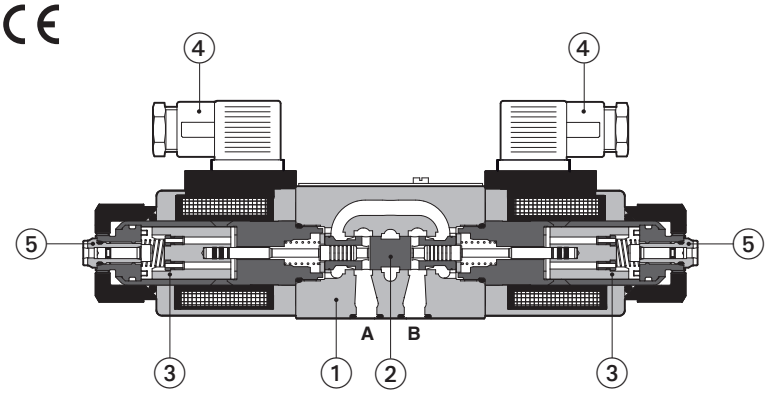
Proportional pressure reducing valves type SDHRZE

direct, without transducer



SDHRZE- A-012/25

① Valve body
② Spool
③ Proportional solenoid
④ Electric connector (supplied with the valve)
⑤ Bleeding screw

SDHRZE-A

3 way, direct operated proportional pressure reducing valves, size 06.

They operate is 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.
The solenoid coils are plastic encapsulated with insulation class H and they are available with different nominal resistances depending to the voltage supply (12 VDC or 24 VDC) and to the electronic driver type, see section 2 and 3

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

SDHRZE	-	A	-	010	/	25	/	*	/	*	/	**	/	*

SDHRZE: Proportional pressure reducing valve size 06

A = for 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

Hydraulic option
B = reduced pressure on port B, solenoid side of port A (only for valve configuration 010)

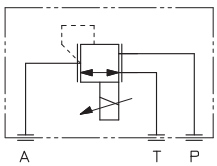
Coil options
see section 3 and 4:
- = standard coil for 24VDC Atos drivers
6 = optional coil for 12VDC Atos drivers
18 = optional coil for 24VDC low current drivers **(1)**

Series number

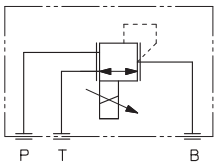
Seals material, see sect. 5:
- = NBR
PE = FKM
BT = HNBR

(1) Select coil voltage **/18** in case of electronic drivers not supplied by Atos, with power supply 24 VDC

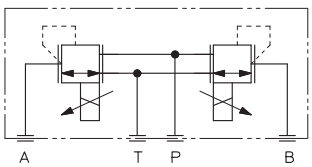
HYDRAULIC SYMBOLS



SDHRZE-A-010/25



SDHRZE-A-010/25/B



SDHRZE-A-012/25

2 OFF-BOARD ELECTRONIC DRIVERS - see www.atos.com or KTI industrial master catalog

Drivers model	E-MI-AC		E-MI-AS-IR		E-BM-AS-PS		E-BM-AES
Type	analog		digital		digital		digital
Voltage supply (VDC)	12	24	12	24	12	24	24
Valve coil option	/6	std	/6	std	/6	std	std
Format	DIN 43650 plug-in to solenoid				DIN-rail panel		
Data sheet	G010		G020		G030		GS050

3 COIL OPTIONS

Coil voltage

Option /6 optional coil to be used with Atos drivers with power supply 12 VDC

Option /18 optional coil to be used with electronic drivers not supplied by Atos

4 MAIN CHARACTERISTICS - based on mineral oil ISO VG 46 at 50 °C

Assembly position / location	Any position		
Subplate surface finishing (RZME)	Roughness index Ra 0,4 - flatness ratio 0,01/100 (ISO 1101)		
MTTFd valves according to EN ISO 13849	150 years, for further details see technical table P007		
Ambient temperature	**Standard** and **/PE** option = -20°C ÷ +70°C; **/BT** option = -40°C ÷ +60°C		
Storage temperature	**Standard** and **/PE** option = -20°C ÷ +80°C; **/BT** option = -40°C ÷ +70°C		
Coil code	**Standard** standard coil to be used with Atos drivers with power supply 24VDC	option **/6** optional coil to be used with Atos drivers with power supply 12 VDC	option **/18** optional coil to be used with electronic drivers not supplied by Atos, with power supply 24 VDC
Coil resistance R at 20°C	3,1 Ω	2,1 Ω	13,1 Ω
Max. solenoid current	2,5 A	3 A	1,2 A
Protection degree (CEI EN-60529)	IP65		
Duty factor	Continuous rating (ED=100%)		

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]	≤ 45
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 2

(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

5 SEALS AND HYDRAULIC FLUID - for other fluids not included in below table, consult our technical office

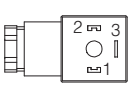
Seals, recommended fluid temperature		NBR seals (standard) = -20°C ÷ +80°C, with HFC hydraulic fluids = -20°C ÷ +50°C FKM seals (/PE option) = -20°C ÷ +80°C HNBR seals (/BT option) = -40°C ÷ +60°C, with HFC hydraulic fluids = -40°C ÷ +50°C		
Recommended viscosity		20 ÷ 100 mm²/s - max allowed range 15 ÷ 380 mm²/s		
Max fluid contamination level	normal operation	ISO4406 class 18/16/13 NAS1638 class 7		see also filter section at www.atos.com or KTF catalog
	longer life	ISO4406 class 16/14/11 NAS1638 class 5		
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		NBR, HNBR	HFC	

6 GENERAL NOTES

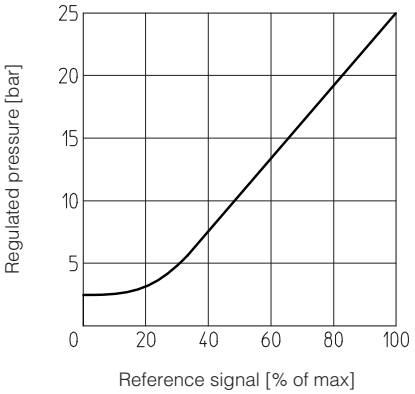
SDHRZE proportional valves are CE marked according to the applicable Directives (e.g. Immunity/Emission EMC Directive and Low Voltage Directive).

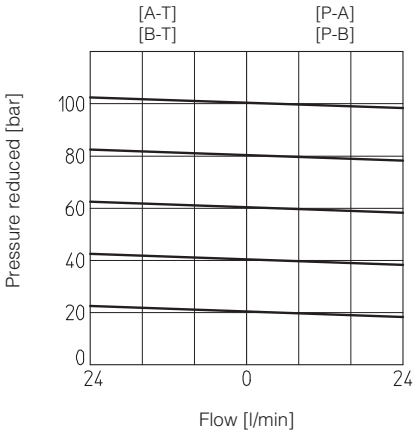
7 CONNECTIONS

SOLENOID POWER SUPPLY CONNECTOR TYPE 666	
PIN	Signal description
1	SUPPLY
2	SUPPLY
3	GND



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

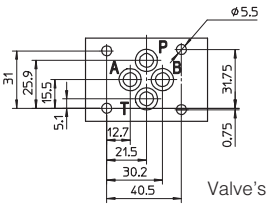




9 INSTALLATION DIMENSIONS FOR SDHRZE [mm]

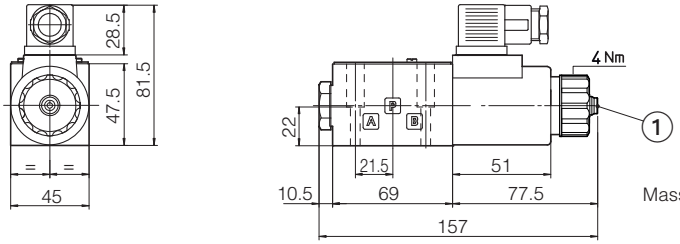
ISO 4401: 2005
Mounting surface: 4401-03-02-0-05

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: Ø 7,5 mm (max)



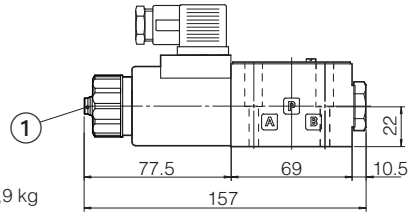
Valve's bottom view

SDHRZE-A-010

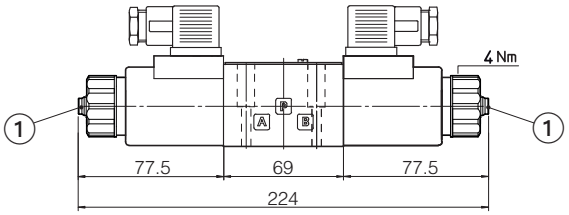


Mass: 1,9 kg

SDHRZE-A-010/B



SDHRZE-A-012



Mass: 2,6 kg

(1) screw for air bleeding