

LUCIFER®

**Explosion-proof
solenoids
II 2 G / II 2 D
EEx dm IIC T4, T5, T6**



Catalogue 8735/GB

ATEX



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- vapour- or dust atmospheres are present, i. e. zones 1, 21 or zones 2, 22 (ATEX: Group II, apparatus categories 2G/D or 3G/D).

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 T4/T5. A varistor for peak voltages suppression is potted-in, in Epoxy resin Class H. Additional safety assures a built in **replaceable** fuse easily accessible in the connection box. (see table 2: fuses/varistors). Low power version available.

Benefits:

Thanks to the innovative design of Parker Lucifer engineers, it has been possible to create a full plastic flameproof enclosure "d" with a very high safety level. The volume in the connection box (ignition volume) could be reduced to less than 10 cm³ only. In case of a spark, an explosion is much less probable and if it takes place, the explosion will generate a very low pressure only. The flame will extinguish immediately. Nevertheless, the design of the flameway / safe gap (between enclosure/cover) meets to an ignition volume of 100 cm³. Therefore, the housing would resist even against the pressure generated by an internal explosion of an explosive mixture of 100 cm³; this gives an extra safety.

495900 Low power 2W-2.5W (Compatible with all Lucifer valves ending ... 97 , see table 1)

495905 Standard 8W (suitable with all Lucifer valves compatible with coil 481865 -9W)

Reference		495900 VDC	495900 VAC	495905	
Approval		LCIE 02 ATEX 6451 X			
Type of protection	Gas	II 2 G - EEx dm IIC T5 / T6	II 2 G - EEx dm IIC T4 / T5 / T6	II 2 G – EEx dm IIC T4	
	Dust	II 2 D – +95 °C / +80°C	II 2 D – +130 / +95 / +80°C	II 2 D – +130 °C	
Degree of protection		IP67			
Ambient temperature		-40 to +65°C / +55°C	-40 to +65 / +55 / +40°C	-40 to +65 °C	
		The application is limited also by the temperature range of the valve			
Insulation Class		H (180 °)			
Electrical connection		Electric connection is done in the connection box on an easily accessible connector terminals. The introduction of the cable (Ø min 7 mm, Ømax. 9 mm, section max. 2.5 mm ²) in the connection box passes by the built in M20x1.5 cable gland			
Elect. Power	DC	Pn (hot)	2 W	-	8 W
		P (cold) 20°C	2.5 W	-	9 W
	AC	Pn (holding)	-	2.5 W	8 W
		Attraction cold	-	3W	9 W
Nominal voltage		6 to 110 VDC	12 to 240 VAC	6 to 110 VDC 12 to 240 VAC	
Voltage tolerance		± 10 % of the nominal voltage			
Solenoid duty		Continuous duty solenoid (ED 100%)			

List of compatible valves with solenoid type 495900 (table 1)

Port Size	Orifice Size	Qn	Kv	Operating Pressure Bar		Fluid temperature °C		Valve reference No.	Electrical part reference No.	Ambiente temperature °C Valve only	
				Min.	Max.	Min.	Max.			Min.	Max.
G	mm	NL/min	L/min								

2 way normally closed – Direct operated.

1/4"	3	250	3,5	0	4,5	-25	+75	121K0397	495900	-20	+65
1/4"	1,5	80	1,5	0	10	-25	+75	121K0497	495900	-20	+65
1/4"	3	220	3,5	0	4,5	-25	+75	121V5397	495900	-20	+65
1/4"	1,5	80	1,5	0	10	-25	+75	121V5497	495900	-20	+65

3 way normally closed – Direct operated.

1/4"	2,5	180	3	0	2	-25	+75	131K0397	495900	-20	+65
1/4"	1,5	80	1,5	0	7	-25	+75	131K0497	495900	-20	+65
1/4"	2,5	180	3	0	2	-25	+75	131V5397	495900	-20	+65
1/4"	1,5	80	1,5	0	7	-25	+75	131V5497	495900	-20	+65
SB	2,5	180	3	0	2	-25	+75	131F4397	495900	-20	+65
SB	1,5	80	1,5	0	7	-25	+75	131F4497	495900	-20	+65
1/4"	1,5	80	1,5	0	3	-25	+75	133K0497	495900	-20	+65

4 way - pilot operated

1/8"	6	800	-	1	10	-10	+75	341L0197	495900	-20	+65
1/4" - 1/8"	4	355	-	1	10	-10	+75	341L9597	495900	-20	+65
1/4" - 1/8"	4	600	-	2	10	-25	+75	341N3197	495900	-20	+65
1/4"	8	1400	-	2	10	-25	+75	341N3297	495900	-20	+65
1/8"	4	600	-	2	10	-25	+75	341P2197	495900	-20	+65
1/4"	8	1400	-	2	10	-25	+75	341P2297	495900	-20	+65
1/8"	4	400	-	2	10	-25	+75	347P2197	495900	-20	+65

Parameters of replaceables fuses and built in varistors (Table 2:)

	Fuse		
	Current [mA]	Example Schurter Type	
495900A2	800	0034.6714	95
495900A4	400	0034.6711	95
495900E5	250	0034.6709	385
495900F4	100	0034.6718	385
495900K8	250	0034.6709	385
495900B8	100	0034.6718	385
495900C1	800	0034.6714	95
495900C2	400	0034.6711	95
495900C4	250	0034.6709	95
495900C5	100	0034.6705	385

	Fuse		
	Current [mA]	Example Schurter Type	
495905A2	2000	0034.6711	95
495905A4	1600	0034.6711	95
495905E5	400	0034.6711	385
495905F4	250	0034.6709	385
495905K8	630	0034.6713	385
495905B8	250	0034.6709	385
495905C2	1600	0034.6717	95
495905C4	800	0034.6714	95
495905C5	400	0034.6718	385

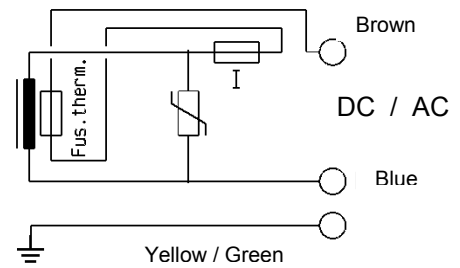
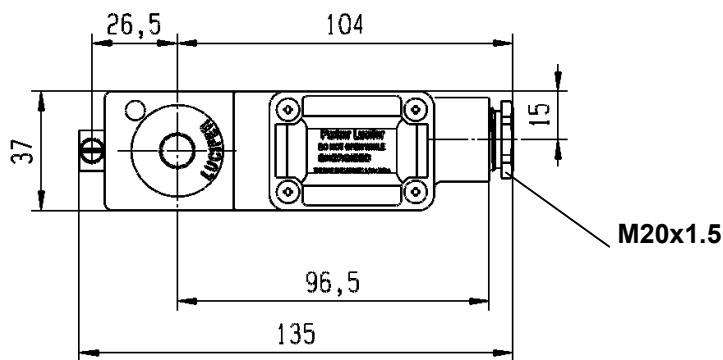
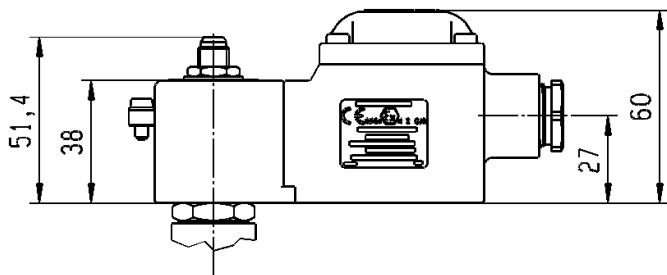
How to order?

The solenoid valve is composed by two elements, the mechanical part that is the valve and the electrical part which means the solenoid including the fixing elements and nameplate. Both elements together (assembly) are ATEX certified.

Therefore please specify: Valve type + solenoid type with voltage code.

Example: 121K0397 / 495900C2

Dimensions / Electrical diagram



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