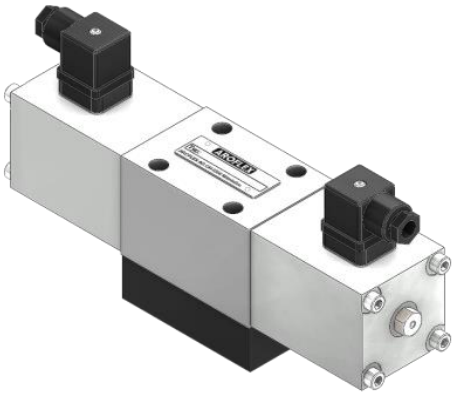
- **direct operated, pressure compensated**
- **Q_{max} = 60 l/min**
- **$p_{max\ in\ P,\ A\ and\ B}$ = 315 bar**
- **$p_{max\ in\ T}$ = 160 bar**



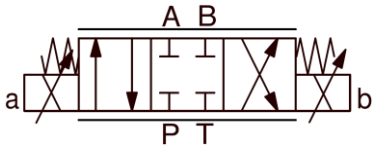
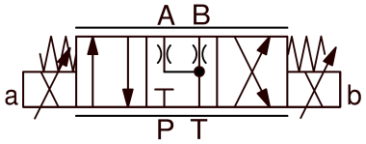
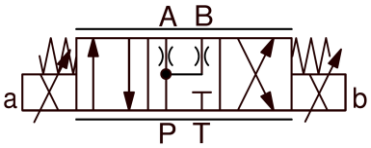
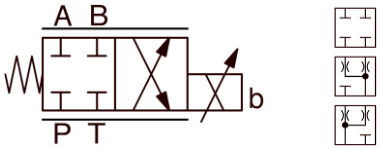
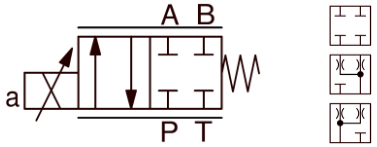
Description

The proportional valves are used to control direction and flow in hydraulic systems. The applications of these valves ensure any motion sequences at low cost.
The PVS valve is a directly controlled spool valve, actuated by proportional solenoids, in five chamber design. The flow rate is proportional to the solenoid current and remains constant with varying pressure. The counterbalance effect ensures that load does not go out of control.

Application

Examples are acceleration and deceleration movements which are difficult to realize with common hydraulic components. PVS valves are characterized by their large flow range. Thereby they are particularly suitable for demanding tasks, e.g. feed control, robotic systems, handling operations, etc.

Overview

Symbols	Description	Design
	PVS-10-2-...-N	4/3 way function spool type N
	PVS-10-2-...-D	4/3 way function spool type D
	PVS-10-2-...-T	4/3 way function spool type T
	PVS-10-1-...-NBZ PVS-10-1-...-DBZ PVS-10-1-...-TBZ	4/2 way function proportional solenoid b-side spool type N, D and T
	PVS-10-1-...-NAZ PVS-10-1-...-DAZ PVS-10-1-...-TAZ	4/2 way function proportional solenoid a-side spool type N, D and T

➔ other functions on request.

Technical Data

General Specifications	**PVS…**
Description:	spool valve, direct operated
Mounting position:	longitudinal axis horizontal (vertical only after consulting the manufacturer)
Nominal size:	NG10, ISO 4401-05

Solenoid coil	**24VDC**	**12VDC**
Ambient temperature:	- 20° … + 50°C	
Rated voltage:	24 VDC	12 VDC
Current range:	0 – 1.15 A	0 – 2.3 A
Rated power:	22 W	22 W
Operating time:	100 %	
Protection class:	IP65 acc. to EN 60 529	
Connection:	Plug connection ISO 4400/DIN 43650 (2P+E)	
Amplifier modul:	please ask for datasheets	

Hydraulic Specifications	
Max. volume flow:	30 l/min, 35 l/min, 40 l/min, 45 l/min, 50 l/min, 60 l/min
Min. volume flow:	0.5 l/min
Max. pressure:	P, A and B 315 bar, T 160 bar
Fluid:	Mineral oil, other fluids on request
Fluid temperature:	- 20 ... + 70°C
Viscosity range:	12 - 320 mm^2/s (cSt)
Filtration:	25 µm minimum, recommended: 10µm or better
Hysteresis:	appr. 2% by optimal dither signal

Type code

PVS-10	**-…**	**-…**	**-…**	**-…**

omit = 24 VDC standard
12 VDC = 12 VDC
SA = with soft start behaviour

spool type and function according overview

nominal volume flow

30 = 30 l/min **40** = 40 l/min **50** = 50 l/min
35 = 35 l/min **45** = 45 l/min **60** = 60 l/min

1 = 4/2 way function
2 = 4/3 way function

proportional directional valve, pressure compensated NG 10

Ordering code (example):

- Proportional directional valve, pressure compensated NG10
- Spool type T
- Nominal volume flow 40 l/min
- Solenoid coils on both sides (4/3 way function)

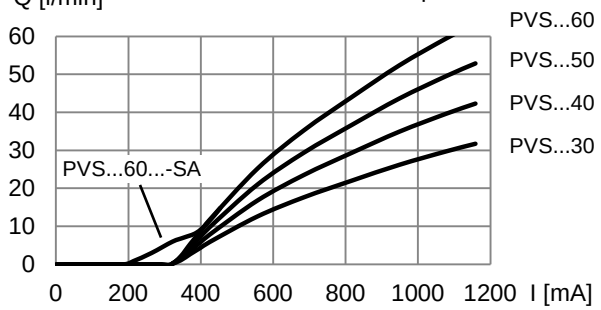
Type Code

PVS-10-2-40-T

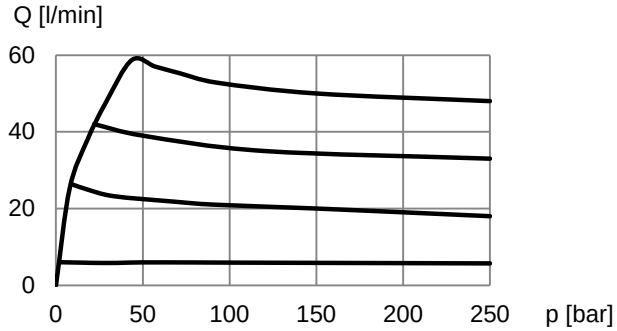
Characteristics

Measurement conditions:
Hydraulic oil ISO VG 46; Viscosity 46 mm^2/s
Temperature 40...50 °C

Q = f (I) Volume flow-signal-characteristics
24VDC Standard at pressure 80 bar

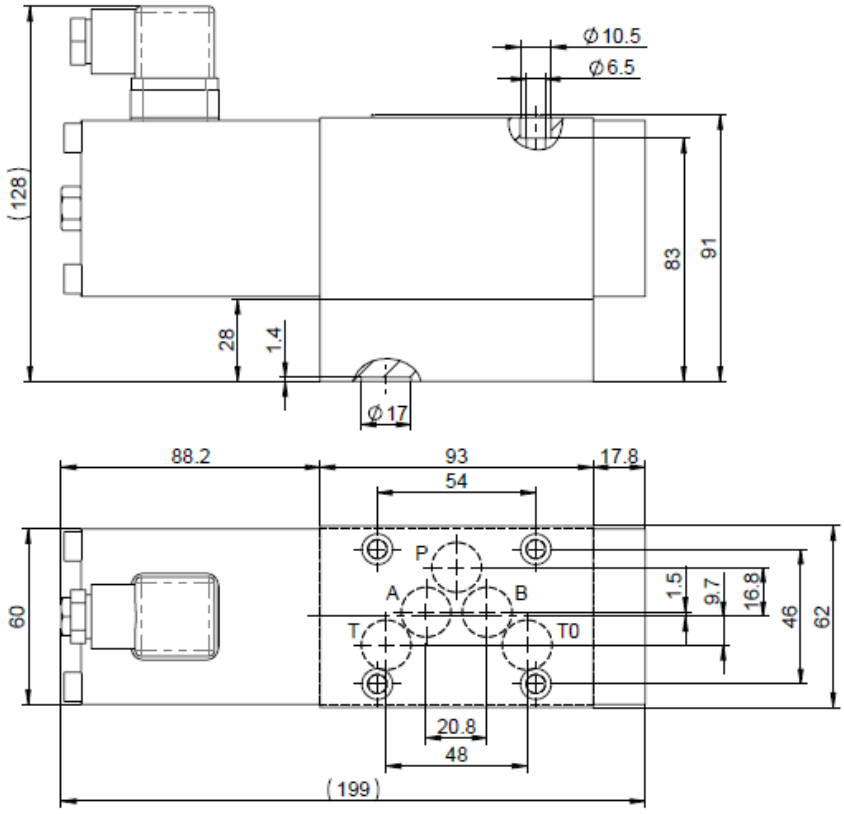
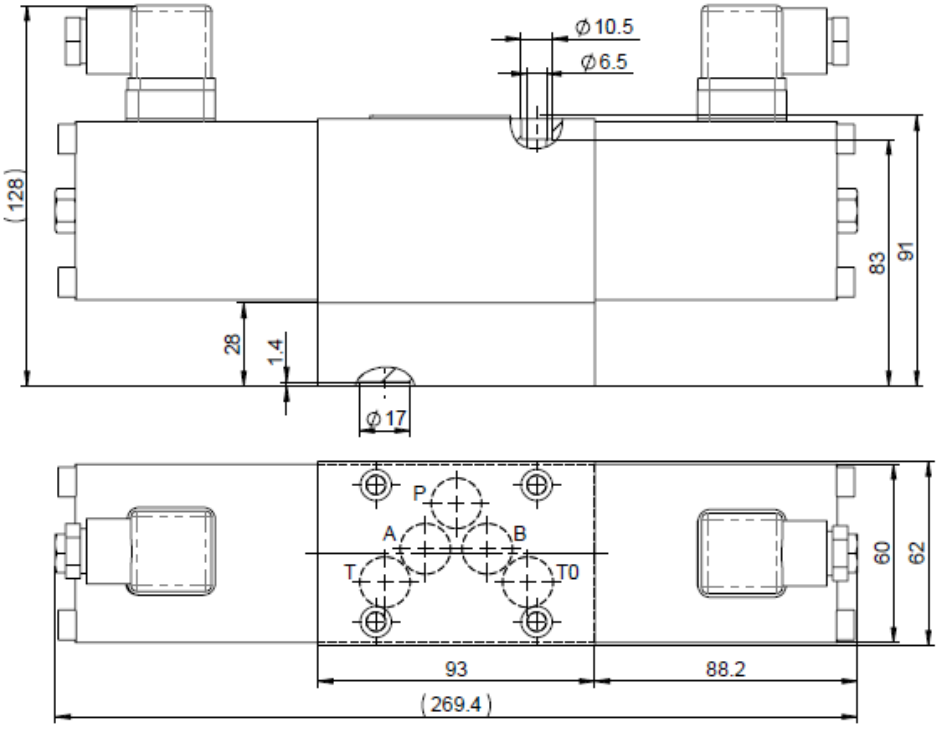


Q = f (p) Volume flow-pressure-characteristics



Dimensions

PVS-10-1-…
pictured: proportional solenoid a-side
Weight: 5.5 kg



PVS-10-2-…
Weight: 7 kg