
3PE

Aluminium gear pumps

Technical Catalogue

E0.130.0219.02.00IM04



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GEAR PUMPS “E”- “B”- “C” SERIES

Aluminium Body

General Features

GEAR PUMPS

SALAMI gear pumps are available with displacements from 1.4 cm³/rev to 99 cm³/rev (*from 0.09 cu.in/rev to 6.03 cu.in/rev*).

Multiple pumps can always be relized combining stages taken from different or same series.

Several options of shafts, flanges and ports as for European, German and American standards are available for all the pumps.

SALAMI gear pumps offer:

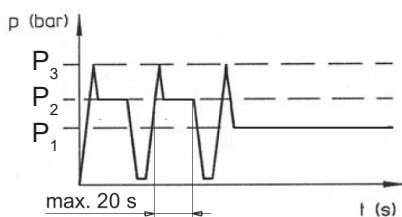
- High volumetric efficiency thanks to an innovative design and an accurate control of machining tolerances.
- Axial compensation achieved by the use of floating bushes that allow high volumetric efficiency throughout the working pressure range.
- DU bearings to ensure high pressure capability.
- 12 teeth integral gear and shaft.
- Aluminium body.
- Cast iron flange and cover.
- Double shaft seals.
- Nitrile seals as standard and Viton seals in high temperature applications.
- All pumps are hydraulically tested after assembly to ensure the highest standard performance.
- Gear pumps are ideal for mobile equipment including: snow plows, light duty equipment, farm vehicles, town trucks, cherry pickers, lift gates, utility vehicles, aerial devices, hoists, spreaders, fan drive.
- Also available Bidirectional rotation.

WORKING CONDITIONS

- Pump inlet pressure (absolute pressure)	0.8 to 1.5 bar (11.6 to 21.7 psi)
- Minimum operating fluid viscosity	12 mm ² / sec
- Max starting viscosity	800 mm ² / sec
- Suggested fluid viscosity range	17 - 65 mm ² / sec
- Fluid operating temperature range	-20 to 80 °C
- Fluid operating temperature range with FPM seals (Viton)	-15 to 110°C
- Fluid operating temperature range with HNBR seals*	-30 to 110°C
- Hydraulic fluid	Mineral oil according to DIN 51524. Other hydraulic fluids on request.

*Available on request.

DEFINITION OF PRESSURES



P_3 = Peak pressure

P_2 = Intermittent operating pressure (1/3 of working time)

P_1 = Continuous operating pressure

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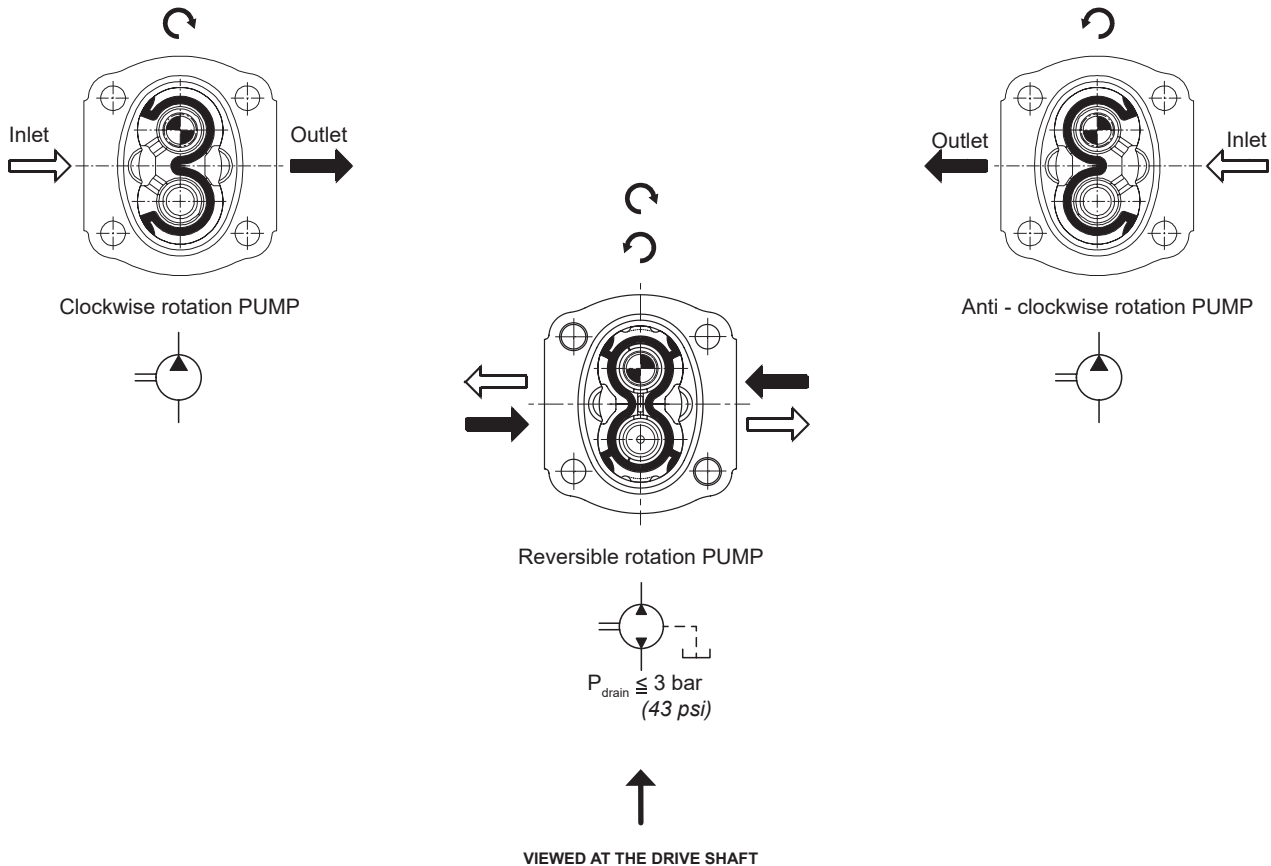
General Features

GEAR PUMPS “E”- “B”- “C” SERIES Aluminium Body

DRIVE SHAFTS

Radial and axial loads on the shafts must be avoided since they reduce the life of the unit.
In order to avoid misalignment during the assembly with the primary engine, a connection with “Oldham” coupling (or coupling having convex toothed hub) is recommended.

ROTATION



HYDRAULIC PIPE LINE

To ensure favorable suction conditions it is important to keep pressure drop in suction pipe line to a minimum value (see TECHNICAL DATA).
To calculate hydraulic pipe line size, the designer can use; as an approximate guide, the following fluid speed figures:

From 1 to 2 m/sec on suction pipe line
From 6 to 10 m/sec on pressure pipe line

From 3.28 to 6.36 ft/sec on suction pipe line
From 19.7 to 32.8 ft/sec on pressure pipe line

The lowest fluid speed values in pipe lines is recommended when the operating temperature range is high and/or for continuous duty.

The highest value is recommended when the temperature difference is low and/or for intermittent duty.

When tandem pumps are supplied by 2 different reservoirs with 2 different fluids it is necessary to specify “AS” version.

GEAR PUMPS “E”- “B”- “C” SERIES

Aluminium Body

General Features

FILTRATION INDEX RECOMMENDED

Working pressure	>200 bar/2900 psi	<200 bar/2900 psi
Contamination class NAS 1638	9	10
Contamination class ISO 4406	19/18/15	20/19/16
Achieved with filter $\beta_x=75$	15 μm	25 μm

COMMON FORMULAS FOR PUMPS

$$C = \text{Input torque} = \frac{q \cdot \Delta p}{62.8 \cdot \eta_m} \text{ (Nm)}$$

$$P = \text{Input power} = \frac{q \cdot n \cdot \Delta p \cdot 10^{-3}}{600 \eta_m} \text{ (kW)}$$

$$Q = \text{Outlet flow} = \frac{q \cdot n \cdot \eta_v}{1000} \text{ (l/min)}$$

LEGENDA

 Δp = Working pressure (bar)

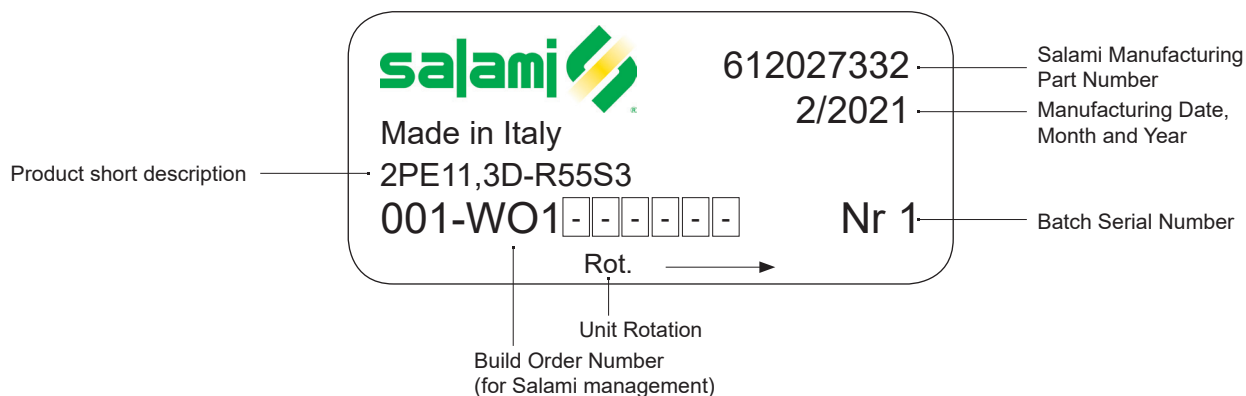
 q = Displacement (cm^3/rev)

 n = Speed (min^{-1})

 η_m = Mechanical eff. (0.92)

 η_v = Volumetric eff. (0.95)

IDENTIFICATION LABEL



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General Features

GEAR PUMPS “E”- “B”- “C” SERIES Aluminium Body

TECHNICAL DATA

	Displacement		Continuous pressure P ¹		Intermittent pressure P ²		Peak pressure P ³		Max. speed	Min. speed
GROUP 1.5 - E SERIES	cm ³ /rev	cu.in/rev	bar	psi	bar	psi	bar	psi	rpm	
1.5PE - 1.4	1.4	0.09	250	3625	270	3915	290	4205	5000	700
1.5PE - 2.1	2.1	0.13	250	3625	270	3915	290	4205	5000	700
1.5PE - 2.8	2.8	0.17	250	3625	270	3915	290	4205	4500	700
1.5PE - 3.5	3.5	0.21	250	3625	270	3915	290	4205	4500	700
1.5PE - 4.1	4.1	0.25	250	3625	270	3915	290	4205	4000	700
1.5PE - 5.2	5.2	0.32	230	3335	250	3625	270	3915	4000	700
1.5PE - 6.2	6.2	0.38	230	3335	250	3625	270	3915	3600	600
1.5PE - 7.6	7.6	0.46	200	2900	220	3190	250	3625	3300	600
1.5PE - 9.3	9.3	0.57	180	2610	200	2900	240	3480	3000	600
1.5PE - 11	11	0.67	170	2465	190	2755	220	3190	3000	600

GROUP 2 - E SERIES	cm ³ /rev	cu.in/rev	bar	psi	bar	psi	bar	psi	rpm	
2PE - 3.2*	3.2	0.19	250	3625	280	4060	300	4350	4000	600
2PE - 3.9*	3.9	0.24	250	3625	280	4060	300	4350	4000	600
2PE - 4.5	4.6	0.27	250	3625	280	4060	300	4350	4000	600
2PE - 6.5	6.5	0.4	250	3625	280	4060	300	4350	4000	600
2PE - 8.3	8.2	0.5	250	3625	280	4060	300	4350	3500	500
2PE - 10.5	10.6	0.65	250	3625	280	4060	300	4350	3500	500
2PE - 11.3	11.5	0.68	250	3625	280	4060	300	4350	3500	500
2PE - 12.5	12.7	0.77	250	3625	280	4060	300	4350	3500	500
2PE - 13.8	13.8	0.84	250	3625	280	4060	300	4350	3500	500
2PE - 16	16.6	1.01	250	3625	280	4060	300	4350	3000	400
2PE - 19	19.4	1.15	220	3190	240	3480	260	3750	3000	400
2PE - 22.5	22.9	1.37	200	2900	220	3190	240	3480	2750	400
2PE - 26	26.6	1.62	180	2610	200	2900	220	3190	2500	400

*Available only as rear pump

GROUP 2.5 - B SERIES	cm ³ /rev	cu.in/rev	bar	psi	bar	psi	bar	psi	rpm	
2.5PB - 5.5*	5.97	0.36	250	3625	280	4060	300	4350	3000	600
2.5PB - 8.3*	8.29	0.50	250	3625	280	4060	300	4350	3000	600
2.5PB - 11.5*	11.76	0.72	250	3625	280	4060	300	4350	3000	600
2.5PB - 13.8*	14.07	0.86	250	3625	280	4060	300	4350	3000	600
2.5PB - 16	16	0.97	250	3625	280	4060	300	4350	3000	600
2.5PB - 19	19.3	1.17	250	3625	280	4060	300	4350	3000	600
2.5PB - 22	22.2	1.35	250	3625	280	4060	300	4350	3000	500
2.5PB - 25	25.2	1.53	250	3625	280	4060	300	4350	3000	500
2.5PB - 28	27.6	1.68	250	3625	280	4060	300	4350	3000	500
2.5PB - 32	32.4	1.97	230	3335	250	3625	260	3750	3000	500
2.5PB - 38	38.1	2.32	200	2900	220	3190	240	3480	2750	400
2.5PB - 44	44.2	2.69	170	2465	190	2755	210	3040	2500	400

*Available only as rear pump. Displacements **11.5-13.8** are available as single pump only with drive shaft “55”.

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Aluminium Body

General Features

TECHNICAL DATA

	Displacement		Continuous pressure P ¹		Intermittent pressure P ²		Peak pressure P ³		Max. speed	Min. speed
GROUP 3 - E SERIES	cm ³ /rev	cu.in/rev	bar	psi	bar	psi	bar	psi	rpm	
3PE - 21	20.6	1.26	250	3625	280	4060	300	4350	3000	600
3PE - 27	27	1.65	250	3625	280	4060	300	4350	3000	600
3PE - 33	33.5	2.04	250	3625	280	4060	300	4350	3000	600
3PE - 38	38.7	2.36	250	3625	280	4060	300	4350	2750	500
3PE - 46	46.9	2.86	250	3625	270	3915	280	4060	2750	500
3PE - 55	54.1	3.3	220	3190	240	3480	250	3625	2500	400
3PE - 65	63.1	3.85	200	2900	220	3190	240	3480	2500	400
3PE - 75	73.4	4.48	180	2610	200	2900	220	3190	2500	400

GROUP 3.5 - C SERIES	cm ³ /rev	cu.in/rev	bar	psi	bar	psi	bar	psi	rpm	
3.5PC - 55	54.8	3.34	250	3625	280	4060	300	4350	2750	400
3.5PC - 64	63.2	3.85	250	3625	280	4060	300	4350	2750	350
3.5PC - 75	74.7	4.55	230	3335	250	3625	280	4060	2500	300
3.5PC - 87	88	5.36	210	3040	230	3330	260	3750	2250	300
3.5PC - 98*	99	6.03	200	2900	220	3190	250	3625	2000	300

*Displacement 98 are special release, please contact sales department.

- ⚠ *Max Speed must be lowered by 10% for system working continuously at p¹ pressure.*
Max pressure must be lowered by 10% for bi-directional pump.

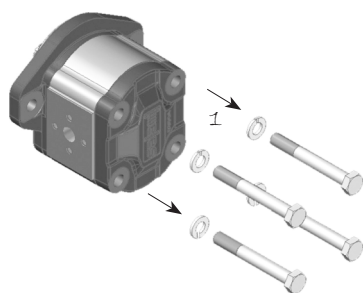
General Features

GEAR PUMPS “E”- “B”- “C” SERIES Aluminium Body

ROTATION CHANGING INSTRUCTIONS FOR UNITS

Keep the working surface cleaned as well as the exterior of the pump before starting and avoid inner contamination of the pump. The pump shown below is a clockwise rotating pump. To achieve anti - clockwise rotation, please read the following instructions carefully.

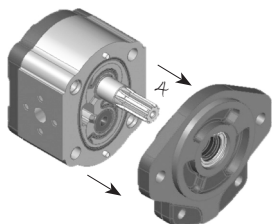
CLOCKWISE ROTATION



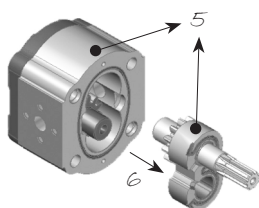
1 - Loosen and fully unscrew the bolts.

2 - Lay the pump on the working area in order to have the mounting flange turned upside.

3 - Coat the shaft end with grease to avoid damaging the shaft seal.

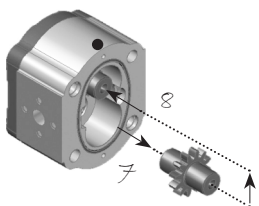


4 - Remove the flange and lay it on the working area; verify that the seal is correctly located in the body seat.



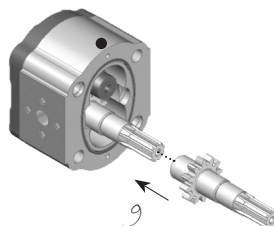
5 - Mark the position of the bushing and eventually of the thrust plate, as well, with reference to the body.

6 - Remove the bushing, thrust plate and the driving gear taking care to avoid driven gear axial shifts.

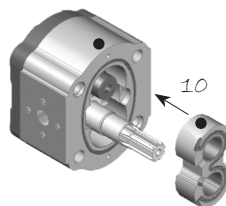


7 - Draw out the driven gear from its housing, taking care to avoid rear cover axial shifts.

8 - Re-locate the driven gear in the position previously occupied by the driving gear.



9 - Re-locate the driving gear in the position previously occupied by the driven gear.



10 - Replace the bushing and thrust plate taking care that:
- marks are located as on the picture
- surface containing the seal is visible
- seal and its protection are correctly located.

11 - Clean the body and mounting flange facing surfaces.

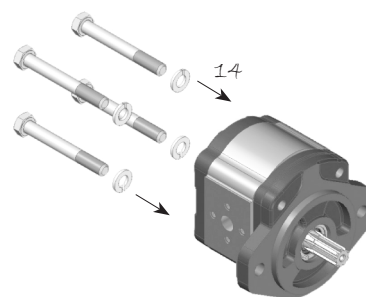
12 - Verify that the two plugs are located in the body.

13 - Refit the mounting flange, turned 180° from its original position.

14 - Replace the bolts and tighten clockwise evenly to an appropriate torque.

15 - Check that the shaft rotates freely.

16 - Mark on the flange the new direction of rotation.



ANTI - CLOCKWISE ROTATION



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GEAR PUMPS “E” SERIES
*Aluminium Body***3PE**

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The data in this catalogue refers to the standard product.

The policy of Salami S.p.A. consists of a continuous improvement of its products. It reserves the right to change the specifications of the different products whenever necessary and without giving prior information.

If any doubts, please contact our sales department.



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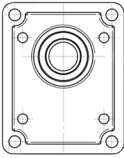
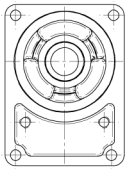
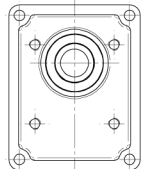
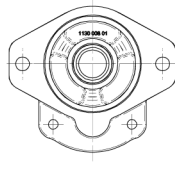
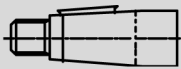
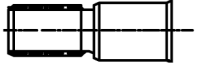
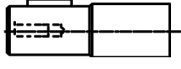
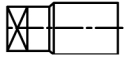
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GEAR PUMPS "E" SERIES

Aluminium Body

3PE

SHAFTS AND FLANGES COMBINATION

3PE	 CODE P2 - European stand.	 CODE B6 - German stand.	 CODE P3 - European stand. for 3,5PC	 CODE S3 - SAE B
 CODE 35 - Tapered 1:5		35B6		
 CODE 38 - Tapered 1:8	38P2			
 CODE 48 - Tapered 1:8 for 3,5PC			48P3	
 CODE 55 - SAE B 13T				55S3
 CODE 56 - SAE BB 15T				56S3
 CODE 87 - SAE B parallel				87S3
 CODE 88 - SAE BB parallel				88S3
 CODE 05 - Tang drive for electric motors		05B6		

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3PE

GEAR PUMPS “E” SERIES Aluminium Body

Displacements up to 4.48 cu.in./rev
Pressure up to 4350 psi

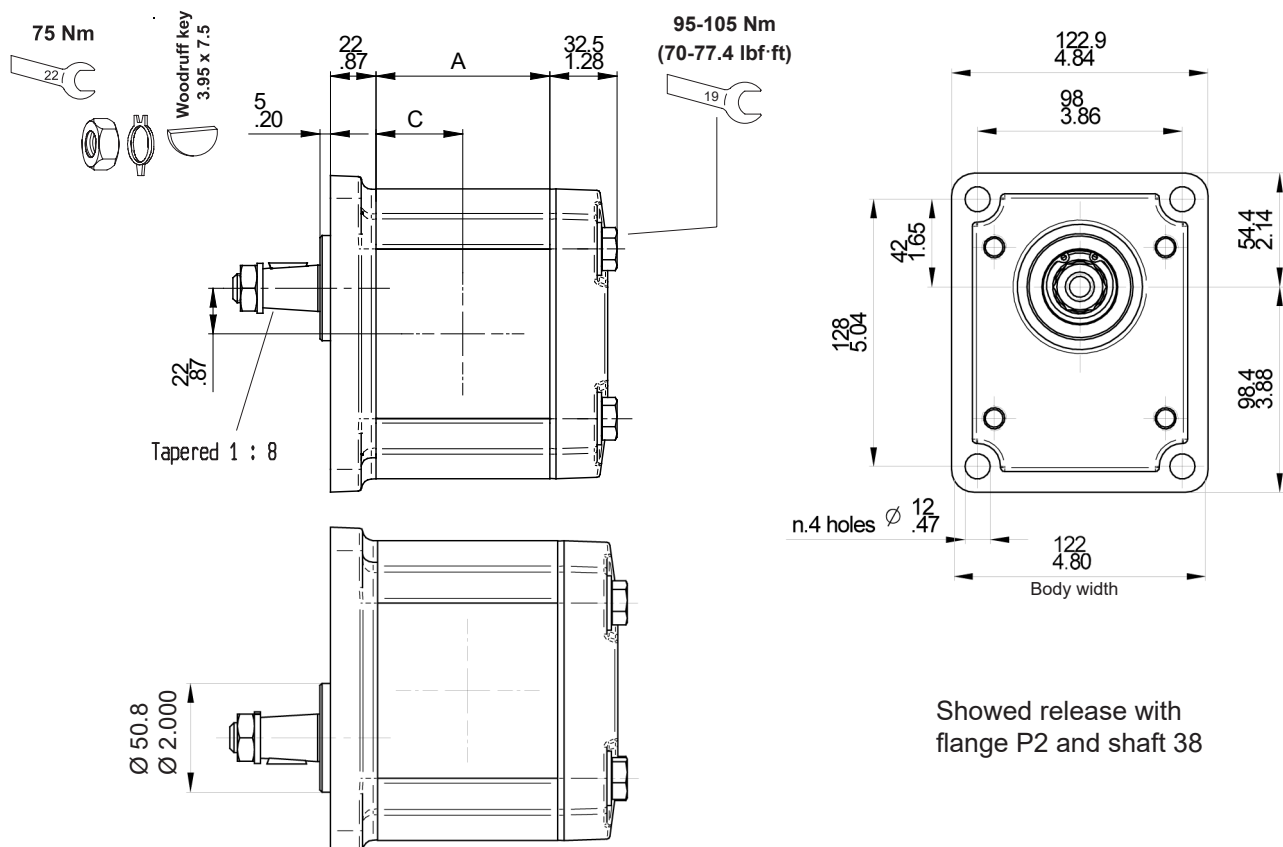


GEAR PUMPS

Displacements up to 73.4 cm³/rev
Pressure up to 300 bar

ASSEMBLING DIMENSIONS AND WORKING CONDITIONS

Type		21	27	33	38	46	55	65	75
Displacement	cm³/rev	20.6	27	33.5	38.7	46.9	54.1	63.1	73.4
	cu.in./rev	1.26	1.65	2.04	2.36	2.86	3.3	3.85	4.48
Dimension A	mm	74	79	84	88	104	110	117	124
	in	2.91	3.11	3.31	3.46	4.09	4.33	4.61	4.88
Dimension C	mm	37	39.5	42	44	52	55	58.5	62
	in	1.46	1.56	1.65	1.73	2.05	2.17	2.30	2.44
Continuous pressure	P ¹ bar	250	250	250	250	250	220	200	180
	psi	3625	3625	3625	3625	3625	3190	2900	2610
Intermittent pressure	P ² bar	280	280	280	280	270	240	220	200
	psi	4060	4060	4060	4060	3915	3480	3140	2900
Peak pressure	P ³ bar	300	300	300	300	280	250	240	220
	psi	4350	4350	4350	4350	4060	3625	3480	3140
Max speed	rpm	3000	3000	3000	2750	2750	2500	2500	2500
Min speed	rpm	600	600	600	500	500	400	400	400
Weight	kg	8.80	9.10	9.46	9.60	10.40	10.80	11.00	11.50
	lbs	19.40	20.06	20.86	21.16	22.93	23.81	24.25	25.35



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GEAR PUMPS “E” SERIES

Aluminium Body

3PE

Displacements up to 4.48 cu.in./rev
Pressure up to 4350 psi

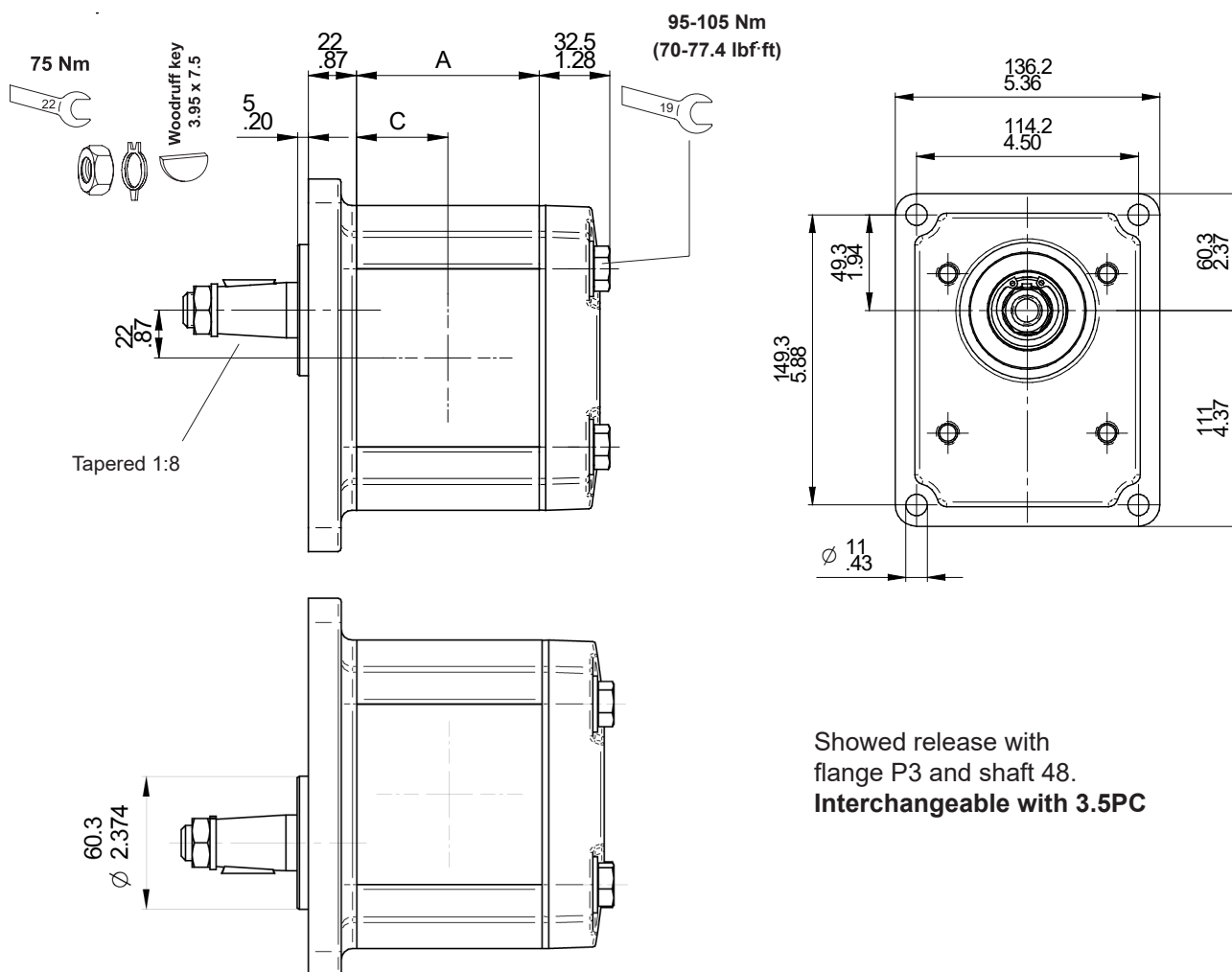


GEAR PUMPS

Displacements up to 73.4 cm³/rev
Pressure up to 300 bar

ASSEMBLING DIMENSIONS

Type		46	55	65	75
Displacement	cm ³ /rev	46.9	54.1	63.1	73.4
	cu.in./rev	2.86	3.3	3.85	4.48
Dimension A	mm	104	110	117	124
	in	4.09	4.33	4.61	4.88
Dimension C	mm	52	55	58.5	62
	in	2.05	2.17	2.30	2.44
Weight	kg	10.1	10.5	10.8	11.2
	lbs	22.3	23	23.8	24.6

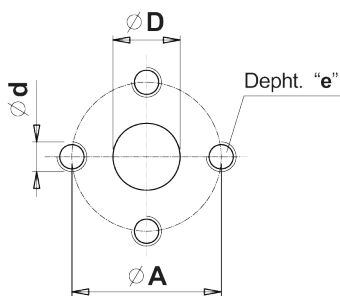


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GEAR PUMPS "E" SERIES Aluminium Body

FLANGED AND THREADED PORTS



code P

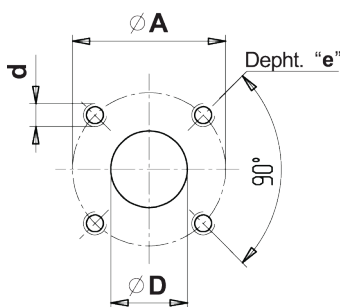
Flanged ports
european standard



TYPE	INLET				OUTLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
From 21 to 55	27 (1.06")	51 (2.01")	M10	16 (0.63")	16 (0.63")	40 (1.57")	M8	16 (0.63")
From 65 to 75	33 (1.3")	62 (2.44")	M12		21 (0.83")	51 (2.01")	M10	



BI-DIRECTIONAL PUMPS Special version available on request.



code B

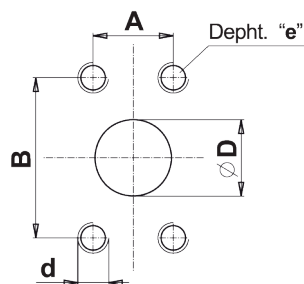
Flanged ports
german standard



TYPE	INLET				OUTLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
21	22 (0.86")	55 (2.17")	M8	13 (0.51")	19 (0.75")	55 (2.17")	M8	13 (0.51")
From 27 to 75	27 (1.06")							



BI-DIRECTIONAL PUMPS Special version available on request.



code W

Flanged ports
SAE J518
METRIC THREAD



TYPE	INLET					OUTLET				
	ØD	B	A	d	e	ØD	B	A	d	e
From 21 to 38	26 (1.02")	52.4 (2.06")	26.2 (1.03")	M10	18 (0.71")	19 (0.75")	47.6 (1.87")	22.2 (0.87")	M10	18 (0.71")
From 46 to 75	32 (1.26")	58.7 (2.31")	30.2 (1.19")			26 (1.02")	52.4 (2.06")	26.2 (1.03")		



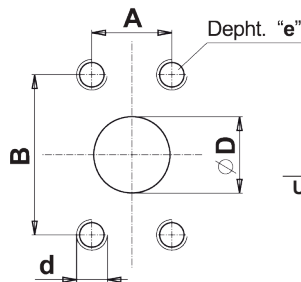
BI-DIRECTIONAL PUMPS Special version available on request.

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GEAR PUMPS "E" SERIES

Aluminium Body

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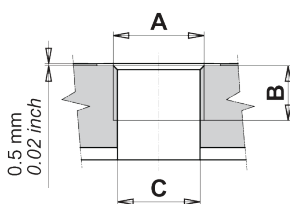
code S

Flanged ports
SAE J518
AMERICAN STANDARD
THREAD

UNI-DIRECTIONAL PUMPS	TYPE	INLET					OUTLET				
		ØD	B	A	d	e	ØD	B	A	d	e
	From 21 to 38	26 (1.02")	52.4 (2.06")	26.2 (1.03")	3/8 16 UNC	18 (0.71")	19 (0.75")	47.6 (1.87")	22.2 (0.87")	3/8 16 UNC	18 (0.71")
	From 46 to 75	32 (1.26")	58.7 (2.31")	30.2 (1.19")	7/16 14 UNC		26 (1.02")	52.4 (2.06")	26.2 (1.03")		



BI-DIRECTIONAL PUMPS Special version available on request.



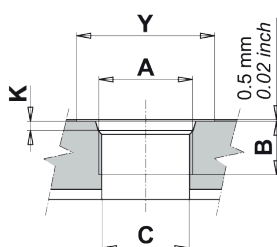
code G

Threaded ports
GAS (BSPP)

UNI-DIRECTIONAL PUMPS	TYPE	INLET			OUTLET		
		A	B	C	A	B	C
	From 21 to 38	G1	22 (0.86")	27 (1.06")	G1	22 (0.86")	27 (1.06")
	From 46 to 75	G1 1/4	24 (0.94")	32.5 (1.28")			



BI-DIRECTIONAL PUMPS Special version available on request.



code R

Threaded ports
SAE (ODT)

UNI-DIRECTIONAL PUMPS	TYPE	INLET					OUTLET				
		A	B	C	Y	K	A	B	C	Y	K
	From 21 to 38	1-5/16-12 UN (SAE 16)	19 (0.75")	25 (0.98")	49 (1.93")	3.3 (0.12")	1-1/16-12 UN (SAE 12)	19 (0.75")	21 (0.83")	41 (1.16")	3.3 (0.13")
	From 46 to 75	1-5/8-12 UN (SAE 20)		27 (1.06")	58 (2.28")		1-5/16-12 UN (SAE 16)		25 (0.98")	49 (1.93")	



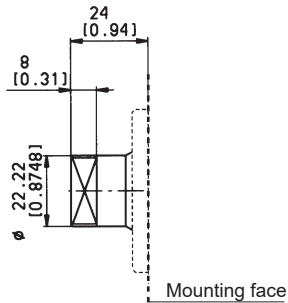
BI-DIRECTIONAL PUMPS Special version available on request.

EO.130.0219.02.00IM04

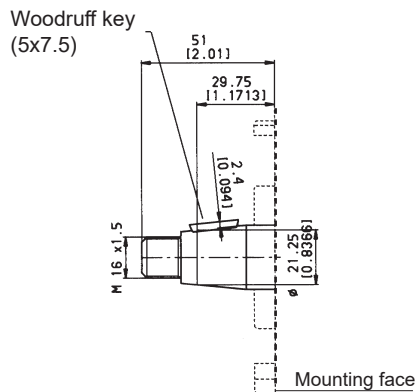
3PE

GEAR PUMPS "E" SERIES Aluminium Body

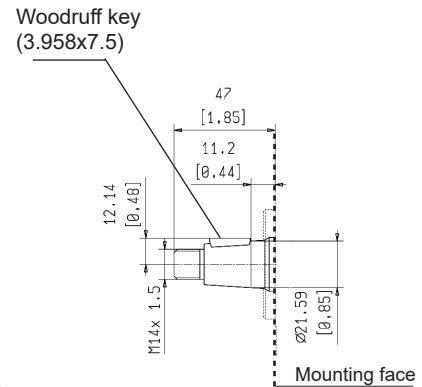
DRIVE SHAFTS



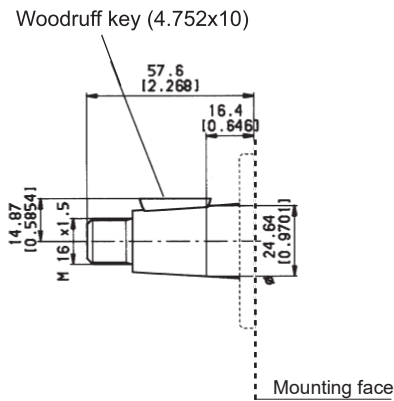
code 05 Max torque 180 Nm (1590 lbf in)
Tang drive for electric motor



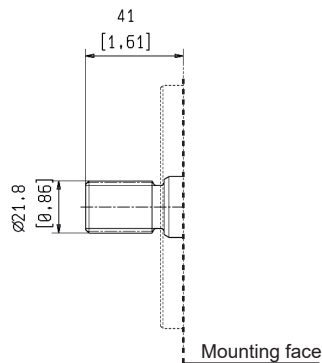
code 35 Max torque 260 Nm (2300 lbf in)
European tapered 1:5



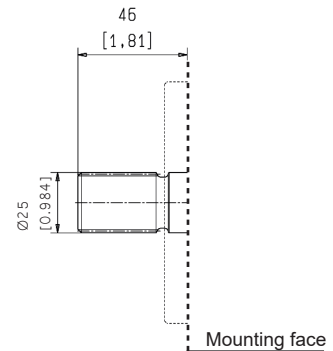
code 38 Max torque 250 Nm (2213 lbf in)
European tapered 1:8



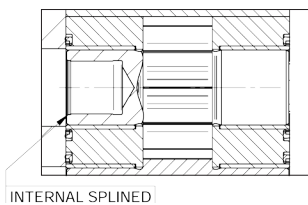
code 48 Max torque 350 Nm (3100 lbf in)
European tapered 1:8 for 3.5PC



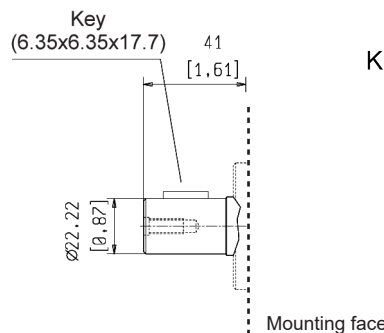
code 55 Max torque 330 Nm (2921 lbf in)
SAE B 13T-16/32DP Ansi B92 1a 1976



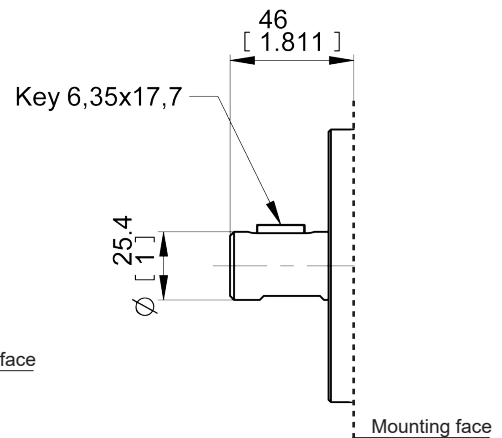
code 56 Max torque 480 Nm (4250 lbf in)
SAE BB 15T-16/32DP Ansi B92 1a 1976



code 65 Max torque 280 Nm (2478 lbf in)
DIN 5480 internal splined (only for rear pumps)



code 87 Max torque 220 Nm (1950 lbf in)
SAE B Parallel



code 88 Max torque 320 Nm (2830 lbf in)
SAE BB Parallel

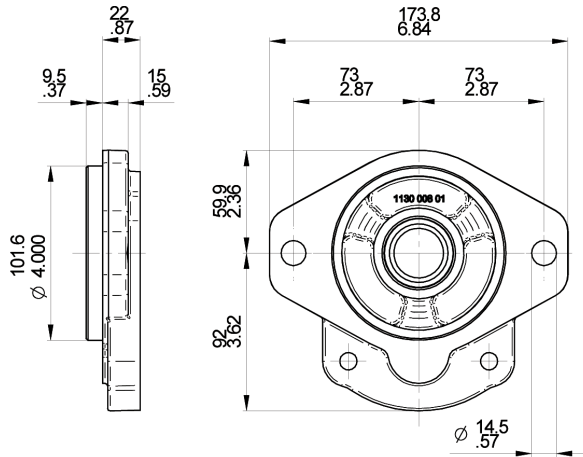
E0.130.0219.02.00IM04

GEAR PUMPS "E" SERIES

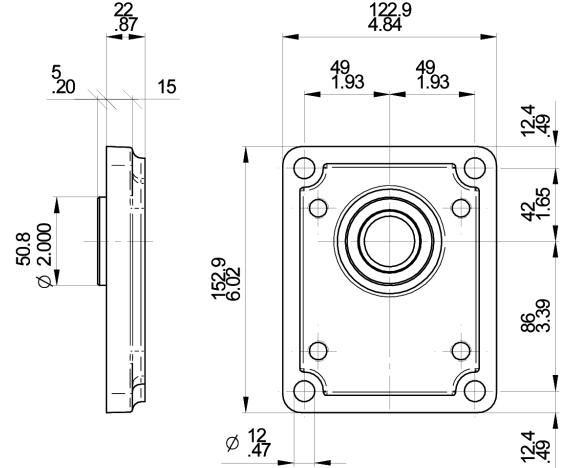
Aluminium Body

3PE

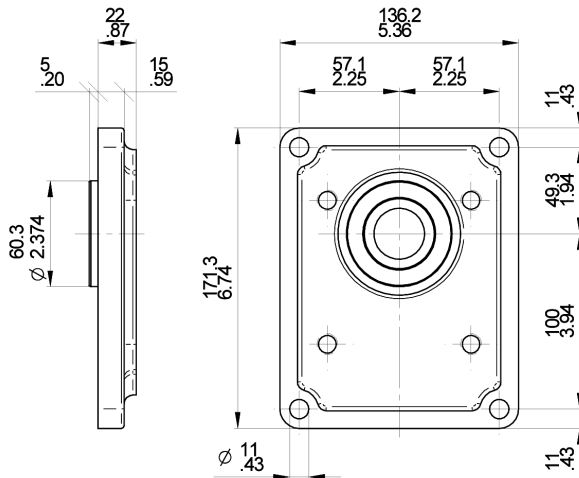
MOUNTING FLANGES


S3
SAE B 2 Bolts

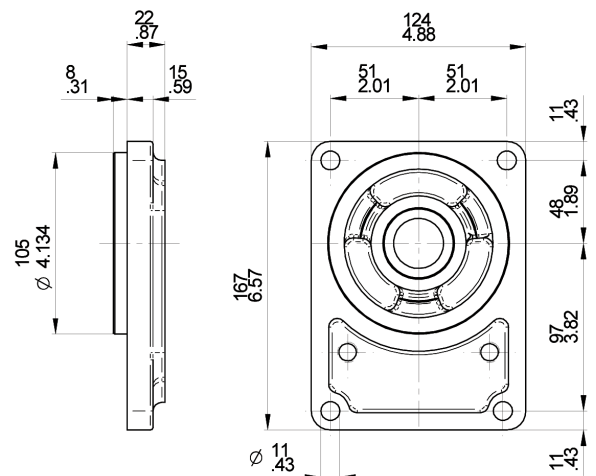
With shaft code 55-56-87-88


P2
European standard

With shaft code 38


P3
European standard for 3.5PC

With shaft code 48


B6
German standard

With shaft code 05-35

EO.130.0219.02.001M04

3PE

GEAR PUMPS "E" SERIES Aluminium Body

OUTRIGGER BEARING

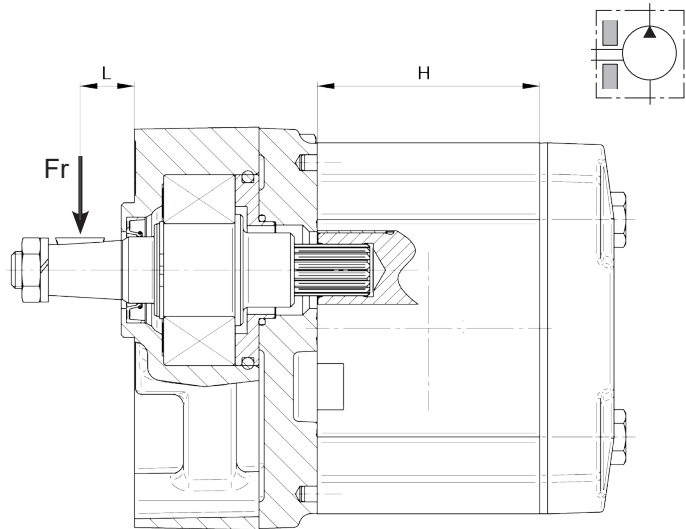
The following diagrams show radial load capability of the bearing.

Calculation according to ISO 281 at 10 cSt.

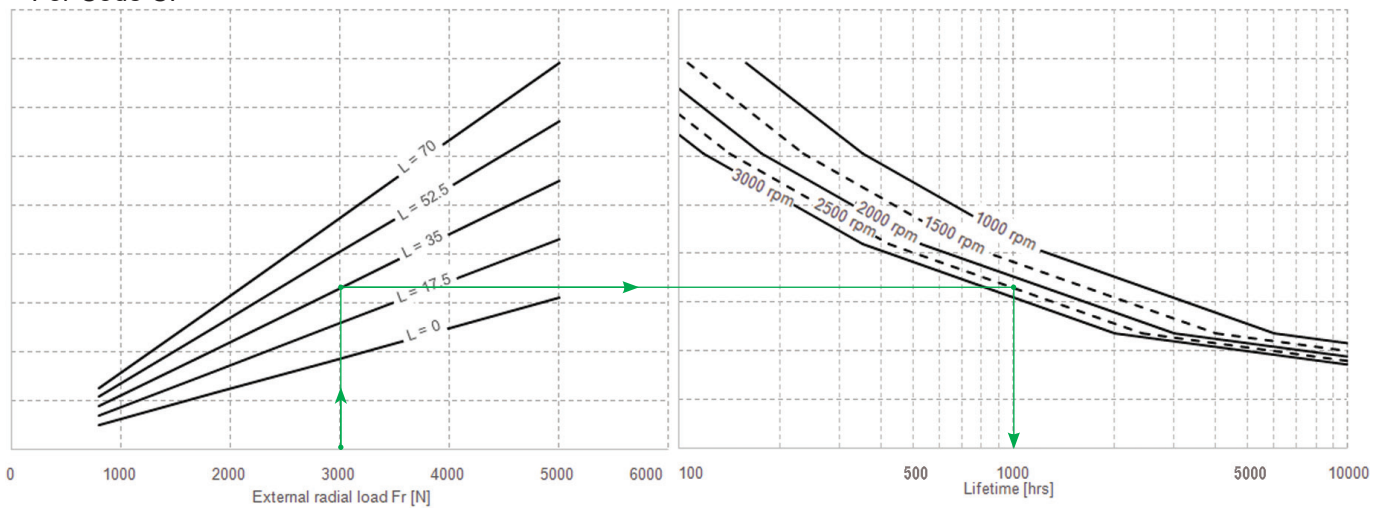
TYPE	H
27	79 (3.11")
33	84 (3.31")
38	88 (3.46")
46	104 (4.09")
55	110 (4.33")
65	117 (4.61")

L=Distance between mounting flange and radial force point of application.

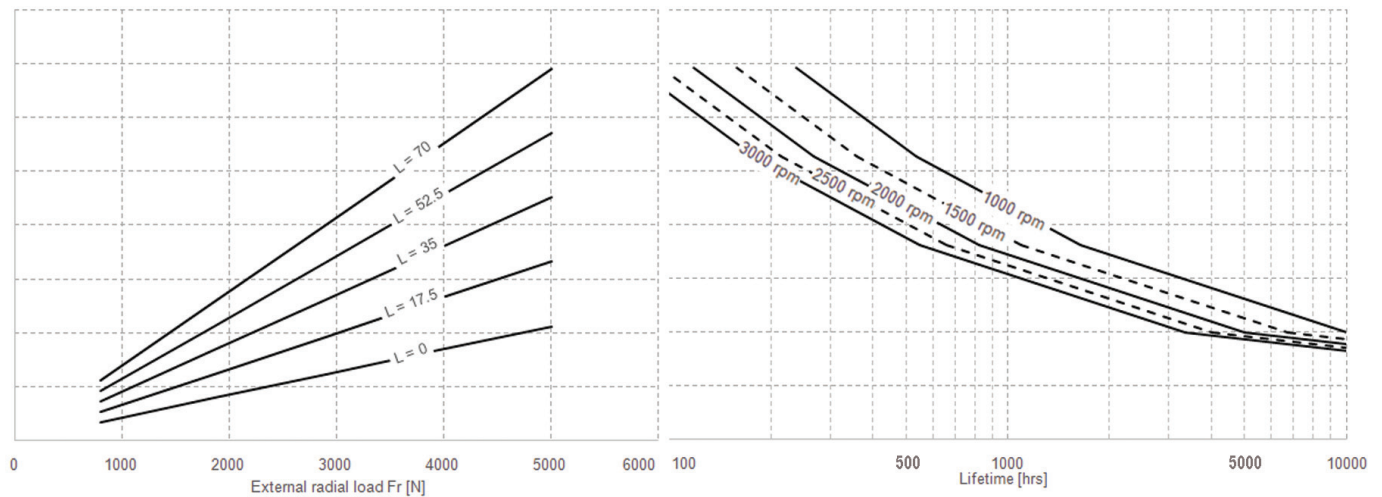
Example:
Fr = 3000 N
L = 35
Speed = 2500 rpm
→ Expected life: 1000 hrs



For Code CP



For Code CSB



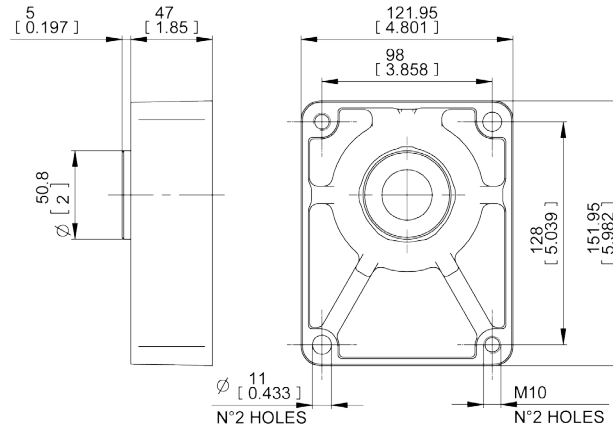
E0.130.0219.02.00IM04

GEAR PUMPS "E" SERIES

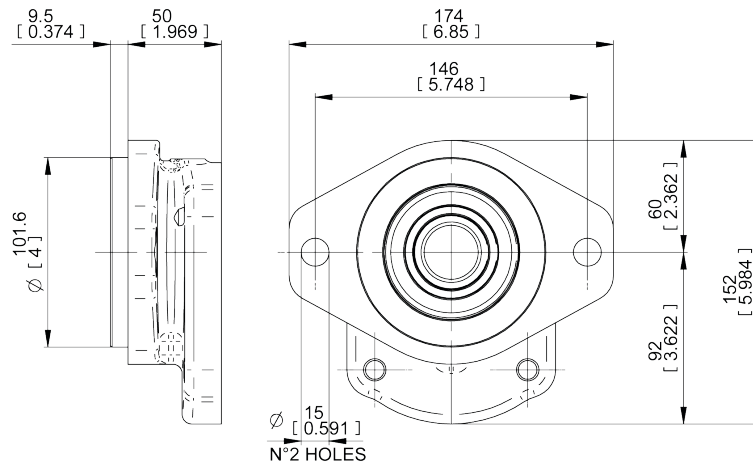
Aluminium Body

3PE

MOUNTING FLANGES WITH BEARING


CP
European standard Ø50.8 mm

With shaft code 38


CSB
SAE B

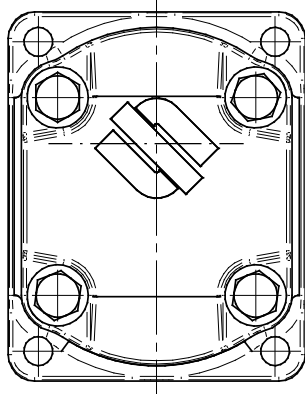
With shaft code 55-56-87-88

EO.130.0219.02.001M04

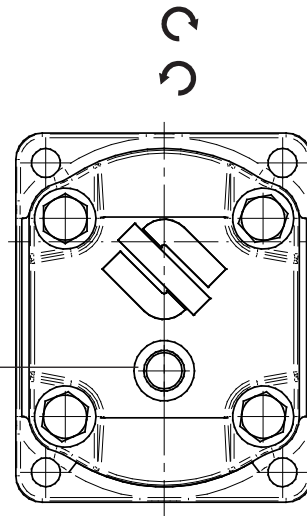
3PE

GEAR PUMPS “E” SERIES Aluminium Body

REAR COVER



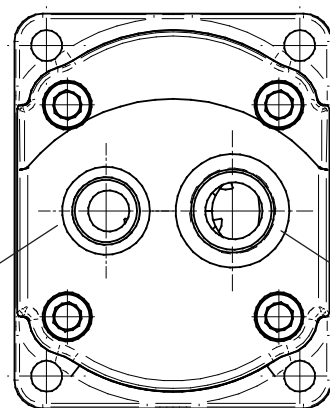
Standard rear cover
for unidirectional pumps



external drain
DIMENSION C

Standard rear cover
for reversible pumps, with external drain C.
For the dimension C please see the table here below

C
G3/8
9/16-18 UNF-2B (SAE6)



↓ Outlet
DIMENSION B

↑ Inlet
DIMENSION A

code 1

For pumps with threaded rear ports, suitable up to 80 l/min delivery.

A	B
G1	G3/4
1-5/16-12 UN-2B (SAE16)	1-1/16-12 UN-2B (SAE12)

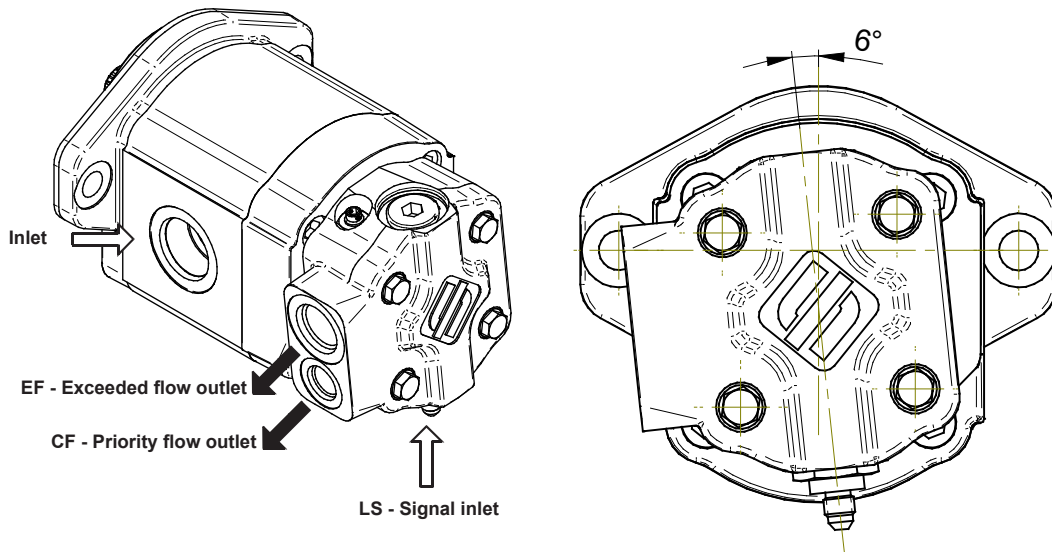
E0.130.0219.02.00IM04

GEAR PUMPS "E" SERIES

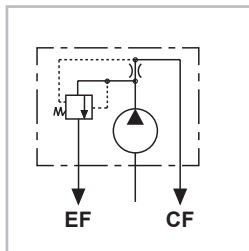
Aluminium Body

3PE

PRIORITY VALVES

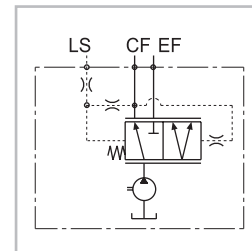


The double or triple pumps can be configured with priority flow valve too.
The stage which has its flow divided into priority and exceeded flows is always the back one.



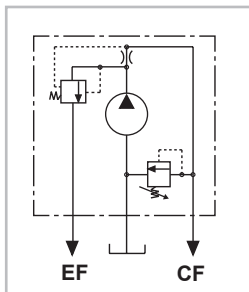
code VP1

Priority flow valve, excess flow to second actuator.



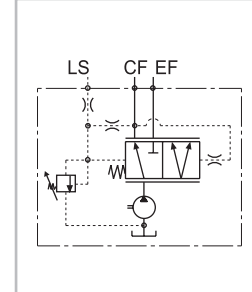
code VPD1

Load sensing priority valve with dynamic signal without main relief valve.



code VPS1

Priority flow valve, excess flow to second actuator with pressure relief valve on priority flow line.



code VPDS1

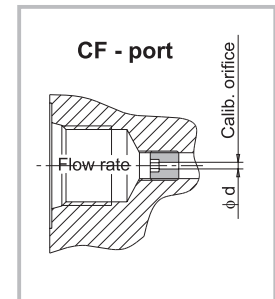
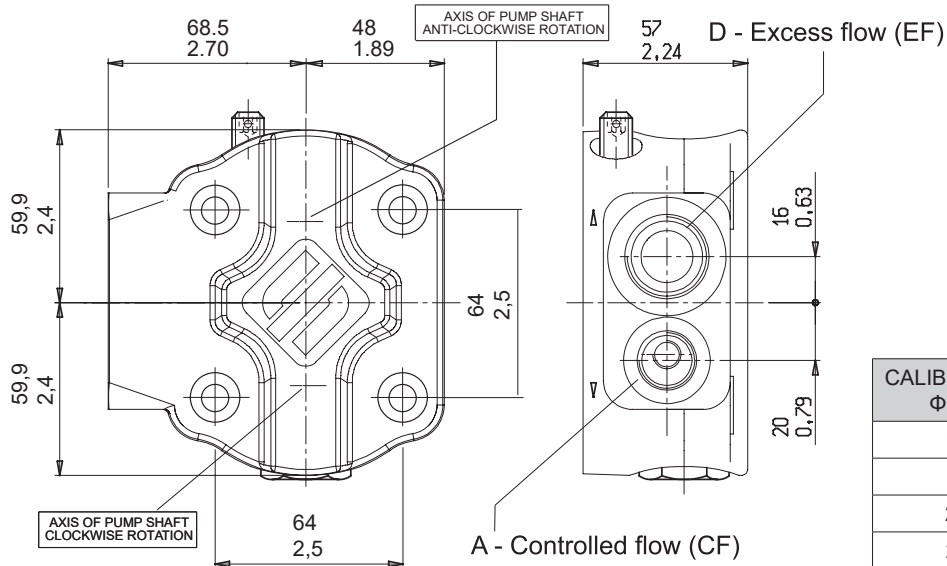
Load sensing priority valve with dynamic signal with main relief valve.

CF = Priority flow port
EF = Excess flow port
LS = Load sensing signal port

3PE

GEAR PUMPS "E" SERIES Aluminium Body

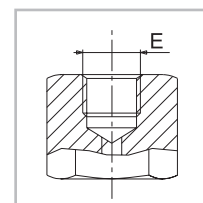
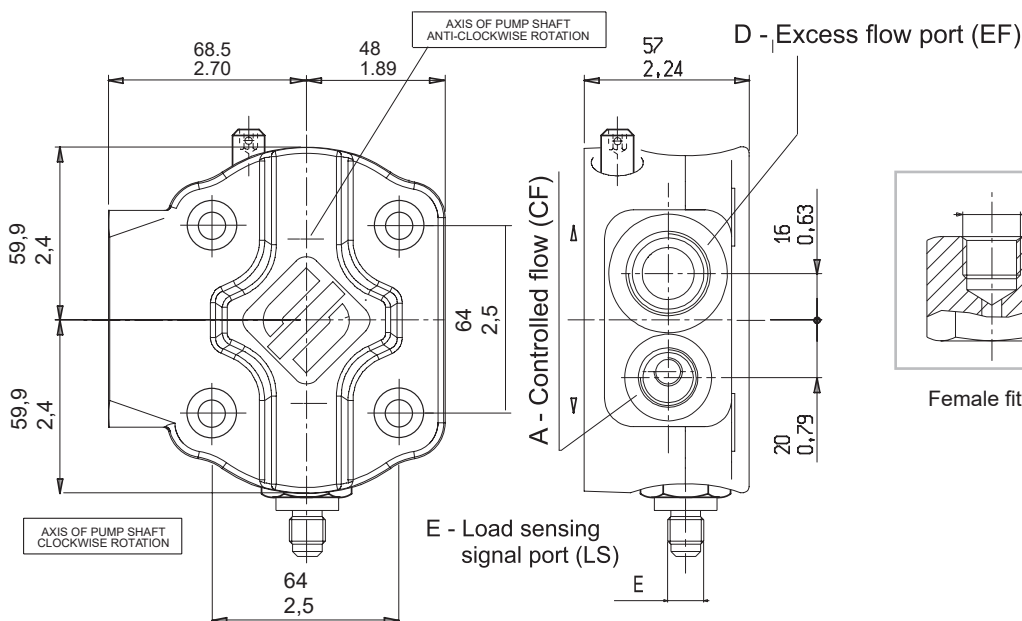
VP1 - VPS1 SIDE PORTS



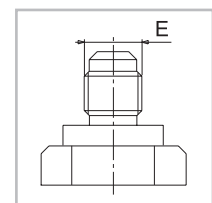
CALIBRATED ORIFICE ϕd (mm/inch)	FLOW RATE (l/min - gpm) $\pm 10\%$
1.5 l/(0.06")	2.5 - (0.66)
2 l/(0.08")	4 - (1.06)
2.4 l/(0.09")	6 - (1.59)
2.8 l/(0.11")	8 - (2.11)
3.1 l/(0.12")	10 - (2.64)
3.5 l/(0.14")	12.5 - (3.30)
4 l/(0.16")	16 - (4.23)
4.4 l/(0.17")	20 - (5.28)
4.9 l/(0.19")	25 - (6.61)

VPD1 - VPDS1 SIDE PORTS

A	D
G 3/8	G 3/4
SAE8 3/4-16 UNF-2B	SAE12 1 1/16 - 12 UN - 2B



Female fitting



Male fitting

Minimum load sensing signal
(LS) = 4 bar (28 psi)

A	D	E
G 3/8	G 3/4	G 1/4
SAE8 3/4 - 16 UNF - 2B	SAE12 1-1/16 - 12 UN - 2B	SAE4 7/16 - 20 UNF - 2B

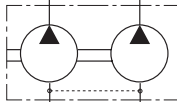
E0.130.0219.02.00IM04

GEAR PUMPS "E" SERIES

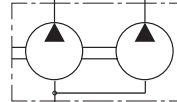
Aluminium Body

3PE

MULTIPLE GEAR PUMPS ASSEMBLING DIMENSIONS



**MULTIPLE
GEAR PUMPS
with inlet port
on each body**

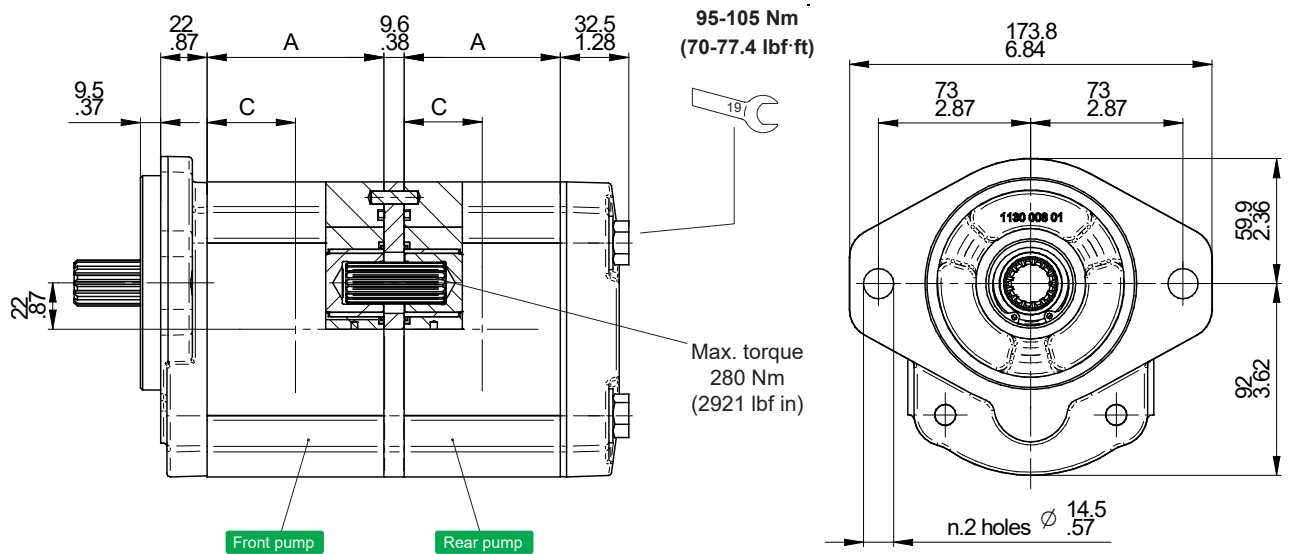


**MULTIPLE
GEAR PUMPS
with common
inlet port***

*In case of common inlet port, to avoid too high value of oil speed, 60 l/min is the max sucked flow for the downstream pump.
Commercial code **UA**.

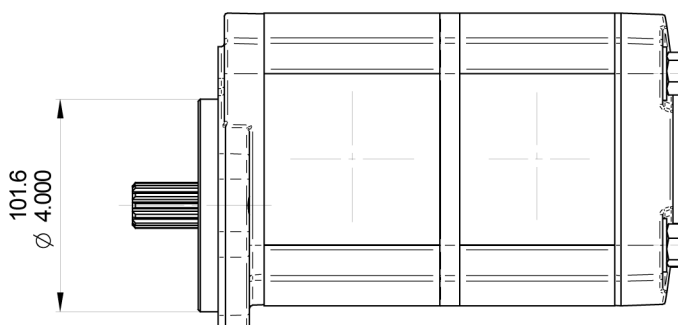
Type		21*	27	33	38	46	55	65	75*
Displacement	cm ³ /rev cu.in./rev	20.6 1.26	27 1.65	33.5 2.04	38.7 2.36	46.9 2.86	54.1 3.3	63.1 3.85	73.4 4.48
Dimension A	mm in	74 2.91	79 3.11	84 3.31	88 3.46	104 4.09	110 4.33	117 4.61	124 4.88
Dimension C	mm in	37 1.46	39.5 1.56	42 1.65	44 1.73	52 2.05	55 2.17	58.5 2.30	62 2.44

*Displacements 21 and 75 are special release, please contact sales department.



This is a Salami standard pump,
alla drive shafts have a splined end.

These units are pre-arranged for multiple
pumps, they have the drive shaft code 65.



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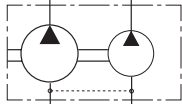
3PE

GEAR PUMPS "E" SERIES Aluminium Body

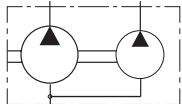
3PE COMBINATION WITH PUMP 2PE

PD2 Kit multiple pumps
Pre-arranged for 2PE rear

ALL THE PUMPS
CAN BE ALSO
MULTIPLE

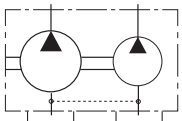


**MULTIPLE
GEAR PUMPS
with inlet port
on each body**



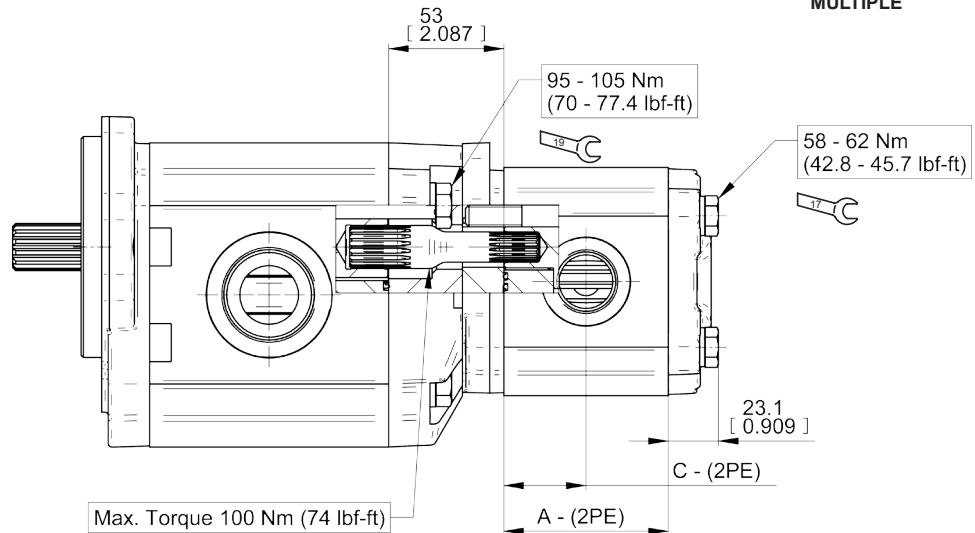
**MULTIPLE
GEAR PUMPS
with common
inlet port***

*In case of common inlet port, to avoid too high value of oil speed, 30 l/min is the max. sucked flow for the downstream pump.
Commercial code **UA**.



**MULTIPLE
GEAR PUMPS
with separated
stages**

code AS



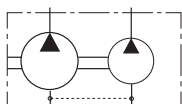
2PE-Type		3.2*	3.9*	4.5	6.5	8.3	10.5	11.3	12.5	13.8	16	19	22.5	26
Dimension A - 2PE	mm		47.1		49.95	52.8	56.3	59.7	63.5	67.5	75.6	81	86.8	
	in		1.83		1.97	2.07	2.22	2.35	2.5	2.65	2.97	3.19	3.42	
Dimension C - 2PE	mm		23.55		25	26.4	28.15	29.75	31.75	33.75	37.80	40.5	43.4	
	in		0.93		0.98	1.04	1.11	1.17	1.25	1.33	1.49	1.59	1.71	

*Available only as rear pump

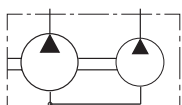
3PE COMBINATION WITH PUMP 1.5PE

PD1.5 Kit multiple pumps
Pre-arranged for 1.5PE rear

ALL THE PUMPS
CAN BE ALSO
MULTIPLE

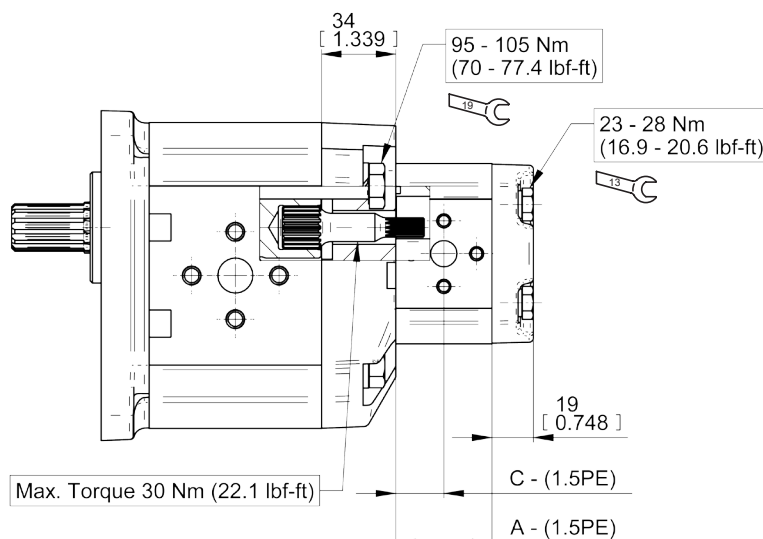


**MULTIPLE
GEAR PUMPS
with inlet port
on each body**



**MULTIPLE
GEAR PUMPS
with common
inlet port***

*In case of common inlet port, to avoid too high value of oil speed, 12 l/min is the max. sucked flow for the downstream pump.
Commercial code **UA**.



1.5PE-Type		1.4	2.1	2.8	3.5	4.1	5.2	6.2	7.6	9.3	11
Dimension A - 1.5PE	mm	44	45.9	47.9	49.9	51.6	54.7	57.5	61.5	66.3	71.1
	in	1.73	1.81	1.89	1.96	2.03	2.15	2.26	2.42	2.61	2.80
Dimension C - 1.5PE	mm	22	22.95	23.95	24.95	25.8	27.35	28.75	30.75	33.15	35.55
	in	0.87	0.90	0.94	0.98	1.02	1.08	1.13	1.21	1.31	1.40

E0.130.0219.02.00IM04

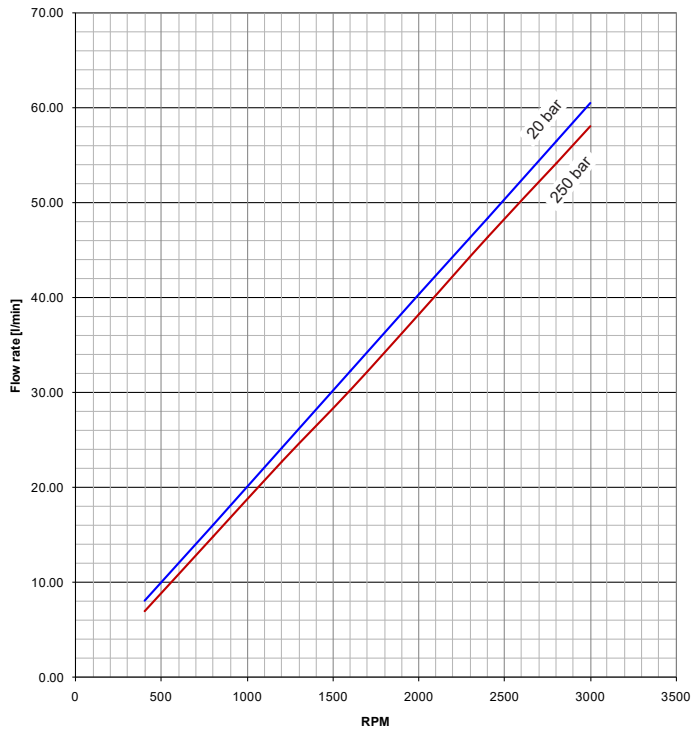
GEAR PUMPS “E” SERIES

Aluminium Body

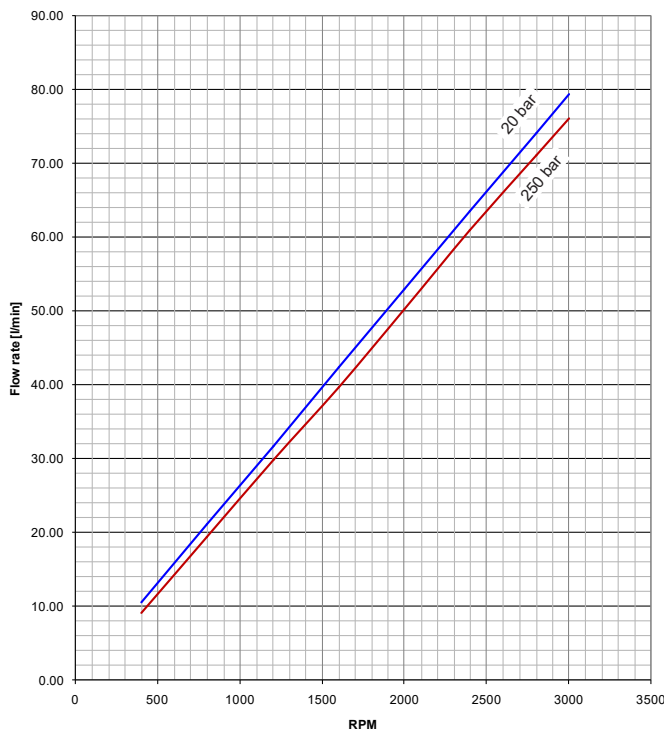
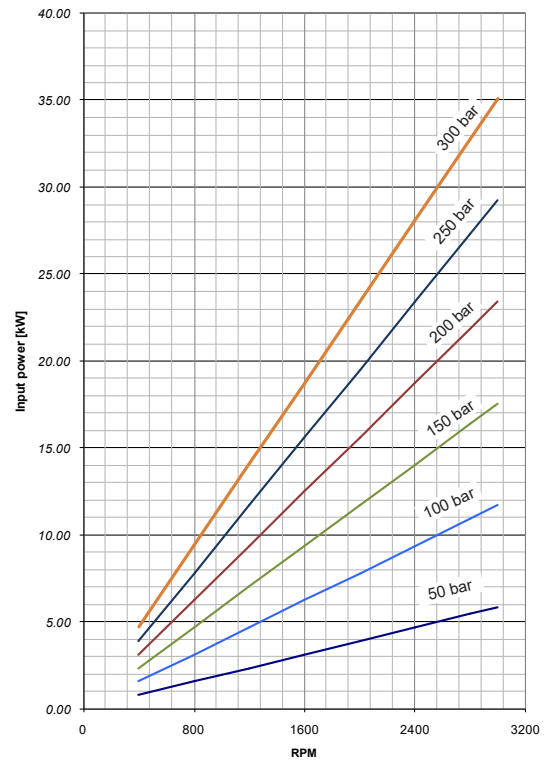
3PE

PERFORMANCE CURVES

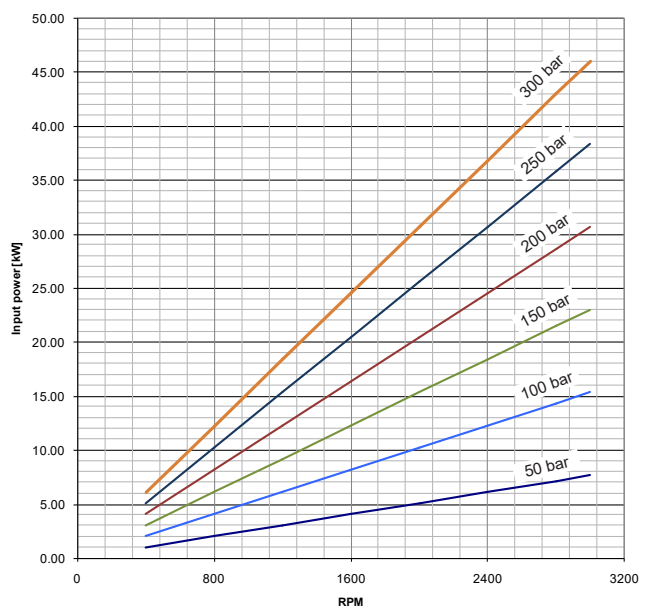
Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C



3PE-21



3PE-27



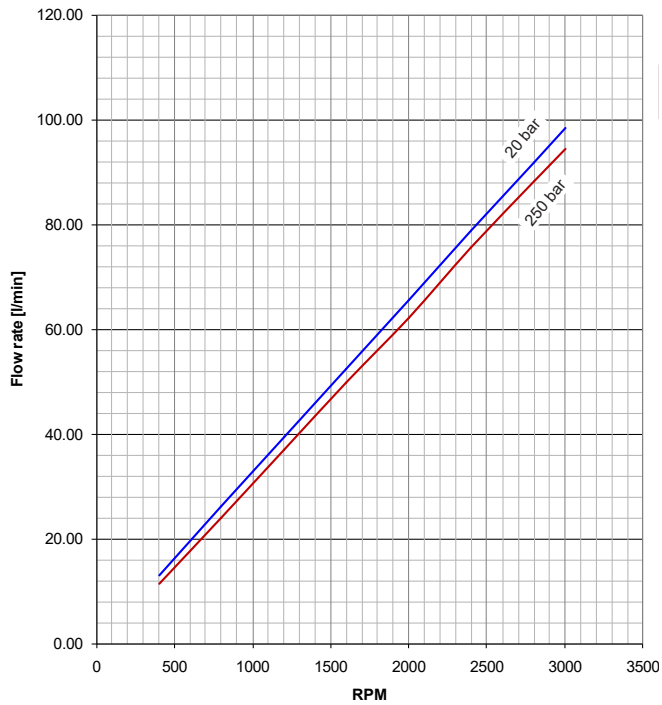
EO.130.0219.02.001M04

3PE

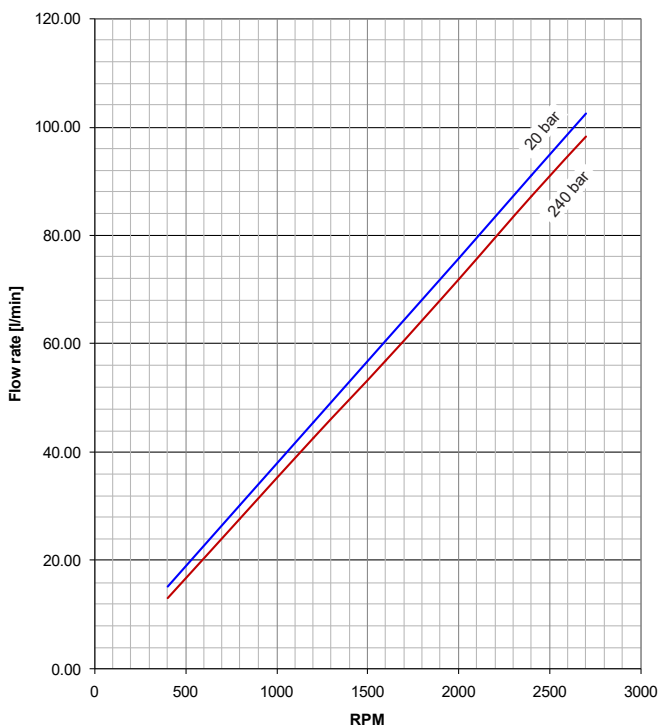
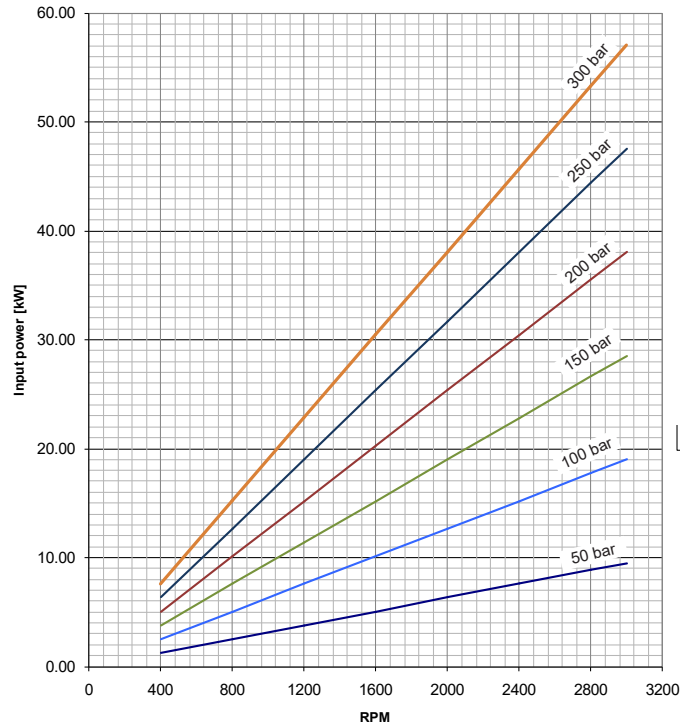
GEAR PUMPS “E” SERIES Aluminium Body

PERFORMANCE CURVES

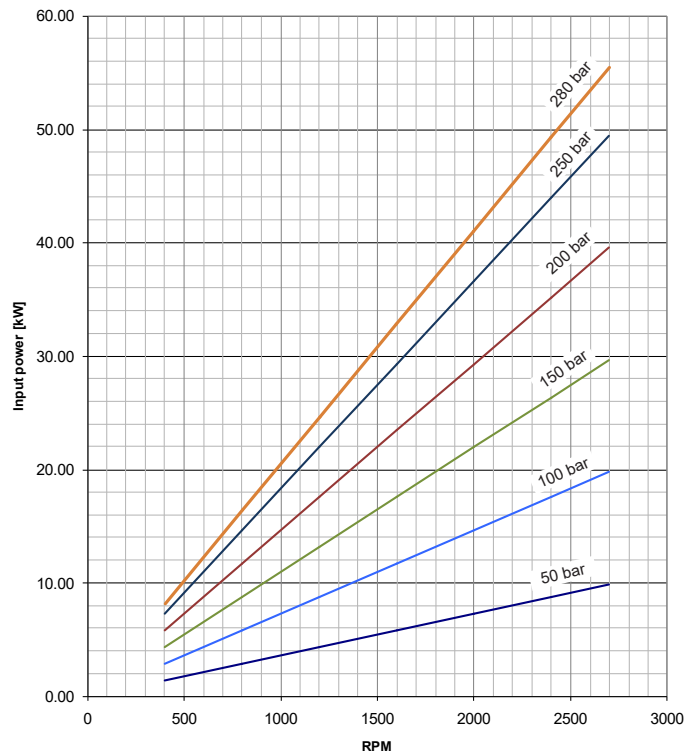
Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C



3PE-33



3PE-38



E0.130.0219.02.00IM04

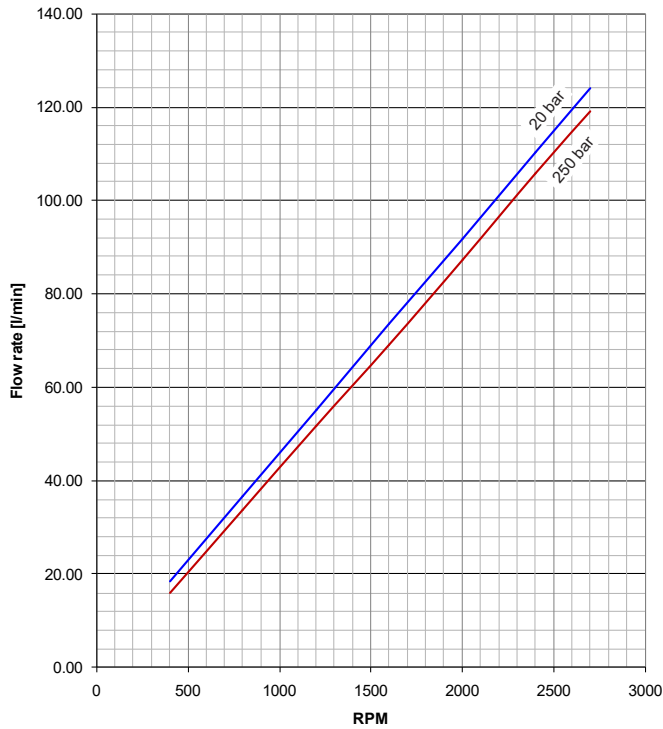
GEAR PUMPS "E" SERIES

Aluminium Body

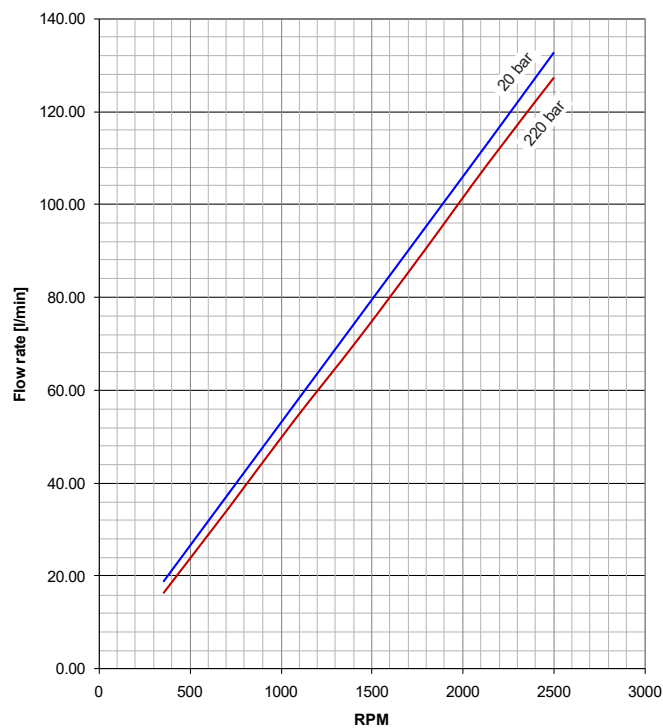
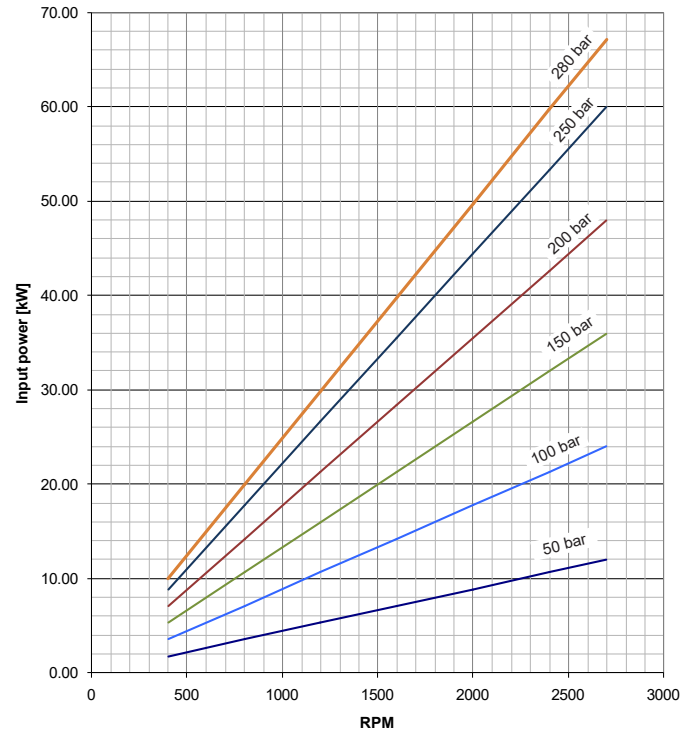
3PE

PERFORMANCE CURVES

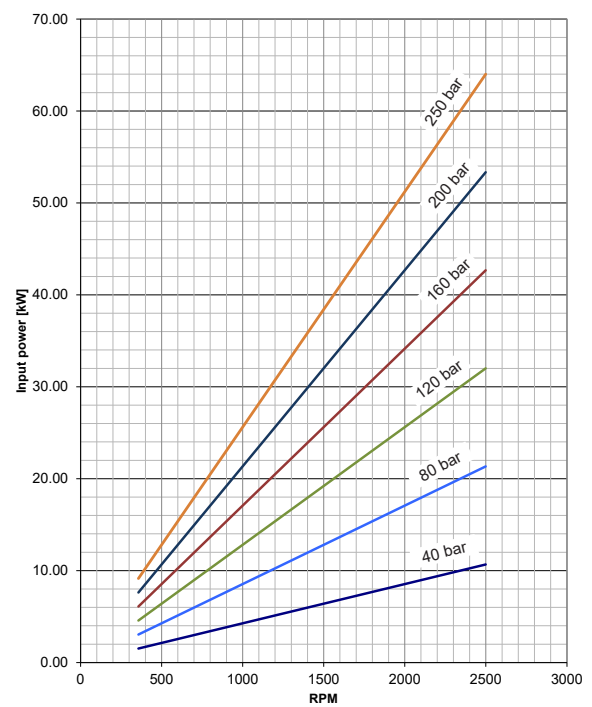
Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C



3PE-46



3PE-55



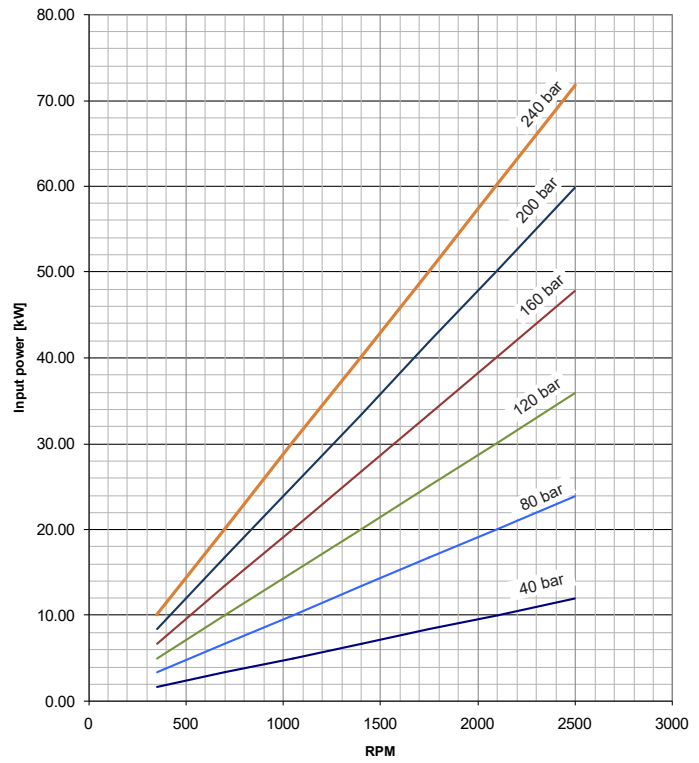
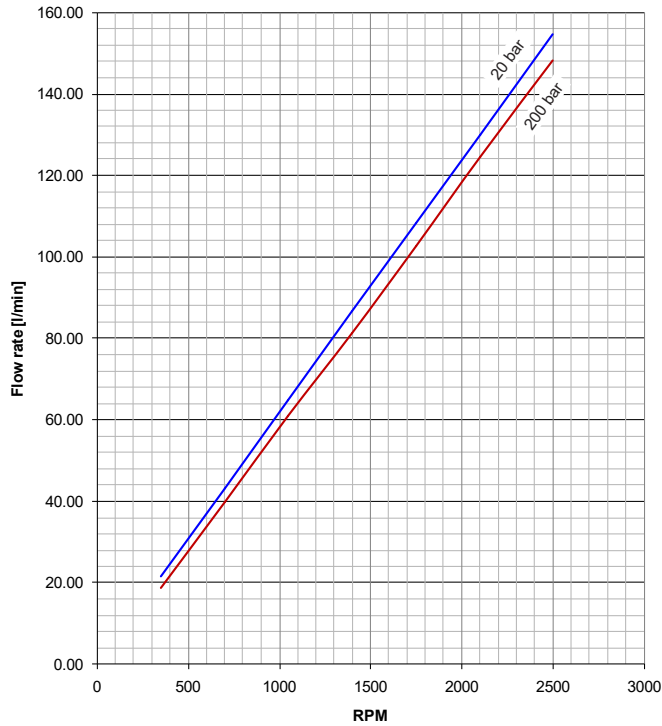
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3PE

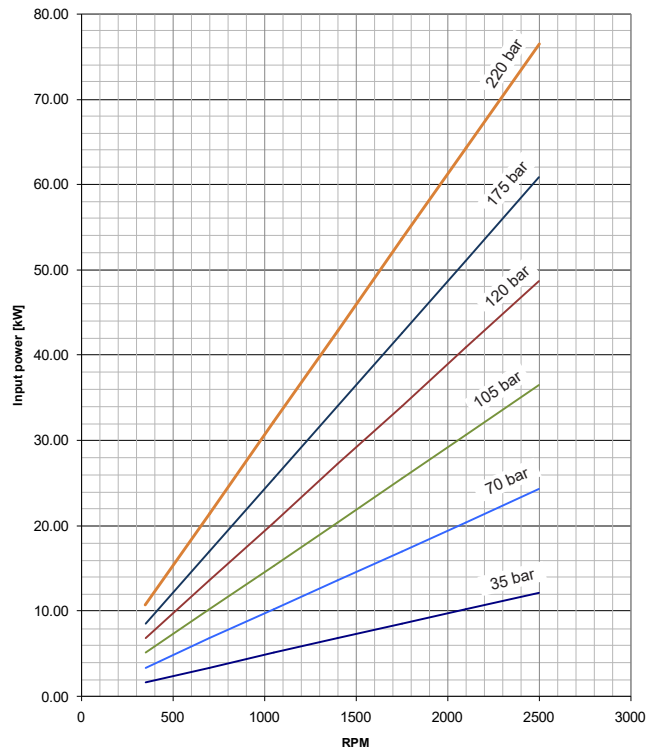
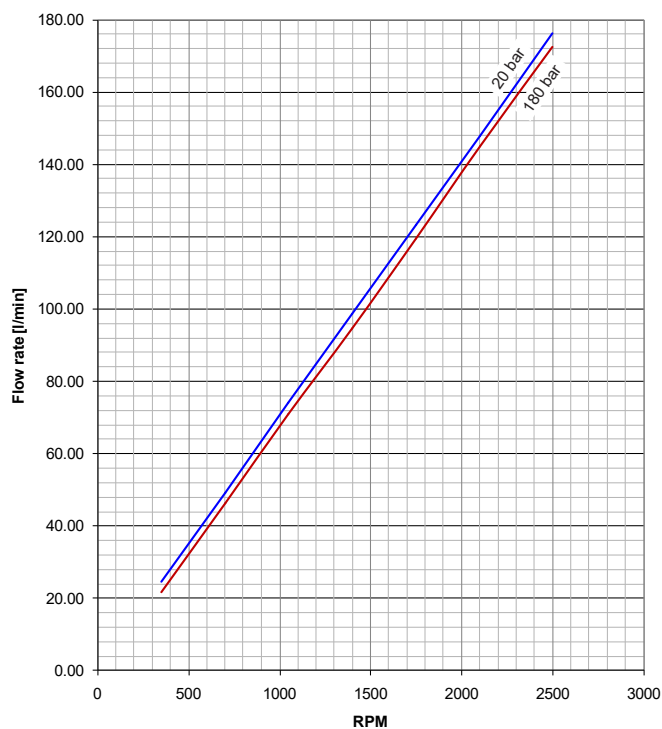
GEAR PUMPS “E” SERIES Aluminium Body

PERFORMANCE CURVES

Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C



3PE-65



3PE-75

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GEAR PUMPS “E” SERIES

Aluminium Body

3PE-How to order

SINGLE PUMPS

3PE
A
B
C
D
E
F
G
H
I
L

DISPLACEMENTS		A	CODES
20.6 cm³/rev.	1.26 cu.in/rev.	21	
27 cm³/rev.	1.65 cu.in/rev.	27	
33.5 cm³/rev.	2.04 cu.in/rev.	33	
38.7 cm³/rev.	2.36 cu.in/rev.	38	
46.9 cm³/rev.	2.86 cu.in/rev.	46	
54.1 cm³/rev.	3.3 cu.in/rev.	55	
63.1 cm³/rev.	3.85 cu.in/rev.	65	
73.4 cm³/rev.	4.48 cu.in/rev.	75	

ROTATION (page 6)	CODES	B
Clockwise		D
Anti-clockwise		S
Reversible		R

PORTS (page 94)	CODES	C
Flanged ports european standard		P
Flanged ports german standard		B
Threaded ports GAS (BSPP)		G
Threaded ports SAE (ODT)		R
Flanged ports SAE J518 AMERICAN STANDARD THREAD		S
Flanged ports SAE J518 METRIC THREAD		W

DRIVE SHAFT (page 96)	CODES	D
Tang drive for electric motor		05
European Tapered 1:5		35
European Tapered 1:8		38
European Tapered 1:8		48
SAE B splined 13T		55
SAE BB splined 15T		56
DIN 5480 internal splined (only for rear pumps- see page 103)		65
SAE B parallel		87
SAE BB parallel		88

L VALVES IN THE COVER (page 101)	CODES
Priority flow divider with excess flow to 2nd actuator	VP1
Like VP with main relief valve	VPS1
Priority flow divider with Load sensing with dinamic signal	VPD1
Load sensing priority valve with dinamic signal with main relief valve	VPDS1

I REAR COVER (page 104)	CODE
Pre-arranged for 1.5PE rear	PD1.5
Pre-arranged for 2PE rear	PD2

H OUTRIGGER BEARING (page 98)	CODES
European standard	CP
German standard	CSB

G PORTS POSITION	CODE
Lateral ports standard	
Rear ports (page)	1

F SEAL	CODE
Buna standard	
Viton	V

E MOUNTING FLANGES (page 97)	CODES
SAE B 2 Bolts	S3
European standard Ø50.8	P2
European standard Ø60.3	P3
German standard Ø105	B6

Adjustable flow l/min

Setting main relief valve (bar)

...

/

...

Order example: 3PE 46D, ports SAE (R), drive shaft (56),
mounting flange (S3)
3PE46D-R56S3

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How to order-3PE

GEAR PUMPS “E” SERIES Aluminium Body

MULTIPLE PUMPS

3PE

A

B

C

D

E

F

G

H

I

L

M

Adjustable flow l/min

/ ...

Setting main relief valve (bar)

DISPLACEMENTS		A	CODES
20.6 cm³/rev.	1.26 cu.in/rev.	21	
27 cm³/rev.	1.65 cu.in/rev.	27	
33.5 cm³/rev.	2.04 cu.in/rev.	33	
38.7 cm³/rev.	2.36 cu.in/rev.	38	
46.9 cm³/rev.	2.86 cu.in/rev.	46	
54.1 cm³/rev.	3.3 cu.in/rev.	55	
63.1 cm³/rev.	3.85 cu.in/rev.	65	
73.4 cm³/rev.	4.48 cu.in/rev.	75	

ROTATION (page 6)	CODES	B
Clockwise	D	
Anti-clockwise	S	

PORTS (page 94)	CODES	C
Flanged ports european standard	P	
Flanged ports german standard	B	
Threaded ports GAS (BSPP)	G	
Threaded ports SAE (ODT)	R	
Flanged ports SAE J518 AMERICAN STANDARD THREAD	S	
Flanged ports SAE J518 METRIC THREAD	W	

DRIVE SHAFT (page 96)	CODES	D
Tang drive for electric motor	05	
European Tapered 1:5	35	
European Tapered 1:8	38	
European Tapered 1:8	48	
SAE B splined 13T	55	
SAE BB splined 15T	56	
SAE B parallel	87	
SAE BB parallel	88	

M VALVES IN THE COVER (page 101)		CODES
Priority flow divider with excess flow to 2nd actuator		VP1
Like VP with main relief valve		VPS1
Priority flow divider with Load sensing with dinamic signal		VPD1
Load sensing priority valve with dinamic signal with main relief valve		VPDS1

L REAR COVER (page 104)		CODE
Pre-arranged for 1.5PE rear		PD1.5
Pre-arranged for 2PE rear		PD2

I OUTRIGGER BEARING (page 98)		CODES
European standard		CP
German standard		CSB

H PORTS POSITION		CODE
Lateral ports standard		
Rear ports (page)		1

G SUCTION PORTS		CODES
Common suction		UA*
Separated stages		AS

F SEAL		CODE
Buna standard		
Viton		V

E MOUNTING FLANGES (page 97)		CODES
SAE B 2 Bolts		S3
European standard Ø50.8		P2
European standard Ø60.3		P3
German standard Ø105		B6

Order example: 3PE 33/27D, ports SAE (P), drive shaft (56), mounting flange (S3)
3PE33/27D-R56S3

*UA: this type of multiple pump is a Salami standard multiple pump which has only one inlet port opened, all the other inlet port are closed.
In case of common suction, the code 1 - 2 or 3, correspond to the body where inlet is located.

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