



Plunger valve 3/2 way direct-acting

- Direct-acting, compact valve with diameter of up to DN 2.5
- Vibration-proof, bolted coil system
- Banjo threaded connection for direct mounting on pneumatic valves
- Service-friendly manual override
- Energy-saving impulse versions

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

	Type 2513 Cable plug acc. to DIN EN 175301-803 Form A	▶
	Type 2511 Cable Plug Form A	▶
	Type 2518 Cable Plug DIN EN 175301-803 - Form A	▶
	Type 1087 Timer	▶

Type description

Valve 6014 is a direct-acting plunger valve. The stopper and plunger guide tube are welded together to enhance pressure resistance and leak-tightness. Various seal material combinations are available depending on the application. A Bürkert-specific flange design (SFB) enables space-saving arrangement of valves on a manifold. The coils are moulded with polyamide or with chemically resistant epoxy. Pulse coils are available for the reduction of electrical power consumption during operation. Optional manual actuation enables quick commissioning and easy maintenance. In combination with a plug in accordance with DIN EN 175301-803 Form A, the valves satisfy protection class IP65. Stainless steel valves satisfy NEMA 4X.

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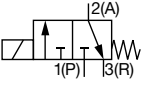
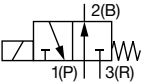
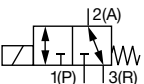
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1. General Technical Data

Product properties	
Dimensions	Detailed information can be found in chapter “5. Dimensions” on page 8.
Material	
Seal	FKM (EPDM on request)
Body	Brass or stainless steel, polyamide (sub-base)
Coil	Polyamide (Epoxy on request)
Nominal diameter	DN1.5...DN2.5
Thermal insulation class of solenoid	Polyamide class B (Epoxy class H on request)
Performance data	
Duty cycle / single valve assembly	100 % continuous rating Intermittent operation 60 % (30 min) or with 5 W coil (on request)
Circuit function	C, D and T (see “2. Circuit functions” on page 4)
Electrical data	
Operating voltage	24 V DC, 24 V/50 Hz, 230 V/50 Hz (other voltages on request)
Voltage tolerance	± 10 %
Medium data	
Medium temperature	- 10 °C... + 100 °C (PA coil) - 10 °C... + 120 °C (Epoxy coil)
Operating medium	Neutral gases and fluids (e.g. compressed air, town gas, natural gas, water, hydraulic oil, petrol). Suitable for technical vacuum.
Viscosity	Max. 21 mm ² /s
Process/Port connection & communication	
Electrical connection	DIN EN 175 301-803 Form A for cable plug Type 2518 (see “9.4. Ordering chart accessories” on page 24) ATEX/IECEx version with 3 m moulded cable
Port connection	G 1/8, G 1/4, sub-base (SFB)
Approvals and certificates	
Degree of protection	IP65 with cable plug, ATEX/IECEx junction box version and cable connection version NEMA 4x with cable plug 2518 or 2509 only for stainless steel versions (other versions on request)
Environment and installation	
Installation position	Any, preferably actuator upright
Ambient temperature	Max. + 55 °C

2. Circuit functions

Circuit functions	Description
	Type: C, solenoid valve 3/2 way Direct-acting Normally closed
	Type: D, solenoid valve 3/2 way Direct-acting Normally opened
	Type: T, solenoid valve 3/2 way Direct-acting Flow direction optional

3. Approvals

ATEX and IECEx approval for coils with fixed cable outlet

ATEX: EPS 18 ATEX 1232 X
II 2G Ex mb IIC T4 Gb
II 2D Ex mb IIIC T130 °C Db

IECEX: IECEX EPS 18.0110X
Ex mb IIC T4 Gb
Ex mb IIIC T130 °C Db

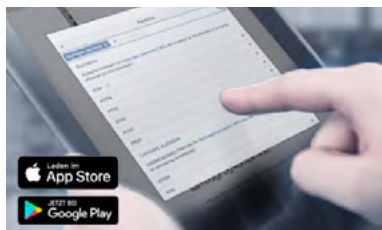
Explosion-proof approvals

ATEX: PTB 01 ATEX 2101 0102
II 2G Ex i IIC T6 Gb
II 2D Ex i IIIC T85 °C Db

IECEX: PTB IECEX12.0040
Ex ia IIC T6 Gb
Ex ia IIC T80 °C Db

4. Materials

4.1. Chemical Resistance Chart – Bürkert resistApp



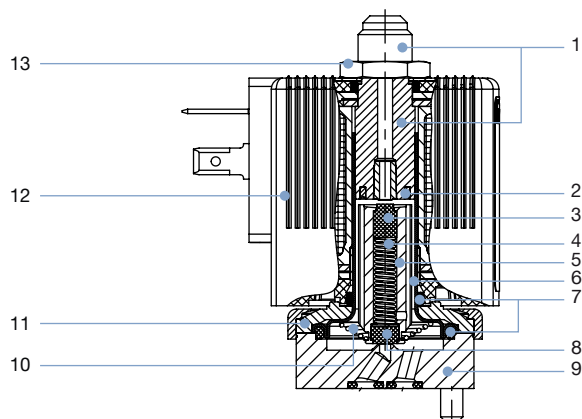
Bürkert resistApp – Chemical Resistance Chart

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start Chemical Resistance Check](#)

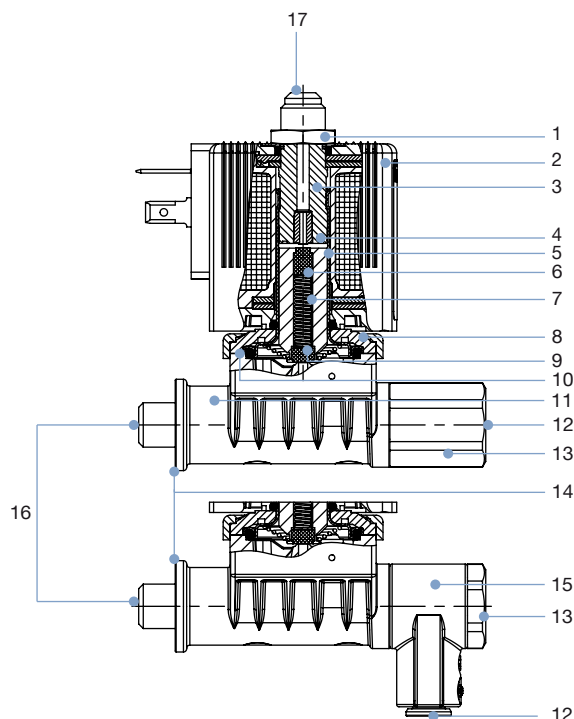
4.2. Material specifications

Standard version



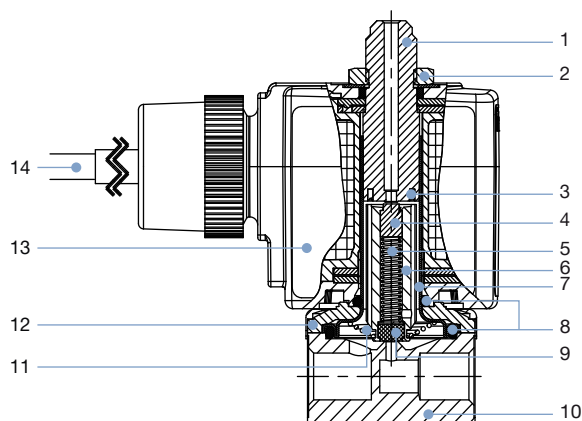
No.	Element	Material
1	Stopper	Stainless steel 1.4105
2	Shading ring	Cu (brass version) Ag (stainless steel version)
3	Plunger seal	FKM
4	Spring	Stainless steel 1.4310
5	Magnetic core	Stainless steel 1.4105
6	Armature guide tube	Stainless steel 1.4303
7	O-rings	FKM
8	Plunger seal	FKM
9	Valve body	Brass Stainless steel 1.4305 (G 1/8) Stainless steel 1.4401 (G 1/4)
10	Spring	Stainless steel 1.4310
11	Sub-base	Steel, surface finish thick-film passivated (brass version) Stainless steel 1.4301 (stainless steel version)
12	Coil	PA (Polyamide) Epoxy (High temperature version)
13	Locknut	Steel, surface finish thick-film passivated (brass version) Stainless steel 1.4305 PTFE coated (stainless steel version)

Banjo version



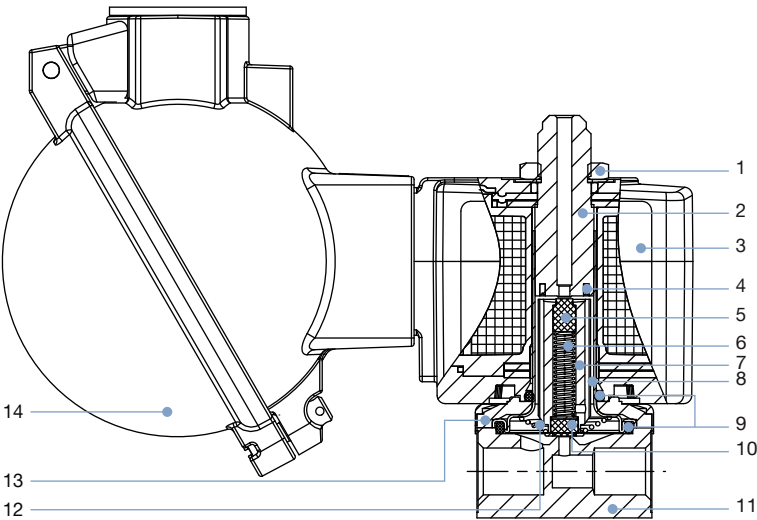
No.	Element	Material
1	Locknut	Steel, surface finish thick-film passivated (brass version) Stainless steel 1.4305 PTFE coated (stainless steel version)
2	Coil	PA (Polyamide) Epoxy (High temperature version)
3	Stopper	Stainless steel 1.4105
4	Shading ring	Cu (brass version) Ag (stainless steel version)
5	Armature guide tube	Stainless steel 1.4303
6	Magnetic core	Stainless steel 1.4105
7	Spring	Stainless steel 1.4310
8	Sub-base	Steel, surface finish thick-film passivated (brass version) Stainless steel 1.4301 (stainless steel version)
9	Plunger seal	FKM
10	O-rings	FKM
11	Valve body	PPS
12	Pressure connection P	–
13	Screw	Brass / Stainless steel 1.4301
14	O-rings	NBR
15	Swivel connector with push-in fitting	Polyamide
16	Pressure connection A	–
17	R connection	–

ATEX/IECEx m cable version



No.	Element	Material
1	Stopper	Stainless steel 1.4105
2	Locknut	Steel, surface finish thick-film passivated (brass version) Stainless steel 1.4305 PTFE coated (stainless steel version)
3	Shading ring	Cu (brass version) Ag (stainless steel version)
4	Plunger seal	FKM
5	Spring	Stainless steel 1.4310
6	Magnetic core	Stainless steel 1.4105
7	Armature guide tube	Stainless steel 1.4303
8	O-rings	FKM
9	Plunger seal	FKM
10	Valve body	Brass Stainless steel 1.4305 (G 1/8) Stainless steel 1.4401 (G 1/4)
11	Spring	Stainless steel 1.4310
12	Sub-base	Steel, surface finish thick-film passivated (brass version) Stainless steel 1.4301 (stainless steel version)
13	Coil	Epoxy
14	Cable	Polyolefin Copolymer, electron beam cross-linked

ATEX/IECEx m junction box version



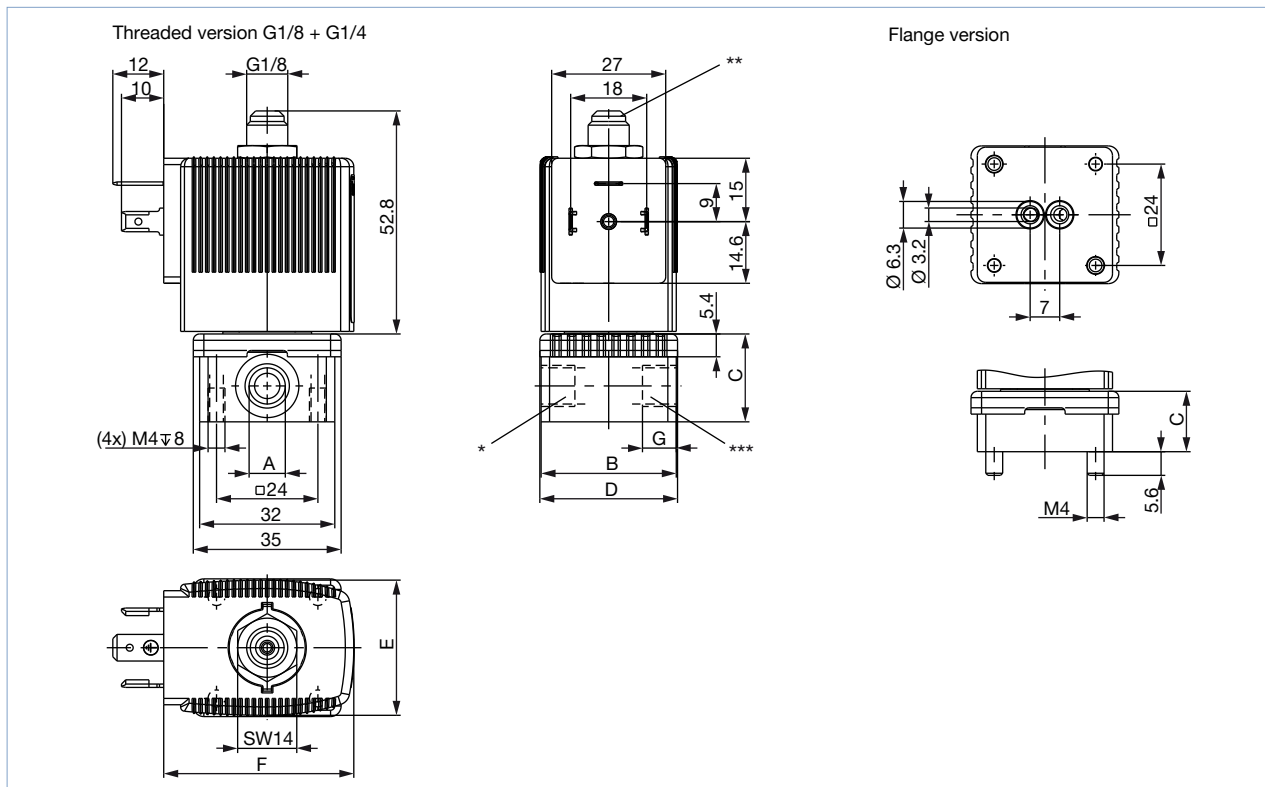
No.	Element	Material
1	Locknut	Steel, surface finish thick-film passivated (brass version) Stainless steel 1.4305 PTFE coated (stainless steel version)
2	Stopper	Stainless steel 1.4105
3	Coil	Epoxy
4	Shading ring	Cu (brass version) Ag (stainless steel version)
5	Plunger seal	FKM
6	Spring	Stainless steel 1.4310
7	Magnetic core	Stainless steel 1.4105
8	Armature guide tube	Stainless steel 1.4303
9	O-rings	FKM
10	Plunger seal	FKM
11	Valve body	Brass Stainless steel 1.4305 (G 1/8) Stainless steel 1.4401 (G 1/4)
12	Spring	Stainless steel 1.4310
13	Sub-base	Steel, surface finish thick-film passivated (brass version) Stainless steel 1.4301 (stainless steel version)
14	Junction box	Aluminium

5. Dimensions

5.1. Standard version

Note:

Dimensions in mm



Port connection	A [inch]	B [mm]	C [mm]	D [mm]	G [mm]
Threaded without manual override	G 1/8	32	20.8	32.6	8
	G 1/4	46	26.8	49	12
Threaded with manual override	G 1/8	32	20.8	32.6	8
	G 1/4	46	26.8	49	12
Sub-base	–	32	14.3	32.6	–

Coil size	E [mm]	F [mm]
5	32	45
6	40	51

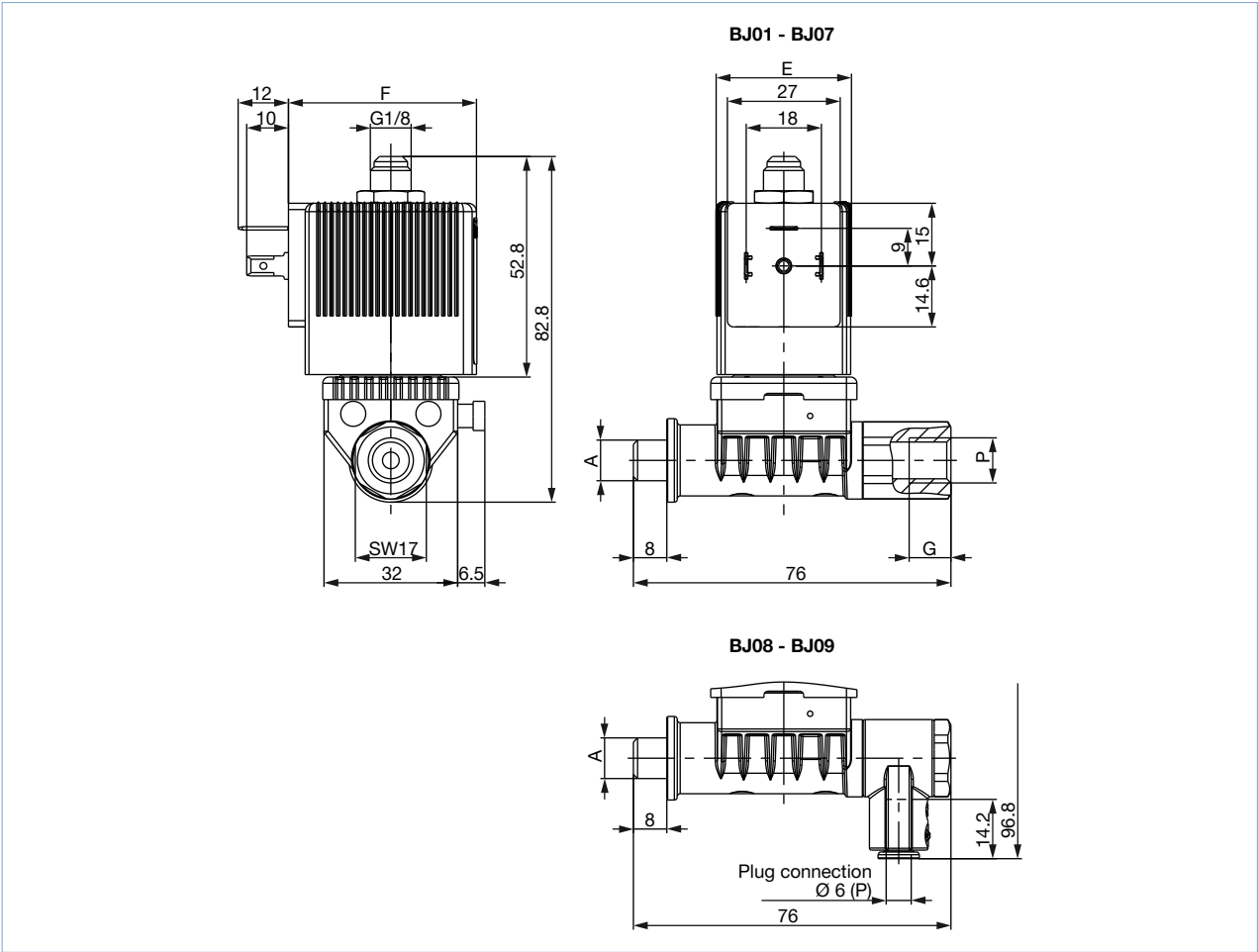
PIN Assignments

For the positions marked with *, ** or *** in the drawing, the connections are marked with the letters shown in the table above, depending on the circuit function. Unused circuit functions A or B connections will be closed off with a blanking plug or cap nut.

Circuit function	Connection Type		
	*	**	***
A	P	blank off	A
B	blank off	B	P
C	P	R	A
D	R	P	B
T	P	R	A

5.2. Banjo version

Note:
Dimensions in mm

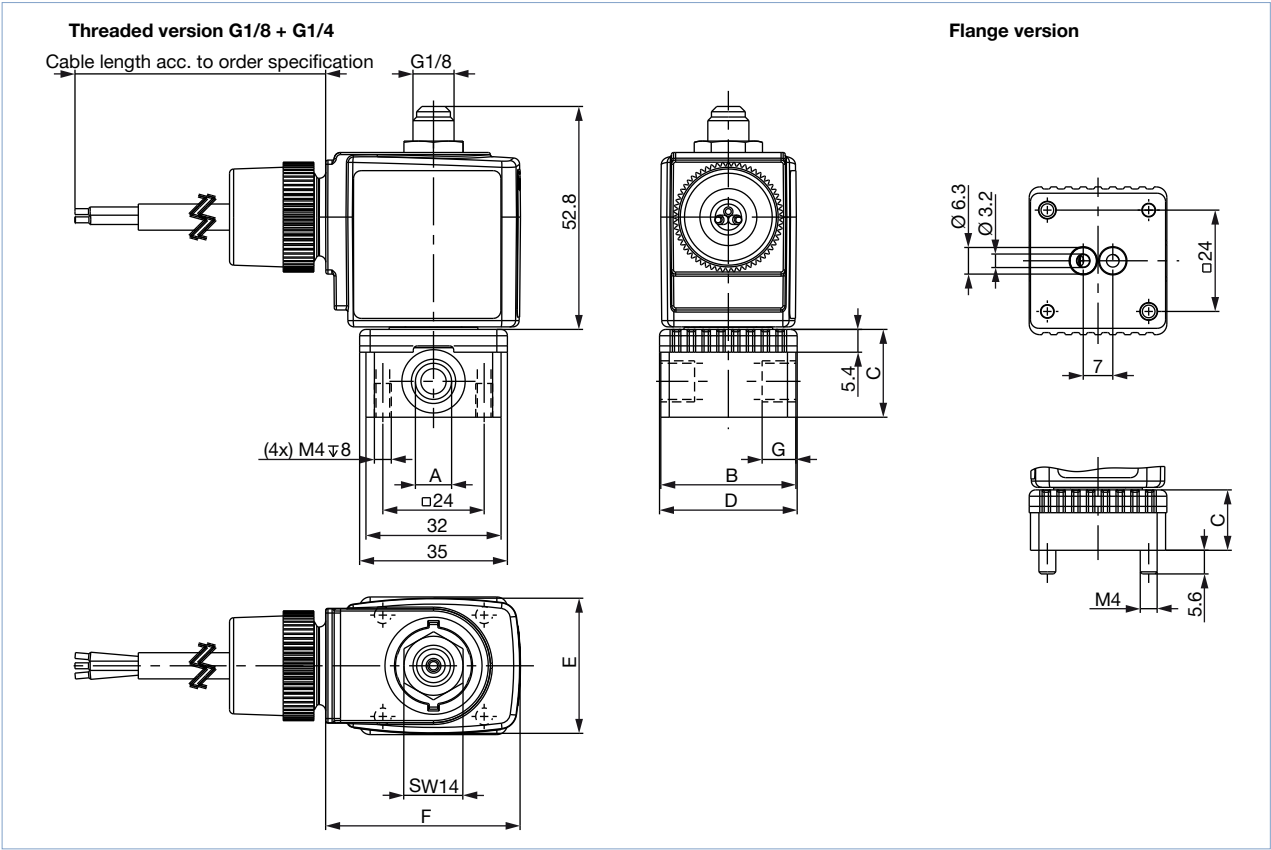


Port connection	A	P	G	Other features
	[inch]	[inch]		
BJ01	G 1/8	G 1/8	10	–
BJ02	G 1/4	G 1/4	10	–
BJ03	G 1/8	NPT 1/4	10	1 marking groove
BJ04	G 1/4	NPT 1/4	10	1 marking groove
BJ05	G 1/8	G 1/4	10	–
BJ06	G 1/4	G 1/8	10	–
BJ07	G 1/8	NPT 1/8	10	1 marking groove
BJ08	G 1/8	Plug connection Ø 6	–	–
BJ09	G 1/4	Plug connection Ø 6	–	–

Coil size	E	F
	[mm]	[mm]
5	32	45
6	40	51

5.3. ATEX/IECEEx m cable version

Note:
Dimensions in mm



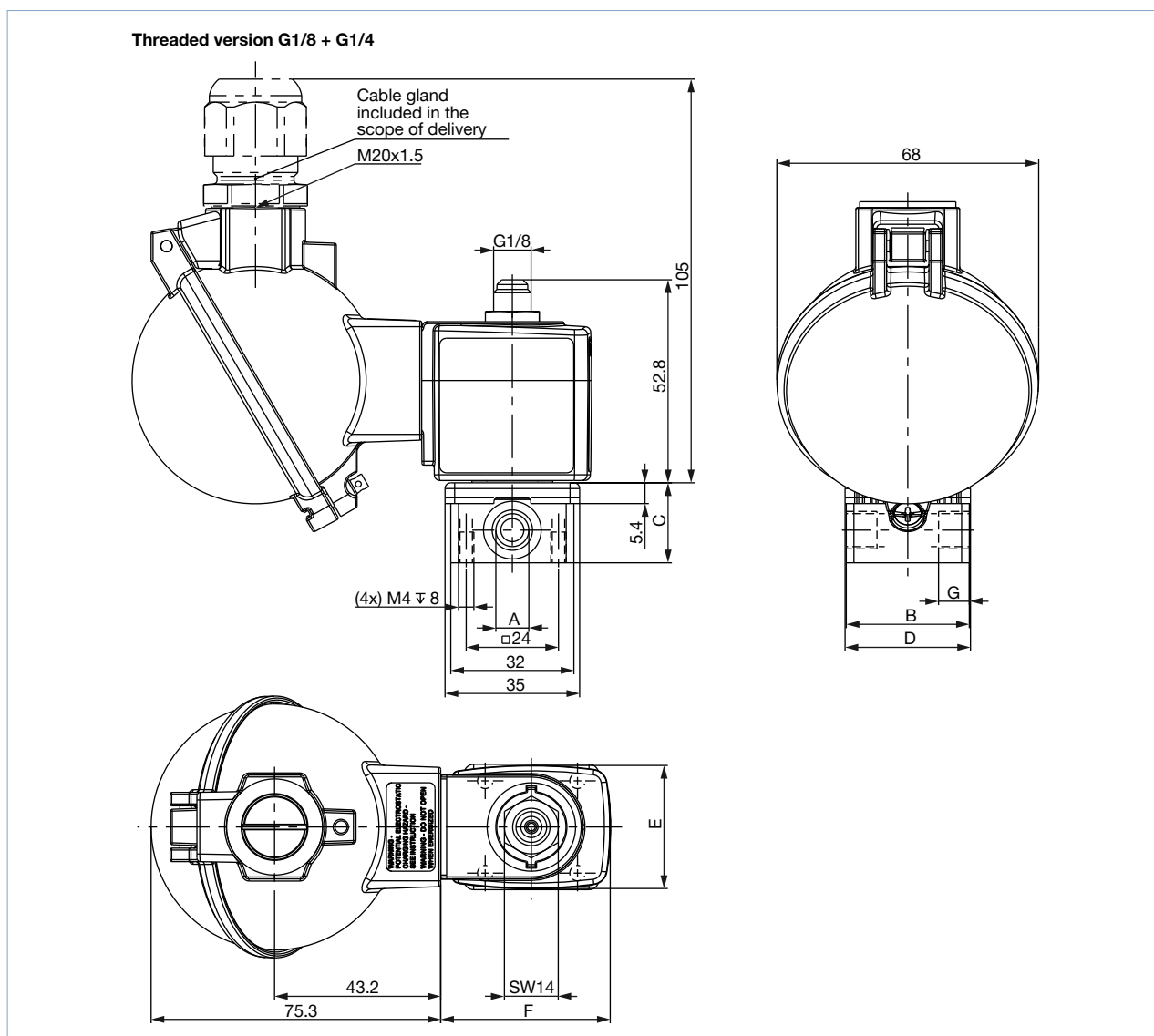
Port connection	A	B	C	D	G
	[inch]	[mm]	[mm]	[mm]	[mm]
Threaded version	G 1/8	32	20.8	32.6	8
	G 1/4	46	26.8	49	12
Sub-base version	–	32	14.3	32.6	–

Coil size	E	F
	[mm]	[mm]
5	32	46
6	40	52

5.4. ATEX/IECEEx m junction box version

Note:

Dimensions in mm



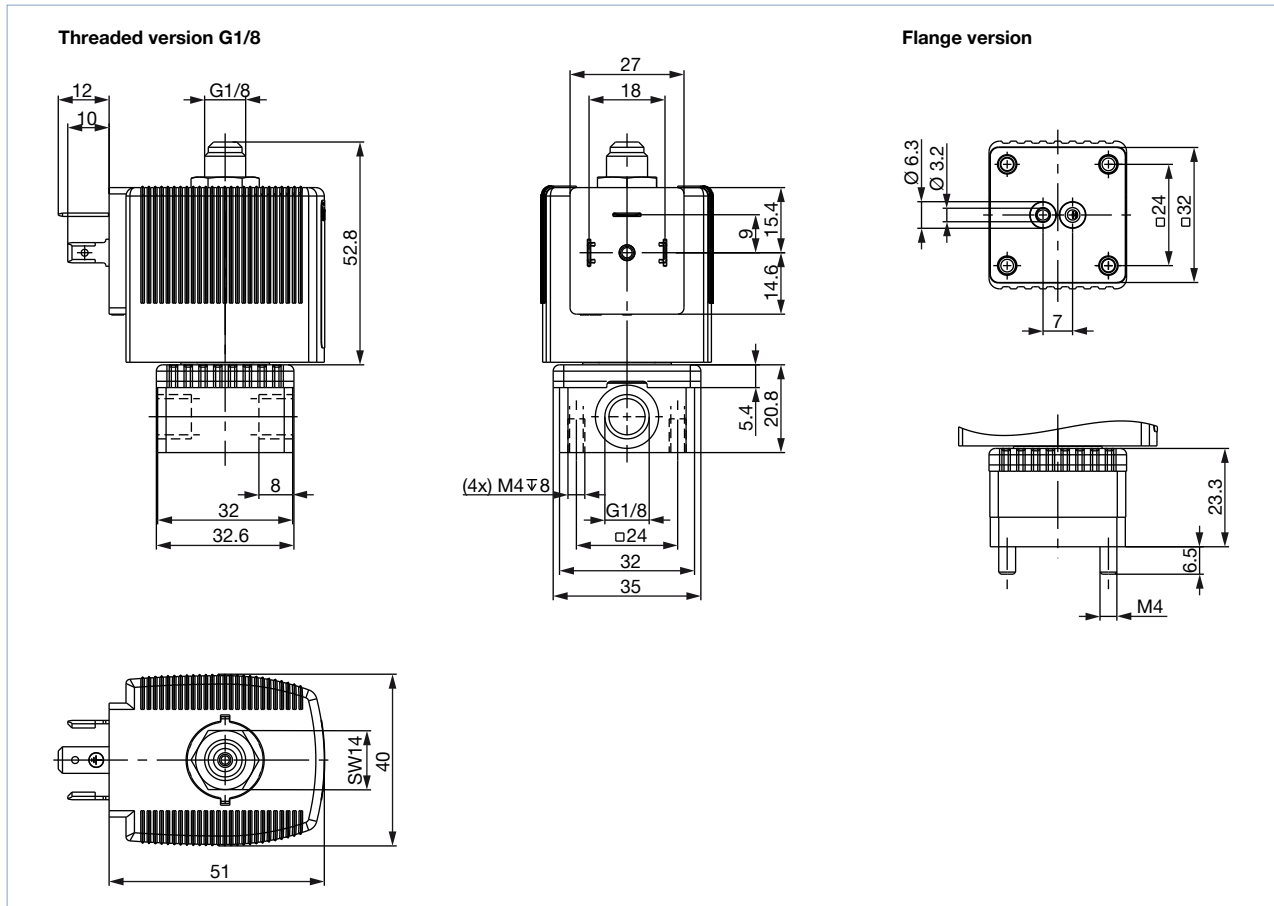
Port connection	A	B	C	D	G
	[inch]	[mm]	[mm]	[mm]	[mm]
Threaded version	G 1/8	32	20.8	32.6	8
	G 1/4	46	26.8	49	12
Sub-base version	–	32	14.3	32.6	–

Coil size	E	F
	[mm]	[mm]
5	32	44
6	40	51

5.5. ATEX/IECEX ia

Note:

- Dimensions in mm
- Detailed information about electrical data see “6.3. Electrical data” on page 15.

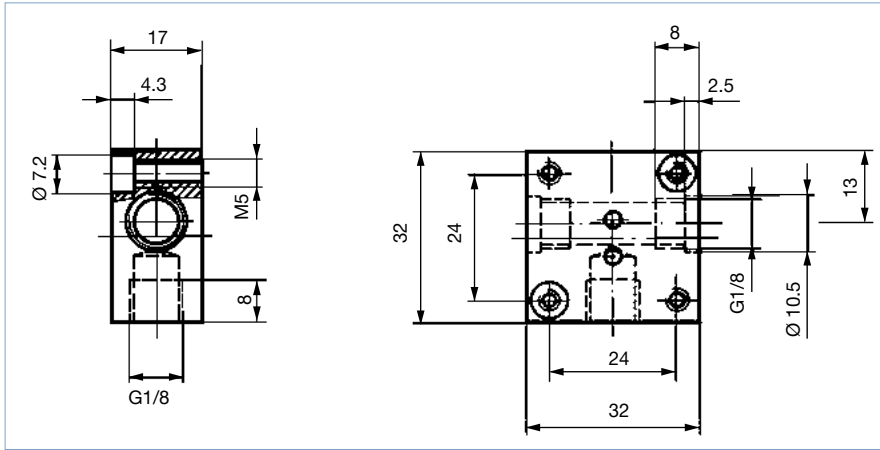


5.6. Manifold mounting

Single manifold

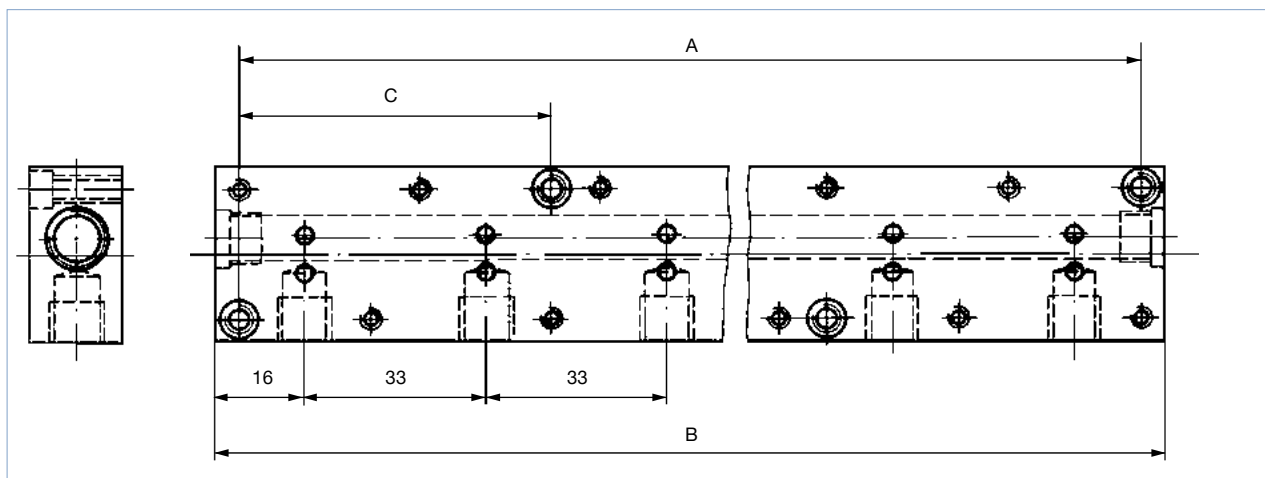
Note:

- Dimensions in mm
- Detailed information about installing manifolds see [“Manifolds for block mounting” on page 16.](#)



Multiple manifold**Note:**

Dimensions in mm

**Note:**

Brass or stainless steel manifolds on request

Accessory parts	Number of valve positions	Hole spacing A [mm]	Total length B [mm]	Hole spacing C [mm]	Article no.
Multiple manifold (aluminium)	2	57	65	–	005023
	3	90	98	–	005286
	4	123	131	–	005287
	5	156	164	57	005035
	6	189	197	57	005038
	8	255	263	90	005386
	10	321	329	90	005764
Single manifold (aluminium)					005020
Plug nipple with O-rings for connecting manifolds					005040
Covering plate with screws and O-ring for closing off unused valve positions					005630

6. Performance specifications**6.1. Power consumption****Note:**

Response times: Measured at valve outlet at 6 bar and +20 °C. Opening: pressure build-up 0 ... 90 %, closing: pressure relief 100 ... 10 %

Orifice [mm]	Power consumption				Response times	
	Inrush AC [VA]	UC [W]	Hold AC [VA/W]	UC [W]	Opening [ms]	Closing [ms]
1.5	24	17	8	8 / 9	10...15	15...20
2.0					10...15	15...20
2.5					15...20	10...22

6.2. Utilisation in another circuit function

The valves are equipped with different springs for specific circuit functions. When used with other circuit functions, the permissible operating pressure changes according to the following table.

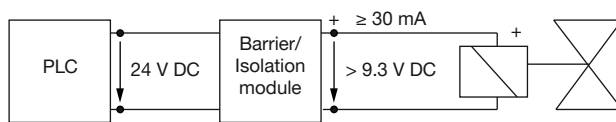
Standard version		Max. operating pressure [bar] for valve application in circuit function				
DN	Circuit function	A	B	C	D	T
1.5	C	16	22	16	2	2
	D	2	2.5	2	16	2
	T	10	16	10	6	6
2.0	C	10	14	10	1	1
	D	1	1.5	1	10	1
	T	6	10	6	4	4
2.5	C	6	9	6	0.7	0.7
	D	0.7	1	0.7	6	0.7
	T	3.5	6	3.5	2.5	2.5

6.3. Electrical data

Note:

The valve is designed to operate on 24 V DC outputs through an intermediary intrinsically safe apparatus (isolating block or barrier).

Type of protection EEx ia IIC T6 acc. to PTB-No. Ex-96.D.2010



Function values for valve switching function	at +20 °C	at +55 °C
Minimum switching current	30 mA	30 mA
Nominal resistance coil	310 Ω	360 Ω
Minimum terminal voltage	9.3 V	10.8 V

Max. allowable values acc. to the certificate of conformity	
Ui	28 V
Ii	120 mA
Pi	1.1 W
Ambient temperature	+60 °C at T6
	+75 °C at T5

7. Product installation

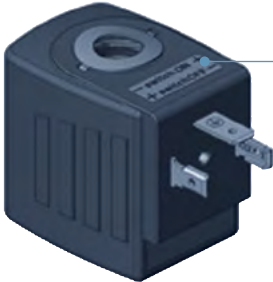
7.1. Installation notes

Control for impulse version with polarity reversal control

Note:

- Please use only the cable plug without electrical circuitry for the impulse version!
- Pulse duration at least 50 ms

Polarity (is marked on the coil with a label)	Features	Terminal connections
– switch ON +	valve open	(+) on terminal 2 and (–) on terminal 1 (see below)
+ switch OFF –	valve closed	(+) on terminal 1 and (–) on terminal 2 (see below)



Polarity is marked on the coil with a label:
– switch ON +
+ switch OFF –



1
Protective conductor port
2

Manifolds for block mounting

Note:

- Unused, open valve ports must be closed off with covering plates (see accessories).
- Manifold should be fixed on to a rail.
- For detailed information on dimensions [“5.6. Manifold mounting” on page 13](#).

With manifold mounting, please comply with the permissible duty cycle (5 W versions with 100 % continuous rating or 8 W version with 60 % duty cycle). The pressure port for the manifold is designated with P (R), and the outlet port with A (B). Only connect together ports with the same designation.

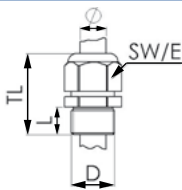
2/2 way valves of Type 6013 can be operated together on a manifold with 3/2 way valves of Type 6014, circuit function C (not D or T!) if the operating pressures matches according to the rating plates. The manifolds can also be expanded if the valve functions are taken into consideration. Connector nipples with O-rings are used to connect the P (R) ports.

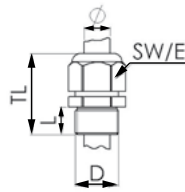
8. Product accessories

8.1. Cable glands for ATEX/IECEx terminal box

Note:

- A cable gland in polyamide version is included in the delivery. A nickel-plated brass version can be ordered at a surcharge, see [“9.4. Ordering chart accessories” on page 24](#).
- This special tool is not supplied with the valve (see [“Cable glands for ATEX/IECEx terminal box” on page 24](#)).

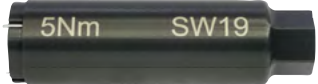
Description	Ex approvals		Dimensions										
	Certification	Identification											
Ex cable gland, Brass, nickel-plated, 6...13 mm	PTB 04 ATEX 1112 X, IECEx PTB 13.0027X	II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68	 <table><tr><td>TL</td><td>29...37 mm</td></tr><tr><td>L</td><td>6 mm</td></tr><tr><td>D</td><td>20 mm</td></tr><tr><td>SW</td><td>24 mm</td></tr><tr><td>E</td><td>27 mm</td></tr></table>	TL	29...37 mm	L	6 mm	D	20 mm	SW	24 mm	E	27 mm
TL	29...37 mm												
L	6 mm												
D	20 mm												
SW	24 mm												
E	27 mm												

Description	Ex approvals		Dimensions										
	Certification	Identification											
Ex cable gland, Polyamide, 7...13 mm 	PTB 13 ATEX 1015 X, IECEX PTB 13.0034X	II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68	 <table><tr><td>TL</td><td>36...45 mm</td></tr><tr><td>L</td><td>10 mm</td></tr><tr><td>D</td><td>20 mm</td></tr><tr><td>SW</td><td>24 mm</td></tr><tr><td>E</td><td>28 mm</td></tr></table>	TL	36...45 mm	L	10 mm	D	20 mm	SW	24 mm	E	28 mm
TL	36...45 mm												
L	10 mm												
D	20 mm												
SW	24 mm												
E	28 mm												

8.2. Special tool to turn the junction box

Note:

This special tool is not supplied with the valve (see **"9.4. Ordering chart accessories"** on page 24).

Description	Components of the set
Set SC02-AC10 	- Special wrench - Service manual

9. Ordering information

9.1. Bürkert eShop – Easy ordering and quick delivery



Bürkert eShop – Easy ordering and fast delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

[Order online now](#)

9.2. Bürkert product filter



Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

[Try out our product filter](#)