

## MAC ATEX Valves: user's manual

This user's manual is intended to provide following information to the users of MAC ATEX Valves:

- Valves identification/markings
- ATEX classification
- Application parameters
- Mounting
- Maintenance
- Repair
- Warranty

### 1. Valve identification/markings

All ATEX valves are clearly identified by the following features:

- ATEX identification plate on top of the solenoid
- Valve label on the side of the solenoid
- Cable gland

#### Identification plate on top of the solenoid

The plate on top of the solenoid provides following information about the valve and its use in an ATEX environment.

The following information is to be found:

- CE marking
- Manufacturer
- MAC valve type
- Year of production
- Serial number
- Voltage, Wattage
- Pressure range
- ATEX marking : type of protection, group, nature of explosive environment, class of temperature, protection level
- Identification of notified body
- Number of ATEX certificate

#### Valve label on side of the solenoid

The label at the side of the solenoid provides following information:

- MAC valve type
- Voltage & Wattage
- Pressure range

#### Cable gland

The cable gland which is part of the valve provides following information:

- Manufacturer (CMP)
- CMP references
- ATEX marking
- Reference of ATEX certificate

### 2. ATEX classification

The valve is intended to be used in the ATEX environment specified

by the marking on the top identification plate:

#### Gas:

- Type of protection: **db** - flameproof enclosure
- Group **IIC**: electrical equipment for places with an explosive gas atmosphere other than mines susceptible to firedamp (nature of gas: propane, ethylene, hydrogen)
- Nature of explosive environment: **G**: gas
- Temperature class: maximum surface temperature : **T4...T5**: 100°C-135°C (this is the maximum temperature that can be reached by the valve during its operation under normal conditions of use)
- Protection level: **Gb**: equipment for use in areas in which explosive atmospheres caused by gases, vapours & mists or air mixtures are likely to occur

#### Dust

- Type of protection: **tb**: protection by enclosure
- Group **IIIC**: electrical equipment for places with an explosive dust atmosphere other than mines susceptible to firedamp (nature of dust: combustible flyings, non-conductive dust, conductive dust)
- Nature of explosive environment: **D**: dust
- Temperature class: maximum surface temperature: **T135°...T100°**: 100°C-135°C (this is the maximum temperature that can be reached by the valve during its operation under normal conditions of use)
- Protection level: **Db**: equipment for use in areas in which explosive atmospheres caused by dust mixtures are likely to occur

It is the responsibility of the user to make sure that the valves are used in the explosive environment described above.

### 3. Application parameters

The valves have to be used according to the conditions of use described in the technical data sheet (DOC-FT-200 series) joined to the valve

### 4. Mounting instructions

As the valves are intended to be connected to compressed air, vacuum or neutral gases and to be operated by an electrical signal, air and electrical connections have to be considered

#### Electrical connection

- The ATEX protection of the valve ends with the cable
- The user is responsible for an ATEX approved electrical connection and for using an appropriate junction box for the flying leads and the cable
- The cable must not be damaged when mounting the valve and connecting the wires
- A valve with damaged cable has to be replaced by a new one
- the cable gland is fixed on the solenoid with a specific torque during the production and cannot be dismantled by the user
- The cable nut is tightened on the cable with a specific torque

- during the production and cannot be dismantled by the user
- The screw on the body of the valve has to be connected to the earth grounding of the machine
- Further connection instructions have to be found in the technical data sheet of the valve (DOC-FT-200 series)

#### Pneumatic connection

##### Inline valves

- Inline valves are intended to be used with appropriate fittings assembled with the correct mounting torque
- As the valves are universal, compressed air, vacuum and cylinder can be connected to either one of the 3 ports marked 1, 2 & 3. This allows the valve to be working as NO or NC valves can be mounted in all directions

##### Manifold valves

- Manifold valves have to be mounted with their function plate on an appropriate base (pneumatic connection, mounting threads)
- Mounting screw torque : 2.6 - 2.7 Nm
- As the valves are universal, compressed air, vacuum and cylinder can be connected to either one of the 3 ports marked 1, 2 & 3. This allows the valve to be working as NO or NC
- The function plate on the valve allows to operate the valve as NO or NC
- Valves can be mounted in all directions

### 5. Maintenance

- Valves have to be operated according to the conditions of use mentioned on the technical data sheet
- No maintenance is required during their entire lifetime
- Valve cannot be dismantled by the user
- Valves with faulty operation have to be replaced by new ones
- Faulty valves to be returned to the supplier for internal technical investigation according to the manufacturer's return procedure

### 6. Repair

- Valves are not repairable
- Faulty valves have to be replaced by new one
- Faulty valves have to be returned to the supplier for internal technical investigation according to manufacturer's return procedure

### 7. Warranty

- Valves that are failing during the period of time covered by the warranty have to be returned to the supplier for internal technical investigation according to the manufacturer return procedure
- Based on the results of the investigation made by the manufacturer, the manufacturer will decide if the failure is covered by the warranty or not
- Valves presenting failures covered by the warranty will be replaced for free



# ATEX Certified Valves

## In accordance with the Directive 2014/34/EU

FT-200 Series Manifold 20190215

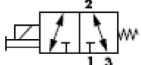


### MAC ATEX Certified 200 Series - Manifold Valve

- Balanced poppet, immune to variations of pressure
- Short stroke with high flow
- The patented solenoid develops high shifting forces
- Powerful return spring
- Burn-out proof solenoid on AC service



### How to order - Valve

PORT SIZE	UNIVERSAL VALVE
Valve less base	 250B-XX0EE EX ECG

### How to order - Solenoid

XX 0 EE - EX ECG		
VOLTAGE	MANUAL OPERATOR	ELECTRICAL CONNECTION
11 110 V~/50 Hz - 120 V~/60 Hz	0 No operator	EE Explosion proof enclosure
12 220 V~/50 Hz - 240 V~/60 Hz		
22 24 V~/50 Hz - 24 V~/60 Hz		
50 24 V=/6 W		
51 24 V=/4,5 W		
60 12 V=/9,5 W		
61 24 V=/8,5 W		
68 120 V=/12,3 W		
76 100 V=/9 W		
78 24 V=/24 W		
	EX ECG	
	CABLE LENGTH	MODIFICATION DESCRIPTION
	H 1.1 m	ECG Cable Gland Explosion Proof
	F 2.0 m	
	T 5.0 m	



For GAS II 2 G / Ex db IIC T4 Gb for voltage option 11, 12, 22, 68, 78  
 II 2 G / Ex db IIC T5 Gb for voltage options 50, 51, 60, 61, 76

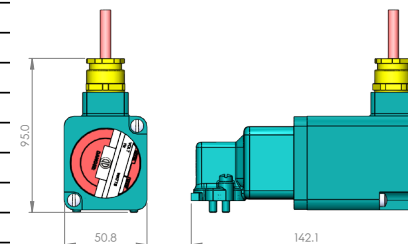
For DUST II 2 D / Ex tb IIIC T135°C Db for voltage option 11, 12, 22, 68, 78  
 II 2 D / Ex tb IIIC T100°C Db for voltage options 50, 51, 60, 61, 76


### MAC ATEX Certified 200 Series - Manifold Valve

#### Technical data

Fluid:	Compressed air, vacuum, inert gases
Pressure range:	Vacuum to 10 bar
Lubrication:	Non-lube service
Filtration:	40 μ
Temperature range:	-18°C to 40°C
Orifice:	4,8 mm
Flow (at 6 bar, ΔP=1bar):	500 NI/min (0.5 Cv)
Coil:	Epoxy encapsulated - Class F wires
Voltage range:	-15% to +10% of nominal voltage
Protection:	IP6X

#### Dimensions





### Declaration of conformity

MAC VALVES EUROPE, INC.  
Rue Marie Curie, 12  
B-4431 ANS  
Belgique

hereby declares that following valve series, produced after 2019.01.07, are in compliance with the directive:  
2014/34/UE

Applicable standards  
EN 60079-0 : 2012+A11 : 2013  
EN 60079-1 : 2014  
EN 60079-31 : 2014

This declaration is valid as long as the product is not damaged or modified, and if the safety recommendations described in the technical data sheet are respected.

Device marking :  
 II 2 G / Ex db IIC T4/T5\* Gb  
 II 2 D / Ex tb IIIC T135°/T100°C\* Db

\*the marked temperature class and assigned maximum surface temperature depend on the model and power rating. Refer to description and conditions of manufacture.

Ta = -18°C to +40°C\* \*the ambient range is given as a specific condition of use

List of eligible valves:  
Air valves 200B Series

**2XXB-YY0EE EV ECG**

**2XXB-YY0EE 005 EV ECG**

with following options:

valve body	code
rated voltage	XX = 24, 25, 50
cable length	YY = 11,12, 22, 50, 51, 60, 61, 68, 76, 78 V = H, F, T

Notified body for type examination and certificate number:  
CML B.V. - n°2776  
Hoogoorddreef 15, 1101BA Amsterdam, The Netherlands  
CML 18ATEX1240X

Notified body for quality system and certificate number:  
CML B.V. - n°2776  
Hoogoorddreef 15, 1101BA Amsterdam, The Netherlands  
CML ATEXQ11654

Ans, 16.03.2020  
Thierry Delvaux  
Managing Director

Nom de fichier : DOC-DC 20200316