



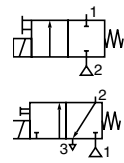
# SOLENOID VALVES

direct operated  
flameproof enclosure

II 2 G Ex d IIC T6-T5 Gb, II 2 D Ex tb IIIC Db T85°C-T100°C 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 2014/34/EU  
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  
EN-IEC 60079-0, EN-IEC 60079-1 and EN 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 (mm<sup>2</sup>/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 II 2 G Ex d IIC T6-T5 Gb  
Coil connection Screw terminals II 2 D Ex tb IIIC T85°C-T100°C Db IP65  
Standard voltages DC (=) : 24V - 48V  
(Other voltages and 60 Hz on request) AC (~) : 24V - 48V - 115V - 230V / 50 Hz

## SAFETY CODE

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

<sup>(1)</sup> Refer to the dimensional drawings on the following page.

## TEMPERATURE CLASSIFICATION

### AC (~) solenoids - operator type MB

Pn (watt)	solenoid size		maximum ambient °C <sup>(1)</sup>			
	3/2 - 2/2		surface temperature			
			T6 85°C	T5 100°C	T4 135°C	T3 200°C
12	●		-	40	-	-

Insulation class B (130°C) 100% E.D.

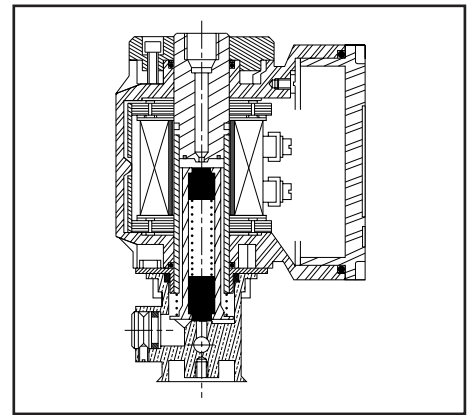
### DC (=) solenoids - operator type MB

Pn (watt)	solenoid size		maximum ambient °C <sup>(1)</sup>			
	3/2 - 4/2		surface temperature			
			T6 85°C	T5 100°C	T4 135°C	T3 200°C
10	●		40	60	-	-

Insulation class B (130°C) 100% E.D.

## SPECIFICATIONS

pipe size	orifice size (mm)	flow coefficient Kv (m <sup>3</sup> /h) (l/min)		operating pressure differential (bar)								power coil (W)		catalogue number				reference
				min.	max. (PS)				without manual operator	with button manual operator								
					air (*)	water/oil (*)		~		=	~			=				
<b>2/2 NC - Normally closed</b>																		
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			
<b>3/2 NC - Normally closed</b>																		
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)



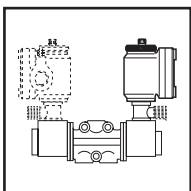
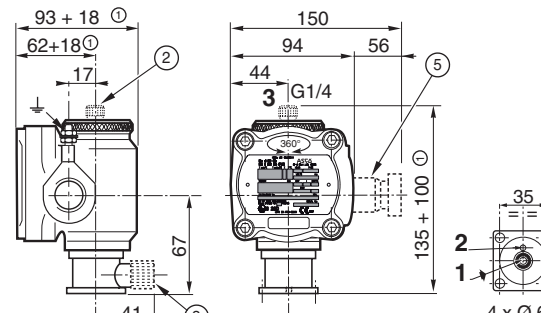
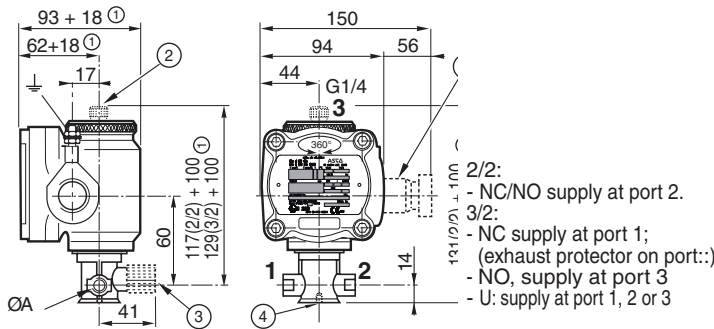
### TYPE 01

Operator type "MB"  
Aluminium  
2/2-3/2 threaded solenoid valves  
Ex d IIC T6-T5 Gb - Ex tb IIIC T85°C-T100°C Db IP65



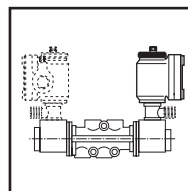
### TYPE 02

Operator type "MB"  
Aluminium  
3/2 NC/U pad mount solenoid valves  
(Contact us for assembly)  
Ex d IIC T6-T5 Gb - Ex tb IIIC T85°C-T100°C Db IP65



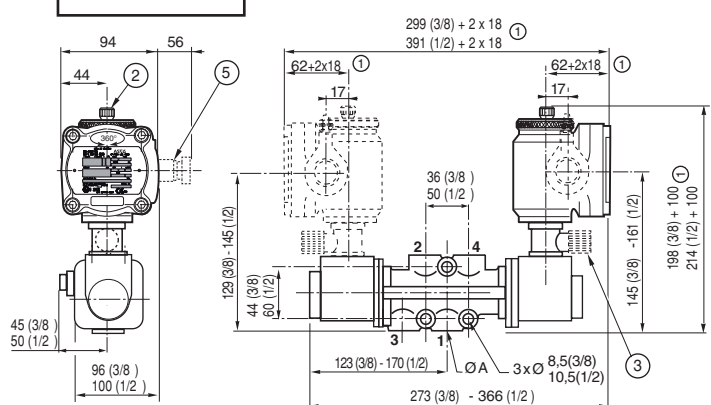
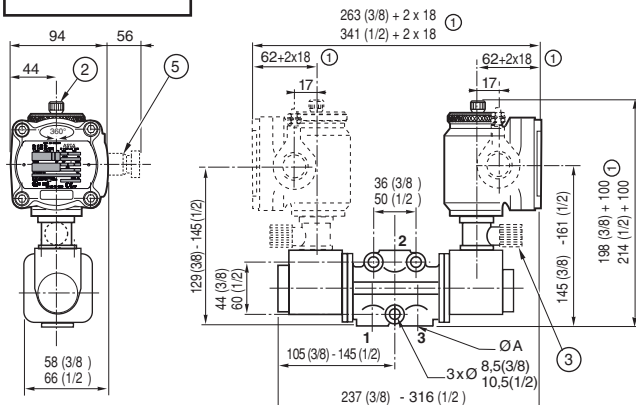
### TYPE 03

Operator type "MB"  
Aluminium  
Assembly of pad mount version  
on 3/2 valve series 231 (G3/8 - G1/2)  
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)  
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.