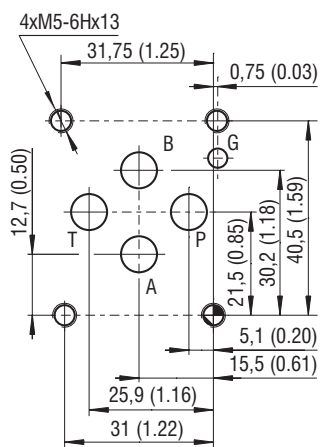

**Technical Features**

- › 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
- › Pilot operated proportional control valve with exceptional hydraulic power limits
- › 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
- › 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
DC	I M2 Ex e mb I Mb	Ex e mb I Mb
	II 2G Ex e mb IIC T4 Gb	Ex e mb IIC 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)	
Max. flow at pressure 320 bar (4640 PSI)	l/min (GPM)	140 (37)	
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)	
Nominal flow rate $Q_N$ at $\Delta p=10$ bar (145 PSI)	l/min (GPM)	25 (6.6)	
Hysteresis	%	< 6	
Weight	valve with 1 solenoid	2.52 (5.56)	
	valve with 2 solenoids	3.97 (8.75)	
Technical Data - Explosion proof solenoid			
Available nominal voltages $U_N$	V DC	12	24
Available nominal input power		18	
Supply voltage fluctuations		$U_N \pm 10\%$	
Enclosure type acc. to EN 60529		IP66 / IP68*	
*Test procedure IP68: Pressure 1 m under water, test duration 24 h. The indicated IP protection level is only achieved if the cable is properly mounted.			
Limit current	A	1.37	0.65
Rated resistance at 20 °C (68 °F)	$\Omega$	7.7	32.3
	Data Sheet	Type	
General information	GI_0060	Products and operating conditions	
Operating Instructions	4090		
Mounting surface	SMT_0019	Size 06	
Spare parts	SP_8010		

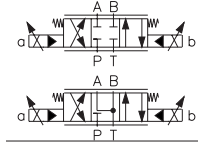
### Ordering Code

PRMX8-06 [ ] / 25 - [ ] B4 [ ] [ ] [ ] - 1 B [ ]

**Explosion proof  
Proportional directional  
control valve, pilot operated**

**Valve size**

**Spool symbols**



3Z11

3Y11

**Nominal flow rate at  $\Delta p = 10$  bar (145 PSI)**  
25 l/min (6.6 GPM)

**Supply voltage / limit current**

12 V DC / 1.37 A  
24 V DC / 0.65 A

12  
24

**Temperature class - solenoid nominal input power**  
Class T4 - 18 W

**No designation**

**A** IECEx for Australia and New Zealand  
**E** EAC for EAEU\* States

**Certifications of valve**

ATEX, IECEx

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

**Clamping length for mounting screw**  
22 mm (0.86 in)

**No designation**

**Seals**  
NBR

**No designation**  
N7

**Manual override**  
standard  
detent assembly

**No designation**

3  
8

**Cable length**  
without cable

3 m  
8 m

\*EAEU= Eurasian Economic Union, certificate according to TR TS 012/2011 valid for the Russian Federation, Belarus, Armenia, Kazakhstan and Kyrgyzstan.

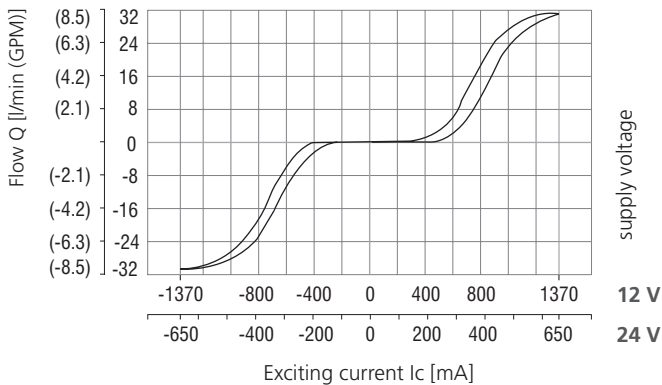
- For proportional valves with two solenoids, one solenoid must be de-energized before the other solenoid can be charged.
  - Mounting bolts M5 x 30 ISO 4762 or studs must be ordered separately. Tightening torque is 8.9 Nm (6.56 lbf.ft).
  - Besides the shown widely used valve versions other special models are available.
- Contact our technical support for their identification, feasibility and operating limits.

### Characteristics measured at $v = 32$ mm<sup>2</sup>/s (156 SUS)

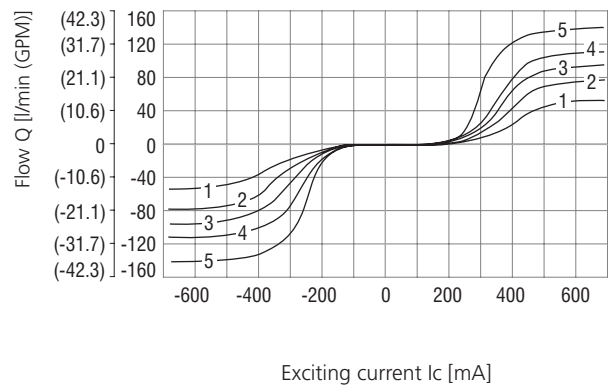
#### Flow characteristic:

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

Flow direction P → A / B → T or P → B / A → T

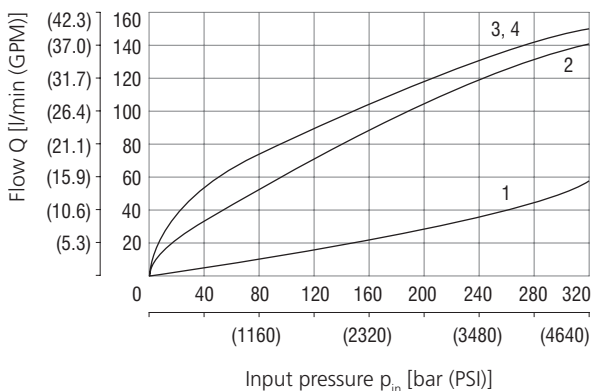


#### Flow characteristic:



p <sub>in</sub> [bar (PSI)]	1	2	3	4	5
	50 (725)	100 (1450)	150 (2180)	200 (2900)	320 (4640)

#### Operating limits:



I <sub>c</sub> [%]	1	2	3	4
	40	60	80	100

## Marking Example

### Marking of solenoid

18 W

Schienenle Magnettechnik und Elektronik GmbH.  
In Oberwiesen 3, D-88682 Salem, www.schienenle.de

EX18 046 18W 24 V DC IP66 / IP68

$U_N = 24 \text{ V DC}$   $R_{20} = 32,3 \Omega$   $I_G = 0,65 \text{ A}$   $P_{20} = 17,8 \text{ W}$

EPS 14 ATEX 1 744 X / IECEx EPS 14.0064X

I M2 Ex e mb I Mb  
II 2G Ex e mb IIC T4 Gb  
II 2D Ex tb IIIC T135°C Db

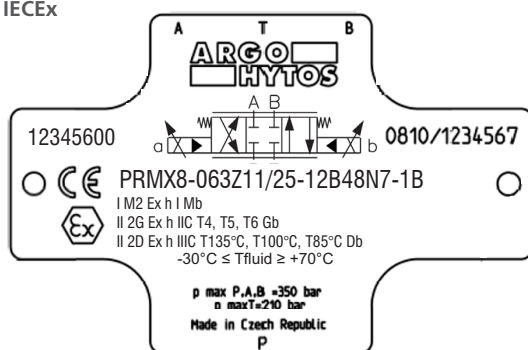
$-40^\circ\text{C} \leq T_{\text{amb}} \leq +60^\circ\text{C}$  2004

external fuse  $I_N \leq 3 \times I_G$

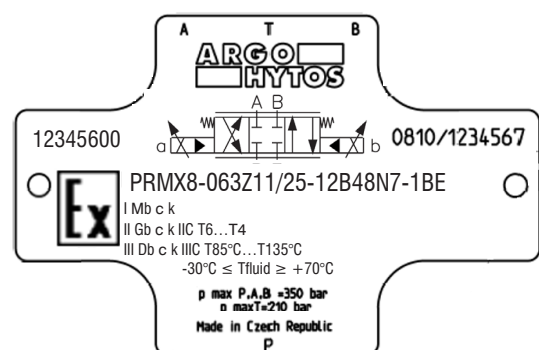
42140000 FA2020-0798/008  
12/20

### Marking of non-electrical part of valve

ATEX / IECEx



EAC



### Group I (Mining)

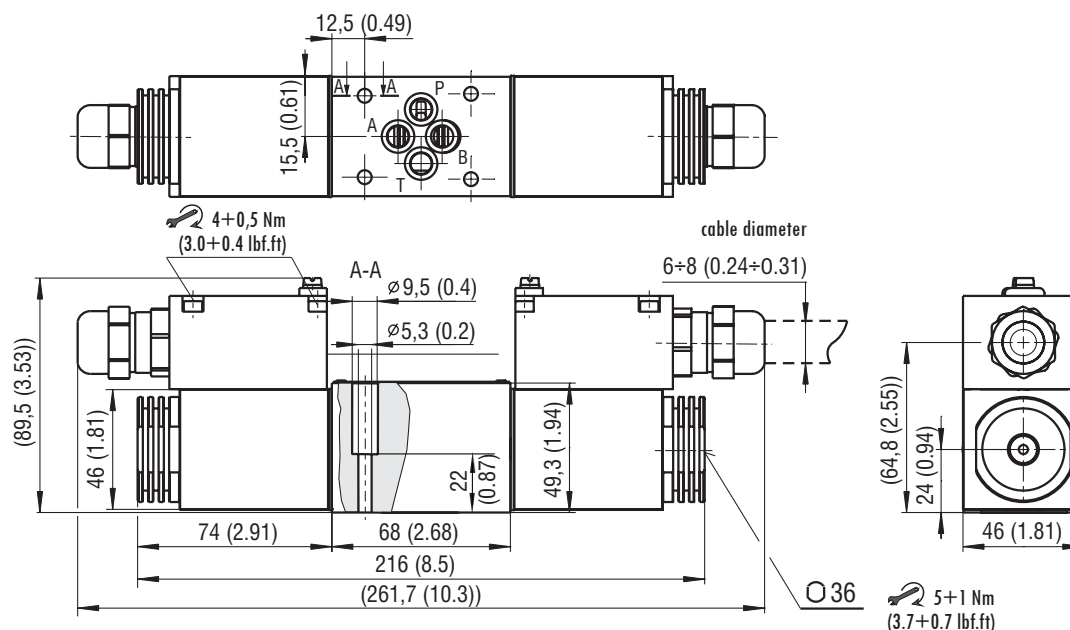
	ATEX mark of conformity to the 2014/34/EU directive and to the applicable technical norms
I	Group I for mines
M2	High protection - equipment category
Ex e mb	Type of protection: e - increased safety, mb - encapsulated
I	Gas group (methane)
Mb	Equipment protection level - high level protection for explosive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



**i** Proper function of the valve is guaranteed only if the supply pressure in the "P" channel is present and exceeds always the pressure in the "T" channel.

### Customer Information

#### Initial installation

- › The ambient temperature range shall not overstep the temperatures given in the chapter Technical Data - Explosion proof solenoid (page 1). The maximum temperature of the medium (generally hydraulic fluid) shall not exceed 70 °C (158 °F).
- › It is the users 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.
- › Care is to be given that the solenoid is not subjected to direct sunlight during operation.

#### Installation notice - installation, mounting, demounting

- › Installing the type V DC for temperature class T4 a cable with an ambient operating temperature of at least +105 °C (+221 °F) is to be used. For T5 and T6 a cable with an ambient operating temperature of a least +90 °C (+194 °F) is sufficient. The fastening torque on the cable gland depends of the used cable and is to be determined by installing user.
- › When installing the V DC solenoid type, please note the fastening torque of the screws (4 Nm or 2.95 lbf.ft) and of the Connection box (0.4 Nm or 0.30 lbf.ft).
- › When installing the V DC solenoid connection box an appropriate wires max. 2.0 mm<sup>2</sup> are to be used. When installing the V DC solenoid grounding an appropriate cable shoe M3 - 0.75 mm<sup>2</sup> with an ambient operating temperature of at least +125 °C or +257 °F) is to be used.
- › The cable shoe fix by grounding screw next to the connection box under the cover of the solenoid.
- › The user has to safeguard each solenoid with a fuse:  $I_N \leq 3xI_{Gr}$  with tigger characteristic "slow blow". ( $I_G$  values see Operating Instructions HA 4090 - Table 2). The breaking capacity of the fuse link has to be stronger than the max short circuit current at the users operating area.
- › EX-secured components must be used during mounting in case the fuse and/or the interface are within the EX-range.
- › In addition, the solenoid may be connected to ground via the purpose-built ground clamp an the connector casing.

#### 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 date 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.
- › In no case shall any changes be made to the solenoid or the connecting cable.
- › Demount the solenoid only in secure areas (not in EX-areas). If this is not possible, the solenoid must cool for 10 minutes minimum.

