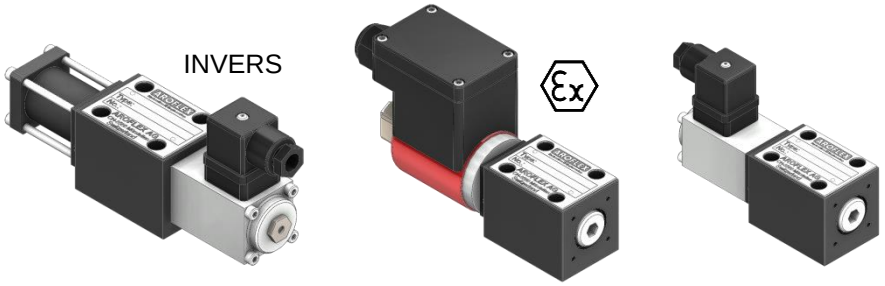
Proportional pressure relief valve NG6
EPDB-06

- **direct operated**
- **INVERSE function available**
- **Q_{max} = 20 l/min**
- **p_{max} = 350 bar**



Description

EPDB

The direct operated proportional pressure relief valve is built as a slip-in cartridge fitted in a connecting flange.
By adjusting the electric current to the solenoid the operating pressure changes proportionally. When the operating pressure is reached, the poppet spool opens and connects the protected line to the tank. Back pressure in T influences thereby the pressure in the protected pressure lines. These pressure relief valves are built according to the differential spool principle and are therefore very sensitive adjustable over the whole pressure range and also suitable for systems with extremely low minimum pressures.

The valves have their applications in hydraulic systems in which the pressure frequently has to be changed. The facility for remote control and signal processing from process control systems enable economical solutions for repeatable sequences.

EPDB INVERSE

Direct operated proportional pressure relief valve. A spring force works against the hydraulic pressure. With solenoid deenergized the maximum operating pressure is present. The force of the proportional solenoid counteracts the spring force. With increasing solenoid current the operating pressure declines (inverse function).

Technical Data

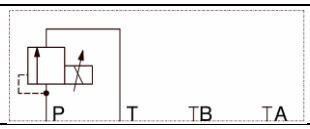
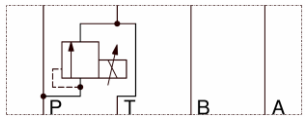
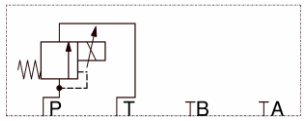
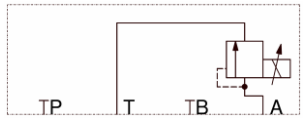
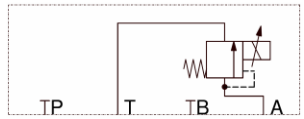
General Specifications	**EPDB**	**EPDB-12VDC**	**EPDB-Exm**	**EPDB-Exd**
Nominal size:	NG6, DIN 24340 A 06, ISO 4401-03, Cetop 3			
Mounting position:	any (solenoid down, only after consulting the manufacturer)			

Solenoid coil	**24VDC**	**12 VDC**	**Exm**	**Exd**
Explosion protection marking:	none	none	Ex II 2 G Ex emb II T4	Ex II 2 G Ex d IIC T4
Type:			2A52W	2A67W
EC-type examination certificate:			PTB 01 ATEX 2129 X	PTB 98 ATEX 1009
Ambient temperature:	- 20° ... + 50°C		- 20° ... + 40°C	- 20° ... + 60°C
Rated voltage:	24 VDC	12 VDC	24 VDC	24 VDC
Current range:	0 - 0.68 A	0 - 1.25 A	0 - 0.7 A*	0 - 0.58 A*
Rated power:	17.5 W	17.5 W	17 W	14 W
Operating time:	100%			
Protection class:	IP65 acc. to EN 60 529			
Connection:	Plug connection ISO 4400/DIN 43650 (2P+E)		Terminal box	Terminal box with thread M20x1.5

Safety instructions for Exm and Exd
The solenoid coils must only be mounted on those valves assigned to. It is essential to read the solenoids operating instructions.
*It must be ensured to remain within the rated voltage and power, with higher temperatures it's not possible to utilise the full current range.

Hydraulic Specifications			
Max. volume flow:	Q_{max} = 20 l/min for p_N = 20 / 63 / 100 bar Q_{max} = 15 l/min for p_N = 200 bar Q_{max} = 12.5 l/min for p_N = 250 bar Q_{max} = 10 l/min for p_N = 315 / 350 bar		
Max. pressure:	p_{max} = 315 bar		
Fluid:	Mineral oil, other fluids on request		
Fluid temperature:	- 20° ... + 70° C	- 20° ... + 40° C	- 20° ... + 60° C
Viscosity range:	12 - 320 mm^2/s (cSt)		
Filtration:	25 µm minimum, recommended: 10µm or better		
Resolution:	1 mA		
Repeatability:	≤ 1 % at optimal dither signal		
Hysteresis:	≤ 2 % at optimal dither signal		

Overview

Symbols	Description	Design
	EPDB-…-SD	Pressure relief from P to T flange construction
	EPDB-…-SW	Pressure relief from P to T sandwich construction
	EPDB-…-INV-SD	Pressure relief from P to T inverse function flange construction
	EPDB-A-…-SD	Pressure relief from A to T flange construction
	EPDB-A-…-INV-SD	Pressure relief from A to T inverse function flange construction

Type code

EPDB	-…	-06	-…	-…	-SD	-…

omit = 24 VDC standard
12 VDC = 12 VDC
Exm = Ⓔx II 2 G Ex emb II T4
Exd = Ⓔx II 2 G Ex d IIC T4

SD = flange construction
SW = sandwich construction (INVERSE and A-T on request)

omit = normal function
INV = inverse function

nominal pressure range
20 = 20 bar **100** = 100 bar **250** = 250 bar
63 = 63 bar **200** = 200 bar **315** = 315 bar **350** = 350 bar

06 = NG 6

omit = Pressure relief from P-T
A = Pressure relief from A-T

proportional pressure relief valve, direct operated

Ordering code (example):

- Proportional pressure relief valve NG6
- Pressure relief from A to T
- Nominal pressure range 200 bar
- Flange construction
- Explosion proof execution Ⓔx II 2 G Ex emb II T4

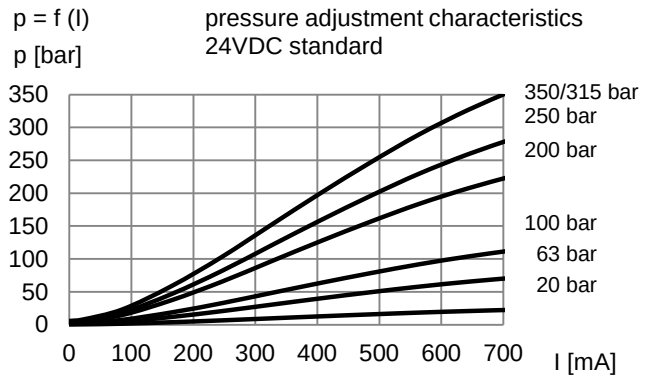
Type Code

EPDB-A-06-200-SD-Exm

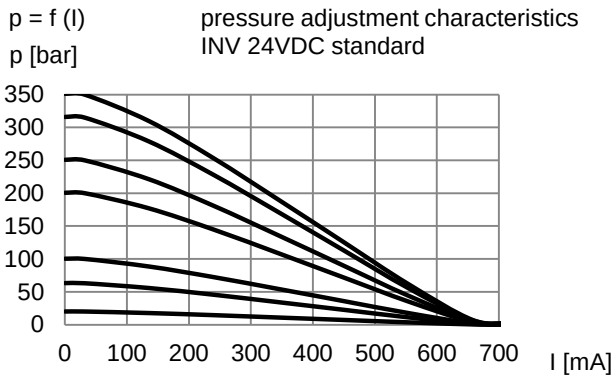
Characteristics and dimensions

oil viscosity v = 30 mm²/s

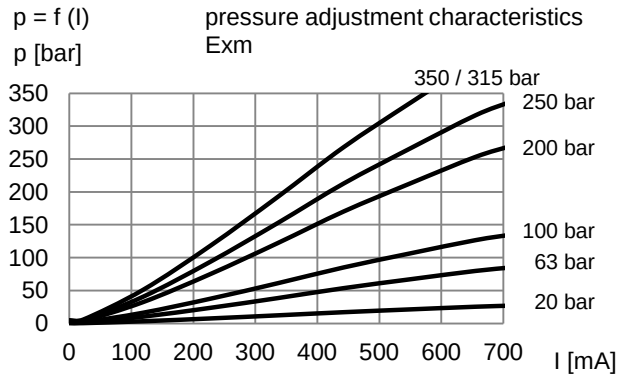
EPDB-…-06-…



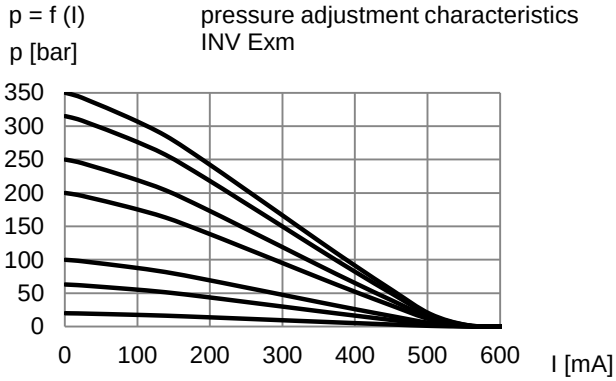
EPDB-…-06-…-INV



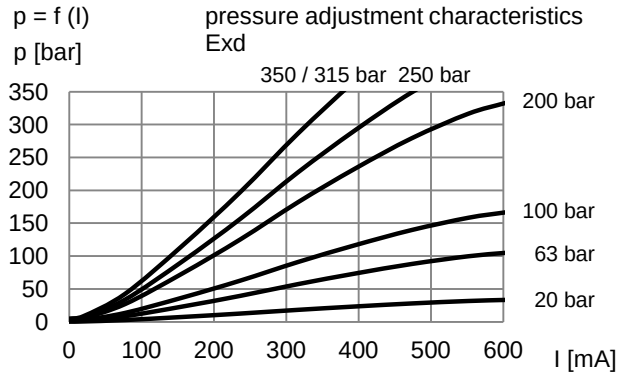
EPDB-…-06-…-…-Exm



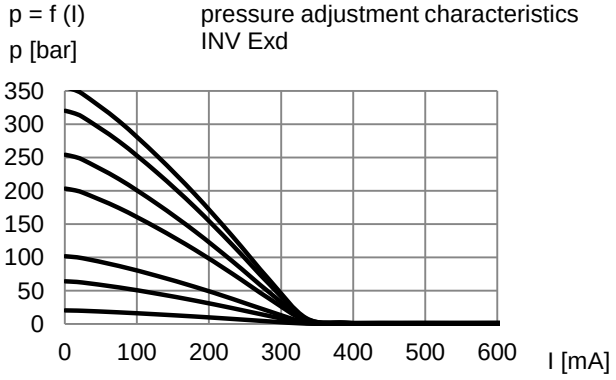
EPDB-…-06-…-INV-…-Exm



EPDB-…-06-…-…-Exd

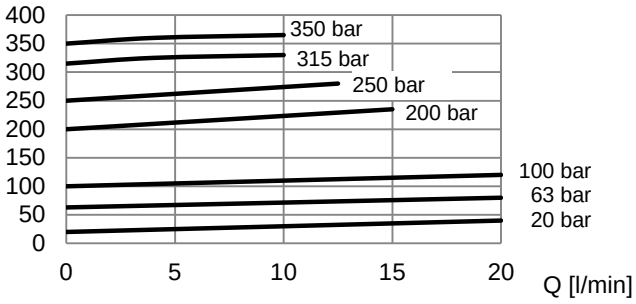


EPDB-…-06-…-INV-…-Exd



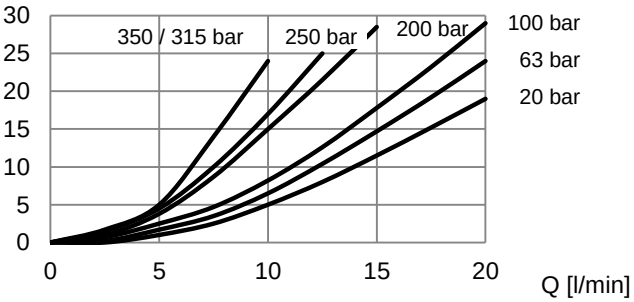
p = f (Q)
p [bar]

Pressure volume flow characteristics
(Maximum adjustable pressure)



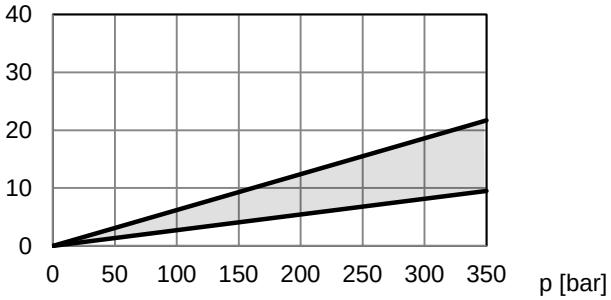
p = f (Q)
p [bar]

Pressure volume flow characteristics
(Minimum adjustable pressure)

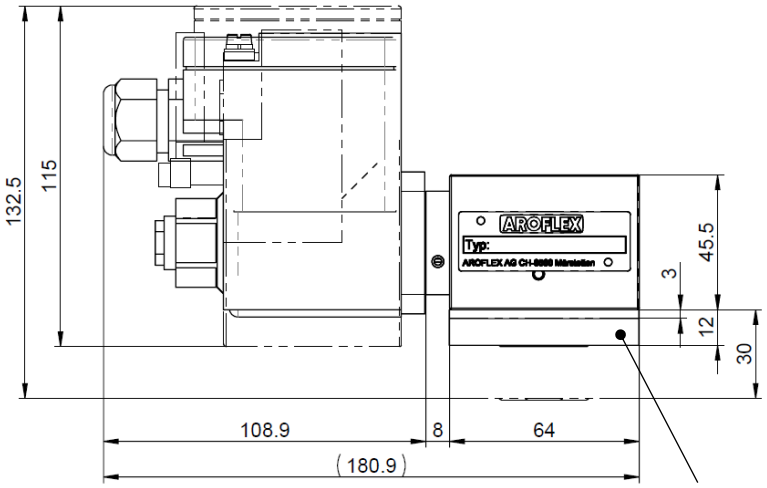


Q_L = f (p)
Q_L [cm³/min]

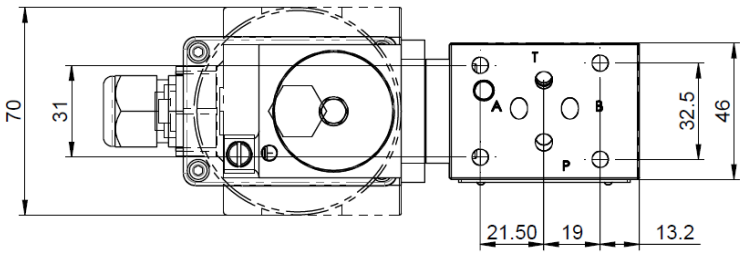
Leakage volume flow characteristics



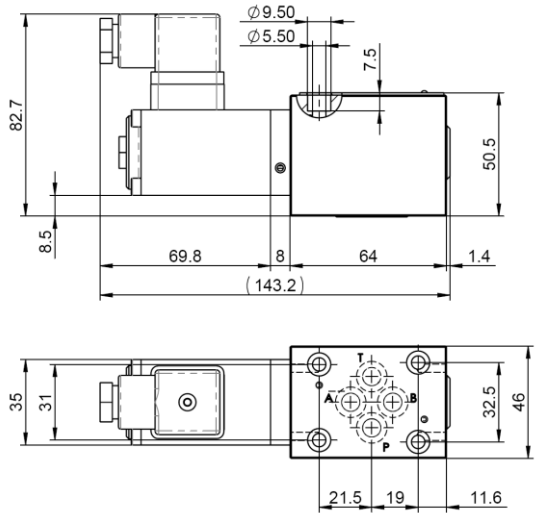
EPDB-…-06-…-SW	Weight: 1.2 kg
EPDB-…-06-…-SW-Exm	Weight: 1.65 kg
EPDB-…-06-…-SW-Exd	Weight: 2.75 kg



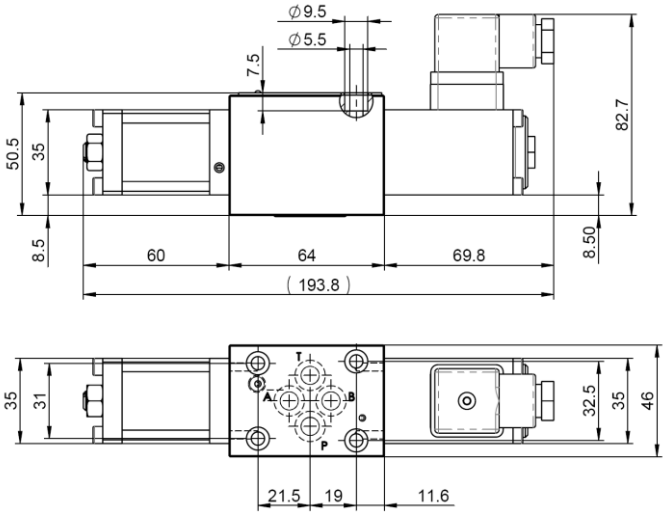
Order distance plate 3 / 12 / 30 mm separately



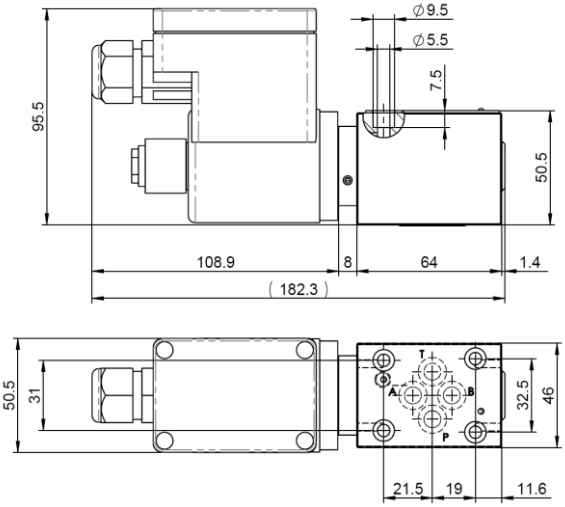
EPDB-…-06-…-SD
Weight: 1.45 kg



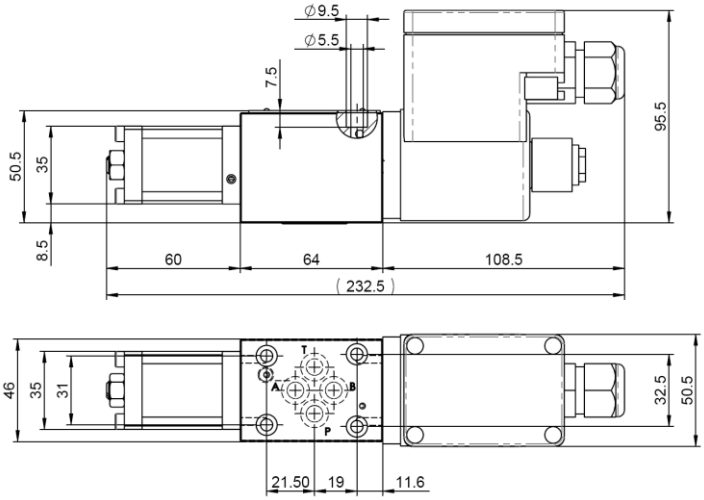
EPDB-…-06-…-INV-SD
Weight: 1.7 kg



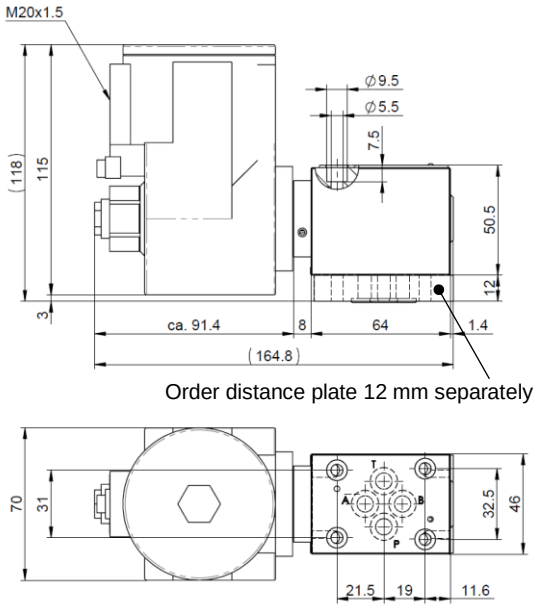
EPDB-…-06-…-SD-Exm
Weight: 1.9 kg



EPDB-…-06-…-INV-SD-Exm
Weight: 2.15 kg



EPDB-…-06-…-SD-Exd
Weight: 3 kg



EPDB-…-06-…-INV- SD-Exd
Weight: 3.25 kg