

# Vane Pumps

Series PVS  
Variable Displacement

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
**hydraulics**  
pneumatics  
process control  
sealing & shielding



ENGINEERING YOUR SUCCESS.



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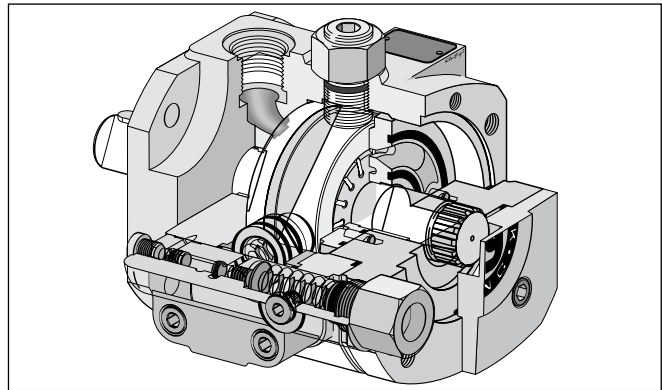
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**Technical data**

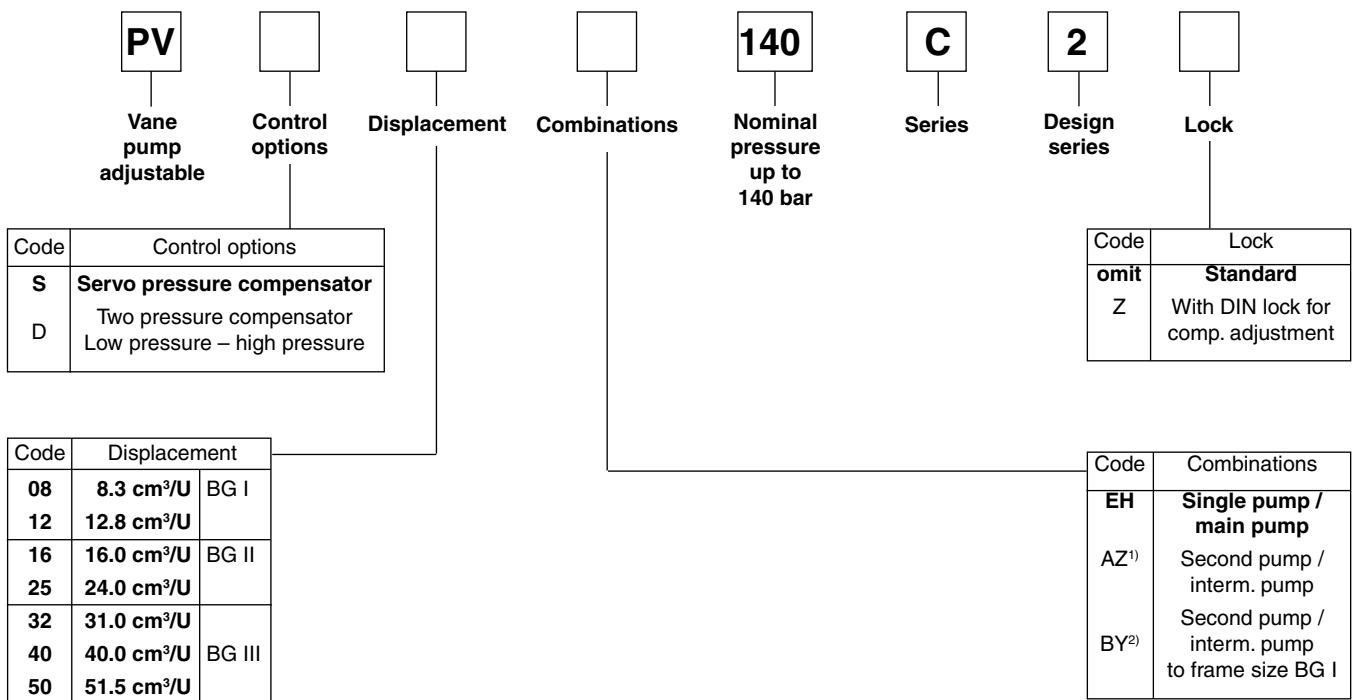
Displacement	[cm <sup>3</sup> /rev]	from 8 to 50
Operating pressures		
Outlet	[bar]	140
Inlet min.	[bar]	1.0 0.8 absolute
Drain port	[bar]	max. 0.5
Speed ranges	[min <sup>-1</sup> ]	1000...1800
Press. fluid temperature	[°C]	-10...+70
Viscosity range	[mm <sup>2</sup> /s]	22 - 100 800 (short-term at start up)
Rotation		clockwise



**Selection table**

Model	Displacement in cm <sup>3</sup> /rev	Output flow at 1500 rpm in l/min	Input power at nominal pressure in kW	Weight in kg single pump	Weight in kg main pump	Weight in kg intermediate pump	Weight in kg second pump
PVS08	8.3	12	3.65	8.9	8.9	8.8	8.8
PVS12	12.8	19	5.0	8.9	8.9	8.8	8.8
PVS16	16	23	8.7	18.1	16.9	18.0	16.8
PVS25	24	35	9.9	18.1	16.9	18.0	16.8
PVS32	31	45	12.7	33.2	30.8	33.0	30.6
PVS40	40	60	15.9	33.2	30.8	33.0	30.6
PVS50	51.5	75	19.7	33.2	30.8	33.0	30.6

**Ordering code**



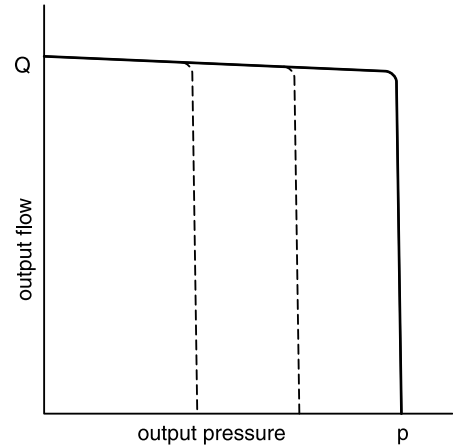
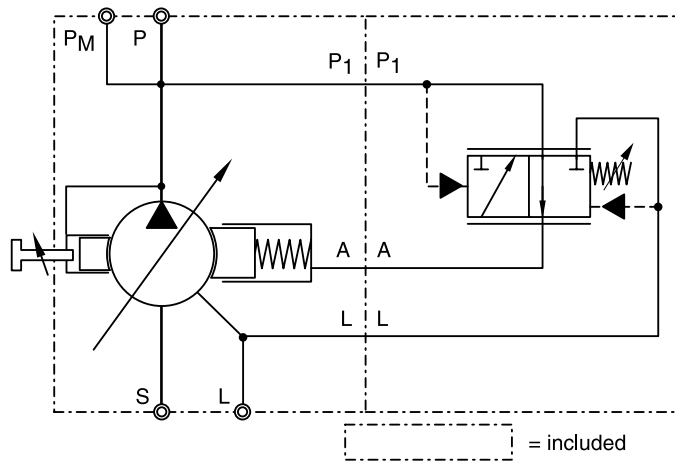
<sup>1)</sup> only for BG II and BG III

<sup>2)</sup> only for BG I

**Compensator type S (PVS: Standard pressure compensator)**

The pressure is mechanically adjustable via the preload of the pilot control cartridge spring.

**Schematic diagram and performance curves**



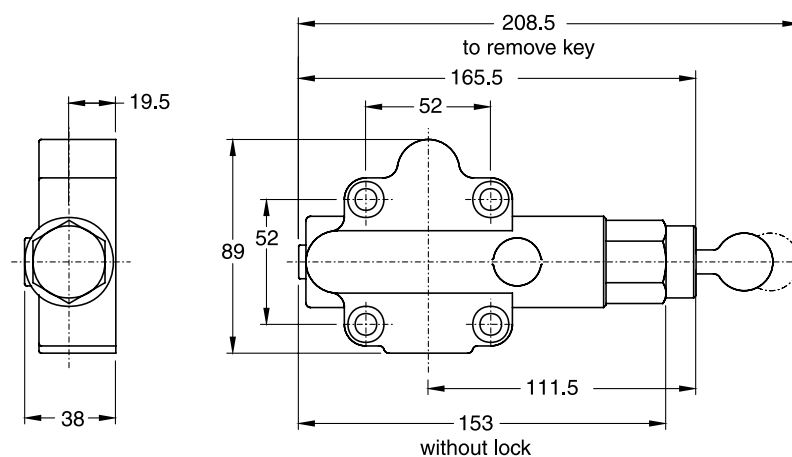
**Task and function**

When reaching the set pressure on the compensator, the pressure flow of the servo-controlled pump is automatically adjusted to the actual pressure flow requirement of the consumer.

Thus an undesired flow is avoided and only the required medium amount is delivered. As long as the system pressure is lower than the set pressure on the compensator, the stroke ring is kept in the position of

maximum eccentricity, so that the pump continues its full delivery. If the system pressure exceeds the set compensator pressure, the control valve opens, and the pressure on the control piston is relieved. The stroke ring is moved by the auxiliary piston up to the central position to the point where the pressure flow corresponds to the system requirements at the set pressure. The pump is regulated.

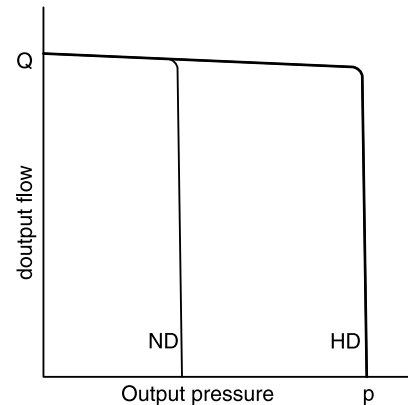
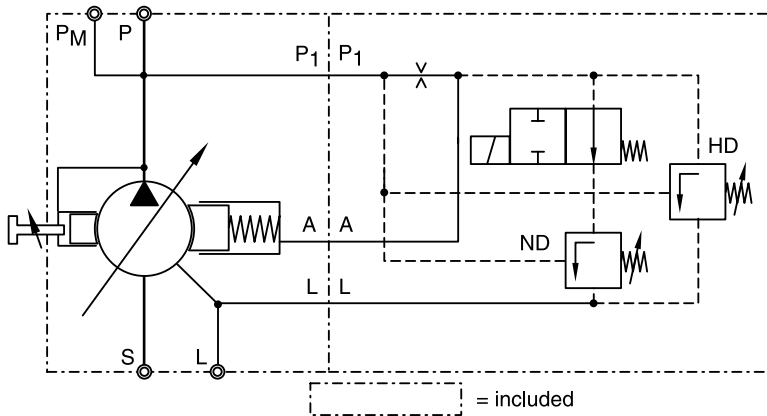
**Dimensions**



**Compensator type D, low pressure – high pressure (PVD: Two-stage pressure compensator)**

High pressure and low pressure mechanically adjustable via spring pre-loading, electric switching.

**Schematic diagram and performance curves**

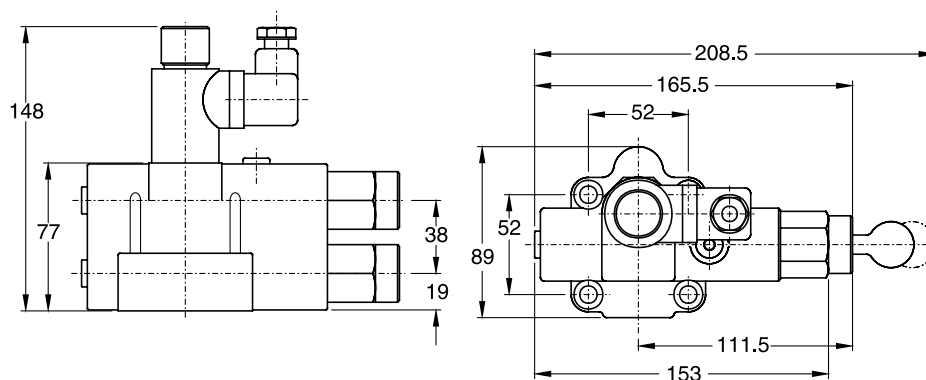


**Task and function**

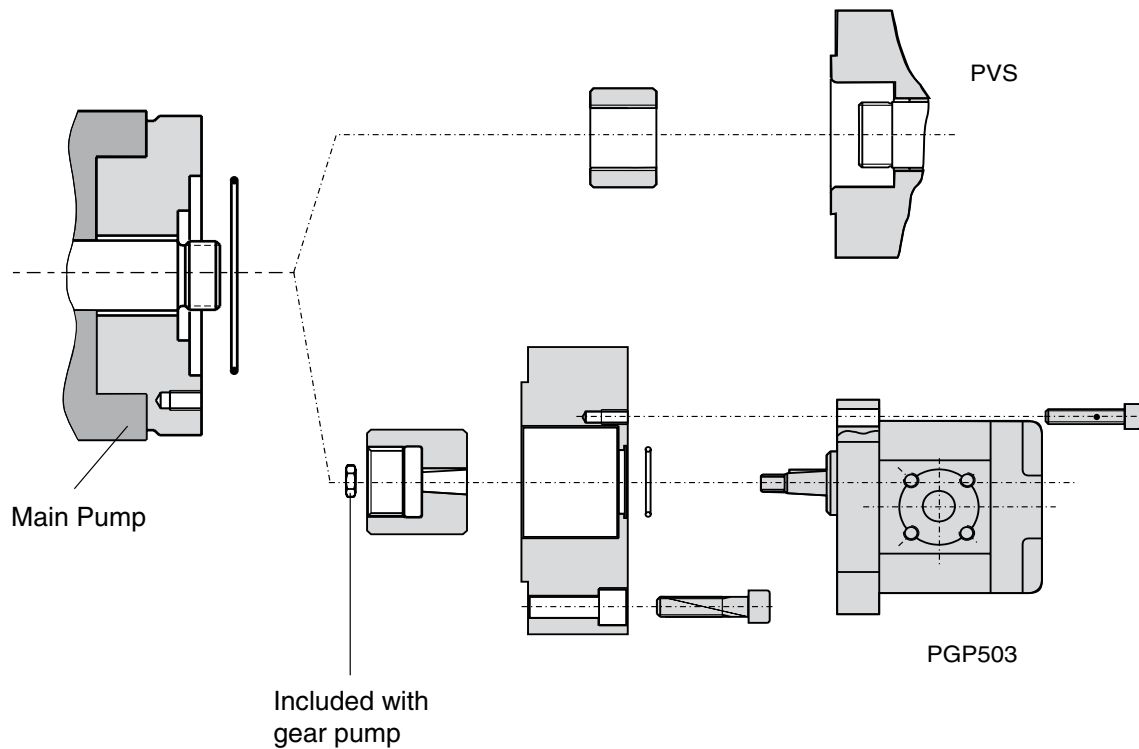
The double pressure compensator offers the user the possibility to electrically select between two different pressures. Hydraulic systems, where a higher pressure is only needed in peaks, can be created to be very energy-saving, based on such a design. The double pressure compensator can also be labelled as a double servo pressure compensator, divided into low and high pressure stages. Both compensator pistons are connected together via an integrated directional valve.

Initially both compensator pistons are pressurised with system pressure at the unloaded directional valve. The compensator piston with the lower spring pre-loading is responsible for the system pressure. If the directional valve piston is changed over from LP to HP via electrical signal, the connection to the low pressure compensator piston is interrupted. Then, only the high pressure compensator piston is connected to the pilot oil space. The actual control process for the pump corresponds to one from a servo pressure compensator.

**Dimensions**



**PVS pumps with thru drive**



**Mounting kits for pump combinations**

MK-PVSBG1-PGP503  
MK-PVSBG1-PVSBG1

MK-PVSBG2-PGP503  
MK-PVSBG2/3-PVSBG1  
MK-PVSBG2/3-PVSBG2/3

MK-PVSBG3-PGP503

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