Motor-pump groups

Type ABAPG

RE 51182
Edition: 2015-02

- With pump type: A4VSO series 10, 30 nominal size 0040 to 0500
- Electric motor frame size 180M to 355L Efficiency class IE3

Features

Electric energy is converted into hydraulic energy via the motor-pump groups.
They have been designed for hydrostatic drives in open circuits.

- Electric motor, design IM B3/B5 (ABAPG)
- Pump fastened at the electric motor with rigid pump carrier and coupling
- Versatile possible applications on tank, base frame or separate installation
- Clear, maintenance-friendly set-up
- With axial piston pump A4VSO (variable displacement pump)
- Adjustment of DR (pressure controller) and DRG (pressure controller, hydraulically remote controlled for size 355)

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Ordering code

01		02	03	04	05	06	07		08	09	10	11	12	13		14	15		16
ABAPG	**–**	**A4VSO**			**P**	**P**		**/**			**4**	**5**	**3**	**3**	**/**	**S**	**E**		**HOY**

Assembly

01	With motor design B35	**ABAPG**

Pump type

02	Axial piston pump A4VSO according to data sheet 92050	**A4VSO**

Displacement

03	40 ... 500 cm^3 per rotation	**40 ... 500**

Control and adjustment device

04	Pressure controller (size 0040 ... 250, 500)	**DR**
	Pressure controller hydraulically remote controlled (size 0355)	**DRG**

Seal material (according to DIN ISO 1629)

05	NBR	**P**

Shaft end version

06	Cylindrical with key DIN 6885	**P**

Mounting flange

07	ISO 4-hole	**B**
	ISO 8-hole	**H**

Motor power

08	15 kW ... 400 kW	**15 ... 400**

Rated voltage

09	400/690 V at 50 Hz	**CB**

Number of pole pairs

10	4-pole	**4**

Rated frequency

11	50 Hz	**5**

Efficiency class

12	IE3 according to IEC 60034-30	**3**

Motor protection

13	PTC resistor with 3 temperature sensors	**3**

Pump carrier design

14	Rigid pump carrier AB 03337	**S**

Damping bearing design

15	Elastic damping bearing	**E**

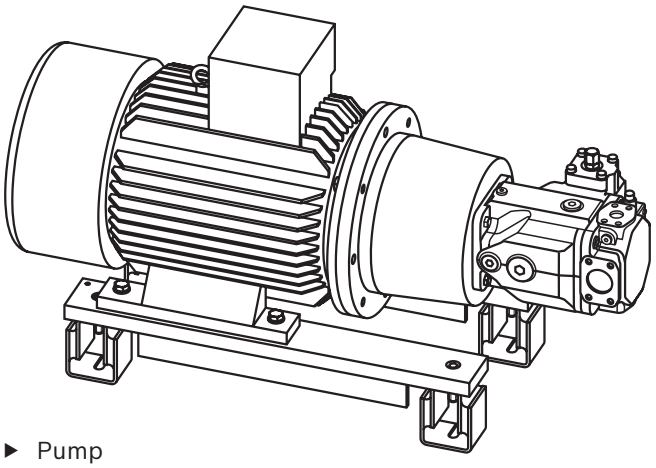
Motor supplier

16	Hoyer Motors (preferred)	**HOY**
	Siemens	**SIE**

Order example:
ABAPG-A4VSO180DRPPB/110CB4523/SE HOY

Set-up of the motor-pump group

ABAPG design



- Pump
- Electric motor
- Pump carrier
- Coupling
- Strips
- Damping bearing

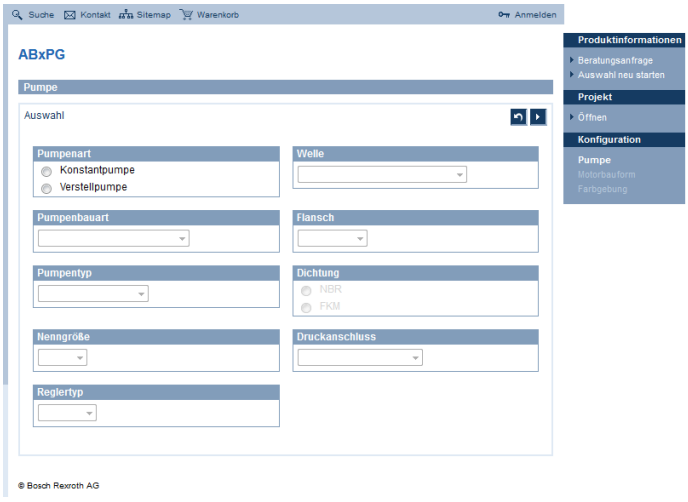
Pump suction port to the side as standard.
Pump rotation possible in 90° steps.

STEP-files for the respective modules available on request
or at www.boschrexroth.com/ics/abapg

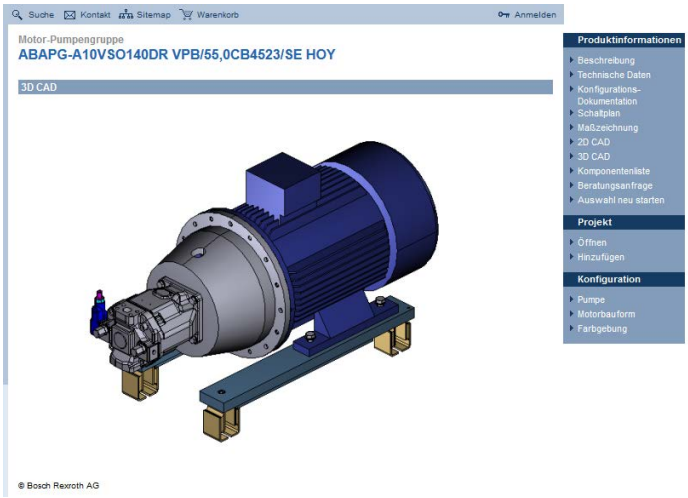
The motor-pump group configurator at www.boschrexroth.com/ics/abapg

Motor-pump groups can be put together quickly and easily with the APAPG configurator: The standard types defined in the datasheet enables users and sales people without detailed knowledge to individually configure the central drive unit for aggregates. A practical, product-neutral kit provides 3D data that can be immediately applied to applications. This saves time.
This is performed online by selecting the relevant product components or by specifying the operating conditions (flow rate, rated frequency, type of pump, operating pressure).

Thanks to the intuitive menu navigation, you are guided safely through the required configuration steps. Related features are clearly arranged on one page.



Associated features are clearly displayed on the same page.



When the configuration is finished, you can have the complete configuration documentation sent to you via email including material list, circuit diagram, 2D drawing and 3D model (STEP). This is done by way of an automatic request to your local distributor who will promptly contact you and send you an offer.

Technical data

(For applications outside these parameters, please consult us!)

Line connections				see Line connections table on page 12
Hydraulic fluid				Mineral oil HLP according to DIN 51524; part 2 e.g. with operating temperature 50 °C ISO VG46 DIN ISO 3448 (other fluids on request!) ▶ Please observe our provisions according to data sheet 90220, 90221, 90223. ▶ Different oil types must not be mixed as this might result in degradation and deterioration of the lubricity. ▶ According to the operating conditions, the fluid must be renewed at certain intervals.
Pump type				A4VSO according to data sheet 92050
	▶ Direction of rotation			Clockwise
Operating pressure, absolute				
	▶ Input	$p_{min-max}$	bar	0.8 ... 30
	▶ Output	p_{nom}	bar	350
	▶ Peak pressure	p_{max}	bar	400
	▶ Leakage port	p_{max}	bar	4
Hydraulic fluid temperature range, observe viscosity range		ϑ	°C	–25 ... +90
	▶ $T_{optimal}$ with HLP 46 (DIN 51524)	ϑ	°C	+40 ... +50
	▶ T_{max} in continuous operation	ϑ	°C	< +65
	For start-up at low temperatures a heating can be provided. For cooling, you can either provide an oil/water or an oil/air cooler. See data sheet 50125 (ABUKG) and 50112 (KOL/KOLP).			
Cleanliness classes according to ISO code				Maximum admissible degree of contamination of the hydraulic fluid according to ISO 4406 (c) and according to the pump type used [1]. At least cleanliness class 20/18/15 must be achieved.
Viscosity range		v	mm^2/s	16 ... 36 optimal 10 ... 1000 shortly (see data sheet 92050)
Electric motor	▶ Motor type			Three-phase asynchronous motor
	▶ Efficiency class			IE3 according to IEC 60034-30
	▶ Number of pole pairs			4
	▶ Voltage according to IEC 38	U	V	400 / 690 at 50 Hz (CB)
	▶ Speed	n	min^{-1}	1450 at 50 Hz
	▶ Protection class		IP	55
	▶ Installation position			horizontal
Surface treatment	By default, all steel components and components are at least provided with temporary corrosion protection (e.g. for transport).			

[1] The cleanliness classes specified for the components must be adhered to in hydraulic systems. Effective filtration prevents faults and at the same time increases the life cycle of the components.
For selecting the filters, see data sheet 51501.

Technical data: Hydraulic fluid
(For applications outside these parameters, please consult us!)

Operating viscosity range
The unit can be operated in the viscosity range of 16 ... 100 mm²/s without limiting the technical data. We recommend selecting the operating viscosity (at operating temperature) in the optimal range for efficiency and service life of

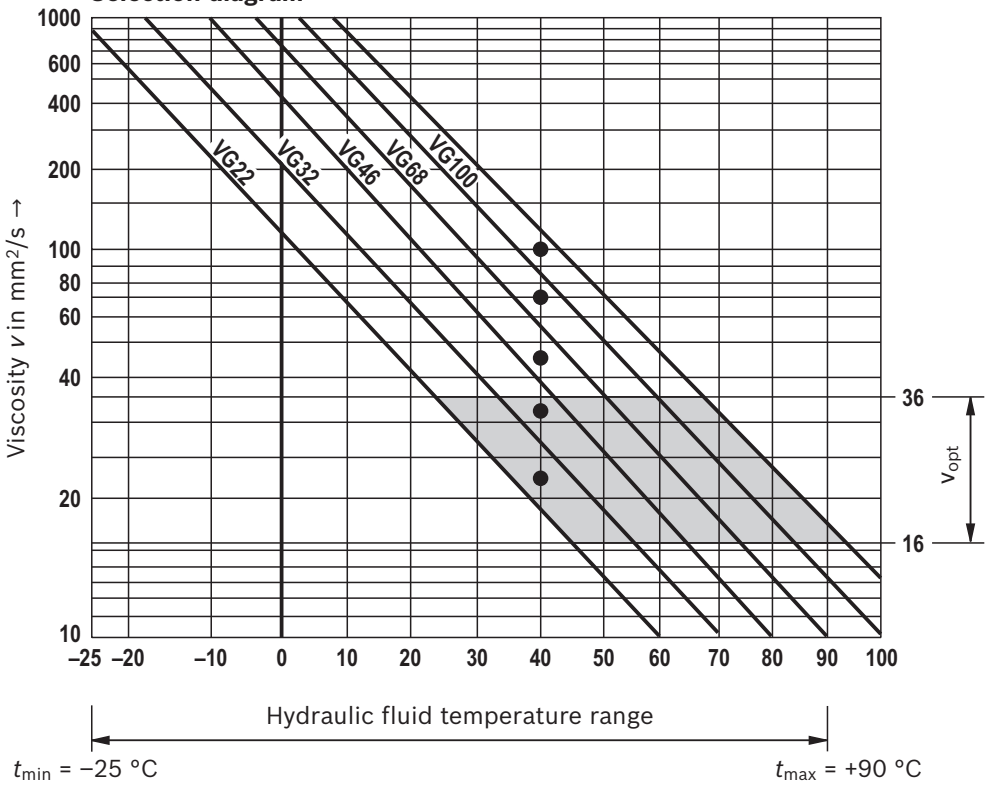
v_{opt} = opt. Operating viscosity 16 ... 36 mm²/s

relating to the tank temperature (open circuit).

Limit viscosity range
The following values apply to limit operating conditions:
v_{min} = 10 mm²/s
for short periods (t < 3 min)
at max. admissible leakage temperature
t_{max} = +90 °C
v_{max} = 1000 mm²/s
only for starting (cold start, an operating viscosity of less than 100 mm²/s should be achieved within 15 min)
t_{min} to –25 °C

For detailed information on the use at low temperatures see data sheet 90300-03-B.

Selection diagram



Notes on hydraulic fluid selection
The hydraulic fluid should be selected so as to ensure that, within the operating temperature range, the operating viscosity is within the optimal range (v_{opt}) see selection diagram, grayed-out field.
We recommend choosing the next higher viscosity class.

Temperature range (compare selection diagram)

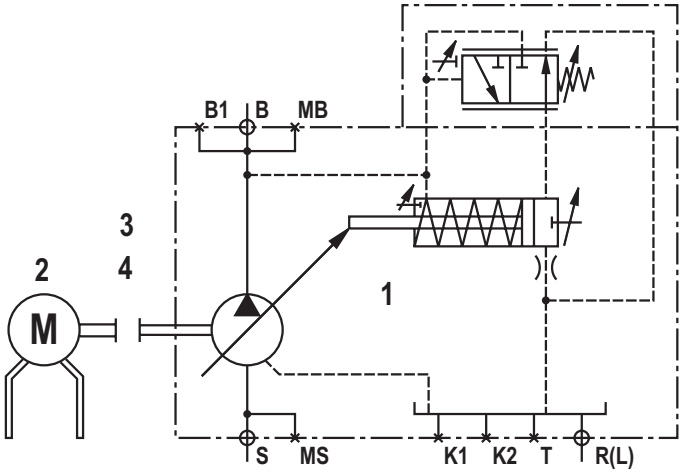
t_{min} = – 25 °C t_{max} = + 90 °C

Example:
At an ambient temperature of X °C the tank has an operating temperature of 60 °C. Within the optimal operating viscosity range (v_{opt}; grayed-out field) this corresponds to the viscosity classes VG 46 or VG 68; to select: VG 68.

Note:
The leakage temperature, influenced by pressure and speed, is always higher than the tank temperature. However, the temperature must never exceed 90 °C at any point of the system.

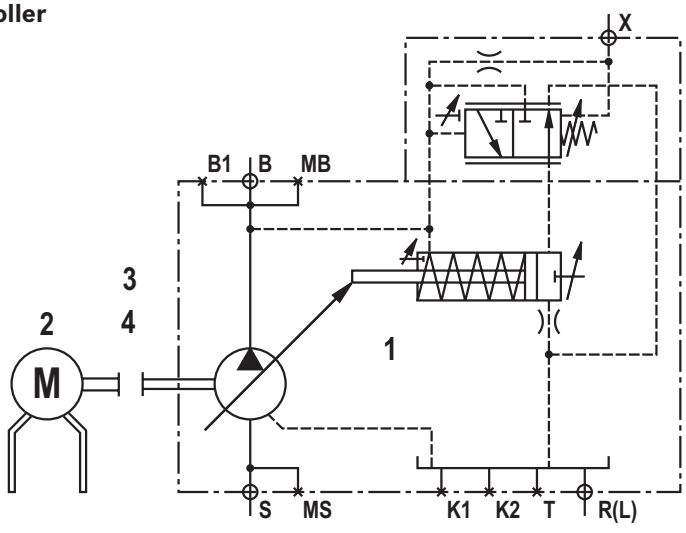
Circuit diagrams

Axial piston pump DR controller



1 Axial piston pump A4VSO
2 Electric motor
3 Pump carrier
4 Coupling

Axial piston pump DRG controller



1 Axial piston pump A4VSO
2 Electric motor
3 Pump carrier
4 Coupling

Standard type selection table ABAPG– A4VSO

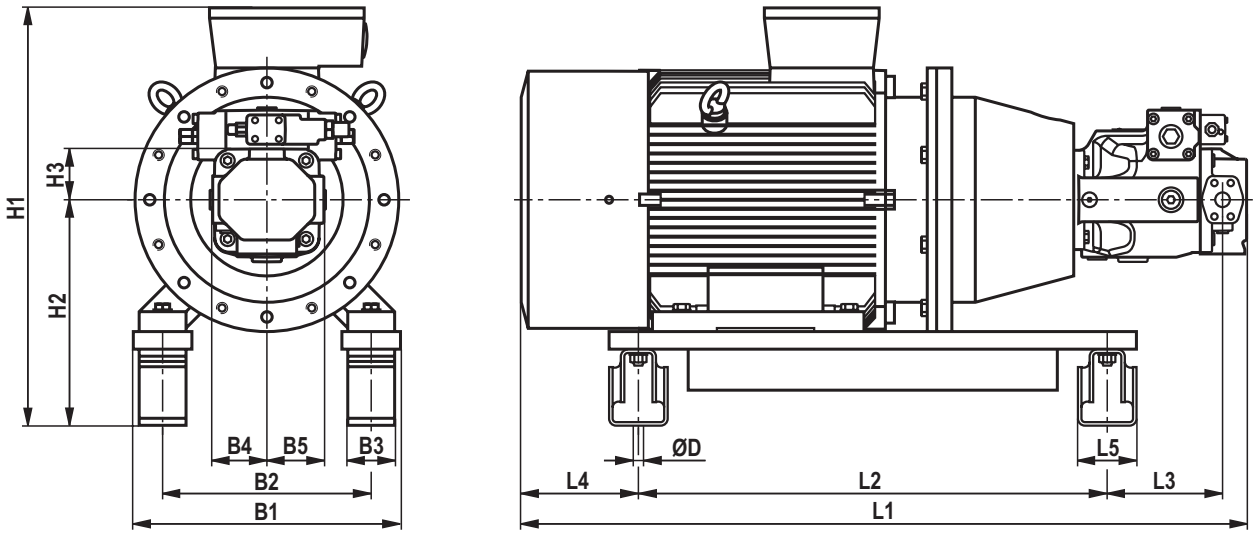
Frequency	50 Hz 1450 min⁻¹		50 Hz 1450 min⁻¹	Electric motor frame size	ABAPG material no. (motor B5)		ABAPG material no. (motor B35) prepared for PSBD [1]	
Pump	$q_{V\,max}$ in l/min	p_{max} in bar	Power in kW		HOYER	SIEMENS	HOYER	SIEMENS
A4VSO 40	55	156	18.5	180M	**R901397951**	**R901397987**	**R901398162**	**R901398175**
		195	22.0	180L	**R901397952**	**R901397988**	**R901398164**	**R901398176**
		278	30.0	200L	**R901397953**	**R901397989**	**R901398165**	**R901398178**
		348	37.0	225S	**R901397954**	**R901397990**	**R901398166**	**R901398179**
		350	45.0	225M	**R901397955**	**R901397991**	**R901398167**	**R901398180**
A4VSO 71	98	150	30.0	200L	**R901397956**	**R901397992**	**R901398168**	**R901398181**
		185	37.0	225S	**R901397957**	**R901397994**	**R901398170**	**R901398183**
		238	45.0	225M	**R901397958**	**R901397995**	**R901398171**	**R901398184**
		295	55.0	250M	**R901397959**	**R901397996**	**R901398172**	**R901398185**
		350	75.0	280S	**R901397960**	**R901397997**	**R901398174**	**R901398186**
A4VSO125	172	162	55.0	250M	**R901397962**	**R901397998**	**–**	
		227	75.0	280S	**R901397963**	**R901397999**		
		276	90.0	280M	**R901397964**	**R901398000**		
		342	110.0	315S	**R901397965**	**R901398148**		
		350	132.0	315M	**R901397966**	**R901398149**		
A4VSO180	248	160	75.0	280S	**R901397967**	**R901398150**	**–**	
		193	90.0	280M	**R901397968**	**R901398152**		
		237	110.0	315S	**R901397969**	**R901398153**		
		282	132.0	315M	**R901397970**	**R901398154**		
		344	160.0	315L	**R901397971**	**R901398156**		
		350	200.0	315L	**R901397972**	**–**		
A4VSO250	344	167	110.0	315S	**R901397973**	**R901398157**	**–**	
		203	132.0	315M	**R901397974**	**R901398158**		
		249	160.0	315L	**R901397975**	**R901398160**		
		311	200.0	315L	**R901397976**	**–**		
		350	250.0	315	**R901397977**	**–**		
A4VSO355	489	169	160.0	315L	**R901397978**	**R901398161**	**–**	
		212	200.0	315L	**R901397979**	**–**		
		267	250.0	315L	**R901397980**	**–**		
		334	315.0	315/355L	**R901397981**	**–**		
A4VSO500	689	150	200.0	315L	**R901397982**	**–**	**–**	
		191	250.0	315	**R901397983**	**–**		
		247	315.0	315	**R901397984**	**–**		

All types are part of the standard delivery range (A3)
for dimensions see page 9 ... 11

[1] Other degree of hardness of the damping bearings. Pump manifold block PSBD02 (data sheet 62300) must be ordered separately.

Dimensions: Type ABAPG-A4VSO 40DR ... 125DR

(dimensions in mm)



ABAPG-A4VSO with motor supplier HOYER-MOTORS

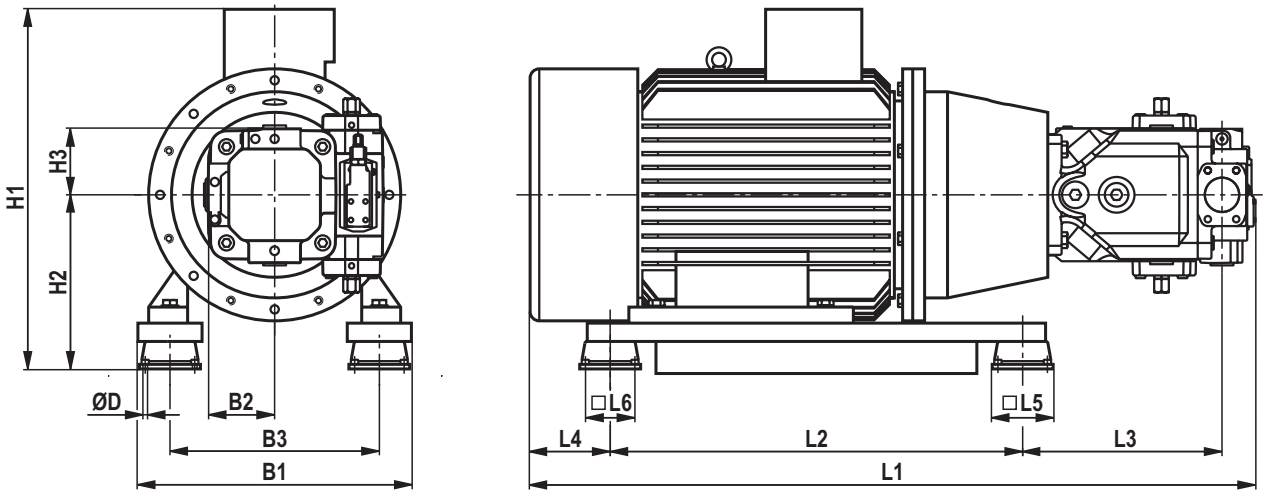
Pump A4VSO...	E-motor	Dimensions													Weight in kg
	kW / frame size	B1	B2	B3	B4/B5	ØD	H1	H2	H3	L1	L2	L3	L4	L5	
40DR	18 / 180M	369	279	65	80	17.5	605	313	75	1155.5	620	247	249.5	87	238
	22 / 180L	369	279	65	80	17.5	605	313	75	1193.5	620	247	287.5	87	277
	30 / 200L	418	318	80	80	17.5	673	360	75	1239	700	214	286	100	347
	37 / 225S	456	356	80	80	17.5	721	385	75	1322.5	800	170	313.5	100	485
	45 / 225M	456	356	80	80	17.5	721	385	75	1247.5	800	170	338.5	100	493
71DR	30 / 200L	418	318	80	92.5	17.5	673	360	85	1292	700	265	286	100	363
	37 / 225S	456	356	80	92.5	17.5	721	385	85	1351.5	800	197	313.5	100	501
	45 / 225M	456	356	80	92.5	17.5	721	385	85	1376.5	800	197	338.5	100	509
	55 / 250M	526	406	80	92.5	17.5	794	420	85	1452	850	229	332	100	587
125DR	55 / 250M	526	406	80	113	17.5	794	420	100	1529	850	302	332	100	630

ABAPG-A4VSO with motor supplier Siemens

Pump A4VSO...	E-motor	Dimensions													Weight in kg
	kW / frame size	B1	B2	B3	B4/B5	ØD	H1	H2	H3	L1	L2	L3	L4	L5	
40DR	18 / 180M	369	279	65	80	17.5	575	313	75	1138	620	247	232	87	230
	22 / 180L	369	279	65	80	17.5	757	313	75	1168	620	247	262	87	265
	30 / 200L	418	318	80	80	17.5	660	360	75	1222.5	700	214	269.5	100	315
	37 / 225S	456	356	80	80	17.5	713	385	75	1263	800	170	254	100	392
	45 / 225M	456	356	80	80	17.5	713	385	75	1348	800	170	339	100	412
71DR	30 / 200L	418	318	80	92.5	17.5	660	360	85	1275.5	700	265	269.5	100	331
	37 / 225S	456	356	80	92.5	17.5	713	385	85	1292	800	197	254	100	408
	45 / 225M	456	356	80	92.5	17.5	713	385	85	1377	800	197	339	100	428
	55 / 250M	526	406	80	92.5	17.5	812	420	85	1430	850	229	310	100	560
125DR	55 / 250M	526	406	80	113	17.5	812	420	100	1507	850	302	310	100	602

2D-drawing and 3D-model (STEP) available at http://www.boschrexroth.com/ics/abapg

Dimensions: Type ABAPG-A4VSO 71DR ... 500DR HOYER-MOTORS
(dimensions in mm)



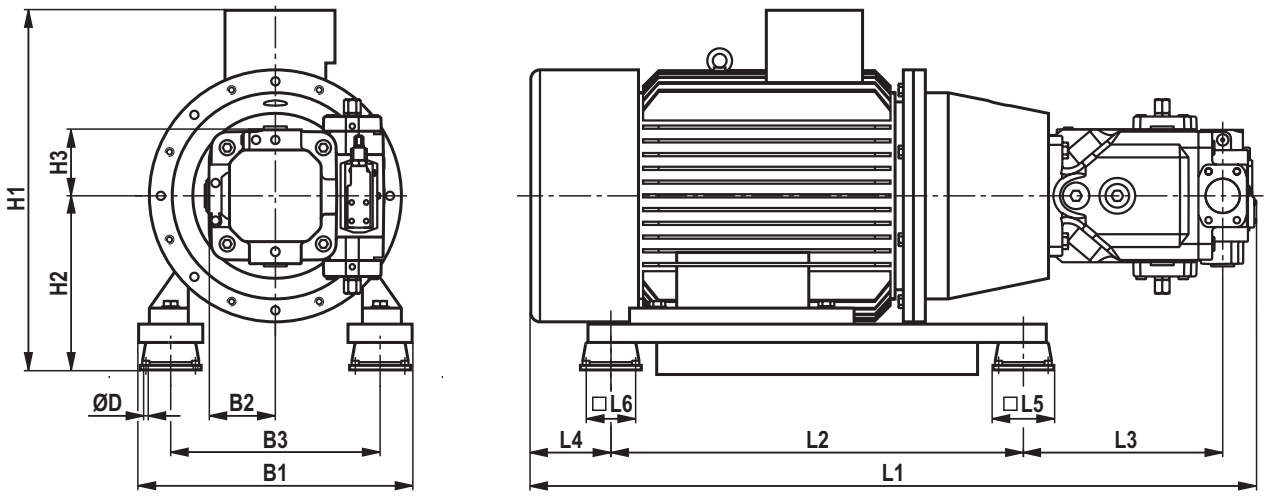
ABAPG-A4VSO with motor supplier HOYER-MOTORS

Pump A4VSO...	E-motor	Dimensions													Weight in kg
	kW / frame size	B1	B2	B3	ØD	H1	H2	H3	L1	L2	L3	L4	L5	L6	
71DR	75 / 280S	597	92.5	457	11.9	783	380	85	1539	900	279	319	133	108	897
125DR	75 / 280S	597	113	457	11.9	783	380	100	1599	900	335	319	133	108	940
	90 / 280M	597	113	457	11.9	783	380	100	1650	900	335	370	133	108	940
	110 / 315S	648	113	508	13.5	989	442	100	1888	1100	251	492	175	143	1282
	132 / 315M	648	113	508	13.5	989	442	100	1998	1100	251	602	175	143	1585
180DR	75 / 280S	597	116	457	11.9	783	380	100	1619	900	343	319	133	108	952
	90 / 280M	597	116	457	11.9	783	380	100	1670	900	343	370	133	108	952
	110 / 315S	648	116	508	13.5	989	442	100	1908	1100	259	492	175	143	1327
	132 / 315M	648	116	508	13.5	989	442	100	2018	1100	259	602	175	143	1600
	160 / 315L	648	116	508	13.5	989	442	100	2038	1100	329	552	175	143	1705
	200 / 315L	648	116	508	13.5	972	442	100	2060	1100	329	574	175	143	1635
250DR	110 / 315S	648	144	508	13.5	989	442	133	1988	1100	341	492	175	143	1412
	132 / 315M	648	144	508	13.5	989	442	133	2098	1100	341	602	175	143	1685
	160 / 315L	648	144	508	13.5	989	442	133	2098	1100	391	552	175	143	1745
	200 / 315L	648	144	508	13.5	972	442	133	2120	1100	391	574	175	143	1675
	250 / 355M	770	144	610	13.5	1147	492	133	2315	1400	299	561	175	143	2340
355DRG	160 / 315L	648	144	508	13.5	989	442	133	2127	1100	404	552	175	143	1760
	200 / 315L	648	144	508	13.5	972	442	133	2149	1100	404	574	175	143	1690
	250 / 355M	770	144	610	13.5	1147	492	133	2389	1400	357	561	175	143	2370
	315 / 355L	770	144	610	13.5	1147	492	133	2389	1400	357	561	175	143	2520
500DR	200 / 315L	648	180	508	13.5	972	442	190	2270	1100	517	574	175	143	1855
	250 / 355M	770	180	610	13.5	1147	492	190	2460	1400	420	561	175	143	2470
	315 / 355L	770	180	610	13.5	1147	492	190	2508	1400	468	561	175	143	2610
	355 / 355L	770	180	610	13.5	1147	492	190	2508	1400	468	561	175	143	3250
	400 / 400M	886	180	686	13.5	1267	567	190	2880	1700	391	710	175	143	4840

2D-drawing and 3D-model (STEP) available at http://www.boschrexroth.com/ics/abapg

Dimensions: Type ABAPG-A4VSO 71DR ... 500DR SIEMENS

(dimensions in mm)



ABAPG-A4VSO with motor supplier SIEMENS

Pump A4VSO...	E-motor	Dimensions													Weight [kg]
	kW / frame size	B1	B2	B3	ØD	H1	H2	H3	L1	L2	L3	L4	L5	L6	
71DR	75 / 280S	597	92.5	457	11.9	812	380	85	1521	900	279	301	133	108	747
125DR	75 / 280S	597	113	457	11.9	812	380	100	1581	900	335	301	133	108	790
	90 / 280M	597	113	457	11.9	812	380	100	1691	900	335	411	133	108	782
	110 / 315S	648	113	508	13.5	942	442	100	1747	1100	251	351	175	143	1020
	132 / 315M	648	113	508	13.5	942	442	100	1912	1100	251	516	175	143	1100
180DR	75 / 280S	597	116	457	11.9	812	380	100	1601	900	343	301	133	108	802
	90 / 280M	597	116	457	11.9	812	380	100	1711	900	343	411	133	108	794
	110 / 315S	648	116	508	13.5	942	442	100	1767	1100	259	351	175	143	1065
	132 / 315M	648	116	508	13.5	942	442	100	1932	1100	259	516	175	143	1115
	160 / 315L	648	116	508	13.5	942	442	100	1952	1100	329	466	175	143	1290
250DR	110 / 315S	648	144	508	13.5	942	442	133	1847	1100	341	351	175	143	1150
	132 / 315M	648	144	508	13.5	942	442	133	2012	1100	341	516	175	143	1200
	160 / 315L	648	144	508	13.5	942	442	133	2012	1100	391	466	175	143	1330
	250 / 355M	648	144	508	13.5	942	442	133	2167	1100	391	621	175	143	1725
355DRG	160 / 315L	648	144	508	13.5	942	442	133	2041	1100	404	466	175	143	1345
	250 / 355M	648	144	508	13.5	942	442	133	2196	1100	404	621	175	143	1715
	315 / 355L	648	144	508	13.5	942	442	133	2236	1100	444	621	175	143	1985
500DR	250 / 355M	648	180	508	13.5	942	442	190	2317	1100	517	621	175	143	1875
	315 / 355L	648	180	508	13.5	942	442	190	2317	1100	517	621	175	143	2085

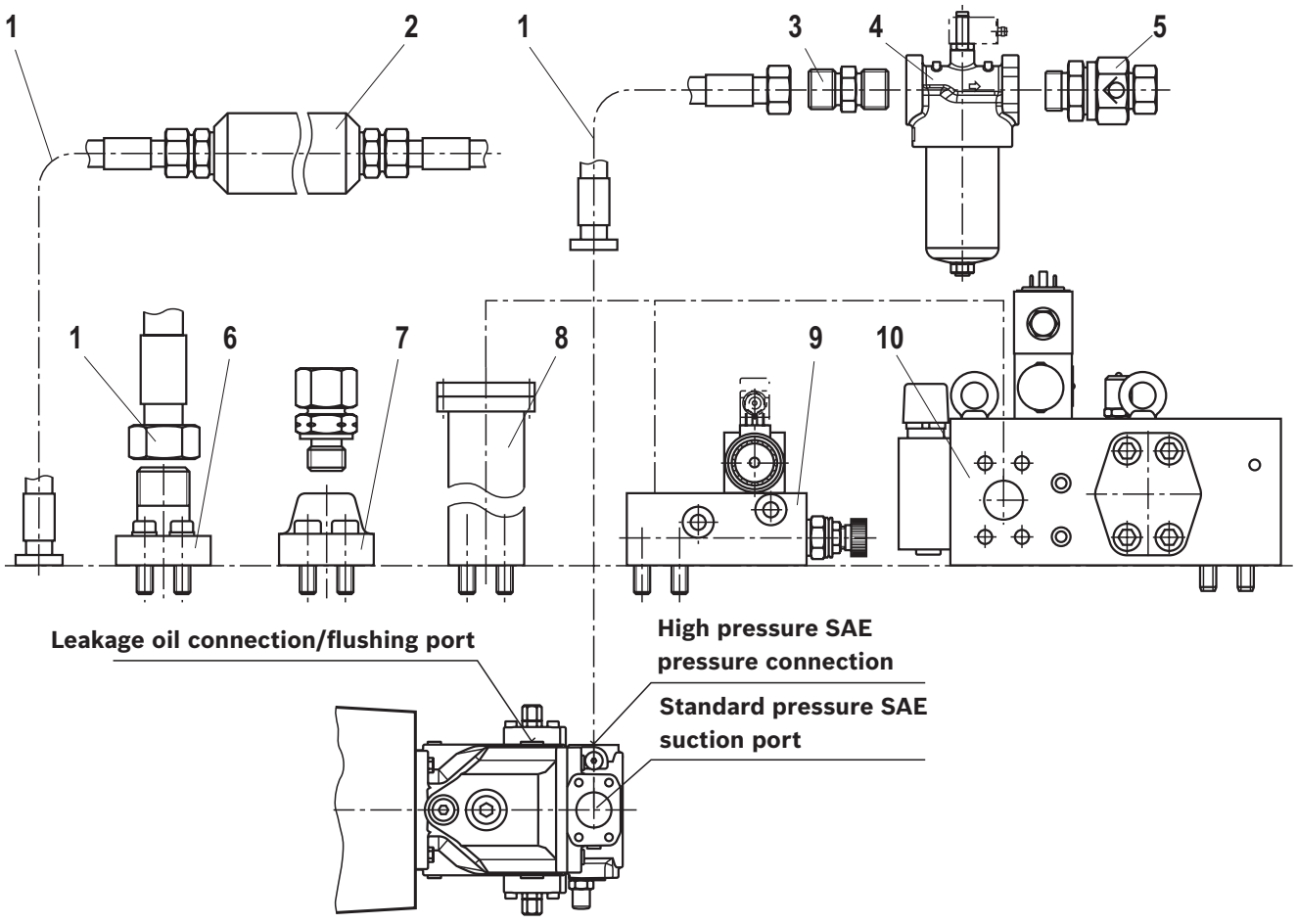
2D-drawing and 3D-model (STEP) available at http://www.boschrexroth.com/ics/abapg

Pressure line connections

Pump type	Line connections			
	Pressure connection B	Suction port S	Leakage oil connection L / L1	Pilot oil port X
A4VSO40	DIN ISO 6162-2 - 3/4" [2]	DIN ISO 6162-1 - 1 1/2" [1]	DIN 3852-1 M22X1.5	–
A4VSO71	DIN ISO 6162-2 - 1" [2]	DIN ISO 6162-1 - 2" [1]	DIN 3852-1 M27X2	–
A4VSO125	DIN ISO 6162-2 - 1 1/4" [2]	DIN ISO 6162-1 - 2 1/2" [1]	DIN 3852-1 M33X2	–
A4VSO180	DIN ISO 6162-2 - 1 1/4" [2]	DIN ISO 6162-1 - 3" [1]	DIN 3852-1 M33X2	–
A4VSO250	DIN ISO 6162-2 - 1 1/2" [2]	DIN ISO 6162-1 - 3" [1]	DIN 3852-1 M42X2	DIN 3852-1 M14x1.5
A4VSO355	DIN ISO 6162-2 - 1 1/2" [2]	DIN ISO 6162-1 - 4" [1]	DIN 3852-1 M42X2	DIN 3852-1 M14x1.5
A4VSO500	DIN ISO 6162-2 - 2" [2]	DIN ISO 6162-1 - 5" [1]	DIN 3852-1 M48X2	DIN 3852-1 M14x1.5

[1] Standard pressure SAE flange figure with metric mounting screws
[2] High pressure SAE flange figure with metric mounting screws

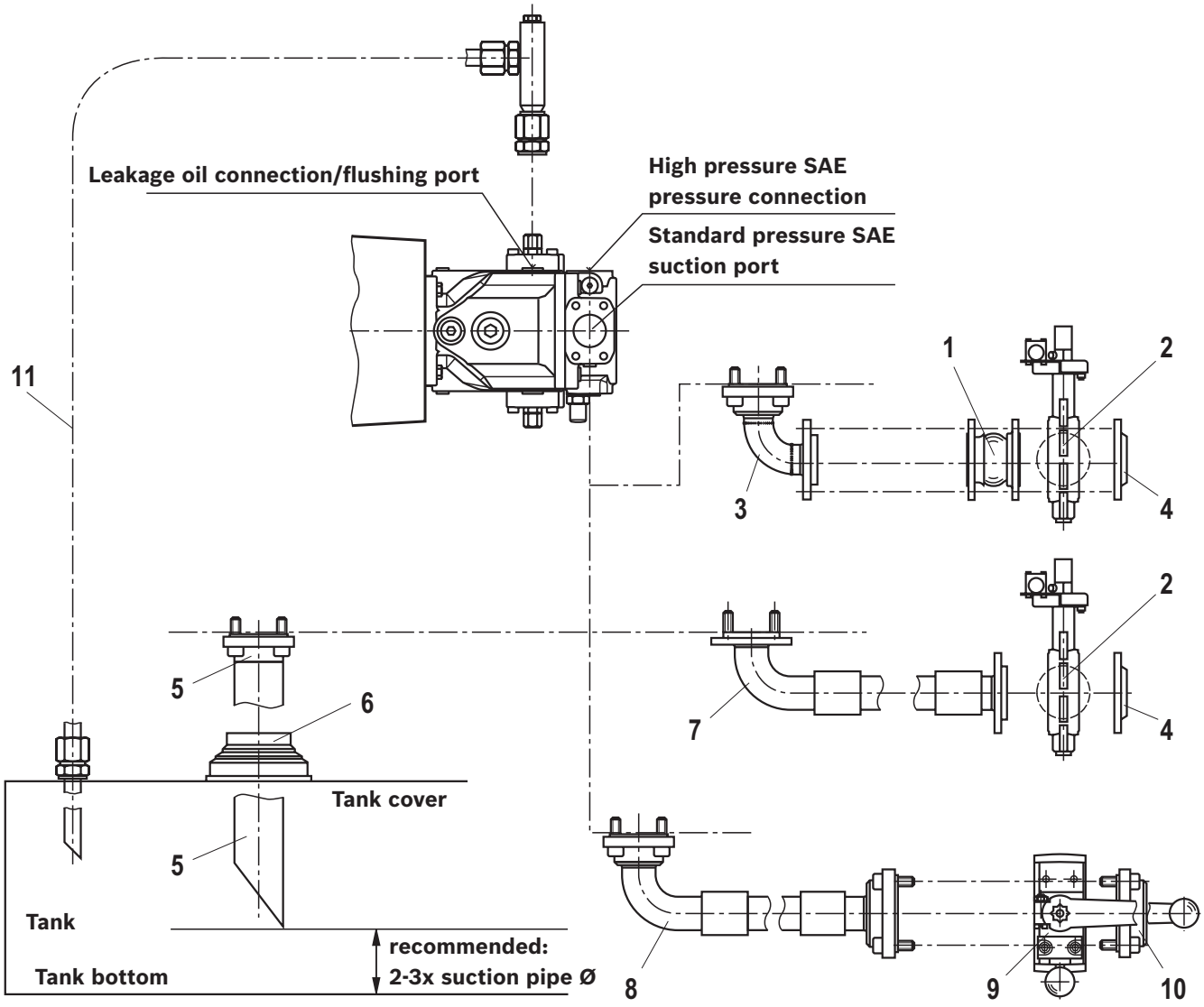
Optional accessories at the pressure connection



1 Hose line AB 02314, AB 02316
2 Shock and vibration absorber data sheet 29253
3 Fitting ZN 11001-11-AN1 to A4VSO71
4 In-line filter data sheet 51422
5 Check valve AB 02112 to A4VSO71
6 SAE flange high pressure AB 02214
7 SAE flange high pressure AB 02213
8 Shock and vibration absorber data sheet 50142 to A4VSO250
9 Pump safety block data sheet 25891 to A4VSO180
10 Pump manifold block data sheet 62300 to A4VSO355

Items 1 to 10 as optional accessories upon request

Optional accessories at the suction port and leakage oil connection

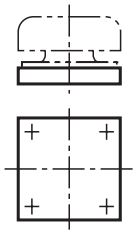


1 Compensator DIN AB 02231
2 Shut-off valve DIN AB 02129
3 Flange bend SAE–DIN AB 02229
4 DIN flange AB 02204
5 Suction pipe AB 02303
6 Elastic pipe fitting AB 01203
7 Suction tube SAE–DIN AB 02315
8 Suction tube SAE–SAE AB 02315
9 Shut-off valve SAE (on request)
10 SAE flange AB 02215
11 Drain line

Items 1 to 11 as optional accessories upon request

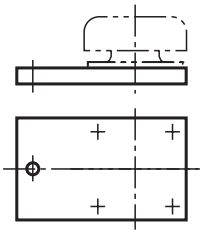
Optional accessories for damping bearing AB33-11

Accessories: plate



Weld-on plate

Accessories: clip



Clip for foundation installation

Instructions for transport, installation, commissioning, operation and maintenance

1. General safety instructions

⚠ WARNING!	
Risk of injury and property damage due to improper handling of the product! If the module is not properly installed, used and maintained, personal injury and damage can occur to the module or system.	▶ Installation, adjustment, maintenance and repair of the module may only be performed by authorized, trained and qualified personnel.

Please note:

- ▶ The module may only be used in accordance with the data described in the product documentation!
- ▶ Unauthorized modifications or changes which affect the safety and proper function are not permitted!
- ▶ Existing protective devices must not be removed.
- ▶ The general safety and accident prevention regulations must be observed!

2. Transportation and storage

Transport

⚠ WARNING!	
Risks of injury caused by tumbling, falling or uncontrolled movement of the module! The module can lose its stability in cases of improper transport and thereby tip over, fall or move in an uncontrolled manner. ▶ Be aware of the module weight. ▶ Place the product on a suitable foundation / ground. ▶ Before removing the existing auxiliary structure make additional suitable measures (e.g. by fasteners or with the help of cranes) for the adequate stability of the module.	▶ Only the intended attachment points should be used for fastening or lifting the unit (see Fig.). ▶ Modules are never to be are attached or raised on the established components (pipes, hoses, control blocks, accumulator, etc.). ▶ Observe the maximum load-bearing capacity of the attachment devices and floor conveyors. ▶ Ensure that no unauthorized persons are within the danger zone.

- ▶ The module must not be raised on the fan cover of the motor.
- ▶ The eye bolts of the motor must not be used for lifting the module. They are only intended for lifting the motor without additional attachments.
- ▶ Auxiliary eyelets e.g. on fan covers and cooler attachments, are also suitable for lifting the corresponding items must not be used for the transport of the module.

Instructions for transport, installation, commissioning, operation and maintenance

Storage

In general it is recommended that the modules are stored as follows until actual installation date:

- in the original packaging
- dry and dust-free
- at room temperature
- free of vibrations and oscillations
- protected from light and direct sunlight

3. Assembly and installation

- Position the module as indicated in the dimensions.
- Attach the product to the designated locations as specified in the dimensions .
- Always depressurize and deenergize the relevant plant part before assembling the module.
- Ground the module before connecting and establish equipotential bonding using an equalization strip.
- Always ensure absolute cleanliness.

⚠ WARNING!

Risk of death by electric shock! Working in the areas of live parts is extremely dangerous.
Work at the electric system may only be performed by a specialized electrician. Electricians tools (VDE tools) are strictly required.

- Using a suitable measuring device, check before the beginning of the work whether parts of the system are still under residual voltage (e.g. with capacitors). Wait until they have discharged.

- Electrical wiring work must be performed by trained specialist personnel in accordance with local regulations!
- Before starting work, make sure that all electrical connections are switched off and cannot be switched back on again. This also applies to auxiliary circuits such as space heaters.
- The connections must be made such that a continuous and safe electrical connection is ensured. This applies equally to power and ground connections.
- Wiring diagrams for the power and accessory connections (e.g. PTC thermistors, heating) are located in the terminal box.
- Make sure that the terminal box is clean and dry.
- Unused cable entry glands must be closed off.
- Check the terminal box seal before refitting.

Instructions for transport, installation, commissioning, operation and maintenance

4. Commissioning

- Before initial operation the pump must be vented and primed in order to protect internal components from damage.
- When commissioning or re-commissioning machinery or a system, you should ensure that the tank, as well the suction line and the pressure line of the module are filled with oil according to the manufacturer's instructions and remain filled during operation.
- Check the direction of rotation of the motor.
- Ensure that the suction pressure does not fall below the specified minimum.

☞ **Notice:**
The module will be damaged by polluted oil!
Polluted oil could result in wear and malfunctions.
In particular, foreign matter in the suction line such as welding globules and metallic swarf can damage the module.

- During commissioning, absolute cleanliness must be ensured.
- When connecting the measuring terminals ensure that no contaminants infiltrate the module.
- In order to guarantee functional safety, at least cleanliness class 20/18/15 in accordance with ISO 4406 is necessary. Brand-name hydraulic oils are recommended.

⚠ CAUTION!

Commissioning an incorrectly installed product!
Risk of injury and damage to property!

- Make sure that all electrical and hydraulic connections are either connected or closed.
- Only take a fully installed product with original accessories from Bosch Rexroth into operation.

5. Operation

The product is a module which does not require any settings or modifications during operation. As a result, this chapter of the instructions does not contain any information on adjustment options.

Only use the product within the performance range provided in the technical data. The machine manufacturer is responsible for the correct project planning of the module and its control.

6. Maintenance

Maintenance

- Only genuine spare parts from Bosch Rexroth are permitted.

Cleaning and care

- Always ensure absolute cleanliness when working at the product.
- Do not use high-pressure washers for cleaning.
- Tightly seal openings such as inspection holes with suitable protective devices and verify that all gaskets and seals on electrical connections are secure so that no detergent can penetrate into the product.
- Never use solvents or aggressive cleaning agents.
- Cleaning intervals depend on the degree of contamination occurring locally.

Necessary and amending documentation

▶ Axial piston-variable displacement pump A4VSO, A10VO, A10VSO, ...	Operating instructions	92703-01-B
▶ Axial piston-variable displacement pump A4VSO	Data sheet	92050
▶ Control device DR, DRE, ...	Data sheet	92060
▶ Pump control block PSBD 02	Data sheet	62300
▶ Pump safety block type DBA, DBAW	Data sheet	25880
▶ Motor-pump groups -IE2- A10VSO series 31/52	Data sheet	51170
▶ Motor-pump groups -IE2- PV7	Data sheet	51171
▶ Motor-pump groups -IE2- A4VSO series 10/30	Data sheet	51172
▶ Motor-pump groups -IE2- A10VSO series 32	Data sheet	51174
▶ Motor-pump groups -IE2- PGZ	Data sheet	51175
▶ Motor-pump groups -IE3- A10VSO series 31/52	Data sheet	51180
▶ Motor-pump groups -IE3- PV7	Data sheet	51181
▶ Motor-pump groups -IE3- A4VSO series 10/30	Data sheet	51182
▶ Motor-pump groups -IE3- A10VSO series 32	Data sheet	51184
▶ General Operating Instructions for Hydraulic Power Units and Assemblies	Operating instructions	07009-B

The documents are available in the Internet under www.boschrexroth.comin the area of Training/Media/Media Directory or from your local distributor.

Notes

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