DATA SHEET

Type 6407

bürkert
FLUID CONTROL SYSTEMS

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.

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Visit product website ▸

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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 (+180 °C on request) 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^2/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 (+55 °C on request) PTFE + FKM: 0 °C…+55 °C
ATEX/IECEx version	-10 °C…+40 °C
Installation position	As required, preferably with actuator upright

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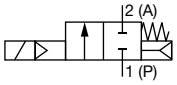
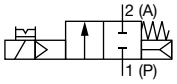
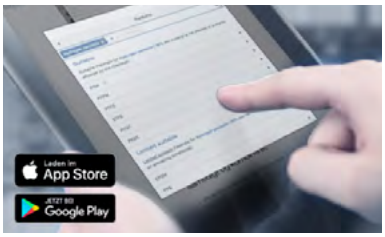
2. Circuit functions

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

3. Materials

3.1. Chemical Resistance Chart – Bürkert resistApp



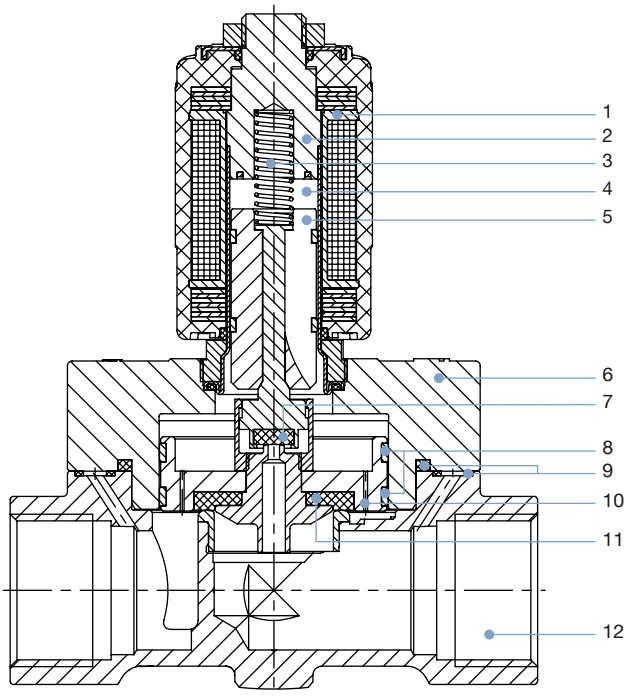
Bürkert resistApp – Chemical Resistance Chart

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

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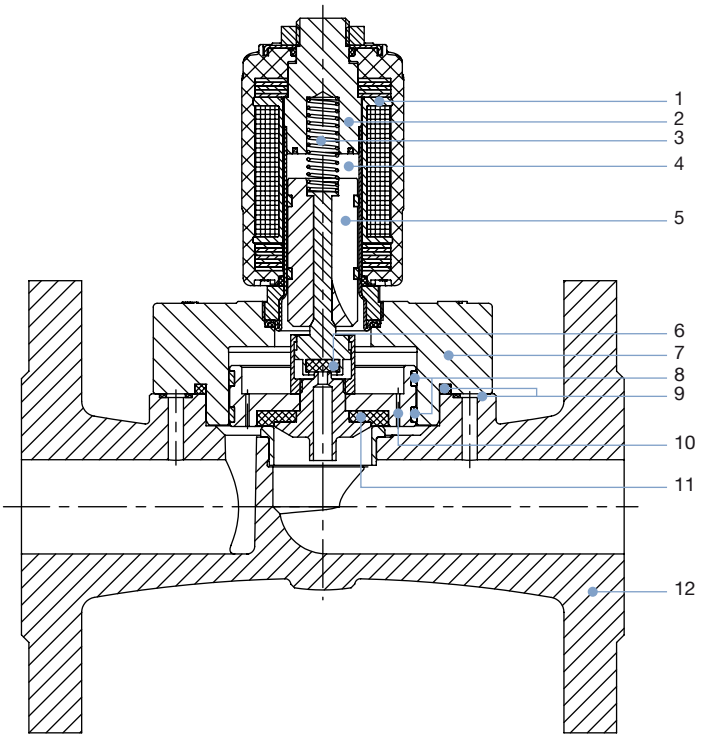
Flange body



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

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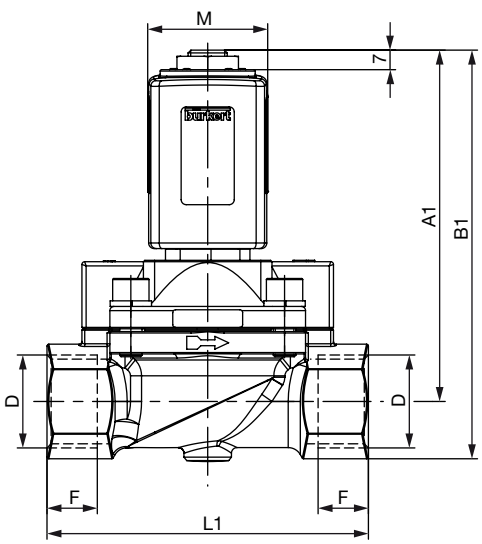
4. Dimensions

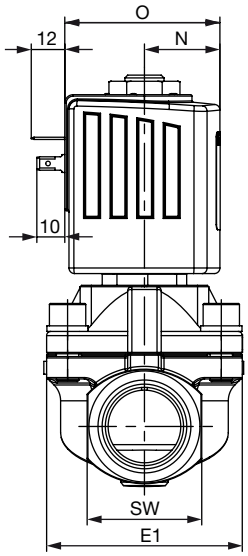
4.1. Standard version DN 13…DN 32

Note:

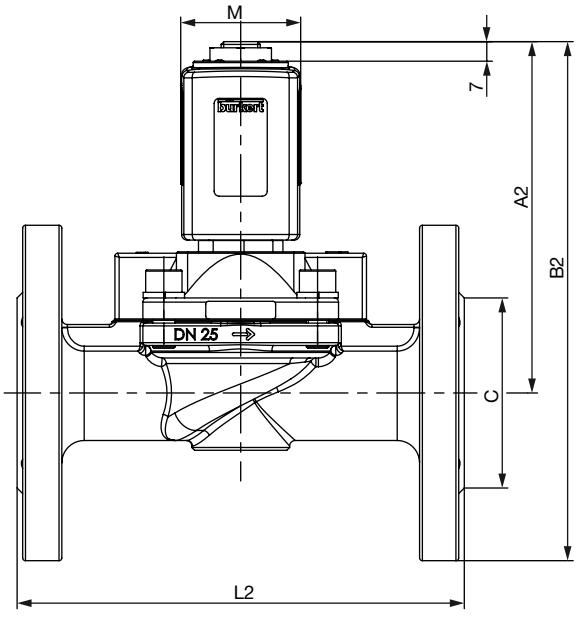
- For G-threads the dimensions D1 and F1 apply.
- For NPT-threads the dimensions D2 and F2 apply.
- For Rc-threads the dimensions D3 and F3 apply.
- Dimensions in mm

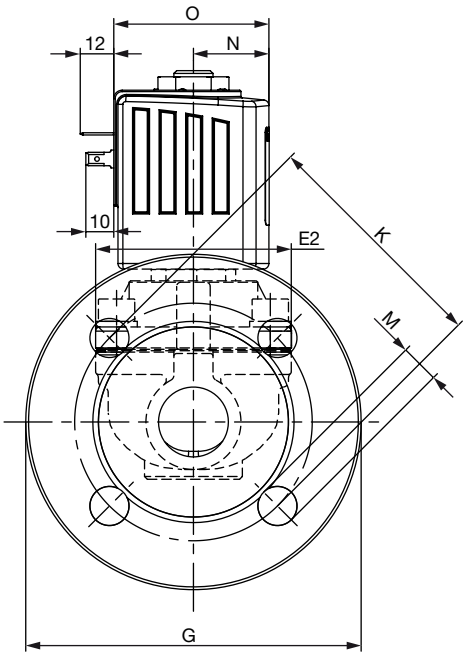
Threaded version





Flange version





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 ⅜	10.1	40	65	27	–	–	–	–	–	–	–	–
13			G ½	14	NPT ½	13.7	Rc ½	13.2						–	–	–	–	–	–
20	119.7	135.7	G ¾	16	NPT ¾	14.0	Rc ¾	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 1¼	20	NPT 1¼	17.3	Rc 1¼	19.1	85	126	50	142.7	212.7	78	85	140	180	18	100
32	146.7	176.7	G 1½	22	NPT 1½	17.3	Rc 1½	19.1	85	126	60	146.7	221.7	88	85	150	200	18	110

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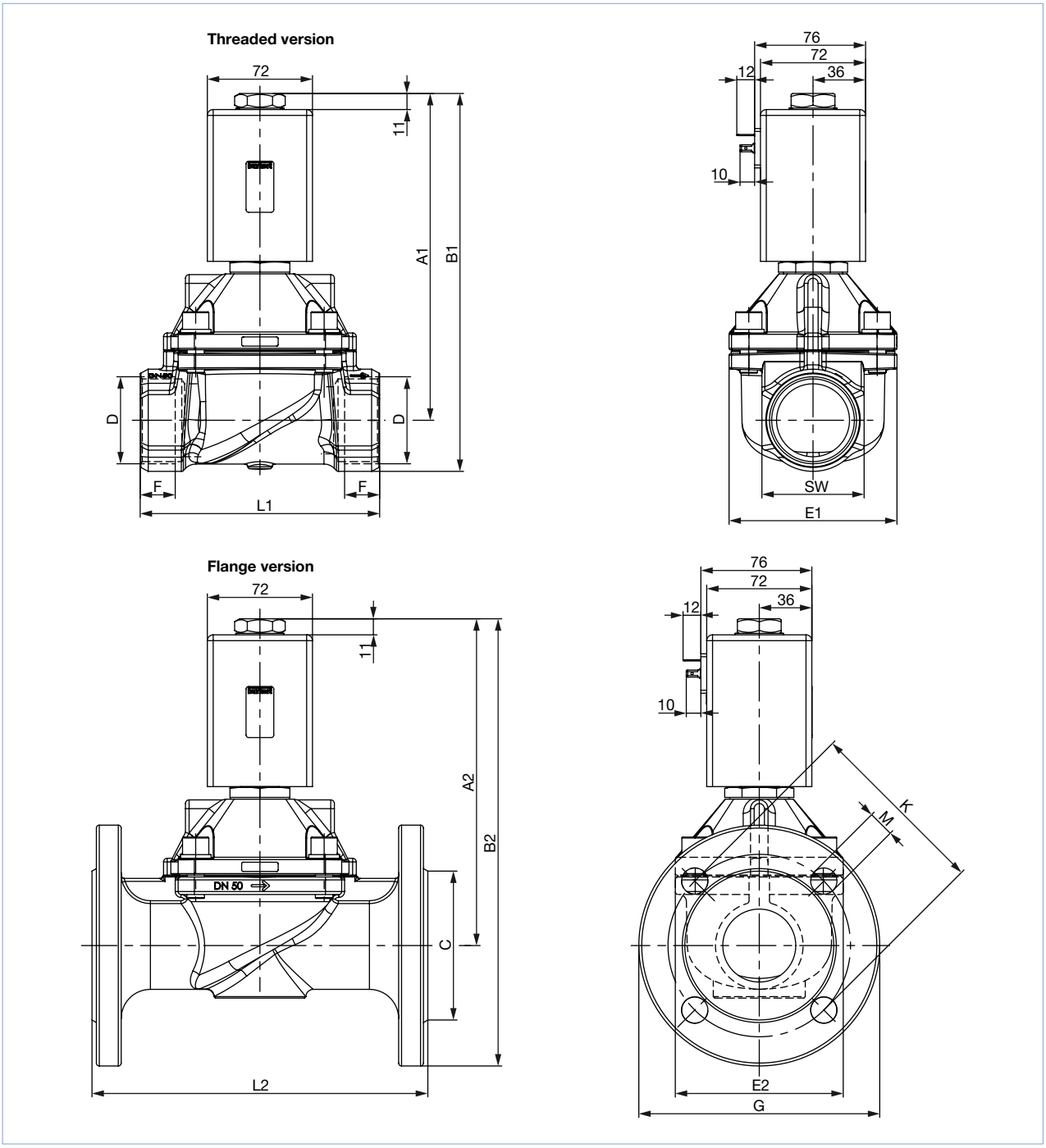
4.2. Standard version DN 50

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	–	–	–	–	–	–	–	–

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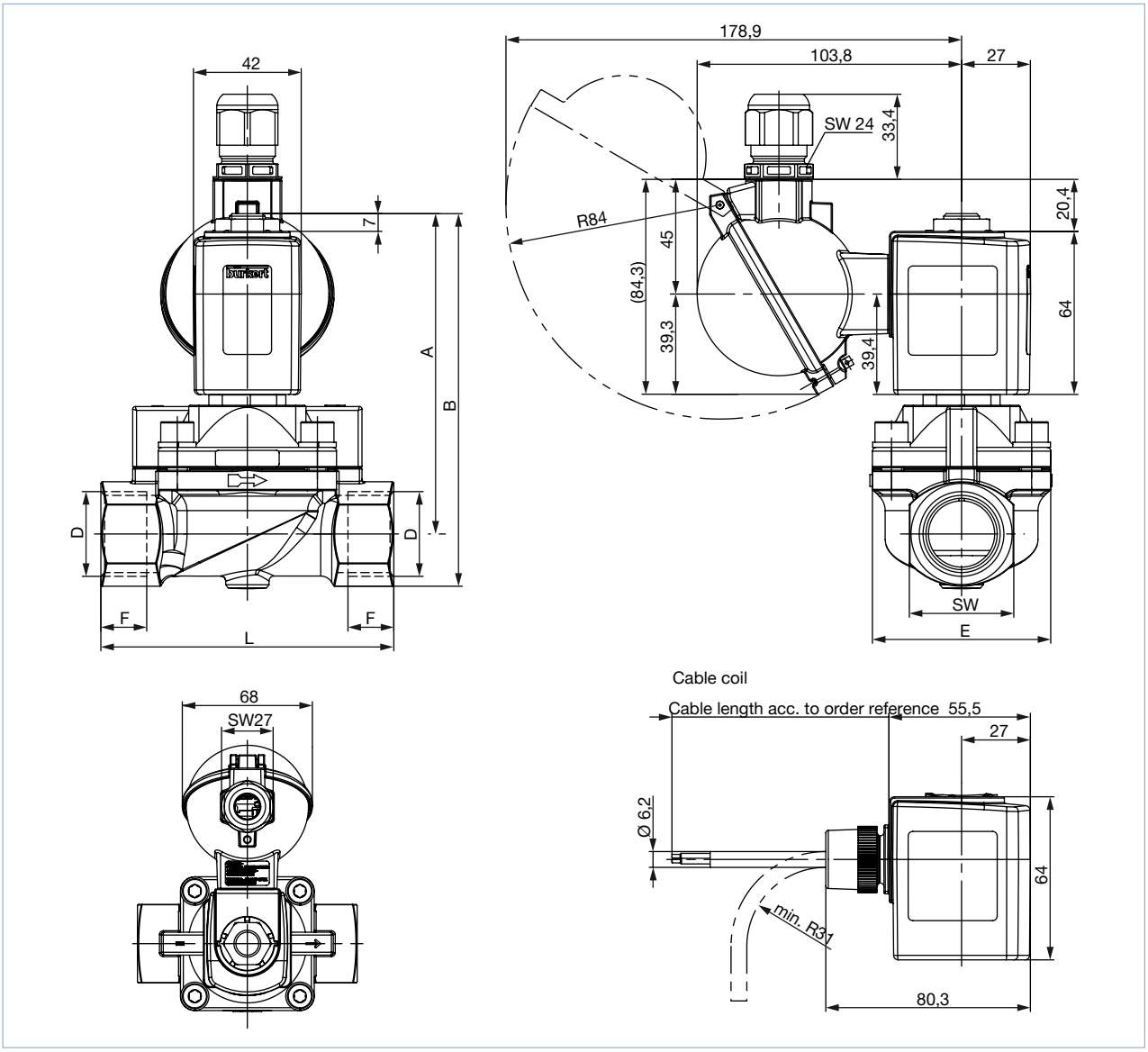
4.3. ATEX/IECEx version

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 ⅜	10.1	40	65	27
13			G ½	14	NPT ½	13.7	Rc ½	13.2			
20	119.7	135.7	G ¾	16	NPT ¾	14.0	Rc ¾	14.5	60	100	32
25	125.7	146.2	G 1	18	NPT 1	16.8	Rc 1	16.8	70	115	41

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 perfor-mance	Warm perfor-mance	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[1.)]	
[mm]	Opening [ms]	Closing [ms]
13	30	250
20	30	250
25	60	700
32	80	900
50	500	2000

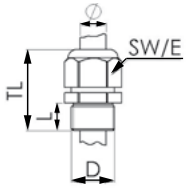
1.) Measured with water at valve outlet at 6 bar and +20 °C, opening: pressure build-up 0…90 %, closing: pressure relief 100…10 % (depending on the application conditions, deviations are possible)

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 IIIC Db IP68		TL 29…37 mm L 6 mm D 20 mm SW 24 mm E 27 mm

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