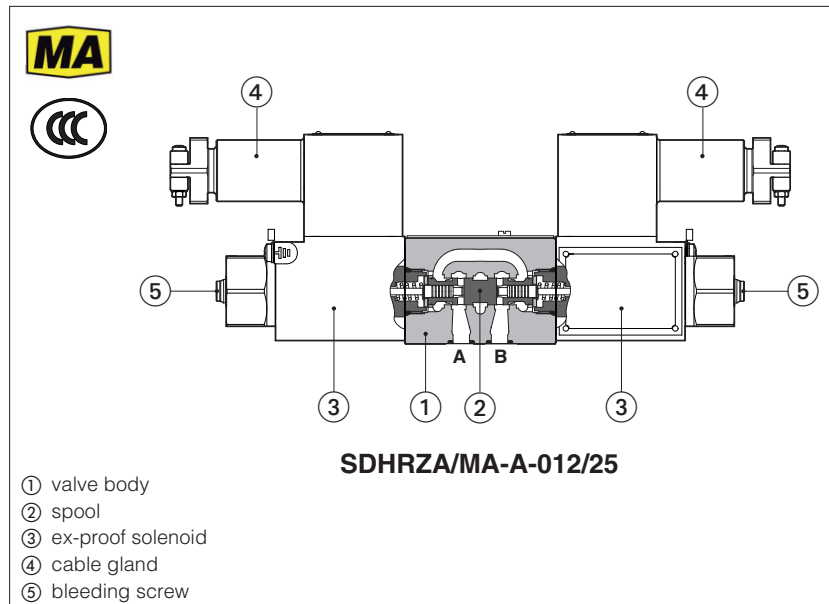


Ex-proof proportional reducing valves type **SDHRZA**

direct, without transducer - **MA** and **CCC** certification



SDHRZA/MA-A

Ex-proof proportional pressure reducing valves, equipped with explosion-proof solenoids certified according to **CCC** and **MA** Chinese mining certification, protection mode:

Ex db I Mb for surface, tunnel or mine plants.

They operate in association with electronic drivers, see section 2, which supply the proportional solenoids with proper current to align the pressure regulation to the reference signal.

Technical characteristics

They provide the pressure reduction on ports A, or B or A and B, depending on the valve model. The direct execution performs low internal leakages, fast response and low hysteresis.

Typical applications

Pressure reduction in low flow systems
Pilot stage of pilot operated valves

Mounting surface: **ISO 4401 size 06**

Max flow: **24 l/min**

Max pressure: **315 bar**

Max regulated pressure: **25 bar**

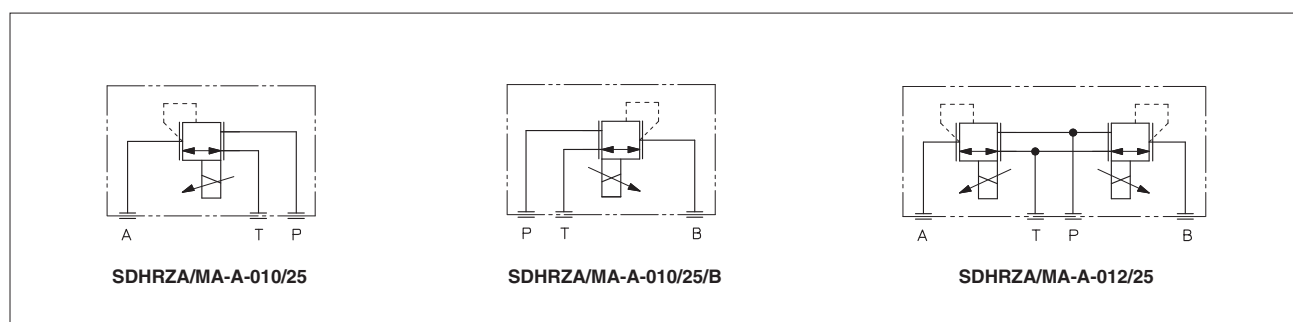
1 MODEL CODE

SDHRZA	/	MA	-	A		010	/	25	/	*	/	*		**	/	*
Proportional pressure reducing valve size 06																
MA = Ex-proof Ma chinese certification																
A = off-board driver, see section 2																
Configuration:																
010 = reduced pressure on port A (port B for option /B)																
012 = reduced pressure on port A and B																
Regulated pressure:																
25 = reduced pressure range 3÷25 bar																
Seals material, see section 4:																
- = NBR																
PE = FKM																
Series number																
Voltage code (1):																
see section 2 :																
- = standard coil for 24Vdc Atos drivers																
24 = optional coil for 24 Vdc low current drivers (2)																
Hydraulic option																
B = reduced pressure on port B, solenoid side of port A																
(only for valve configuration 010)																

(1) Available on request coil voltage /6 for Atos driver with power supply 12 Vdc

(2) Select coil voltage /24 in case of electronic drivers not supplied by Atos, with power supply 24 Vdc

2 HYDRAULIC SYMBOLS



3 ELECTRONIC DRIVERS

Electronic drivers are factory set with max current limitation for ex-proof valves.

Please include in the driver order also the complete code of the connected ex-proof proportional valve.

Drivers model	E-BM-AS-* /A	E-BM-AES-* /A
Type	digital	digital
Format	DIN-rail panel	
Data sheet	G030	GS050

4 GENERAL CHARACTERISTICS

Assembly position / location	Any position
Subplate surface finishing to ISO 4401	Acceptable roughness index, Ra ≤0,8 recommended Ra 0,4 - flatness ratio 0,01/100
MTTFd values according to EN ISO 13849	150 years, for further details see technical table P007
Ambient temperature	Standard = -20°C ÷ +40°C /PE option = -20°C ÷ +40°C
Storage temperature range	Standard = -20°C ÷ +80°C /PE option = -20°C ÷ +80°
Compliance	Explosion proof protection, see section 6 -Flame proof enclosure Ex-db

5 HYDRAULIC CHARACTERISTICS

Max regulated pressure (Q=1 l/min)	[bar]	25
Min regulated pressure (Q=1 l/min) (1)	[bar]	3
Max pressure at port P	[bar]	315
Max pressure at port T	[bar]	210
Max flow	[l/min]	24
Response time 0-100% step signal (2) (depending on installation)	[ms]	≤ 50
Hysteresis	[% of the max pressure]	≤ 1,5
Linearity	[% of the max pressure]	≤ 3
Repeatability	[% of the max pressure]	≤ 2


Notes: above performance data refer to valves coupled with Atos electronic drivers, see section 3

(1) Min pressure value to be increased of T line pressure

(2) Average response time value; the pressure variation in consequence of a modification of the reference input signal to the valve is affected by the stiffness of the hydraulic circuit: greater is the stiffness of the circuit, faster is the dynamic response

6 SEALS AND HYDRAULIC FLUID

Seals, recommended fluid temperature	NBR seals (standard) = -20°C ÷ +60°C, with HFC hydraulic fluids = -20°C ÷ +50°C FKM seals (/PE option) = -20°C ÷ +80°C		
Recommended viscosity	20 ÷ 100 mm²/s - max allowed range 15 ÷ 300 mm²/s		
Max fluid contamination level	normal operation longer life	ISO4406 class 18/16/13 NAS1638 class 7 ISO4406 class 16/14/11 NAS1638 class 5	see also filter section at www.atos.com or KTF catalog
Hydraulic fluid	Suitable seals type	Classification	Ref. Standard
Mineral oils	NBR, FKM, HNBR	HL, HLP, HLPD, HVLP, HVLPD	DIN 51524
Flame resistant without water	FKM	HFDU, HFDR	ISO 12922
Flame resistant with water (1)	NBR, HNBR	HFC	

 The ignition temperature of the hydraulic fluid must be 50°C higher than the max solenoid surface temperature

(1) **Performance limitations in case of flame resistant fluids with water:**

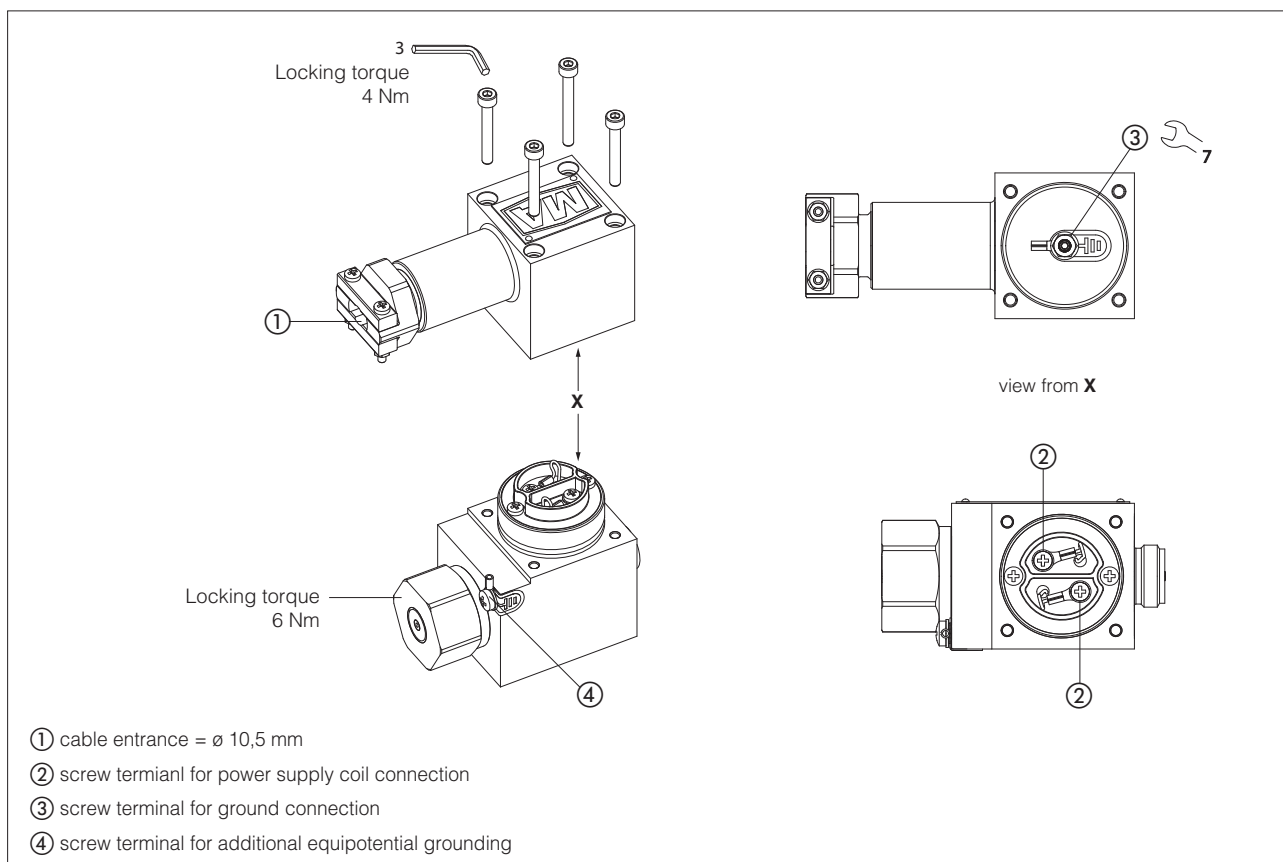
- max operating pressure = 210 bar
- max fluid temperature = 50°C

7 CERTIFICATION DATA

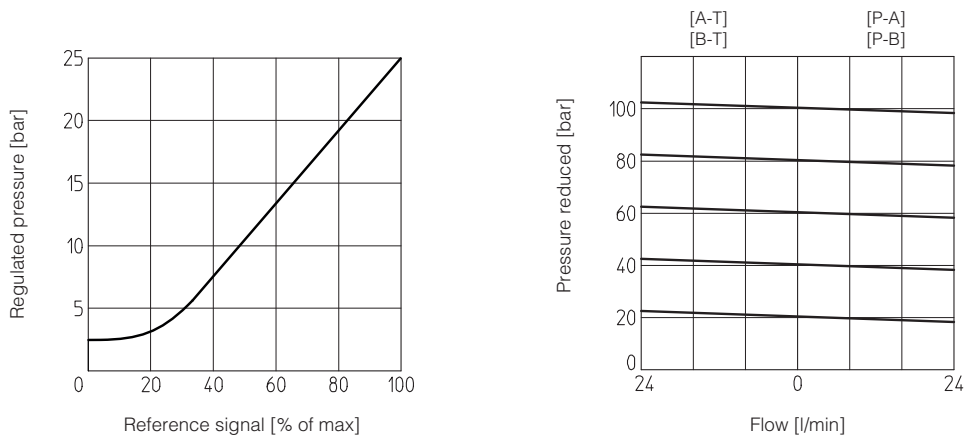
Valve type	SDRHZA/MA	
Voltage code	(standard)	24
Max solenoid current	2,5 A	1,2 A
Certification	MA mining, CCC	
Solenoid certified code	DTBBL10-37/12FYC	DTBBL10-37/24FYC
Type examination certificate	MA: MEE231120	MA: MEE231118
	CNEx 22.5286X CCC: 2024312307000486	
Method of protection	Ex db I Mb	
Surface temperature	≤150 °C	
Ambient temperature	-20 ÷ +40 °C	
Cable entrance	cable entrance Ø = 10.5mm	
Protection degree to DIN EN60529	IP 65	

⚠ WARNING: service work performed on the valve by the end users or not qualified personnel invalidates the certification

8 EX-PROOF SOLENOID WIRING



9 DIAGRAMS based on mineral oil ISO VG 46 at 50°C



10 INSTALLATION DIMENSIONS FOR SDHRZA/MA [mm]

ISO 4401: 2005

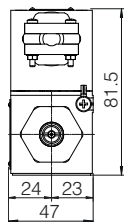
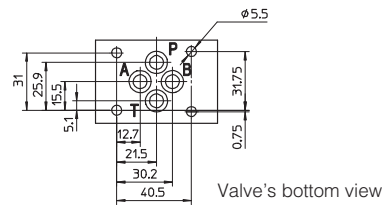
Mounting surface: 4401-03-02-0-05

Fastening bolts: 4 socket head screws M5x30 class 12.9

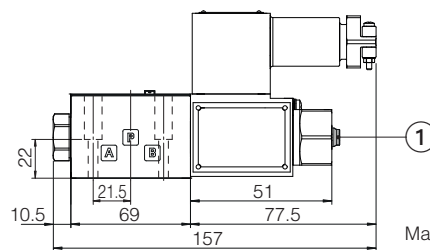
Tightening torque = 8 Nm

Seals: 4 OR 108;

Diameter of ports A, B, P, T: $\varnothing 7,5$ mm (max)

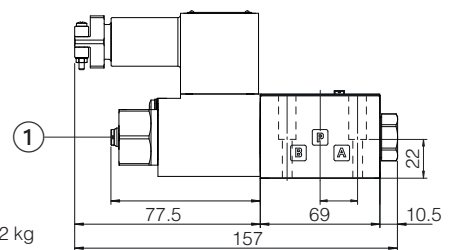


SDHRZA/MA-A-010

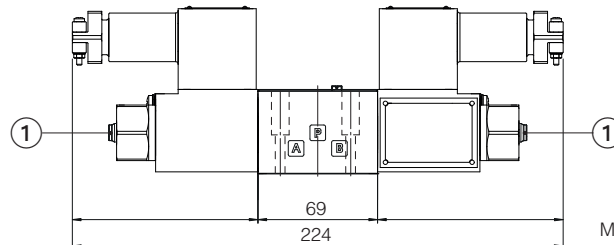


Mass: 3.2 kg

SDHRZA/MA-A-010/B



SDHRZA/MA-A-012



Mass: 5.2 kg

① screw for air bleeding