

8 mm CHIPSOL Direct acting solenoid valve

- 2/2, 3/2 NC/NO;
Cartridge mounting
- Very compact design
(ø 8 x 19 mm)
- Low power
consumption (0,5 W)
- Long life up to 100
million cycles
- High flow to size ratio



Technical features

Medium:

Air, oxygen, neutral gases
(10% ... 95% humidity, non
condensing), 40 µm filtered

Operation:

Direct acting 2-way and 3-way
valves
Normally closed and normally
opened

Operating pressure:

0 ... 8 bar (0 ... 116 psi)

Mounting:

Cartridge

Size:

8 mm

Orifice:

0,5 ... 1 mm

Response time:

5 ... 10 ms
Response time measured
according to ISO 12238

Life expectancy:

≥100 Mio. cycles

Mounting instruction:

The valve must be assembled in
its housing with a lubricant that
is compatible with the seals.
Max axial force supported by the
valve: 75 (N).

Ambient/media temperature:

–10 ... +50°C (+14 ... +122°F)
Air supply must be dry enough
to avoid ice formation at
temperatures below +2°C (+35°F).

Materials:

Body: PPS
Seat seals: HNBR
Internal parts: Stainless steel

Electrical details

Voltage	24 V d.c.
Duty cycle	100% ED
Voltage tolerance	± 10%
Power consumption	0,5 W
Electrical insulation	500 V a.c.
Insulation class	F (155°C)

Following options on request

kv
Operating pressure
Medium temperature
Ambient temperature
Power consumption
Body
Seal
Electric connection
Voltage (3, 5, 6 or 12 V d.c.)
Degreased for oxygen use

Pulse width modulation (PWM) control

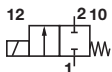
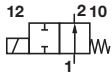
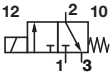
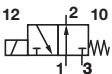
A PWM can be used to control the valve and should be set as follows:

	Definition	Value to be applied
Hit voltage	Voltage used for the valve to commute	Valve nominal voltage
Holding voltage	Voltage applied to the valve after commutation	Set duty cycle to guarantee specified holding voltage. 50% of nominal voltage can be used if no value specified.
Hit time	Maximum time required to ensure full valve commutation	25 ms *1)
PWM frequency		20 kHz

*1) Note: There is no temperature restriction in the case of CHIPSOL

File code: LS_DS_CHIPSOL_en/04/24

Technical data – standard models 24 V d.c.

Symbol	Operation	Function	Orifice	kv factor *2)	Operating pressure (bar)		Seal Material	Drawing No.	Model
	2/2	NC	0,5	0,11	0 ... 8	0 ... 116	HNBR	1	14-211CA00-HH++AYJ
			0,8	0,2	0 ... 5	0 ... 72	HNBR	1	14-211CA01-HH++AYJ
			1	0,3	0 ... 1,5	0 ... 21	HNBR	1	14-211CA010HH++AYJ
	2/2	NO	0,6	0,11	0 ... 8	0 ... 116	HNBR	2	14-221CA060HH++AYJ
			0,7	0,2	0 ... 5	0 ... 72	HNBR	2	14-221CA070HH++AYJ
	3/2	NC	0,5	0,11	0 ... 8	0 ... 116	HNBR	3	14-311CA00-HH++AYJ
			0,8	0,22	0 ... 3	0 ... 43	HNBR	3	14-311CA01-HH++AYJ
			1	0,3	0 ... 0,5	0 ... 7	HNBR	3	14-311CA010HH++AYJ
	3/2	NO	0,6	0,12	0 ... 4	0 ... 58	HNBR	4	14-321CA060HH++AYJ

*2) Cv = 0,07 kv

Accessories

Test manifold with M3 ports, 1 position	Test manifold with M3 ports, multiple channels up to 10 positions	Barbs mounting interface for Ø 2,5 mm ID tubing (up to 1 bar)
		
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S141.0387 *3)	Available on request	S140.0226

*3) Two valve mounting screws are in scope of delivery

Electrical connection

300 mm flying leads mounted with 4 mm (or 2 x 2 mm) pitch SIL socket housing (Harwin M22-3010300)

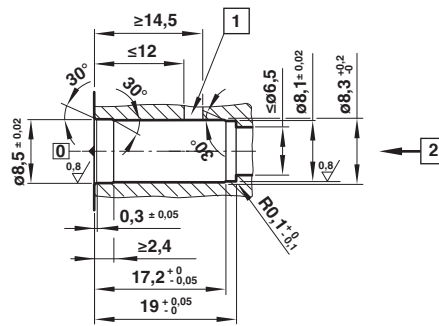
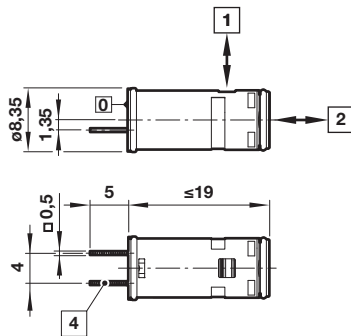
S141.0466

Dimensions

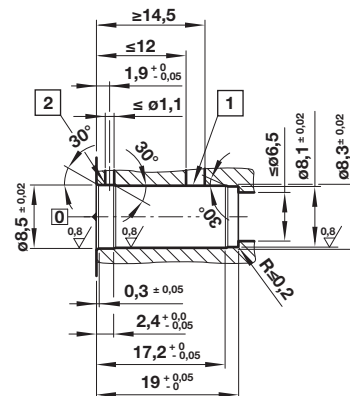
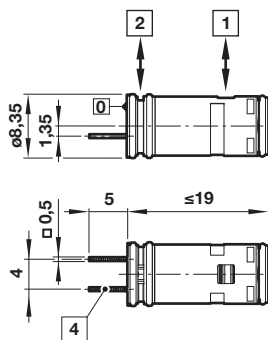
Dimensions in mm
Projection/first angle



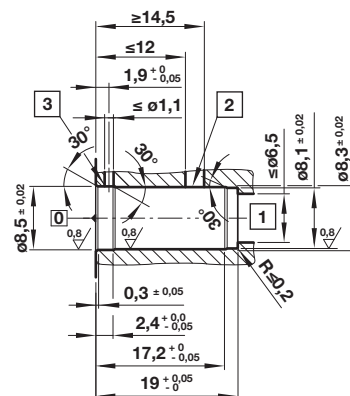
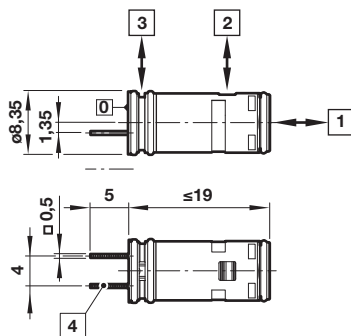
① CHIPSOL 2/2 NC



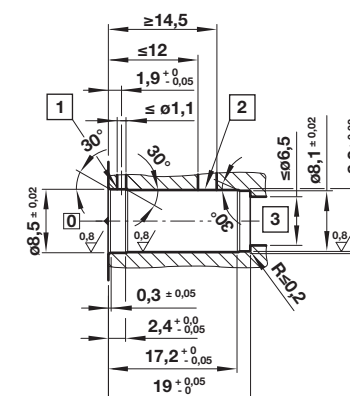
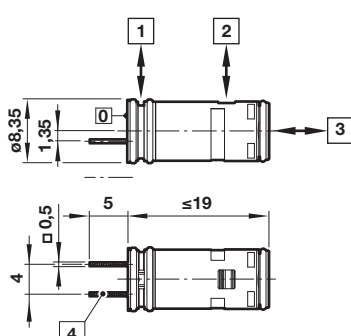
② CHIPSOL 2/2 NO



③ CHIPSOL 3/2 - NC



④ CHIPSOL 3/2 - NO



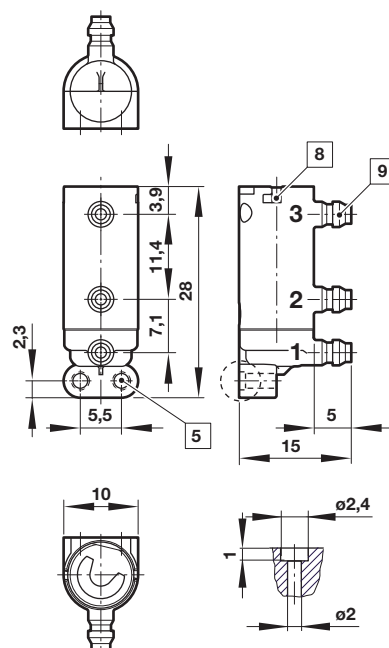
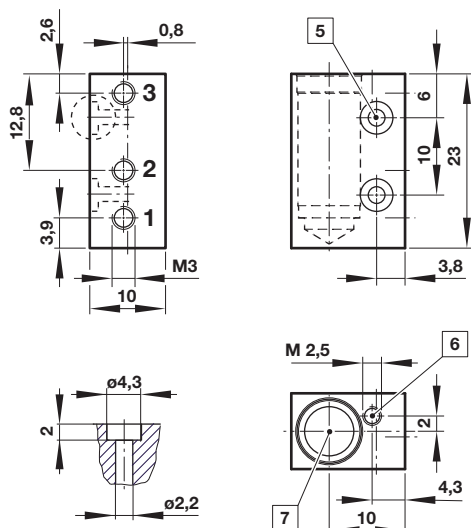
- ① Faces to be aligned by retaining means
- ② Inlet port
- ③ Outlet port
- ④ Exhaust port
- ⑤ Do not weld

Dimensions

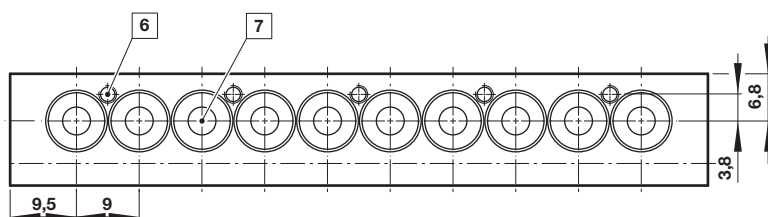
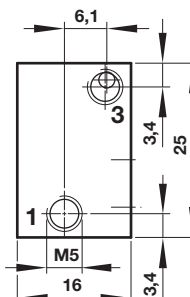
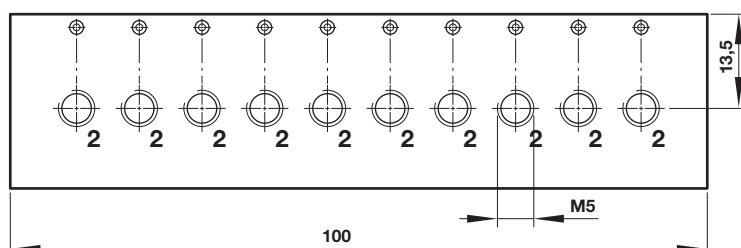
Test manifold, 1 position (Aluminium)

Barbs mounting interface (Plastic, maximum operating pressure 1 bar)

Dimensions in mm
Projection/first angle



Test manifold, up to 10 positions (Brass)



- [5] Mounting holes
- [6] Put in a screw to fix valve position
- [7] Chipsol mounting hole
- [8] Clip cover closed Chipsol mounting hole
- [9] Tubing ID 2,5 mm

Warning

These products are intended for use in air, oxygen and neutral gas systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features**«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult IMI Plc., FAS MEDIC SA.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.