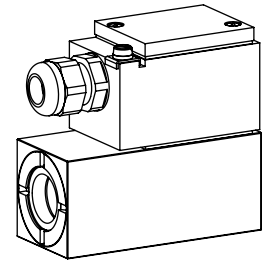


**Solenoid coil M.Z45**  
**for explosion hazard zones**  
**ATEX und IECEx certified**  
**Protection class IP65**

**Ex ia I Ma**  
**Ex ia II C T5/T6 Ga**

**Ex II 1 G Ex ia IIC Ga T6, T5**

**Ex I M1 Ex ia I Ma**


**DESCRIPTION**

The solenoid coil for explosion hazard areas in the ignition protection type «intrinsically safe» is utilised on solenoid spool valves.

**FUNCTION**

The winding resistance can be adapted to the intrinsically safe electric power supply utilised, in the range of 20...1000 Ω. With 100 Ω or 152 Ω coil resistance it is adapted to the recommended electric power supplies. Three diodes connected in parallel with the winding serve to render the inductivity ineffective, and a diode connected in series serves as a protection against reverse polarity. The electrical minimum values for a secure operation can be taken from the corresponding data sheet of the valve.

**APPLICATION**

The solenoid coil is certified as a device of the device groups I+II, category 1. This signifies that the devices are suitable for utilisation in areas with explosive gas -, vapour -, mist - and air mixtures of the zones 0, 1 and 2 as well as in mining applications.

- Intrinsically safe valves are used in:
- the shipping- and offshore industries
  - the oil- and gas industries
  - the chemical industry
  - the mining application

**CERTIFICATES**

in accordance with	Surface	Mining
ATEX / UKEX	x	x
IECEx	x	x
CCC	x	x

The certificates can be found on [www.wandfluh.com](http://www.wandfluh.com) / DOWNLOADS / Accompanying Ex-proof / **M.Z45**

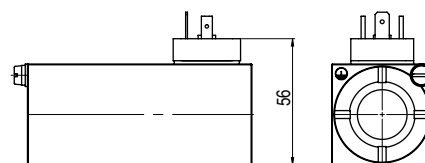
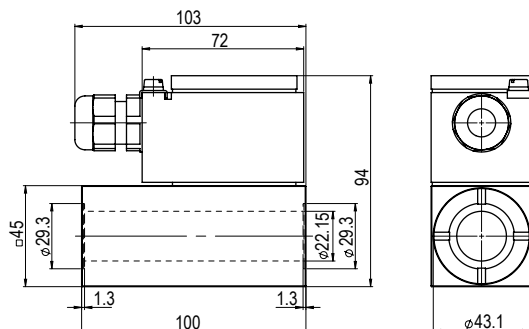
**TYPE CODE**

		M		Z	45	-		-	#	
Mobile type, metal housing										
Terminal box with cable screw connection M20x1,5			<b>K</b>							
DIN			<b>D</b>							
Other connectors on request										
Explosion proof execution , Ex ia										
45 mm square housing										
Coil resistance	100 Ω		<b>100</b>							
	152 Ω		<b>152</b>							
Temperature range	-25° C to...									
	-40° C to ...		<b>M224</b>							
	-60° C to ...		on request							
Design-Index (Subject to change)										

**DIMENSIONS**

Type MKZ45

Type MDZ45



**SPECIFICATIONS**

Insulation material class of the excitation winding	H																		
Protection class acc. to EN 60529	IP65/67, with corresponding cable gland and correct installation																		
Relative duty factor	100 % DF																		
Admissible ambient temp.	T1...T6: -20...+45 °C T1...T5: -20...+60 °C																		
Housing	Steel housing, zinc-nickel																		
Relative humidity	max. 95 % (non-condensing)																		
Connection/power supply	MKZ45: Standard • Cable entry for cable $\varnothing$ 6...12 mm • + external protective terminal																		
Only available for device group II	MDZ45: DIN connector in accordance with ISO 4400/DIN 43650 • + external protective terminal																		
Technical safety limit values	<table border="1"> <thead> <tr> <th>Equipment group</th> <th>I</th> <th>II</th> </tr> </thead> <tbody> <tr> <td><math>U_i</math></td> <td>30 V</td> <td>30 V</td> </tr> <tr> <td><math>I_i</math></td> <td>3,25 A</td> <td>0,8 A</td> </tr> <tr> <td><math>P_i</math></td> <td>7 W</td> <td>3 W</td> </tr> <tr> <td><math>L_i</math></td> <td>0mH</td> <td>0mH</td> </tr> <tr> <td><math>C_i</math></td> <td>0nF</td> <td>0nF</td> </tr> </tbody> </table>	Equipment group	I	II	$U_i$	30 V	30 V	$I_i$	3,25 A	0,8 A	$P_i$	7 W	3 W	$L_i$	0mH	0mH	$C_i$	0nF	0nF
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The inductance and capacitance of the solenoid coils are made ineffective.

**RECOMMENDED ELECTRIC POWER SUPPLY**

Electric power supply					Solenoid
Type	Manufacturer	Number of outputs	$I_{max}$	Equipment group	Required coil resistance
BXNE3412	Georgin	1	95mA	II	100 $\Omega$
BXNE3422	Georgin	2	95mA	II	100 $\Omega$
KFD2-SLD-Ex1.13100	Pepperl+Fuchs	2	105mA	II	100 $\Omega$ (152 $\Omega$ )
BXNE3712	Georgin	1	125mA	II	100 $\Omega$
BXNE3722	Georgin	2	125mA	II	100 $\Omega$
LB6115/FB6215***	Pepperl+Fuchs	4	80mA	II	152 $\Omega$
9143/10-156-160-10S	Stahl	1	140mA	II	100 $\Omega$

Further characteristic values refer to data sheet of the power supply manufacturer

\*\*\* Maximum line resistance 3 $\Omega$  (corresponds to 80m line length in case of a 1mm<sup>2</sup> cross section).

**SAFE OPERATION**

Intrinsically valves must only driven by a suitable electric power supply (see operating instructions). The selection of the power supply and wiring work must be executed by trained specialists.

**ACCESSORIES**

- The operating instructions incl. the EC declaration of conformity for solenoid coils of the type M.Z45-... and I.Z45-... is supplied in German, English and French language and provided for downloading under [www.wandfluh.com](http://www.wandfluh.com).
- Type test certifications  
(download under [www.wandfluh.com](http://www.wandfluh.com))
- Declaration of conformity  
(download under [www.wandfluh.com](http://www.wandfluh.com))
- Recognition of production quality assurance
- SEV 16 ATEX 4130  
CH/SEV/QAR16.0001  
(Download unter [www.wandfluh.com](http://www.wandfluh.com))