

# Motor-pump groups

## Type ABAPG and ABHPG

**RE 51181**

Edition: 2015-02



- ▶ With pump type: PV7
  - Maximum pressure up to 160 bar
  - Max. volume flow: Up to 162.5 l/min
- ▶ Electric motor frame size 90S to 250M  
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 fastened 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 vane pump PV7 (variable displacement pump)

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## Ordering code

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16						
	-	V7	-		M		0	-	16	/			4	5	3	3	/	S	E		HOY

## Assembly

01	With motor design B35	ABAPG
	With motor design B5	ABHPG

## Pump type

02	Vane pump PV7 according to data sheet 10515 and 10522	V7
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## Frame size/size

03	10 ... 118 cm <sup>3</sup> per rotation	06-10 ... 100-118
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## Seal material (according to DIN ISO 1629)

04	NBR	M
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## Controller type

05	Direct operated	A
	Pressure controller	C

## Controller option

06	Standard	0
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## Zero stroke pressure range

07	160 bar	16
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## Motor power

08	1.1 kW... 55.0 kW	1.1 ... 55.0
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## Rated voltage

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

## Number of pole pairs

10	4-pole	4
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## Rated frequency

11	50 Hz	5
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## Efficiency class

12	IE3 according to IEC 60034-30	3
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## Motor protection

13	PTC resistor with 3 temperature sensors	3
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## Pump carrier design

14	Rigid pump carrier AB 03337	S
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## Damping bearing design

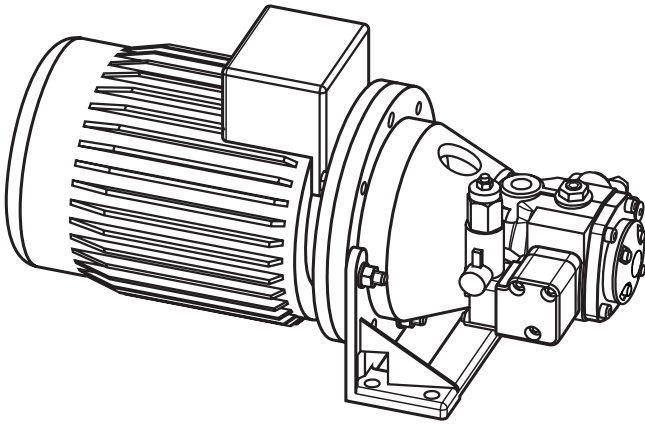
15	Elastic damping bearing (only ABAPG)	E
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## Motor supplier

16	Hoyer Motors (preferred)	HOY
	Siemens	SIE

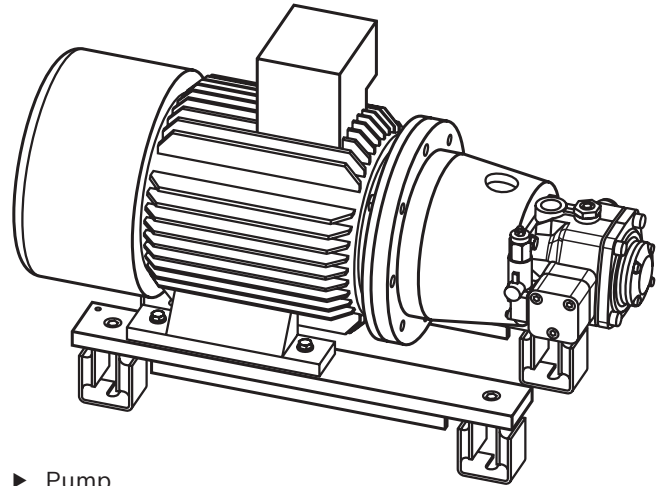
## Order example:

ABAPG-V7-63-71MA0-16/30.0CB4523/SE HOY

**Set-up of the motor-pump group****ABHPG design**

- ▶ Pump
- ▶ Electric motor
- ▶ Pump carrier (rigid)
- ▶ 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 (rigid)
- ▶ 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](http://www.boschrexroth.com/ics/abapg)

## The motor-pump group configurator at [www.boschrexroth.com/ics/abapg](http://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

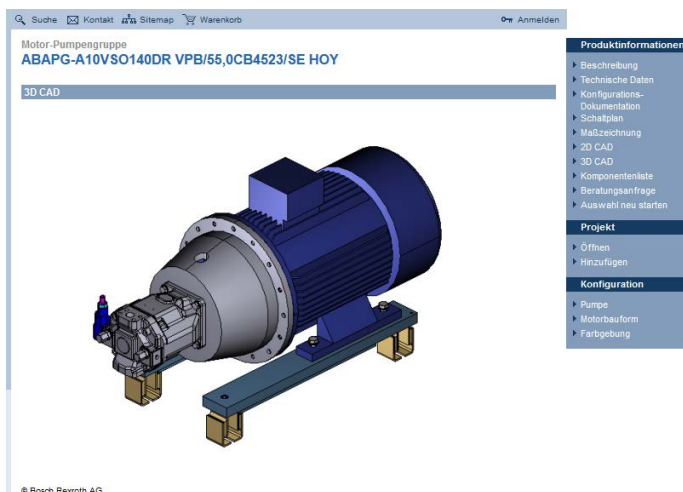
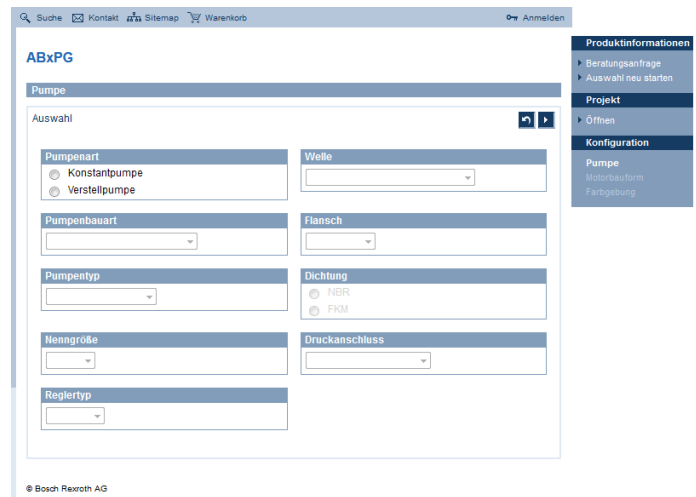
provides 3D data that can be immediately applied to applications. This saves time.

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**

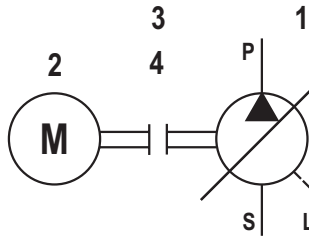
(For applications outside these parameters, please consult us!)

Line connections	see Line connections table on page 13		
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. ▶ 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	PV7 frame size 6 according to data sheet 10522 PV7 frame size 10 ... 100 according to data sheet 10515		
▶ Direction of rotation	Clockwise		
Operating pressure, absolute			
▶ Input	$p_{\min\text{-max}}$	bar	0.8 ... 2.5
▶ Output	$p_{\text{nom}}$	bar	up to 160 (depending on the frame size)
▶ Leakage port	$p_{\text{max}}$	bar	2
Hydraulic fluid temperature range, observe	$\vartheta$	°C	-10 ... +70
viscosity range			
▶ $T_{\text{optimal}}$ with HLP 46 (DIN 51524)	$\vartheta$	°C	+45 ... +55
▶ $T_{\text{max}}$ in continuous operation	$\vartheta$	°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 pressure flow according to ISO 4406 (c) <sup>1)</sup> Minimum purity class 19/16/13 with NG10 ... 25 and purity class 20/18/15 with NG14 ... NG150		
Viscosity range	$\vartheta$	mm <sup>2</sup> /s	16 ... 160 optimal Max. 200 in case of start-up in zero stroke operation. Max. 800 in case of start-up in delivery operation. (See data sheet 10515, 10522)
Electric motor	▶ Motor type		
	▶ Efficiency class		
	▶ Number of pole pairs		
	▶ Voltage according to IEC 38	$U$	V
	▶ Speed	$n$	min <sup>-1</sup>
	▶ 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).		

<sup>1)</sup> 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.

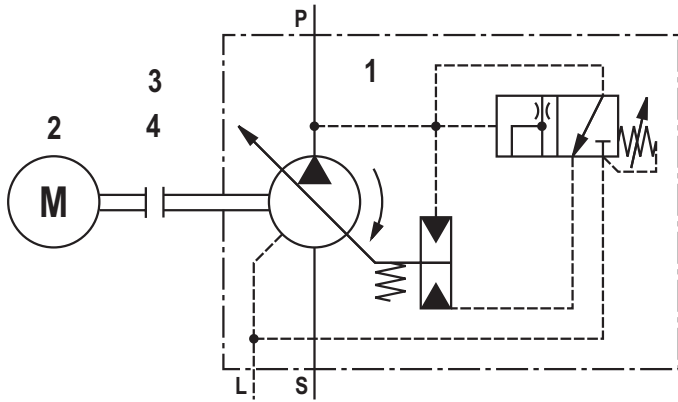
## Circuit diagrams

### Vane pump direct operated (frame size 6)



- 1 Vane pump PV7
- 2 Electric motor
- 3 Pump carrier (rigid)
- 4 Coupling

### Vane pump pilot operated (frame size 10-100)



- 1 Vane pump PV7
- 2 Electric motor
- 3 Pump carrier (rigid)
- 4 Coupling

## Standard program incl. preferred types ABHPG-PV7

Frequency	50 Hz 1450 min <sup>-1</sup>		Electric motor size	ABHPG material no. (Motor B5)				
	$q_{V \max}$ in l/min	$p_{\max}$ in bar		Power in kW	HOY	MKZ <sup>1)</sup>	SIE	MKZ <sup>1)</sup>
PV7-1X/6- 10RA01MA0-10	13.8	38	1.10	90S	R901397390	A3	R901397415	A3
		52	1.50	90L	R901397391	A3	R901397416	A3
		79	2.20	100L	R901397392	A3	R901397417	A3
		100	3.00	100L	R901397393	A3	R901397418	A3
PV7-1X/10- 14RE01MC0-16	19.3	36	1.50	90L	R901397394	A3	R901397419	A3
		53	2.20	100L	R901397395	A3	R901397420	A3
		74	3.00	100L	R901397396	A2	R901397421	A3
		100	4.00	112M	R901397397	A2	R901397422	A3
		137	5.50	132S	R901397398	A3	R901397423	A3
		160	7.50	132M	R901397399	A3	R901397424	A3
PV7-1X/16- 20RE01MC0-16	27.6	30	2.20	100L	R901397401	A3	R901397425	A3
		44	3.00	100L	R901397402	A3	R901397426	A3
		59	4.00	112M	R901397403	A3	R901397427	A3
		85	5.50	132S	R901397404	A2	R901397430	A3
		118	7.50	132M	R901397405	A3	R901397431	A3
PV7-1X/25- 30RE01MC0-16	41.3	28	3.00	100L	R901397406	A3	R901397432	A3
		40	4.00	112M	R901397407	A3	R901397433	A3
		59	5.50	132S	R901397408	A2	R901397434	A3
		83	7.50	132M	R901397409	A2	R901397435	A3
PV7-1X/40- 45RE37MC0-16	62.0	28	4.00	112M	R901397410	A3	R901397436	A3
		39	5.50	132S	R901397411	A2	R901397437	A3
		55	7.50	132M	R901397412	A3	R901397438	A3
PV7-1X/63- 71RE07MC0-16	97.8	25	5.50	132S	R901397413	A3	R901397439	A3
		33	7.50	132M	R901397414	A3	R901397440	A3

<sup>1)</sup> MKZ = material mark

A2 = preferred delivery range

A3 = Standard delivery range dimensions see page 9... 12

## Standard program incl. preferred types ABAPG-PV7

Frequency	50 Hz		50 Hz	Electric	ABAPG material no.			
	1450 min <sup>-1</sup>		1450 min <sup>-1</sup>		motor size	(Motor B5)		
Pump	$q_{V \max}$ in l/min	$p_{\max}$ in bar	Power in kW		HOY	MKZ <sup>1)</sup>	SIE	MKZ <sup>1)</sup>
PV7-1X/10-14RE01MC0-16	19.3	137	5.50	132S	R901397844	A3	R901397920	A3
		160	7.50	132M	R901397846	A3	R901397921	A3
PV7-1X/16-20RE01MC0-16	27.6	85	5.50	132S	R901397847	A2	R901397922	A3
		118	7.50	132M	R901397848	A3	R901397923	A3
		160	11.00	160M	R901397849	A3	R901397924	A3
PV7-1X/25-30RE01MC0-16	41.3	59	5.50	132S	R901397850	A2	R901397925	A3
		83	7.50	132M	R901397852	A2	R901397926	A3
		128	11.00	160M	R901397853	A3	R901397927	A3
		160	15.00	160L	R901397854	A3	R901397928	A3
PV7-1X/40-45RE37MC0-16	62.0	39	5.50	132S	R901397855	A2	R901397929	A3
		55	7.50	132M	R901397856	A3	R901397930	A3
		79	11.00	160M	R901397858	A2	R901397931	A3
		110	15.00	160L	R901397859	A3	R901397932	A3
		136	18.50	180M	R901397860	A3	R901397933	A3
		160	22.00	180L	R901397862	A3	R901397934	A3
PV7-1X/63-71RE07MC0-16	97.8	25	5.50	132S	R901397863	A3	R901397935	A3
		33	7.50	132M	R901397864	A3	R901397936	A3
		50	11.00	160M	R901397865	A3	R901397937	A3
		70	15.00	160L	R901397907	A3	R901397938	A3
		86	18.50	180M	R901397908	A3	R901397939	A3
		104	22.00	180L	R901397909	A3	R901397940	A3
		144	30.00	200L	R901397910	A3	R901397941	A3
		160	37.00	225S	R901397911	A3	R901397942	A3
PV7-1X/100-118RE07MC0-16	162.5	30	11.00	160M	R901397912	A3	R901397943	A3
		43	15.00	160L	R901397913	A3	R901397944	A3
		54	18.50	180M	R901397914	A2	R901397945	A3
		65	22.00	180L	R901397915	A3	R901397946	A3
		89	30.00	200L	R901397916	A3	R901397947	A3
		110	37.00	225S	R901397917	A3	R901397948	A3
		137	45.00	225M	R901397918	A3	R901397949	A3
		160	55.00	250M	R901397919	A3	R901397950	A3

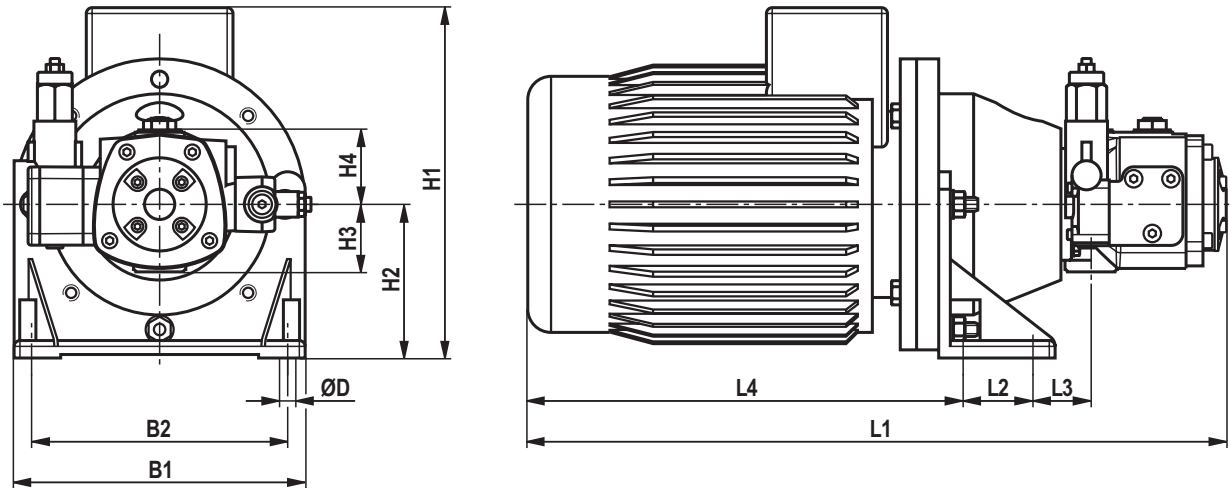
<sup>1)</sup> MKZ = material mark

A2 = preferred delivery range

A3 = Standard delivery range dimensions see page 9... 12

### Dimensions: Type ABHPG-V7 (motor supplier HOYER-MOTORS)

(dimensions in mm)

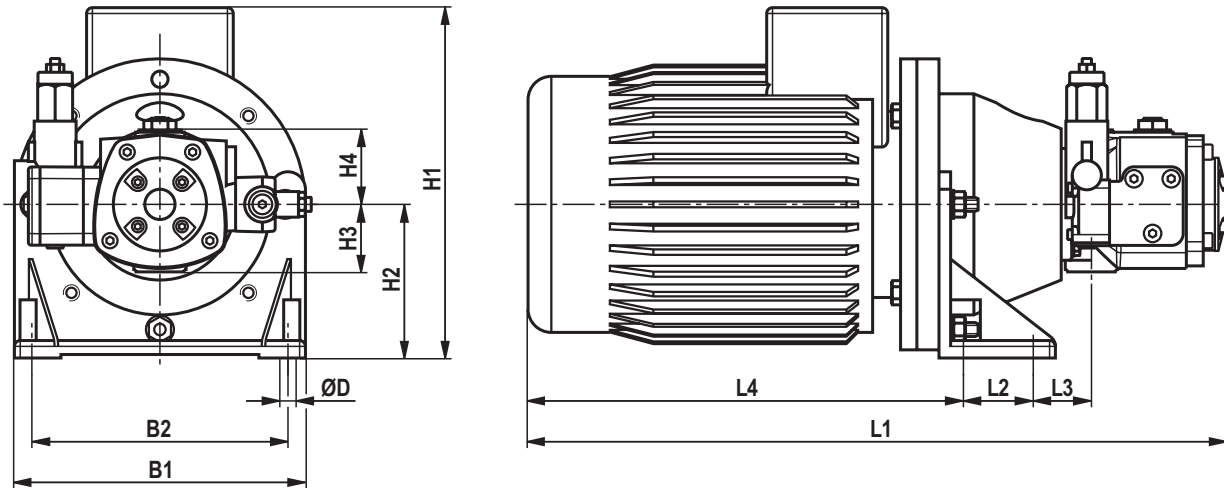


#### ABHPG-V7 with motor supplier HOYER-MOTORS

Pump	E-motor kW / frame size	Dimensions										Weight in kg	
		B1	B2	ØD	H1	H2	H3	H4	L1	L2	L3		L4
PV7/6-10	1.1 / 90S	210	180	11	244	112	56.5	56.5	450	60	86.5	298	28
	1.5 / 90L	210	180	11	244	112	56.5	56.5	478	60	86.5	325	31
	2.2 / 100L	250	220	14	279	132	56.5	56.5	505	60	80.5	386	38
	3.0 / 100L	250	220	14	279	132	56.5	56.5	505	60	80.5	386	41
PV7/10-14	1.5 / 90L	210	180	11	244	112	58	64	485	60	88	325	35
	2.2 / 100L	250	220	14	279	132	58	64	512	60	82	386	44
	3.0 / 100L	250	220	14	279	132	58	64	512	60	82	386	47
	4.0 / 112M	250	220	14	300	132	58	64	567	60	82	410	55
	5.5 / 132S	300	260	14	347	160	58	64	573	80	82	423	70
PV7/16-20	7.5 / 132M	300	260	14	347	160	58	64	636	80	82	461	78
	2.2 / 100L	250	220	14	279	132	68	72	520	60	92	386	48
	3.0 / 100L	250	220	14	279	132	68	72	520	60	92	386	51
	4.0 / 112M	250	220	14	300	132	68	72	575	60	92	410	59
PV7/25-30	5.5 / 132S	300	260	14	347	160	68	72	592	80	103	423	73
	7.5 / 132M	300	260	14	347	160	68	72	655	80	103	461	81
	3.0 / 100L	250	220	14	279	132	92	80	528	60	116	386	54
	4.0 / 112M	250	220	14	300	132	92	80	583	60	116	410	62
PV7/40-45	5.5 / 132S	300	260	14	347	160	92	80	600	80	127	423	76
	7.5 / 132M	300	260	14	347	160	92	80	663	80	127	461	84
	4.0 / 112M	250	220	14	300	132	89	94	597	60	113	410	73
PV7/63-71	5.5 / 132S	300	260	14	347	160	89	94	627	80	137	423	87
	7.5 / 132M	300	260	14	347	160	89	94	690	80	137	461	95
	5.5 / 132S	300	260	14	347	160	105	100	633	80	153	423	90
	7.5 / 132M	300	260	14	347	160	105	100	696	80	153	461	98

### Dimensions: Type ABHPG-V7 (motor supplier SIEMENS)

(dimensions in mm)

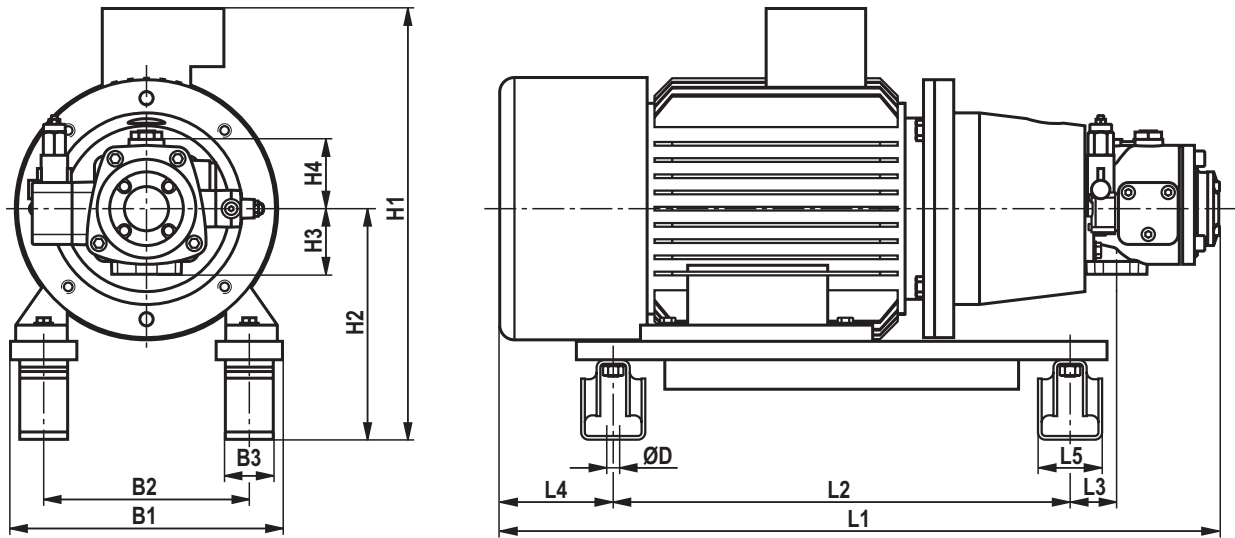


#### ABHPG-V7 with motor supplier SIEMENS

Pump	E-motor kW / frame size	Dimensions											Weight in kg
		B1	B2	ØD	H1	H2	H3	H4	L1	L2	L3	L4	
PV7/6-10	1.1 / 90S	210	180	11	240	112	56.5	56.5	438	60	86.5	291	28
	1.5 / 90L	210	180	11	232	112	56.5	56.5	519	60	86.5	372	25
	2.2 / 100L	250	220	14	269	132	56.5	56.5	547.5	60	80.5	406.5	41
	3.0 / 100L	250	220	14	268	132	56.5	56.5	576.5	60	80.5	435.5	41
PV7/10-14	1.5 / 90L	210	180	11	232	112	58	64	526	60	88	372	35
	2.2 / 100L	250	220	14	269	132	58	64	554.5	60	82	406.5	47
	3.0 / 100L	250	220	14	268	132	58	64	583.5	60	82	435.5	47
	4.0 / 112M	250	220	14	310	132	58	64	612	60	82	464	51
	5.5 / 132S	300	260	14	359	160	58	64	707	80	82	539	84
PV7/16-20	7.5 / 132M	300	260	14	359	160	58	64	707	80	82	539	84
	2.2 / 100L	250	220	14	269	132	68	72	562.5	60	92	406.5	51
	3.0 / 100L	250	220	14	268	132	68	72	591.5	60	92	435.5	51
	4.0 / 112M	250	220	14	310	132	68	72	620	60	92	464	55
	5.5 / 132S	300	260	14	359	160	68	72	726	80	103	539	87
PV7/25-30	7.5 / 132M	300	260	14	359	160	68	72	726	80	103	539	87
	3.0 / 100L	250	220	14	368	132	92	80	599.5	60	116	435.5	54
	4.0 / 112M	250	220	14	310	132	92	80	628	60	116	464	58
	5.5 / 132S	300	260	14	359	160	92	80	734	80	127	539	90
PV7/40-45	7.5 / 132M	300	260	14	359	160	92	80	734	80	127	539	90
	4.0 / 112M	250	220	14	310	132	89	94	642	60	113	464	69
	5.5 / 132S	300	260	14	359	160	89	94	761	80	137	539	101
PV7/63-71	7.5 / 132M	300	260	14	359	160	89	94	761	80	137	539	101
	5.5 / 132S	300	260	14	359	160	105	100	767	80	153	539	104
	7.5 / 132M	300	260	14	359	160	105	100	767	80	153	539	104

### Dimensions: Type ABAPG-V7 (motor supplier HOYER-MOTORS)

(dimensions in mm)

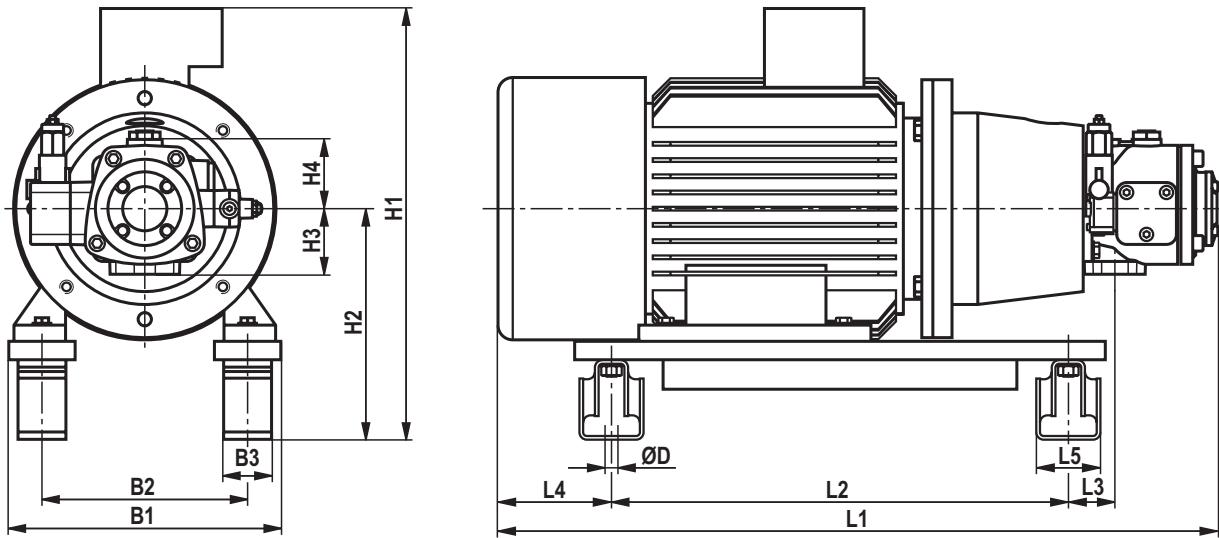


#### ABAPG-V7 with motor supplier HOYER-MOTORS

Pump	E-motor kW / frame size	Dimensions											Weight in kg		
		B1	B2	B3	ØD	H1	H2	H3	H4	L1	L2	L3		L4	L5
PV7/10-14	5.5 / 132S	300	216	50	13.5	422	235	58	64	658	480	-6	78	80	89
	7.5 / 132M	300	216	50	13.5	422	235	58	64	721	480	-6	141	55	97
PV7/16-20	5.5 / 132S	300	216	50	13.5	422	235	68	72	685	480	16	78	80	91
	7.5 / 132M	300	216	50	13.5	422	235	68	72	748	480	16	141	55	99
	11.0 / 160M	350	254	50	13.5	539	263	68	72	866	580	59	107	74	191
PV7/25-30	5.5 / 132S	300	216	50	13.5	422	235	92	80	697	480	17	78	80	95
	7.5 / 132M	300	216	50	13.5	422	235	92	80	760	480	17	141	55	103
	11.0 / 160M	350	254	50	13.5	539	263	92	80	878	580	60	107	74	195
	15.0 / 160L	350	254	50	13.5	539	263	92	80	937	580	60	162	63	205
PV7/40-45	5.5 / 132S	300	216	50	13.5	422	235	89	94	720	480	35	78	80	103
	7.5 / 132M	300	216	50	13.5	422	235	89	94	783	480	35	141	55	111
	11.0 / 160M	350	254	50	13.5	539	63	89	94	888	580	65	107	74	204
	15.0 / 160L	350	254	50	13.5	539	263	89	94	947	580	65	162	63	214
	18.5 / 180M	369	279	65	17.5	605	313	89	94	976.5	620	63	154	72.5	262
22.0 / 180L	369	279	65	17.5	627	313	89	94	1016.5	620	63	194	70.5	277	
PV7/63-71	5.5 / 132S	300	216	50	13.5	422	235	105	100	744	480	43	78	80	106
	7.5 / 132M	300	216	50	13.5	422	235	105	100	807	480	43	141	55	114
	11.0 / 160M	350	254	50	13.5	539	263	105	100	912	580	73	107	74	210
	15.0 / 160L	350	254	50	13.5	539	263	105	100	971	580	73	162	63	220
	18.5 / 180M	369	279	65	17.5	605	313	105	100	1000.5	620	71	154	72.5	265
	22.0 / 180L	369	279	65	17.5	627	313	105	100	1040.5	620	71	194	70.5	280
	30.0 / 200L	418	318	80	17.5	673	360	105	100	1064	700	38	177	99	369
37.0 / 225S	456	356	80	17.5	721	385	105	100	1117.5	800	-6	166	107.5	421	
PV7/100-118	11.0 / 160M	350	254	65	17.5	539	293	126	111	967	580	107	107	74	234
	15.0 / 160L	350	254	65	17.5	539	293	126	111	1026	580	107	162	63	244
	18.5 / 180M	369	279	65	17.5	605	313	126	111	1055.5	620	105	154	72.5	289
	22.0 / 180L	369	279	65	17.5	627	313	126	111	1095.5	620	105	194	70.5	307
	30.0 / 200L	418	318	80	17.5	673	360	126	111	1119	700	71.5	177	99	393
	37.0 / 225S	456	356	80	17.5	721	385	126	111	1176.5	800	31.5	166	107.5	445
	45.0 / 225M	456	356	80	17.5	721	385	126	111	1206.5	800	31.5	196	102.5	475
55.0 / 250M	550	406	80	17.5	794	420	126	111	1276	850	52.5	198	94	588	

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

**Dimensions: Type ABAHPG-V7 (motor supplier SIEMENS)**  
(dimensions in mm)



**ABAPG-V7 with motor supplier SIEMENS**

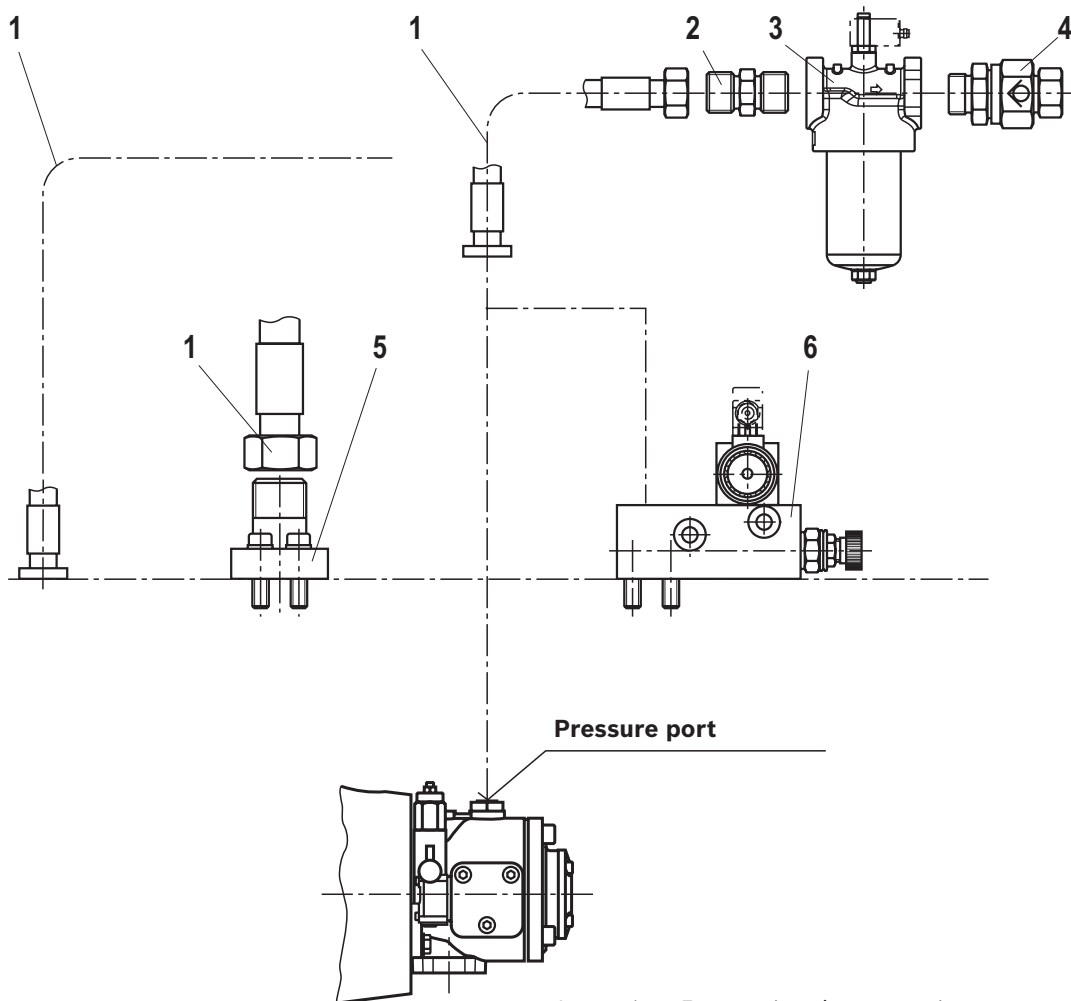
Pump	E-motor kW / frame size	Dimensions													Weight in kg
		B1	B2	B3	ØD	H1	H2	H3	H4	L1	L2	L3	L4	L5	
PV7/10-14	5.5 / 132S	300	216	50	13.5	437	235	58	64	728	480	-6	81	129	103
	7.5 / 132M	300	216	50	13.5	437	235	58	64	728	480	-6	81	129	103
PV7/16-20	5.5 / 132S	300	216	50	13.5	437	235	68	72	755	480	16	81	129	105
	7.5 / 132M	300	216	50	13.5	437	235	68	72	755	480	16	81	129	105
	11.0 / 160M	350	254	50	13.5	500	263	68	72	863	580	59	96	79	133
PV7/25-30	5.5 / 132S	300	216	50	13.5	437	235	92	80	767	480	17	81	129	109
	7.5 / 132M	300	216	50	13.5	437	235	92	80	767	480	17	81	129	109
	11.0 / 160M	350	254	50	13.5	500	263	92	80	875	580	60	96	79	137
	15.0 / 160L	350	254	50	13.5	500	263	92	80	935	580	60	96	139	154
PV7/40-45	5.5 / 132S	300	216	50	13.5	437	235	89	94	790	480	35	81	129	117
	7.5 / 132M	300	216	50	13.5	437	235	89	94	790	480	35	81	129	117
	11.0 / 160M	350	254	50	13.5	500	63	89	94	885	580	65	96	79	146
	15.0 / 160L	350	254	50	13.5	500	263	89	94	945	580	65	96	139	163
	18.5 / 180M	369	279	65	17.5	575	313	89	94	949	620	63	123	86	237
22.0 / 180L	369	279	65	17.5	575	313	89	94	979	620	63	174	65	242	
PV7/63-71	5.5 / 132S	300	216	50	13.5	437	235	105	100	814	480	43	81	129	120
	7.5 / 132M	300	216	50	13.5	437	235	105	100	814	480	43	81	129	120
	11.0 / 160M	350	254	50	13.5	500	263	105	100	909	580	73	96	79	152
	15.0 / 160L	350	254	50	13.5	500	263	105	100	969	580	73	96	139	169
	18.5 / 180M	369	279	65	17.5	575	313	105	100	973	620	71	123	86	240
	22.0 / 180L	369	279	65	17.5	575	313	105	100	1003	620	71	174	65	245
	30.0 / 200L	418	318	80	17.5	660	360	105	100	1057.5	700	38	127	132.5	334
37.0 / 225S	456	356	80	17.5	713	385	105	100	1075	800	-6	140	74	391	
PV7/100-118	11.0 / 160M	350	254	65	17.5	530	293	126	111	964	580	107	96	87	176
	15.0 / 160L	350	254	65	17.5	530	293	126	111	1024	580	107	96	139	193
	18.5 / 180M	369	279	65	17.5	575	313	126	111	1028	620	105	123	86	264
	22.0 / 180L	369	279	65	17.5	575	313	126	111	1058	620	105	174	65	272
	30.0 / 200L	418	318	80	17.5	660	360	126	111	1112.5	700	71.5	127	132.5	358
	37.0 / 225S	456	356	80	17.5	713	385	126	111	1130	800	31.5	140	74	415
	45.0 / 225M	456	356	80	17.5	713	385	126	111	1212	800	31.5	200	99	450
55.0 / 250M	550	406	80	17.5	812	420	126	111	1254	850	52.5	234	36	587	

## Line connections

Pump type	Line connections		
	Pressure connection P	Suction port S	Leakage oil connection L / L1
PV7-1X/6-10	ISO 228/1 G 3/8	ISO 228/1 G 1/2	ISO 228/1 G 1/4
PV7-1X/10-14	ISO 228/1 G 1/2	ISO 228/1 G 1	ISO 228/1 G 1/4
PV7-1X/16-20	ISO 228/1 G 3/4	ISO 228/1 G 1 1/4	ISO 228/1 G 3/8
PV7-1X/25-30	ISO 228/1 G 1	ISO 228/1 G 1 1/2	ISO 228/1 G 3/8
PV7-1X/40-45	ISO 228/1 G 1	DIN ISO 6162-1 SAE 1 1/2" <sup>1)</sup>	ISO 228/1 G 1/2
PV7-1X/63-71	DIN ISO 6162-2 SAE 1 1/4" <sup>1)</sup>	DIN ISO 6162-1 SAE 2" <sup>1)</sup>	ISO 228/1 G 1/2
PV7-1X/100-118	DIN ISO 6162-2 SAE 1 1/2" <sup>1)</sup>	DIN ISO 6162-1 SAE 2 1/2" <sup>1)</sup>	ISO 228/1 G 3/4

<sup>1)</sup> Standard pressure SAE flange figure with metric mounting screws

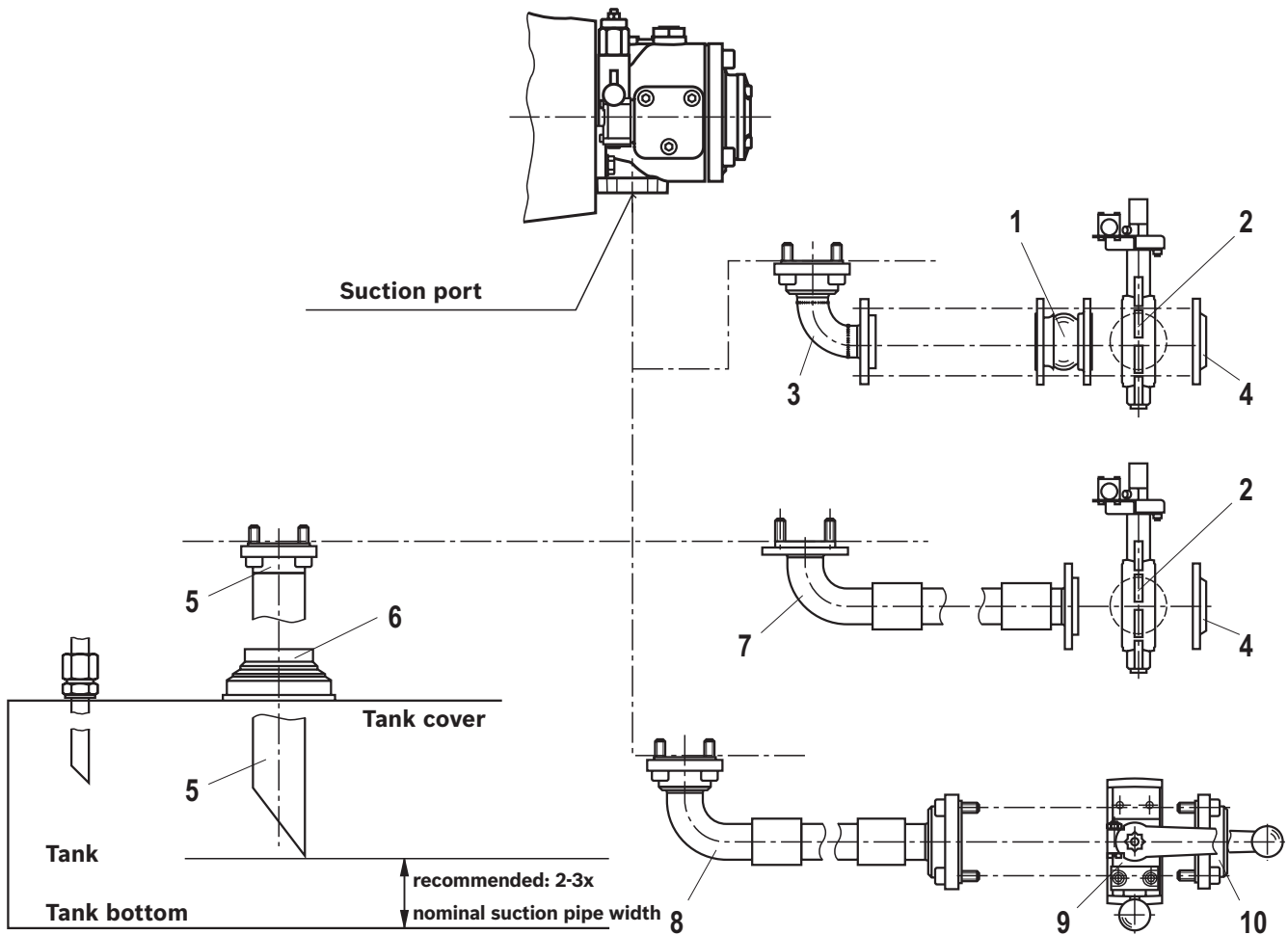
## Optional accessories at the pressure connection



- 1 Hose line AB 02314, AB 02316
- 2 Fitting AB 02012
- 3 In-line filter data sheet 51421; 51422
- 4 Check valve AB 02112
- 5 SAE flange AB 02214
- 6 Intermediate flange only necessary for size 63 and 100

Items 1 to 5 as optional accessories upon request. Hydraulic start-up aid pump safety block according to data sheet 25891 (only for size 63 and 100, intermediate flange might be necessary) or pump with controller option 5 (K plate). All figures are examples.

## Optional accessories at the suction port



- 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

Items 1 to 10 as optional accessories upon request.  
All figures are examples.

## 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 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**

▶ Adjustable vane pump, pilot operated	Data sheet	10515
▶ Vane pump, direct operated	Data sheet	10522
▶ Pump safety block type DBA, DBAW	Data sheet	25891
▶ 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](http://www.boschrexroth.com) in the area of Training/Media/Media Directory or from your local distributor.

Bosch Rexroth AG Hydraulics  
 Zum Eisengießer 1  
 97816 Lohr am Main, Germany  
 Phone +49 (0) 93 52 / 18-0  
[documentation@boschrexroth.de](mailto:documentation@boschrexroth.de)  
[www.boschrexroth.de](http://www.boschrexroth.de)

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## Notes

Bosch Rexroth AG Hydraulics  
Zum Eisengießer 1  
97816 Lohr am Main, Germany  
Phone +49 (0) 93 52/18-0  
documentation@boschrexroth.de  
www.boschrexroth.de

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