

The Drive & Control Company

Rexroth
Bosch Group

Motor-pump groups

Type ABAPG and ABHPG

RE 51180

Edition: 2015-02



- ▶ With pump type: A10VSO
 - Series 52: Size 10,
 - Series 31: Sizes 18 to 140
- ▶ Electric motor frame size 100L bis 315S
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.

- ▶ Efficiency class IE3
- ▶ Electric motor design IM B5 (ABHPG) and/or IM B3/B5 (ABAPG)
- ▶ Pump connected at the electric motor with rigid pump carrier and coupling
- ▶ Low operating noise
- ▶ Versatile possible applications on tank, base frame or separate installation
- ▶ Clear, maintenance-friendly set-up
- ▶ With axial piston pump A10VSO (variable displacement pump)
- ▶ Adjustment DFR1 (pressure/flow controller) and DFLR (pressure/flow power controller)

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RE 51180, edition: 2015-02, **Bosch Rexroth AG**

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2/22 ABAPG; ABHPG | Motor-pump groups

Ordering code

01	02		03	04	05	06	07	08	09	10	11	12	13	14	15	16		
	-	A10VSO			V	P	/			4	5	3	3	/	S	E		HOY

Module

01	With motor design B35	ABAPG
	With motor design B5	ABHPG

Pump type

02	Axial piston pump A10VSO according to data sheets 92703 with NG10 and 92711 NG18 ... 140	A10VSO
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Displacement

03	10 ... 140 cm ³ per rotation	10 ... 140
----	---	------------

Control and adjustment device

04	E.g. Pressure/flow controller	DFR1
	E.g., pressure, flow and power controller	DFLR

Seal material (according to DIN ISO 1629)

05	FKM	V
----	-----	---

Shaft end version

06	Cylindrical with key DIN 6885	P
----	-------------------------------	---

Mounting flange

07	ISO 2-hole	A
	ISO4-hole	B

Motor power

08	3 kW ... 110 kW	3 ... 110
----	-----------------	-----------

Rated voltage

09	230/400 V at 50 Hz (up to 3 kW)	CA
	400/690 V at 50 Hz (from 4 kW)	CB

10	Number of pole pairs	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	HOY
	Siemens	SIE

Order example:

ABAPG-A10VSO 28DFR1VPA/18.5CB4523/SE HOY

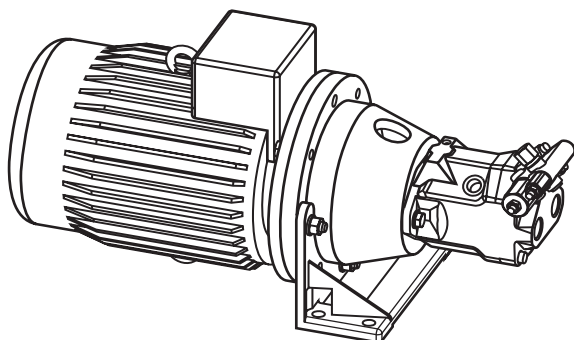
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Set-up of the motor-pump group

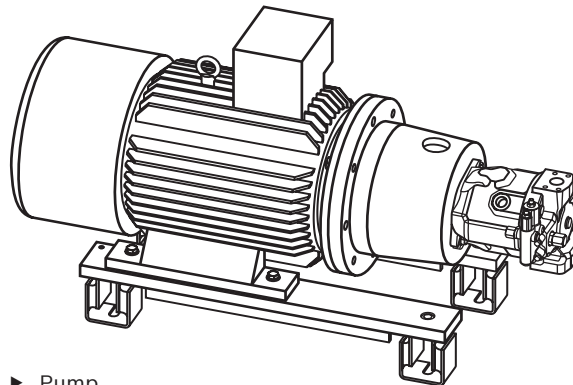
ABHPG design



- ▶ Pump
- ▶ Electric motor
- ▶ Pump carrier
- ▶ Coupling
- ▶ Pump base

The use of this design is recommended in confined spaces (e.g. on oil tanks) max. performance range 7.5 kW

ABAPG design



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

Use of this design is particularly recommended for requirements on low noise levels min. performance range 5.5 kW

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

4/22 ABAPG; ABHPG | Motor-pump groups

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 data sheet 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.

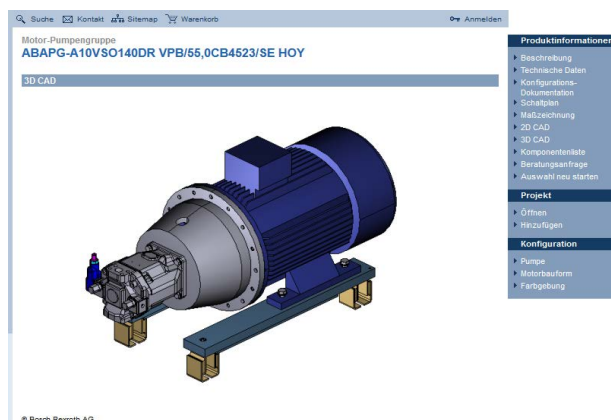
This is performed online by selecting the relevant product components or by specifying the operating conditions (flow rate, rated frequency, type of pump, operating pressure).

The screenshot shows the 'Auslegungsdaten' (Design Data) section of the ABxPG configurator. It includes input fields for 'Betriebsdruck p' (Operating pressure) in bar, 'Volumenstrom Q' (Volume flow rate) in l/min, and 'Bemessungsfrequenz' (Design frequency) in Hz. There are also radio buttons for 'Konstantpumpe' (Constant pump) and 'Verstellpumpe' (Adjustable pump). A 'Suche' (Search) button is visible.

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.

The screenshot shows the 'Auswahl' (Selection) section of the ABxPG configurator. It includes dropdown menus for 'Pumpenart' (Pump type), 'Pumpenbauart' (Pump construction), 'Pumpentyp' (Pump type), 'Nenngröße' (Nominal size), and 'Regeltyp' (Control type). There are also input fields for 'Welle' (Shaft), 'Flansch' (Flange), 'Dichtung' (Seal), and 'Druckanschluss' (Pressure connection). A 'Suche' (Search) button is visible.



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.

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Technical data

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

Line connections					see Line connections table on page 17
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					A10VSO10 series 52 according to data sheet 92703 A10VSO18-140 series 31 according to data sheet 92711
► Direction of rotation					Clockwise
Operating pressure, absolute					
► Input $p_{min-max}$					bar 0.8 ... 10
► Output p_{nom}					bar 280 and 250 with A10VSO10
► Peak pressure p_{max}					bar 350 and 315 with A10VSO10
► Leakage port p_{max}					bar 2
Hydraulic fluid temperature range, observe viscosity range ϑ					°C -25 ... +90
► $T_{optimal}$ with HLP 46 (DIN 51524) ϑ					°C +45 ... +55
► 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 ϑ mm ² /s					16 ... 36 optimal 10 ... 1000 shortly (see data sheets 92703, 92711)
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					230 / 400 at 50 Hz (CA) to 3 kW, 400 / 690 at 50 Hz (CB) from 4 kW
► 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).

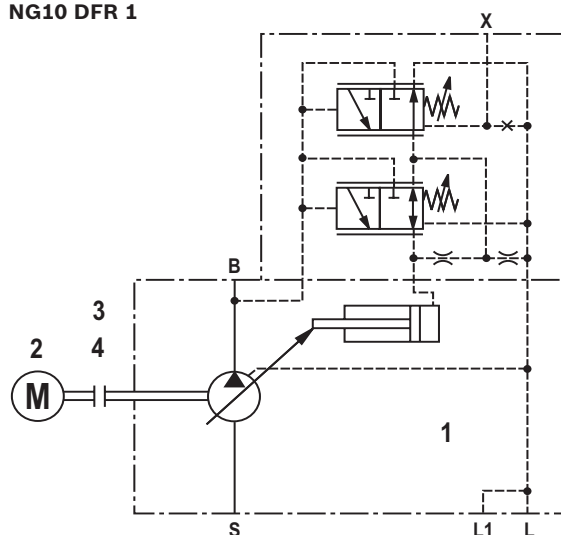
¹⁾ The cleanliness classes specified for the components must be adhered to in hydraulic systems. Effective filtration prevents faults and at the same time increases the life cycle of the components.
For selecting the filters, see data sheet 51501.

6/22 **ABAPG; ABHPG** | Motor-pump groups

Circuit diagrams

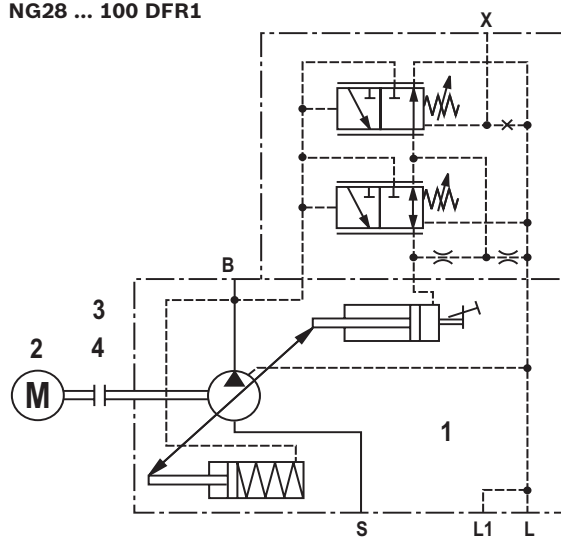
Axial piston pump (basic design)

NG10 DFR 1

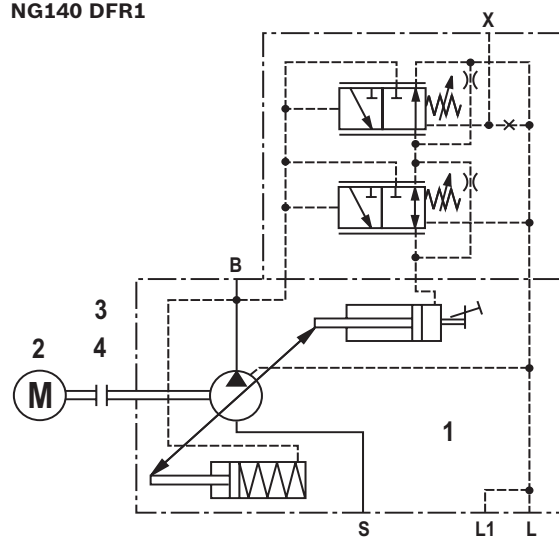


- 1 Axial piston pump A10VSO
- 2 Electric motor
- 3 Pump carrier
- 4 Coupling

NG28 ... 100 DFR1



NG140 DFR1



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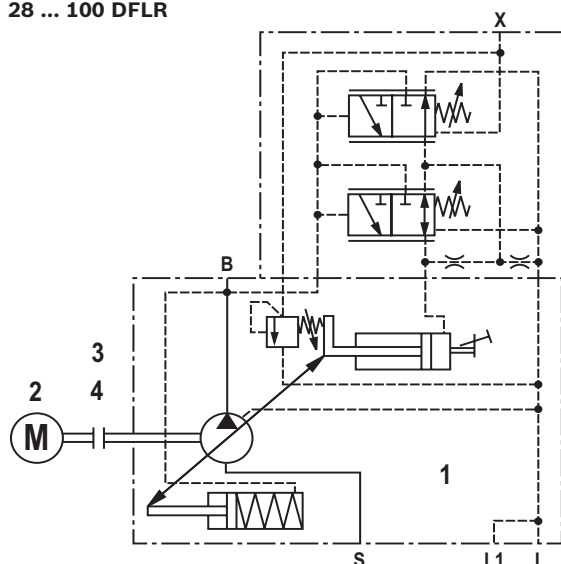
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Circuit diagrams

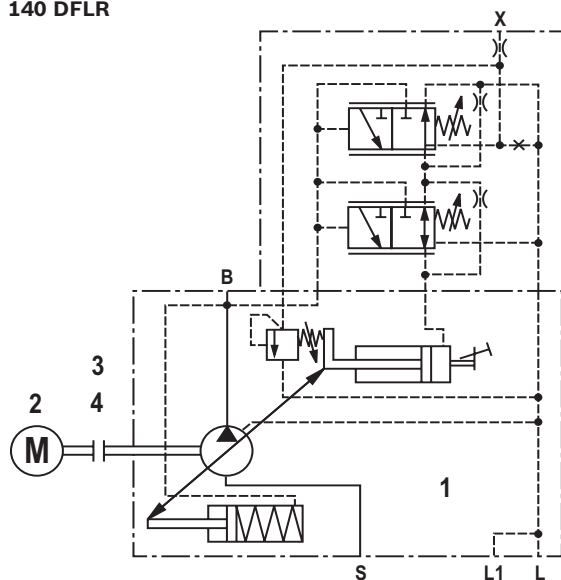
Axial piston pump with pressure/flow power controller (basic design)

28 ... 100 DFLR



- 1 Axial piston pump A10VSO
- 2 Electric motor
- 3 Pump carrier
- 4 Coupling

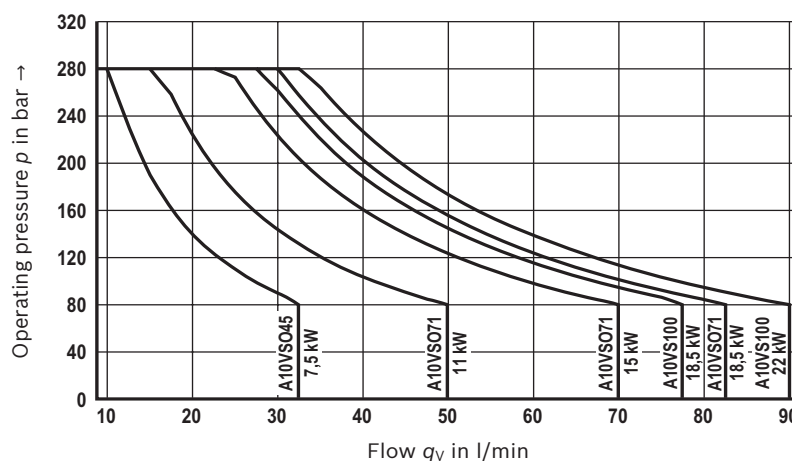
140 DFLR



8/22 ABAPG; ABHPG | Motor-pump groups

Performance characteristic

Axial piston pump with power controller at $n = 1450 \text{ min}^{-1}$
(application example)



For the project planning, please use the performance characteristic from data sheet 92711.

Standard program incl. preferred types ABHPG-A10VSO ¹⁾

Frequency	50 Hz 1450 min ⁻¹		50 Hz 1450 min ⁻¹	Electric motor size	ABHPG material no. (Motor B5)			
Pump	q _V max in l/min	p _{max} in bar	Power in kW		HOY	MKZ ²⁾	SIE	MKZ ²⁾
A10VSO10DFR1	14	60	3.00	100L	R901397364	A3	R901397377	A3
		92	4.00	112M	R901397365	A3	R901397378	A3
		139	5.50	132S	R901397366	A3	R901397379	A3
		203	7.50	132M	R901397367	A3	R901397380	A3
A10VSO18DFR1	25	41	3.00	100L	R901397368	A3	R901397382	A3
		58	4.00	112M	R901397369	A2	R901397383	A3
		98	5.50	132S	R901397370	A3	R901397384	A3
		137	7.50	132M	R901397371	A3	R901397385	A3
A10VSO28DFR1	38	66	5.50	132S	R901397372	A3	R901397386	A3
		93	7.50	132M	R901397374	A3	R901397387	A3
A10VSO45DFR1	62	48	7.50	132M	R901397376	A3	R901397389	A3
A10VSO45DFLR	62	48	7.50	132M	R901397375	A3	R901397388	A3

¹⁾ Pump manifold possible without special design.

²⁾ MKZ = material mark

A2 = preferred delivery range

A3 = Standard delivery range dimensions see page 11-16

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Standard program incl. preferred types ABAPG-A10VSO

Frequency	50 Hz 1450 min ⁻¹		50 Hz 1450 min ⁻¹	Electric motor size	ABAPG material no. (Motor B5)			
Pump	q _V max in l/min	p _{max} in bar	Power in kW		HOY	MKZ ²⁾	SIE	MKZ ²⁾
A10VSO10DFR1	14	139	5.50	132S	R901397616	A3	R901397666	A3
		203	7.50	132M	R901397617	A3	R901397667	A3
A10VSO18DFR1	25	98	5.50	132S	R901397618	A3	R901397668	A3
		137	7.50	132M	R901397619	A2	R901397670	A3
		229	11.00	160M	R901397621	A2	R901397671	A3
		280	15.00	160L	R901397622	A3	R901397672	A3
A10VSO28DFR1	39	66	5.50	132S	R901397623	A3	R901397673	A3
		93	7.50	132M	R901397624	A3	R901397674	A3
		150	11.00	160M	R901397625	A2	R901397675	A3
		212	15.00	160L	R901397626	A2	R901397676	A3
		263	18.50	180M	R901397627	A3	R901397677	A3
A10VSO45DFR1	62	280	22.00	180L	R901397628	A3	R901397678	A3
		48	7.50	132M	R901397629	A3	R901397679	A3
		79	11.00	160M	R901397630	A3	R901397680	A3
		117	15.00	160L	R901397631	A2	R901397682	A3
		147	18.50	180M	R901397632	A3	R901397683	A3
		182	22.00	180L	R901397633	A3	R901397684	A3
A10VSO71DFR1	98	262	30.00	200L	R901397634	A3	R901397685	A3
		280	37.00	225S	R901397635	A3	R901397686	A3
		48	11.00	160M	R901397636	A3	R901397687	A3
		72	15.00	160L	R901397637	A3	R901397688	A3
		91	18.50	180M	R901397638	A3	R901397689	A3
		109	22.00	180L	R901397639	A2	R901397690	A3
		156	30.00	200L	R901397640	A3	R901397691	A3
A10VSO100DFR1	138	197	37.00	225S	R901397641	A3	R901397692	A3
		244	45.00	225M	R901397642	A3	R901397693	A3
		280	55.00	250M	R901397643	A3	R901397694	A3
		61	18.50	180M	R901397644	A3	R901397695	A3
		73	22.00	180L	R901397645	A3	R901397696	A3
		107	30.00	200L	R901397646	A3	R901397697	A3
		136	37.00	225S	R901397647	A3	R901397698	A3
		170	45.00	225M	R901397648	A2	R901397699	A3
A10VSO140DFR1	193	208	55.00	250M	R901397649	A3	R901397700	A3
		280	75.00	280S	R901397650	A3	R901397701	A3
		280	90.00	280M	R901397651	A3	R901397702	A3
		53	22.00	180L	R901397652	A3	R901397703	A3
		74	30.00	200L	R901397653	A3	R901397704	A3
		94	37.00	225S	R901397654	A3	R901397705	A3
		119	45.00	225M	R901397655	A3	R901397707	A3
		146	55.00	250M	R901397656	A3	R901397708	A3
		205	75.00	280S	R901397657	A3	R901397709	A3
A10VSO100DFLR	138	246	90.00	280M	R901397658	A3	R901397710	A3
		280	110.00	315S	R901397659	A3	R901397711	A3
A10VSO45DFLR	62	48	7.50	132M	R901397660	A3	R901397712	A3
A10VSO71DFLR	98	48	11.00	160M	R901397661	A3	R901397714	A3
		72	15.00	160L	R901397662	A3	R901397715	A3
A10VSO100DFLR	138	91	18.50	180M	R901397663	A3	R901397716	A3
		61	18.50	180M	R901397664	A3	R901397717	A3
		73	22.00	180L	R901397665	A3	R901397718	A3

¹⁾ MKZ = material mark

A2 = preferred delivery program

A3 = Standard delivery range dimensions see page 11-16

10/22 ABAPG; ABHPG | Motor-pump groups

Standard range ABAPG-A10VSO designed for pump manifold block ¹⁾

Frequency	50 Hz 1450 min ⁻¹		50 Hz 1450 min ⁻¹	Electric motor Frame size	ABAPG material no. (motor B35) for PSBD			
Pump	q _V max in l/min	p _{max} in bar	Power in kW		HOY	MKZ ²⁾	SIE	MKZ ²⁾
A10VSO18DFR1	25	98	5.50	132S	R901397719	A3	R901397793	A3
		137	7.50	132M	R901397720	A3	R901397794	A3
		229	11.00	160M	R901397721	A3	R901397795	A3
		280	15.00	160L	R901397722	A3	R901397796	A3
A10VSO28DFR1	39	66	5.50	132S	R901397723	A3	R901397797	A3
		93	7.50	132M	R901397724	A3	R901397798	A3
		150	11.00	160M	R901397725	A3	R901397799	A3
		212	15.00	160L	R901397726	A3	R901397800	A3
		263	18.50	180M	R901397727	A3	R901397801	A3
		280	22.00	180L	R901397728	A3	R901397802	A3
A10VSO45DFR1	62	48	7.50	132M	R901397729	A3	R901397803	A3
		79	11.00	160M	R901397730	A3	R901397804	A3
		117	15.00	160L	R901397732	A3	R901397805	A3
		147	18.50	180M	R901397733	A3	R901397806	A3
		182	22.00	180L	R901397734	A3	R901397807	A3
		262	30.00	200L	R901397735	A3	R901397808	A3
A10VSO71DFR1	98	280	37.00	225S	R901397736	A3	R901397809	A3
		48	11.00	160M	R901397737	A3	R901397810	A3
		72	15.00	160L	R901397760	A3	R901397811	A3
		91	18.50	180M	R901397762	A3	R901397813	A3
		109	22.00	180L	R901397763	A3	R901397814	A3
		156	30.00	200L	R901397764	A3	R901397815	A3
		197	37.00	225S	R901397765	A3	R901397816	A3
A10VSO100DFR1	138	244	45.00	225M	R901397766	A3	R901397817	A3
		280	55.00	250M	R901397768	A3	R901397818	A3
		61	18.50	180M	R901397769	A3	R901397819	A3
		73	22.00	180L	R901397770	A3	R901397821	A3
		107	30.00	200L	R901397772	A3	R901397822	A3
		136	37.00	225S	R901397773	A3	R901397823	A3
A10VSO140DFR1	193	170	45.00	225M	R901397774	A3	R901397824	A3
		208	55.00	250M	R901397775	A3	R901397825	A3
		280	75.00	280S	R901397776	A3	R901397826	A3
		53	22.00	180L	R901397778	A3	R901397827	A3
		74	30.00	200L	R901397779	A3	R901397828	A3
		94	37.00	225S	R901397780	A3	R901397829	A3
		119	45.00	225M	R901397781	A3	R901397830	A3
		146	55.00	250M	R901397782	A3	R901397831	A3
A10VSO45DFLR	62	205	75.00	280S	R901397783	A3	R901397832	A3
		246	90.00	280M	R901397785	A3	R901397834	A3
		280	110.00	315S	R901397786	A3	R901397835	A3
A10VSO71DFLR	98	48	11.00	160M	R901397787	A3	R901397837	A3
A10VSO100DFLR	138	72	15.00	160L	R901397788	A3	R901397838	A3
		91	18.50	180M	R901397789	A3	R901397839	A3
		119	45.00	225M	R901397790	A3	R901397840	A3
A10VSO140DFLR	193	146	55.00	250M	R901397791	A3	R901397842	A3
		170	45.00	225M	R901397792	A3	R901397843	A3

¹⁾ Pump manifold block must be ordered separately.

²⁾ MKZ = material mark

A2 = preferred delivery program

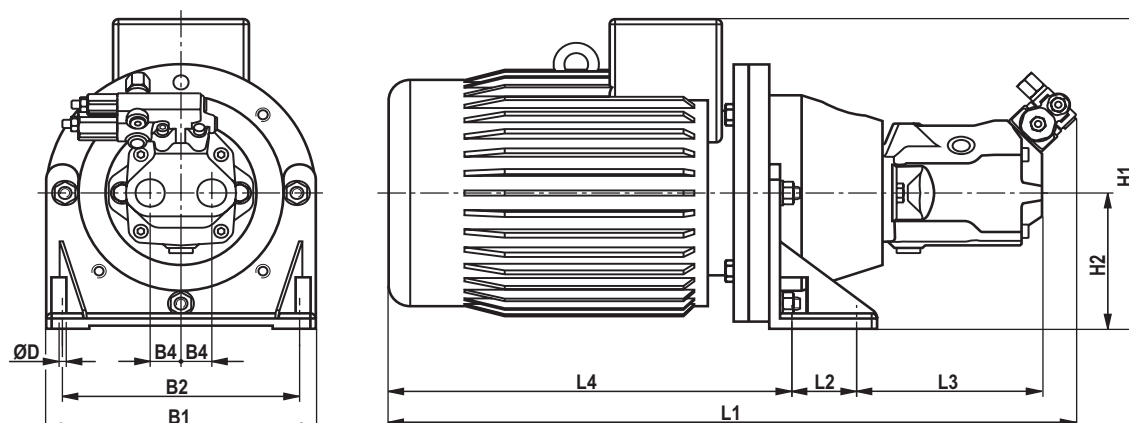
A3 = Standard delivery range dimensions see page 11 ... 16

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Dimensions: Type ABHPG A10VSO 10 HOYER-MOTORS (dimensions in mm)



ABHPG with motor supplier HOYER-MOTORS

Pump	E-motor	Dimensions										Weight in kg
	kW / frame size	B1	B2	B4	ØD	H1	H2	L1	L2	L3	L4	
A10VSO 10	3.0 / 100L	250	220	28.6	14.0	279	132	650	60	172	386	44
	4.0 / 112M	250	220	28.6	14.0	300	132	674	60	172	410	52
	5.5 / 132S	300	260	28.6	14.0	347	160	707	80	172	423	66
	7.5 / 132M	300	260	28.6	14.0	347	160	745	80	172	481	74

ABHPG with motor supplier SIEMENS

Pump	E-motor	Dimensions										Weight in kg
	kW / frame size	B1	B2	B4	ØD	H1	H2	L1	L2	L3	L4	
A10VSO 10	3.0 / 100L	250	220	28.6	14.0	298	132	674.5	60	172	410.5	44
	4.0 / 112M	250	220	28.6	14.0	309	132	658	60	172	394	48
	5.5 / 132S	300	260	28.6	14.0	362	160	761	80	172	495	80
	7.5 / 132M	300	260	28.6	14.0	362	160	761	80	172	495	80

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

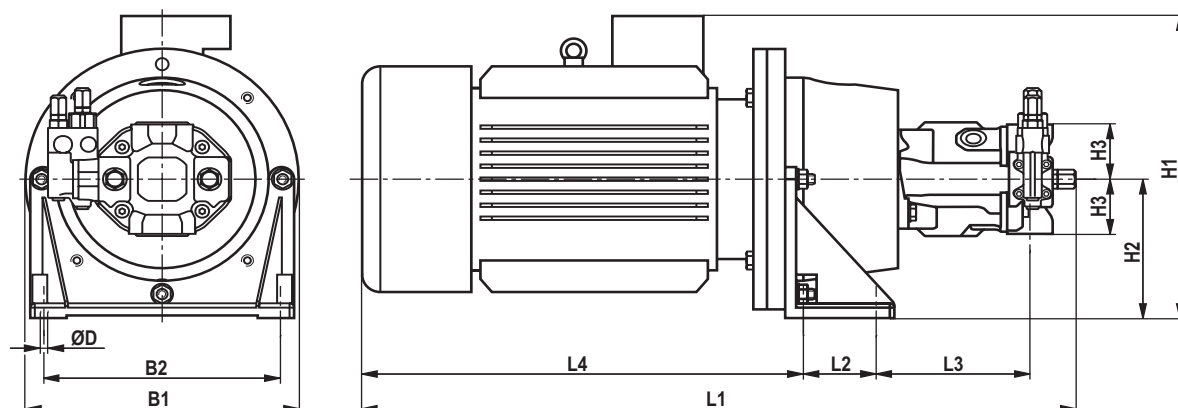
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12/22 **ABAPG; ABHPG** | Motor-pump groups

Dimensions: Type ABHPG A10VSO 18 ... 45 HOYER-MOTORS, SIEMENS
(dimensions in mm)



ABHPG with motor supplier HOYER-MOTORS

Pump	E-motor	Dimensions										Weight in kg
	kW / frame size	B1	B2	ØD	H1	H2	H3	L1	L2	L3	L4	
A10VSO 18	3.0 / 100L	250	220	14.0	279	132	63	665	60	169	386	48
	4.0 / 112M	250	220	14.0	300	132	63	689	60	169	410	56
	5.5 / 132S	300	260	14.0	347	160	63	722	80	169	423	67
	7.5 / 132M	300	260	14.0	347	160	63	760	80	169	461	75
A10VSO 28	5.5 / 132S	300	260	14.0	347	160	80	744	80	199	423	78
	7.5 / 132M	300	260	14.0	347	160	80	782	80	199	461	86
A10VSO 45	7.5 / 132M	300	260	14.0	347	160	90	800	80	219	461	90

ABHPG with motor supplier SIEMENS

Pump	E-motor	Dimensions										Weight in kg
	kW / frame size	B1	B2	ØD	H1	H2	H3	L1	L2	L3	L4	
A10VSO 18	3.0 / 100L	250	220	14.0	298	132	63	689.5	60	169	410.5	48
	4.0 / 112M	250	220	14.0	309	132	63	673	60	169	394	52
	5.5 / 132S	300	260	14.0	362	160	63	774	80	169	475	84
	7.5 / 132M	300	260	14.0	362	160	63	774	80	169	475	84
A10VSO 28	5.5 / 132S	300	260	14.0	362	160	80	796	80	199	475	92
	7.5 / 132M	300	260	14.0	362	160	80	796	80	199	475	92
A10VSO 45	7.5 / 132M	300	260	14.0	362	160	90	814	80	219	475	97

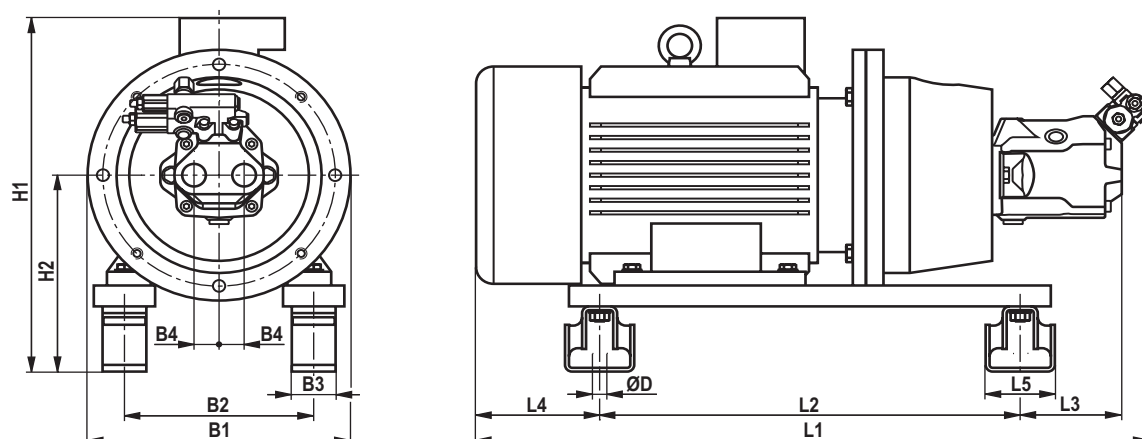
2D-drawing and 3D-model (STEP) available at <http://www.boschrexroth.com/ics/abapg>

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Dimensions: Type ABAPG A10VSO 10 HOYER-MOTORS, SIEMENS
(dimensions in mm)



ABAPG with motor supplier HOYER-MOTORS

Pump	E-motor	Dimensions												Weight in kg
	kW / frame size	B1	B2	B3	B4	ØD	H1	H2	L1	L2	L3	L4	L5	
A10VSO 10	5.5 / 132S	300	216	50	28.6	13.5	423	235	724	480	116	96	79	82
	7.5 / 132M	300	216	50	28.6	13.5	423	235	762	480	116	134	79	90

ABAPG with motor supplier SIEMENS

Pump	E-motor	Dimensions												Weight in kg
	kW / frame size	B1	B2	B3	B4	ØD	H1	H2	L1	L2	L3	L4	L5	
A10VSO 10	5.5 / 132S	300	216	50	28.6	13.5	437	235	759	480	116	131	79	96
	7.5 / 132M	300	216	50	28.6	13.5	437	235	759	480	116	131	79	96

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

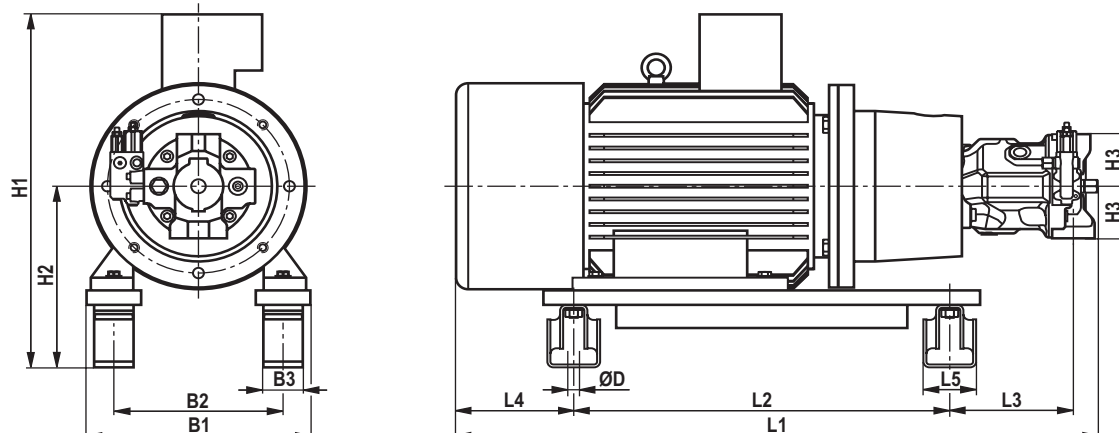
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14/22 ABAPG; ABHPG | Motor-pump groups

Dimensions: Type ABAPG A10VSO 18 ... 140 HOYER-MOTORS to 55 kW (dimensions in mm)



ABAPG with motor supplier HOYER-MOTORS

Pump	E-motor	Dimensions												Weight in kg
	kW / frame size	B1	B2	B3	ØD	H1	H2	H3	L1	L2	L3	L4	L5	
A10VSO 18	5.5 / 132S	300	216	50	13.5	422	235	63	722	480	113	79	79	83
	7.5 / 132M	300	216	50	13.5	422	235	63	760	480	113	117	79	91
	11.0 / 160M	350	254	50	13.5	539	263	63	883	580	151	102	79	185
	15.0 / 160L	350	254	50	13.5	539	263	63	927	580	151	146	79	195
A10VSO 28	5.5 / 132S	300	216	50	13.5	422	235	80	744	480	143	79	79	94
	7.5 / 132M	300	216	50	13.5	422	235	80	782	480	143	117	79	102
	11.0 / 160M	350	254	50	13.5	539	263	80	894	580	170	102	79	196
	15.0 / 160L	350	254	50	13.5	539	263	80	938	580	170	146	79	205
	18.5 / 180M	269	279	65	17.5	605	313	80	985.5	620	184	139.5	87	251
	22.0 / 180L	369	279	65	17.5	605	313	80	1023.5	620	184	177.5	87	266
A10VSO 45	7.5 / 132M	300	216	50	13.5	422	235	90	800	480	163	117	79	107
	11.0 / 160M	350	254	50	13.5	539	263	90	912	580	190	102	79	200
	15.0 / 160L	350	254	50	13.5	539	263	90	956	580	190	146	79	210
	18.5 / 180M	369	279	65	17.5	605	313	90	1003.5	620	204	139.5	87	258
	22.0 / 180L	369	279	65	17.5	605	313	90	1041.5	620	204	177.5	87	273
	30.0 / 200L	418	318	65	17.5	651	338	90	1087	700	171	176	87	362
	37.0 / 225S	456	356	80	17.5	721	385	90	1140.5	800	127	173.5	100	431
A10VSO 71	11.0 / 160M	350	254	50	13.5	539	263	104	961	580	239	102	79	221
	15.0 / 160L	350	254	65	13.5	539	293	104	1005	580	239	146	87	231
	18.5 / 180M	369	279	65	17.5	605	313	104	1036.5	620	237	139.5	87	275
	22.0 / 180L	369	279	65	17.5	605	313	104	1074.5	620	237	177.5	87	290
	30.0 / 200L	418	318	80	17.5	651	360	104	1120	700	204	176	100	384
	37.0 / 225S	456	356	80	17.5	721	385	104	1173.5	800	160	173.5	100	436
	45.0 / 225M	456	356	80	17.5	721	385	104	1198.5	800	160	198.5	100	466
	55.0 / 250M	550	406	80	17.5	794	420	104	1274	850	192	192	100	585
A10VSO100	18.5 / 180M	369	279	65	17.5	605	313	100	1108.5	620	295	139.5	87	295
	22.0 / 180L	369	279	65	17.5	605	313	100	1146.5	620	295	177.5	87	310
	30.0 / 200L	418	318	80	17.5	651	360	100	1216	700	286	176	100	404
	37.0 / 225S	456	356	80	17.5	721	385	100	1245.5	800	218	173.5	100	456
	45.0 / 225M	456	356	80	17.5	721	385	100	1270.5	800	218	198.5	100	486
A10VSO140	55.0 / 250M	550	406	80	17.5	794	420	100	1346	850	250	192	100	605
	22.0 / 180L	369	279	65	17.5	605	313	110	1178.5	620	319	177.5	87	311
	30.0 / 200L	418	318	80	17.5	651	360	110	1224	700	286	176	100	403
	37.0 / 225S	456	356	80	17.5	721	385	110	1281.5	800	246	173.5	100	454
	45.0 / 225M	456	356	80	17.5	721	385	110	1306.5	800	246	198.5	100	484
	55.0 / 250M	550	406	80	17.5	794	420	110	1371	850	267	192	100	597

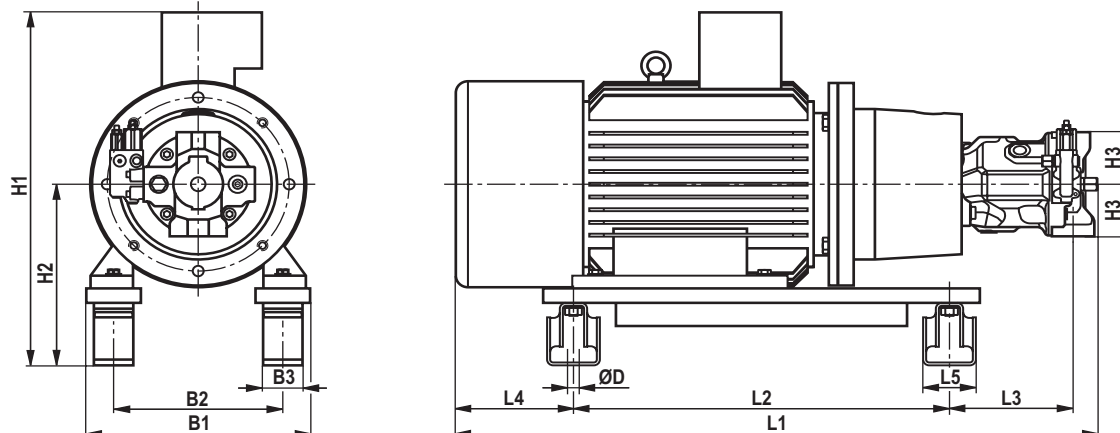
2D-drawing and 3D-model (STEP) available at <http://www.boschrexroth.com/ics/abapg>

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Dimensions: Type ABAPG A10VSO 18 ... 140 SIEMENS to 55 kW
(dimensions in mm)



ABAPG with motor supplier SIEMENS

Pump	E-motor	Dimensions												Weight in kg
	kW / frame size	B1	B2	B3	ØD	H1	H2	H3	L1	L2	L3	L4	L5	
A10VSO 18	5.5 / 132S	300	216	50	13.5	437	235	63	774	480	113	131	79	97
	7.5 / 132M	300	216	50	13.5	437	235	63	774	480	113	131	79	97
	11.0 / 160M	350	254	50	13.5	500	263	63	877	580	151	106	79	127
	15.0 / 160L	350	254	50	13.5	500	263	63	937	580	151	156	79	144
A10VSO 28	5.5 / 132S	300	216	50	13.5	437	235	80	796	480	143	131	79	108
	7.5 / 132M	300	216	50	13.5	437	235	80	796	480	143	131	79	108
	11.0 / 160M	350	254	50	13.5	500	263	80	888	580	170	106	79	138
	15.0 / 160L	350	254	50	13.5	500	263	80	948	580	170	156	79	154
	18.5 / 180M	269	279	65	17.5	575	313	80	968	620	184	122	87	226
	22.0 / 180L	369	279	65	17.5	575	313	80	998	620	184	152	87	231
A10VSO 45	7.5 / 132M	300	216	50	13.5	437	235	90	814	480	163	131	79	113
	11.0 / 160M	350	254	50	13.5	500	263	90	906	580	190	106	79	142
	15.0 / 160L	350	254	50	13.5	500	263	90	966	580	190	156	79	159
	18.5 / 180M	369	279	65	17.5	575	313	90	986	620	204	122	87	233
	22.0 / 180L	369	279	65	17.5	575	313	90	1016	620	204	152	87	238
	30.0 / 200L	418	318	65	17.5	638	338	90	1070.5	700	171	159.5	87	327
A10VSO 71	37.0 / 225S	456	356	80	17.5	713	385	90	1081	800	127	114	100	401
	11.0 / 160M	350	254	50	13.5	500	263	104	955	580	239	106	79	163
	15.0 / 160L	350	254	65	13.5	530	293	104	1015	580	239	156	87	180
	18.5 / 180M	369	279	65	17.5	575	313	104	1019	620	237	122	87	250
	22.0 / 180L	369	279	65	17.5	575	313	104	1049	620	237	152	87	255
	30.0 / 200L	418	318	80	17.5	660	360	104	1103.5	700	204	159.5	100	349
	37.0 / 225S	456	356	80	17.5	713	385	104	1114	800	160	114	100	406
	45.0 / 225M	456	356	80	17.5	713	385	104	1199	800	160	199	100	441
A10VSO100	55.0 / 250M	550	406	80	17.5	812	420	104	1252	850	192	170	100	584
	18.5 / 180M	369	279	65	17.5	575	313	100	1091	620	295	122	87	270
	22.0 / 180L	369	279	65	17.5	575	313	100	1121	620	295	152	87	275
	30.0 / 200L	418	318	80	17.5	660	360	100	1199.5	700	286	159.5	100	369
	37.0 / 225S	456	356	80	17.5	713	385	100	1186	800	218	114	100	426
	45.0 / 225M	456	356	80	17.5	713	385	100	1271	800	218	199	100	461
A10VSO140	55.0 / 250M	550	406	80	17.5	812	420	100	1324	850	250	170	100	604
	22.0 / 180L	369	279	65	17.5	575	313	110	1153	620	319	152	87	276
	30.0 / 200L	418	318	80	17.5	660	360	110	1207.5	700	286	159.5	100	368
	37.0 / 225S	456	356	80	17.5	713	385	110	1222	800	246	114	100	424
	45.0 / 225M	456	356	80	17.5	713	385	110	1307	800	246	199	100	459
	55.0 / 250M	550	406	80	17.5	812	420	110	1349	850	267	170	100	596

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

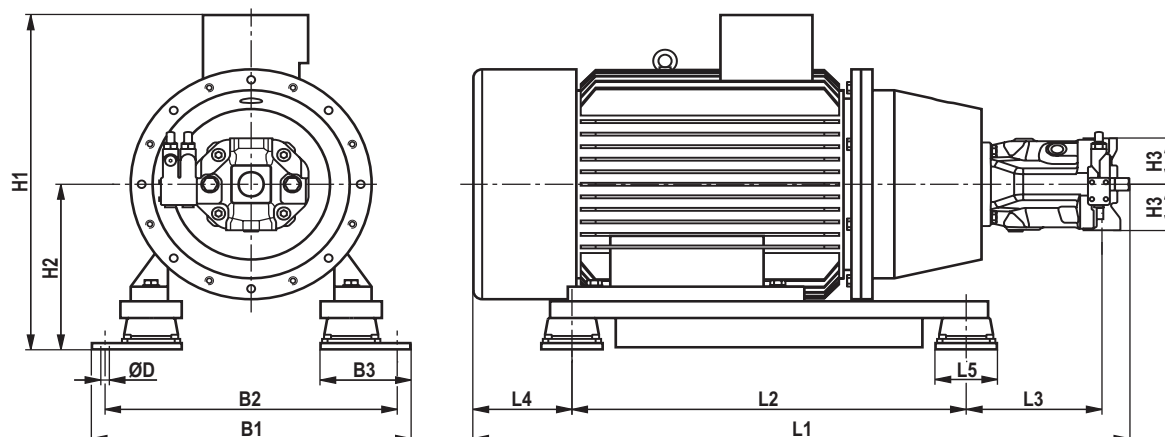
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16/22 ABAPG; ABHPG | Motor-pump groups

Dimensions: Type ABAPG A10VSO 100 ... 140 HOYER-MOTORS, SIEMENS (dimensions in mm)



ABAPG with motor supplier HOYER-MOTORS

Pump	E-motor	Dimensions											Weight in kg	
	kW / frame size	B1	B2	B3	ØD	H1	H2	H3	L1	L2	L3	L4		L5
A10VSO100	75.0 / 280S	727	667	205	23.0	798	395	100	1433	900	300	186	133	760
	75.0 / 280S	727	667	205	23.0	798	395	110	1451	900	310	186	133	736
A10VSO140	90.0 / 280M	727	667	205	23.0	798	395	110	1502	900	310	235	135	836
	110.0 / 315S	828	768	250	23.0	1009	462	110	1700	1.100	216	332	170	1214

ABAPG with motor supplier SIEMENS

Pump	E-motor	Dimensions											Weight in kg	
	kW / frame size	B1	B2	B3	ØD	H1	H2	H3	L1	L2	L3	L4		L5
A10VSO100	75.0 / 280S	727	667	205	23.0	827	395	100	1415	900	300	160	141	792
	75.0 / 280S	727	667	205	23.0	827	395	110	1433	900	310	160	141	768
A10VSO140	90.0 / 280M	727	667	205	23.0	827	395	110	1543	900	310	270	141	868
	110.0 / 315S	828	768	250	23.0	962	462	110	1559	1,100	216	201	160	1016

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

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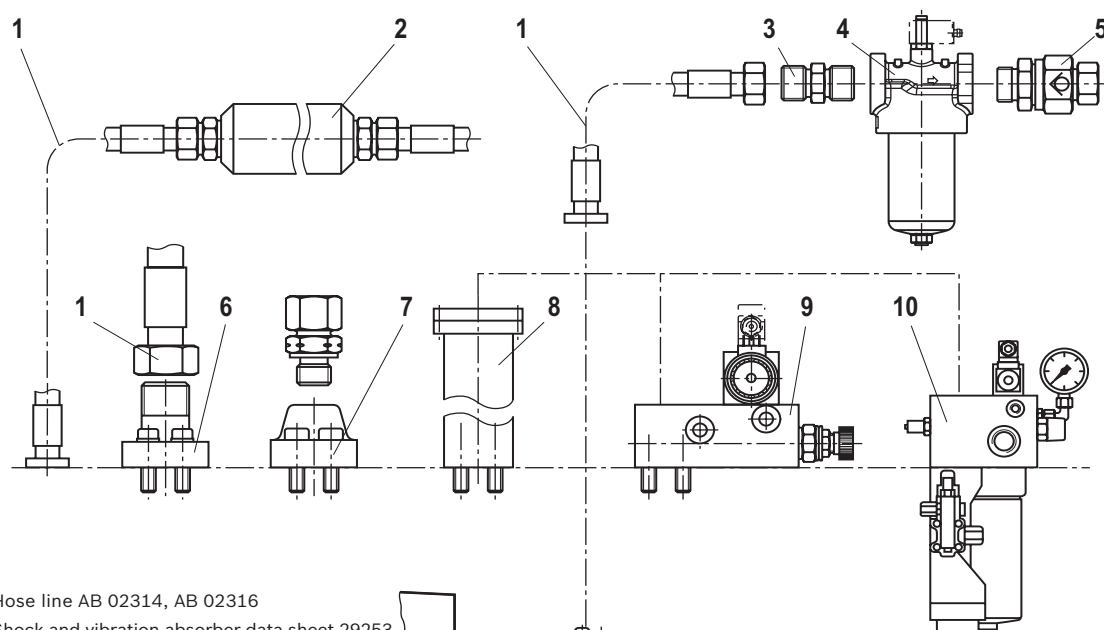
Pressure line connections

Pump type	Line connections			
	Pressure connection P(B)	Suction port S	Leakage oil connection L / L1	Pilot oil port X
A10VSO 10	DIN 3852 – M27x2	DIN 3852 – M27x2	DIN 3852 – M16x1.5	DIN 3852 – M14x1.5
A10VSO 18	DIN/ISO 6162-1 3/4"	DIN/ISO 6162-1 1"	DIN 3852 – M16x1.5	DIN 3852 – M14x1.5
A10VSO 28	DIN/ISO 6162-1 3/4"	DIN/ISO 6162-1 1 1/4"	DIN 3852 – M18x1.5	DIN 3852 – M14x1.5
A10VSO 45	DIN/ISO 6162-1 1"	DIN/ISO 6162-1 1 1/2"	DIN 3852 – M22x1.5	DIN 3852 – M14x1.5
A10VSO 71	DIN/ISO 6162-1 1"	DIN/ISO 6162-1 2"	DIN 3852 – M22x1.5	DIN 3852 – M14x1.5
A10VSO100	DIN/ISO 6162-2 1 1/4"	DIN/ISO 6162-1 2 1/2"	DIN 3852 – M27x2	DIN 3852 – M14x1.5
A10VSO140	DIN/ISO 6162-2 1 1/4"	DIN/ISO 6162-1 2 1/2"	DIN 3852 – M27x2	DIN 3852 – M14x1.5

Standard pressure SAE flange figure with metric mounting screws

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 AB 02012
- 4 In-line filter data sheet 51421; 51422
- 5 Check valve AB 02112
- 6 SAE flange AB 02214
- 7 SAE flange high pressure AB 02213
- 8 Shock and vibration absorber data sheet 50142
- 9 Pump shut-off block data sheet 25891
- 10 Pump control block with attachment filter AB 05101-002

Items 1 to 10 as optional accessories upon request

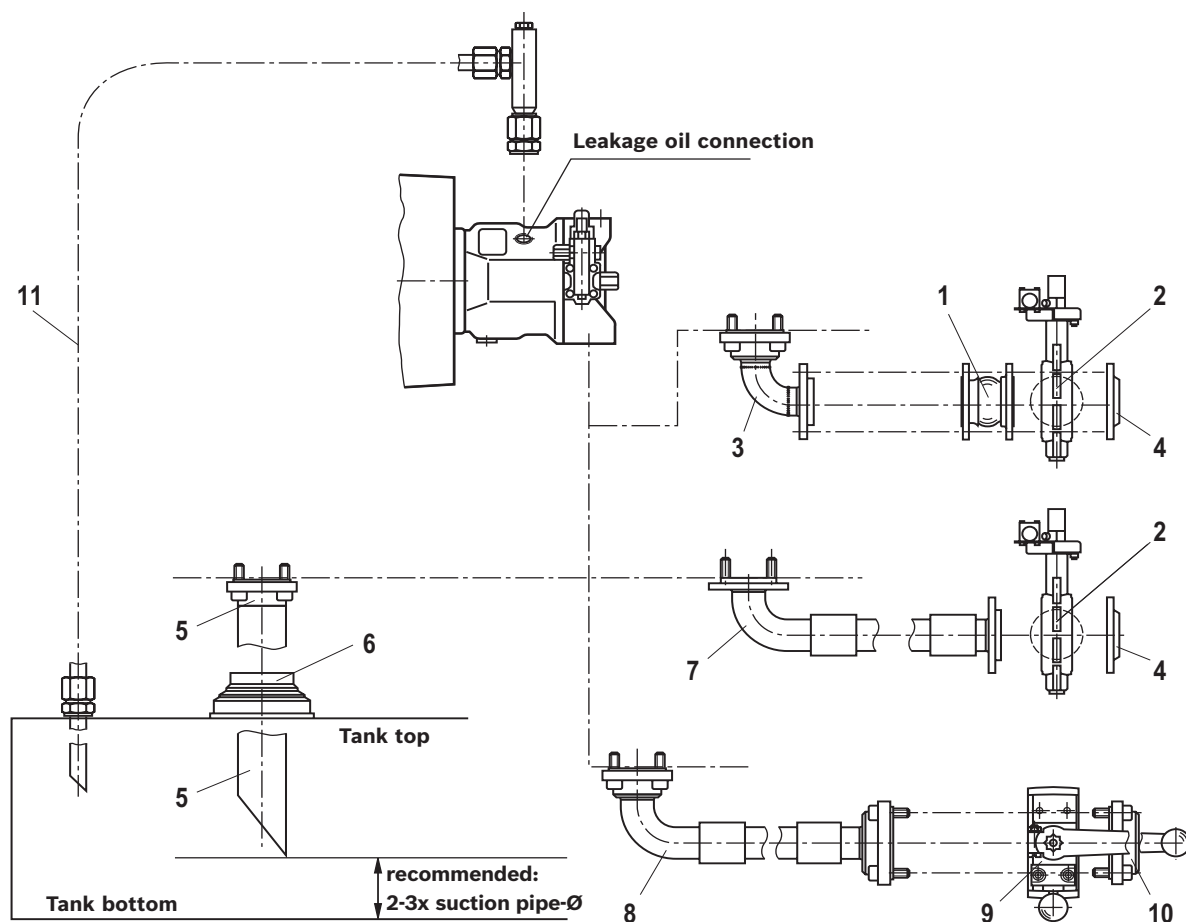
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18/22 **ABAPG; ABHPG** | Motor-pump groups

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

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 module (see Fig.). ► Modules are never to be 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.



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20/22 **ABAPG; ABHPG** | Motor-pump groups

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.

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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.

22/22 **ABAPG; ABHPG** | Motor-pump groups

Necessary and amending documentation

▶ Axial piston-variable displacement pump A4VSO, A10VO, A10VSO, ...	Operating instructions	92703-01-B
▶ Axial piston-variable displacement pump A10VO	Data sheet	92703
▶ Axial piston-variable displacement pump A10VSO	Data sheet	92711
▶ 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.com in the area of Training/Media/Media Directory or from your local distributor.

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