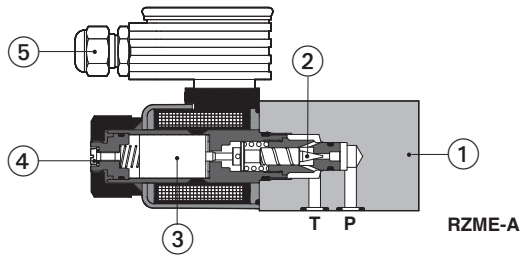
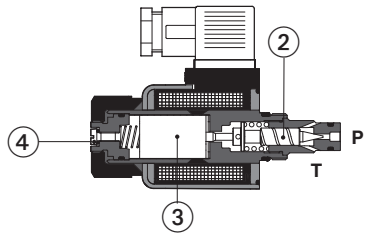
Proportional relief valves

direct operated, ISO 4401 size 06 subplate mounting or M20 screw-in cartridge execution



RZME-A



CART RZME-A

① Valve body
② Poppet
③ Proportional solenoid
④ Screw for air bleeding
⑤ Digital electric driver E-MI-AS-IR (to be ordered separately)

RZME-A, CART RZME-A
Open loop, poppet type direct operated proportional pressure relief valves with proportional solenoids certified according to North American standard ***cURus***.
They operate in association with electronic drivers, see section 2, which supply the proportional valves with proper current to align the valve regulation to the reference signal.

They are available in following executions:
RZME: subplate mounting, ISO size 06
CART RZME: M20 cartridge execution
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 4.

Mounting surface RZME: **ISO 4401 size 06**

Cavity CART RZME: see section 9

Max flow = **4 l/min**
Max pressure = **350 bar**

1 MODEL CODE

RZME	-	A	-	010	/	315	-	*	/	*	**	/	*

RZME Proportional pressure relief valve
RZME = subplate mounting
CART RZME = cartridge execution

A = without integral transducer

Configuration:
010 = regulation on port P, discharge in T

Pressure range:
50 = 50 bar
100 = 100 bar
210 = 210 bar
315 = 315 bar
350 = 350 bar

Coil voltage see section 2 and 4:
- = standard coil for 24VDC Atos drivers
6 = optional coil for 12VDC Atos drivers
18 = optional coil for low current drivers

Coils with special connectors, see section 8
- = omit for standard DIN connector
J = AMP Junior Timer connector
K = Deutsch connector
S = Lead Wire connection

Series number

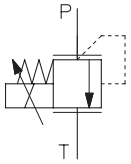
Seals material, see section 4:
- = NBR
PE = FKM
BT = HNBR

2 ELECTRONIC DRIVERS

Drivers model	E-MI-AC **(1)**		E-MI-AS-IR **(1)**		E-BM-AC		E-BM-AS-PS		E-ME-AC	E-RP-AC	
Type	analog		digital		analog		digital		analog	analog	
Voltage supply	12	24	12	24	12	24	12	24	24	12	24
Coil option	/6	std	/6	std	/6	std	/6	std	std	/6	std
Format	DIN 43650 plug-in to solenoid				DIN 43700 UNDECAL		DIN-rail panel		EUROCARD	Sealed and rugged box	
Data sheet	G010		G020		G025		G030		G035	G100	

(1) for **CART RZME** the electronic driver may interfere with the manifold surface. Please check the installation dimensions at section 9

3 HYDRAULIC CHARACTERISTICS (based on mineral oil ISO VG 46 at 50 °C)

Hydraulic symbols Valve model		 **RZME-A** **CART RZME-A**				
Max regulated pressure (Q = 1 l/min)	[bar]	50	100	210	315	350
Min. regulated pressure (Q = 1 l/min)	[bar]	0,3	0,5	0,5	1	1,5
Max. pressure at port P	[bar]	350				
Max. pressure at port T	[bar]	210				
Max. flow	[l/min]	4				
Response time 0-100% step signal **(1)** (depending on installation)	[ms]	≤70				
Hysteresis	[% of the max pressure]	≤1,5				
Linearity	[% of the max pressure]	≤3				
Repeatability	[% of the max pressure]	≤2				

Above performance data refer to valves coupled with Atos electronic drivers, see section 2.

(1) Average value response time; 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.

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

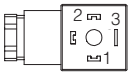
Assembly position / location	Any position		
Subplate surface finishing (RZME)	Roughness index Ra 0,4 - flatness ratio 0,01/100 (ISO 1101)		
Ambient temperature	Standard execution = -30°C ÷ +70°C; /PE option = -20°C ÷ +70°C; /BT option = -40°C ÷ +70°C		
Seals, recommended fluid temperature	NBR seals (standard) = -20°C ÷ +60°C, with HFC hydraulic fluids = -20°C ÷ +50°C FKM seals (/PE option)= -20°C ÷ +80°C HNBR seals (/BT option)= -40°C ÷ +60°C, with HFC hydraulic fluids = -40°C ÷ +50°C		
Recommended viscosity	15÷100 mm²/s - max allowed range 2.8 ÷ 500 mm²/s		
Fluid contamination class	ISO 4406 class 21/19/16 NAS 1638 class 10, achievable with in line filters - 25 µm (β10 ≥75 recommended)		
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	
Flow direction	As shown in the symbols of table 3		
Coil code	standard	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 and max current limited to 1A
Coil resistance R at 20°C	3 ÷ 3,3 Ω	2 ÷ 2,2 Ω	13 ÷ 13,4 Ω
Max. solenoid current	2,2 A	2,75 A	1 A
Max. power	30 Watt		
Protection degree (CEI EN-60529)	IP65		
Duty factor	Continuous rating (ED=100%)		
Certification	**cURus** North American Standard		

5 GENERAL NOTES

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

Installation, wirings and start-up procedures must be performed according to the general prescriptions shown in table F003 and in the installation notes supplied with relevant components.

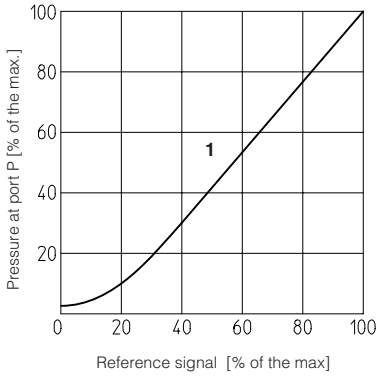
6 SOLENOID CONNECTIONS

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

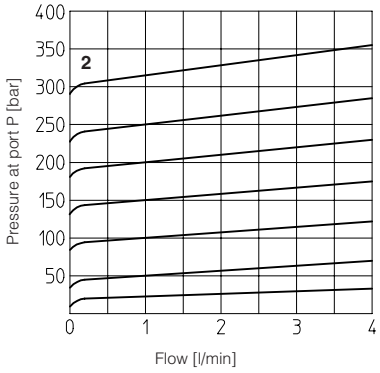
7 DIAGRAMS (based on mineral oil ISO VG 46 at 50 °C)

1 Regulation diagrams
with flow rate Q = 1 l/min

Note:The presence of counter pressure at port T can affect the effective pressure regulation.

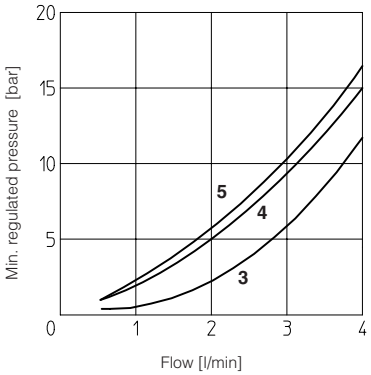


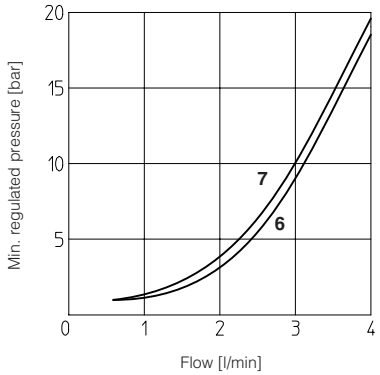
2 Pressure/flow diagrams
with reference signal set at Q = 1 l/min



3-7 Min. pressure/flow diagrams
with zero reference signal

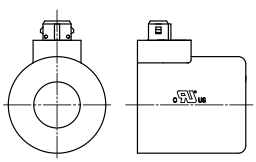
3 = pressure range: 50
4 = pressure range: 100
5 = pressure range: 210
6 = pressure range: 315
7 = pressure range: 350



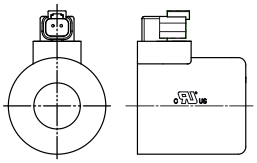


8 COILS TYPE WITH SPECIAL CONNECTORS

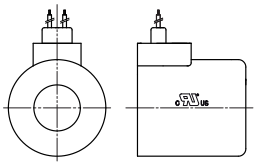
Options -J
Coil type COZEJ
AMP Junior Timer connector
Protection degree IP67



Options -K
Coil type COZEK
Deutsch connector, DT-04-2P male
Protection degree IP67

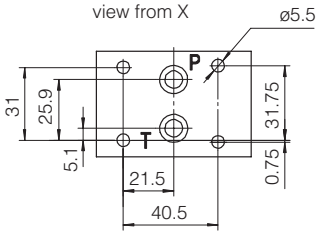


Options -S
Coil type COZES
Lead Wire connection
Cable lenght = 180 mm

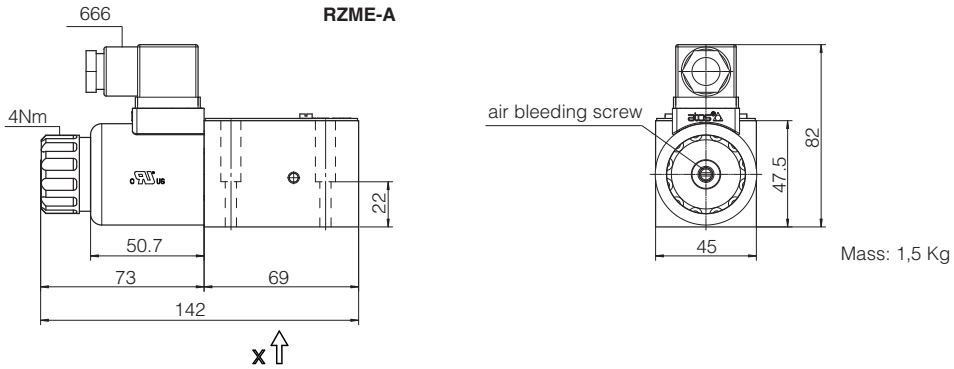


9 INSTALLATION DIMENSIONS [mm]

ISO 4401: 2005
Mounting surface: 4401-03-02-0-05 (see table P005)
(without ports A and B)
Fastening bolts:
4 socket head screws M5X50 class 12.9
Tightening torque = 8 Nm
Seals: 2 OR 108
Ports P, T: Ø = 5 mm

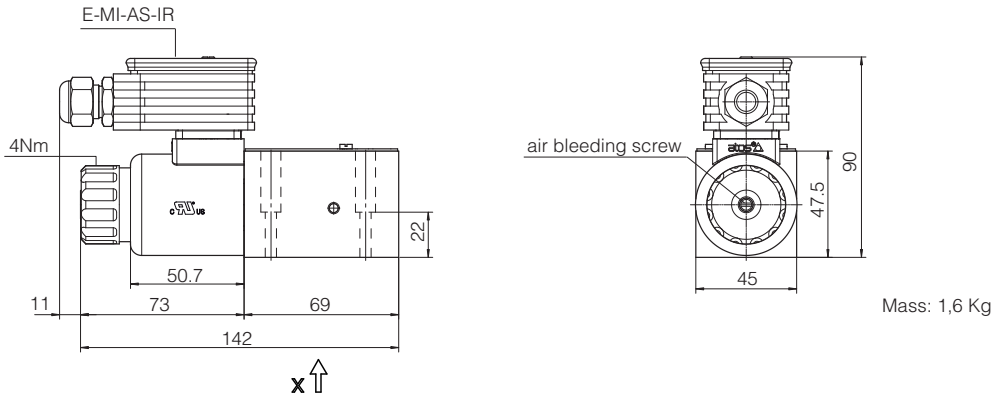


RZME-A



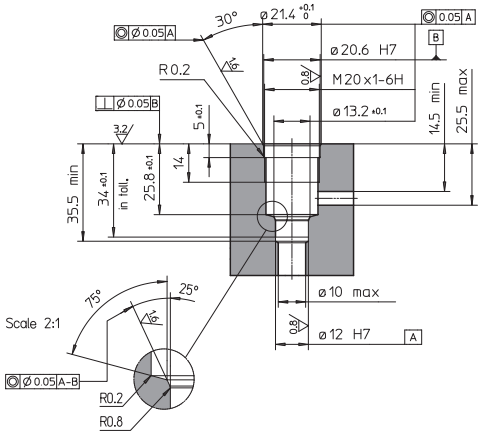
Mass: 1,5 Kg

RZME-A
(with digital driver E-MI-AS-IR)

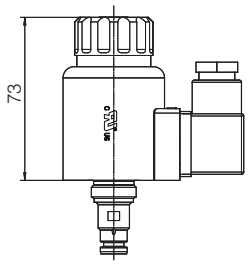


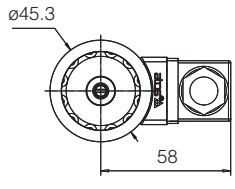
Mass: 1,6 Kg

Cavity dimensions
for **CART RZME-A**



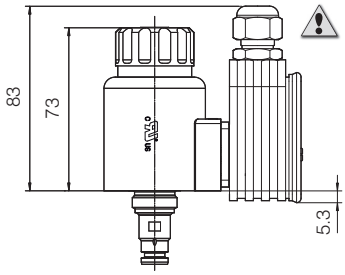
CART RZME-A



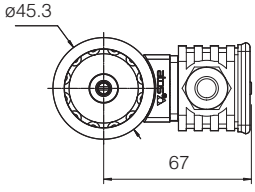


Mass: 0,6 Kg

CART RZME-A
(with digital driver E-MI-AS-IR)



to be checked for eventual interference with the manifold surface



Mass: 0,7 Kg