7 - ELECTRICAL FEATURES

7.1 Solenoids

These are essentially made up of two parts: tube and coil. The tube is threaded into the valve body and includes the armature that moves immersed in oil, without wear. The inner part, in contact with the oil in the return line, ensures heat dissipation.

The coil is fastened to the tube by a threaded ring, and can be rotated 360°, to suit the available space.

NOTE 1: In order to further reduce the emissions, use of type H connectors is recommended. These prevent voltage peaks on opening of the coil supply electrical circuit (see cat. 49 000).

Protection from atmospheric agents CEI EN 60529

Plug-in type	IP 65	IP 69 K
K1 DIN 43650	x	
K7 DEUTSCH DT04 male	x	x

NOTE: The protection degree is guaranteed only with the connector correctly connected and installed.

SUPPLY VOLTAGE FLUCTUATION	± 10% Vnom
MAX SWITCH ON FREQUENCY	18.000 ins/hr
DUTY CYCLE	100%
ELECTROMAGNETIC COMPATIBILITY (EMC) emissions (**NOTE 1**) EN 50081-1 immunity EN 50082-2	In compliance with 89/336 CEE
LOW VOLTAGE	In compliance with 73/23/CEE 96/68/CEE
CLASS OF PROTECTION : Coil insulation (VDE 0580) Impregnation: CC valve CA valve	 class H class F class H

7.2 Current and absorbed power for DC solenoid valve

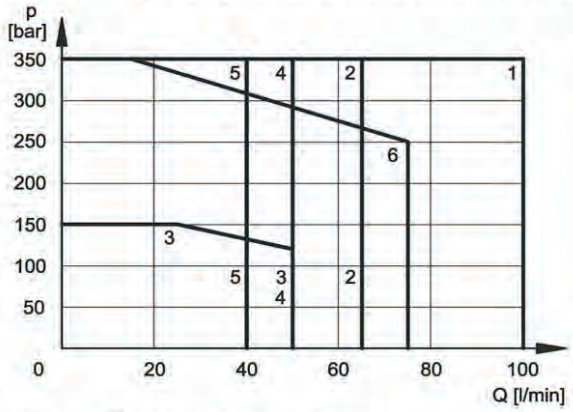
The table shows current and power consumption values relevant to the different coil types for DC.
The rectified current supply takes place by fitting the valve (with the exception of D12 coil) with an alternating current source (50 or 60 Hz), rectified by means of a bridge built-in to the "D" type connectors (see cat. 49 000), by considering a reduction of the operating limits (see diagram below).

Coils for direct current (values ±5%)

	Nominal voltage [V]	Resistance at 20°C [Ω]	Current consumpt. [A]	Power consumpt. [W]	Coil code K1	Coil code K7
D12	12	4,4	2,72	32,6	1902860	1902940
D24	24	18,6	1,29	31	1902861	1902941
D48	48	78,6	0,61	29,3	1902863	
D110	110	423	0,26	28,6	1902864	
D220	220	1692	0,13	28,6	1902865	

Operating limits for DC solenoid valves fed with AC by means of connectors with built-in rectifier bridge.

SPOOL TYPE	CURVE P-A	CURVE P-B
S1, SA1, SB1	1	1
S2, SA2, SB2	2	2
S3, SA3, SB3	3	3
S4, SA4, SB4	4	4
S9	6	6
TA, TB	5	5
RK	1	1



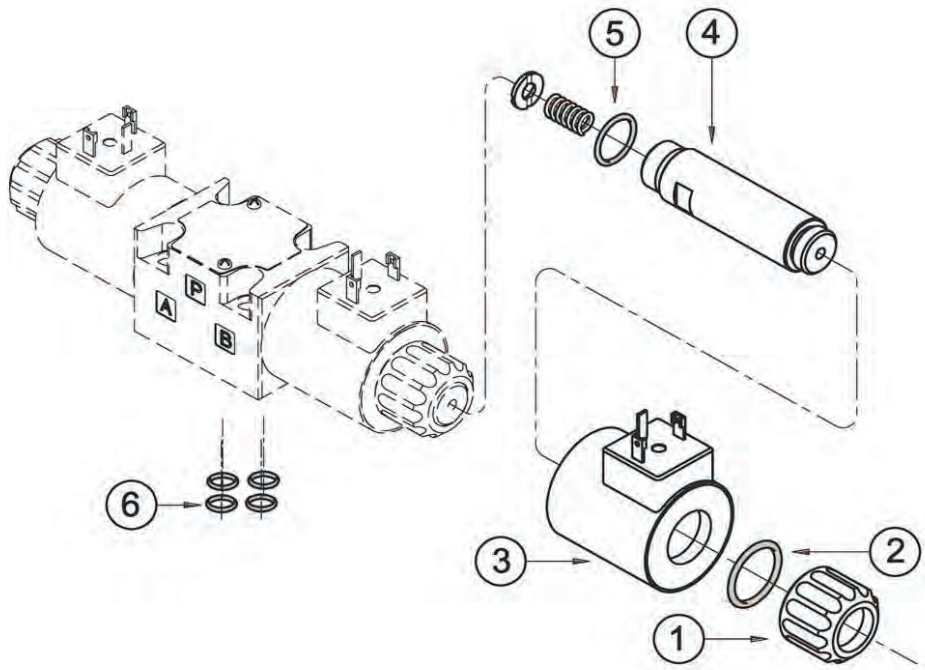
7.3 Current and absorbed power for AC solenoid valve

The table shows current and power consumption values at inrush and at holding, relevant to the different coil types for AC current.

Coils for alternating current (values ± 5%)

Suffix	Nominal voltage [V]	Frequency [Hz]	Resistance at 20°C [ohm]	Current consumption at inrush [A]	Current consumption at holding [A]	Power consumption at inrush [VA]	Power consumption at holding [VA]	Coil code
A24	24	50	1,46	8	2	192	48	1902830
A48	48	50	5,84	4,4	1,1	204	51	1902831
A110	110V-50Hz	50/60	32	1,84	0,46	192	48	1902832
	120V-60Hz			1,56	0,39	188	47	
A230	230V-50Hz		140	0,76	0,19	176	44	1902833
	240V-60Hz			0,6	0,15	144	36	
F110	110	60	26	1,6	0,4	176	44	1902834
F220	220		106	0,8	0,2	180	45	1902835

14 - SPARE PARTS FOR DC SOLENOID VALVE



DC COILS AND ELECTRICAL CONNECTORS IDENTIFICATION CODE

C	22	-			/	10

Supply voltage

D12 = 12 V
D24 = 24 V
D48 = 48 V
D110 = 110 V
D220 = 220 V

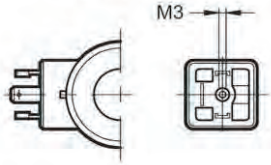
Series no.:
(the overall and mounting dimensions remain unchanged from10 to 19)

Coil electrical connection:

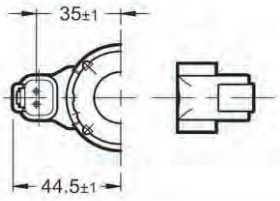
K1 = plug for connector type DIN 43650 (**standard**)

K7 = plug for connector type DEUTSCH DT04-2P male (available on D12 and D24 coils only)

K1 PLUG TYPE (standard)



K7 PLUG TYPE



1	Coil locking ring with seal included cod. 0119412
2	ORM type 0220-20 (22x2) - 70 Shore
3	Coil (see identification code)
4	Solenoid tube for standard version: TD22-DS3/10N (NBR seals) TD22-DS3/10V (FPM seals) Solenoid tube for version with soft-shifting: TD22-DS3F/10N (NBR seals) TD22-DS3F/10V (FPM seals) **NOTE:** OR n°5 included
5	OR type 2062 (15.6x1.78) - 70 Shore
6	N. 4 OR type 2037 (9.25x1.78) - 90 Shore

SEALS KIT

The codes include the ORing n°° 2,5 and 6.

Cod. 1985406 NBR seals
Cod. 1985410 FPM (viton) seals