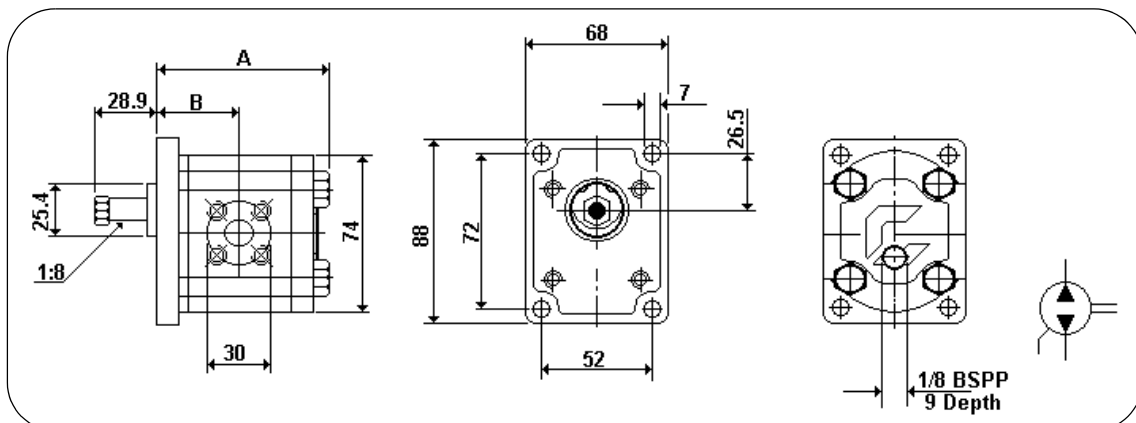
## EURO Mount 81E1 & 86E7



Part Number	Disp. cc/rev	Max Cont Pressure bar	Max Shaft Speed rpm	Ports		Output kW	Torque Nm
				Adaptor			
				In	Out	at 100 bar and 1000 rpm	
PLM10-2R-81E1-BBBA	2.13	221	4000	RPB1230-M		0.27	2.71
PLM10-3.15R-81E1-BBBA	3.34					0.42	4.20
PLM10-4R-81E1-BBBA	4.27	213				0.54	5.42
PLM10-5R-81E1-BBBA	5.34					0.66	6.63
PLM10-6.3R-81E1-BBBA	6.67	196	0.83			8.39	
PLM10-8R-86E7-GDGD	8.51	153	3500	1/2"	1/2"	1.06	10.70
PLM10-10R-86E7-GDGD	10.67	119				1.33	13.40



Rotation Code	Shaft Code	Mount Code	Port Code
D = Clockwise	81 = Taper 86 = H.D. Taper	E1 = EURO MOUNT E7 = H.D. MOUNT	BB = IN PORT Adaptor BA = OUT PORT Adaptor GD = 1/2" BSPP GC = 3/8" BSPP
S = Counterclockwise			
R = Reversing			



The above pressure ratings are for reversible motors. **NB: A drain line to tank must be run for reversible motors.** For input flow allow volumetric efficiency of 90%. Output kW figures allow for overall efficiency of 82%. Output torque figures allow for mechanical efficiency of 85%.

**Port Adaptors**  
Must be ordered separately

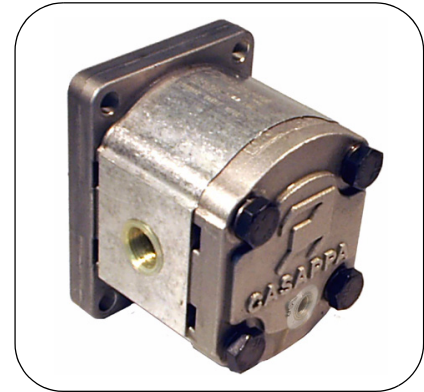
Part No.	Port
RPB1230-M	1/2" BSPP

# HYDRAULIC GEAR MOTORS

Polaris Series - Group 2  
Mount Type: EUROMOUNT SERIES 82E2  
Ports: Threaded BSPP

## PLM20 Group 2

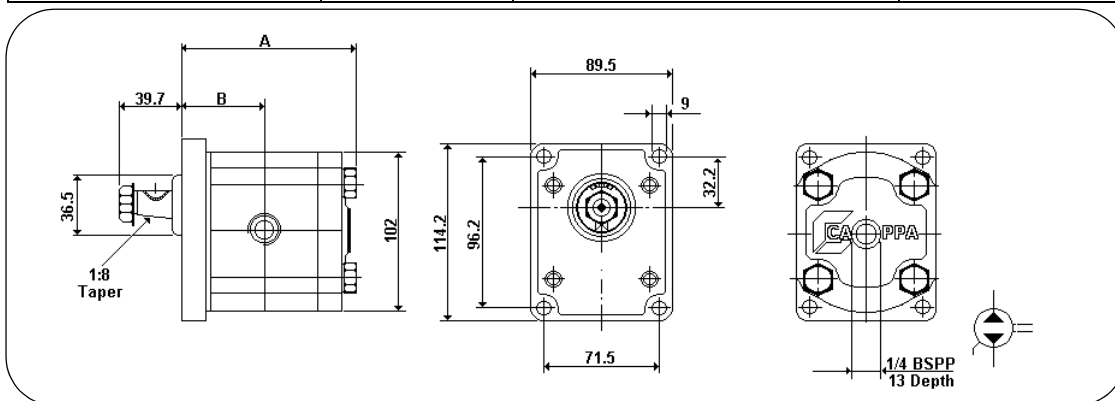
## EURO Mount 82E2



Part Number	Disp. cc/rev	Max Cont Pressure bar	Max Shaft Speed rpm	Ports		Output kW	Torque Nm
				In	Out	at 100 bar and 1000 rpm	
PLM20-4R-82E2-GDGD	4.95	213	4000	1/2" (GD)	1/2" (GD)	0.64	6.50
PLM20-6.3R-82E2-GDGD	6.61					0.87	8.80
PLM20-8R-82E2-GDGD	8.26					1.11	11.24
PLM20-9R-82E2-GDGD	9.17		3500			1.20	12.18
PLM20-11.2R-82E2-GDGD	11.23					1.49	15.03
PLM20-14R-82E2-GEGE	14.53					1.93	19.50
PLM20-16R-82E2-GEGE	16.85	170	3000	3/4" (GE)	3/4" (GE)	2.22	22.48
PLM20-20R-82E2-GEGE	21.14					3.48	28.16
PLM20-25R-82E2-GEGE	26.42					4.37	35.20
PLM20-31.5R-82E2-GEGE	33.03	145	2500			5.48	44.14
		111					

SERIES PLM20-14 R- 82 E2 - GEGD  
DISPLACEMENT CODE

Rotation Code	Shaft Code	Mount Code	Port Code
D = Clockwise	82 = Taper	E2 = EURO MOUNT	GD = 1/2" BSPP GE = 3/4" BSPP
S = Counterlockwise			
R = Reversing			

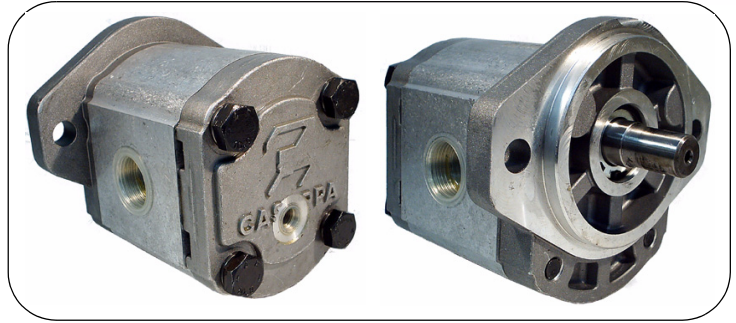


The above pressure ratings are for reversible motors. **NB: A drain line to tank must be run for reversible motors.** For input flow allow volumetric efficiency of 90%. Output kW figures allow for overall efficiency of 82%. Output torque figures allow for mechanical efficiency of 85%.

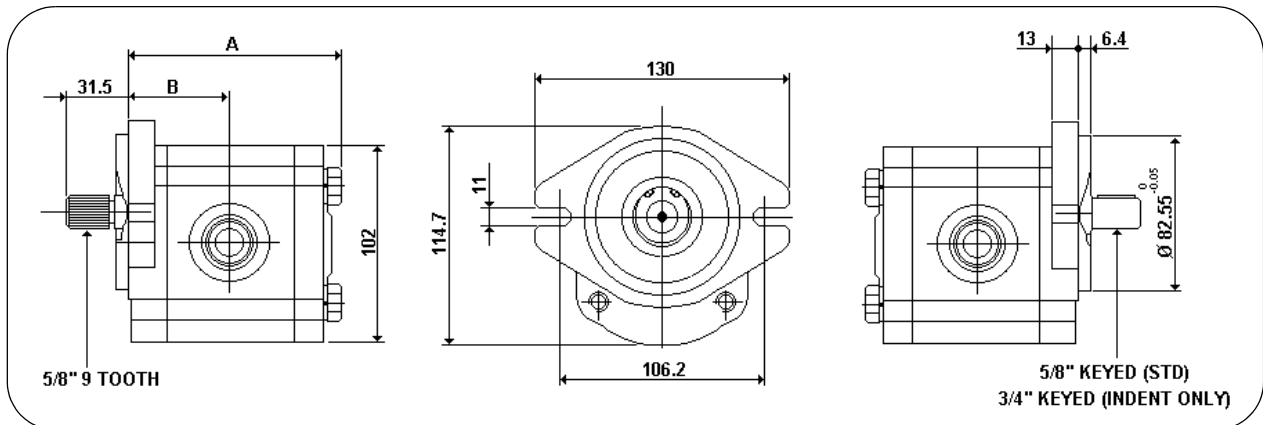
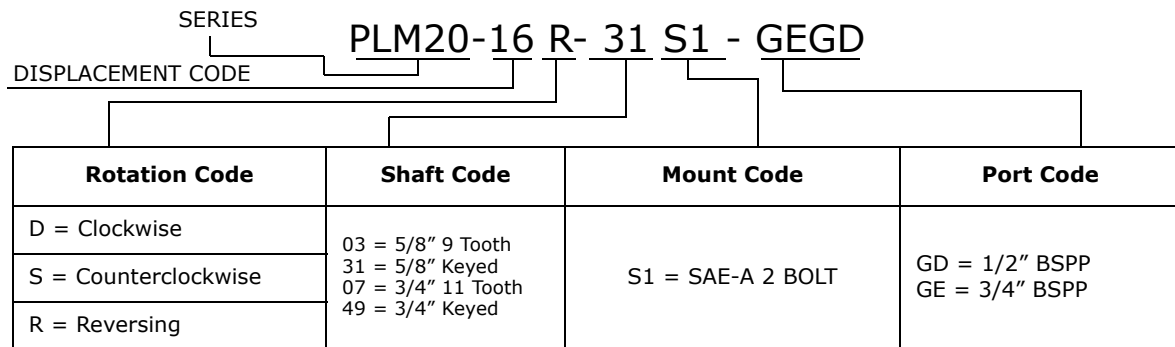
# HYDRAULIC GEAR MOTORS

Polaris Series - Group 2  
Mount Type: SAE A 2-BOLT MOUNT  
Ports: Threaded BSPP

## PLM20 Group 2 SAE A 2-Bolt Mount



Part No.	Disp. cc/rev	Max Cont Pressure bar	Max Shaft Speed rpm	Ports BSPP		Output kW at 100 bar and 1000 rpm	Torque Nm
				In	Out		
PLM20-4R-31S1-GDGD	4.95	213	4000	1/2" (GD)	1/2" (GD)	0.64	6.50
PLM20-6.3R-31S1-GDGD	6.61					0.87	8.80
PLM20-8R-31S1-GDGD	8.26					1.11	11.24
PLM20-9R-31S1-GDGD	9.17		3500			1.20	12.18
PLM20-11.2R-31S1-GDGD	11.23					1.49	15.03
PLM20-14R-31S1-GEGE	14.53					3000	1.93
PLM20-16R-31S1-GEGE	16.85	3/4" (GE)	3/4" (GE)	2.22	22.48		
PLM20-20R-31S1-GEGE	21.14			3.48	28.16		
PLM20-25R-31S1-GEGE	26.42	145	2500			4.37	35.20
PLM20-31.5R-31S1-GEGE	33.03	111				5.48	44.14



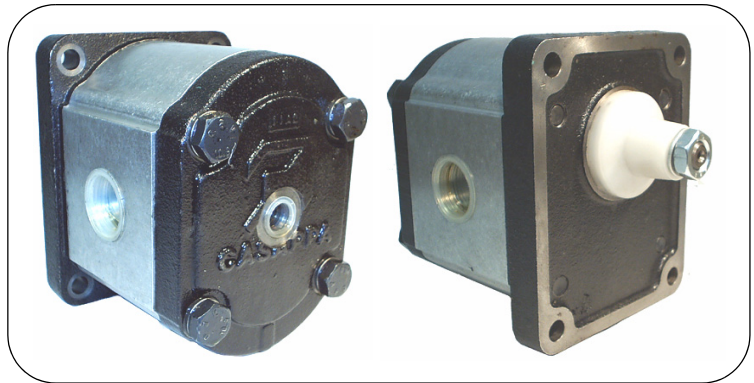
The above pressure ratings are for reversible motors.

**NB: A drain line to tank must be run for reversible motors.** For input flow allow volumetric efficiency of 90%. Output kW figures allow for overall efficiency of 82%. Output torque figures allow for mechanical efficiency of 85%.

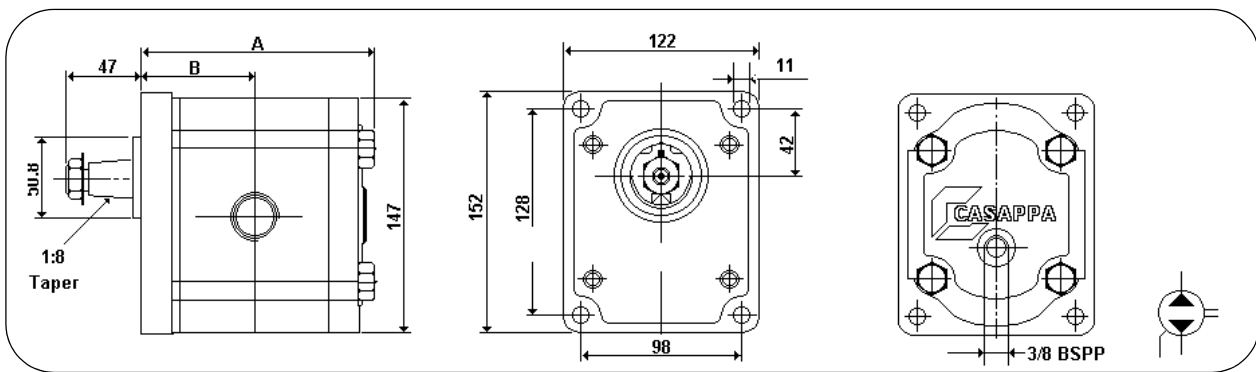
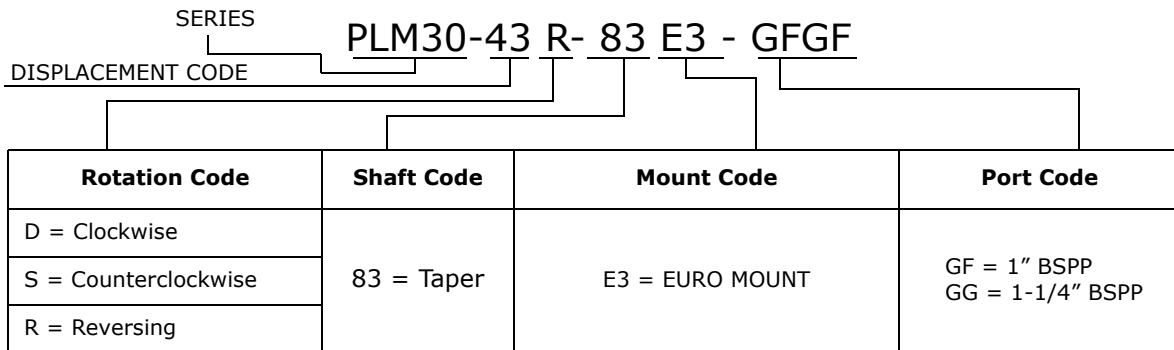
# HYDRAULIC GEAR MOTORS

Polaris Series - Group 3  
 Mount Type: EUROMOUNT SERIES 83E3  
 Ports: Threaded BSPP

## PLM30 Group 3 EURO Mount 83E3



Part Number	Disp. cc/rev	Max Cont Pressure bar	Max Shaft Speed rpm	Ports		Output kW at 100 bar and 1000 rpm	Torque Nm
				In	Out		
PLM30-22R-83E3-GFGF	21.99	213	3000	1" (GF)	1" (GF)	2.93	29.64
PLM30-27R-83E3-GFGF	26.70					3.56	36
PLM30-34R-83E3-GFGF	34.55					4.61	46.56
PLM30-38R-83E3-GFGF	39.27	5.14				52.17	
PLM30-43R-83E3-GFGF	43.98	196				5.87	59.26
PLM30-51R-83E3-GFGF	51.83	179				6.91	69.45
PLM30-61R-83E3-GFGF	61.26	162	2500	1-1/4" (GG)	8.17	82.55	
PLM30-61R-83E3-GFGG							



The above pressure ratings are for reversible motors

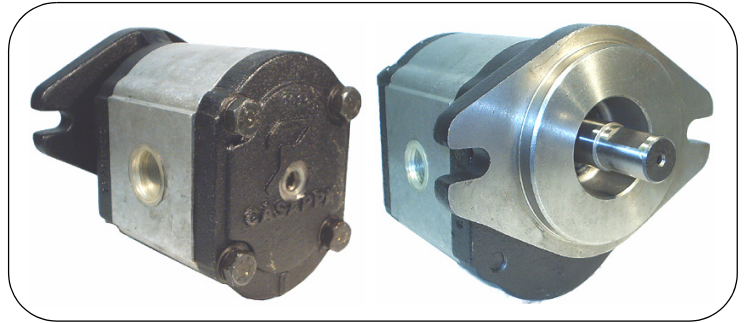
**NB: A drain line to tank must be run for reversible motors.** For input flow allow volumetric efficiency of 90%. Output kW figures allow for overall efficiency of 82%. Output torque figures allow for mechanical efficiency of 85%.



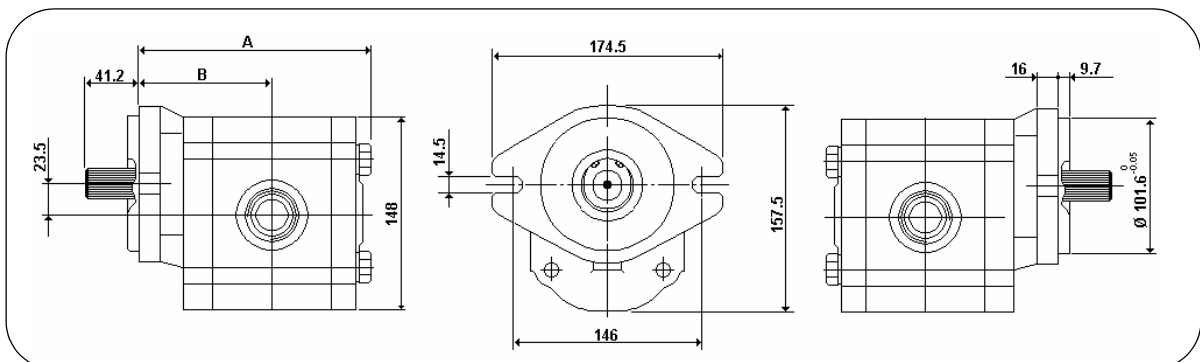
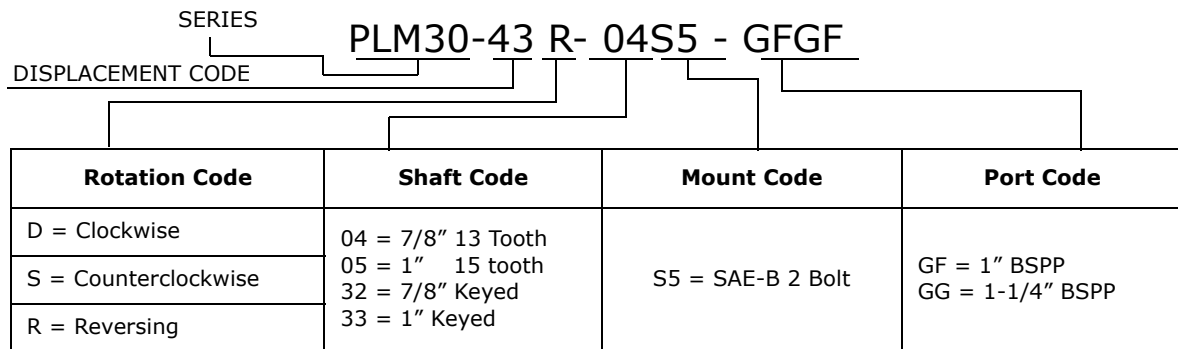
## HYDRAULIC GEAR MOTORS

Polaris Series - Group 3  
Mount Type: SAE B 2-Bolt Mount  
Ports: Threaded BSPP

### PLM30 Group 3 SAE B 2-Bolt Mount



Part Number	Disp. cc/rev	Max Cont Pressure bar	Max Shaft Speed rpm	Ports		Output kW at 100 bar and 1000 rpm	Torque Nm
				In	Out		
PLM30-22R-04S5-GFGF	21.99	213	3000	1" (GF)	1" (GF)	2.93	29.64
PLM30-27R-04S5-GFGF	26.70					3.56	36
PLM30-34R-04S5-GFGF	34.55	204				4.61	46.56
PLM30-38R-04S5-GFGF	39.27					5.14	52.17
PLM30-43R-04S5-GFGF	43.98	196				5.87	59.26
PLM30-51R-04S5-GFGF	51.83	179	2500	1-1/4" (GG)	6.91	69.45	
PLM30-61R-04S5-GFGF	61.26	162			8.17	82.55	
PLM30-61R-04S5-GFGG							



The above pressure ratings are for reversible motors.

**NB: A drain line to tank must be run for reversible motors.** For input flow allow volumetric efficiency of 90%. Output kW figures allow for overall efficiency of 82%. Output torque figures allow for mechanical efficiency of 85%.

## PTO GEARBOXES

Designed for the fitment of the Casappa Group 2 PLP20 range of gear pumps to be driven from the power take off of an agricultural tractor.

Max. output speed = 3000 rpm

Temperature range = -20°C to +80°C

Max. Cont. power = 10kw (14hp)

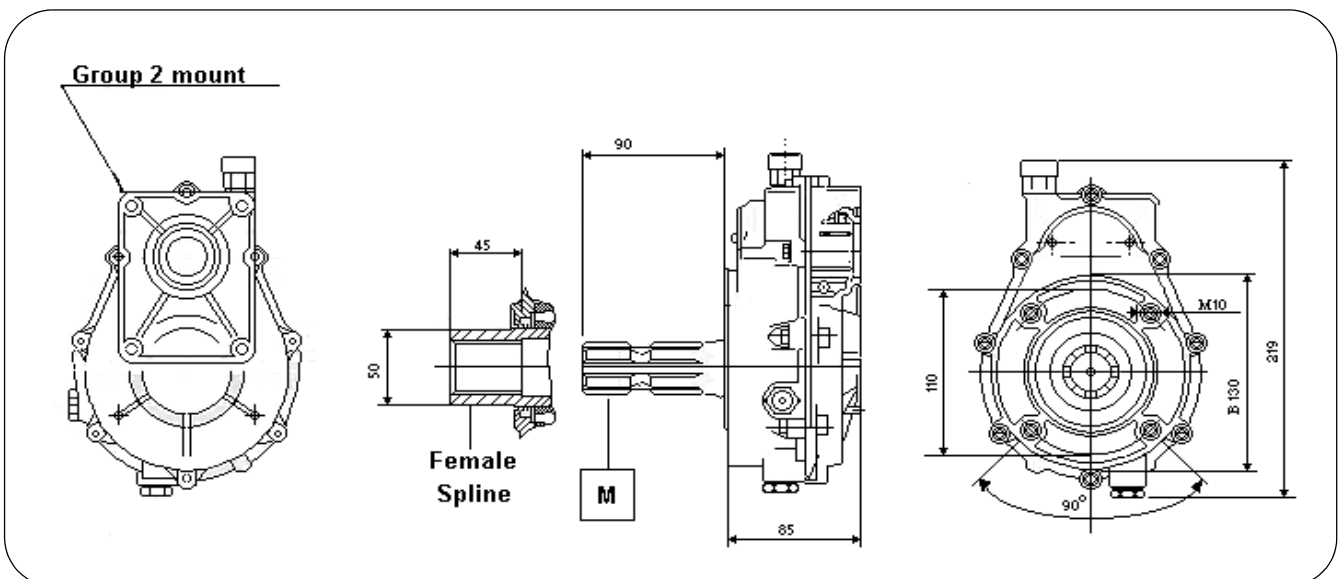
*Designed for*

**Casappa Polaris PLP20 Series**



## GEARBOXES

Part No.	Input Spline			Ratio	Torque Nm	
	Type	Size	No. Of Teeth		Input	Output
60002-4	Female	1-3/8"	6	3:1	180	58
60001-4	Male					
10005	Splined Hub Suit Group 2 Taper					



## PTO GEARBOXES

Designed to adapt the Casappa Group 3 PLP30 range of gear pumps to the power take off of an agricultural tractor by providing a speed increasing ratio.

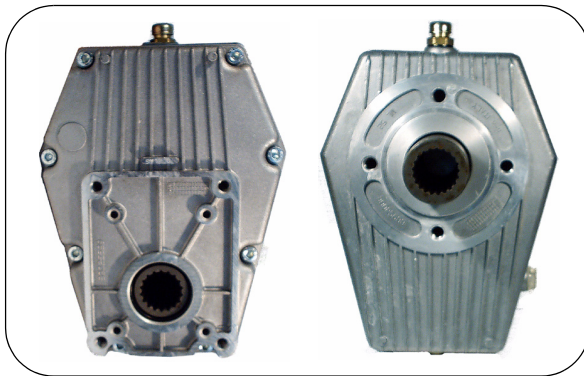
Max. output speed = 3000 RPM

Max. Temp Range = -20°C to +80°C

Max. Continuous Power = 20 kW (26HP)

Fill to sight glass with 150cst gearbox oil.

Change oil after first 50 hrs and thereafter annually

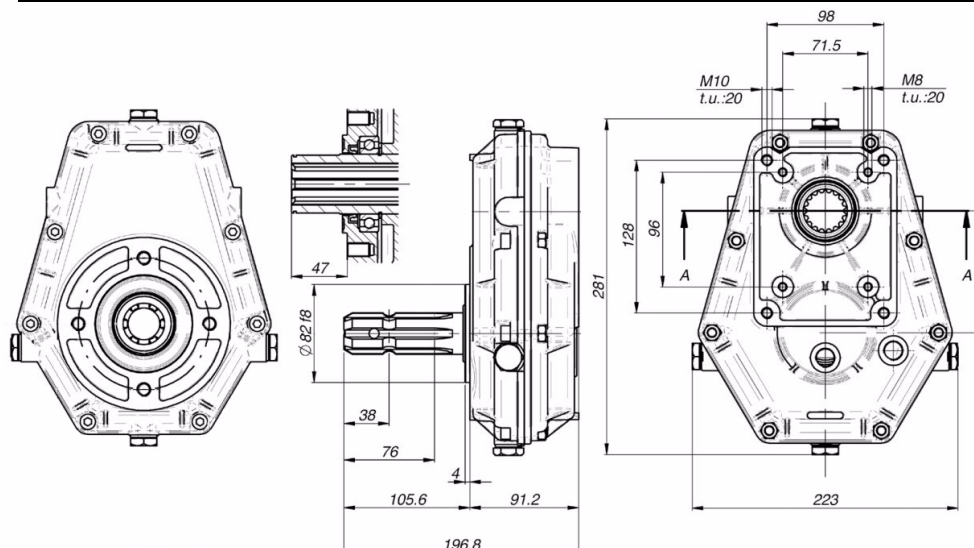


*Designed for*  
**Casappa Polaris PLP30 Series**

Part Number	Step Up Ratio	Input Spline			Tractor PTO Speed rpm	Pump Speed rpm	Max. Torque Nm		
		Type	Size	No. Of Teeth			Input	Output	
<b>71001-2</b>	2:1	Male	1-3/8"	6	540	1080	430	210	
<b>71001-4</b>	3:1					1620	490	160	
<b>71001-5</b>	3.5:1					1890	460	130	
<b>71002-2</b>	2:1	Female				1080	430	210	
<b>71002-4</b>	3:1					1620	490	160	
<b>71002-5</b>	3.5:1					1890	460	130	
<b>71004-4</b>	3.5:1			1890		460	130		
<b>71210-2</b>	2:1			21			1080	430	210
<b>10014</b>	Splined hub suit Group 3 Taper								
<b>GP-3</b>	Gasket To Suit Group 3 Pump								
<b>96101</b>	Adaptor Flange SAE-B 2 Bolt								
<b>35501</b>	Splined hub to suit SAE-B 13 Tooth Spline								
<b>35502</b>	Splined hub to suit SAE-BB 15 Tooth Spline								
<b>15002</b>	Splined hub to suit SAE-B 7/8" Keyed Shaft								
<b>96100</b>	Adaptor flange SAE-A 2 Bolt								
<b>15001</b>	Splined hub to suit SAE-A 3/4" Keyed Shaft								

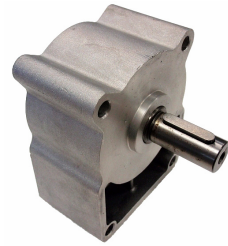
### Gearboxes with Through (Double Sided) Input Shaft

Part Number	Input Spline			Ratio
<b>70005-4</b>	Female/Male	1-3/8"	6T	3:1
<b>70006-4</b>	Female/Female			



# OVERHUNG LOAD ADAPTORS

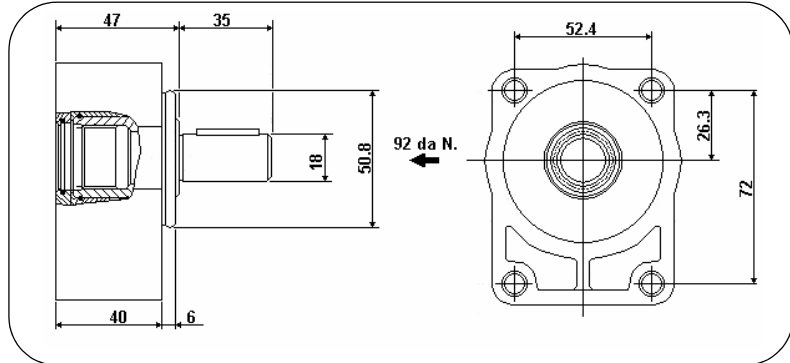
## SUIT CASAPPA POLARIS EURO MOUNT SERIES



### Suits Casappa Polaris Group 1

Standard Duty type 81E1 and  
Heavy Duty type 86E7  
18mm Parallel Output Shaft  
Requires a Splined Hub

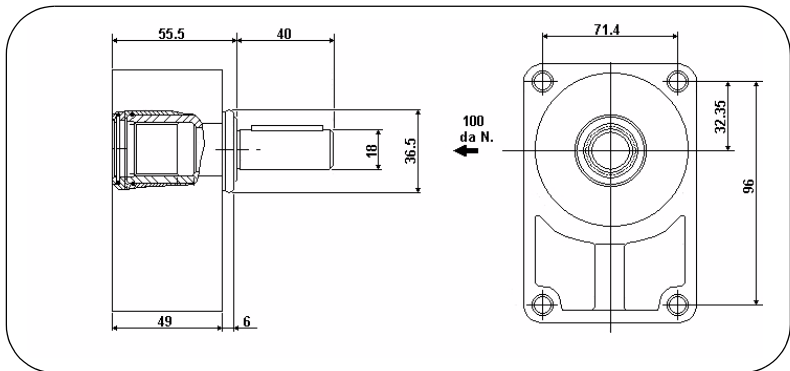
Part No.	Description
<b>25601</b>	Adaptor
<b>10003</b>	Hub - 81E1
<b>10033</b>	Hub - 86E7



### Suits Casappa Polaris Group 2

18mm Parallel Output Shaft  
Requires a Splined Hub

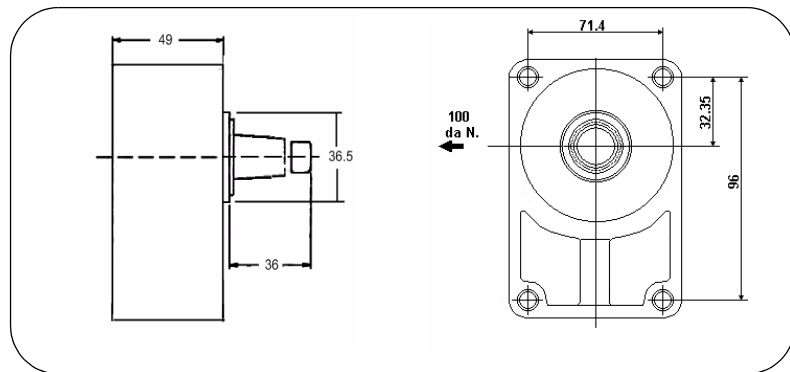
Part No.	Description
<b>25602</b>	Adaptor
<b>10005</b>	Hub



### Suits Casappa Polaris Group 2

1:8 Taper Output Shaft  
Requires a Splined Hub

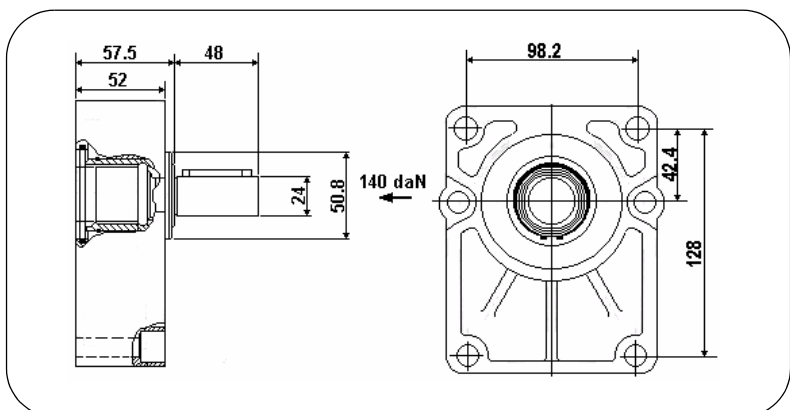
Part No.	Description
<b>25402</b>	Adaptor
<b>10005</b>	Hub



### Suits Casappa Polaris Group 3

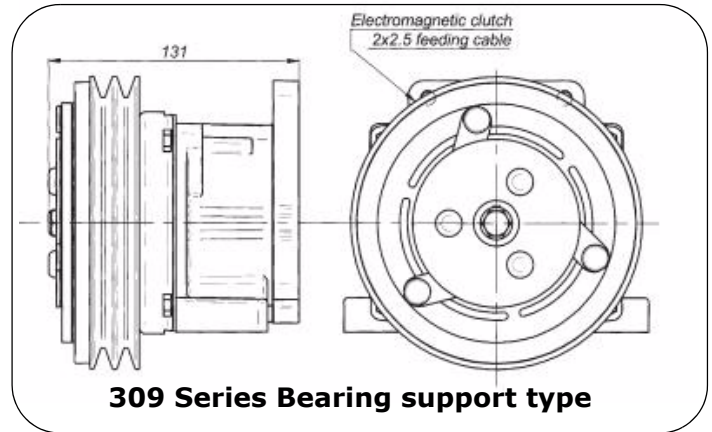
24mm Parallel Output Shaft  
Requires a Splined Hub

Part No.	Description
<b>25604-6</b>	Adaptor
<b>10014</b>	Hub



# Electric Clutches for Pump Drives

Designed to interface with Casappa Gear Pumps (Euro mount only)

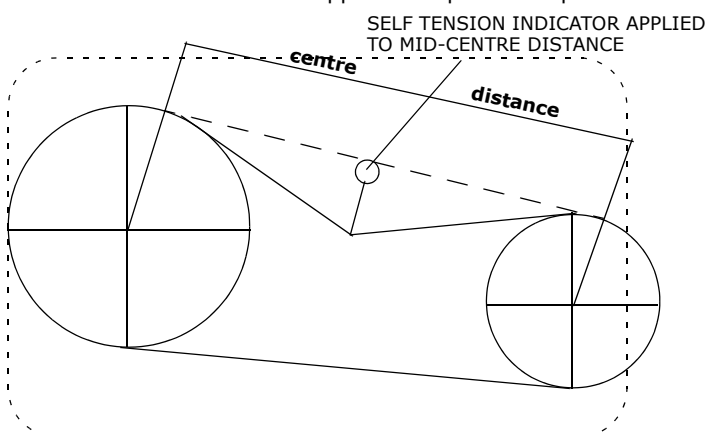


Part Number	Pulley Type	Pulley Diameter mm	Voltage
<b>MA7A-12-D (-S)</b>	2 x A Sections	178	12V
<b>MA7A-24-D (-S)</b>			24V
<b>MA7B-12-D (-S)</b>	1 x B Section		12V
<b>MA7B-24-D (-S)</b>			24V
<b>30929</b>	2 x A Sections	153	12V
<b>30930</b>			24V
<b>10012</b>	Splined adaptor suit group 2 to 309 series		
<b>10014</b>	Splined adaptor suit group 3 to 309 series		
<b>30803</b>	Flange plate to adapt group 3 to 309 series		

**MA7 series** Price includes the clutch and foot bracket.  
Pump to be purchased separately(group 2 only)

**309 series** requires a splined adaptor to suit the pump shaft.  
Standard clutch suits a group 2 pump, group 3 pumps require an adaptor flange. Pump to be purchased separately

**NB:** The torque capacity of the clutches is limited by the VEE belt drive - please refer to your VEE belt supplier/designer for advice on the capacity of the VEE belt drive.  
As a guide a 2 x A section VEE belt drive with a 1 to 1 ratio on 150mm diam. will transmit approx 6kw per 1000 rpm.



## CLUTCH ASSEMBLY & INSTALLATION INSTRUCTIONS:

Your MA7 Pump/Clutch Unit is normally supplied assembled. If for any reason your Clutch is supplied un-assembled then the unit must be assembled using Feeler Gauges to ensure concentricity between Armature and the Pulley.

## BELT TENSIONING INSTRUCTIONS:

Each drive belt must be tensioned to provide 16mm of deflection per metre of centre distance between the Pulleys when a given load is applied at the centre of the belt.

Belt deflection (mm) = 16 X M (Pulley centres in metres)

**Loading:-**  
2 X A section belts = 1.5 Kg per belt  
1 X B section belt = 2.75 Kg

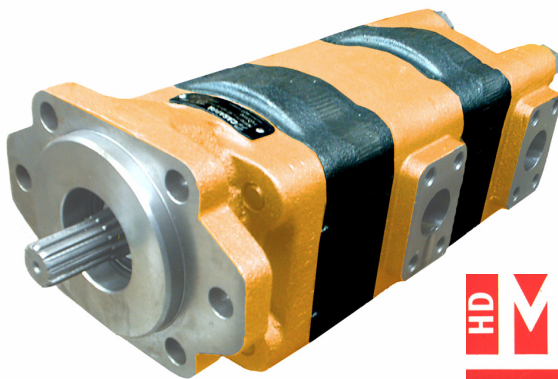
(Your Vee belt supplier can supply you with a belt tensioning indicator device.)

**NB:** Failure to comply with above instructions may result in damage to the Unit and may void your warranty.



## GEAR PUMPS AND MOTORS

**MORE POWER, LESS NOISE, LONGER LIFE.**



**HD MAGNUM<sup>®</sup>**

- \* **Available as:-** Single and multiple pumps, motors and flow dividers.
- \* Max. Intermittent Pressures to 280 BAR (4000 PSI)
- \* Max. Rotational Speeds to: 3000 RPM
- \* Higher Volumetric Efficiency
- \* Lower Noise Level
- \* Higher Contaminant resistance
- \* Bush Bearings for Longer Life
- \* High Strength Cast Iron Housings

**Available in 2 ranges: Magnum 30 and Magnum 35**

	Magnum 30 (17cc to 82cc)	Magnum 35 (50cc to 125cc)
<b>Standard Mounting</b>	SAE-A, SAE-B & SAE-C 2/4 Bolt	SAE-C 2/4 Bolt
<b>Standard Keyed Shafts</b>	7/8", 1" & 1-1/4"	
<b>Standard Splined Shafts</b>	13Tx7/8", 15Tx1" & 14Tx1-1/4"	

For other options please consult our Sales Department.

**B20**



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1800-645765

<https://oilsolutions.com.au/>

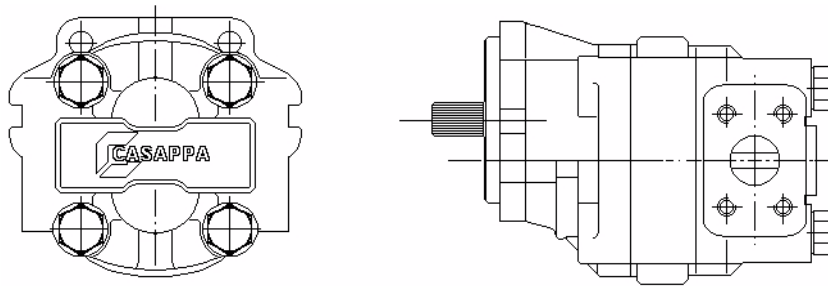
sales@oilsolutions.com.au



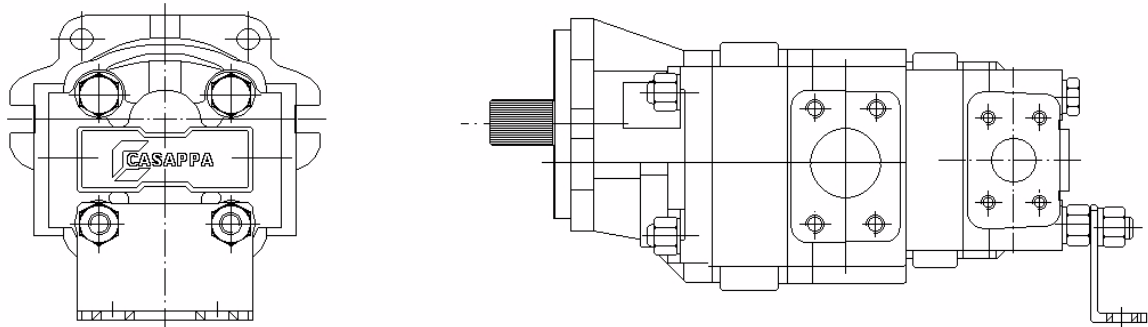
# HD MAGNUM<sup>®</sup>

Please contact our Technical Staff regarding port options.

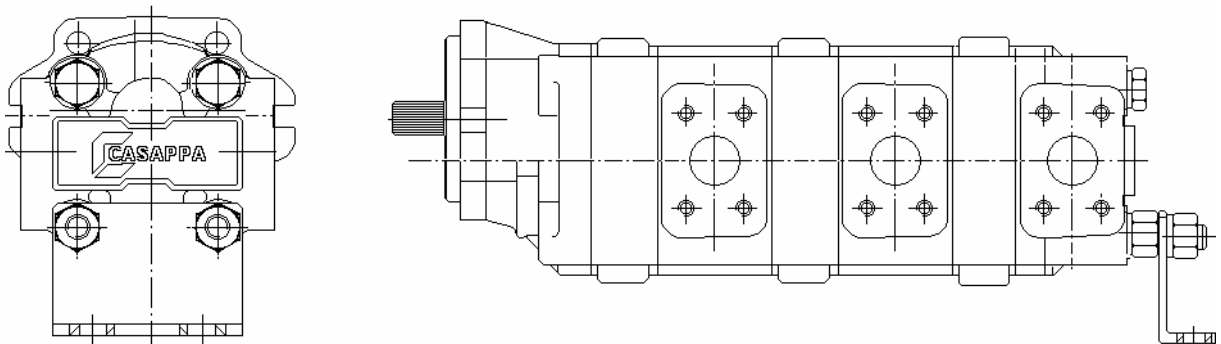
## Single Pumps / Motors HDP30 and HDP35 Series



## Double Pumps HDP35 to HDP30



## Multiple Pumps



# HD MAGNUM<sup>®</sup>

## SERIES 30 HDP30 GEAR PUMPS



Modular design and versatility are the main features of "MAGNUM" series gear pumps and motors. Mounting flange, body and rear cover can be easily assembled to obtain multiple pumps of same or different groups. Available in standard version, common inlet or separated stages. A wide selection of drive shafts and mounting flanges in SAE version with the possibility of integrated outboard bearing to suit all the applications with axial and radial load on the drive shaft. Port locations available in side or rear locations and combination of side or rear locations. The low level of noise emission with the high volumetric and overall efficiencies ensure reliability and long working life in heavy duty applications.

Part Number	Displacement cc/rev	Max Pressure	rpm	
		P1	Max	Min
		bar		
<b>HDP30-17D2-04S3-OFOD</b>	17.20	280	3000	400
<b>HDP30-22D2-04S3-OFOD</b>	21.89			
<b>HDP30-24D1-04S3-OFOD</b>	24.03			
<b>HDP30-27D1-04S3-OFOD</b>	26.58			
<b>HDP30-34D1-05S3-OFOD</b>	34.39	270	2500	300
<b>HDP30-38D1-05S3-OFOD</b>	39.27			
<b>HDP30-43D1-05S3-OGOF</b>	43.77	260	2000	250
<b>HDP30-51D1-05S3-OGOF</b>	51.59	230		
<b>HDP30-56D1-05S3-OGOF</b>	56.55	215		
<b>HDP30-61D1-05S3-OGOF</b>	60.97	200		
<b>HDP30-73D1-05S3-OGOF</b>	73.47	190	1700	250
<b>HDP30-82D1-05S3-OGOF</b>	81.29	170		

SERIES  
DISPLACEMENT CODE

**HDP30 - 51 D1 - 04 53 - OGOF**

Rotation Code	Shaft Code	Mount Code	Port Code
D1=Clockwise (Solid shaft) D2=Clockwise (Stub shaft)	04=13 TOOTH 7/8" 05=15 TOOTH 1" 06=14 TOOTH 1 1/4"	S1 = SAE "A" 2 BOLT S3 = SAE "B" 2/4 BOLT S8 = SAE "C" 2/4 BOLT	OD = 1 - 1/16" UNO OF = 1 - 5/16" UNO OG = 1 - 5/8" UNO SB = 3/4" C61 FLANGE SD = 1 1/4" C61 FLANGE SE = 1 1/2" C61 FLANGE
S1=Counterclockwise (Solid shaft) S2=Counterclockwise (Stub shaft)	32=7/8" KEYED 33=1" KEYED 34=1 1/4" KEYED		

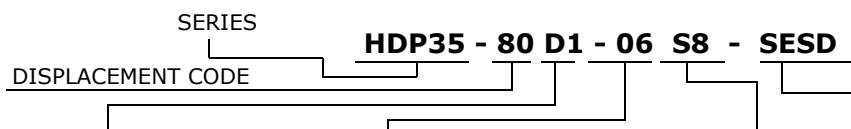
# HD MAGNUM®

## SERIES 35 HDP35 Gear Pumps



Modular design and versatility are the main features of Magnum series gear pumps and motors. Mounting flange, body and rear cover can be easily assembled to obtain multiple pumps of same or different groups. Available in standard version, common inlet or separated stages. A wide selection of drive shafts and mounting flanges in SAE version with the possibility of integrated outboard bearing to suit all the applications with axial and radial load on the drive shaft. Port locations available in side or rear locations and combination of side or rear locations. The low level of noise emission with the high volumetric and overall efficiencies ensure reliability and long working life in heavy duty applications.

Part Number	Displacement cc/rev	Max Pressure	rpm	
		P1	Max	Min
		bar		
<b>HDP35-40D1-06S8-SESD</b>	40.46	270	3000	400
<b>HDP35-50D1-06S8-SESD</b>	50.77	270		
<b>HDP35-63D1-06S8-SESD</b>	63.46	250		
<b>HDP35-71D1-06S8-SESD</b>	71.92			
<b>HDP35-80D1-06S8-SESD</b>	80.39	230	2700	250
<b>HDP35-90D1-06S8-SFSE</b>	90.96			
<b>HDP35-100D1-06S8-SFSE</b>	99.43			
<b>HDP35-112D1-06S8-SFSE</b>	112.12	190		
<b>HDP35-125D1-06S8-SFSE</b>	124.81	170	2500	250



Rotation Code	Shaft Code	Mount Code	Port Code
S1 = Counterclockwise	04 = 13T x 7/8" 05 = 15T x 1"	S4 = SAE "B" 4 BOLT S8 = SAE "C" 2/4 BOLT	SD = 1-1/4" C61 FLANGE SE = 1-1/2" C61 FLANGE SF = 2" C61 FLANGE
D1 = Clockwise	06 = 14T x 1-1/4" 32 = 7/8" Keyed 33 = 1" Keyed 34 = 1-1/4" Keyed		

# HD MAGNUM<sup>®</sup>

## Multiple Pump Pricing

For multiple pump prices use the same price as single pumps for each section plus an allowance for the following additions and deductions.  
Refer to the Price List for current pricing.

Front Pump Section
**HDP30/PLP20-PRIMARY
**HDP30/30-PRIMARY
**HDP35/PLP20-PRIMARY
**HDP35/30-PRIMARY
**HDP35/35-PRIMARY

Intermediate Pump Section
**HDP30/PLP20-INTER
**HDP30/30-INTER
**HDP35/PLP20-INTER
**HDP35/30-INTER
**HDP35/35-INTER

Rear Pump Section
**HDP30-REAR
**HDP35-REAR

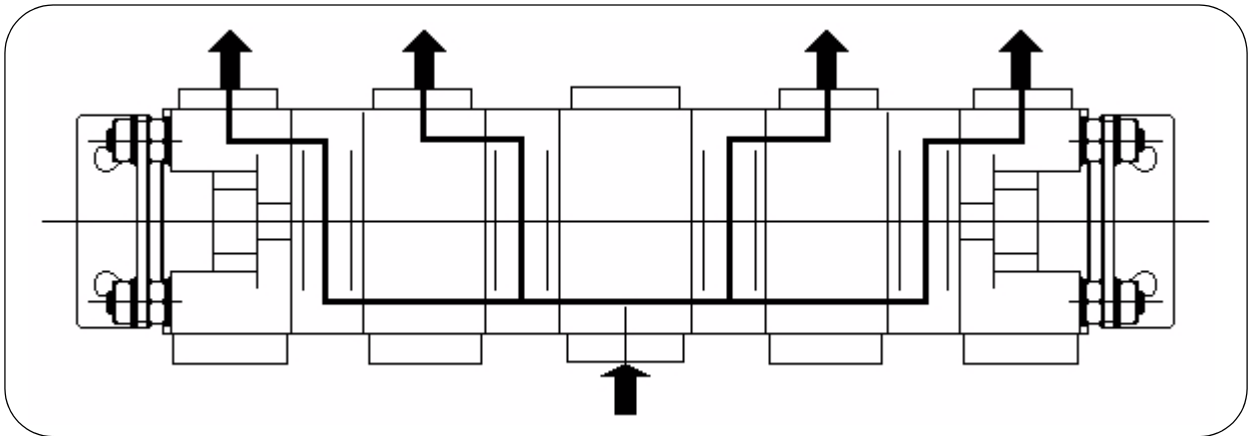
NB: For multiple PLP20 series pricing refer to page B4.

NB: Contact our office with full details of your requirements to obtain firm pricing.

# HD MAGNUM<sup>®</sup>

## POLARIS \*\*\* MAGNUM

### ROTARY FLOW DIVIDERS



Rotary flow dividers are extremely versatile fluid power components which can optimise hydraulic circuitry by reducing installation and operating costs, improving pump life and increasing the function possibilities of the circuit itself.

The flow divider has two or more independent gear sections connected by a common shaft. Fluid enters via a common feed gallery and exits via a delivery port in each gear section.

Since the gear sections all turn at the same speed, output flow from the gear sections will be proportional to their individual displacements except for small losses in volumetric efficiency.

Unlike the traditional variable orifice flow divider, rotary flow dividers do not create heat.

Flow dividers can also be utilised as pressure intensifiers.

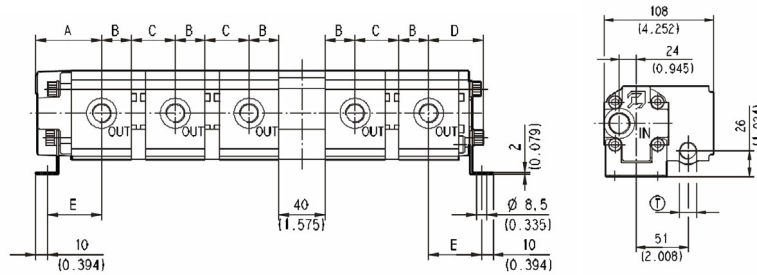
They are available in both Polaris and Magnum series.

Contact our Sales Office for further details.

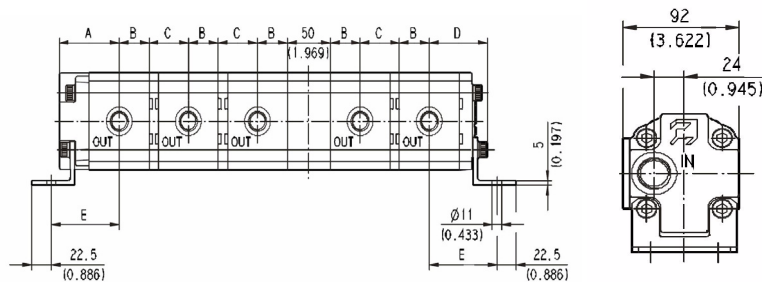
Price on application.

## POLARIS FLOW DIVIDERS

Part Number	No. of Sections	Disp/Sept cc/rev	Inlet BSPP	Outlet BSPP	Drain BSPP	Min Flow L/min	Max Flow L/min	Pressure Drop/Sept bar	Max Press/Sept bar
PLD10/2/CS-GD/2-GC/2-	2	2	1/2"	3/8"	3/8"	2.65	8.9	200	250
PLD10/2/CS-GD/6-GC/6-		6				7.29	23.2		
PLD10/4/CS-GD/4X2GC		4				4.98	16.2		
PLD20/2/CS-GE/6.3/6.3	2	6.3	3/4"	1/2"	1/2"	8.12	26.1		
PLD20/2/CS-GE/14GD/14		14				17.03	13.2		
PLD20/4/4X14-OC/CI-OF		4							



PLD10 Dimensions										
Type	A		B		C		D		E	
	mm	in	mm	in	mm	in	mm	in	mm	in
PLD10-2	50.2	1.976	19.2	0.756	31.2	1.228	41.8	1.646	40.3	1.587
PLD10-3.15	52.0	2.047	21.0	0.827	33.0	1.299	43.6	1.717	42.1	1.657
PLD10-4	53.4	2.102	22.4	0.882	34.4	1.354	45.0	1.772	43.5	1.713
PLD10-5	55.0	2.165	24.0	0.945	36.0	1.417	46.6	1.835	45.1	1.776
PLD10-6.3	57.0	2.244	26.0	1.024	38.0	1.496	48.6	1.913	47.1	1.854



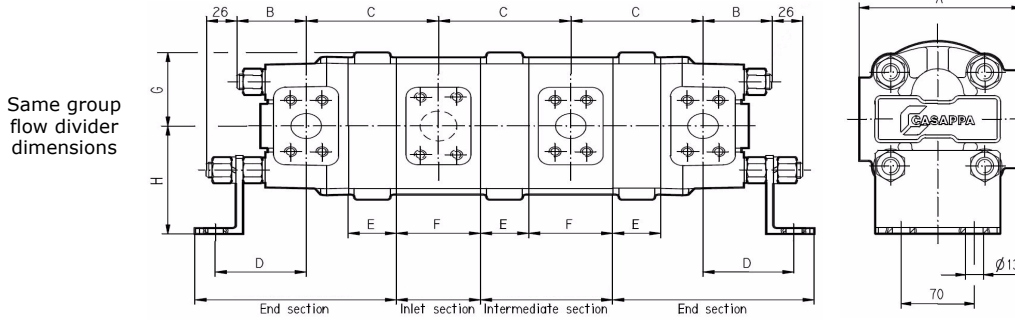
PLD20 Dimensions										
Type	A		B		C		D		E	
	mm	in	mm	in	mm	in	mm	in	mm	in
PLD20-4	60.8	2.394	25.5	1.016	36.8	1.449	58.8	2.315	69.8	2.748
PLD20-6.3	62.0	2.441	27.0	1.063	38.0	1.496	60.0	2.362	71.0	2.795
PLD20-8	63.3	2.492	28.3	1.114	39.3	1.547	61.3	2.413	72.3	2.846
PLD20-9	63.9	2.516	28.9	1.138	39.9	1.571	61.9	2.437	72.9	2.870
PLD20-11.2	65.5	2.579	30.5	1.201	41.5	1.634	63.5	2.500	74.5	2.933
PLD20-14	68.0	2.677	33.0	1.299	44.0	1.732	66.0	2.598	77.0	3.031
PLD20-16	69.8	2.748	34.8	1.370	45.8	1.803	67.8	2.669	78.8	3.102
PLD20-20	73.0	2.874	38.0	1.496	49.0	1.929	71.0	2.795	82.0	3.228
PLD20-25	77.0	3.031	42.0	1.654	53.0	2.087	75.0	2.952	86.0	3.386
PLD20-31.5	82.0	3.228	47.0	1.850	58.0	2.283	80.0	3.150	91.0	3.583

Note: For different applications please contact your local Southcott office.



## MAGNUM FLOW DIVIDERS

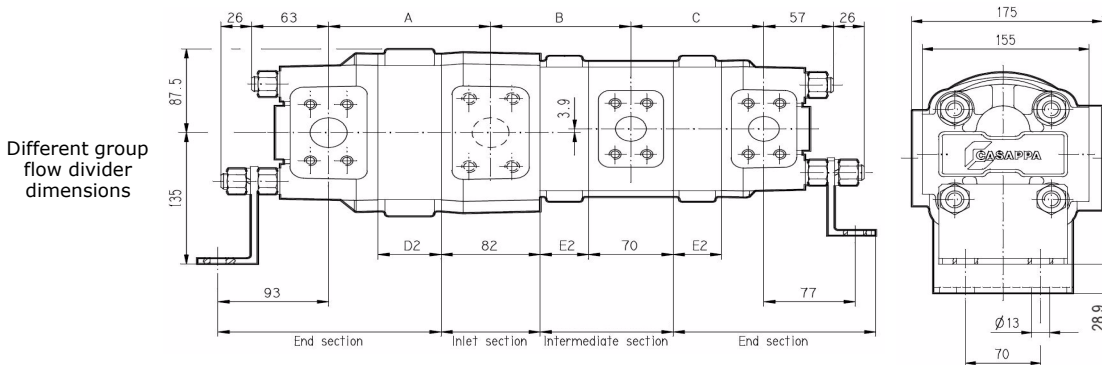
Model	No. of Sections	Disp/ Sect cc/rev	Inlet BSPP	Outlet BSPP	Max Press/ Sect bar	Max Speed rpm	Min Speed rpm
HDD30-34/C3030/30-34	2	34	1"	1"	250	3,000	500
HDD30-61/C3030/30-61		61	1-1/4"			2,500	
HDD35-71/C3535/35-71		71	1-1/2"	1-1/4"		3,000	



Flow Divider Type	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm
HDD30 + HDD30	155	57	70+E	77	See Below	70	75	110
HDD35 + HDD35	175	63	82+E	93	See Below	82	87.5	135
HDD35 + HDD30	82+D2	76+E2	70+E2	-	-	-	-	-

Flow Divider Type	E & E2 mm	Flow Divider Type	E & D2 mm
HDD30-17	23	HDD35-50	38
HDD30-22	26	HDD35-63	44
HDD30-27	29	HDD35-71	48
HDD30-34	34	HDD35-80	52
HDD30-43	40	HDD35-90	57
HDD30-51	45	HDD35-100	61
HDD30-61	51	HDD35-112	67
HDD30-73	59	HDD35-125	73
HDD30-82	64		



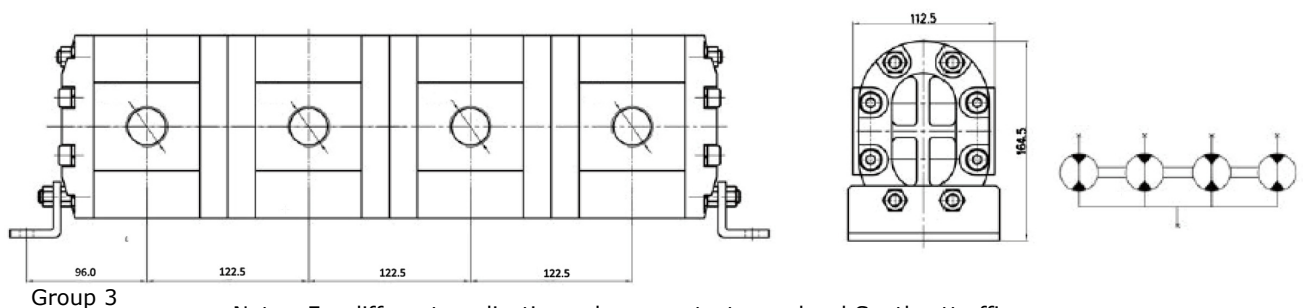
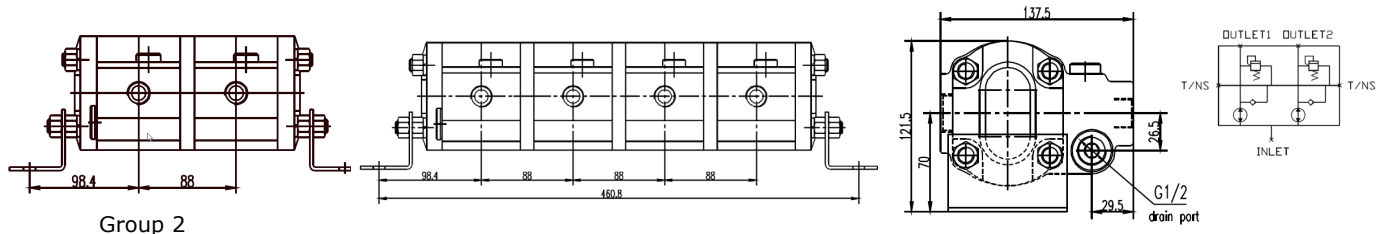
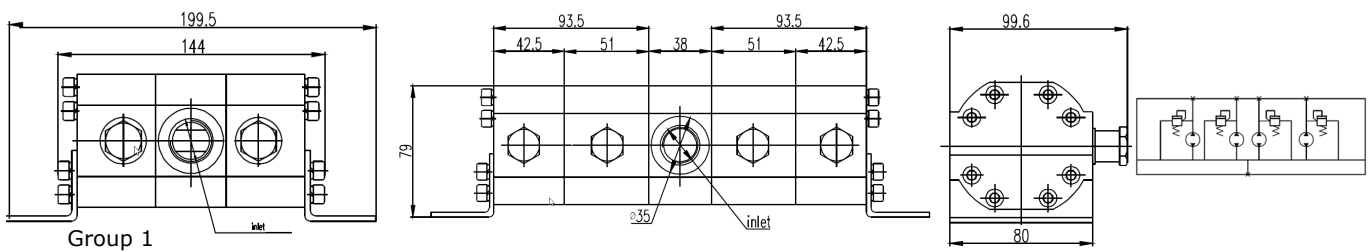
Note: For different applications please contact your local Southcott office.

## GRH ROTARY FLOW DIVIDERS

Model	No. Of Sections	Disp/Sept cc/rev	Inlet UNO	Outlet UNO	Drain BSP	Min Flow L/min	Max Flow L/min	Pressure Drop/Sept bar	Max Press/Sept bar
1FDF2.13L35-2-1	2	2.13	1/2"	9/16"	-	4.5	9.5	124	240
1FDF2.13L35-3-1+RV	3				-				
1FDF3.18L35-3-1+RV	3	-							
1FDF6.36L35-2-1	2	6.36	3/4"		-	13.2	26.5	110	250
1FDF6.36L35-4-1	4				-				
2FDF8.0L35-2-1	2	8	3/4"		-	4-19	22	220	250
2FDF6.0L35-4-1	4				-				
2FDF6.0L35-2-1	2	6	3/4"		-	3-16	18	220	250
2FDF6.0L35-3-1	3				-				
2FDF11.0L35-3-1+RV	3	11	1/2"		15.5-25	27	200	220	
2FDF14.0L35-2-1	2	14	-		7-32	34			
2FDF14.0L35-2-1+RV	2		1/2"						
2FDF14.0L35-4-1	4	14	-		7-32	34	200	220	
2FDF14.0L35-4-1+RV	4		1/2"						
3FDF30.0L71-2-1	2	30	33m		33mm	-	14-60	70	220

### Ordering Code

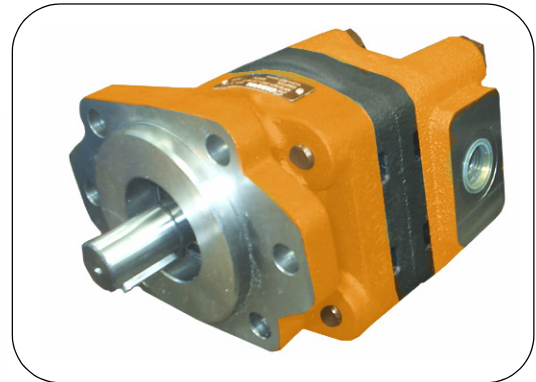
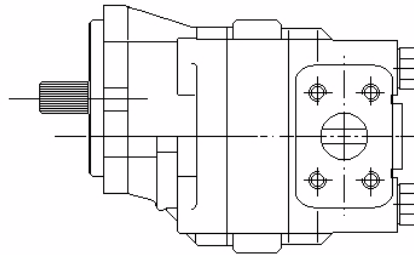
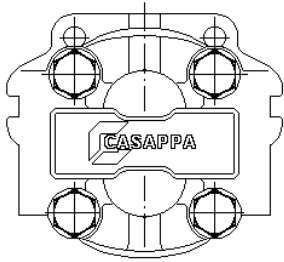
Group	Function	Pressure Level	Displacement	Inlet/Outlet Combination	No. Of Sections	No. Of
<b>X</b>	<b>FD</b>	<b>F</b>	<b>XX</b>	<b>LXX</b>	<b>-X</b>	<b>-X</b>
1	FD	F	2.13, 6.36	L35	2, 4	1
2	FD	F	6, 8, 14	L35	2, 3, 4	1
3	FD	F	30	L71	2	1



Note: For different applications please contact your local Southcott office.

# HD MAGNUM<sup>®</sup>

## HDM30 GEAR



Part Number	Displacement cc/rev	Max Pressure	rpm		Output kW	Torque NM
		P1			at 100 bar and 1000 rpm	
		bar	Max	Min		
HDM30-17R2-04S3-ODOD	17.20	238	3000	400	2.2	21
HDM30-22R2-04S3-ODOD	21.89				2.7	26
HDM30-24R1-04S3-ODOD	24.03				2.9	28
HDM30-27R1-04S3-ODOD	26.58				3.2	31
HDM30-34R1-04S3-ODOD	34.39	230	2500	300	4.4	42
HDM30-38R1-04S3-ODOD	39.27				4.9	48
HDM30-43R1-04S3-ODOD	43.77				5.4	52
HDM30-51R1-04S3-ODOD	51.59	196	2000	250	6.8	65
HDM30-56R1-04S3-ODOD	56.55	183			7.3	70
HDM30-61R1-04S3-ODOD	60.97	170	1700		7.7	74
HDM30-73R1-04S3-OFOF	73.47	161	1500		9.6	92
HDM30-82R1-04S3-OFOF	81.29	144			11.0	105

SERIES HDM30 - 17 R 2 - 04 S 5 - ODOD

DISPLACEMENT CODE

Rotation Code	SHAFT TYPE	Shaft Code	Mount Code	Port Code
S = Counterclockwise D = Clockwise R = Reversible	1 = SOLID SHAFT 2 = STUB SHAFT	04 = 7/8" 13 Tooth 05 = 1" 15 Tooth 06 = 1-1/4" 14 Tooth 32 = 7/8" Keyed 33 = 1" Keyed 34 = 1-1/4" Keyed	S1 = SAE-A 2 BOLT S3 = SAE-B 2/4 BOLT S8 = SAE-C 2/4 BOLT	OD = 1-1/16" Oring Boss OF = 1-5/16" Oring Boss

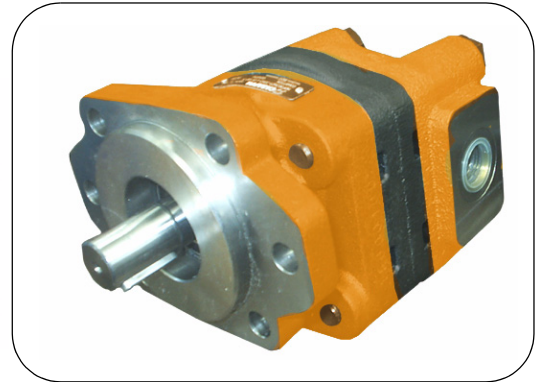
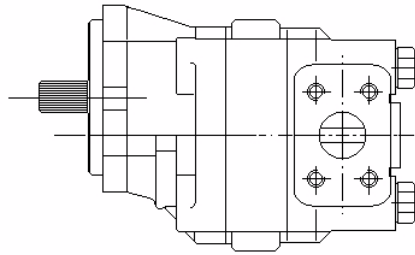
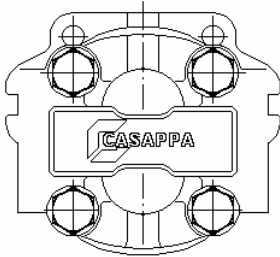
**NB:** Listed pressures are for reversible motors, for single rotation motors refer to pump figures

**NB:** Output kW and torque figures are for reversible motors.

**NB:** Drain ports must be connected to tank via a dedicated drain line

# HD MAGNUM®

## HDM35 GEAR MOTORS



Part Number	Displacement cc/rev	Max Pressure	rpm		Output kW	Torque Nm
		P1			at 100 bar and 1000 rpm	
		bar	Max	Min		
HDM35-40R1-06S8-OFOF	40.46	230	3000	400	5.0	50
HDM35-50R1-06S8-OFOF	50.77				6.3	60
HDM35-63R1-06S8-OFOF	63.46				7.9	75
HDM35-71R1-06S8-OFOF	71.92	213			9.0	86
HDM35-80R1-06S8-OFOF	80.39				10.2	97
HDM35-90R1-06S8-OFOF	90.96	196	2700		11.5	110
HDM35-100R1-06S8-OFOF	99.43	179			13.1	125
HDM35-112R1-06S8-OFOF	112.12	162			14.7	140
HDM35-125R1-06S8-OFOF	124.81	145	2500	250	15.9	152

SERIES HDM35-50 R 1- 06 S8 - OFOF  
DISPLACEMENT CODE

Rotation Code	SHAFT TYPE	Shaft Code	Mount Code	Port Code
S = Counterclockwise D = Clockwise R = Reversible	1 = SOLID SHAFT 2 = STUB SHAFT	06 = 1-1/4" 14 Tooth 34 = 1-1/4" Keyed	S4 = SAE-B 4 BOLT S8 = SAE-C 2/4 BOLT	OF = 1-5/16" O-Ring Boss

**NB:** Listed pressures are for reversible motors, for single rotation motors refer to pump figures.

**NB:** Output kW and torque figures are for reversible motors.

**NB:** Drain ports must be connected to tank via a dedicated drain line.

## SEAL KITS

To suit Polaris and Magnum

PUMP SEAL KITS	
Series	Part Number
Polaris	SK-PLP10-81E1
	SK-PLP10-86E7-AL
	SK-PLP10-86E7-CI
	SK-PLP20
	SK-PLP30-83E3
	SK-PLP30-SAE
Magnum	SK-HDP30
	SK-HDP35

MOTOR SEAL KITS	
Series	Part Number
Polaris	SK-PLM10-81E1-R
	SK-PLM10-86E7-R
	SK-PLM20
	SK-PLM30-83E3-R
	SK-PLM30-SAE-R
Magnum	SK-HDM30
	SK-HDM35

## FORMULA GEAR PUMPS - FP20 Series

The Formula FP gear pump range is specifically designed for high-pressure applications for direct mounting on PTOs. This range is offered as Italian (triangular), European (ISO) and American (SAE) mounting flanges to be used in several PTO interfaces.

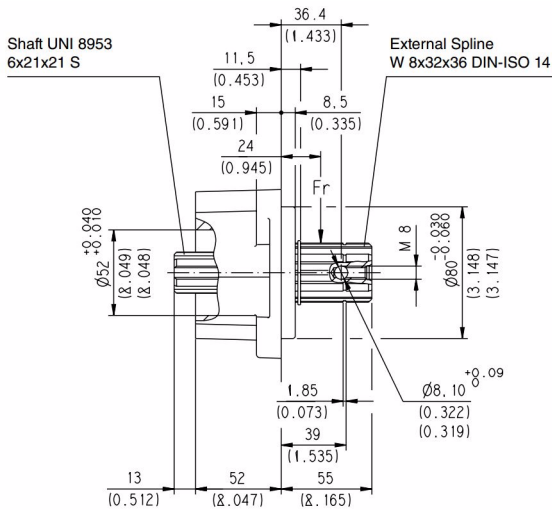


FP20 Series is available in displacement from 8.26cc to 39.64cc.

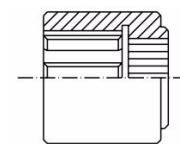
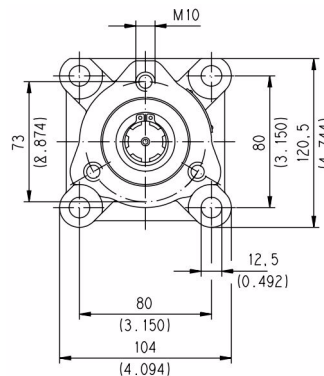
Part Number	Mounting	Shaft Size	Disp. cc/rev	Max Pressure bar			Int Max Speed rpm		Min Speed rpm	Ports	
				P1	P2	P3	At P2 Press	Without Load		At P2 Press	Location
<b>FP20-16B0-13T1-LPGD</b>	UNI 3-Bolt Mount Type 0 (Unsupported)	Ext. Spline DIN 5482 Shaft Z-13 B 22x19xe9	16.85	280	310	325	2000	4200	300	Side/Rear	1/2"
<b>FP20-20B0-13T1-LPGD</b>			21.14	260	280	290					
<b>FP20-25B0-13T1-LPGE</b>			26.42	220	250	260					
<b>FP20-31.5B0-13T1-LPGE</b>			33.01	190	210	220	1800	4000			3/4"
<b>FP20-16B0-16Z0-LPGD</b>	ISO 4-Bolt Mount Type 0 (Unsupported)	Ext. Spline DIN-ISO 14 W 8x32x36	16.85	280	310	325	2000	4200	300	Side/Rear	1/2"
<b>FP20-20B0-16Z0-LPGE</b>			21.14	260	280	290					
<b>FP20-25B0-16Z0-LPGE</b>			26.42	220	250	260					
<b>FP20-31.5B0-16Z0-LPGE</b>			33.01	190	210	220	1800	4000			3/4"

NB: The values in the table refer to unidirectional and reversible pumps

## Bearing Support For Coupling



SL9/SR9 Dimensions



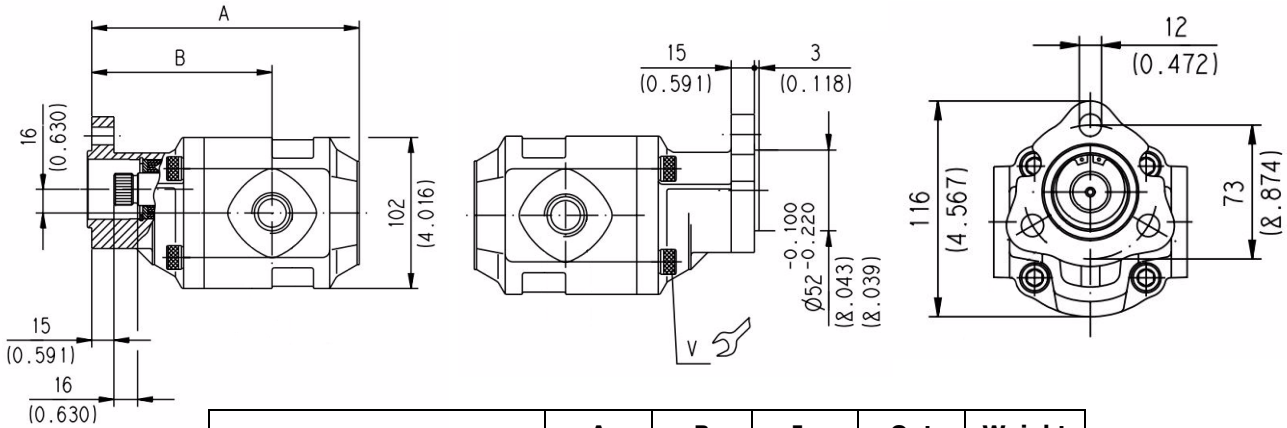
Splined Coupling MA 6x21x25 UNI 8953 A 22x19 DIN 5482 L=31

Spline Coupling in KIT-10-A

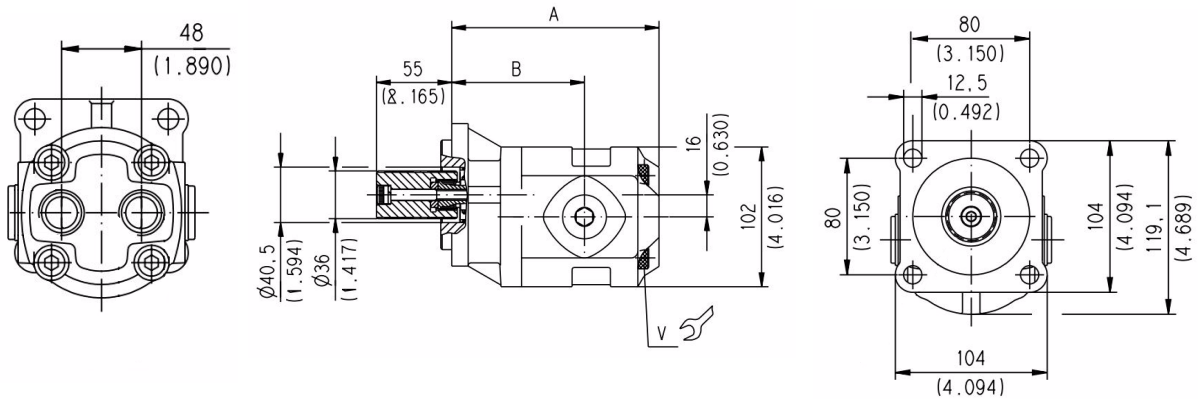
Part Number	Description
<b>SL9</b>	UNI Bearing Support W 8x32x36 Output Shaft without Lubricant
<b>SR9</b>	UNI Bearing Support W 8x32x36 Output Shaft with Lubricant
<b>KIT-10-A</b>	Kit Assembly Support FP20-13T1
<b>SK-FP20-13T1-B0</b>	Seal Kit FP20
<b>SK-FP20-16Z0-B0</b>	Seal Kit FP20



## FP20 Series Dimensions/Ports



Pump Type		A mm	B mm	In BSP	Out BSP	Weight kg
FP20-16	B0-13T1	142	112.5	1/2"	1/2"	5.2
FP20-20		148.5	119			5.3
FP20-25		156.5	112	3/4"	3/4"	5.9
FP20-31.5		166.5	122			6.0



Pump Type		A mm	B mm	In BSP	Out BSP	Weight kg
FP20-16	B0-1620	117	87.5	1/2"	1/2"	6.0
FP20-20		123.5	94			6.4
FP20-25		131.5	87	3/4"	3/4"	6.8
FP20-31.5		141.5	97			7.2

## FORMULA GEAR PUMPS - FP30/SFP30 Series

The Formula FP gear pump range specifically designed for high-pressure applications for direct mounting on PTOs. This range is offered as Italian (triangular), European (ISO) and American (SAE) mounting flanges to be used in several PTO interfaces.

The new SFP line of hydraulic gear pumps is available in Group 3. The main features of the new Formula SFP line are noise level reduction, the availability of different port positions, and the modular and compact design for direct mounting on PTOs.

FP30 Series is available in displacement from 17.28cc to 125.66cc.  
SFP30 Series is available in displacement from 35.43cc to 118.31cc.



Part Number	Mounting	Shaft Size	Disp. cc/rev	Max Pressure bar			Int Max Speed rpm		Min Speed rpm	Ports			
				P1	P2	P3	At P2 Press	Without Load		At P2 Press	Location	Size BSPP	
FP30-17B0-19T1-LGD	UNI 3-Bolt Mount Type 0 (Unsupported)	Ext. 6B Spline UNI 8953 6x21x25 S	17.28	247	268	276	3000	4000	300	Side	1/2"		
FP30-27B0-19T1-LGE			26.7								3/4"		
FP30-34B0-19T1-LGE			34.56	238	255	264	2800	4200			3500	Side/Rear	1"
FP30-43B0-19T1-LGE			43.98	230	247	255	2500						
FP30-51B0-19T1-LGF			51.83	204	221	238							
FP30-61B0-19T1-LGF			61.26	187	204	213	2000						
SFP30-73B0-19T1-PLGF			75.68	174	200	204	2250						
SFP30-82B0-19T1-PLGF			83.74	166	191	196							
FP30-100B0-19T1-LGG			100.52	153	170	187	1800	Side		1-1/4"			
SFP30-43B0-L8Z0-PLGF			ISO 4-Bolt Mount Type 0 (Unsupported)	Ext. Spline SAE J498B 13T 16/32 Spline	45.09	230	247	255		2500	3500	300	Side/Rear
SFP30-51B0-L8Z0-PLGF	53.14	213			230	238							
SFP30-61B0-L8Z0-PLGF	62.80	196			213	221							
SFP30-73B0-L8Z0-PLGF	75.68	174			200	204	2250						
SFP30-82B0-L8Z0-PLGF	83.74	166			191	196							
FP30-17B0-16Z0-LGD	ISO 4-Bolt Mount Type 5 (Supported)	Ext. Spline DIN-ISO 14 W 8x32x36	17.28	247	268	276	3000	4000	300	Side	1/2"		
FP30-27B0-16Z0-LGE			26.7								3/4"		
FP30-34B0-16Z0-LGE			34.56	238	255	264	2800	4200		3500	Side/Rear	1"	
SFP30-43B5-16Z0-PLGF			45.09	230	247	255	2500						
SFP30-51B5-16Z0-PLGF			53.14	213	230	238							
SFP30-61B5-16Z0-PLGF			62.8	196	213	221	2250						
SFP30-73B5-16Z0-PLGF			75.68	174	200	204							
SFP30-82B5-16Z0-PLGF			83.74	166	191	196							
FP30-100B0-16Z0-LGG			100.52	153	170	187	1800	Side		1-1/4"			

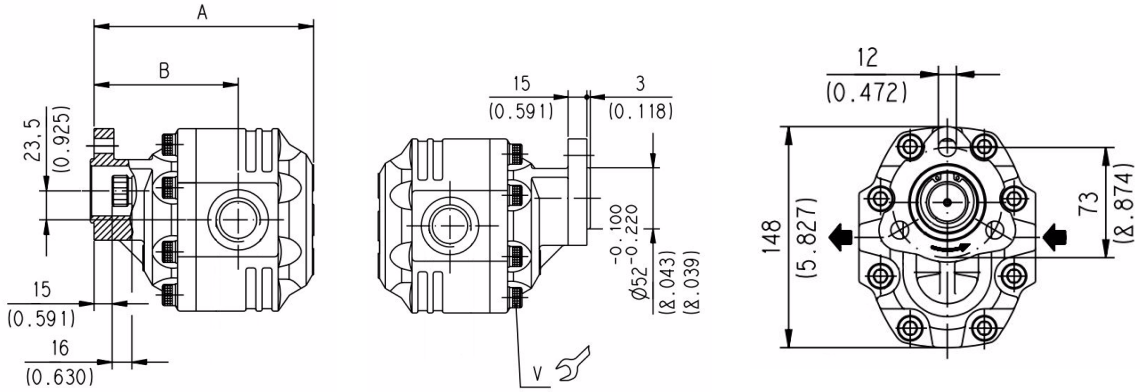
NB: The values in the table refer to bidirectional pumps. For different working conditions please consult our sales department.

All FP30 B0-16Z0 pumps and SFP30 B5-16Z0 pumps are Mount Type 5 (Supported). They can be used: with supported PTO; with PTO not supported; with Cardan shaft

Part Number	Description
SK-FP30-19T1-B0	Seal Kit FP30
SK-SFP30-19T1-B-N	Seal Kit SFP30
SK-FP30-16Z0-B0	Seal Kit FP30
SK-SFP30-B5-16Z0	Seal Kit SFP30

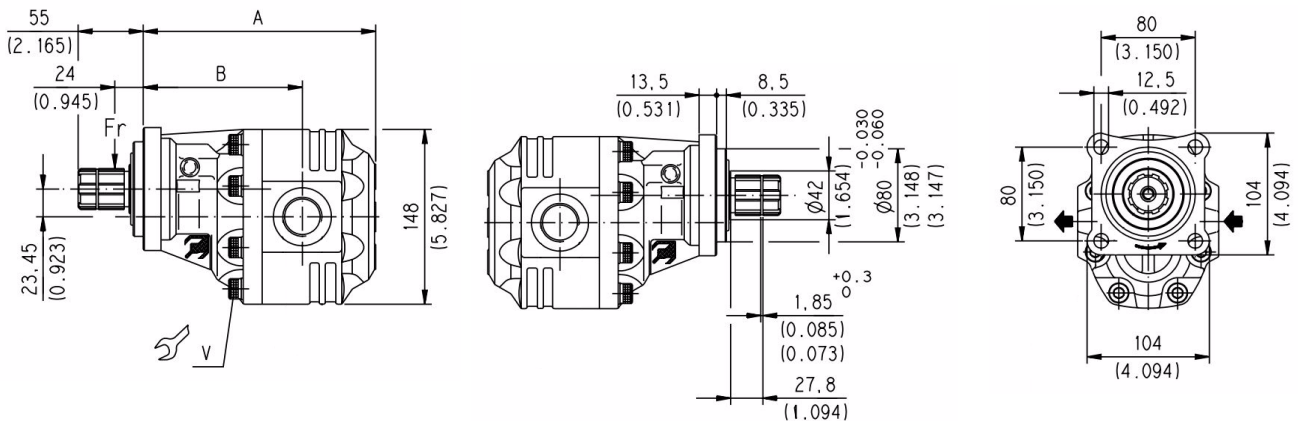
## FP30 Series Dimensions/Ports

### 19T1



Pump Type		A mm	B mm	In BSPP	Out BSPP	Weight kg
FP30-17	B0-19T1	150.5	100.5	1/2"	1/2"	9
FP30-27		156.5	106.5	3/4"	3/4"	9.3
FP30-34		161.5	106.5			9.8
FP30-43		167.5	112.5			10
FP30-51		172.5	110.5	1"	1"	10.3
FP30-61		178.5	116.5			10.7
FP30-73		186.5	117.5			10.9
FP30-82		191.5	122.5			11
FP30-100		217	136	1-1/4"	1-1/4"	11.5

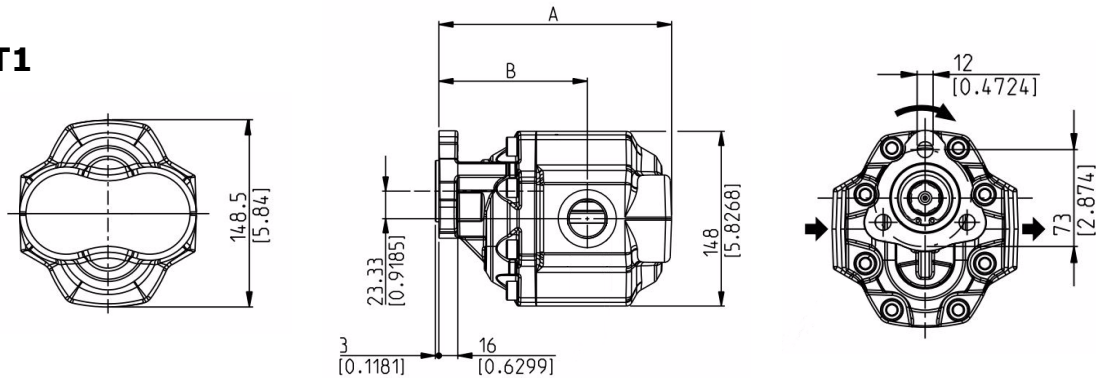
### 16Z0



Pump Type		A mm	B mm	In BSPP	Out BSPP	Weight kg
FP30-17	B0-16Z0	168.5	118.5	1/2"	1/2"	10.65
FP30-27		174.5	124.5	3/4"	3/4"	11.10
FP30-34		179.5	124.5			11.56
FP30-100		226.5	145.5	1-1/4"	1-1/4"	15.55

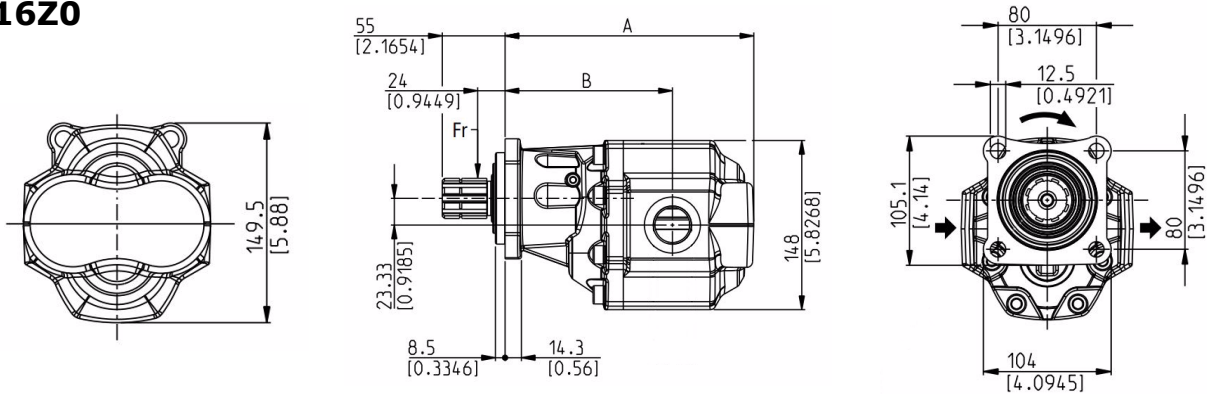
## SFP30 Series Dimensions/Ports

### 19T1



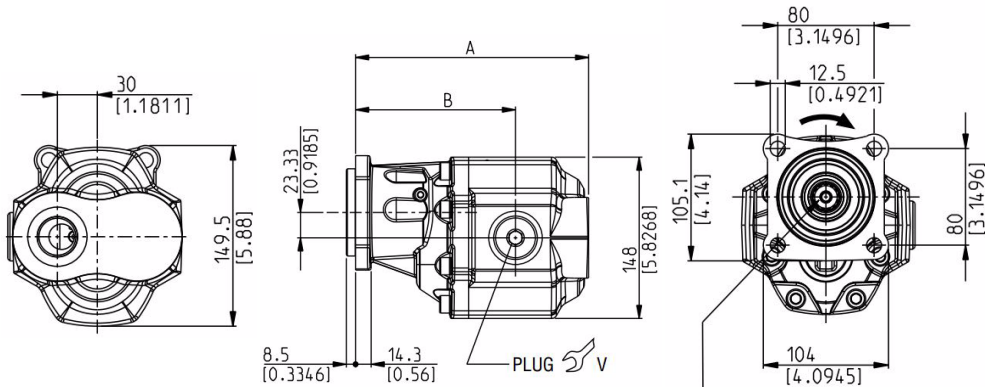
Pump Type		A mm	B mm	In BSPP	Out BSPP
SFP30-73	B0-19T1	187.5	120.5	1"	1"
SFP30-82		192.5	125.5		

### 16Z0



Pump Type		A mm	B mm	In BSPP	Out BSPP
SFP30-43	B5-16Z0	189.5	127.5	1"	1"
SFP30-51		194.5	132.5		
SFP30-61		200.5	138.5		
SFP30-73		208.5	141.5		
SFP30-82		213.5	146.5		

### L8Z0



Pump Type		A mm	B mm	In BSPP	Out BSPP
SFP30-34	B0-L8Z0	183.5	130.5	3/4"	3/4"
SFP30-43		189.5	127.5	1"	1"
SFP30-51		194.5	132.5		
SFP30-61		200.5	138.5		
SFP30-73		208.5	141.5		
SFP30-82		213.5	146.5	1-1/4"	

# SECTION B

## CASAPPA HAND PUMPS



Casappa Hand Pumps are a series of double acting hand pumps providing flow in both directions of the lever movement.

Modular design - One of the primary characteristics of the new series of Casappa Hand Pumps is the modular design of the unit. The modular design of the pumping groups, reservoirs and accessories allow the flexibility to configure the hand pump assembly required for the application.

All pumping groups shown in the following pages can be mounted on a common support or on the reservoirs. The pumping groups are furnished with the screws and a gasket for sealing to the support or the reservoir.

**NB: Models, Codes and Specifications may be subject to change without notice.**



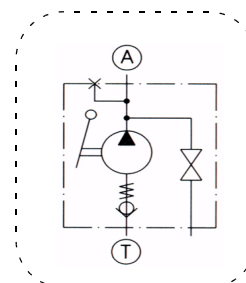
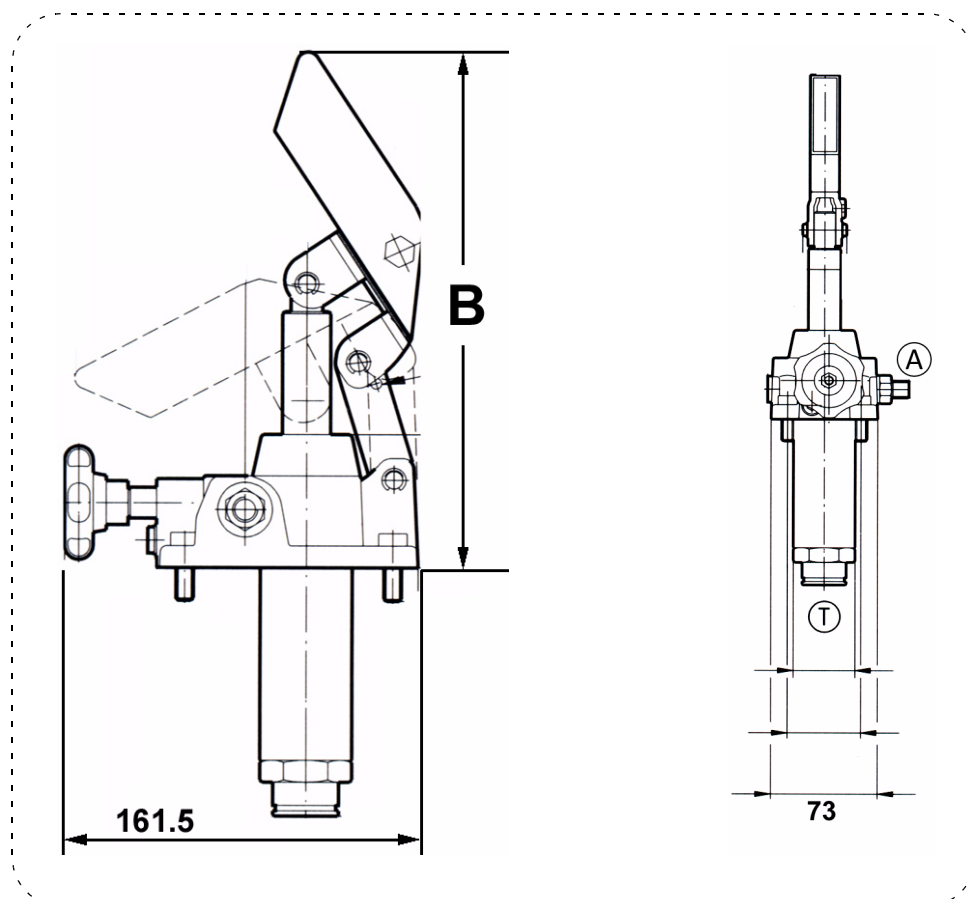
## EP(S) Hand Pumps

- \* Single direction units.
- \* New interchangeable modular design for maximum flexibility.
- \* Same pumping group with or without reservoir.
- \* Suitable for auxiliary or emergency applications.



Pump Unit with Built-in shutoff / release valve.

Part Number	Displacement cc/cycle	Max. Pressure bar	Port A BSPP	B mm	Weight kg
EP12S	12	315	3/8"	219	3.40
EP25S	25	250		229	3.40
EP45S	45	220		237	3.70





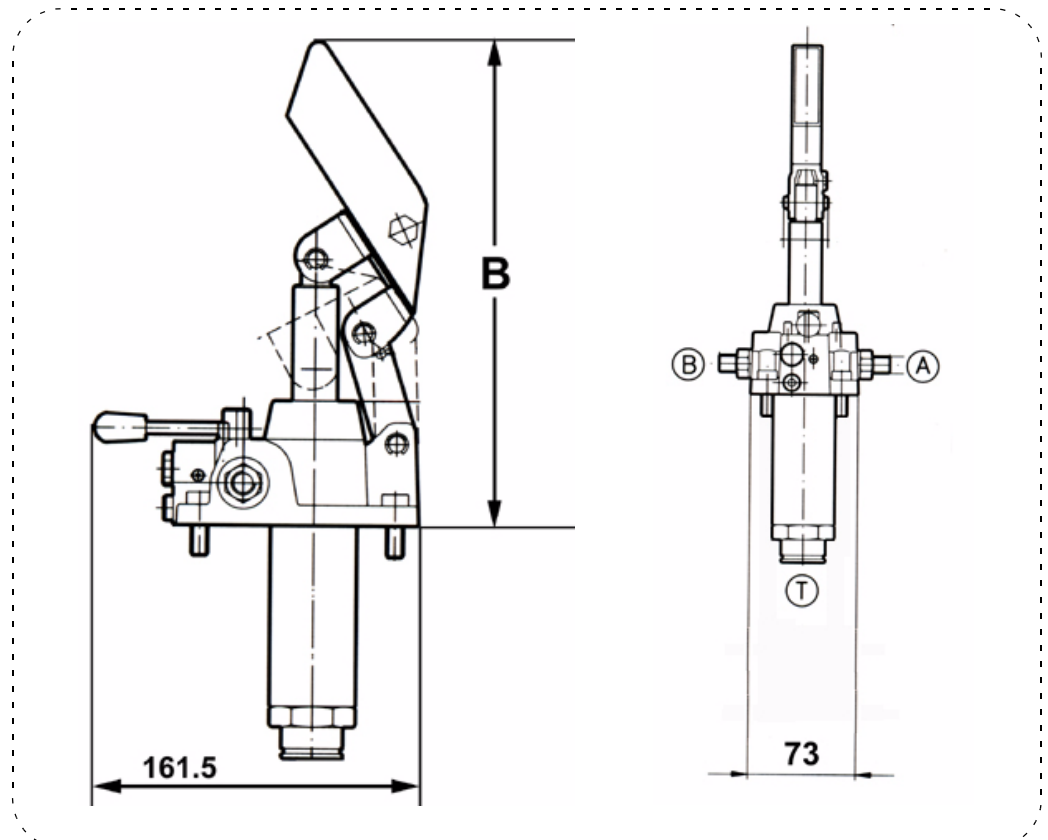
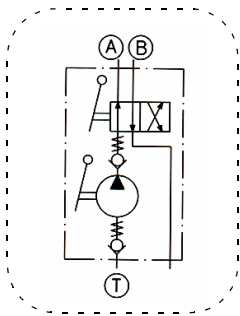
## EP(D) HAND PUMPS



- \* Dual direction units.
- \* New interchangeable modular design for maximum flexibility.
- \* Same pumping group with or without reservoir.
- \* Suitable for auxiliary or emergency applications.

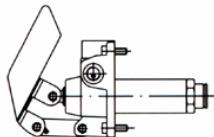

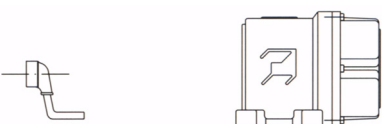
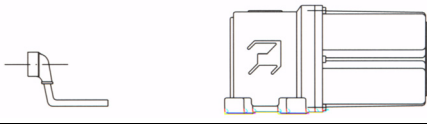
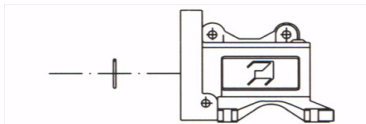
**Pump Unit with Built-in shutoff / release valve.**

Part No.	Displacement cc/cycle	Max. Pressure bar	Ports A & B BSP	B mm	Weight kg
EP12D	12	315	3/8"	219	3.50
EP25D	25	250		229	3.50
EP45D	45	220		237	3.80

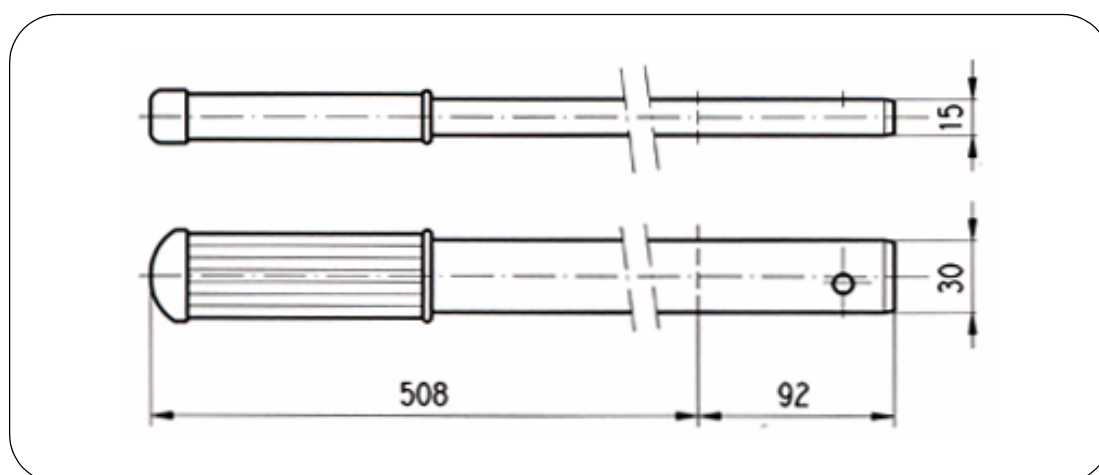


## HAND PUMP RESERVOIR KITS

NB: Reservoir kits are supplied complete with suction tube

Pumping Group	Tank	Description	Part Number
		2 Litre Reservoir	<b>T2P</b>
		3 Litre Reservoir	<b>T3P</b>
		5 Litre Reservoir	<b>T5P</b>
		No Reservoir Support NB: Draw from separate reservoir	<b>T0A</b>

## HAND LEVER



Part Number	Description
<b>06004390</b>	Lever - Hand Pump EP Series

# SECTION C

## PISTON PUMPS & MOTORS

PAGE DESCRIPTION	PAGE
<b>CASAPPA AXIAL PISTON PUMPS</b>	
PLATA LVP SERIES .....	C 2
MVP SERIES .....	C 5
<b>METARIS MA10V AXIAL PISTON PUMPS .....</b>	<b>C 8</b>
<b>miniBOOSTER PRESSURE INTENSIFIERS .....</b>	<b>C 11</b>
<b>PWG CLOSED LOOP AXIAL PISTON PUMPS .....</b>	<b>C 12</b>
<b>PWG FIXED DISPLACEMENT MOTORS - FM SERIES .....</b>	<b>C 17</b>
<b>SOUTHCOTT SINGLE TRANSMISSION PUMP</b>	
Series 22 and 33 MK III .....	C 18
<b>TRANSMISSION SINGLE/DOUBLE PUMP WITH ANCILLARY PUMP .....</b>	<b>C 19</b>
<b>SOUTHCOTT OPEN CIRCUIT PISTON PUMPS</b>	
VP Series (VARIABLE PUMP) .....	C 21
<b>SOUTHCOTT FIXED DISPLACEMENT PISTON PUMPS/MOTORS</b>	
FM Series (FIXED DISPLACEMENT MOTOR/PUMP) .....	C 23
<b>ITALGROUP RADIAL PISTON MOTORS .....</b>	<b>C 24</b>



**NB: Models, codes and specifications may be subject to change without notice.**

# Plata LVP Series Axial Piston Pumps

LVP series pumps are a variable displacement axial piston pump with a swash plate design. Ideally they are suited to medium and high pressure open circuit applications.

LVP series pumps are available with a wide range of control options. The pump shaft is designed for both radial and axial loads. The pumps are also available with through drive option and maximum & minimum displacement limiters.



Available in four sizes: LVP30, LVP48, LVP75 and LVP90

Model	Displacement cc/rev	Pressure bar			Max Speed rpm	Ports		Mounting Flange
		Cont.	Int.	Peak		In Code 61	Out Code 62	
LVP30	28.7	280	315	350	3000	1-1/4"	3/4"	SAE-B 2 Bolt
LVP48	45.4	280	315	350	2600	1-1/2"	1"	SAE-B 2 Bolt
LVP75	73.6	280	315	350	2200	2"	1-1/4"	SAE-C 2 Bolt
LVP90	87.9	250	280	315	1850	2"	1-1/4"	SAE-C 2 Bolt

**LVP30 S - 04 S5 - L M - RP0 - E 1**

1. Pump Type Max cc/rev	Code
28.7	LVP30
45.4	LVP48
73.6	LVP75
87.9	LVP90

2. Rotation	Code
Clockwise	D
Anticlockwise	S

3. Drive Shaft	Code
SAE-B spline (13T)	04
SAE-B straight	32
Straight Ø 22	68
SAE-BB spline (15T)	05
SAE-BB straight	33
Straight Ø 25	69
SAE-C spline (14T)	06
SAE-C straight	34
Straight Ø 32	70

4. Mounting Flange	Code
SAE-B 2 Bolt	S5
SAE-C 4 Bolt	S7

5. Port Position	Code
Side	L
Rear	P

6. Inlet/Outlet Ports			
Pump Type	In SAE 3000	Out SAE 6000	Code
SAE FLANGED PORTS METRIC THREAD (SSM)			
LVP30	1-1/4"	3/4"	M
LVP48	1-1/2"	1"	
LVP75	2"	1-1/4"	
LVP90	2"	1-1/4"	
SAE FLANGED PORTS UNC THREAD (SSS)			
LVP30	1-1/4"	3/4"	E
LVP48	1-1/2"	1"	
LVP75	2"	1-1/4"	
LVP90	2"	1-1/4"	

9. Intermediate Flange	Code
SAE-A 2 Bolt	1
SAE-B 2 Bolt	5
SAE-C 2 Bolt	7

8. Displacement Limiter	Code
Without Limiter (No Code)	...
Max Displacement Limiter	E
Min Displacement Limiter	F
Max & Min Disp. Limiter	G

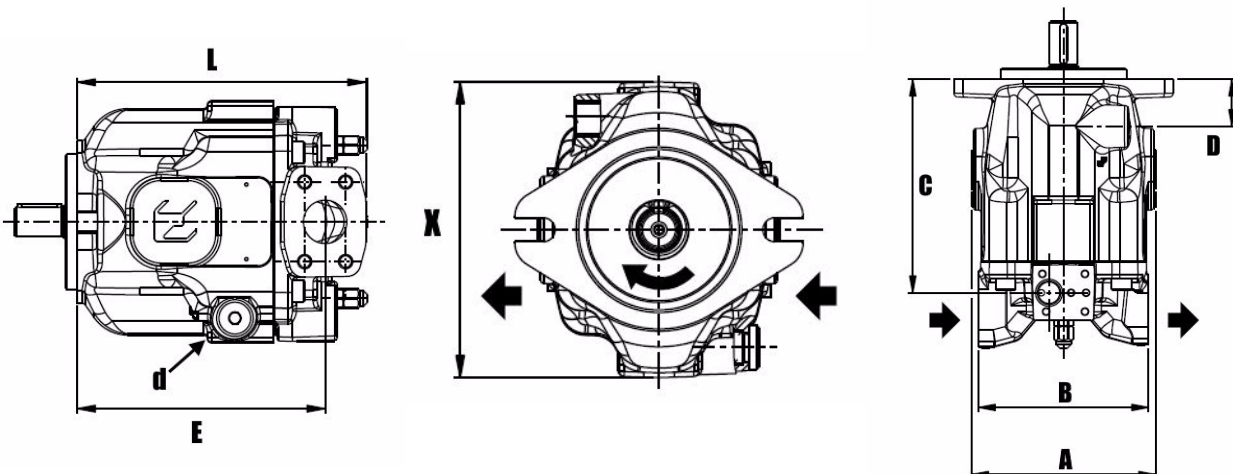
7. Regulator Types	Code
Pressure Compensator	RP0
Pressure Compensator	RP1
Flow Compensator	LS0
Flow Compensator without Bleed	LS2
Pressure Compensator for Remote Control	LS3
Torque Limiter - Standard	RN0
Torque Limiter - Internal Pilot	RN1
Pressure and Flow Digital Regulator	DES
Pressure and Flow Digital Regulator with Sequence Module RES	DESR
Unloader NC: 12VDC/24VDC	U1/U2
Unloader NC: 24VAC/110VAC/220VAC	U3/U4/U5
Unloader NO: 12VDC/24VDC	U6/U7
Unloader NO: 24VAC/110VAC/220VAC	U8/U9/U10

## Plata LVP Series Axial Piston Pumps

Part Number	Rotation	Shaft	Ports	Regulator	Aux. Mount Options
LVP30D-04S5-LM-RP0-E	CW	7/8" x 13T Spline	Side	Press. Comp	Max. Displ. Limiter
LVP30D-04S5-LM-RP0-E1					Max. Displ. Limiter & SAE-A Aux Mount
LVP30D-04S5-LM-LS0-E				Load Sense	Max. Displ. Limiter
LVP30D-04S5-LM-LS0-E1					Max. Displ. Limiter & SAE-A Aux Mount
LVP48D-05S5-LM-RP0-E		1" x 15T Spline		Press. Comp	Max. Displ. Limiter
LVP48D-05S5-LM-RP0-E1					Max. Displ. Limiter & SAE-A Aux Mount
LVP48D-05S5-LM-LS0-E				Load Sense	Max. Displ. Limiter
LVP48D-05S5-LM-LS0-E1					Max. Displ. Limiter & SAE-A Aux Mount
LVP75D-06S7-LM-RP0-E		1-1/4" x 14T Spline		Press. Comp	Max. Displ. Limiter
LVP75D-06S7-LM-RP0-E5					Max. Displ. Limiter & SAE-B Aux Mount
LVP75D-06S7-LM-LS0-E				Load Sense	Max. Displ. Limiter
LVP75D-06S7-LM-LS0-E5					Max. Displ. Limiter & SAE-B Aux Mount
LVP90D-06S7-LM-RP0-E				Press. Comp	Max. Displ. Limiter
LVP90D-06S7-LM-RP0-E5					Max. Displ. Limiter & SAE-B Aux Mount
LVP90D-06S7-LM-RP0-E7					Max. Displ. Limiter & SAE-C Aux Mount
LVP90D-06S7-LM-LS0-E					Load Sense
LVP90D-06S7-LM-LS0-E5	Max. Displ. Limiter & SAE-B Aux Mount				
LVP90D-06S7-LM-LS0-E7	Max. Displ. Limiter & SAE-C Aux Mount				

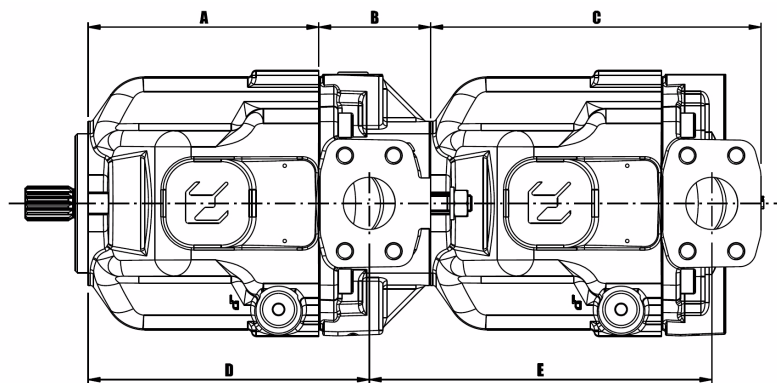
NB: For CCW rotation replace the "D" in the part number with "S"

Model	Dimensions (mm)							
	A	B	C	D	E	L	d (UNO)	X
LVP30	146	135	169.7	37.5	182.7	213.0	3/4"	178.8
LVP48	160	149	194.0	39.5	206.0	242.0	7/8"	194.7
LVP75	175	164	217.2	44.6	235.2	276.2	7/8"	225.0
LVP90	175	164	217.2	44.6	235.2	276.2	7/8"	225.0



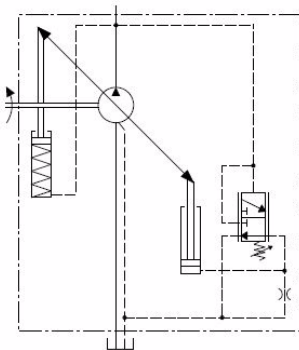
## Plata LVP Series Tandem Axial Piston Pumps

Model	Dimensions (mm)					
	A	B		C	D	E
		Flange	Code AS			
LVP30	145	SAE-A	1	213	183	222
		SAE-B	5			
LVP48	169	SAE-A	1	242	205	251
		SAE-B	5			
LVP75	192	SAE-A	1	276	235	291
		SAE-B	5			296
		SAE-C	7			
LVP90	192	SAE-A	1	276	235	291
		SAE-B	5			296
		SAE-C	7			

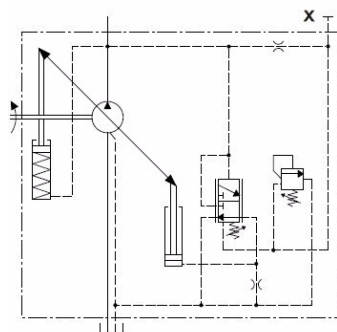


## Plata LVP Series Controllers

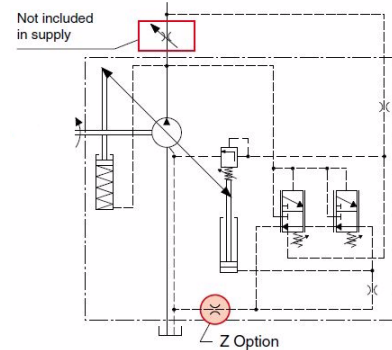
RP0



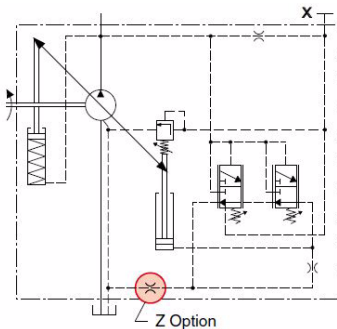
RP1



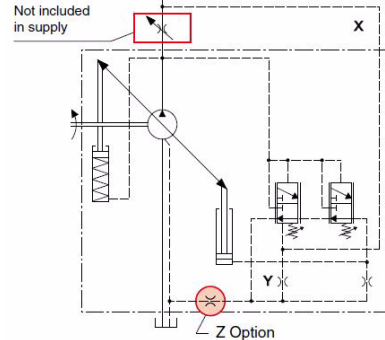
RN0



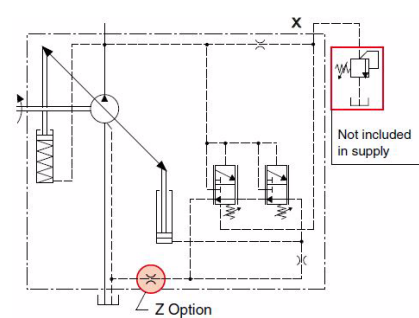
RN1



LS0 - LS2



LS3





# MVP Series Mobile Pumps

## Variable displacement axial piston pumps

These pumps are the optimal solution for mobile applications. MVP series pumps are available with a wide range of control options. The compact design makes them ideally suited for direct mount to engines and gearboxes.

The displacements in each frame size are infinitely variable between maximum and minimum via simple screw adjustment. The pump shaft supports full torque transmission in multiple unit configurations.

They are available in side (L) and rear (P) ported versions. The versions listed here are limited by the space available. Please contact your nearest Southcott branch or distributor for the availability of the unit to suit your requirements.



Model	Disp. cc/rev	Cont. Press bar	Peak Press bar	Max RPM	Port Position	Inlet Port C61	Press. Port C61
<b>MVP30-28*</b>	28	280	350	3500	Side/Rear	1-1/4"	3/4"
<b>MVP30-34</b>	34.8	250	315	2900	Side/Rear	1-1/4"	3/4"
<b>MVP48-45**</b>	45	280	350	3000	Side/Rear	1-1/2"	1"
<b>MVP48-53</b>	53.7	250	315	2500	Side/Rear	1-1/2"	1"
<b>MVP60-60***</b>	60	280	350	3000	Side/Rear	2"	1"
<b>MVP60-72***</b>	72	280	350	2700	Side/Rear	2"	1"
<b>MVP60-84***</b>	84.7	250	315	2500	Side/Rear	2"	1"

\*/\*\*/\*\* is achieved by stroking pumps 34/53/64 respectively

**MVP30-28 S - 04 S5 - L M - N - RP0 5**

1. Pump Type Max cc/rev	Code
28	<b>MVP30-28</b>
34.8	<b>MVP30-34</b>
45	<b>MVP48-45</b>
53.7	<b>MVP48-53</b>
60	<b>MVP60-60</b>
72	<b>MVP60-72</b>
84.7	<b>MVP60-84</b>

2. Rotation	Code
Clockwise	<b>D</b>
Anticlockwise	<b>S</b>

3. Drive Shaft	Code
SAE-B Spline (13T)	<b>04</b>
SAE-B Spline (13T)	<b>4R</b>
SAE-B Straight	<b>32</b>
SAE-BB Spline (15T)	<b>05</b>
SAE-BB Spline (15T)	<b>5R</b>
SAE-C Spline (14T)	<b>06</b>
SAE-C Spline (14T)	<b>6R</b>
SAE-C Straight	<b>34</b>

4. Mounting Flange	Code
SAE-B 2 Bolt	<b>S5</b>
SAE-C 2 Bolt	<b>S7</b>
SAE-C 4 Bolt	<b>S8</b>

5. Port Position	Code
Side	<b>L</b>
Rear	<b>P</b>

6. Inlet/Outlet Ports			Code
Pump Type	In SAE 3000	Out SAE 3000	
SAE FLANGED PORTS METRIC THREAD (SSM)			
MVP30	1-1/4"	3/4"	<b>M</b>
MVP48	1-1/2"	1"	
MVP60	2"	1"	
SAE FLANGED PORTS UNC THREAD (SSS)			
MVP30	1-1/4"	3/4"	<b>E</b>
MVP48	1-1/2"	1"	
MVP60	2"	1"	

Metric is our standard stock

7. Seals	Code
Buna (Standard)	<b>N</b>
Viton	<b>V</b>

8. Regulator Types	Code
Pressure Compensator	<b>RP0</b>
Pressure Compensator	<b>RP1</b>
Dual Setting Pressure Compensator	<b>RP2</b>
Flow Compensator	<b>LS0</b>
Flow Compensator for Remote Control	<b>LS2</b>
Pressure Compensator for Remote Control	<b>LS3</b>

9. Intermediate Flange	Code
PISTON PUMP/GEAR PUMP	
Flanged for KP20	<b>P7</b>
Flanged for PHP20 Polaris G2	<b>I6</b>
PISTON PUMP/PISTON PUMP	
SAE-A 2 Bolt	<b>AS1</b>
SAE-B 2 Bolt	<b>AS5</b>

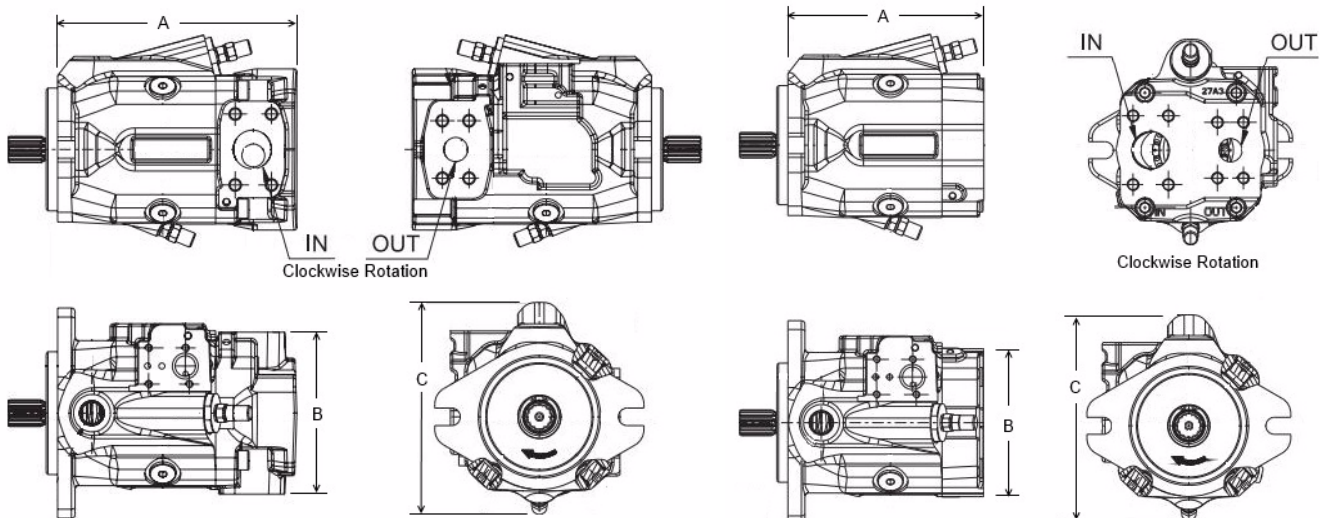
## MVP Series

Load Sense Single Pump Part No.	Disp cc/rev	Input Shaft	Input Mount	Press. Comp. Single Pump Part No.
MVP30-34D-04S5L-LS0	34.8	7/8" 13T	SAE-B 2 Bolt	MVP30-34D-04S5L-RP0
MVP30-34D-04S5P-LS0	34.8	7/8" 13T	SAE-B 2 Bolt	MVP30-34D-04S5P-RP0
MVP48-53D-05S5L-LS0	53.7	1" 15T	SAE-B 2 Bolt	MVP48-53D-05S5L-RP0
MVP48-53D-05S5P-LS0	53.7	1" 15T	SAE-B 2 Bolt	MVP48-53D-05S5P-RP0
MVP60-84D-05S5L-LS0	84.7	1" 15T	SAE-B 2 Bolt	MVP60-84D-05S5L-RP0
MVP60-84D-06S8L-LS0	84.7	1-1/4" 14T	SAE-C 4 Bolt	MVP60-84D-06S8L-RP0
MVP60-84D-06S8P-LS0	84.7	1-1/4" 14T	SAE-C 4 Bolt	MVP60-84D-06S8P-RP0
Load Sense + Anc. Pump Mt. Part No.	Disp cc/rev	Input Shaft	Aux Mount	Torque Control Single Part No.
MVP30-34D-04S5L-LS0-5	34.8	7/8" 13T	Kappa (B2B)	MVP30-34D-04S5L-RN0
MVP48-53D-05S5L-LS0-5	53.7	1" 15T	SAE-B 2 Bolt	MVP30-34D-04S5P-RN0
MVP60-84D-06S8L-LS0-5	84.7	1-1/4" 14T	SAE-B 2 Bolt	MVP48-53D-05S5L-RN0
				MVP48-53D-05S5P-RN0
				MVP60-84D-06S8L-RN0
				MVP60-84D-06S8P-RN0

The range above defines CW rotation. For CCW rotation replace the "D" in the part number with an "S".  
 Filtration: To ensure optimal performance and the maximum life of the pump, the hydraulic fluid must be maintained at a contamination level below ISO 18/16/13 by using a filter at 10mu & Bx > 75

### MVP Series Single Pump Dimension

Model	Ports Position - mm					
	Side Ported			Rear Ported		
	A	B	C	A	B	C
MVP30-28	199	141	176	167	137	176
MVP30-34						
MVP48-45	222	152	194	189	151	194
MVP48-53						
MVP60-60	249	152	206	214	152	206
MVP60-72						
MVP60-84						

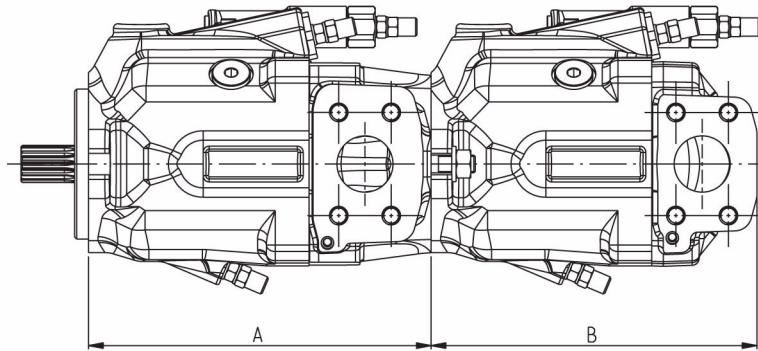


Side Ported Units

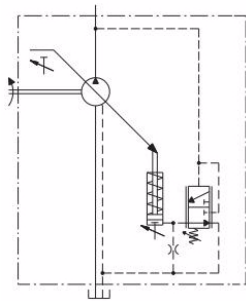
Rear Ported Units

## MVP Series Tandem Pump Dimension

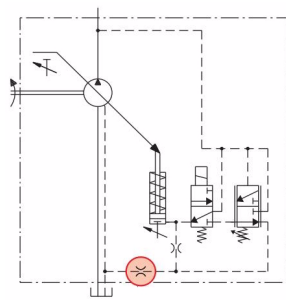
Model	Tandem Pump							
	SAE-A Rear Adaptor				SAE-B Rear Adaptor			
	Side Ported		Rear Ported		Side Ported		Rear Ported	
	A	B	A	B	A	B	A	B
<b>MVP30</b>	209	199	209	167	209	199	209	167
<b>MVP48</b>					233	222	233	189
<b>MVP60</b>					253	249	253	152



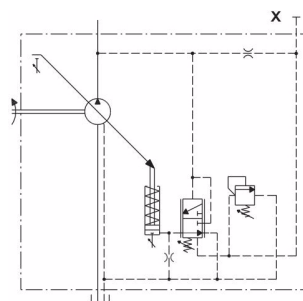
## Controller Circuit



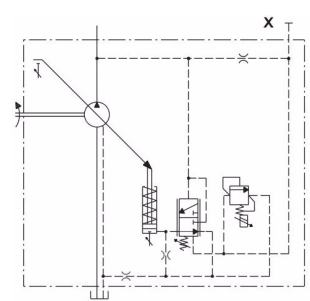
**RP0 Press. Comp.**



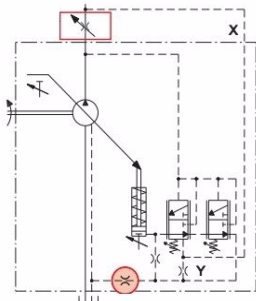
**UNA Press. Comp. + Unloading Valve**



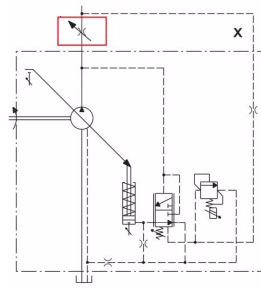
**RP1 Dual-Remote Press.Comp.**



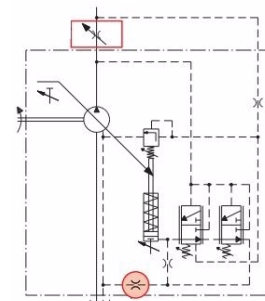
**PEC Electro-Prop. Press.Comp.**



**LS0 Load Sense**



**PEC-LS2 Electro-Prop. Press.Comp + Load Sense**

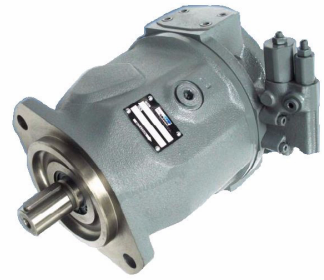


**RN0 Torque Control**

The above circuit options cover the regular options in common use however the MVP range has many circuit option alternatives. Contact your nearest Southcott branch for further details.

# Metaris MA10V Axial Piston Pumps

The Metaris MA10V(S)O open loop piston pump has proven itself in many applications. Rear and side ported, through-drive auxiliary pump mounting flanges and a large selection of flow and pressure controls makes this pump a strong, versatile alternative in both industrial and mobile applications. Low noise levels, excellent control repeatability, short response times and pressure ratings up to 4000psi are just a few of the performance characteristics this pump has to offer.



Model	Disp. cc/rev	Nom. Press. bar	Max Press. bar	Max RPM	Port Position	Inlet Port C61	Pressure Port
MA10V-18	18	280	350	3000	Side/Rear	1"	3/4" C61
MA10V-28	28			3000		1-1/4"	3/4" C61
MA10V-45	45			2600		1-1/2"	1" C61
MA10V-71	71			2200		2"	1" C61
MA10V-100	100			2000		2-1/2"	1-1/4" C62
MA10V-140	140			1800		2-1/2"	1-1/4" C62

\*:Max speed is applicable at 0 bar at the inlet port. Higher speed may be obtained at reduced swash plate angle or with higher inlet pressure. Max pump case pressure is 2 bar

## MA10V(S) -O -71 -DR -31 -R -P -S -C -62 -N00

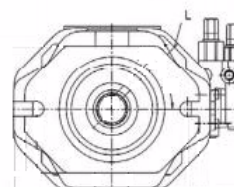
<b>Axial Piston Unit</b>							
MA10V - Swash Plate Variable Pump							
MA10VS - Swash Plate Variable Pump, for Industrial							
<b>Mode of Operation</b>							
O = Pump, Open Circuit							
<b>Displacement Size</b> cm <sup>3</sup> /r (in <sup>3</sup> /r)							
18 (1.10)	28 (1.71)	45 (2.75)	71 (4.33)	100 (6.10)	140 (8.54)		
<b>Control Devices</b>		18	28	45	71	100	140
DR = Pressure Control		•	•	•	•	•	•
DRG = G - Remote Control		•	•	•	•	•	•
DFR = Pressure and Flow Control		•	•	•	•	•	•
DFR1 = X Channel Plugged		•	•	•	•	•	•
DFLR = Pressure, Flow and Power Control		•	•	•	•	•	•
<b>Series</b>							
31 Series							
<b>Rotation</b>							
R - Clockwise CW							
L - Counter-Clockwise CCW							
<b>Seals</b>							
P - Buna-N (NBR per DIN ISO 1629)							
V - FPM (Fluorocarbon) Viton							
<b>Shafts</b>		18	28	45	71	100	140
S = SAE Splined Shaft		3/4"	7/8"	1"	1-1/4"	1-1/2"	1-3/4"
R = SAE Splined Shaft, Reinforced (Higher Through-drive Torques)		3/4"	7/8"	1"	1-1/4"	1-1/2"	
U = SAE Splined Shaft, Smaller Size (not for pumps w/ Through-drive)		5/8"		7/8"		1-1/4"	
W = SAE Splined Shaft, Reinforced U-Type Shaft				7/8"		1-1/4"	
K = SAE Keyed Shaft		3/4"	7/8"	1"	1-1/4"	1-1/2"	1-3/4"
P = Parallel w/ Key DIN 6885		18mm	22mm	25mm	32mm	40mm	45mm
<b>Mounting Flange</b>		18	28	45	71	100	140
C = SAE 2-Bolt		3-1/4"	4"	4"	5"	5"	-
A = ISO 2-Bolt		80mm	100mm	100mm	125mm	125mm	180mm
D = SAE 4-Bolt							6"
B = ISO 4-Bolt							180mm
<b>Through-drive</b>		18	28	45	71	100	140
N00 = Without Through-drive		•	•	•	•	•	•
<b>With through-drive to accept axial piston or gear pump</b>							
<b>Mtg. Flange / Shaft/Coupling</b>		18	28	45	71	100	140
K04 = 101-2 (B) 1" 15T (B-B) A10V45(S,R) 60(U,W)			•	•	•	•	•
K01 = 82-2 (A) 5/8" 9T (A) A10V18(U,W)		•	•	•	•	•	•
K02/K68 = 101-2 (B) 7/8" 13T (B) A10V28(S,R), 45(U,W)			•	•	•	•	•
K07 = 127-2 (C) 1-1/4" 14T (C) A10V71(S,R), 100(U,W)					•	•	•
K24 = 127-2 (C) 1-1/2" 17T (C-C) A10V100(S,R), 85(S)						•	•
K17 = 152-4 (D) 1-3/4" 13T (D) A10V140(S,R)							•
KB7 = ISO 3019-2 1-3/4" 13T (D) A10V140(S,R)							•
<b>Service Ports</b>		18	28	45	71	100	140
<b>Pressure Port B &amp; Suction Port S</b>							
61 = Rear Ports UNC Mounting Screws <sup>1 2</sup>			•	•	•	•	•
62 = Opposite Side Ports UNC Mounting Screws <sup>1 2</sup>		•	•	•	•	•	•
11 = Rear Ports Metric Mounting Screws <sup>1</sup>			•	•	•	•	•
12 = Opposite Side Ports Metric Mounting Screws		•	•	•	•	•	•
91 = Rear Ports UNC Mounting Screws <sup>1</sup>						•	
92 = Opposite Side Ports UNC Mounting Screws						•	
41 = Rear Ports Metric Mounting Screws <sup>1</sup>						•	
42 = Opposite Side Ports Metric Mounting Screws						•	
Port pos. 61, 11 only for version without Through-drive							
<sup>1</sup> All rear porting, non Through-drive only							
<sup>2</sup> MA10V071 = 8 threaded holes on pressure port code 11, 61, 12 & 62							

Part Number	Disp. cc/rev	Regulator	Shaft Size	Shaft Type	Input Mount	Aux. Mount
MA10V-18-DFR-R-K	18	Load Sense	3/4" keyed	K	SAE-A 2 Bolt	none
MA10V-18-DFR-R-U			5/8" 9T	U		none
MA10V-18-DFR-R-S			3/4" 11T	S		none
MA10V-18-DFR-R-S-K01						SAE-A 2
MA10V-28-DFR-R-K	28	Load Sense	7/8" keyed	K	SAE-B 2 Bolt	none
MA10V-28-DFR-R-S				S		none
MA10V-28-DFR-R-R-K01			7/8" 13T	R		SAE-A 2
MA10V-28-DFR-R-R-K02						SAE-B 2
MA10V-28-DFLR-R-S		Power Cntl		S		none
MA10V-45-DFR-R-K	45	Load Sense	1" keyed	K	SAE-B 2 Bolt	none
MA10V-45-DFR-R-S				S		none
MA10V-45-DFR-R-R-K01			1" 15T	R		SAE-A 2
MA10V-45-DFR-R-R-K02						SAE-B 2
MA10V-45-DFLR-R-S		Power Cntl		S		none
MA10V-71-DFR-R-K	71	Load Sense	1-1/4" keyed	K	SAE-C 2 Bolt	none
MA10V-71-DFR-R-S				S		none
MA10V-71-DFR-R-R-K01			1-1/4" 14T	R		SAE-A 2
MA10V-71-DFR-R-R-K02						SAE-B 2
MA10V-71-DFR-R-R-K07				S	SAE-C 2	
MA10V-71-DFLR-R-S		Power Cntl		S		none
MA10V-100-DFR-R-K	100	Load Sense	1-1/2" keyed	K	SAE-C 2 Bolt	none
MA10V-100-DFR-R-U				U		none
MA10V-100-DFR-R-W-K01			1-1/4" 14T	W		SAE-A 2
MA10V-100-DFR-R-W-K02						SAE-B 2
MA10V-100-DFR-R-W-K07				S	SAE-C 2	
MA10V-100-DFLR-R-S		Power Cntl	1-1/2" 17T	S		none
MA10V-140-DFR-R-K	140	Load Sense	1-3/4" keyed	K	SAE-D 4 Bolt	none
MA10V-140-DFR-R-S						none
MA10V-140-DFR-R-S-K01			1-3/4" 13T	S		SAE-A 2
MA10V-140-DFR-R-S-K02						SAE-B 2
MA10V-140-DFR-R-S-K07					SAE-C 2	

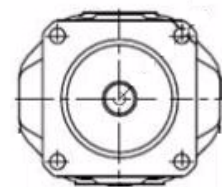
The range above defines CW rotation, for CCW rotation replace -R- with -L-  
The Metaris single pumps come with a maximum displacement adjustment as standard.

**MA10V Single Pump Dimensions**

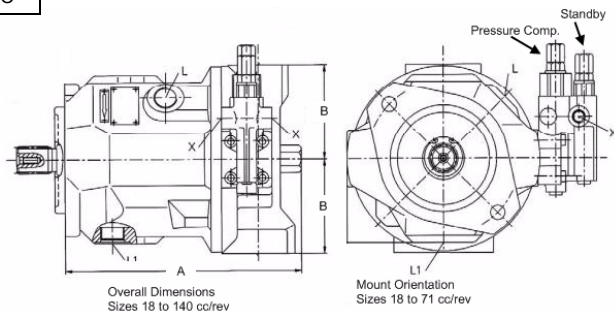
Size	A	B	L/L1	X
18	195	63	M16x1.5	7/16" UNO
28	203.5	80	M18x1.5	7/16" UNO
45	225	90	M22x1.5	7/16" UNO
71	258	104	M22x1.5	7/16" UNO
100	332.5	100	M27x2	7/16" UNO
140	335	110	M27x2	9/16" UNO



Mount Orientation  
Size 100 cc/rev



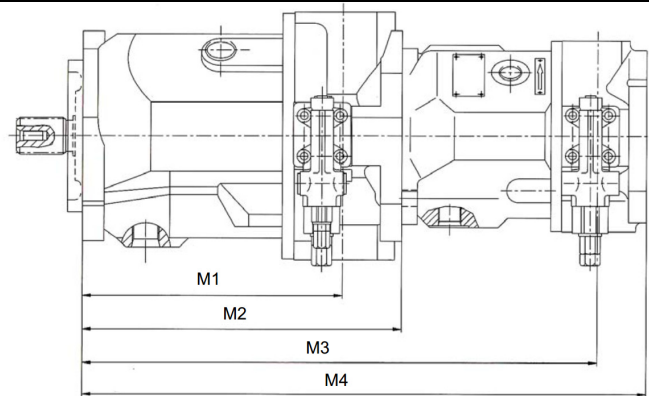
Mount Orientation  
Size 140 cc/rev





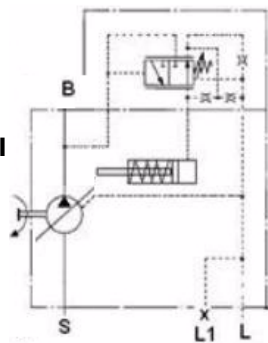
### MA10V Tandem Pump Dimensions (mm)

Pump 1	MA10V-28				MA10V-45				MA10V-71				MA10V-100				MA10V-140				
Pump 2	M1	M2	M3	M4	M1	M2	M3	M4	M1	M2	M3	M4	M1	M2	M3	M4	M1	M2	M3	M4	
MA10V-18	in.	6.50	8.03	13.74	15.71	7.24	9.02	14.72	16.69	8.54	10.51	16.21	18.19	10.83	13.31	19.02	20.98	10.83	13.78	19.49	21.46
	mm	165	204	349	399	184	229	373	424	217	267	412	462	275	338	483	533	275	350	495	545
MA10V-28	in.	6.50	8.03	14.53	15.67	7.24	9.02	15.51	16.65	8.54	10.51	17.01	18.15	10.83	13.31	19.80	20.94	10.83	13.78	20.28	21.42
	mm	165	204	369	398	184	229	394	423	217	267	432	461	275	338	503	532	275	350	515	544
MA10V-45	in.					7.24	9.02	16.30	17.64	8.54	10.51	17.76	19.36	10.83	13.31	20.55	21.93	10.83	13.78	21.02	22.40
	mm					184	229	413	448	217	267	451	486	275	338	522	557	275	350	534	569
MA10V-71	in.									8.54	10.51	19.06	20.63	10.83	13.31	21.85	23.43	10.83	13.78	22.32	23.90
	mm									217	267	484	524	275	338	555	585	275	350	567	607
MA10V-100	in.													10.83	14.02	24.84	26.50	10.83	14.49	24.31	29.97
	mm													275	356	631	673	275	368	643	685
MA10V-140	in.																	10.83	14.49	25.31	29.97
	mm																	275	368	643	685

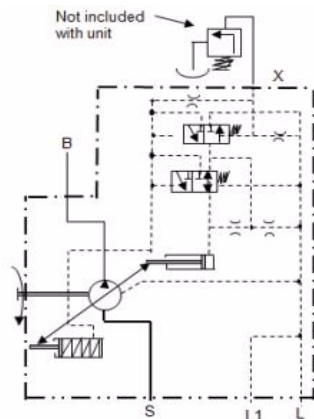


### MA10V Controller Circuits

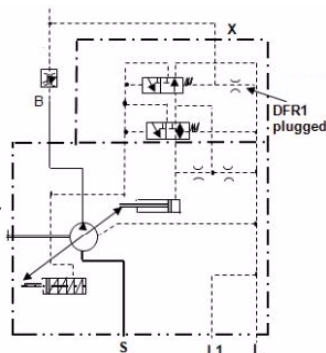
**DR**  
Pressure Control



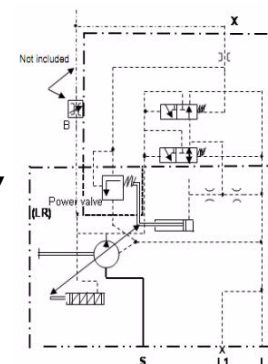
**DRG**  
Pressure Control,  
Remote Control



**DFR/DFR1**  
Pressure Control,  
Flow Control



**DFLR**  
Pressure Control,  
Flow Control,  
Power Control





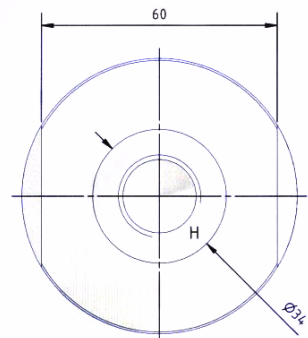
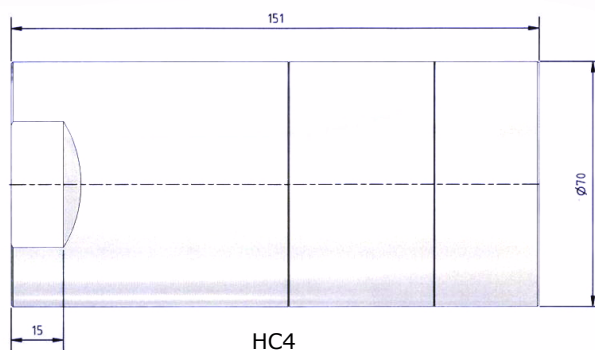
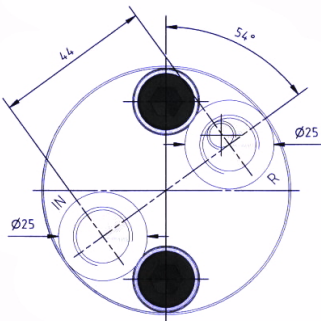
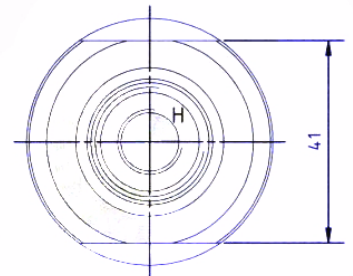
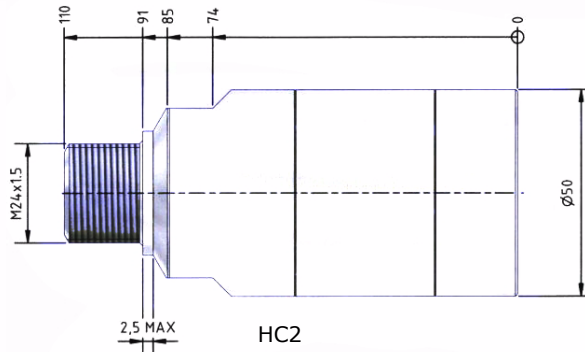
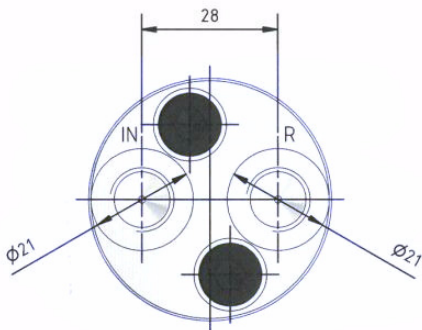
The miniBooster HC2 and HC4 range of intensifiers are compact and lightweight in design. They are used in a variety of applications where generating intensified pressure above system operating pressure is required. The miniBooster will automatically intensify system pressure giving a higher outlet pressure. They are oscillating pressure intensifiers that can be mounted on low-pressure hydraulics systems.

Available product range includes solutions for pressure up to 5000 bar, flow up to 400 L/min. Contact your local branch.



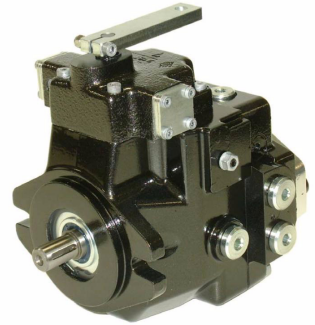
Input Pressure:	20-207 bar
Outlet Pressure:	800 bar (max)
Mounting:	Inline tube
Accessories:	Pilot-operated; Dump valve

Part Number	Intensification Factor	Max Inlet Flow L/min	Max Outlet Flow L/min	In/R Ports BSPP	H Port BSPP
<b>HC2-2.0-B-1</b>	2.0 to 1	12	3.2	1/4"	1/4"
<b>HC2-3.2-B-1</b>	3.2 to 1	15	2.5		
<b>HC2-4.0-B-1</b>	4.0 to 1	14	2.0		
<b>HC4-2.1-B-1</b>	2.1 to 1	40	10.1	3/8"	1/2"
<b>HC4-3.2-B-1</b>	3.2 to 1		6.5		
<b>HC4-4.3-B-1</b>	4.3 to 1		5.0		



# PWG Closed Loop Variable Displacement Axial Piston Pumps

The PWG C series is a family of variable displacement axial piston pumps for use in closed circuits. The displacement is infinitely variable by means of a tilting swash plate; the oil flow can be reversed over the neutral point. Various controls are available: manual, servocontrol lever operated, electric etc. Each pump is provided with a charge pump that makes up for internal leakage, maintains a positive pressure in the main circuit and provides oil to the control system. All pumps have maximum pressure relief valves and can be supplied in a single or tandem version. Different through drive options are available for auxiliary pump mounting as well as a wide range of options: by-pass valve, pressure filter and others.



Model	Max Displacement L/min	Cont. Pressure bar	Peak Pressure bar	Min speed rpm	Max Speed rpm	Front Mount	Working Ports - A & B BSPP	Suction Port BSPP
<b>C1-14/18</b>	14/18	230	270	700	3600	SAE-A	3/8"	1/2"
<b>C2-21/28/35</b>	21/28/35	250	350			SAE-B	3/4"	3/4"
<b>C3-46/50/64</b>	46/50/64	300	400					1"

Note: For the above pumps, the controllers are interchangeable with other controller options

Peak Pressure not to exceed 1% of every minute

Part Number	Description	Part Number	Description
<b>C1-18-LWX-1-21-R-1-G0</b>	18cc/rev, Manual Controller w/o Zero	<b>C1-18-LRX-21-R-1-G0</b>	18cc/rev, Manual Controller w/o Feedback
<b>C1-18-LNX-1-21-R-1-G0</b>	18cc/rev, Manual Controller w/ Zero	<b>C1-18-IRX-1-21-R-1-G0</b>	18cc/rev, Hyd. Prop. Controller w/ Feedback
<b>C1-18-IND-1-21-R-1-G0</b>	18cc/rev, Hyd. Prop. Controller w/ Feedback	<b>C2-28-LRX-1-25-R-1-G0</b>	28cc/rev, Manual Controller w/ Feedback
<b>C2-28-LWX-1-25-R-1-G0</b>	28cc/rev, Manual Controller w/o Zero	<b>C2-28-INP-1-25-R-1-G0</b>	28cc/rev, Hyd. Prop. Controller w/o Feedback
<b>C2-28-LNX-1-25-R-1-G0</b>	28cc/rev, Manual Controller w/ Zero	<b>C2-35-LRX-1-25-R-1-G0</b>	35cc/rev, Manual Controller w/ Feedback
<b>C2-28-IND-1-25-R-1-G0</b>	28cc/rev, Hyd. Prop. Controller w/ Feedback	<b>C2-35-INP-1-25-R-1-G0</b>	35cc/rev, Hyd. Prop. Controller w/o Feedback
<b>C2-35-LWX-1-25-R-1-G0</b>	35cc/rev, Manual Controller w/o Zero	<b>C3-46-LRX-1-25-R-1-G0</b>	46cc/rev, Manual Controller w/ Feedback
<b>C2-35-LNX-1-25-R-1-G0</b>	35cc/rev, Manual Controller w/ Zero	<b>C3-64-LRX-1-25-R-1-G0</b>	64cc/rev, Manual Controller w/ Feedback
<b>C3-64-IND-1-25-R-1-G0</b>	64cc/rev, Hyd. Prop. Controller w/ feedback	<b>C3-46-INP-1-25-R-1-G0</b>	46cc/rev, Hyd. Prop. Controller w/o Feedback
		<b>C3-64-INP-1-25-R-1-G0</b>	64cc/rev, Hyd. Prop. Controller w/o Feedback

Note 1: For the above pumps, the controllers are NOT interchangeable with other controllers. However, all other pump options can be configured using model code (from 4 to 9)

Note 2: 14cc/rev is available on C1 frame, 21cc/rev is available on C2 frame, 46cc/rev & 50cc/rev are available on C3 frame. Prices for these displacements are the same as their respective frame and configuration.

Note 1: For the above pumps, the controllers are interchangeable with other controller options.

Note 2: 14cc/rev is available on C1 range, 21cc/rev is available on C2 range. 50cc/rev is available on C3-64 frame. Prices for these displacements are the same as their respective frames and configuration.





# C2-21/28/35 & C3-46/50/64 Pumps

<b>1</b>	<b>Pump Series</b>	<b>C2- XX/XX IND- 1- 21 R 1 G XX</b>	<b>8</b>	<b>Ports</b>
<b>Mount</b>	<b>1a</b>		<b>G</b>	BSPB Threads
	<b>Max Displ. cc/rev</b>		<b>U</b>	SAE UNF Threads
SAE B2B	<b>C2</b>	<b>21/28/35</b>		
SAE B2B	<b>C3</b>	<b>46/50/64</b>		

Standard pump is fitted with Hyd Prop. control IND or INP

<b>2</b>	<b>Displacement Setting</b>
----------	-----------------------------

<b>3</b>	<b>Part No.</b>	<b>Controller</b>
<b>LNX</b>	<b>Integrated</b>	Manual with Zero (C2 Only)
<b>LWX</b>	<b>Integrated</b>	Manual without Zero (C2 Only)
<b>LRX</b>	<b>PWG0000009</b>	Manual Lever With Feedback
<b>IRX</b>	<b>PWG00000300</b>	Hydraulic Proportional With Feedback
<b>IND</b>	<b>Integrated</b>	Hydraulic Proportional Without Feedback
<b>INP</b>	<b>PWG00000325</b>	Hydraulic Proportional Without Feedback (connected to top plate)
<b>EI12</b>	<b>PWG00000507</b>	Electric Impulse 12V
<b>EI14</b>	<b>PWG00000508</b>	Electric Impulse 24V
<b>E22</b>	<b>PWG00000311</b>	Electric Two Position On/Off 12V
<b>E24</b>	<b>PWG00000312</b>	Electric Two Position On/Off 24V
<b>ER2</b>	<b>PWG00000504</b>	Electric Proportional With Feedback 12V
<b>ER4</b>	<b>PWG00000505</b>	Electric Proportional With Feedback 24V
<b>EP2</b>	<b>PWG00000324</b>	Electric Proportional Without Feedback 12V
<b>EP4</b>	<b>PWG00000323</b>	Electric Proportional Without Feedback 24V
<b>EH2</b>	<b>PWG00000320</b>	Elec. Prop + Hyd. Prop With Feedback 12V
<b>EH4</b>	<b>PWG00000321</b>	Elec. Prop + Hyd. Prop With Feedback 24V

<b>7</b>	<b>C2 Part No.</b>	<b>C2 Shaft Both Ends</b>	<b>C3 Part No.</b>	<b>C3 Shaft Both Ends</b>
<b>1</b>	<b>PWG00000080</b>	M-7/8" 13T / F-5/8" 9T	<b>PWG00000090</b>	M-1" 15T / F-5/8" 9T
<b>2</b>	<b>PWG00000082</b>	M-1" 15T / M-7/8" 13T Tandem	<b>PWG00000091</b>	M-1" 15T / M-7/8" 13T
<b>3</b>	<b>PWG00000081</b>	M-1" 15T / M-7/8" 13T	<b>PWG00000092</b>	F-7/8" 13T / F-5/8" 9T
<b>4</b>	<b>PWG00000083</b>	F-7/8" 13T / F-5/8" 9T	<b>PWG00000093</b>	F-7/8" 13T / F-3/4" 11T
<b>5</b>	<b>PWG00000084</b>	M-1" 15T / F-5/8" 9T SAE-A	<b>PWG00000094</b>	M-7/8" 13T / F-5/8" 9T
<b>6</b>	<b>PWG00000087</b>	M-3/4" 11T / F-5/8" 9T	<b>PWG00000089</b>	F-7/8" 13T / M-7/8" 13T
<b>8</b>	<b>N/A</b>	<b>N/A</b>	<b>PWG00000097</b>	M-30mm / F-5/8" 9T

<b>6</b>	<b>Rotation</b>
<b>R</b>	Clockwise
<b>L</b>	Counterclockwise

<b>5</b>	<b>Relief Valve</b>
<b>14</b>	140 bar (2030 psi)
<b>17</b>	170 bar (2465 psi)
<b>21</b>	210 bar (3045 psi)
<b>25</b>	250 bar (3625 psi) STD C2,C3
<b>30</b>	300 bar (4350 psi)
<b>35</b>	350 bar (5075 psi)

<b>4</b>	<b>Through Drive Flange + Shaft Adapter</b>	<b>Compatible With Shaft End (Section 7)</b>							
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>8</b>	
<b>1</b>	Single pump <b>without through drive</b> with charge pump	●		C3	●	●	C2	C3	
<b>2</b>	Single pump <b>without through drive</b> without charge pump	●		C3	●	●	C2	C3	
<b>3</b>	<b>SAE A</b> = 9T - 16/32 DP with charge pump	●		C3	●	●	C2	C3	
<b>4</b>	<b>SAE B</b> = 13T - 16/32 DP with charge pump		C3	C2			C3		
<b>5</b>	<b>SAE B</b> C2, C3 <b>Tandem</b> without charge pump		●						
<b>6</b>	<b>SAE A</b> = 9T - 16/32 DP without charge pump	●		C3	●	●	C2	C3	
<b>7</b>	<b>SAE B</b> = 13T - 16/32 DP without charge pump		●				C3		
<b>10</b>	<b>SAE B-B</b> = 15T - 16/32 DP C2, C3 <b>Tandem</b> with charge pump			C2					
<b>11</b>	<b>SAE A-A</b> = 11T - 16/32 DP w/o charge pump			C2					
<b>13</b>	<b>SAE B-B</b> = Z15 - 16/32 DP with charge pump	C3							
<b>14</b>	<b>SAE B-B</b> = Z15 - 16/32 DP without charge pump	C3							

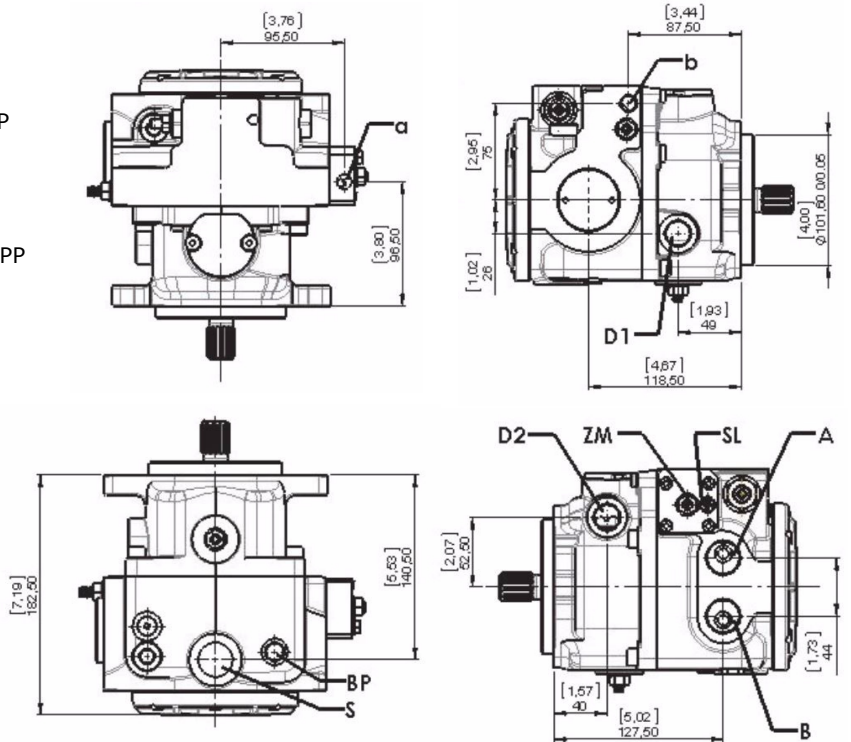
<b>9</b>	<b>Options</b>
<b>00</b>	Without options
<b>FI</b>	With filter C1
<b>FI</b>	With filter C2, C3
<b>FE</b>	Filter with electric sensor C1
<b>FE</b>	Filter with electric sensor C2, C3
<b>FR</b>	Remote mounted filter
<b>01</b>	Power limiter (includes EP2/2)
<b>P1</b>	Electric cut-off valve 12V
<b>P2</b>	Electric cut-off valve 24V
<b>VS</b>	Exchange valve
<b>II</b>	Hydraulic inching
<b>IM</b>	Mechanical inching



## PWG C2 Pump Dimensions

### Metric Version

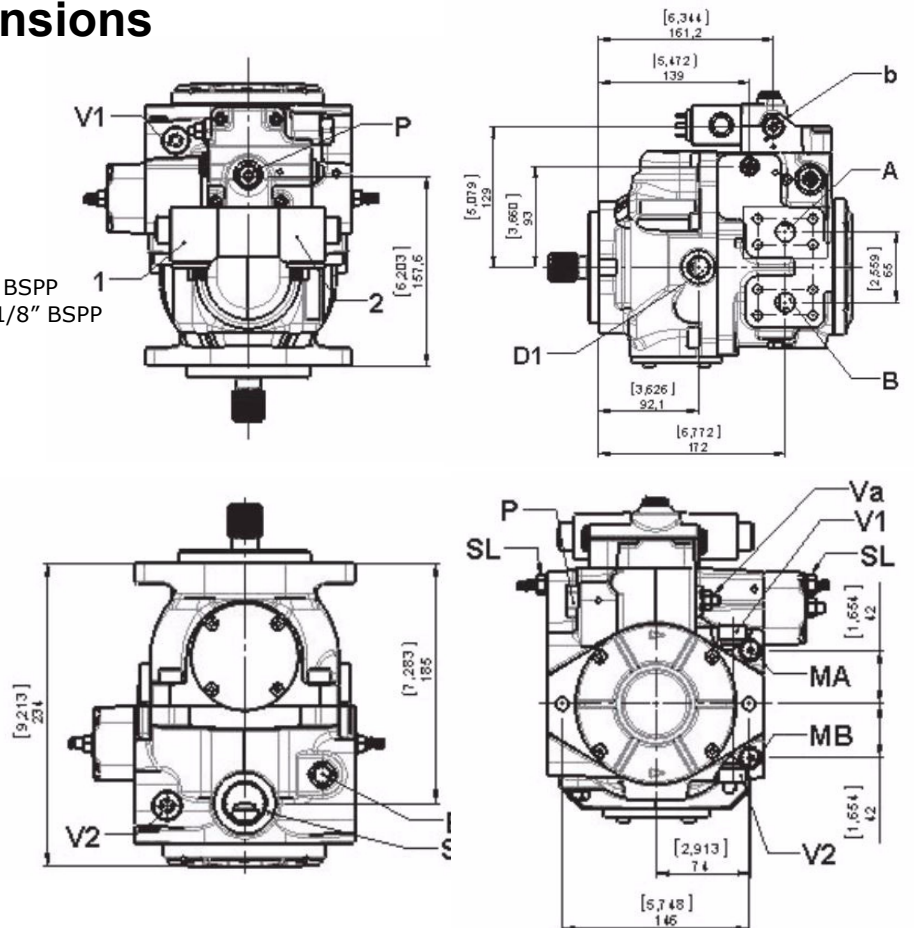
- A - B:** Pressure ports - 3/4" BSPP
- D1 - D2:** Drain port - 1/2" BSPP
- S:** Suction port - 3/4" BSPP
- P:** Charge pressure port - 1/8" BSP - 1/4" BSPP
- VA:** Charge pump valve
- V1 - V2:** Pressure relief valves
- SL:** Stroke limiter
- ZM:** Mechanical zero adjustment screw
- a - b:** Control piloting pressure ports - 1/4" BSPP



## PWG C3 Pump Dimensions

### Metric Version

- A - B:** Pressure ports - 3/4" Code 62
- D1 - D2:** Drain port - 1/2" BSPP
- S:** Suction port - 1" BSPP
- VA:** Charge pump valve
- V1 - V2:** Maximum pressure valves
- SL:** Stroke limiter
- ZM:** Mechanical zero adjustment screw
- a - b:** Control piloting pressure port - 1/4" BSPP
- MA - MB:** Control piloting pressure port - 1/8" BSPP
- BP:** Bypass





# MF Fixed Displacement Axial Piston Motors

The fixed displacement axial piston motors feature a swashplate system and may operate in either closed or open circuit.

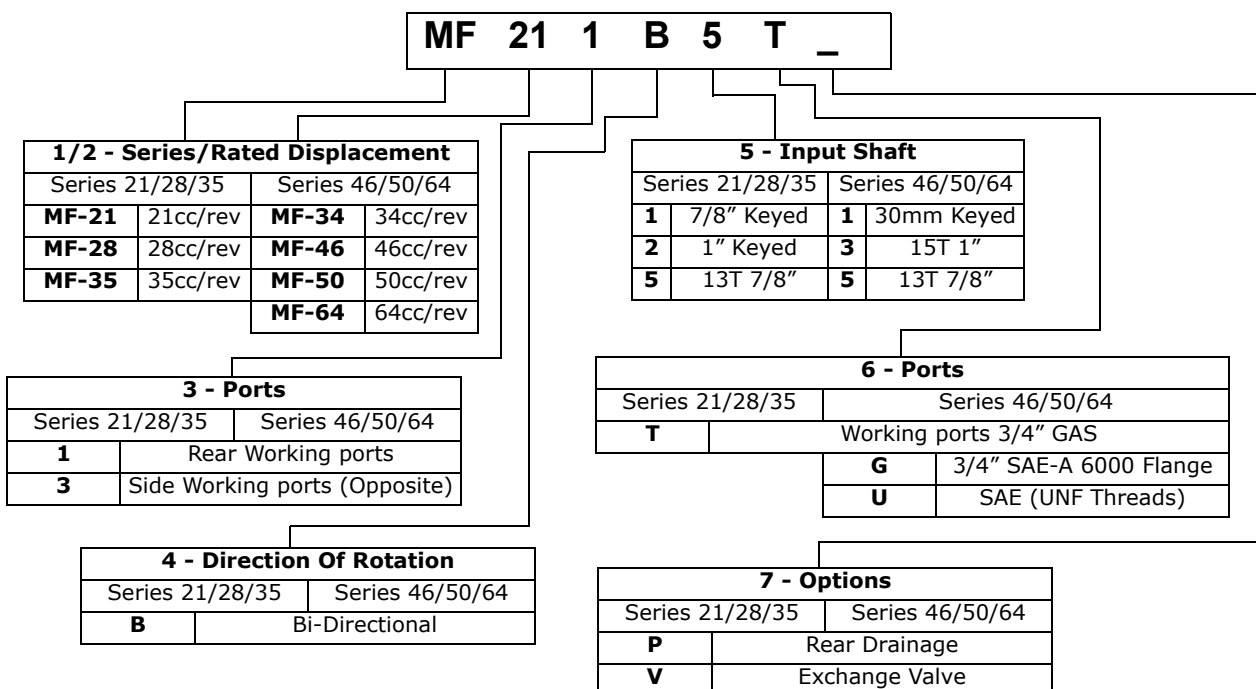


Series	MF 21/28/35	MF 46/50/64
Displacement (cc/rev)	21/28/35	34/46/50/64
Max Rotation (rpm)	3600	
Pressure Rating (bar)	250	300
Peak Pressure (bar)	350	400
Max Housing Pressure (bar)	1.5	
Max Oil Temperature (°C)	80	
Front Mounting	SAE-A 2-Bolt	SAE-B 2-Bolt
Drain (BSP)	G1/2"	G1/2" / G3/4"
ISO Filtration	ISO 18/16/13, NAS 8	
Optimised Oil Viscosity (mm <sup>2</sup> /s)	15-35	
Weight (kg)	7.5	13

Part Number	Displacement cc/rev	Shaft	Working Ports Position
<b>MF-21-1-B-1-T</b>	21	7/8" Keyed	Rear
<b>MF-21-3-B-1-T</b>			Side
<b>MF-34-1-B-1-T*</b>	34	30mm Keyed	Rear
<b>MF-34-3-B-1-T*</b>			Side
<b>MF-46-1-B-5-T</b>	46	13T 7/8"	Rear
<b>MF-64-3-B-3-T</b>	64	15T 1"	Side

\* is achieved by stroking pump MF-46

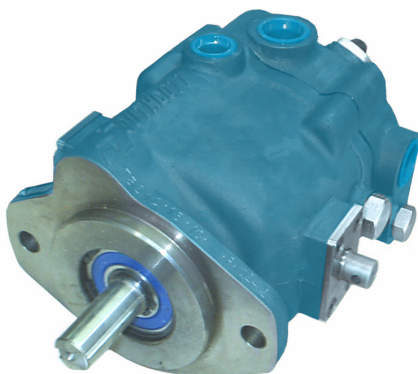
## Model Code



## Southcott Axial Piston Pumps & Motors

### Transmission Pumps - Closed Loop

#### Series 22 and 33



Developed to meet the modern requirements of high pressures and speeds in hydrostatic transmissions for off-road vehicles, the Southcott 22 and 33 series pumps provide lightweight and compact primary units for applications to 22kW. input, at speeds up to 3000 rpm.

The 22 and 33 Series are axial piston units of the variable delivery, over-centre type and are designed as composite pump packages for application in closed circuit with all types of hydraulic motors.

The pumps incorporate a charging pump, check valves and a low pressure relief valve for closed circuit replenishment and system cooling. Two differential piston type high pressure relief valves are also provided for operating pressure limitation on each side of the circuit.

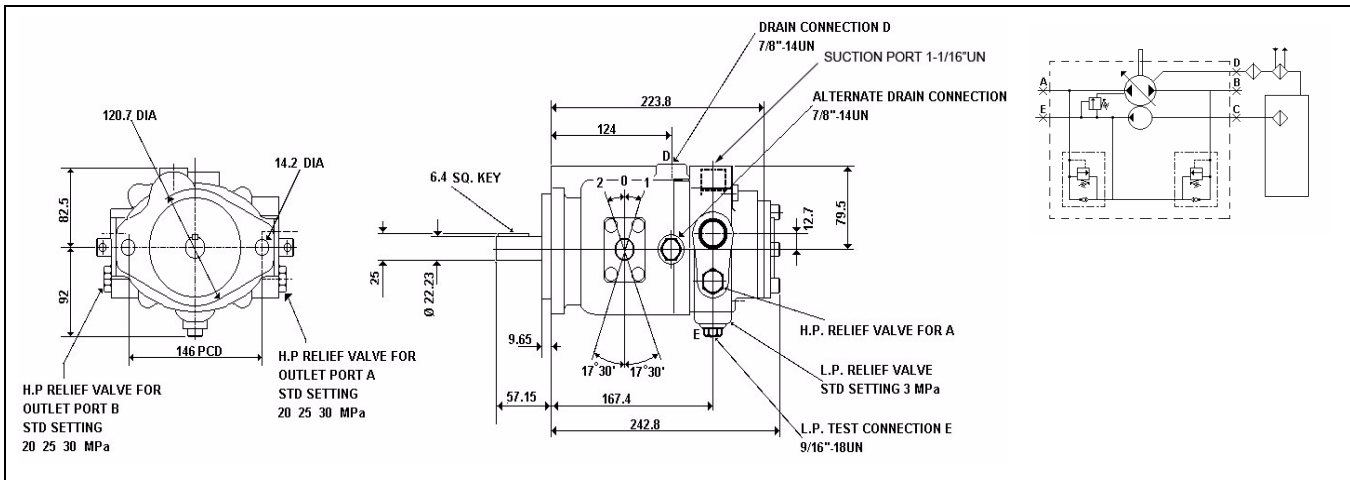
The pumps are intended for direct coupling to prime movers and are furnished with a two bolt flange mounting to SAE 'B' standard. Plain keyed or splined shafts are optional.

Performance Data						
Series	Displacement cc/rev	Continuous Pressure bar	Intermittent Pressure bar	Max Speed rpm	Max Case Pressure bar	Weight kg
22	22	200	300	3000	3	19
33	33	200	300	3000	3	19

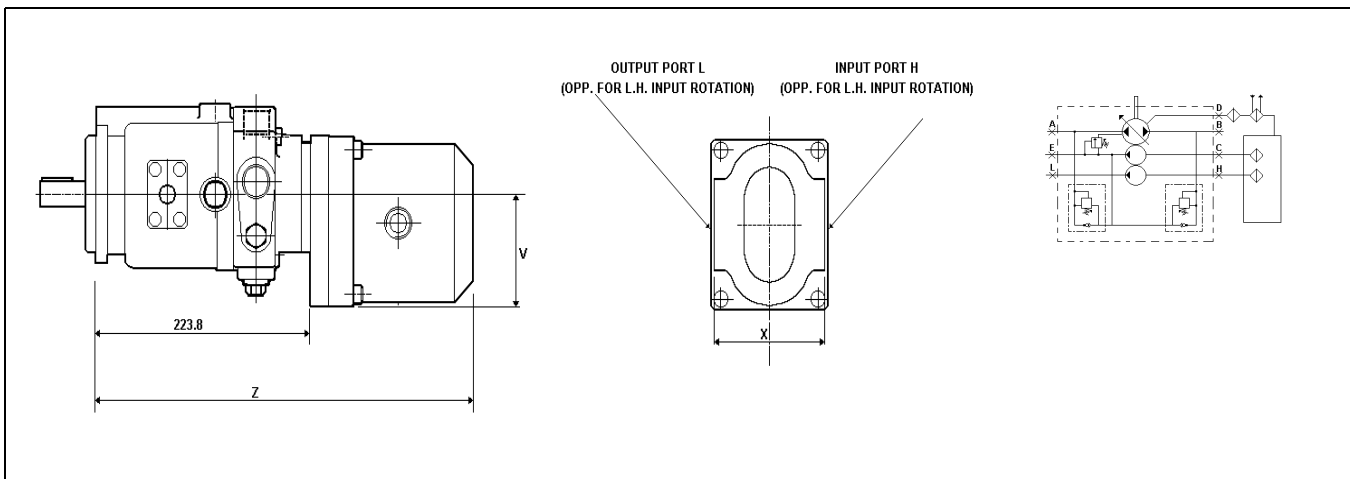
**NB: Models, codes and specifications may be subject to change without notice.**



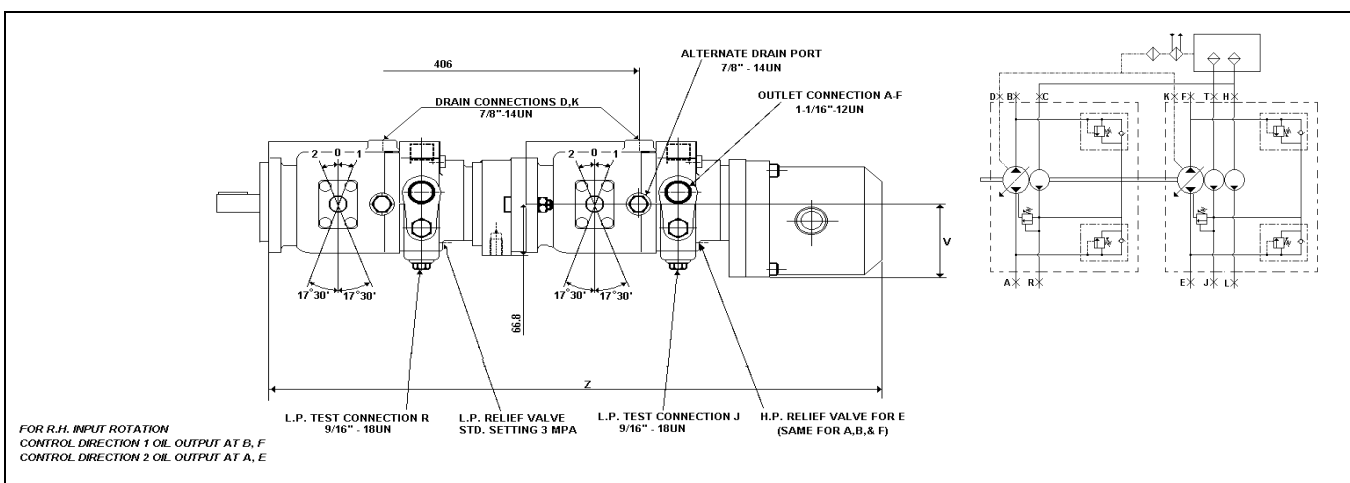
## SINGLE TRANSMISSION PUMP



## TRANSMISSION PUMP WITH ANCILLARY PUMP



## DOUBLE TRANSMISSION PUMP WITH ANCILLARY PUMP



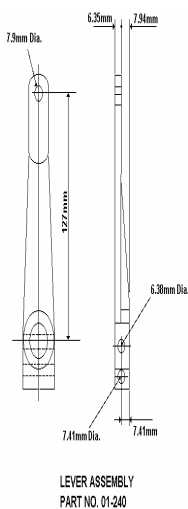
### ORDERING CODE

**T 3 3 1 D - 30 - 3C - P8 - R**

Type
T = Transmission Pump
Mark Number = 3
Size
2 = 22 cc/rev
3 = 33 cc/rev
Shaft
1 = Keyed 7/8"
2 = Splined (B) 13 TOOTH X 7/8"
3 = Splined (B-B) (std. for GB) 15 TOOTH X 1"
Control trunnion (Viewed from shaft)
R = Right hand
L = Left hand
D = Double (Standard)
(Viewed from shaft end)
Main Relief Valve
Standard Settings
15 = 150 BAR
20 = 200 BAR
25 = 250 BAR
30 = 300 BAR

Rotation
R= Right hand
L = Left hand
(Viewed from shaft end)
Ancillary Circuit
P4 = 4.8 cc/rev (G2)
P6.3 = 6.5 cc/rev (G2)
P8 = 8.3 cc/rev (G2)
P11.2 = 11.1 cc/rev (G2)
P14 = 14.4 cc/rev (G2)
P16 = 16.6 cc/rev (G2)
P20 = 20.8 cc/rev (G2)
P25 = 26 cc/rev (G2)
P27 = 27 cc/rev (G2)
P34 = 34 cc/rev (G3)
E2 = Group 2 Adaptor
E3 = Group 3 Adaptor
GB = SAE B Adaptor (1st Pump)
(Omit if not required)
Boost Capacity/Pressure
1C = 15 cc/rev, 4 BAR
2C = 15 cc/rev, 7 BAR
3C = 10 cc/rev, 4 BAR (STD)
4C = 10 cc/rev, 7 BAR
5C = 10 cc/rev, 13 BAR

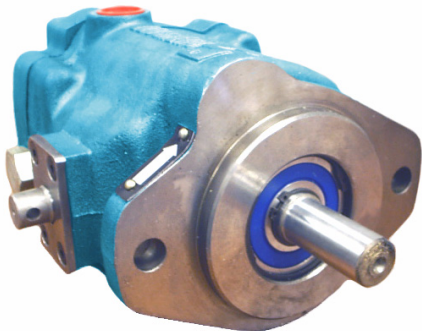
**NB:** For double pumps choose a GB option in the first pump code and a second pump with a Code 2 splined input shaft.



Description	Part Number - Typical
Single Pump Only	<b>T332D-30-3C-R</b>
Single Pump with 'E2' PLP20 Anc. Pump Flange	<b>T332D-30-3C-E2-R</b>
Single Pump with 'E3' PLP30 Anc. Pump Flange	<b>T332D-30-3C-E3-R</b>
Single Pump with 'GB' SAE 'B' Anc. Pump Flange (1st pump)	<b>T333D-30-3C-GB-R</b>
Single Pump with P4 cc/rev Anc. Pump	<b>T332D-30-3C-P4-R</b>
Single Pump with P6.3 cc/rev Anc. Pump	<b>T332D-30-3C-P6-R</b>
Single Pump with P8 cc/rev Anc. Pump	<b>T332D-30-3C-P8-R</b>
Single Pump with P11 cc/rev Anc. Pump	<b>T332D-30-3C-P11-R</b>
Single Pump with P14 cc/rev Anc. Pump	<b>T332D-30-3C-P14-R</b>
Single Pump with P16 cc/rev Anc. Pump	<b>T332D-30-3C-P16-R</b>
Single Pump with P20 cc/rev Anc. Pump	<b>T332D-30-3C-P20-R</b>
Single Pump with P25 cc/rev Anc. Pump	<b>T332D-30-3C-P25-R</b>
Single Pump with P27 cc/rev Anc. Pump	<b>T332D-30-3C-P27-R</b>
Single Pump with P34 cc/rev Anc. Pump	<b>T332D-30-3C-P34-R</b>
Control Lever	<b>01-240</b>



# SOUTHCOTT OPEN CIRCUIT PISTON PUMPS



## VP Series

**PUMPS:** Variable delivery open circuit, unidirectional with 2 basic control options; - manual lever and pressure compensator.

Manual lever controlled pumps are useful for those applications which require variable output speeds from an open circuit system. Pressure compensator pumps are commonly used with pressure port closed valving on multifunction systems.

Pressure compensator units are available with remote pressure control and with means for externally adjusting the maximum and minimum displacement.

When used with a minimum displacement limit they are ideal for HIGH-LOW systems for presses etc.

### SPECIFICATIONS

<b>Displacement</b>	22 = 22 cc/rev 33 = 33 cc/rev	<b>Max. Op. Press = 210 bar (3000 psi)</b>
Pump max. input speed at a negative inlet Pressure of 127mm HG (5" HG) = 2000 rpm		Compensator = 20-100 bar (290-1450 psi) Pressure Ranges = 70-210 bar (1000-3000 psi) Max. case press = 3 bar (45 psi)
Pump max. input speed at a positive inlet Pressure of 7 BAR (10 psi) = 3000 rpm		<b>Mounting = SAE-B 2 Bolt</b>
		Shaft = 7/8" Keyed = 13 Tooth x 7/8" Spline
Motor max. output speed = 3000 rpm		<b>Weight = 17Kg</b>

### ORDERING CODE

**VP - 33 - 1 - C1 - L - R**

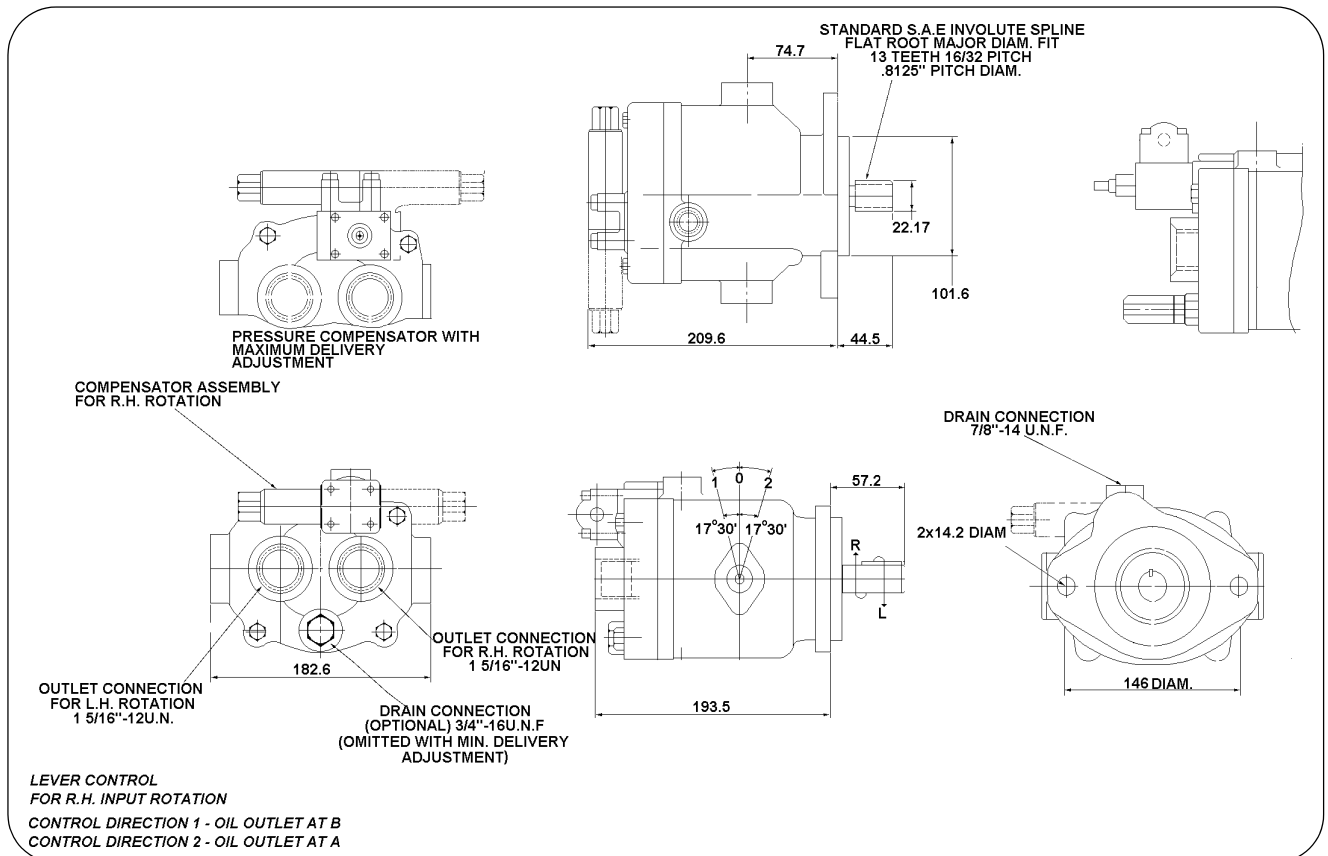
<b>Type</b>
VP = Variable Pump
<b>Displacement</b>
22 = 22 cc/rev
33 = 33 cc/rev
<b>Shaft</b>
1 = Keyed 7/8" Parallel
2 = Splined 13 Tooth x 7/8" Spline

<b>Rotation</b>
R = Clockwise
L = Counter Clockwise
<b>Compensator Options</b>
H = max. Displacement Adjustment
L = Min. Displacement Adjustment (Omit if not required)
<b>Displacement Control</b>
D = Manual Lever
C1 = Pressure Compensator 20 - 100 BAR
C2 = Pressure Compensator 70 - 200 BAR
CR = Remote Pressure Control

**NB:** H or L settings to be also stated at a percentage of full displacement

## Variable Displacement Open Circuit Piston Pumps and Motors

# PRESSURE COMPENSATED PUMPS



Type	Control Description	Shaft	Part No. - Typical
Pump	Manual Lever	Keyed	<b>VP-33-1-D-R</b>
		Splined	<b>VP-33-2-D-R</b>
Pump	Pressure Compensator	Keyed	<b>VP-33-1-C1-R</b>
		Splined	<b>VP-33-2-C1-R</b>
Pump	Pressure Compensator with remote Pressure Control	Keyed	<b>VP-33-1-CR-R</b>
		Splined	<b>VP-33-2-CR-R</b>
Pump	Press. Comp. with Max. Displacement	Keyed	<b>VP-33-1-C1-H-R</b>
		Splined	<b>VP-33-2-C1-H-R</b>
Pump	Press. Comp. with Min. Displacement (High-Low)	Keyed	<b>VP-33-1-C1-L-R</b>
		Splined	<b>VP-33-2-C1-L-R</b>
Pump	Press. Comp. with Max. and Min. Displacement	Keyed	<b>VP-33-1-C1-HL-R</b>
		Splined	<b>VP-33-2-C1-HL-R</b>
Motor	Manual Lever	Keyed	<b>VM-33-1-D-B</b>
		Splined	<b>VM-33-2-D-B</b>
Lever	Control Lever (not included with pumps)	N/A	<b>01-240</b>



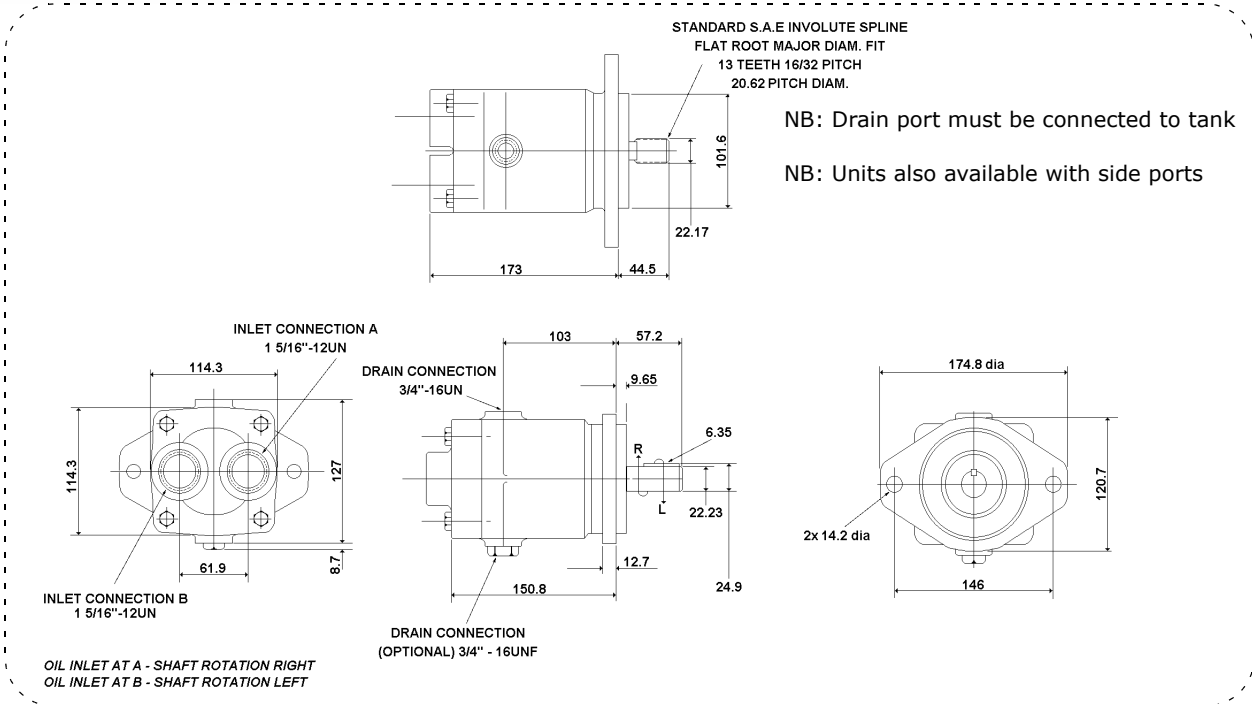


# Southcott Piston Pumps & Motors Fixed Displacement Series 22 and 33



## FM Series

These units are designed for use as bi-rotational closed circuit transmission motors or as unidirectional open circuit pumps or motors.



PERFORMANCE DATA							
Series	Displ. cc/rev	Cont. Pressure bar	Int. Pressure bar	Max Speed As Pumps (rpm)		Max Case Pressure bar	Weight kg
				Flooded	Pressurised To 0.7 bar		
22	22	200	300	2000	3000	3	10
33	33	200	300	2000	3000	3	10

### ORDERING CODE

**FM - 33 - 1 - 1**

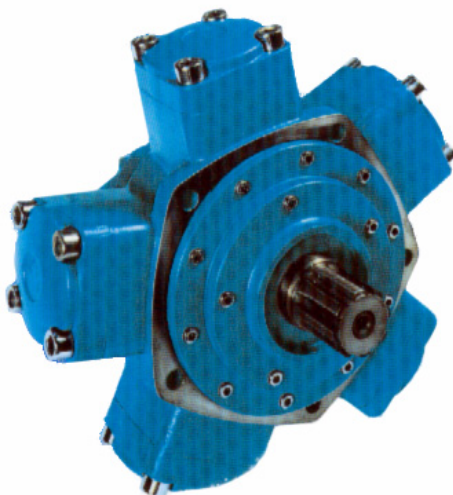
<b>Type</b>	
<b>Displacement</b>	
22 = 22 cc/rev	
33 = 33 cc/rev	

<b>Ports</b>
1 = Rear Ports 1-5/16 UNO
2 = Side Ports 1 -1/16 UNO(33cc Only)
<b>Shaft</b>
1 = 7/8" Keyed
2 = 13 Tooth x 7/8 Spline

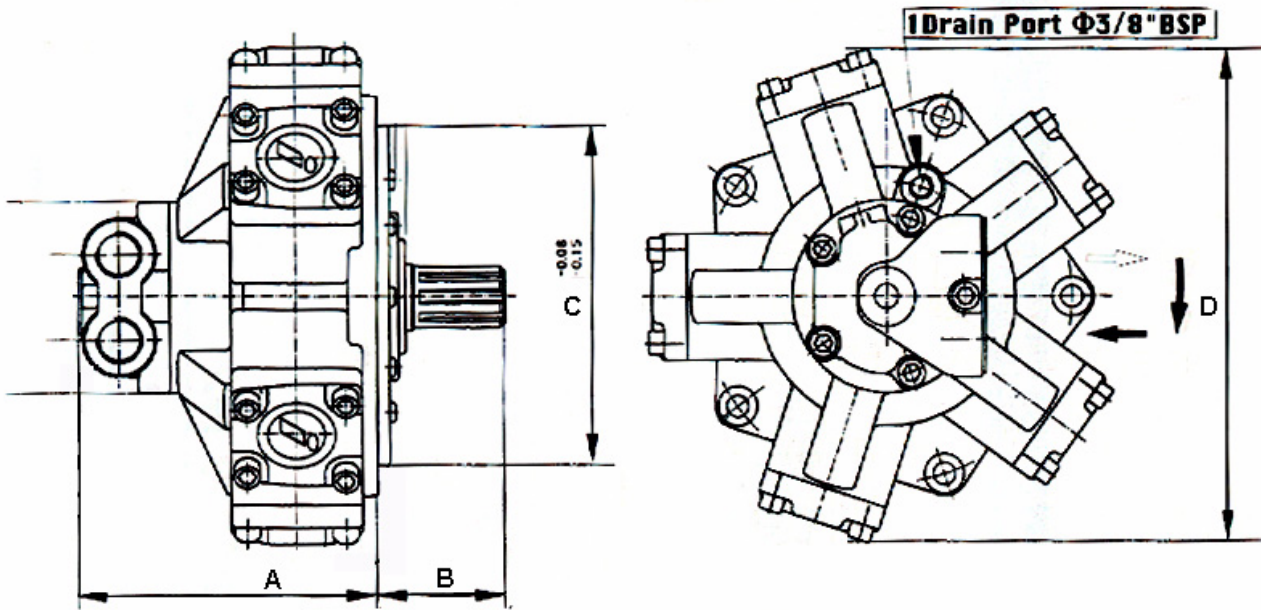
Part Number	Description
<b>FM-33-1-1</b>	Keyed Shaft Rear Ported
<b>FM-33-1-2</b>	Keyed Shaft Side Ported
<b>FM-33-2-1</b>	Spline Shaft Rear Ported
<b>FM-33-2-2</b>	Spline Shaft Side Ported



## ITALGROUP RADIAL PISTON MOTORS



- HIGH EFFICIENCY:** A special designed seal ring in the cylinder barrels and the patented distributor valve ensures the high volumetric efficiency of the Italgroup motor.
- LOW NOISE:** The patented distributor valve ensures low noise and smooth running.
- LONG LIFE:** Oversized bearings on the cam and tapered roller bearings on the shaft ensure long life.
- MODULARITY:** The cylinder barrel is a separate component to the housing providing easy placement or displacement change within the same housing group.
- DISPLACEMENT CHOICE:** Italgroup motors have an extensive compatibility choice in displacements. Italgroup can supply at short notice motors which are interchangeable with other major brands.
- TACHO/SPEED SENSING:** All Italgroup motors can be supplied either with a back connection tachometer or an electronic speed transducer.



## DIMENSIONAL DATA

Housing	Ports	Dimensions (mm)				Shaft	
		A	B	C	D	Spline A0	Parallel A2
H1	1" BSPP	201	59	172	305	6T x 32mm	32mm x 10mm Key
H2	1" BSPP	218	79	190	341	8T x 38mm	38mm x 10mm Key
H3	1" BSPP	242	90	230	386	8T x 42mm	42mm X 12mm Key
H4	1" BSPP	256	104	256	452	8T x 50mm	50mm X 14mm Key
H5	1" Code 61 Flange	322	148	301.6	545	8T x 72mm	60mm X 18mm Key
H6	1-1/2" Code 62 Flange	379	156	381	667	10T x 92mm	85mm X 24mm Key
H7	1-1/2" Code 62 Flange	399	138	457.1	750	20T	85mm X 24mm Key

### Important Information

1. It is necessary to fill the motor case with hydraulic fluid through the case drain port prior to start-up.
2. The case must be connected to the tank.
3. Maximum case pressure is 6 BAR.
4. For applications at continuous high speed it is recommended to flush the motor case.
5. A filter of 10 microns is required.
6. Maximum operating temperature should not exceed 70°C

**ITALGROUP MOTORS are also available with mounting and shaft details which Interface with: Calzoni, Staffa, SAI & Bignozzi**

Splined Billet Part Number
H1-26X32
H2-32X38
H3-36X42
H4-46x54
H5-62X72
H6-82X92
H7-20T

## Italgroup Specification Table

Part Number	Disp. cc/rev	Housing	Cont. Pressure bar	Int. Pressure bar	Max Speed rpm	Torque Nm/bar	
IAM-80-H1-A0-D40	80	H1	250	300	950	1.3	
IAM-100-H1-A0-D40	100					1.8	
IAM-150-H1-A0-D40	157					2.5	
IAM-175-H1-A0-D40	176				800	2.8	
IAM-195-H1-A0-D40	195					3.1	
IAM-200-H2-A0-D40	198	H2			800	3.2	
IAM-250-H2-A0-D40	253				750	4.0	
IAM-300-H2-A0-D40	314					5.0	
IAM-350-H2-A0-D40	362				650	5.8	
IAM-400-H3-A0-D40	397	H3			600	6.3	
IAM-450-H3-A0-D40	452					7.2	
IAM-500-H3-A0-D40	491					7.8	
IAM-600-H3-A0-D40	594					550	9.4
IAM-700-H3-A0-D40	707					500	11.2
IAM-800-H3-A0-D40	791					450	12.6
IAM-700-H4-A0-D40	714	H4			500	11.4	
IAM-800-H4-A0-D40	792				450	12.6	
IAM-900-H4-A0-D40	904					14.4	
IAM-1000-H4-A0-D40	992				330	15.8	
IAM-1100-H4-A0-D40	1116				350	17.8	
IAM-1000-H5-A0-D75	1094	H5			300	300	17.4
IAM-1200-H5-A0-D75	1231						19.6
IAM-1400-H5-A0-D75	1376						21.9
IAM-1600-H5-A0-D75	1648					250	26.2
IAM-1800-H5-A0-D75	1815						28.9
IAM-2000-H5-A0-D75	2035		230	32.4			
IAM-2200-H5-A0-D75	2220		220	35.3			
IAM-2500-H6-A0-D90	2525		H6	220		40.2	
IAM-2800-H6-A0-D90	2807	210		44.7			
IAM-3000-H6-A0-D90	2983			47.5			
IAM-3200-H6-A0-D90	3289	200		52.3			
IAM-3500-H6-A0-D90	3479			55.4			
IAM-3900-H7-A0-D90	3907	H7	160	62.2			
IAM-4300-H7-A0-D90	4343		150	69.1			
IAM-4600-H7-A0-D90	4616		140	73.5			
IAM-5400-H7-A0-D90	5384		130	85.7			

NB: The above listed models are standard spline shaft. Parallel shaft units are the same price, replace 'A0' in the Part No. with 'A2'.

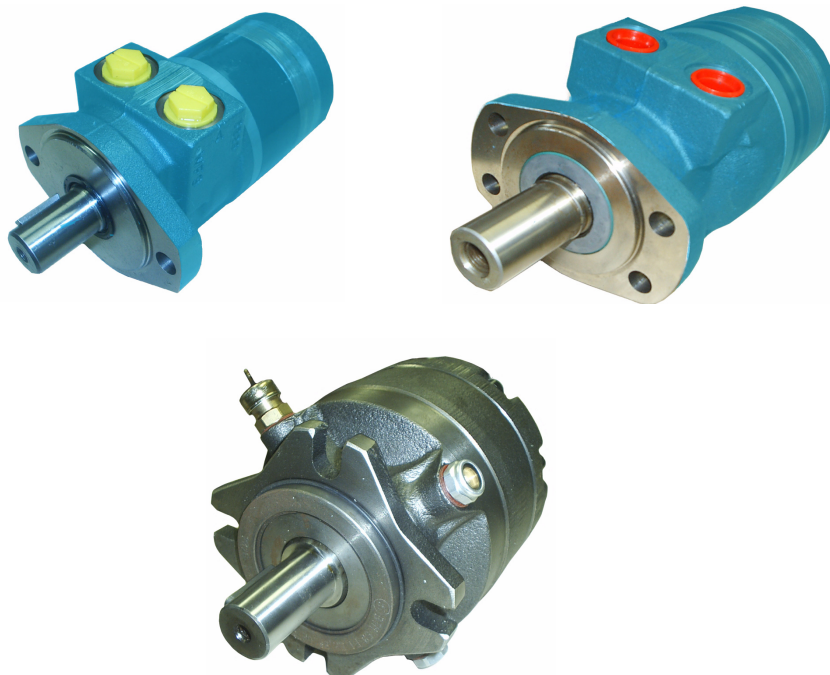
Other displacements are available on request.

# SECTION D

## TORQMOTORS



PAGE DESCRIPTION	PAGE
TE Series [SMALL FRAME] -- FORMERLY MF SERIES (ROSS).....	D 2
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<b>ROTARY ACTUATORS</b>	
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**NB: Models, codes, specifications and price may be subject to change without notice.**



## TE Series

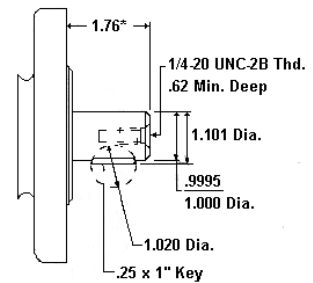
Formerly MF Series

**Low - Speed**

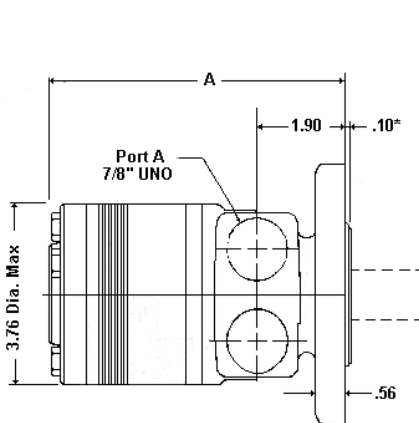
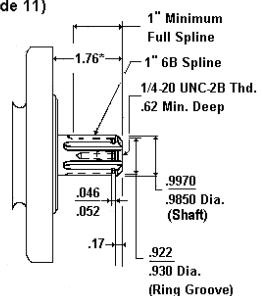
**High - Torque**

### Mounting

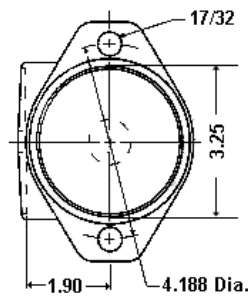
Short Woodruff Key  
(Code 10)



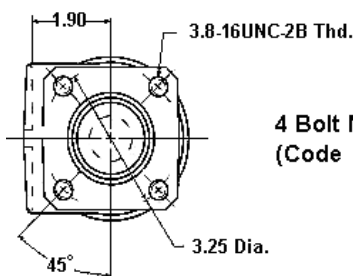
Short 6 B Spline  
(Code 11)



Rotation 'A' Port = Clockwise



SAE "A" Flange  
2 Bolt Mount  
(Code 6)



4 Bolt Mount  
(Code 9)

### TorqMotor TE Series Roller Vane Motor

For powering conveyors, irrigation equipment and scissor lifts where moderate torque is required and durability is a must, the TE TorqMotor is ideal. The roller vane TE design provides reliable and efficient performance and long-term economy in a broad range of applications.





## MF Series

2 Bolt Mount * 1" Keyed Shaft		4 Bolt Mount * 1" Keyed Shaft	
Part No.	Ref. No.	Part No.	Ref. No.
<b>MF-02-06-10-AAAB</b>	TE-0045-AS-100-AAAB	<b>MF-02-09-10-AAAB</b>	TE-0045-FS-100-AAAB
<b>MF-03-06-10-AAAB</b>	TE-0050-AS-100-AAAB	<b>MF-03-09-10-AAAB</b>	TE-0050-FS-100-AAAB
<b>MF-04-06-10-AAAB</b>	TE-0065-AS-100-AAAB	<b>MF-04-09-10-AAAB</b>	TE-0065-FS-100-AAAB
<b>MF-05-06-10-AAAB</b>	TE-0080-AS-100-AAAB	<b>MF-05-09-10-AAAB</b>	TE-0080-FS-100-AAAB
<b>MF-06-06-10-AAAB</b>	TE-0100-AS-100-AAAB	<b>MF-06-09-10-AAAB</b>	TE-0100-FS-100-AAAB
<b>MF-08-06-10-AAAB</b>	TE-0130-AS-100-AAAB	<b>MF-08-09-10-AAAB</b>	TE-0130-FS-100-AAAB
<b>MF-10-06-10-AAAB</b>	TE-0165-AS-100-AAAB	<b>MF-10-09-10-AAAB</b>	TE-0165-FS-100-AAAB
<b>MF-12-06-10-AAAB</b>	TE-0195-AS-100-AAAB	<b>MF-12-09-10-AAAB</b>	TE-0195-FS-100-AAAB
<b>MF-14-06-10-AAAB</b>	TE-0230-AS-100-AAAB	<b>MF-14-09-10-AAAB</b>	TE-0230-FS-100-AAAB
<b>MF-16-06-10-AAAB</b>	TE-0260-AS-100-AAAB	<b>MF-16-09-10-AAAB</b>	TE-0260-FS-100-AAAB
<b>MF-18-06-10-AAAB</b>	TE-0295-AS-100-AAAB	<b>MF-18-09-10-AAAB</b>	TE-0295-FS-100-AAAB
<b>MF-20-06-10-AAAB</b>	TE-0330-AS-100-AAAB	<b>MF-20-09-10-AAAB</b>	TE-0330-FS-100-AAAB
<b>MF-22-06-10-AAAB</b>	TE-0365-AS-100-AAAB	<b>MF-22-09-10-AAAB</b>	TE-0365-FS-100-AAAB
<b>MF-24-06-10-AAAB</b>	TE-0390-AS-100-AAAB	<b>MF-24-09-10-AAAB</b>	TE-0390-FS-100-AAAB

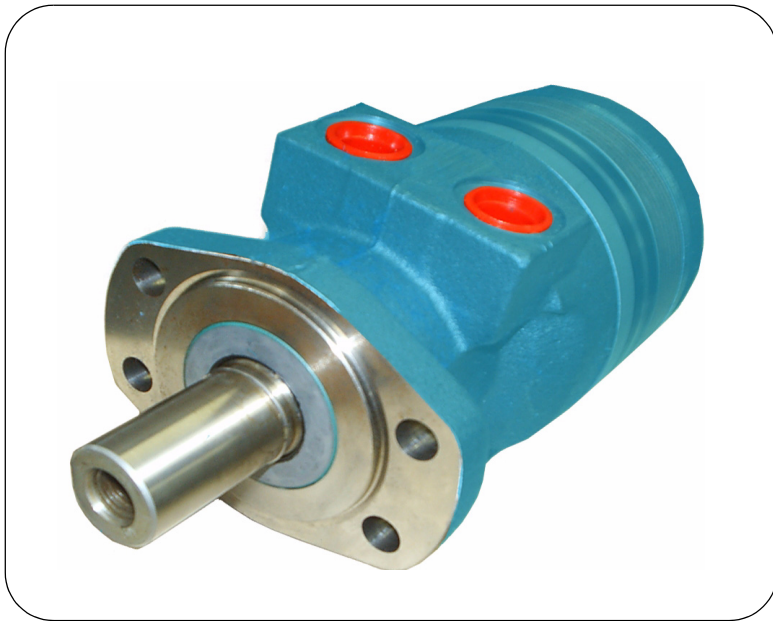
**SEAL KIT**  
**SK000090**

MODEL		Displacement		Pressure bar		Flow L/Min		Torque				Speed Max rpm	Dim A mm
Part Number	Ref. Number	cc/rev	in <sup>3</sup> /rev	Cont	Int	Cont	Max	Nm		in/lbs			
								Cont	Max	Cont	Max		
<b>MF-02</b>	<b>TE-0045</b>	41	2.5	140	190	34	42	71	99	624	876	1024	136
<b>MF-03</b>	<b>TE-0050</b>	49	3	140	190	34	50	90	127	796	1120	1020	138
<b>MF-04</b>	<b>TE-0065</b>	65	4	140	190	45	57	125	176	1106	1558	877	141
<b>MF-05</b>	<b>TE-0080</b>	82	5	140	190	45	57	160	220	1416	1947	695	144
<b>MF-06</b>	<b>TE-0100</b>	98	6	140	190	45	57	190	264	1682	2337	582	147
<b>MF-08</b>	<b>TE-0130</b>	130	8	140	190	45	57	255	352	2257	3116	438	154
<b>MF-10</b>	<b>TE-0165</b>	163	10	140	190	45	57	310	436	2744	3846	348	160
<b>MF-12</b>	<b>TE-0195</b>	195	11.9	140	190	45	57	390	528	3452	4673	292	166
<b>MF-14</b>	<b>TE-0230</b>	228	13.90	120	165	57	75	380	514	3363	4554	328	173
<b>MF-16</b>	<b>TE-0260</b>	260	15.9	110	155	57	75	400	550	3540	4870	287	179
<b>MF-18</b>	<b>TE-0295</b>	293	17.9	100	145	57	75	428	582	3784	5180	256	185
<b>MF-20</b>	<b>TE-0330</b>	328	20	100	135	57	75	443	600	3926	5312	228	192
<b>MF-22</b>	<b>TE-0365</b>	370	22.6	95	125	57	75	467	648	4133	5728	203	200
<b>MF-24</b>	<b>TE-0390</b>	392	24	85	120	57	75	445	628	3935	5562	191	205

The above units are our stock range, other shaft and port options are available by conversion. The conversions incur a cost penalty which is additional to the above prices.

NB: This cost penalty will be waived for build codes obtained from the factory for your specific requirements.

Part Number	Conversion Labour Charge	
	Code	Description
<b>TE/11</b>	11	1" 6B Spline Shaft
<b>TE/09</b>	09	1" Cross Hole Shaft
<b>TE/26</b>	26	25mm Keyed Shaft
<b>TE/M</b>	M	Manifold Port Option
<b>TE/U</b>	U	Wheel Mount



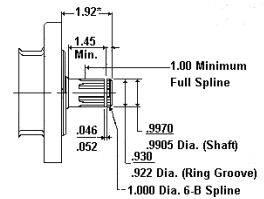
## TF/TG Series

Formerly MB/ME Series

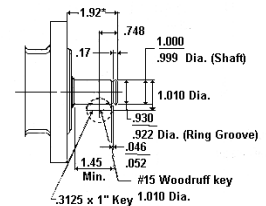
Low - Speed

High - Torque

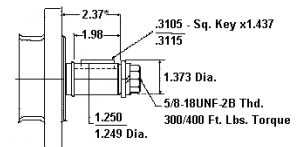
**6B Spline  
(Code 01)**



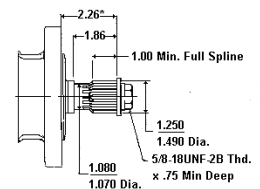
**Woodruff Key  
(Code 02)**



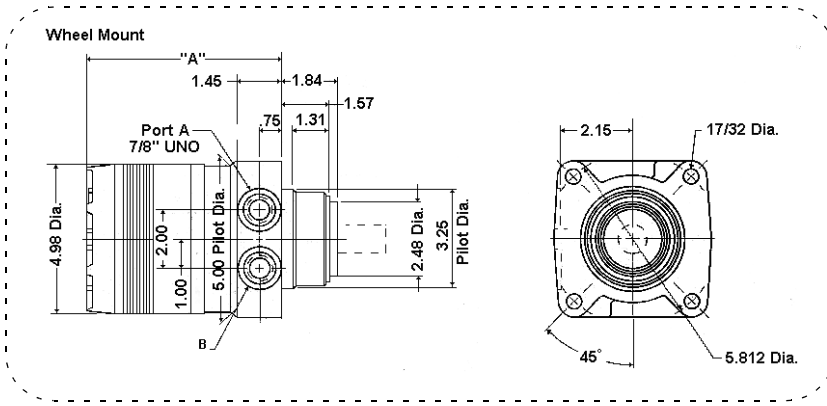
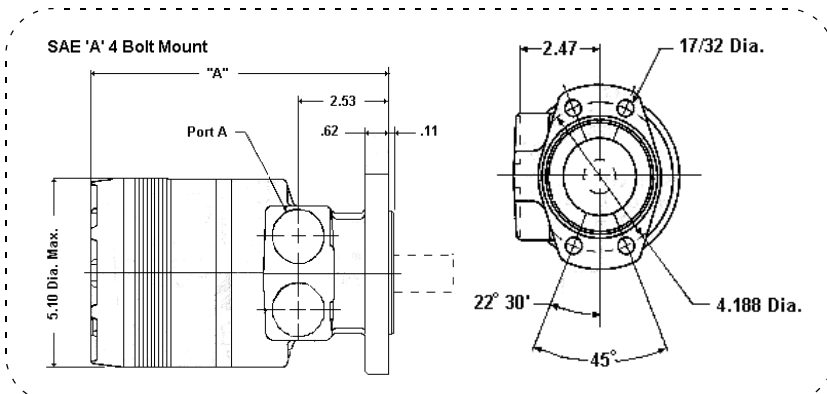
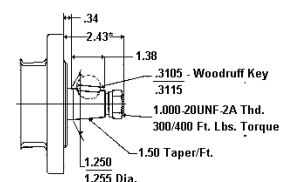
**Straight Key  
(Code 03)**



**14 Tooth Spline  
(Code 05)**



**Tapered  
(Code 08)**



### TorqMotor TG Series Roller Vane Motor

Truly the premier motor in its class, the TG TorqMotor provides high torque and maximum endurance under strenuous conditions. The TG is a proven top performer in applications like wheel drives for skid steer loaders, air-port ground support equipment and municipal sweepers.

The TG is simple and reliable. The design requires fewer parts compared to most competitive motors. The use of the roller vanes reduces friction and minimises internal leakage in the TG to promote optimum motor performance and life.



# MB/ME Series

Magneto Mount * 1- 1/4" Keyed Shaft		Wheel Mount * 1- 1/4" Tapered Shaft	
Part No.	Ref. No.	Part No.	Ref. No.
<b>MB-05-01-03-AAAB</b>	TF-0080-MS-030-AAAB	<b>MB-05-02-08-AABP</b>	TF-0080-US-080-AABP
<b>MB-06-01-03-AAAB</b>	TF-0100-MS-030-AAAB	<b>MB-06-02-08-AABP</b>	TF-0100-US-080-AABP
<b>MB-08-01-03-AAAB</b>	TF-0130-MS-030-AAAB	<b>MB-08-02-08-AABP</b>	TF-0130-US-080-AABP
<b>ME-09-01-03-AAAB</b>	TG-0140-MS-030-AAAB	<b>ME-09-02-08-AABP</b>	TG-0140-US-080-AABP
<b>ME-10-01-03-AAAB</b>	TG-0170-MS-030-AAAB	<b>ME-10-02-08-AABP</b>	TG-0170-US-080-AABP
<b>ME-12-01-03-AAAB</b>	TG-0195-MS-030-AAAB	<b>ME-12-02-08-AABP</b>	TG-0195-US-080-AABP
<b>ME-15-01-03-AAAB</b>	TG-0240-MS-030-AAAB	<b>ME-15-02-08-AABP</b>	TG-0240-US-080-AABP
<b>ME-18-01-03-AAAB</b>	TG-0280-MS-030-AAAB	<b>ME-18-02-08-AABP</b>	TG-0280-US-080-AABP
<b>ME-21-01-03-AAAB</b>	TG-0335-MS-030-AAAB	<b>ME-21-02-08-AABP</b>	TG-0335-US-080-AABP
<b>ME-24-01-03-AAAB</b>	TG-0405-MS-030-AAAB	<b>ME-24-02-08-AABP</b>	TG-0405-US-080-AABP
<b>ME-29-01-03-AAAB</b>	TG-0475-MS-030-AAAB	<b>ME-29-02-08-AABP</b>	TG-0475-US-080-AABP
<b>ME-33-01-03-AAAB</b>	TG-0530-MS-030-AAAB	<b>ME-33-02-08-AABP</b>	TG-0530-US-080-AABP
<b>ME-37-01-03-AAAB</b>	TG-0625-MS-030-AAAB	<b>ME-37-02-08-AABP</b>	TG-0625-US-080-AABP
<b>ME-48-01-03-AAAB</b>	TG-0785-MS-030-AAAB	<b>ME-48-02-08-AABP</b>	TG-0785-US-080-AABP
<b>ME-58-01-03-AAAB</b>	TG-0960-MS-030-AAAB	<b>ME-58-02-08-AABP</b>	TG-0960-US-080-AABP

<b>SEAL KIT</b>
<b>SK000092</b>

Model		Displacement		Pressure bar		Flow L/min		Torque				Speed Max rpm	Dim A	
Part Number	Ref. Number	cc/rev	in <sup>3</sup> /rev	Cont	Int	Cont	Max	Nm		in/lb			Magneto	Wheel
								Cont	Max	Cont	Max			
<b>MB-05</b>	<b>TF-0080</b>	81	4.9	207	276	46	57	220	296	1948	2621	693	191	146
<b>MB-06</b>	<b>TF-0100</b>	100	6.1	155	241	57	76	197	318	1746	2813	749	191	146
<b>MB-08</b>	<b>TF-0130</b>	128	7.8	138	207	57	76	229	356	2031	3148	593	194	149
<b>ME-09</b>	<b>TG-0140</b>	140	8.6	211	281	76	95	390	530	3455	4692	660	196	150
<b>ME-10</b>	<b>TG-0170</b>	169	10.3	211	281	76	95	476	646	4216	5714	554	199	154
<b>ME-12</b>	<b>TG-0195</b>	195	11.9	211	281	76	95	556	753	4919	6663	477	202	157
<b>ME-15</b>	<b>TG-0240</b>	237	14.5	211	281	76	95	677	913	5991	8081	393	207	161
<b>ME-18</b>	<b>TG-0280</b>	280	17.1	211	281	76	95	796	1073	7044	9499	334	211	166
<b>ME-21</b>	<b>TG-0335</b>	337	20.6	211	281	76	95	964	1297	8533	11479	277	218	173
<b>ME-24</b>	<b>TG-0405</b>	405	24.7	176	246	76	95	942	1342	8336	11877	232	225	180
<b>ME-29</b>	<b>TG-0475</b>	476	29.1	141	211	76	114	887	1372	7853	12145	237	234	188
<b>ME-33</b>	<b>TG-0530</b>	529	32.3	141	176	76	114	983	1253	8701	11086	213	240	195
<b>ME-37</b>	<b>TG-0625</b>	624	38	123	158	76	114	986	1291	8125	11424	182	250	204
<b>ME-48</b>	<b>TG-0785</b>	786	48	106	141	76	114	1044	1428	9239	12636	143	267	223
<b>ME-58</b>	<b>TG-0960</b>	985	58.5	70	106	76	114	773	1268	6843	11227	118	288	242

The above units are our stock range, other shaft and port options are available by conversion. The conversions incur a cost penalty which is additional to the above prices. NB: This cost penalty will be waived for build codes obtained from the factory for your specific requirements.

Part No.	Shaft Code	Conversion Labour Charge
		Description
<b>TG/01</b>	01	1" 6B Spline Shaft
<b>TG/02</b>	02	1" Keyed Shaft
<b>TG/05</b>	05	1-1/4" 14 Tooth Spline
<b>TG/06</b>	06	19 Tooth Spline
<b>TG/19</b>	19	1-3/8" Taper Shaft
<b>TG/M</b>	M	Manifold Port Option
<b>TG/U</b>	U	Wheel Mount



# HYDRAULIC DISC BRAKES

**Maxma BK2 series** are a wet multi disc brake for use as static brakes in hydraulic systems. The braking action is applied by a series of springs applying force to friction discs which are attached to the output shaft.

Hydraulic pressure releases the spring force upon the discs.

These brakes are generally utilised on the output of torquemotors such as the Maxma MAP, MAR & MAS series.

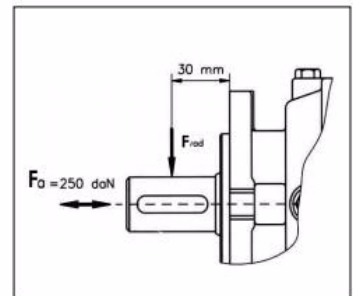
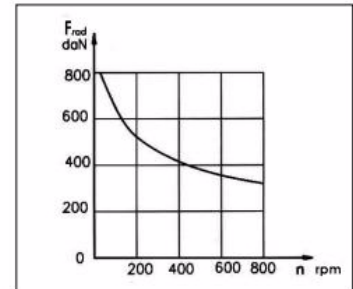
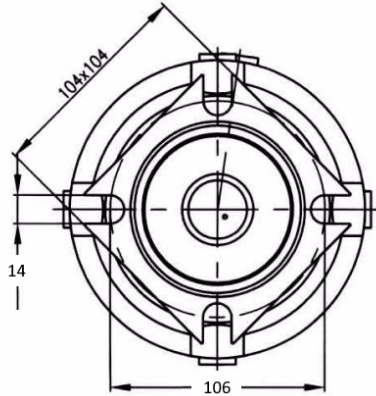
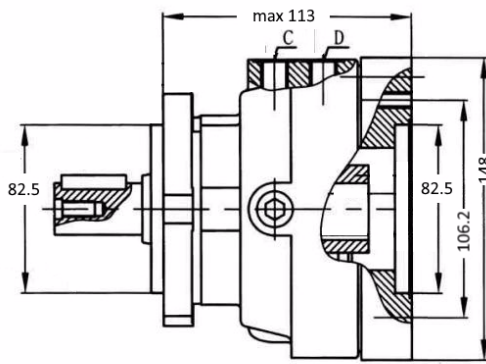
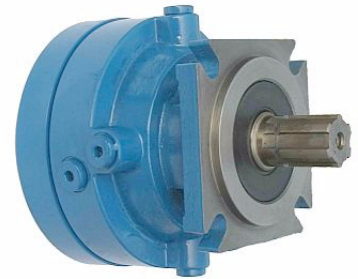
**NB: These brakes are used only as static parking brakes and are not recommended for dynamic braking applications.**

Operating medium = Hydraulic oil to meet ISO6743/4

Operating Temperature range: -20°C - 90°C

Optimal Temperature Range: 20°C - 60°C

Filtration: 25 microns to ISO 20/6

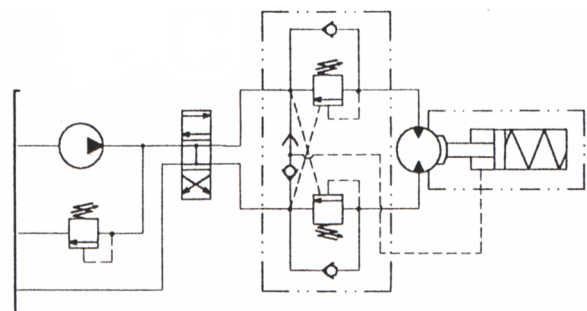


C Port = Drain Port 1/4"BSPP, charge with gear oil 220 cSt, use the uppermost port, fit a breather (130300021).  
 D Port = Brake release port 1/4"BSPP

Part Number	Static Torque Nm	Input Flange	Output Flange	Female Input Shaft	Male Output Shaft
<b>BK2-1-430-B-B-00</b>	410- 450	SAE-A	SAE-A	32mm	32mm
<b>BK2-1-430-C-C-00</b>				1"	1"
<b>BK2-1-430-E-C-00</b>				1"6B	1"
<b>BK2-1-430-E-E-00</b>				1"6B	1"6B
<b>BK2-1-430-G-G-00</b>				1-1/4"	1-1/4"

Specification	Data
Min Static Torque	410-450 Nm
Min. Releasing Pressure	17-23 bar
Max. Operating Pressure	300 bar
Min Displacement Volume	7-8 cc
Charge Oil Volume	50-120 cc
Max Pressure on C Port	0.05 bar
Weight	9.5 kg

## TYPICAL CIRCUIT

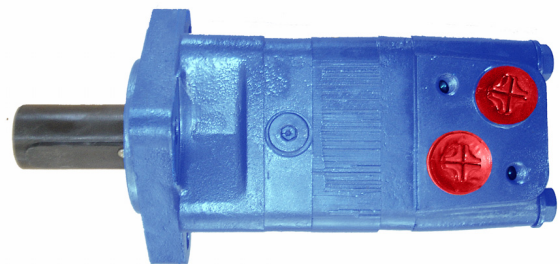


# SECTION D

## MAXMA TORQMOTORS



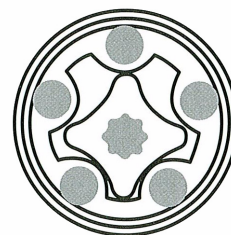
PAGE DESCRIPTION	PAGE
MAMM MINI-SERIES - GEROTOR TYPE.....	D 8
MAP SERIES - GEROTOR TYPE .....	D 10
MAPH SERIES - GEROTOR TYPE.....	D 12
MAR SERIES - GEROLER TYPE.....	D 14
MARS SERIES - GEROLER TYPE.....	D 16
MAS SERIES - GEROLER TYPE.....	D 18
MASE SERIES - GEROLER TYPE .....	D 20
MAT SERIES - GEROLER TYPE .....	D 22
MAV SERIES - GEROLER TYPE.....	D 24



**NB: Models, codes, specifications and prices may be subject to change without notice.**



## MAMM MINI-SERIES - GEROTOR TYPE



These units provide high output torque from a very small package. The MAMM motors are fixed displacement, gerotor type units that are known for compactness and economy. All MAMM motors have built-in check valves assuring pressure on the shaft seal never exceeds pressure levels seen in the return line.

Round Mount/Rear Ports/ 16mm Keyed Shaft
<b>Part Number</b>
<b>MAMM-8-C</b>
<b>MAMM-12.5-C</b>
<b>MAMM-20-C</b>
<b>MAMM-32-C</b>
<b>MAMM-40-C</b>
<b>MAMM-50-C</b>
<b>MAMM-OVAL MOUNT (F)</b>

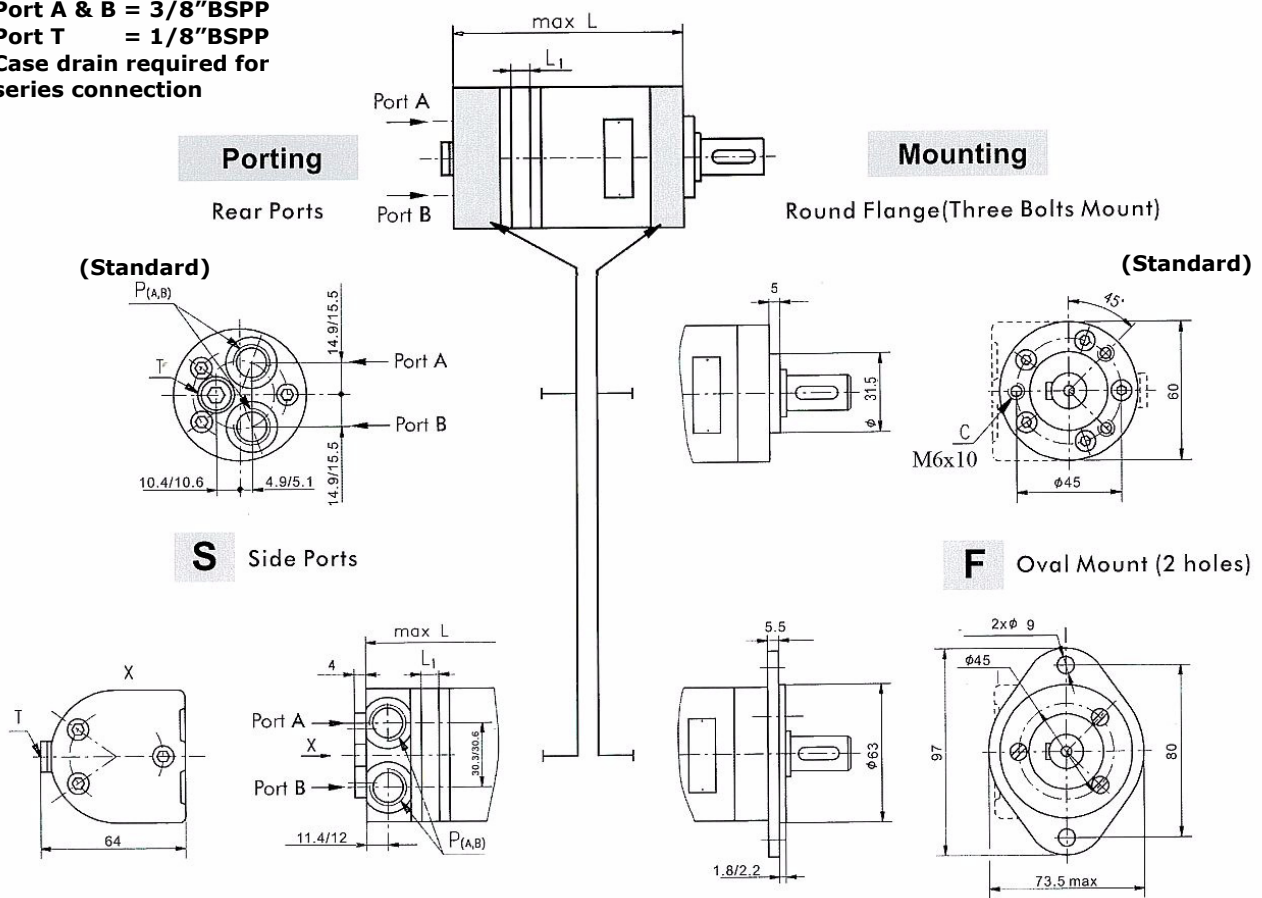
The above options are our stock lines. For flange mounts purchase the oval mount as a separate item. Other shafts and side port options are available for quantity purchase ex the factory

Seal Kit
<b>Part Number</b>
<b>SK-MAMM</b>

Part Number	Disp. cc/rev	Pressure bar		Flow L/min		Torque				Speed rpm		Weight kg
		Cont.	Int.	Cont.	Int.	Nm		in/lb		Cont.	Int.	
						Cont.	Int.	Cont.	Int.			
<b>MAMM-8-C</b>	8.2	100	140	16	20	11	15	102	133	1950	2450	1.9
<b>MAMM-12.5-C</b>	12.9			16	23	145	204	1550	1940	2		
<b>MAMM-20-C</b>	19.9			25	35	225	310	1000	1250	2.1		
<b>MAMM-32-C</b>	31.6	20	25	41	57	367	504	630	800	2.2		
<b>MAMM-40-C</b>	39.8			42	58	375	513	500	630	2.3		
<b>MAMM-50-C</b>	50.3			70	90	46	59	407	522	400	500	2.4

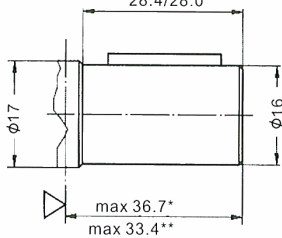


Port A & B = 3/8"BSPP  
Port T = 1/8"BSPP  
Case drain required for series connection

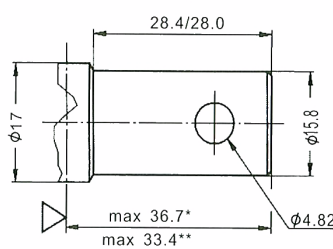


**Shaft Options**

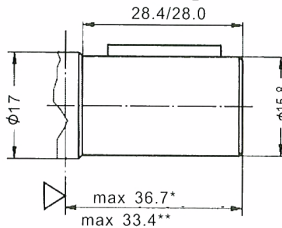
**C** 16mm Diam (Standard)  
Parallel Key 5x5x16  
Max. Torque 39nm  
28.4/28.0



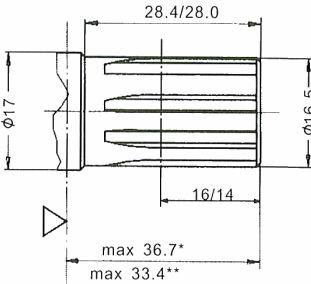
**H** 5/8" Diam  
Crosshole  
Max. Torque 39nm



**CO** 5/8" Diam  
Parallel Key  
3/16"x3/16"x3/4"  
Max. Torque 39nm  
28.4/28.0



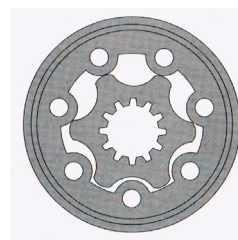
**S** 16.5 Splined B17x4  
Max. Torque 44



\* = Round Flange  
\*\* = Oval Flange

Dimensions			
Model	L1 mm	Rear Ports L mm	Side Ports L mm
MAMM-8	3.5	104	105
MAMM-12.5	5.5	106	107
MAMM-20	8.5	109	110
MAMM-32	13.5	114	115
MAMM-40	17.0	117	118
MAMM-50	21.5	122	123

## MAP SERIES - GEROTOR TYPE



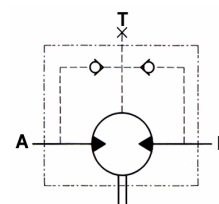
### Features:

Similar to Danfoss "OMP" series

The MAP Series are GEROTOR type 'Low Speed High Torque' Torqmotors. Their compact design delivers high output torque for a small frame unit at an economical price.

These Torqmotors are suitable for such applications as:

- Conveyor drives
- Winches
- Agricultural machinery
- Forestry machinery
- Cranes
- Sawmill equipment
- Elevators



SAE-A 2 Bolt Mount 1" Keyed Shaft
Part Number
MAP-50-A-CO-D
MAP-80-A-CO-D
MAP-100-A-CO-D
MAP-125-A-CO-D
MAP-160-A-CO-D
MAP-200-A-CO-D
MAP-250-A-CO-N-D
MAP-315-A-CO-N-D
MAP-400-A-CO-N-D

Square Mount 4 Bolt 1" Keyed Shaft
Part Number
MAP-50-Q-CO-D
MAP-80-Q-CO-D
MAP-100-Q-CO-D
MAP-125-Q-CO-D
MAP-160-Q-CO-D
MAP-200-Q-CO-D
MAP-250-Q-CO-D
MAP-315-Q-CO-N-D
MAP-400-Q-CO-N-D

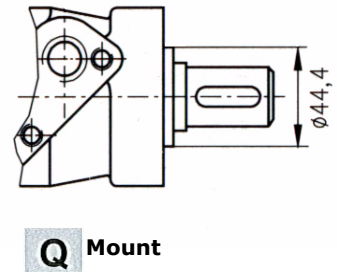
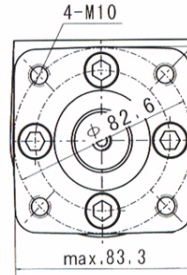
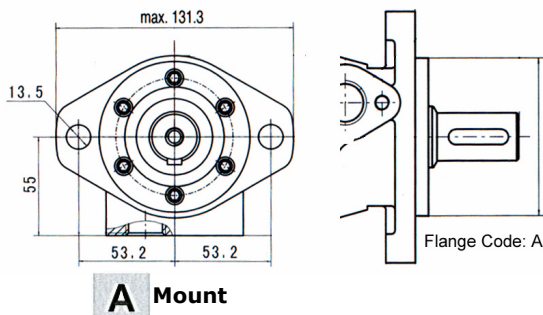
The above options are our stock lines. For flange mounts purchase the oval mount as a separate item. Other shafts and side port options are available for quantity purchase ex the factory

Seal Kit
Part Number
SK-MAP

### PERFORMANCE FIGURES

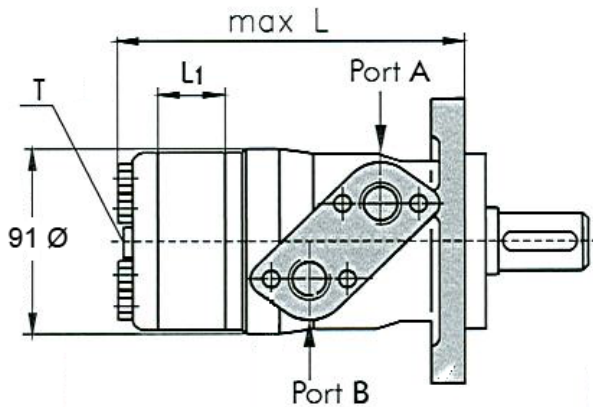
Model	Disp. cc/rev	Pressure bar		Flow L/min		Torque				Speed rpm		Weight kg
		Cont.	Int.	Cont.	Int.	Nm		in/lb		Cont.	Int.	
						Cont.	Int.	Cont.	Int.			
MAP-50	51	140	175	50	60	93	120	820	1062	1180	1380	5.6
MAP-80	79			149	190	1320	1682	760	940	5.7		
MAP-100	99			190	230	1682	2036	600	750	5.9		
MAP-125	123			234	290	2068	2567	485	600	6		
MAP-160	158			310	370	2744	3275	380	475	6.2		
MAP-200	197			359	435	3177	3850	302	380	6.4		
MAP-250	247			351	468	3108	4144	240	302	6.6		
MAP-315	316			342	492	3028	4353	190	235	6.9		
MAP-400	396			348	454	3083	4017	150	190	7.4		

## MAP SERIES - GEROTOR TYPE



**A Mount**

**Q Mount**



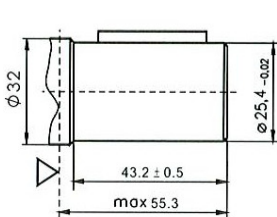
Dimensions		
Model	L mm	L1 mm
MAP-50	137	7
MAP-80	140.5	10.5
MAP-100	143	13
MAP-125	146	16
MAP-160	151	21
MAP-200	157	26
MAP-250	162	32
MAP-315	172	42
MAP-400	182	52

Ports A & B = 1/2"BSPP  
 Drain Port T = 1/4"BSPP  
 Case Drain required for Series connection

Flow in Port A = Clockwise  
 Flow in Port B = Counterclockwise

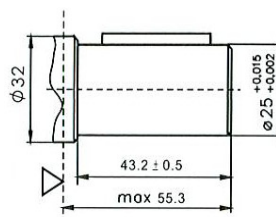
**CO**

$\varnothing$  1" straight, Parallel key 1/4" x 1/4" x 1/4"



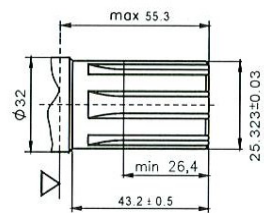
**C**

$\varnothing 25$  straight, Parallel key A8x7x32  
 Max. Torque 340Nm



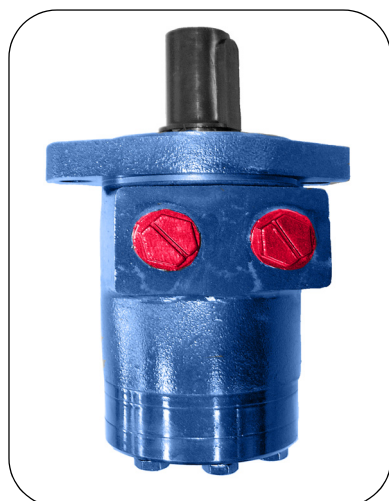
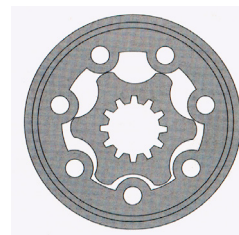
**S**

Splined, (SAE 6B)



- NB:
- 1/ Intermittent operation values may occur for max 10% of every minute.
  - 2/ Intermittent speed and intermittent pressure may not occur at the same time.
  - 3/ Recommended filtration to **ISO 4406:1999 Cleanliness Code 19/17/14**.
  - 4/ Recommended operation temperature range is 20°C to 55°C with a max of 80°C for brief periods.
  - 5/ To assure optimum motor life, fill with fluid prior to loading and run for 1 hour at moderate load and speed.
  - 6/ The hydraulic fluid must be a premium quality mineral based oil with anti wear additives.

## MAPH SERIES - GEROTOR TYPE



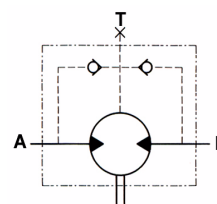
### Features:

Similar to Charlynn "H" series.

The MAPH Series are GEROTOR type 'Low Speed High Torque' Torqmotors. Their compact design delivers high output torque for a small frame unit at an economical price.

These Torqmotors are suitable for such applications as:

- Conveyor drives
- Winches
- Agricultural machinery
- Forestry machinery
- Cranes
- Sawmill equipment
- Elevators



SAE-A 2 Bolt Mount 1" Keyed Shaft
Part Number
MAPH-50-A-CO-U-D
MAPH-80-A-CO-U-D
MAPH-100-A-CO-U-D
MAPH-125-A-CO-U-D
MAPH-160-A-CO-U-D
MAPH-200-A-CO-U-D
MAPH-250-A-CO-U-D
MAPH-315-A-CO-U-D
MAPH-400-A-CO-U-D

Square Mount 4 Bolt 1" Keyed Shaft
Part Number
MAPH-50-Q-CO-U-D
MAPH-80-Q-CO-U-D
MAPH-100-Q-CO-U-D
MAPH-125-Q-CO-U-D
MAPH-160-Q-CO-U-D
MAPH-200-Q-CO-U-D
MAPH-250-Q-CO-U-D
MAPH-315-Q-CO-U-D
MAPH-400-Q-CO-U-D

The above options are our stock lines. For flange mounts purchase the oval mount as a separate item. Other shafts and side port options are available for quantity purchase ex the factory

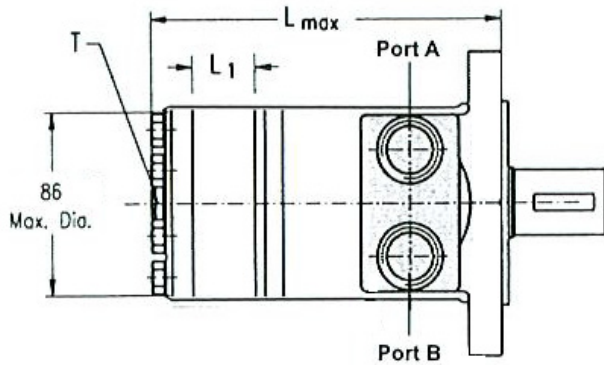
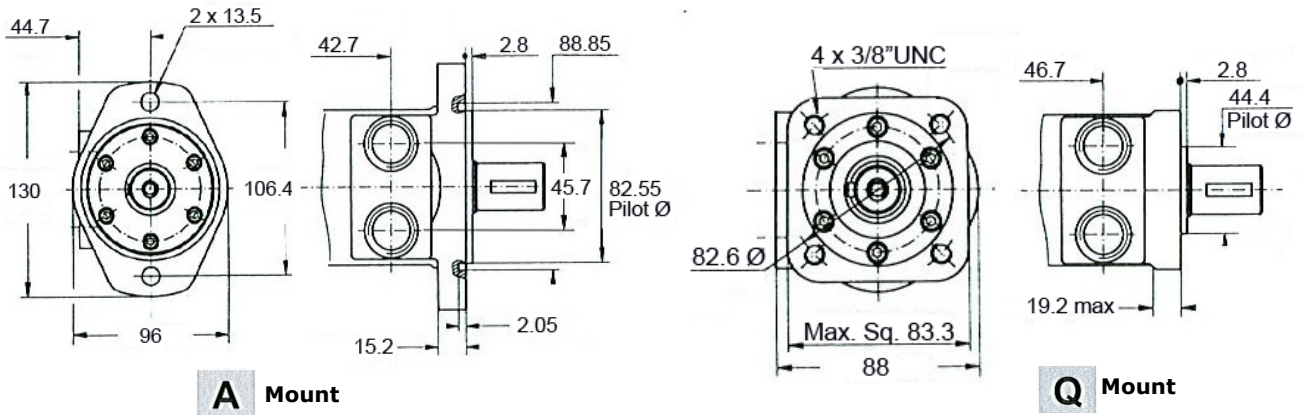
Seal Kit
Part Number
SK-MAPH

### PERFORMANCE FIGURES

Model	Disp. cc/rev	Pressure bar		Flow L/min		Torque				Speed rpm		Weight kg
		Cont.	Int.	Cont.	Int.	Nm		in/lb		Cont.	Int.	
						Cont.	Int.	Cont.	Int.			
MAPH-50	51	140	175	60	75	93	120	820	1062	1180	1380	5.6
MAPH-80	79					149	190	1320	1682	760	940	5.7
MAPH-100	99					190	230	1682	2036	600	750	5.9
MAPH-125	123					234	290	2068	2567	485	600	6
MAPH-160	159					310	370	2744	3275	380	475	6.2
MAPH-200	198					359	435	3177	3850	302	380	6.4
MAPH-250	247					351	468	3108	4144	240	302	6.6
MAPH-315	316					342	492	3028	4353	190	235	6.9
MAPH-400	396					348	454	3083	4017	150	190	7.4



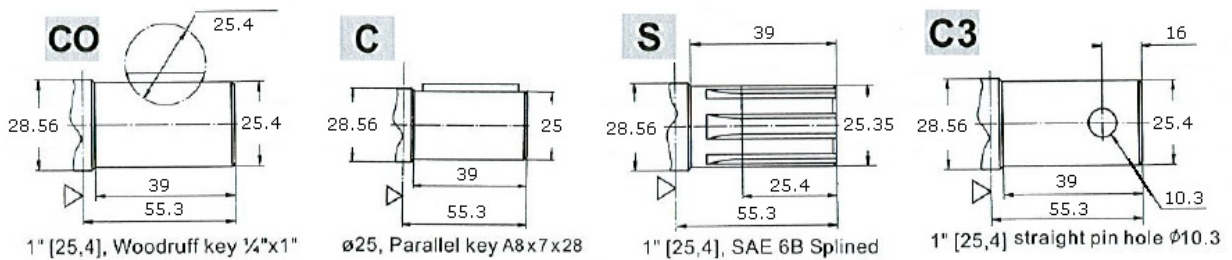
## MAPH SERIES - GEROTOR TYPE



Dimensions		
Model	L	L1
MAPH-50	141	7
MAPH-80	144.5	10
MAPH-100	147	13
MAPH-125	150	16
MAPH-160	155	21
MAPH-200	160	26
MAPH-250	166	32
MAPH-315	176	42
MAPH-400	186	52

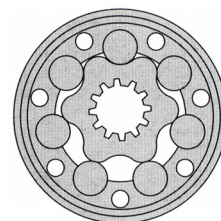
Ports A & B = 7/8" UNO  
 Drain Port T = 7/16" UNO  
 Case Drain required for Series connection

Flow in Port A = Clockwise  
 Flow in Port B = Counterclockwise



- NB:
- 1/ Intermittent operation values may occur for Max 10% of every minute.
  - 2/ Intermittent speed and intermittent pressure may not occur at the same time.
  - 3/ Recommended filtration to **ISO 4406:1999 Cleanliness Code 19/17/14**.
  - 4/ Recommended operation temperature range is 20°C to 55°C with a max of 80°C for brief periods.
  - 5/ To assure optimum motor life, fill with fluid prior to loading and run for 1 hour at moderate load and speed.
  - 6/ The hydraulic fluid must be a premium quality mineral based oil with anti wear additives.

## MAR SERIES - GEROLER TYPE



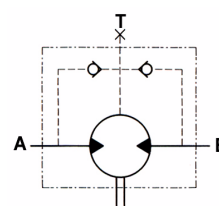
### Features:

Similar to Danfoss "OMR" series

The MAR Series are GEROLER type 'Low Speed High Torque' Torqmotors. The GEROLER design provides extended life for medium duty applications.

These Torqmotors are suitable for such applications as:

- Conveyor drives
- Winches
- Agricultural machinery
- Forestry machinery
- Cranes
- Sawmill equipment
- Elevators



SAE-A 2 Bolt Mount 1" Keyed Shaft
Part Number
MAR-50-A-CO-N-D
MAR-80-A-CO-N-D
MAR-100-A-CO-N-D
MAR-125-A-CO-N-D
MAR-160-A-CO-N-D
MAR-200-A-CO-N-D
MAR-250-A-CO-N-D
MAR-315-A-CO-N-D
MAR-400-A-CO-N-D

Square Mount 4 Bolt 1" Keyed Shaft
Part Number
MAR-50-Q-CO-N-D
MAR-80-Q-CO-N-D
MAR-100-Q-CO-N-D
MAR-125-Q-CO-N-D
MAR-160-Q-CO-N-D
MAR-200-Q-CO-N-D
MAR-250-Q-CO-N-D
MAR-315-Q-CO-N-D
MAR-400-Q-CO-N-D

The above options are our stock lines. For flange mounts purchase the oval mount as a separate item. Other shafts and side port options are available for quantity purchase ex the factory

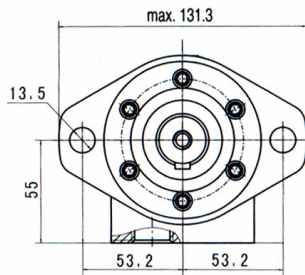
Seal Kit
Part Number
SK-MAR

### PERFORMANCE FIGURES

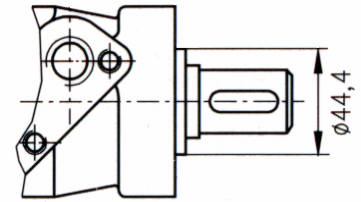
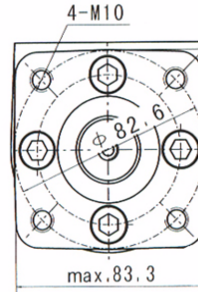
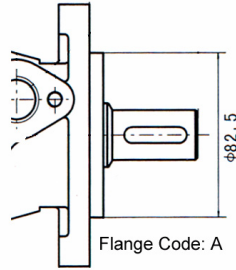
Model	Disp. cc/rev	Pressure bar		Flow L/min		Torque				Speed rpm		Weight kg
		Cont.	Int.	Cont.	Int.	Nm		in/lb		Cont.	Int.	
						Cont.	Int.	Cont.	Int.			
MAR-50	51	140	175	40	50	100	128	885	1133	770	970	6.7
MAR-80	81	160	180	60	75	196	221	1725	1956	745	940	6.9
MAR-100	100					242	281	2130	2487	600	750	7.0
MAR-125	125					271	339	2394	3000	470	600	7.2
MAR-160	159					389	428	3443	3788	370	470	7.5
MAR-200	199	135	175			385	460	3407	4071	300	370	8.0
MAR-250	250	105	160			388	579	3434	5124	240	300	8.5
MAR-315	315	85	130			385	570	3407	5045	190	240	9.0
MAR-400	396	65	75			355	598	3142	5292	150	190	9.5



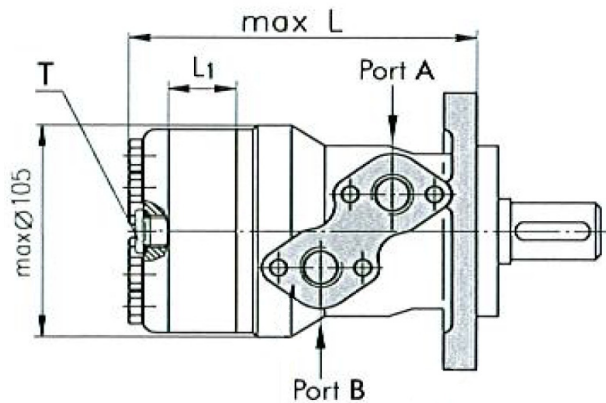
## MAR SERIES - GEROLER TYPE



**A** Mount



**Q** Mount

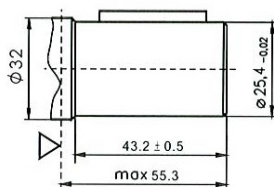


Dimensions		
Model	L mm	L1 mm
MAR-50	140	10
MAR-80	146	16
MAR-100	150	20
MAR-125	155	25
MAR-160	161.5	31.5
MAR-200	170	40
MAR-250	180	50
MAR-315	192	62
MAR-400	204	74

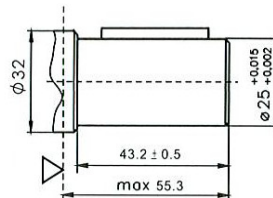
Ports A & B = 1/2"BSPP  
 Drain Port T = 1/4"BSPP  
 Case Drain required for Series connection

Flow in Port A = Clockwise Rotation  
 Flow in Port B = Counterclockwise Rotation

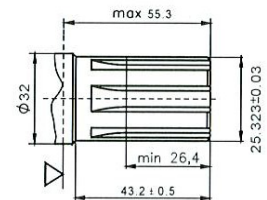
**CO**  $\phi 1"$  straight, Parallel key 1/4" x 1/4" x 1/4"



**C**  $\phi 25$  straight, Parallel key A8x7x32  
 Max. Torque 340Nm

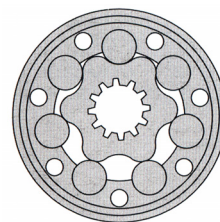


**S** Splined, (SAE 6B)



- NB:
- 1/ Intermittent operation values may occur for Max 10% of every minute.
  - 2/ Intermittent speed and intermittent pressure may not occur at the same time.
  - 3/ Recommended filtration to **ISO 4406:1999 Cleanliness Code 19/17/14**.
  - 4/ Recommended operation temperature range is 20°C to 55°C with a max of 80°C for brief periods.
  - 5/ To assure optimum motor life, fill with fluid prior to loading and run for 1 hour at moderate load and speed.
  - 6/ The hydraulic fluid must be a Premium quality mineral based oil with anti wear additives.

## MARS SERIES - GEROLER TYPE



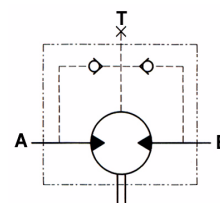
### Features:

Similar to Charlynn "S" series

The MARS Series are GEROLER type 'Low Speed High Torque' Torqmotors. The GEROLER design provides extended life for medium duty applications.

These Torqmotors are suitable for such applications as:

- Conveyor drives
- Winches
- Agricultural machinery
- Forestry machinery
- Cranes
- Sawmill equipment
- Elevators



SAE-A 2 Bolt Mount 1" Keyed Shaft
Part Number
MARS-50-A-CO-N-U-D
MARS-80-A-CO-N-U-D
MARS-100-A-CO-N-U-D
MARS-125-A-CO-N-U-D
MARS-160-A-CO-N-U-D
MARS-200-A-CO-N-U-D
MARS-250-A-CO-N-U-D
MARS-315-A-CO-N-U-D
MARS-400-A-CO-N-U-D

Square Mount 4 Bolt 1" Keyed Shaft
Part Number
MARS-50-Q-CO-N-U-D
MARS-80-Q-CO-N-U-D
MARS-100-Q-CO-N-U-D
MARS-125-Q-CO-N-U-D
MARS-160-Q-CO-N-U-D
MARS-200-Q-CO-N-U-D
MARS-250-Q-CO-N-U-D
MARS-315-Q-CO-N-U-D
MARS-400-Q-CO-N-U-D

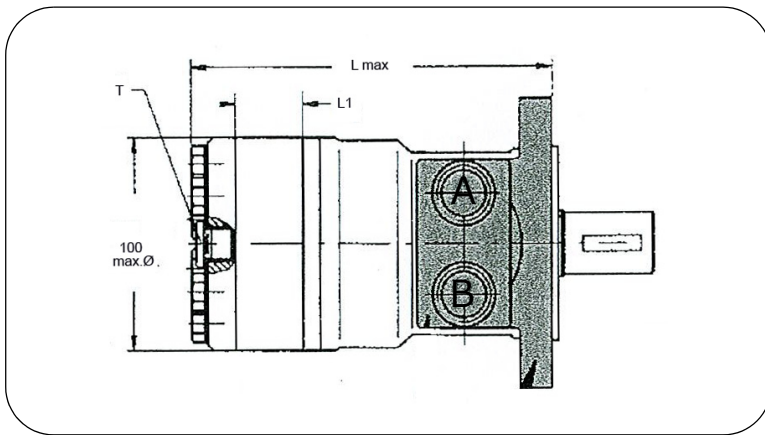
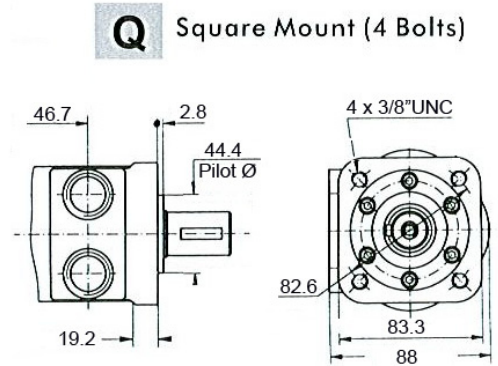
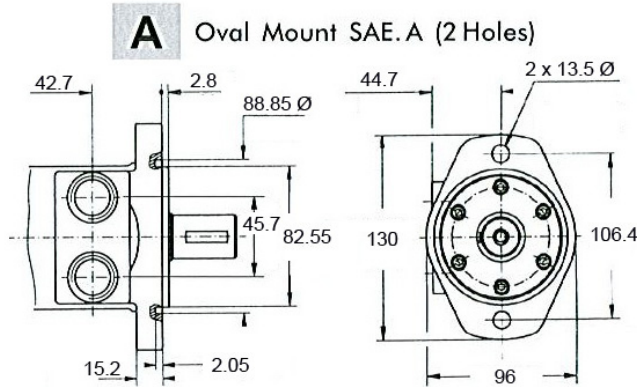
The above options are our stock lines. For flange mounts purchase the oval mount as a separate item. Other shafts and side port options are available for quantity purchase ex the factory

Seal Kit
Part Number
SK-MARS

### PERFORMANCE FIGURES

Model	Disp. cc/rev	Pressure bar		Flow L/min		Torque				Speed rpm		Weight kg
		Cont.	Int.	Cont.	Int.	Nm		in/lb		Cont.	Int.	
						Cont.	Int.	Cont.	Int.			
MARS-50	51	140	175	40	50	100	128	885	1133	770	970	6.7
MARS-80	81	160	180	60	75	196	221	1735	1956	745	940	6.9
MARS-100	100	160	180	60	75	242	281	2142	2487	600	750	6.9
MARS-125	125	160	180	60	75	271	339	2394	3000	470	600	7.2
MARS-160	159	160	180	60	75	389	428	3443	3788	370	470	7.5
MARS-200	199	135	175	60	75	385	460	3407	4071	300	370	8.1
MARS-250	250	105	160	60	75	388	579	3434	5124	240	300	8.5
MARS-315	315	85	130	60	75	385	570	3407	5045	190	240	9.1
MARS-400	396	65	100	60	75	355	598	3142	5292	150	190	9.5

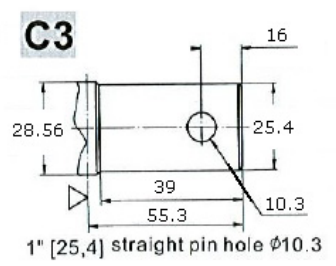
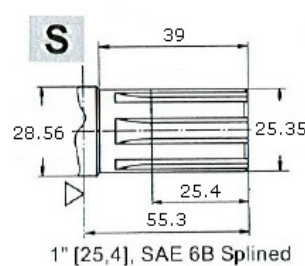
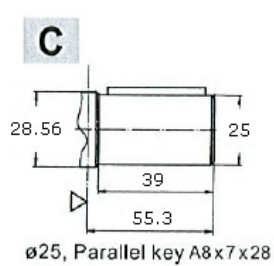
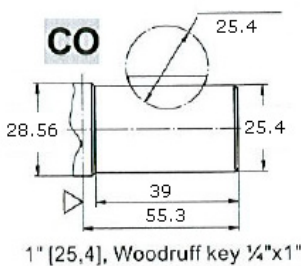
## MARS SERIES - GEROLER TYPE



Dimensions		
Model	L mm	L1 mm
MARS-50	144	10
MARS-80	150	16
MARS-100	154	20
MARS-125	159	25
MARS-160	165.5	31.5
MARS-200	174	40
MARS-250	184	50
MARS-315	196	62
MARS-400	208	74

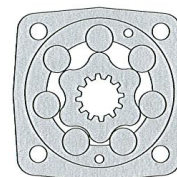
Ports A & B = 7/8"UNO  
 Drain Port T = 7/16"UNC  
 Case Drain required for Series connection

Flow in Port A = Clockwise Rotation  
 Flow in Port B = Counterclockwise Rotation



- NB:
- 1/ Intermittent operation values may occur for Max 10% of every minute.
  - 2/ Intermittent speed and intermittent pressure may not occur at the same time.
  - 3/ Recommended filtration to **ISO 4406:1999 Cleanliness Code 19/17/14**.
  - 4/ Recommended operation temperature range is 20°C to 55°C with a max of 80°C for brief periods.
  - 5/ To assure optimum motor life, fill with fluid prior to loading and run for 1 hour at moderate load and speed.
  - 6/ The hydraulic fluid must be a Premium quality mineral based oil with anti wear additives.

## MAS SERIES - GEROLER TYPE



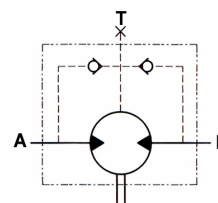
### Features:

Similar to Danfoss "OMS" Series

The MAS Series are GEROLER type 'Low Speed High Torque' Torqmotors. They feature tapered roller bearings on the output shaft which permit high radial and axial loads. The advanced valving design minimizes cross port leakage resulting in high volumetric efficiency and constant output speeds at varying pressures.

These Torqmotors are suitable for such applications as:

- Conveyor drives
- Winches
- Agricultural machinery
- Forestry machinery
- Cranes
- Sawmill equipment
- Elevators



<b>SAE-A 4 Bolt Mount 32mm Keyed Shaft</b>
<b>Part Number</b>
<b>MAS-80-C</b>
<b>MAS-100-C</b>
<b>MAS-125-C</b>
<b>MAS-160-C</b>
<b>MAS-200-C</b>
<b>MAS-250-C</b>
<b>MAS-315-C</b>
<b>MAS-400-C</b>

<b>Seal Kit</b>
<b>Part Number</b>
<b>SK-MAS</b>

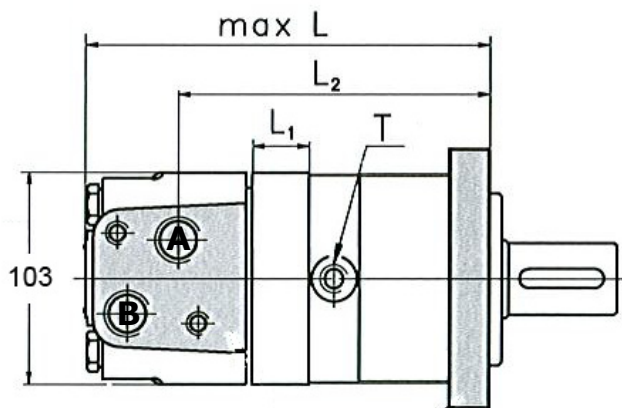
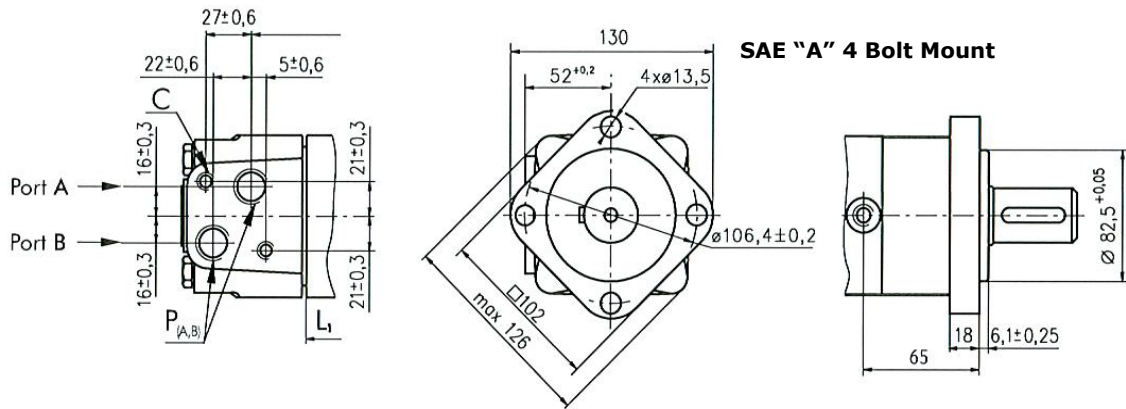
The above options are our stock lines. For flange mounts purchase the oval mount as a separate item. Other shafts and side port options are available for quantity purchase ex the factory

### PERFORMANCE FIGURES

Model	Disp. cc/rev	Pressure bar		Flow L/min		Torque				Speed rpm		Weight kg
		Cont.	Int.	Cont.	Int.	Nm		in/lb		Cont.	Int.	
						Cont.	Int.	Cont.	Int.			
<b>MAS-80</b>	81	175	210	65	80	198	237	1751	2101	805	1000	10
<b>MAS-100</b>	100			244	293	2163	2595	746	900	10.3		
<b>MAS-125</b>	125			307	368	2713	3256	598	718	10.5		
<b>MAS-160</b>	160	160	75	90	340	469	3009	4148	465	560	11	
<b>MAS-200</b>	200	150			180	395	490	3496	4337	373	447	11.4
<b>MAS-250</b>	252	140			175	450	535	3983	4735	298	360	11.9
<b>MAS-315</b>	315	120			140	541	630	4788	5576	236	290	12.5
<b>MAS-400</b>	397	100			120	580	690	5133	6107	187	230	13.5



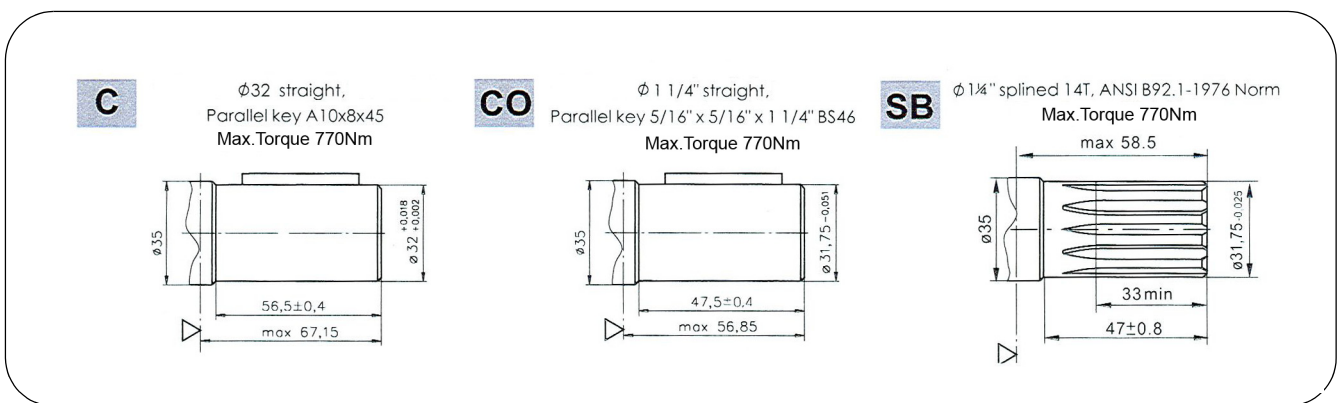
## MAS SERIES - GEROLER TYPE



Dimensions			
Model	L mm	L1 mm	L2 mm
MAS-80	168	16	124
MAS-100	172	20	128
MAS-125	177	25	133
MAS-160	183.5	31.5	139.5
MAS-200	192	40	148
MAS-250	202	50	158
MAS-315	214	62	170
MAS-400	226	74	182

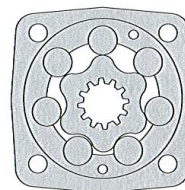
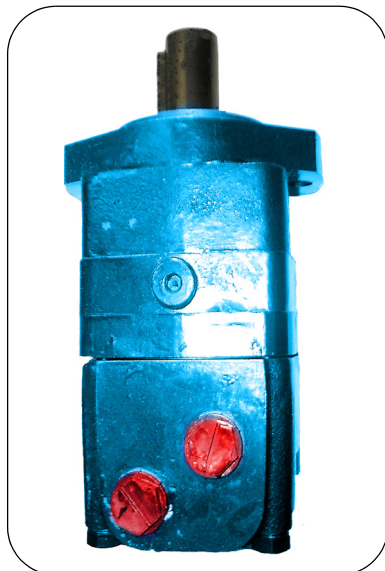
Ports A & B = 1/2"BSPP  
 Drain Port T = 1/4"BSPP  
 Mount Hole "C" = 2 x M10-12mm deep  
 Case Drain required for Series connection

Flow in Port A = Clockwise  
 Flow in Port B = Counterclockwise



- NB:
- 1/ Intermittent operation values may occur for Max 10% of every minute.
  - 2/ Intermittent speed and intermittent pressure may not occur at the same time.
  - 3/ Recommended filtration to **ISO 4406:1999 Cleanliness Code 19/17/14**.
  - 4/ Recommended operation temperature range is 20°C to 55°C with a max of 80°C for brief periods.
  - 5/ To assure optimum motor life, fill with fluid prior to loading and run for 1 hour at moderate load and speed.
  - 6/ The hydraulic fluid must be a Premium quality mineral based oil with anti wear additives.

## MASE SERIES - GEROLER TYPE



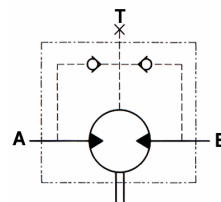
### Features:

Similar to Charlynn "2000" Series

The MASE Series are GEROLER type 'Low Speed High Torque' Torqmotors. They feature tapered roller bearings on the output shaft which permit high radial and axial loads. The advanced valving design minimizes cross port leakage resulting in high volumetric efficiency and constant output speeds at varying pressures.

These Torqmotors are suitable for such applications as:

- Conveyor drives
- Winches
- Agricultural machinery
- Forestry machinery
- Cranes
- Sawmill equipment
- Elevators



<b>SAE-A 2 Bolt Mount 1-1/4" Keyed Shaft</b>
<b>Part Number</b>
<b>MASE-80-A-CO-U</b>
<b>MASE-100-A-CO-U</b>
<b>MASE-125-A-CO-U</b>
<b>MASE-160-A-CO-U</b>
<b>MASE-200-A-CO-U</b>
<b>MASE-250-A-CO-U</b>
<b>MASE-315-A-CO-U</b>
<b>MASE-400-A-CO-U</b>

<b>Seal Kit</b>
<b>Part Number</b>
<b>SK-MASE</b>

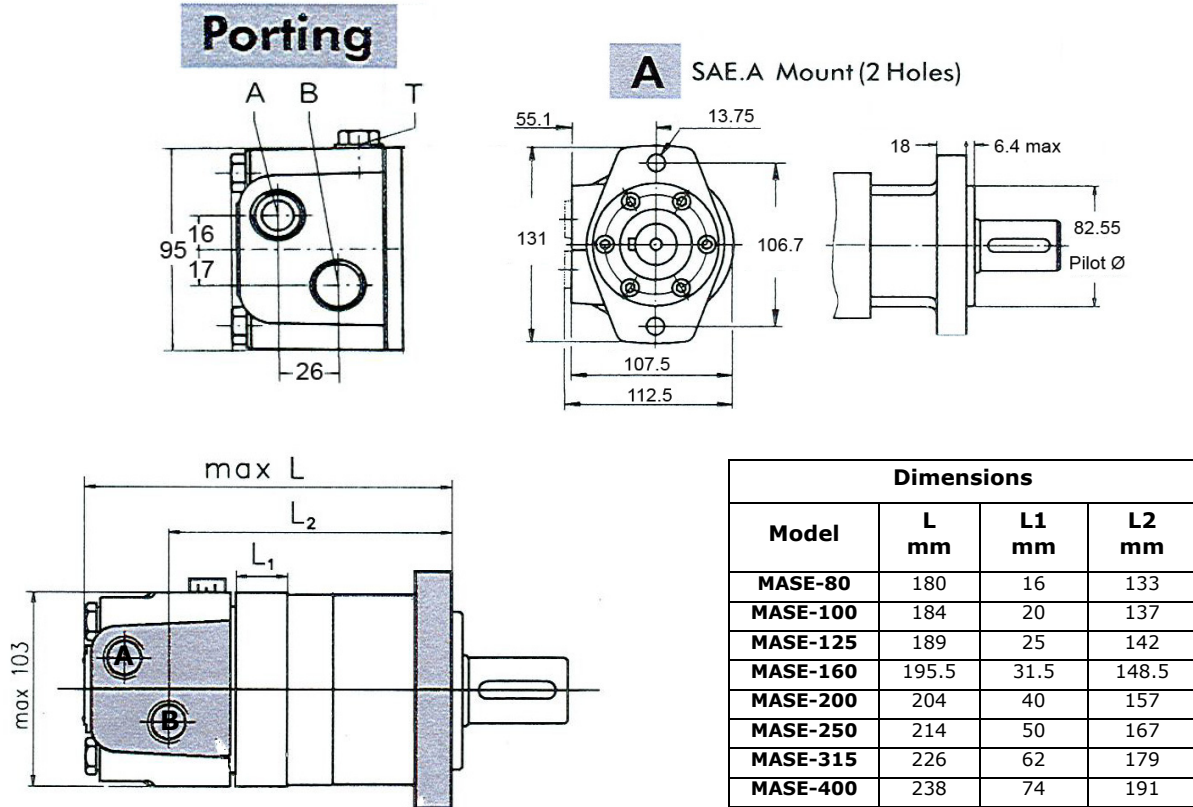
The above options are our stock lines. For flange mounts purchase the oval mount as a separate item. Other shafts and side port options are available for quantity purchase ex the factory

### PERFORMANCE FIGURES

Model	Disp. cc/rev	Pressure bar		Flow L/min		Torque				Speed rpm		Weight kg
		Cont.	Int.	Cont.	Int.	Nm		in/lb		Cont.	Int.	
						Cont.	Int.	Cont.	Int.			
<b>MASE-80</b>	81	175	210	65	80	198	237	1751	2101	805	1000	10
<b>MASE-100</b>	100			75	90	244	293	2163	2595	746	900	10.3
<b>MASE-125</b>	125			307	368	2713	3256	598	718	10.5		
<b>MASE-160</b>	160	160	180	75	90	340	469	3009	4148	465	560	11
<b>MASE-200</b>	200	150				395	490	3496	4337	373	447	11.4
<b>MASE-250</b>	252	140				450	535	3983	4735	298	360	11.9
<b>MASE-315</b>	315	120	140	75	90	541	630	4788	5576	236	290	12.5
<b>MASE-400</b>	397	100	120			580	690	5133	6107	187	230	13.5

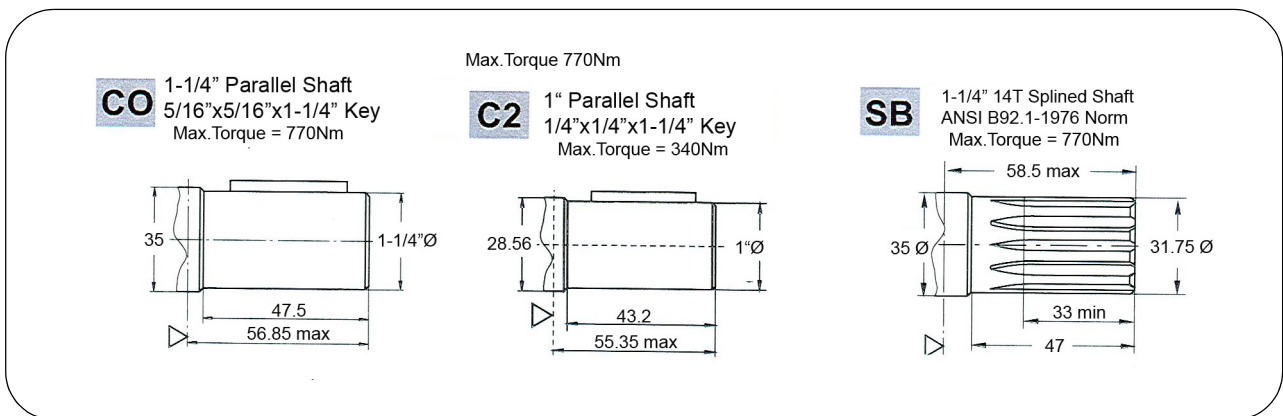


## MASE SERIES - GEROLER TYPE



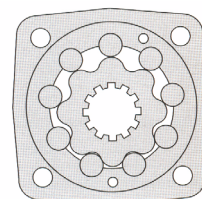
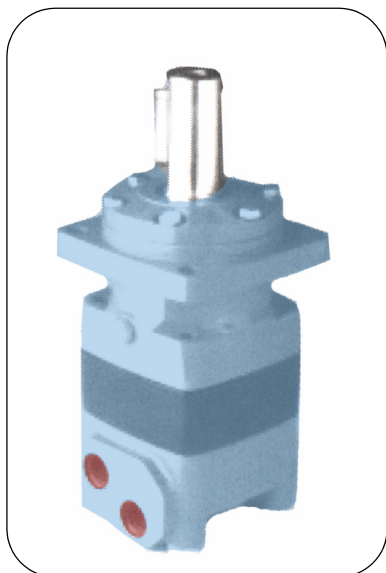
Ports A & B = 7/8"UNO  
 Drain Port T = 7/16"UNO  
 "Case Drain required for Series connection"

**FLOW IN PORT "A" = CLOCKWISE**  
**FLOW IN PORT "B" = COUNTERCLOCKWISE**



- NB:
- 1/ Intermittent operation values may occur for Max 10% of every minute.
  - 2/ Intermittent speed and intermittent pressure may not occur at the same time.
  - 3/ Recommended filtration to **ISO 4406:1999 Cleanliness Code 19/17/14**.
  - 4/ Recommended operation temperature range is 20°C to 55°C with a max of 80°C for brief periods.
  - 5/ To assure optimum motor life, fill with fluid prior to loading and run for 1 hour at moderate load and speed.
  - 6/ The hydraulic fluid must be a premium quality mineral based oil with anti wear additives.

## MAT SERIES - GEROLER TYPE



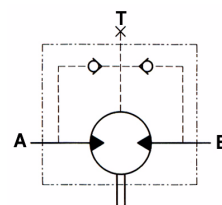
### Features:

Similar to Danfoss "OMT" series

The MAT Series are GEROLER type 'Low Speed High Torque' Torqmotors. They feature larger output shafts supported on tapered roller bearings for those more arduous applications.

These Torqmotors are suitable for such applications as:

- Conveyor drives
- Winches
- Agricultural machinery
- Forestry machinery
- Cranes
- Sawmill equipment
- Elevators



4 Bolt Mount 40mm Keyed Shaft	
Part No.	
MAT-160-C	
MAT-200-C	
MAT-250-C	
MAT-315-C	
MAT-400-C	
MAT-500-C	
MAT-630-C	
MAT-800-C	

SEAL KIT
Part No.
SK-MAT

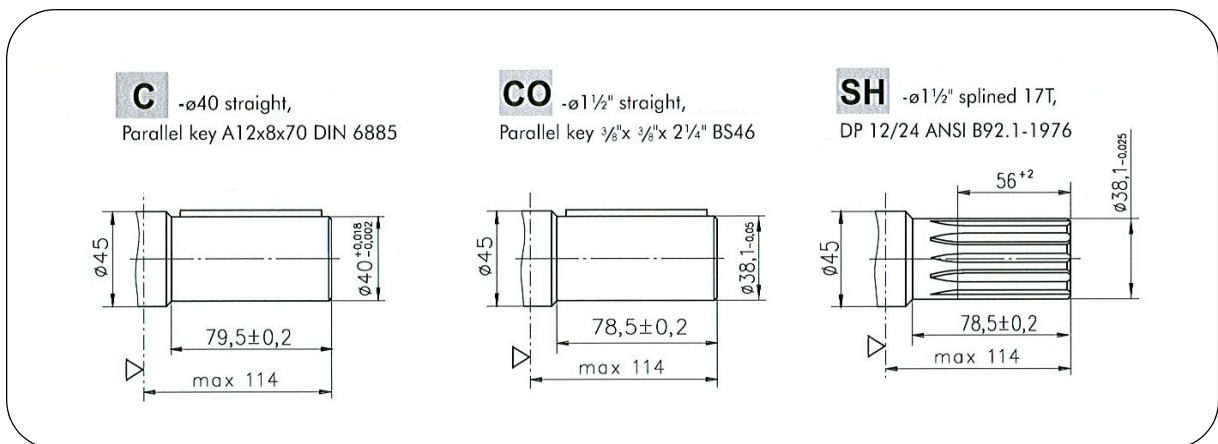
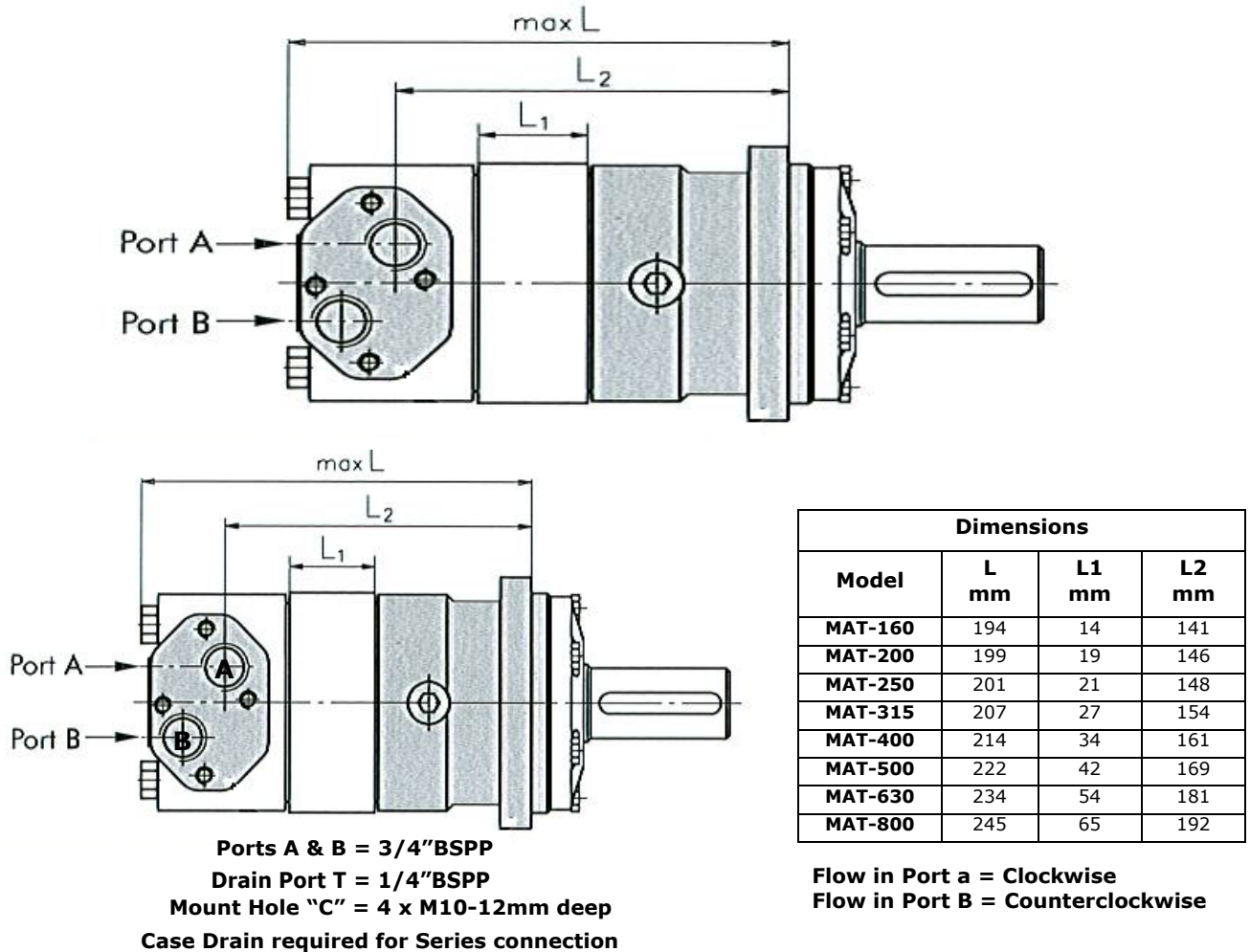
The above options are our stock lines.

For flange mounts purchase the oval mount as a separate item. Other shafts and side port options are available for quantity purchase ex the factory

### PERFORMANCE FIGURES

Model	Disp. cc/rev	Pressure bar		Flow L/min		Torque				Speed rpm		Weight kg
		Cont.	Int.	Cont.	Int.	Nm		in/lb		Cont.	Int.	
						Cont.	Int.	Cont.	Int.			
<b>MAT-160</b>	161	200	240	100	125	471	573	4145	5042	614	770	20
<b>MAT-200</b>	201	200	240	125	150	589	718	5183	6318	615	720	21
<b>MAT-250</b>	252	200	240	125	150	730	880	6424	7744	495	600	21.5
<b>MAT-315</b>	319	200	240	125	150	948	1138	8342	10014	380	458	22
<b>MAT-400</b>	402	180	210	125	150	1078	1259	9486	11079	300	360	23
<b>MAT-500</b>	523	160	180	125	150	1220	1370	10797	12125	237	284	24
<b>MAT-630</b>	629	140	160	125	150	1321	1500	11691	13275	196	233	25
<b>MAT-800</b>	801	125	130	125	150	1462	1520	12939	13452	154	185	26

## MAT SERIES - GEROLER TYPE



- NB:
- 1/ Intermittent operation values may occur for Max 10% of every minute.
  - 2/ Intermittent speed and intermittent pressure may not occur at the same time.
  - 3/ Recommended filtration to **ISO 4406:1999 Cleanliness Code 19/17/14**.
  - 4/ Recommended operation temperature range is 20°C to 55°C with a max of 80°C for brief periods.
  - 5/ To assure optimum motor life, fill with fluid prior to loading and run for 1 hour at moderate load and speed.
  - 6/ The hydraulic fluid must be a premium quality mineral based oil with anti wear additives.

## MAV SERIES - GEROLER TYPE



### Features:

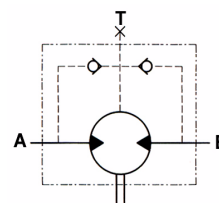
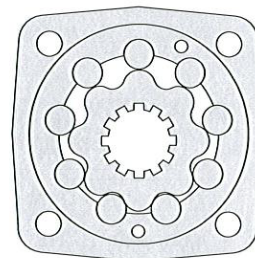
Similar to Danfoss "OMV" series

The **MAV** Series are GEROLER type 'Low Speed High Torque' Torqmotors.

They feature heavy, robust construction for heavy duty industrial type applications.

These Torqmotors are suitable for such applications as:

- Conveyor drives
- Winches
- Agricultural machinery
- Forestry machinery
- Cranes
- Sawmill equipment
- Elevators



4 Bolt Mount 50mm Keyed Shaft	
Part No.	
MAV-315-C	
MAV-400-C	
MAV-500-C	
MAV-630-C	
MAV-800-C	

SEAL KIT	
Part No.	
SK-MAV	

The above options are our stock lines.

For flange mounts purchase the oval mount as a separate item. Other shafts and side port options are available for quantity purchase ex the factory

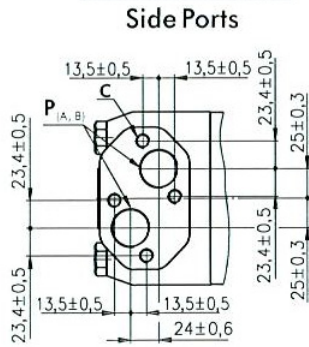
### PERFORMANCE FIGURES

Model	Disp. cc/rev	Pressure bar		Flow L/min		Torque				Speed rpm		Weight kg
		Cont.	Int.	Cont.	Int.	Nm		in/lb		Cont.	Int.	
						Cont.	Int.	Cont.	Int.			
MAV-315	333	200	240	150	220	927	1103	8204	9762	510	630	31.8
MAV-400	419			170	225	1223	1441	10824	12753	490	590	32.6
MAV-500	518			200		1450	1786	12833	15806	395	470	33.5
MAV-630	666	180	210			1638	2005	14496	17744	315	375	34.9
MAV-800	801	160	180			1820	2112	16107	18691	240	300	36.5

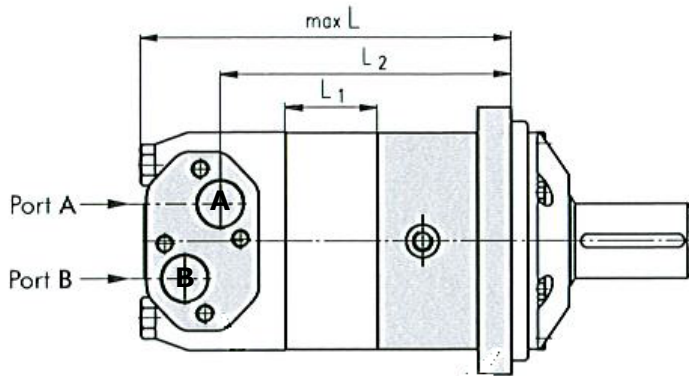
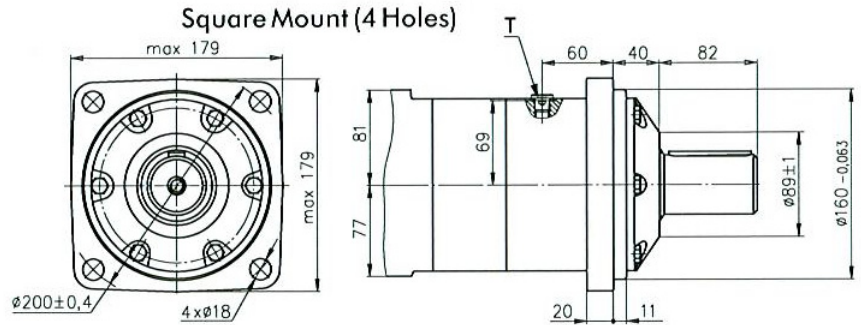


## MAV SERIES - GEROLER TYPE

### Porting



### Mounting

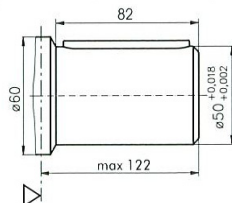


Dimensions			
Model	L mm	L1 mm	L2 mm
MAV-315	203	22	160
MAV-400	210	29	167
MAV-500	218	37	175
MAV-630	230	49	187
MAV-800	241	60	198

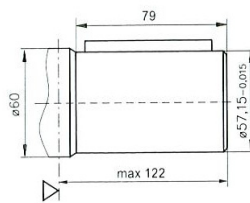
Ports A & B = 1"BSPP  
 Drain Port T = 1/4"BSPP  
 Mount Hole "C" = 4 x M12-12mm deep  
 Case Drain required for Series connection

Flow in Port A = Clockwise  
 Flow in Port B = Counterclockwise

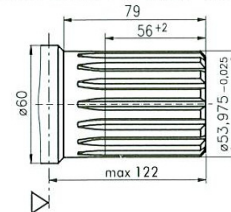
**C** -  $\phi 50$  straight,  
 Parallel key A14x9x70



**CO** -  $\phi 2\frac{1}{4}$ " straight,  
 Parallel key 1/2" x 1/2" x 24"



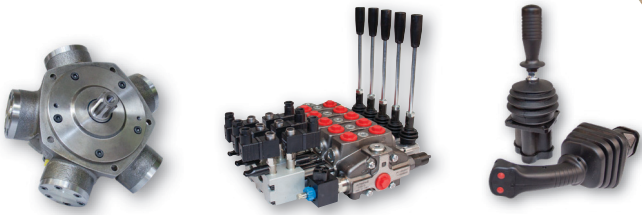
**SH** -  $\phi 2\frac{1}{8}$ " splined,  
 16 DP 8/16 ANSI B92.1-1976



NB:

- 1/ Intermittent operation values may occur for Max 10% of every minute.
- 2/ Intermittent speed and intermittent pressure may not occur at the same time.
- 3/ Recommended filtration to **ISO 4406:1999 Cleanliness Code 19/17/14**.
- 4/ Recommended operation temperature range is 20°C to 55°C with a max of 80°C for brief periods.
- 5/ To assure optimum motor life, fill with fluid prior to loading and run for 1 hour at moderate load and speed.
- 6/ The hydraulic fluid must be a premium quality mineral based oil with anti wear additives.



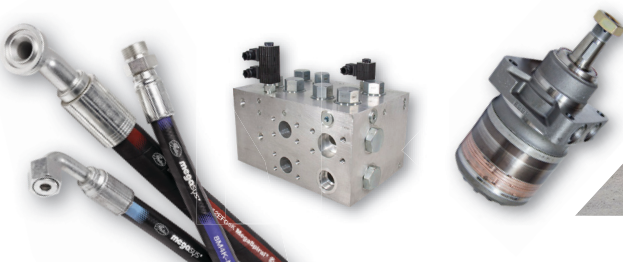


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- ✓ Hose Assemblies



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# SECTION D

## MOVECO ROTARY ACTUATORS



PAGE DESCRIPTION	PAGE
<b>RC Series - Flange Mounted Models .....</b>	<b>D 29</b>
<b>RP Series - Foot Mounted Models.....</b>	<b>D 30</b>
<b>RR Series - Foot Mounted Models .....</b>	<b>D 31</b>



The hydraulic rotary actuators designed and manufactured by Moveco are simple concepts: the linear piston motion is converted into a rotation movement by twin helical gears, the first between the piston and the splined bushing and the second matching helical gears between the shaft and the piston.

### Compact units with functional efficiency

The short stroke of the piston with the high angle of the helical gears makes for a compact actuator. PTFE, NBR, polyurethane seals, no leakage, roller bearings to reduce friction and reduced backlash combine to allow Moveco hydraulic rotary actuators to replace many traditional systems.

### High-efficiency heavy-duty bearings

Moveco actuators incorporate integral roller bearings to assure reduced friction and higher functional efficiency. Guide rings in phenolic resins are used to support radial loads and specific items are made to support high bending moments without additional outside thrust bearings.

### Shaft machined in one piece and with through bore when required

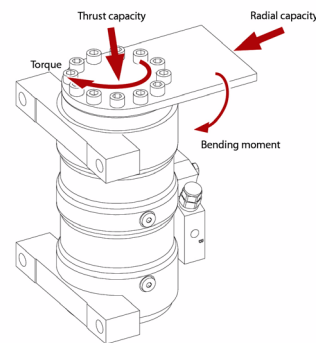
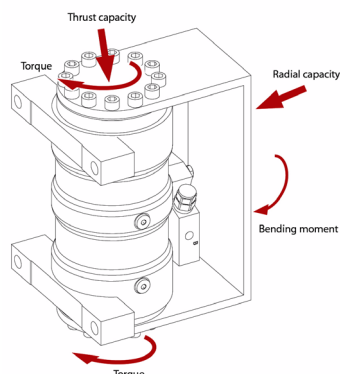
The shaft is machined from high resistance alloy steel. The bore reduces the weight and allows a safety tie-rod for specific loads, or it can be useful for routing hydraulic hoses or electrical wiring through.

### Direct installation of the actuator on the mobile unit

Whether flange-mounted with threaded holes opposite the shaft or with a male or female shaft or splined connection, both solutions assure a tight, reliable junction without backlash.

Straddle Mounting

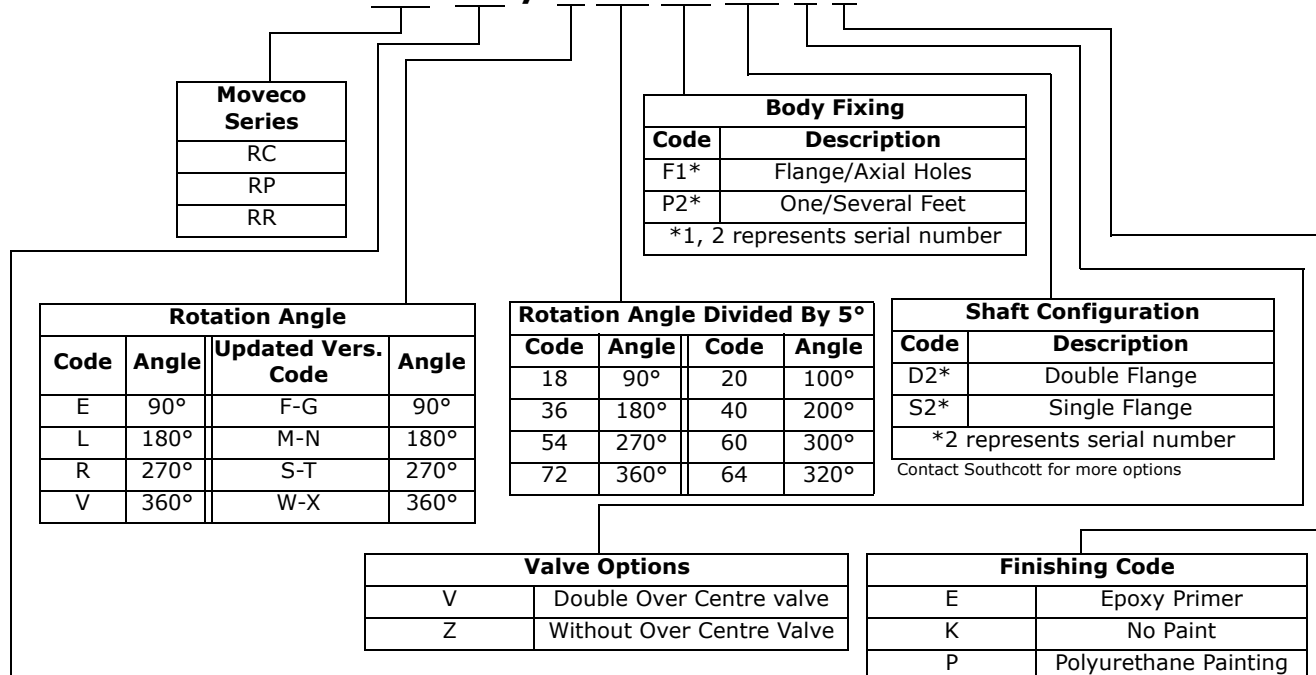
Cantilever Mounting



**NB: Models, codes, specifications and prices may be subject to change without notice.**

## Rotary Actuator Model Code

**RC. 32 / L 36 F1 S2 V P**

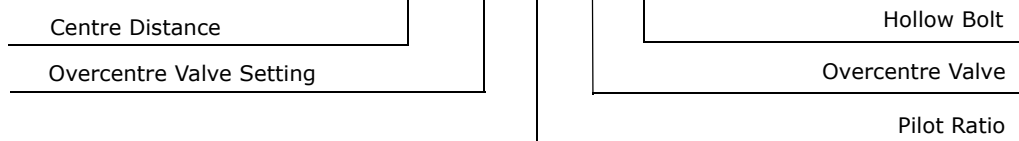


Output Torque @ 100 bar								
Code	T Nm	T Increment Δ	Code	T Nm	T Increment Δ	Code	T Nm	T Increment Δ
01 to 10	10-100	10	31 to 40	780-1500	80	61 to 70	6940-12700	640
11 to 20	120-300	20	41 to 50	1660-3100	160	71 to 80	13980-25500	1280
21 to 30	340-700	40	51 to 60	3420-6300	320	81 to 90	28060-51100	2560

Note: Refer to specific table for model torque

## W765 Series Overcentre Valve

**W.765/K 058 T A K Z**



Centre Distance Of Fastening Holes	058, 066, 075, 092, 110, 126, 136, 140
Overcentre Valve Setting	V = adjustable 60 - 220 bar W = adjustable 100 - 350 bar L = fixed 90 bar M = fixed 120 bar N = fixed 150 bar P = fixed 180 bar T = fixed 210 bar (standard) X = fixed 250 bar
Pilot Ratio	A = 1:4 (standard) B = 1:8
Overcentre Valve	C = balanced in the open air K = not balanced in the open air (standard)
Hollow Bolt	S = with unidirectional control flow Z = without unidirectional control flow



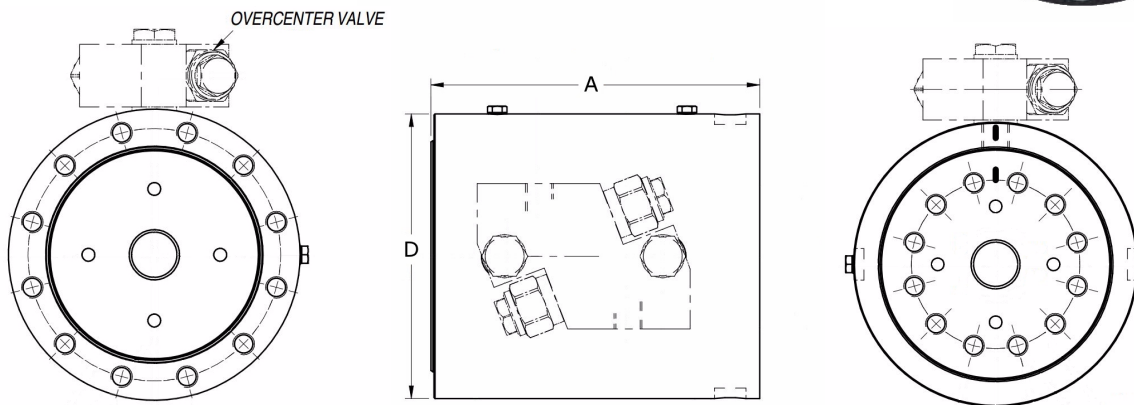
Overcentre valve is an integral part of the actuator. The double overcentre valve is made by two cartridges fitted in a steel body then fixed on the actuator or screwed directly onto it. The valve ensures a smooth movement of the rotation and locks it in a fixed position when required.



## RC Series - Flange Mounted Models

Aerial work platforms, industry and marine sector are typical applications for this series. These actuators are suitable to support a bending moment. It is possible to choose between different products with a torque range starting from 200 Nm to 11,000 Nm with the possibility of angle rotation from 180° to 360°.

**Note: all torque data refer to 210 bar working pressure**



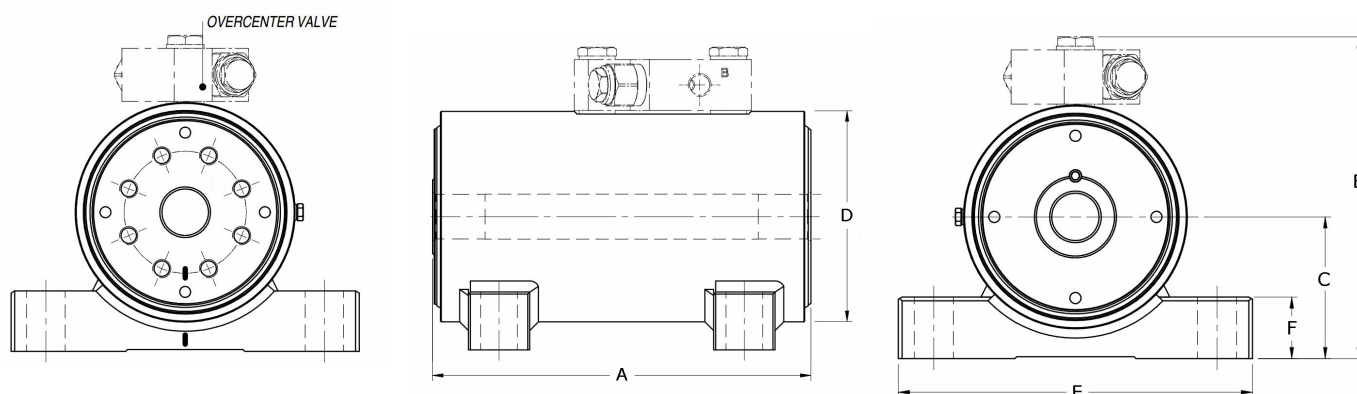
Description	Units	Size					
		RC.10	RC.14	RC.23	RC.27	RC.32	RC.40
Drive torque @ 210 bar	Nm	210	399	700	1200	1806	3100
Holding torque	Nm	320	620	1060	1850	2800	4700
Max moment capacity: Cantilever	Nm	600	1020	2300	6900	9100	11500
Max moment capacity: Straddle	Nm	Order up on request					
Max radial force	kg	1000	1350	2000	4000	5000	7000
Max axial thrust	kg						
Approx weight 180°	kg	8	13	15	33	58	58
Approx weight 360°	kg	10	13	15	42	61	-
Dim A (Length) 180°	mm	140	143	156	184	224	241
Dim A (Length) 360°	mm	177	189	212	258	311	-
Dim D (Diameter) 180° & 360°	mm	79.6	119.3	135	170	198	226

Part Number	Counter Bal. Block Part Number	Torque @ 210 bar Nm	Degree Rotation	Mounting
RC.14/L36F1S2ZP	W.765/K075TAKZ	399	180°	Cantilever
RC.23/L36F1S2ZP	W.765/K110TAKZ	700		
RC.27/L36F1S2ZP	W.765/K058TAKZ	1200		
RC.32/L36F1S2ZP		1806		
RC.14/V72F1S2ZP	W.765/K110TAKZ	399	360°	
RC.23/V72F1S2ZP		883		
RC.27/V72F1S2ZP	W.765/K095TAKZ	1218		
RC.32/V72F1S2ZP		1806		

## RP Series - Foot Mounted Models

Aerial platforms is the main application for this series. These actuators are suitable to support a bending moment. It is possible to choose between different products with a torque range starting from 500 Nm to 4500 Nm with the possibility of angle rotation from 180° to 270°.

**Note: All torque data refers to 210 bar working pressure**



Description	Units	Size			
		RP.17	RP.24	RP.33	RP.40
Drive torque @ 210 bar	Nm	505	960	1865	3100
Holding torque	Nm	730	1380	2670	4500
Max moment capacity: Cantilever	Nm	1400	2800	5400	11500
Max moment capacity: Straddle	Nm	2800	4800	12000	18000
Max radial force	kg	1400	2000	3000	6000
Max axial thrust	kg	500	600	800	1500
Approx weight 180°	kg	12	19	32	51
Dim A (Length) 180°	mm	188	216	248	298
Dim B	mm	153.5	173	196	229
Dim C	mm	66	76	86	108
Dim D (Diameter)	mm	101	120	145	167
Dim E (Foot Length)	mm	178	190	247	270
Dim F	mm	28	33	38	48

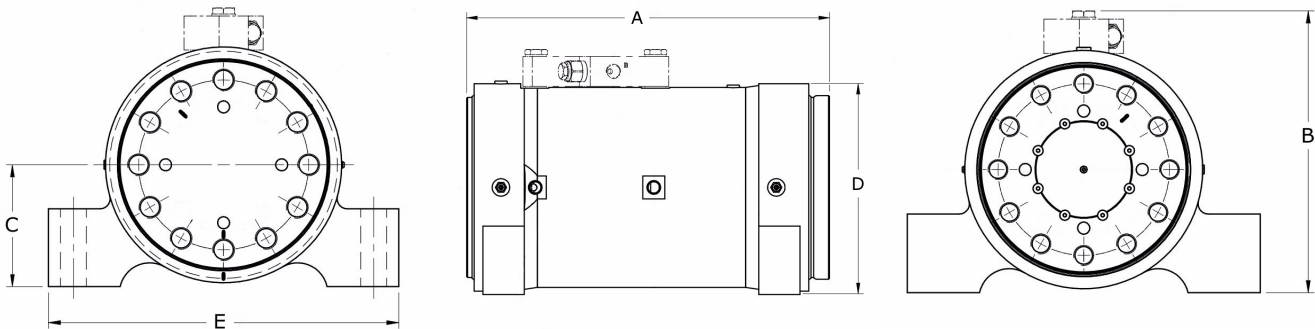
Part Number	Counter Bal. Block Part Number	Torque @ 210 bar Nm	Degree Rotation	Mounting
RP.17/L36P1S2ZP	W.765/K066TAKZ	505	180°	Cantilever
RP.24/L36P1S2ZP	W.765/K075TAKZ	960		
RP.33/L36P1S2ZP	W.765/K095TAKZ	1865		
RP.40/L36P1S2ZP		3100		
RP.17/L36P1D2ZP	W.765/K066TAKZ	505		Straddle
RP.24/L36P1D2ZP	W.765/K075TAKZ	960		
RP.33/L36P1D2ZP	W.765/K095TAKZ	1865		
RP.40/L36P1D2ZP		3100		



## RR Series - Foot Mounted Models

Aerial platforms is the main application for this series. These actuators are suitable to support a bending moment. It is possible to choose between different products with a torque range starting from 2020 Nm to 15000 Nm with the possibility of angle rotation from 180° to 360°.

**Note: All torque data refers to 210 bar working pressure**



Description	Units	Size					
		RR.34	RR.40	RR.46	RR.52	RR.58	RR.61
Drive torque @ 210 bar	Nm	2020	3100	5100	7600	11500	15000
Holding torque	Nm	3200	5000	8100	12000	18500	24000
Max moment capacity: Cantilever	Nm	5500	7500	12000	20000	30000	40000
Max moment capacity: Straddle	Nm	14000	17500	31000	45000	75000	100000
Max radial force	kg	1800	2500	3600	6500	7000	9000
Max axial thrust	kg	1400	1800	3000	6500	7000	9000
Approx weight 180°	kg	35	60	85	120	180	235
Approx weight 360°	kg	45	75	110	170	240	-
Dim A (Length) 180°	mm	298	323	365	413	475	524
Dim A (Length) 360°	mm	427	470	538	615	705	-
Dim B	mm	184.5	213.5	244	271	307.5	324
Dim C	mm	80	95	108	122	140	154
Dim D (Diameter) 180° & 360°	mm	148	177	202	227.5	265	270
Dim E	mm	222	268	310	350	400	447

Part Number	Counter Bal. Block Part Number	Torque @ 210 bar Nm	Degree Rotation	Mounting
RR.34/L36F2S1VP	W.765/K092TAKZ	2020	180°	Cantilever
RR.40/L36P2S1VP	W.765/K095TAKZ	3100		
RR.46/L36P1D3VP	W.766/L110TAKZ	5100		
RR.52/M36P3D1VP	W.766/L136TAKZ	7600		
RR.61/L36P1D1VP	W.768/L068TAKZ	15000		



# SECTION D

## HELAC ROTARY ACTUATORS



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L30 Series - Foot Mounted Models - Heavy Duty.....	D 38
L30 Series - Flange Mounted Models - Heavy Duty .....	D 40
T20 Series - Foot Mounted - Shaft Output Models .....	D 42

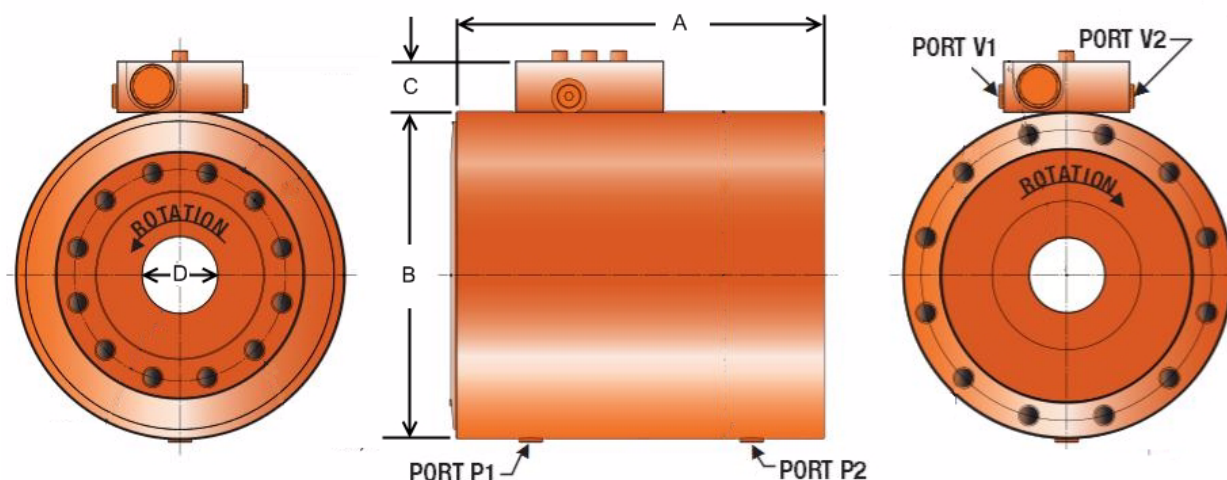


**Helac Rotary Actuators are Hydraulically Powered Hinges that also carry the load.**

Helac actuators are designed to replace multiple components and function as a rotating device, mounting bracket and bearing, all in one. Helac's innovative, sliding spline operation technology converts linear piston motion into powerful shaft rotation. Each actuator is composed of a housing and two moving parts - the central shaft and piston. Helical spline teeth on the piston's inside diameter and a second set of helical splines on the piston's outside diameter mesh with the gear in the housing.

**NB: Models, codes, specifications and prices may be subject to change without notice.**

## L10 Series - Flange Mounted Models 180° and 360° Rotations



The L10 Series is Helac's smallest and most compact helical hydraulic actuator. Ideal for applications where space is of premium importance, the ultra-compact L10 series features extremely high thrust capacity in a sleek cylindrical design with flanged mounting and flanged output.

Helac's helical hydraulic sliding spline technology is not self-locking and provides high shock resistance and high holding torque for demanding applications.

Functioning as a rotating device, mounting bracket and load bearing structure, the L10 Series eliminates the need for external bearing systems, brakes or locking devices.

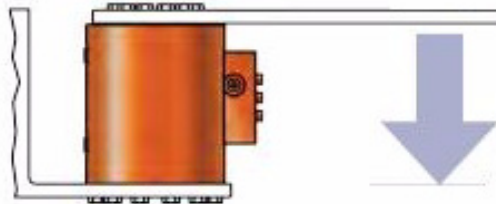
Five standard sizes with torque outputs up to 25000 in/lbs at 3000 psi (2825 Nm at 210 bar) are available.

**NB:** Custom rotation limits available on request

Description	Units	Size					
		1.7	3.0	5.5	9.5*	15	25
Drive Torque @ 210 bar	in/lbs	1700	3000	5500	9500	15000	25000
	Nm	190	340	620	1075	1695	2825
Holding Torque	in/lbs	5600	11000	17000	34000	50000	83000
	Nm	630	1200	1900	3800	5700	9400
Max. Moment Cap. Cantilever or Straddle	in/lbs	5000	9000	20000	50000	80000	100000
	Nm	565	1020	2260	5650	9040	11300
Max. Radial Force	kg	907	1360	1850	3630	4990	6800
Max. Axial thrust	kg	907	1360	1850	3630	4990	6800
Displacement 360°	cc/rev	128	243	384	733	1104	1836
Approx. Weight 180°	kg	6	10	14	26	43	57
Approx. Weight 360°	kg	-	13	19	35	54	83
Dim. A 180°	mm	138	142	154	183	223	240
Dim. A 360°	mm	-	188	211	257	310	345
Dim. B	mm	100	119	135	170	197	225
Dim. C	mm	30	30	30	30	30	30
Dim. D	mm	14	17	21	36	46	67

\*L10-9.5 185°

## L10 Series - Flange Mounted Models 180° and 360° Rotations



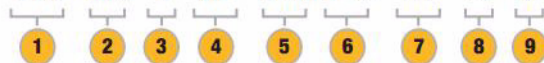
### Cantilever Mount

The load is bolt mounted to the shaft flange and is supported at only one end of the shaft. Cantilever mounting is never recommended for aerial work platforms or other critical and safety related applications.

Part Number 180° models	Torque in/lbs 210 bar	Degrees Rotation
L10-1.7-M-RF-180-S1OH	1700	180
L10-3.0-M-RF-180-S1OH	3000	
L10-5.5-M-RF-180-S1OH	5500	
L10-9.5-M-RF-180-S1OH	9500	185
L10-15-M-RF-180-S1OH	15000	180
L10-25-M-RF-180-S1OH	25000	
<b>360° models</b>		
L10-3.0-M-RF-360-S1OH	3000	360
L10-5.5-M-RF-360-S1OH	5500	
L10-9.5-M-RF-360-S1OH	9500	
L10-15-M-RF-360-S1OH	15000	
L10-25-M-RF-360-S1OH	25000	

### Typical Model Code

**L10 - 3.0 - E - RF - 180/120 - S1 - C - H**



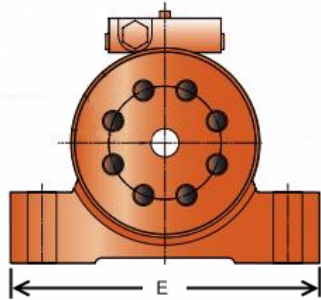
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|---|---|
| <p><b>1</b> L10 Actuator Series</p> <p><b>2</b> Torque Output (in-lbs x 1000)<br/>1.7* 3.0 5.5 9.5** 15 25</p> <p><b>3</b> Measurement System<br/>E English System<br/>M Metric System<br/>S Special Custom Design</p> <p><b>4</b> Housing Configuration<br/>RF Rear Flange</p> <p><b>5</b> Standard Rotation<br/>180 180 Degrees<br/>360 360 Degrees</p> | <p><b>6</b> Special Rotations<br/>(Standard design with internal stop tube to limit rotation - indicates final rotation)</p> <p><b>7</b> Shaft Configuration<br/>S1 Cantilever Mounted Shaft Option</p> <p><b>8</b> Valve Options<br/>C With Counterbalance Valve<br/>O Without Counterbalance Valve</p> <p><b>9</b> Seals<br/>H Standard Seals &amp; Bearings<br/>S Special Seals &amp; Bearings</p> |
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\* L10-1.7 available in 180° rotation special order only. Contact Helac Corporation for more information.

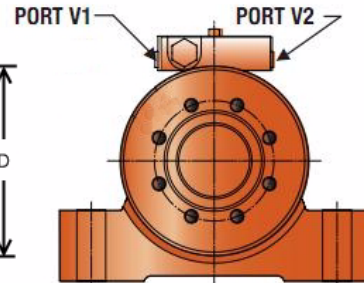
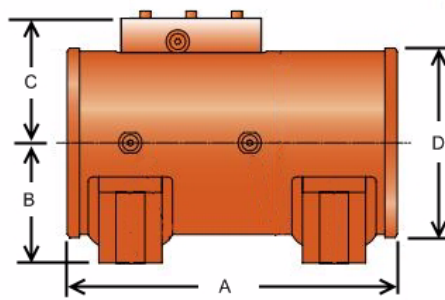
\*\* L10-9.5 available in 185° or 360° rotations only.



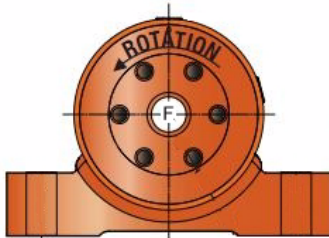
## L20 Series - Foot Mounted Models 180° Rotation



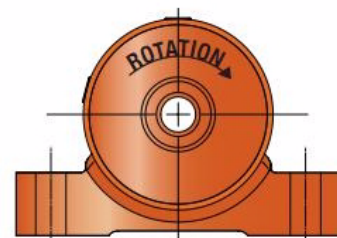
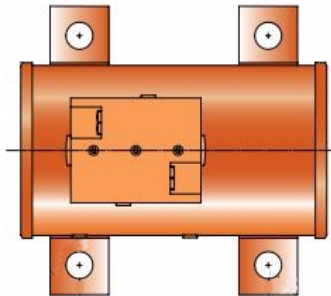
L20-25, 39 Flange End



L20-25, 39 Endcap



L20-4.5, 8.2, 15 Flange End



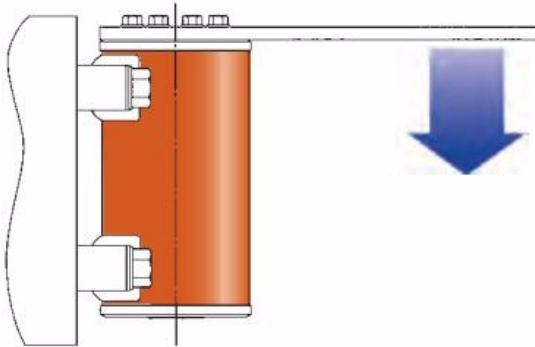
L20-4.5, 8.2, 15 Endcap

The L20 Series is a cost effective solution that can easily be designed into a wide range of applications. It features versatile mounting options and flange output. Helac's helical sliding spline technology is not self-locking and provides high shock resistance and high holding torque for demanding applications. Functioning as a rotating device, mounting bracket and load bearing structure, the L20 Series eliminates the need for external bearing systems, brakes or locking devices. Five standard sizes with torque outputs up to 39,000 in/lbs at 3000 psi (4400Nm at 210 bar) are available.

**NB:** Custom rotation limits available on request

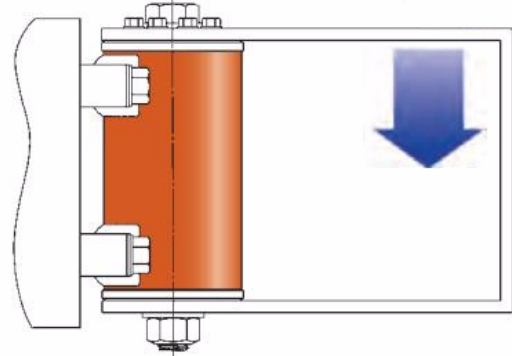
Description	Units	Size				
		4.5	8.2	15	25	39
Drive Torque @ 210 bar	in/lbs	4500	8200	15000	25000	39000
	Nm	508	930	1690	2940	4400
Holding Torque	in/lbs	11800	21100	38720	62900	93200
	Nm	1300	2400	4400	7100	11000
Max.Moment Cap. Cantilever	in/lbs	12000	22000	48000	100000	140000
	Nm	1360	2485	5540	11000	16000
Max.Moment Cap. Straddle	in/lbs	22500	40000	90000	145000	280000
	Nm	2500	4500	10200	16400	31600
Max. Radial Force	kg	1380	2160	4190	5580	9570
Max. Axial thrust	kg	500	680	1000	1410	1770
Displacement 180°	cc	132	234	435	725	1076
Approx. Weight 180°	kg	12.7	17.2	30.40	52.20	77.60
Dim. A	mm	188	216	248	298	337
Dim. B	mm	66	76	86	108	121
Dim. C	mm	80	87	99	112	125
Dim. D	mm	104	117	142	170	196
Dim. E	mm	178	191	248	279	330

## L20 Series - Foot Mounted Models 180° Rotation



### Cantilever Mounting --S1 Option

The load is bolt mounted to the torque flange and only supported at one end of the shaft. Cantilever mounting is never recommended for aerial work platforms or other critical and safety related applications.



### Straddle Mounting - S2 Option

The load is supported at both ends of the shaft. For sizes 4.5, 8.2 and 15 the upper portion of the bracket is bolted to the torque flange, whereas the lower portion is secured by a tie rod passed through the shaft bore. For sizes 25 & 39 the bracket is bolted at both ends.

Part Number	Torque in/lbs 210 bar	Degrees Rotation
L20-4.5-M-FT-180-S1OH	4500	180
L20-8.2-M-FT-180-S1OH	8200	
L20-15-M-FT-180-S1OH	15000	
L20-25-M-FT-180-S2OH	25000	
L20-39-M-FT-180-S2OH	39000	

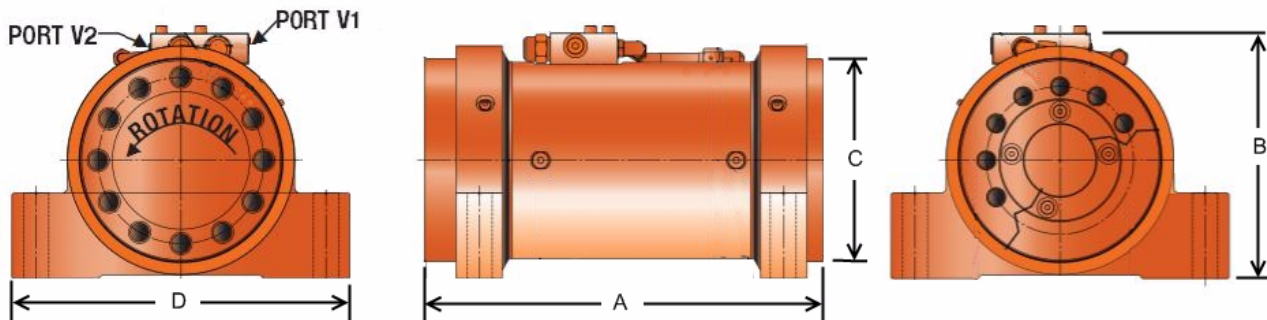
### Typical Model Code

L20 - 4.5 - E - FT - 180/120 - S1 - C - H

1 2 3 4 5 6 7 8 9

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|---|---|
| <ul style="list-style-type: none"> <li><b>1</b> L20 Actuator Series</li> <li><b>2</b> Torque Output (in-lbs x 1000)<br/>4.5 8.2 15 25 39</li> <li><b>3</b> Measurement System<br/>E English System<br/>M Metric System<br/>S Special Custom Design</li> <li><b>4</b> Housing Configuration<br/>FT Foot Mount</li> <li><b>5</b> Standard Rotation<br/>180 180 Degrees</li> </ul> | <ul style="list-style-type: none"> <li><b>6</b> Special Rotations<br/>(Standard design with internal stop tube to limit rotation - indicates final rotation)</li> <li><b>7</b> Shaft Configuration<br/>S1 Cantilever Mounted Shaft Option<br/>S2 Straddle Mounted Shaft Option</li> <li><b>8</b> Valve Options<br/>C With Counterbalance Valve<br/>O Without Counterbalance Valve</li> <li><b>9</b> Seals<br/>H Standard Seals &amp; Bearings<br/>S Special Seals &amp; Bearings</li> </ul> |
|---|---|

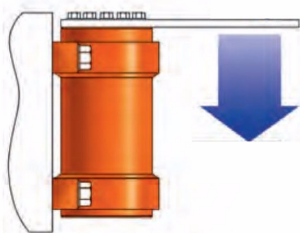
## L30 Series - Foot Mounted Models - Heavy Duty 180° and 360° Rotation



The L30 Series is our heavy duty helical hydraulic actuator that is suitable for harsh environments. Designed for applications that require ultra high bearing capacity, the L30 Series features foot or flange mount with flange output. Helac's helical sliding spline technology is not self-locking and provides high shock resistance and high holding torque for demanding applications. Functioning as a rotating device, mounting bracket and load bearing structure, the L30 Series eliminates the need for external bearing systems, brakes or locking devices. Nine standard sizes with torque outputs up to 380000 in/lbs at 3000 psi (43000 Nm at 210 bar) are available.

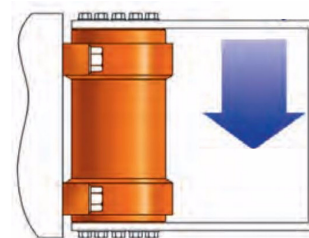
**NB:** Custom rotation limits available on request

Description	Units	Size								
		17	25	42	65	95	125	165	215	380*
Drive Torque @ 210 bar	in/lbs	17000	25000	42000	65000	95000	125000	165000	215000	380000
	Nm	1900	2800	4700	7900	11000	14000	19000	24000	43000
Holding Torque	in/lbs	43600	60400	103000	162000	232000	306000	404000	520000	936000
	Nm	4900	6800	12000	18000	26000	35000	46000	58000	110000
Max.Moment Cap. Straddle	in/lbs	119000	150000	273000	423000	665000	875000	1155000	1505000	1505000
	Nm	13400	16900	30800	47800	75100	98900	130000	170000	170000
Max. Moment Cap. Cantilever	in/lbs	45900	62500	105000	162500	261250	343750	495000	645000	570000
	Nm	5200	7100	11900	18400	29500	38800	55900	72900	64400
Max. Radial Force	kg	1800	2300	3600	5000	6800	8200	10000	12000	12000
Max. Axial thrust	kg	1400	1800	2700	3600	4500	5900	6800	8200	8200
Displacement 180°	cc	488	696	1180	1870	2680	3540	4660	6000	10200
Displacement 360°	cc	977	1390	2370	3740	5360	7080	9320	1200	-
Approx. Wt 180°	kg	35	48	74	110	160	220	280	360	480
Approx. Wt 360°	kg	47	64	99	140	200	290	370	480	-
Dim. A 180°	mm	298	323	365	413	475	524	551	600	906
Dim. A 360°	mm	427	470	538	615	705	776	836	906	-
Dim. B	mm	179	201	226	253	284	310	334	366	366
Dim. C	mm	139	155	183	209	234	263	288	310	310
Dim. D	mm	222	268	310	350	400	447	484	530	530



### Cantilever Mount - S1 Option

The Load is bolt mounted to the shaft flange and is supported at only one end of the shaft. Cantilever mounting is never recommended for aerial work platforms or other critical and safety related applications. The S1 option is designed for cantilever mount loading.



### Straddle Mount - S2 Option

The load is supported at both ends of the shaft. The upper portion of the bracket is bolted to the shaft flange, the lower portion is bolted to the endcap flange. The S2 option is designed for straddle mount loading.

## L30 Series - Foot Mounted Models - Heavy Duty 180° & 360° Rotation

NB: The below part numbers apply to the Cantilever Mount. For Straddle Mount, replace S1 with S2 in the part number.

Part Number 180°models	Torque in/lbs 210 bar	Degrees Rotation
L30-17-M-FT-180-S1OH	17000	180
L30-25-M-FT-180-S1OH	25000	
L30-42-M-FT-180-S1OH	42000	
L30-65-M-FT-180-S1OH	65000	
L30-95-M-FT-180-S1OH	95000	
L30-125-M-FT-180-S1OH	125000	
L30-165-M-FT-180-S1OH	165000	
L30-215-M-FT-180-S1OH	215000	
L30-380-M-FT-210-S1OH	215000	
360° models		
L30-17-M-FT-360-S1OH	17000	360
L30-25-M-FT-360-S1OH	25000	
L30-42-M-FT-360-S1OH	42000	
L30-65-M-FT-360-S1OH	65000	
L30-95-M-FT-360-S1OH	95000	
L30-125-M-FT-360-S1OH	125000	
L30-165-M-FT-360-S1OH	165000	
L30-215-M-FT-360-S1OH	215000	
L30-215-M-FT-360-S1OH	215000	

### Typical Model Code

L30 - 17 - E - FT - 180/120 - S1 - C - H

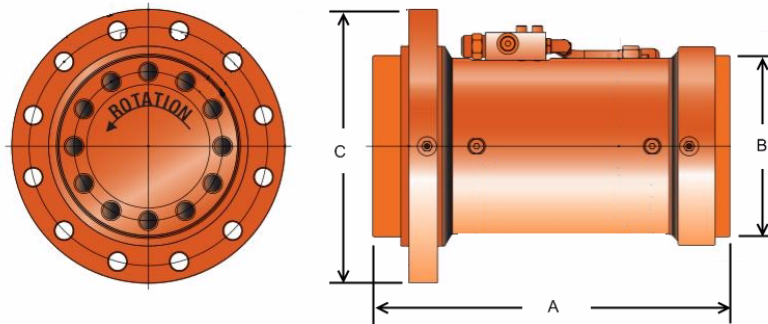
1 2 3 4 5 6 7 8 9

- |   |  |
|---|--|
| <p><b>1</b> L30 Actuator Series</p> <p><b>2</b> Torque Output (in-lbs x 1000)<br/>17 25 42 65 95 125 165 215 380</p> <p><b>3</b> Measurement System<br/>E English System<br/>M Metric System<br/>S Special Custom Design</p> <p><b>4</b> Housing Configuration<br/>FT Foot Mount<br/>FF Front Flange</p> <p><b>5</b> Standard Rotation<br/>180 180 Degrees<br/>360 360 Degrees*</p> | <p><b>6</b> Special Rotations<br/>(Standard design with internal stop tube to limit rotation - indicates final rotation)</p> <p><b>7</b> Shaft Configuration<br/>S1 Cantilever Mounted Shaft Option<br/>S2 Straddle Mounted Shaft Option</p> <p><b>8</b> Valve Options<br/>C With Counterbalance Valve<br/>O Without Counterbalance Valve</p> <p><b>9</b> Seals<br/>H Standard Seals &amp; Bearings<br/>S Special Seals &amp; Bearings</p> |
|---|--|

\* Available in select models only.



## L30 Series - Flange Mounted Models - Heavy Duty 180° and 360° Rotation



The L30 Series is our heavy duty helical hydraulic actuator and is suitable for harsh environments. Designed for applications that require ultra high bearing capacity, the L30 Series features foot or flange mount with flange output. Helac's helical sliding spline technology is not self-locking and provides high shock resistance and high holding torque for demanding applications. Functioning as a rotating device, mounting bracket and load bearing structure, the L30 Series eliminates the need for external bearing systems, brakes or locking devices. Nine standard sizes with torque outputs up to 380000 in/lbs at 3000 psi (43000 Nm at 210 bar ) are available.

**NB:** Custom rotation limits available on request

Description	Units	Size								
		17	25	42	65	95	125	165	215	380*
Drive Torque @ 210 bar	in/lbs	17000	25000	42000	65000	95000	125000	165000	215000	380000
	Nm	1900	2800	4700	7900	11000	14000	19000	24000	43000
Holding Torque	in/lbs	43600	60400	103000	162000	232000	306000	404000	520000	936000
	Nm	4900	6800	12000	18000	26000	35000	46000	58000	110000
Max. Moment Cap. Straddle	in/lbs	119000	150000	273000	423000	665000	875000	1155000	1505000	1505000
	Nm	13400	16900	30800	47800	75100	98900	130000	170000	170000
Max. Moment Cap. Cantilever	in/lbs	45900	62500	105000	162500	261250	343750	495000	645000	570000
	Nm	5200	7100	11900	18400	29500	38800	55900	72900	64400
Max. Radial Force	kg	1800	2300	3600	5000	6800	8200	10000	12000	12000
Max. Axial thrust	kg	1400	1800	2700	3600	4500	5900	6800	8200	8200
Displacement 180°	cc	488	696	1180	1870	2680	3540	4660	6000	10200
Displacement 360°	cc	977	1390	2370	3740	5360	7080	9320	1200	-
Approx. Wt 180°	kg	35	48	74	110	160	220	280	360	480
Approx. Wt 360°	kg	47	64	99	140	200	290	370	480	-
Dim. A 180°	mm	298	323	365	413	475	524	551	600	906
Dim. A 360°	mm	427	470	538	615	705	776	836	906	-
Dim. B	mm	139	155	183	209	234	263	288	310	310
Dim. C	mm	200	235	280	315	355	396	442	475	475



## L30 Series - Flange Mounted Models - Heavy Duty 180° and 360° Rotation Models

### Cantilever Mount - S1 Option

The load is bolt mounted to the shaft flange and is supported at only one end of the shaft. Cantilever mounting is never recommended for aerial work platforms or other critical and safety related applications. The S1 option is designed for cantilever mount loading.

### Straddle Mount - S2 Option

The load is supported at both ends of the shaft. The upper portion of the bracket is bolted to the shaft flange, the lower portion is bolted to the endcap flange. The S2 option is designed for straddle mount loading.

Part Number 180° models	Torque in/lbs 210 bar	Degrees Rotation
L30-17-M-FF-180-S1OH	17000	180
L30-25-M-FF-180-S1OH	25000	
L30-42-M-FF-180-S1OH	42000	
L30-65-M-FF-180-S1OH	65000	
L30-95-M-FF-180-S1OH	95000	
L30-125-M-FF-180-S1OH	125000	
L30-165-M-FF-180-S1OH	165000	
L30-215-M-FF-180-S1OH	215000	
L30-380-M-FF-210-S1OH	215000	
<b>360° models</b>		
L30-17-M-FF-360-S1OH	17000	360
L30-25-M-FF-360-S1OH	25000	
L30-42-M-FF-360-S1OH	42000	
L30-65-M-FF-360-S1OH	65000	
L30-95-M-FF-360-S1OH	95000	
L30-125-M-FF-360-S1OH	125000	
L30-165-M-FF-360-S1OH	165000	
L30-215-M-FF-360-S1OH	215000	
L30-380-M-FF-360-S1OH	215000	

**Typical Model Code**

**L30 - 17 - E - FT - 180/120 - S1 - C - H**

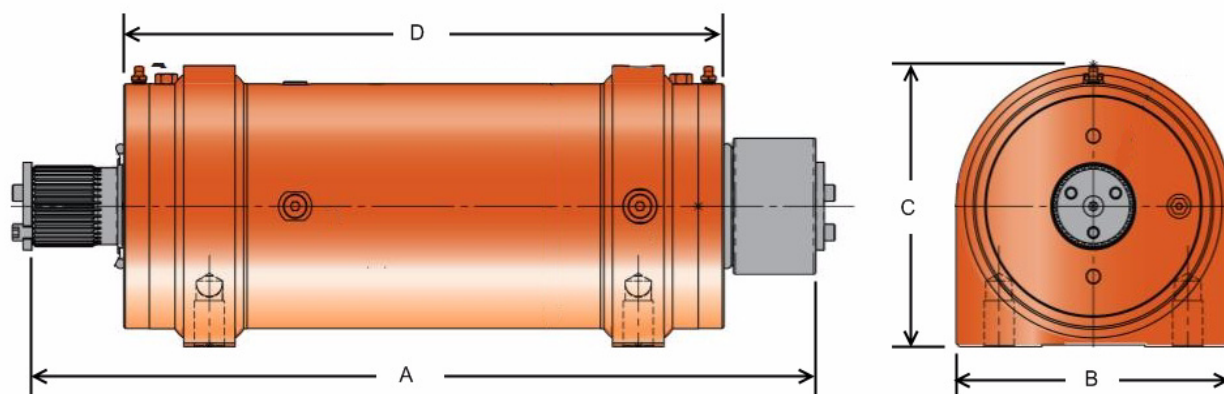
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9

- 1** L30 Actuator Series
- 2** Torque Output (in-lbs x 1000)  
17 25 42 65 95 125 165 215 380
- 3** Measurement System  
E English System  
M Metric System  
S Special Custom Design
- 4** Housing Configuration  
FT Foot Mount  
FF Front Flange
- 5** Standard Rotation  
180 180 Degrees  
360 360 Degrees\*

- 6** Special Rotations  
(Standard design with internal stop tube to limit rotation - indicates final rotation)
- 7** Shaft Configuration  
S1 Cantilever Mounted Shaft Option  
S2 Straddle Mounted Shaft Option
- 8** Valve Options  
C With Counterbalance Valve  
O Without Counterbalance Valve
- 9** Seals  
H Standard Seals & Bearings  
S Special Seals & Bearings

\* Available in select models only.

## T20 Series - Foot Mounted - Shaft Output Models 220° Rotation



The T20 Series is ideal for applications where torque generation and higher cycle rates are the primary requirements. It features splined output shafts and 200-220 degrees of rotation. Helac's helical sliding spline technology is not self locking and provides high shock resistance and high holding torque for demanding applications.

Functioning as a rotating device, mounting bracket and load bearing structure, the T20 series eliminates the need for external bearing systems, brakes or locking devices. Three standard sizes with torque outputs up to 60,000 in/lbs at 3000 psi (6,780 Nm at 210 bar) are available.

**NB:** Custom rotation limits available on request

Description	Units	Size		
		25	45	60
Drive Torque @ 210 bar	in/lbs	25000	45000	60000
	Nm	2830	5090	6780
Holding Torque	in/lbs	54200	94900	127000
	Nm	6100	11000	14000
Max. Moment Cap. Straddle	in/lbs	37500	67500	90000
	Nm	4240	7630	10170
Max. Radial Force	kg	2040	3130	3900
Max. Axial thrust	kg			
Displacement 220°	cc	488	696	1180
Approx. Weight	kg	33.6	58.1	75.3
Dim. A	mm	417	546	579
Dim. B	mm	133	170	203
Dim. C	mm	143	174	203
Dim. D	mm	335	422	445

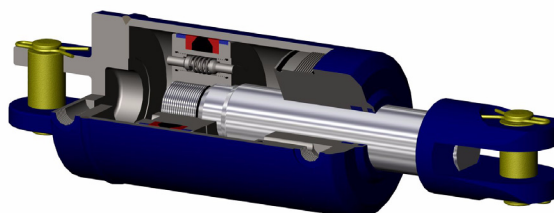
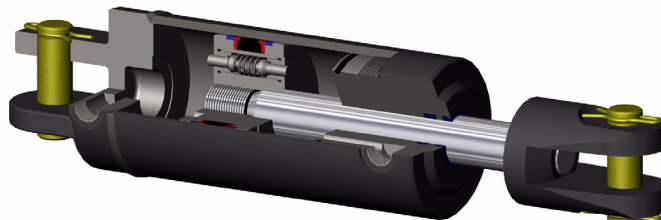
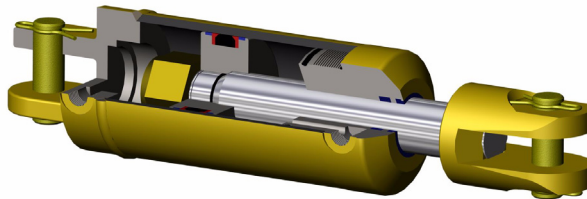
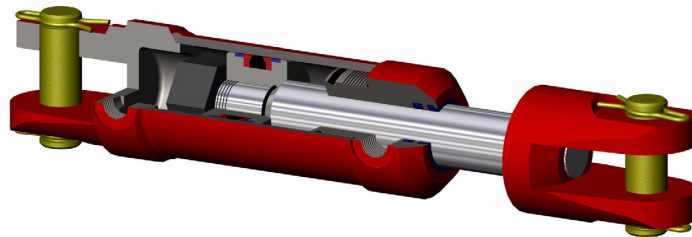
Part Number	Torque in/lbs	Degrees Rotation	Description
T20-25-M-FT-220-DS-OH	25000	220	Actuator
T20-25-M-FT-220-DA-OH			Actuator + Splined Adaptors
T20-45-M-FT-220-DS-OH	45000		Actuator
T20-45-M-FT-220-DA-OH			Actuator + Splined Adaptors
T20-60-M-FT-200-DS-OH	60000	200	Actuator
T20-60-M-FT-200-DA-OH			Actuator + Splined Adaptors

# SECTION E

## PTE HYDRAULIC CYLINDERS



PAGE DESCRIPTION	PAGE
<b>PTE HYDRAULIC STREAMLINE SERIES</b>	
SLM Series (MEDIUM DUTY CYLINDERS) .....	E 2
SLH Series(HEAVY DUTY CYLINDERS) .....	E 3
SLP Series (PHASING CYLINDERS) .....	E 4
SHP Series (HEAVY DUTY PHASING CYLINDERS).....	E 5
Cylinder Column Strength Charts.....	E 6
Spare Parts for PTE Cylinders .....	E 7

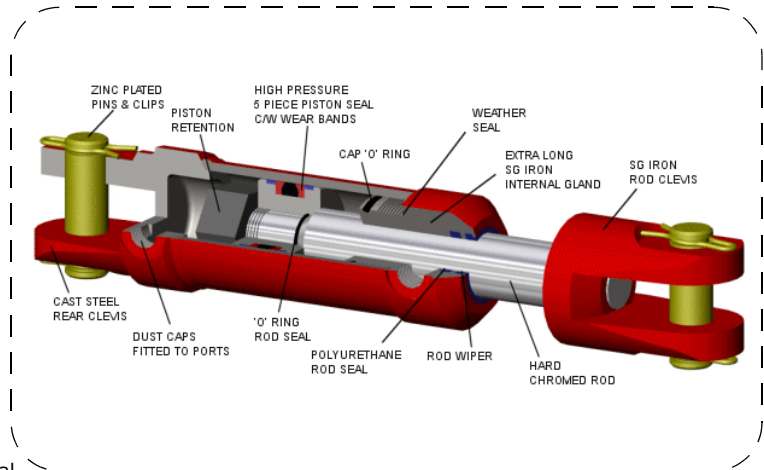


**NB: Models, codes and specifications may be subject to change without notice.**

# STREAMLINE MEDIUM-DUTY

## SLM Series

The **STREAMLINE MEDIUM DUTY**, or **SLM** hydraulic cylinder is a field proven design suitable for a vast majority of medium duty applications. The internally screwed front cap in conjunction with ports integrated within each end cap form the basis of the STREAMLINE design. These features, coupled with the use of high quality seals, make it a popular option for use within both the mobile and industrial markets.



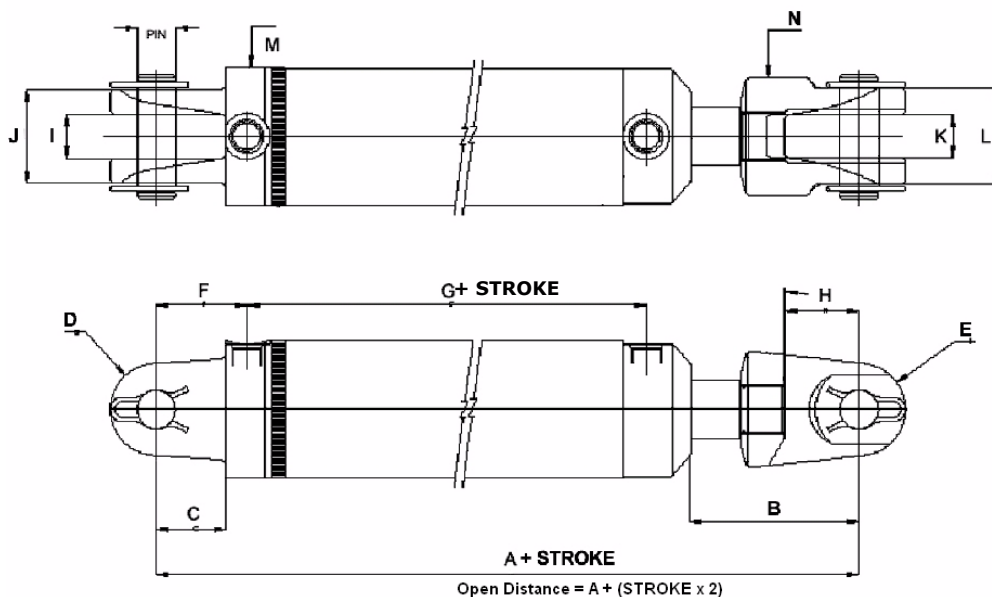
Maximum working pressure = 207 bar (3000 psi)

**NB:** For high pressure on long strokes, refer to our technical department for column strength of rods, etc.

High pressure T-seals on pistons and non-standard rods and strokes are available upon request.

**NB:** To complete the part number, replace \*\* with the stroke length, i.e. 8" = 08.

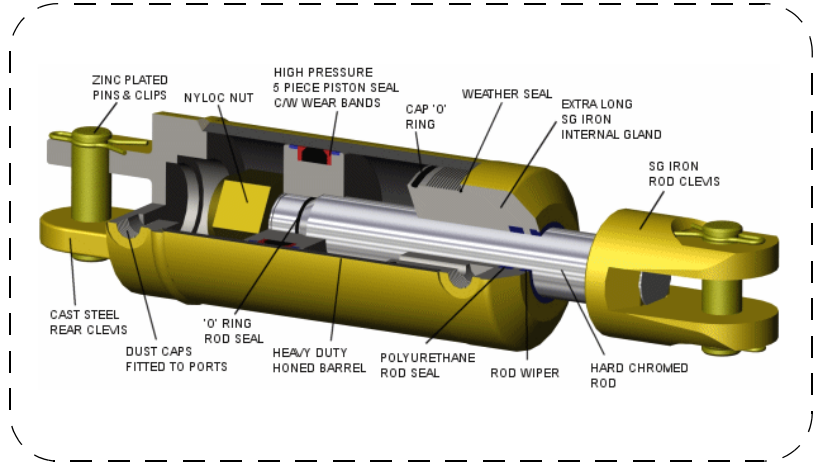
Part No.	Bore	Rod	Ports	Pin	Dimensions mm													
					A	B	C	D	E	F	G	H	I	J	K	L	M	N
SLM-15**	1-1/2"	7/8"	9/16"	3/4"	241	70	38	25	25	51	94	38	23	48	23	48	61	62
SLM-20**	2"	1"																
SLM-25**	2-1/2"	1-1/2"	3/4"	1"	311	109	45	30	30	59	114	48	28	62	27	62	81	76
SLM-30**	3"																90	



# STREAMLINE HEAVY-DUTY

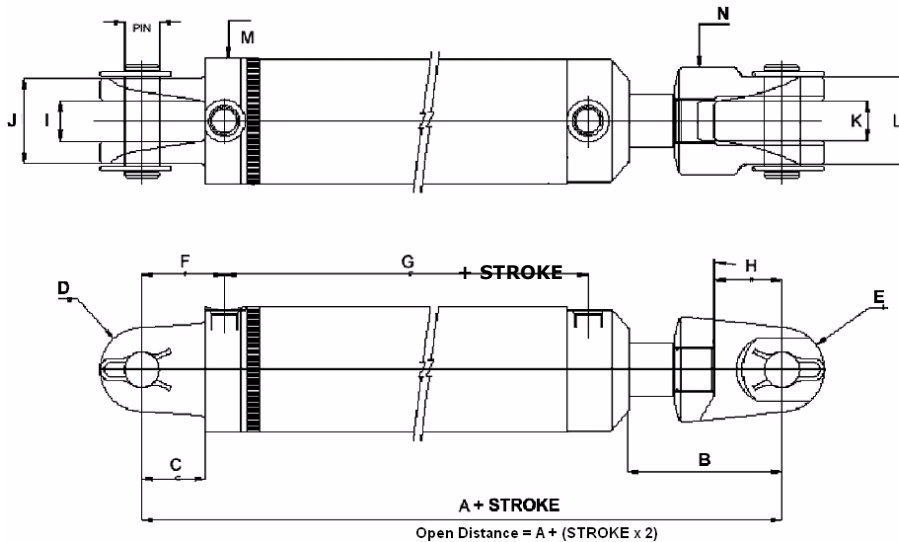
## SLH Series

The **STREAMLINE HEAVY DUTY**, or **SLH** hydraulic cylinder is a robust design for medium to heavy-duty applications. The cylinder has a number of features which allows it to perform under demanding industrial type loading situations where a medium level of shock loading and pressure spiking may occur.



**NB: To complete the part number, replace \*\* with the stroke, i.e. 8" = 08.**

Part No.	Bore	Rod	Ports	Pin	Dimensions mm															
					A	B	C	D	E	F	G	H	I	J	K	L	M	N		
SLH-25**	2-1/2"	1-1/2"	3/4"	1"	311	109	45	30	30	59	114	48	28	27	62	81	76			
SLH-30**	3"									49								90		
SLH-35**	3-1/2"	1-3/4"				3/4"	1"	311	87	43	32		35			59	136		30	70
SLH-40**	4"			57												138		115		
SLH-45**	4-1/2"	2"	1-1/4"	1"	311	84	35	35	35	57	138	30	70	127	80					
SLH-50**	5"									57						138	140			

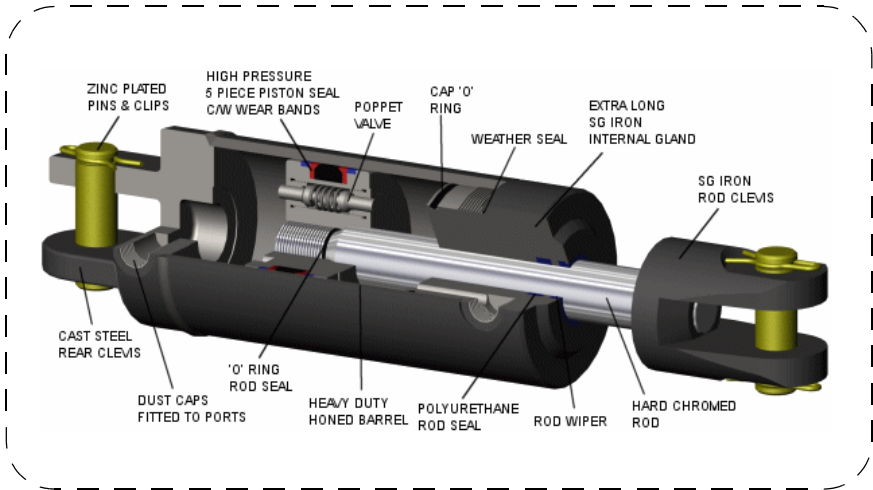




# STREAMLINE PHASING

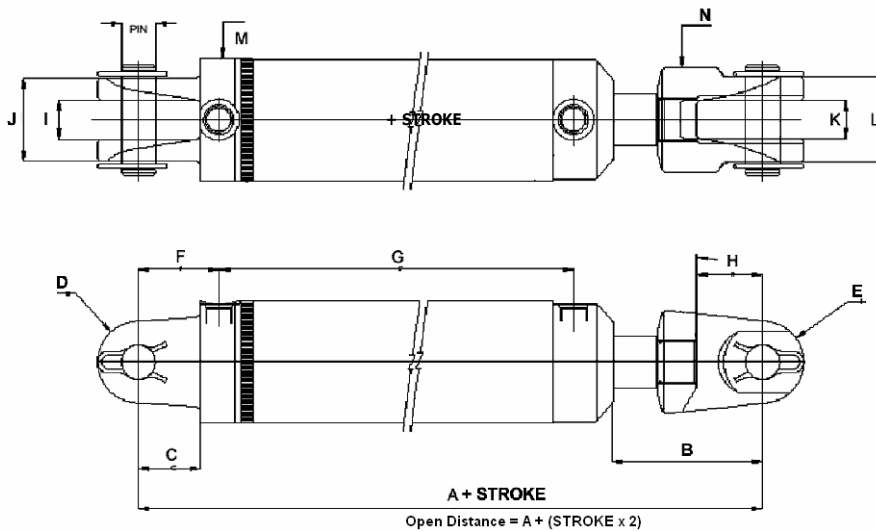
## SLP Series

The **STREAMLINE PHASING CYLINDER**, or **SLP** is based on the **SLH** design and benefits from the same design features but is fitted with the patented PTE re-phasing valve. The cylinders come in a range of sizes developed to form synchronised sets. The unique valve design allows for re-phasing of cylinders at either end of their stroke.



**NB: To complete the part number, replace \*\* with the stroke length, i.e. 8" = 08.**

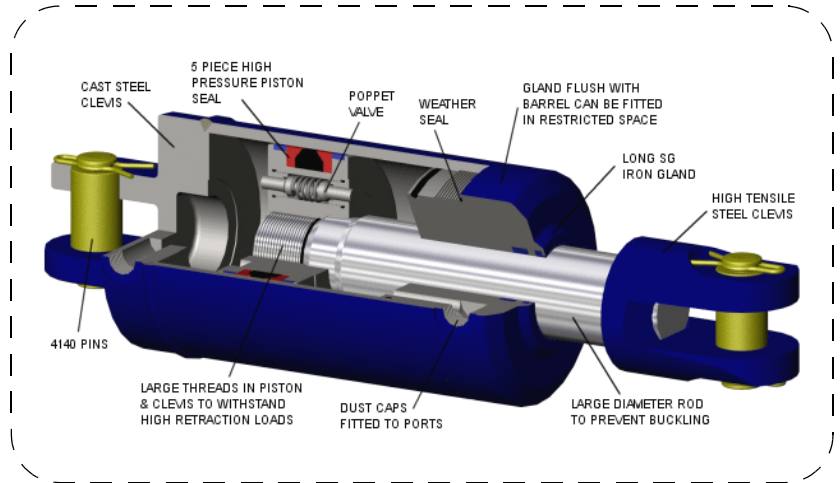
Part No.	Bore	Rod	Ports	Pin	Dimensions mm													
					A	B	C	D	E	F	G	H	I	J	K	L	M	N
SLP-250**	2-1/2"	1-1/8"	3/4"	1"	311	86	43	32	30	43	135	48	30	62	27	62	74	76
SLP-275**	2-3/4"																81	
SLP-300**	3"																88	
SLP-325**	3-1/4"	1-1/4"															105	
SLP-350**	3-1/2"																108	
SLP-375**	3-3/4"	1-3/8"															114	
SLP-400**	4"																121	
SLP-425**	4-1/4"																127	
SLP-450**	4-1/2"	1-1/2"															134	
SLP-475**	4-3/4"																140	
SLP-500**	5"																	



# STREAMLINE HEAVY-DUTY PHASING

## SHP Series

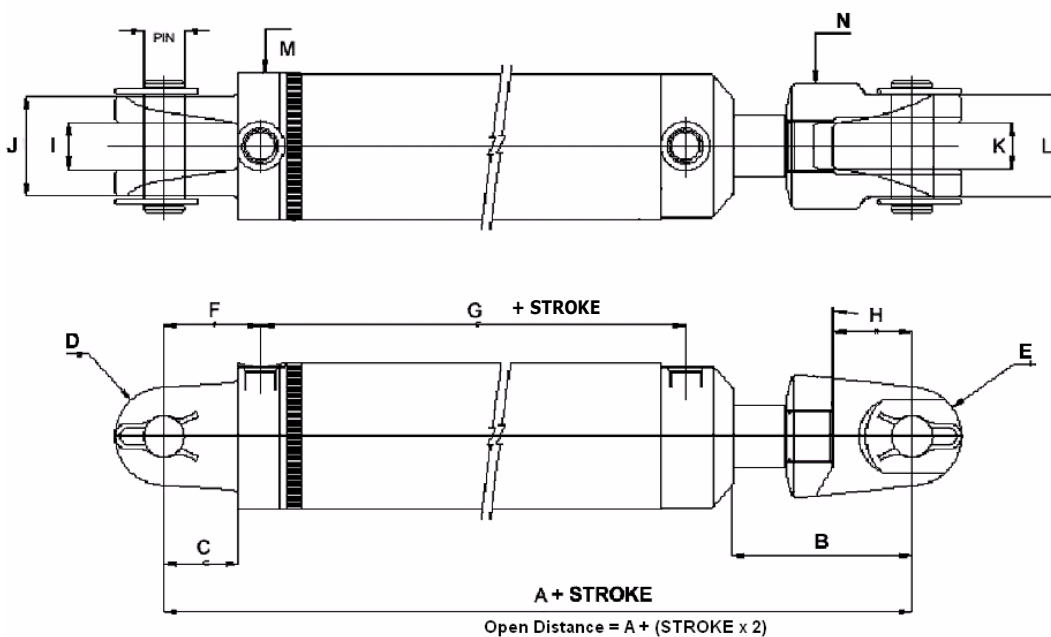
The **STREAMLINE HEAVY-DUTY PHASING CYLINDER**, or **SHP** is based on the **SLP** design and benefits from the same design features but is fitted with larger rods for heavy duty applications. The cylinders are available in 1/2" increments to form synchronised sets. The unique valve design allows for re-phasing of cylinders at either end of their stroke.



**NB: To complete the part number, replace \*\* with the stroke length, i.e. 8" = 08.**

Part No.	Bore	Rod	Ports	Pin	Dimensions mm													
					A	B	C	D	E	F	G	H	I	J	K	L	M	N
SHP-40**	4"	2"	3/4"	1-1/4"	311	87	43	32	35	57	135	48	30	62	27	62	115	80
SHP-45**	4-1/2"	2"															127	
SHP-50**	5"	55mm															140	
SHP-55**	5-1/2"	2-1/4"															159	

For higher pressure applications please contact our technical department for alternative clevis & pin information.



## Cylinder Column Strength Charts

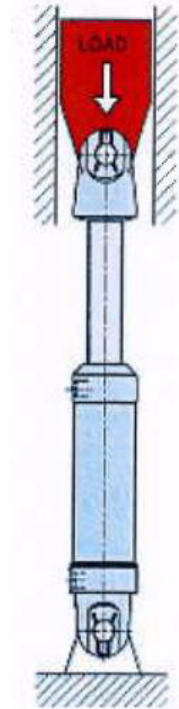
The below charts provide the maximum load capacity (tonnes) at full extension when mounted pin to pin. Rod buckling may occur if these loads are exceeded. Load capabilities can be increased by fitting larger diameter rods.

### SLM Series

Bore	Rod	Load in Tonnes for Standard Strokes (inches)											
		4	6	8	10	12	16	18	20	24	30	36	48
1-1/2"	7/8"	2.40	2.40	2.40	2.25	1.75	1.14	0.95	0.80	0.59	0.41	0.30	0.18
2"	1"	4.27	4.27	4.27	3.84	2.98	1.94	1.62	1.37	1.01	0.69	0.50	0.30
2-1/2"	1-1/2"	6.68	6.68	6.68	6.68	6.68	6.68	6.68	6.20	4.67	3.24	2.39	1.45
3"	1-1/2"	9.62	9.62	9.62	9.62	9.62	8.65	7.27	6.20	4.67	3.24	2.39	1.45

### SLH Series

Bore	Rod	Load in Tonnes for Standard Strokes (inches)											
		8	10	12	16	18	20	24	30	36	42	48	
2-1/2"	1-1/2"	6.68	6.68	6.68	6.68	6.68	6.20	4.67	3.24	2.39	1.83	1.45	
3"	1-1/2"	9.62	9.62	9.62	8.65	7.27	6.20	4.67	3.24	2.39	1.83	1.45	
3-1/2"	1-3/4"	13.09	13.09	13.09	13.09	13.09	11.49	8.64	6.01	4.42	3.39	2.68	
4"	1-3/4"	17.09	17.09	17.09	16.02	13.48	11.49	8.64	6.01	4.42	3.39	2.68	
4-1/2"	2"	21.64	21.64	21.64	21.64	21.64	19.60	14.74	10.25	7.54	5.78	4.57	
5"	2"	26.71	26.71	26.71	26.71	22.99	19.60	14.74	10.25	7.54	5.78	4.57	



The above calculations are based on:

- Euler equation with safety factor of 2.0 (light duty - no shock loads)
- Higher safety factors must be used in more arduous conditions.
- Cylinder is assumed to be vertical, with both ends fully guided and no allowance is made for friction in the clevis pins due to the cylinder swinging through an arc.

## Spare Parts for PTE Cylinders



Part Number	Description	
SK-SLM150-7/8	Seal Kits • Type • Bore Size • Rod Size	
SK-SLM200-1.0		
SK-SLM250-1.5		
SK-SLM300-1.5		
SK-SLH250-1.5		
SK-SLH300-1.5		
SK-SLH350-1.75		
SK-SLH400-1.75		
SK-SLH450-2.0		
SK-SLH500-2.0		
SK-SHP400-2.0		
SK-SHP450-2.0		
SK-SHP500-55mm		
SK-SHP550-2.25		
SK-SLP250-1.125		
SK-SLP275-1.125		
SK-SLP300-1.25		
SK-SLP325-1.25		
SK-SLP350-1.25		
SK-SLP375-1.38		
SK-SLP400-1.38		
SK-SLP425-1.38		
SK-SLP450-1.5		
SK-SLP475-1.5		
SK-SLP500-1.5		
SLM-PIN-3/4		Clevis Pin 3/4"
SLM-PIN-1		Clevis Pin 1"
SLM-CLIP-3/4		Circlip - Clevis Pin 3/4"
SLM-CLIP-1		Circlip - Clevis Pin 1"





# SECTION E

## BAKER HYDRAULIC CYLINDERS



PAGE DESCRIPTION	PAGE
APEX III SHC-25XX.....	E 10
APEX III SHC-30XX.....	E 10
APEX III SHC-35XX.....	E 11
APEX III SHC-40XX.....	E 11
SUPER-AG SHC-50XX .....	E 11
<b>BAKER APEX III (TELESCOPIC CYLINDERS)</b>	
APEX III SHC35x58.75 .....	E 12
<b>BAKER PHASING Series</b>	
SHCP-XXXXX.....	E 13
<b>BAKER TOPLINK Series</b>	
SHC-XXXXTL .....	E 14
<b>Kits &amp; Spares Apex III Series .....</b>	<b>E 15</b>



**NB: Models, codes and specifications may be subject to change without notice.**

## APEX III Series



The Apex III Hydraulic Cylinders have been developed as a completely modern design of hydraulic linear actuator. Using the highest quality materials and the latest computerised manufacturing techniques, these cylinders have been purpose built for any static or mobile machinery application.

Working pressures to 207 bar (3000 psi).

### APEX III SHC-25XX

2.5" Bore Series III					
Part Number	Bore	Stroke	Rod	Closed Centre	Open Centre
SHC-2506	2-1/2"	6"	1-1/4"	18.25"	24.25"
SHC-2508		8"		20.25"	28.25"
SHC-2512		12"		24.25"	36.25"
SHC-2516		16"		28.25"	44.25"
SHC-2518		18"	1-1/2"	30.25"	48.25"
SHC-2520		20"		32.25"	52.25"
SHC-2524		24"		36.25"	60.25"
SHC-2530		30"		42.25"	72.25"
SHC-2536		36"		48.25"	84.25"
SHC-2548		48"		60.25"	108.25"

### APEX III SHC-30XX

3.0" Bore Series III					
Part Number	Bore	Stroke	Rod	Closed Centre	Open Centre
SHC-3006	3"	6"	1-1/2"	18.25"	24.25"
SHC-3008		8"		20.25"	28.25"
SHC-3012		12"		24.25"	36.25"
SHC-3016		16"		28.25"	44.25"
SHC-3018		18"		30.25"	48.25"
SHC-3020		20"		32.25"	52.25"
SHC-3024		24"		36.25"	60.25"
SHC-3030		30"		42.25"	72.25"
SHC-3036		36"		48.25"	84.25"

## APEX III SHC-35XX

3.5" Bore Series III					
Part Number	Bore	Stroke	Rod	Closed Centre	Open Centre
SHC-3508	3-1/2"	8"	1-1/2"	20.25"	28.25"
SHC-3512		12"		24.25"	36.25"
SHC-3516		16"		28.25"	44.25"
SHC-3518		18"		30.25"	48.25"
SHC-3524		24"		36.25"	60.25"
SHC-3530		30"		42.25"	72.25"
SHC-3536		36"		48.25"	84.25"

## APEX III SHC-40XX

4.0" Bore Series III					
Part Number	Bore	Stroke	Rod	Closed Centre	Open Centre
SHC-4008	4"	8"	1-3/4"	20.25"	28.25"
SHC-4012		12"		24.25"	36.25"
SHC-4016		16"		28.25"	44.25"
SHC-4018		18"		30.25"	48.25"
SHC-4024		24"		36.25"	60.25"
SHC-4030		30"		42.25"	72.25"
SHC-4036		36"		48.25"	84.25"

## SUPER-AG SHC-50XX

5.0" BORE Series III					
Part Number	Bore	Stroke	Rod	Closed Centre	Open Centre
SHC-5008-SUPA-AG	5"	8"	2-1/2"	20.25"	28.25"
SHC-5012-SUPA-AG		12"		24.25"	36.25"
SHC-5016-SUPA-AG		16"		28.25"	44.25"
SHC-5018-SUPA-AG		18"		30.25"	48.25"
SHC-5024-SUPA-AG		24"		36.25"	60.25"
SHC-5030-SUPA-AG		30"		42.25"	72.25"
SHC-5036-SUPA-AG		36"		48.25"	84.25"
SHC-5048-SUPA-AG		48"		60.25"	108.25"

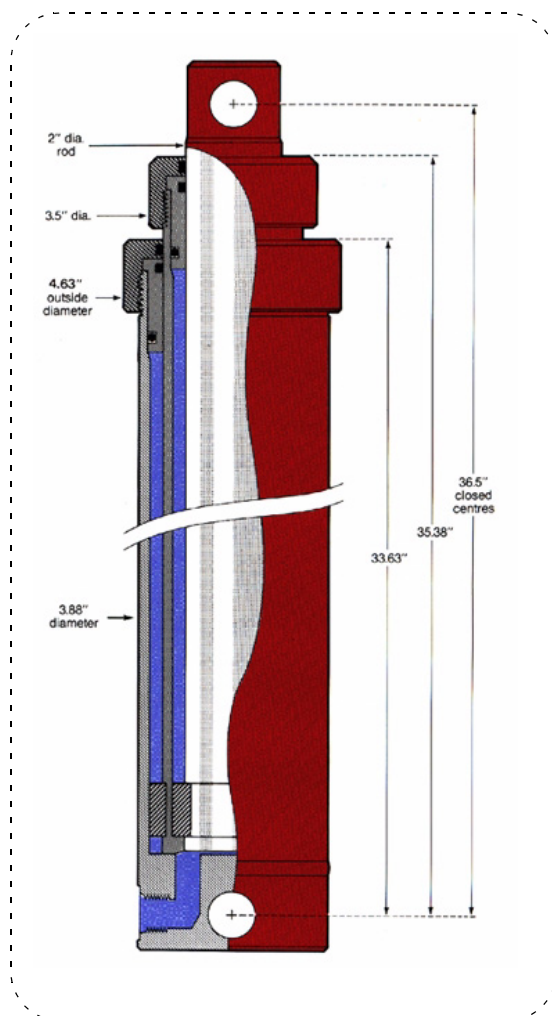
# APEX III SHC35x58.75



**The Baker Telescopic Displacement Cylinder.**  
Ideal for tray tippers, car transporters etc.  
Expands to 95.25"

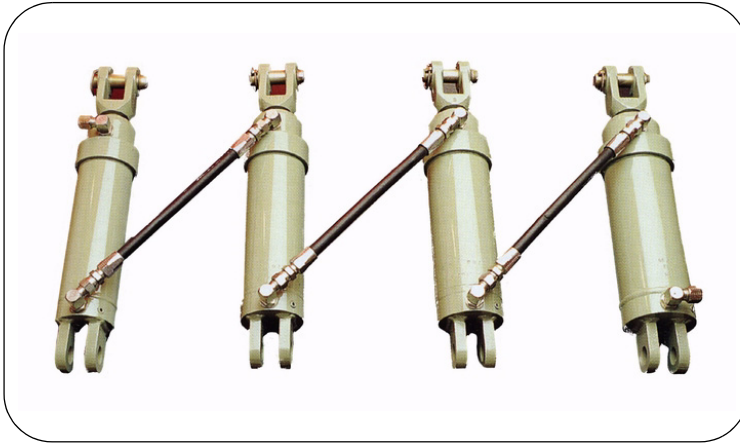
- \* **58.75" total stroke**
- \* **Designed for maximum strength**
- \* **Standard 1" pin mounting.**
- \* **3/4" UNF O-ring port.**

*Designed for*  
**Heavy Duty Applications**



Telescopic Displacement Series				
Part Number	Bore	Stroke	Closed Centre	Open Centre
SHC-35x58.75	3-1/2"	58.75"	36.50"	95.25"

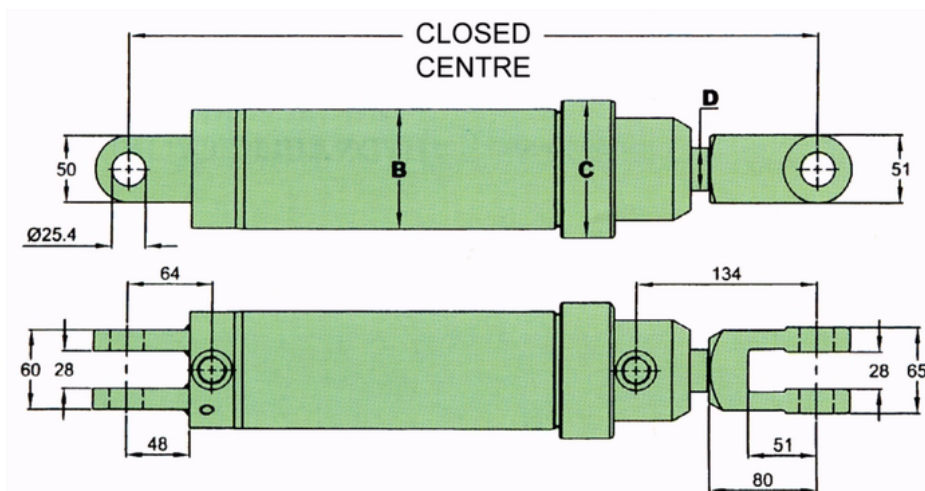
## PHASING Series



Facilitates simultaneous parallel movement of wide-line equipment.

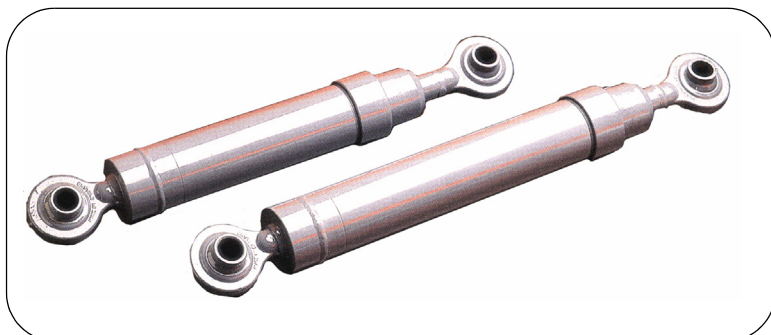
203mm (8") and 305mm (12") strokes standard.

Phasing Series - SHCP					
Part Number	Bore	Stroke	Rod	Closed Centre	Open Centre
SHCP-30008	3"	8"	1-1/4"	20.25"	28.25"
SHCP-30012		12"		24.25"	36.25"
SHCP-32508	3-1/4"	8"		20.25"	28.25"
SHCP-32512		12"		24.25"	36.25"
SHCP-35008	3-1/2"	8"		20.25"	28.25"
SHCP-35012		12"		24.25"	36.25"
SHCP-37508	3-3/4"	8"	1-3/8"	20.25"	28.25"
SHCP-37512		12"		24.25"	36.25"
SHCP-40008	4"	8"		20.25"	28.25"
SHCP-40012		12"		24.25"	36.25"
SHCP-42508	4-1/4"	8"		20.25"	28.25"
SHCP-42512		12"		24.25"	36.25"
SHCP-45008	4-1/2"	8"	1-1/2"	20.25"	28.25"
SHCP-45012		12"		24.25"	36.25"
SHCP-47508	4-3/4"	8"		20.25"	28.25"
SHCP-47512		12"		24.25"	36.25"
SHCP-50008	5"	8"		20.25"	28.25"
SHCP-50012		12"		24.25"	36.25"



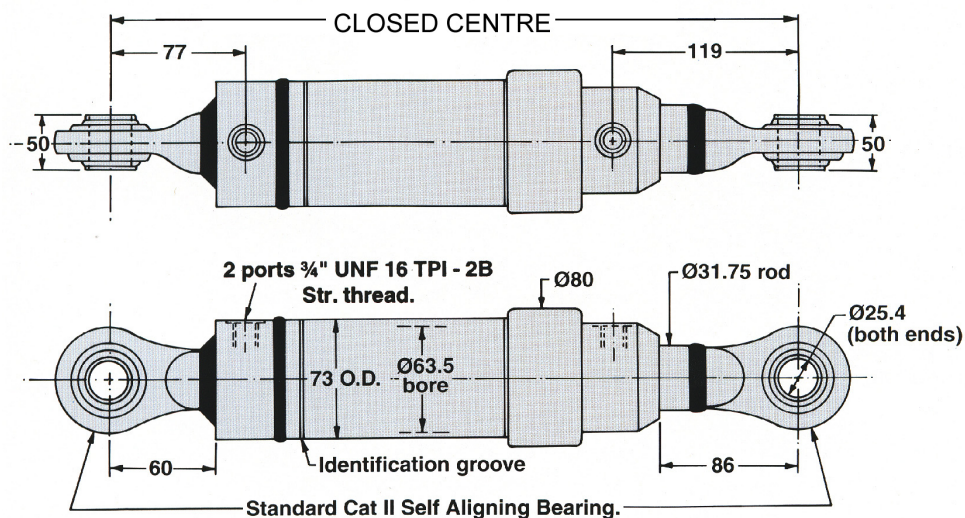
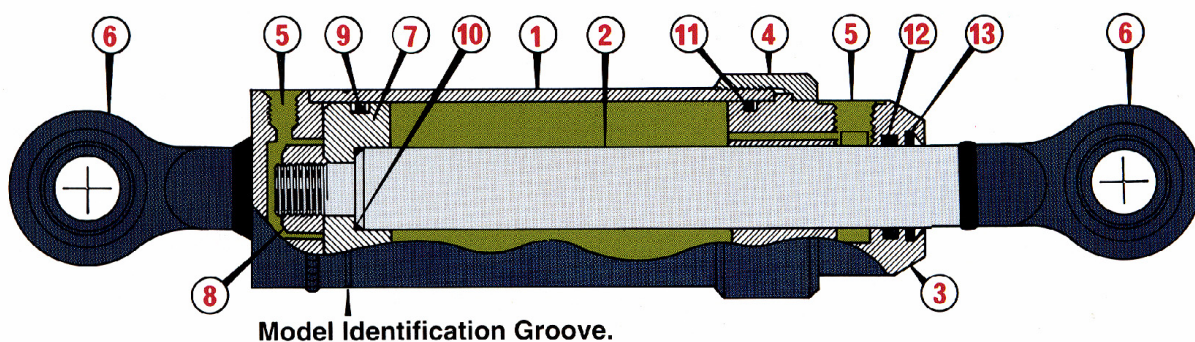


# TOPLINK Series



**Top Link Hydraulic Cylinders** have been developed from the proven "Apex II" design and come complete with standard Cat.II self aligning bearings at both ends, specially designed to facilitate attachment to 3 point linkage equipment.

Toplink Series - SHCTL					
Part Number	Bore	Stroke	Mass kg	Closed Centre	Open Centre
SHC-2508TL	2-1/2"	8"	10	20.25"	28.25"
SHC-2512TL		12"	11	24.25"	36.25"



## Kits & Spares

### Apex III Series

Clevis Pin & Clips	
Part No.	Description
975600009	1" Dia Clevis Pin for 2.5" - 3.5" Bore
975600008	1.25" Dia Clevis Pin for 4" Bore
991594000	Linchpin for 2.5" - 4" Bore

Seal Kits - Standard for Apex I, II & III	
Part No.	Description
SK-SHC250-1.25	Seal Kit for Apex III 2.5" B X 1.25" R
SK-SHC250-1.50	Seal Kit for Apex III 2.5" B X 1.50" R
SK-SHC300	Seal Kit for Apex III 3.0" BORE
SK-SHC350	Seal Kit for Apex III 3.5" BORE
SK-SHC400	Seal Kit for Apex III 4.0" BORE



# SECTION F

## FILTERS, BREATHERS, LEVEL GAUGES

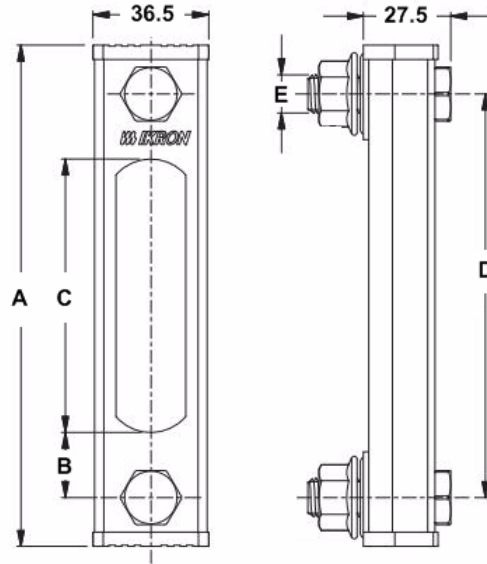
PAGE DESCRIPTION	PAGE
SIGHT LEVEL GAUGES .....	F 2
OIL VISION PLUGS, BREATHER - DIPSTICK .....	F 2
RESERVOIR LEVEL & TEMPERATURE PROBES.....	F 3
MAGNETIC PLUGS, GEARBOX BREATHERS.....	F 3
FILLER - BREATHER CAPS .....	F 4
AIR BREATHERS.....	F 5
PORT BREATHERS .....	F 5
FILLER- BREATHER CAPS - HB110 & HB120 series.....	F 6
PRESSURE GAUGES .....	F 7
PRESSURE SWITCHES .....	F 8
DESICCANT AIR BREATHER/CONDITIONERS .....	F 9
SUCTION FILTERS.....	F 11
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TANK TOP FILTERS .....	F 16
PRESSURE FILTERS - HF745 & HF760 .....	F 19
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PRESSURE FILTER INDICATORS.....	F 25
PRESSURE FILTER - HF705 .....	F 25



**NB: Models, codes and specifications may be subject to change without notice.**

## SIGHT LEVEL GAUGES

HL91 Sight Level Gauges are directly connected to the reservoir to check the level and temperature of the hydraulic fluid. There are 3 different mount dimensions available to suit your particular needs: 76mm, 127mm & 254mm. The external protective material is made of anodized aluminium to provide strong impact resistance while the central body is made of transparent polyamide.



Part No.	With Thermometer	Dimensions mm				
		A	B	C	D	E
HL91-10-T1-N-B	No	106	17.5	41	76	M10
HL91-10-T1-T-B	Yes					
HL91-20-T2-N-B	No	157	20.5	86	127	M12
HL91-20-T2-T-B	Yes					
HL91-30-T2-N-B	No	284		213	254	
HL91-30-T2-T-B	Yes					

## OIL VISION PLUGS



Part Number	Thread BSPP
38.0425	1/4"
38.0427	3/8"
38.0428	1/2"
38.1070	3/4"
38.1072	1"
38.5159	1-1/4"
38.5176	1-1/2"

## BREATHER - DIPSTICK

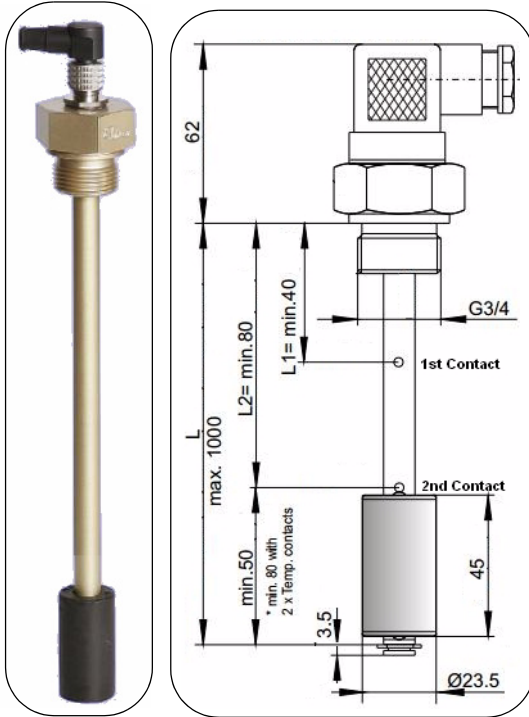


Part Number	Thread BSPP
Z290-0001	3/4"



## Buhler Reservoir Level & Temperature Probes

The Buhler Level and Temperature Probes are used to monitor the oil level and the operating temperature of a hydraulic oil reservoir. They have a 3/4" BSPP connection thread for easy fitment. They offer up to four outputs in a compact design with small dimensions, a reliable float system and a housing made of brass.



Part Number	Level Switches	Temp. Switch	Dim L mm
M-MS-M3/280-1K	1	-	280
M-MS-M3/280-2K	2	-	
M-MS-M3/280-1K-80NC	1	N/C	
M-MS-M3/280-1K-80NO	1	N/O	
M-MS-M3/370-1K	1	-	370
M-MS-M3/370-2K	2	-	
M-MS-M3/370-1K-80NC	1	N/C	
M-MS-M3/370-1K-80NO	1	N/O	
M-MS-M3/500-1K	1	-	500
M-MS-M3/500-2K	2	-	
M-MS-M3/500-1K-80NC	1	N/C	
M-MS-M3/500-1K-80NO	1	N/O	

**NB:** The above are our standard range, however probes up to 1000mm long can be supplied upon special request.

## Magnetic Plugs



Part Number	Thread BSPP	Material
36.0505	1/4"	Aluminium
36.0505B		Brass
36.0506	3/8"	Aluminium
36.0506B		Brass
36.0508	1/2"	Aluminium
36.0508B		Brass
36.0512	3/4"	Aluminium
36.0512B		Brass
36.0520	1"	Aluminium
36.0520B		Brass

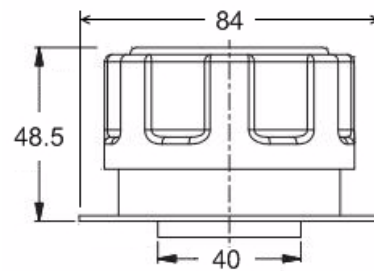
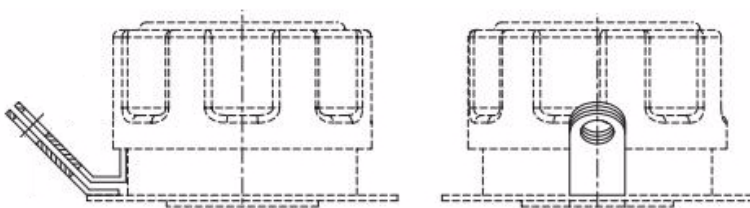
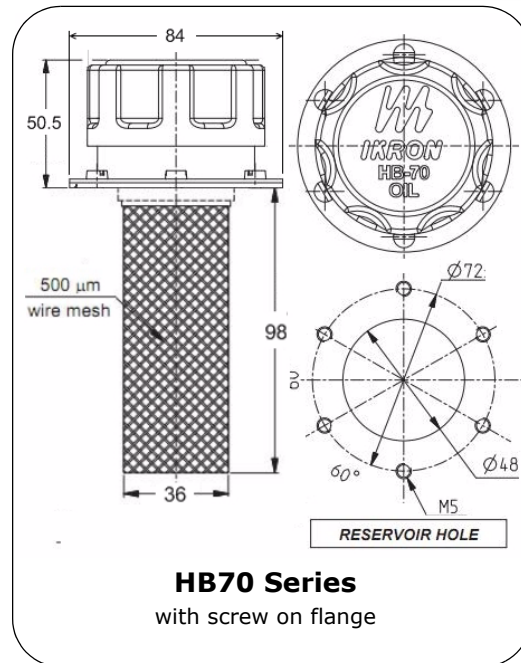
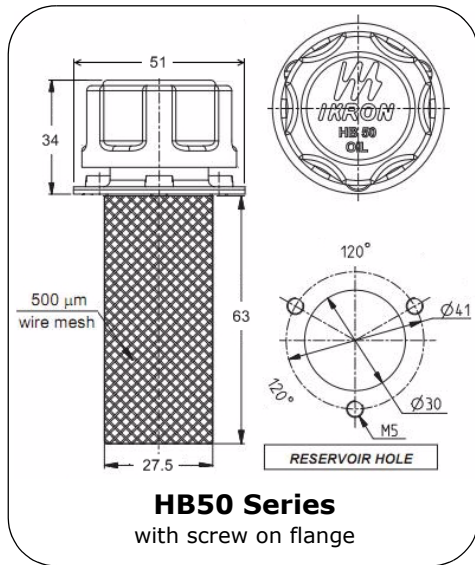
## Gearbox Breathers



Part Number	Thread BSPP
130300020	1/8"
130300021	1/4"
130300009	3/8"
130300013	1/2"
130300002	3/4"
130300016	1"
130300037	1-1/4"

## Filler - Breather Caps

Filler Breather Caps are used for air filtration and filling the reservoir. The cap cover is made of chromium plated steel while all other steel components are zinc plated. The tank connection can be made with flanges and screws, weld-on flanges or with BSPP male threads. The breathers are fitted with a 40µm filter, 10µm available on request.



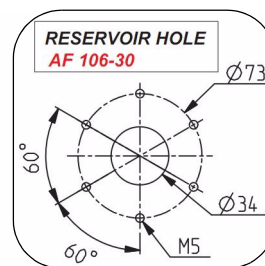
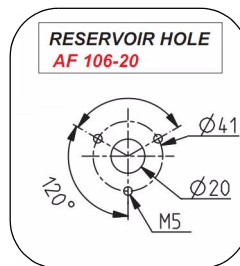
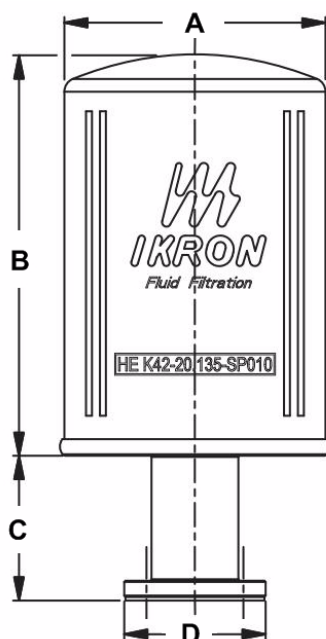
Part Number	Rated Max. L/min.	Mounting	Added Feature
HB50-B-05-G-2	285	Flange c/w 3 screws	-
HB70-B-05-G-2	480	Flange c/w 6 screws	-
HB70-B-05-G-3			Lockable
HB70-D-05-G-2			Pressurised 0.4 bar
HB70-D-05-G-3			Pressurised 0.4 bar+Lockable
HB70-B-10-G-1			Flange weld on

<b>Side Mounted Filler Breather</b>
<b>Part Number</b>
HB70-B-08-E-2

<b>Threaded Filler Breather</b>			
<b>Part Number</b>	<b>BSPP</b>	<b>A mm</b>	<b>B mm</b>
HB50-B-GB-E-1	1/4"	46	32
HB70-B-GE-E-1	3/4"	70	57.5

### AF106 Series Air Breathers

These air breathers are strongly recommended for hydraulic systems with high air exchange and/or very polluted environments. Tank connection is via a flange and screws



Complete Filter Part Number	Air Flow L/min	Dimensions mm			
		A	B	C	D
AF106-20.135-SP010-V	1500	96	148	54	52
AF106-30.155-SP010-V	2700	126	180	54	83

<b>Element Part Number</b>
HEK42-20.135-SP010
HEK42-30.155-SP010

### Port Breathers

Sintered Bronze  
Suitable for use in double acting cylinders when used in a single acting application.



Part Number	µm	Thread
2941-1/8BP	80	1/8"BSPP
2941-1/4BP		1/4"BSPP
2941-3/8BP		3/8"BSPP
2941-1/2BP		1/2"BSPP
2941-9/16UN		9/16"UNO
2941-3/4UN		3/4"UNO
2941-3/4UN90		3/4"UNO
2941-7/8UN		7/8"UNO

## Filler - Breather Caps HB110 & HB120 Series

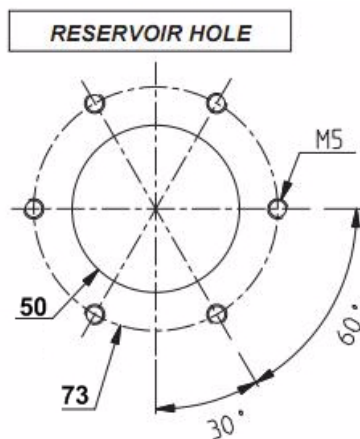
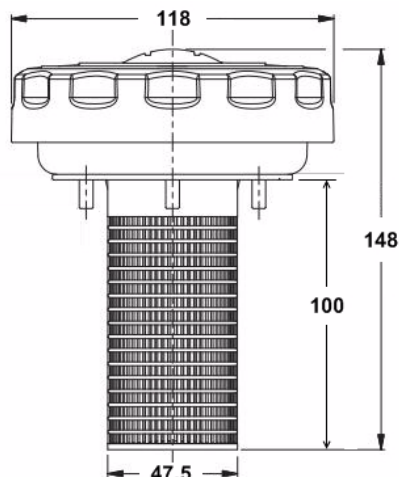
Filler Breather Caps are used for air filtration and filling the reservoir.

These cap covers are made of reinforced fibreglass and can have an antisplash device and antipollution ring. Tank connection is made with screws.

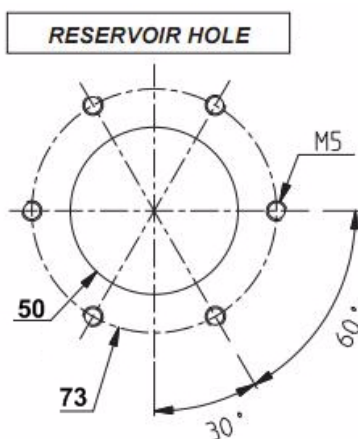
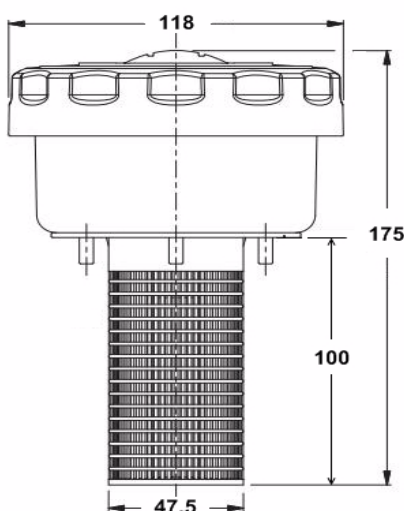
The breathers are fitted with a 10µm filter.

Air filtering capacity to 1400 L/min.

Prearranged for an indicator gauge if required.



Part Number	Rated Max. L/min.	µm	Added Feature
HB110-SP010-XN-GOSZ	1400	10	-
HB110-SP010-XN-GASZ			Antisplash



Part Number	Rated Max. L/min.	µm	Added Feature
HB120-SP010-XD-GOSZ	1800	10	-
HB120-SP010-XD-GASZ			Antisplash





Panel Mount  
(inc Panel Mt Kit)



Bottom Entry



Digital

Panel Mount - Rear Entry - Dual Scale			
63mm Diameter Connection = 1/4" BSPP			
Part Number	Diam (mm)	bar	psi
PG63PM-010	63	10	150
PG63PM-060		60	850
PG63PM-100		100	1450
PG63PM-160		160	2300
PG63PM-250		250	3600
PG63PM-400		400	5800
100mm Diameter Connection = 1/2" BSPP			
Part Number	Diam (mm)	bar	psi
PG100PM-010	100	10	150
PG100PM-060		60	850
PG100PM-100		100	1450
PG100PM-160		160	2300
PG100PM-250		250	3600
PG100PM-400		400	5800

Line Mount - Bottom Entry - Dual Scale			
63mm Diameter - Connection = 1/4" BSPP			
Part Number	Diam (mm)	bar	psi
PG63BE-010	63	10	150
PG63BE-060		60	850
PG63BE-100		100	1450
PG63BE-160		160	2300
PG63BE-250		250	3600
PG63BE-400		400	5800
PG63BE-600		600	8700
PG63BE-BOOT		PROTECTIVE BOOT	
100mm Diameter - Connection = 1/2" BSPP			
Part Number	Diam (mm)	bar	psi
PG100BE-010	100	10	150
PG100BE-060		60	850
PG100BE-100		100	1450
PG100BE-160		160	2300
PG100BE-250		250	3600
PG100BE-400		400	5800
PG100BE-600		600	8700
PG100BE-BOOT		PROTECTIVE BOOT	
Line Mount - Bottom Entry - Digital - 1/4" BSPP			
Part Number	Diam (mm)	bar	psi
PG80BE-600	80	600	8700
PG80BE-BOOT	PROTECTIVE BOOT		

## Pressure Gauge Isolators

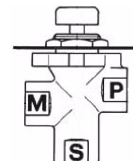
Part Number	Port BSPP	Max. Pressure bar	Type
EMIL01A	1/4"	250	A 180°
EM9001A		250	A 90°
HB1-PA		400	Push To Read



EM9001A



EMIL01A



HB1-PA

## MICO QUADRIGAGES

### Pressure Testing Devices

FOR HYDRAULIC, AIR AND VACUUM SYSTEMS

- \* Includes bleeder screw and convenient hanger
- \* Built-in pressure sensor protects low range gauges from high pressure
- \* Compatible with most hydraulic fluids
- \* Continuous system pressure readings are possible through pressure ranges 0-5000 PSI.



Part Number	Gauge Type	Hose Length	Low Pressure Gauge Range psig	Medium Pressure Gauge Range psig	High Pressure Gauge Range psig
03-740-019	Standard	36"	0-150	0-600	0-5000



## 692 Series Pressure Switches - Euroswitch

Case: Anodised aluminium  
 Electric contacts: SPDT silver  
 Max fluid temperature: 100°C  
 Electrical characteristics: 5(4)A / 14V DC  
 4(3)A / 30V DC  
 5(3)A / 125V AC  
 3(2)A / 250V AC  
 Fluid hysteresis: approx 10% of setting value  
 Max overpressure limit: 900 bar



Part Number	Pressure Range	Port Size - BSP
69223015	8-150 bar	1/4"
69223016	40-400 bar	

## MAP Pressure Switches - Atos

Temperature range: -30°C to 70°C (Standard)  
 Mounting: Any position  
 Max pressure: 630 bar

Part Number	Pressure Range	MP Manifold Port Size - BSP	
		BMM-06	BMM-10
MAP-40	5-40 bar	1/4"	3/8"
MAP-80	7-80 bar		
MAP-160	10-160 bar		
MAP-320	30-320 bar		



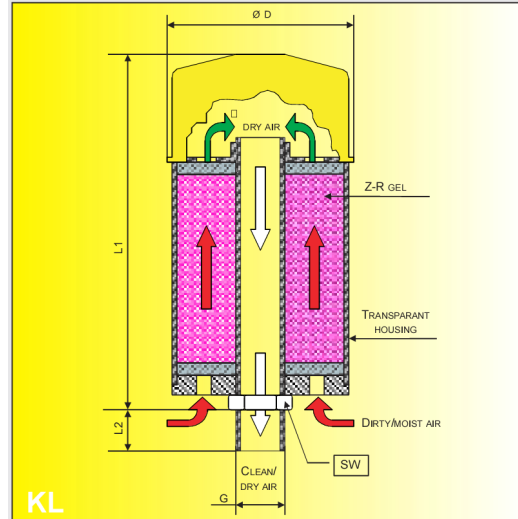
## PSM02 Pressure Switches - Wika

- High reproducibility
- Compact design
- Setting ranges -0.85...-0.15 bar and from 0.2...2 bar to 40...400 bar
- Long service life due to high-quality micro switch
- Settable hysteresis

Part Number	Pressure Range	Port Size - BSP
PSM02-10/080	10-80 bar	1/4"
PSM02-10/160	10-160 bar	
PSM02-20/250	20-250 bar	
PSM02-20/320	30-320 bar	



## DESICCANT AIR BREATHER/CONDITIONERS



Standard air conditioners remove some of the solid particles but allow water vapour in the air to pass freely.

The RMF Air Conditioner deals effectively with both so reservoirs can breath clean, dry air.

The uptake of moisture can be observed by the change in colour of the indicator granules in the Z-R gel. They turn from ruby-red (active) to a light orange (replace). The operation of the air filter can be monitored by an optional 'filter minder'.

### BENEFITS

- Reducing water contamination level prolongs the life of the additive package and reduces oxidation of the oil and bearing surfaces.
- Eliminates rusting due to condensation.
- Reduces machine downtime.
- Extends the machine's useful life.
- CUTS COSTS!

Part Number	Air Flow L/min	Water Absorption	Z-R gel Volume	G BSPP	Weight kg	Dimensions mm		
						L1	L2	D
<b>Complete Unit</b>								
KL93R	700	86g	300cc	3/4"	1.2	160	20	96
KL96R	700	172g	600cc		1.5	220		
KL121R	1500	288g	1000cc	1-1/4"	2.7	256	30	128
KL122R	1500	576g	2000cc		4.0	366		
<b>Service Kits</b>								
KL93R/SK								
KL96R/SK								
KL121R/SK								
KL122R/SK								
Includes breather, desiccant gel and seals								

## FILTER SELECTION GUIDE

The following is a guide to selecting a suitable filter to meet the needs of your hydraulic application.

Filtration Code	Filtering Media	Micron $\mu\text{m}$	Beta Rating	Efficiency
FG003	Microfibre Glass	3	$\beta_3 > 200$	99.5%
FG006		6	$\beta_6 > 200$	
FG010		10	$\beta_{10} > 200$	
FG025		25	$\beta_{25} > 200$	
SP010	Cellulose	10	$\beta_{10} > 2$	50%
SP025		25	$\beta_{25} > 2$	
RP010	Reinforced Cellulose	10	$\beta_{10} > 2$	
RP025		25	$\beta_{25} > 2$	
MS090	Steel Wire Mesh	90	$\beta_{90} > 2$	

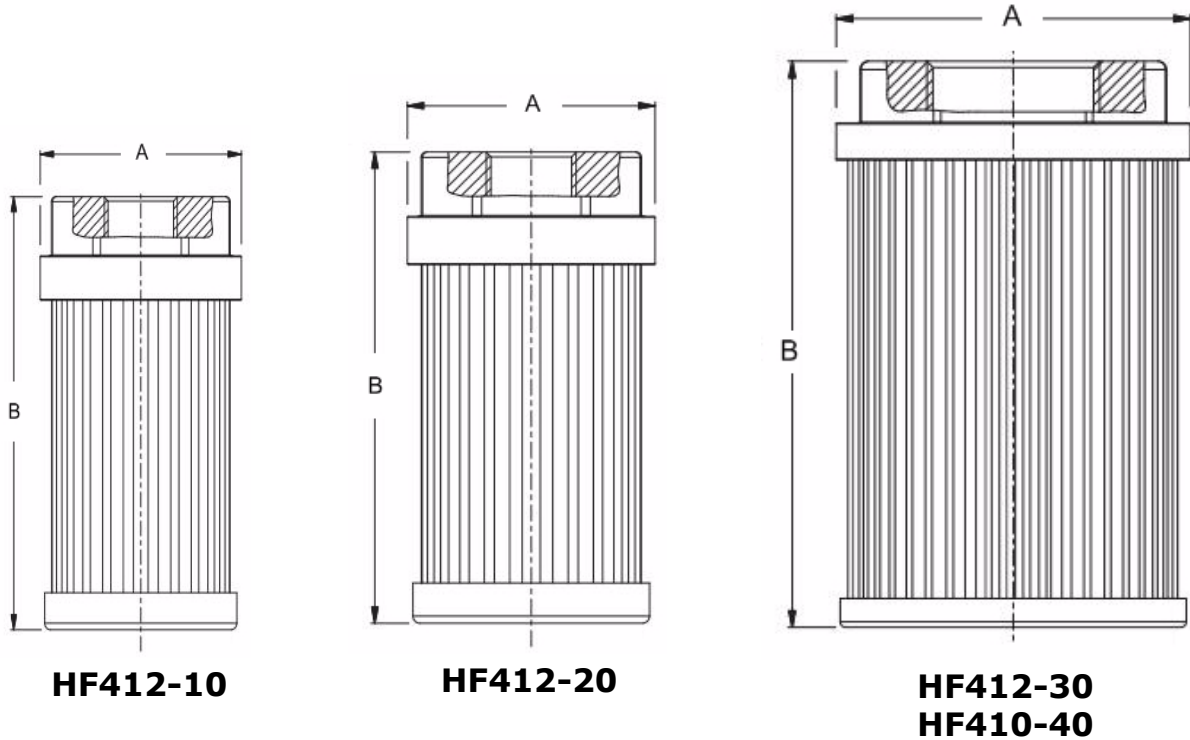
Component	Use	Pressure bar	Standard ISO4406:1999	Filtration Code
Gear Pumps & Motors	Occasional	0-140	22/20/17	RP/SP025
		140-210	21/19/16	RP/SP025 - FG025
		210+	21/19/16	RP/SP025 - FG025
	Continuous	0-140	21/19/16	RP/SP010 - FG025
		140-210	20/18/15	FG010
		210+	19/17/14	FG010
Piston Pumps & Motors	Occasional	0-140	20/18/15	RP/SP010 - FG025
		140-210	20/18/15	RP/SP010 - FG025
		210+	19/17/14	FG010
	Continuous	0-140	19/17/14	FG010
		140-210	19/17/14	FG010
		210+	18/16/13	FG006 - FG010
Vane Pumps & Motors	Occasional	0-140	22/20/17	RP/SP025
		140-210	21/19/16	RP/SP010 - FG025
		210+	21/19/16	RP/SP010 - FG025
	Continuous	0-140	21/19/16	RP/SP010 - FG025
		140-210	20/18/15	FG010
		210+	19/17/14	FG010
High Torque Low Speed Torqmotors	Occasional	0-140	22/20/17	RP/SP025
		140-210	21/19/16	RP/SP010 - FG025
		210+	21/19/16	RP/SP010 - FG025
	Continuous	0-140	21/19/16	RP/SP010 - FG025
		140-210	20/18/15	FG010
		210+	20/18/15	FG010
Relief & Flow Control Valves	Manual	0-210	22/20/17	RP/SP025
		210+	21/19/16	RP/SP010 - FG025
	Electric	0-420	20/18/15	FG010
		0-140	22/20/17	RP/SP025
Directional Control Valves	Manual	140-210	21/19/16	RP/SP025 - FG025
		210+	21/19/16	RP/SP025 - FG025
		0-420	20/18/15	FG010
	Electric	0-50	20/18/15	FG010
Pilot Control Valves		0-50	20/18/15	FG010
Cylinders		0-210	22/20/17	RP/SP025
		210	21/19/16	RP/SP010
Loadsensing Valves		0-210	17/15/12	FG006
		210+	16/14/11	FG003
Servo Valves		0-210	17/15/12	FG006
		210+	16/14/11	FG003

## Suction Filters

### HF412 & HF410 Series

SUCTION FILTERS

Degree of filtration = 90µm



Part Number	Ports BSP	L/Min	A mm	B mm
HF412-10.075-MS090-GC	3/8"	15	46	90
HF412-10.090-MS090-GD	1/2"	25		105
HF412-20.090-MS090-GE	3/4"	30	64	109
HF412-20.120-MS090-GF	1"	45		139
HF412-30.120-MS090-GG	1-1/4"	75	86	139
HF412-30.120-MS090-GH	1-1/2"	80		139
HF412-30.181-MS090-GH	1-1/2"	110		200
HF412-30.241-MS090-GL	2"	140		260
HF410-40.122-MS090-GL	2"	150	132.5	162
HF410-40.195-MS090-GM	2-1/2"	245		235
HF410-40.239-MS090-GN	3"	300		278

#### Selection Guide:-


Choose a strainer having 3 times Max. Pump flow rate

## Spin-On Filters HF620 Series

RETURN LINE FILTERS (bypass set 1.7 bar)

SUCTION LINE FILTERS (bypass set 0.2 bar)

**Max. Working Pressure: 12 bar**

Line Mount Filters Complete		Ports BSP	Type	Micron $\mu\text{m}$	Beta Rating	Eff.	Nom Flow L/Min 30 cSt	
	HF620-20.135-FG010B17	3/4"	Return	10	$\beta_{10} \geq 200$	99.5%	65	
	HF620-20.135-SP010B17				$\beta_{10} \geq 2$			
	HF620-20.135-SP025B17		Suction	25	$\beta_{25} \geq 2$		50%	75
	HF620-20.135-SP025B02				35			
	HF620-20.180-FG010B17	3/4"	Return	10	$\beta_{10} \geq 200$	99.5%	65	
	HF620-20.180-SP010B17				$\beta_{10} \geq 2$			
	HF620-20.180-SP025B17		Suction	25	$\beta_{25} \geq 2$		50%	80
	HF620-20.180-SP025B02				40			
	HF620-30.155-FG010B17	1-1/4"	Return	10	$\beta_{10} \geq 200$	99.5%	125	
	HF620-30.155-SP010B17				$\beta_{10} \geq 2$			
	HF620-30.155-SP025B17		Suction	25	$\beta_{25} \geq 2$		50%	195
	HF620-30.155-SP010B02				75			
	HF620-30.155-SP025B02	95						
	HF620-30.210-FG010B17	1-1/4"	Return	10	$\beta_{10} \geq 200$	99.5%	145	
	HF620-30.210-SP010B17				$\beta_{10} \geq 2$			
	HF620-30.210-SP025B17		Suction	25	$\beta_{25} \geq 2$		50%	200
	HF620-30.210-SP010B02				80			
	HF620-30.210-SP025B02	100						
	HF620-40.155-FG010B17	1-1/2"	Return	10	$\beta_{10} \geq 200$	99.5%	170	
	HF620-40.155-SP010B17				$\beta_{10} \geq 2$			
	HF620-40.155-SP025B17		Suction	25	$\beta_{25} \geq 2$		50%	300
	HF620-40.155-SP025B02				140			
	HF620-40.210-FG010B17	1-1/2"	Return	10	$\beta_{10} \geq 200$	99.5%	190	
	HF620-40.210-SP010B17				$\beta_{10} \geq 2$			
	HF620-40.210-SP025B17		Suction	25	$\beta_{25} \geq 2$		50%	310
	HF620-40.210-SP025B02				150			
		HF620-50.155-FG010B17	1-1/2"	Return	10	$\beta_{10} \geq 200$	99.5%	170
		HF620-50.155-SP010B17				$\beta_{10} \geq 2$		
HF620-50.155-SP025B17		Suction		25	$\beta_{25} \geq 2$		50%	300
HF620-50.155-SP025B02					140			
HF620-50.210-FG010B17		1-1/2"	Return	10	$\beta_{10} \geq 200$	99.5%	190	
HF620-50.210-SP010B17					$\beta_{10} \geq 2$			
HF620-50.210-SP025B17			Suction	25	$\beta_{25} \geq 2$		50%	310
HF620-50.210-SP025B02					150			

### SELECTION GUIDE:

Choose a filter having 2.25 times pump flow rate.

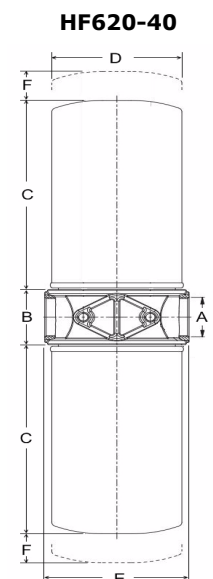
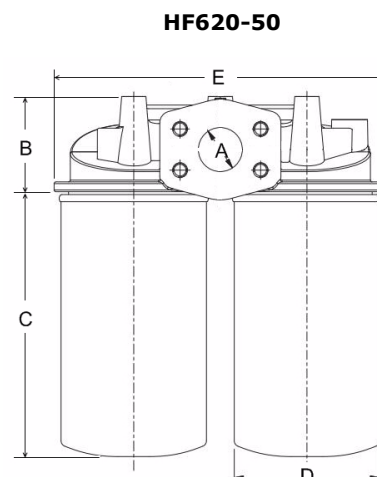
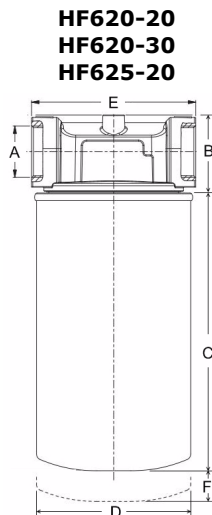


## Replacement Elements to suit HF620 Range



HF620 Series - Max. Working Pressure 12 bar				
Part Number	Material	Micron $\mu\text{m}$	Beta Rating	Eff.
HEK45-20.135-FG010	Micro-Fibre Glass	10	$\beta_{10} \geq 200$	99.5%
HEK45-20.135-FG025		25	$\beta_{25} \geq 200$	
HEK45-20.135-SP010	Cellulose	10	$\beta_{10} \geq 2$	50%
HEK45-20.135-SP025		25	$\beta_{25} \geq 2$	
HEK45-20.135-MS090	Steel Mesh	90	$\beta_{90} \geq 75$	98.7%
HEK45-20.180-FG010	Micro-Fibre Glass	10	$\beta_{10} \geq 200$	99.5%
HEK45-20.180-FG025		25	$\beta_{25} \geq 200$	
HEK45-20.180-SP010	Cellulose	10	$\beta_{10} \geq 2$	50%
HEK45-20.180-SP025		25	$\beta_{25} \geq 2$	
HEK45-20.180-MS090	Steel Mesh	90	$\beta_{90} \geq 75$	98.7%
HEK45-30.155-FG010	Micro-Fibre Glass	10	$\beta_{10} \geq 200$	99.5%
HEK45-30.155-FG025		25	$\beta_{25} \geq 200$	
HEK45-30.155-SP010	Cellulose	10	$\beta_{10} \geq 2$	50%
HEK45-30.155-SP025		25	$\beta_{25} \geq 2$	
HEK45-30.155-MS090	Steel Mesh	90	$\beta_{90} \geq 75$	98.7%
HEK45-30.210-FG010	Micro-Fibre Glass	10	$\beta_{10} \geq 200$	99.5%
HEK45-30.210-FG025		25	$\beta_{25} \geq 200$	
HEK45-30.210-SP010	Cellulose	10	$\beta_{10} \geq 2$	50%
HEK45-30.210-SP025		25	$\beta_{25} \geq 2$	
HEK45-30.210-MS090	Steel Mesh	90	$\beta_{90} \geq 75$	98.7%


## Spin-On Filters Dimensional Data



Line Mount Filter	Dimensions					
	A BSPP	B mm	C mm	D mm	E mm	F mm
HF620-20.135	3/4"	48.5	147	96	96	19.5
HF620-20.180			209			
HF620-30.155	1-1/4"	64	179	126	134	25
HF620-30.210			227			
HF620-40.155	1-1/2"	67	181		140	35
HF620-40.210			229			
HF620-50.155			85	181	229	
HF620-50.210	229					

## Spin-On Filters HF625 Series

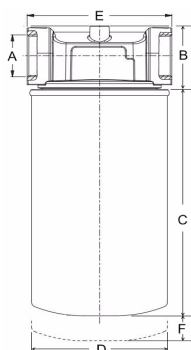
RETURN LINE FILTERS (bypass set 1.7 bar)  
**Max. Working Pressure: 25 bar**

Line Mount Filters Complete		Ports BSPP	Type	Micron $\mu\text{m}$	Beta Rating	Eff.	Nom Flow L/Min 30 cSt
	HF625-20.135-FG010B17	3/4"	Return	10	$\beta_{10} \geq 200$	99.5%	65
	HF625-20.135-SP010B17				$\beta_{10} \geq 2$	50%	
	HF625-20.135-SP025B17			25			75
	HF625-20.180-FG010B17	3/4"	Return	10	$\beta_{10} \geq 200$	99.5%	65
	HF625-20.180-SP010B17				$\beta_{10} \geq 2$	50%	75
	HF625-20.180-SP025B17			25	$\beta_{25} \geq 2$		80

## Replacement Elements to suit HF625 Series



HF625 Series - Max. Working Pressure 25 bar				
Part Number	Material	Micron $\mu\text{m}$	Beta Rating	Eff.
HEK46-20.135-FG010	Micro-Fibre Glass	10	$\beta_{10} \geq 200$	99.5%
HEK46-20.135-FG025		25	$\beta_{25} \geq 200$	
HEK46-20.135-SP010	Cellulose	10	$\beta_{10} \geq 2$	50%
HEK46-20.135-SP025		25	$\beta_{25} \geq 2$	
HEK46-20.180-FG010	Micro-Fibre Glass	10	$\beta_{10} \geq 200$	99.5%
HEK46-20.180-FG025		25	$\beta_{25} \geq 200$	
HEK46-20.180-SP010	Cellulose	10	$\beta_{10} \geq 2$	50%
HEK46-20.180-SP025		25	$\beta_{25} \geq 2$	



## HF625 Spin-On Filter Dimensional Data

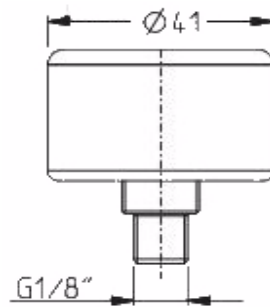
Line Mount Filter	Dimensions mm					
	A BSPP	B	C	D	E	F
HF625-20.135	3/4"	48.5	147	96	96	19.5
HF625-20.180			209			
HF625-30.155	1-1/4"	64	179	126	134	25
HF625-30.210			227			

## Spin-On Filter Heads Only

Line Mount Filter Heads Only	Ports BSPP	Type	Bypass bar	MWP bar
HF620-20-B17-GE	3/4"	Return	1.7	12
HF620-30-B17-GG	1-1/4"			
HF620-40-B17-GH	1-1/2"			
HF620-50-B17-GH	1-1/2"			
HF620-20-B02-GE	3/4"	Suction	0.2	12
HF620-30-B02-GG	1-1/4"			
HF620-40-B02-GH	1-1/2"			
HF620-50-B02-GH	1-1/2"			
HF625-20-B17-GE	3/4"	Return	1.7	25

## Spin-On Filter Condition Indicators

To suit HF620 & HF625 Series

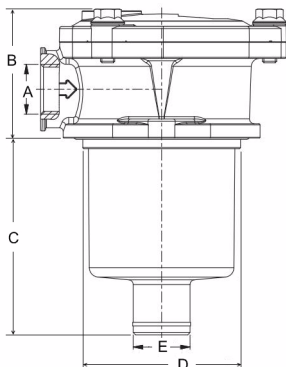


**Gauge**

Part Number	Type	Position
HI13-M-GA-00	Gauge	Suction
HI12-M-GA-10		Return

## Tank Top Filters HF502 Series

Return Line Filters (Bypass set 1.7 bar)  
Max. Working Pressure: 8 bar



Complete Filter Assemblies

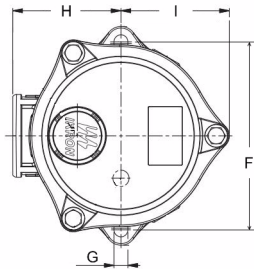


Fig 1

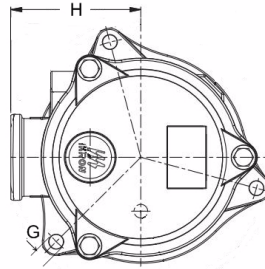


Fig 2

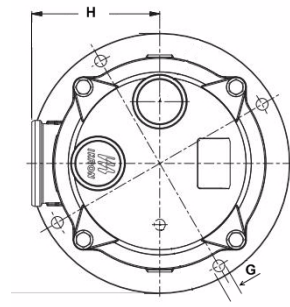


Fig 3

Part Number $\beta_{10} \geq 2, 10\mu\text{m}$	Flow L/min	Fig	Dimensions mm								
			A BSPP	B	C	D	E	F	G	H	I
HF502-10.060-RP010-GD	25	1	1/2"	54.5	83	66.5	24	89	7	51	52.5
HF502-20.077-RP010-GD	50		3/4"	73	103	87.5	27.5	115	8.5	67	67
HF502-20.077-RP010-GE	55				148						
HF502-20.122-RP010-GE	75		1"	2	88.5	230	129	40	175	10	95
HF502-20.122-RP010-GF	75	1-1/4"									
HF502-30.195-RP010-GF	190	2									
HF502-30.195-RP010-GG	220	3	1-1/2"	107	239	174	50	220	11	119	121
HF502-40.194-RP010-GH	320		2"	108	298		64				
HF502-40.239-RP010-GL	480		3	2"	108	298	64	220	11	119	121

Part Number $\beta_{25} \geq 2, 25\mu\text{m}$	Flow L/min	Fig	A BSPP
HF502-10.060-RP025-GD	45	1	1/2"
HF502-20.077-RP025-GD	65		3/4"
HF502-20.077-RP025-GE	75		
HF502-20.122-RP025-GE	95	2	1"
HF502-20.122-RP025-GF	100		1-1/4"
HF502-30.195-RP025-GF	210		
HF502-30.195-RP025-GG	270	3	1-1/2"
HF502-40.194-RP025-GH	390		2"
HF502-40.239-RP025-GL	570		

Part Number $\beta_{10} \geq 200, 10\mu\text{m}$	Flow L/min	Fig	A BSPP
HF502-10.060-FG010-GD	25	1	1/2"
HF502-20.077-FG010-GD	45		3/4"
HF502-20.077-FG010-GE	45		
HF502-20.122-FG010-GE	65	2	1"
HF502-20.122-FG010-GF	65		1-1/4"
HF502-30.195-FG010-GF	170		
HF502-30.195-FG010-GG	190	3	1-1/2"
HF502-40.194-FG010-GH	310		2"
HF502-40.239-FG010-GL	475		

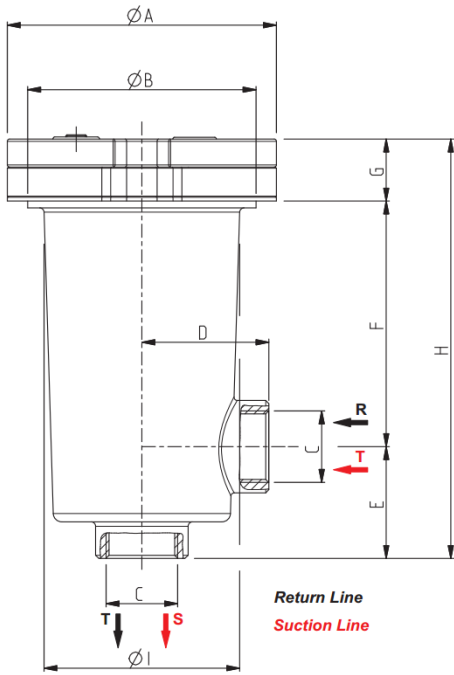
NB: The above flow rates are nominal and are based on oil viscosity at 30cSt.  
NB: The dimensions listed above apply to all micron ratings.

### SELECTION GUIDE:

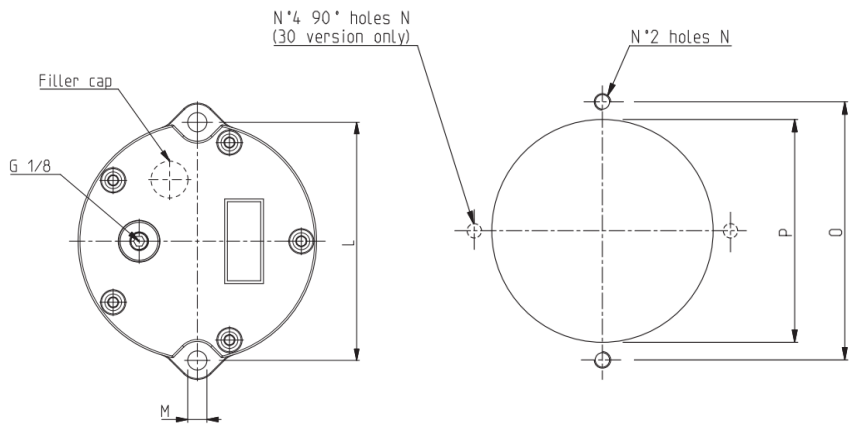
Choose a Filter having 2.25 times Pump flow rate.

# Tank Mounted Return Port In Side At Bottom HF595 Series

Return Line Filters (Bypass set 1.7bar)  
Max. Working Pressure: 15 bar



Filler cap	
Filter type	GAS-BSPP
HF 595-10	G 3/8
HF 595-20	G 1/2
HF 595-30	G 3/4



Part Number $\beta_{10} \geq 200, 10\mu\text{m}$	Flow L/min	Dimensions mm													
		ØA	ØB	C (BSPP)	D	E	F	G	H	ØI	L	M	N	O	P
HF595-10.060-FG010-GD	15	100	80	1/2"	48	41	65	22	126	71	100	7	M6	100	82
HF595-20.077-FG010-GE	30	125	106	3/4"	59	52	72	29	151	91	125	9	M8	125	108
HF595-20.122-FG010-GF	55			1"											
HF595-30.195-FG010-GG	123	175	147	1-1/4"	84	63	179	35	275	138	175			175	149

Part Number $\beta_{10} \geq 2, 10\mu\text{m}$	Flow L/min
HF595-10.060-RP010-GD	15
HF595-20.077-RP010-GE	50
HF595-20.122-RP010-GF	85
HF595-30.195-RP010-GG	150

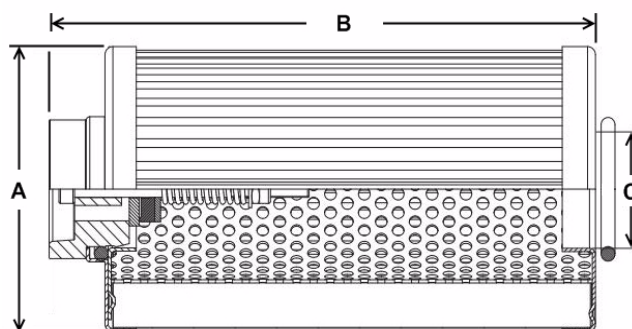
Part Number $\beta_{25} \geq 2, 25\mu\text{m}$	Flow L/min
HF595-10.060-RP025-GD	20
HF595-20.077-RP025-GE	65
HF595-20.122-RP025-GF	110
HF595-30.195-RP025-GG	190

NB: The above flow rates are nominal and are based on oil viscosity at 30cSt.  
NB: The dimensions listed above apply to all micron ratings.

**SELECTION GUIDE:**  
Choose a Filter having 2.25 times Pump flow rate.

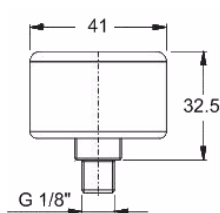


## HF502/HF595 Series Filter Elements

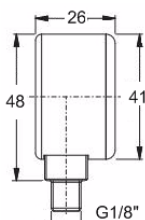


Part Number	To Suit Filter Type	Beta Rating	Micron $\mu\text{m}$	Eff.	Dimensions mm		
					A	B	C
HEK02-10.060-RP010	HF502/HF595-10.060	$\beta_{10} \geq 2$	10	50%	52	75	26
HEK02-10.060-RP025		$\beta_{25} \geq 2$	25				
HEK02-10.060-FG010		$\beta_{10} \geq 200$	10	99.5%			
HEK02-20.077-RP010	HF502/HF595-20.077	$\beta_{10} \geq 2$	10	50%	70	95	29
HEK02-20.077-RP025		$\beta_{25} \geq 2$	25				
HEK02-20.077-FG010		$\beta_{10} \geq 200$	10	99.5%			
HEK02-20.122-RP010	HF502/HF595-20.122	$\beta_{10} \geq 2$	10	50%	70	140	29
HEK02-20.122-RP025		$\beta_{25} \geq 2$	25				
HEK02-20.122-FG010		$\beta_{10} \geq 200$	10	99.5%			
HEK02-30.195-RP010	HF502/HF595-30.195	$\beta_{10} \geq 2$	10	50%	99	212	41
HEK02-30.195-RP025		$\beta_{25} \geq 2$	25				
HEK02-30.195-FG010		$\beta_{10} \geq 200$	10	99.5%			
HEK02-40.194-RP010	HF502-40.194	$\beta_{10} \geq 2$	10	50%	130	212	52
HEK02-40.194-RP025		$\beta_{25} \geq 2$	25				
HEK02-40.194-FG010		$\beta_{10} \geq 200$	10	99.5%			
HEK02-40.239-RP010	HF502-40.239	$\beta_{10} \geq 2$	10	50%	130	256	65
HEK02-40.239-RP025		$\beta_{25} \geq 2$	25				
HEK02-40.239-FG010		$\beta_{10} \geq 200$	10	99.5%			

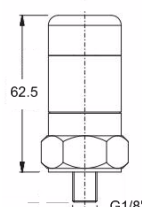
## Condition Indicators



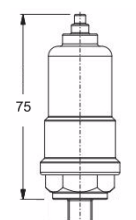
Gauge Horizontal



Gauge Vertical



Pop-Up



Electrical

Part Number	Type	Position
HI12-M-GA-10	Gauge Horizontal	Return
HI12-N-GA-10	Gauge Vertical	
HI25-I06-T15-GA-B	Pop-Up	
HI25-I07-T15-GA-B	Electric	

## HF745 Series

### Pressure Filters

These filters are connected to the pressure line to protect the system's components against contaminant particles. The standard filters are fitted with a bypass valve calibrated at 6 bar.

For applications which need maximum protection of the system, such as servo and proportional controls, the filters are equipped with highly resistant filtering elements ("HC version" - high collapse pressure) and are not fitted with a bypass.



**Maximum working pressure: 310 bar**  
**Filter elements rated  $\beta_{200}$  (99.5% efficiency)**

#### 3 Micron Filters

Part Number $\beta_3 \geq 200, 3\mu\text{m}$	Flow L/min	Port BSPP
HF745-20.080-FG003-GD	25	1/2"
HF745-20.080-FG003-GE		3/4"
HF745-20.106-FG003-GD	35	1/2"
HF745-20.106-FG003-GE		3/4"
HF745-20.203-FG003-GD	60	1/2"
HF745-20.203-FG003-GE	65	3/4"
HF745-30.115-FG003-GE	60	3/4"
HF745-30.115-FG003-GF		1"
HF745-30.223-FG003-GE	105	3/4"
HF745-30.223-FG003-GF	110	1"

#### 6 Micron Filters

Part Number $\beta_6 \geq 200, 6\mu\text{m}$	Flow L/min	Port BSPP
HF745-20.080-FG006-GD	30	1/2"
HF745-20.080-FG006-GE		3/4"
HF745-20.106-FG006-GD	40	1/2"
HF745-20.106-FG006-GE		3/4"
HF745-20.203-FG006-GD	65	1/2"
HF745-20.203-FG006-GE	70	3/4"
HF745-30.115-FG006-GE	65	3/4"
HF745-30.115-FG006-GF	70	1"
HF745-30.223-FG006-GE	120	3/4"
HF745-30.223-FG006-GF	125	1"

#### 10 Micron Filters

Part Number $\beta_{10} \geq 200, 10\mu\text{m}$	Flow L/min	Port BSPP
HF745-20.080-FG010-GD	35	1/2"
HF745-20.080-FG010-GE		3/4"
HF745-20.106-FG010-GD	50	1/2"
HF745-20.106-FG010-GE		3/4"
HF745-20.203-FG010-GD	75	1/2"
HF745-20.203-FG010-GE	80	3/4"
HF745-30.115-FG010-GE		3/4"
HF745-30.115-FG010-GF	85	1"
HF745-30.223-FG010-GE	135	3/4"
HF745-30.223-FG010-GF	145	1"

#### 25 Micron Filters

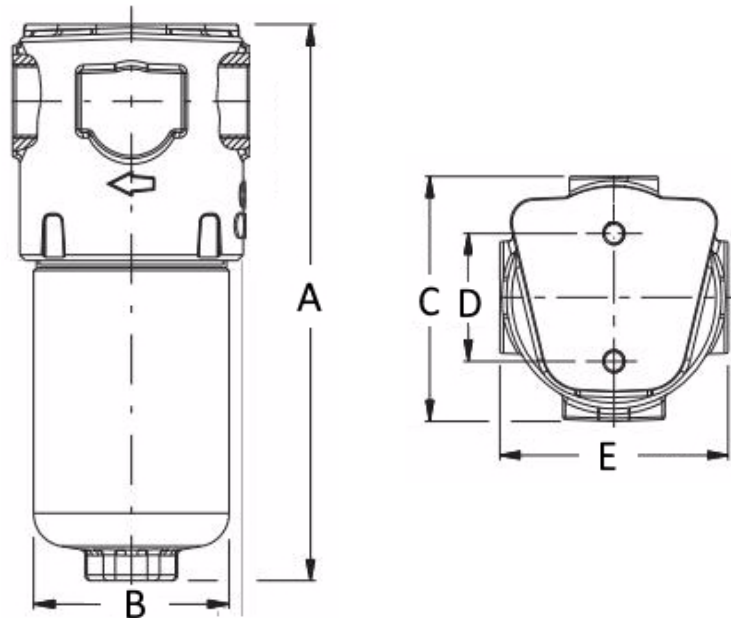
Part Number $\beta_{10} \geq 200, 25\mu\text{m}$	Flow L/min	Port BSPP
HF745-20.080-FG025-GD	45	1/2"
HF745-20.080-FG025-GE		3/4"
HF745-20.106-FG025-GD	60	1/2"
HF745-20.106-FG025-GE	60	3/4"
HF745-20.203-FG025-GD	85	1/2"
HF745-20.203-FG025-GE	95	3/4"
HF745-30.115-FG025-GE	100	3/4"
HF745-30.115-FG025-GF	105	1"
HF745-30.223-FG025-GE	155	3/4"
HF745-30.223-FG025-GF	170	1"

#### SELECTION GUIDE:

Choose a filter having 2 times pump flow rate.

### Complete Filter Dimensions

Filter Type	Dimensions mm				
	A	B	C	D	E
HF745-20.080	173	70	88	46	85
HF745-20.106	199	70	88	46	85
HF745-20.203	296	70	88	46	85
HF745-30.115	213	91	100	57	104
HF745-30.223	321	91	100	57	104



## HF760 Series Pressure Filters

These filters are connected to the pressure line to protect the system's components against contaminant particles. The standard filters are fitted with a bypass valve calibrated at 6 bar.

For applications which need maximum protection of the system, such as servo and proportional controls, the filters are equipped with highly resistant filtering elements ("HC version" - high collapse pressure) and are not fitted with a bypass.

**Maximum working pressure: 420 bar**  
**Filter elements rated  $\beta_{200}$  (99.5% efficiency)**



### 3 Micron Filters

Part No. $\beta_3 \geq 200, 3\mu\text{m}$	Flow L/min	Port BSPP
HF760-20.080-FG003-GD	25	1/2"
HF760-20.080-FG003-GE		3/4"
HF760-20.106-FG003-GD	35	1/2"
HF760-20.106-FG003-GE		3/4"
HF760-20.203-FG003-GD	60	1/2"
HF760-20.203-FG003-GE	65	3/4"
HF760-30.115-FG003-GE	60	
HF760-30.115-FG003-GF		105
HF760-30.223-FG003-GE	110	1"
HF760-40.102-FG003-GF		115
HF760-40.102-FG003-GG	140	1"
HF760-40.132-FG003-GG	145	1-1/4"
HF760-40.132-FG003-GH	150	1-1/2"
HF760-40.227-FG003-GH	240	
HF760-40.372-FG003-GH	330	
HF760-40.517-FG003-GH	385	

### 6 Micron Filters

Part No. $\beta_6 \geq 200 - 6\mu\text{m}$	Flow L/min	Port BSPP
HF760-20.080-FG006-GD	30	1/2"
HF760-20.080-FG006-GE		3/4"
HF760-20.106-FG006-GD	40	1/2"
HF760-20.106-FG006-GE		3/4"
HF760-20.203-FG006-GD	65	1/2"
HF760-20.203-FG006-GE	70	3/4"
HF760-30.115-FG006-GE	60	
HF760-30.115-FG006-GF		120
HF760-30.223-FG006-GE	125	1"
HF760-40.102-FG006-GF		130
HF760-40.102-FG006-GG	160	1"
HF760-40.132-FG006-GG	165	1-1/4"
HF760-40.132-FG006-GH	170	1-1/2"
HF760-40.227-FG006-GH	265	
HF760-40.372-FG006-GH	335	
HF760-40.517-FG006-GH	400	

#### SELECTION GUIDE:

Choose a Filter having 2 times Pump flow rate.

## HF760 Series Pressure Filters

Maximum working pressure: 420 bar  
Filter elements rated  $\beta_{200}$  (99.5% efficiency)



### 10 Micron Filters

Part Number $\beta_{10} \geq 200, 10\mu\text{m}$	Flow L/min	Port BSPP
HF760-20.080-FG010-GD	35	1/2"
HF760-20.080-FG010-GE		3/4"
HF760-20.106-FG010-GD	50	1/2"
HF760-20.106-FG010-GE		3/4"
HF760-20.203-FG010-GD	75	1/2"
HF760-20.203-FG010-GE	80	3/4"
HF760-30.115-FG010-GE	85	
HF760-30.115-FG010-GF		135
HF760-30.223-FG010-GE	145	1"
HF760-40.102-FG010-GF	150	1-1/4"
HF760-40.102-FG010-GG	160	
HF760-40.132-FG010-GF	185	1-1/4"
HF760-40.132-FG010-GG	200	1-1/2"
HF760-40.132-FG010-GH	205	
HF760-40.227-FG010-GH	305	
HF760-40.372-FG010-GH	385	
HF760-40.517-FG010-GH	425	

### 25 Micron Filters

Part Number $\beta_{25} \geq 200, 25\mu\text{m}$	Flow L/min	Port BSPP
HF760-20.080-FG025-GD	45	1/2"
HF760-20.080-FG025-GE		3/4"
HF760-20.106-FG025-GD	60	1/2"
HF760-20.106-FG025-GE		3/4"
HF760-20.203-FG025-GE	95	
HF760-30.115-FG025-GE	100	3/4"
HF760-30.115-FG025-GF	105	
HF760-30.223-FG025-GE	155	1"
HF760-30.223-FG025-GF	170	
HF760-40.102-FG025-GF	185	1-1/4"
HF760-40.102-FG025-GG	195	
HF760-40.132-FG025-GG	240	
HF760-40.132-FG025-GH	245	
HF760-40.227-FG025-GH	350	
HF760-40.372-FG025-GH	420	
HF760-40.517-FG025-GH	450	

#### SELECTION GUIDE:

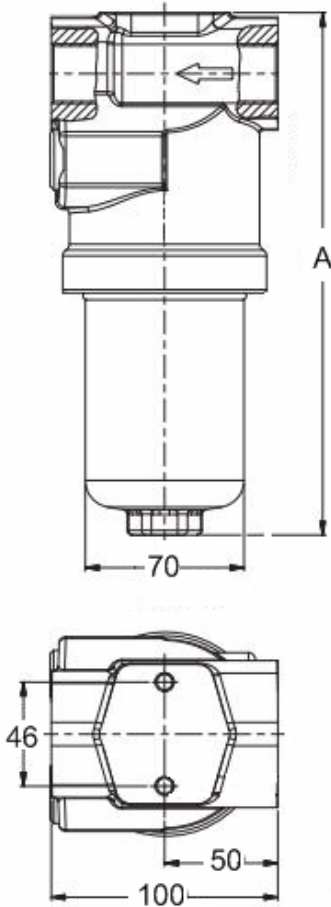
Choose a Filter having 2 times Pump flow rate.



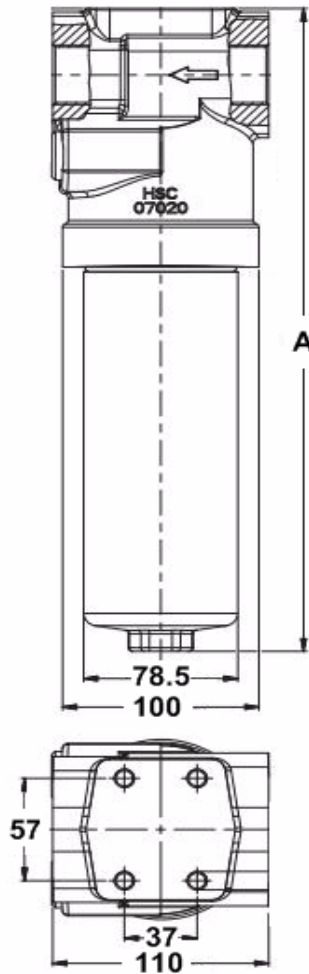
## HF760

### Series Dimensions

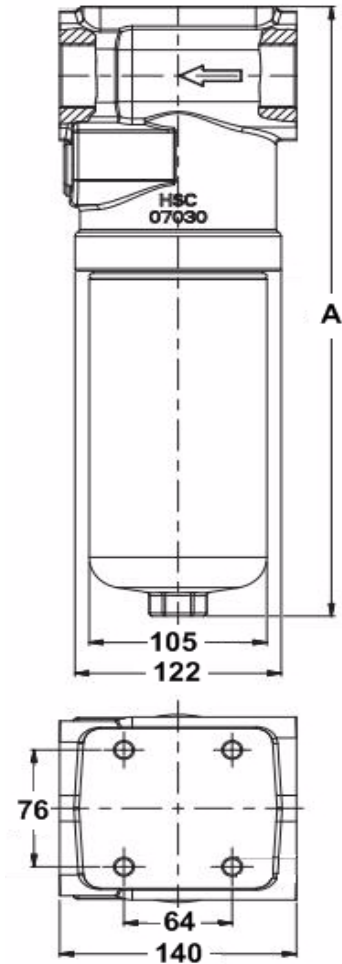
**HF760-20**



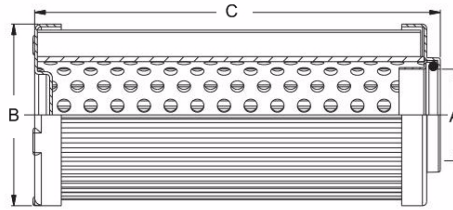
**HF760-30**



**HF760-40**



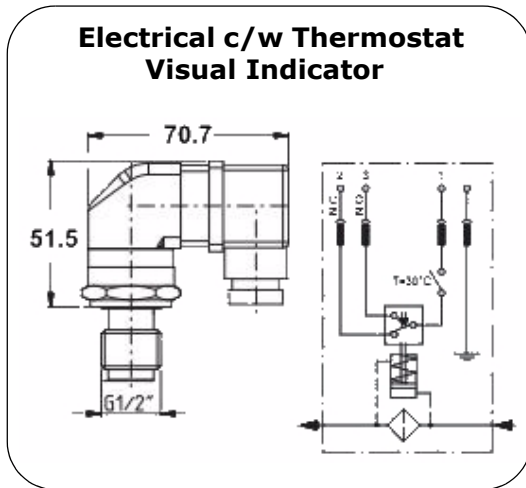
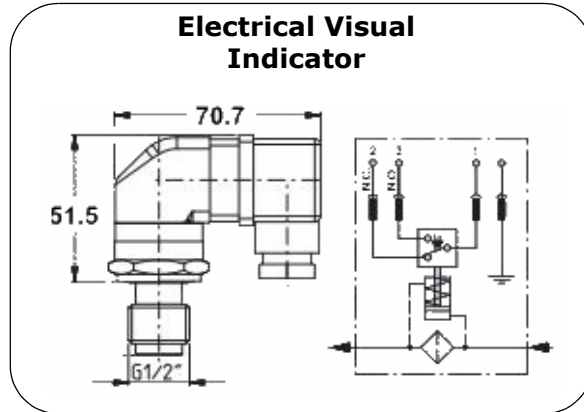
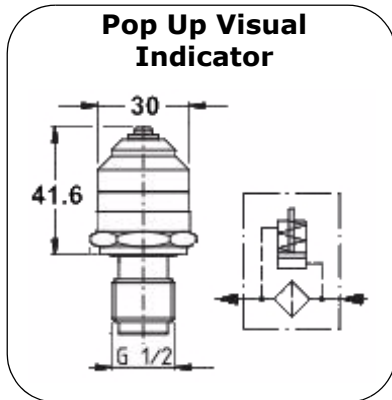
Part Number	A mm
HF760-20.080	208
HF760-20.106	234
HF760-20.203	331
HF760-30.115	250
HF760-30.223	358
HF760-40.102	274
HF760-40.132	304
HF760-40.227	399
HF760-40.372	544
HF760-40.517	689



### Filter Elements Suit HF745 & HF760 Series

Part Number	To Suit Filter Type	Micron $\mu\text{m}$	Dimensions mm		
			A	B	C
HEK85-20.080-FG003-LC	HF745-20.080 HF760-20.080	3	25.5	46.5	87
HEK85-20.080-FG006-LC		6			
HEK85-20.080-FG010-LC		10			
HEK85-20.080-FG025-LC		25			
HEK85-20.106-FG003-LC	HF745-20.106 HF760-20.106	3	25.5	46.5	113
HEK85-20.106-FG006-LC		6			
HEK85-20.106-FG010-LC		10			
HEK85-20.106-FG025-LC		25			
HEK85-20.203-FG003-LC	HF745-20.203 HF760-20.203	3	25.5	46.5	210
HEK85-20.203-FG006-LC		6			
HEK85-20.203-FG010-LC		10			
HEK85-20.203-FG025-LC		25			
HEK85-30.115-FG003-LC	HF745-30.115 HF760-30.115	3	27.5	54.5	122
HEK85-30.115-FG006-LC		6			
HEK85-30.115-FG010-LC		10			
HEK85-30.115-FG025-LC		25			
HEK85-30.223-FG003-LC	HF745-30.223 HF760-30.223	3	27.5	54.5	230
HEK85-30.223-FG006-LC		6			
HEK85-30.223-FG010-LC		10			
HEK85-30.223-FG025-LC		25			
HEK85-40.102-FG003-LC	HF760-40.102	3	40.5	78	110
HEK85-40.102-FG006-LC		6			
HEK85-40.102-FG010-LC		10			
HEK85-40.102-FG025-LC		25			
HEK85-40.132-FG003-LC	HF760-40.132	3	40.5	78	140
HEK85-40.132-FG006-LC		6			
HEK85-40.132-FG010-LC		10			
HEK85-40.132-FG025-LC		25			
HEK85-40.227-FG003-LC	HF760-40-227	3	40.5	78	235
HEK85-40.227-FG006-LC		6			
HEK85-40.227-FG010-LC		10			
HEK85-40.227-FG025-LC		25			
HEK85-40.372-FG003-LC	HF760-40-372	3	40.5	78	380
HEK85-40.372-FG006-LC		6			
HEK85-40.372-FG010-LC		10			
HEK85-40.372-FG025-LC		25			
HEK85-40.517-FG003-LC	HF760-40-517	3	40.5	78	525
HEK85-40.517-FG006-LC		6			
HEK85-40.517-FG010-LC		10			
HEK85-40.517-FG025-LC		25			

## HF745 & HF760 Series Pressure Filter Indicators



Part Number	Type
HI25-I11-T50-GD-B-SS	Pop-Up
HI25-I12-T50-GD-B-SS	Electrical
HI25-I13-T50-GD-B-SS	Electrical c/w Thermostat

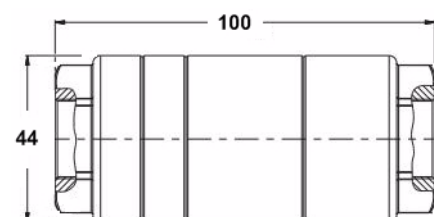
## HF705 Series Pressure Filters

These inline pressure filters are ideal for protecting pilot lines and load sense lines. They have a sintered bronze element and can be utilised for bidirectional flow

**Maximum working pressure: 350 bar**

Filter Part Number	Flow L/min	Port BSPP	Micron $\mu\text{m}$
HF705-10.040-SB010-GD	15	1/2"	10
HF705-10.040-SB025-GD	35	1/2"	25
HF705-10.040-SB040-GD	55	1/2"	40

Element Part Number
HEK80-10.040-SB010
HEK80-10.040-SB025
HEK80-10.040-SB040



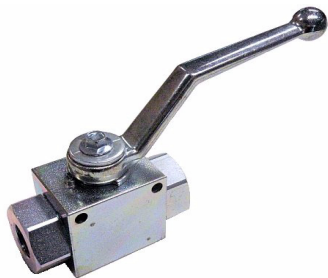


# SECTION G

## BALL VALVES, NEEDLE VALVES, FLOW CONTROLS



PAGE DESCRIPTION	PAGE
GEMELS BALL VALVES - - - - -	G 2
LOW PRESSURE BALL VALVES - - - - -	G 2
GEMELS NEEDLE VALVES & FLOW CONTROLS - - - - -	G 3



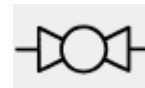
**NB: models, Codes and Specifications may be subject to change without notice.**



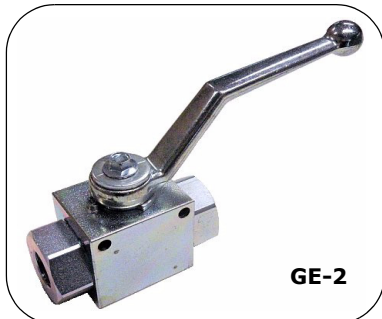
# BALL VALVES

## GE-2 Series

with Mounting Holes



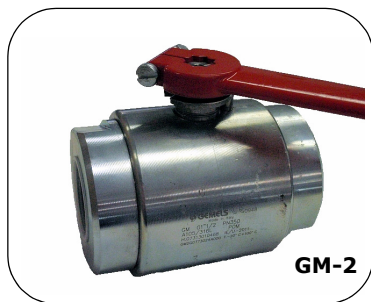
2 PORT MODELS  
Carbon Steel



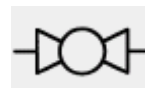
GE-2

Carbon Steel Part Number	Ports BSPP	MWP bar	Bore mm	Carbon Steel Part Number	Ports NPT	Stainless Steel Part Number
GE-2-1/8	1/8"	500	4	GE-2-1/8-NPT	1/8"	-
GE-2-1/4	1/4"	500	6	GE-2-1/4-NPT	1/4"	GE-2-1/4-SS
GE-2-3/8	3/8"	500	10	GE-2-3/8-NPT	3/8"	GE-2-3/8-SS
GE-2-1/2	1/2"	500	13	GE-2-1/2-NPT	1/2"	GE-2-1/2-SS
GE-2-3/4	3/4"	400	20	GE-2-3/4-NPT	3/4"	GE-2-3/4-SS
GE-2-1	1"	350	25	GE-2-1-NPT	1"	GE-2-1-SS
GE-2-1-1/4R	1 1/4"	350	25	-	-	-

## GM-2 Series



GM-2

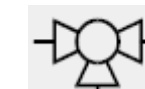
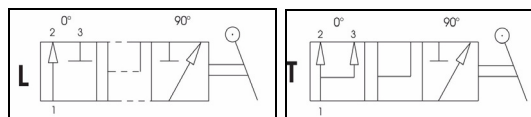


2 PORT MODELS  
Carbon Steel

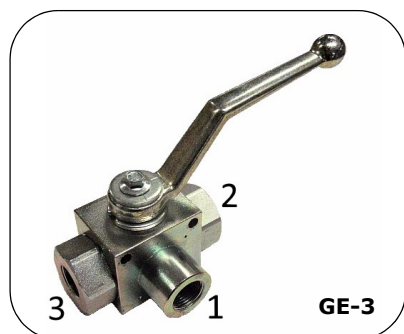
Carbon Steel Part Number	Ports BSPP	MWP bar	Bore mm
GM-2-1-1/4	1-1/4"	350	32
GM-2-1-1/2	1-1/2"	350	40
GM-2-2	2"	350	50

## GE-3 Series

with Mounting Holes



3 PORT MODELS  
Carbon Steel



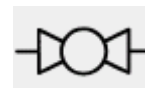
GE-3

L Type Part Number	Ports BSPP	MWP bar	Bore mm	T Type Part Number
GE-3-1/4-L	1/4"	500	6	GE-3-1/4-T
GE-3-3/8-L	3/8"		10	GE-3-3/8-T
GE-3-1/2-L	1/2"		13	GE-3-1/2-T
GE-3-3/4-L	3/4"	400	20	GE-3-3/4-T
GE-3-1-L	1"		25	GE-3-1-T
GE-3-1-1/4R-L	1-1/4"	350	25	GE-3-1-1/4R-T

NB: Use Port 1 as inlet pressure

## VBB Series

Low pressure ball valves suitable for use on suction lines



Brass

Standard

Part Number	Ports BSPP	MWP bar
VBB08	1/4"	25
VBB10	3/8"	25
VBB15	1/2"	25
VBB20	3/4"	25
VBB25	1"	25
VBB32	1-1/4"	25
VBB40	1-1/2"	25
VBB50	2"	25
VBB65	2-1/2"	25
VBB80	3"	25

Lockable

Part Number	Ports BSPP	MWP bar
VBBD15L	1/2"	25
VBBD20L	3/4"	25
VBBD25L	1"	25
VBBD32L	1-1/4"	25
VBBD40L	1-1/2"	25
VBBD50L	2"	25

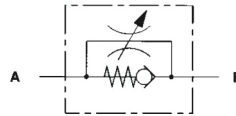




## BD Needle Valves

Adjustable, bi-directional & non-compensated

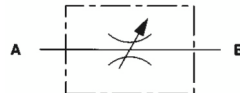
Part Number	Ports BSP	Max L/min	MWP bar	Panel Mt Kit
BD-G1/4-CS	1/4"	15	400	PMK-0406
BD-G3/8-CS	3/8"	30		PMK-0406
BD-G1/2-CS	1/2"	50		PMK-0808
BD-G3/4-CS	3/4"	80		PMK-1216
BD-G1-CS	1"	150		PMK-1216
BD-G11/4-CS	1-1/4"	210		PMK-2024
BD-G11/2-CS	1-1/2"	300		PMK-2024



## RF Flow Controls

Adjustable throttle, reverse flow check & non-compensated

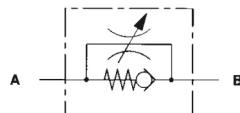
Part Number	Ports BSP	Max L/min	MWP bar	Panel Mt Kit
RF-G1/4-CS	1/4"	15	400	PMK-0406
RF-G3/8-CS	3/8"	30		PMK-0406
RF-G1/2-CS	1/2"	50		PMK-0808
RF-G3/4-CS	3/4"	80		PMK-1216
RF-G1-CS	1"	150		PMK-1216
RF-G11/4-CS	1-1/4"	210		PMK-2024
RF-G11/2-CS	1-1/2"	300		PMK-2024



## VSRB Needle Valves

Adjustable, bi-directional & non-compensated

Part Number	Ports BSP	Max L/min	MWP bar
VSRB-14	1/4"	30	350
VSRB-38	3/8"	45	
VSRB-12	1/2"	70	300
VSRB-34	3/4"	100	
VSRB-100	1"	150	250



## VSRU Flow Controls

Adjustable throttle & reverse flow check non-compensated

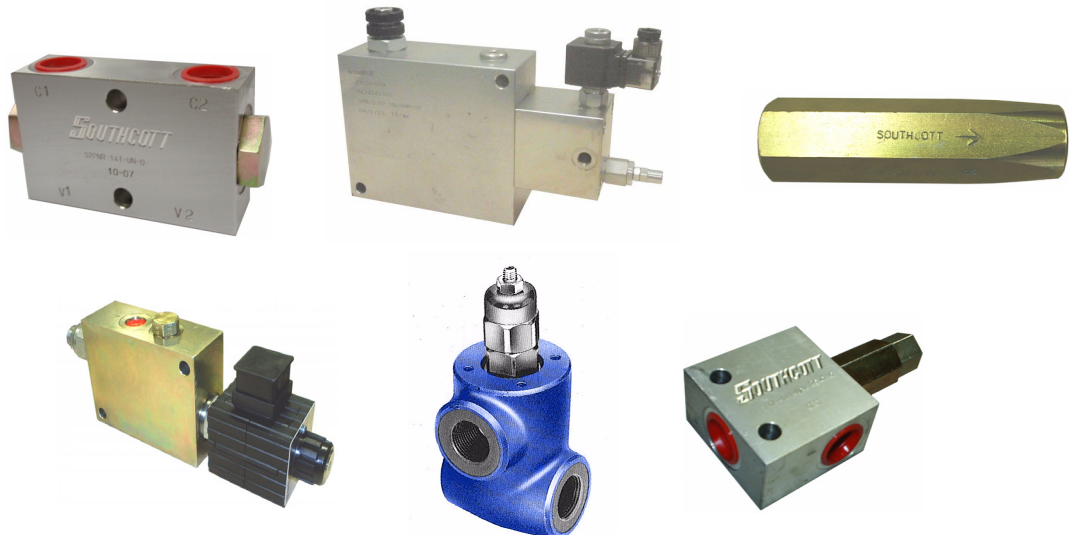
Part Number	Ports BSP	Max L/min	MWP bar
VSRU-14	1/4"	30	350
VSRU-38	3/8"	40	
VSRU-12	1/2"	50	310
VSRU-34	3/4"	80	
VSRU-100	1"	110	250



# SECTION H

## LINE MOUNT VALVES

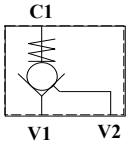
PAGE DESCRIPTION	PAGE
<b>SOUTHCOTT LINE MOUNT VALVES</b>	
LOCK VALVES - - - - -	- H 2
CHECK VALVES - - - - -	- H 3
RELIEF VALVES - - - - -	- H 4
SHUTTLE VALVES - - - - -	- H 5
FLOW REGULATORS - - - - -	- H 6
QUICK HITCH VALVES - - - - -	- H 6
<b>WALVOIL LINE MOUNT VALVES</b>	
RELIEF VALVES - - - - -	- H 8
PRESSURE REDUCING/RELIEVING VALVES - - - - -	- H 13
PILOT OPERATED CHECK VALVES - - - - -	- H 14
HOSE BURST CHECK VALVES - - - - -	- H 18
SEQUENCE VALVES - - - - -	- H 19
ACCUMULATOR UNLOADING VALVES - - - - -	- H 20
AUTO-REVERSAL VALVES - - - - -	- H 20
HIGH-LOW UNLOADING VALVES - - - - -	- H 21
COUNTER-BALANCE VALVES - - - - -	- H 22
COUNTER-BALANCE + BRAKE SHUTTLE VALVES - - - - -	- H 28
MOTION CONTROL VALVES - - - - -	- H 28
SHUTTLE VALVES - - - - -	- H 29
FLOW REGULATORS - - - - -	- H 30
FLOW REGULATOR - HAMMER VALVES - - - - -	- H 32
FLOW DIVIDERS - - - - -	- H 33
LOAD SENSE SIGNAL CONDITIONERS - - - - -	- H 33
CARTRIDGE VALVES - - - - -	- H 34



**NB: Models, codes and specifications may be subject to change without notice.**

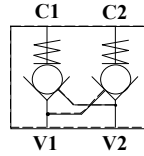


# LOCK VALVES



## S1PNR Series

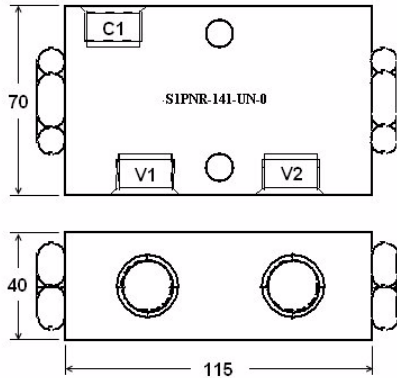
**SINGLE LOCK VALVE**  
Body material: Aluminium



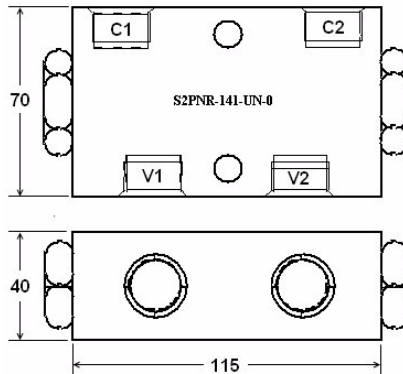
## S2PNR Series

**DOUBLE LOCK VALVE**  
Body material: Aluminium

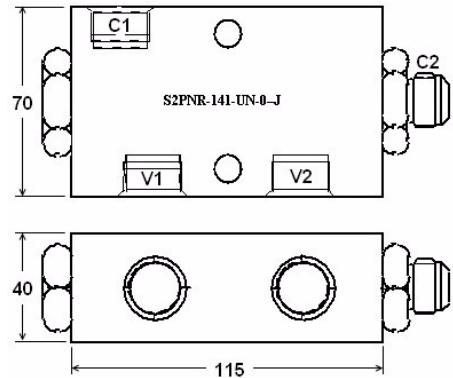
### S1PNR SERIES



### S2PNR SERIES LINE MOUNT



### S2PNR SERIES - TYPE J CYLINDER MOUNT



Part Number	Type	Ports	Pilot Ratio	Max Flow L/min	Max Press bar
S1PNR-141-UN-0	Line Mount - Lock on C1	7/8" UNO	4:1	60	210
S1PNR-141-UN-0-JC1	Cylinder Mount, lock on C1				
S1PNR-141-UN-0-JC2	Cylinder Mount, lock on C2				
S2PNR-061-BP-0	Line Mount	3/8" BSPP			
S2PNR-081-BP-0	Line Mount	1/2" BSPP			
S2PNR-081-BP-0-J	Cylinder Mount				
S2PNR-141-UN-0	Line Mount	7/8" UNO			
S2PNR-141-UN-0-J	Cylinder Mount				
S2PNR-141-UN-0-2J	Tube Mount				
S2PNR-141-UN-0-M	Line Mount - Marine				



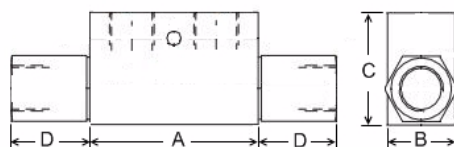
## COMPACT STYLE LOCK VALVES - ALUMINIUM BODY

Part Number	Type	Ports UNO	Pilot Ratio	Max Flow L/min	Max Press bar
S1PNR-091-UN-0-C	Single Lock	9/16"	4:1	20	210
S2PNR-091-UN-0-C	Double Lock				
S2PNR-091-UN-0-2J	Double Tube Mnt				



## DOUBLE LOCK VALVES - STEEL BODY

Seal on piston - 4:1 ratio

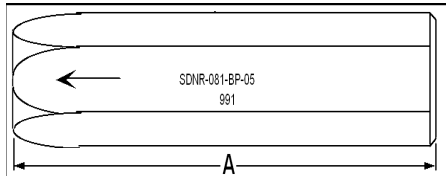


Part Number	Ports BSPP	Dimensions mm				Max Flow L/min	MWP bar
		A	B	C	D		
SPOC-04B-D1-ST	1/4"	63	30	45	31.5	30	350
SPOC-06B-D1-ST	3/8"	80	30	50	32	50	
SPOC-08B-D1-ST	1/2"	90	40	60	40.5	80	
SPOC-12B-D1-ST	3/4"	107	50	70	44.5	120	



## CHECK VALVES

### SDNR Series



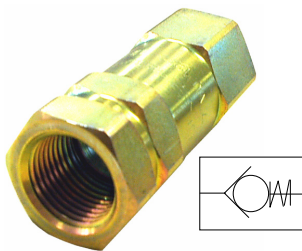
Part Number	Thread BSP	Rated Flow $\Delta P$ @ 2 bar		Max. Pressure		Cracking Pressure **		Dimensions mm	
		L/min	US GPM	bar	psi	05	65	A	Hex
SDNR-041-BP-**	1/4"	13	3.5	415	6160	5 psi (0.34 bar)	65 psi (4.4 bar)	66.7	22.2
SDNR-061-BP-**	3/8"	25	6.5	300	4350			79.4	24.0
SDNR-081-BP-**	1/2"	60	16	300	4350			98.4	28.5
SDNR-121-BP-**	3/4"	120	32	250	3625			104.0	38.1
SDNR-161-BP-**	1"	200	54	245	3550			127.0	47.6
SDNR-201-BP-**	1-1/4"	300	80	225	3260			152.4	55.0
SDNR-241-BP-**	1-1/2"	400	108	200	2900			175.0	65.0
SDNR-321-BP-**	2"	700	187	130	1880			222.3	75.0

NB: Replace \*\* in part number with cracking pressure

\*Other cracking pressures available on request\*

## CHECK VALVES

### *Faster*

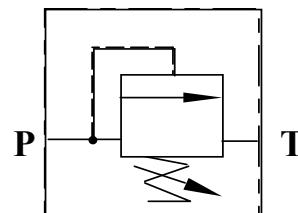


Part Number	Thread	Rated Flow $\Delta P$ @ 2 bar		Max. Pressure		Cracking Pressure
	BSP	L/min	US GPM	bar	psi	
VU-14F-14F	1/4"	30	7.9	415	6160	5 psi (0.34 bar)
VU-38F-38F	3/8"	45	11.9	300	4350	
VU-12F-12F	1/2"	68	18	300	4350	
VU-34F-34F	3/4"	162	42.8	250	3625	
VU-1F-1F	1"	315	83.3	245	3552	
VU-114F-114F	1-1/4"	290	76.7	225	3262	
VU-112F-112F	1-1/2"	763	207	200	2900	
VU-2F-2F	2"	760	201	130	1885	

Other spring cracking pressures available on request: suffix **C** = 14.5psi, **L** = 65psi, **U** = 116psi (for sizes 1/2" - 1-1/4"). These check valves are also available in stainless steel.

## SRD SERIES

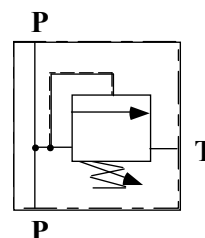
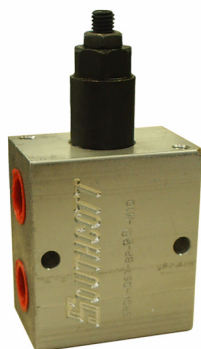
DIRECT ACTING - PANEL MOUNT



Part Number	Ports BSP	Flow L/min	Press Range bar
SRD-041-BP-2A	1/4"	10	7-140
SRD-041-BP-3A			14-200
SRD-041-BP-5A			35-350

## SRDA SERIES

DIRECT ACTING - 3 Port

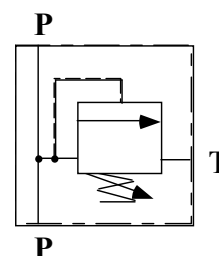
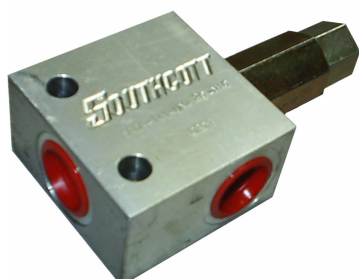


Part Number Screw Adjust	Ports BSP	Flow L/min	Press Range bar
SRDA-061-BP-04-M10	3/8"	40	0 - 40
SRDA-061-BP-08-M10			20 - 80
SRDA-061-BP-20-M10			50 - 220

Part Number Knob Adjust	Ports BSP	Flow L/min	Press Range bar
SRDA-061-BP-04-M10K	3/8"	40	0 - 40
SRDA-061-BP-08-M10K			20 - 80
SRDA-061-BP-20-M10K			50 - 220

## SRDP SERIES

DIFFERENTIAL PISTON - 3 PORT

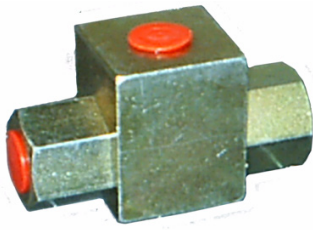


Part Number	Ports UNO	Flow L/min	Press Range bar
SRDP-141-UN-10-M10	7/8"	60	40-100
SRDP-141-UN-14-M10			70-140
SRDP-141-UN-20-M10			140-260

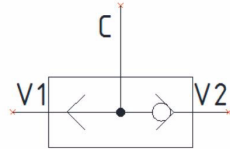
# SHUTTLE VALVES



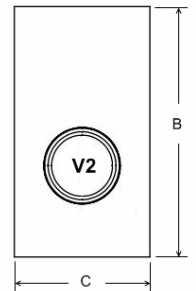
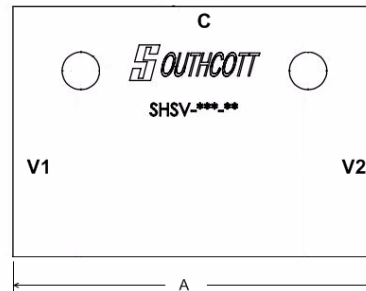
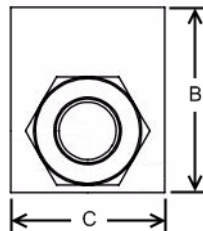
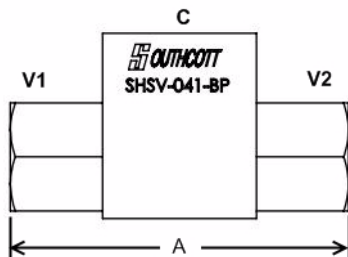
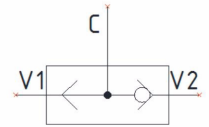
## SHSV Series



Body material - Steel  
Size - 1/4" BSPP



Body Material - Aluminium  
Size - 1/2" BSPP  
- 7/8" UNO  
- 1.1/16 UNO



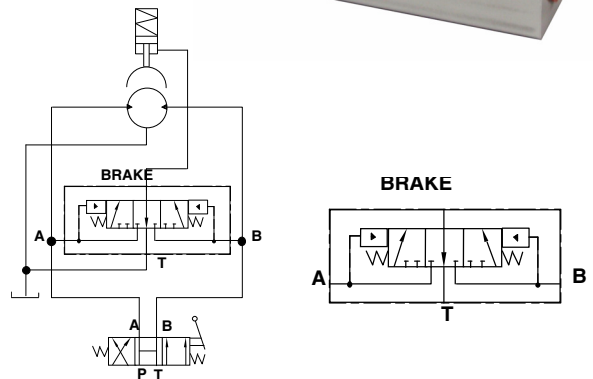
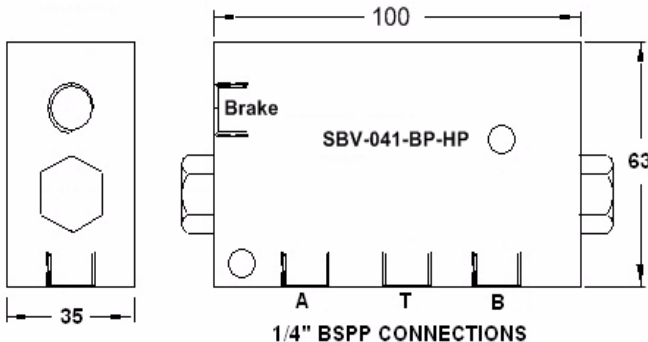
Part Number	Material	Ports C, V1, V2	Rated Flow L/min	Max. Pressure bar	Dimensions mm		
					A	B	C
SHSV-041-BP	Steel	1/4" BSPP	12	350	70	38	32
SHSV-081-BP-ST		1/2" BSPP	60		102	70	40
SHSV-081-BP	Aluminium	7/8" UNO	90	210	121	70	40
SHSV-141-UN		1-1/16" UNO					
SHSV-171-UN							

## SBV Series

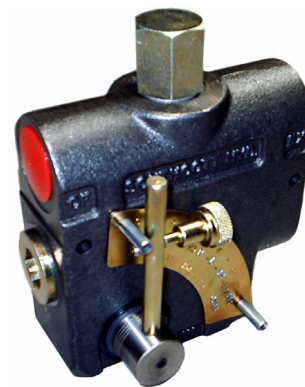
### BRAKE RELEASE VALVE

The design of this valve makes it ideally suited for a high pressure brake release circuit. In the neutral position the spring centred spool type shuttle valve directs oil from the brake release system to tank. When pressure is applied to one of the two inlet ports, high pressure oil is directed to the brake release system.

Body material - 2011-T6 Aluminium  
Rated flow - 16 L/min. (4 US Gpm)  
Maximum pressure - 2 to 40 BAR (3500 psi)  
Shifting pressure - 5.6 BAR (80 psi)  
Port size - 1/4" BSPP



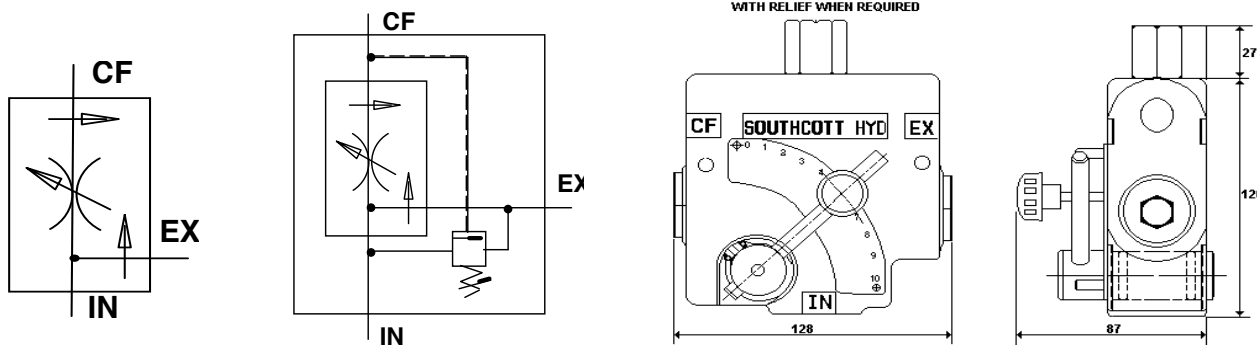
<b>Part Number</b>
<b>SBV-041-BP-HP</b>



# FLOW REGULATORS

## SFR3 Series

Pressure compensated  
 Designed to supply two circuits with a single pump.  
 Maximum pressure - 210 BAR (3000 PSI)  
 Lever is adjustable through 90°  
 Port "IN" = Pressure port  
 Port "CF" = Controlled flow  
 Port "EX" = Excess flow (can be used to power a second circuit)



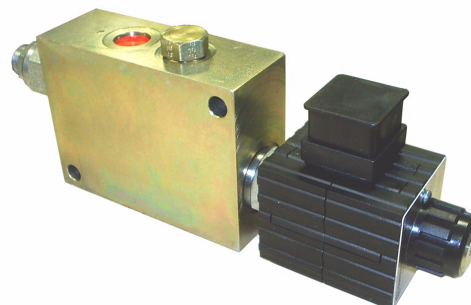
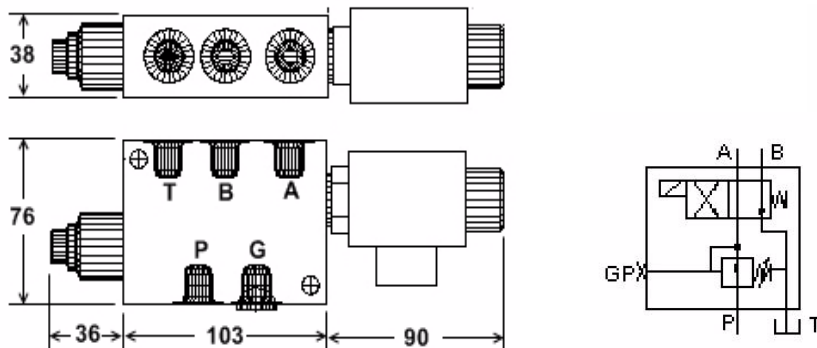
Without Relief Valve			With Relief Valve	
Part Number	Reg Flow L/min	Ports BSSP	Part Number	
SFR3-N-L-08-BP-09	0-9	1/2"	SFR3-R-L-08-BP-09	
SFR3-N-L-08-BP-18	0-18		SFR3-R-L-08-BP-18	
SFR3-N-L-08-BP-30	0-30		SFR3-R-L-08-BP-30	
SFR3-N-L-08-BP-60	0-60	3/4"	SFR3-R-L-08-BP-60	
SFR3-N-L-12-BP-60	0-60		SFR3-R-L-12-BP-60	
SFR3-N-L-12-BP-114	0-114		SFR3-R-L-12-BP-114	

# SOUTHCOTT QUICK HITCH VALVE

## SQHV series

This **Quick Hitch Valve** has a pressure reducing valve on the input line to control the output pressure. It is also equipped with a two position solenoid operated directional control valve all in one neat, compact, easy to mount steel block.

The unit provides a means of quickly changing the buckets and attachments of an excavator. (cylinder not included)



Part Number	Ports	Voltage	MWP bar
SQHV-091-UN-12DC	9/16"UNO	12VDC	345
SQHV-091-UN-24DC		24VDC	

Coil & connector included in the above price.

Coils & Connector	
Part No.	Voltage
60191-12DG	12VDC
60191-24DG	24VDC
SP-KA-DC	Connector

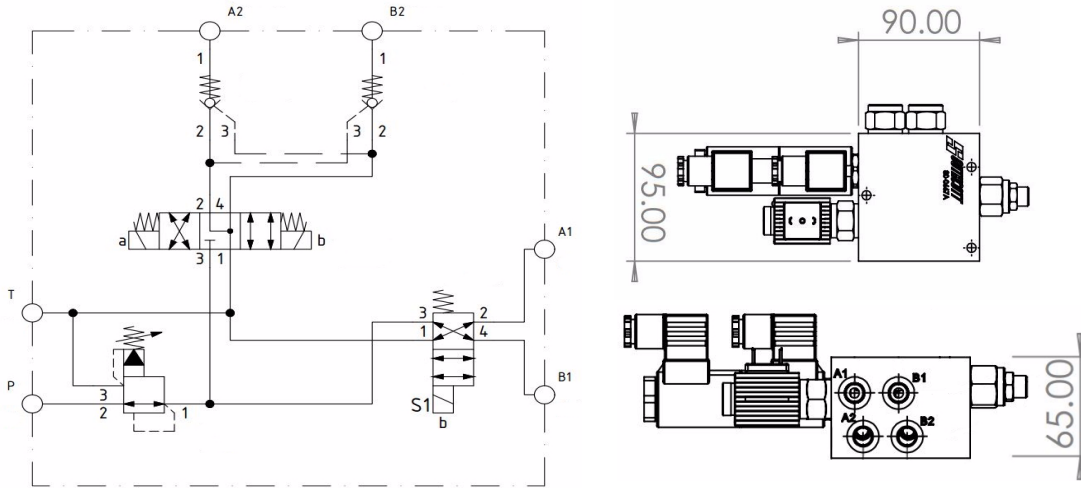
# QUICK HITCH VALVES



## PTQH-111B Series

This **Quick Hitch Valve** has a pressure reducing valve on the input line to control the output pressure. It is also equipped with a two position solenoid valve to operate the bucket hitch and a second 3 position solenoid valve to operate a bucket tilt mechanism. All these functions are contained in one neat, compact, easy to mount steel manifold system.

**NB:** This model includes a dual pilot operated check valve on the A2 & B2 ports



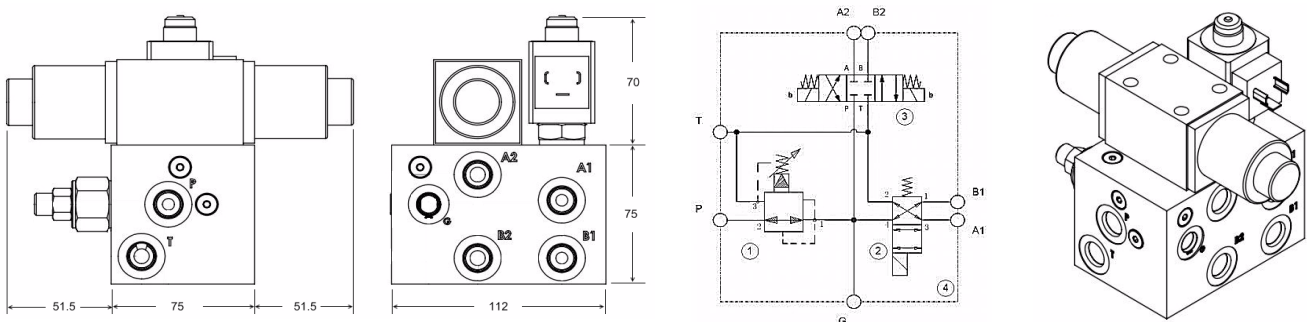
Part Number	Port Size	Max. Press	Description
PTQH-0111B-CV-12DC	1/4" BSP	350 bar	Quick Hitch Tilt Valve
PTQH-0111B-CV-24DC			

Coils & connectors included in the above price.

Flow restriction may be required for correct operation of directional valve 350 bar inlet. Suggest 1.2mm orifice.

## PTQH-0711 Series

This **Quick Hitch Valve** has a pressure reducing valve on the input line to control the output pressure. It is also equipped with a two position solenoid valve to operate the bucket hitch and a second 3 position solenoid valve to operate a bucket tilt mechanism. All these functions are contained in one neat, compact, easy to mount manifold system.



Part Number	Port Size	Max. Press.	Description
PTQH-0711-12DC	9/16" UNO	350 bar	Quick Hitch Valve
PTQH-0711-24DC			

Coils & connectors included in the above price.



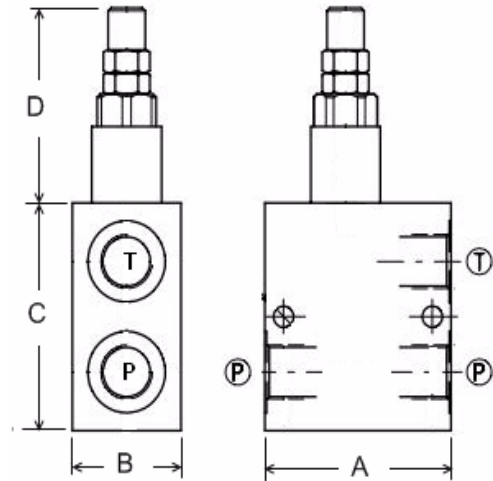
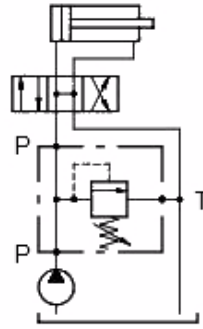
## RELIEF VALVES

### DIRECT ACTING POPPET

Aluminium body

**NB:** Steel bodied units available upon request - add suffix AC

Spring Range Options	
Code	bar
TB	5-40
TV	20-80
TS	50-220
TR	180-350



Part Number (with TS Spring option)	Ports BSPP	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min			
				A	B	C	D				
VMP/B/L02-14/TS.S	1/4"	220	350	45	30	50	29	5			
VMP/B/L03-14/TS.S						60	53	10			
VMP/B/L5-38/TS.S	3/8"			60	35	70	61	35			
VMP/B/L5-12/TS.S	1/2"								78	67	60
VMP/B/L10-12/TS.S	3/4"			70	40	90	76.5	100			
VMP/B/L10-34/TS.S									50	100	100
VMP/B/L20-34/TS.S									85	60	120
VMP/B/L20-100/TS.S	1"										

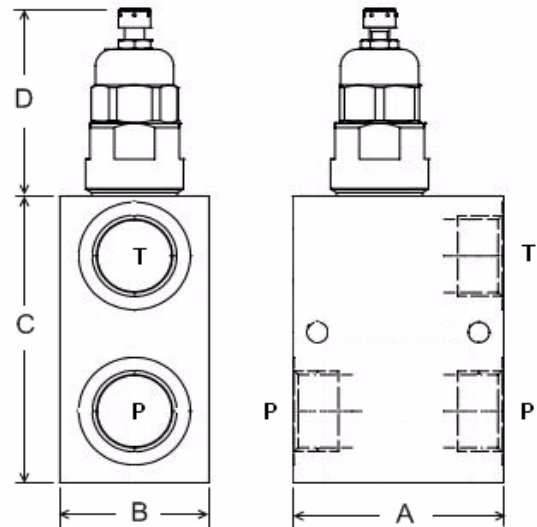
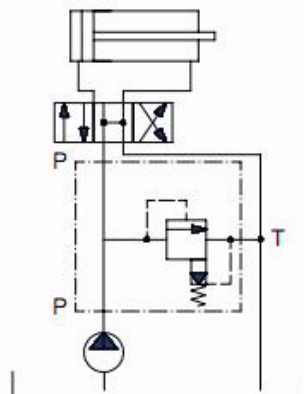
## RELIEF VALVES

### PILOT OPERATED

Aluminium body

**NB:** Steel bodied units available upon request - add suffix AC

Spring Range Options	
Code	bar
TB	5-40
TS	20-400

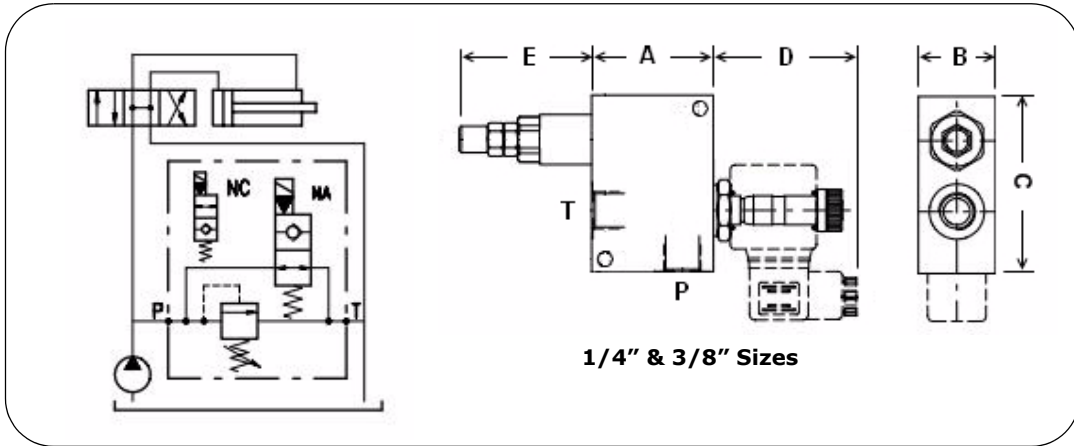


Part No. (with TS Spring option)	Ports BSPP	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
				A	B	C	D	
VMPP/B/L10-12/TS.W.V	1/2"	210	350	70	35	78	74.3	70
VMPP/B/L20-34/TS.W.V	3/4"				50	100	77.5	120
VMPP/B/L20-100/TS.W.V	1"			85	60	120	77.5	120
VMPP/B/L45-114/TS.W.V	1-1/4"	250	-	100	70	135	94.5	250

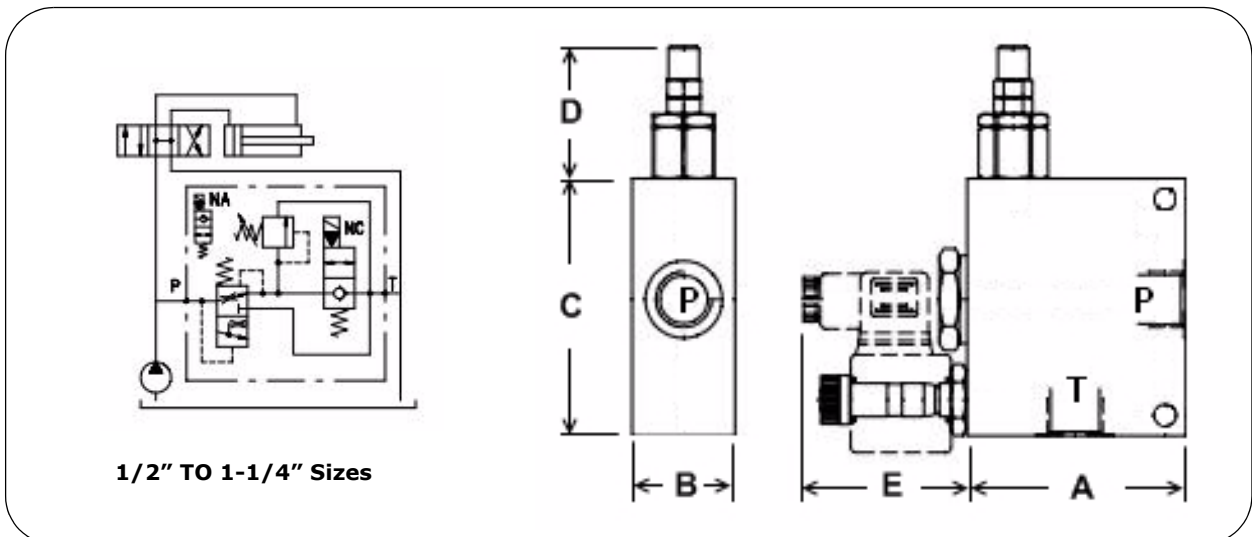
**PRESSURE RELIEF VALVE - SOLENOID UNLOADED**

Aluminium Body

**NB:** Steel bodied units available on request - add suffix AC



1/4" & 3/8" Sizes



1/2" TO 1-1/4" Sizes

Part Number (with TS Spring option)	Ports BSPB	MWP bar Alum	MWP bar Steel	Dimensions mm					Nominal Flow L/min
				A	B	C	D	E	
VMP/VE-14/NA/5.TS.S	1/4"	220	-	55	35	80	65	60	20
VMP/VE-38/NA/5.TS.S	3/8"		79				35		
VMP/VE-12/NA/03.TS.S	1/2"		350	85	40	100	51.5	63.5	90
VMP/VE-34/NA/03.TS.S	3/4"			100	50	110	53	65	150
VMP/VE-100/NA/03.TS.S	1"								250
VMP/VE-114/NA/03.TS.S	1-1/4"			130	70	130			

**NB:** Coil & connector must be ordered separately.

**NB:** The above valves are with normally open solenoids (unloaded). Normally closed are available upon request.

**NB:** Size 1/4" not available in steel.

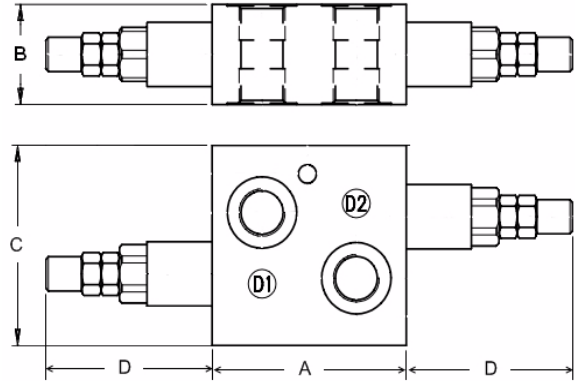
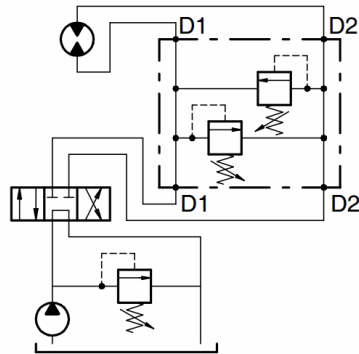
Spring Range Options	
Code	bar
TB	5-40
TV	20-80
TS	50-220
TR	180-350

Part Number	Description
4SLE001200A	12 Volt Coil
4SLE002400A	24 Volt Coil
SP-KA-DC	Coil Connector

## DUAL CROSS LINE RELIEF VALVES

Direct acting poppet type - Aluminium body - Steel bodied units available on request - add suffix AC

Spring Range Options	
Code	bar
TB	5-40
TV	20-80
TS	50-220
TR	180-350

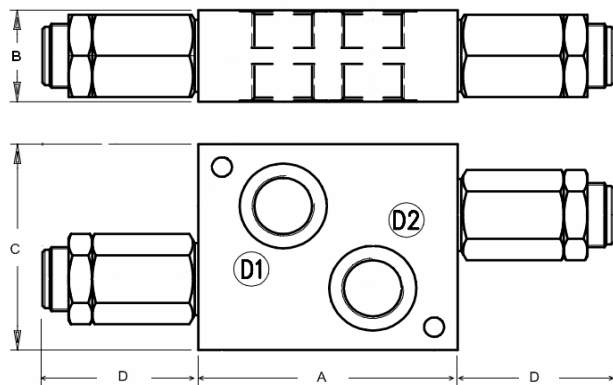
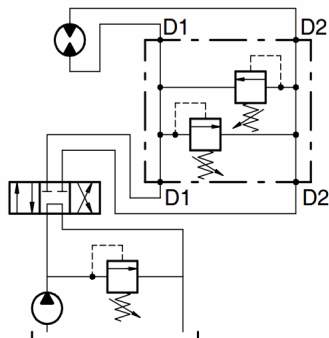


Part Number (with TS Spring option)	Ports BSPP	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
				A	B	C	D	
VAIL/5-38/TS.S	3/8"	220	350	70	35	70	60	25
VAIL/5-12/TS.S	1/2"			82	40	90	67	35
VAIL/10-12/TS.S				3/4"	95	50	100	76.5
VAIL/10-34/TS.S	1"			100	110	120	130	100
VAIL/20-34/TS.S				120	130	140	150	180
VAIL/20-100/TS.S				140	150	160	170	180

## DUAL CROSS LINE RELIEF VALVES

Differential piston type - Aluminium body - Steel bodied units available on request - add suffix AC

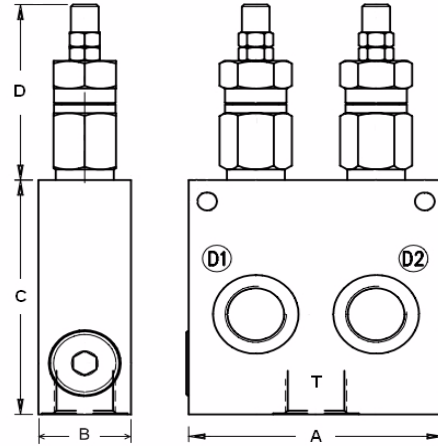
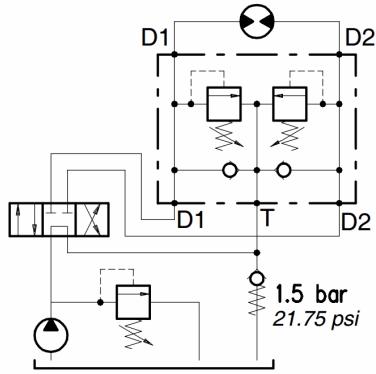
Spring Range Options	
Code	bar
TS	50-210
TR	50-350



Part Number (with TS Spring option)	Ports BSPP	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
				A	B	C	D	
VADDL-38/TS.S	3/8"	210	350	90	30	65	53	35
VADDL-12/TS.S	1/2"			100	35	70	57	60
VADDL-34/TS.S	3/4"			110	40	90	66	120
VADDL-100/TS.S	1"			120	130	140	150	180

**DUAL CROSS LINE RELIEF VALVES WITH ANTICAVITATION**

Direct acting poppet type - Aluminium Body - Steel Bodied units available on request - add suffix AC

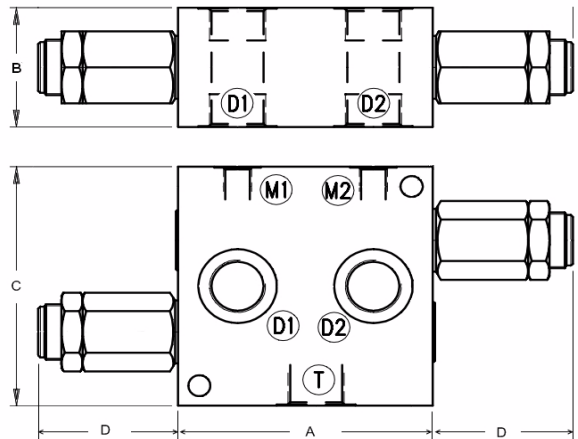
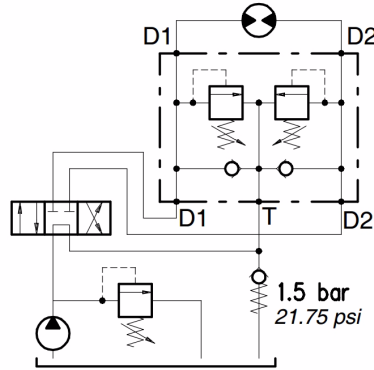


Part Number (with TS Spring option)	Ports BSPP	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
				A	B	C	D	
VAIL/VA-12/TS.S	1/2"	200	300	90	40	95	68	35
VAIL/VA-34/TS.S	3/4"			110	40	110	82.5	80

**DUAL CROSS LINE RELIEF VALVES WITH ANTICAVITATION**

Differential piston type - Aluminium Body - Steel Bodied units available on request - add suffix AC

Spring Range Options	
Code	bar
TS	5-210
TR	50-350



Part Number (with TS Spring option)	Ports BSPP	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
				A	B	C	D	
VADDL/VA-38/TS.S	3/8"	210	350	90	30	100	52	35
VADDL/VA-12/TS.S	1/2"			100	40		57	60
VADDL/VA-34/TS.S	3/4"			120	60	120	66	120
VADDL/VA-100/TS.S	1"			130	70	130	66	180

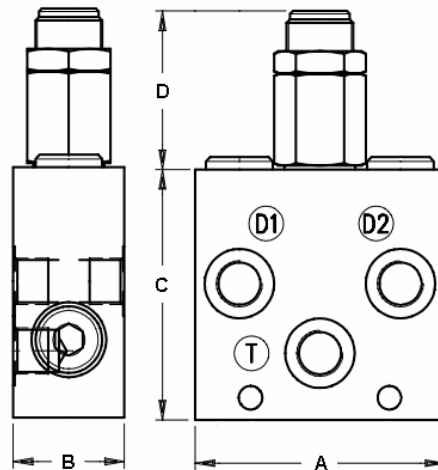
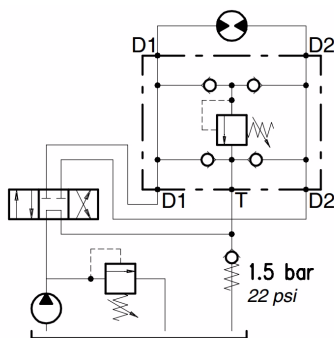
## ANTI-SHOCK VALVE

Aluminium body - Steel bodied units available on request - add suffix AC

Antishock valve with anti-cavitation and single pressure adjustment differential piston type relief.

This valve allows for pressure relief on the delivery side of the circuit while check valves allow for anti-cavitation

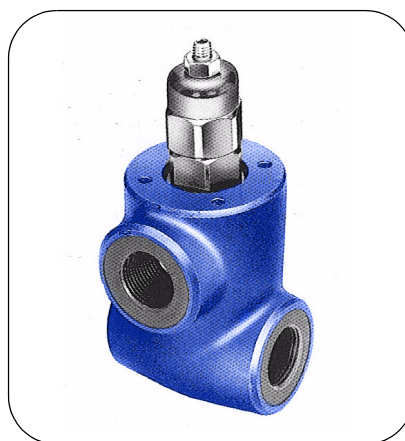
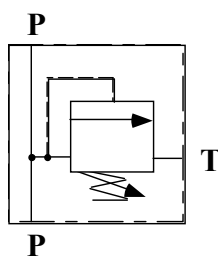
Spring Range Options	
Code	bar
TS	5-210
TR	50-350



Part Number (with TS Spring option)	Ports BSPP	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
				A	B	C	D	
VAA/RU/DL-38/TS.S	3/8"	210	350	90	40	90	57	35
VAA/RU/DL-12/TS.S	1/2"							60
VAA/RU/DL-34/TS.S	3/4"			120				
VAA/RU/DL-100/TS.S	1"			180				

## RELIEF VALVE - Cast Iron Body

PILOT OPERATED STYLE - 3 PORT



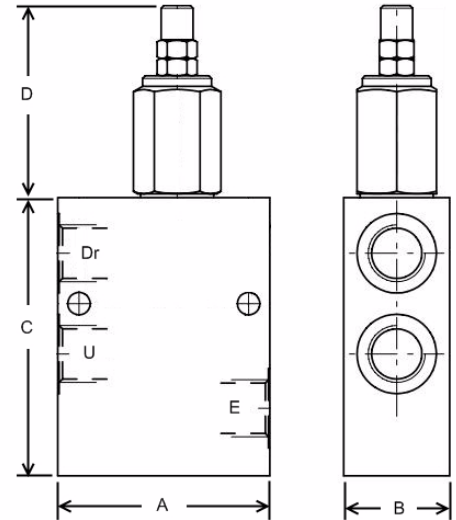
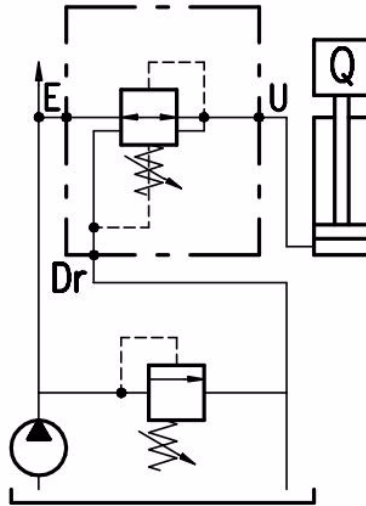
Part Number	Ports BSPP	Flow L/min	Press Range bar
VMP25/3-XGA-120	1"	250	20-250



**PRESSURE REDUCING/RELIEVING VALVES**

Aluminium body - Steel bodied units available on request - add suffix AC

Spring Range Options	
Code	bar
TB	5-50
TV	40-110
TS	100-200

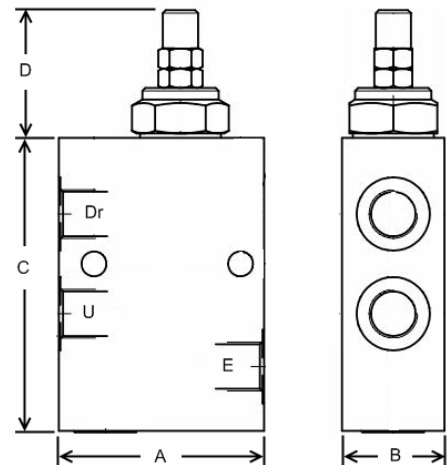
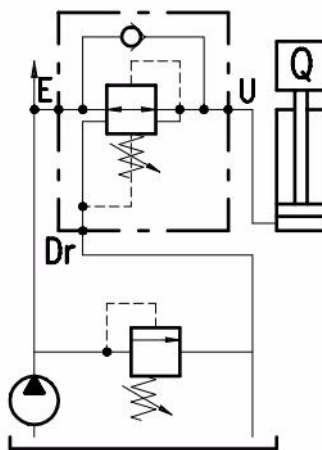


Part Number (with TV Spring option)	Ports BSPP	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
				A	B	C	D	
VRPRL/U-38/TV.S	3/8"	210	350	70	35	100	43.5	20
VRPRL/U-12/TV.S	1/2"			80	40	105	72.5	50

**PRESSURE REDUCING/RELIEVING + FREE REVERSE FLOW**

Aluminium body - Steel bodied units available on request - add suffix AC

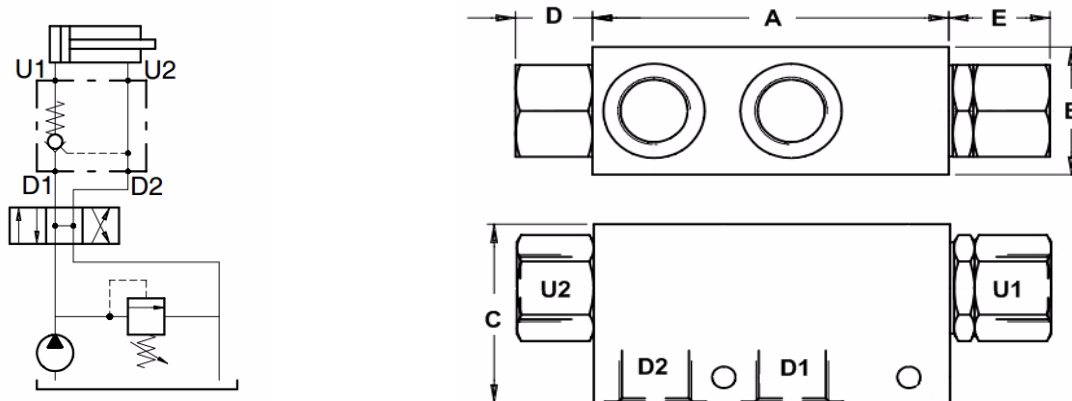
Spring Range Options	
Code	bar
TB	5-50
TV	40-110
TS	100-200



Part Number (with TV Spring option)	Ports BSPP	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
				A	B	C	D	
VRPRL-38/TV.S	3/8"	210	350	70	35	100	43.5	20
VRPRL-12/TV.S	1/2"			80	40	105	72.5	50

## SINGLE PILOT OPERATED CHECK VALVES

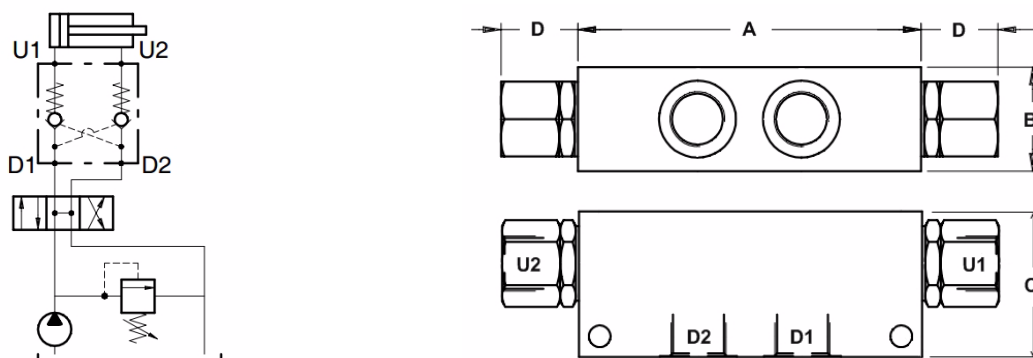
Steel body  
Suitable for mounting direct to a cylinder.



Part Number	Ports BSPP	Max. Pressure bar	Standard Pilot Ratio	Optional Pilot Ratios	Dimensions mm					Nominal Flow L/min
					A	B	C	D	E	
VBPSL-14/P4/PA4/AC	1/4"	300	4:1	3:1	70	30	40	-	14.5	15
VBPSL-38/P4/PA4/AC	3/8"		4:1	6.3:1,7.5:1	90	35	50	22	30	35
VBPSL-12/P4/PA4/AC	1/2"		4:1	6.3:1,7.5:1	130	50	70	28	37	50
VBPSL-34/P4/PA4/AC	3/4"		4.3:1	-						100

## DOUBLE PILOT OPERATED CHECK VALVES

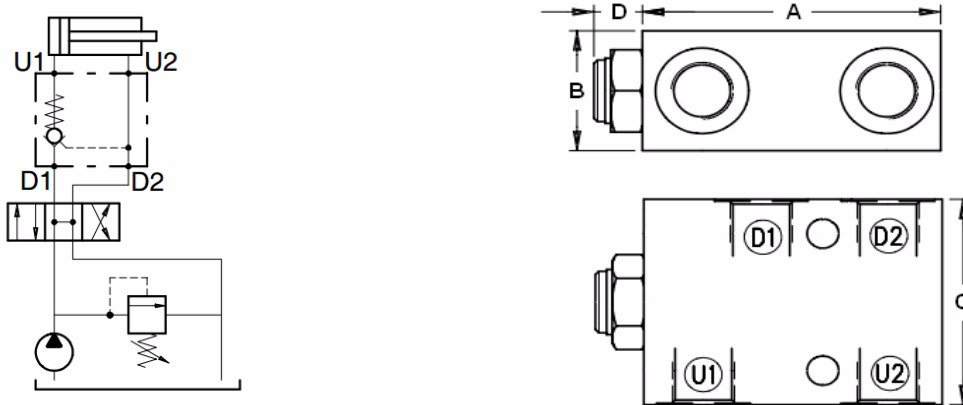
Steel body  
Suitable for mounting direct to a cylinder.



Part Number	Ports BSPP	Max. Pressure bar	Standard Pilot Ratio	Optional Pilot Ratios	Dimensions mm				Nominal Flow L/min
					A	B	C	D	
VBPDL-14/P4/PA4/AC	1/4"	210	4.5:1	2.5:1	81	30	40	14.5	15
VBPDL-38/P4/PA4/AC	3/8"		4:1	6.3:1,7.5:1	110	35	50	30	35
VBPDL-12/P4/PA4/AC	1/2"		4.3:1	-	165	50	70	37	50
VBPDL-34/P4/PA4/AC	3/4"		100						

**SINGLE PILOT OPERATED CHECK VALVES**

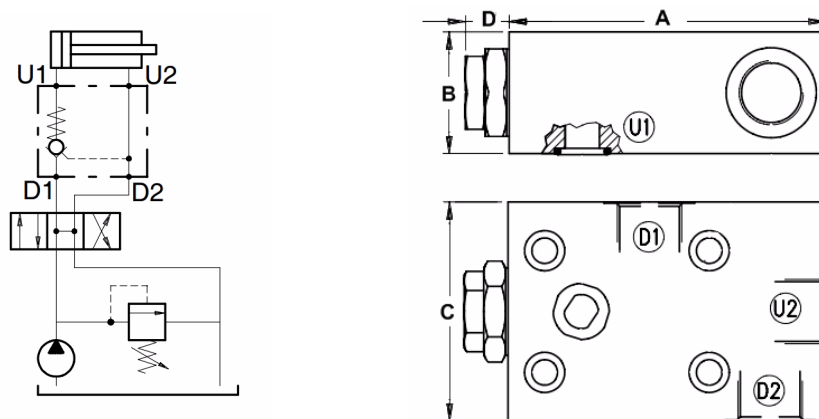
Aluminium body - Steel bodied units available on request - add suffix AC



Part Number	Ports BSPP	Max. Pressure bar	Standard Pilot Ratio	Optional Pilot Ratios	Dimensions mm				Nominal Flow L/min
					A	B	C	D	
VBPSL/T-38/P4	3/8"	210	4.5:1	3:1	80	35	40	13	25
VBPSL/T-12/P4	1/2"		4:1	6.3:1,7.5:1	90		70		50
VBPSL/T-34/P4	3/4"		4.3:1	-	135	50	90	18	100

**SINGLE PILOT OPERATED CHECK VALVES - MANIFOLD MOUNT**

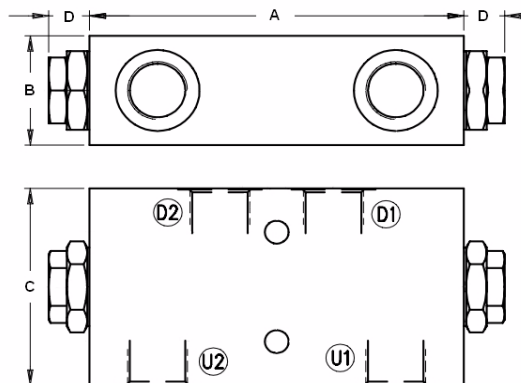
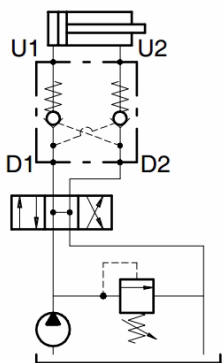
Aluminium body - Steel bodied units available on request - add suffix AC



Part Number	Ports BSPP	Max. Pressure bar	Standard Pilot Ratio	Optional Pilot Ratios	Dimensions mm				Nominal Flow L/min
					A	B	C	D	
VBPSF-14/P4	1/4"	210	4.5:1	3:1	70	30	50	13	15
VBPSF-38/P4	3/8"		4:1	6.3:1,7.5:1	95	35	70	14	35
VBPSF-12/P4	1/2"		4:1	6.3:1,7.5:1					50
VBPSF-34/P4	3/4"		4.3:1	-	130	50	90	18	100

## DOUBLE PILOT OPERATED CHECK VALVES

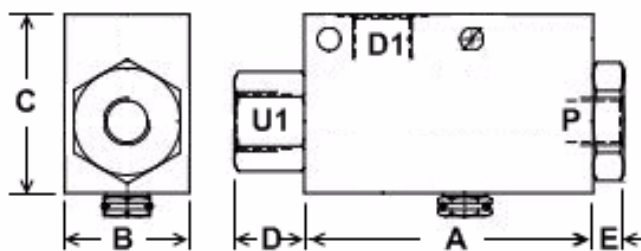
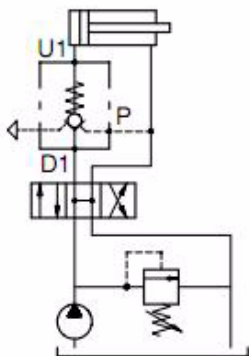
Aluminium body - Steel bodied units available on request - add suffix AC



Part Number	Ports BSPP	Max. Pressure bar	Standard Pilot Ratio	Optional Pilot Ratios	Dimensions mm				Nominal Flow L/min
					A	B	C	D	
VBPDL/T-38/P4	3/8"	210	4.5:1	2.5:1	90	35	60	8.5	25
VBPDL/T-12/P4	1/2"		4:1	6.3:1, 7.5:1	110	35	70	13	50
VBPDL/T-34/P4	3/4"		4.3:1	-	165	50	90	18	100

## SINGLE PILOT OPERATED CHECK VALVES

Aluminium body - Steel bodied units available on request - add suffix AC



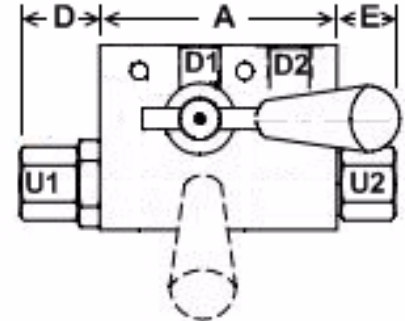
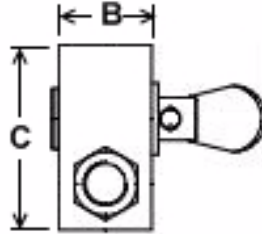
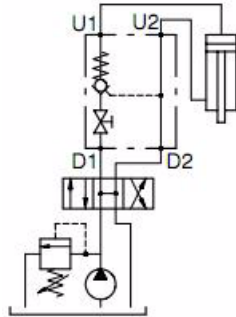
Part Number	Ports BSPP	Max. Pressure bar	Standard Pilot Ratio	Optional Pilot Ratios	Dimensions mm					Nominal Flow L/min
					A	B	C	D	E	
VBPSL/PS-38/P10	3/8"	210	10:1	-	81	35	50	19.5	8	25
VBPSL/PS-12/P6	1/2"		6:1		90			13		50

**SINGLE PILOT OPERATED CHECK VALVES**

Steel body

This single pilot operated check valve has a built in shut-off valve to enable the operator to isolate the check valve to prevent accidental operation.

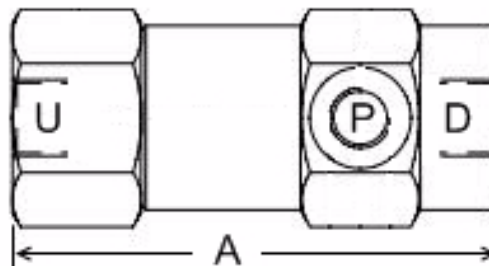
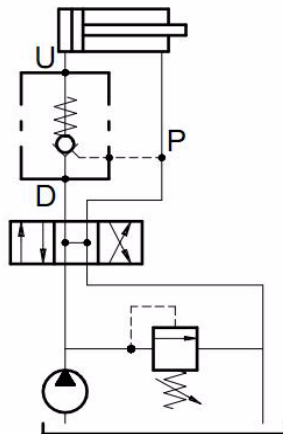
Type D = Load Hold on U1  
Type S = Load Hold on U2



Part Number	Ports BSPP	Load Holding Port	MWP bar Steel	Standard Pilot Ratio	Optional Pilot Ratio	Dimensions mm					Nominal Flow L/min
						A	B	C	D	E	
VBPSL/R/D14/P4.5/PA/A	1/4"	U1	350	4.5:1	3:1	70	30	60	14.5	-	15
VBPSL/R/D38/P4/PA4/AC	3/8"			4:1	6.3:1,7.5:1	90	35	70	30	22	35
VBPSL/R/D12/P4/PA4/AC	1/2"			33	25	50					
VBPSL/R/S14/P4/PA4/AC	1/4"	U2		4.5:1	3:1	70	30	60	14.5	-	15
VBPSL/R/S38/P4/PA4/AC	3/8"			4:1	6.3:1,7.5:1	90	35	70	30	22	35
VBPSL/R/S12/P4/PA4/AC	1/2"			33	25	50					

**SINGLE PILOT OPERATED CHECK VALVES**

A convenient compact line mount pilot operated check valve in a steel body.



Part Number	Ports BSPP	Pilot Ratio	Load Hold Port	MWP bar	Dimensions mm	Nominal Flow L/min
					A	
VUPSL-14/P3	1/4"	3:1	U	400	95	20
VUPSL-38/P3	3/8"	3.2:1			105	35
VUPSL-12/P3	1/2"	2.8:1		350	115	50
VUPSL-34/P3	3/4"	3.1:1			135	100
VUPSL-100/P3	1"	3:1		300	170	150

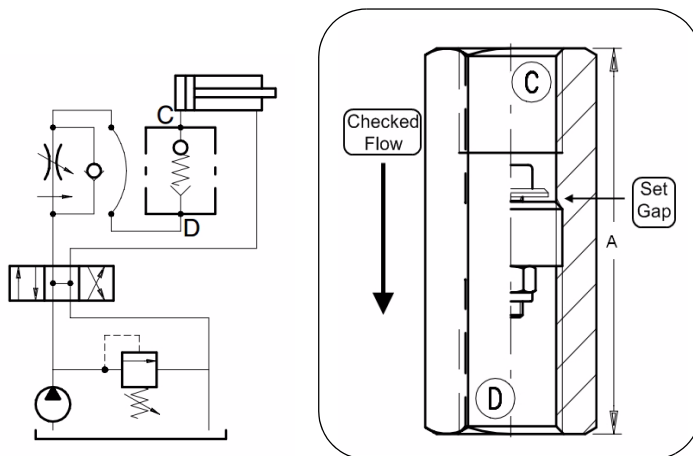


## HOSE BURST CHECK VALVES

Zinc Plated Steel Body

This valve is especially recommended for use as a safety device for cylinders against a possible hose break. Free flow is permitted from D to C while a limited flow is permitted in the opposite direction. If a hose break occurs the outlet flow from the cylinder exceeds the check valve setting and stops the flow, thus preventing further movement of the cylinder.

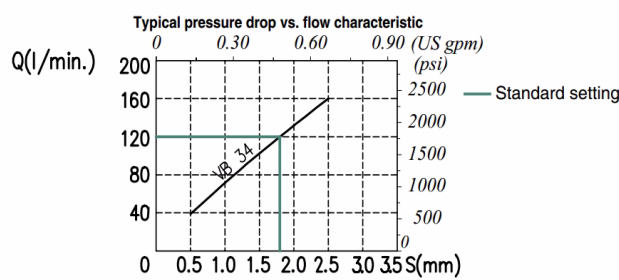
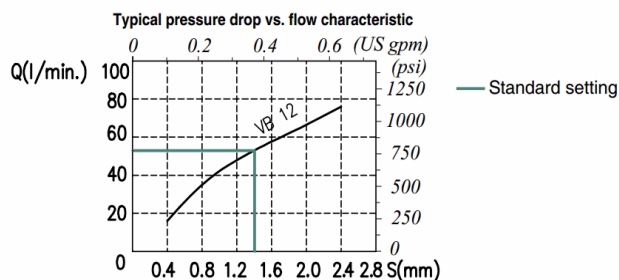
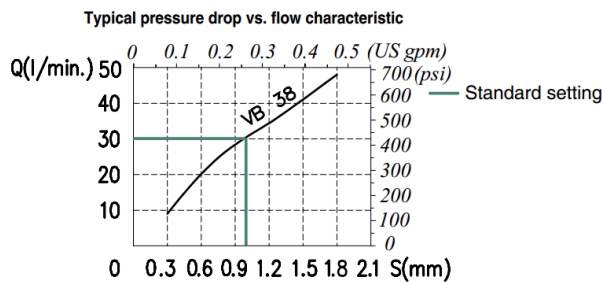
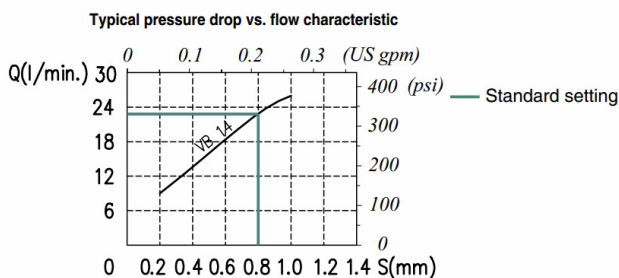
The valve gap must be set using feeler gauges to suit the closure flow rate. See the charts below. A flow restrictor, such as that depicted in the circuit diagram, must be installed on the down stream side preferably at the directional control valve. This will restrict the flow to within the operating flow parameters.



Part Number	Ports BSPP	Max. Pressure bar	Dimensions mm	Max. Flow L/min
			A	
VB/F-14	1/4"	350	48	25
VB/F-38	3/8"		52	50
VB/F-12	1/2"		60	80
VB/F-34	3/4"		72	150
VB/F-100	1"		88	223

### Gap Setting Charts

Set gap to suit closure flow rate required. This setting must be above the normal operating flow rate.

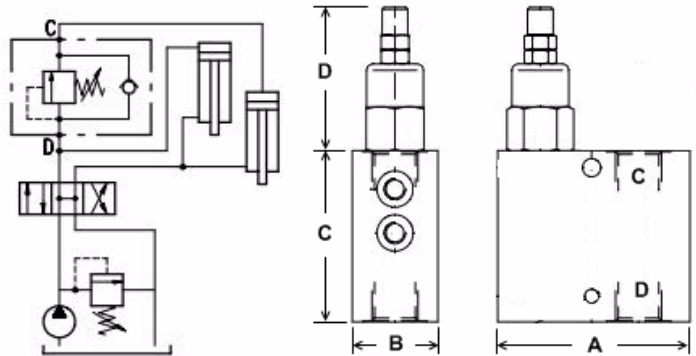


**SEQUENCE VALVES**

Aluminium body - Steel bodied units available on request - add suffix AC

These are a direct acting guided poppet type valve. It allows flow from D to C when the pressure in D achieves the spring setting. Should there be pressure in C then the opening pressure at D will be the same as the spring setting pressure plus the pressure in C. Flow from C to D is free via a check valve.

Spring Range Options	
Code	bar
TB	5-50
TV	20-80
TS	50-220
TR	100-350



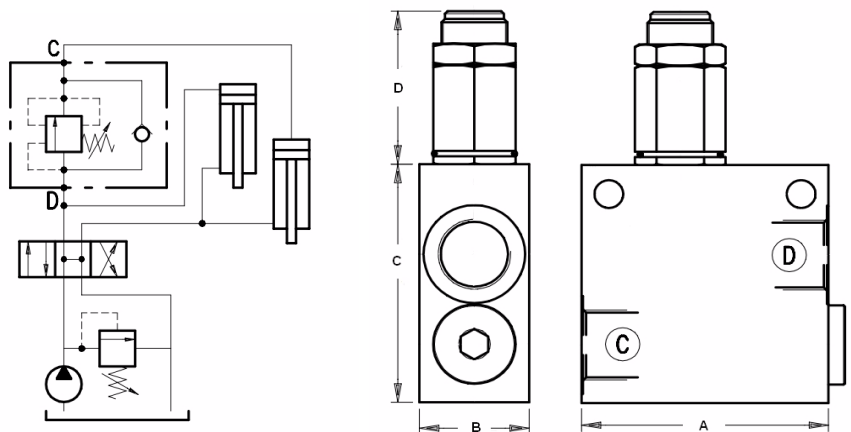
Part No. (with TS Spring option)	Ports BSPP	MWP bar Alum	MWP bar Steel	Spring Options				Dimensions mm				Nominal Flow L/min
				TB	TV	TS	TR	A	B	C	D	
VDSRL/03-14/TS.S	1/4"	210	350	5-50	-	20-220	180-400	65	30	70	53	10
VDSRL/05-38/TS.S	3/8"				80	35	60	25				
VDSRL/10-12/TS.S	1/2"			5-40	20-80	50-220	180-350	90	40	80	67	50
VDSRL/20-34/TS.S	3/4"			110	50	100	76.5	120				

**SEQUENCE VALVES**

Aluminium body - Steel bodied units available on request - add suffix AC

These are a differential piston type valve. It allows flow from D to C when the pressure in D achieves the spring setting. Back pressure in C has no effect on the opening pressure of D. Flow from C to D is free via a check valve.

Spring Range Options	
Code	bar
TV	20-100
TS	50-220
TR	100-350



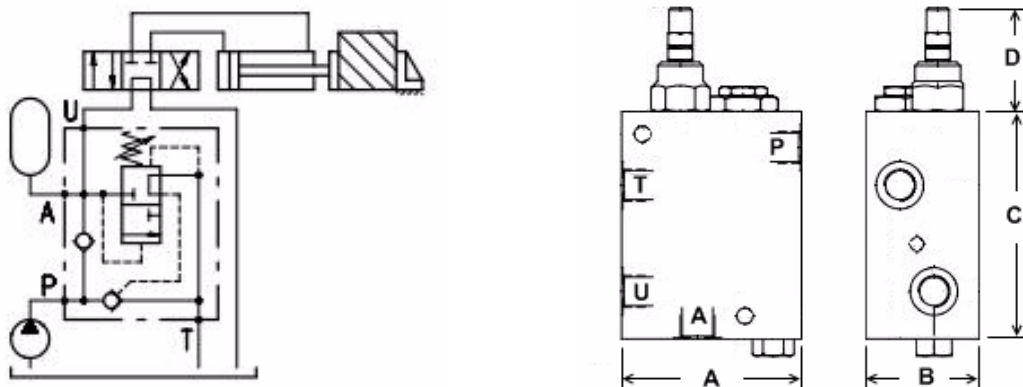
Part Number (with TS Spring option)	Ports BSPP	MWP bar Alum	MWP bar Steel	Spring Options			Dimensions mm				Nominal Flow L/min
				TV	TS	TR	A	B	C	D	
VDSB/B-38/TS.S	3/8"	210	350	20-100	50-220	100-350	60	30	74	59	30
VDSB/B-12/TS.S	1/2"						70	35	80	58	60
VDSB/B-34/TS.S	3/4"						90	40	90	120	
VDSB/B-100/TS.S	1"						60	126	51.5	200	

## ACCUMULATOR UNLOADING VALVES

### VDA Series

Aluminium body

This valve allows the pump to discharge to tank when the pressure setting is reached in U. The valve pressure is kept constant by an accumulator in A.



Part Number (with TR Spring option)	Ports BSPP	MWP bar	Spring Options		Dimensions mm				Nominal Flow L/min
			TV	TR	A	B	C	D	
VDA-38/TR.S.VRR	3/8"	250	5-110	100-250	95	60	120	56	25
VDA-12/TR.S.VRR	1/2"				108				50
VDA-34/TR.S.VRR	3/4"				120				100

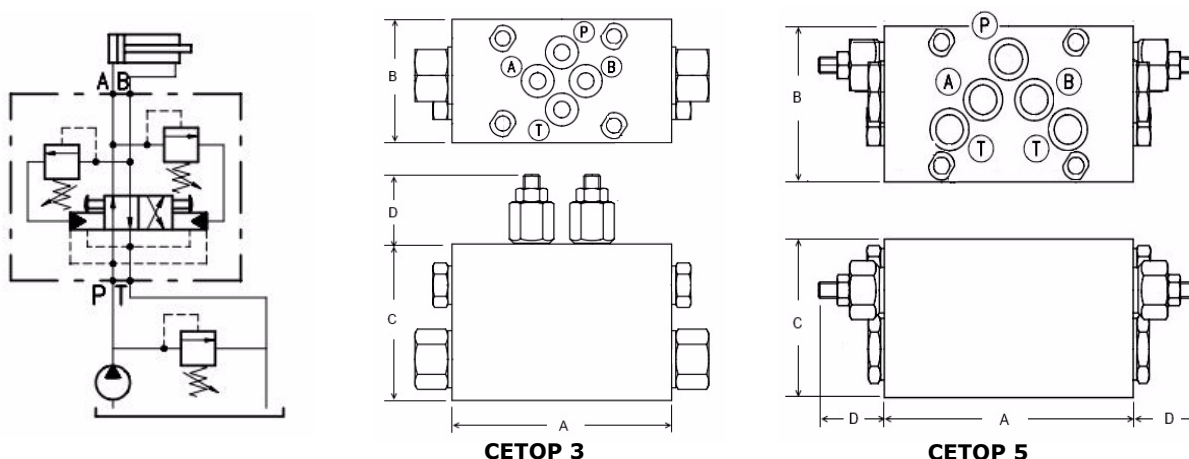
## AUTO-REVERSAL VALVES

### VIA/AP Series

Cetop 3 & 5 solenoid valve mount blocks

Cast iron body.

The oil flow is automatically reversed from 'P to A' to 'P to B' and vice versa when the setting value of the pilot relief valve is reached.



Part Number (with TS Spring option)	Cetop Mount	MWP bar	Spring Options		Dimensions mm				Nominal Flow L/min
			TV	TS	A	B	C	D	
VIA/AP/6-38/VMP01/TS	3	220	5-100	50-220	80	45	57	25	30
VIA/AP/10-12/VMP02/TS	5				100	46	59	30	60

**HIGH-LOW UNLOADING VALVES**

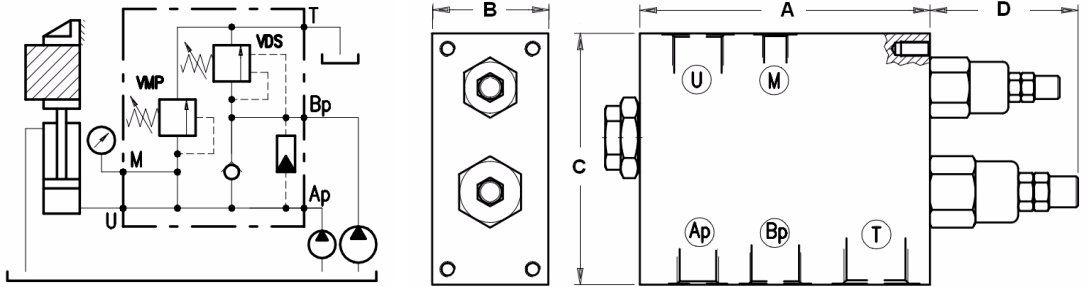
**VEP Series**

These valves are utilised in two pump systems to provide a HIGH-LOW (fast-slow) operation. Fast speed is obtained by utilising both pumps to feed the circuit up to the setting of the bypass valve (VDS on port BP). Slow speed is then available to feed the circuit up to the pressure setting of the master relief valve (VMP on port AP)

**NB:** Port AP uses spring options TS & TR, Port BP uses TB & TV

Aluminium body - Steel bodied units available on request - add suffix AC

Spring Range Options	
Code	bar
TB	5-40
TV	20-80
TS	50-220
TR	180-350



Part Number (with TS & TV Spring options)	Ports BSPP	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min		
				A	B	C	D	Ap	Bp	U
VEP-38/TR-TV.S	3/8"	250	350	98	40	78	60	10	25	30
VEP-12/TR-TV.S	1/2"			120	50	88	67	20	45	55
VEP-34/TR-TV.S	3/4"			150	60	114	76.5	30	80	100
VEP-100/TR-TV.S	1"			180	70	130	88.5	50	150	180
VEP-114/TR-TV.S	1-1/4"			200	80	160	88.5	80	200	250

**HIGH-LOW UNLOADING VALVES**

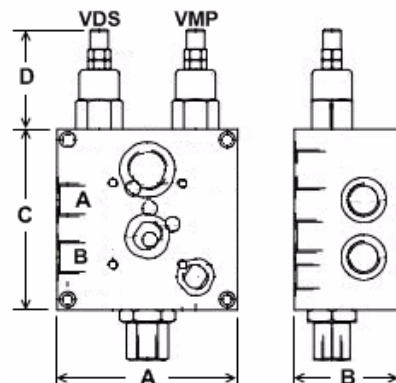
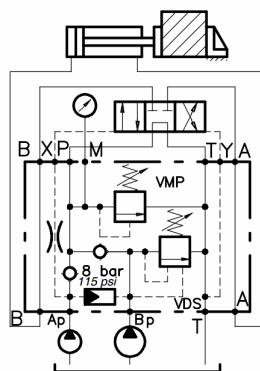
**VEP/FL Series**

Cetop 3/5/7 solenoid valve mount blocks

Aluminium body - Steel bodied units available on request - add suffix AC

These valves are utilised in two pump systems to provide a HIGH-LOW (fast-slow) operation. Fast speed is obtained by utilising both pumps to feed the circuit up to the setting of the bypass valve (VDS on port BP). Slow speed is then available to feed the circuit up to the pressure setting of the master relief valve (VMP on port AP). They are available as sandwich valves to suit CETOP 3/5/7 solenoid valves to make a compact assembly.

Spring Range Options	
Code	bar
TB	5-40
TV	20-80
TS	50-220
TR	180-350



Cetop 5  
Depicted

Part Number (with TS & TV Spring options)	Ports BSPP	Cetop Mount	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min		
					A	B	C	D	Ap	Bp	P
VEP/FL/6-38/TS-TV.S	3/8"	3	210	350	100	50	100	60	10	25	30
VEP/FL/10-12/TS-TV.S	1/2"	5			120	69	120	66	20	45	55

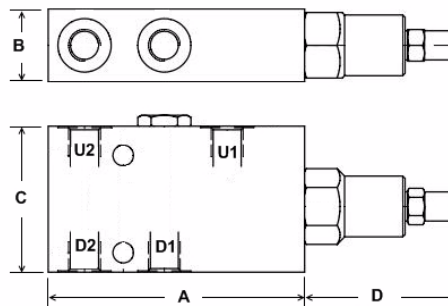
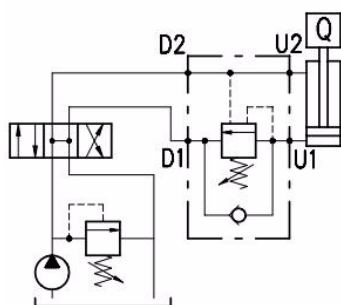
## SINGLE COUNTER-BALANCE VALVES

### VOSL/SC Series

Aluminium body - Steel bodied units available on request - add suffix AC

This valve controls a moving load preventing it from moving ahead of the pump and locks the load in any position on U1. It also provides static overload and thermal expansion protection when used in combination with an open centre spool valve. This valve permits free flow from D1 to U1 and blocks the flow from U1 to D1 until a pilot pressure generated at D2/U2 is sufficient to pilot the U1 port open.

Spring Range Options	
Code	bar
TS	5-210
TR	50-350



Part Number (with TR spring option)	Ports BSPP	Standard Pilot Ratio	Optional Pilot Ratios	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
						A	B	C	D	
VOSL/SC-38/TR.S.P4.PG	3/8"	4:1	3:1	210	350	106	30	60	62.5	40
VOSL/SC-12/TR.S.P7.PG	1/2"					116	35	70	63.5	75
VOSL/SC-34/TR.S.P7.PG	3/4"					136	40	90		120
VOSL/SC-100/TR.S.P7.P	1"					185	60	100		180

## SINGLE COUNTER-BALANCE VALVES

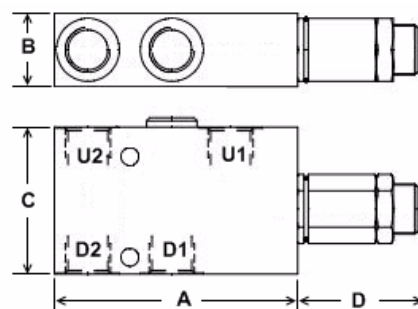
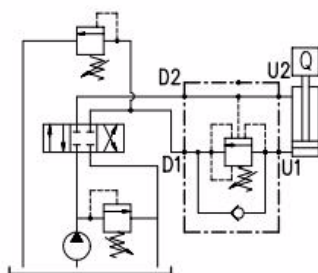
### VOSL/SC/CC Series

Aluminium body - Steel bodied units available on request - add suffix AC

This valve controls a moving load preventing it from moving ahead of the pump and locks the load in any position on U1. It permits free flow from D1 to U1 and blocks the flow from U1 to D1 until a pilot pressure generated at D2/U2 is sufficient to pilot the U1 port open.

It is utilised in combination with a closed centre spool valve. It is recommended to fit a port relief in this application.

Spring Range Options	
Code	bar
TS	5-210
TR	50-350



Part Number (with TR spring option)	Ports BSPP	Standard Pilot Ratio	Optional Pilot Ratios	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
						A	B	C	D	
VOSL/SC/CC-38/TR.S.P4	3/8"	4:1	3:1	210	350	106	30	60	52	40
VOSL/SC/CC-12/TR.S.P7	1/2"					116	35	70	60	75
VOSL/SC/CC-34/TR.S.P7	3/4"					136	40	90	60	120
VOSL/SC/CC-100/TR.SP7	1"					185	60	100	60	180



**DOUBLE COUNTER-BALANCE VALVES**

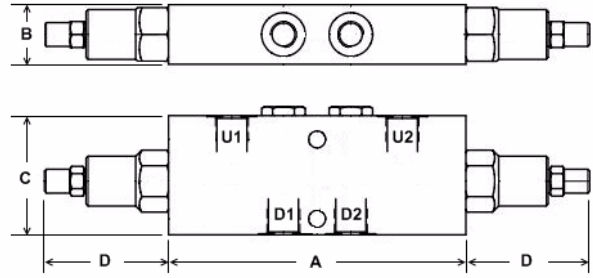
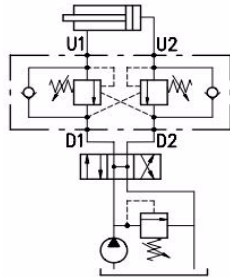
**VODL/SC Series**

Aluminium body - Steel bodied units available on request - add suffix AC

This valve controls a moving load in both directions preventing it from moving ahead of the pump and locks the load in any position on U1 and U2.

It also provides static overload and thermal expansion protection when used in combination with an open centre spool valve. This valve permits free flow from D1 to U1 & D2 to U2 and blocks the flow from U1 to D1 & U2 to D2 until a pilot pressure generated at D1 or D2 is sufficient to pilot the U1 or U2 port open.

Spring Range Options	
Code	bar
TS	5-210
TR	50-350



Part Number (with TR spring option)	Ports BSPP	Standard Pilot Ratio	Optional Pilot Ratios	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
						A	B	C	D	
VODL/SC-38/TR.S.P4	3/8"	4:1	3:1	210	350	150	30	60	62.5	40
VODL/SC-12/TR.S.P7	1/2"	7:1				156	35	70	63.5	75
VODL/SC-34/TR.S.P7	3/4"					186	40	70		120
VODL/SC-100/TR.S.P7	1"					232	60	100		180

**DOUBLE COUNTER-BALANCE VALVES**

**VODL/SC/CC Series**

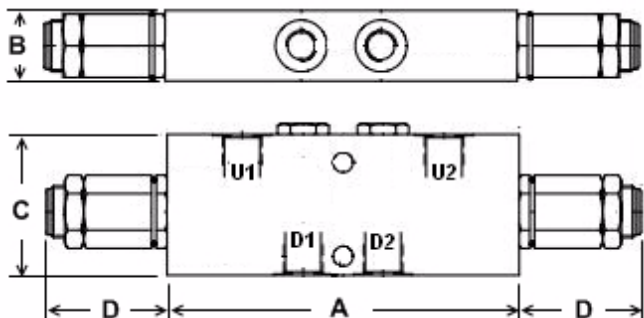
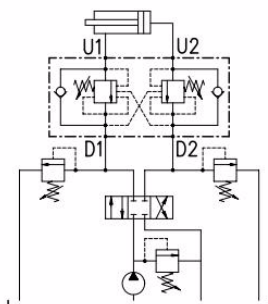
Aluminium body - Steel bodied units available on request - add suffix AC

This valve controls a moving load in both directions preventing it from moving ahead of the pump and locks the load in any position on U1 and U2.

This valve permits free flow from D1 to U1 & D2 to U2 and blocks the flow from U1 to D1 & U2 to D2 until a pilot pressure generated at D1 or D2 is sufficient to pilot the U1 or U2 port open.

It is utilised in combination with a closed centre spool valve. It is recommended to fit a port relief in this application.

Spring Range Options	
Code	bar
TS	5-210
TR	50-350



Part Number (with TR spring option)	Ports BSPP	Standard Pilot Ratio	Optional Pilot Ratios	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
						A	B	C	D	
VODL/SC/CC-38/TR.S.P4	3/8"	4:1	3:1	210	350	150	30	60	52	40
VODL/SC/CC-12/TR.S.P7	1/2"	7:1				156	35	70	60	75
VODL/SC/CC-34/TR.S.P7	3/4"					186	40	70		120
VODL/SC/CC-100/TR.SP7	1"					232	60	100		180

## SINGLE COUNTER-BALANCE VALVES

### VOSL/N1116 Series

### VOSL/R1116 Series

### VOSL/V1116 Series

Steel body

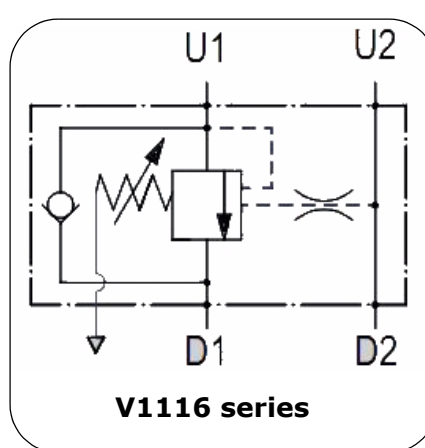
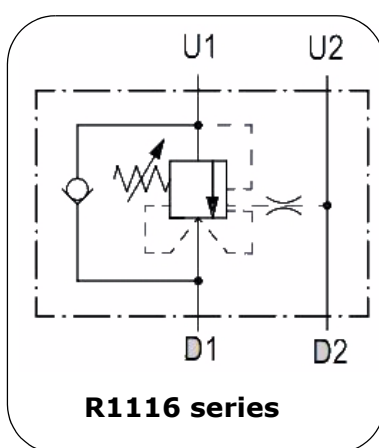
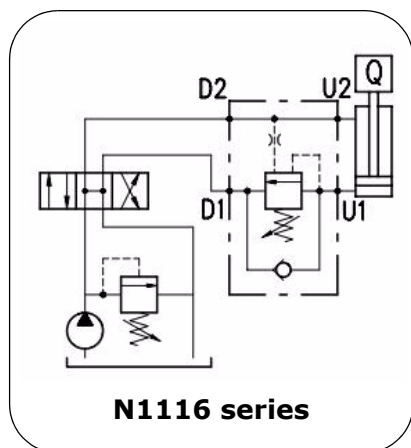
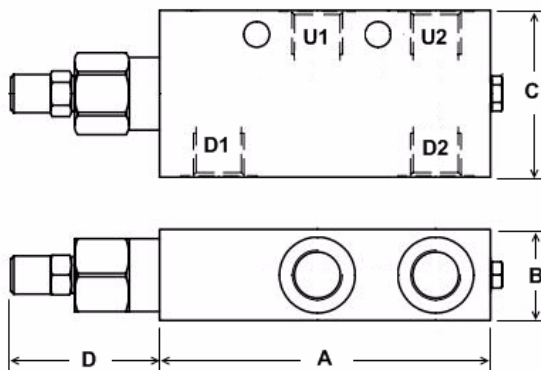
The 1116 series is built with zinc plated steel bodies to ensure a high level of strength and durability. These valves can reach a working pressure of 400 bar.

**N1116 series** - This valve controls a moving load preventing it from moving ahead of the pump and locks the load in any position on U1. It also provides static overload and thermal expansion protection when used in combination with an open centre spool valve. It permits free flow from D1 to U1 and blocks the flow from U1 to D1 until a pilot pressure generated at D2/U2 is sufficient to pilot the U1 port open. This model is sensitive to back pressure on D1 in return mode.

**R1116 series** - As per N1116 but is insensitive to back pressure on D1 in return mode.

**V1116 series** - As per N1116 but has the spring chamber isolated from any system back pressure by a seal and is vented to the atmosphere. It is ideal for use with closed centre spools.

Spring Range Options	
Code	bar
G3	5-210
G5	50-350



Part Number (with G5 spring option)	Ports BSPP	Pilot Ratio	MWP bar Steel	Dimensions mm				Nominal Flow L/min
				A	B	C	D	
VOSL/N1116-38/G5.P4AC	3/8"	4:1	400	109	30	55	43.3	40
VOSL/N1116-12/G5.P4AC	1/2"				35	65	43.3	60
VOSL/R1116-38/G5.P4AC	3/8"				30	55	51.9	40
VOSL/R1116-12/G5.P4AC	1/2"				35	65	51.9	60
VOSL/V1116-38/G5.P4AC	3/8"				30	55	50	40
VOSL/V1116-12/G5.P4AC	1/2"				35	65	50	60

**DOUBLE COUNTER-BALANCE VALVES**

**VODL/N1116 Series**

**VODL/R1116 Series**

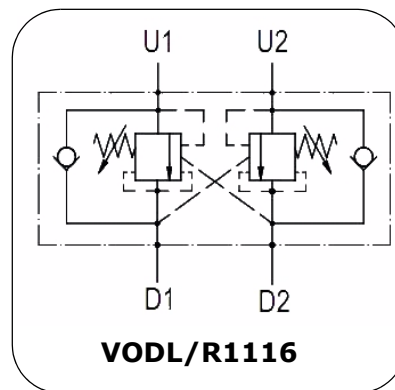
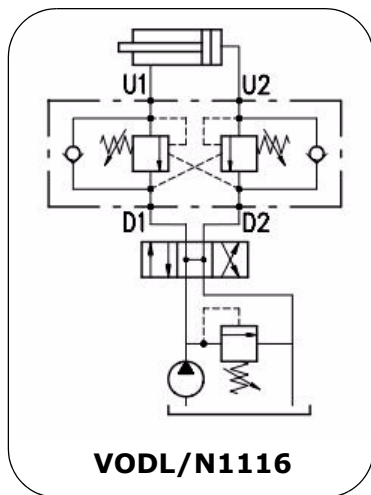
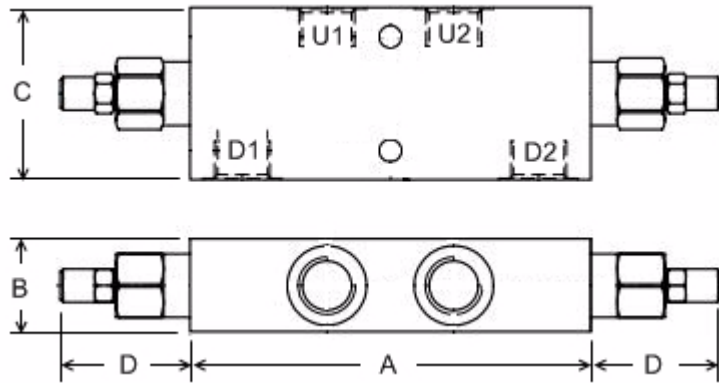
Steel body

The 1116 series is built with zinc plated steel bodies to ensure a top level of strength and durability, these valves can reach a work pressure of 400 bar

**N1116 series** - This valve controls a moving load preventing it from moving ahead of the pump and locks the load in any position on U1 and U2. It also provides static overload and thermal expansion protection when used in combination with an open centre spool valve. It permits free flow from D1 to U1 and D2 to U2 and blocks the flow from U1 to D1 and U2 to D2 until a pilot pressure generated at D1 or D2 is sufficient to pilot the U1 or U2 port open. This model is sensitive to back pressure on D1 and D2 in return mode.

**R1116 series** - As per N1116 but is insensitive to back pressure on D1 or D2 in return mode.

Spring Range Options	
Code	bar
G3	5-210
G5	50-350



Part Number (with G5 spring option)	Ports BSPP	Pilot Ratio	MWP bar Steel	Dimensions mm				Nominal Flow L/min
				A	B	C	D	
VODL/N1116-38/G5.P4AC	3/8"	4:1	400	150	30	55	41.3	40
VODL/N1116-12/G5.P4AC	1/2"				35	65		60
VODL/R1116-38/G5.P4AC	3/8"				30	55	51.9	40
VODL/R1116-12/G5.P4AC	1/2"				35	65		60

## SINGLE COUNTER-BALANCE VALVES c/w SIGNAL RESTRICTOR

### VOSL/N1516 Series VOSL/V1516 Series

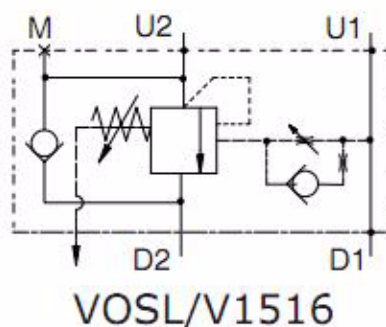
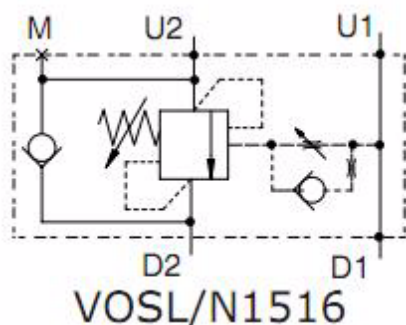
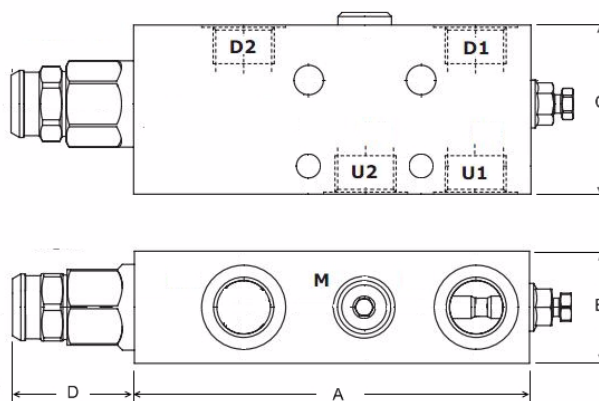
Steel body

The 1516 series is built with zinc plated steel bodies to ensure a top level of strength and durability, these valves can reach a work pressure of 400 bar. All valves in the range are equipped with pilot signal restrictors to ensure smooth and safe operation in every load handling application

**N1516 series** - This valve controls a moving load preventing it from moving ahead of the pump and locks the load in any position on U1. It also provides static overload and thermal expansion protection when used in combination with an open centre spool valve. It permits free flow from D2 to U2 and blocks the flow from U2 to D2 until a pilot pressure generated at D1/U1 is sufficient to pilot the U2 port open. This model is sensitive to back pressure on D2 in return mode.

**V1516 series** - As per N1516 but has the spring chamber isolated from system back pressure by a seal and vented to atmosphere. Ideal for use with closed centre spools

Spring Range Options	
Code	bar
G3	5-210
G5	50-350



Part Number (with G5 spring option)	Ports BSPP	Pilot Ratio	MWP bar Steel	Dimensions mm				Nominal Flow L/min
				A	B	C	D	
VOSL/N1516-12/G5.P4AC	1/2"	4:1	400	141	40	60	43.5	150
VOSL/N1516-34/G5.P4AC	3/4"			147		80		
VOSL/V1516-12/G5.P4AC	1/2"			141		60		
VOSL/V1516-34/G5.P4AC	3/4"			147		80		

**DOUBLE COUNTER-BALANCE VALVES c/w SIGNAL RESTRICTOR**

**VODL/N1516 Series**  
**VODL/V1516 Series**

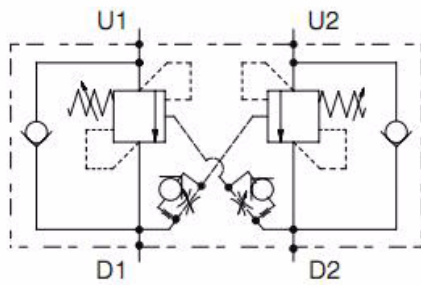
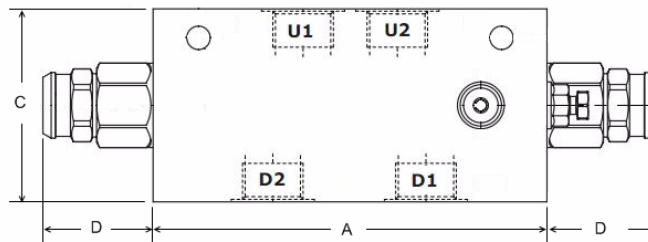
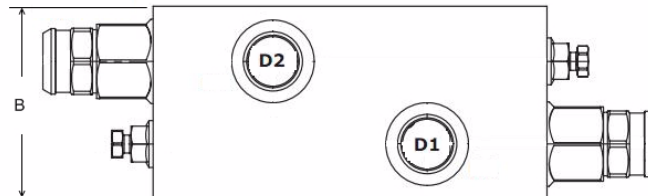
Steel body

The 1516 series is built with zinc plated steel bodies to ensure a top level of strength and durability, these valves can reach a work pressure of 400 bar. All valves in the range are equipped with pilot signal restrictors to ensure smooth and safe operation in every load handling application

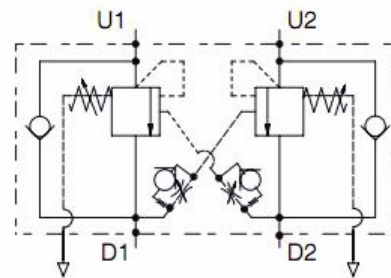
**N1516 series** - This valve controls a moving load preventing it from moving ahead of the pump and locks the load in any position on U1 and U2. It also provides static overload and thermal expansion protection when used in combination with an open centre spool valve. It permits free flow from D1 to U1 and D2 to U2 and blocks the flow from U1 to D1 and U2 to D2 until a pilot pressure generated at D1 or D2 is sufficient to pilot the U1 or U2 port open.

This model is sensitive to back pressure on D1 and D2 in return mode.

**V1516 series** - As per N1516 but is insensitive to back pressure on D1 or D2 in return mode.



VODL/N1516/CS



VODL/V1516/CS

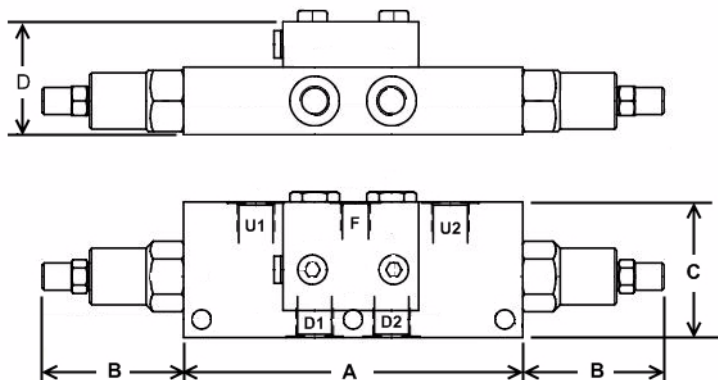
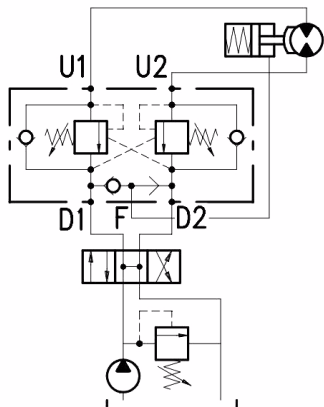
Part Number (with G5 spring option)	Ports BSPP	Pilot Ratio	MWP bar Steel	Dimensions mm				Nominal Flow L/min
				A	B	C	D	
VODL/N1516/CS-12/G5P4	1/2"	4:1	400	141	40	60	43.5	160
VODL/N1516/CS-34/G5P4	3/4"					80		
VODL/V1516/CS-12/G5P4	1/2"			135	70	70		
VODL/V1516/CS-34/G5P4	3/4"							



## DOUBLE COUNTER-BALANCE VALVES + BRAKE SHUTTLE

### VODL/SC/A Series

Aluminium body - Steel bodied units available on request - add suffix AC



Spring Range Options	
Code	bar
TS	5-210
TR	50-350

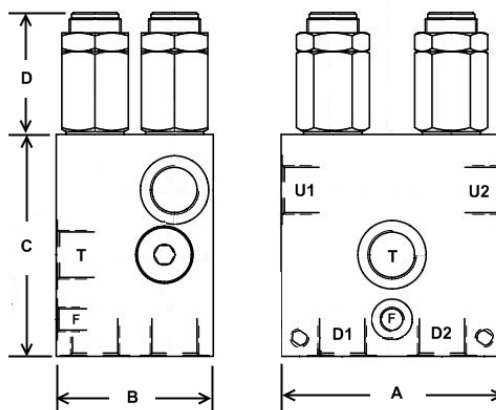
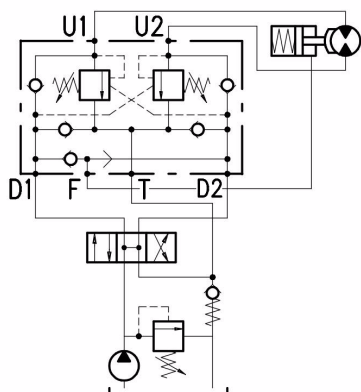
Part Number (with TR spring option)	Ports BSPP	Pilot Ratio	MWP bar		Dimensions mm				Nominal Flow L/min
			Alum.	Steel	A	B	C	D	
VODL/SC/A-38/TR.S.P4	3/8"	4:1	210	350	150	62.5	60	50	40
VODL/SC/A-12/TR.S.P7	1/2"	7:1			156	63.5	70	55	75
VODL/SC/A-34/TR.S.P7	3/4"	7:1			186	63.5	90	59	120
VODL/SC/A-100/TR.S.P7	1"	7:1			232	63.5	100	79	180

## MOTION CONTROL & ANTI CAVITATION + BRAKE SHUTTLE

Aluminium body - Steel bodied units available on request - add suffix AC

These valves provide double counter-balance, anti-shock, anti-cavitation and a brake shuttle in the one block

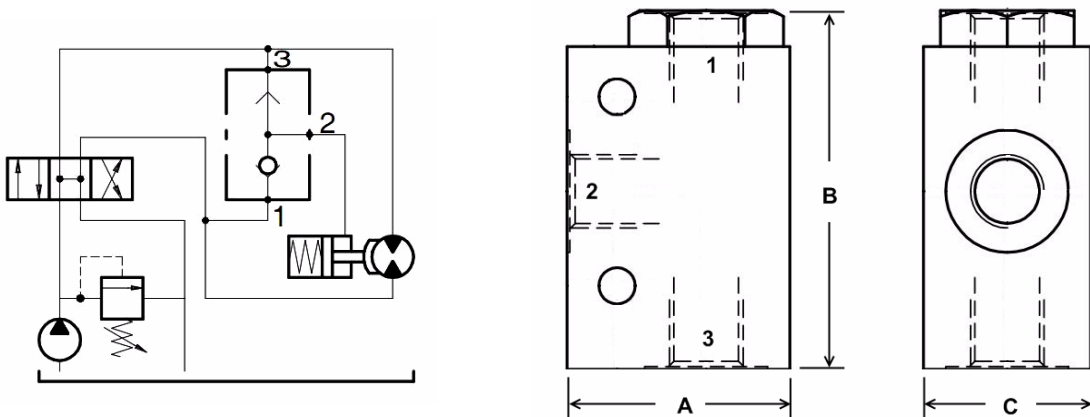
Spring Range Options	
Code	bar
TS	5-210
TR	50-350



Part Number (with TR spring option)	Ports BSPP	Standard Pilot Ratio	Optional Pilot Ratios	MWP bar Alum	MWP bar Steel	Dimensions mm				Nominal Flow L/min
						A	B	C	D	
VABAL/SF-38/TR.S.P3	3/8"	3:1	4:1	210	350	90	60	100	54.8	35
VABAL/SF-12/TR.S.P3	1/2"		7:1			100	70		50.2	70
VABAL/SF-34/TR.S.P3	3/4"		7:1			120	85	120	60.0	100
VABAL/SF100/TR.S.P3PG	1"					160	110	160	64.7	180

**SHUTTLE VALVES**

Steel body

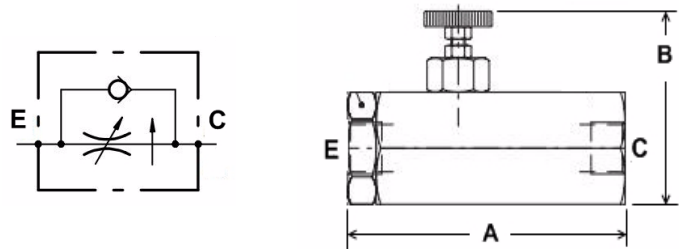


Part Number	Ports BSPP	MWP bar Steel	Dimensions mm			Nominal Flow L/min
			A	B	C	
VT-14	1/4"	350	40	64.5	30	20
VT-38	3/8"		50	76.5	35	35
VT-12	1/2"		60	88	42	50
VT-34	3/4"		68	98.5	50	100
VT-100	1"		82	110	60	150

### FLOW REGULATOR

Pressure compensated 2 port inline with reverse free flow check valve

Steel body with aluminium knob



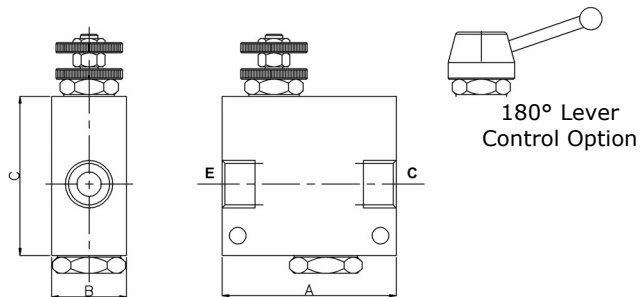
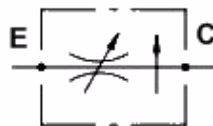
Part Number	E, R, C Ports BSPP	Max. Pressure bar	Dimensions mm		Nominal Flow L/min
			A	B	Port E
VPR/2/RL/EX-14/V	1/4"	210	83	62.5	12
VPR/2/RL/EX-38/V	3/8"		98	66	32
VPR/2/RL/EX-12/V	1/2"		123	88	45

### FLOW REGULATOR

Pressure compensated 2 port inline

Aluminium body

Steel bodied units available on request - add suffix AC

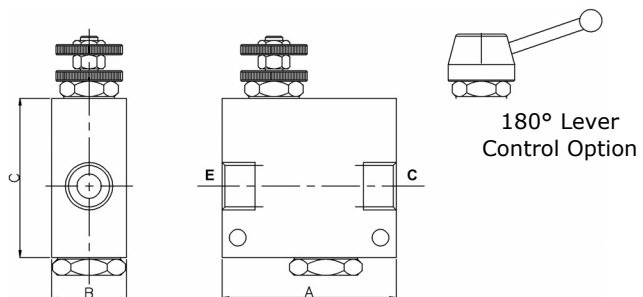
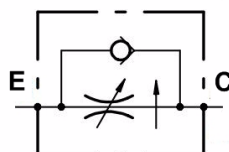


Part Number (Aluminium Body)	Ports BSPP	MWP bar Alum	MWP bar Steel	Dimensions mm			Nominal Flow L/min
				A	B	C	Port E
VPR/2/U-38/V(L)	3/8"	210	350	80	40	96	20
VPR/2/U-12/V(L)	1/2"						32
VPR/2/U-34/V(L)	3/4"			75			
VPR/2/U-100/V(L)	1"			90			

### FLOW REGULATOR

Pressure compensated 2 port inline with reverse free flow check valve

Aluminium body - Steel bodied units available on request - add suffix AC

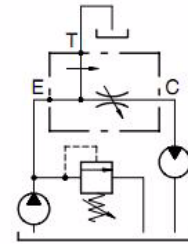
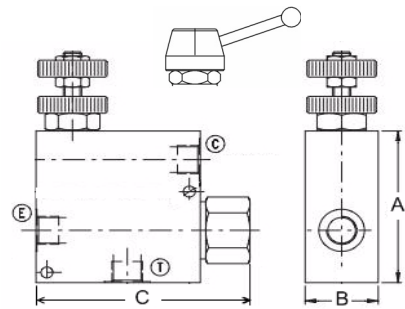


Part Number (Aluminium Body)	Ports BSPP	MWP bar Alum.	MWP bar Steel	Dimensions mm			Nominal Flow L/min
				A	B	C	Port E
VPR/2/RL-38/V(L)	3/8"	210	350	95	40	97	20
VPR/2/RL-12/V(L)	1/2"						32
VPR/2/RL-34/V(L)	3/4"			75			
VPR/2/RL-100/V(L)	1"			90			

## FLOW REGULATOR

### VPR/3/ET Series

Three port pressure compensated valve, excess flow port must go to tank  
 Aluminium body maximum pressure = 210 bar  
 Steel body maximum pressure = 350 bar (add suffix AC)  
 E Port = Inlet  
 C Port = Controlled flow  
 T Port = Excess flow port must go to tank

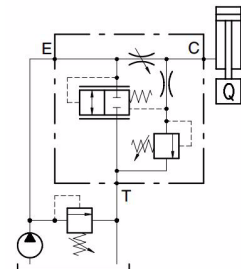
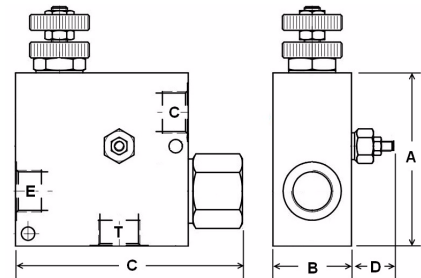


Part Number (Aluminium Body)	Ports BSPP	Dimensions mm			Maximum Flow L/min	
		A	B	C	Port E	Port C
VPR/3/ET-38/V(L)	3/8"	90	40	117.2	50	30
VPR/3/ET-12/V(L)	1/2"			117.2	90	50
VPR/3/ET-34/V(L)	3/4"	110	50	144.5	150	90
VPR/3/ET-100/V(L)	1"	140	75	155	240	150
VPR/3/ET-114/V(L)	1-1/4"	165		155	350	250

## FLOW REGULATOR + RELIEF VALVE

### VPR/3/ET/VMP Series

Three port pressure compensated valve, excess flow port must go to tank  
 Aluminium body maximum pressure = 210 bar  
 Steel body maximum pressure = 350 bar (add suffix AC)  
 E Port = Inlet  
 C Port = Controlled flow  
 T Port = Excess flow port must go to tank

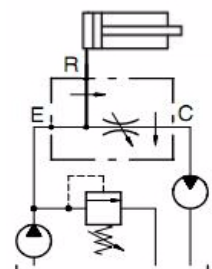
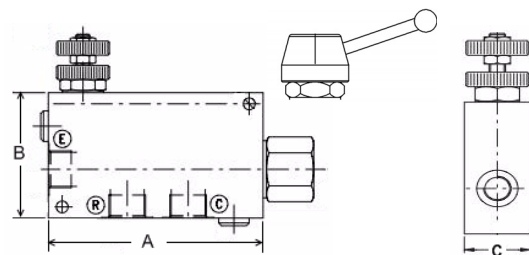


Part Number (Aluminium Body)	Ports BSPP	Dimensions mm				Maximum Flow L/min	
		A	B	C	D	Port E	Port C
VPR/3/ET/VMP-38/V(L)-TS	3/8"	90	40	117.2	25	50	30
VPR/3/ET/VMP-12/V(L)-TS	1/2"					90	50
VPR/3/ET/VMP-34/V(L)-TS	3/4"	110	50	144.5		150	90
VPR/3/ET/VMP-100/V(L)-TS	1"	140	70	155		240	150

## FLOW REGULATOR

### VPR/3/EP Series

Three port double pressure compensated valve, designed to supply two circuits with a single Pump.  
 Aluminium body maximum pressure = 210 bar  
 Steel body maximum pressure - 350 bar (add suffix AC)  
 E Port = Inlet  
 C Port = Controlled flow  
 R Port = Excess flow (can be used to power a second circuit)

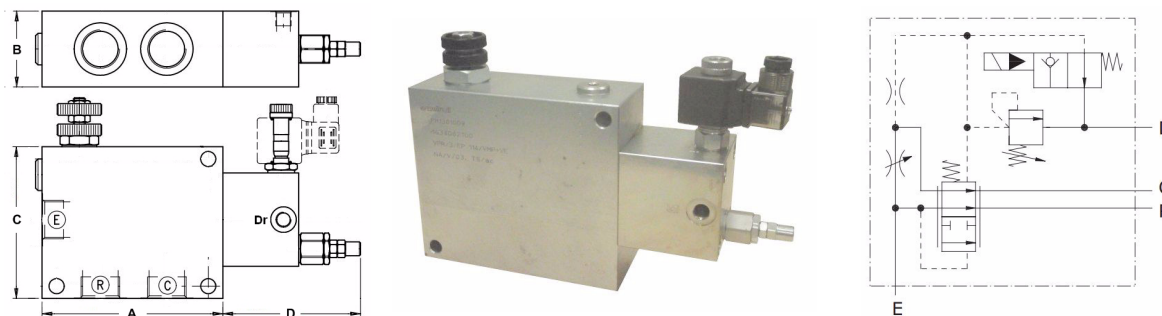


Part Number (Aluminium Body)	Ports BSPP	Dimensions mm			Maximum Flow L/min	
		A	B	C	Port E	Port C
VPR/3/EP-38/V(L)	3/8"	130	70	40	50	30
VPR/3/EP-12/V(L)	1/2"				90	50
VPR/3/EP-34/V(L)	3/4"	155	90	50	150	90
VPR/3/EP-100/V(L)	1"				130	65
VPR/3/EP-114/V(L)	1-1/4"	184	160	75	450	250
VPR/3/EP-38/V/AC	3/8"	130	70	40	50	30
VPR/3/EP-12/V/AC	1/2"				90	50
VPR/3/EP-34/V/AC	3/4"	155	90	50	150	90
VPR/3/EP-100/V/AC	1"				130	65
VPR/3/EP-114/V/AC	1-1/4"	184	160	75	450	250

## FLOW REGULATOR - HAMMER VALVES

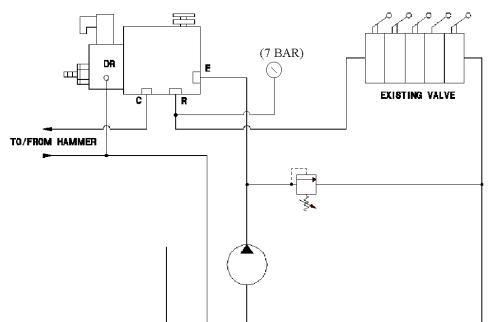
Steel body

A three port pressure compensated flow control valve in a steel body suitable for hydraulic rock breaker and hammer valve applications. It is controllable on/off via a solenoid valve. Inlet flow via E port is totally available to R port until the solenoid valve is energised at which time flow is available to the C port at the control flow setting. The excess flow remains available to the R port. A built-in relief valve protects the C port from overpressure. Available in 12VDC or 24VDC.



**NB: A minimum back pressure of 7 bar is required on port R to ensure spool shift.**  
If normal system back pressure does not fulfill this requirement then a check valve having sufficient spring value to raise the pressure to 7 bar at port R must be included.

Part Number	Ports BSPP	MWP bar Steel	Max Flow L/min.		Dimensions mm			
			Port E	Port C	A	B	C	D
VPR/3/EP-38VMP+VE/NA	3/8"	350	50	30	130	40	70	118.5
VPR/3/EP-12VMP+VE/NA	1/2"		90	50				
VPR/3/EP-34VMP+VE/NA	3/4"		150	90	155	65	130	118
VPR/3/EP-100VMP+VE/NA	1"		240	150				
VPR/3/EP-114VMP+VE/NA	1-1/4"		450	250	184	75	160	133



**NB: Each unit requires the addition of a coil and coil connector.**

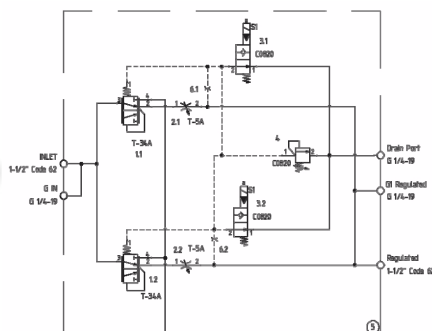
Part Number	Description
4SLE001200A	12 Volt Coil
4SLE002400A	24 Volt Coil
SP-KA-DC	Coil Connector

C Port Relief Spring Range		
Code	bar	Availability
TS	50-220	Standard
TR	180-350	On Request

## HIGH FLOW REGULATOR - HAMMER VALVES

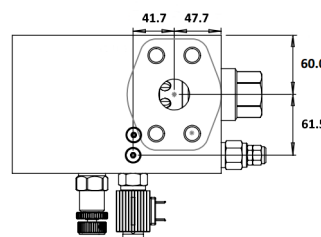
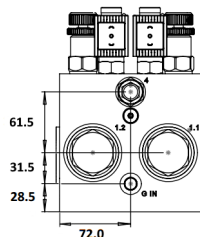
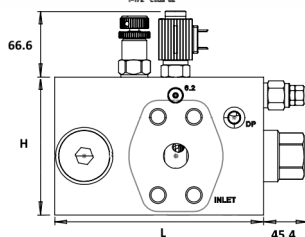
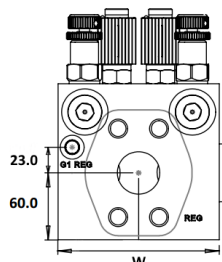
Steel body

As above, but with a high flow rate of up to 900L/min.



Part Number	MWP bar Steel	Dimensions mm			Ports	Flow L/min	
		L	W	H		Inlet	Reg
SVPR/3/EP-112RV+EM-NO	350	202	144	140	1.5" SAE C62	900	500

Part Number	Description
60186-12DG	12 Volt Coil
60186-24DG	24 Volt Coil
SP-KA-DC	Coil Connector

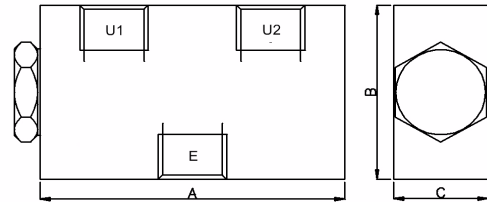




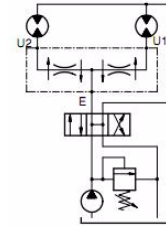
**FLOW DIVIDER**

**VDFR Series**

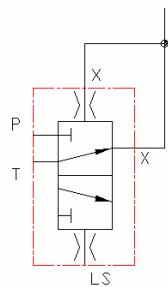
Three port pressure compensated flow divider valve, designed to split the flow 50/50 to two circuits from a single pump.  
Aluminium body maximum pressure = 210 bar  
Steel body maximum pressure = 350 bar (add suffix AC)  
Other split ratios are available on request



Aluminium Body Part Number	Steel Body Part Number	Ports BSPP		Dimensions mm			Flow Range L/min	
		in	out	A	B	C	min	max
VDFR-38/12	VDFR-38/12/AC	3/8"	3/8"	100	60	40	4	12
VDFR-38/24	VDFR-38/24/AC						12	24
VDFR-12/40	VDFR-12/40/AC						24	40
VDFR-34/90	VDFR-34/90/AC	3/4"	1/2"	140	80	50	40	90
VDFR-100/150	VDFR-100/150/AC	1"	3/4"				90	150
-	VDFR-114/250/AC	1-1/4"	1"				100	60



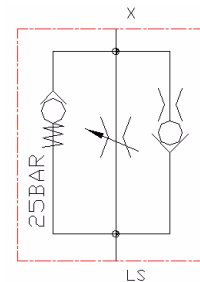
**LOAD SENSE SIGNAL CONDITIONERS**



**LOAD SENSE SIGNAL AMPLIFIER**

Part No.: 634503000

This load sense signal amplifier is used in those applications where the load sense signal must travel over a long distance. The signal amplifier uses the pump flow to direct the load sense signal back to the pump. When using this device we recommend you also use the signal stabiliser.



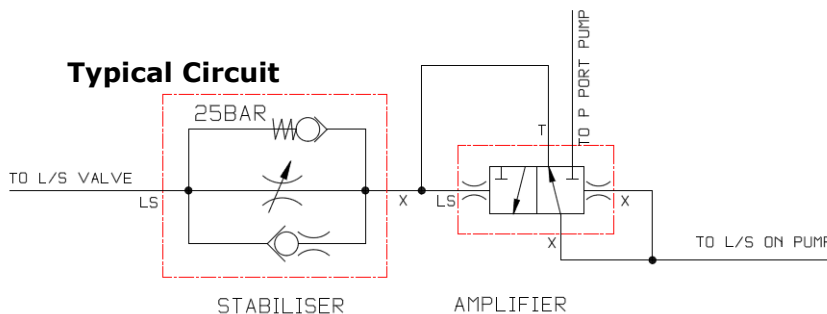
**LOAD SENSE SIGNAL STABILISER**

Part No.: 634503001

The load sense signal stabiliser is used to stabilise a load sense signal which may be reacting with the pump to create a surging situation in the system.

Part Number	Port	Max. Press.	Description
634503000	1/8" BSPP	315 bar	Signal Amplifier
634503001	1/4" BSPP		Signal Stabiliser

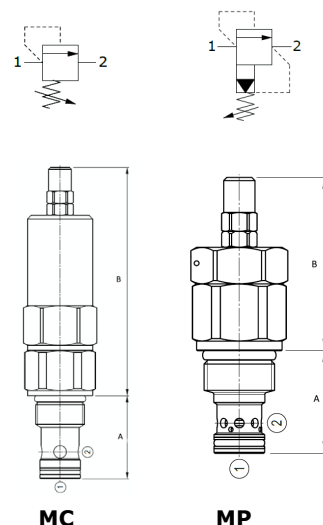
**Typical Circuit**



## Pressure Relief Line Mount Valve - MC Series

Part Number	Flow L/min	Max Pressure bar	Operating Type	Dimensions mm		Cavity	Pressure Set Range bar
				A	B		
MC08A/0S*B	10	350	Direct	28.0	53.5	0820	* = 1: 5-50 * = 2: 50-200 * = 3: 150-350
MC10A/0S*B	40			32.2	94.5	1020	
MC12A/0S*B	100			46.0	126.5	1220A	
MC08R/0Y*B (supersedes MC08D/0W*B)	25	350	Direct	34.0	46.6	0820A	* = 1: 10-100 * = 2: 40-200 * = 3: 200-350
MP10A/0S*B	60	350	Pilot	32.3	54.5	1020	* = 1: 10-50 * = 2: 50-220 * = 3: 150-350
MP12A/0S*B	100			46.0	52.5	1220A	
MP16A/0S*B	180			45.2	53.0	1620	

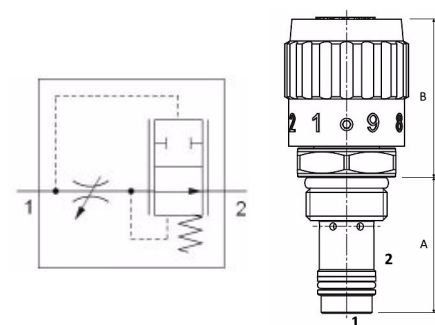
NB: Special body required for Cavity A version



## 2-Port PC Flow Control Line Mount Valves - PU..A Series

Part Number		Flow L/min	Max Pressure bar	Dimensions mm		Cavity
Screw	Knob			A	B	
PU08A/AS0B	PU08A/AM0B	15	350	33.6	48.5	0820A
PU10A/AS0B	PU10A/AM0B	30		37.5	43.0	1020A
PU12A/AS0B	PU12A/AM0B	50		58.5	44.0	1220A
PU16A/AS0B	PU16A/AM0B	90		68.0	52.0	1620A

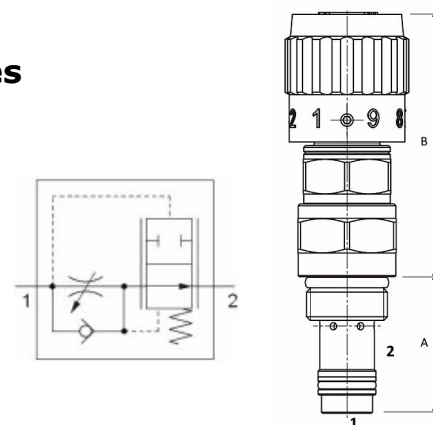
NB: Pressure drop from 1 to 2 = 12 bar. Special body required for Cavity A version



## 2-Port PC Flow Control With Free Reverse - PW..A Series

Part Number		Flow L/min	Max Pressure bar	Dimensions mm		Cavity
Screw	Knob			A	B	
PW08A/AS1B	PW08A/AM1B	15	350	36.6	64.5	0820A
PW10A/AS1B	PW10A/AM1B	30		37.5	71.9	1020A
PW12A/AS1B	PW12A/AM1B	50		58.5	64.5	1220A
PW16A/AS1B	PW16A/AM1B	90		68.0	86.0	1620A

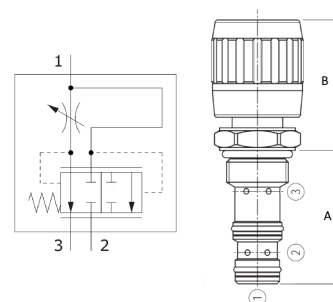
NB: Pressure drop from 1 to 2 = 12 bar. Special body required for Cavity A version



## 3-Port PC Flow Control Line Mount Valves - PP..A Series

Part Number		Flow L/min		Max Pressure bar	Dimensions mm		Cavity
Screw	Knob	Inlet Port 1	Control Port 3		A	B	
PP08A/AS0B	PP08A/AM0B	20	15	350	41.1	49.5	0830
PP10A/AS0B	PP10A/AM0B	50	30		47.2	44.0	1030
PP12A/AS0B	PP12A/AM0B	90	50		73.5	45.0	1230
PP16A/AS0B	PP16A/AM0B	150	90		75.0	52.0	1630

NB: Pressure drop from 1 to 2 = 12 bar.



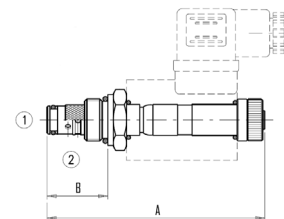
## 2-Way Solenoid Valve - Pilot Operated Poppet Type

Code 10: Normally Open (NA) Code 20: Normally Closed (NC) B: Buna Seals

Configuration	Part Number	Flow L/min	Max Press. bar	Dimensions mm		Cavity	Features
				A	B		
	<b>EC08A/10*B</b>	20	210	86.4	27.5	0820	* = N: No manual override * = P: Button * = T: Screw
	<b>EC08B/10*B</b>	40	350	98.5	27.5	0820	* = N: No manual override * = P: Button * = T: Screw
	<b>EC08B/20*B</b>						
	<b>EC16M/10*B</b>	150	380	107.2	46.0	1620	
	<b>EC08M/10*B</b>	40	380	95.2	28	0820	* = N: No manual override * = D: Push type
	<b>EC08M/20*B</b>						
	<b>EF08M/10*B</b>	40	380	95.2	28	0820	* = N: No manual override * = D: Push type
	<b>EF08M/20*B</b>						
	<b>EW08A/10*B</b>	10	210	94.2	28.5	0820	* = N: No manual override * = P: Button * = T: Screw
	<b>EW08A/20*B</b>						

Coils				
Voltage	EC...A	EC...B / EW...A	EC...M	EF...M
12VDC	4SL1000120A	4SL3000120	4SLE001200A	4SLE001200A
24VDC	4SL1000240A	4SL3000240	4SLE002400A	4SLE002400A
110VAC	4SL1031100*	4SL3031100*	4SLE311000*	4SLE311000*
220VAC	4SL1032200*	4SL3032200*	4SLE322000*	4SLE322000*

\*NB: AC coils must be used with rectified connector  
110V: 4CN1011100, 220V: 4CN1012200 (EC...B - 110V: 4CN3011100, 220V: 4CN3012200)

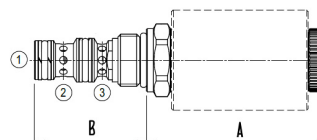


## 3-Way Solenoid Valve - Pilot Operated Type

B: Buna Seals

Configuration	Part Number	Flow L/min	Max Press. bar	Dimensions mm		Cavity	Features
				A	B		
	<b>EJ08F/20*B</b>	12	50	65.7	41.1	0830	* = N: No manual override
	<b>EJ08G/20*B</b>	3	350				
	<b>EJ08M/10*B</b>	25	250	56.4	41.1	0830	* = N: No manual override * = Q: Pull button with safety lock
	<b>EJ08M/50*B</b>	3	350	56.1	41.1	0830	* = N: No manual override * = Q: Pull button with safety lock

Coils		
Voltage	EJ...G / EJ..F	EJ...M
12VDC	4SL3000120	4SLE001200A
24VDC	4SL3000240	4SLE002400A
110VAC	4SL3031100*	4SLE311000A*
220VAC	4SL3032200*	4SLE322000A*



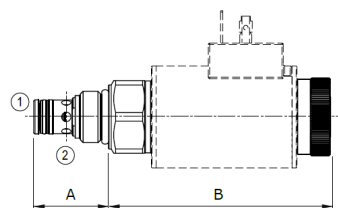
\*NB: AC coils must be used with rectified connector 110V: 4CN1011100, 220V: 4CN1012200 (EJ...G - 110V: 4CN3011100, 220V: 4CN3012200)

## 2-Way/2-Position Proportional Flow Control - Poppet Type

Pilot Operated, Normally Closed, 2-Way Not Compensated

Configuration	Part Number	Flow L/min		Max Pressure bar	Dimensions mm		Cavity	Features
		Press. Drop 5 bar	Press. Drop 10 bar		A	B		
	EC08T/A0*B	25	35	350	28.0	83.0	0820	* = N: No emergency * = T: Screw type emergency * = Q: "Push & Twist" emergency
	EC10T/A0*B	35	50		32.4	83.0	1020	
	EC12T/A0*B	50	70		45.0	82.5	1220A	
	EC16T/A0*B	60	85		46.5	81.0	1620	

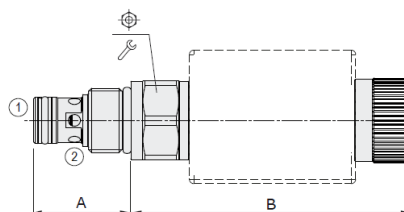
Coils	
Voltage	EC...T
12VDC	4SLD001200A
24VDC	4SLD002400A



## 2-Way/2-Position Directional Solenoid Valve - Spool Type

Configuration	Part Number	Flow L/min	Max Pressure bar	Dimensions mm		Cavity	Features
				A	B		
	EE10X/22*B	40	315	32.3	92.4	1020	* = N: No emergency * = V: Handwheel emergency
	EE12X/22*B	60		45.0	94.9	1220A	

Coils	
Voltage	EC...T
12VDC	4SL8000120
24VDC	4SL8000240

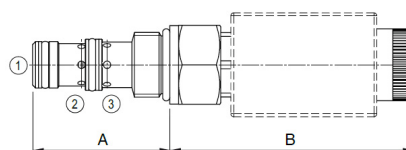


## 3-Way/2-Position Directional Solenoid Valve - Poppet Type

Direct Acting, Leak Free, SAE Cavity

Configuration	Part Number	Flow L/min	Max Pressure bar	Dimensions mm		Cavity	Features
				A	B		
	EL08A/10*B	10	210	41.2	94.9	0830	* = N: No emergency * = P: Push emergency
	EL10C/10*B	20		46.0	86.7	1030	

Coils		
Voltage	EL...A	EL...C
12VDC	4SL8000120	4SL8000121
24VDC	4SL8000240	4SL8002400
110VAC	4SL8031100*	-
220VAC	4SL8032200A*	-



\*NB: AC coils must be used with rectified connector  
 110V: 4CN3011100, 220V: 4CN3012200

# SECTION I

## CARTRIDGE VALVES

### Bucher Hydraulics - Command Controls Corp.

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CAVITY PLUGS .....	I 4
CHECK VALVES.....	I 5
PILOT OPERATED CHECK VALVES .....	I 5
SHUTTLE VALVES .....	I 5
FLOW CONTROLS .....	I 6
PRESSURE SEQUENCE VALVES .....	I 7
RELIEF VALVES .....	I 8
PRESSURE REDUCING VALVES .....	I 9
COUNTER BALANCE VALVES.....	I 9
MANUAL DIRECTIONAL CONTROL VALVES .....	I 10
AIR/OIL PILOT DIRECTIONAL SPOOL VALVES.....	I 10
OIL PILOT DIRECTIONAL CONTROL VALVES .....	I 12
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PROPORTIONAL PRESSURE RELIEF VALVE.....	I 21
PROPORTIONAL PRESSURE REDUCING/RELIEVING.....	I 22
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**NB: Models, Codes, Specifications and Prices may be subject to change without notice.**



## VALVE MODEL LOCATION GUIDE



CODE	DESCRIPTION	Page	CODE	DESCRIPTION	Page
<b>AODV</b>	Air Operated Directional Valve	<b>I 10</b>	<b>HLSV</b>	High Low Sequence Poppet Valve	<b>I 7</b>
<b>BDSV</b>	Ball Directional Shuttle Valve	<b>I 5</b>	<b>HOSV</b>	Hot Oil Shuttle Valve	<b>I 5</b>
<b>BFCV</b>	By-pass Flow Control Valve	<b>I 6</b>	<b>LCEF</b>	Logic Control Element Spool	<b>I 18</b>
<b>BSCS</b>	Breaker Sequence Closed Spool	<b>I 7</b>	<b>MRPV</b>	Manual Pull Release Valve	<b>I 10</b>
<b>BSOS</b>	Breaker Sequence Open Spool	<b>I 7</b>	<b>NFCV</b>	Needle Flow Control Valve	<b>I 6</b>
<b>BSXS</b>	Breaker Sequence External (pilot) Spool	<b>I 7</b>	<b>PCEB</b>	Priority Compensator	<b>I 19</b>
<b>CBPA</b>	Counterbalance Pilot Assisted	<b>I 9</b>	<b>PCEI</b>	Pressure Compensator Element (In-line)	<b>I 19</b>
<b>CBPS</b>	Counterbalance Pilot Piston Seals	<b>I 9</b>	<b>PCFC</b>	Pressure Compensated Flow Control	<b>I 6</b>
<b>CBPG</b>	Counterbalance Pilot Piston Vented	<b>I 9</b>	<b>PFCV</b>	Proportional Flow Control 2 port Non. Comp.	<b>I 22</b>
<b>CBPA-20M</b>	Counterbalance Pilot Assisted (Sun cavity)	<b>I 9</b>	<b>POCI</b>	Pilot Operated Check Internal (pilot)	<b>I 5</b>
<b>CBPS-20M</b>	Counterbalance Pilot Piston Seals (Sun)	<b>I 9</b>	<b>POCV</b>	Pilot Operated Check Vented (piston)	<b>I 5</b>
<b>CBPG-20M</b>	Counterbalance Pilot Piston Vented (Sun)	<b>I 9</b>	<b>POCX</b>	Pilot Operated Check External (pilot)	<b>I 5</b>
<b>CPLG</b>	Cavity Plugs	<b>I 4</b>	<b>PODS</b>	Priority on Demand Flow Regulator	<b>I 19</b>
<b>CMHP</b>	Hand Pump	<b>I 20</b>	<b>PRPS</b>	Pressure Reducing Valve (piloted spool)	<b>I 9</b>
<b>CVFP</b>	Check Valve Forward Poppet	<b>I 5</b>	<b>PRRS</b>	Pressure Reducing / Relieving (piloted spool)	<b>I 9</b>
<b>CVRP</b>	Check Valve Reverse Poppet	<b>I 5</b>	<b>PSCS</b>	Pressure Sequence Closed Spool	<b>I 7</b>
<b>DCPS</b>	Directional Control Piloted Spool	<b>I 12</b>	<b>PSOS</b>	Pressure Sequence Open Spool	<b>I 7</b>
<b>DCPV</b>	Directional Control Piloted Spool	<b>I 12</b>	<b>PSVP</b>	Sequence with Reverse Flow Check Valve	<b>I 7</b>
<b>EMDV</b>	Electro-Magnetic Directional Valve	<b>I 13</b>	<b>PSXS</b>	Pressure Sequence External (piloted) spool	<b>I 7</b>
<b>EMBV</b>	Electro-Magnetic Bi-directional Control Valve	<b>I 16</b>	<b>PUVA</b>	Unloading Relief With Differential	<b>I 8</b>
<b>ERVD</b>	Proportional Pilot Pressure Relief Valve	<b>I 21</b>	<b>RVBD</b>	Relief Valve Bi-Directional	<b>I 8</b>
<b>ERVV</b>	Proportional Pressure Relief Pilot Op.	<b>I 21</b>	<b>RVBS</b>	Relief Valve Breaker Spool (piloted)	<b>I 8</b>
<b>EPRT</b>	Proportional Reducing / Relieving (plt. spl.)	<b>I 22</b>	<b>RVDA</b>	Relief Valve Differential Area	<b>I 8</b>
<b>EPRS</b>	Proportional Reducing / Relieving (plt. spl.)	<b>I 22</b>	<b>RVDI</b>	Relief Valve Poppet Direct	<b>I 8</b>
<b>EPFC</b>	Proportional Flow Control 2 port Press. Comp.	<b>I 23</b>	<b>RVPD</b>	Relief Valve Poppet Direct (low flow)	<b>I 8</b>
<b>EPFD</b>	Proportional Flow Control Bypass Type	<b>I 23</b>	<b>RVPP</b>	Relief Valve Piloted Poppet & Reverse Check	<b>I 8</b>
<b>FCVL</b>	Flow Control Valve	<b>I 6</b>	<b>RVPS</b>	Relief Valve Piloted Spool	<b>I 8</b>
<b>FDCV</b>	Flow Divider / Combiner	<b>I 6</b>	<b>SDSV</b>	Brake Shuttle Valve	<b>I 5</b>

**NB:** MAXIMUM OPERATING PRESSURE FOR COMMAND CONTROLS CARTRIDGES IS 345 bar (5000 psi).

NOMINAL FLOW RATINGS ARE BASED ON OIL AT 28.5 CENTISTOKES.

### Cartridge Installation Torque

Size	Aluminium Body		Steel Body	
	ft/lbs	Nm	ft/lbs	Nm
<b>08</b>	25-30	34-41	35-40	47-54
<b>10</b>	35-40	47-54	55-60	74-81
<b>12</b>	55-60	75-81	70-75	95-100
<b>16</b>	70-75	95-102	95-100	129-136

#### Basic Seal Designator:

All seals are used with glass filled teflon back-up washers to support the O-rings for use with 5000 psi pressure.

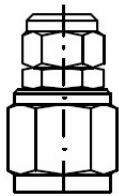
"N" designator indicates BUNA "BN" (Nitrile) O-ring.

"V" designator indicates VITON O-ring.

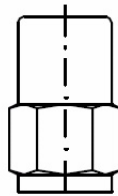
## ADJUSTMENT CONTROL OPTIONS



"S"  
SIZE 08, 10 & 12



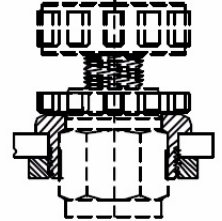
"C"  
SIZE 08, 10 & 12



"T"  
SIZE 08, 10 & 12

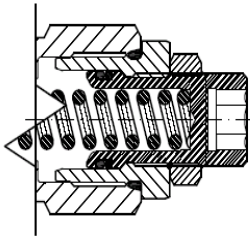


"K"  
SIZE 08, 10 & 12  
Knob Kit

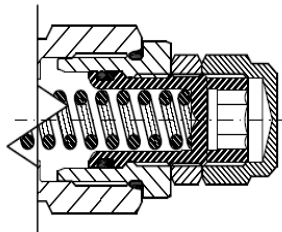


"#60134"  
SIZE 10 ONLY  
Panel Mount Kit

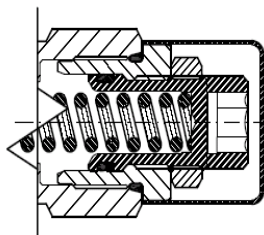
**NB: "S" TYPE is the standard stock type**



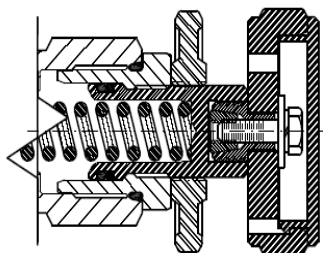
**S** Standard Screw Adjustment  
O-ring and back-up washer are standard. (No leak)  
Adjusting screw positively retained. (Will not back out)  
Overset pressure protection. (Spring will not go solid)



**C** Capped Screw Adjustment  
Add cap nut #20085 on to "S" adjustment. Protects the adjusting screw from dirt or damage.



**T** Tamperproof Adjustment  
Press-fit steel cover #20086 on to "S" adjustment. Specify pressure setting on order. Model number with pressure setting will be stamped on hex.



**K** Hand Knob & Locknob Adj.  
Remove jam nut and add handknob kit #60081 on to standard "S" adjustment. Patented locking device (Pat. 5,546,980) will not allow the knob to slip and turn on the adj. screw.

OPTIONS	
Description	Part Number
Knob Kit Suit Size 08	<b>60192</b>
Knob Kit Suit Size 10,12	<b>60081</b>
Panel Mount Kit Suit size 10 only	<b>60134</b>

Cap Nut	<b>20085</b>
---------	--------------

Retaining Nut	
Size 8	<b>20831</b>
Size 10 - 16	<b>21349</b>

# CAVITY PLUGS

**CPLG-XX-X-XX-XXX**

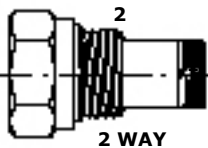
BASIC \_\_\_\_\_  
 SIZE \_\_\_\_\_  
 04 = 7/16"-20 UNF  
 08 = 3/4"-16 UNF  
 10 = 7/8"-14 UNF  
 12 = 1 1/16"-12 UNF  
 16 = 1 5/16"-12 UNF

SEALS \_\_\_\_\_  
 N = BUNA "N"  
 V = VITON

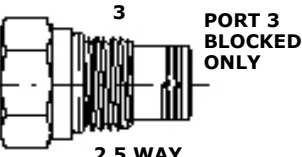
TYPE \_\_\_\_\_  
 20 = 2-WAY  
 25 = 2½-WAY  
 30 = 3-WAY  
 40 = 4-WAY

X = BLOCKED; O = OPEN

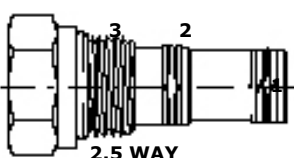
	2-WAY		2½ & 3-WAY			4-WAY			
	1	2	1	2	3	1	2	3	4
000	X	X	X	X	X	X	X	X	X
012			O	O	X	O	O	X	X
013			O	X	O	O	X	O	X
014						O	X	X	O
023			X	O	O	X	O	O	X
024						X	O	X	O
034						X	X	O	O
123						O	O	O	X
124						O	O	X	O
134						O	X	O	O
234						X	O	O	O



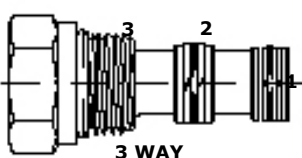
Part Number	Cavity
<b>CPLG-08-N-20-000</b>	0820
<b>CPLG-10-N-20-000</b>	1020
<b>CPLG-12-N-20-000</b>	1220
<b>CPLG-16-N-20-000</b>	1620



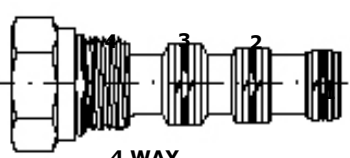
Part Number	Cavity
<b>CPLG-08-N-25-012</b>	0825
<b>CPLG-10-N-25-012</b>	1025
<b>CPLG-12-N-25-012</b>	1225
<b>CPLG-16-N-25-012</b>	1625



Part Number	Cavity
<b>CPLG-08-N-25-000</b>	0825
<b>CPLG-10-N-25-000</b>	1025
<b>CPLG-12-N-25-000</b>	1225
<b>CPLG-16-N-25-000</b>	1625



Part Number	Cavity
<b>CPLG-08-N-30-000</b>	0830
<b>CPLG-10-N-30-000</b>	1030
<b>CPLG-12-N-30-000</b>	1230
<b>CPLG-16-N-30-000</b>	1630



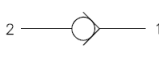
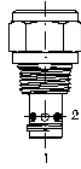
Part Number	Cavity
<b>CPLG-08-N-40-000</b>	0840
<b>CPLG-10-N-40-000</b>	1040
<b>CPLG-12-N-40-000</b>	1240
<b>CPLG-16-N-40-000</b>	1640



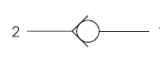

# CARTRIDGE VALVES

## Check Valves, Pilot Operated Checks, Shuttle Valves


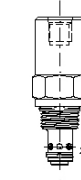
**CVFP**

	Check Valve - Forward Poppet		
	Part Number	Flow L/min	Cavity
	CVFB-04-N-0-020	10	0420
	CVFP-08-N-0-005	38	0820
	CVFP-10-N-0-005	68	1020
	CVFP-12-N-0-005	136	1220
	CVFP-16-N-0-005	228	1620

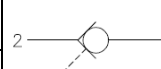
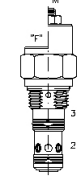
**CVRP**

	Check Valve - Reverse Poppet		
	Part Number	Flow L/min	Cavity
	CVRP-08-N-0-005	38	0820
	CVRP-10-N-0-005	68	1020
	CVRP-12-N-0-005	136	1220
	CVRP-16-N-0-005	190	1620

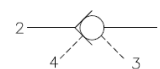
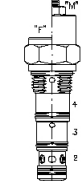
**POCX**

	Pilot Operated Check Valve 3:1 Ext. Pilot		
	Part Number	Flow L/min	Cavity
	POCX-08-N-0-4T-030	38	0820
	POCX-10-N-0-4T-030	70	1020
	POCX-12-N-0-4T-030	132	1220


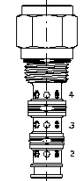
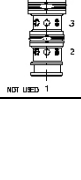
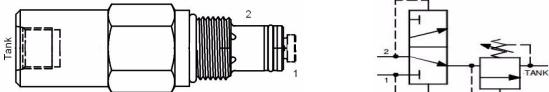
**POCI**

	Pilot Operated Check Valve 3:1 Internal Pilot		
	Part Number	Flow L/min	Cavity
	POCI-08-N-F-0-10	38	0825
	POCI-10-N-F-0-10	70	1025
	POCI-12-N-F-0-10	136	1225

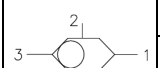
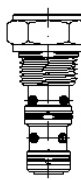
**POCV**

	Pilot Operated Check Valve 3:1 Vented		
	Part Number	Flow L/min	Cavity
	POCV-10-N-F-0-10	60	1040
	POCV-12-N-F-0-10	132	1240

**HOSV**

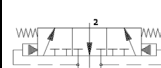
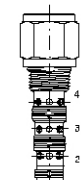
	Hot Oil Shuttle - Springless		
	Part Number	Flow L/min	Cavity
	<b>Closed Centre</b>		
	HOSV-10-N-C-0	60	1040
	<b>Open Centre</b>		
	HOSV-10-N-O-0	60	1040
	<b>Closed Centre + Relief</b>		
	HOSR-10-N-6T-0-150	22	1020

**BDSV**

	Shuttle Valves			
	Part Number	Sig	Flow L/min	Cavity
	BDSV-04-N-3-0-00	Int	6	0430
	BDSV-08-N-3-0-00		12	0830
	BDSV-10-N-3-0-00		23	1030
	BDSV-10-N-2-0-2B*	Ext	23	1020



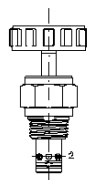
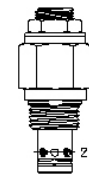
\* = Ext. signal



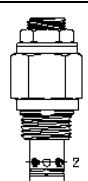
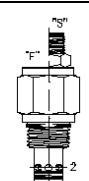
**SDSV**

	Brake Shuttle Valve		
	Part Number	Flow L/min	Cavity
	<b>Closed Centre</b>		
	SDSV-08-N-4C-0-100	20	0840



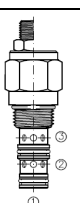
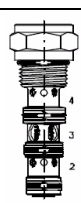
For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.

# FLOW CONTROLS

NFCV				FCVL			
	Needle Valve - Non Compensated				Flow Control - Non Compensated		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	NFCV-08-N-K-0	38	0820		FCVL-08-N-S-0-N	38	0820
	NFCV-10-N-K-0	30	1020		FCVL-10-N-S-0-N	68	1020
	NFCV-10-N-K-0	68	1020		FCVL-12-N-S-0-N	136	1220

FCVL				PCFC			
	Flow Control with Free Flow in Reverse				Flow Control - Press Compensated		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	FCVL-08-N-S-0-F	38	0820		PCFC-08-N-S-0-XX	23	0820
	FCVL-10-N-S-0-F	68	1020		PCFC-10-N-S-0-XX	45	1020
	FCVL-12-N-S-0-F	136	1220		PCFC-12-N-S-0-XX	90	1220

**NB:** Replace the XX in the above part numbers with the flow rate required in US GPM. Please consult with our technical staff.

BFCV				FDCV			
	Priority Flow Control				Flow Divider / Combiner		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	BFCV-08-N-S-0-XX	23	0830		FDCV-08-N-0-44	30	0840
	BFCV-10-N-S-0-XX	45	1030		FDCV-10-N-0-88	60	1040
	BFCV-12-N-S-0-XX	76	1230		FDCV-12-N-0-88	120	1240
	BFCV-16-N-S-0-XX	114	1630				

**NB:** Replace the XX in the above part numbers with the flow rate required in US GPM. Please consult with our technical staff.

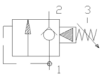
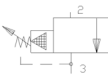
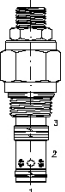
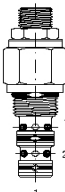
**NB:** The above options are 50/50% split at the nominal flow rate. Other flow rates and ratios are available. Please consult with our technical staff.

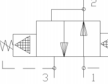
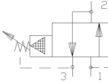
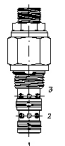

Port 1 is not used and needs to be blocked.

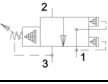
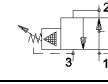
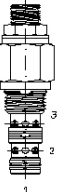
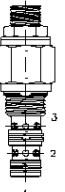
For line mount bodies to suit the above cartridges refer to Section J. Use the cavity size to select the correct body type then choose the desired port size.

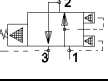
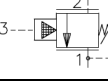
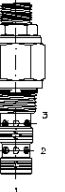



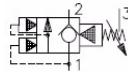
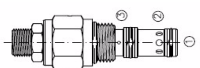
# PRESSURE SEQUENCE VALVES

<b>PSVP</b>				<b>PSXS</b>			
	Sequence with Reverse Check				Sequence - External Pilot		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	PSVP-10-N-S-0-15	76	1025		PSXS-08-N-S-0-15	23	0830
	PSVP-10-N-S-0-30	76	1025		PSXS-10-N-S-0-15	46	1030

<b>PSOS</b>				<b>PSCS</b>			
	Sequence - Internal Pilot Normally Open				Sequence - Internal Pilot Normally Closed		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	PSOS-08-N-S-0-15	23	0830		PSOS-08-N-S-0-15	23	0830
	PSOS-10-N-S-0-15	46	1030		PSOS-10-N-S-0-15	46	1030

<b>BSXS</b>				<b>BSOS</b>			
	Breaker Sequence - Ext. Pilot				Breaker Sequence - Int. Pilot N.O.		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	BSXS-08-N-S-0-15	23	0830		BSOS-08-N-S-0-15	23	0830
	BSXS-10-N-S-0-15	46	1030		BSOS-10-N-S-0-15	46	1030

<b>BSCS</b>				<b>HLSV &amp; HLSS</b>			
	Breaker Sequence - Internal Pilot N.C.				Hi-Lo Sequence - Soft Shift, Poppet Type		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	BSCS-08-N-S-0-15	23	0830		HLSV-08-N-S-0-40	38	0825
	BSCS-10-N-S-0-15	46	1030		HLSV-10-N-S-0-15	76	1025
					Hi-Lo Sequence - Soft Shift, Spool Type		
				HLSS-10-N-S-0-40	76	1025	



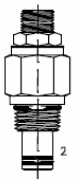
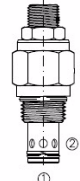
<b>PBVP</b>			
	Breaker Sequence - Reverse Check		
	Part Number	Flow L/min	Cavity
	PBVP-10-N-S-0-30	76	1025

For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.

# RELIEF VALVES



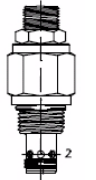
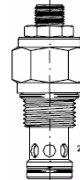
## RVPD

## RVDI

	Direct Acting - Pilot Type				Direct Acting - Poppet Type		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	RVPD-08-N-S-0-30	7.6	0820		RVDI-10-N-S-0-30	76	1020
	RVPD-10-N-S-0-30	7.6	1020				



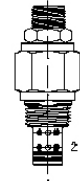
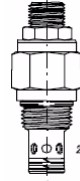
## RVPS

## RVPP

	Piloted Spool				Piloted Poppet & Reverse		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	RVPS-08-N-S-0-30	58	0820		RVPP-10-N-S-0-30	100	1020
	RVPS-10-N-S-0-30	100	1020		RVPP-12-N-S-0-30	230	1220
	RVPS-12-N-S-0-30	230	1220				



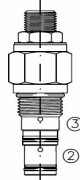
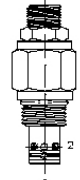
## RVBD

## RVBS

	Bi-Directional				Breaker - Pilot Op.		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	RVBD-08-N-S-0-30	38	0820		RVBS-10-N-S-0-30	95	1020
	RVBD-10-N-S-0-30	76	1020				
	RVBD-12-N-S-0-30	150	1220				

## PUVA

## RVDA

	Unloading Relief With Differential				Differential Area		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	PUVA-10-N-S-0-8-40 (80%)	4	1030		RVDA-08-N-S-0-30	38	0820
					RVDA-10-N-S-0-30	76	1020

**NB:** The above cartridges are available in the following pressure range. Substitute the last 2 numbers.  
 15 = 50 to 1500 psi (3.5 - 103 bar)  
 30 = 100 to 3000 psi (7 - 206 bar)  
 50 = 150 to 5000 psi (10 - 345 bar)

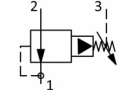
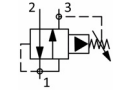
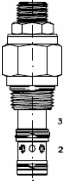
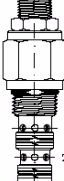
For line mount bodies to suit the above cartridges refer to Section J.  
 Use the cavity size to select the correct body type then choose the desired port size.



## PRESSURE REDUCING VALVES

PRPS

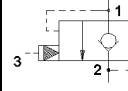
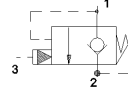
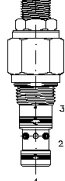
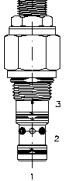
PRRS

	Pressure Reducing				Pressure Reducing / Relieving		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	PRPS-10-N-S-0-15	46	1030		PRRS-08-N-S-0-15	23	0830
					PRRS-10-N-S-0-15	46	1030
					PRRS-12-N-S-0-30	91	1230

## COUNTER BALANCE VALVES

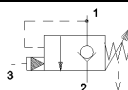
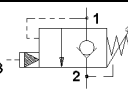
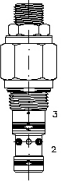
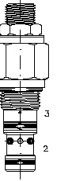
CBPA

CBPS

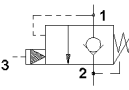
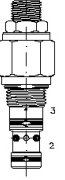
	Standard 4:1				Sealed Piston 4:1		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	CBPA-08-N-S-0-30	38	0825		CBPS-08-N-S-0-30	38	0825
	CBPA-10-N-S-0-30	76	1025		CBPS-10-N-S-0-30	76	1025
	CBPA-12-N-S-0-30	132	1225		CBPS-12-N-S-0-30	132	1225

CBPG

CBPA-20M (Also available in CBPG-20M & CBPS-20M)

	Vented Piston 4:1				As Standard to suit Sun Cavity 4:1		
	Part Number	Flow L/min	Cavity		Part Number	Flow L/min	Cavity
	CBPG-08-N-S-0-30	38	0825		CBPA-20M-N-S-0-15	76	T-11A
	CBPG-10-N-S-0-30	76	1025		CBPA-20M-N-S-0-30		
	CBPG-12-N-S-0-30	132	1225		CBPA-20M-N-S-0-50		

CBPP

	Standard 10:1		
	Part Number	Flow L/min	Cavity
	CBPP-10-N-S-0-10-30-C	60	1025
	CBPP-20M-N-S-0-10-30C		T-11A

**NB:** The above Cartridges available in the following pressure range - substitute the last 2 numbers.  
 15 = 50 to 1500 psi (3.5 to 103 bar)  
 30 = 100 to 3000 psi (7 to 206 bar)  
 40 = 600 to 4000 psi (28 to 275 bar) (Applicable only to size 12 counter-balance valves)  
 50 = 1500 to 5000 psi (103 to 345 bar) (NOT applicable to size 12 counter-balance valves)

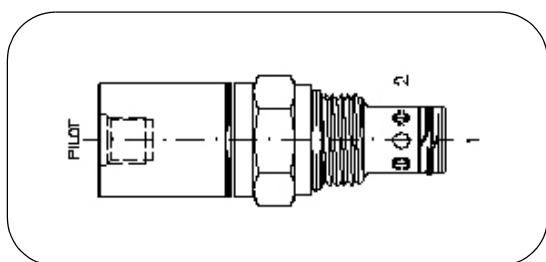
For line mount bodies to suit the above cartridges refer to Section J.  
 Use the cavity size to select the correct body type then choose the desired port size.

## MANUAL DIRECTIONAL CONTROL VALVES

Manual Pull to Open		
Part Number	Flow L/min	Cavity
MRPV-10-N-K-0	70	1020

Manual Push to Close		
Part Number	Flow L/min	Cavity
MPTC-10-N-0	22	1020

## AIR/OIL PILOT DIRECTIONAL SPOOL VALVES

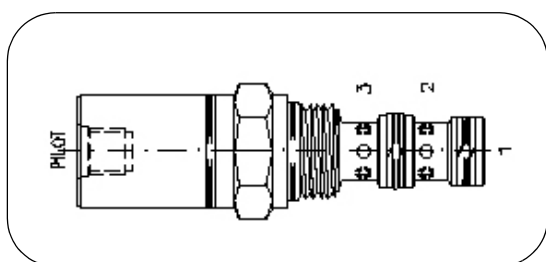


PILOT OPERATING PRESSURE RANGE:

FOR AIR = 3.4-17.2 bar

FOR OIL = 3.4-207 bar

Circuit	Air/Oil Pilot Directional Spool Valve		
	Part Number	Flow L/min	Cavity
	AODV-10-N-C1-0-4T	30	1020
	AODV-12-N-C1-0-4T	60	1220
	AODV-10-N-O1-0-4T	30	1020
	AODV-12-N-O1-0-4T	60	1220
	AODV-10-N-C3-0-4T	22	1020
	AODV-12-N-C3-0-4T	60	1220



PILOT OPERATING PRESSURE RANGE:

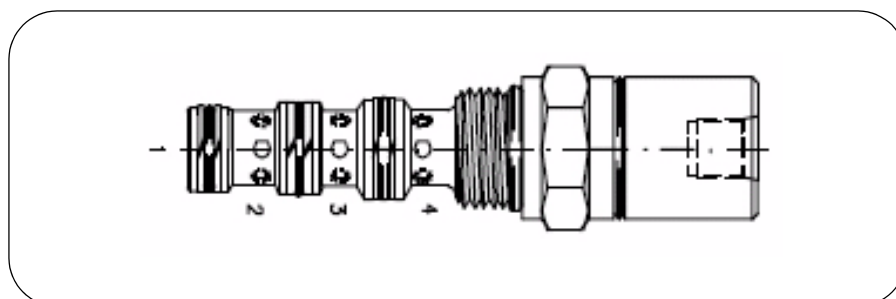
FOR AIR = 3.4-17.2 bar

FOR OIL = 3.4-207 bar

Circuit	Air/Oil Pilot Directional Spool Valve			
	Part Number	Flow L/min	Cross Over	Cavity
	AODV-10-N-3A-0-4T	30	Closed	1030
	AODV-12-N-3A-0-4T	60		1230
	AODV-10-N-3B-0-4T	30	Open	1030
	AODV-12-N-3B-0-4T	68		1230
	AODV-10-N-3C-0-4T	30	Open	1030
	AODV-12-N-3C-0-4T	60		1230
	AODV-10-N-3D-0-4T	30	Open	1030
	AODV-12-N-3D-0-4T	60		1230

For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.

# AIR/OIL PILOT DIRECTIONAL CONTROL VALVE

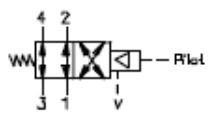
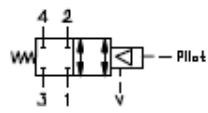
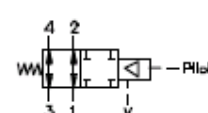
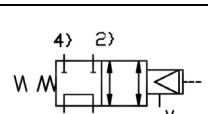


**AODV**

PILOT OPERATING PRESSURE RANGE:

FOR AIR = 3.4 TO 17.2 bar

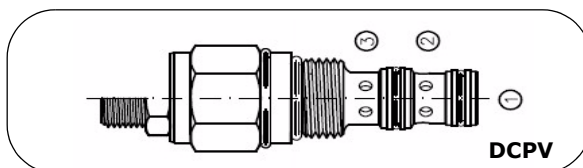
FOR OIL = 3.4 TO 207 bar

Circuit	Air Pilot - Directional Control Valves		
	Part Number	Nom. Flow L/min	Cavity
	<b>AODV-10-N-4A-0-4T</b>	30	1040
	<b>AODV-12-N-4A-0-4T</b>	60	1240
	<b>AODV-10-N-4B-0-4T</b>	30	1040
	<b>AODV-12-N-4B-0-4T</b>	60	1240
	<b>AODV-10-N-4C-0-4T</b>	30	1040
	<b>AODV-12-N-4C-0-4T</b>	60	1240
	<b>AODV-10-N-4D-0-4T</b>	30	1040
	<b>AODV-12-N-4D-0-4T</b>	60	1240

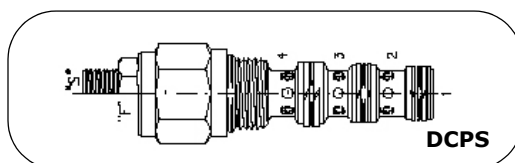
For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.



# OIL PILOT DIRECTIONAL CONTROL VALVES



Circuit	Oil Pilot - Directional Control Valves		
	Part Number	Nom. Flow L/min	Cavity
	<b>DCPV-10-N-C-S-0-200</b>	37	1030
	<b>DCPV-10-N-O-S-0-200</b>	37	1030

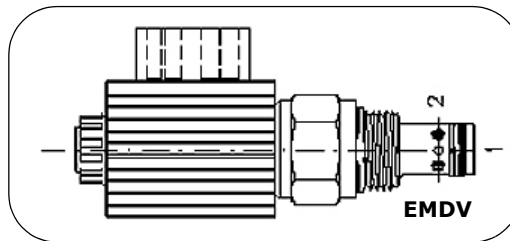


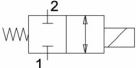
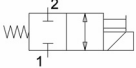
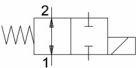
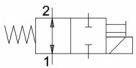
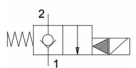
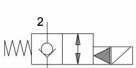
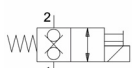
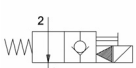
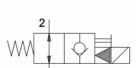
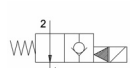
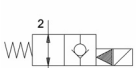
Circuit	Oil Pilot - Directional Control Valves		
	Part Number	Nom. Flow L/min	Cavity
	<b>DCPS-10-N-A-S-0-200</b>	46	1040
	<b>DCPS-10-N-B-S-0-200</b>		
	<b>DCPS-10-N-C-S-0-200</b>	60	
	<b>DCPS-10-N-D-S-0-200</b>	46	
	<b>DCPS-10-N-E-S-0-200</b>		
	<b>DCPS-10-N-F-S-0-200</b>		
	<b>DCPS-10-N-G-S-0-200</b>	46	
	<b>DCPS-10-N-H-S-0-200</b>		

For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.

# SOLENOID OPERATED DIRECTIONAL CONTROL

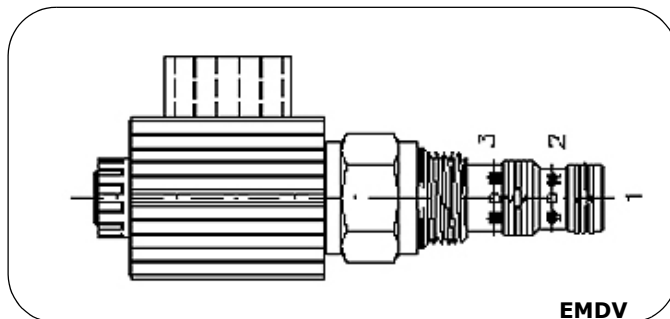
2 way, 2 position, single coil.



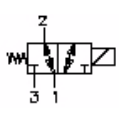
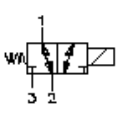
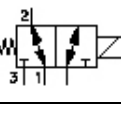
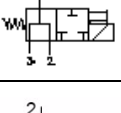
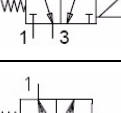
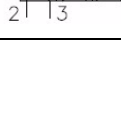
Circuit	Solenoid Operated - Directional Control Valves				
	Part Number	Action	Type	Flow L/min	Cavity
	<b>EMDV-08-N-C6-0-XXDG</b>	Pull	Spool	19	0820
	<b>EMDV-10-N-C1-0-XXDG</b> <b>EMDV-12-N-C1-0-XXDG</b>	Push		30 68	1020 1220
	<b>EMDV-08-N-O6-0-XXDG</b>	Pull		19	0820
	<b>EMDV-10-N-O1-0-XXDG</b> <b>EMDV-12-N-O1-0-XXDG</b>	Push		30 68	1020 1220
	<b>EMDV-08-N-C7-0-XXDG</b> <b>EMDV-10-N-C2-0-XXDG</b> <b>EMDV-12-N-C2-0-XXDG</b> <b>EMDV-16-N-C2-0-XXDG</b>	Pull	Poppet	38 60 136 190	0820 1020 1220 1620
	<b>EMDV-08-N-C8-0-XXDG</b> <b>EMDV-10-N-C4-0-XXDG</b> <b>EMDV-12-N-C4-0-XXDG</b> <b>EMDV-16-N-C4-0-XXDG</b>			38 75 136 190	0820 1020 1220 1620
	<b>EMDV-08-N-C3-0-XXDG</b> <b>EMDV-10-N-C3-0-XXDG</b>	Push	Poppet	10 23	0820 1020
	<b>EMDV-10-N-O2-0-XXDG</b> <b>EMDV-12-N-O2-0-XXDG</b> <b>EMDV-16-N-O2-0-XXDG</b>			60 136 190	1020 1220 1620
	<b>EMDV-10-N-O4-0-XXDG</b> <b>EMDV-12-N-O4-0-XXDG</b> <b>EMDV-16-N-O4-0-XXDG</b>			75.5 136 190	1020 1220 1620
	<b>EMDV-08-N-O7-0-XXDG</b>			38	0820
	<b>EMDV-08-N-O8-0-XXDG</b>			38	0820

**NB:** Replace XX in the part number with the voltage ie: 12 or 24 Volt DC  
Valves with a 'PULL' action cannot be manually overridden  
For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.

# SOLENOID OPERATED DIRECTIONAL CONTROL



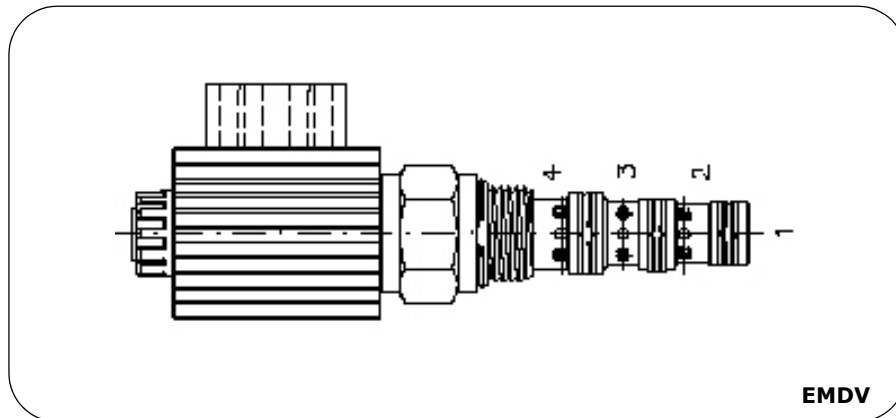
**EMDV**  
3 way, 2 position, spool type, single coil

Circuit	SOLENOID OPERATED - Directional Control				
	Part Number	Action	Centre Configuration	Flow L/min	Cavity
	<b>EMDV-10-N-3A-0-XXDG</b> <b>EMDV-10-N-3C-0-XXDG</b> <b>EMDV-12-N-3A-0-XXDG</b> <b>EMDV-12-N-3C-0-XXDG</b>	Push	Closed	30	1030
			Open	30	1030
			Closed	46	1230
			Open	46	1230
	<b>EMDV-08-N-3J-0-XXDG</b> <b>EMDV-08-N-3K-0-XXDG</b> <b>EMDV-10-N-3B-0-XXDG</b> <b>EMDV-10-N-3D-0-XXDG</b> <b>EMDV-12-N-3B-0-XXDG</b> <b>EMDV-12-N-3D-0-XXDG</b>		Closed	19	0830
			Open	19	0830
			Closed	30	1030
			Open	30	1030
			Closed	68	1230
			Open	46	1230
	<b>EMDV-08-N-3L-0-XXDG</b> <b>EMDV-08-N-3M-0-XXDG</b>	Closed	19	0830	
		Open	19	0830	
	<b>EMDV-10-N-3E-0-XXDG</b>	Open	30	1030	
	<b>EMDV-08-N-3N-0-XXDG</b> <b>EMDV-08-N-3P-0-XXDG</b>	Closed	19	0830	
		Open	19	0830	
	<b>EMDV-08-N-3R-0-XXDG</b>	Open	12	0830	

**NB:** Replace XX in the part number with the voltage ie: 12 or 24 Volt DC

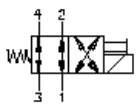
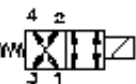
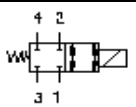
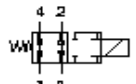
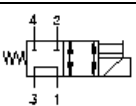
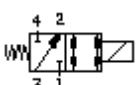
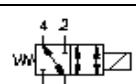
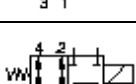
For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.

# SOLENOID OPERATED DIRECTIONAL CONTROL



**4 way, 2 position, spool type**

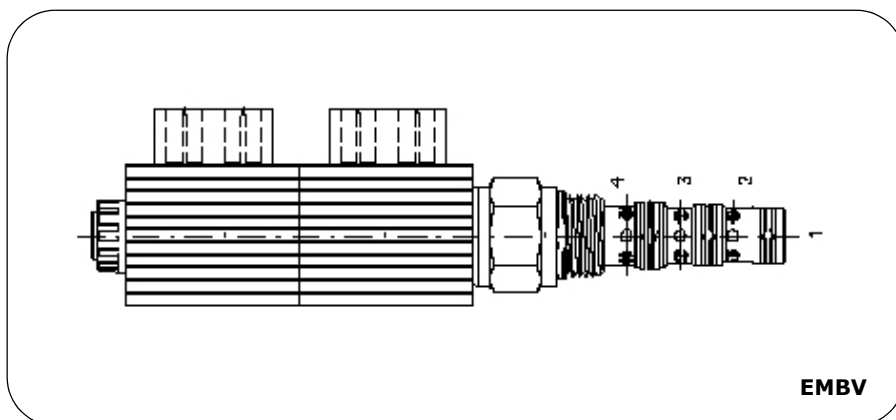
**NB:** These items are available with "Soft Shift Option" (EMDV replaced by EMSV)

Circuit	Solenoid Operated - Directional Control Valves				
	Part Number	Flow L/min	Action	Centre Configuration	Cavity
	<b>EMDV-10-N-4A-0-XXDG</b> <b>EMDV-12-N-4A-0-XXDG</b> <b>EMDV-12-N-4F-0-XXDG</b>	30 60 76	Push	Closed Closed Open	1040 1240 1240
	<b>EMDV-08-N-4J-0-XXDG</b>	19		Closed	0840
	<b>EMDV-08-N-4K-0-XXDG</b> <b>EMDV-10-N-4B-0-XXDG</b> <b>EMDV-12-N-4B-0-XXDG</b>	19 30 60		Closed	0840 1040 1240
	<b>EMDV-08-N-4L-0-XXDG</b> <b>EMDV-10-N-4C-0-XXDG</b> <b>EMDV-12-N-4C-0-XXDG</b>	19 30 60		Closed	0840 1040 1240
	<b>EMDV-10-N-4D-0-XXDG</b> <b>EMDV-12-N-4D-0-XXDG</b>	30 60		Closed	1040 1240
	<b>EMDV-08-N-4M-0-XXDG</b>	19		Closed	0840
	<b>EMDV-08-N-4P-0-XXDG</b>	19		Closed	0840
	<b>EMDV-08-N-4N-0-XXDG</b>	19		Closed	0840

**NB:** Replace XX in the part number with the voltage ie: 12 or 24 volt DC

For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.

# SOLENOID OPERATED DIRECTIONAL CONTROL



**4 way, 3 position, spool type, dual coil**

Circuit	SOLENOID OPERATED - Directional Control			
	Part Number	Flow L/min	Action	Cavity
	<b>EMBV-08-N-3J-0-XXDG</b>	16	Push/ Pull	0830
	<b>EMBV-08-N-4J-0-XXDG</b> <b>EMBV-10-N-4J-0-XXDG</b>	16 20		0840 1040
	<b>EMBV-08-N-4K-0-XXDG</b> <b>EMBV-10-N-4K-0-XXDG</b>	16 20		0840 1040
	<b>EMBV-08-N-4L-0-XXDG</b> <b>EMBV-10-N-4L-0-XXDG</b>	16 20		0840 1040
	<b>EMBV-10-N-4M-0-XXDG</b>	20		1040

**NB:** Replace XX in the part number with the voltage ie: 12 or 24 volt DC

For line mount bodies to suit the above cartridges refer to section "J". Use the cavity size to select the correct body type then choose the desired port size.

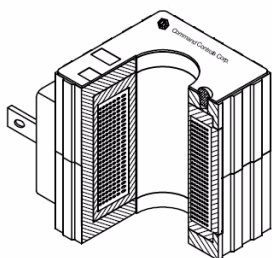
Circuit	Part Number	Flow L/min	Action	Cavity
	<b>WK43GNA5-1-OMS-XXDG</b>	30	Push/ Pull	0840

Coils for WK43	<b>MAG-SP-D36-12D-27W</b> <b>MAG-SP-D36-24D-27W</b>
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**NB:** Replace XX in the part number with the voltage ie: 12 or 24 volt DC  
Two coils required for WK43

## COIL ASSEMBLIES

### COIL ASSEMBLY SUIT CARTRIDGE SIZE 08



SINGLE COIL ASSEMBLY INCLUDES:

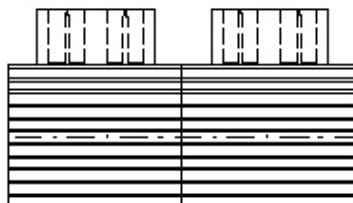
- 1 x COIL
- 2 x HOUSING HALF
- 1 x NAME PLATE
- 1 x PIN - NAME PLATE

Voltage	Part Number
12VDC	<b>60186-12DG</b>
24VDC	<b>60186-24DG</b>
36VDC	<b>60186-36DG</b>
48VDC	<b>60186-48DG</b>
115VDC	<b>60186-115DG</b>
230VDC	<b>60186-230DG</b>
115VAC	<b>60186-115AG</b>
230VAC	<b>60186-230AG</b>

### COIL ASSEMBLY SUIT CARTRIDGE SIZE 10, 12, 16

Voltage	Part Number
12VDC	<b>60191-12DG</b>
24VDC	<b>60191-24DG</b>
28VDC	<b>60191-28DG-1893</b>
36VDC	<b>60191-36DG</b>
48VDC	<b>60191-48DG</b>
110VDC	<b>60191-110DG</b>
115VAC	<b>60191-115AG</b>
230VAC	<b>60191-230AG</b>

### DUAL COIL ASSEMBLY SUIT CARTRIDGE SIZE 08, 10 for EMBV Series



Voltage	Part Number
12VDC	<b>60190-12DG</b>
24VDC	<b>60190-24DG</b>
115VDC	<b>60190-115DG</b>
230VDC	<b>60190-230DG</b>

\*60190 kit consists of 2 x 60186 coils

COIL ONLY (Connector Type = DIN-43650 )		
Voltage	Size 08 (22 Watts)	Size 10, 12, 16 (36 Watts)
12V DC	<b>20823</b>	<b>20126</b>
24V DC	<b>20824</b>	<b>20127</b>
36V DC	<b>20825</b>	<b>20128</b>
48V DC	<b>20826</b>	<b>20129</b>
115V DC	<b>20827</b>	<b>20130</b>
115V AC	<b>20828</b>	<b>20249</b>
230V AC	<b>N/A</b>	<b>20250</b>

### COIL CONNECTORS

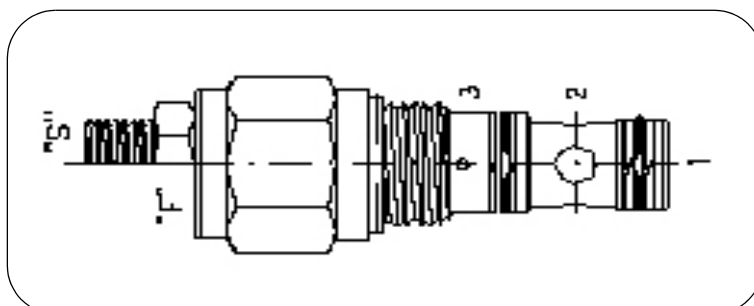
Type	Part Number
Standard	<b>SP-666</b>
Std with LED (DC)	<b>SP-KA-DC</b>
Std with LED (AC)	<b>SP-KA-AC</b>
Rectified AC in DC out	<b>SP-669</b>

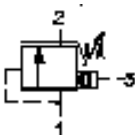
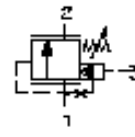
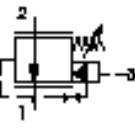
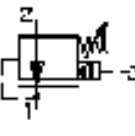


THE ABOVE COILS (TYPE 'G') USE A DIN 43650 CONNECTOR. OTHER COILS AVAILABLE ON REQUEST ARE TYPE 'T' SPADE CONNECTORS, TYPE 'L' FLYING LEADS, TYPE 'B' BOLT TERMINALS, TYPE 'D' DEUTSCH(DT04-2P)



## LOGIC ELEMENTS

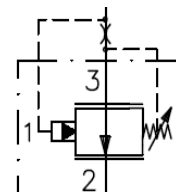
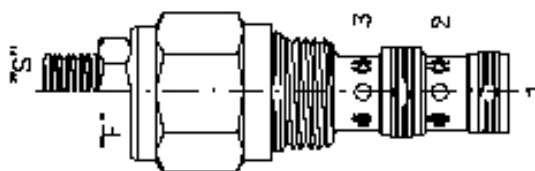


CIRCUIT	Logic Elements		
	Part Number	Flow L/min	Cavity
<b>Normally Closed - Pilot to Close</b>			
	LCEF-08-N-A-S-0-160 LCEF-10-N-A-S-0-160 LCEF-12-N-A-S-0-160	30 76 136	0825 1025 1225
<b>Normally Closed - Vent to Open</b>			
	LCEF-08-N-C-S-0-160 LCEF-10-N-C-S-0-160 LCEF-12-N-C-S-0-160	30 76 136	0825 1025 1225
<b>Normally Open - Vent to Close</b>			
	LCEF-08-N-D-S-0-160 LCEF-10-N-D-S-0-160 LCEF-12-N-D-S-0-160	30 76 136	0825 1025 1225
<b>Normally Open - Pilot to Open</b>			
	LCEF-08-N-F-S-0-100 LCEF-10-N-F-S-0-160 LCEF-12-N-F-S-0-160	30 76 136	0825 1025 1225

For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.

## PRESSURE COMPENSATORS

### PCEI

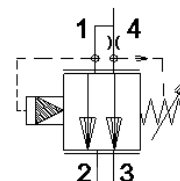
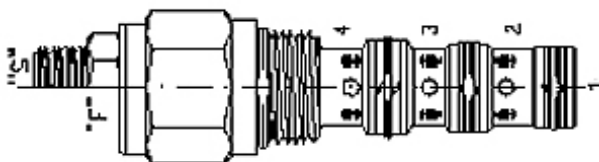


#### INLINE COMPENSATOR

This valve will act as an inline pressure compensated flow regulator when used with a fixed or variable orifice at port 3 and will provide a constant flow at port 2 regardless of pressure change at port 2.

Part Number	Flow L/min	Cavity
<b>PCEI-08-N-S-0-160</b>	19	0830
<b>PCEI-10-N-S-0-160</b>	45	1030
<b>PCEI-12-N-S-0-160</b>	92	1230
<b>PCEI-16-N-S-0-180</b>	151	1630

### PCEB



#### PRIORITY COMPENSATOR

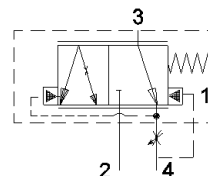
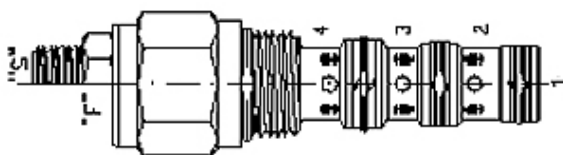
This valve will act as a priority type pressure compensated flow regulator when used with a fixed or variable orifice at port 4. A constant flow is maintained at port 3 while the excess flow is directed to port 2. All ports can be fully pressurised.

Part Number	Flow L/min	Cavity
<b>PCEB-08-N-S-0-160</b>	19	0840
<b>PCEB-10-N-S-0-160</b>	45	1040
<b>PCEB-12-N-S-0-160</b>	92	1240
<b>PCEB-16-N-S-0-180</b>	151	1640

For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.

## PRESSURE COMPENSATORS

### PODS



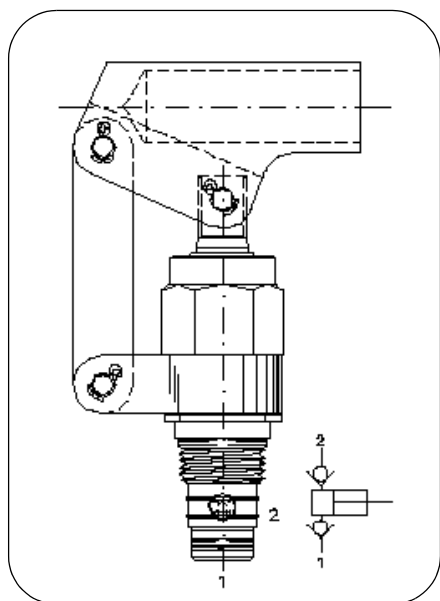
#### PRIORITY ON DEMAND COMPENSATOR

This valve is used to provide a load sense steering unit with flow on demand from a fixed delivery pump. When the steering unit is turned, flow from port 3 is delivered to priority port 4 to satisfy only the flow required at port 4. The excess flow is available at port 2. All the pump flow is available at port 2 when the steering wheel is stationary.

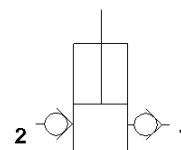
Part Number	Flow L/min	Cavity
<b>PODS-08-N-F-0-100</b>	30	0840
<b>PODS-10-N-F-0-100</b>	45	1040
<b>PODS-12-N-F-0-100</b>	91	1240
<b>PODS-16-N-F-0-100</b>	121	1640

## HAND PUMP

4cc Displacement per Stroke



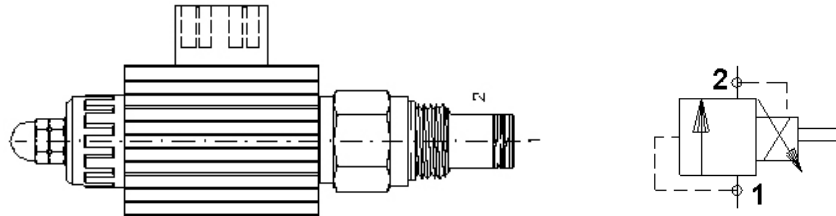
Part Number	Description	Cavity
<b>CMHP-10-N-2-0</b>	Hand Pump	1020
<b>20591-16</b>	Handle 400mm	N/A



For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.

## PROPORTIONAL PILOT PRESSURE RELIEF VALVE

**ERVD**



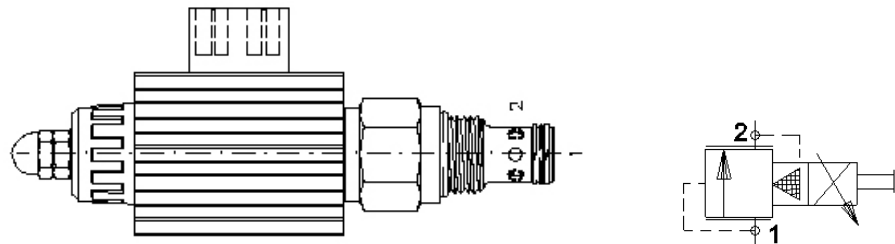
Direct acting, low flow, poppet type - Commonly used as a control pilot relief valve to pilot a larger relief valve. In the event of power failure pressure at port 1 is 0 BAR

Part Number	Flow L/min	Cavity
<b>ERVD-10-N-30-0-M-XXDG</b>	3.8	1020
<b>ERVD-10-N-50-0-M-XXDG</b>		

AVAILABLE IN 12V DC OR 24V DC - REPLACE 'XX' IN THE PART NUMBER WITH THE REQUIRED VOLTAGE.

## PROPORTIONAL PRESSURE RELIEF VALVE

**ERVV**



Pilot operated, sliding spool type

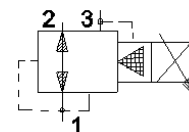
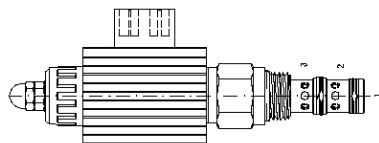
Part Number	Flow L/min	Press Range bar	Cavity
<b>ERVV-10-N-15-0-M-XXDG</b>	95	3.5-103	1020
<b>ERVV-10-N-30-0-M-XXDG</b>		3.5-206	
<b>ERVV-10-N-50-0-M-XXDG</b>		3.5-345	
<b>ERVV-12-N-15-0-M-XXDG</b>	230	3.5-103	1220
<b>ERVV-12-N-30-0-M-XXDG</b>		3.5-206	
<b>ERVV-12-N-50-0-M-XXDG</b>		3.5-345	

AVAILABLE IN 12V DC OR 24V DC - REPLACE 'XX' IN THE PART NUMBER WITH THE REQUIRED VOLTAGE.

For line mount bodies to suit the above cartridges refer to Section J. Use the cavity size to select the correct body type then choose the desired port size.

# PROPORTIONAL PRESSURE REDUCING/RELIEVING

## EPRS/EPRT



Part Number	Flow L/min	Press. Range bar	Cavity
<b>EPRT-08-N-15-0-XXDG</b>	26	10 - 110	0830
<b>EPRT-08-N-30-0-XXDG</b>		10 - 225	

NB:  
For 12VDC coil use DIN coil 400280253 or Deutsch 400280162  
For 24VDC coil use DIN coil 400280251 or Deutsch 400280818

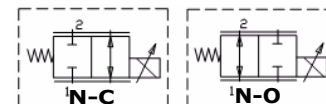
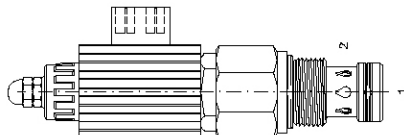
<b>EPRS-10-N-15-0-M-XXDG</b>	46	3.5 - 103	1030
<b>EPRS-10-N-30-0-M-XXDG</b>		3.5 - 206	
<b>EPRS-10-N-50-0-M-XXDG</b>		3.5 - 345	
<b>EPRS-12-N-15-0-M-XXDG</b>	91	3.5 - 103	1230
<b>EPRS-12-N-30-0-M-XXDG</b>		3.5 - 206	
<b>EPRS-12-N-50-0-M-XXDG</b>		3.5 - 345	

AVAILABLE IN 12V DC OR 24V DC - REPLACE 'XX' IN THE PART NUMBER WITH THE REQUIRED VOLTAGE. IN THE EVENT OF POWER FAILURE, VALVE WILL REDUCE REGULATED PRESSURE AT PORT 1 TO 3.5 bar (50 psi)

# PROPORTIONAL FLOW CONTROL

## 2 Port Non-compensated

## PFCV



Part Number	Flow L/min	Cavity
<b>PFCV-08-N-C-03-0MXXDG</b>	9.5	0820
<b>PFCV-08-N-C-05-0MXXDG</b>	19	
<b>PFCV-10-N-C-04-0MXXDG</b>	15	1020
<b>PFCV-10-N-C-08-0MXXDG</b>	30	
<b>PFCV-10-N-C-12-0MXXDG</b>	45	
<b>PFCV-10-N-C-16-0MXXDG</b>	60	1220
<b>PFCV-12-N-C-06-0MXXDG</b>	22	
<b>PFCV-12-N-C-12-0MXXDG</b>	45	
<b>PFCV-12-N-C-18-0MXXDG</b>	68	
<b>PFCV-12-N-C-24-0MXXDG</b>	91	1620
<b>PFCV-16-N-C-06-0MXXDG</b>	22	
<b>PFCV-16-N-C-12-0MXXDG</b>	45	
<b>PFCV-16-N-C-18-0MXXDG</b>	68	
<b>PFCV-16-N-C-24-0MXXDG</b>	91	
<b>PFCV-16-N-C-30-0MXXDG</b>	114	
<b>PFCV-16-N-C-36-0MXXDG</b>	136	

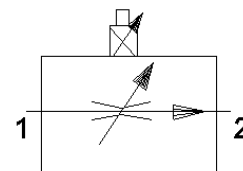
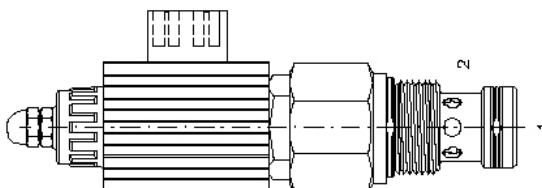
NB: The above options are normally closed. In the event of a power failure the valve will close. To choose normally open, replace 'C' in the part number with 'O'. In the event of a power failure the 'O' option will default to fully open.

For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.

## PROPORTIONAL FLOW CONTROL

### 2 Port Pressure Compensated

EPFI  
EPFC



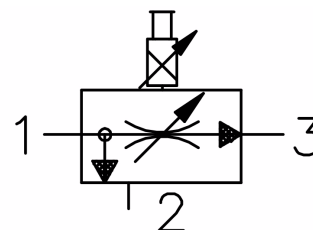
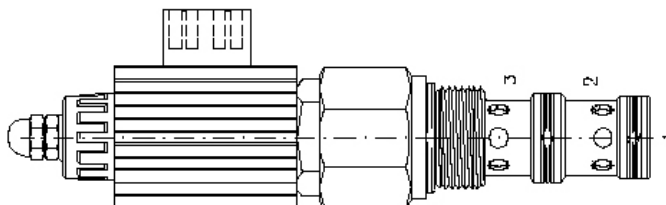
Part Number	Flow Range L/min	Cavity
EPFI-08-N-C-03-0MXXDG	0-11	0820
EPFI-10-N-C-04-0MXXDG	0-15	1020
EPFI-10-N-C-08-0MXXDG	0-30	
EPFI-12-N-C-05-0MXXDG	0-19	1220
EPFI-12-N-C-10-0MXXDG	0-38	
EPFI-12-N-C-15-0MXXDG	0-57	
EPFC-16-N-05-0MXXDG	0-19	1620
EPFC-16-N-10-0MXXDG	0-38	
EPFC-16-N-15-0MXXDG	0-57	
EPFC-16-N-20-0MXXDG	0-76	

AVAILABLE IN 12V DC OR 24V DC REPLACE 'XX' IN THE PART NUMBER WITH THE REQUIRED VOLTAGE.  
IN THE EVENT OF POWER FAILURE, VALVE WILL CLOSE.

## PROPORTIONAL FLOW CONTROL

### 3 Port Bypass Type Pressure Compensated

EPFB  
EPFD



**NB:** Port 3 is the priority port. Port 2 can be directed to a secondary circuit or to tank.

Part Number	Max. Input Flow L/min	Reg. Flow Range L/min	Cavity
EPFB-08-N-C-03-0MXXDG	19	0-11	0830
EPFB-10-N-C-04-0MXXDG	38	0-15	1030
EPFB-10-N-C-08-0MXXDG		0-30	
EPFB-12-N-C-05-0MXXDG	98	0-19	1230
EPFB-12-N-C-10-0MXXDG		0-38	
EPFB-12-N-C-15-0MXXDG		0-57	
EPFD-16-N-05-0-M-XXDG	130	0-19	1630
EPFD-16-N-10-0-M-XXDG		0-38	
EPFD-16-N-15-0-M-XXDG		0-57	
EPFD-16-N-20-0-M-XXDG		0-76	

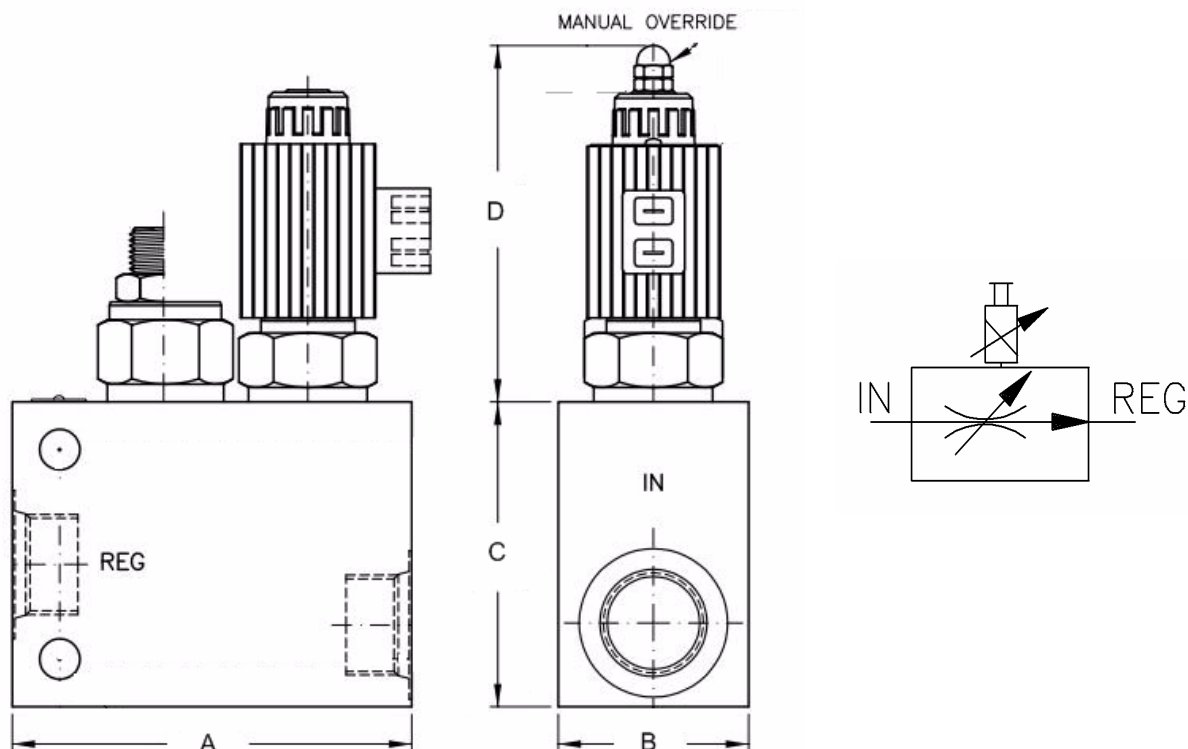
AVAILABLE IN 12V DC OR 24V DC - REPLACE 'XX' IN THE PART NUMBER WITH THE REQUIRED VOLTAGE.  
IN THE EVENT OF POWER FAILURE, VALVE WILL CLOSE

For line mount bodies to suit the above cartridges refer to Section J.  
Use the cavity size to select the correct body type then choose the desired port size.



# PROPORTIONAL FLOW CONTROL

## 2 Port Pressure Compensated



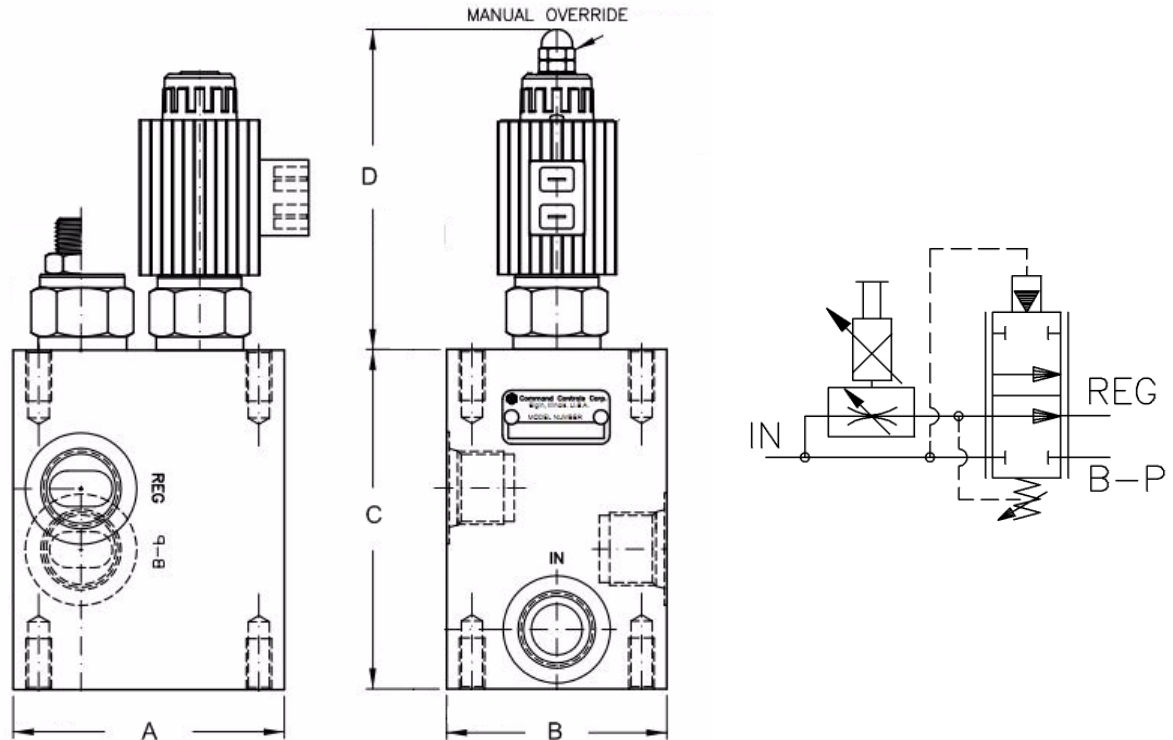
This unit is an electro-proportional, 2 port pressure compensated flow control valve. When the coil is energised the armature moves the metering orifice against a precision bias spring varying the flow. A pressure compensator modulates the flow to ensure constant flow at the REG port regardless of the operating pressure.

Part Number	Reg Flow L/min	Ports UNO	Dimensions mm			
			A	B	C	D
PIFC-10-N-C-04-M-XXDG	15	7/8"	101.6	45.7	76.2	121.9
PIFC-10-N-C-08-M-XXDG	30					
PIFC-10-N-C-12-M-XXDG	45					
PIFC-10-N-C-16-M-XXDG	60					
PIFC-12-N-C-06-M-XXDG	22	1-1/16"	120.7	50.8	101.6	
PIFC-12-N-C-12-M-XXDG	45					
PIFC-12-N-C-18-M-XXDG	68					
PIFC-12-N-C-24-M-XXDG	91					
PIFC-16-N-C-06-M-XXDG	22	1-5/16"	133.3	63.5	101.6	
PIFC-16-N-C-12-M-XXDG	45					
PIFC-16-N-C-18-M-XXDG	68					
PIFC-16-N-C-24-M-XXDG	91					
PIFC-16-N-C-30-M-XXDG	114					
PIFC-16-N-C-36-M-XXDG	136					

AVAILABLE IN 12V DC OR 24V DC - REPLACE 'XX' IN THE PART NUMBER WITH THE REQUIRED VOLTAGE.  
IN THE EVENT OF POWER FAILURE, VALVE WILL CLOSE

**NB:** THE ABOVE OPTIONS ARE NORMALLY CLOSED. IN THE EVENT OF A POWER FAILURE THE VALVE WILL CLOSE. TO CHOOSE NORMALLY OPEN, REPLACE 'C' IN THE PART NUMBER WITH 'O'. IN THE EVENT OF A POWER FAILURE THE 'O' OPTION WILL DEFAULT TO FULLY OPEN.

## PROPORTIONAL FLOW CONTROL 3 Port Bypass Type Pressure Compensated



This unit is an electro-proportional 3 port pressure compensated flow control valve. When the coil is energised the armature moves the metering orifice against a precision bias spring varying the flow. A pressure compensator modulates the flow to ensure constant flow at the REG port regardless of the operating pressure. The excess flow is available at port B-P and can be directed to a secondary circuit or to tank

Part Number	Reg Flow L/min	Ports UNO	Dimensions mm			
			A	B	C	D
PBFC-10-N-C-04-0MXXDG	15	7/8"	85.7	76.2	101.6	121.9
PBFC-10-N-C-08-0MXXDG	30					
PBFC-10-N-C-12-0MXXDG	45					
PBFC-10-N-C-16-0MXXDG	60					
PBFC-12-N-C-06-0MXXDG	22	1-1/16"	101.6	82.6	127	
PBFC-12-N-C-12-0MXXDG	45					
PBFC-12-N-C-18-0MXXDG	68					
PBFC-12-N-C-24-0MXXDG	91					
PBFC-16-N-C-06-0MXXDG	22	1-5/16"	114.3	101.6	152.4	
PBFC-16-N-C-12-0MXXDG	45					
PBFC-16-N-C-18-0MXXDG	68					
PBFC-16-N-C-24-0MXXDG	91					
PBFC-16-N-C-30-0MXXDG	114					
PBFC-16-N-C-36-0MXXDG	136					

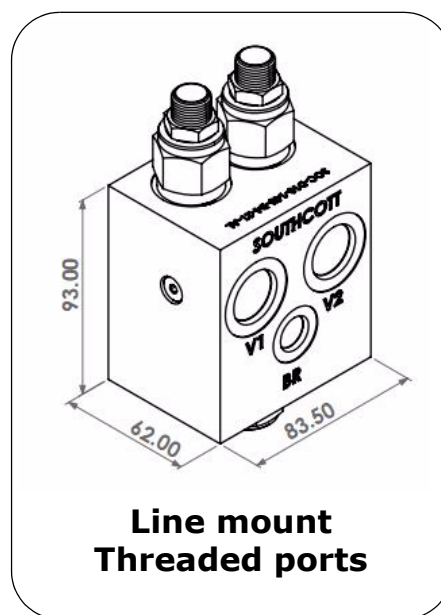
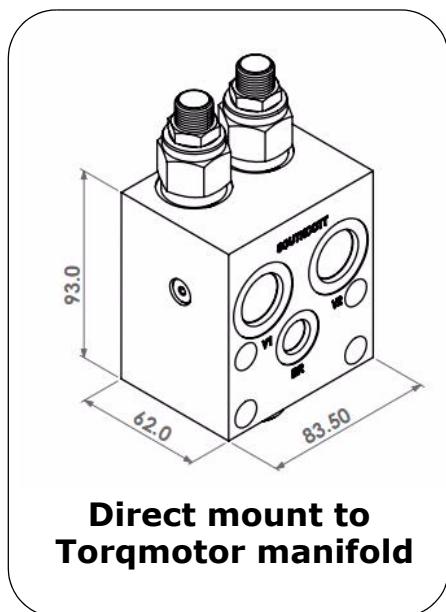
**NB:** REG Port is the priority port, Port B-P can be directed to a secondary circuit or to tank.

AVAILABLE IN 12V DC OR 24V DC - REPLACE 'XX' IN THE PART NUMBER WITH THE REQUIRED VOLTAGE.  
IN THE EVENT OF POWER FAILURE, VALVE WILL CLOSE

# DUAL COUNTER-BALANCE VALVE with BRAKE SHUTTLE

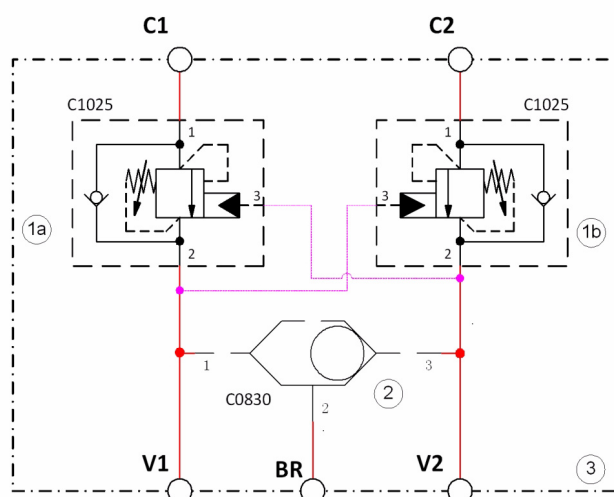
## SOC-D Series

Rated flow: 76 L/min (20 US GPM)  
 Maximum pressure: 210 bar (3000 psi)  
 Body material: Aluminium 2011-T6  
 Pilot ratio: 4:1



Part Number	Work Ports	Brake Port	Press. Range	Type
SOC-DMF-14U-D4-10-AL	7/8" UNO	9/16" UNO	3 - 100 bar	Manifold Mount suit Ross MF & ME
SOC-DMF-14U-D4-21-AL			7 - 210 bar	Manifold Mount suit Ross MF & ME
SOC-D10-14U-D4-21-AL				Line Mount

**NB:** Line mount port centres C1 & C2 are the same as Ross MF series & Maxma MAPH & MARS Torqmotor ports at 45.7mm (1.8") to enable direct mount via adaptors.



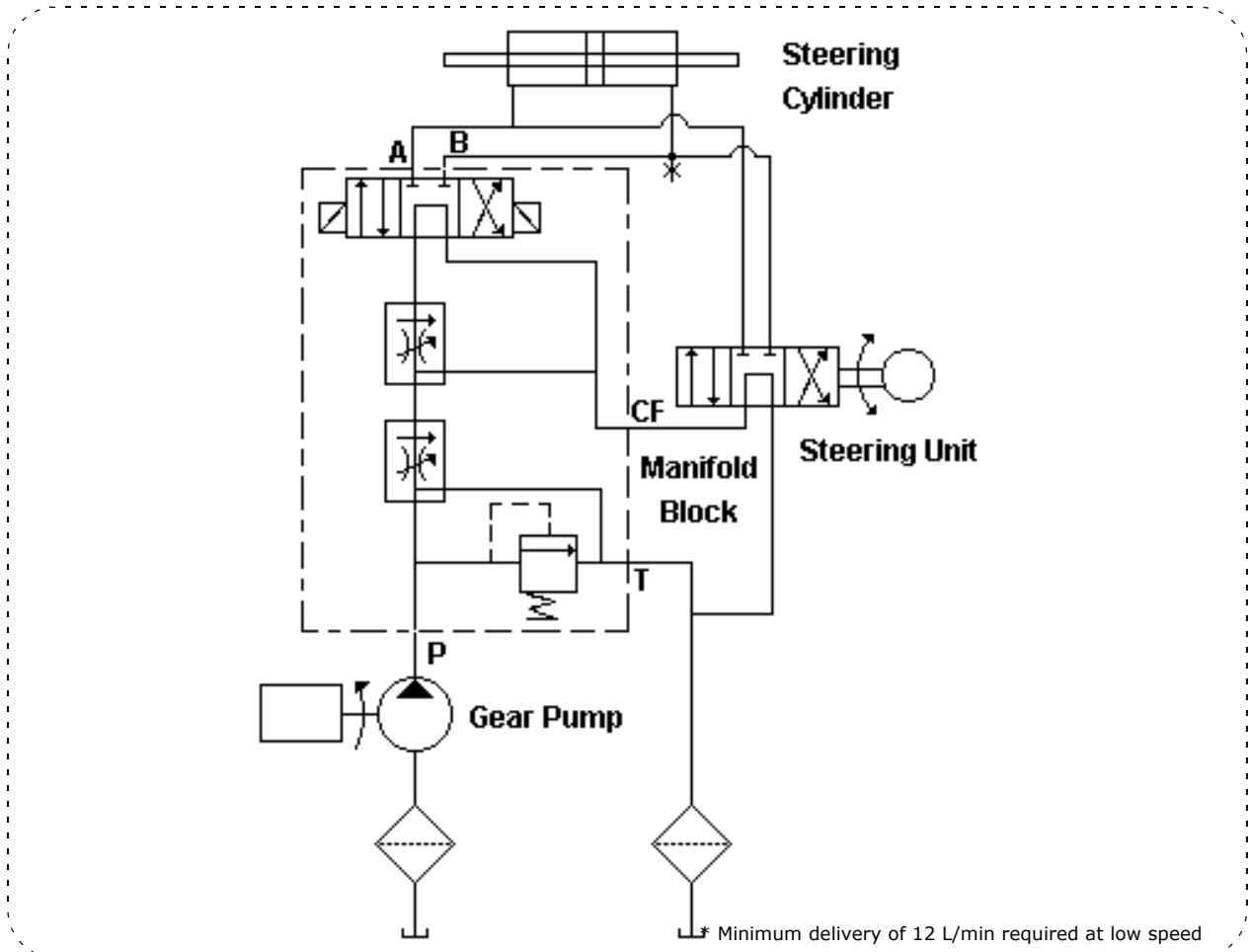
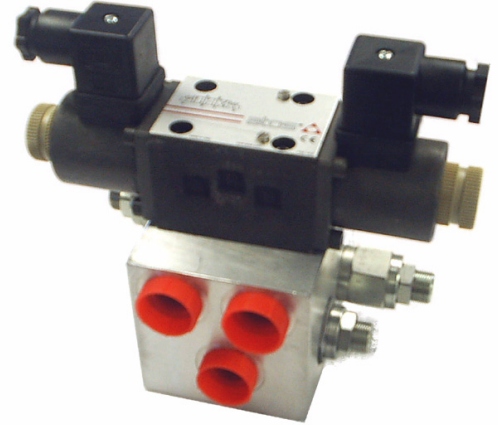
# STEERING VALVE

**SOUTHCOTT** have designed and developed a small manifold block which incorporates all the functions required to operate an off road vehicle or small ship steering system.

**FEATURES INCLUDE:**

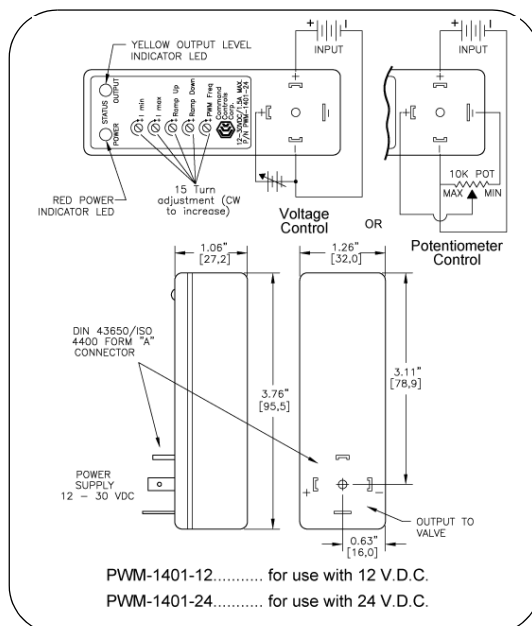
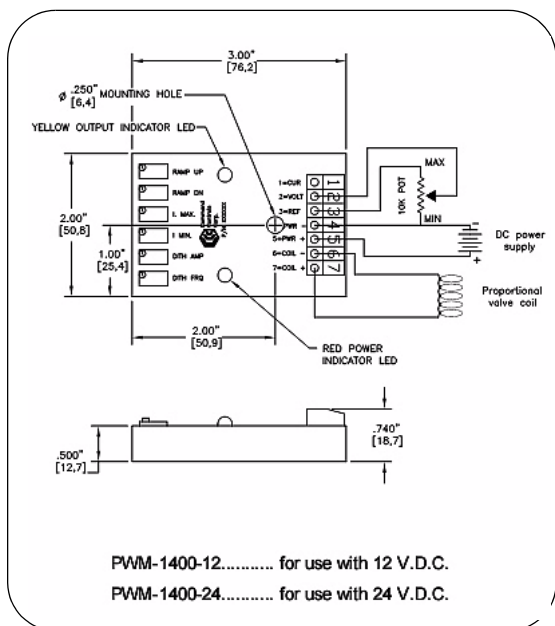
- A.** An inbuilt relief valve to ensure the system is protected against over pressure.
- B.** A priority flow regulator to ensure a constant flow of 12 L/min to the steering transmitter regardless of engine speed.
- C.** A second priority flow regulator to provide 4 L/min metered flow to an autopilot controlled solenoid valve. This ensures smooth and precise steering control from the autopilot.  
(**NB:** AUTOPILOT SYSTEM NOT INCLUDED).
- D.** Having all these features combined into one block provides easy installation and reduced installation costs

**NB:** Standard pressure setting = 100 BAR  
Maximum input flow = 30 L/min



Part Number	Ports
SSM-36-133-12VDC	7/8" UNO
SSM-36-133-24VDC	

# PROPORTIONAL PWM VALVE DRIVER



Part Number	Voltage
<b>PWM-1400-12</b>	12VDC
<b>PWM-1400-24</b>	24VDC
<b>PWM-1401-12</b>	12VDC
<b>PWM-1401-24</b>	24VDC

## PWM DRIVER

PWM driver designed to control proportional hydraulic valve coils for variable control applications.

### PWM Operational Data:

Selectable frequency:	50,100,150 or 200 Hz
Maximum current:	2.5A
Maximum wattage:	50W
Temperature range:	15°C-60°C
Voltage range:	9-24V DC
Absolute maximum voltage:	35V DC
IP rating:	IP44
Control options:	Potentiometer 4-20 mA input 0.5-4.5V input

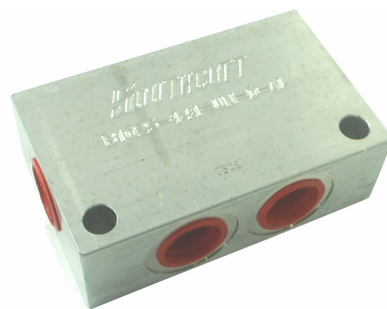
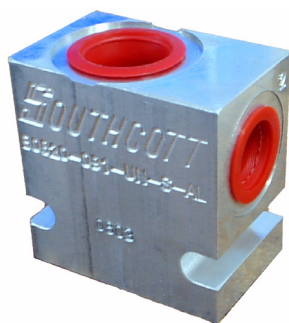


Part Number	Description
<b>PWM-E-S-P</b>	PWM Driver c/w pot & 1 output
<b>PWM-E-D-P</b>	PWM Driver c/w pot & 2 outputs
<b>PWM-E-S-C</b>	PWM Driver 4-20mA input & 1 Output
<b>PWM-E-S-V</b>	PWM Driver 0.5-4.5V input & 1 Output

# SECTION J

## BODIES FOR CARTRIDGE VALVES

PAGE DESCRIPTION	PAGE
2 PORT.....	J 2
2 PORT - A VERSION .....	J 2
2.5 PORT.....	J 2
3 PORT.....	J 2
3 PORT - T11A VERSION .....	J 3
4 PORT.....	J 3
CYLINDER MOUNT.....	J 3
INLINE PORTED BODIES .....	J 4
THROUGH PORT RELIEF BODIES .....	J 4
CROSS PORT .....	J 5
DUAL PORT .....	J 5
CUSTOM MANIFOLD DESIGN .....	J 5
MOTOR MOUNT BODIES .....	J 6
CROSS PORT CHECK VALVES.....	J 6



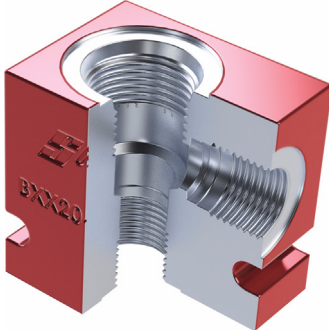
**NB: Models, codes and specifications may be subject to change without notice.**



## BODIES TO SUIT CARTRIDGE VALVES

**NB:** Aluminium bodies rated to 210 bar (3000 psi)  
Steel bodies rated to 345 bar (5000 psi)

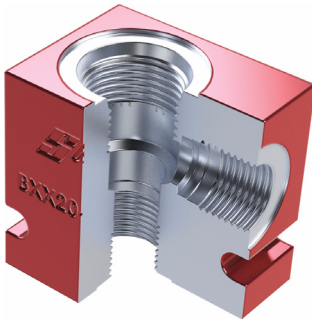
### 2 PORT



Part Number	Cavity	Ports	Material	
B0820-09U-S1-AL	0820	9/16" UNO	Aluminium	
B0820-06B-S1-AL		3/8" BSPP		
B1020-12U-S1-AL	1020	3/4" UNO		
B1020-14U-S1-AL		7/8" UNO		
B1020-06B-S1-AL		3/8" BSPP		
B1020-08B-S1-AL		1/2" BSPP		
B1220-17U-S1-AL	1220	1-1/16" UNO		
B1220-12B-S1-AL		3/4" BSPP		
B1620-21U-S1-AL	1620	1-5/16" UNO		
B1620-16B-S1-AL		1" BSPP		
B0820-09U-S1-ST	0820	9/16" UNO		Steel
B1020-12U-S1-ST	1020	3/4" UNO		
B1020-06B-S1-ST		3/8" BSPP		
B1020-08B-S1-ST		1/2" BSPP		
B1220-17U-S1-ST		1-1/16" UNO		
B1220-12B-S1-ST	1220	3/4" BSPP		
B1620-21U-S1-ST	1620	1-5/16" UNO		
B1620-16B-S1-ST		1" BSPP		



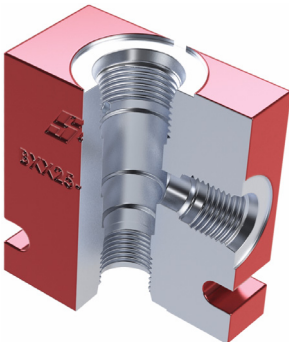
### 2 PORT - A Version



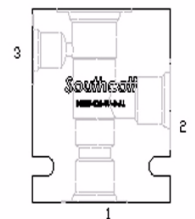
Part Number	Cavity	Ports	Material
B0820A-06B-S1-AL	0820A	3/8" BSPP	Aluminium
B1020A-08B-S1-AL	1020A	1/2" BSPP	
B1220A-12B-S1-AL	1220A	3/4" BSPP	
B1620A-16B-S1-AL	1620A	1" BSPP	



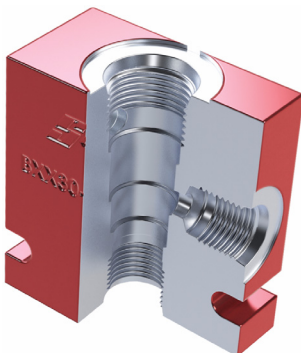
### 2.5 PORT



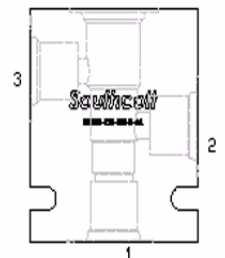
Part Number	Cavity	Ports	Material
B0825-09U-S1-AL	0825	9/16" UNO	Aluminium
B0825-06B-S1-AL		3/8" BSPP	
B1025-12U-S1-AL	1025	3/4" UNO	
B1025-14U-S1-AL		7/8" UNO	
B1025-08B-S1-AL		1/2" BSPP	
B1225-17U-S1-AL		1-1/16" UNO	
B1225-12B-S1-AL	1225	3/4" BSPP	
B0825-12U-S1-ST	0825	9/16" UNO	
B1025-14U-S1-ST	1025	7/8" UNO	
B1225-17U-S1-ST	1225	1-1/16" UNO	



### 3 PORT



Part Number	Cavity	Ports	Material
B0830-09U-S1-AL	0830	9/16" UNO	Aluminium
B1030-12U-S1-AL	1030	3/4" UNO	
B1030-14U-S1-AL		7/8" UNO	
B1030-06B-S1-AL		3/8" BSPP	
B1030-08B-S1-AL		1/2" BSPP	
B1230-17U-S1-AL	1230	1-1/16" UNO	
B1230-12B-S1-AL		3/4" BSPP	
B1630-17U-S1-AL	1630	1-1/16" UNO	
B0830-09U-S1-ST	0830	9/16" UNO	Steel
B1030-12U-S1-ST	1030	3/4" UNO	
B1230-17U-S1-ST	1230	1-1/16" UNO	
B1630-21U-S1-ST	1630	1-5/16" UNO	

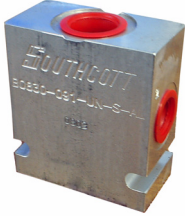


# BODIES TO SUIT CARTRIDGE VALVES

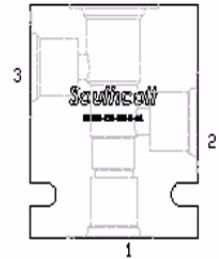
**NB:** Aluminium bodies rated to 210 bar (3000 psi)  
Steel bodies rated to 345 bar (5000 psi)



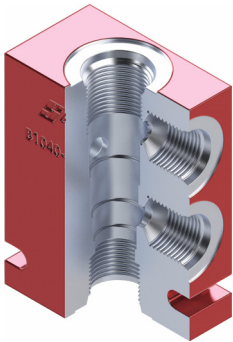
## 3 PORT - T-11A Version



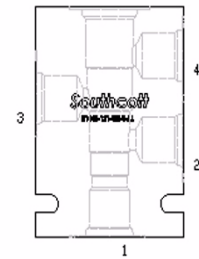
Part Number	Cavity	Ports	Material
BT11A-08B-S1-AL	T-11A	1/2" BSPP / 1/4" BSPP	Aluminium
BT11A-14U09U-AL		7/8" UNO / 9/16" UNO	
BT11A-14U09U-ST		7/8" UNO / 9/16" UNO	Steel



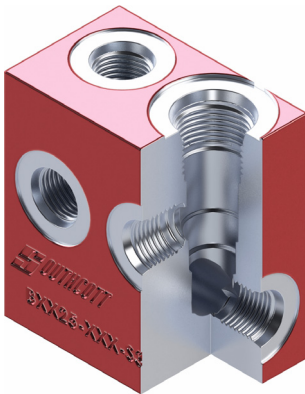
## 4 PORT



Part Number	Cavity	Ports	Material
B0840-09U-S1-AL	0840	9/16" UNO	Aluminium
B1040-12U-S1-AL	1040	3/4" UNO	
B1040-14U-S1-AL		7/8" UNO	
B1040-06B-S1-AL		3/8" BSPP	
B1240-17U-S1-AL	1240	1-1/16" UNO	Aluminium
B1240-12B-S1-AL		3/4" BSPP	
B0840-09U-S1-ST	0840	9/16" UNO	Steel
B1040-12U-S1-ST	1040	3/4" UNO	
B1240-17U-S1-ST	1240	1-1/16" UNO	



## CYLINDER MOUNT



Part Number	Cavity	Type	Ports	Port Adp.	Material
B0825-09U-S3-AL	0825	Single	9/16" UNO	ZC52-0909	Aluminium
B0825-09U-D3-AL		Double			
B0825-09U-D31-AL	1025	Single	3/4" UNO	ZC52-1212	Aluminium
B1025-12U-S3-AL		Double			
B1025-12U-D3-AL		Double	3/4" UNO	ZC52-1212	AL/Reverse
B1025-12U-D31-AL					
BT11A-12U-S3-AL	T-11A	Single	3/4" UNO	ZC52-1212	Aluminium
BT11A-12U-D3-AL		Double			
B1225-17U-S3-AL	1225	Single	1-1/16" UNO	ZC52-1717	Aluminium
B1225-17U-D3-AL		Double			
B0825-09U-S3-ST	0825	Single	9/16" UNO	ZC52-0909	Steel
B0825-09U-D3-ST		Double			
B1025-12U-S3-ST	1025	Single	3/4" UNO	ZC52-1212	
B1025-12U-D3-ST		Double			
B1225-17U-S3-ST	1225	Single	1-1/16" UNO	ZC52-1717	
B1225-17U-D3-ST		Double			

**NB:** The above bodies are suitable as single or double counter-balance valves (CBPA) or as pilot operated check valves (POCI) directly attached to a cylinder port (except cavity T-11A suitable only CPBA-20M).  
Use special Child port adaptor ZC52-0909, ZC52-1212, ZC52-1412 or ZC52-1717 to attach direct to the cylinder port.



Double counter-balance system displayed.

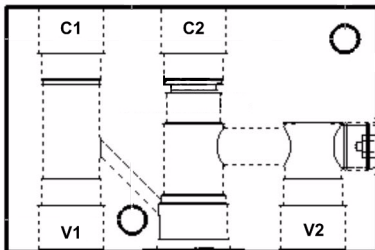
**NB:** For single counter-balance, port C2 is the load hold port

## BODIES TO SUIT CARTRIDGE VALVES

**NB:** Aluminium bodies rated to 210 bar (3000 psi)  
Steel bodies rated to 345 bar (5000 psi)

### INLINE PORTED BODIES

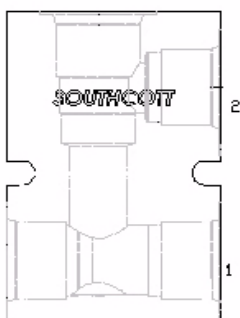
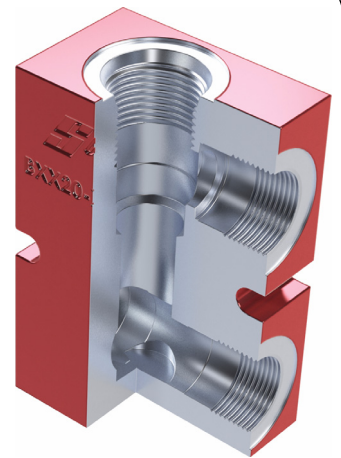
Suit single counter-balance & single pilot operated check valve applications.  
Use Command Controls (Bucher) counter-balance cartridges (CBPA)  
or pilot-operated check valve (POCI) cartridges.  
In and out ports are oriented in the same plane to facilitate inline mounting.



Part Number	Cavity	Ports	Material
<b>B1025-06B-S8-AL</b>	1025	3/8" BSPP	Aluminium
<b>B1025-08B-S8-AL</b>		1/2" BSPP	Steel
<b>B1025-08B-S8-ST</b>			

### THROUGH PORT RELIEF BODIES

2 way through port  
Suit relief valve application  
Use Command Controls (Bucher) pilot-operated type **RVPS**  
or direct-acting **RVDI** cartridges



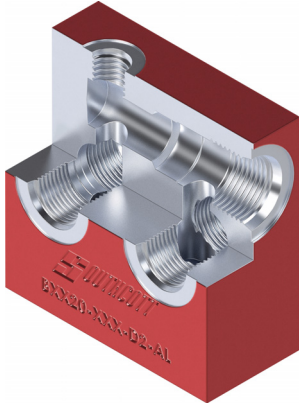
Part Number	Cavity	Ports	Material	
<b>B0820-09U-S10-AL</b>	0820	9/16" UNO	Aluminium	
<b>B0820-06B-S10-AL</b>		3/8" BSPP		
<b>B1020-14U-S10-AL</b>	1020	7/8" UNO		
<b>B1020-08B-S10-AL</b>		1/2" BSPP		
<b>B1220-17U-S10-AL</b>	1220	1-1/16" UNO		
<b>B1220-12B-S10-AL</b>		3/4" BSPP		
<b>B0820-06B-S10-ST</b>	0820	3/8" BSPP		Steel
<b>B1020-08B-S10-ST</b>	1020	1/2" BSPP		
<b>B1220-12B-S10-ST</b>	1220	3/4" BSPP		

# BODIES TO SUIT CARTRIDGE VALVES

**NB:** Aluminium bodies rated to 210 bar (3000 psi)  
Steel bodies rated to 345 bar (5000 psi)



## CROSS PORT



Part Number	Cavity	Ports	Material
<b>B0820-12U-D2-AL</b>	0820	3/4" UNO	Aluminium
<b>B1020-14U-D2-AL</b>	1020	7/8" UNO	
<b>B1020-08B-D2-AL</b>		1/2" BSPP	
<b>B1220-17U-D2-AL</b>	1220	1-1/16" UNO	
<b>B1220-12B-D2-AL</b>	1220	3/4" BSPP	

**NB:** The above bodies are suitable for use as line mounted cross port relief valves. Use pilot operated cartridges RVPS or direct acting RVDI cartridges.

## DUAL PORT



Part Number	Cavity	Ports	Material
<b>B0825-09U-D1-AL</b>	0825	9/16" UNO	Aluminium
<b>B1025-14U-D1-AL</b>	1025	7/8" UNO	
<b>B1025-06B-D1-AL</b>		3/8" BSPP	
<b>B1025-08B-D1-AL</b>		1/2" BSPP	
<b>B1225-17U-D1-AL</b>	1225	1-1/16" UNO	Steel
<b>B0825-12U-D1-ST</b>	0825	3/4" UNO	
<b>B1025-14U-D1-ST</b>	1025	7/8" UNO	
<b>B1225-17U-D1-ST</b>	1225	1-1/16" UNO	

**NB:** The above bodies are suitable for inline dual counter-balance valve (CBPA) or pilot operated check valve (POCI) applications.

## CUSTOM MANIFOLD DESIGN



### LOOKING FOR A CUSTOMISED SOLUTION?

The unique interchangeability of Bucher Hydraulics (Command Controls) components allows us to design a great variety of hydraulic circuits. From a very simple assembly to the most complex integrated circuit, we utilise the commonality of our parts together with our industry common cavities to develop custom design manifolds (CDMs) quickly and efficiently.



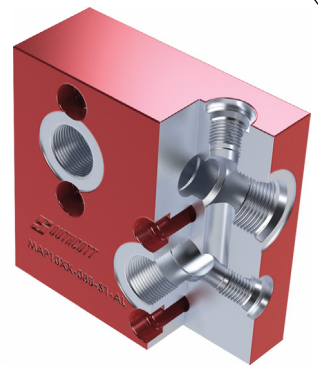
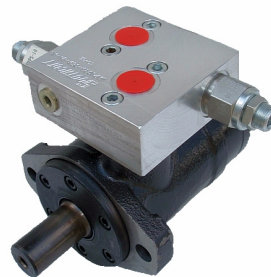
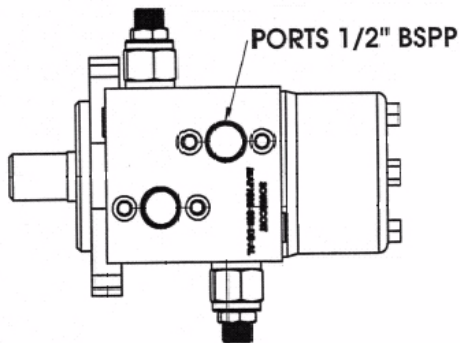
## MOTOR MOUNT BODIES

Suit Maxma MAP, MAR & MAS Series and Danfoss OMP, OMR & OMS Series motors

### Applications:

Cross port relief valve - use Command Controls **RVPS** cartridge

Counter-balance valve - use Command Controls **CBPA** cartridge



Part Number	Cavity	Application	Cartridge	Material
<b>MAP1020-08B-S1-AL/KIT</b>	1020	Single Relief	1 x RVPS	Aluminium
<b>MAP1020-08B-D1-AL/KIT</b>		Double Relief	2 x RVPS	
<b>MAS1020-08B-D1-AL/KIT</b>				
<b>MAP1025-08B-S1-AL/KIT</b>	1025	Single Counterbalance	1 x CBPA	
<b>MAP1025-08B-D1-AL/KIT</b>		Double Counterbalance	2 x CBPA	
<b>MAS1030-08B-D1-AL/KIT</b>	1030	Shuttle Valve	1 x BDSV	

NB: MAP range includes body only. MAS range includes body and cartridge(s).

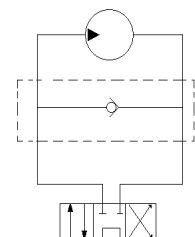
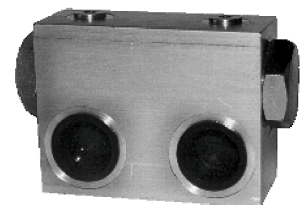
## CROSS PORT CHECK VALVES

These valves are ideally suited for unidirectional motor applications when using a control valve that has closed work ports in the neutral position. The cross port check valve permits the centrifugal energy of the driven component to dissipate harmlessly.

The port centres permit direct fitment via adaptors to **Torqmotor®** motors or they can be line mounted to suit any motor application.

The direction of the check valve can be changed by swapping the end plugs.

Applications include rotary hoes, rotary brooms, post hole diggers, etc.



Part Number	Direct mounts via adaptors to:	Port Size
<b>SBPC-141-UN</b>	Ross MB/ME & MG/MF Charlynn H & S series Maxma MAPH & MARS	7/8" UNO
<b>SBPC-141-UN-2K</b>	Charlynn 2000 Series Maxma MASE	7/8" UNO

# SECTION K

## SOUTHCOTT ACCUMULATORS

DESCRIPTION	PAGE
SOUTHCOTT DIAPHRAGM ACCUMULATORS - - - - -	K 2
SOUTHCOTT BLADDER ACCUMULATORS - - - - -	K 3
ACCUMULATOR ACCESSORIES & SPARES - - - - -	K 4

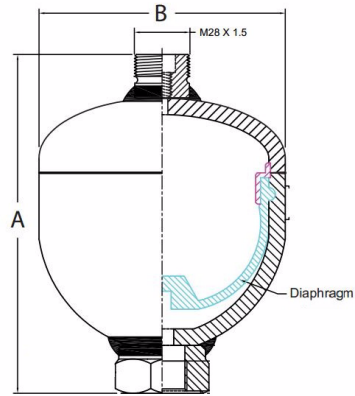


**CAUTION:** Accumulators are often utilised to store energy in the form of a stored volume of oil under pressure. This is a potentially hazardous and dangerous situation. Purchasers must be aware of the dangers and utilise only qualified persons to apply and install these items. All systems utilising accumulators must have suitable signage warning of the dangers. All systems using accumulators as energy storage must have a suitable means of safely releasing the energy to tank prior to any maintenance procedures taking place.

**NB:** Models, Codes and Specifications may be subject to change without notice.



# SOUTHCOTT DIAPHRAGM ACCUMULATORS



Construction: Welded seam  
 Diaphragm: NBR - Alternatives available on request  
 Installation: Mount in any position  
 Working Temperature: -10°C to 80°C  
 Maximum Allowable Pressure Ratio: <6:1  
 Charging Thread: M28 x 1.5  
 Charging Kit: See page K4

The diaphragm accumulator consists of a fluid section and a gas section with the diaphragm acting as a gas-proof screen. The fluid section is connected with the hydraulic circuit so that the diaphragm accumulator takes in fluid when pressure increases and the gas is compressed. When the pressure drops, the compressed gas expands and forces the stored fluid into the circuit.  
 The diaphragm accumulator is regarded as a non-repairable unit.

## Model Code: SDA - 0.16 - 210 - G12

**Series** \_\_\_\_\_  
 SDA - Southcott Diaphragm Accumulator

**Volume (Litres)** \_\_\_\_\_  
 0.16, 0.32, 0.5, 0.75, 1.0, 1.4, 2.0

**Pressure (bar)** \_\_\_\_\_  
**Port Size (BSPP)** \_\_\_\_\_

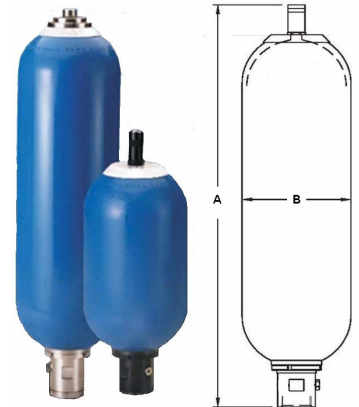
Part Number	Nominal Volume L	Maximum Operating Pressure bar	Dimensions			
			A mm	B mm	Fluid Port BSPP	kg
SDA-0.075-210-G12	0.075	210	113	64	1/2"	0.8
SDA-0.16-210-G12	0.16		126	75		1.2
SDA-0.32-210-G12	0.32		143	93		1.5
SDA-0.5-210-G12	0.5		153	105		1.8
SDA-0.75-210-G12	0.75		169	120		2.6
SDA-1.0-210-G12	1.0		183	136		4.4
SDA-1.4-210-G12	1.4		205	150		5.3
SDA-2.0-210-G34	2.0		223	166	3/4"	6.6



# SOUTHCOTT BLADDER ACCUMULATORS

Construction: Pressure vessel is seamless and manufactured from high tensile steel  
 Bladder: NBR - Alternatives available on request  
 Installation: The preferred mount position is vertical - fluid port down  
 Accumulator Mounting: Mount by accumulator supports - see page K4.  
 Working Temperature: -10°C to 80°C.  
 Maximum Allowable Pressure Ratio: <4:1  
 Gas Charging Port: 1/4"BSPP  
 Gas Charging Kit: See page K4

Bladder accumulators can be used in a wide variety of applications:  
 Energy Storage, Emergency Operation, Leakage Compensation, Volume Compensation,  
 Shock Absorption, Vehicle Suspension, Pulsation Dampening.



**Model Code: SBA - 1.0 - 350 - G34 - CN11**

**Series** \_\_\_\_\_  
 SBA - Southcott Bladder Accumulator

**Volume (Litres)** \_\_\_\_\_  
 1.0, 2.5, 4.0, 10, 20, 32, 50, 57

**Pressure (bar)** \_\_\_\_\_

**Port Size (BSPP)** \_\_\_\_\_

**Type** \_\_\_\_\_  
 CN11 = Carbon Steel, Nitrile Bladder  
 SN11 = 316 Stainless Steel, Nitrile Bladder

Part Number	Nominal Volume L	Effective Gas Volume L	Maximum Working Pressure bar	Dimensions			
				A mm	B mm	Fluid Port BSPP	kg
<b>SBA-1.0-350-G34-CN11</b>	1.0	1.1	350	330	116	3/4"	6
<b>SBA-1.0-420-G34-CN11</b>			420				
<b>SBA-2.5-350-G114-CN11</b>	2.5	2.4	350	549	170	1-1/4"	11
<b>SBA-2.5-420-G114-CN11</b>			420				
<b>SBA-4.0-350-G114-CN11</b>	4.0	3.6	350	434	170		15
<b>SBA-10-207-G2-CN11</b>	10.0	9.4	207	560	230	2"	31
<b>SBA-10-345-G2-CN11</b>			345				
<b>SBA-10-420-G2-CN11</b>			420				
<b>SBA-20-207-G2-CN11</b>	20.0	18.8	207	880	230	2"	49
<b>SBA-20-345-G2-CN11</b>			345				
<b>SBA-20-420-G2-CN11</b>			420				
<b>SBA-37-207-G2-CN11</b>	37.0	35.2	207	1415	230	2"	81
<b>SBA-37-345-G2-CN11</b>			345				
<b>SBA-37-420-G2-CN11</b>			420				
<b>SBA-50-207-G2-CN11</b>	50.0	49.2	207	1920	230	2"	110
<b>SBA-50-345-G2-CN11</b>			345				
<b>SBA-50-420-G2-CN11</b>			420				
<b>SBA-57-345-G2-CN11</b>	57.0	52.2	345	2000	230	2"	146
<b>SBA-57-420-G2-CN11</b>			420				

Note:  
 The charging cap of 207 bar accumulators is black in colour.  
 The charging cap of 345/350 bar accumulators is bronze in colour.  
 Use O-ring seal on BSPP ports except size G3/4 use Dowty seal

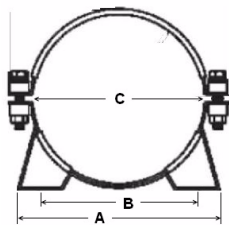
# ACCUMULATOR ACCESSORIES AND SPARES



<b>CHARGING KIT</b> (includes regulator, as pictured)
<b>Part No.</b> <b>SCK-1000R</b>
(without regulator)
<b>SCK-1000</b>

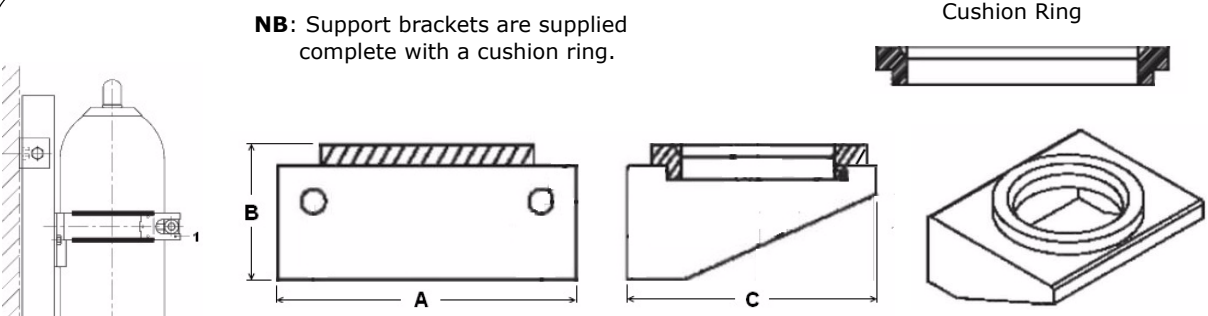
REPLACEMENT BLADDER	
Part Number	Nominal Size L
<b>SBK-1.0-N</b>	1
<b>SBK-2.5-N</b>	2.5
<b>SBK-4.0-N</b>	4
<b>SBK-10-N</b>	10
<b>SBK-20-N</b>	20
<b>SBK-32-N</b>	32
<b>SBK-50-N</b>	50
<b>SBK-57-N</b>	57

SEAL KIT+ANTI-EXTRUSION RING	
Part Number	Nominal Size L
<b>SK-SBA-1.0</b>	1
<b>SK-SBA-2.5</b>	2.5
<b>SK-SBA-4.0</b>	4.0
<b>SK-SBA-10</b>	10 - 50



SADDLE CLAMP (for mounting accumulators)				
Part Number	Accumulator Size L	Dimensions mm		
		A	B	C
<b>SSC-114</b>	1.0 & 2.4	138	100	114
<b>SSC-168</b>	4	188	148	168
<b>SSC-226</b>	10 to 57	270	216	226

**NB:** Support brackets are supplied complete with a cushion ring.



SUPPORT BRACKET + CUSHION RING					CUSHION RING
Part Number	To Suit	Dimensions mm			Part Number
		A	B	C	
<b>SSB-2</b>	4.0L	210	95	175	<b>SCR-2</b>
<b>SSB-3</b>	10L to 57L	260	120	235	<b>SCR-3</b>

1 Clamp  
2 Support  
3 Cushion Ring



## ACCUMULATOR PRECHARGE

PRECHARGES AVAILABLE	
Part Number	Accumulator Size L
PRECHARGE 0.075-0.75	0.075 to 0.75
PRECHARGE 1.0-1.4	1.0 to 1.4
PRECHARGE 2.0-2.5	2.0 to 2.5
PRECHARGE 4.0	4.0
PRECHARGE 10	10
PRECHARGE 20	20
PRECHARGE 37	37
PRECHARGE 50	50
PRECHARGE 57	57

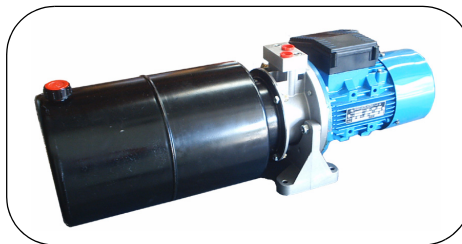




# SECTION L

## POWER UNITS & TANKS

PAGE DESCRIPTION	PAGE
<b>SOUTHCOTT POWER UNITS</b> - - - - -	<b>- L 2</b>
<b>HYDRO-TEK Power Units</b>	
<b>Mini AC Power Units</b> - - - - -	<b>- L 3</b>
<b>Mini DC Power Units</b> - - - - -	<b>- L 5</b>
<b>Mini Petrol Engine Power Units</b> - - - - -	<b>- L 8</b>
<b>Micro DC Power Units</b> - - - - -	<b>- L 9</b>
<b>LOG SPLITTER KIT</b> - - - - -	<b>L 10</b>
<b>SOUTHCOTT OIL TANKS</b> - - - - -	<b>L 11</b>
<b>SOUTHCOTT INDUSTRIAL POWER UNITS (IPU)</b> - - - - -	<b>L 13</b>



**NB: Models, codes and specifications may be subject to change without notice.**



## HYDRAULIC POWER UNITS

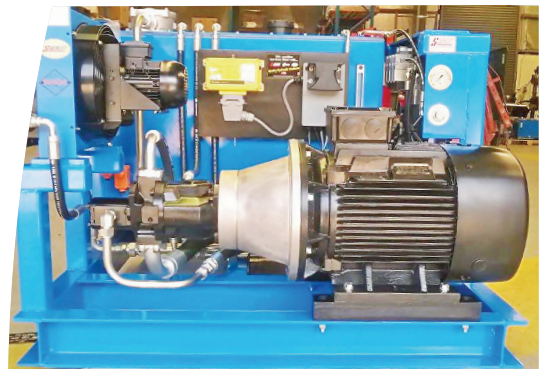
Southcott Power Units are designed to deliver reliable hydraulic supply to a wide range of end-user equipment, operating in both safe and hazardous environments. Southcott's team of engineers and technicians can design and manufacture hydraulic power units to meet client requirements and specifications. Our design capabilities include open-loop fixed displacement systems, variable displacement with load-sensing systems, horsepower & servo-controlled systems and close loop variable displacement systems for specific drive applications.

Electronic control systems can be seamlessly integrated with power units through our internal Control Systems Group. Southcott electronic engineers can design and manufacture electrical control panels which can incorporate industrial PLC, mobile CAN controllers, radio controls and complete wiring harnesses to deliver turnkey integration.

Southcott engineers utilise the latest advanced software to ensure efficiency and accuracy. We pride ourselves on delivering excellent customer service with after-sales and technical support. We also provide customers with on-site commissioning, full operation manuals, risk assessments and training.

### FEATURES:

- Custom-built
- In-house electronic controls system design, manufacture & integration
- Environmental & hazardous specifications met
- Focus on hydraulic efficiency
- Modular design capability to meet installation requirements
- Integrated manifold design
- Fully enclosed hydraulic power units with soundproofing for harsh environments
- Base frames with integrated drip tray, forklift tyne lifting points or lifting eyes



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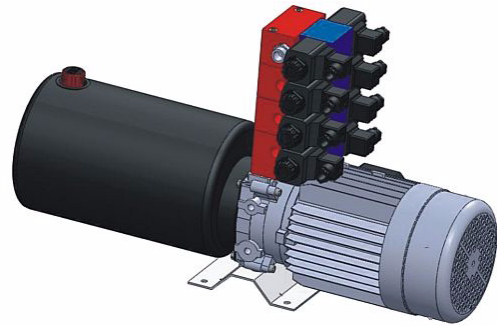
## Mini AC Power Units

**Hydro-Tek Hydraulic Power Units** are a compact, lightweight AC Power Unit.

The modular design of the central manifold offers high flexibility from simple through to more complex circuits.

This system permits customised configurations within a short delivery time.

Below is the data on our standard stock range. We have many options however, so for your special application please contact one of our sales personnel.



Part No. 240VAC Units	Description	kW	Flow L/Min	Press bar	Tank Size
H1-055-4-16-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	0.55	2.3	121	11 Ltr
H1-075-4-16-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	0.75	2.3	166	11 Ltr
H1-110-4-32-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	1.10	4.6	121	11 Ltr
H1-150-4-32-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	1.50	4.6	166	11 Ltr
H1-220-4-48-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	2.20	6.9	161	11 Ltr
H1-300-4-70-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	3.00	10.0	153	11 Ltr
Part No. 415VAC Units					
H3-055-4-16-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	0.55	2.3	121	11 Ltr
H3-075-4-16-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	0.75	2.3	166	11 Ltr
H3-110-4-32-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	1.10	4.6	121	11 Ltr
H3-150-4-32-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	1.50	4.6	166	11 Ltr
H3-220-4-48-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	2.20	6.9	161	11 Ltr
H3-300-4-70-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	3.00	10.0	153	11 Ltr
H3-400-4-98-B1-H-11S	Motor & Pump & Tank 1/4" BSPP Ports	4.00	14.1	100	11 Ltr

The above are our base units using 1440 rpm motors and are without any valving, electrical switchboxes, pendants or wiring.

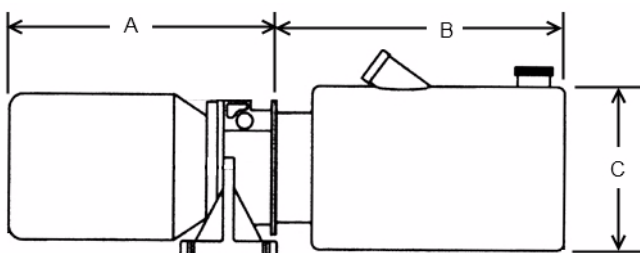
### Additions for Tank and Mount Options

Size Litres	Type	Code
1	Steel	1S
3	Steel	3S
5	Steel	5S
8	Steel	8S
11	Steel	11S
15	Steel	15S
20	Steel	20
30	Steel	30
5	Plastic	5P
8	Plastic	8P
-	Vertical Mt.	V

### Additions for Valve Options

Circuit Option	Description
C1	Motor & Pump & Tank & S.A. Solenoid Valve
D1	Motor & Pump & Tank & S. A. Manual Valve
E(X)	Motor & Pump & Tank & Cetop3 Sol. Valve
F(X)	Motor & Pump & Tank & Cetop3 Sol. Valve + Unloader

\*(X): Multiply by number of solenoid valves (min 1, max 8) eg E1, E5, F4

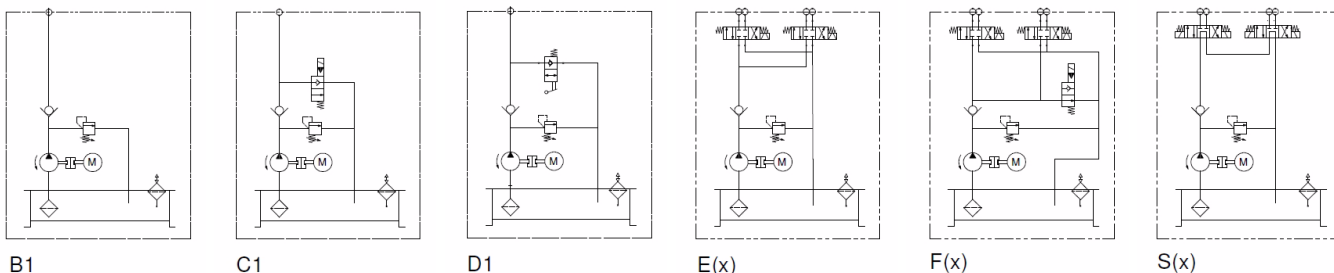


**NB:** Units with tank sizes 15S & 30S have the pump/motor assembly mounted vertically down into the tank.

kW	Dim A 240V	Dim A 415V	Tank	Dim B	Dim C
0.55	330	325	1S	150	125.4
0.75	330	345	3S	280	125.4
1.10	365	370	5S	194	190
1.50	405	405	8S	298	190
2.20	474.2	440	11S	428	190
3.00	474.2	457.2	15S	230	290
4.00	-	492.2	20S	530	200
-	-	-	30S	270	380
-	-	-	5P	290	170
-	-	-	8P	440	170

## Circuit Options and Model Codes

Below are the standard circuit options available from our stocked range. Other options are available on request.



### Model Code

**H1 - 110 - 4 - 32 - B1\* \*- H - 11S**

Voltage	Code
240 Volt AC	<b>H1</b>
415 Volt AC	<b>H3</b>

AC Motor	Code
0.55 kW	<b>055</b>
0.75 kW	<b>075</b>
1.1 kW	<b>110</b>
1.5 kW	<b>150</b>
2.2 kW	<b>220</b>

AC Motor Speed	Code
2850	<b>2</b>
1440	<b>4</b>
750	<b>6</b>

Pump	Code
0.5cc	<b>05</b>
0.7cc	<b>07</b>
1.1cc	<b>11</b>
1.6cc	<b>16</b>
2.3cc	<b>23</b>
3.2cc	<b>32</b>
4.2cc	<b>42</b>
4.8cc	<b>48</b>
7.0cc	<b>70</b>
9.8cc	<b>98</b>

Volts	Code
12VDC	<b>A</b>
24VDC	<b>B</b>
240VAC	<b>C</b>
110VAC	<b>D</b>

Mount	Code
Horizontal	<b>H</b>
Tank Vertical Down	<b>V</b>
Tank Vertical Up	<b>U</b>

Spool	Code	Spool	Code
	<b>A</b>		<b>F</b>
	<b>B</b>		<b>G</b>
	<b>C</b>		<b>H</b>
	<b>D</b>		<b>I</b>
	<b>E</b>		<b>J</b>

Circuit Option	Code
Motor & Pump & Tank & 1/4"BSPP Ports	<b>B1</b>
Motor & Pump & Tank & S.A. Solenoid Valve	<b>C1</b>
Motor & Pump & Tank & S. A. Manual Valve	<b>D1</b>
Motor & Pump & Tank & Cetop3 Sol. Valve(s)	<b>E(X)</b>
Motor & Pump & Tank & Cetop3 Sol. Valve(s) + Unloader	<b>F(X)</b>
Motor, Pump, Tank, Cetop3 Solenoid Valve(s) (Series)	<b>S(X)</b>

Tank	Code
1 ltr steel round	<b>1S</b>
3 ltr steel round	<b>3S</b>
5 ltr steel round	<b>5S</b>
8 ltr steel round	<b>8S</b>
11 ltr steel round	<b>11S</b>
15 ltr steel square	<b>15S</b>
20 ltr steel square	<b>20S</b>
30 ltr steel square	<b>30S</b>
5 ltr plastic square	<b>5P</b>
8 ltr plastic square	<b>8P</b>

\* = Coil voltage suit circuit options C1, E1 & E2

Omit for options B1 & D1

(X) = No. of solenoid valves (2-8)

Pump Disp.	Pump Flow	Max. Pressure Permitted in bar per motor kW size							
		0.55	0.75	1.10	1.50	2.20	3.00	4.00	
cc/rev	1440 rpm								
0.5	0.72	200	-	-	-	-	-	-	-
0.7	1.00	200	-	-	-	-	-	-	-
1.1	1.58	177	230	-	-	-	-	-	-
1.6	2.30	121	166	230	-	-	-	-	-
2.3	3.31	84	114	169	230	-	-	-	-
3.2	4.60	60	82	121	166	210	-	-	-
4.2	6.05	46	63	93	126	185	210	210	-
4.8	6.91	40	55	81	110	161	190	190	-
7.0	10.00	28	38	56	76	102	120	120	-
9.8	14.11	19	26	39	53	79	100	100	-

# Mini DC Power Units

**Hydro-Tek Hydraulic Power Units** are a compact, lightweight DC Power Unit.

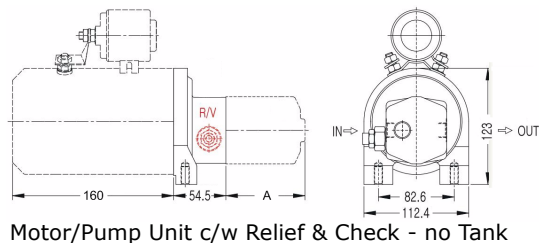
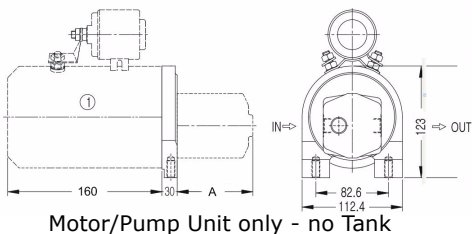
The modular design of the central manifold offers high flexibility from simple through to more complex circuits.

This system permits customised configurations within a short delivery time.

Below is the data on our standard stock range. We have many options however, so for your special application please contact one of our sales personnel.

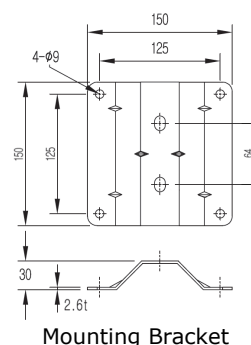
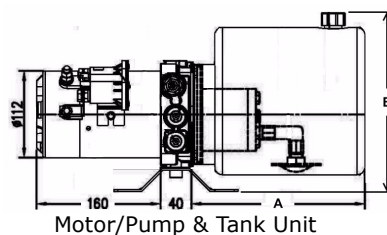


Part Number 12VDC Units	Description (Below Units complete with 5 Litre Tank & Horizontal Mount)	Tank Size
H12-16-16-A1	Motor & Pump only (no tank)	none
H12-16-16-A2	Motor & Pump + Relief Valve (no tank)	
H12-16-16-B1-H-5S	Motor & Pump & Tank 1/4" BSPP Ports	5Ltr
H12-16-16-C1-H-5S-H2S	Motor & Pump & Tank & S.A. Solenoid + 2 Button Pendant	
H12-16-16-D1-H-5S	Motor & Pump & Tank & S. A. Manual Lever	
H12-16-16-E1H-H-5SH2D	Motor & Pump & Tank & 1 x D.A. Cetop3 + 2 Button Pendant	
H12-16-16-E2H-H-5SH4D	Motor & Pump & Tank & 2 x D. A. Cetop3 + 4 Button Pendant	
Part Number 24VDC Units		
H24-22-16-A1	Motor & Pump only (no tank)	none
H24-22-16-A2	Motor & Pump + Relief Valve (no tank)	
H24-22-16-B1-H-5S	Motor & Pump & Tank 1/4" BSPP Ports	5Ltr
H24-22-16-C1-H-5S-H2S	Motor & Pump & Tank & S.A. Solenoid + 2 Button Pendant	
H24-22-16-D1-H-5S	Motor & Pump & Tank & S. A. Manual Lever	
H24-22-16-E1H-H-5SH2D	Motor & Pump & Tank & 1 x D.A. Cetop3 + 2 Button Pendant	
H24-22-16-E2H-H-5SH4D	Motor & Pump & Tank & 2 x D. A. Cetop3 + 4 Button Pendant	



## Additions for Tank & Mount Options

Size Litres	Type	Dim A	Dim B	Code
0	No Tank	102 max	-	-
1	Steel	140	191	1S
3	Steel	245	191	3S
5	Steel	224	231	5S
8	Steel	328	231	8S
11	Steel	458	231	11S
5	Plastic	290	224	5P
10	Plastic	530	224	10P
Vertical Mount				
15	Steel	230	290	15S
20	Steel	530	200	20S
30	Steel	270	380	30S
35	Steel	550	300	35S

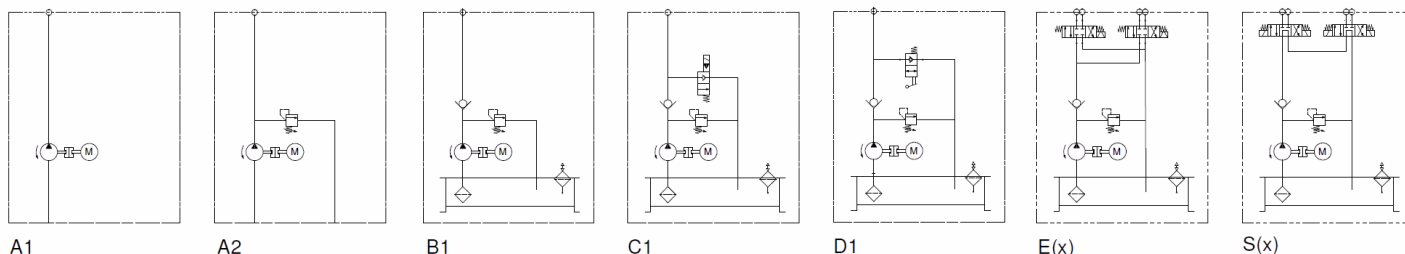




## Circuit Options and Model Codes

Below are the standard circuit options available from our stocked range. Other options are available on request. Circuit options A1 & A2 are motor/pump units without tank, options B - E are tank included models. The electric solenoid models are supplied complete with a 3 metre push button pendant control.

### CIRCUIT OPTIONS



### Model Code

**H12 - 16 - 16 - C1 \* - H - 5S - H2S**

Voltage	Code
12 Volt DC	<b>H12</b>
24Volt DC	<b>H24</b>

DC Motor	Duty Cycle	Code
12VDC 1600W	<b>4 min</b>	<b>16</b>
24VDC 2200W	<b>2 min</b>	<b>22</b>
12VDC 2400W	<b>1.8 min</b>	<b>24</b>
24VDC 3000W	<b>5 min</b>	<b>30</b>

Pump	Code
0.5cc	<b>05</b>
0.7cc	<b>07</b>
1.1cc	<b>11</b>
1.6cc (STD)	<b>16</b>
2.3cc	<b>23</b>
3.2cc	<b>32</b>
4.8cc	<b>48</b>
7.0cc	<b>70</b>
9.8cc	<b>98</b>

Spool	Code
	<b>A</b>
	<b>B</b>
	<b>C</b>
	<b>D</b>
	<b>E</b>
	<b>F</b>
	<b>G</b>
	<b>H</b>
	<b>I</b>
	<b>J</b>

Circuit Option	Code
Motor & Pump only (no tank)	<b>A1</b>
Motor & Pump & Relief Valve (no tank)	<b>A2</b>
Motor & Pump & Tank & 1/4"BSPP Ports	<b>B1</b>
Motor & Pump & Tank & S.A. Solenoid + 2 Button Pendant	<b>C1</b>
Motor & Pump & Tank & S. A. Manual	<b>D1</b>
Motor & Pump & Tank & Cetop3 + 2 Button Pendant	<b>E(X)</b>
Motor, Pump, Tank, Cetop3 Solenoid Valve(s) (Series)	<b>S(X)</b>

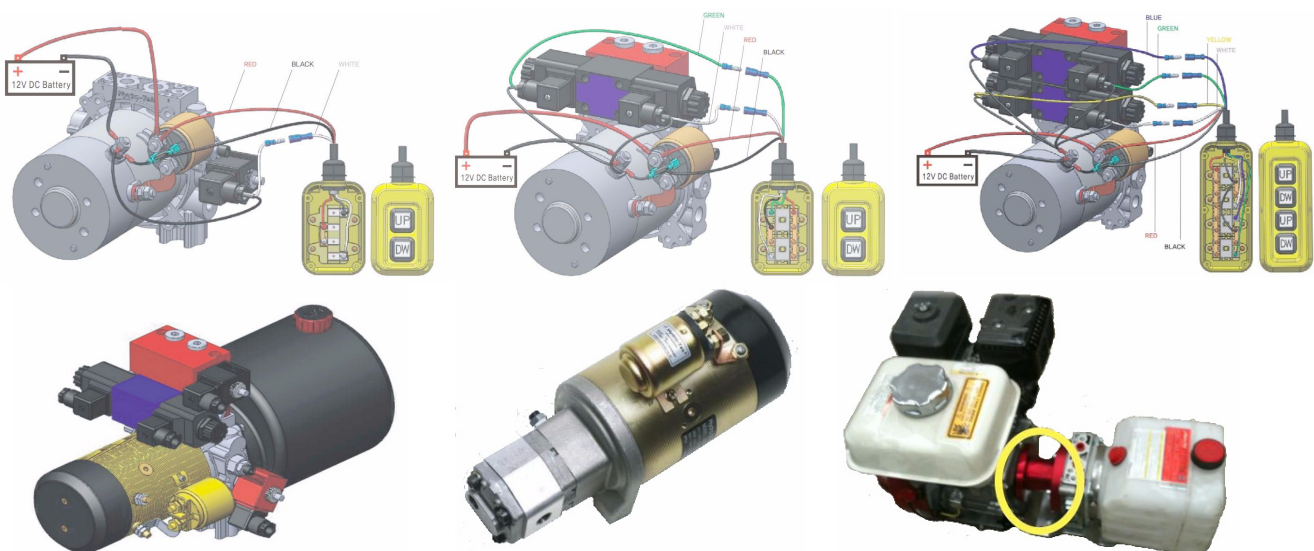
(X): No. of solenoid valves (2 to 8)

Mount	Code
Horizontal	<b>H</b>
Tank Vertical Down	<b>V</b>
Tank Vertical Up	<b>U</b>

Tank	Code
1 ltr steel round	<b>1S</b>
3 ltr steel round	<b>3S</b>
5 ltr steel round	<b>5S</b>
8 ltr steel round	<b>8S</b>
11 ltr steel round	<b>11S</b>
15 ltr steel square	<b>15S</b>
30 ltr steel square	<b>30S</b>
5 Ltr Plastic square	<b>6P</b>
10 ltr Plastic square	<b>10P</b>

Pendant Controls	Code
2 Button S. A.	<b>H2S</b>
2 Button 1 x D.A.	<b>H2D</b>
4 Button 2 x D.A.	<b>H4D</b>
No Pendant	<b>000</b>

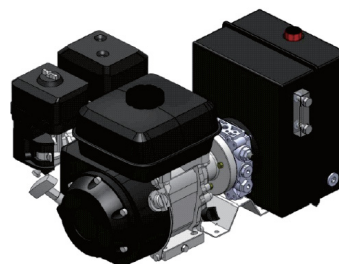
<b>OPTIONS</b>	
<b>Part No.</b>	<b>Description</b>
<b>H2S1G3X-KM</b>	Cable Kit suit Single Solenoid Cartridge "Lift-Hold-Lower" 2 Button Power Up Only
<b>H2D1G3X-KM</b>	Cable kit suit 1 x Double Cetop 3 solenoid valve, 2 Button Power Up & Down
<b>H4D2G3X-KM</b>	Cable Kit suit 2 x Double Cetop 3 solenoid valves, 4 Button Power Up & Down
<b>B-BRACKET</b>	Foot Bracket 30mm High
<b>H-BRACKET</b>	Foot Bracket 45mm High
<b>BY2</b>	CETOP3 Series Manifold Side Ports
<b>BY3</b>	CETOP3 Parallel Manifold Side Ports (Standard)
<b>BY5</b>	Spacer Block for CETOP3 Manifold 23mm high
<b>AB14</b>	Breather 3/8"BSPP c/w Dipstick
<b>AB15</b>	Breather 1/2"BSPP c/w Dipstick
<b>AB16</b>	Breather 3/4"BSPP c/w Dipstick
<b>T1</b>	12V Start Relay
<b>T2</b>	24V Start Relay
<b>600152</b>	Cavity Plug 08
<b>MHX</b>	Manual Valve Assembly
<b>NC08-2PDMJ</b>	Solenoid Cartridge - N/C With Manual Override (NB: coil is additional)
<b>DN08-12</b>	Coil 12VDC suit NC08 Solenoid Cartridge
<b>DN08-24</b>	Coil 24VDC suit NC08 Solenoid Cartridge
<b>XR01-H</b>	Tank Steel 1L Round Horizontal
<b>XR03-H</b>	Tank Steel 3L Round Horizontal
<b>XR05-H</b>	Tank Steel 5L Round Horizontal
<b>XR08-H</b>	Tank Steel 8L Round Horizontal
<b>XR11-H</b>	Tank Steel 11L Round Horizontal
<b>XS15</b>	Tank Steel 15L Rectangular Vertical
<b>XS20</b>	Tank Steel 20L Rectangular Horizontal
<b>XS30</b>	Tank Steel 30L Rectangular Vertical
<b>PXS05</b>	Tank Plastic 5L Square Horizontal
<b>PXS08</b>	Tank Plastic 8L Square Horizontal
<b>GH05B</b>	Pump Gear 0.5cc (Group 0.5)
<b>GH07</b>	Pump Gear 0.7cc (Group 0.5)
<b>GO11</b>	Pump Gear 1.1cc (Group 1)
<b>GO16N</b>	Pump Gear 1.6cc (Group 1)
<b>GO23</b>	Pump Gear 2.3cc (Group 1)
<b>GO32</b>	Pump Gear 3.2cc (Group 1)
<b>GO48B</b>	Pump Gear 4.8cc (Group 1)
<b>GO70B</b>	Pump Gear 7.0cc (Group 1)
<b>GO98B</b>	Pump Gear 9.8cc (Group 1)
<b>EX21</b>	5 HP Petrol Engine Bell Housing Adaptor Kit





# Mini Petrol Engine Power Units

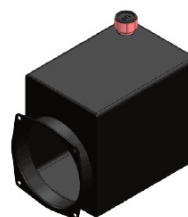
Hydro-Tek hydraulic petrol-driven power units are compact, lightweight and available in 6HP and 9HP. The modular design of the central manifold offers flexibility and permits customised configurations within a short delivery time. Below is the data on our standard stock range; other options also available.



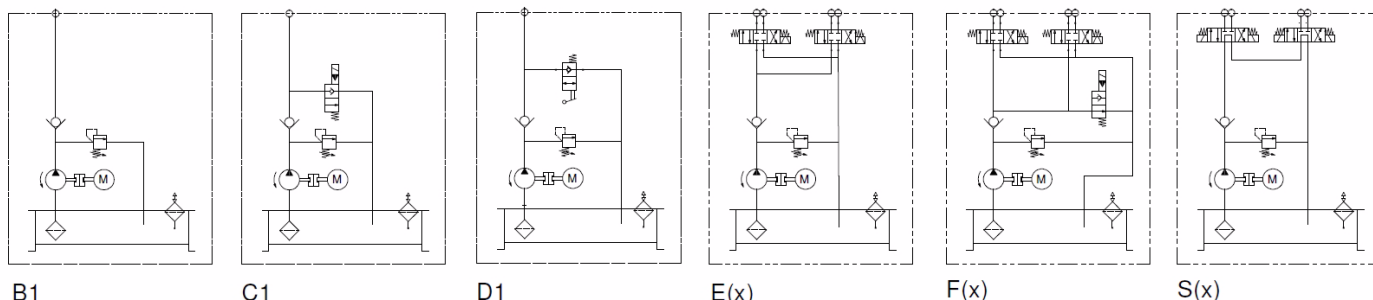
Part No. 6HP Unit	Description	Tank Size
<b>HP-60-16-B1-H-5S</b>	Motor, pump, RV & tank with 1/4" BSP ports	5L
<b>HP-60-16-C1-H-5S-H2S</b>	Motor, pump, RV, tank & SA solenoid + 2-button pendant	

### Tank Options

Size (L)	Type	Code
<b>5</b>	Steel	5S
<b>8</b>		8S
<b>11</b>		11S
<b>20</b>		20S
<b>35</b>		35S



Below are the standard circuit options available from our stocked range. Other options are available on request.



### Model Code

**HP - 60 - 32 - B1AJ - H - 11S**

Description	Code
Horse Power	HP

Description	Code
6HP Petrol Engine	60
9HP Petrol Engine	90

Pump	Code
0.5cc	05
0.7cc	07
1.1cc	11
1.6cc	16
2.3cc	23
3.2cc	32
4.2cc	42
4.8cc	48
7.0cc	70
9.8cc	98

Volts	Code
12V DC	A
24V DC	B
240V AC	C
110V AC	D

Spool	Code
	A
	B
	C
	D
	E
	F
	G
	H
	I
	J

Mount	Code
Horizontal	H
Tank Vertical Down	V
Tank Vertical Up	U

Tank	Code
5L Steel Round	5S
8L Steel Round	8S
11L Steel Round	11S
20L Steel Square (Only H)	20S
35L Steel Square (Only H)	35S

Circuit Option	Code
Motor, Pump, Tank & 1/4" BSPP Ports	B1
Motor, Pump, Tank & S.A. Solenoid Valve	C1
Motor, Pump, Tank & S.A. Manual Valve	D1
Motor, Pump, Tank & Cetop3 Solenoid Valve(s)	E(X)
Motor, Pump, Tank, Cetop3 Valve(s) & Unloader	F(X)
Motor, Pump, Tank, Cetop3 Solenoid Valve(s) (Series)	S(X)

(X): No. of solenoid valves (2 to 8)

# Micro DC Power Units

Hydro-Tek Micro Hydraulic Power Units are compact, light weight DC power unit.

The modular design of the central manifold offers simple circuit for certain application. The compact size of the Micro Power Unit makes it suitable when it comes to space in some application.

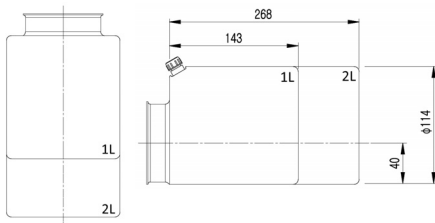
Mini DC Power Unit are available with 12 & 24VDC limited to 800W electric motor.



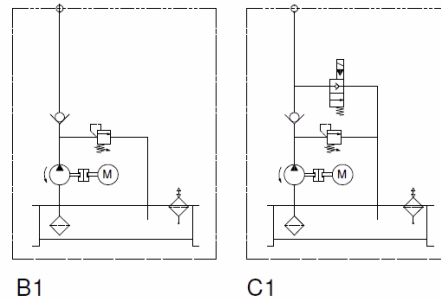
Part No. 12VDC Unit	Description (complete with round steel tank)	Tank Size (L)
HM12-08-05-B1-H-1S	Motor, Pump, RV & Tank with 1/4" BSPP ports	1
HM12-08-11-C1-1SH2S	Motor, Pump, RV, Tank & SA Solenoid + 2-Button Pendant	
Part No. 24VDC Unit	Description (complete with round steel tank)	Tank Size
HM24-08-05-B1-H-1S	Motor, Pump, RV & Tank with 1/4" BSPP ports	1
HM24-08-11-C1-1SH2S	Motor, Pump, RV, Tank & SA Solenoid + 2-Button Pendant	

### Tank Options

Size (L)	Type	Code
<b>Horizontal/Vertical Mount</b>		
1	Steel Round	1
2		2

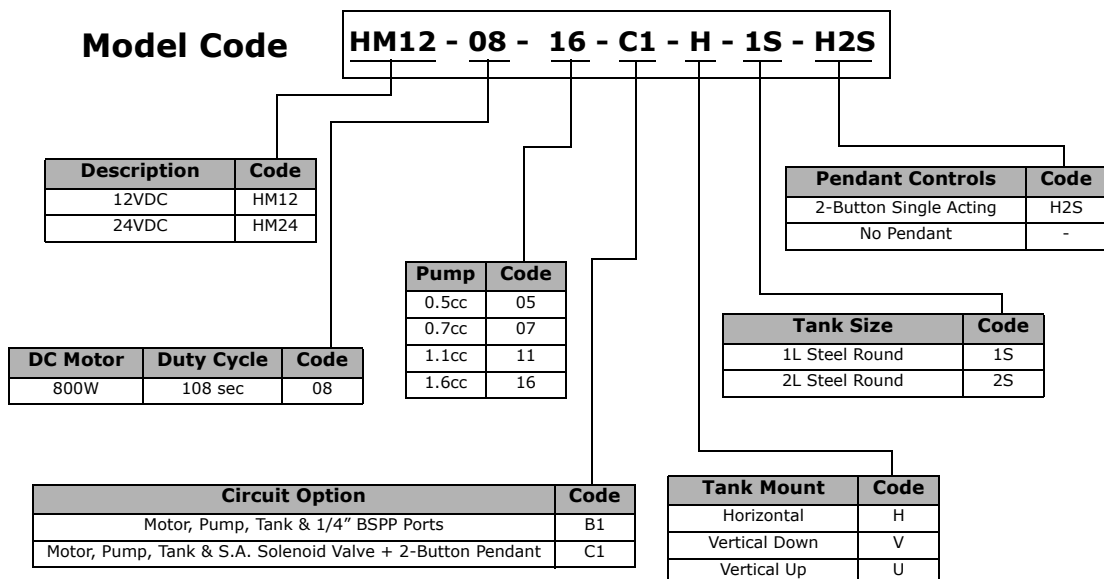


Below are the standard circuit options available from our stocked range. Other options are available on request.



### Model Code

**HM12 - 08 - 16 - C1 - H - 1S - H2S**



# Log Splitter Kit

Southcott offer with an optimum solution for Log splitter kit which can be used with 5.5HP Honda Engine (6HP Kohler Engine) or 8.5HP Honda Engine (9HP Kohler Engine)



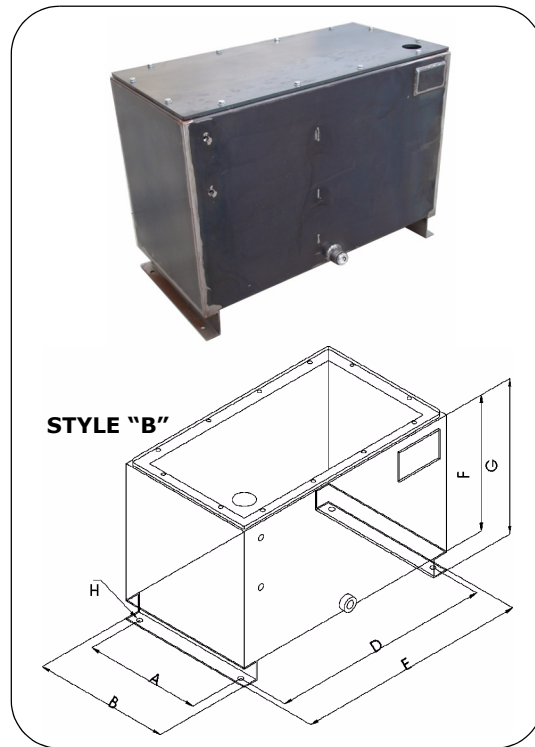
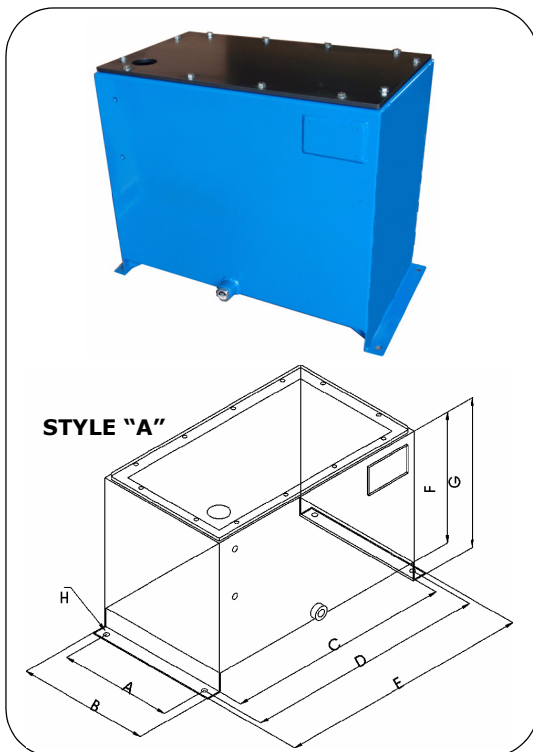
Part Number	Description	Flow gpm @ 3600rpm	Pressure psi		Disp. cc/rev		Speed rpm	Ports	
					Hi	Lo		Inlet	Outlet
<b>LSK-5.5HP</b>	Log Splitter kit for 5.5HP Honda or 6HP Kohler Engine	11	400/900	3000	3.6	8.8	3600	1" In Pipe	1/2" NPT
<b>LSK-8.5HP</b>	Log Splitter kit for 8.5HP Honda or 9HP Kohler Engine	16	400/900	3000	4.2	13			

## Log Splitter Kit Contents

LSK-5.5HP	
Part Number	Description
<b>CBT-8.8/3.6</b>	Hi/Lo Log Splitter Pump
<b>LS-TW-20F</b>	Log Splitter Valve
<b>EF02</b>	Bell Housing
<b>S04-19-G</b>	Half Coupling
<b>SS04-SPIDER</b>	Spider
<b>S04-P090-L031-G</b>	Half Coupling
<b>HF502-10.060-SP010-GC</b>	Filter Assembly
<b>HB50-B-05-G-2</b>	Filler Breather
<b>HF412-10.090-MS090-GD</b>	Suction Strainer (1/2")

LSK-8.5HP	
Part Number	Description
<b>CBT-13/4.2</b>	Hi/Lo Log Splitter Pump
<b>LS-TW-20F</b>	Log Splitter Valve
<b>EF04</b>	Bell Housing
<b>S05-P400-L048-G</b>	Half Coupling
<b>SS05-SPIDER</b>	Spider
<b>S05-P090-L031-G</b>	Half Coupling
<b>HF502-20.077-RP010-GD</b>	Filter Assembly
<b>HB50-B-05-G-2</b>	Filler Breather
<b>HF412-20.090-MS090-GE</b>	Suction Strainer (3/4")

Note: Special price for petrol engines/cylinders is available upon request, please contact one of our sales team to help you



**HYDRAULIC OIL TANKS** Suitable for vertical mounting of pump and electric motor.

**CONSTRUCTION** = Steel: welded inside and outside

**UNPAINTED TANKS:** Finished in black steel only

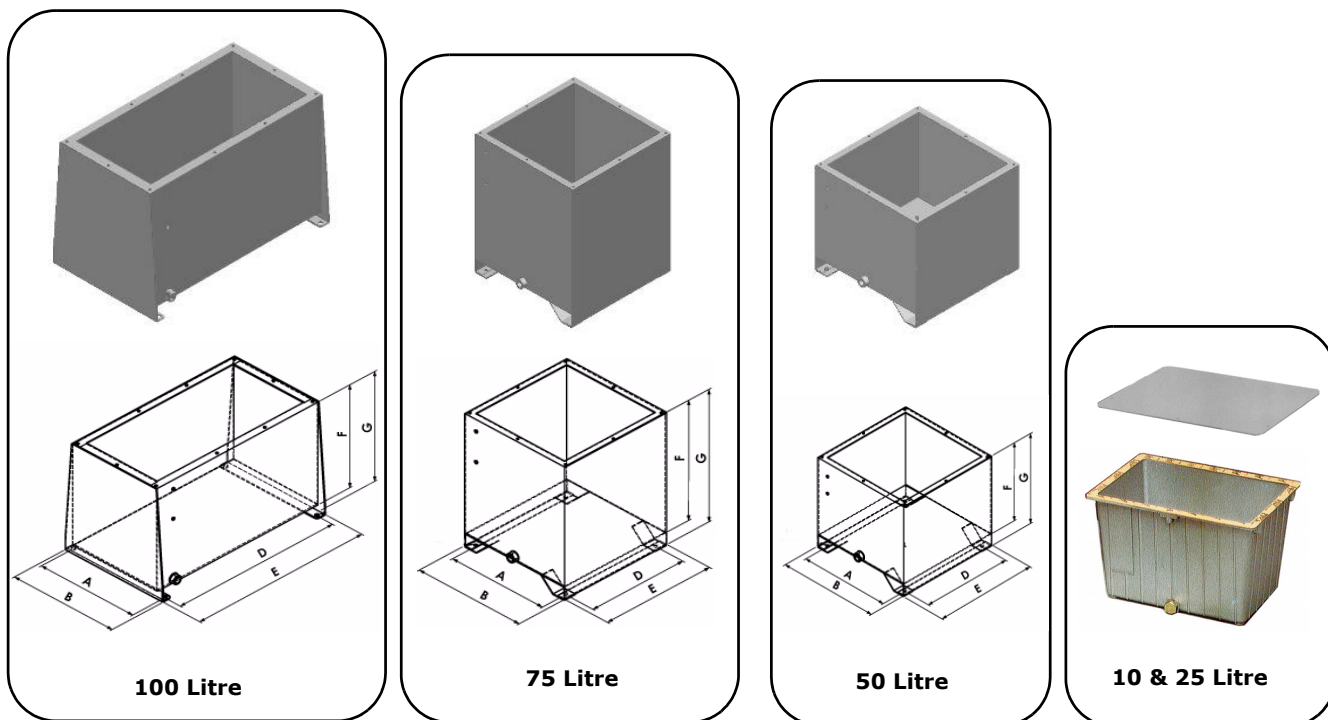
**PAINTED TANKS:** Finished with powder coating inside and out

**LIDS:** Supplied unpainted unless painting is specified (larger tanks are fitted with a centre baffle)

**Tank Dimensions are the same painted and unpainted**

Part No.	STYLE	A	B	C	D	E	F	G	H (Hole Diam)
<b>TANK-10L</b>	A	200	250	320	345	370	220	230	11
<b>TANK-25L</b>	A	250	300	400	425	450	230	245	11
<b>TANK-55L</b>	A	300	350	600	640	670	350	400	13
<b>TANK-76L</b>	A	300	350	600	640	670	450	500	13
<b>TANK-115L</b>	A	350	400	800	840	870	450	500	13
<b>TANK-130L</b>	B	300	400	N/A	770	800	500	575	13
<b>TANK-160L</b>	B	400	500	N/A	870	900	450	525	13
<b>TANK-205L</b>	B	400	500	N/A	870	900	550	625	13
<b>TANK-300L</b>	B	500	600	N/A	1170	1200	500	575	13
<b>TANK-400L</b>	B	500	600	N/A	1170	1200	600	675	13

CAPACITY LITRES	STYLE	UNPAINTED TANKS	PAINTED TANKS
		Part No.	Part No.
10	A	<b>TANK-10L</b>	<b>TANK-10L/PC</b>
25	A	<b>TANK-25L</b>	<b>TANK-25L/PC</b>
55	A	<b>TANK-55L</b>	<b>TANK-55L/PC</b>
76	A	<b>TANK-76L</b>	<b>TANK-76L/PC</b>
115	A	<b>TANK-115L</b>	<b>TANK-115L/PC</b>
130	B	<b>TANK-130L</b>	<b>TANK-130L/PC</b>
160	B	<b>TANK-160L</b>	<b>TANK-160L/PC</b>
205	B	<b>TANK-205L</b>	<b>TANK-205L/PC</b>
300	B	<b>TANK-300L</b>	<b>TANK-300L/PC</b>
400	B	<b>TANK-400L</b>	<b>TANK-400L/PC</b>



**Hydraulic Oil Tanks**

Suitable for vertical mounting of pump and electric motor.

**CONSTRUCTION** = Steel: welded outside only.

**Supplied:** Unpainted

**Lids:** Supplied separate, blank and unpainted

**10 & 25 Litre tanks** are in Aluminium with a steel lid

Tank Dimensions (mm)								
Part No.	Size Litres	A	B	D	E	F	G	Mount (Hole Diam)
<b>61-020</b>	100	420	450	700	750	440	470	15
<b>61-017</b>	75	400	454	400	454	500	550	12
<b>61-021</b>	50	400	454	400	454	350	400	12
<b>CP10</b>	10	340W x 247D x 220H						
<b>CP25M-LG2</b>	25	490W x 340D x 285H						

Tank Only Part No.	Size Litres	Blank Lid To Suit Part No.	Gasket To Suit Part No.
<b>61-020</b>	100	<b>61-076</b>	<b>N/A</b>
<b>61-017</b>	75	<b>61-035</b>	<b>N/A</b>
<b>61-021</b>	50	<b>61-035</b>	<b>N/A</b>
<b>CP10</b>	10	<b>CCP10</b>	<b>GCP10</b>
<b>CP25M-LG2</b>	25	<b>CCP25-M</b>	<b>GCP25</b>

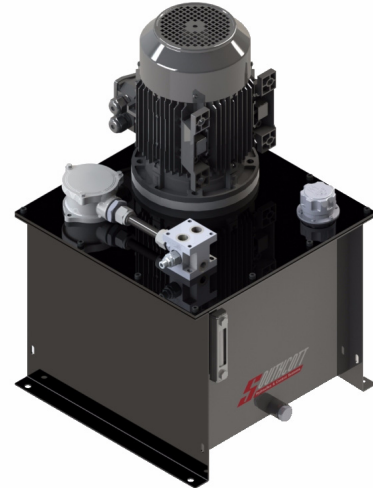
**NB: Order the Tank, Lid and Gasket as separate items**

# Industrial AC Power Units - IPU

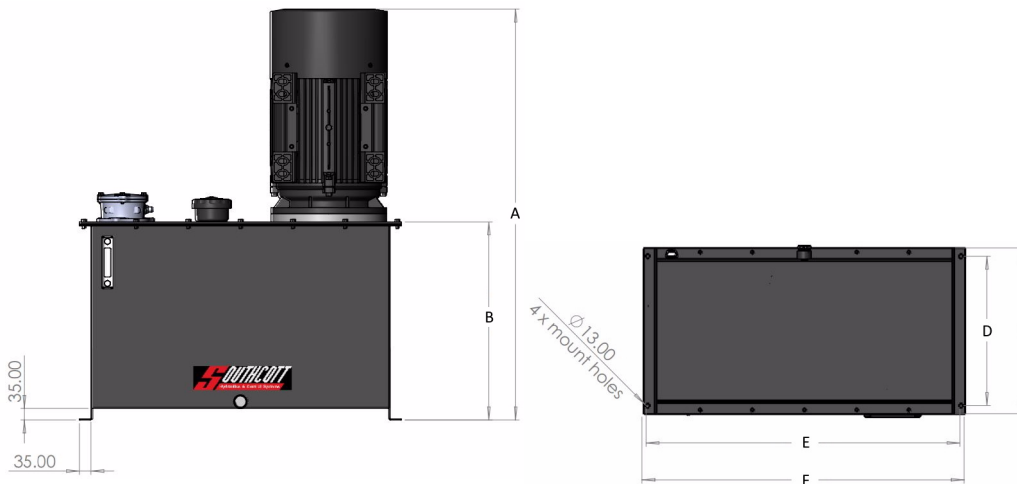
Southcott Industrial Power Units are designed to deliver a reliable hydraulic supply to a wide range of end-user equipment and are available with a selection of pressure relief settings, flow ranges and reservoir capacities. Power units consist of an electric motor, pump, reservoir, relief valve, filter, sight gauges, filler-breather and return filter.

All units are powder-coated, assembled, tested and supplied with an operating manual.

Available options: mounting brackets & drop tray (refer table next page)



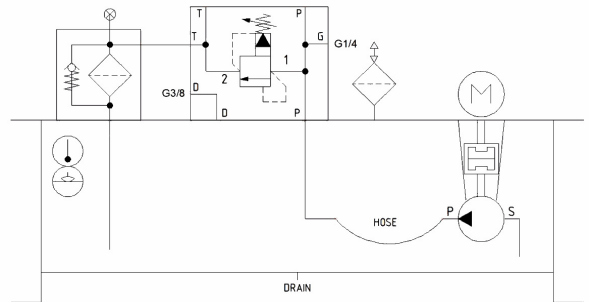
Part Number - Group A	Part Number - Group B	Electric Motor kW	Pump cc/rev	Nom. Flow Lpm	P Port BSP	T Port BSP	D Port BSP	Test Port BSP	Tank Size L	Relief Setting bar
<b>1 Phase/240V/4 Pole</b>	<b>3 Phase/415V/4 Pole</b>									
IPU1-075-4-1.4-50-210	IPU3-075-4-1.4-50-210	0.75	1.07	1.4	1/2"	1/2"	3/8"	1/4"	50	210
IPU1-15-4-2.8-50-210	IPU3-15-4-2.8-50-210	1.5	2.13	2.8						
IPU1-22-4-4.4-50-210	IPU3-22-4-4.4-50-210	2.2	3.34	4.4						
IPU1-30-4-6-50-210	IPU3-30-4-6-50-210	3.0	4.27	5.6						
	IPU3-40-4-6-50-210	4.0	6.61	8.6						
	IPU3-55-4-12-80-210	5.5	9.17	12.0						
	IPU3-75-4-14-80-210	7.5	11.23	14.7						
	IPU3-110-4-22-110-210	11.0	16.85	22.0	3/4"	3/4"		110		
	IPU3-150-4-28-110-210	15.0	21.99	28.7						
	IPU3-185-4-35-175-210	18.5	26.70	34.8						
	IPU3-225-4-45-175-210	22.5	34.55	45.1						



Power Unit kW	Dimensions (mm)					
	A	B	C	D	E	F
0.75	667	414	500	450	475	500
1.50	718					
2.20	748					
3.00	748					
4.00	770	599			950	975
5.50	998					
7.50	1036	414				
11.0	945					
15.0	989					
18.5	1243					
22.0	1243	599				



# Industrial AC Power Units - IPU



## Model Code

**IPU 3 - 150 - 4 - 28 - 110 - 210**

### Industrial Power Unit

Voltage	Code
1 Phase - 240VAC	<b>1</b>
3 Phase - 415VAC	<b>3</b>

AC Motor kW	Code
0.75	<b>075</b>
1.5	<b>15</b>
2.2	<b>22</b>
3.0	<b>30</b>
4.0	<b>40</b>
5.5	<b>55</b>
7.5	<b>75</b>
11.0	<b>110</b>
15.0	<b>150</b>
18.5	<b>185</b>
22.5	<b>225</b>

Motor Poles	Code
4 Pole	<b>4</b>

Pump Nom. Flow Rate L/min	Pump Disp. cc/rev	AC Motor kW
2.8	2	0.75
2.1	1.5	
1.4	1	
7	5	1.5
4.4	3.15	
2.8	2	
11	8	2.2
7	5	
4.4	3.15	
14	10	3.0
9	6.3	
5.6	4	
19	14	4.0
12	9	
8.6	6.3	
27	19	5.5
19	14	
12	9	
34	25	7.5
22	16	
14.7	11.2	
34	25	11.0
22	16	
45	34	
28.7	22	15.0
57	43	
34.8	27	
67	51	18.5
45.1	34	
		22.5

Relief Valve Setting psi	Code
110	<b>110</b>
140	<b>140</b>
210	<b>210</b>

Tank Size L	AC Motor kW
<b>50</b>	0.75
	1.5
	2.2
	3.0
<b>80</b>	4.0
	5.5
	7.5
<b>110</b>	11.0
	15.0
<b>175</b>	18.5
	22.5

### Options

	Part Number	Description
Bracket	<b>MPBH-T</b>	Multipurpose Side Bracket
	<b>MPBH-TX2</b>	Multipurpose Side Brackets (one each side)
	<b>MPBHV-TAC</b>	Multipurpose Side Bracket with Accumulator Bracket
	<b>MPBHV-TACX2</b>	Multipurpose Side Bracket with Accumulator Bracket (two each side)
	<b>MPBHV-TX2.5</b>	Multipurpose Top Bracket with Gusset
Elec. Box Bracket	<b>MPB-KT</b>	Electrical Box Bracket
Drip Tray	<b>MDT-S</b>	Modular Drip Tray (50L and 80L Tanks)
	<b>MDT-L</b>	Modular Drip Tray (110L and 175L Tanks)

# SECTION M

## BELL HOUSINGS & COUPLINGS

PAGE DESCRIPTION	PAGE
<b>SETCO</b>	
<b>BELL HOUSINGS &amp; DRIVE COUPLINGS- QUICK GUIDE</b>	
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Suit SAE Mount Pumps .....	M 3
<b>BELL HOUSINGS</b>	
Suit Euro Mount Pumps .....	M 4
Suit SAE Mount Pumps .....	M 5
Suit ISO Mount Pumps .....	M 6
Suit Petrol Engines .....	M 7
ELECTRIC MOTOR HALF ALUMINIUM .....	M 8
PUMP HALF PARALLEL SHAFT SAE (IMPERIAL) .....	M 9
PUMP HALF PETROL ENGINE ISO PUMPS (METRIC PARALLEL) .....	M 10
PUMP HALF TAPER SHAFT 1:8 .....	M 11
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OMT BELL HOUSINGS & DRIVE COUPLINGS .....	M 12
ELECTRIC MOTORS (METRIC SERIES) .....	M 13



**NB: Models, codes and specifications may be subject to change without notice.**



# Bell Housings & Drive Couplings

SUIT METRIC FRAME ELECTRIC MOTORS AND EURO MOUNT PUMPS



## EURO MOUNT PUMPS 1 in 8 Taper Shafts

Pump Group	Electric Motor (4-Pole)		Frame	Bell Housing	Type	Bolts Pump Side	Bolts Motor Side	Coupling Motor Half	Coupling Pump Half	Shaft Type	Coupling Spider
	kW	hp									
Group 1 81 Shaft	0.25 - 0.37	0.4 - 0.5	71	S160ME4F-1UN	1 piece	M6	M8	S04-14-G	S04Y-1UN	81	SS04-SPIDER
	0.55 - 0.75	0.75 - 1	80	S200ME4F-1UN/2UN			M10	S04-19-G	S04-1UN		
	1.1 - 1.5	1.5 - 2	90				M10	S04-24-G			
	2.2 - 3 - 4	3 - 4 - 5.5	100	S250ME4F-1UN/2UN			M12	S05-28-G	S05-1UN		
Group 1 86 Shaft	0.25 - 0.37	0.4 - 0.5	71	S160ME4F-1CA	1 piece	M6	M8	S04-14-G	S04Y-1MA	86	SS04-SPIDER
	0.55 - 0.75	0.75 - 1	80	S200ME4F-1CA/2UN			M10	S04-19-G	S04-1MA		
	1.1 - 1.5	1.5 - 2	90				M10	S05-P360-L050-G			
	2.2 - 3 - 4	3 - 4 - 5.5	100	S250ME4F-1CA/2UN			M12	S05-28-G			
Group 2	0.55 - 0.75	0.75 - 1	80	S200ME4F-1UN/2UN	1 piece	M8	M10	S05-P250-L050-G	S05-2UN	82	SS05-SPIDER
	1.1 - 1.5	1.5 - 2	90				M10	S05-P360-L050-G			
	2.2 - 3 - 4	3 - 4 - 5.5	100 / 112	S250ME4F-1UN/2UN			M12	S05-28-G			
	5.5 - 7.5	7.5 - 10	132	S300ME4F-2UN/3UN			M12	S07-38-G	S07-2UN		
	11 - 15	15 - 20	160				M16	S10-42-G			
	18.5 - 22	25 - 30	180	S350MS4F-2UN			M16	S10-48-G	S10-2UN		
Group 3	0.55 - 0.75	0.75 - 1	80	S200CS4F-3UN	2 piece	M10	M10	S05-P250-L050-G	S05-3UN	83	SS05-SPIDER
	1.1 - 1.5	1.5 - 2	90				M10	S05-P360-L050-G			
	2.2 - 3 - 4	3 - 4 - 5.5	100 / 112	S250CE4F-2UN/3UN			M12	S05-28-G			
	5.5 - 7.5	7.5 - 10	132	S300ME4F-2UN/3UN			M12	S07-38-G	S07-3UN		
	11 - 15	15 - 20	160				M16	S10-42-G			
	18.5 - 22	25 - 30	180	S350MS4F-3UN			M16	S10-48-G	S10-3UN		



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## Bell Housings & Drive Couplings

SUIT METRIC FRAME ELECTRIC MOTORS AND SAE MOUNT PUMPS

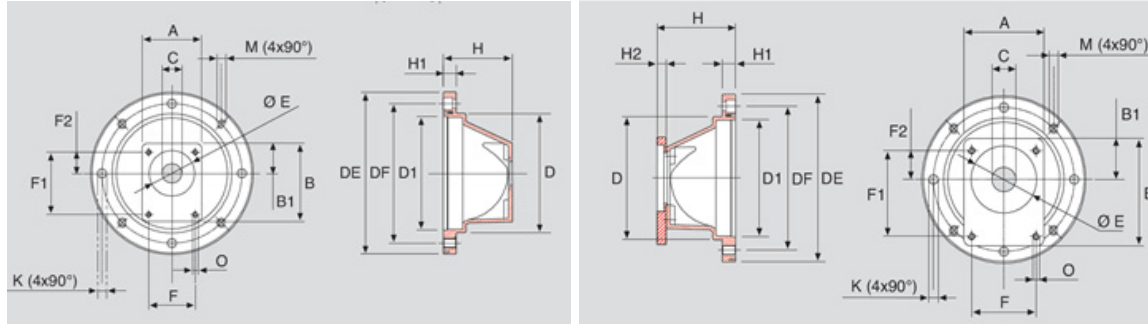
### SAE MOUNT PUMPS

Pump Group	Electric Motor (4-Pole)		Frame	Bell Housing	Type	Bolts Pump Side	Bolts Motor Side	Coupling Motor Half	Coupling Pump Half	Bore Size	Coupling Spider				
	kW	hp													
SAE-A 2 Bolt	0.55 - 0.75	0.75 - 1	80	SMB20-825-A	1 piece	M10	M10	S05-P250-L050-G	S05-P150/160-L031-G	5/8"	SS05-SPIDER				
	1.1 - 1.5	1.5 - 2	90	SMB20-825-A				S05-P360-L050-G							
	2.2 - 3 - 4	3 - 4 - 5.5	100 - 112	SMA25-825-A				S07-28-G							
	5.5 - 7.5	7.5 - 10	132	SMA30-825-A				S07-38-G							
SAE-B 2/4 Bolt	2.2 - 3 - 4	3 - 4 - 5.5	100 - 112	SMA25-101-B/E	1 piece	M14	M12	S07-28-G	S07-P320/330-L048-G	7/8"	SS07-SPIDER				
	5.5 - 7.5	7.5 - 10	132	SMA30-101-B/E				S07-38-G							
SAE-B Shaft (7/8" Parallel)	11 - 15	15 - 20	160	SCB35-R1-101-B/E	2 piece	M14	M16	S10-42-G	S10-P320/330-L048-G	7/8"	SS10-SPIDER				
	18.5 - 22	25 - 30	180	SCB35-R1-101-B/E				S10-48-G							
	30	40	200	SMA40-101-B/E	S10-55-G										
	37 - 45	50 - 60	225	SCB45-E2-R1-101-B/E	S13-60-G			S13-P320/330-L048-G				SS13-SPIDER			
SAE-B 2/4 Bolt	2.2 - 3 - 4	3 - 4 - 5.5	100 - 112	SMA25-101-B/E	1 piece	M12	M12	S07-28-G	S07-P400-L048-G	1"	SS07-SPIDER				
	5.5 - 7.5	7.5 - 10	132	SMA30-101-B/E				S07-38-G							
	11 - 15	15 - 20	160	SCB35-R1-101-B/E	2 piece			M12	M16			S10-42-G	S10-P400-L048-G	1"	SS10-SPIDER
	18.5 - 22	25 - 30	180	SCB35-R1-101-B/E								S10-48-G			
30	40	200	SMA40-101-B/E	1 piece	S10-55-G										
37 - 45	50 - 60	225	SCB45-E2-R1-101-B/E	2 piece	S13-60-G	S13-P400-L048-G	SS13-SPIDER								
SAE-C 2/4 Bolt	11 - 15	15 - 20	160	SCB35-R1-127-A/C	2 piece	M14	M16	S10-42-G	S10-P440/450-L048-G	1-1/4"	SS10-SPIDER				
	18.5 - 22	25 - 30	180	SCB35-R1-127-A/C				S10-48-G							
	30	40	200	SMA40-127-A/C	1 piece			S10-55-G							
	37 - 45	50 - 60	225	SCB45-E2-R1-127-A/C	2 piece			S13-60-G				S13-P440/450-L068-G	SS13-SPIDER		



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### BELL HOUSINGS - EURO MOUNT PUMPS

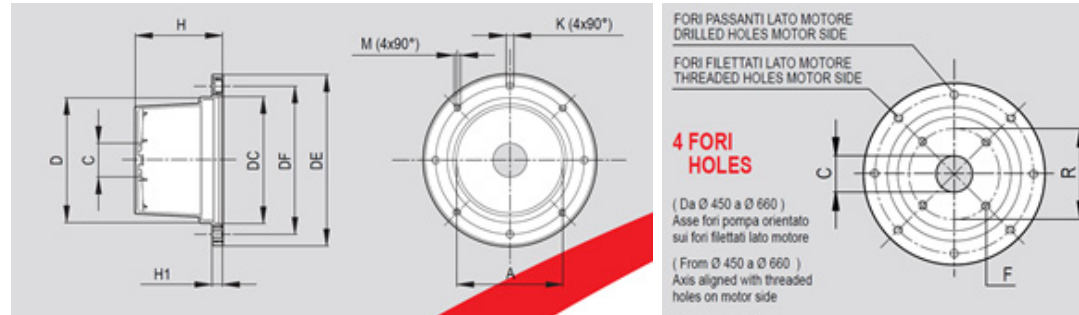
Electric Motor		Frame	Bell Housing	Type	Pump Group	Bell Housing Dimensions (mm)																	
kW	hp					A	B	B1	D	DI	DF	DE	H	H1	H2	K	M	C	E	F	F1	F2	O
0.12 - 0.25	0.16 - 0.25	63	S140ME4F-1CA	1 piece	1CA	72	89	34.5	97	95	115	140	60	12	-	10	M8	30	67.5	56	73	24.5	M6
			S140ME4F-1UN		1UN	25.4	52	72	26.2														
0.25 - 0.37	0.35 - 0.5	71	S160ME4F-1CA	1 piece	1CA	72	89	34.5	97	95	115	140	70	12	-	10	M8	30	67.5	56	73	24.5	M6
			S160ME4F-1UN		1UN	25.4	52	72	26.2														
0.55 - 1.5	0.75 - 2	80 - 90	S200ME4F-1CA/2UN	1 piece	1CA-2	90	120	45	135	130	165	200	95	15.5	-	12	M10	30/36.5	-	56/71.5	73/96	24.5/32.5	M6/M8
			S200ME4F-1UN/2UN		1UN-2	25.4/36.5	67.5	52/71.5										72/96	26.2/32.5				
			S200CS4F-3UN	2 piece	3	122	155	54	106	11	50.8	88	98.5	128	42	M10							
2.2 - 4	3 - 5.5	100 - 112	S250ME4F-1CA/2UN	1 piece	1CA-2	92	121	46.5	184	180	215	250	106	20	-	14.5	M12	30/36.5	67.5	56/71.5	73/96	24.5/32	M6/M8
			S250ME4F-1UN/2UN		1UN-2	25.4/36.5	67.5	52/71.5										72/96	26.2/32				
			S250CE4F-2UN/3UN	2 piece	3	122	155	54	118	12	50.8	88	89.5	128	42	M10							
5.5 - 7.5	7.5 - 10	132	S300ME4F-2UN/3UN	1 piece	2	120	153	55	234	230	265	300	130	21	-	14.5	M12	36.5	88	71.5	96	32.5	M8
					3													50.8	88	98.5	128	42	
11 - 22	15 - 30	160 - 180	S350MS4F-2UN	1 piece	2	122	168	61	260	250	300	350	181	25	14	18	M16	36.5	-	71.5	96	32.5	M8
					3													50.8		98.5	128	42	
					S350CE4F-35U	4	150	175	62	195	60.3	114.3	149.5	49.2	M10								
30	40	200	S400MS4F-3UN	1 piece	3	173	271	80	295	300	350	400	195	25	20	18	M16	50.8	110	98.5	128	42	M10
37 - 45	50 - 60	225	S450MS4F-3UN	1 piece	3	173	271	80	340	340	350	450	220	25	20	18	M16	50.8	110	98.5	128	42	



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### BELL HOUSINGS - SAE MOUNT PUMPS

Electric Motor		Frame	Bell Housing	Type	Pump Mount	Bell Housing Dimensions (mm)											Bolts Pump Side
kW	hp					A	C	D	DC	DF	DE	K	M	H	H1	R	
0.55 - 1.5	0.75 - 2	80 - 90	<b>SMB20-825-A</b>	1 piece	SAE-A 2 Bolt	128	82.55	135	130	165	250	11.5	M10	130	15.5	106	M10
			SAE-B 2/4 Bolt		101.6		127/146									M12/M14	
2.2 - 4	3 - 5.5	100 - 112	<b>SMA25-825-A</b>	1 piece	SAE-A 2 Bolt	176	82.55	184	180	215	250	14	M12	140	21	106	M10
			SAE-B 2/4 Bolt		101.6		127/146									M12/M14	
5.5 - 9	7.5 - 12.5	132	<b>SMA30-825-A</b>	1 piece	SAE-A 2 Bolt	224	82.55	234	230	265	300	14	M12	170	21	106	M10
			SAE-B 2/4 Bolt		101.6		127/146									M12/M14	
			SAE-C 2/4 Bolt		127		162/182									M14/M16	
11 - 22	15 - 30	160 - 180	<b>SCB35-R1-101-B/E</b>	2 piece	SAE-B 2/4 Bolt	249	101.6	260	250	300	350	18	M16	195	25	127/146	M12/M14
			SAE-C 2/4 Bolt		127		162/182									M14/M16	
30	40	200	<b>SMA40-101-B/E</b>	1 piece	SAE-B 2/4 Bolt	250	101.6	295	300	350	400	18	M16	205	25	127/146	M12/M14
			SAE-C 2/4 Bolt		127		162/182									M14/M16	
37 - 45	50 - 60	225	<b>SCB45-E2-R1-101-B/E</b>	2 piece	SAE-B 2/4 Bolt	240	101.6	340	350	400	450	18	M16	220	25	127/146	M12/M14
			SAE-C 2/4 Bolt		127		162/182									M14/M16	
55 - 90	75 - 125	250 - 280	<b>SB55-T1A-127-A/C</b>	2 piece	SAE-C 2/4 Bolt	-	127	-	450	500	550	18	M16	186	30	162	M14/M16

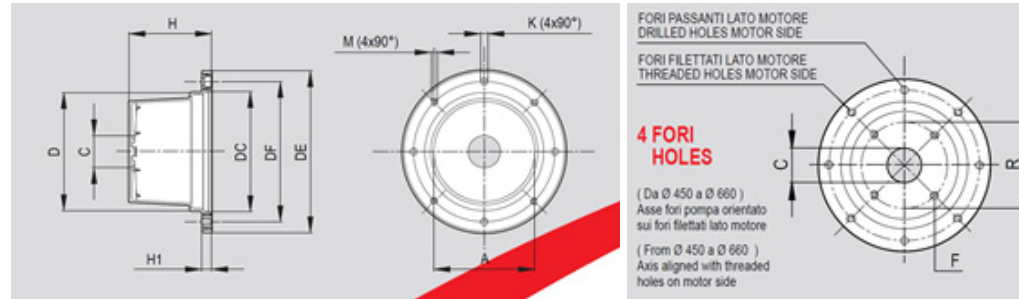


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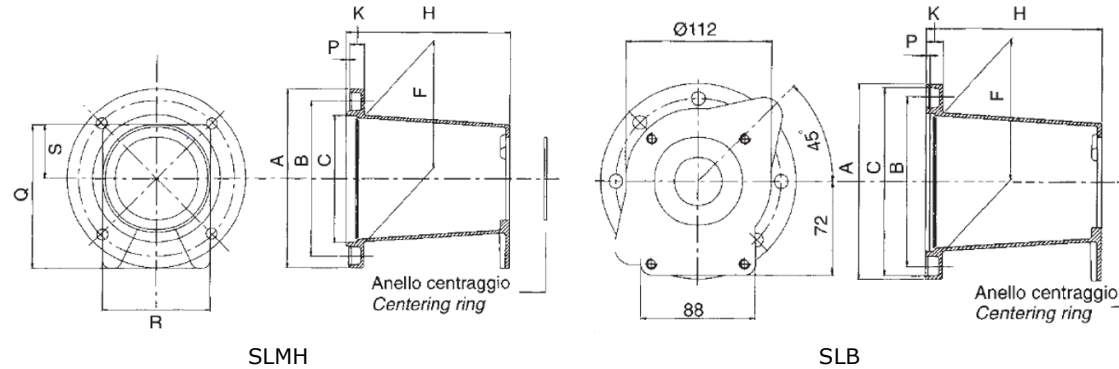
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## BELL HOUSINGS - ISO MOUNT PUMPS

Electric Motor		Frame	Bell Housing	Type	Pump Mount	Bell Housing Dimensions (mm)											Bolts Pump Side
kW	hp					A	C	D	DC	DF	DE	K	M	H	H1	R	
0.55 - 1.5	0.75 - 2	80 - 90	SMA20-080-M	1 piece	ISO 80-4	128	80	135	130	165	200	11.5	M10	130	15.5	100	M8
			SMA20-100-B		ISO 100-4		125									M10	
2.2 - 4	3 - 5.5	100 - 112	SMB25-080-M	1 piece	ISO 80-4	176	80	184	180	215	250	14	M12	140	21	100	M8
			SMB25-100-B		ISO 100-4		125									M10	
5.5 - 9	7.5 - 12.5	132	SMB30-080-B	1 piece	ISO 80-4	224	80	234	230	265	300	14	M12	170	21	100	M8
			SMB30-100-B		ISO 100-4		125									M10	
			SMB30-125-A		ISO 125-4		160									M12	
11 - 22	15 - 30	160 - 180	SCB35-080-M	1 piece	ISO 80-4	249	80	260	250	300	350	18	M16	175	25	100	M8
			SCB35-R1-100-B		ISO 100-4		125									M10	
			SCB35-E2-R1-125-A	ISO 125-4	140		M12										
			SCB35-E2-R1-140-A	ISO 140-4	160		M16										
			SCB35-E2-R1-160-A	ISO 160-4	200		M16										
30	40	200	SMA40-100-B	1 piece	ISO 100-4	250	100	295	300	350	400	18	M16	205	25	125	M10
			SMA40-125-A		ISO 125-4		160									M12	
			SMA40-140-C		ISO 140-4		180									M12	
			SCA40-R1-160-A	ISO 160-4	200		M16										
			SCA40-R1-200-B	ISO 200-4	250		M20										
37 - 45	50 - 60	225	SCB45-E2-R1-125-A	2 piece	ISO 125-4	240	125	340	350	400	450	18	M16	240	25	160	M12
			SCB45-E2-R1-140-C		ISO 140-4											180	M12
			SCB45-E3-R1-160-A		ISO 160-4									200	M16		
			SCB45-E5-R1-200-B		ISO 200-4									250	M20		
55	75	250	SB55D40T1D-125-A	2 piece	ISO 125-4	450	125	-	450	500	550	18	M16	276	30	160	M12
			SB55D40T1D-140-C		ISO 140-4		180									M12	
			SB55D40T1D-160-A		ISO 160-4		200									M16	
			SB55D40T1A-200-B		ISO 200-4		250									M20	



### BELL HOUSINGS - PETROL ENGINES

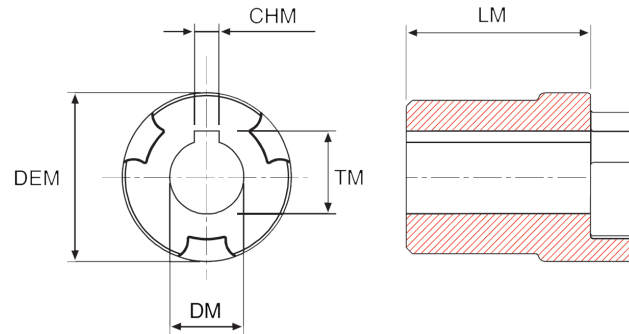
Engine Power		Engine Spigot		Bell Housing	Type	Pump Mount	Bell Housing Dimensions (mm)										
kW	hp						A	B	C	D	F	H	K	P	Q	R	S
2.2 - 4	3 - 5.5	Male	41.3mm	SLMH-151	1 piece	U1P (81E1)	110	92	78.5	9	78	98	12	3	90	70	34
				SLMH-152		1M (86E7)											
				SLB152-3		GP3											
5 - 13.5	7 - 18	Male	110mm	SLMH-401-U1P/2	1 piece	U1P/2	146	127	110	9	110	134	12	3	118	91	43.5
				SLMH-402		1M											
				SLMH-403		GP2											
5 - 13.5	7 - 18	Female	146mm	SLB152-101-A	1 piece	SAE-B 2-Bolt	152	128	146	10.5	110	142	15	3.5	-	-	-
				SLB152-3U		GP3											
				SLB152-825-A		SAE-A 2-Bolt											
				SLB152-U1P		U1P (81E1)											
13.5	18	Female	163.5mm	SLB170-101-A	1 piece	SAE-B 2-Bolt	170	128	164	10.5	110	142	15	3.5	-	-	-
				SLB170-825-A		SAE-A 2-Bolt											
				SLB170-U1P		U1P (81E1)											
				SLB170-U1P/2		U1P/2											



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### ELECTRIC MOTOR HALF ALUMINIUM

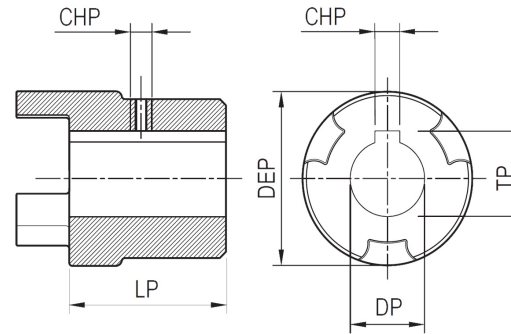
		DM mm	Key (CHM) mm	Motor Frame	LM mm	DEM mm	Grub Screw
<b>S04-11-G</b>	Coupling Motor Half 11mm	11	4	D63	23	45	M6
<b>S04-14-G</b>	Coupling Motor Half 14mm	14	5	D71	30		
<b>S04-19-G</b>	Coupling Motor Half 19mm	19	6	D80	50		
<b>S04-24-G</b>	Coupling Motor Half 24mm	24	8	D90	50		
<b>S05-P250-L050-G</b>	Coupling Motor Half 19mm	19	6	D80	50	55	M6
<b>S05-P360-L050-G</b>	Coupling Motor Half 24mm	24	8	D90	60		
<b>S05-28-G</b>	Coupling Motor Half 28mm	28		D100/112	60		
<b>S07-P250-L080-G</b>	Coupling Motor Half 19mm	19	6	D80	48	74	M6
<b>S07-P360-L080-G</b>	Coupling Motor Half 24mm	24	8	D90	60		
<b>S07-28-G</b>	Coupling Motor Half 28mm	28		D100/112	60		
<b>S07-38-G</b>	Coupling Motor Half 38mm	38	10	D132	80		
<b>S10-P520-L075-G</b>	Coupling Motor Half 38mm	38	10	D132	75	104	M8
<b>S10-42-G</b>	Coupling Motor Half 42mm	42	12	D160	110		
<b>S10-48-G</b>	Coupling Motor Half 48mm	48		D180			
<b>S10-55-G</b>	Coupling Motor Half 55mm	55	16	D200	140		
<b>S10-60-G</b>	Coupling Motor Half 60mm	60	18	D225	140	135	M8
<b>S13-60-G</b>	Coupling Motor Half 60mm	60	18	D225			
<b>S13-P640-L140-G</b>	Coupling Motor Half 65mm	65		D250			



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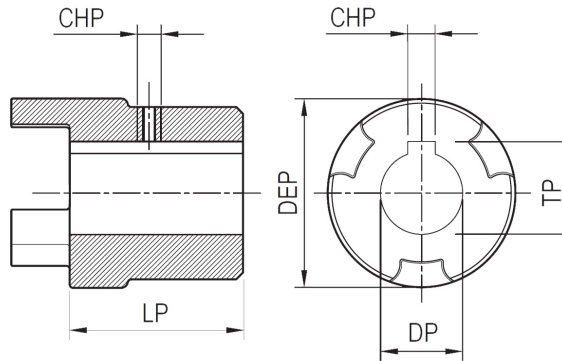
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**PUMP HALF PARALLEL SHAFT SAE (IMPERIAL)**

		DP mm	Key (CHP) mm	Pump Type	LP mm	DEP mm	Grub Screw
<b>S04-P090-L031-G</b>	Coupling Pump Half 1/2"	12.7	3.18	SAE	21	45	M6
<b>S04-P150/160-L050-G</b>	Coupling Pump Half 5/8"	15.88	4 / 4.76		31		
<b>S04-P260/270-L048-G</b>	Coupling Pump Half 3/4"	19.05	3.17 / 4.76		48		
<b>S05-P090-L021-G</b>	Coupling Pump Half 1/2"	12.7	3.18		21	55	M6
<b>S05-P150/160-L031-G</b>	Coupling Pump Half 5/8"	15.88	4 / 4.76		31		
<b>S05-P270-L048-G</b>	Coupling Pump Half 3/4"	19.05	3.17 / 4.76		48		
<b>S05-P320/330-L048-G</b>	Coupling Pump Half 7/8"	22.22	4.76 / 6.35		48	74	M6
<b>S05-P400-L048-G</b>	Coupling Pump Half 1"	25.4	6.35		48		
<b>S07-P150/160-L031-G</b>	Coupling Pump Half 5/8"	15.88	4 / 4.76		31		
<b>S07-P260/270-L048-G</b>	Coupling Pump Half 3/4"	19.05	3.17 / 4.76		48	104	M8
<b>S07-P320/330-L048-G</b>	Coupling Pump Half 7/8"	22.22	4 / 4.76		48		
<b>S07-P400-L048-G</b>	Coupling Pump Half 1"	25.4	6.35		48		
<b>S07-P440/450-L068-G</b>	Coupling Pump Half 1-1/4"	31.75	6.35 / 8		68	135	M8
<b>S07-P540-L075-G</b>	Coupling Motor Half 1-1/2"	38.1	9.52		75		
<b>S10-P150/160-L048-G</b>	Coupling Pump Half 5/8"	15.88	4 / 4.76		48		
<b>S10-P260/270-L048-G</b>	Coupling Pump Half 3/4"	19.05	5 / 4.76		48	75	M8
<b>S10-P320/330-L048-G</b>	Coupling Pump Half 7/8"	22.22	4.76 / 6.35		48		
<b>S10-P400-L048-G</b>	Coupling Pump Half 1"	25.4	6.35		48		
<b>S10-P440/450-L048-G</b>	Coupling Pump Half 1-1/4"	31.75	6.35 / 7.94		48	75	M8
<b>S10-P540-L075-G</b>	Coupling Motor Half 1-1/2"	38.1	9.52		75		
<b>S13-P320/330-L048-G</b>	Coupling Pump Half 7/8"	22.22	4.76 / 6.35		48		
<b>S13-P400-L048-G</b>	Coupling Pump Half 1"	25.4	6.35		48	75	M8
<b>S13-P440/450-L068-G</b>	Coupling Pump Half 1-1/4"	31.75	6.35 / 7.94		68		
<b>S13-P540-L045-G</b>	Coupling Motor Half 1-1/2"	38.1	9.52		75		
<b>S13-P580-L075-G</b>	Coupling Motor Half 1-3/4"	44.45	11.11		75		





**PUMP HALF PETROL ENGINE ISO PUMPS  
(METRIC PARALLEL)**

		DP mm	Key (CHP) mm	Pump Type	LP mm	DEP mm	Grub Screw
<b>S05-P380/390-L048-G</b>	Coupling Petrol Engine 25mm ISO 100	25	7 / 8	ISO 100	48	55	M6
<b>S07-P290-L048-G</b>	Coupling Pump Half 20mm	20	6	ISO 80	48	74	M6
<b>S07-P380/390-L048-G</b>	Coupling Pump Half 25mm	25	7 / 8	ISO 100	68		
<b>S07-P480-L068-G</b>	Coupling Pump Half 32mm	32	10	ISO 125			
<b>S07-P560-L068-G</b>	Coupling Pump Half 40mm	40	12	ISO 160			
<b>S10-P290-L048-G</b>	Coupling Pump Half 20mm	20	6	ISO 80	48	104	M8
<b>S10-P380/390-L048-G</b>	Coupling Pump Half 25mm	25	8	ISO 100	68		
<b>S10-P480-L068-G</b>	Coupling Pump Half 32mm	32	10	ISO 125			
<b>S10-P560-L068-G</b>	Coupling Pump Half 40mm	40	12	ISO 160			
<b>S13-P380/390-L048-G</b>	Coupling Pump Half 25mm	25	8	ISO 100	48	135	M8
<b>S13-P480-L068-G</b>	Coupling Pump Half 32mm	32	10	ISO 125	68		
<b>S13-P560-L075-G</b>	Coupling Pump Half 40mm	40	12	ISO 160			
<b>S13-P610-L075-G</b>	Coupling Pump Half 50mm	60	14	ISO 200	75		



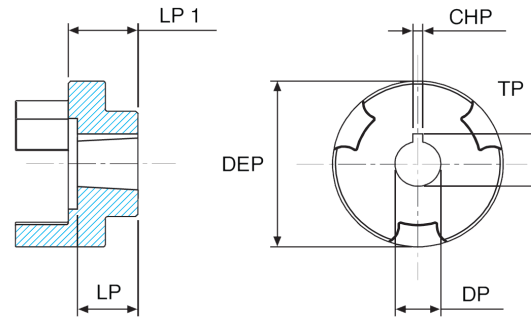
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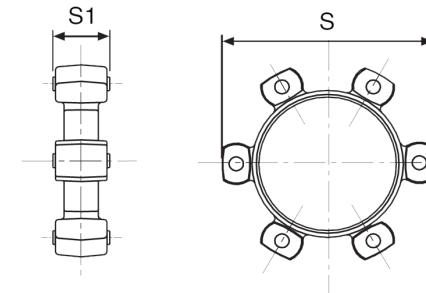
**PUMP HALF TAPER SHAFT 1:8**



		DM	Key (CHP) mm	Motor Frame	DP mm	LP mm	LP1 mm	DEP mm
<b>S04Y-1UN</b>	Coupling Pump Half Gr1P 1:8 (81)	1:8	2.4	80 - 90	9.7	15.3	15.3	45
<b>S04Y-1MA</b>	Coupling Pump Half Gr1P 1:8 (86)		3		14	18	15	
<b>S04-1UN</b>	Coupling Pump Half Gr1P 1:8 (81)		2.4		9.7	14.8	23.3	
<b>S04-1MA</b>	Coupling Pump Half Gr1P 1:8 (86)		3		14	18	21	
<b>S05-1UN</b>	Coupling Pump Half Gr1P 1:8 (81)		2.4	100 - 112	9.7	14.5	21.5	55
<b>S05-1MA</b>	Coupling Pump Half Gr1P 1:8 (86)		3		15.5	19	21.5	
<b>S05-2UN</b>	Coupling Pump Half Gr2 1:8 (82)		3.2 / 4		17.36	22.5	21.5	
<b>S05-3UN</b>	Coupling Pump Half Gr3 1:8 (83)		4		22.2	28	31.5	
<b>S07-2UN</b>	Coupling Pump Half Gr2 1:8 (82)		3.2 / 4	132	17.36	22	22	74
<b>S07-3UN</b>	Coupling Pump Half Gr3 1:8 (83)		4		17.36	28	23.5	
<b>S10-2UN</b>	Coupling Pump Half Gr2 1:8 (82)		3.2 / 4	160 - 180	17.36	22.5	40.5	104
<b>S10-3UN</b>	Coupling Pump Half Gr3 1:8 (83)		4		22.2	29	40.5	

**SPIDER ELASTIC**

		S (mm)	S1 (mm)
<b>SS04-SPIDER</b>	Spider Elastic (S04 Coupling)	45	16
<b>SS05-SPIDER</b>	Spider Elastic (S05 Coupling)	55	18
<b>SS07-SPIDER</b>	Spider Elastic (S07 Coupling)	74	20
<b>SS10-SPIDER</b>	Spider Elastic (S10 Coupling)	104	24
<b>SS13-SPIDER</b>	Spider Elastic (S13 Coupling)	135	29



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## Bell Housings & Drive Couplings

SUIT METRIC FRAME ELECTRIC MOTORS AND EURO MOUNT PUMPS

### EURO MOUNT PUMPS 1 in 8 Taper Shafts

Pump Group	Electric Motor		Bell Housing	Coupling Motor Half	Coupling Pump Half	Coupling Spider			
	kW 4 Pole	Frame							
1P STD Duty Shaft	0.25 - 0.37	71	SLS16/1P	SND48/14C	SND48P/1P	R42-SPIDER			
	0.55 - 0.75	80	SLS20/1P-2	SND65/19	SND65P/1P	R62-SPIDER			
	1.1 - 1.5	90							
	2.2 - 3 - 4	100 - 112	SLS25/1P-2						
1M H.Duty SHAFT	0.25 - 0.37	71	SLS16/1M	SND48/14C	SND48P/1M	R42-SPIDER			
	0.55 - 0.75	80	SLS20/1M-2	SND65/19	SND65P/1M	R62-SPIDER			
	1.1 - 1.5	90							
	2.2 - 3 - 4	100, 112	SLS25/1M-2						
2	0.55 - 0.75	80	SLS20/1P-2	SND65/19	SND65P/2	R62-SPIDER			
	1.1 - 1.5	90							
	2.2 - 3 - 4	100 - 112	SLS25/2-3	SND86/38C	SND86P/2	R82-SPIDER			
	5.5 - 7.5	132	SLS30/2-3						
	11 - 15	160	SL35/2-3				SND108/42	SND108P/2	R103-SPIDER
	18.5 - 22	180							
3	0.55 - 0.75	80	SL20/3	SND65/19	SND65P/3	R62-SPIDER			
	1.1 - 1.5	90							
	2.2 - 3 - 4	100 - 112	SLS25/2-3	SND86/24C	SND86P/3	R82-SPIDER			
	5.5 - 7.5	132	SLS30/2-3						
	11 - 15	160	SL35/2-3	SND108/42	SND108P/3	R103-SPIDER			
	18.5 - 22	180							



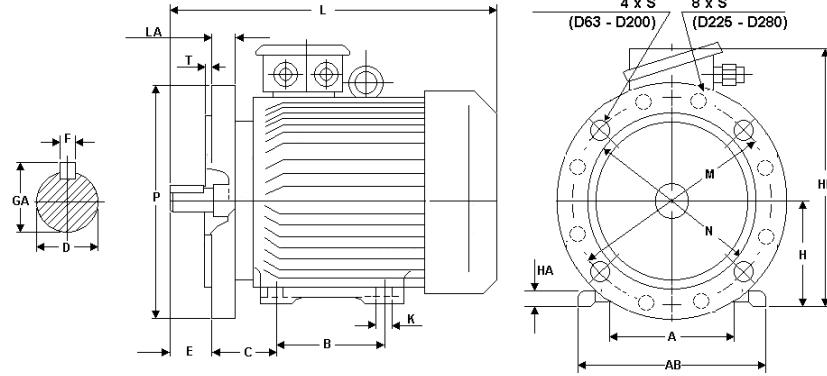
### SAE MOUNT PUMPS

Pump Group	Electric Motor		Bell Housing	Coupling Motor Half	Coupling Pump Half	Bore Size	Coupling Spider
	kW 4 Pole	Frame					
SAE A 2B	0.55 - 0.75	80	STH20/1-A2B	SND65/19	SNDH65-PH/05C	5/8"	R62-SPIDER
	1.1 - 1.5	90	STH20/1-A2B	SND65/24			
	2.2 - 3 - 4	100 - 112	STH25/2-A2B	SND65/28C	SNDH86-PH/05C		
	5.5 - 7.5	132	STH30/3-A2B	SND86/38C			
SAE B 2B	2.2 - 3 - 4	100 - 112	STH25/6-B2B	SND86/28C	SNDH86-PH/07C	7/8"	R82-SPIDER
	5.5 - 7.5	132	STH30/7-B2B	SND86/38C	SNDH108-PH/07C		R103-SPIDER
	11 - 15	160	STH35/8-B2B	SND108/42			
	18.5 - 22	180	STH35/8-B2B	SND108/48			
	30	200	STH40/16-B2B	SND108/55			
SAE B 4B	5.5 - 7.5	132	STH30/7-B4B	SND86/38C	SNDH86-PH/08C	1"	R82-SPIDER
	11 - 15	160	STH35/8-B4B	SND108/42	SNDH108-PH/08C		R103-SPIDER
	18.5 - 22	180	STH35/8-B4B	SND108/48			
	30	200	STH40/16-B4B	SND108/55			
	37 - 45	225	B45-T1D-101B	SND143/60			
SAE C 2B	11 - 15	160	STH35/8-C2B	SND108/42	SNDH108-PH/10C	1-1/4"	R103-SPIDER
	18.5 - 22	180	STH35/8-C2B	SND108/48			
	30	200	STH40/15-C2B	SND108/55	SNDH143-PH/10C		R132-SPIDER
	37 - 45	225	B45-T1D-127A	SND143/60			
SAE C 4B	11 - 15	160	STH35/8-C4B	SND108/42	SNDH108-PH/10C	1-1/4"	R103-SPIDER
	18.5 - 22	180	STH35/8-C4B	SND108/48			
	30	200	STH40/15-C4B	SND108/55			
	37 - 45	225	B45-T1D-127B	SND143/60			

2 Pole (2850 rpm)		4 Pole (1450 rpm)	
kW	Frame	kW	Frame
0.18		0.18	D63B-4
0.25	D63B-2	0.25	D71A-4
0.37	D71A-2	0.37	D71B-4
0.55	D71B-2	0.55	D80A-4
0.75	D80A-2	0.75	D80B-4
1.10	D80B-2	1.10	D90S-4
1.50	D90S-2	1.50	D90L-4
2.20	D90L-2	2.20	D100LA-4
3	D100L-2	3	D100LB-4
4	D112M-2	4	D112M-4
5.50	D132SA-2	5.50	D132S-4
7.50	D132SB-2	7.50	D132M-4
11	D160MA-2	11	D160M-4
15	D160MB-2	15	D160L-4
18.50	D160L-2	18.50	D180M-4
22	D180M-2	22	D180L-4
30	D200LA-2	30	D200L-4
37	D200LB-2	37	D225S-4
45	D225M-2	45	D225M-4
55	D250M-2	55	D250M-4
75	D280S-2	75	D280S-4
90	D280M-2	90	D280M-4
110	D315S-2	110	D315S-4
132	D315M-2	132	D315M-4
160		160	

## METRIC SERIES Electric Motors

0.37kW - 160kW  
3 Phase - 415V - 50Hz  
T.E.F.C. Motors



3 Phase, 4 Pole Foot and Flange	
Part Number	kW
<b>0.37kW-415V-4P-D71-14</b>	0.37
<b>0.55kW-415V-4P-D80-19</b>	0.55
<b>0.75kW-415V-4P-D80-19</b>	0.75
<b>1.1kW-415V-4P-D90-24</b>	1.1
<b>1.5kW-415V-4P-D90-24</b>	1.5
<b>2.2kW-415V-4P-D100-28</b>	2.2
<b>3kW-415V-4P-D100-28</b>	3.0
<b>4kW-415V-4P-D112-28</b>	4.0
<b>5.5kW-415V-4P-D132-38</b>	5.5
<b>7.5kW-415V-4P-D132-38</b>	7.5
<b>11kW-415V-4P-D160-42</b>	11.0
<b>15kW-415V-4P-D160-42</b>	15.0
<b>18.5kW-415V-4P-D180-48</b>	18.5
<b>22kW-415V-4P-D180-48</b>	22
<b>30kW-415V-4P-D200-55</b>	30
<b>37kW-415V-4P-D225-60</b>	37
<b>45kW-415V-4P-D225-60</b>	45

Frame	A	AB	B	C	D	E	F	GA	H	HA	HD	K	L	LA	M	N	P	S	T
D63	100	133	80	40	11	23	4	12.5	63	7	159	7	194	10	115	95	140	10	3
D71	112	145	90	45	14	30	5	16	71	10	172	7	216	10	130	110	160	10	3,5
D80	125	155	100	50	19	40	6	21,5	80	10	210	10	285	10	165	130	200	12	3,5
D90S	140	175	100	56	24	50	8	27,5	90	10	228	10	300	10	165	130	200	12	3,5
D90L	140	175	125	56	24	50	8	27,5	90	10	228	10	320	10	165	130	200	12	3,5
D100L	160	200	140	63	28	60	8	31	100	12	263	12	363	14	215	180	250	15	3,5
D112M	190	230	140	70	28	60	8	31	112	12	275	12	392	14	215	180	250	15	3,5
D132S	216	265	140	89	38	80	10	41	132	13	345	12	462	16	265	230	300	15	3,5
D132M	216	265	178	89	38	80	10	41	132	13	345	12	462	16	265	230	300	15	3,5
D160M-2A	254	304	210	108	42	110	12	45	160	18	373	15	557	18	300	250	350	19	5
D160M-4,6,8	254	304	210	108	42	110	12	45	160	18	373	15	557	18	300	250	350	19	5
D160M-2B	254	304	210	108	42	110	12	45	160	18	430	15	624	13	300	250	350	19	5
D160L	254	304	254	108	42	110	12	45	160	18	430	15	667	13	300	250	350	19	5
D180M	279	340	241	121	48	110	14	51,5	180	20	470	15	662	13	300	250	350	19	5
D180L	254	304	254	108	42	110	12	45	160	18	430	15	667	13	300	250	350	19	5
D200L	318	398	305	133	55	110	16	59	200	25	490	19	742	15	350	300	400	19	5
D225S	356	440	286	149	60	140	18	64	225	30	560	19	792	16	400	350	450	19	5
D225M-4,6,8	356	440	311	149	60	140	18	64	225	30	560	19	832	16	400	350	450	19	5
D250M-2	406	490	349	168	60	140	18	64	250	30	605	24	877	18	500	450	550	19	5
D250-4,6,8	406	490	349	168	65	140	18	69	250	30	605	24	877	18	500	450	550	19	5
D280S-2	457	560	368	190	65	140	18	69	280	35	665	24	935	18	500	450	550	19	5
D280S-4,6,8	457	560	368	190	75	140	20	79,5	280	35	665	24	935	18	500	450	550	19	5
D280M-2	457	560	419	190	65	140	18	69	280	35	665	24	985	18	500	450	550	19	5
D280M-4,6,8	457	560	419	190	75	140	20	79,5	280	35	665	24	985	18	500	450	550	19	5



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# SECTION N

## OIL COOLERS

PAGE DESCRIPTION	PAGE
AIR COOLED MOBILE - OIL COOLERS .....	N 2
AIR-OIL MOBILE HEAT EXCHANGERS - 2MV SERIES.....	N 3
AIR-OIL HEAT EXCHANGERS - 2000KBV SERIES .....	N 4



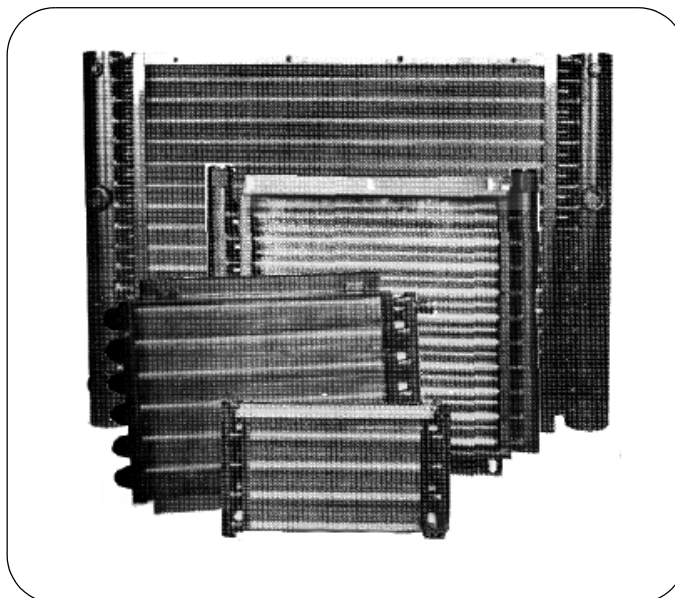
## Cooler Selection

To enable use to assist you with your cooler selection please provide the following information:

Input power to hydraulic system	=	kW
System type	=	Open or closed loop
Total system oil flow	=	Litres/minute
Oil flow to cooler	=	Litres/minute
Ambient temperature	=	°C
Preferred max inlet oil temperature	=	°C
Oil viscosity at 40°C	=	Centistokes
Motor type	=	12V, 24V, 240V, 415V, Hydraulic

**NB: Models, Codes and Specifications may be subject to change without notice.**

## AIR COOLED MOBILE - OIL COOLERS



Part Number	Max Flow L/min	Heat Dissipation kW	Ports BSP	Dimensions mm	Weight kg
<b>LIGHT DUTY SERIES (Copper tanks &amp; steel fins)</b>					
<b>67/073S3L</b>	45	2	3/4"	470 x 179 x 38	2.3
<b>67/084S3L</b>	45	3	3/4"	622 x 179 x 38	2.8
<b>67/106S3L</b>	60	3.5	1/2"	533 x 216 x 38	3.4
<b>67/194S3L</b>	95	4.1	3/4"	460 x 358 x 38	5.0
<b>HEAVY DUTY SERIES (Steel tanks &amp; fins)</b>					
<b>67/194S3H</b>	95	4.1	3/4"	479 x 358 x 38	7.0
<b>67/216S4H</b>	100	5.8	1"	629 x 358 x 38	8.5
<b>67/249S3H</b>	135	8.7	3/4"	629 x 510 x 38	12.5
<b>67/326S5H</b>	190	11	1-1/4"	629 x 637 x 38	15.0
<b>67/524S5H</b>	265	15	1-1/4"	680 x 534 x 76	26.0
<b>67/425S5H</b>	265	21	1-1/4"	756 x 970 x 38	28.0
<b>67/649S8H</b>	500	52	2"	1061 x 995 x 76	46.0

- Valve for heat dissipation is based on standard hydraulic mineral oil entering cooler at 30°C above ambient temp and at the maximum flow rate as listed and based on air face velocity of 5.55m/s.
- Heavy Duty units can be supplied with either 2 bar or 4 bar preset valve cracking pressures. Standard units are 2 bar and unless otherwise advised will be the setting supplied against all orders received. To specify 4 bar cracking pressure add the numeral "4" behind the above part codes. Price is the same for either setting.

# Air-Oil Mobile Heat Exchangers - 2MV Series

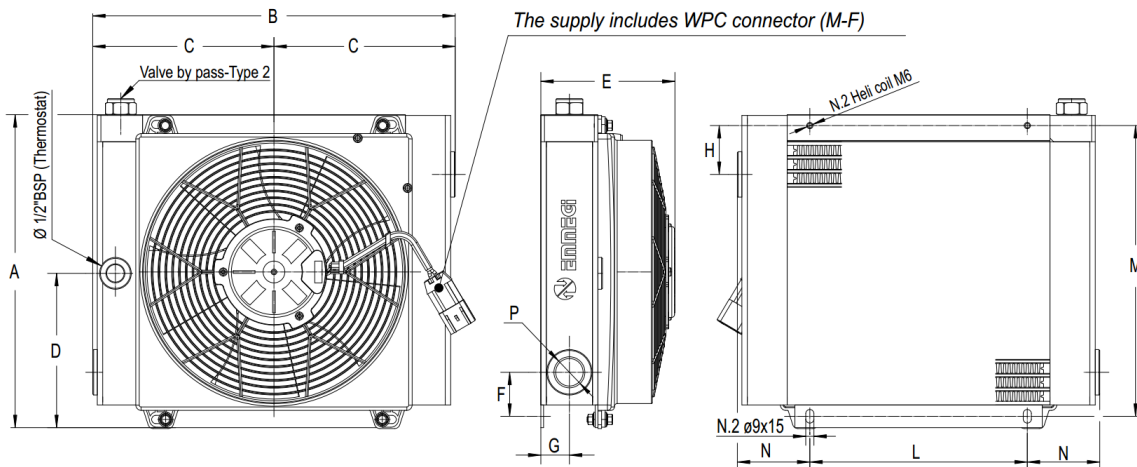
Used for hydraulic system cooling on mobile and agricultural machines. This series is top-of-the-range and has an optimum price/efficiency ratio.

- Long-life aluminium body
- Integrated fixed thermostat: 60°C with 12°C differential (60-48°)
- Bypass valve



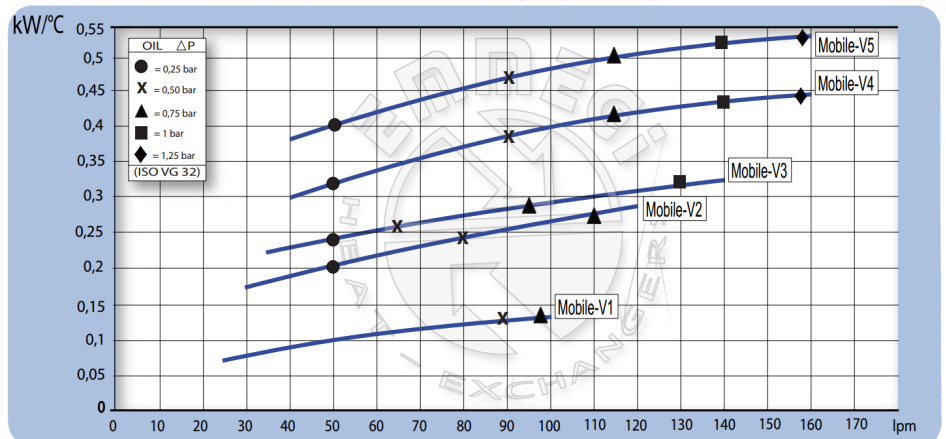
Part No.	Technical Data								
	V	kW	A	rpm	Ø Fan	dB(A)	IP	Max Lpm	kg
2MV112301	12V DC	0.09	7.5	3950	190	73	68	100	5.3
2MV212301			7.7	2410	280	71		120	7.5
2MV312301		0.19	15.6	2810	305	74		140	10.5
2MV412301			15.2	2210	385	76		160	16.5
2MV124301	24V DC	0.08	3.3	3900	190	76		100	5.3
2MV224301			3.4	2350	280	73		120	7.5
2MV324301		0.18	7.6	3040	305	79		140	10.5
2MV424301			8.1	2390	385	79		160	16.7

Note: The above coolers are equipped with bypass valve and fixed thermostat 60-48°. For sizing the cooler please contact your local Southcott branch.



Part No.	Dimensions (mm)											
	A	B	C	D	E	F	G	H	L	M	N	P
2MV112301	252	325	162.5	121.5	146	46.5	31.5	46	150	223.5	87.5	Ø 1" BSP
2MV212301	344	400	200	170	148	48.5		53.5	240	320	80	
2MV312301	409	465	232.5	210.5	188			48.5	44.5	400	482	83
2MV412301	515	566	283	254.5	188	48.5			46	150	223.5	87.5
2MV124301	252	325	162.5	121.5	146			48.5	53.5	240	320	80
2MV224301	344	400	200	170	148	48.5			44.5	400	482	83
2MV324301	409	465	232.5	210.5	188			48.5	46	150	223.5	87.5
2MV424301	515	566	283	254.5	188	48.5			53.5	240	320	80
									310	385	77.5	
								44.5	400	482	83	Ø 1-1/4" BSP

Performance & Pressure drop diagram (ISO VG 32)



## Spare Components

Code	Description
TM44/A1	Thermostat 40-28°
TM45/A1	Thermostat 50-38°
TM46/A1	Thermostat 60-48°
0879800	12V DC Fan S1 V2
0877000	24V DC Fan S1 V2
0879810	12V DC Fan S1 V2
0877010	24V DC Fan S2 V2
0879820	12V DC Fan S3 V3
0877020	24V DC Fan S3 V3
0879830	12V DC Fan S4 V4
0877030	24V DC Fan S4 V4



# Air-Oil Heat Exchangers - 2000KBV Series

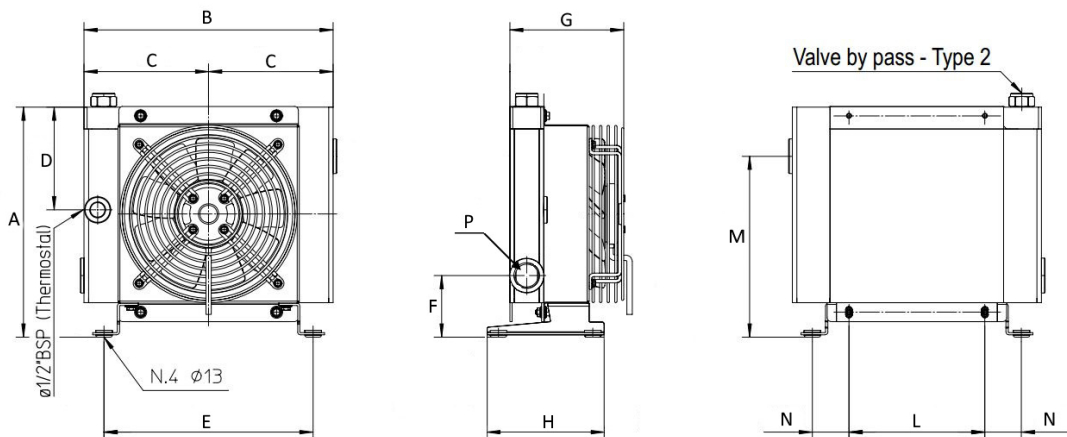
Used for hydraulic system cooling on mobile and agricultural machines. This series is top-of-the-range and has an optimum price/efficiency ratio.

- Long-life aluminium body
- Integrated fixed thermostat: 60°C with 12°C differential (60-48°)
- Bypass valve
- Working pressure: 20 bar. Test pressure: 35 bar



Part Number	Technical Data													
	Supplier Code	V (AC)	Phase	Hz	kW	Amps	rpm	Ø Fan	dB(A)	Air Flow (m <sup>3</sup> /h)	IP	Max L/min	kg	
<b>2W1501301</b>	MG-AIR-2015KBV-230	230	1	50/60	0.05/0.061	0.24-0.28	2740/3120	200	68	700	44	80	7	
<b>2W1503301</b>	MG-AIR-2015KBV-400	230-400	3	50/60	0.068/0.07	0.29-0.17/0.23-0.13	2500/2650		69	720				
<b>2W2001301</b>	MG-AIR-2020KBV-230	230	1	50/60	0.05-0.061	0.24-0.28	2740/3120		68	675		100	8	
<b>2W2003301</b>	MG-AIR-2020KBV-400	230-400	3	50/60	0.068/0.07	0.29-0.17/0.23-0.13	2500/2650			645				
<b>2W2401301</b>	MG-AIR-2024KBV-230	230	1	50/60	0.115/0.150	0.51-0.66	2450/2600		250	72		1350	120	11
<b>2W2403301</b>	MG-AIR-2024KBV-400	230-400	3	50/60	0.105/0.145	0.33-0.19/0.39-0.23	2600/2900					1300		
<b>2W3001301</b>	MG-AIR-2030KBV-230	230	1	50/60	0.23/0.35	1.1-1.55	2700/3000	300	78	2220	140	15		
<b>2W3003301</b>	MG-AIR-2030KBV-400	230-400	3	50	0.21	0.62-0.36	2580		76	2500				
				60	0.3	0.84-0.48	2750							
<b>2W4001301</b>	MG-AIR-2040KBV-230	230	1	50/60	0.16/0.24	0.73-1.06	1430/1700	400	71	3200	54	160	21	
<b>2W4003301</b>	MG-AIR-2040KBV-400	230-400	3	50	0.135	0.76-0.44	1450			3200				
				60	0.185	0.68-0.39	1690							
<b>2W5003301</b>	MG-AIR-2050KBV-400	230-400	3	50	0.52	1.9-1.1	1450	450	76	5000	180	27		
				60	0.66	2-1.2	1690							

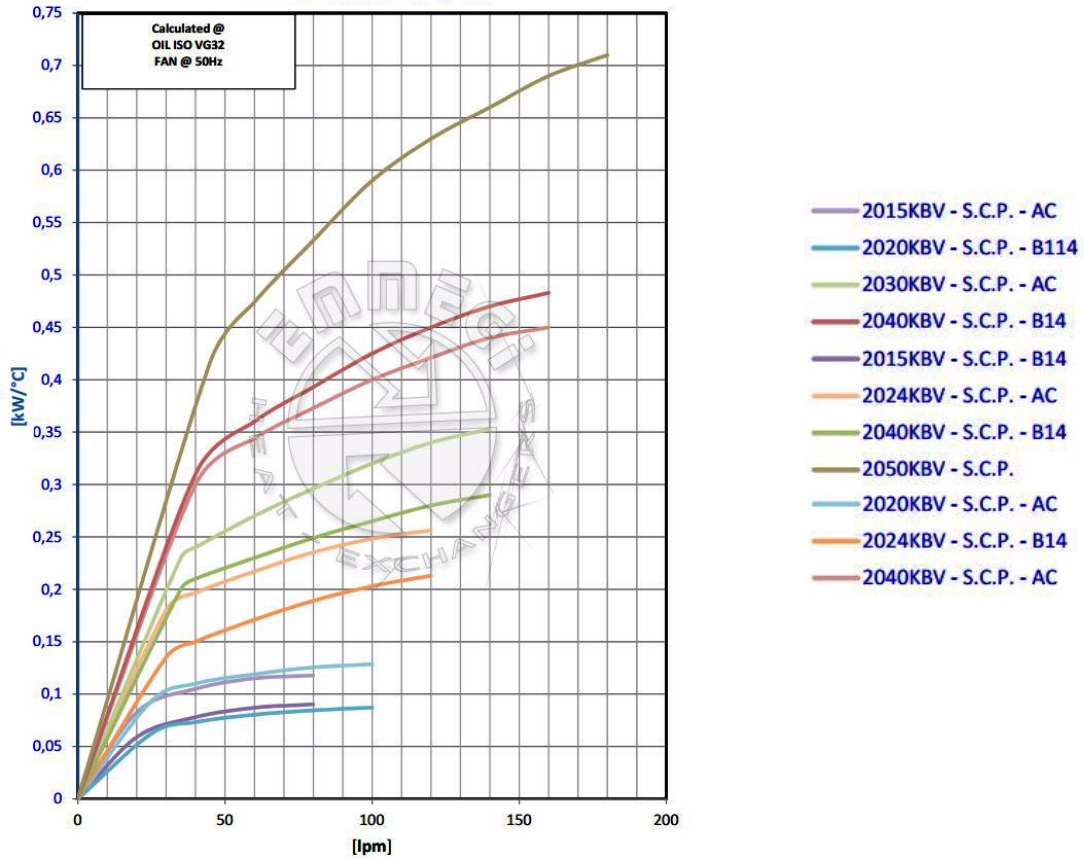
Note: The above coolers are equipped with bypass valve and fixed thermostat 60-48°. For sizing the cooler please contact your local Southcott branch.



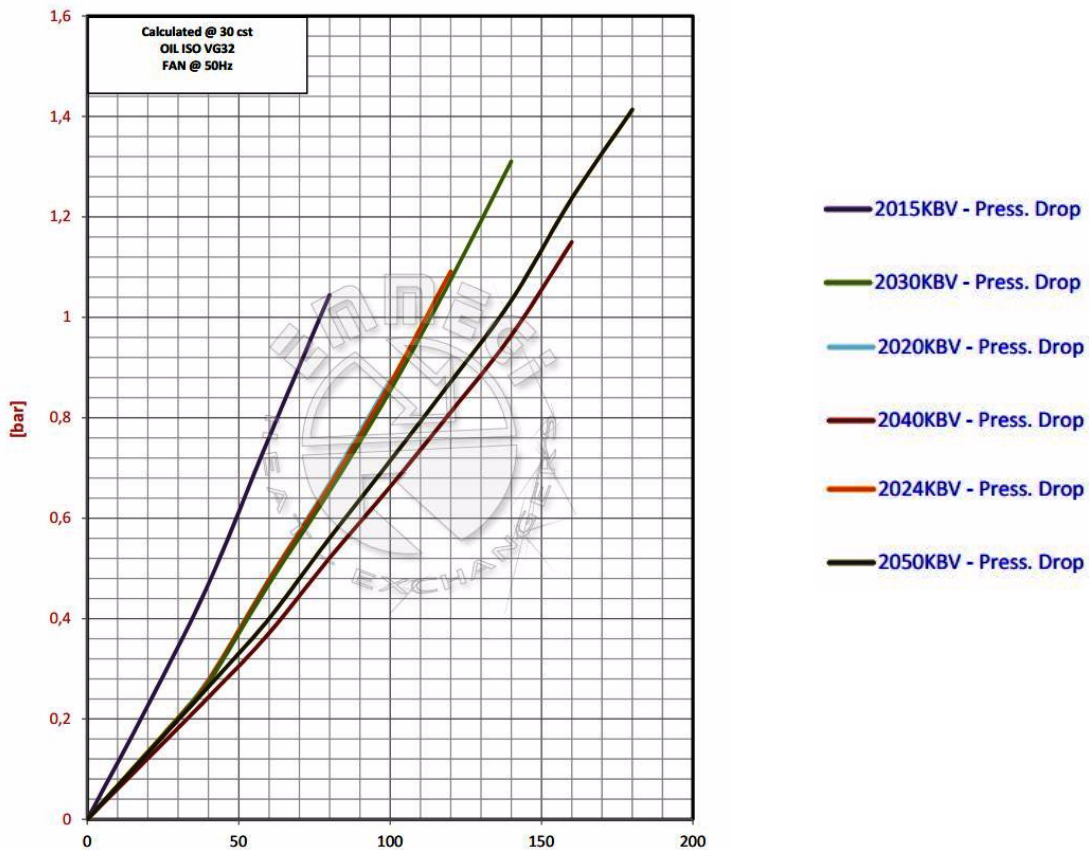
Part No.	Dimensions (mm)												
	A	B	C	D	E	F	G	H	L	M	N	P	
<b>2W1501301/2W1503301</b>	304.5	330	165	136	277	81.5	151	155	180	239.5	48.5	Ø 1" BSP	
<b>2W2001301/2W2003301</b>							169						
<b>2W2401301/2W2403301</b>							169.5						
<b>2W3001301/2W3003301</b>	429.5	455	227.5	198.5	392	81.5	188	155	310	364.5	41		
<b>2W4001301/2W4003301</b>	533	550	275	260.5	487	79	204	155	400	468	43.5		Ø 1-1/4 BSP
<b>2W5003301</b>	650	605	302.5	-	-	-	273	230	-	-	-		

## Performance & Pressure Drop Diagrams

Performance Diagram



Pressure Drop Diagram

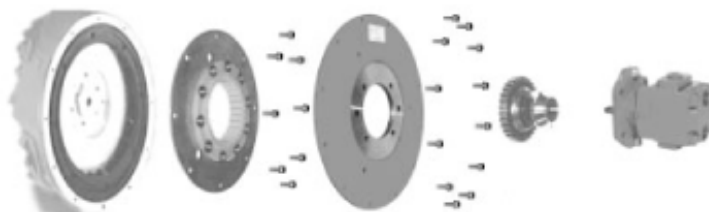




# SECTION O

## SPLINED HUBS, DRIVE KITS

PAGE DESCRIPTION	PAGE
SPLINED HUBS, DRIVE KITS .....	O 2
SPLINED STUBWELDS .....	O 4
SPLINED BUSHES - SLIP SLEEVES .....	O 5
FLEXILOCK COUPLINGS .....	O 6
ENGINE TO PUMP DRIVE KITS .....	O 7



**NB: Models, Codes and Specifications may be subject to change without notice.**

## SPLINED HUBS

FOR HYDRAULIC PUMPS AND MOTORS



**SPLINED HUBS** are manufactured from K1146 or K1045 Carbon Steel. OD is machined true to spline axis after broaching. All items are supplied in soft condition and may be induction- or through-hardened. Hub outside diameter reflects a tolerance of  $-0.000'' +0.001''$ . Length tolerance is  $\pm 0.030''$ . Welding operations should be carried out using a low hydrogen electrode.

**SPLINE DETAILS:** Most involute splines below are flat root side fit. They may be used with filled root shafts. Spline tolerance is Class 5 in most cases. Imperial involute splines are to ANSI B92.1-1970. Metric involute splines listed below are to Deutsche Norman DIN 5480. On ANSI splines actual OD of mating shaft will usually be smaller than shown as "Nom Spline OD" below to allow for root clearance.

### PRECISION SPLINED HUBS - OD is machined true to spline axis.

No. of Teeth	Origin or Standard	Nom Spline OD	Spec of Spline	Length of Hub	Hub Diameter	Known Uses	Part No.
6	IMP. ANSI	1.000"	6B STRAIGHT SAE	1.750"	2.000"	Hyd. Orbit Motors	94/50005
6	IMP. ANSI	1.375"	6B STRAIGHT SAE	2.500"	2.500"	Ag Tractor PTO	94/50033
9	IMP. ANSI	0.625"	16/32 DP INV CL 5	1.250"	1.250"	Hyd SAE A Spline	94/50001
11	IMP. ANSI	0.750"	16/32 DP INV CL 5	1.500"	1.500"	Hyd SAE A Hd Spline	94/50002
12	IMP. ANSI	0.812"	16/32 DP INV CL 5	1.500"	1.500"	Hyd Orbitrol etc	94/50034
13	IMP. ANSI	0.875"	16/32 DP INV CL 5	1.500"	1.500"	Hyd SAE B Spline	94/50003
13	DIN 5480	1.750"	8/16 DP INV CL 5	2.250"	3.000"	Hyd SAE D/E Spline	94/50008
14	IMP. ANSI	20mm	1.25 MODULE INV	1.500"	1.500"	Hyd Rexroth etc	94/50035
14	IMP. ANSI	1.250"	12/24 DP INV CL 5	2.000"	2.250"	Hyd SAE C Spline	94/50006
14	DIN 5480	30mm	2 MODULE INV	2.000"	2.250"	Hyd Rexroth etc	94/50010
14	IMP. ANSI	1.500"	10/20 DP INV CL 5	2.250"	2.500"	General Applications	94/50036
14	IMP. ANSI	2.500"	6/12 DP INV CL 5	3.250"	4.000"	General Applications	94/500133
15	IMP. ANSI	1.000"	16/32 DP INC CL 5	1.750"	1.750"	Hyd SAE BB Spline	94/50004
15	IMP. ANSI	2.000"	8/16 DP INV CL 5	2.250"	3.250"	Hyd SAE F Spline	94/50037
16	DIN 5482	30mm	A30 x 27	2.000"	2.000"	Linde Hyd Pumps	94/50068
16	IMP. ANSI	1.700"	10/20 DP INV CL 5	2.250"	2.750"	General Applications	94/50039
16	IMP. ANSI	2.125"	8/16 DP INV CL 5	2.960"	3.500"	Hyd Orbit Motors	94/50040
17	IMP. ANSI	1.125"	16/32 DP INV CL 5	2.000"	2.250"	General Applications	94/50027
17	IMP. ANSI	1.500"	12/24 DP INV CL 5	1.750"	2.500"	Hyd SAE CC Spline	94/50032
18	DIN 5480	25mm	1.25 MODULE INV	2.250"	1.750"	Rexroth, Kubota	94/50020
18	DIN 5480	25mm	1.25 MODULE INV	1.750"	1.750"	Kubota	94/50020K
18	DIN 5480	40mm	2 MODULE INV	2.125"	3.000"	Hyd. Rexroth etc	94/50041
19	IMP. ANSI	1.250"	16/32 DP INV CL 5	2.000"	2.500"	General Applications	94/50069
20	IMP. ANSI	3.500"	6/12 DP INV CL 5	3.250"	5.000"	Staffa Shaft	94/500137
21	IMP. ANSI	1.375"	16/32 DP INV CL 5	1.750"	2.250"	Hyd Sundstrand, eaton	94/50007
21	DIN 5480	45mm	2 MODULE INV	2.250"	3.000"	Hyd Rexroth etc	94/50042
22	DIN 5480	70mm	3 MODULE INV	2.500"	4.500"	Staffa Z Shaft	94/500127
23	IMP. ANSI	1.500"	16/32 DP INV CL 5	2.125"	2.250"	Hyd Sundstrand, Eaton	94/50043
23	DIN 5482	48mm	A48 x 44	2.750"	3.000"	General Applications	94/50044
24	DIN 5480	50mm	2 MODULE INV	2.750"	3.250"	Hyd Rexroth etc	94/50045
26	IMP. ANSI	1.400"	20/40 DP INV CL 5	2.000"	2.000"	Marine Transmissions	94/50046
26	DIN 5480	55mm	2 MODULE INV	2.750"	3.250"	General Applications	94/50047
26	IMP. ANSI	2.250"	12/24 DP INV CL 5	3.000"	3.250"	General Applications	94/50048
27	IMP. ANSI	1.750"	16/32 DP INV CL 5	2.250"	3.000"	Hyd Sundstrand, Eaton	94/50009
40	IMP. ANSI	2.562"	16/32 DP INV CL 5	3.375"	3.375"	Hyd Sundstrand, Eaton	94/50049





# SPLINED COUPLINGS

FOR HYDRAULIC PUMPS AND MOTORS

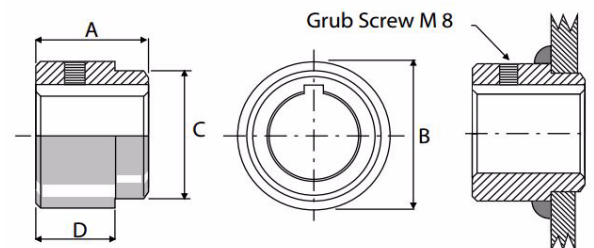


**NB: OD not guaranteed to be true to axis.**

No. Teeth	Origin or Standard	Nom Spline OD	Spline Specification	Coupling Length	Coupling Diameter	Part No.
6	IMP	0.750"	6B Straight SAE	2.500"	1.375"	94/600100
6	IMP	0.875"	6B Straight SAE	2.500"	1.375"	94/600101
6	IMP	1.000"	6B Straight SAE	2.750"	1.375"	94/600005
6	IMP	1.125"	6B Straight SAE	2.750"	1.560"	94/600102
6	IMP	1.250"	6B Straight SAE	3.250"	1.875"	94/600082
6	DIN	34mm	DIN 5463 6 x 28 x 34	80mm	50mm	94/600114
6	IMP	1.375"	6B Straight SAE	3.750"	1.750"	94/60033
6	IMP	1.375"	6B Straight SAE	6.000"	1.750"	94/60033L
6	IMP	1.500"	6B Straight SAE	3.750"	1.875"	94/600104
6	IMP	1.625"	6B Straight SAE	3.750"	2.000"	94/600105
6	IMP	1.750"	6B Straight SAE	3.750"	2.125"	94/600083
9	IMP	0.625"	16/32 DP INV CL5	2.000"	1.375"	94/600001
10	IMP	25mm	DIN Ag	2.750"	1.375"	94/600107
10	IMP	1.000"	10B Straight SAE	2.500"	1.375"	94/600108
10	IMP	1-1/32"	10B Straight SAE	3.250"	1.500"	94/600123
10	IMP	1.125"	10B Straight SAE	3.250"	1.500"	94/600109
10	IMP	1.250"	10B Straight SAE	3.750"	1.750"	94/600110
10	IMP	1.375"	10B Straight SAE	3.000"	1.750"	94/600111
10	IMP	1.500"	10B Straight SAE	3.000"	1.875"	94/600112
11	IMP	0.750"	16/32 DP INV CL5	2.000"	1.375"	94/600002
13	IMP	0.875"	16/32 DP INV CL5	2.000"	1.375"	94/600003
13	IMP	0.875"	16/32 DP INV CL5	3.000"	1.375"	94/60003L
13	IMP	1.750"	8/16 DP INV CL5	3.000"	2.250"	94/600008
14	IMP	1.250"	12/24 DP INV CL5	3.000"	1.750"	94/600006
15	IMP	1.000"	16/32 DP INV CL5	3.000"	1.500"	94/600004
20	IMP	1.750"	12/24 DP INV CL 5	3.000"	2.250"	94/600113S
20	IMP	1.750"	12/24 DP INV CL5	3.000"	2.250"	94/600113
21	IMP	1.375"	16/32 DP INV CL5	3.000"	1.750"	94/600007
21	IMP	1.375"	16/32 DP INV CL5	6.000"	1.750"	94/60007L
23	IMP	1.500"	16/32 DP INV CL5	3.000"	2.000"	94/600043
27	IMP	1.750"	16/32 DP INV CL5	3.000"	2.250"	94/600009

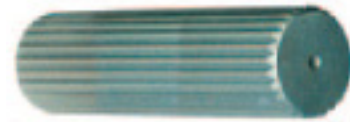
## ROUND BORE WELD-IN HUBS

Bore	Keyway	A mm	B mm	C mm	D mm	Part No.	
0.500"	NONE	58.5	63.5	58	49	91/80067	
0.750"	0.187"					91/80013	
0.875	0.250"					91/80014	
25mm	8mm					91/80026	
1.000"	0.250"					91/80015	
1.250"	0.312"					91/80024	
28mm	8mm					91/80075	
30mm	8mm					91/80079	
1.375"	0.3125"					91/80065	
1.500"	0.375"					91/80060	
1.750"	0.437"	76.2	65	92/80061			
2.000"	0.500"	76		92/80062			
35mm	10mm	58.5	63.5	58	91/80050		
38mm	10mm				91/80051		
40mm	12mm				91/80052		
42mm	12mm				91/80053		
45mm	14mm				92/80054		
48mm	14mm				92/80055		
50mm	14mm				92/80056		
55mm	16mm				90	75	92/80057



For connecting hydraulic orbit motors to fabricated winch drums and mixer paddles, electric motor sprocket hubs and machine bosses. Manufactured from mild steel for ease of welding. Bore tolerances +0.03mm +0.06mm. Machined outside dimension "C" has tolerance of +0.02mm +0.05mm. Finish is black Colorsal.





# STANDARD SPLINED SHAFTING

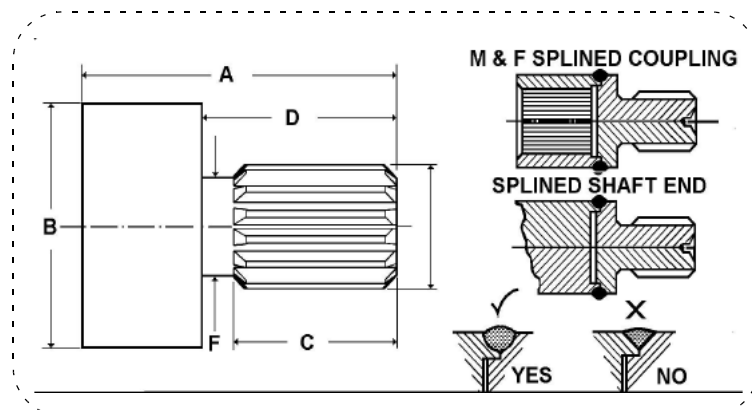
ADAPTORS FOR HYDRAULIC PUMP & MOTOR DRIVES

No. Teeth	Origin or Standard	Nom Spline OD	Specifications of Spline	Length of Shaft	Known Uses	Part No.
6	IMP	1.000"	Straight SAE	8"	Mobile Equip	94/70005S
6	IMP	1.000"	Straight SAE	10"	Mobile Equip	94/70005
6	IMP	1.125"	Straight SAE	10"	Agriculture	94/700102
6	IMP	1.250"	Straight SAE	8"	Mobile Equip	94/70082
6	DIN 5463	34mm	34 x 28	8"	Agriculture	94/700114
6	IMP	1.375"	Straight SAE	8"	Agriculture	94/70033
6	IMP	1.500"	Straight SAE	10"	Mobile Equip	94/700104
6	IMP	1.625"	Straight SAE	10"	Mobile Equip	94/700105
6	IMP	1.750"	Straight SAE	8"	Mobile Equip	94/70083
9	IMP.ANSI	0.625"	16/32 DP INV 30PA	6"	Hyd SAE A	94/70001
10	IMP	1.250"	Straight SAE	10"	Mobile Equip	94/700110
10	IMP	1.750"	Straight SAE	8"	Mobile Equip	94/70081
11	IMP. ANSI	0.750"	16/32 DP INV 30PA	6"	Hyd SAE AH	94/70002
13	IMP. ANSI	0.875"	16/32 DP INV 30PA	6"	Hyd SAE B	94/70003
13	IMP. ANSI	1.750"	8/16 DP INV 30PA	8"	Hyd SAE D/E	94/70008
14	IMP. ANSI	1.250"	12/24 DP INV 30PA	8"	Hyd SAE C	94/70006
15	IMP. ANSI	1.000"	16/32 DP INV 30PA	8"	Hyd SAE BB	94/70004
16	DIN 5480	35mm	2 MODULE INV W35	8"	Hyd Rexroth	94/70011
16	IMP. ANSI	1.700"	10/20 DP INV 30PA	8"	General	94/70039
16	IMP. ANSI	2.125"	8/16 DP INV 30PA	8"	Agriculture	94/70040
17	IMP. ANSI	1.500"	12/24 DP INV 30PA	8"	General	94/70032
18	DIN 5482	35mm	A35 x 31	203mm	General	94/70021
20	IMP. ANSI	1.750"	12/24 DP INV 30PA	8"	Agriculture	94/700113
21	IMP. ANSI	1.375"	16/32 DP INV 30PA	8"	General	94/70007
24	DIN 5480	50mm	2 MODULE INV W50	8"	Hyd Rexroth	94/70045
26	IMP. ANSI	2.250"	12/24 DP INV 30PA	8"	General	94/70048
27	IMP. ANSI	1.750"	16/32 DP INV 30PA	8"	Agriculture	94/70009
40	IMP. ANSI	2-9/16"	16/32 DP INV 30PA	8"	Hyd Sund	94/70049

## SPLINED STUBWELDS

For SAE Hydraulic Applications

SPLINED STUBWELD DIMENSION									
SAE	Spline Type	Dim A	Dim B	Dim C	Dim D	Dim E	E Nom	Dim F	Part No.
A	9T 16/32 DP	58	34.92	22	28	0.608	5/8	12	76/70001
B	13T 16/32 DP	64	44.45	27	34	0.858	7/8	18	76/70003
BB	15T 16/32 DP	68	44.45	31	38	0.983	1	21	76/70004
C	14T 12/24 DP	77	53.97	40	47	1.229	1 1/4	27	76/70006
D	13T 8/16 DP	96	76.20	58	66	1.721	1 3/4	37	76/70008



### DETAILS AND APPLICATIONS

Ideal for use with precision splined hubs for manufacturing of M & F couplings. Stubwelds may also be used for replacing splined ends of worn shafts or manufacturing splined ends on shafts for new equipment.

### MACHINING AND WELDING

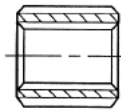
Machine mated pilot registers and fillets true on both items to be joined. Hold firmly under press or between pressed centres. Preheat to electrode suppliers recommendations. Use alternate welding deposits to fully fix parts then fully weld while rotating in horizontal position. Some post heating may be necessary to ensure slow cooling. Use only a special purpose electrode such as SatinCraft or other comparable brand. Use a spraypack type spatter protection coating on spline area while welding. Check clocking error after welding to test alignment.

### WARNING

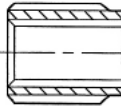
Above information is a guide only. Correct welding and machining operations are entirely the responsibility of the user. Federal or State Occupation Safety Regulations relating to circumferential shaft welding should be observed where applicable.

# SPLINED BUSHES - SLIP SLEEVES

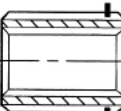
ADAPTORS FOR HYDRAULIC PUMP & MOTORS



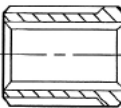
**TYPE 1**  
PLAIN DYNAGEAR



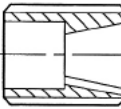
**TYPE 2**  
EXTENDED DYNAGEAR



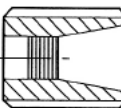
**TYPE 3**  
SNAP RING (EUROPE)



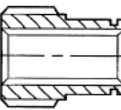
**TYPE 4**  
FUNK GEARBOX



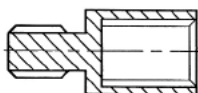
**TYPE 5**  
DIN 1:8 TAPER WITH KEY  
Has recess for nut



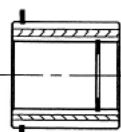
**TYPE 6**  
DIN TAPER THREADED  
CW pumps only



**TYPE 7**  
CONQUIP FRONT PTO

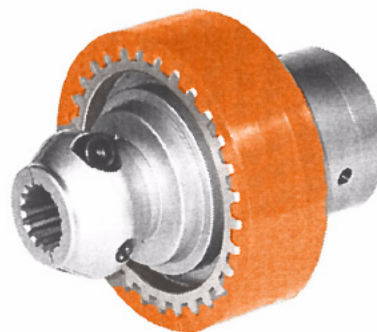
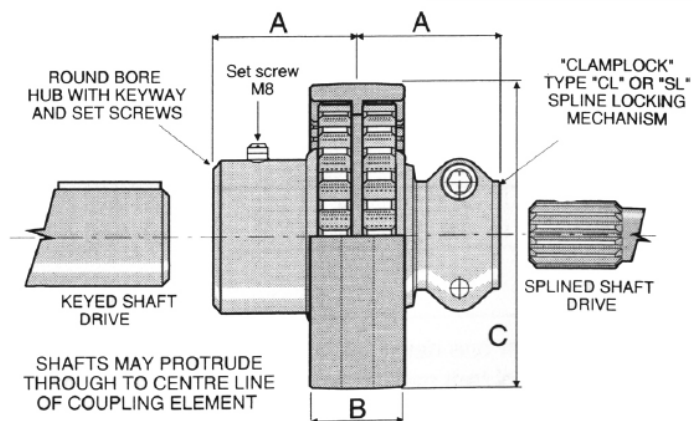


**TYPE 8**  
MALE/FEMALE



**TYPE 9**  
TERREL DURST GEARBOX

Type	Male Spline	Female Spline	Overall Length in.	Part No.
1	15T 1" 16/32	Rnd 5/8" keyed	0.79	58/03/03988
1	15T 1" 16/32	9T 5/8" 16/32	0.79	58/03/03987
1	14T 1-1/4" 12/24	9T 5/8" 16/32	1.125	58/03/10001
1	14T 1-1/4" 12/24	13T 7/8" 16/32	1.125	58/03/10003
1	13T 1-3/4" 8/16	13T 7/8" 16/32	3.000	58/03/01899
1	13T 1-3/4" 8/16	14T 1-1/4" 12/24	1.200	58/03/20006
1	13T 1-3/4" 8/16	21T 1-3/8" 16/32	1.200	58/03/20007
1	13T 1-3/4" 8/16	16T 35mm DIN	1.200	58/03/20011
2	6T 1-3/4" Strght	6T 1.0" Strght	2.400	58/03/01589
2	13T 1-3/4" 8/16	9T 5/8" 16/32	1.375	58/03/20001
2	13T 1-3/4" 8/16	11T 3/4" 16/32	1.200	58/03/20002
2	13T 1-3/4" 8/16	13T 7/8" 16/32	1.375	58/03/20003
2	13T 1-3/4" 8/16	18T 25mm DIN	1.375	58/03/20020
2	13T 1-3/4" 8/16	6T 1.0" Strght	1.200	58/03/20005
2	13T 1-3/4" 8/16	15T 1.0" 16/32	1.375	58/03/20004
2	13T 1-3/4" 8/16	14T 30mm DIN	1.560	58/03/20010
2	13T 1-3/4" 8/16	Rnd 5/8" Keyed	1.375	58/03/20012
2	13T 1-3/4" 8/16	Rnd 1.0: Keyed	1.375	58/03/20015
3	23T 48mm DIN	12mm pilot bore	35mm	32/03/30000
3	13T 7/8" 16/32	9T 5/8" 16/32	1.312	58/03/01369
3	15T 1" 16/32	9T 5/8" 16/32	1.500	58/03/01666
3	14T 1-1/4" 12/24	11T 3/4" 16/32	45mm	58/03/10002L
3	14T 1-1/4" 12/24	13T 7/8" 16/32	1.500	58/03/01698
3	14T 1-1/4" 12/24	13T 7/8" 16/32	2.000	58/03/01698L
3	14T 1-1/4" 12/24	15T 1.0" 16/32	1.500	58/03/00714
3	18T 35mm DIN	9T 5/8" 16/32	1.065	T2060038
3	23T 48mm DIN	13T 7/8" 16/32	45mm	32/03/30003
3	23T 48mm DIN	18T 25mm DIN	45mm	32/03/30020
3	23T 48mm DIN	15T 1.0" 16/32	45mm	32/03/30004
3	23T 48mm DIN	14T 30mm DIN	45mm	32/03/30010
3	23T 48mm DIN	14T 1-1/4" 12/24	45mm	32/03/30006
3	23T 48mm DIN	21T 1-3/8" 16/32	45mm	32/03/30007
3	23T 48mm DIN	16T 35mm DIN	45mm	32/03/30011
3	23T 48mm DIN	16T 35mm DIN	61mm	32/03/30011L
3	23T 48mm DIN	17T 1-1/2" 12/24	45mm	32/03/30032
3	29T 62mm DIN	13T 1-3/4" 8/16	55mm	32/03/40008
3	29T 62mm DIN	23T 48mm DIN	49mm	T2062004
4	6T 1-3/8" Strght	6T 1-1/8" Strght	3.000	03/32/00018
4	13T 1-3/4" 8/16	13T 7/8" 16/32	2.000	028055
4	13T 1-3/4" 8/16	15T 1" 16/32	2.000	028584
4	13T 1-3/4" 8/16	14T 1-1/4" 12/24	2.000	028056
4	13T 1-3/4" 8/16	21T 1-3/8" 16/32	2.000	028271
5	15T 1" 16/32	Taper DIN 2 1:8	0.79	58/03/03985
5	13T 1-3/4" 8/16	Taper DIN 2	40mm	58/03/20016
5	13T 1-3/4" 8/16	Taper DIN 3	40mm	58/03/20017
8	23T 48mm DIN	13T 1-3/4" 8/16	90mm	32/03/30008
9	13T 1-3/4" 8/16	9T 5/8" 16/32	2.000	TS20900244
9	13T 1-3/4" 8/16	13T 7/8" 16/32	1.938	TS20900245
9	13T 1-3/4" 8/16	15T 1.0" 16/32	1.750	TS20900246
9	13T 1-3/4" 8/16	14T 1-1/4" 12/24	1.750	TS20900247
9	13T 1-3/4" 8/16	19T 1-1/4" 16/32	2.375	TO12160131
9	13T 1-3/4" 8/16	21T 1-3/8" 16/32	1.850	TS12160120



## 63 SERIES



63 SERIES LATERAL CLAMPLOCK TYPE			
No. of Teeth	Spline Type	Spline O.D.	Part No.
POLYMER ELEMENT			90/03/05741
9	16/32 INV CL5	0.625"	90/CLA01
11	16/32 INV CL5	0.750"	90/CLA02
13	16/32 INV CL5	0.875"	90/CLA03
15	16/32 INV CL5	1.000"	90/CLA04

63 SERIES STANDARD ROUND BORE & KEYED		
Bore	Keyway	Part No.
0.625"	0.156"	90/90012
19mm	6mm	90/90073
0.750"	0.187"	90/90013
0.875"	0.250"	90/90014
24mm	8mm	90/90074
1.000"	0.250"	90/90015

## 101 SERIES



101 SERIES LATERAL CLAMPLOCK TYPE			
No. of Teeth	Spline Type	Spline O.D.	Part No.
POLYMER ELEMENT			91/03/03691
13	16/32 INV CL5	0.875"	91/CLB03
15	16/32 INV CL5	1.000"	91/CLB04
14	12/24 INV SL5	1.250"	91/CLC06
21	16/32 INV DL5	1.375"	91/CLC07
17	12/24 INV CL5	1.500"	91/CLC32
23	16/32 INV CL5	1.500"	91/CLC43
14	2 Module INV	30mm	91/CLC10
16	2 Module INV	35mm	91/CLC11
18	1.25 Module INV	25mm	91/CLB20

101 SERIES STANDARD ROUND BORE & KEYED		
Bore	Keyway	Part No.
0.500" Pilot	None	91/90067
0.625	0.156 (5/32")	91/90012
0.750"	0.187" (3/16")	91/90013
0.875"	0.250" (1/4")***	91/90014
1.000"	0.250" (1/4")	91/90015
1.250"	0.312" (5/16")	91/90024
1.500"	0.375" (3/8")	91/90060
1.750"	0.437" (7/16")	91/90061
2.000	0.500 (1/2")	91/90062
24mm	8mm	91/90074
25mm	8mm	91/90026
28mm	8mm	91/90075
32mm	10mm	91/90080
35mm	10mm	91/90050
38mm	10mm	91/90051
40mm	12mm	91/90052
42mm	12mm	91/90053
48mm	14mm	91/90055
55mm	16mm	91/90057
60mm	18mm	91/90058

\*\*\* Also includes second 5/16" keyway

## 127 SERIES



127 SERIES LATERAL CLAMPLOCK HUBS			
No. of Teeth	Spline Type	Spline OD	Part No.
POLYMER ELEMENT			92/03/03244
13	16/32 INV CL5	0.875"	92/CLB03
13	8/16 INV CL5	1.750"	92/CLDA08
14	12/24 INV SL5	1.250"	92/CLC06
15	16/32 INV CL5	1.000"	92/CLB04
17	12/24 INV CL5	1.500"	92/CLC32
21	16/32 INV DL5	1.375"	92/CLC07
23	16/32 INV CL5	1.500"	92/CLC43
27	16/32 INV CL5	1.750"	92/CLDA09

127 SERIES STANDARD ROUND BORE & KEYED		
Bore	Keyway	Part No.
1/2" Pilot	None	92/90067
0.875"	0.250"	92/90014
1.000"	0.250"	92/90015
1.250"	0.312"	92/90024
1.438"	0.375"	92/90089
1.500"	0.375"	92/90060
1.750"	0.437"	92/90061
2.000"	0.500"	92/90062
38mm	10mm	92/90051
40mm	12mm	92/90052
42mm	12mm	92/90053
45mm	14mm	92/90054
48mm	14mm	92/90055
50mm	14mm	92/90056
55mm	16mm	92/90057
60mm	18mm	92/90058
65mm	18mm	92/90059

Continuous power ratings are for fluid power service, 10 hours per day with hubs within maximum misalignment tolerance and temp not exceeding 100°C.

**SPEED.** Consult factory for speeds exceeding 3000 RPM.

### MAXIMUM MISALIGNMENT TOLERANCES

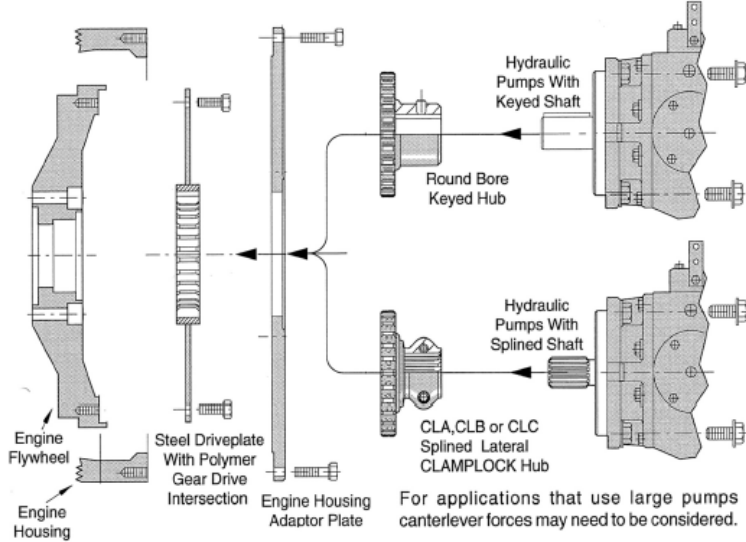
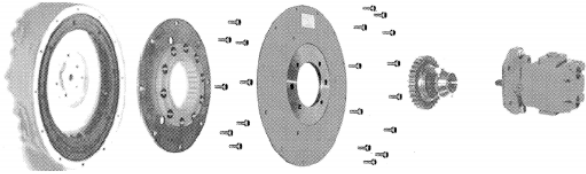
**Axial Displacement.** The element total axial clearance to hubs should be no less than 2mm or no greater than 4 mm total.

**Parallel Offset.** Hub parallel offset to each other should not exceed 0.5mm

**Angular Misalignment.** 1 degree per hub or a total included angle of 2 Deg.

PERFORMANCE SPECIFICATIONS		
SERIES	CONT. TORQUE	CONT. POWER PER 1000 RPM
101 (Code 91)	339 Nm 250 Lbs. Ft	35.4 kW 47.5 HP
127 (Code 92)	632 Nm 466 Lbs Ft	66.1 kW 88.7 HP

# ENGINE TO PUMP DRIVE KITS



Engine Housing			
Hsg. No.	Spigot mm	Bolt PCD mm	Bolts UNC
SAE 5	314.32	333.38	8 x 3/8"
SAE 4	361.95	381.00	12 x 3/8"
SAE 3	409.58	428.62	12 x 3/8"
SAE 2	447.68	466.77	12 x 3/8"
SAE 1	511.18	530.22	12 x 7/16"

Flywheel Measurements			
Flywheel	Spigot mm	Bolt PCD mm	Bolts UNC
6-1/2"	215.90	200.02	6 x 5/16"
7-1/2"	241.30	222.25	8 x 5/16"
8"	263.52	244.48	6 x 3/8"
10"	314.32	295.28	8 x 3/8"
11-1/2"	352.42	333.38	8 x 3/8"
14"	466.72	438.15	8 x 1/2"

## Pricing on Application

### ORDERING CODE

**92 / P 03 06**

Flexilock Coupling Series					
Coupling Series	K OD mm	L Length mm	Torque ft lbs	Torque Nm	Model Code
63	63.37	40 to 50	100	135	<b>90</b>
101	101.47	64.50	300	406	<b>91</b>
127	126.76	64.50	500	678	<b>92</b>
195*	194.50	64.50	715	969	<b>95</b>

Engine Adaptor Interfacing			
Housing Number	Flywheel Number	Drive Kit Series	Model Code
SAE 5	6-1/2"	63	<b>C</b>
SAE 5	6-1/2"	101	<b>D</b>
SAE 5	7-1/2"	63	<b>E</b>
SAE 5	7-1/2"	101	<b>F</b>
SAE 5	8"	63	<b>G</b>
SAE 5	8"	101	<b>G</b>
SAE 4	7-1/2"	63	<b>H</b>
SAE 4	8"	63	<b>J</b>
SAE 4	10"	101	<b>K</b>
SAE 4	10"	127	<b>K</b>
SAE 3	10"	101	<b>M</b>
SAE 3	10"	127	<b>M</b>
SAE 3	11-1/2"	101	<b>P</b>
SAE 3	11-1/2"	127	<b>P</b>
SAE 2	11-1/2"	127	<b>S</b>
SAE 2	11-1/2"	195	<b>S</b>
SAE 1	11-1/2"	127	<b>B</b>
SAE 1	11-1/2"	195	<b>B</b>
SAE 1	14"	127	<b>W</b>
SAE 1	14"	195	<b>W</b>

Pump Flange Interface			
Drive Kit Series	Pump Flange	Pump Spigot	Model Code
63	SAE-A 2	3.25"	<b>01</b>
101,127	SAE-B 2/4	4"	<b>02</b>
101,127	SAE-C 2/4	5"	<b>03</b>
127,195	SAE-D 4	6"	<b>04</b>
127,195	SAE-E 4	6.5"	<b>05</b>
127,195	SAE-F 4	7"	<b>06</b>
63	Euro GP 2	36.5mm	<b>07</b>
63,101	Euro GP 3	50.8mm	<b>08</b>
101	M100 4	100mm	<b>09</b>
101,127	M125 2/4	125mm	<b>10</b>
127	M140 4	140mm	<b>11</b>
127,195	M160 2/4	160mm	<b>12</b>
127,195	M180 4	180mm	<b>13</b>

Splined Pump Shaft Options				
Nom. Spline O.D.	Number of Teeth	Origin Standard	Specifications of Spline	Model Code
0.625"	9	IMP ANSI	16/32 INV CL5	<b>01</b>
0.750"	11	IMP ANSI	16/32 INV CL5	<b>02</b>
0.875"	13	IMP ANSI	16/32 INV CL5	<b>03</b>
1.000"	15	IMP ANSI	16/32 INV CL5	<b>04</b>
1.250"	14	IMP ANSI	12/24 INV CL 5	<b>06</b>
1.375"	21	IMP ANSI	16/32 INV CL5	<b>07</b>
1.500"	17	IMP ANSI	12/24 INV CL5	<b>32</b>
1.500"	23	IMP ANSI	16/32 INV CL5	<b>43</b>
1.750"	13	IMP ANSI	8/16 INV CL5	<b>08</b>
1.750"	27	IMP ANSI	16/32 INV CL5	<b>09</b>
2.000"	15	IMP ANSI	8/16 INV CL5	<b>37</b>
25mm	18	DIN 5480	1.25 Module INV	<b>20</b>
30mm	14	DIN 5480	2 Module INV	<b>10</b>
35mm	16	DIN 5480	2 Module INV	<b>11</b>
40mm	18	DIN 5480	2 Module INV	<b>41</b>
45mm	21	DIN 5480	2 Module INV	<b>42</b>
50mm	24	DIN 5480	2 Module INV	<b>45</b>

Round Bore Keyed Pump Shaft Options					
Bore	Keyway	Code	Bore	Keyway	Code
0.625"	0.156"	<b>12</b>	1.750"	0.437"	<b>61</b>
0.750"	0.187"	<b>13</b>	35mm	10mm	<b>50</b>
0.875"	0.187"	<b>14</b>	40mm	12mm	<b>52</b>
1.000"	0.250"	<b>15</b>	45mm	14mm	<b>54</b>
1.250"	0.312"	<b>24</b>	50mm	14mm	<b>56</b>
1.500"	0.375"	<b>60</b>	55mm	16mm	<b>57</b>
*Also has 0.250" Keyway					
<b>Euro 1 in 8 Taper</b>					
18 mm	Euro GP2	<b>16</b>	24 mm	Euro GP3	<b>17</b>







# SECTION P

## ELECTRONIC & REMOTE CONTROL SYSTEMS



**NB: Models, Codes and Specifications may be subject to change without notice.**



## ELECTRONIC CONTROLS

Southcott's Control Systems Group (CSG) is a dedicated team of electronic engineers with over 30 years of experience in the design and integration of custom electro-hydraulic control systems.

Our team can design systems from simple push-button controllers to complex machine automation. To ensure safe operation, we provide the customer with all documentation, including schematics, wiring diagrams, and operating manuals. The product is fitted with a custom fascia to label functionality that can be privately branded with the customer's logo.

CSG engineers offer solutions including radio controls with complete wiring harnesses and feedback sensors, industrial PLC, and mobile CAN controllers. Our range of controllers include:

**Kar-Tech** remote controls are a versatile programmable radio remote control that provides convenient and safe control of machinery operations.

The Macro remote is available with up to 8 outputs + Dump, which permits the user to select either the momentary or latching function. Additional functions are available through the Mega with 20 buttons and Giga with 34 buttons. All Kar-Tech receivers are encapsulated for water protection.



**Autec** remote controls are used in applications where proportional control is required to manipulate large-scale machinery such as cranes, cherry pickers, etc. The transmitters have excellent battery life, are rechargeable and available with removable battery options. The Dynamic Belly Packs offer a safety performance STOP function (EN ISO 13849-1 / EN IEC 62061) and Safety Category for the protection against Unintended Movements From Standstill UMFS (EN ISO 13849-1 / EN IEC 62061). The Air and Neo range offers a safety performance of the STOP function (EN ISO 13849-1).



Autec transmitters offer a STOP button and an enclosure rating of IP65 on all systems. They support other options like Smart Key, Zero-G sensor, Enable/Deadman switch, CAN output, and many other features. They also have an impressive range of quality sealed actuators ranging from paddles, joysticks with a third axis if needed, toggle switches, rotary switches, and LCD displays available on request.

Southcott engineers use the latest technology, including programmability by CODESYS. The receivers are designed with solid-state outputs featuring short circuit and overload protection and ratiometric outputs for voltage-controlled valves. They are designed to work with various types of equipment, with operating ranges of +9 to +30 volts DC. The systems use Frequency Hopping Spread Spectrum (FHSS). This bi-directional communication is also optimised for a fast data link to receive feedback from the receiver; some receivers also offer to operate in the 434 MHz (63 channels) range. This, coupled with the ability to calibrate the paddle and joystick functions by the operator, make these systems an impressive radio control for any application. Contact your local Southcott branch and let our engineers work with you to design, manufacturer and commission an electro-hydraulic control system that can be integrated into your hydraulic operation seamlessly.

## Feature Summary



	Macro	Mega	Giga	AIR A8	LK NEO 8
<b>Range</b>	50m	100m			
<b>Output Functions</b>	8	20	34	8	8, 10, 12
<b>Input Type</b>	Digital Only			Digital Only + 4 Digital Inputs	Proportional Dial Option + 4 Digital Inputs*
<b>Power Source</b>	Rechargeable Batteries				Rechargeable Batteries (Removable)



	SK4	FJL	FJS	FJM
<b>Working Range</b>	100m			
<b>Transmitter Configuration</b>	13 + Actuator Positions	6 Paddles 6 Toggles	4 Paddles or 2 Joysticks 5 Toggles	8 Paddles or 4 Joysticks 8 Toggles
<b>Input Type</b>	Digital + 1 Analogue	Full Proportional Control + Digital*		
<b>Output Functions</b>	4 Digital Inputs + 13 Outputs*	12 PWM, 12 Digital 8 Voltage Outputs + *		16 PWM, 16 Digital 2 Voltage Outputs + CAN + *
<b>Power Source</b>	Rechargeable Batteries	Rechargeable Batteries (Removable)		

\* Note: Most receivers can be changed to offer more inputs and outputs and CAN from the default receivers





Notes



Lined area for notes



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### Warranty & Returns

Southcott Pty Ltd warrants that goods supplied shall be of merchantable quality. Southcott does not warrant that the goods are fit for a particular purpose and, except or unless otherwise stated herein, warranties relating to title, defects or conformity of the goods are expressly excluded.

Returns will be accepted only if prior arrangements have been made with Southcott and charges, including but not limited to re-stocking fees, may apply.

Any costs associated with the return of goods for the purpose of a warranty claim shall be the responsibility of the customer.

For full terms and conditions visit our website at [www.southcott.com.au](http://www.southcott.com.au)

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