

Standard power unit

RE 51102/10.03
Replaces: 51101

1/12

Type ABSAS

Reservoir capacities of
100; 160; 250; 400 and 630 litres
Series 3X
Maximum operating pressure 315 bar



H/A/D 20368/97

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Features

- Steel reservoir to DIN 24 339, form AN cover form C, standard sheet AB-E 40-40
- Filter-cooler circulation module
- Float switch
- Thermostat
- Pump motor assembly
- Reservoir accessories (filler/breather, oil level gauge, inspection cover, oil drain)
- Return filter

Technical data (for applications outside these parameters, please consult us!)

Pressure fluid	Mineral oil HLP to DIN 51 524 part 2 e.g. for an operating temperature of 50 °C ISO VG46 DIN 51 519 (other pressure fluids on request) Please take the specifications stated within catalogue sheet RE 07075 into account!				
Pump types	A10VSO18 to catalogue sheet RE 92712				
	A10VSO28 to 140 to catalogue sheet RE 92711				
Pump motor assembly	ABHPG to catalogue sheet RE 51068				
	ABAPG to catalogue sheet RE 51062				
Filter-cooler circulation module	ABUKG to catalogue sheet RE 50121				
Operating pressure, absolute	Inlet	$p_{\min-\max}$	bar	0.8 to 30	
	Outlet	p_{nom}	bar	250	
	Peak pressure	p_{max}	bar	315	
	Drain connection	$p_{\min-\max}$	bar	2	
Pressure fluid temperature range	ϑ	°C	– 25 to +80		
	The optimum operating temperature for the power unit when operating with mineral oil HLP to DIN 51 524 lies between 40 °C and 50 °C. During continuous operation the operating temperature should not exceed 70 °C!				
Cleanliness class to ISO code	Maximum permissible degree of contamination of the pressure fluid is to ISO 4406 (C) depending on the requirements of the entire hydraulic system ¹⁾				
Pressure safety	Pump safety block type DBA..., series 2X to catalogue sheet RE 25890 for variable displacement pumps type A10VSO				
Viscosity range	ν	mm ² /s	Optimum 16 to 36		
	ν	mm ² /s	Briefly 10 to 1000		
				(also see RE 92711 or RE 92712)	
Motor type	AC asynchronous motor				
	No. of pole pairs	4			
	Voltage	U	V	230 / 400 or 400 / 690 at 50 Hz	
		U	V	460 at 60 Hz to IEC 38	
	RPM	n	min ⁻¹	1500 to 50 Hz	
		n	min ⁻¹	1800 to 60 Hz	
	Protection	IP55			
Direction of rotation	Anti-clockwise (viewed on the drive shaft)				
Filter rating	Filler/breather	µm	10		
	Return filter	µm	10		
Surface protection	Under coat: epoxy resin RAL 5010 for steel components				
Type of pipe work	Fittings to DIN 2353 light/heavy series, type Walform				

¹⁾ The cleanliness class stated for the components must be adhered too in hydraulic systems.

Effective filtration prevents faults from occurring and at the same time increases the component service life.

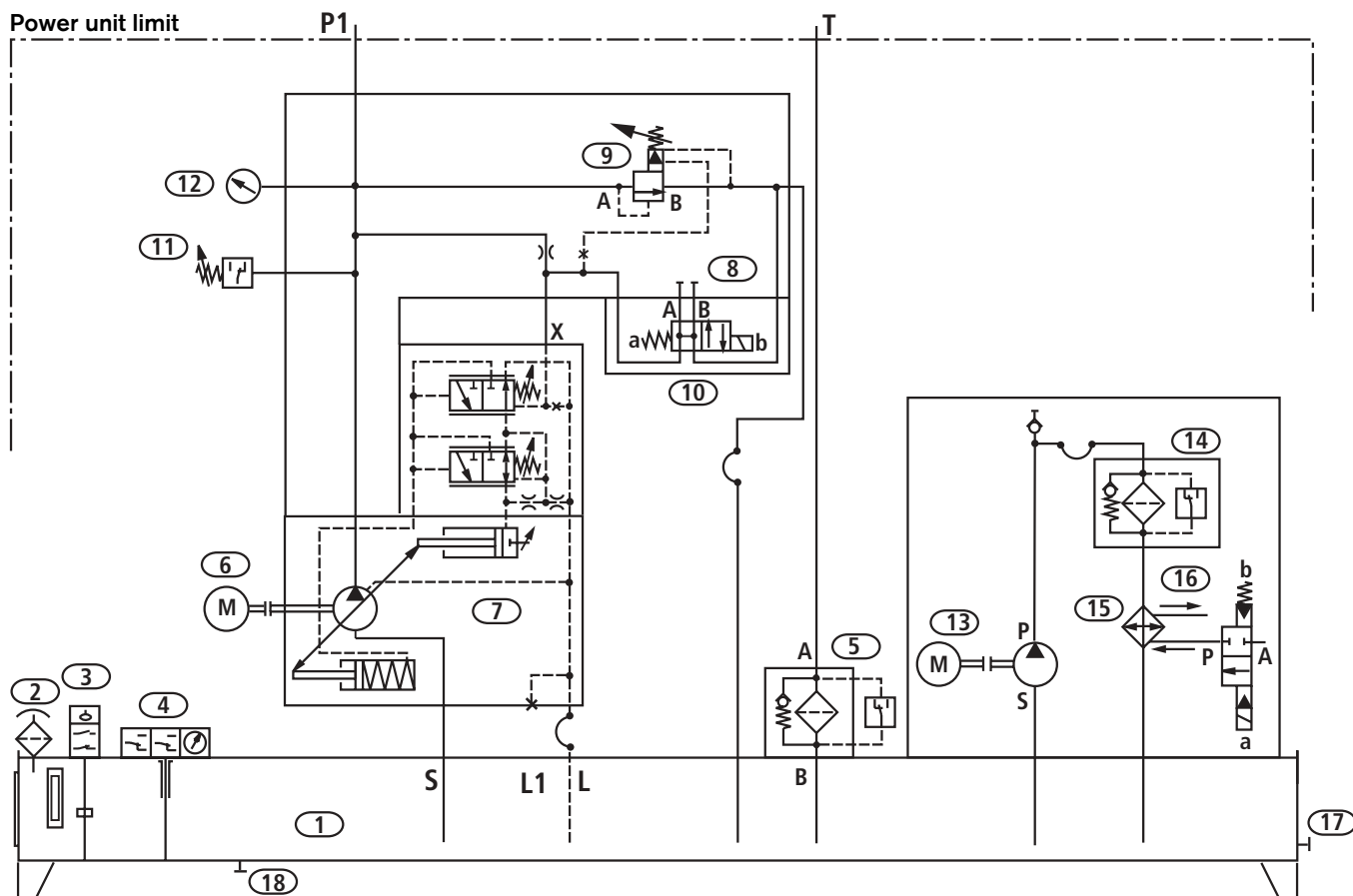
For the selection of filters see catalogue sheets RE 50070, RE 50076 and RE 50081.

Note:

For the assembly, commissioning and maintenance of hydraulic systems please take the standard AB01-01.02 into account

The units have been designed and manufactured in accordance with the harmonised EN standards / specifications.

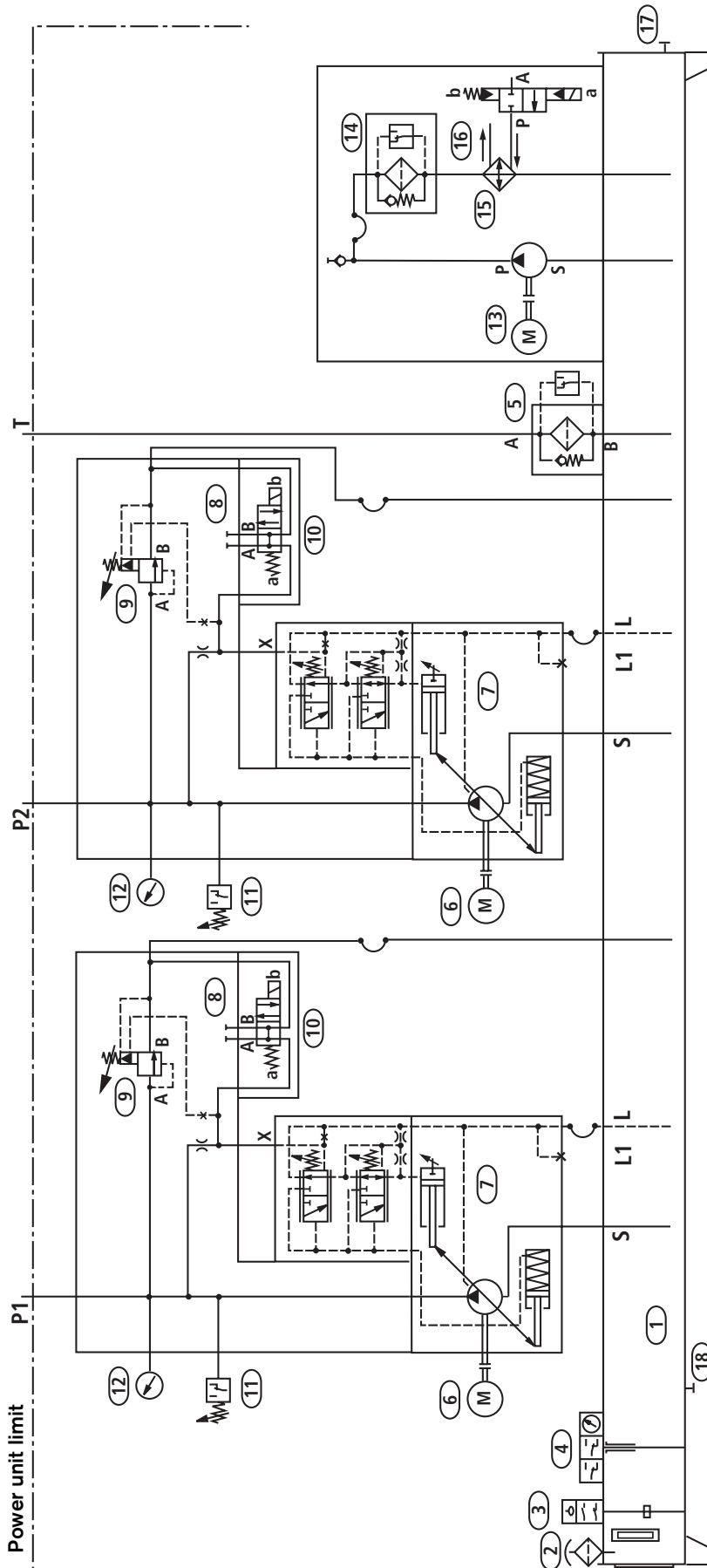
Circuit: power unit with one pump motor assembly



Parts list

- | | | | |
|---|-----------------------|----|---------------------------------------|
| 1 | Fluid reservoir | 10 | Directional valve |
| 2 | Filler/breather | 11 | Pressure switch |
| 3 | Float switch | 12 | Pressure gauge |
| 4 | Thermostat | 13 | Pump motor assembly |
| 5 | Return filter | 14 | In-line filter |
| 6 | Electric motor | 15 | Oil/water cooler |
| 7 | Axial piston pump | 16 | Solenoid actuated water control valve |
| 8 | Pump safety block | 17 | Heater connection |
| 9 | Pressure relief valve | 18 | Oil drain plug |

Circuit: power unit with two pump motor assemblies



Parts list

- | | | | |
|----|-----------------------|----|--------------------------------------|
| 1 | Fluid reservoir | 13 | Pump motor assembly |
| 2 | Filler/breather | 14 | In-line filter |
| 3 | Float switch | 15 | Oil/water cooler |
| 4 | Thermostat | 16 | Solenoid actuated water controlvalve |
| 5 | Return filter | 17 | Heater connection |
| 6 | Electric motor | 18 | Oil drain plug |
| 7 | Axial piston pump | | |
| 8 | Pump safety block | | |
| 9 | Pressure relief valve | | |
| 10 | Directional valve | | |
| 11 | Pressure filter | | |
| 12 | Pressure gauge | | |

Connection sizes

Reservoir NS	No. of Pump assemblies	Pump type	Pump connections P1; P2		Connection T return line	Water	
			SAE 3000 PSI pipe connection	SAE 6000 PSI pipe connection		Inlet	Outlet
100	1	A10VSO18	Ø 20		G 3/4	G 1/2	G 1
160	1	A10VSO28	Ø 20		G 1 1/4		
250	1	A10VSO45	Ø 25		G 1 1/4		
400	1	A10VSO71	Ø 30		SAE 3 3000 PSI		
	2	A10VSO45	Ø 25				
630	1	A10VSO100		Ø 38	SAE 3 3000 PSI		
	2	A10VSO71	Ø 30				

Noise values for standard power units

Pressure in bar	Flow in L/min	Noise pressure level in dB(A)						
		Pump type A10VSO / NS					2x pump type A10VSO / NS	
		18	28	45	71	100	45	71
100	$q_{v \min}$	71	73	72	74	75	75	77
	$q_{v \max}$	73	75	76	78	79	79	81
200	$q_{v \min}$	73	75	76	78	80	79	81
	$q_{v \max}$	75	77	78	81	84	81	84
300	$q_{v \min}$	76	77	77	79	82	80	82
	$q_{v \max}$	77	78	80	82	84	83	85

Noise pressure level

To DIN 45 635 parts 1 and 41
 Measured at $n = 1450 \text{ min}^{-1}$, $v = 41 \text{ mm}^2/\text{s}$ and $\vartheta = 50 \text{ °C}$
 Distance of noise sensor to power unit: 1 m
 Pressure fluid: mineral oil HLP to DIN 51 524 part 2

Please take into account!

The use of noise damping walls reduces the noise pressure level by approx. 10 to 15 dB(A).
 Noise reflections at the final place of installation can lead to an increased noise pressure level.

Float switch settings

Reservoir NS	Residual volume at the upper switching point in litres	Residual volume at the lower switching point in litres
100	67	45
160	110	74
250	174	120
400	277	190
630	475	365

A float switch with two contacts is provided for the warnings „low oil level“ and „EMERGENCY OFF“. The settings are factory pre-set, they can however be adjusted on the float switch, without effecting the overall length

Replacement filter elements

Reservoir NS	Filter element type for hydraulic system	Material No.	Filter element type for filter-cooling circuit	Material No.
100	ABZFE-R0050-10-1X/M-A	R900229746	ABZFE-N0080-10-1X/M-A	R900229751
160	ABZFE-R0140-10-1X/M-A	R900229747		
250			ABZFE-N0160-10-1X/M-A	R900229752
400	ABZFE-R0450-10-1X/M-A	R900229749		
630				

Engineering guidelines

These units are of a modular design.

For further information please contact your Bosch Rexroth Sales Office.

Comprehensive instructions and proposals can be found in the Hydraulic Trainer, volume 3 RE 00281, "Planning and design of hydraulic power systems."

Commissioning guidelines

General

- The power units supplied by ourselves have been tested for function and performance. Changes in any form or manner to the power units are not permitted, as this would invalidate any guarantee claims.
- Repairs may only be carried out by the manufacturer or authorised agent or subsidiary. No guarantee will be accepted for commissioning carried out by third parties.

Commissioning

- Only fill the pressure fluid via a filter which has the necessary retention rate.
- Take into account the direction of rotation arrow when connecting the electric motor.
- Start the pump without load and let it displace oil without pressure for a few seconds in order to provide sufficient lubrication.
- On no account run the pump **without** oil.
- If the pump, after approx. 20 seconds, does not displace oil without any bubbles then the system has to be rechecked.
- After the operating values have been reached, check the pipe connections for leakage and check the operating temperature.

Note with regard to the EC machinery guidelines 89/37 EG annex II, section B; manufacturer's declaration:

Hydraulic power units and manifold blocks are not „ready to use machines“ with respect to the EC - Machinery Directive.

Unless expressly stated otherwise the safety relevant parts of the controls correspond to category B according to EN954-1.

When a failure occurs this can lead to loss of the safety function

Bleeding

- Before commissioning, the pump housing must be filled with oil.

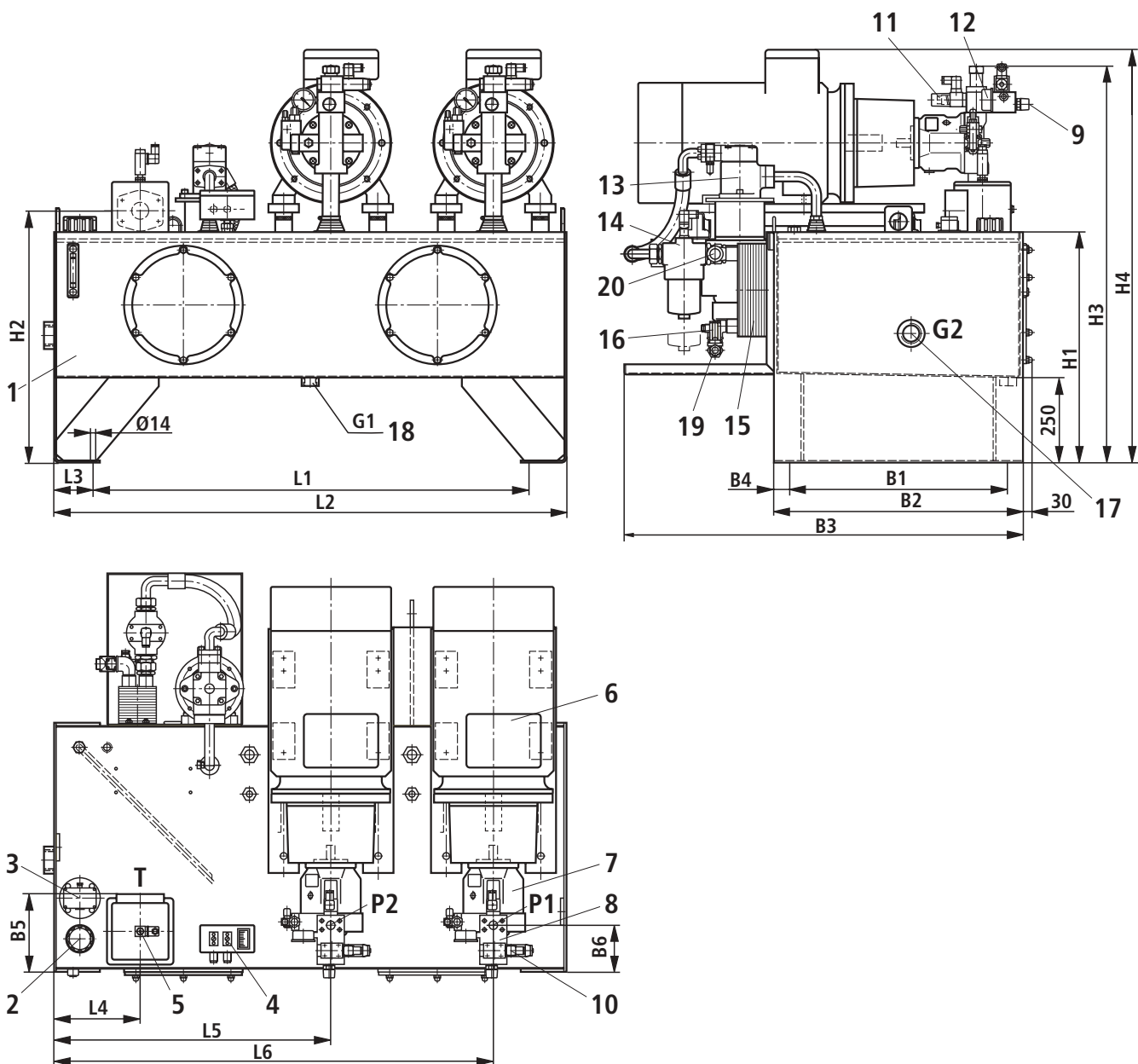
Important guidelines

- Assembly, maintenance and servicing of the power unit must only be carried out by authorised, trained and instructed personnel!
- The power unit must only be operated within the permitted limits!
- When carrying out any work on the power unit, switch the system to zero pressure! Unauthorised conversions and modifications which affect the safety and function are not permitted!
- Provide protective measures and do **not** remove any existing protective devices.
- Ensure that the fixing bolts are correctly fitted! (Take the prescribed tightening torque into account!)
- The general valid safety and accident prevention regulations must be adhered to!

The supplied assemblies have been manufactured in accordance with the harmonised standards EN 982, EN 983 DIN EN 292 and DIN EN 60 204-1.

Commissioning may not take place until it has been confirmed that the machine, into which the assembly is to be installed, conforms with the regulations stated within the EG guidelines.

Unit dimensions (Dimensions in mm)

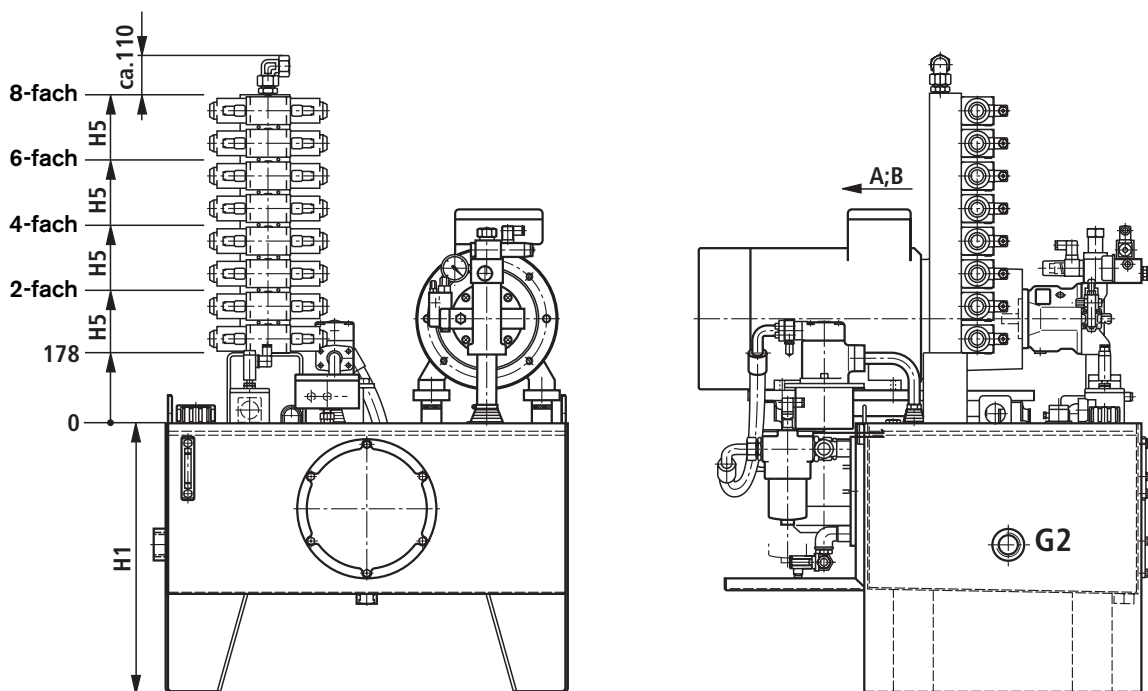


Parts list

- | | |
|-------------------------|--|
| 1 Fluid reservoir | 11 Pressure switch |
| 2 Filler/breather | 12 Pressure gauge |
| 3 Float switch | 13 Pump motor assembly |
| 4 Thermostat | 14 In-line filter |
| 5 Return filter | 15 Oil/water cooler |
| 6 Electric motor | 16 Solenoid actuated water control valve |
| 7 Axial piston pump | 17 Heater connection |
| 8 Pump safety block | 18 Oil drain plug |
| 9 Pressure relief valve | 19 Wasser Ein |
| 10 Directional valve | 20 Wasser Aus |

Unit dimensions (Dimensions in mm)

Dimensions when a standard manifold is fitted.



Dim. H5

Number of ready to connect controls	Standard manifold NS 6	Standard manifold NS 6
2	298	335
4	408	499
6	518	663
8	628	827

Ordering designations

Number of ready to connect controls	Standard manifold NS 6 to RE 48107 type HSR...	Standard manifold NS 10 to RE 48110 type HSR...
	Material number	
2	R900188031	R900196376
4	R900188033	R900196378
6	R900188035	R900196380
8	R900188037	R900856362

Connection thread

Ports	Pipe thread to ISO 228 part 1	
A; B	G 1/2	G 3/4
P; T	G 3/4	G 1
MA; MB	G 1/4	G 1/4

Assembly accessories

	Material number	
Bracket	R900994198	R900994200

Notes

Notes

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