

Catalogue HY11-3243/UK  
**Pump Accessory PVAPVV\***

**Preload valve for proportional displacement control, code PVAPVV\***

An alternative solution is the use of a direct operated preload valve. The preload valve is offered in a manifold for direct mounting to the pressure port of the pump.

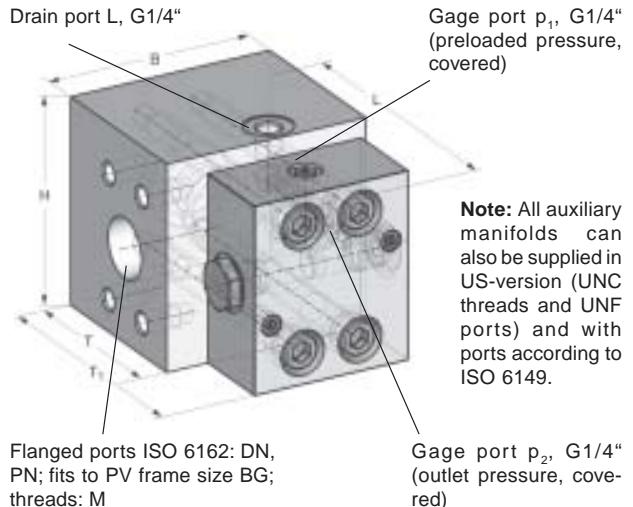
The opening pressure of the valve is set to approx. 20 bar. At 30 bar load pressure the valve is fully open (pressure drop <1 bar).

The ordering code for the preload valve is **PVAPVV\***.

Therefore \* stands for the frame size of the pump (thread, port and seal material option).

**Axial Piston Pump Series PV**

**Preload valve PVAPVV\***

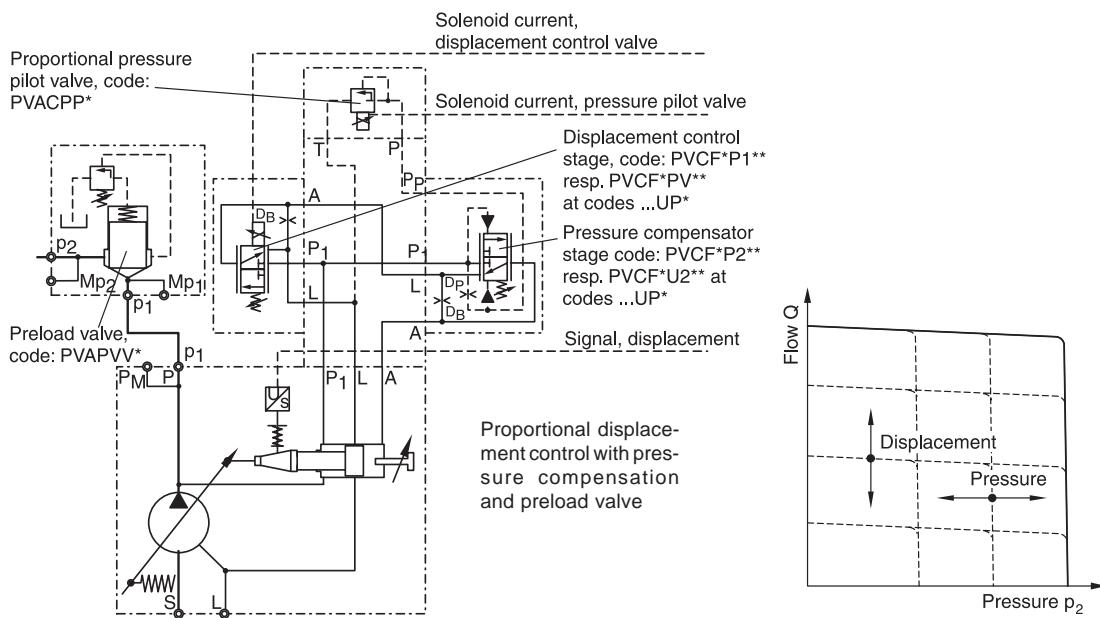


**Dimensions preload valve PVAPVV\***

Dimension	BG1	BG2	BG3	BG4	BG5
H [mm]	110	110	110	110	130
B [mm]	92	92	100	100	154
T [mm]	80	80	92	92	105
L <sup>2)</sup> [mm]	120	120	140	140	160
T <sub>1</sub> [mm]	116	116	137	137	150
for size	PV016 - 023	PV032 - 046	PV063 - 092	PV140 - 180	PV270
DN [mm]	19 (3/4")	25 (1")	32 (1 1/4")	32 (1 1/2")	38 (1 1/2")
PN [bar]	400	400	400	400	400
M	M10	M12	M12 (M14*)	M12 (M14*)	M16
valve insert	DIN E16	DIN E16	DIN E25	DIN E25	DIN E32
Q <sub>nominal</sub> [l/min]	160	160	300	300	550

\* optional for PV063 - PV180, thread option 4; <sup>2)</sup> L = clamping length for bolts M

**Hydraulic circuit FPR/UPR control and preload manifold**



**Quick unload manifold for proportional pump control, code PVAPSE\***

When working with a proportional pressure control on variable displacement pumps, pressure decrease can be slow. When the pump strokes to deadhead, there is no active pressure relief. To achieve a response similar to a valve controlled system, the quick unload manifold can be mounted to the pump outlet.

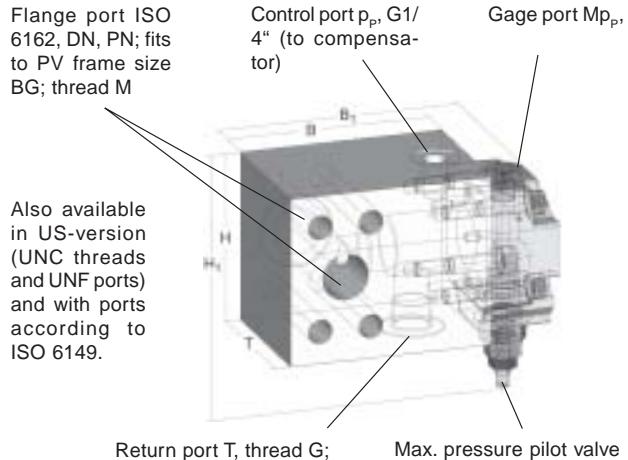
This manifold includes a cartridge valve with a 4 bar spring preload. The pilot pressure supply for the compensator valve is passing this cartridge valve and creates a pressure drop across the poppet. At normal working conditions this pressure drop does not exceed 3 bar and the poppet stays closed. In a dynamic response situation the pressure drop can exceed 4 bar and the cartridge actively reduces the system pressure according to the setting of the proportional pilot valve.

As the pilot pressure is fed through the quick unload manifold, the compensator needs no orifice in the spool. Ordering code for the proportional displacement and pressure control for combination with the quick unload manifold is **FPS for pressure compensation** and **FPT for closed loop pressure control** (pressure transducer and proportional pressure pilot valve included).

**Dimensions quick unload manifold PVAPSE\***

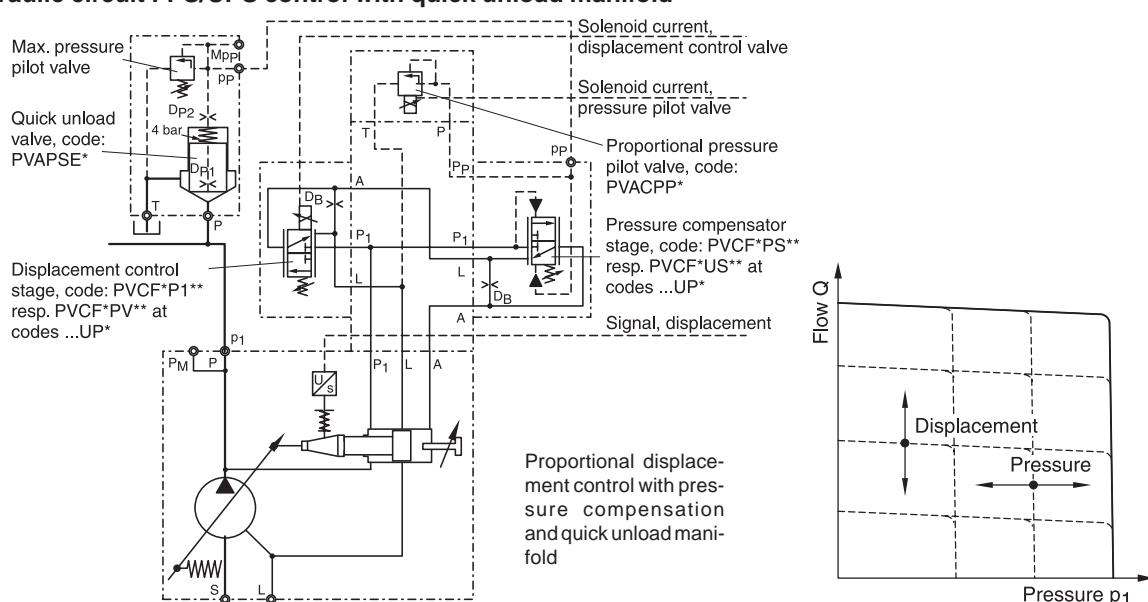
Dimension	BG1	BG2	BG3	BG4	BG5
B [mm]	110	110	110	110	154
H [mm]	92	92	100	100	120
T [mm]	80	80	92	92	105
B <sub>1</sub> [mm]	150	150	150	150	199
H <sub>1</sub> [mm]	133	133	141	141	143
for size	PV016 - 023	PV032 - 046	PV063 - 092	PV140 - 180	PV270
DN [mm]	19 (3/4")	25 (1")	32 (1 1/4")	32 (1 1/4")	38 (1 1/2")
PN [bar]	400	400	400	400	400
M	M10	M12	M12 (M14*)	M12 (M14*)	M16
valve insert	DIN E16	DIN E16	DIN E16	DIN E16	DIN E25
Q <sub>nominal</sub> [l/min]	160	160	160	160	300
G (port T)	1/2"	1/2"	1/2"	1/2"	3/4"

**Quick unload manifold**



**Hydraulic circuit FPS/UPS control with quick unload manifold**

\* optional for PV063 - PV180, thread option 4



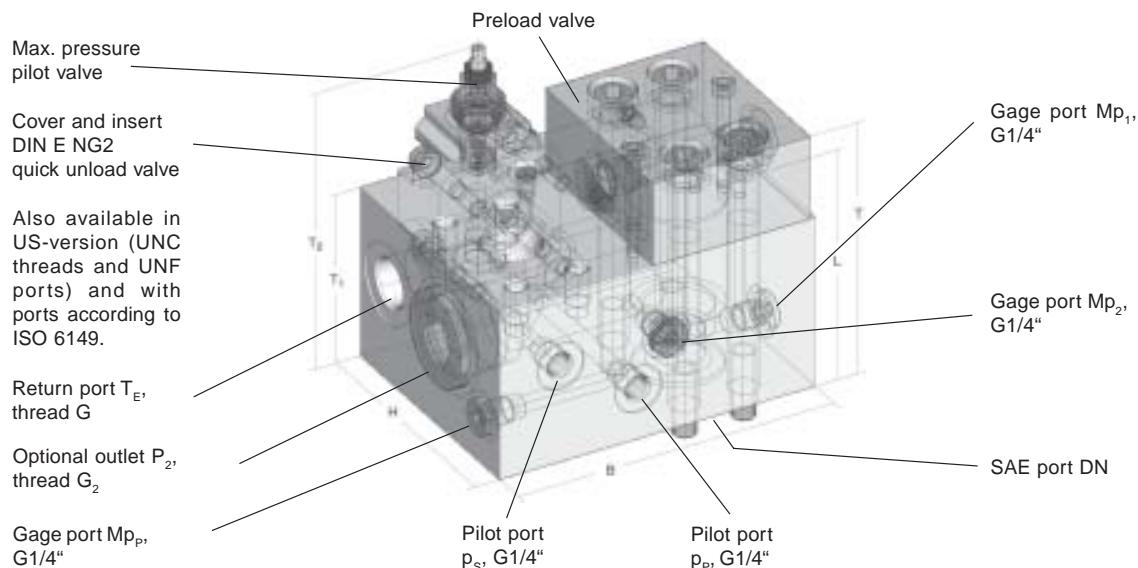
**Preload and quick unload manifold, code PVAPVE\***

The combination of the preload and the quick unload function into one manifold can be ordered under the code PVAPVE\*. This manifold is also designed for direct pump outlet mounting.

To maintain a secure function under all conditions the pressure compensator requires an external sensing line

( $P_s$ ) which is connected to the system side of the preload valve.

The ordering code for this proportional displacement control option is **FPP for pressure compensation** and **FPE for closed loop pressure control**.

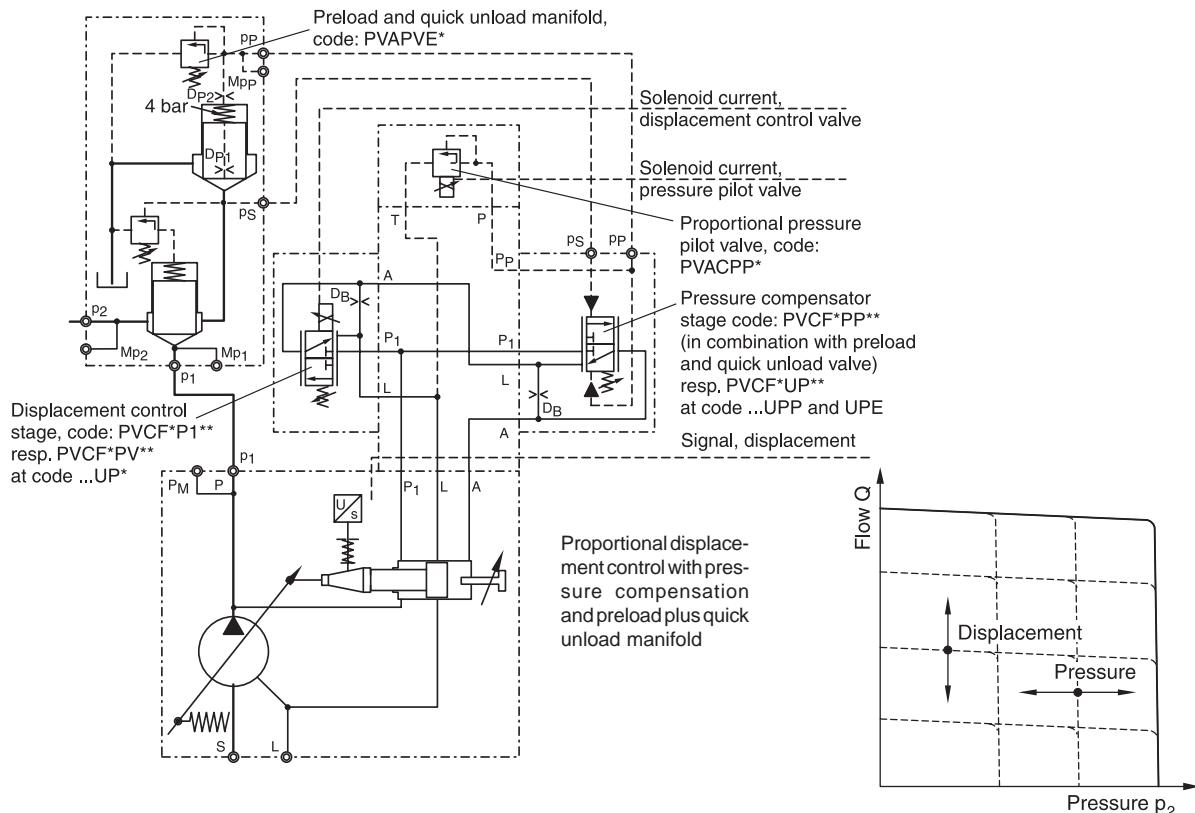


Flange ports ISO 6162; DN, PN; fit to PV, frame size BG; thread M

**Dimensions preload and quick unload manifold PVAPVE\***

Dimension	BG1	BG2	BG3	BG4	BG5
B [mm]	145	145	175	175	210
H [mm]	113	113	135	135	160
T [mm]	80	80	92	92	105
L [mm]	120	120	140	140	160
H <sub>1</sub> [mm]	153	153	175	175	205
T <sub>1</sub> [mm]	116	116	137	137	150
for size	PV016 - 023	PV032 - 046	PV063 - 092	PV140 - 180	PV270
DN [mm]	19 (3/4")	25 (1")	32 (1 1/4")	32 (1 1/4")	38 (1 1/2")
PN [bar]	400	400	400	400	400
M	M10	M12	M12 (M14*)	M12 (M14*)	M16
valve insert NG1	DIN E16	DIN E16	DIN E25	DIN E25	DIN E32
Q <sub>nominal</sub> [l/min]	160	160	300	300	550
valve insert NG2	DIN E16	DIN E16	DIN E16	DIN E16	DIN E25
Q <sub>nominal</sub> [l/min]	160	160	160	160	300
G (port T <sub>E</sub> )	1/2"	1/2"	3/4"	3/4"	3/4"
G <sub>2</sub> (opt. outlet)	3/4"	1"	1 1/4"	1 1/4"	1 1/2"

\* optional for PV063 - PV180, thread option 4

**Hydraulic circuit FPS/UPS control with preload and quick unload manifold****Ordering code pump accessories**

<b>PVAP</b>	<b>Function</b>	<b>Frame size</b>	<b>Thread option</b>	<b>Seal</b>
Accessories for axial piston pump, PV series, pressure port mounting				
VV	Preload manifold			
SE	Quick unload manifold			
VE	Preload and quick unload manifold			
Code				
				Code
N				NBR
V				FPM
E				EPDM
Code				
		Ports <sup>1)</sup>		Threads <sup>2)</sup>
1		BSPP		Metric
3		UNF		UNC
4 <sup>3)</sup>		BSPP		Metr. M14
7		ISO 6149		UNC
8		ISO 6149		Metric

<sup>1)</sup> Drain, gage and control ports

<sup>2)</sup> Mounting threads

<sup>3)</sup> For PV063-PV180 only: pressure port 1 1/4" with M14 instead of M12