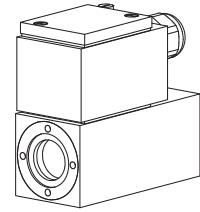


**Solenoid coil M.Z45**  
for explosion hazard zones  
ATEX und IECEx certified  
Protection class IP65



Ex ia I Ma  
Ex ia II C T5/T6 Ga  
II 1 G Ex ia II C T6, T5  
I M1 Ex ia I Ma



**DESCRIPTION**

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

The solenoid coils are certified in accordance with ATEX and IECEx.

**Design type test certifications:**

PTB 07 ATEX 2059 X  
BVS 09 ATEX E 097  
IECEx BVS 09.0047

**FUNCTION**

The winding resistance can be adapted to the intrinsically safe electric power supply. In the range of 20...1000 Ω. With 100 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

**CONTENT**

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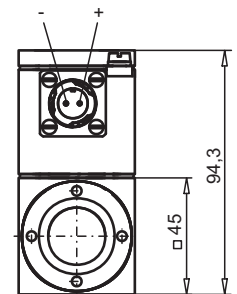
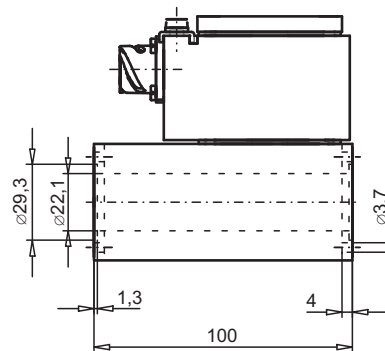
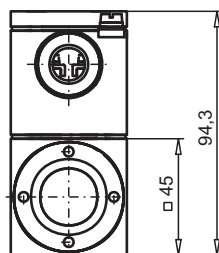
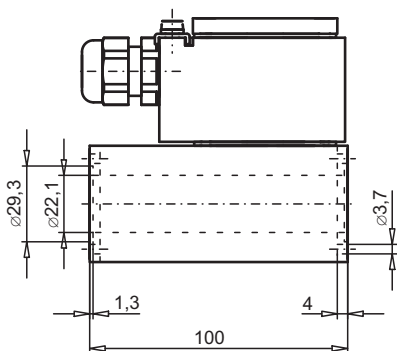
**TYPE CODE**

	M	<input type="checkbox"/>	Z	45	-	100	#	<input type="checkbox"/>
Mobile type with steel housing								
Terminal box with cable screw connection M20 x 1,5								
Bajonet connector (only device group II)								
Protection type intrinsically safe								
45 mm square housing								
Coil resistance of the exciter coil (Standard 100 Ω)								
Design-Index (Subject to change)								

**DIMENSIONS**

Type MKZ45

Type MBZ45




**SPECIFICATIONS**

Insulation material class of the excitation winding	at least F
Protection class	IP65 to EN 60 529
Relative duty factor	100% DF
Admissible ambient temp.	T1...T6: -20...+45 °C T1...T5: -20...+60 °C
Housing	Steel housing zinc coated
Relative humidity	max. 95% (non-condensing)
Connection/power supply	MKZ45: Standard for device groups I+II • Cable entry for cable Ø 6...12 mm • + external protective terminal MBZ45: (CA 3102E 10 SL4P-B) • Bajonet connector, Cannon • + external protective terminal
Only available for device group II	

Technical safety limit values	Device group	I	II
	$U_i$	30 V	30 V
	$I_i$	2,5 A	0,8 A
	$P_i$		3 W
	$L_i$	0mH	0mH
	$C_i$	0nF	0nF

The inductance and capacitance of the solenoid coils are made ineffective.

**RECOMMENDED ELECTRIC POWER SUPPLY FOR DEVICE GROUP II**

Commercially available	
Georgin	BXNE3412 or BXNE3712 (1 channel, 1 control input, 24...48 VDC)
	BXNE3422 or BXNE3722 (2 channels, 2 control inputs, 24...48 VDC)
Output current at 100 Ω	95 mA for type 34
Load resistance and nominal voltage	125 mA for type 37 (load resistance = coil resistance + cable resistance)
Device designation acc. to ATEX	 II 1 G/D Ex ia IIC
Supply voltage for the electric power supply	24...48 VDC, 110 VAC, 230 VAC available

**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: PTB 07 ATEX 2059 X  
(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
- ATEX: PTB 07 ATEX Q006  
 IECEX: DE/PTB/QAR09.0002/00  
 (download under [www.wandfluh.com](http://www.wandfluh.com))