



## Servo-assisted 2/2 way piston valve

- Servo-assisted piston valve up to DN 50 orifice
- Safe opening with hard-coupled piston system without differential pressure
- Vibration-resistant, push-over coil system
- Explosion-proof versions
- Energy-saving double coil technology with kick and drop design

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

### Can be combined with



**Type 2518** ▶  
Cable Plug  
DIN EN 175301 - 803 -  
Form A



**Type 1087** ▶  
Timer

### Type description

The Type 6407 valve is a servo-assisted piston valve. The fix coupling between pilot valve and piston provides an opening of the valve without pressure difference. As a piston valve, the Type 6407 is particular suitable for media such as gas and steam. As well as liquids with low operating temperature below 0 °C. The stopper and the core guide pipe are welded together to enhance pressure resistance and leak-tightness. Various seal material combinations are available depending on the application. The coils are moulded with chemically resistant epoxy. To reduce power consumption in operation, coils with "Kick and Drop" (KD) electronics (double coil technology) are available. In combination with a plug acc. to DIN EN 175301 - 803 Form A, the valves satisfy IP65 degree of protection.

## Table of contents

<b>1. General Technical Data</b>	<b>3</b>
<b>2. Circuit functions</b>	<b>4</b>
<b>3. Materials</b>	<b>4</b>
3.1. Chemical Resistance Chart – Bürkert resistApp.....	4
3.2. Material specifications .....	4
Threaded body.....	4
Flange body.....	5
<b>4. Dimensions</b>	<b>6</b>
4.1. Standard version DN 13...DN 32.....	6
4.2. Standard version DN 50.....	8
4.3. ATEX/IECEX version.....	9
<b>5. Performance specifications</b>	<b>10</b>
5.1. Power consumption.....	10
5.2. Response times.....	10
<b>6. Product accessories</b>	<b>10</b>
6.1. Cable glands for ATEX/IECEX terminal box .....	10
6.2. Special tool to turn the junction box.....	11
<b>7. Ordering information</b>	<b>11</b>
7.1. Bürkert eShop – Easy ordering and quick delivery.....	11
7.2. Bürkert product filter.....	11
7.3. Standard version DN 13...DN 32.....	12
Standard version.....	12
Steam version with valve seat in stainless steel.....	12
Steam version with KD-coil cURus (UL-recognized) coil approval.....	12
Steam version with DC-coil cURus (UL-recognized) coil approval.....	13
7.4. Standard version DN 50.....	13
Standard version.....	13
Steam version with valve seat in stainless steel.....	13
7.5. ATEX/IECEX version.....	14
Valves with ATEX/IECEX with 3 meter cable.....	14
Valves with ATEX/IECEX terminal box.....	14
7.6. Ordering chart accessories.....	14
Cable plug Type 2518, Form A according to DIN EN 175301 - 803 .....	14
Cable glands for ATEX/IECEX terminal box .....	15

## 1. General Technical Data

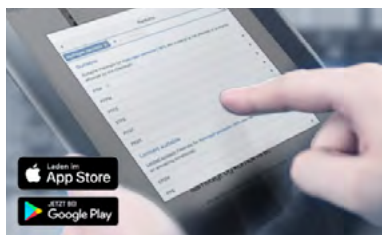
Product properties	
Dimensions	Detailed information can be found in chapter "4. Dimensions" on page 6.
Material	
Seal	PTFE/graphite
Body	Brass
Coil	Epoxy
Nominal diameter	DN 13...DN 50
Thermal insulation class of solenoid	H
Electrical data	
Voltage tolerance	± 10 %
Duty cycle	100 % continuous rating; KD coil max. 6 switching cycles/minute
Medium data	
Medium temperature	
Standard version	PTFE + graphite: -40 °C...+150 °C PTFE + FKM: -10 °C...+120 °C
Steam version	PTFE + graphite: 0 °C...+150 °C PTFE + FKM: 0 °C...+120 °C
ATEX/IECEx version	10 °C...+90 °C
Operating medium	Neutral gases and liquid media (e.g. compressed air, water, hydraulic oil) hot water and steam
Viscosity	Max. 21 mm <sup>2</sup> /s
Process/Port connection & communication	
Electrical connection	Cable plug for cable Ø 7 mm acc. to DIN EN 175301 - 803 Form A (not included in delivery)
Approvals and certificates	
Degree of protection	IP65 with cable plug
Environment and installation	
Ambient temperature	
Standard version	PTFE + graphite: -40 °C...+45 °C PTFE + FKM: -10 °C...+55 °C
Steam version	PTFE + graphite: 0 °C...+45 °C PTFE + FKM: 0 °C...+55 °C
ATEX/IECEx version	-10 °C...+40 °C
Installation position	As required, preferably with actuator upright

## 2. Circuit functions

Circuit functions	Description
	<b>Type: A, solenoid valve</b> 2/2 way Servo-controlled Normally closed
	<b>Type: A, solenoid valve</b> 2/2 way Servo-controlled, with manual mode Normally closed

## 3. Materials

### 3.1. Chemical Resistance Chart – Bürkert resistApp



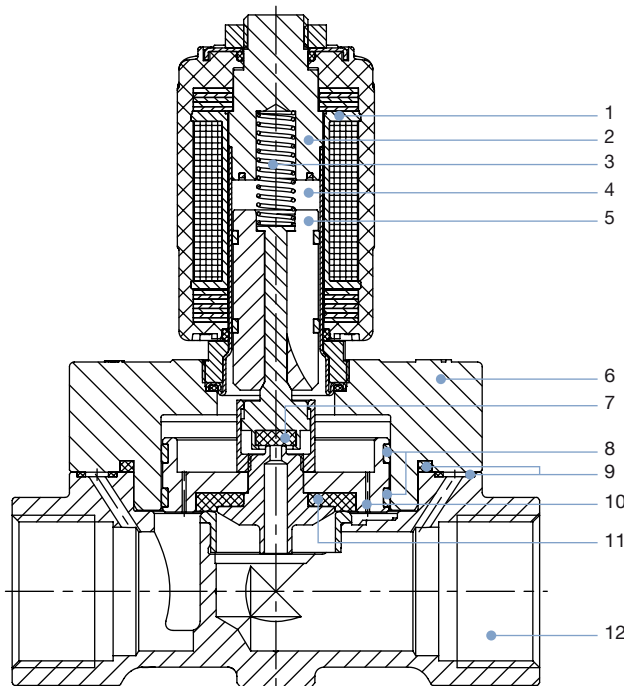
#### Bürkert resistApp – Chemical Resistance Chart

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](#)

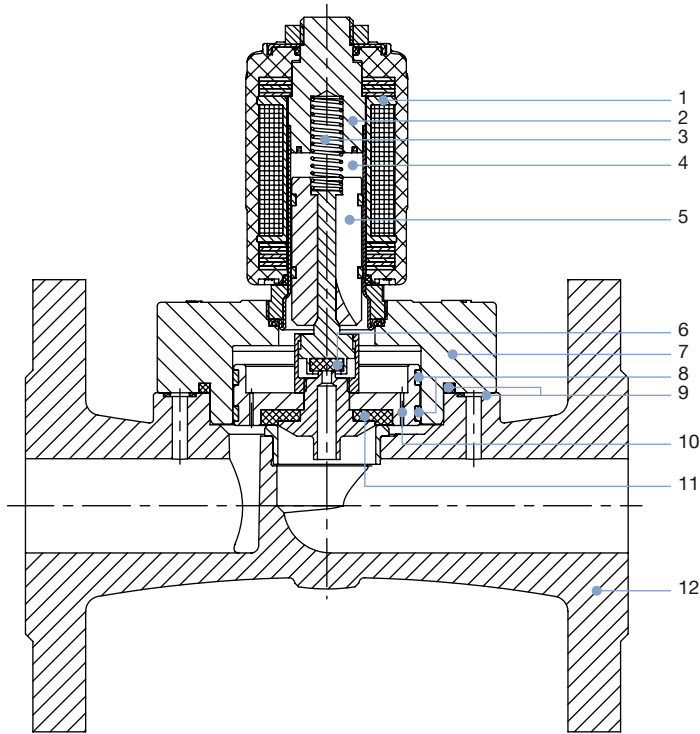
### 3.2. Material specifications

#### Threaded body



No.	Element	Material
1	Coil	Epoxy
2	Stopper	Stainless steel 1.4113
3	Spring	Stainless steel 1.4310
4	Armature guide tube	Stainless steel 1.4303
5	Core	Stainless steel 1.4113
6	Cover	Brass
7	Seal	PTFE
8	Piston rings	PTFE
9	Sealing rings	Graphite
10	Plunger	Brass
11	Piston seal	PTFE
12	Body	Brass

Flange body



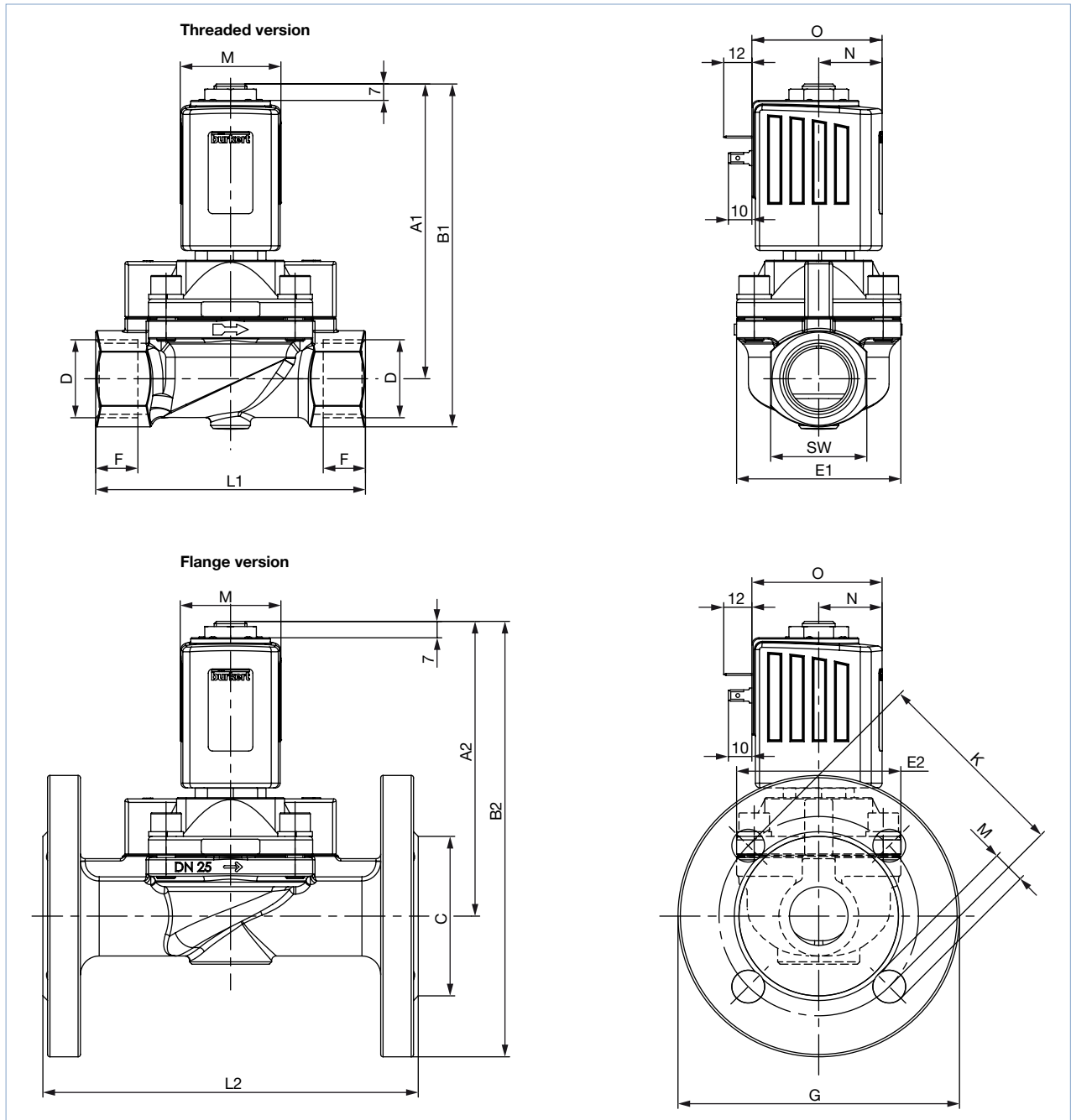
No.	Element	Material
1	Coil	Epoxy
2	Stopper	Stainless steel 1.4113
3	Spring	Stainless steel 1.4310
4	Armature guide tube	Stainless steel 1.4303
5	Core	Stainless steel 1.4113
6	Seal	PTFE
7	Cover	Brass
8	Piston rings	PTFE
9	Sealing rings	Graphite
10	Plunger	Brass
11	Piston seal	PTFE
12	Body	Grey cast iron

## 4. Dimensions

### 4.1. Standard version DN 13...DN 32

**Note:**

- For G-threads the dimensions D1 and F1 apply.
- For NPT-threads the dimensions D2 and F2 apply.
- For Rc-threads the dimensions D3 and F3 apply.
- Dimensions in mm



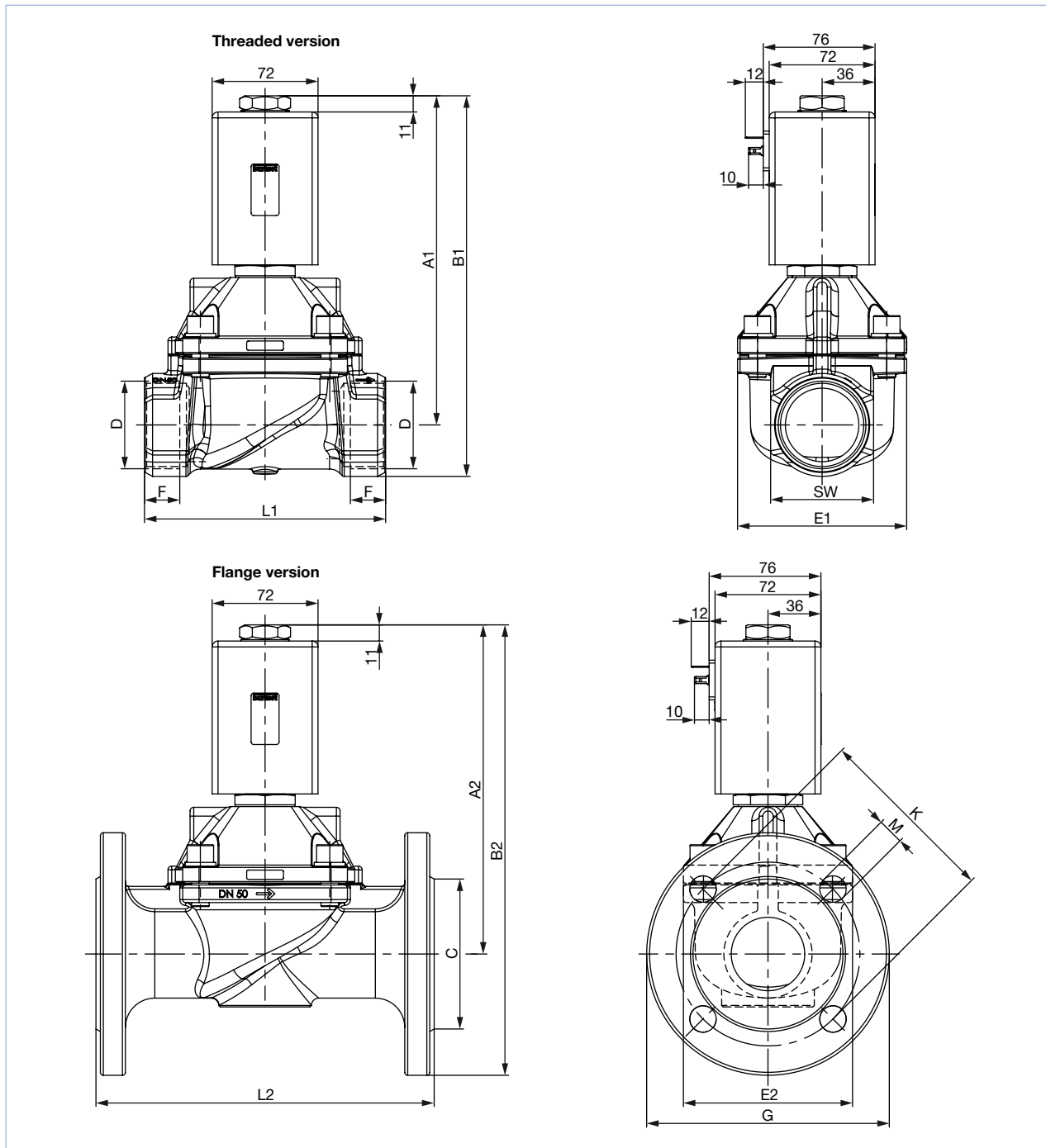
Coil size	M	N	O
K	42	27	55.5
L	65	37.5	72

DN	Threaded version in brass											Flange version in grey cast iron							
	A1	B1	D1	F1	D2	F2	D3	F3	E1	L1	SW	A2	B2	C	E2	G	L2	M	K
13	118.7	132.7	-	-	-	-	Rc 3/8	10.1	40	65	27	-	-	-	-	-	-	-	-
13			G 1/2	14	NPT 1/2	13.7	Rc 1/2	13.2											
20	119.7	135.7	G 3/4	16	NPT 3/4	14.0	Rc 3/4	14.5	60	100	32	-	-	-	-	-	-	-	-
25	125.7	146.2	G 1	18	NPT 1	16.8	Rc 1	16.8	70	115	41	129.7	189.7	68	73	120	160	14	85
32	142.7	167.7	G 1 1/4	20	NPT 1 1/4	17.3	Rc 1 1/4	19.1	85	126	50	142.7	212.7	78	85	140	180	18	100
32	146.7	176.7	G 1 1/2	22	NPT 1 1/2	17.3	Rc 1 1/2	19.1	85	126	60	146.7	221.7	88	85	150	200	18	110

### 4.2. Standard version DN 50

**Note:**

- For G-threads the dimensions D1 and F1 apply.
- For NPT-threads the dimensions D2 and F2 apply.
- For Rc-threads the dimensions D3 and F3 apply.
- Dimensions in mm



DN	Threaded version in brass									Flange version in grey cast iron									
	A1	B1	D1	F1	D2	F2	D3	F3	E1	L1	SW	A2	B2	C	E2	G	L2	M	K
50	223.75	258.75	G 2	24	NPT 2	17.6	Rc 2	23.4	115	164	70	223.45	305.95	102	115	165	230	18	125
	223.45	223.45	G 2½	27	NPT 2½	23.6	-	13.2	-	179	85	-	-	-	-	-	-	-	-

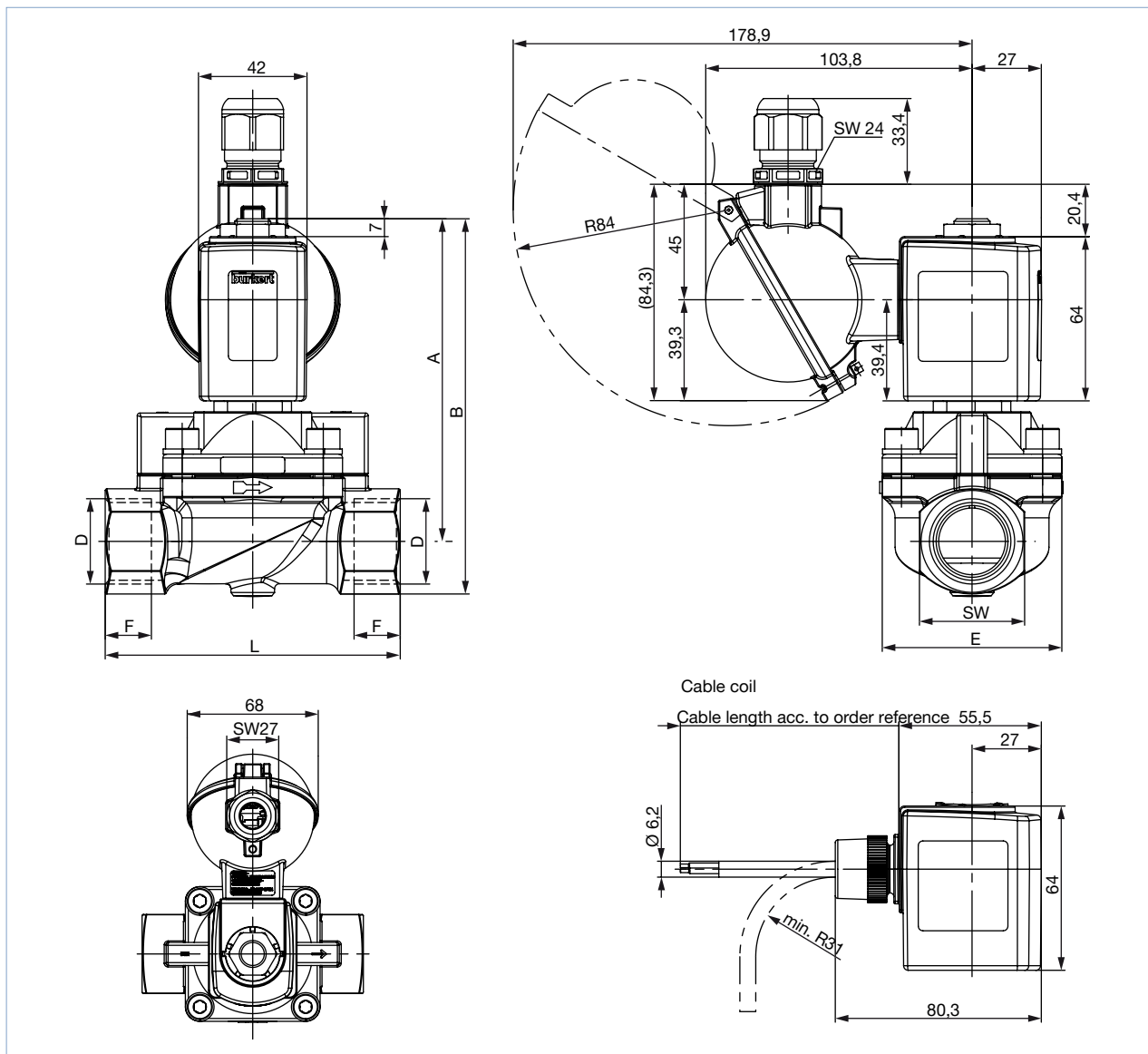
DTS 1000348453 EN Version: D Status: RL (released | freigegeben | valide) printed: 06.10.2020



### 4.3. ATEX/IECEx version

**Note:**

- For G-threads the dimensions D1 and F1 apply.
- For NPT-threads the dimensions D2 and F2 apply.
- For Rc-threads the dimensions D3 and F3 apply.
- Dimensions in mm



Coil size	M	N	O	P	R	S
K	42	27	55.5	80.3	104.8	179.8
L	65	37.5	72	97	110.8	185.8

DN	A	B	D1	F1	D2	F2	D3	F3	E	L	SW
13	118.7	132.7	-	-	-	-	Rc 3/8	10.1	40	65	27
13			G 1/2	14	NPT 1/2	13.7	Rc 1/2	13.2			
20	119.7	135.7	G 3/4	16	NPT 3/4	14.0	Rc 3/4	14.5	60	100	32
25	125.7	146.2	G 1	18	NPT 1	16.8	Rc 1	16.8	70	115	41

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## 5. Performance specifications

### 5.1. Power consumption

**Note:**

- KD coil AC/DC: “Kick and Drop” coil (KD coil)
- Integrated electronics for short-term power increase and reduction in dual coil technology

Orifice	Coil size	AC			DC		KD-coil AC/DC			AC with external rectifier
		Inrush power	Holding power		Cold performance	Warm performance	Cold performance Inrush power	Cold performance Holding power	Warm performance Holding power	Nominal power
[mm]	[mm]	[VA]	[VA]	[W]	[W]	[W]	[W] 500 ms	[W]	[W]	[W]
13	42	140	41	16	21	16	85	8.5	7	–
13 ATEX	42	–	–	–	15	12	–	–	–	–
20	42	150	41	16	–	–	85	8.5	7	–
25	42	160	41	16	–	–	85	8.5	7	–
32	42	170	41	16	–	–	85	8.5	7	–
20...25 ATEX	42	–	–	–	–	–	44	6.5	5.5	–
20...32	65	–	–	–	28	21	–	–	–	–
50	72	–	–	–	39	30	–	–	–	45

### 5.2. Response times

Orifice	Response times <sup>1.)</sup>	
	Opening [ms]	Closing [ms]
13	30	250
20	30	250
25	60	700
32	80	900
50	500	2000

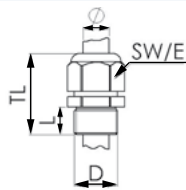
1.) Measured with water at valve outlet at 6 bar and +20 °C, opening: pressure build-up 0...90 %, closing: pressure relief 100...10 % (depending on the application conditions, deviations are possible)

## 6. Product accessories


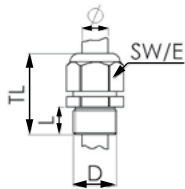
### 6.1. Cable glands for ATEX/IECEx terminal box

**Note:**

- A cable gland in polyamide version is included in the delivery. A nickel-plated brass version can be ordered at a surcharge, see “7.6. Ordering chart accessories” on page 14

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 IIC Db IP68	 <table border="1"> <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												

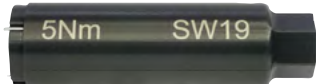


Description	Ex approvals		Dimensions											
	Certification	Identification												
Ex cable gland, Polyamide, 7...13 mm 	PTB 13 ATEX 1015 X, IECEx PTB 13.0034X	II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68		<table border="1"> <tr> <td>TL</td> <td>36...45 mm</td> </tr> <tr> <td>L</td> <td>10 mm</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													

## 6.2. Special tool to turn the junction box


### Note:

- This special tool is not supplied with the valve (see "7.6. Ordering chart accessories" on page 14).

Description	Components of the set
Set SC02-AC10 	<ul style="list-style-type: none"> <li>Special wrench</li> <li>Service manual</li> </ul>

## 7. Ordering information

### 7.1. Bürkert eShop – Easy ordering and quick delivery




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### 7.2. Bürkert product filter



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### 7.3. Standard version DN 13...DN 32

#### Standard version

Circuit function	Port connection	Orifice	K <sub>v</sub> value water <sup>1.)</sup>	Pressure range <sup>2.)</sup>	Max. medium temperature	Coil size	Article no. per voltage/frequency [V/Hz]		
		[mm]	[m <sup>3</sup> /h]	[bar]	[°C]		024/DC	024/50	230/50
<b>Brass body, seal material PTFE/graphite</b>									
<b>A, solenoid valve</b> 2/2 way Servo-controlled Normally closed 	G ½	13	3.7	0...10	150	42	332166	332164	332165
	G ¾	20	5.6	0...10	150	42	-	332167	332168
						65	332169	-	-
	G 1	25	10.0	0...10	150	42	-	332170	332172
						65	332171	-	-
	G 1¼	32	16.0	0...10	150	42	-	332173	332174
						65	332176	-	-
	G 1½	32	16.0	0...10	150	42	-	332177	332178
65						332179	-	-	

1.) Measured at +20 °C, 1 bar<sup>2.)</sup> pressure at valve inlet and free outlet.

2.) Pressure data: Overpressure with respect to atmospheric pressure

#### Steam version with valve seat in stainless steel

Circuit function	Port connection	Orifice	K <sub>v</sub> value water <sup>1.)</sup>	Pressure range <sup>2.)</sup>	Max. medium temperature	Coil size	Article no. per voltage/frequency [V/Hz]		
		[mm]	[m <sup>3</sup> /h]	[bar]	[°C]		024/DC	024/50	230/50
<b>Brass body, seal material PTFE/graphite</b>									
<b>A, solenoid valve</b> 2/2 way Servo-controlled Normally closed 	G ½	13	3.7	0...10	150	42	320877	320859	320856
	G ¾	20	5.6	0...10	150	42	-	320861	320857
						65	320878	-	-
	G 1	25	10.0	0...10	150	42	-	320862	320858
						65	320879	-	-
	G 1¼	32	16.0	0...10	150	42	-	330406	330401
							330420	-	-
	G 1½	32	16.0	0...10	150	42	-	330427	330429
						330435	-	-	

1.) Measured at +20 °C, 1 bar<sup>2.)</sup> pressure at valve inlet and free outlet.

2.) Pressure data: Overpressure with respect to atmospheric pressure

#### Steam version with KD-coil cURus (UL-recognized) coil approval

Circuit function	Port connection	Orifice	K <sub>v</sub> value water <sup>1.)</sup>	Pressure range <sup>2.)</sup>	Max. medium temperature	Coil size	Article no. with KD-coil [V/Hz]		
		[mm]	[m <sup>3</sup> /h]	[bar]	[°C]		24 V AC/DC	110...120 V AC <sup>3.)</sup>	230...240 V AC <sup>3.)</sup>
<b>Brass body, seal material PTFE/graphite</b>									
<b>A, solenoid valve</b> 2/2 way Servo-controlled Normally closed 	NPT ½	13	3.7	0...10	150	42	320874	320863	320866
	NPT ¾	20	5.6	0...10	150	42	320875	320864	320867
	NPT 1	25	10.0	0...10	150	42	320876	320865	320868
	NPT 1¼	32	16.0	0...10	150	42	330421	330425	330426
	NPT 1½	32	16.0	0...10	150	42	330442	330443	330444

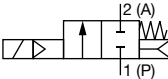
1.) Measured at +20 °C, 1 bar<sup>2.)</sup> pressure at valve inlet and free outlet.

2.) Pressure data: Overpressure with respect to atmospheric pressure

3.) AC indicates 50 Hz or 60 Hz

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## Steam version with DC-coil cURus (UL-recognized) coil approval

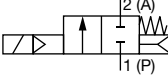
Circuit function	Port connection	Orifice	K <sub>v</sub> value water <sup>1.)</sup>	Pressure range <sup>2.)</sup>	Max. medium temperature	Coil size	Article no. per voltage/frequency [V/Hz]	
		[mm]	[m <sup>3</sup> /h]	[bar]	[°C]	[mm]	024/DC	
<b>Brass body, seal material PTFE/graphite</b>								
<b>A, solenoid valve</b> 2/2 way Servo-controlled Normally closed 	NPT 1/2	13	3.7	0...10	140	42	324978 ☒	
	NPT 3/4	20	5.6	0...10	140	65	324979 ☒	
	NPT 1	25	10.0	0...10	140	65	324980 ☒	
	NPT 1 1/4	32	16.0	0...10	140	65	332519 ☒	
	NPT 1 1/2	32	16.0	0...10	140	65	332520 ☒	

1.) Measured at +20 °C, 1 bar<sup>2.)</sup> pressure at valve inlet and free outlet.

2.) Pressure data: Overpressure with respect to atmospheric pressure

## 7.4. Standard version DN 50

## Standard version

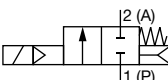
Circuit function	Port connection	Orifice	K <sub>v</sub> value water <sup>1.)</sup>	Pressure range <sup>2.)</sup>	Max. medium temperature	Coil size	Article no. per voltage/frequency [V/Hz]	
		[mm]	[m <sup>3</sup> /h]	[bar]	[°C]	[mm]	024/DC	230/UC <sup>3.)</sup>
<b>Brass body, seal material PTFE/graphite</b>								
<b>A, solenoid valve</b> 2/2 way Servo-controlled Normally closed 	G 2	50	36.0	0...10	150	72	332162 ☒	332163 ☒
	G 2 1/2	50	36.0	0...10	150	72	332160 ☒	332161 ☒

1.) Measured at +20 °C, 1 bar<sup>2.)</sup> pressure at valve inlet and free outlet.

2.) Pressure data: Overpressure with respect to atmospheric pressure

3.) For versions with external rectifier the cable plug is included in the delivery.

## Steam version with valve seat in stainless steel

Circuit function	Port connection	Orifice	K <sub>v</sub> value water <sup>1.)</sup>	Pressure range <sup>2.)</sup>	Max. medium temperature	Coil size	Article no. per voltage/frequency [V/Hz]	
		[mm]	[m <sup>3</sup> /h]	[bar]	[°C]	[mm]	024/DC	230/UC <sup>3.)</sup>
<b>Brass body, seal material PTFE/graphite</b>								
<b>A, solenoid valve</b> 2/2 way Servo-controlled Normally closed 	G 2	50	36.0	0...10	150	72	332149 ☒	332156 ☒

1.) Measured at +20 °C, 1 bar<sup>2.)</sup> pressure at valve inlet and free outlet.

2.) Pressure data: Overpressure with respect to atmospheric pressure

3.) For versions with external rectifier the cable plug is included in the delivery.

### 7.5. ATEX/IECEX version

#### Valves with ATEX/IECEX with 3 meter cable

Circuit function	Port connection	Orifice	K <sub>v</sub> value water <sup>1.)</sup>	Pressure range <sup>2.)</sup>	Max. medium temperature	Coil size	Article no. per voltage/frequency [V/Hz]	
		[mm]	[m <sup>3</sup> /h]	[bar]	[°C]	[mm]	24 V AC/DC	230 V AC
<b>Brass body, seal material PTFE/FKM</b>								
<b>A, solenoid valve</b> 2/2 way Servo-controlled Normally closed 	G 1/2	13	3.7	0...10	90	42	380853	380855
	G 3/4	20	5.6	0...10	90	65	380857	380860
	G 1	25	10	0...10	90	65	380864	380866

1.) Measured at +20 °C, 1 bar<sup>2.)</sup> pressure at valve inlet and free outlet.

2.) Pressure data: Overpressure with respect to atmospheric pressure

#### Valves with ATEX/IECEX terminal box

Circuit function	Port connection	Orifice	K <sub>v</sub> value water <sup>1.)</sup>	Pressure range <sup>2.)</sup>	Max. medium temperature	Coil size	Article no. per voltage/frequency [V/Hz]	
		[mm]	[m <sup>3</sup> /h]	[bar]	[°C]	[mm]	24 V AC/DC	230 V AC
<b>Brass body, seal material PTFE/FKM</b>								
<b>A, solenoid valve</b> 2/2 way Servo-controlled Normally closed 	G 1/2	13	3.7	0...10	90	42	380852	380854
	G 3/4	20	5.6	0...10	90	65	380856	380859
	G 1	25	10	0...10	90	65	380863	380865

1.) Measured at +20 °C, 1 bar<sup>2.)</sup> pressure at valve inlet and free outlet.

2.) Pressure data: Overpressure with respect to atmospheric pressure

#### Further versions on request

	<b>Process connection</b> NPT-thread, flange body acc. to DIN EN 1902 - 1		<b>Voltage</b> 110/50 and further voltages on request
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### 7.6. Ordering chart accessories

#### Cable plug Type 2518, Form A according to DIN EN 175301 -803




**Note:**

Further versions see data sheet **Type 2518** ►.

Cable plug	Dimensions	Version	Voltage	Article no.
		Without circuitry (AC/DC)	0...250 V AC/DC	314802
		With LED (AC/DC)	12...24 V AC/DC	314812
		With LED and varistor (AC/DC)	12...24 V AC/DC	314820
		With rectifier, LED and varistor	12...24 V AC/DC	314816

**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 surcharge.
- For more information on Ex cable glands, see [“6.1. Cable glands for ATEX/IECEx terminal box” on page 10.](#)
- For more information on Special wrench see [“6.2. Special tool to turn the junction box” on page 11.](#)

Description	Article no.
Ex cable gland, brass, nickel-plated, 6...13 mm <sup>1.)</sup>	773278 
Ex cable gland, polyamide, 7...13 mm <sup>1.)</sup>	773277 
Set SC02-AC10: Special wrench <sup>2.)</sup> incl. service manual	293488 

1.) Cable diameter

2.) Not included in the scope of delivery of the valve

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