

Proportional pressure relief valve Flange- and sandwich construction

- Direct operated
- $Q_{\max} = 20 \text{ l/min}$
- $p_{\max} = 400 \text{ bar}$
- $p_{N \max} = 315 \text{ bar}$

DESCRIPTION

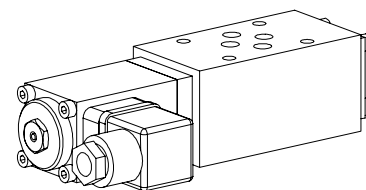
Flange or sandwich type directly operated, proportionally actuated pressure relief valve. Fitted with slip-in cartridge. 5 standard pressure levels are available: 20, 63, 100, 200 and 315 bar. Flange body and sandwich plates are in high quality casting. The volume flow is adjusted by a proportional solenoid (VDE standard 0580). The cartridge body made of steel is phosphatised, the solenoid is zinc coated.

CONTENTS

GENERAL SPECIFICATIONS	1
HYDRAULIC SPECIFICATIONS	1
ELECTRICAL SPECIFICATIONS	1
CHARACTERISTICS	2
SYMBOLS / DIMENSIONS	2
PARTS LIST	2

NG6

ISO 4401-03



FUNCTION

When operating pressure set by the force controlled proportional solenoid operating immersed in the oil is reached, the poppet opens and connects the protected line with the return line to the tank. These pressure relief valves are built according to the differential spool principle and are therefore very sensitive adjustable over the whole pressure range and additionally suitable for systems with extremely low minimum pressures. The operating characteristics curve $p = f(I)$ is almost linear and the hysteresis low. Thanks to the poppet/spool principle and the direct operation, this proportional pressure relief valve is free from leakage oil.

TYPE CODE

International standard interface ISO		A EPSVd ☐ 6 / ☐ - ☐ # ☐	
Proportional- Pressure relief valve direct operated			
Flange	☐ N		
Sandwich in:	P A and B A	☐ no remark ☐ AB ☐ A	☐ B ☐ B
Nominal size 6			
Nominal	$p_N = 20 \text{ bar}$	☐ 20	$p_N = 100 \text{ bar}$ ☐ 100
Pressure ranges:	$p_N = 63 \text{ bar}$	☐ 63	$p_N = 200 \text{ bar}$ ☐ 200 $p_N = 315 \text{ bar}$ ☐ 315
Nominal voltage,	U = 12 VDC	☐ G12	
current type	U = 24 VDC	☐ G24	
Design-Index (Subject to change)			

GENERAL SPECIFICATIONS

Description	Direct operated proportional pressure relief valve
Nominal size	NG6 to ISO 4401-03
Construction	Flange or sandwich
Operations	Proportional solenoid
Mounting	4 mounting holes for. zyl.screws M5 or double ended screws M5
Connection	Threaded connection plates, Multi-flange subplates, Longitudinal stacking system
Ambient temperature	-20...50°C
Mounting position	any
Fastening torque	$M_D = 5,5 \text{ Nm}$ (Qualität 8.8)
Weight	Depending on the type m = 1,2...1,6 kg

ELECTRICAL SPECIFICATIONS

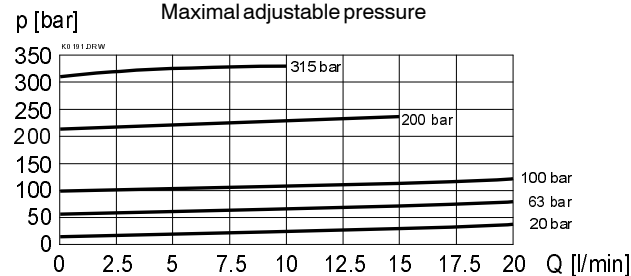
Construction	Proportional solenoid, wet pin push type, pressure tight.
Standard-Nominal voltage	U = 12 VDC U = 24 VDC
Limiting current	$I_G = 1250 \text{ mA}$ $I_G = 680 \text{ mA}$
Relative duty factor	100% ED (see data sheet 1.1-430)
Protection class	IP 65 to EN 60 529
Connection/Power supply	Over device plug connection to ISO 4400/ DIN 43650 (2P+E)
Other electrical specifications	see data sheet 1.1-115 (PI35-M40)

HYDRAULIC SPECIFICATIONS

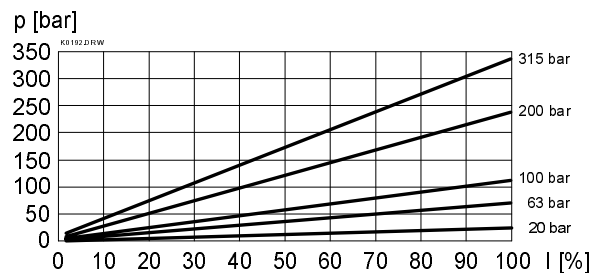
Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 18/16/13 (Required filtration grade $\beta_{6...10} \geq 75$) see data sheet 1.0-50/2
Viscosity range	12 mm ² /s...320 mm ² /s
Fluid temperature	-20...+70°C
Peak pressure	$p_{\max} = 400 \text{ bar}$
Nominal pressure ranges	$p_N = 20 \text{ bar}, p_N = 63 \text{ bar}, p_N = 100 \text{ bar}, p_N = 200 \text{ bar}, p_N = 315 \text{ bar}$
Min. Volume flow	$Q_{\min} = 0,1 \text{ l/min}$
Max. Volume flow	$Q_{\max} = 20 \text{ l/min}$ für $p_N = 20 / 63 / 100 \text{ bar}$ $Q_{\max} = 15 \text{ l/min}$ für $p_N = 200 \text{ bar}$ $Q_{\max} = 10 \text{ l/min}$ für $p_N = 315 \text{ bar}$ see characteristics
Leakage volume flow	1 mA
Resolution	≤ 1%*
Repeatability	≤ 2%*
Hysteresis	* at optimal dither signal

CHARACTERISTICS oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$

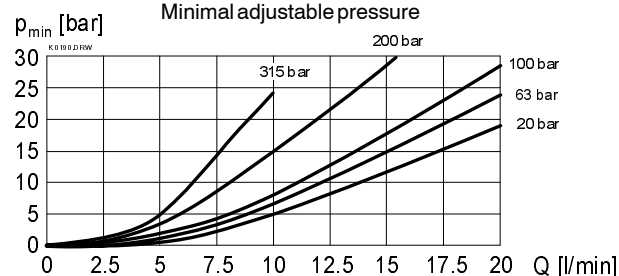
$p = f(Q)$ Pressure volume flow characteristics



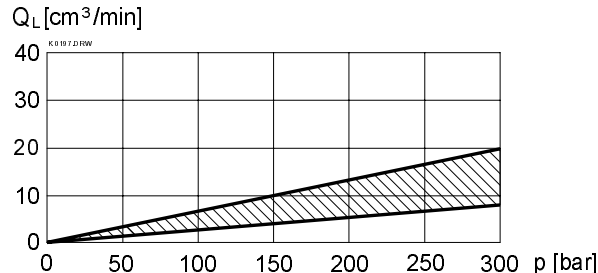
$p = f(I)$ Pressure adjustment characteristics



$p = f(Q)$ Pressure volume flow characteristics

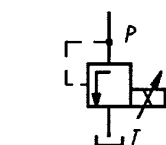


$Q_L = f(p)$ Leakage volume flow characteristics

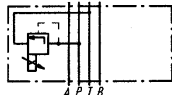


SYMBOLS / DIMENSIONS

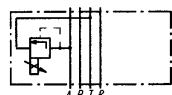
AEPSVdN6



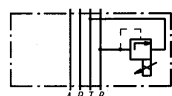
AEPSVd6



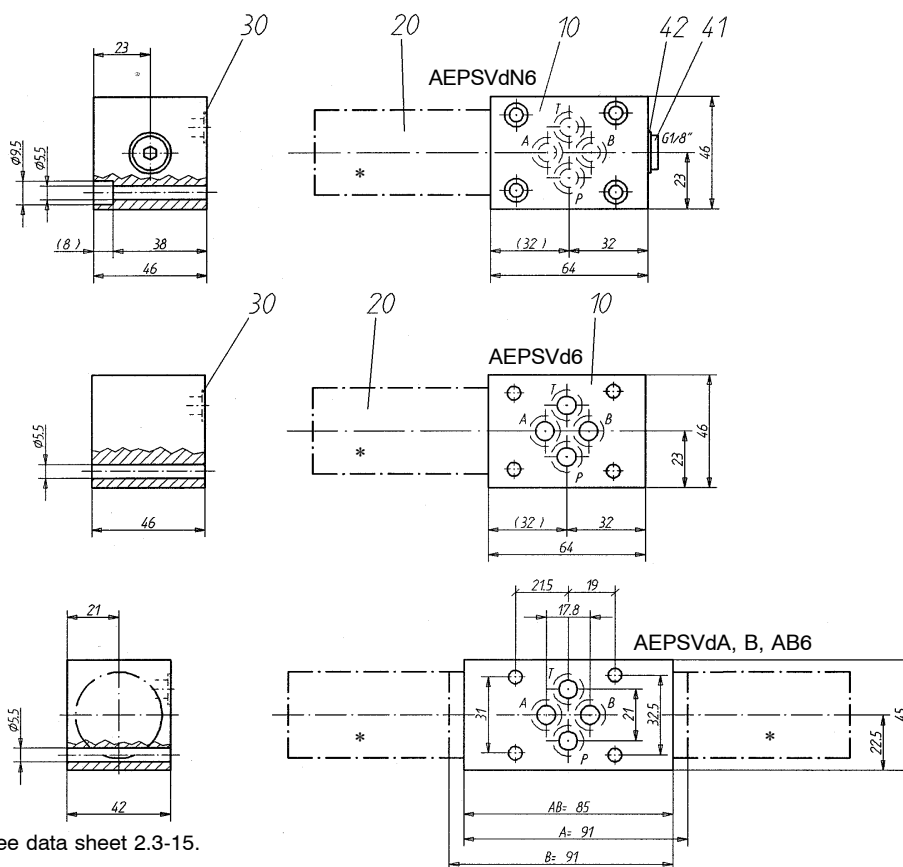
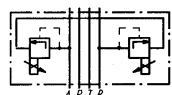
AEPSVdA6



AEPSVdB6



AEPSVdAB6



* The lengths depends on the cartridge type, see data sheet 2.3-15.

PARTS LIST

Position	Article	Description
10	134.3201 134.3400 134.3613	Flange body Sandwich plate P Sandwich plate AB, A, B
20	609.0 ...	Proportional pressure relief cartridges (Data sheet 2.3-570)

Position	Article	Description
30	160.2093	O-Ring ID 9,25x1,78
41	238.1202	Locking screw DIN 908 G1/8"
42	49.2102	Seal ring ID 10,7x17x1,5

Technical explanation see data sheet 1.0-100E