

# Coils for Solenoid Valves

Diverse connector types, power ratings and voltages  
Series D45/207...



- Facilitates compact assemblies
- All common AC and DC voltages
- Nominal power up 32 W / 31 VA
- Diverse connector types
- With optional protection diode
- Protection class IP 65 / IP 67 / IP 69K
- For core tube  $\varnothing$  20.6 mm

## 1 Description

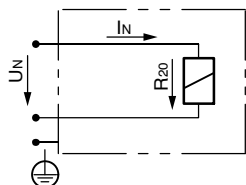
The slip-on coils can be replaced without opening the hydraulic envelope and can be positioned at any angle through 360°. When combined with the appropriate core tube, the coils produce an on/off solenoid function or a proportional solenoid function. Thanks to the wide variety of connector types and voltages, these coils are suitable for

widespread use in mobile and industrial applications. These coils are very adaptable in use, a benefit that is enhanced by various power ratings and an optional protection diode. The coil encapsulation and the plug base are glass-fibre reinforced thermoplastic.

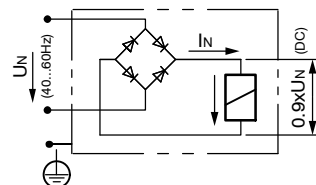
## 2 Symbol

Connector type to DIN EN 175301-803

Direct current DC

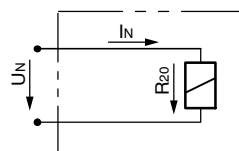


Alternating current AC

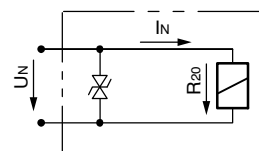


All connector types except DIN EN 175301-803 (DC)

Without protection diode



With bipolar protection diode



### ATTENTION!

Protection of AC solenoid coils.

The rectifier built into the coil can be damaged by high voltage spikes.

To prevent AC coils from being destroyed, a mating connector with integral power varistor is recommended.

## 3 Technical data

General characteristics	Description, value, unit
Designation	Coil, D45/207
Design	slip-on, rotatable 360°
Mounting method	core tube, knurled nut
Ambient temperature range	-30 °C ... +50 °C
Coil weight	340 ... 370 g (dependent on type of connection)

Reference: 400-P-120120-EN-02

Electrical characteristics	Description, value, unit	
Electrical connection:	Standard on request on request on request	- DIN EN 175301-803, 3-pole 2 P+E - Deutsch plug connection DT04-2P - Junior Timer radial plug connection, 2-pole - flying leads, 2-pole
Insulation class to VDE 0580	H (180 °C)	
Protection class to ISO 20 653 / EN 60 529	IP 65 / IP 67 / IP 69K, see "Ordering code" (with appropriate mating connector and proper fitting and sealing)	
Relative duty cycle	100 %	
Supply voltage tolerance	± 10 %	
supply voltages / power ratings:	Standard Standard Standard Standard	12 V DC / 30 W 24 V DC / 31 W 115 V AC <sup>1)</sup> / 32 VA 230 V AC <sup>1)</sup> / 31 VA
more on request	see Coil resistance R	



**IMPORTANT!:**

<sup>1)</sup> supply voltages > 75 VDC or 50 VAC only possible with DIN EN 175301-803 connect.

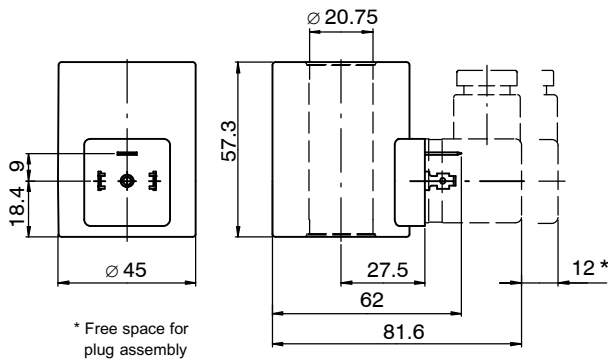
Coil resistance R:	Description, value, unit		
supply voltages / power ratings:	Cold value at + 20 °C	Cold value at - 30 °C	max. Warm value
12 V DC / 30 W	4.8 Ω	3.8 Ω	7.6 Ω
24 V DC / 31 W	18.6 Ω	15.0 Ω	29.1 Ω
28 V DC / 32 W	24.5 Ω	19.7 Ω	38.4 Ω
36 V DC / 32 W	40.5 Ω	32.6 Ω	63.5 Ω
48 V DC / 32 W	72.0 Ω	57.9 Ω	112.8 Ω
96 V DC / 32 W	288 Ω	231 Ω	451 Ω
110 V DC / 32 W	378 Ω	304 Ω	592 Ω
127 V DC / 32 W	504 Ω	405 Ω	790 Ω
200 V DC / 32 W	1250 Ω	1006 Ω	1957 Ω
207 V DC / 31 W	1400 Ω	1126 Ω	2192 Ω
220 V DC / 32 W	1512 Ω	1216 Ω	2368 Ω
24V AC / 32 VA	14.6 Ω	11.7 Ω	22.9 Ω
115V AC / 32 VA	335 Ω	269 Ω	525 Ω
120V AC / 31 VA	378 Ω	304 Ω	592 Ω
230V AC / 31 VA	1400 Ω	1126 Ω	2192 Ω
240V AC / 31 VA	1512 Ω	1216 Ω	2368 Ω

Inductance / protection diode	Description, value, unit		
supply voltages / power ratings:	Inductance Measured at the core tube, non-operated, at 0.1 mA (rms) / 1 kHz	Inductance Measured at the core tube, non-operated, at 0.5 V (rms) / 120 Hz	Breakdown voltage for protection diode
12 V DC / 30 W	22 mH	103 mH	33 V
24 V DC / 31 W	74 mH	228 mH	56 V
28 V DC / 32 W	106 mH	316 mH	–
36 V DC / 32 W	177 mH	532 mH	–
48 V DC / 32 W	–	873 mH	–
96 V DC / 32 W	–	3300 mH	–
110 V DC / 32 W	–	4600 mH	–
127 V DC / 32 W	–	5500 mH	–
200 V DC / 32 W	–	14900 mH	–
207 V DC / 31 W	–	15000 mH	–
220 V DC / 32 W	–	17500 mH	–

## 4 Dimensions

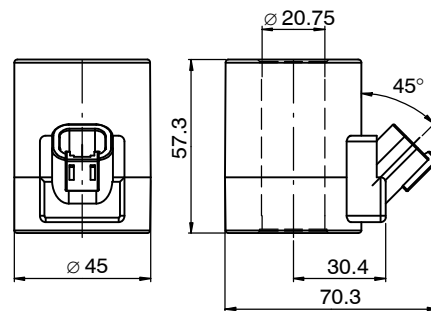
### Coil with DIN EN plug connection

- Standard-Type (see Ordering code)



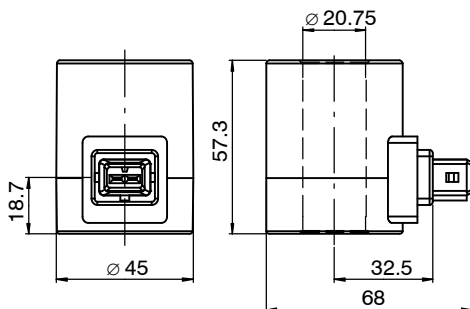
### Coil with Deutsch DT04-2P plug connection

- Type DT with quenching diode (see Ordering code)



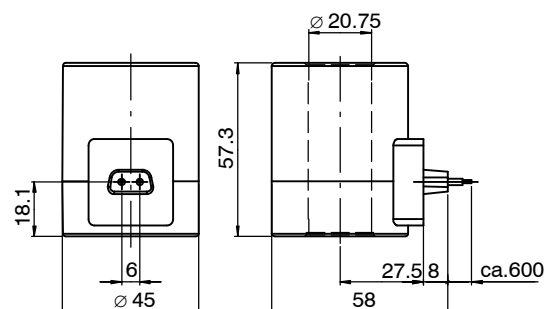
### Coil with Junior Timer radial plug connection

- Type JT with quenching diode (see ordering code)



### Coil with flying leads

- Type F (see ordering code)



## 5 Installation information



### Attention.

Because of the danger of overheating, the coil must only be operated when it is properly fitted on a valve. To prevent the ingress of water, both ends of the coil on the core tube must be properly sealed with O-rings.



### Attention.

Delivery is done without mating connector.

## 6 Ordering code

Ex. MAG-SP D45/207 24 D \_ 32W

MAG-SP = coil

D45/207 =  $\varnothing$  45 mm (outside  $\varnothing$ ) /  $\varnothing$  20.75 mm (inside  $\varnothing$ )

... = voltage e.g. 24 (24 V),  
see "Electrical characteristics" - supply voltage

D = current DC

A = current AC (only possible with DIN EN 175301-803 connect)

(blank) = standard plug connection to DIN EN (3-pole, 2 P+E) (IP 65) mating plug not supplied  
*for the following plug-variants, please consult Bucher:*

DT = Deutsch plug connection DT04-2P (with quenching diode, IP 67/69K) } mating plug not supplied

JT = Junior Timer radial plug connection (with quenching diode, IP 65)

F = flying leads (600mm) (IP 65)

... = Nominal power consumption, see "Electrical characteristics"