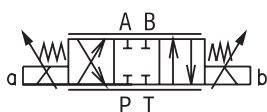
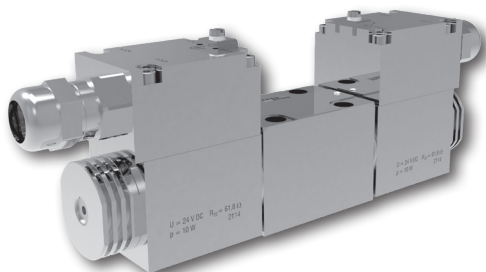


Explosion Proof Proportional Directional Control Valve

PRMX2-06

Size 06 (D03) • Q_{max} 28 l/min (7.4 GPM) • p_{max} 350 bar (5100 PSI)



Technical Features

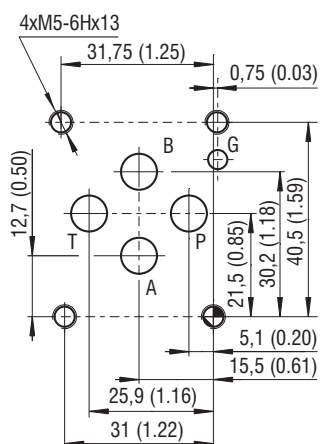
- › Valve and solenoid design prevents a surface temperature capable of igniting
- › Solenoid coil in acc. with directive ATEX 2014/34/EU for explosion-hazard zones
- › Explosion protection for gas and dust
- › Encapsulation enclosure solenoid version
- › Direct acting, proportional control valve
- › The valve opening and resulting flow rate can be modulated continuously in proportion to the reference signal
- › Five chamber housing design with reduced hydraulic power dependence on fluid viscosity
- › Coil interchangeability with all Argo-Hytos ATEX/IECEx product line
- › 12 or 24 V DC coils, the coil can be rotated by 90°
- › In the standard version, the valve housing is zinc-coated for 520 h protection acc. to ISO 9227

ATEX/IECEx Classification

The valves equipped with explosion proof solenoids are available with following certifications and protection modes:

EPS14ATEX1744 X	IECEx EPS14.0064 X
I M2 Ex e mb I Mb	Ex e mb I Mb
II 2G Ex e mb IIB T4 Gb	Ex e mb IIB T4 Gb
II 2D Ex tb IIIC T135°C Db	Ex tb IIIC T135°C Db

ISO 4401-03-02-0-05



Ports P, A, B, T - max. \varnothing 7,5 mm (0.29 in)

Technical Data

Valve size		06 (D03)	
Max. operating pressure at ports P, A, B	bar (PSI)	350 (5080)	
Maximal flow at $\Delta p=10$ bar (145 PSI)	l/min (GPM)	10 (2.6), 20 (5.3), 28 (7.4)	
Maximum operating pressure at port T	bar (PSI)	210 (3050)	
Fluid temperature range (NBR)	°C (°F)	-30 ... +60 (-22 ... +140)	
Ambient temperature max.	°C (°F)	-30 ... +60 (-22 ... +140)	
Hysteresis	%	< 6	
Mass	valve with 1 solenoid	2.52 (5.56)	
	valve with 2 solenoids	3.97 (8.75)	
Technical Data - Explosion proof solenoid			
Available voltages	V DC	12	24
Available nominal power	W	18	
Supply voltage tolerance	%	±10	
Max. current	A	1.37	0.65
Rated resistance at 20 °C (68 °F)	Ω	7.7	32.3
	Data Sheet	Type	
General information	GI_0060	Products and operating conditions	
Mounting surface	SMT_0019	Size 06	
Spare parts	SP_8010		

Ordering Code

PRMX2-06 [] / [] - [] [] [] [] [] - []

Explosion proof Proportional Directional Control Valve

Valve size

Spool symbols

3Z11

3Y11

Nominal flow rate at $\Delta p = 10$ bar (145 PSI)

10 l/min (2.6 GPM)	10
20 l/min (5.3 GPM)	20
28 l/min (7.4 GPM)	28

Surface treatment
B zinc-coated (ZnNi), ISO 9227 (520 h)

Seals
NBR

Manual override
standard detent assembly

Cable length
without cable
3 3000 mm
8 8000 mm

Temperature class - solenoid nominal power
Class T4 - 18 W

Supply voltage / max. current
12 V DC / 1.56 A
24 V DC / 0.74 A

No designation

No designation N7

No designation

B4

- For proportional valves with two solenoids, one solenoid must be de-energized before the other solenoid can be charged.
 - Mounting bolts M5x45 ISO 4762 or studs must be ordered separately. Tightening torque is 8.9 Nm (6.56 lbf.ft)
 - Besides the shown widely used valve versions other special models are available.
- Contact our technical support for their identification, feasibility and operating limits.

Characteristics measured at $v = 32$ mm²/s (156 SUS)

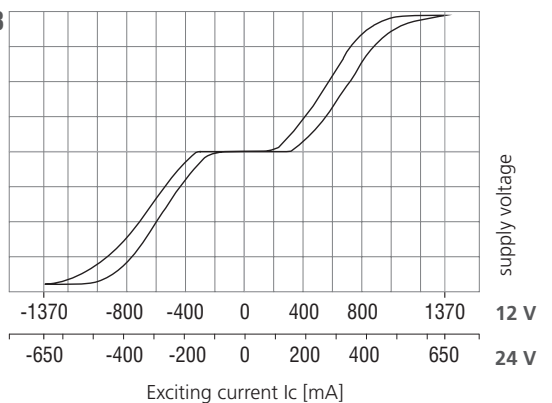
Flow characteristic:

$\Delta p = 10$ bar (145 PSI)

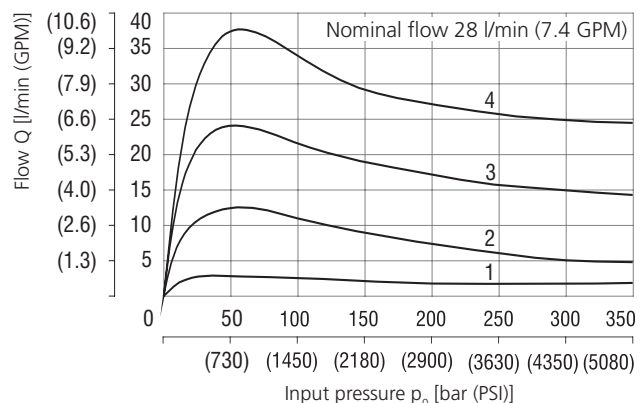
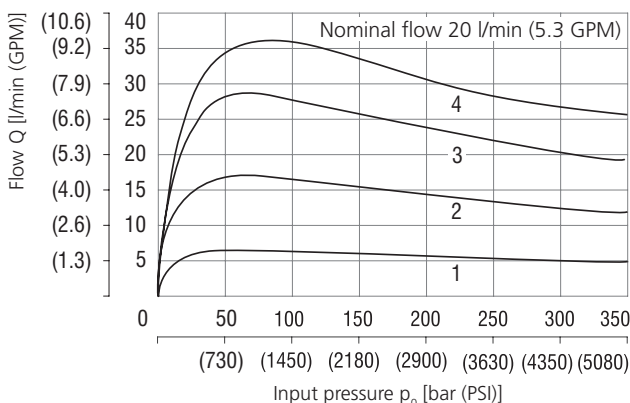
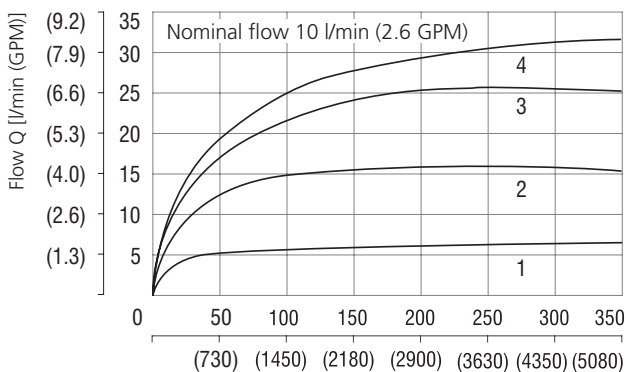
Flow direction:

P → A / B → T or P → B / A → T

Nominal flow 10, 20, 28 l/min	Flow Q [l/min (GPM)]	
	10 (2.6)	20 (5.3)
	7.5 (2.0)	15 (4.0)
	5.0 (1.3)	10 (2.6)
	2.5 (0.7)	5 (1.3)
	0	0
	-2.5 (-0.7)	-5 (-1.3)
	-5.0 (-1.3)	-10 (-2.6)
	-7.5 (-2.0)	-15 (-3.7)
	-10 (-2.6)	-20 (-5.3)



Operating limits:



Solenoid current:	
1	40 %
2	60 %
3	80 %
4	100 %

Marking Example

Solenoid Marking

74EX18 046B A012 UN=12VDC Ig=1,37A R20= 7,7 Ω IP65 CE 0408	
EPS14ATEX1744 X ⓧ I M2 Ex e mb I Mb ⓧ II 2G Ex e mb IIB T4 Gb ⓧ II 2D Ex tb IIIC T135°C Db IECEX EPS14.0064 X Ex e mb I Mb Ex e mb IIB T4 Gb Ex tb IIIC T135°C Db	1234/01 02/14
-40 °C ≤ Tamb ≤ +60°C	

74EX18 046B A024 UN=24VDC Ig=0,65A R20=32,3Ω IP65 CE 0408	
EPS14ATEX1744 X ⓧ I M2 Ex e mb I Mb ⓧ II 2G Ex e mb IIB T4 Gb ⓧ II 2D Ex tb IIIC T135°C Db IECEX EPS14.0064 X Ex e mb I Mb Ex e mb IIB T4 Gb Ex tb IIIC T135°C Db	1234/01 02/14
-40 °C ≤ Tamb ≤ +60°C	

Group I (Mining)

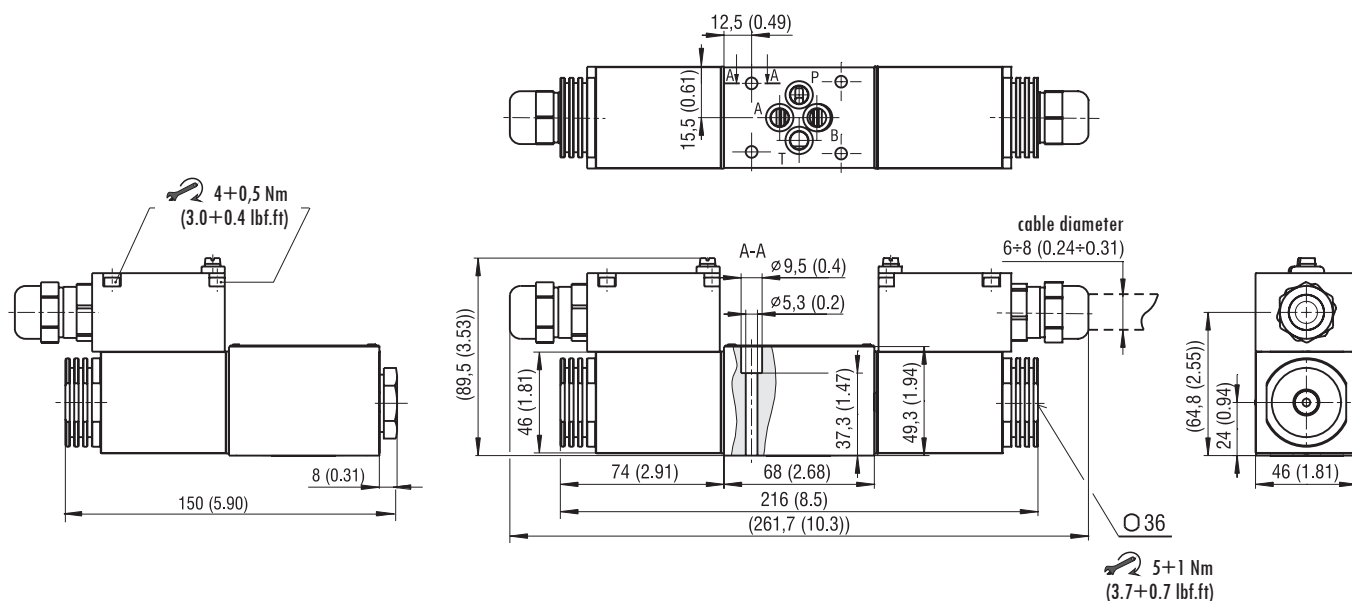
ⓧ	ATEX mark of conformity to the 2014/34/EU directive and to the applicable technical norms
I	Group I for mines
M2	High protection - equipment category
Ex e mb	Type of protection: e - increased safety, mb - encapsulated
I	Gas group (methane)
Mb	Equipment protection level - high level protection for explosive atmosphere

Group II

ⓧ	ATEX mark of conformity to the 2014/34/EU directive and to the applicable technical norms
II 2G	Solenoid for surface plants with gas and vapors environment for zones 1 and 2
II 2D	Solenoid for surface plants with dust environment for zones 21 and 22
Ex e mb	Type of protection: e - increased safety, mb - encapsulated
Ex tb	Type of protection: tb - protection by enclosure
IIB	Equipment suitable for substances (gas) of group IIB
IIIC	Equipment suitable for conductive dust
T4	Temperature class (maximum solenoid surface temperature)
T135	Maximum solenoid surface temperature
Gb	Equipment protection level - high level protection for explosive gas atmosphere
Db	Equipment protection level - high level protection for explosive dust atmosphere

Manual Override in millimeters (inches)

No designation - standard	N7 - detent assembly


Customer Information
Initial installation

- › The ambient temperature range shall not exceed the temperatures given in chapter Technical data (page 1). The maximum temperature of the medium (generally hydraulic fluid) shall not exceed 60 °C (140 °F).
- › It is the user's duty to ensure free and unhindered heat emission during operation. This means that the solenoid shall neither be covered nor stored immediately adjacent to heat sources (e.g. fan heaters) during operation.
- › The solenoid shall not be subjected to direct sunlight during operation.

Installation notice - installation, mounting, demounting

- › Using the V DC type for temperature class T4 requires a cable with an operating temperature limit of at least +105 °C (221 °F), e.g. LAPP FD Robust. The fastening torque on the cable gland depends of the used cable and is to be determined by the installing user.
- › When installing the V DC solenoid, the fastening torque of the screws shall be 4 Nm (2.95 lbf.ft) and for the BARTEC connection box 0.4 Nm (0.30 lbf.ft).
- › When installing the V DC solenoid, an appropriate cable shoe of size M3 with a crosssectional area of 0.75 mm² with an operating temperature limit of at least +105 °C (221 °F) is to be used.
- › The user has to safeguard each solenoid with a fuse: $I_n \leq 3I_{c,r}$, with trigger characteristic "slow blow". ($I_{c,r}$ values see Operating Instructions HA 4090 - Table 2). The breaking capacity of the fuse link has to be stronger than the maximum short circuit current at the user's operating area.
- › EX-secured components must be used during mounting in case the fuse and/or the interface are within the EX-range.

Safety notice - Please read carefully

- › In case the solenoid shows any signs of a defect, malfunctioning or external damage (including corrosion), the device must immediately be taken out of operation.
- › Any deposits on the surface of the device shall not obstruct heat emission.
- › To maintain legibility of the data plate, the solenoid must not be coated.

Caution

- › Always disconnect the solenoid from the power supply before any maintenance or other work on it.
- › Always exchange the complete solenoid. Do not try to repair the solenoid.
- › Under no circumstances shall any changes be made to the solenoid or the connecting cable.
- › Never operate the solenoid when disconnected from the valve body.
- › Demount the solenoid only in secure areas (not in EX-areas). If this is not possible, the solenoid must cool off for at least 10 minutes.

