

▶ GENERAL APPLICATION VALVES 3/2 - DIRECT OPERATED

Solenoid valves are electro-mechanical devices that control fluid flow. This is achieved by opening or closing one or several orifices in the solenoid valve. The (solenoid) coil is the electrical element that converts an electrical signal into a mechanical force which, in turn, shifts the mobile plunger that opens or closes an orifice (nozzle) by means of its seat disc(s). Solenoid valves are usually constructed from 3 distinct components:

- The body (including the sleeve assembly)
- The coil (or coil housing)
- The housing (or nut/nameplate fixing elements).

These 3 modular components are in many cases interchangeable i.e. a valve body can be used with a number of coil/housing combinations.

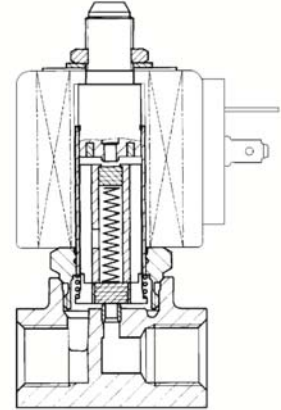
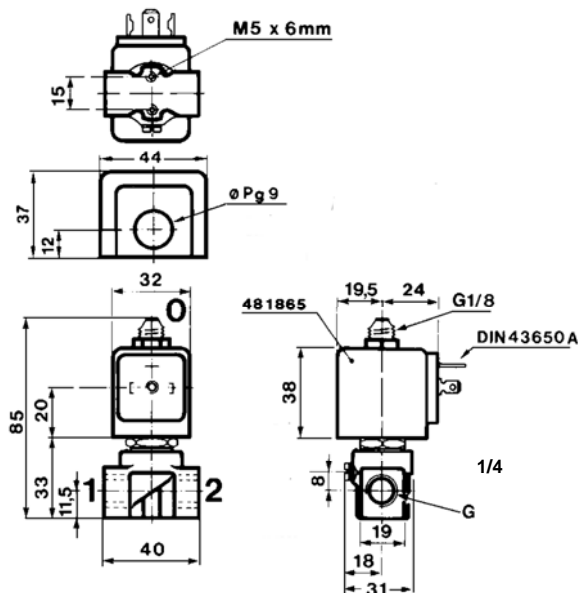


Fig. 1

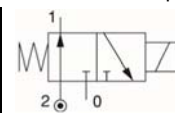
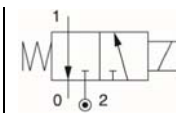
▶ DIRECT OPERATED VALVES (SEE FIG. 1)

The magnetic force is used directly to open or close the passage of fluid at the plunger sealing. The performance is limited by the available performance of the coil (limits of pressure/orifice size.) The pressure rating of the valve starts from zero bar to the maximum value.

▶ DIMENSIONS



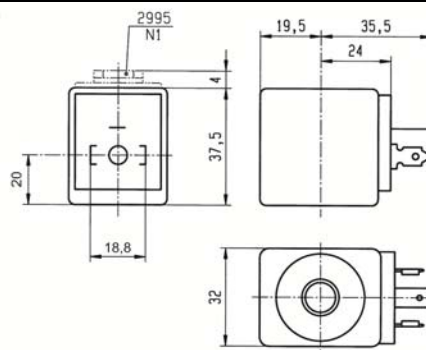
► TECHNICAL DATA

Function:	3/2 Universal solenoid valve: closed or open when de-energized Open: De-energized  Closed: De-energized 
Valve design:	Direct operated poppet valve
Port size:	Port 0 G 1/8 Port 1&2 G 1/4
Mounting position:	Unrestricted
Material specifications:	Brass nickel plated body or stainless steel SS316. Internal parts from stainless steel
Manual override:	<ul style="list-style-type: none"> The manual override allows to feign the switched on of the solenoid valve. The manual override situated on the body of the solenoid valve is activated by a clockwise screw rotation (1/4 turn).
Safe body working pressure:	<ul style="list-style-type: none"> dP min = 0 bar dP max = 30 bar
Response time (for air):	<ul style="list-style-type: none"> With DC supply: Switch on time 15 ms - Switch off time 10 ms With AC supply: Switch on time 10 ms - Switch off time 10 ms
Cycling rate:	Up to 2000 cycles per minute
Media:	Dry or lubricated air, inert gases, neutral liquids, mineral and fuel oils up to 76 cSt (10°E) viscosity
Ambient temperature:	-10°C to + 50°C
Electrical parts:	Standard coil 2995/481865, 483510 encapsulated in synthetic material. Electrical connection with plug 2P + E, DIN 43650 type A. Degree of protection IP65.
Special protections:	Coil housings with degree of protection IP67, large choice of «explosion proof» electrical parts, available on request.
Voltages:	CC: 12/24/48/110V - CA/50Hz: 24/48/110/220-30
Class of insulation material:	Class F 155°C
Solenoid duty:	Continuous duty solenoid
Power rating:	8-14 W
Voltage tolerance:	-10% to +10% of nominal

► SPECIFICATIONS FOR STANDARD COIL

This coil conforms to the IEC/CENELEC safety standards and complies with European low-voltage directive 73/23/EC.

Specifications	Degree of protection	Class of insulation	Electrical connection	Ambient temperature	Electrical power			
					DC		AC	
					P _n (hot)	P (cold) 20°C	P _n (holding)	Attraction cold
Standard	IP65 according to IEC/EN 60529 standards (with plug connection)	F 155°C	Trough a 2 P + E plug according to DIN 43650 type A	-40°C to +50°C-	9 W	12 W	8 W	26 VA / (9 W)



▶ OPTION: EXPLOSION-PROOF SOLENOIDS II 2 G EEX DM IIC T4

Explosionproof solenoids with flameproof enclosure/encapsulation "dm"

According to ATEX directive 94/9/EC and Standards EN 50014, EN 50018, EN 50028 and EN 50281-1-1.

Application:

Control of solenoid valves intended for installations in hazardous areas in which explosive gas-atmospheres are present, i.e. zones 1 or zones 2 (ATEX: Group II, apparatus categories 2G or 3G).

The enclosure of these explosion proofs solenoids "dm" is made entirely in synthetic material. All external metallic components in contact with the atmosphere are made in stainless steel. The integrated sealing and O-rings assure the degree of protection IP67. Therefore, these products took into account not only the suitability with hazardous areas but also extremely corrosive environment, e. g. Chemical, Petrochemical and Refineries industries (CPR). Due to the compact size and easy cable connection by screw terminals, these solenoids may be mounted in confined spaces.

Features:

The coil winding (copper wires of insulation Class H) and magnetic iron path are encapsulated in synthetic material Class H and meet "m" protection. The connection box and cover of selected high quality synthetic material (Class H) in order to meet the standard EN 50018 for type of protection "d" flameproof enclosure. **The cable gland assembly M20x1.5 makes part of the "d" certificated enclosure.** The solenoids are provided with an embedded non-resetting thermal fuse to prevent excessive heating, i.e. assuring the maximum allowed surface temperatures T5/T4. A varistor for peak voltages suppression is potted-in, in Epoxy resin Class H.

Reference:	495905				
Approval / Type of protection:	LCIE 02 ATEX 6451 X Gas II 2 G – EEx dm IIC T4				
Degree of protection:	IP67				
Ambiant temperature:	-40 to +65 °C				
Insulation Class:	H (180 °)				
Electrical connection:	Electric connection is done in the connection box on an easily accessible connector terminal. The introduction of the cable (Ø min 7mm, Ø max. 9mm, section max. 2.5mm ²) in the connection box passes by the built in M20x1.5 cable gland.				
Electr. Power:	DC	P_n (hot)	8 W	P (cold) 20°C	9 W
	AC	P_n (holding)	8 W	Attraction cold	9 W
Nominal voltage:	6 to 110 VCC 12 to 240 VCA				
Voltage tolerance:	± 10 % of the nominal voltage				
Solenoid duty:	Continuous duty solenoid (ED 100%)				

