1. GENERAL INFORMATION

The MICROSOL intrinsic safety solenoid valves produced by FAS MEDIC SA are dedicated to piloting fluids in explosive atmospheres according to the ATEX 2014/34/UE directive, and for which the Examination Certificates EC-Type INERIS 00ATEX0031X and additionally 00ATEX0031X/01 to 05 have been delivered and the certificate of conformity IECEx INE 14.0002X.

Their Ex 'ia' protection mode enables these solenoid valves:

- to be used in ATEX dangerous zones 0 and 20 or lower risk ones (1/21, 2/22),
- in the IIC and IIIC group explosive atmospheres or lower inflammability zones.

These solenoid valves have to be supplied by a linear voltage source, intrinsic safety type, located in a safe area.

Please follow the recommendations given in this user's manual as well as all the safety parameters. We decline all responsibility should these recommendations not be followed.

2. PRODUCT IDENTIFICATION

2.1 MICROSOL Solenoid valves codification

Solenoid valve codification

01 - □ □ □ P□ □□□ H □

Sealing material	0 = NBR / 1 = FPM / 5 = EPDM / 6 = FFPM / P = PUR
Valve body material	H = PPS
Body orifice diameter	00- = 0.5mm / 01- = 0.8mm / 011 = 1.1mm 02- = 1.2mm / 015 = 1.5mm / 03- = 1.6mm 04- = 2.0mm / 036 = 3.6mm
Connection type	P- = Pilote ARP / PI = Pilote PAR / E- = Sub-base
Actions	1 = Direct / 2 = Servo operated / 3 = Separated Media
Functions	1 = NC / 2 = NO / 3 = UNI / 4 = IMPULSION
Number of ways	2 = 2 ways / 3 = 3 ways
Number of Valves	- = Simple / 2 = 2 positions manifold / 3 = 3 positions manifold / etc.
Product Range	11 = PICOSOL

Electrical specifications codification

□□ V □ C □.□ W

Nominal power	0.05W to 1W at the nominal voltage
Current	D = continu / A = alternatif
Nominal voltage	12V / 24V

Suffix codification

H 01 □□□

Specific Number	Construction specification : coil orientation, connector type, protection device, etc…)
Product Range	01= MICROSOL
H = Special ATEX suffix (EXplosive ATmosphere)	

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2.2 Marking and electrical characteristics

Trade agent area : (optional)

Manufactured by: **FAS MEDIC SA SWITZERLAND**

Notifed body : **INERIS : CE0080**

Type : **01.....** (see codification)
H01....
12/24VDC 0.1W

Production date : **WW/YY : week - year**
(serial number)

Specific ATEX marking :

II 1 GD IP65
Ex ia IIC T.(*) Ga
Ex ia IIIC T...(**) Da
INERIS 00ATEX0031X
IECEx INE 14.0002X

(see table 2)

Table 1: Working conditions:

Nominal voltage [V]DC	Nominal Power [W]	Resistance [in Ω] at 20[°C]	Nominal current [mA]	Minimal 'switching' voltage	Maximal recommended voltage
12	0.1	1440	8.3	-5%	+15%
24	0.1	5760	4.2	-5%	+15%

Coils are designed to be permanently under voltage.

Table 2: Temperature classes and safety parameters:

Possible performances for 12 & 24VDC solenoid valves – 0.1W nominal power				
Coil type		Temperature class		
Voltage	Coil resistance	Gas (*)	Combustible dusts (**)	Ambient temperature range
12 Vdc	1440 ohm	T6	T85°C	-20°C à +60°C
12 Vdc	1440 ohm	T5	T100°C	-20°C à +75°C
12 Vdc	1440 ohm	T4	T135°C	-20°C à +110°C
24 Vdc	5760 ohm	T6	T85°C	-20°C à +60°C
24 Vdc	5760 ohm	T5	T100°C	-20°C à +75°C
24 Vdc	5760 ohm	T4	T135°C	-20°C à +110°C

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The data regarding the maximum surface temperatures is linked to the ambient conditions (for example, cascade assembly, built-in or reduced space).

These temperature ranges may be limited by the operating temperature range of the solenoid valve. Please, confirm the operating temperature range in "Technical Specifications" for each valve!

Apparent electrics parameters of solenoid valves:

Ui [V]	Ii [mA]	Ci [μF]	Li [mH]
30	840	0	0

3. INSTRUCTIONS of USE

The assembly, installation, use and maintenance operations are the responsibility of the user and must be carried out by qualified and authorized personnel. The personnel working on these products must be trained and have a complete knowledge of the current safety rules and requirements concerning the products, the devices, the machines and the electrical installations (for valves, solenoid valves, electronic controls and air treatment).

The user's manual must be in the installer's language, must be supplied with each valve.

Before any intervention (assembly, disassembly and connection), the installer must make sure that the electrical power is off and that all the components are switched off.

3.1 Pneumatic assembly and fixation.

The solenoid valve can be mounted in any position. In order to connect the solenoid valve in the best conditions, the dimensions of the following fixation drawings must be respected.

The sealing between the base and the valve is ensured by the gasket (1) or the plate and the gasket (2) supplied with the solenoid valve

Pipe connexions 2/2 and 3/2 valves

The fixing of the solenoid valve is secured by the use of 2 fixing screws M3 x 18mm (min.) adapted to the valves. They can be supplied on request.

A tightening torque of 0.6Nm minimum should be applied to the screw.

It is recommended that the pipes be cleaned before installation of the solenoid valve. The use of a filter upstream of the solenoid valve is strongly recommended.

The solenoid valve can be used exclusively with the fluids that are listed in the technical datasheet.

3.2 Electrical connection

In order to ensure the correct use of the solenoid valve without any risk of damage, you must respect the polarity, which is identified by a "+" on the plastic housing (1) or by the colour of the wires. The use of a waterproof connector (2) or an adapted moulded cable is required to ensure the IP65 protection of the solenoid valve. The metallic insert M3 (3) ensures that the connector is held in place by a fixing screw (4).

Located in a safe area, the barriers and interfaces are allowed to supply the intrinsic safety solenoid valve installed in an explosive atmosphere. They must be bought from certified equipment manufacturers, according to the safety parameters of the solenoid valve. We decline all responsibility for the use of products sold by other suppliers and the possible modifications of their characteristics.

3.3 Adjustment

The MICROSOL solenoid valve does not require any special adjustment.

4. SPECIAL CONDITIONS

The solenoid valve must be connected only to a type intrinsic certified power supply. These combinations must be compatible with the rules of intrinsic safety and the ambient conditions must not go beyond the stipulated values (see intrinsic safety electrical data and temperatures given in the safety parameters tables, table 1 and 2 on page 2).

In the case of use in the 0 zone of the IIC group or in the 20 zone of the group IIIC, the solenoid valve must be protected against environmental air flow and friction in order to avoid any electrostatic charge of the covering synthetic material.

5. MAINTENANCE and WARRANTY

When used under the conditions defined in the technical datasheet and the user's manual, the solenoid valve does not require any maintenance.

Any use of the valve out of the stipulated conditions given by the technical datasheet or the user's manual will be considered as not compliant.

Any intervention inside the solenoid valve will be considered as not compliant. The disassembly of the solenoid valve is forbidden as no repairs will be possible!

In the case of inaccurate use, the warranty will not be granted and FAS MEDIC SA declines all responsibility regarding the possible following damage.

In case of a failure under the normal conditions of use described in the technical datasheet and the user's manual, the solenoid valve can be returned to the supplier.

6. ADDITIONAL DOCUMENTATION

Each solenoid valve will be delivered with the EU declaration of conformity and a copy of this original user's manual.

The Examination Certificates EC type examinations are available on the manufacturer's website (see address below).

We reserve the right to change specifications without notice

7. ADRESSES

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