



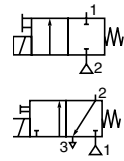
SOLENOID VALVES

direct operated
flameproof enclosure

Ex d IIC T6-T4 Gb, Ex tb IIIC T85°C-T100°C Db IP65
1/4



NC



2/2-3/2
Series
121

FEATURES

- Solenoid valves with explosionproof operator MB type for use in potentially explosive atmospheres according to ATEX Directive 94/9/EC
EC type examination certificate no.: **LCIE 03 ATEX 6059 X**
IECEX Certificate of Conformity no.: **IECEX LCI 09.0001X**
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with the International and European Standards IEC and EN: 60079-0, 60079-1 and 60079-31
- Solenoid operator type MB can be fitted to 3/2 and 4/2 series 231 and 232 valves

GENERAL

Differential pressure 0 to 40 bar [1 bar = 100 kPa]
Maximum viscosity 40 cSt (mm²/s)
Response time 15 - 25 ms

fluids (*) ⁽²⁾	temperature range (TS)	seal materials (*)
water, air, inert gas, oil	- 10°C to + 80°C	NBR (nitrile)

SOLENOID OPERATOR CONSTRUCTION

Solenoid operator housing Aluminium
Cover screw Steel
Core tube Stainless steel
Core and plugnut Stainless steel
Nameplate Aluminium

MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified

Body Brass
Internal parts and springs Stainless steel
Seals NBR
Shading coil Copper

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Standard voltages DC (=) : 24V - 48V
(Other voltages and 60 Hz on request) AC (~) : 24V - 48V - 115V - 230V / 50 Hz

SAFETY CODE

Ex d IIC T6-T5 Gb
Ex tb IIIC T85°C-T100°C Db IP65

operator type	power ratings				operator ambient temperature range (TS) (C°)	safety code	replacement coil		type ⁽¹⁾
	inrush	holding		hot/cold			~	=	
	(VA)	(VA)	(W)	(W)			230 V/50 Hz	24 V DC	
MB	75	22	12	8,4 / 10	-10 to +40/+60	Ex d IIC Gb Ex t IIIC Db IP65	43002521	43002059	01..04

⁽¹⁾ Refer to the dimensional drawings on the following page.

TEMPERATURE CLASSIFICATION

AC (~) solenoids - operator type MB

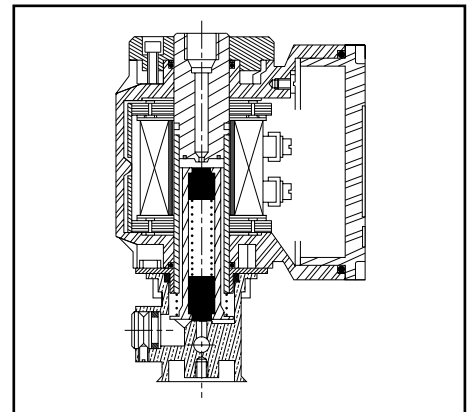
Pn (watt)	solenoid size		maximum ambient °C ⁽¹⁾			
	3/2 - 2/2		surface temperature			
			T6	T5	T4	T3
			85°C	100°C	135°C	200°C
Insulation class B (130°C) 100% E.D.						
12	●		-	40	-	-

DC (=) solenoids - operator type MB

Pn (watt)	solenoid size		maximum ambient °C ⁽¹⁾			
	3/2 - 4/2		surface temperature			
			T6	T5	T4	T3
			85°C	100°C	135°C	200°C
Insulation class B (130°C) 100% E.D.						
10	●		40	60	-	-

SPECIFICATIONS

pipe size	orifice size (mm)	flow coefficient Kv (m ³ /h) (l/min)		operating pressure differential (bar)				power coil (W)		catalogue number				reference	
		min.	max. (PS)			air (*)	water/oil (*)	~	=	without manual operator		with button manual operator			
			~	=	~					=	~	=	~		=
2/2 NC - Normally closed															
1/4	1,5	0,08	1,3	0	40	40	40	25	12	10	12100003	12101093	12101092	12101094	MB201/O-1,5
	3	0,21	3,5	0	25	10	25	7	12	10	12100012	12100960	12100957	12100962	MB201/O-3
	5	0,36	6	0	10	3,5	8	3	12	10	12100024	12100593	12100952	12100964	MB201/O-5
	6	0,48	8	0	5,5	2	4,5	1,5	12	10	12100333	12100037	12101041	12100965	MB201/O-6
3/2 NC - Normally closed															
1/4	1,5	0,08	1,3	0	25	25	25	25	12	10	12100783	12101087	12101086	12100920	MB301/O-1,5
	3	0,21	3,5	0	10	10	10	10	12	10	12100128	12100134	12100129	12100994	MB301/O-3
	5	0,36	6	0	3,5	3,5	3,5	3,5	12	10	12100148	12100935	12100149	12100995	MB301/O-5



OPTIONS

- Threaded 2/2 NO; 3/2 NO/U solenoid valves and pad mount 3/2 NC/U solenoid valves
- Coil class H

AC (-)

DC (=)

Pn (watt)	T6 85°C	T5 100°C	T4 135°C	T3 200°C
14	-	-	40°C	-

Pn (watt)	T6 85°C	T5 100°C	T4 135°C	T3 200°C
12	40°C	60°C	-	-

- IECEx-ATEX cable gland certified, 3/4 NPT, installed on solenoid valve, supplied with cable clamp:
 - for non-armoured cable of 8.5 to 16 mm dia., catalogue number **660510**
 - for armoured cable of ID 8.5 to 16 mm / OD 12 to 21 mm, catalogue number **660514**
- FPM seals (fluoroelastomer)
- Marine paint/anti-corrosive environment
- Oxygen service, catalogue number **970500**
- Impulse-type manual operator

INSTALLATION

- Solenoid valves must always be installed with solenoid head downwards
- Secured by one threaded hole in bottom (threaded version), or four holes in sub-base (pad mounting version)
- Pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1
- Replacement coils available

DIMENSIONS (mm), WEIGHT (kg)



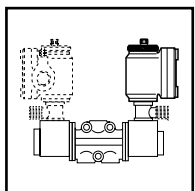
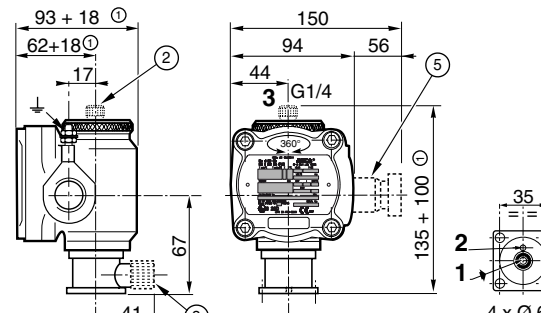
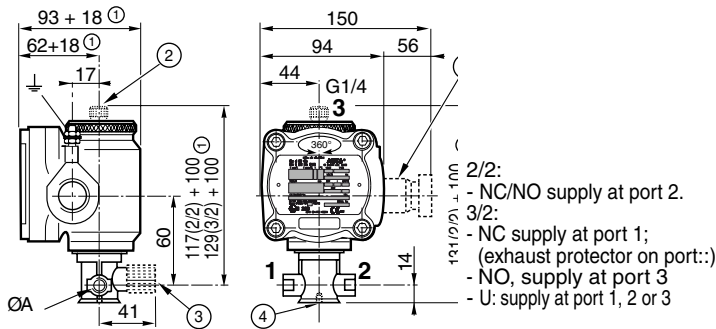
TYPE 01

Operator type "MB"
Aluminium
2/2-3/2 threaded solenoid valves
EN-IEC: 60079-0, 60079-1 and 60079-31
Ex d IIC T6-T5 Gb - Ex tb IIIC T85°C-T100°C Db IP65



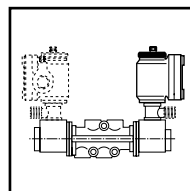
TYPE 02

Operator type "MB"
Aluminium
3/2 NC/U pad mount solenoid valves
(Contact us for assembly)
EN-IEC: 60079-0, 60079-1 and 60079-31
Ex d IIC T6-T5 Gb - Ex tb IIIC T85°C-T100°C Db IP65



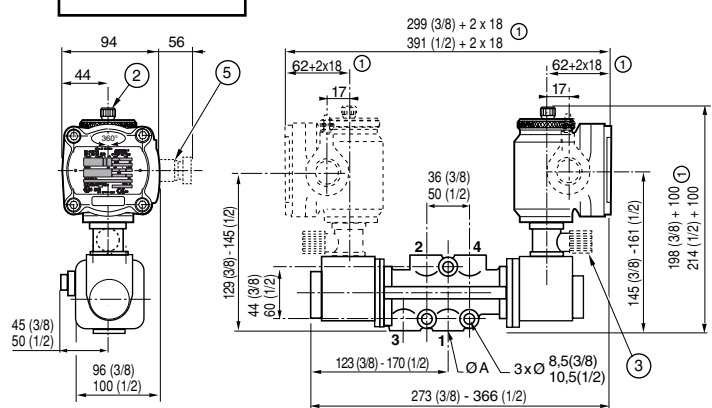
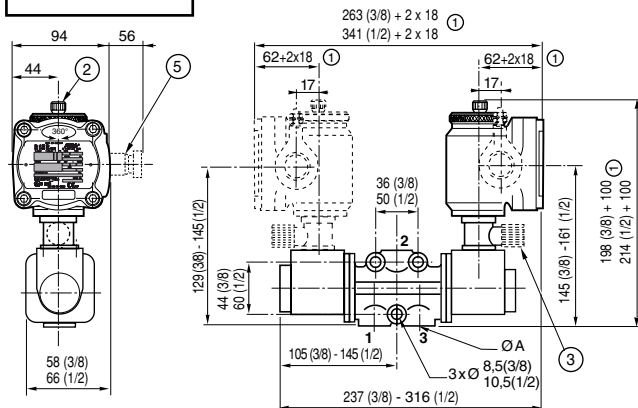
TYPE 03

Operator type "MB"
Aluminium
Assembly of pad mount version
on 3/2 valve series 231 (G3/8 - G1/2)
EN-IEC: 60079-0, 60079-1 and 60079-31
Ex d IIC T6-T5 Gb - Ex tb IIIC T85°C-T100°C Db IP65



TYPE 04

Operator type "MB"
Aluminium
Assembly of pad mount version
on 4/2 valve series 232 (G3/8 - G1/2)
EN-IEC: 60079-0, 60079-1 and 60079-31
Ex d IIC T6-T5 Gb - Ex tb IIIC T85°C-T100°C Db IP65



type	ØA	function	orifice size (mm)	weight ⁽²⁾
01	1/4	2/2	1,5..6	1,475
	1/4	3/2	1,5/3/5	1,445
02	pad mount	3/2	1,5/3/5	1,46
03	3/8	3/2	9	3,4
	1/2	3/2	15	4,7
04	3/8	4/2	9	4
	1/2	4/2	15	5,9

- ① Dimension to be added per version to allow for removal
- ② 3/2 NC: exhaust protector
- ③ Manual operator location, button (optional in series 231 and 232)
- ④ Mounting hole M5, depth 7 mm
- ⑤ Explosionproof cable gland to IECEx-ATEX with clamp

⁽²⁾ including coil.