

# DATASHEET

More valve in less space



## "H+ Effect" - high availability

100% manufactured in the region. Assembly and distribution on site



## "H+ Method" - modular design

Reduced assembly and repair times due to optimised design



## Durability - high number of switches

Mature manufacturing process and 100% EOL in-house testing



## Wide temperature & pressure ranges

Wide range of media and ambient temperatures as well as large pressure ranges



## Small, light and easy to service

Low vibration and easy installation in confined spaces

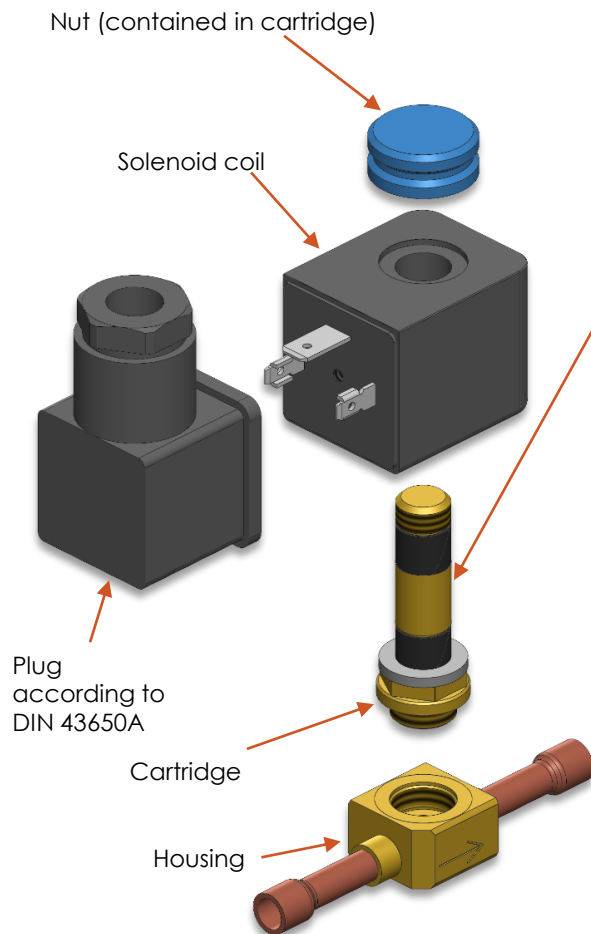


## Low noise

Quiet gear changes, thus low noise emissions

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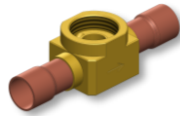


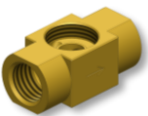
## Structure of the valve



### Different variants and sizes

- NO (Normally Open)
- NC (Normally Closed)
- Various minimum opening pressures
- Sizes 10, 15, 20, 30, 40

### Various connection types

- Soldering tube
 
- Flared tube
 
- O-ring connection (external thread)
 
- Internal thread
 

## General technical data

### Media data

Permissible mediums	Released for CFC, HCFC, HFC, HFO/HFO blends
Medium temperature	-70° to +150°C

### Product properties

Lifetime	up to 30 million switching operations <sup>1)</sup>
Valve Materials	Stainless steel, brass, PTFE seal, EPDM O-Rings

### Environment and installation

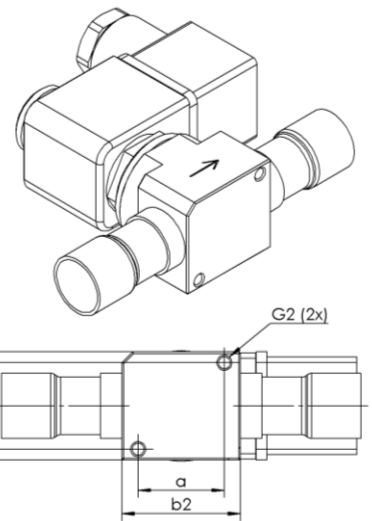
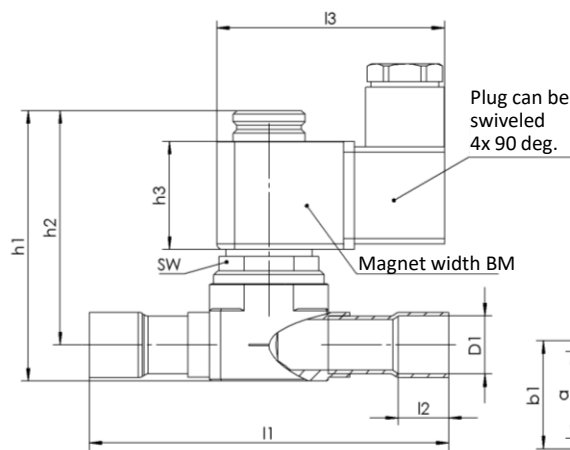
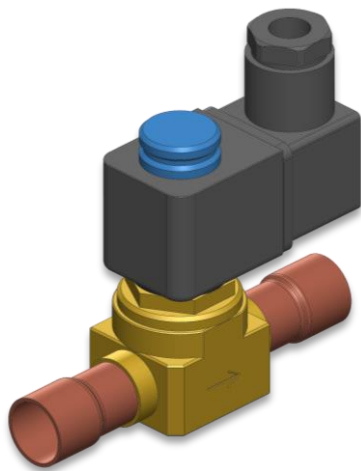
Ambient temperature	-40° to +70°C
Mounting position	arbitrary
Solder joint	The copper tubes are soldered into the brass housing with silver solder (melting range 640-680°)
Tightness to environment	He-leakage rate < 1.0x10 <sup>-6</sup> mbar x l/s tested according to DIN 1779 B6

1) May vary depending on medium

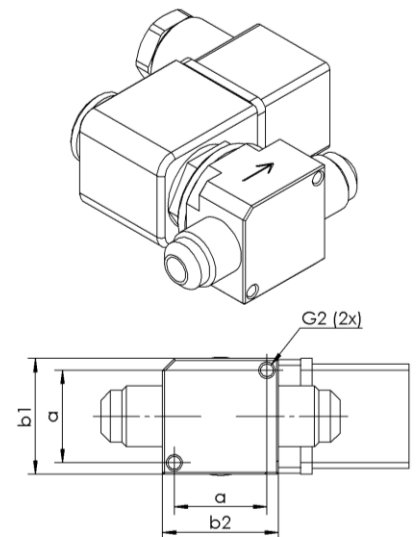
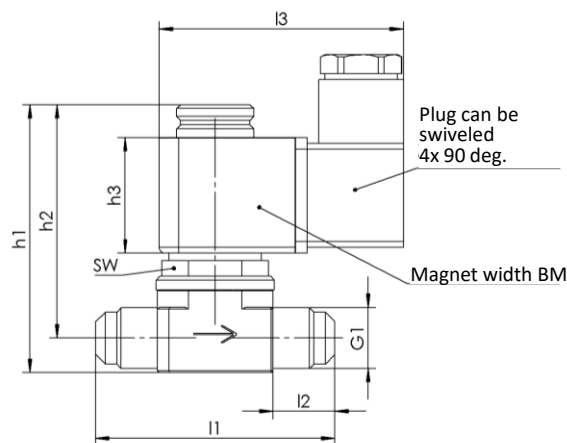
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## Technical drawings

### Soldering tube (LR)



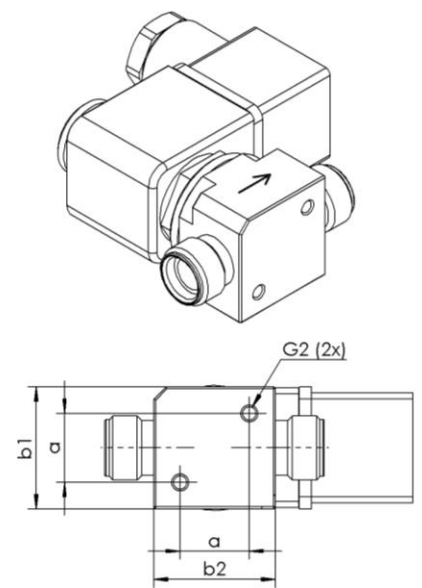
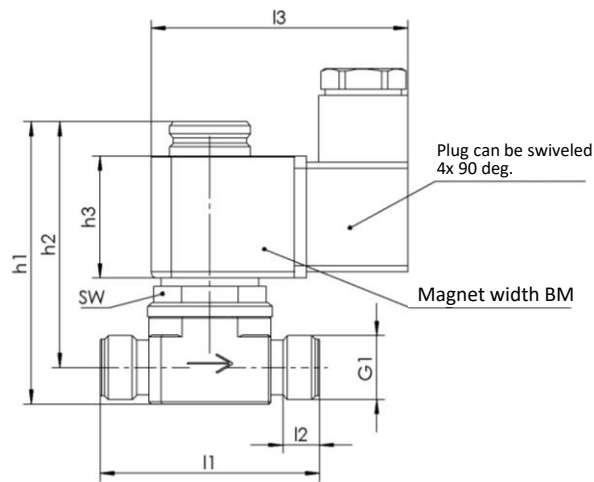
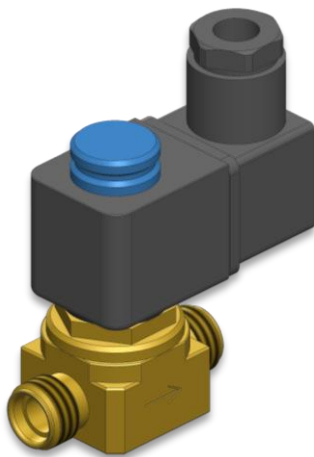
### Flared tube (BR)



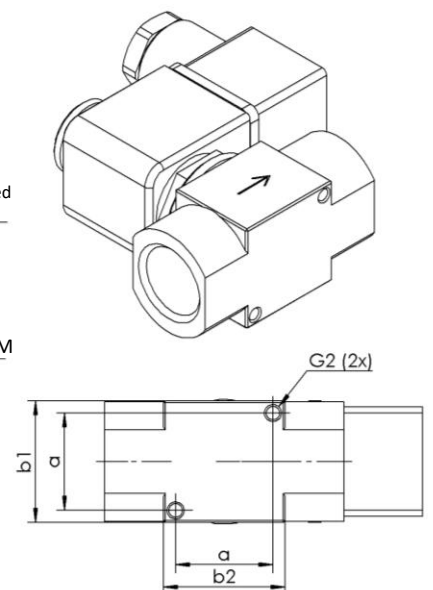
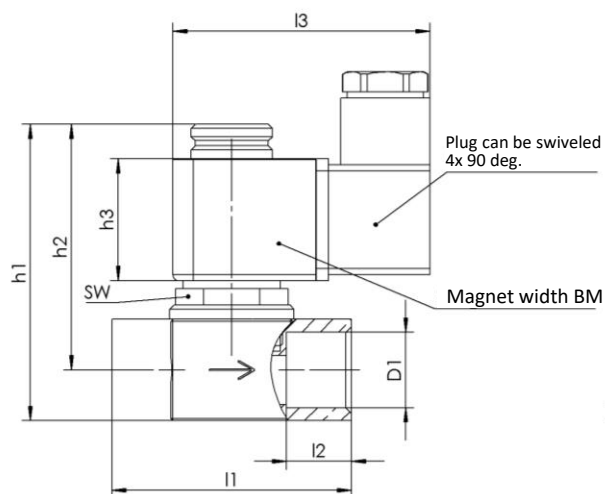
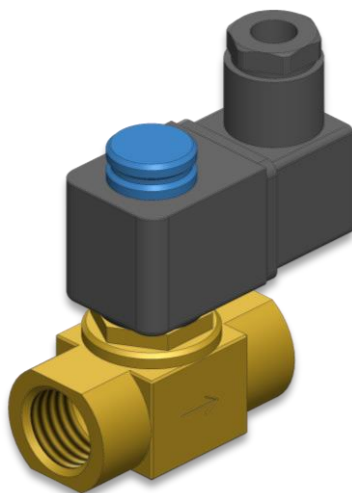
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## Technical drawings

### O-ring connection (male thread) (OR)



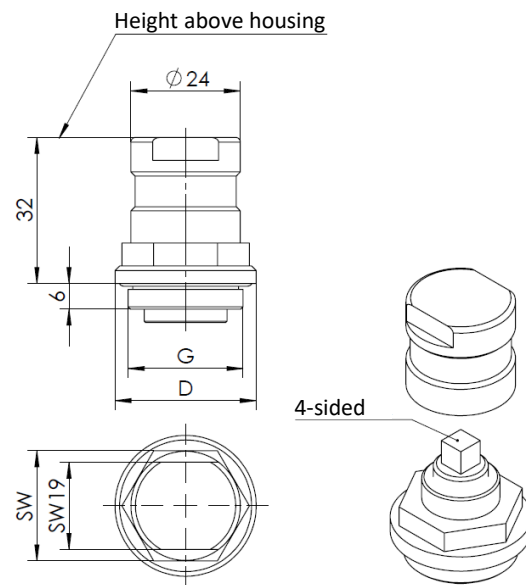
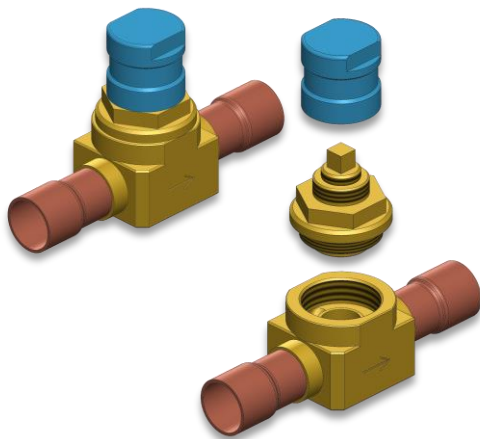
### Internal thread (IG)



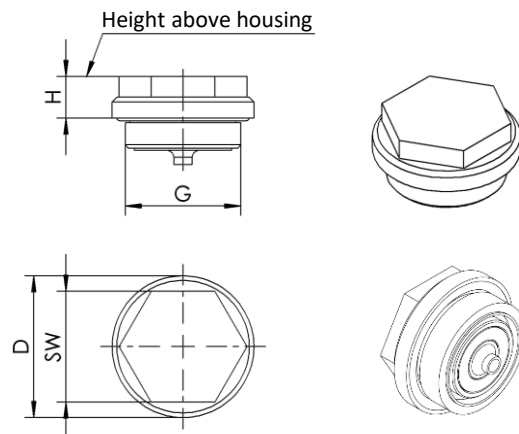
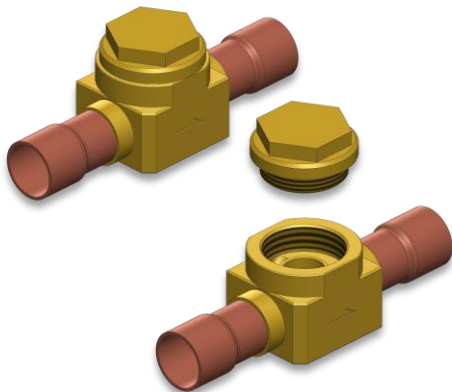
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## Technical drawings

### Manual shut-off valve



### Check valve



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## Housing

### GE – Housing

Housing material: Brass (Ms) or Aluminium (Al), Solder tube: Copper (Cu)

Size	Housing No.	Connection type	Material	Pipe- Ø D1 [mm]	G1	Kv <sup>2)</sup> [m³/h]	l1 [mm]	l2 [mm]	b1 [mm]	b2 [mm]	a [mm]	G2	M <sup>3)</sup> [g]	For Magnet-Ø10		For Magnet-Ø15			
														h1 [mm]	h2 [mm]	h1 [mm]	h2 [mm]		
10	1001	LR	Ms/Cu	6		0,28	78	7	19	19	14	M3	38	59,5	55,5	-	-		
	1004 <sup>4)</sup>												37,5						
	1002												53,5						
	1005 <sup>4)</sup>												51,5						
15	1001	LR	Ms	6		0,37	78	6	22	22	14	M4	63	63	56,5	-	-		
	1002												69						
20	1001	BR	Ms	6	7/16"-20UNF	0,30	57	7	30	30	24	M4	105,5	65,5	58,5	79	72		
	1002			10	5/8"-18UNF	1,00	62	8,5					141	69,5	60,5	83	74		
	1003			12	3/4"-16UNF	1,35	66	10					167	72	62	85,5	75,5		
	1004			16	7/8"-14UNF	1,80	70	11					204	75	63	88,5	76,5		
	1005	OR	Ms	10	5/8"-18UNF	1,05	54	9	17	M4	130	69,5	60,5	83	74				
	1025 <sup>4)</sup>		Ms/Cu								132,5								
	1006		Ms								151					72	62	85,5	75,5
	1007	OR	Ms	16	7/8"-14UNF	1,75	66	15	24	M4	187	74,5	63	88	76,5				
	1008			22	1 1/16"-14UNF	1,92	74	19			268	77,5	64	91	77,5				
	1009	IG	Ms		G1/4"	0,80	59	12	30	30	24	M4	189	68	58	81,5	71,5		
	1026				G3/8"	1,85	59	14					135	72,5	61	86	74,5		
	1010				G1/2"	2,00	59	14					190	73	60,5	86,5	74		
	1011	LR	Ms/Cu	6		0,28	78	7	30	33	24	M4	99	65	60	78,5	73,5		
	1021 <sup>4)</sup>												98						
	1022 <sup>4)</sup>												124,5						
	1013												140,5						
	1023 <sup>4)</sup>												138,6						
1014	164,5																		
1024 <sup>4)</sup>	165																		
1015	199	81	68	94,5	81,5														
1018	12	1,40	62	16	30	30	24	M4	42,5	72	62	85,5	75,5						
1016	LR	Al	16		1,90	62	16	30	30	-	-	5) <sup>5)</sup>	65,5	85	65	98,5	78,5		
1017												47	75	65	88,5	78,5			
30	1001	LR	Ms/Cu	16		3,15		14	40	40	30	M4	287	-	-	100	90		
	1002			22	3,60	120	16	40					40			30	338	104	91
	1003			28	4,00		18										419	110	94
40	1001	LR	Ms	28		8,75			55	55	42	M8	784	-	-	120	104		
	1002			35	9,50	140	22										1024	123	103
	1003			42	10,00												1120	123	105

2) The Kv value corresponds to the water flow through a valve (in m³/h) at a pressure difference of 1 bar according to DIN EN 60534-2-3 at full stroke

3) Weight of housing - total weight of valve can be determined by summing the article weights used (housing + cartridge + solenoid + plug)

4) Housing brass forging

5) M16x1.0 for sight glass centered in underside

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## Cartridges

### KA – Cartridges

Size	Cartridge-No.	NO / NC <sup>6)</sup>	Power supply	Min. opening pressure [bar]	Max. opening pressure [bar] <sup>7)</sup>	Magnet-Inner-Ø [mm]	SW [mm]	M [g]	Tightening torque <sup>8)</sup> [Nm]		
10	101	NC	AC + DC	0,00	45	10	14	36	10-15		
	102	NC	AC + DC	0,05				37,5			
	103	NO	DC	0,05				36			
15	101	NC	AC + DC	0,10			18	18		41	15-20
	102	NO	DC	9)						40	
	103	NO	DC	9)						40	
20	101	NC	AC + DC	0,05		15	24	74,5	25-30		
	102	NC	DC	0,05				74,5			
	103	NC	DC	0,10				128,5			
	104	NO	DC	0,05				73,5			
	105	NO	DC	0,10				124,5			
30	101	NC	AC + DC	0,10		15	36	243	55-60		
	102	NO	DC	0,10	241,5						
40	101	NC	DC	0,20	15	32	405	55-65			
	102	NO	DC	0,20			397				

### KA – Manual shut-off valve

Size	Cartridge-No.	G	Max. opening pressure [bar]	D [mm]	L [mm]	E [mm]	SW [mm]	Tightening torque <sup>8)</sup> [Nm]
20	106	M25x1,0	45	30,7	32	6	24	25-30
30	103	M34x1,0		40,0	35,2		36	

### KA – Check valve

Size	Cartridge-No.	G	Max. opening pressure [bar]	Min. opening pressure [bar]	D [mm]	H [mm]	SW [mm]	Tightening torque <sup>8)</sup> [Nm]
20	108	M25x1,0	45	0,20	30,7	9	24	25-30

### Sealing Materials

As standard, our cartridges are delivered with the sealing material **EPDM**

Alternative sealing materials can also be supplied as an option. Please change the order code when placing your order as follows:

Cartridge-No.	Sealing Material
<b>1XX</b>	EPDM
<b>2XX</b>	FKM

We will advise you on choosing the right sealing material.

6) NO (Normally Open) | NC (Normally Closed)

7) Higher operating pressures on request

8) Tightening torque for mounting the cartridge in the housing

9) Min. opening pressures on request

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## Solenoid coils and plugs

### MA – Solenoid coils (Properties: Duty cycle 100%)

Magnet-No.	AC/DC	Voltage	Power	Magnet-Inner- $\phi$ [mm]	BM [mm]	h3 [mm]	I3 [mm]	M [g]
00	without Magnet							
10	DC	12 V	6 W	10	29,5	30	64	102
11	DC	24 V	6 W					98
12	DC	24 V	9 W					100
13	AC	12 V	5 VA					100
14	AC	24 V	9 VA					100
15	AC	110 V	5 VA					98
16	AC	230 V	5 VA					100
17	AC	230 V	8 VA					96
18	AC	230 V	6 VA					100
19	DC	200 V	6 W					100
20	DC	230 V	6 W	29,6	30,5	66	113	
50	DC	12 V	10 W	15	41	40	76	268
51	DC	24 V	10 W					274
52	AC	24 V	10 VA					264
53	AC	110 V	10 VA					264
54	AC	230 V	10 VA					270
55	DC	230 V	10 W					254

### SK - Plug according to DIN 43650A (Cable Gland PG9, Protection Class IP65)

Plug-No.	Version	max. Voltage	Nominal Current	Temperature Range	Flammability Rating	M [g]
0	Without plug					
1	Standard plug (without circuitry)	250 V AC – 300V DC	10 A	-40°C ... +100°C	UL 94 HB	22
2	Plug with diode (protection against overvoltage peak)	250 V AC – 300V DC	10 A	-40°C ... +100°C	UL 94 HB	23
3	Plug with full-bridge rectifier and VDR suppressor (varistor)	230 V AC	4 A	-40°C ... +80°C	UL 94 HB	27
4	Plug with full-bridge rectifier, VDR suppressor (varistor) and LED indicator	24 V AC	1 A	-20°C ... +80°C	UL 94 HB	27
5	Plug with full-bridge rectifier, VDR suppressor (varistor) and LED indicator	230 V AC	1 A	-20°C ... +80°C	UL 94 HB	30
6	Plug with full-bridge rectifier and VDR suppressor (varistor)	24 V AC	1 A	-40°C ... +80°C	UL 94 HB	30
7	Plug with full-bridge rectifier and VDR suppressor (varistor)	230 V AC	1 A	-40°C ... +80°C	UL 94 HB	30
8	Standard plug (without circuitry)	250 V AC	10 A	-40°C ... +100°C	UL 94 V0	29



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## Order code

### Order code

VE	-	XX	-	XXXX	-	XXX	-	XX	-	X
		Size		Housing- No..		Cartridge- No.		Magnet-No.		Plug-No.

#### ✓ Spare part orders:

Simply place a "GE" in front of the housing number, a "KA" in front of the cartridge, a "MA" in front of the solenoid, or "SK" in front of the connector (e.g. GE20-1001, KA20-101, MA-10, or SK-1).

#### ✓ Our valves are supplied **unassembled** as standard.

A professional assembly is available on separate request. Please contact our sales department for this.

#### ✓ Disclaimer:

All values given are based on our experience and are only indicative values for guidance. The product specifications as well as expressly agreed performance characteristics/application purposes do not release the customer from the obligation to test and validate the suitability for the intended use of the products himself.



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