

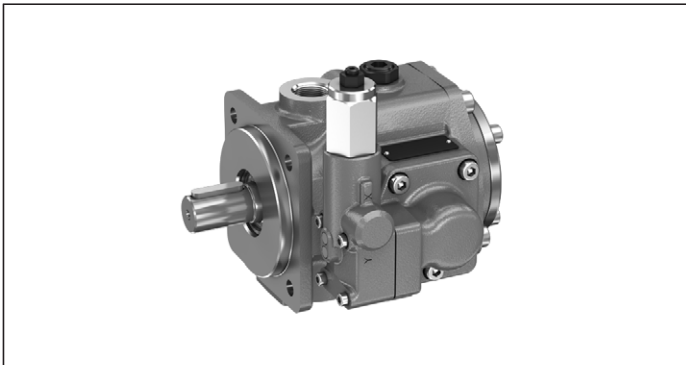
# Adjustable vane pump, pilot-operated

## Type PV7

**RE 10515**

Edition: 2018-11

Replaces: 10.2005



- ▶ Size 14 to 150
- ▶ Component series 1X
- ▶ Maximum operating pressure 160 bar
- ▶ Maximum flow 270 l/min

### Features

- ▶ Variable displacement
- ▶ Low operating noise
- ▶ Extended bearing life cycle thanks to hydrodynamically lubricated plain bearings
- ▶ Pressure and flow can be controlled
- ▶ Low hysteresis
- ▶ Very low control up times and down control times
- ▶ Mounting dimensions according to ISO 3019-2.
- ▶ Connection dimensions according to ISO 6162-1 and ISO 228-1
- ▶ Suitable for HLP, HETG, HEES and HFD-U hydraulic fluids
- ▶ Standard Series PV7 single pumps can be combined with multiple pumps as well as internal gear, external gear, axial piston and radial piston pumps.
- ▶ Used for drives in continuous operation with variable flow requirement and a high share in the pressure holding function, e.g.:
  - machine tools
  - hydrostatic bearings
  - constant pressure systems

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01	02	03	04	05	06	07	08	09	10	11	12	
<b>PV7</b>	-	<b>1X</b>	/		<b>R</b>	<b>E</b>				-		

**Zero stroke pressure range**

10		10 -14	10 -20	16 -20	16 -30	25 -30	25 -45	40 -45	40 -71	63 -71	63 -94	100 -118	100 -150	
	20 - 80 bar	-	-	-	●	-	●	-	●	-	●	-	●	<b>08</b>
	20 - 100 bar	-	●	-	-	-	-	-	-	-	-	-	-	<b>10</b>
	20 - 160 bar	●	-	●	-	●	-	●	-	●	-	●	-	<b>16</b>

**Option**

11	Directional valve, normally closed, only available for C5-, D5 and W controllers	<b>WG</b>
	Directional valve, normally open, only available for C5, D5 and W controllers	<b>WH</b>

**Setting in plain text**

12	Pressure adjustment [bar]	<b>-P***</b>
	Flow setting [l/min] at $n = 1450$ rpm	<b>-Q***</b>

**Preferred types** (available for immediate delivery)

Controller type C	Material number
PV7-1X/10-14RE01MC0-16	R900580381
PV7-1X/10-20RE01MC0-10	R900534143
PV7-1X/16-20RE01MC0-16	R900580382
PV7-1X/16-30RE01MC0-08	R900533582
PV7-1X/25-30RE01MC0-16	R900580383
PV7-1X/25-45RE01MC0-08	R900534508
PV7-1X/40-45RE37MC0-16	R900580384
PV7-1X/40-71RE37MC0-08	R900535588
PV7-1X/63-71RE07MC0-16	R900506808
PV7-1X/63-94RE07MC0-08	R900560659
PV7-1X/100-118RE07MC0-16	R900506809
PV7-1X/100-150RE07MC0-08	R900561846
Controller type D	
PV7-1X/10-14RE01MD0-16	R900504653
PV7-1X/10-20RE01MD0-10	R900906584
PV7-1X/16-20RE01MD0-16	R900509274
PV7-1X/16-30RE01MD0-08	R900560658
PV7-1X/25-30RE01MD0-16	R900509506
PV7-1X/25-45RE01MD0-08	R900568833
PV7-1X/40-45RE37MD0-16	R900593330
PV7-1X/40-71RE37MD0-08	R900539886
PV7-1X/63-71RE07MD0-16	R900519094
PV7-1X/63-94RE07MD0-08	R900574560
PV7-1X/100-118RE07MD0-16	R900532770
PV7-1X/100-150RE07MD0-08	R900915470

**Sample pumps with customer-specific setting:**

- ▶ PV7-1X/16-20RE01MC0-16-P50  $p_{\text{zero stroke}} = 50$  bar
- ▶ PV7-1X/16-20RE01MC0-16-Q25  $q_{V \text{ max}} = 25$  l/min
- ▶ PV7-1X/16-20RE01MC0-16-P70Q20  $p_{\text{zero stroke}} = 70$  bar  
 $q_{V \text{ max}} = 20$  l/min

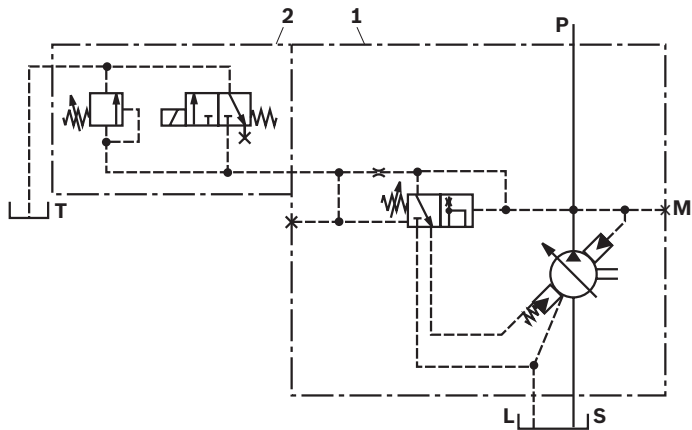
In customer-specific settings, the pump comes noise-optimized at the desired operating points ( $p_{\text{zero stroke}}/q_{V \text{ max}}$ ).

In standard versions, the pump is noise-optimized at maximum operating pressure and the zero stroke pressure is reset to 30 bar for delivery.

**Type W pressure controller**

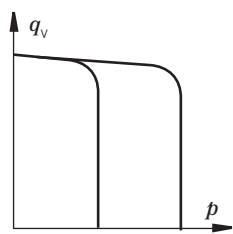
- ▶ 2-step electrically switchable pressure adjustment, ordering code ...**W0**...

▼ **Circuit diagram**



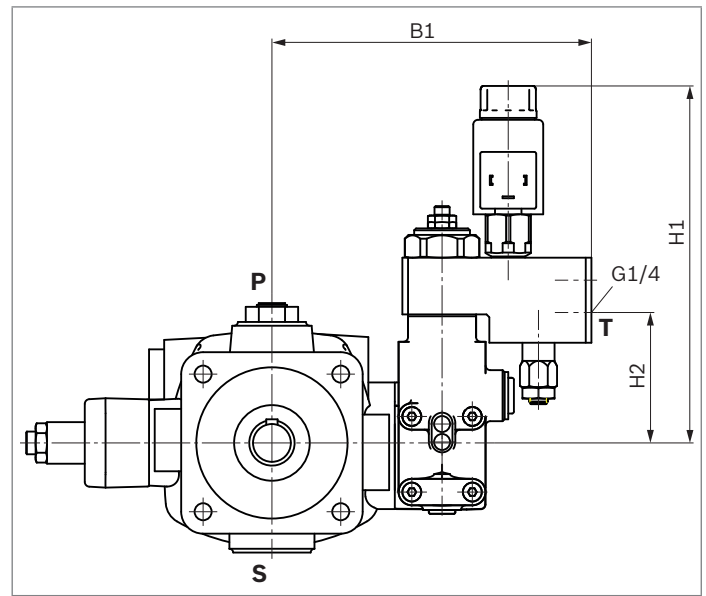
Connections	
<b>P</b>	Pressure port
<b>S</b>	Suction port
<b>T</b>	Tank port
<b>L</b>	Drain port
<b>S</b>	Measuring port (plugged)

▼ **Characteristic curve**



Order example	
<b>1</b>	Pump: PV7-1X/16-20RE01MW0-16
<b>2.1</b>	3/2-way cartridge valve optional: <ul style="list-style-type: none"> <li>- Normally closed, ordering code: ...<b>WG</b> Comes with valve KKDER8NA/HN9V Material no. R901069975</li> <li>- Normally open, ordering code: ...<b>WH</b> Comes with valve KKDER8PA/HN9V Material no. R901069978</li> </ul>
<b>2.2</b>	Pressure relief valve according to Data Sheet 25710 included

▼ **Unit dimensions**

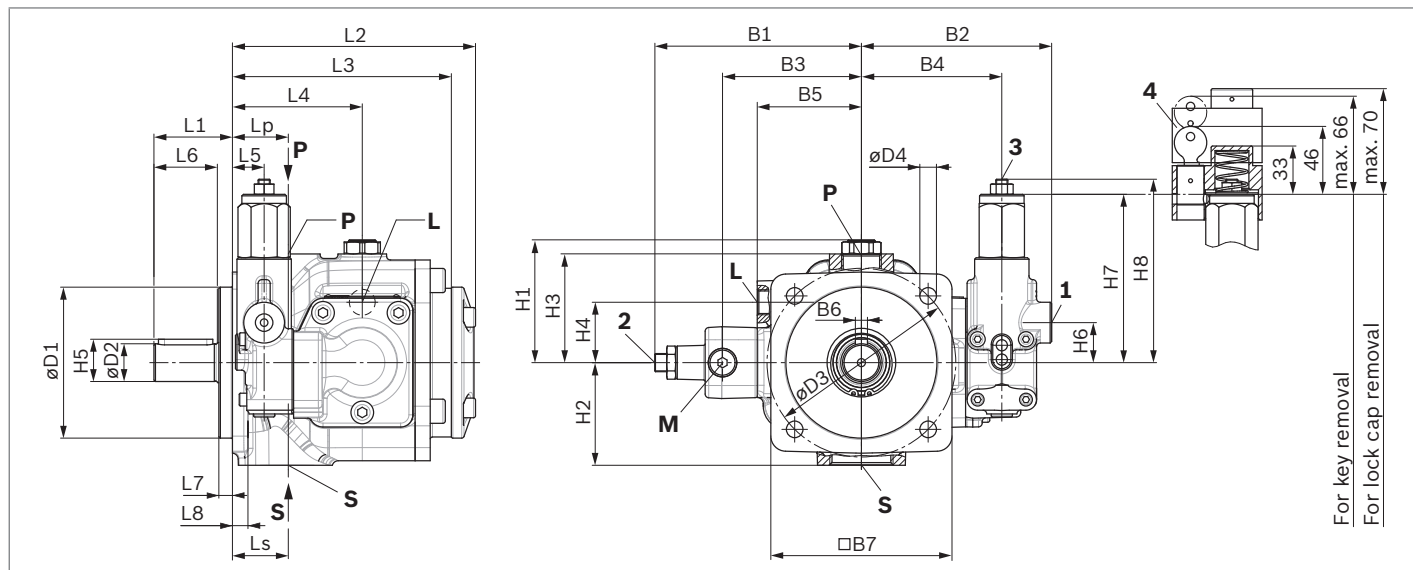


Frame size	B1	H1	H2
<b>10</b>	169	189	69
<b>16</b>	172	190.5	70.5
<b>25</b>	178	190.5	70.5
<b>40</b>	204	190	70
<b>63</b>	209	190	70
<b>100</b>	228.5	190	70

For additional unit dimensions, see page 20.

## Dimensions (dimensions in mm)

Single pump with type C, D or N controller



<b>P</b>	Pressure port <sup>1)</sup>
<b>S</b>	Suction port
<b>L</b>	Drain port
<b>S</b>	Measuring port
<b>1</b>	Control port G1/4×12 only for ordering code: ...D... (Pressure controller with remote pressure setting), or ...N... (Flow controller with remote flow control)
<b>2</b>	Flow control
<b>3</b>	Pressure adjuster
<b>4</b>	Space required to remove the lock cap (pressure can only be adjusted with lock cap removed)

### Notes on adjustments

- ▶ Flow control (**2**)
  - Turning clockwise reduces flow.
  - Turning counterclockwise increases flow.
  - The set flow should not be less than 50% of the maximum value.
- ▶ Pressure adjuster (**3**)
  - Turning clockwise increases operating pressure.
  - Turning counterclockwise decreases operating pressure.

BG	L1	L2	L3	L4	L5	L6	L7	L8	Lp	Ls	L	S	øD1	øD2	øD3	øD4
<b>10</b>	44	142	132	78.5	22	36	7	9.3	26	26	G1/4×12	G1/4×12	80h8	20j6	103	9H13
<b>16</b>	52	161	145	86	21	42	9	10.3	37	37	G3/8×12	G1/4×12	100h8	25j6	125	11H13
<b>25</b>	52	173	157	86	21	42	9	10.3	34	38	G3/8×12	G1/4×12	100h8	25j6	125	11H13
<b>40</b>	68	182.6	166.6	86	21.5	58	9	12.3	26.5	43	G1/2×14	G1/4×12	125h8	32k6	160	14H13
<b>63</b>	68	205.3	189.3	98.7	34.2	58	9	12	38.7	50.7	G1/2×14	G1/4×12	125h8	32k6	160	14H13
<b>100</b>	92	237.3	221.3	110.8	28.3	82	9	17	45.3	59.3	G3/4×16	G1/4×12	160h8	40k6	200	18H13

BG	B1	B2 <sup>1)</sup>	B3	B4	B5	B6	□B7	H1	H2	H3	H4	H5	H6	H7	H8
<b>10</b>	max. 134	123	88	90	65	6h9	96	max. 76.1	58	64	37	22.5	25	110	max. 130
<b>16</b>	max. 138	126	92	93	69	8h9	120	max. 83.6	68	72	40	28	26.5	111.5	max. 131.5
<b>25</b>	max. 144	132	98	99	75	8h9	120	max. 93.8	92	80	40	28	26.5	111.5	max. 131.5
<b>40</b>	max. 161	158	115	125	94	10h9	141.2	max. 108.3	89	94	45	35	26	111	max. 131
<b>63</b>	max. 167	163	121	130	100	10h9	141.2	max. 114.7	105	100	47	35	26	111	max. 131
<b>100</b>	max. 195	182.5	150	149.5	121	12h9	200	max. 127.2	126	111	52	43	26	111	max. 131

1) For controller with ordering code ...C... B2 + 2 mm