Diaphragm valve 2/2-way servo-assisted

- Servo-assisted diaphragm valve with a diameter up to DN 20
- Body material in brass, stainless steel and plastic
- Explosion-proof variants
- Damped design for low noise

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

Can be combined with

Type 2507 ▸
Cable plug,
form B according to
industry standard

Type 2516 ▸
Cable plug,
form C according to
DIN EN 175301-803

Type description

The Type 6211 is a servo-assisted normally closed 2/2-way solenoid valve with a servo diaphragm for use especially with neutral fluids and gaseous media. The range of housing includes brass, stainless steel and plastic. The valve has a low power consumption, low weight and a compact body. The valve is normally closed by spring force. Energized, the solenoid opens the pilot valve first. Then the medium pressure opens the main valve due to the pressure drop above the diaphragm. The valve opens. The special design and geometry of the inner parts of the valve result in a soft closing function and cause almost no water hammer.

DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

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Visit product website ▸

Table of contents

1. General technical data 3

2. Circuit functions 4

3. Approvals and conformities 4

3.1. General notes ... 4
3.2. Conformity ... 4
3.3. Standards ... 4
3.4. Explosion protection ... 4
3.5. North America (USA/Canada) ... 4
3.6. Drinking water ... 5

4. Materials 5

4.1. Bürkert resistApp ... 5
4.2. Material specifications ... 5

5. Dimensions 6

5.1. Standard variant ... 6
Brass body and stainless steel body ... 6
Plastic body PPE/PA ... 8
Further electrical connections ... 9
5.2. ATEX/IECEx cable variant ... 10
Brass body and stainless steel body ... 10
Plastic body PPE/PA ... 12

6. Performance specifications 13

6.1. Power consumption ... 13

7. Ordering information 13

7.1. Bürkert eShop ... 13
7.2. Bürkert product filter ... 13
7.3. Bürkert Product Enquiry Form ... 13
7.4. Ordering chart ... 14
Standard variant with brass body ... 14
Standard variant with stainless steel body ... 14
Standard variant with plastic body PPE/PA ... 15
ATEX/IECEx cable variant with brass body ... 15
7.5. Ordering chart accessories ... 16
Three-part connection set CP03 made of PPE/PA ... 16
Cable plug Type 2507, form B according to industry standard ... 16
Cable plug Type 2516, form C according to DIN EN 175301 - 803 ... 17

DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

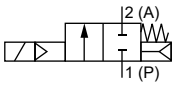
DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

1. General technical data

Product properties	
Dimensions	Further information can be found in chapter "5. Dimensions" on page 6.
Material	
Seal	NBR, FKM, (EPDM on request)
Body	Brass, stainless steel, PPE/PA
Housing cover	PPE/PA
Orifice	DN 10...DN 20
Circuit function	A Further information can be found in chapter "2. Circuit functions" on page 4.
Thermal insulation class of solenoid coil	Epoxy coil class H
Performance data	
Duty cycle	100 % continuous operation
Switching time [1.]	
DN 10	Opening: 10...25 ms Closing: 100...120 ms
DN 13	Opening: 30...50 ms Closing: 130...200 ms
DN 20	Opening: 100...400 ms Closing: 500...700 ms
Electrical data	
Operating voltage	24 V DC 24 V 50/60 Hz, 120 V 60 Hz, 230 V 50/60 Hz
Power consumption	Further information can be found in chapter "6. Performance specifications" on page 13.
Voltage tolerance	± 10 %
Medium data	
Operating medium	Neutral and slightly aggressive gases and liquids which do not attack the housing and sealing materials. Further information can be found in chapter "4.1. Bürkert resistApp" on page 5.
Medium temperature	
With NBR	0 °C...+ 70 °C (with PPE/PA body 0 °C...+ 50 °C)
With FKM	0 °C...+ 70 °C (with PPE/PA body 0 °C...+ 50 °C)
Viscosity	Max. 21 mm²/s
Product connections	
Electrical connection	• Cable plug **Type 2516** ▶, form C according to DIN EN 175301-803 on request Further information can be found in chapter "Cable plug Type 2516, form C according to DIN EN 175301-803" on page 17. • Cable plug **Type 2507** ▶, form B according to industry standard Further information can be found in chapter "Cable plug Type 2507, form B according to industry standard" on page 16. • Flying leads connection on request
Port connection	G ¼ ...G 1 (NPT on request) Threaded socket G ⅜, G ½ (with PPE/PA body) (further information can be found in chapter "Three-part connection set CP03 made of PPE/PA" on page 16)
Approvals and conformities	
Degree of protection	IP65 with cable plug and ATEX/IECEx cable variant
Explosion protection	Further information can be found in chapter "3.4. Explosion protection" on page 4.
North America (USA/Canada)	Further information can be found in chapter "3.5. North America (USA/Canada)" on page 4.
Drinking water	Further information can be found in chapter "3.6. Drinking water" on page 5.
Environment and installation	
Installation position	As required, preferably with actuator upright
Ambient temperature	Max. + 55 °C (with PPE/PA body + 50 °C)

1.) Measurement + 20 °C, 6 bar at valve outlet, opening: pressure build-up 0...90 %, closing: pressure drop 100...10 %

2. Circuit functions

Symbol	Description
	**Circuit function A (CF A)** 2/2-way solenoid valve Servo-controlled Normally closed

3. Approvals and conformities

3.1. General notes

- The approvals and conformities listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications.
- Not all available variants can be supplied with the below mentioned approvals or conformities.

3.2. Conformity

In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

3.3. Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

3.4. Explosion protection

Approval	Description
	Optional: Explosion protection (valid for coils with fixed cable outlet) **ATEX:** EPS 21 ATEX 1 128 X II 2G Ex mb IIC T4 Gb II 2D Ex mb IIIC T130 °C Db **IECEx:** IECEx EPS 21.0045X Ex mb IIC T4 Gb Ex mb IIIC T130 °C Db

3.5. North America (USA/Canada)

Approval	Description
	Valid for coils: UL Recognized for the USA and Canada The coils are UL Recognized for the USA and Canada according to: • UL 429 (electrically operated valves) • CAN/CSA-C22.2 No. 139

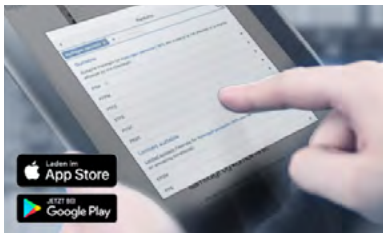
DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

3.6. Drinking water

Conformity	Description
H_2O	**Suitable for use in drinking water applications** The materials comply with the assessment principles (UBA) for materials in contact with drinking water (TrinkwasserV). PF36: Suitable for products with a maximum temperature of + 60 °C (warm water)

4. Materials

4.1. Bürkert resistApp

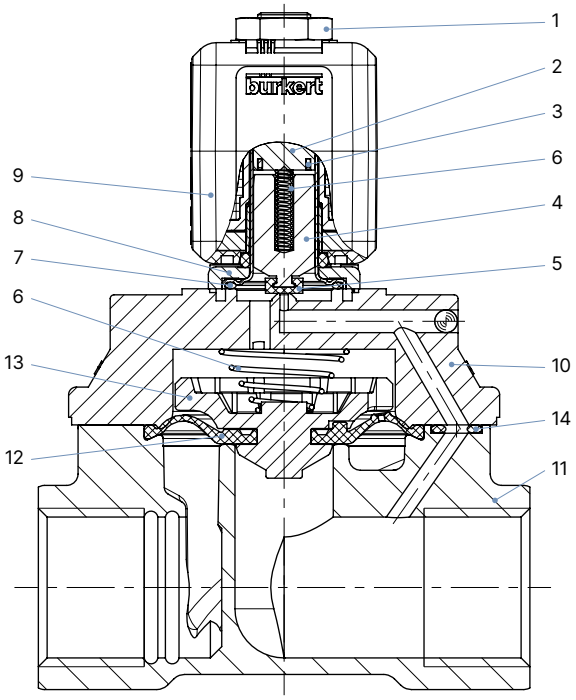


Bürkert resistApp – Chemical resistance chart

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



No.	Element	Material
1	Nut	Thick-film passivated surface (brass variant) Stainless steel (PPE/PA body, stainless steel body)
2	Stopper	Stainless steel 1.4113
3	Short circuit ring	Copper Silver (with stainless steel body)
4	Core	Stainless steel 1.4113
5	Core seal	NBR, FKM, EPDM
6	Spring	Stainless steel 1.4310
7	O-ring	FKM, EPDM
8	Flange	Thick-film passivated surface (brass variant) Nickel-plated surface (PPE/PA body, stainless steel body)
9	Coil	Epoxy
10	Body cover	PPE/PA
11	Body	Brass Stainless steel PPE/PA
12	Diaphragm	NBR, FKM, EPDM
13	Diaphragm holder	PPS in combination with brass or stainless steel parts
14	O-ring	NBR, FKM, EPDM

DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

5. Dimensions

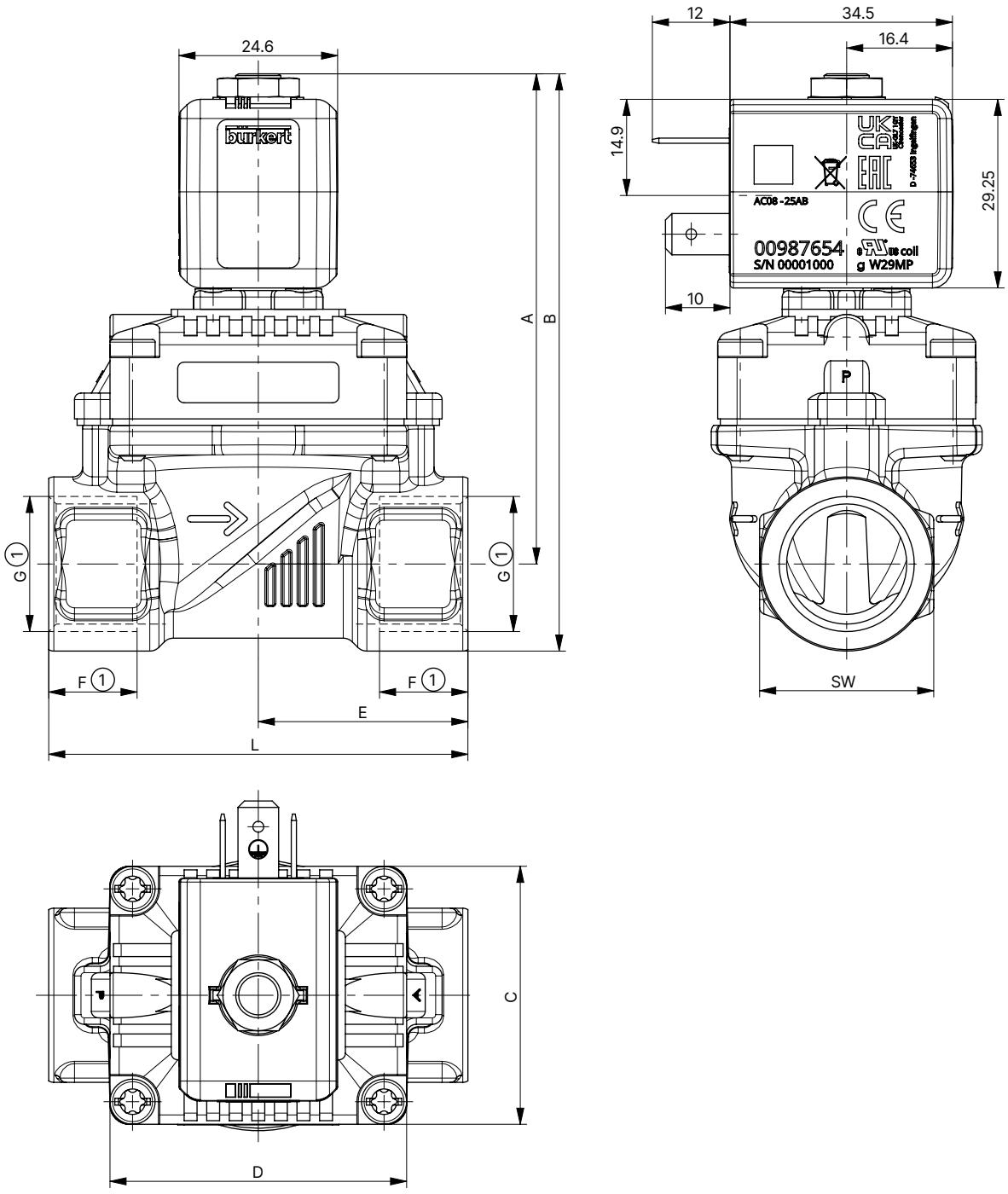
5.1. Standard variant

Brass body and stainless steel body

Note:

- Dimensions in mm
- The dimensions F1 and G1 apply to G thread.
- The dimensions F2 and G2 apply to NPT thread.
- The dimensions F3 and G3 apply to Rc thread.

Versions according to industry standard form B



DN	A	B	C	D	E	G		NPT		Rc		L	SW
						F1	G1	F2	G2	F3	G3		
10	71.5	82.5	32	32	22	12	G ¼	10	NPT ¼	–	–	50	22
						12	G ⅜	10.3	NPT ⅜	10.1	Rc ⅜		
10 [1.)]	73.5	87			24.5	14	G ½	13.7	NPT ½	–	–	50	27
10 [2.)]	73.5	87			24.5	14	G ½	13.7	NPT ½	–	–	55	27
13 [1.)]	76	89.5	42	46	27.25	12	G ⅜	–	–	–	–	58	27
13					32.5	14	G ½	13.7	NPT ½	13.2	Rc ½	65	
	78	94			32.5	16	G ¾	14	NPT ¾	–	–	65	32
20	85	105.5	60	60	50	16	G ¾	14	NPT ¾	14.5	Rc ¾	100	41
						18	G 1	16.8	NPT 1	16.8	Rc 1		

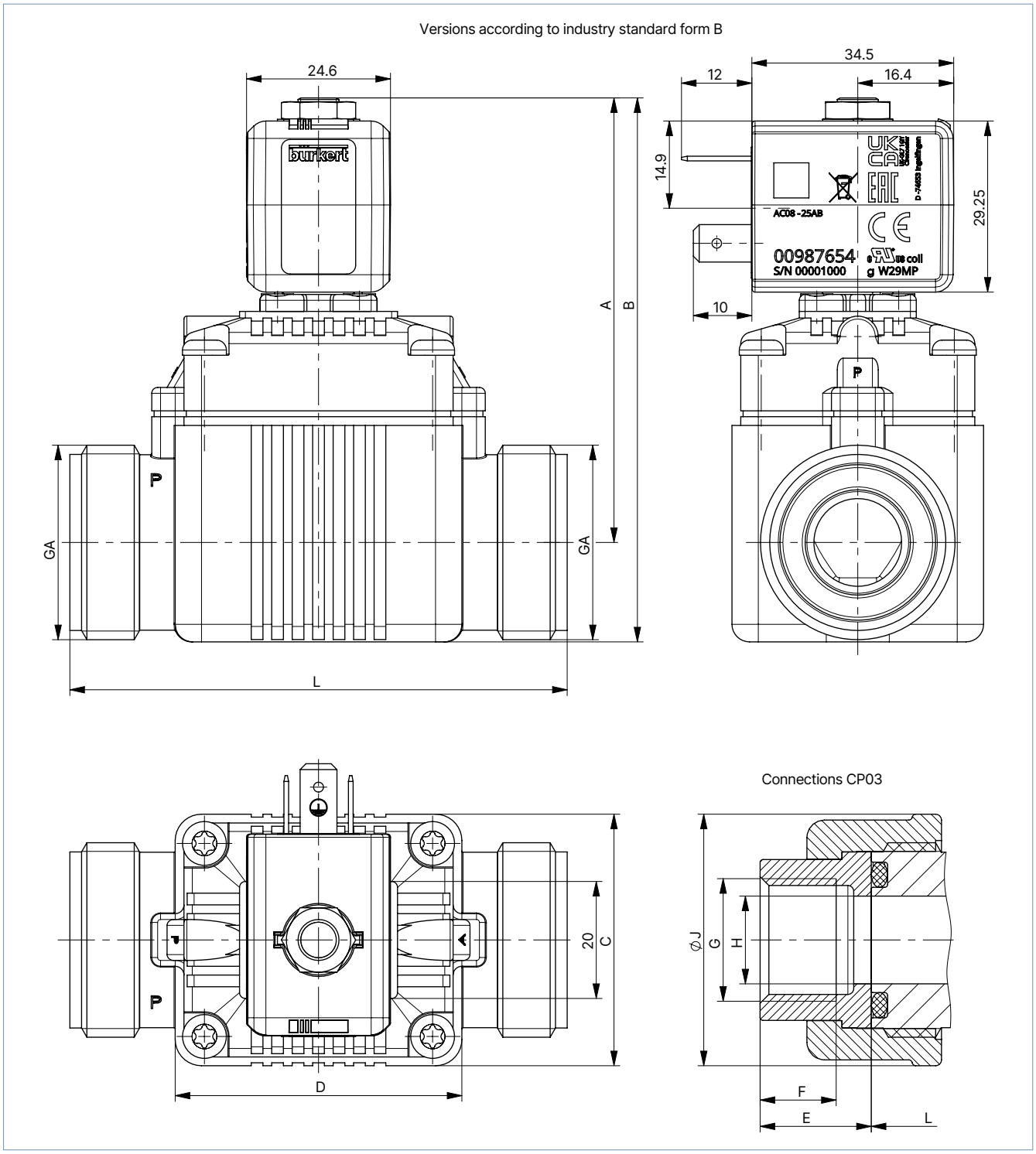
1.) Only threaded brass connection
2.) Only threaded stainless steel connection

DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

Plastic body PPE/PA

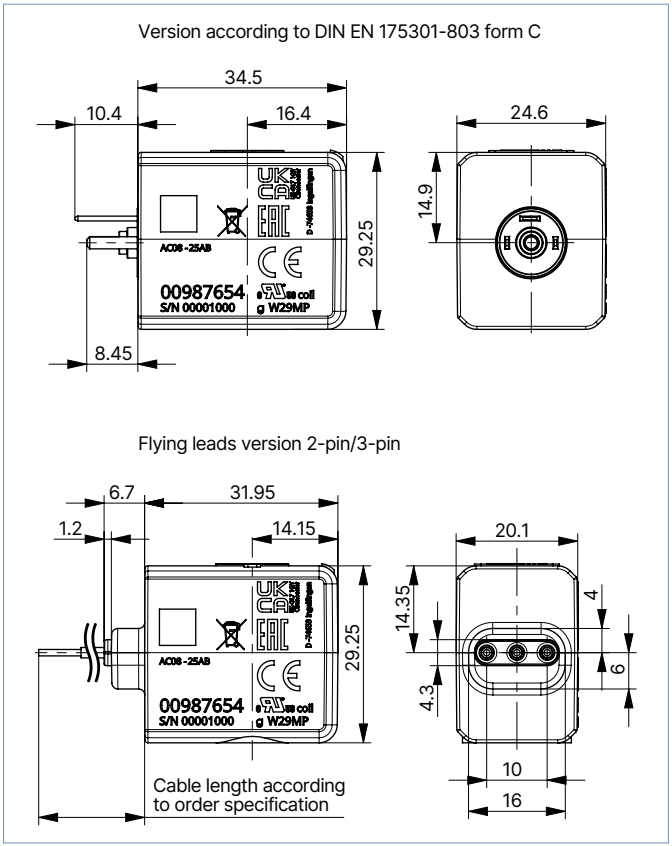
Note:
Dimensions in mm



DN	A	B	C	D	GA	L	E	H	G	F	Ø J
10	69.5	83.5	32	32	G ¾	73	17	10	G ⅜	13	35
13	76	93	43	49	G 1	85	19	15	G ½	13	43

Further electrical connections

Note:
Dimensions in mm



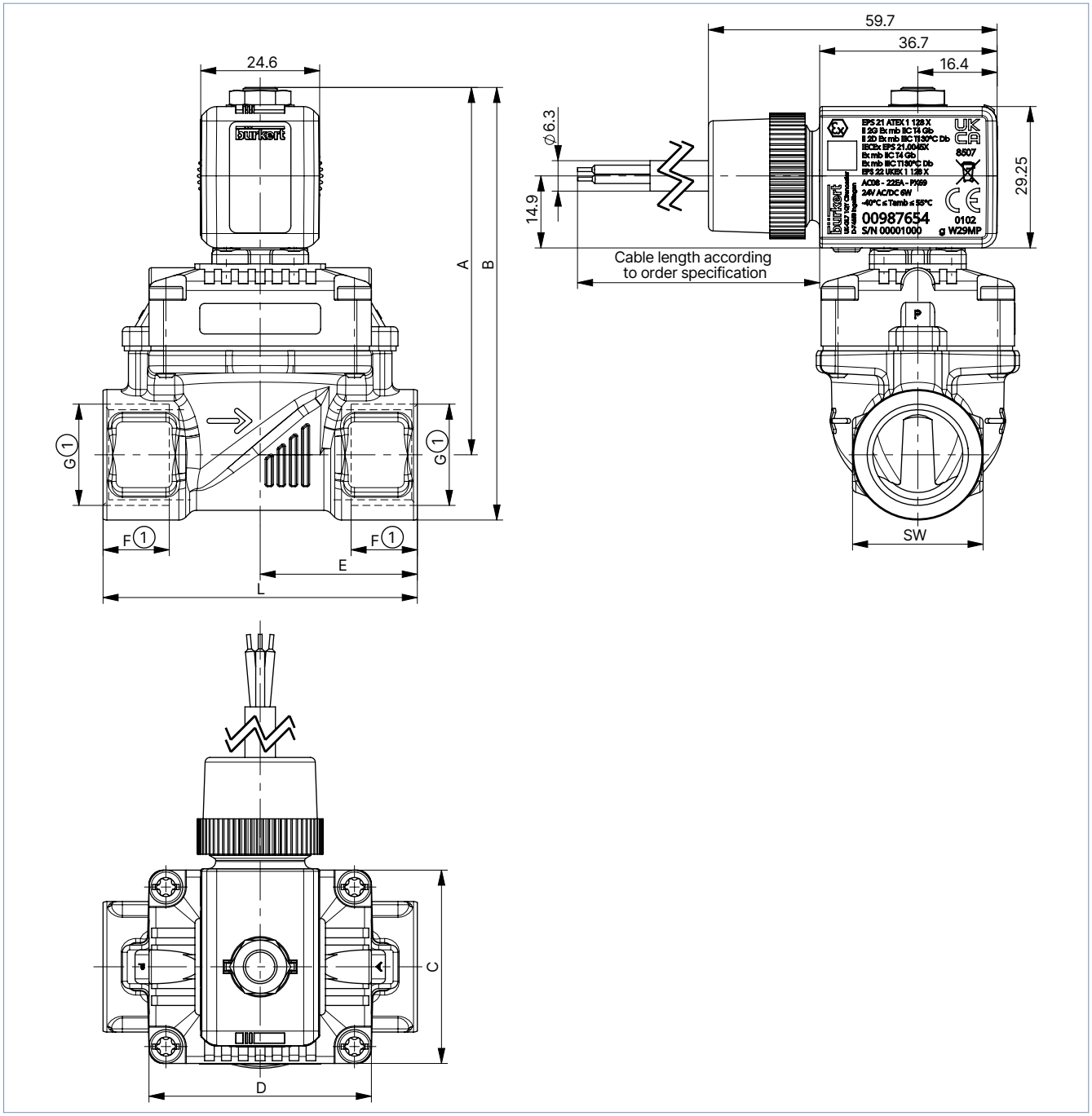
DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

5.2. ATEX/IECEx cable variant

Brass body and stainless steel body

Note:

- Dimensions in mm
- The dimensions F1 and G1 apply to G thread.
- The dimensions F2 and G2 apply to NPT thread.
- The dimensions F3 and G3 apply to Rc thread.



DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

DN	A	B	C	D	E	G		NPT		Rc		L	SW
						F1	G1	F2	G2	F3	G3		
10	71.5	82.5	32	32	22	12	G ¼	10	NPT ¼	–	–	50	22
						12	G ⅜	10.3	NPT ⅜	10.1	Rc ⅜		
10 [1.)]	73.5	87			24.5	14	G ½	13.7	NPT ½	–	–	50	27
10 [2.)]	73.5	87			24.5	14	G ½	13.7	NPT ½	–	–	55	27
13 [1.)]	76	89.5	42	46	27.25	12	G ⅜	–	–	–	–	58	27
13					32.5	14	G ½	13.7	NPT ½	13.2	Rc ½	65	
	78	94			32.5	16	G ¾	14	NPT ¾	–	–	65	32
20	85	105.5	60	60	50	16	G ¾	14	NPT ¾	14.5	Rc ¾	100	41
						18	G 1	16.8	NPT 1	16.8	Rc 1		

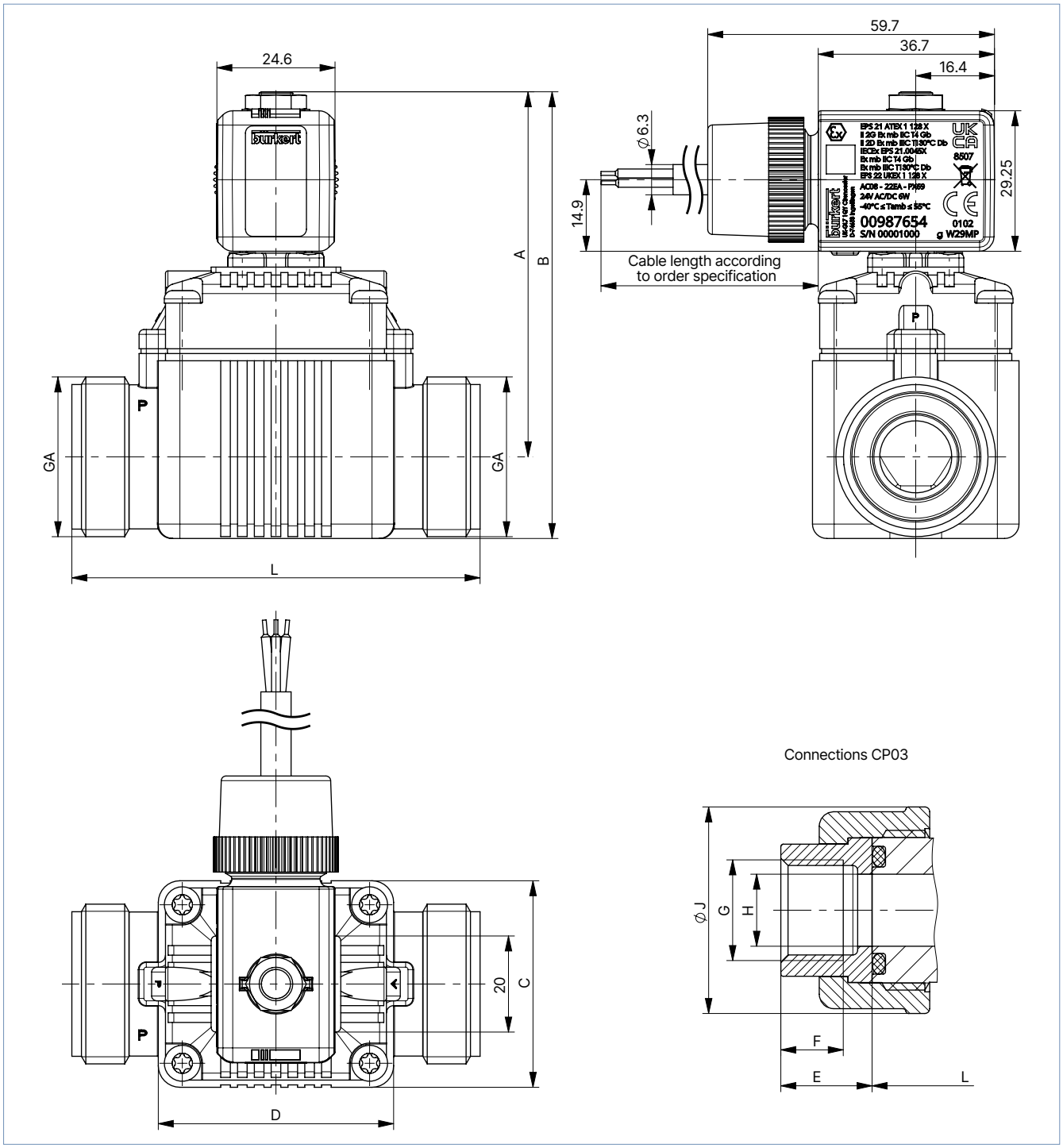
1.) Only threaded brass connection
2.) Only threaded stainless steel connection

DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

Plastic body PPE/PA

Note:
Dimensions in mm



DN	A	B	C	D	GA	L	E	H	G	F	Ø J
10	69.5	83.5	32	32	G ¾	73	17	10	G ⅜	13	35
13	76	93	43	49	G 1	85	19	15	G ½	13	43

6. Performance specifications

6.1. Power consumption

Coil	Coil size	Electrical power consumption				
		AC			DC	
		Inrush power	Holding power		Cold power	Warm power
	[mm]	[VA]	[VA]	[W]	[W]	[W]
AC08	24.5	12	6.5	4	5.5	4.5
AC08 ATEX	24.5	–	–	–	6	5

7. Ordering information

7.1. Bürkert eShop

Bürkert eShop – Easy ordering and quick 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

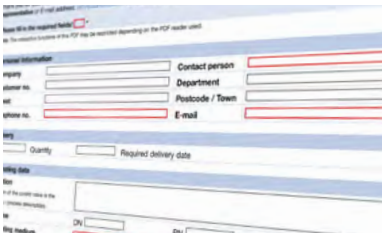
7.2. Bürkert product filter

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

7.3. Bürkert Product Enquiry Form



Bürkert Product Enquiry Form – Your enquiry quickly and compactly

Would you like to make a specific product enquiry based on your technical requirements? Use our Product Enquiry Form for this purpose. There you will find all the relevant information for your Bürkert contact. This will enable us to provide you with the best possible advice.

Fill out the form now

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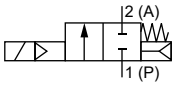
7.4. Ordering chart

Standard variant with brass body

Note:

- Complete with coil, plug connection form B (industry standard) for cable plug **Type 2507** ▶ (not included in scope of delivery)
- Please note that the cable plug must be ordered separately, see "Cable plug Type 2507, form B according to industry standard" on page 16 or separate data sheet for **Type 2507** ▶.

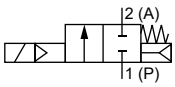
Circuit function	Port connection	Orifice	K_V value water [1.]	Pressure range [2.]	Weight	Article no.		
						024/DC	024/50...60	230/50...60
		[mm]	[m³/h]	[bar]	[kg]	[V/Hz]	[V/Hz]	[V/Hz]
CF A 2/2-way solenoid valve Servo-controlled Normally closed 	**Seal material NBR**							
	G ⅜	10	1.9	0.5...10	0.26	20067544	20069275	20069272
	G ½		1.9	0.5...10	0.29	20069269	20069274	20069273
	G ½	13	3.6	0.5...10	0.35	20067546	20069310	20069312
	G ¾		3.6	0.5...10	0.37	20069311	20069313	20069314
	G ¾	20	8.3	0.5...10	1.10	20067549	20069326	20069327
	G 1		8.3	0.5...10	0.90	20069323	20069325	20069324
	Seal material FKM							
	G ⅜	10	1.9	0.5...10	0.26	20069305	20069306	20069307
	G ½		1.9	0.5...10	0.29	20069304	20069308	20069309
	G ½	13	3.6	0.5...10	0.35	20069317	20069318	20069319
	G ¾		3.6	0.5...10	0.37	20069320	20069321	20069322
	G ¾	20	8.3	0.5...10	1.10	20069329	20069330	20069331
	G 1		8.3	0.5...10	0.90	20069332	20069333	20069334

1.) Measurement at + 20 °C, 1 bar [2.] at valve inlet and free outlet
2.) Pressure data: overpressure to atmospheric pressure

Standard variant with stainless steel body

Note:

- Complete with coil, plug connection form B (industry standard) for cable plug **Type 2507** ▶ (not included in scope of delivery)
- Please note that the cable plug must be ordered separately, see "Cable plug Type 2507, form B according to industry standard" on page 16 or separate data sheet for **Type 2507** ▶.

Circuit function	Port connection	Orifice	K_V value water [1.]	Pressure range [2.]	Weight	Article no.		
						024/DC	024/50...60	230/50...60
		[mm]	[m³/h]	[bar]	[kg]	[V/Hz]	[V/Hz]	[V/Hz]
CF A 2/2-way solenoid valve Servo-controlled Normally closed 	**Seal material FKM**							
	G ⅜	10	1.9	0.5...10	0.26	20069424	20069425	20069426
	G ½	13	3.6	0.5...10	0.35	20069427	20069428	20069429
	G ¾	20	8.3	0.5...10	1.10	o. r.	o. r.	o. r.

o. r. = on request
1.) Measurement at + 20 °C, 1 bar [2.] at valve inlet and free outlet
2.) Pressure data: overpressure to atmospheric pressure

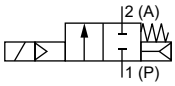
DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

Standard variant with plastic body PPE/PA

Note:

- Complete with coil, plug connection form B (industry standard) for cable plug **Type 2507** ▶ (not included in scope of delivery)
- Please note that the cable plug must be ordered separately, see "Cable plug Type 2507, form B according to industry standard" on page 16 or separate data sheet for **Type 2507** ▶.
- All valves are delivered with PPE/PA body and without connection set (see "Three-part connection set CP03 made of PPE/PA" on page 16).

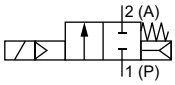
Circuit function	Port connection	Orifice	K_V value water [1.]	Pressure range [2.]	Weight	Article no.		
						024/DC	024/50...60	230/50...60
		[mm]	[m³/h]	[bar]	[kg]	[V/Hz]	[V/Hz]	[V/Hz]
CF A 2/2-way solenoid valve Servo-controlled Normally closed 	**Seal material NBR**							
	G ⅜	10	1.8	0.5...10	0.17	20069406	20069411	20069413
	G ½	13	3.6	0.5...10	0.21	20069415	20069418	20069420
	Seal material FKM							
	G ⅜	10	1.8	0.5...10	0.17	20069410	20069412	20069414
	G ½	13	3.6	0.5...10	0.21	20069417	20069419	20069421

1.) Measurement at + 20 °C, 1 bar [2.] at valve inlet and free outlet
2.) Pressure data: overpressure to atmospheric pressure

ATEX/IECEx cable variant with brass body

Note:

- The maximum medium temperature must never exceed the permitted temperature class (T4: + 135 °C) minus 5 K.
- Only single mounting permissible
- Delivery includes 3 metre cable, other lengths are available on request.

Circuit function	Port connection	Orifice	K_V value water [1.]	Pressure range [2.]	Weight	Article no.	
						024 / AC/DC	230/50
		[mm]	[m³/h]	[bar]	[kg]	[V/Hz]	[V/Hz]
CF A 2/2-way solenoid valve Servo-controlled Normally closed 	**Seal material FKM**						
	G ⅜	10	1.9	0.5...10	0.43	20071605	20071606
	G ½	13	3.6	0.5...10	0.50	20071607	20071608
	G ¾	20	8.3	0.5...10	1.25	o. r.	o. r.

o. r. = on request
1.) Measurement at + 20 °C, 1 bar [2.] at valve inlet and free outlet
2.) Pressure data: overpressure to atmospheric pressure

Further variants on request

Approval • ATEX and IECEx approval for coils with fixed cable outlet • cURus coil approval	**Process connection** NPT
Electrical connection • Coil with plug connection DIN EN 175301 - 803 form C • Coil with flying leads connections	**Voltage** Further voltages
Material Seal material EPDM	

7.5. Ordering chart accessories

Three-part connection set CP03 made of PPE/PA

Note:

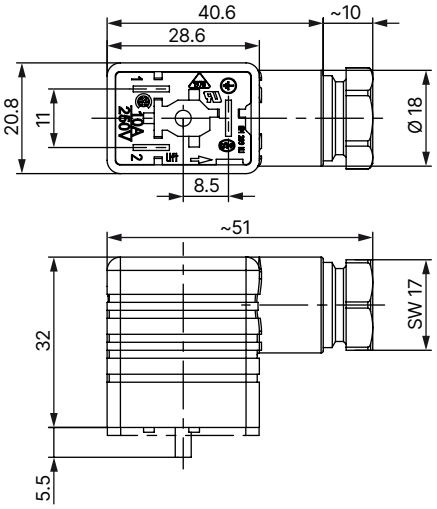
- For one valve you need two connection sets.
- The connection set is not included in the delivery and must be ordered separately.

Accessories	Orifice [mm]	Port connection	Seal material (O-ring)	Article no.
	10	G ⅜	NBR	142425
			FKM	142426
			EPDM	142427
	13	G ½	NBR	142428
			FKM	142429
			EPDM	142430

Cable plug Type 2507, form B according to industry standard

Note:

- The delivery of cable plug includes a flat seal and a fastening screw.
- Refer to data sheet **Type 2507** ▸ for more information about the cable plug.

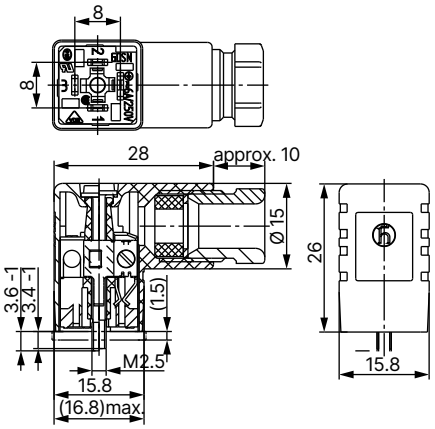
Cable plug	Dimensions	Variant	Voltage	Article no.
		Without wiring (standard)	2...250 V AC/DC	423845
		With LED	24 V AC/DC	423849
		With LED and free-wheeling diode	12...24 V AC/DC	423851
		With rectifier, LED and varistor	12...24 V AC/DC	423853
			2...250 V AC/DC	423854

DTS 1000010736 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

Cable plug Type 2516, form C according to DIN EN 175301 - 803

Note:

- The delivery of cable plug includes a flat seal and a fastening screw.
- See data sheet **Type 2516** ▸ for more variants.

Cable plug	Dimensions	Variant	Voltage	Article no.
		Without wiring	0...250 V AC/DC	303141
		With LED	12...24 V AC/DC	303145
		With LED and varistor	12...24 V AC/DC	303148
		With rectifier, LED and varistor	12...24 V AC/DC	303142

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