SOLENOID VALVES

ELECTROSÓN

NORMALLY CLOSED VALVE BODIES DIRECT OPERATION

Solenoid valves suitable for water, air, oil, inert gases and other fluids non-corrosive for copper alloys, with viscosity up to 2° Engler

INSTALLATION AND OPERATION
> Normally-closed 2 way valve
> Direct activation
> Female end connections, size 1/4" to 1" BSP
> Energized coil opens the plug.

ELECTRICAL SPECIFICATIONS
> Closing time : 10 msec.
> Press-forged brass body
> Internal parts in stainless steel (17 % CR)
> Gaskets in Viton (fluoroelastomer)
> Fluid temperature : -10 to +140 C°
> With dc coil indicated pressure values must be reduced by 60%
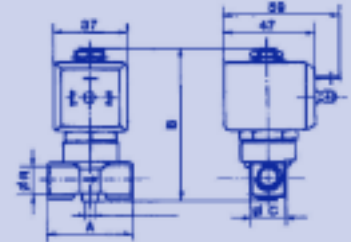
MAGNETS
> Actuator coils are supplied separately, see Coils page for voltage selection and technical data

TYPE	A	B	C
20B	40	74	17
20C	53	78.5	26
20D	53	78.5	26
20E	60	94	52
20F	65	103	52

Dimensions and weights are inclusive of coil

TYPE	Through bore dia. Ø mm	Female connection BSP	Kv m³/h	Minimum differential pressure bar	Maximum differential pressure with coil Vn bar	Test pressure (DIN2401) PN bar	Working Temperature °C	Unit Weight Kg
20B	3	1/4"	0.27	0	16	25	-10 to 140	0.34
20C	5	3/8"	0.612	0	6	25	-10 to 140	0.40
20D	5	1/2"	0.612	0	6	25	-10 to 140	0.36
20E	7	3/4"	1	0	2.5	25	-10 to 140	0.70
20F	9	1"	1.2	0	2.5	25	-10 to 140	0.90

Kv = water flow in m lh with pressure drop of 1 bar (1 bar = 100kPa)
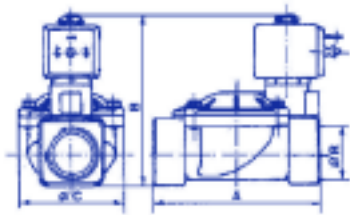*For dual-frequency coils when used at 60 Hz given values must be reduced by approx. 12%*
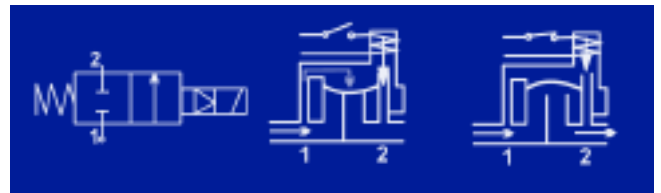
NORMALLY CLOSED VALVE BODIES SERVO-ASSISTED DIAPHRAGM

Solenoid valves suitable for large flow capacity, suitable for water, air, oil, inert gases and other fluids non-corrosive for copper alloys, with viscosity up to 2° Engler

INSTALLATION AND OPERATION
> 2 way valve, normally-closed
> Servo-assisted membrane actuator
> Female end connections, size 3/8" to 2" BSP
> Upstream media enters the space above the membrane, pressing it against the seat, preventing the flow. When the coil is energized, the pilot plug opens discharging the flow, therefore the media lifts the membrane disc allowing the flow
> N.B. minimum differential pressure : 0.1 bar

ELECTRICAL SPECIFICATIONS
> Closing time : 10 msec.
> Press-forged brass body
> Internal parts in stainless steel (17 % CR)
> Gaskets in NBR (buna N)
> With dc coil indicated pressure values must be reduced by 60%

MAGNETS
> Actuator coils are supplied separately, see Coils page for voltage selection and technical data

TYPE	A	B	C
23C	69	92.5	40
23D	72	94.5	40
23E	100	100	65
23F	104	105.5	65
23G	145	127	102
23H	145	127	102
23I	173	141	118

Dimensions and weights are inclusive of coil

TYPE	Through bore dia. Ø mm	Female connection BSP	Kv m³/h	Shut down time with 1 bar DP sec	Minimum differential pressure bar	Maximum differential pressure bar	Test pressure (DIN2401) PN bar	Working Temperature °C	Unit Weight Kg
23C	13	3/8"	3	1	0.1	20	25	-10 to 90	0.55
23D	13	1/2"	3	1	0.1	20	25	-10 to 90	0.58
23E	20	3/4"	8.4	1.5	0.1	20	25	-10 to 90	1.02
23F	25	1"	9.6	1.5	0.1	20	25	-10 to 90	1.10
23G	35	1 1/4"	25.2	2.5	0.1	10	16	-10 to 90	3.15
23H	40	1 1/2"	30	3	0.1	10	16	-10 to 90	2.90
23I	50	2"	37.2	3.5	0.1	10	16	-10 to 90	4.3

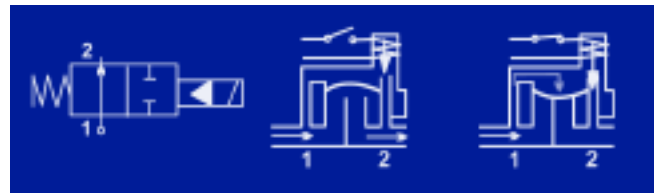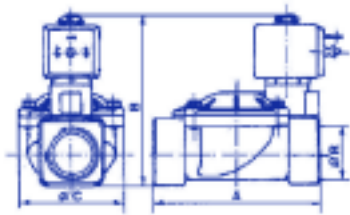*Kv = water flow in m /h with pressure drop of 1 bar (1 bar = 100kPa)*

NORMALLY OPEN VALVE BODIES SERVO-ASSISTED DIAPHRAGM

Solenoid valves suitable for large flow capacity, suitable for water, air, oil, inert gases and other fluids non-corrosive for copper alloys, with viscosity up to 2° Engler

INSTALLATION AND OPERATION
> 2 way valve normally-open
> Servo-assisted membrane actuator
> Female end connections, size G3/8" to 2"
> Media enters the space above and under the membrane
> When the coil is energized, the pilot plug closes and the upstream media enters the space above the membrane, pressing it against the seat, preventing the flow
> N.B. minimum differential pressure : 0.1 bar

ELECTRICAL SPECIFICATIONS
> Closing time : 10 msec.
> Press-forged brass body
> Internal parts in stainless steel (17 % CR)
> Gaskets in NBR (buna N)

MAGNETS
> See Coils page for voltage selection and technical data

TYPE	A	B	C
29C	69	92.5	40
29D	72	94.5	40
29E	100	100	65
29F	104	105.5	65
29G	145	127	102
29H	145	127	102
29I	173	141	118

Dimensions and weights are inclusive of coil

TYPE	Through bore dia. Ø mm	Female connection BSP	Kv m³/h	Shut down time with 1 bar DP sec	Minimuum differential pressure bar	Maximum differential pressure bar	Test pressure (DIN2401) PN bar	Working Temperature °C	Unit Weight Kg
29C	13	G 3/8	3	1	0.1	20	25	-10 to 90	0.56
29D	13	G 1/2	3	1	0.1	20	25	-10 to 90	0.59
29E	20	G 3/4	8.4	1.5	0.1	20	25	-10 to 90	1.05
29F	25	G 1	9.6	1.5	0.1	20	25	-10 to 90	1.11
29G	35	G 1 1/4	25.2	2.5	0.1	10	16	-10 to 90	3.12
29H	40	G 1 1/2	30	3	0.1	10	16	-10 to 90	2.87
29I	50	G 2	37.2	3.5	0.1	10	16	-10 to 90	4.26

Kv = water flow in m lh with pressure drop of 1 bar (1 bar = 100kPa)

COILS FOR SOLENOID VALVE BODIES

Coils suitable for all the listed valves

TECHNICAL FEATURES
> All coils are produced with copper wire in H class (180° C)
> 30% glass fibre thermoplastic body, insulation class
  F (155 suitable for continuous duty (100 % ED)
> IP65 protection degree.
> Voltage tolerance : +-10% in ac and +10-5 % in dc
> Electrical connector over 2P+ DIN 43650 socket

HOMOLOGATION AND STANDARDS
> Complies with EN 60335-1 standards
> CE: CI02410

TYPE	Power supply	Starting power VA	Active power W	Maximum Working Temperature °C
C12DC	12 Vdc	-	12	80
C24DC	24 Vdc	-	12	80
C24AC	24 Vac	25	9	80
C110	110 Vac	25	9	80
C230	230 Vac	25	9	80

CONNECTOR FOR C RANGE COILS

TECHNICAL FEATURES
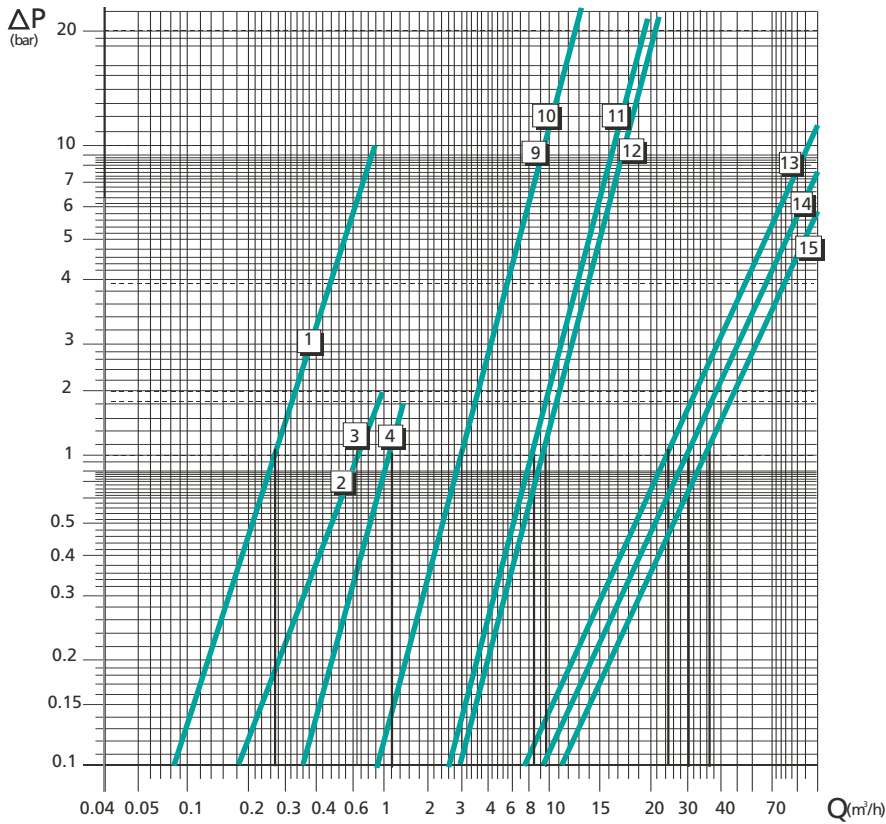> Push on connector in compliance with DIN 43650,
  suitable for all coils
> Cable gland (cable dia. 6 to 8 mm)

TYPE	Description
1578501	Rotational connector DIN 43650

	TYPE	Kv(m³/h)
1	20B	0,27
2	20C	0,612
3	20D	0,612
4	20E	1,1
9	23C	3
10	23D	3
11	23E	8,4
12	23F	9,6
13	23G	25,2
14	23H	30
15	23I	37,2

FORMULA TO OBTAIN THE FLOW CAPACITY WITH OTHER FLUIDS

For liquids different from the water

$$Q = Kv \sqrt{\frac{\Delta P}{\gamma}}$$

For air and other gases

$$Q = 1,44 Kv \sqrt{\frac{\Delta P \times P_2}{\delta}}$$

Q = Flow capacity in m³/h

Kv = Valve coefficent

ΔP = Load losses of the valves

P_2 = Valve pressure (bar)

γ = Specific weight of the liquids in Kg/dm³

δ = Specific weight of the gases (airδ =1)

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