









### Tandem valve, welded configuration

- Fully integrated in Burkert's Process Control Systems
- Quality certifications FDA/3 A

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

#### Can be combined with

	<b>Type SV02</b> Diaphragms	▶
	<b>Type 2036</b> Robolux multiway diaphragm valve, pneumatically operated	▶
	<b>Type 8690</b> Pneumatic control unit for decentralised automation of process valves ELEMENT	▶
	<b>Type 8691</b> Control head for decentralised automation of ELEMENT process valves	▶
	<b>Type 8692</b> Digital electro-pneumatic positioner for integrated mounting on process control valves	▶
	<b>Type 8098</b> FLOWave SAW flowmeter	▶

#### Type description

The Bürkert welded tandem valves for SAP (Sterile Access Port) and GMP (Good Manufacturing Practice) are suitable for the control of highly purified, sterile, aggressive or abrasive mediums. The configuration consists of two forged valve bodies. They are fully drainable and are operated either pneumatically or manually.

The required configuration can be selected in two ways. The first refers to the geometry and the body and diaphragm material. The second refers to body size, connections and surface quality.

The valve can be combined with a positioner and PID controller, stroke limiter, electrical position feedback, pneumatic pilot valve.

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## 1. General technical data

Product properties	
<b>Material<sup>2)</sup></b>	
Forged body (VS) <sup>1)</sup>	Forged stainless steel 1.4435 in accordance with BN2 DIN EN 1022 - 5, F316L in accordance with to ASTM, A182/A182M and 316L in accordance with to ASME BPE
Diaphragm	EPDM (AD) <sup>1)</sup> , PTFE / EPDM (EA) <sup>1)</sup> , Advanced PTFE / EPDM (EU) <sup>1)</sup> , laminate of GYLON® and EPDM (ER) <sup>1)</sup>
<b>Actuator</b>	
ELEMENT (Type 2103)	Actuator DN 08...65, PPS DN 65...100, stainless steel 1.4308
CLASSIC (Type 2031)	Actuator casing DN 08...65, stainless steel 1.4561 (316Ti) DN 65...100, stainless steel 1.4308
Stainless steel/INOX (Type 2063)	PPS, PA, bonnet in stainless steel 1.4308 / 1.4404 Stainless steel 1.4404, bonnet in stainless steel 1.4308
Manual (Type 2933)	Actuator (diaphragm base / hand wheel) Stainless steel / PPS, diaphragm size 8...50 PPS / PPS, diaphragm size 15...50
Manual (Types 2973)	Actuator (diaphragm base / hand wheel) Stainless steel / PPS, diaphragm size 15...50
Manual (Type 3233)	Actuator (diaphragm base / hand wheel) PPS / PPS, stainless steel / PPS or Stainless steel / stainless steel, diaphragm size 8...50 Stainless steel / stainless steel, diaphragm size 65...100
Diaphragm size	8...100
<b>Standard surface quality</b>	
Forged steel valve body (VS) <sup>1)</sup>	Internally electrically polished: Ra ≤ 0.38 µm (NO17) <sup>1)</sup> (ASME BPE SF4 / DIN HE4) (externally forged surface electropolished) Internally mechanically polished: Ra ≤ 0.5 µm (NO14) <sup>1)</sup> (ASME BPE SF1) (externally forged surface)
Automated component	Position feedbacks/control heads/positioners/process controllers
<b>Performance data</b>	
Maximum pilot pressure (CF A)	See "5.1. Medium pressure" on page 13
Pilot air port	Push-in connector Ø 6 mm/4 mm or 1/4", thread G 1/8"/G 1/4"
<b>Medium data</b>	
Operating medium	Neutral gases and liquids, highly purified, sterile, aggressive or abrasive mediums (see <b>resistance chart</b> ▶)
<b>Medium temperature</b>	
EPDM (AD) <sup>1)</sup>	- 10...+ 143 °C (steam sterilisation + 150 °C for 60 min)
PTFE/EPDM (EA) <sup>1)</sup>	- 10...+ 130 °C (steam sterilisation + 140 °C for 60 min)
Advanced PTFE/EPDM (EU) <sup>1)</sup>	- 5...+ 143 °C (steam sterilisation + 150 °C for 60 min)
Laminate of GYLON® and EPDM (ER) <sup>1)</sup>	- 5...+ 130 °C (steam sterilisation + 140 °C for 60 min)
Control medium	Neutral gases, air
<b>Product connections</b>	
<b>Port connection<sup>2)</sup></b>	
Nominal diameter <sup>2)</sup>	DN 06...DN 100 (1/8"...4")
<b>Stainless steel body<sup>2)</sup></b>	
Welded connection <sup>2)</sup>	DIN EN ISO 1127 / ISO 4200 / DIN 11866 series B DIN 11850 - 2 / DIN 11866 series A / DIN EN 10357 series A ASME BPE / DIN 11866 series C
Clamp connection <sup>2)</sup>	DIN 32676 series A (DIN pipe) DIN 32676 series B (ISO pipe) ASME BPE

## Environment and installation

### Ambient temperature

#### ELEMENT

PPS, stainless steel - 10...+ 60 °C<sup>4)</sup>, autoclavable

#### CLASSIC

PPS, actuator size ≤ 80 mm + 5...+ 140 °C<sup>4)</sup>

PPS, actuator size 100 mm, 125 mm + 5...+ 90 °C (short-term up to + 140 °C)<sup>4)</sup>

PA, actuator size ≤ 125 mm - 10...+ 60 °C<sup>4)</sup>

PA, actuator size ≥ 175 mm - 10...+ 50 °C<sup>4)</sup>

#### INOX

Stainless steel 0...+ 80 °C, autoclavable

### Manually operated

Type 2933, stainless steel / PPS, PPS / PPS - 10...+ 130 °C (briefly up to + 150 °C), autoclavable

Type 2973, stainless steel / PPS, PPS / PPS - 10...+ 130 °C (briefly up to + 150 °C), autoclavable

Type 3233, PPS / PPS 0...+ 130 °C (briefly...+ 150 °C)<sup>4)</sup>

Type 3233, stainless steel / PPS 0...+ 130 °C (briefly...+ 150 °C)<sup>4)</sup>

Type 3233, stainless steel / stainless steel - 10...+ 140 °C (briefly up to + 150 °C)<sup>4)</sup>

1.) This information is part of the product key.

2.) Other variants are available on request.

3.) For plastic enclosures, temperature limitation possible due to enclosure material

4.) For standard variant, variants with higher temperatures possible

## 2. Approvals and conformities

### 2.1. 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.


### 2.2. Conformity

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


### 2.3. 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.

### 2.4. Explosion protection

Approval	Description
	<b>Optional: Explosion protection (valid for the variable code PX50)</b> As a category 2 device suitable for zone 1/21 and zone 2/22.

### 2.5. Foods and beverages/Hygiene

Conformity	Description
FDA	<b>FDA – Code of Federal Regulations</b> The diaphragms made of EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU) and laminate of GYLON® and EPDM (ER) comply with the Code of Federal Regulations published by the FDA (Food and Drug Administration, USA).
USP	<b>United States Pharmacopeial Convention (USP)</b> The diaphragms made of EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU) and laminate of GYLON® and EPDM (ER) are tested according to USP Class VI.
	<b>EC Regulation 1935/2004 of the European Parliament and of the Council</b> The diaphragms made of EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU) and laminate of GYLON® and EPDM (ER) are suitable for use with food and beverages (according to EC Regulation 1935/2004/EC).

### 2.6. Others

#### Certificates

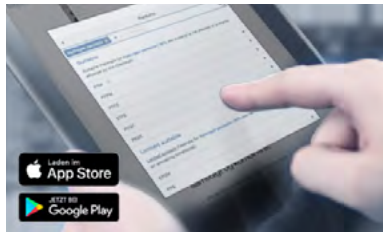
Certificat
<ul style="list-style-type: none"> <li>• Material test certificate according to DIN EN 10204 - 3.1</li> <li>• Surface roughness test according to DIN EN 10204 - 3.1</li> <li>• Crack test according to DIN EN 10204 - 3.1</li> <li>• Test report according to DIN EN 10204 - 2.2</li> <li>• Diaphragm certificate according to DIN EN 10204 - 2.1</li> <li>• Welding procedure certificate</li> </ul>

TA Luft

Conformity	Description
TA Luft	Technical instruction on air quality control (valid for the variable code PM01)

### 3. Materials

#### 3.1. Bürkert resistApp



#### Bürkert resistApp – Chemical resistance chart

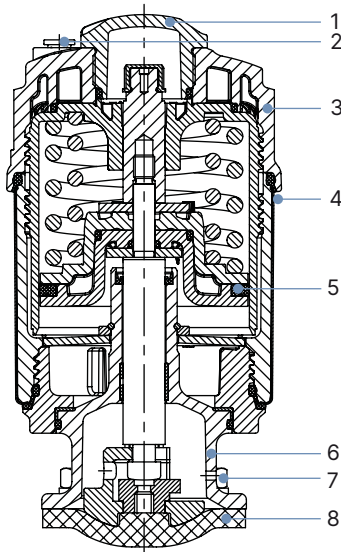
You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start chemical resistance check](#)

#### 3.2. Material specifications

Variant with ELEMENT actuator (Type 2103)

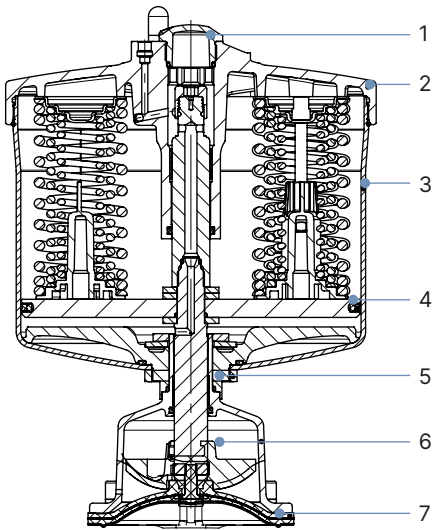
Diaphragm size: 08...65



No.	Element	Material
1	Transparent cap	Polysulfone PSU
2	Pilot air ports	Push-in connector PP (standard) Thread 1/8" stainless steel 1.4305 (on request)
3	Actuator casing	PPS
4	Cover	Stainless steel 1.4561 (316Ti)
5	Piston seal	FKM
6	Socket	Stainless steel 1.4308
7	Screws	Stainless steel
8	Diaphragm	EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU), laminate of GYLON® and EPDM (ER)

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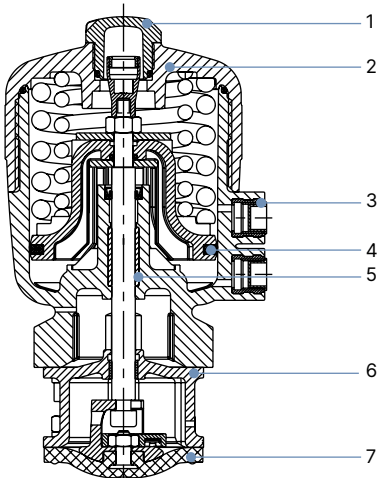
Diaphragm size: 65...100



No.	Element	Material
1	Transparent cap	Polysulfon PSU
2	Actuator casing	Stainless steel 1.4308
3	Liner	Stainless steel 1.4404
4	Piston seal	FKM
5	Nut	Stainless steel 1.4301
6	Diaphragm socket	Stainless steel CF3M
7	Diaphragm	EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU), laminate of GYLON® and EPDM (ER)

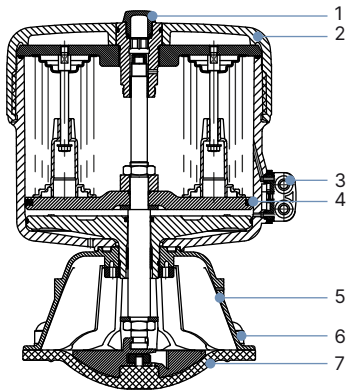
Variant with CLASSIC actuator (Type 2031)

Actuator size 08...65



No.	Element	Material
1	Transparent cap	Polysulfone PSU
2	Cover	Polyphenylene sulphide PPS (standard) Polyamide PA (on request)
3	Pilot air ports	Stainless steel 1.4305
4	Piston seal	FKM
5	Socket	Sinter metal
6	Interface	Stainless steel 1.4404
7	Diaphragm	EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU), laminate of GYLON® and EPDM (ER)

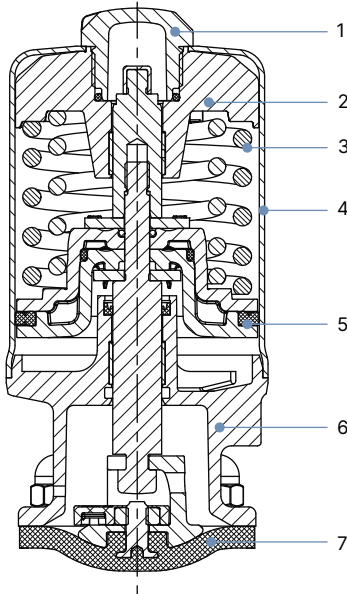
Diaphragm size: 65...100



No.	Element	Material
1	Transparent cap	Polysulfone (actuator size 40...125) Polycarbonate (actuator size 175...225)
2	Actuator	Polyphenylene sulphide PPS (actuator size 40...125) Polyamide PA (actuator size 175...225)
3	Pilot air ports	Stainless steel 1.4305
4	Piston seal	FKM (actuator size 40...125) NBR (actuator size 175...225)
5	Socket	Stainless steel 1.4404 (actuator size 40...125) Stainless steel 1.4308 (actuator size 175...225)
6	Screws	Stainless steel
7	Diaphragm	EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU), laminate of GYLON® and EPDM (ER)

Variant with INOX actuator (Type 2063)

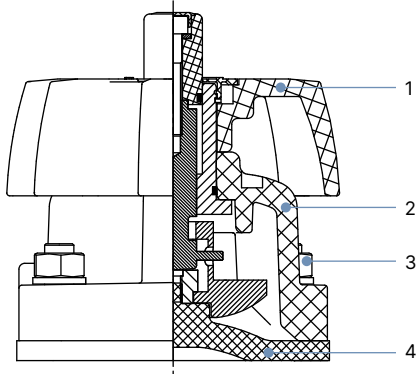
Diaphragm size: 08...50



No.	Element	Material
1	Transparent cap	Polysulfone PSU
2	Spring support	Stainless steel 1.4308
3	Spring	EN10270 - 2 FDSiCr
4	Actuator casing	Stainless steel 1.4404 (316L)
5	Piston seal	FKM
6	Actuator base (diaphragm socket)	Stainless steel 1.4308
7	Diaphragm	EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU), laminate of GYLON® and EPDM (ER)

**Variant with manual actuator (Type 3233)**

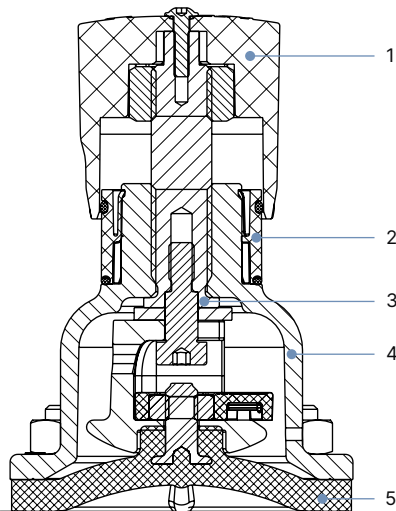
**Diaphragm size 08...100**



No.	Element	Material
1	Transparent cap	Diaphragm size 15...50: Polyoxymethylene Diaphragm size 65...100: stainless steel
2	Handwheel	Diaphragm size 8...50: Polyphenylene sulphide PPS (stainless steel on request) Diaphragm size 65...100: stainless steel
3	Socket	Diaphragm size 8...50: Polyphenylene sulphide PPS (stainless steel on request) Diaphragm size 65...100: stainless steel
4	Diaphragm	EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU), laminate of GYLON® and EPDM (ER)

**Variant with manually operated actuator (Type 2933 – Basic)**

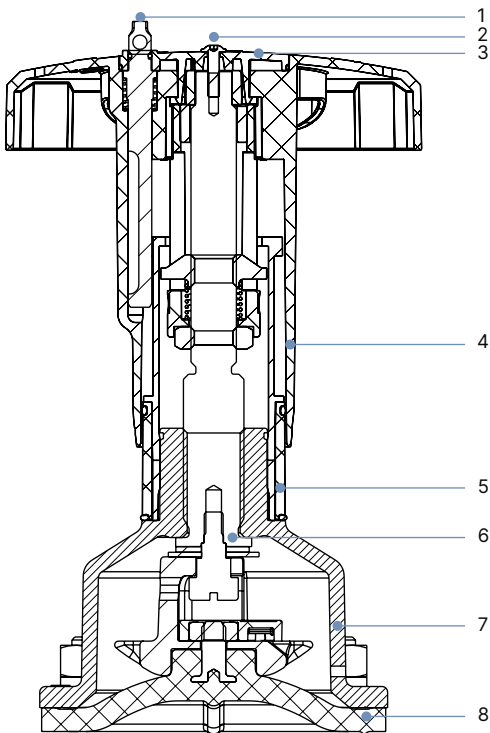
**Diaphragm size 08...50**



No.	Element	Material
1	Handwheel	Polyphenylene sulphide (PPS)
2	Visual position indicator	Polyamide (PA)
3	Valve spindle	Stainless steel 1.4305
4	Diaphragm bonnet	Stainless steel 1.4308, Polyphenylene sulphide (PPS)
5	Diaphragm	EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU), laminate of GYLON® and EPDM (ER)

Variant with manually operated actuator (Type 2973 – Full Function)

Diaphragm size 08...50



No.	Element	Material
1	Lock pin	Stainless steel 1.4305
2	Screw	Stainless steel A2
3	Handwheel cover	Polyamide (PA)
4	Handwheel	Polyphenylene sulphide (PPS)
5	Visual position indicator	Polyamide (PA)
6	Valve spindle	Stainless steel 1.4305
7	Diaphragm socket	Stainless steel 1.4308
8	Diaphragm	EPDM (AD), PTFE/EPDM (EA), Advanced PTFE/EPDM (EU), laminate of GYLON® and EPDM (ER)

3.3. Example of available diaphragm materials

The diaphragms have been developed to meet the unique challenges of hygienic and sterile requirements. Bürkert offers diaphragms with precise material composition and high accuracy. Bürkert diaphragms are available in a wide range of materials which have been tested and proven in applications in the food and beverage, biotechnology, pharmaceutical and cosmetics industries. The diaphragms are tested during development and production to ensure reliability under difficult process conditions.



- EPDM (AD)
- PTFE/EPDM (EA)
- Advanced PTFE/EPDM (EU)
- Laminate of GYLON® and EPDM (ER)

Further information can be found in our flyer "Diaphragm competence for hygienic applications" on our [website](#) ►.

## 4. Product connection

### 4.1. Configurations

The following examples give an insight into our configuration programme. It is possible to implement customised block solutions. Further configurations can be found in the **block brochure Type 2034** ▶.

**Note:**

SAP: Sterile Access Port

SAP1	SAP2	SAP3	SAP4
SAP5	SAP6	SAP7	SAP8
SAPA	SAPB	SAPC	SAPD

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**Note:**  
GMP: Good Manufacturing Practice

GMP1	GMP2	GMP3	GMP4
GMP5	GMP6	GMP7	GMP8
GMPA	GMPB		

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## 5. Performance specifications

### 5.1. Medium pressure

#### Specification for control function A

**Note:**

- For low operating pressures, optional variants with reduced spring force (EC04) are recommended.
- Pressure data [bar]: Overpressure to atmospheric pressure. The valve closes dynamically against maximum operating pressure.
- Information for control function B and I is available on request.

#### Pneumatic actuator

Port connection (DN)		Diaphragm size	Actuator size Ø	Pilot pressure	Maximum operating pressure for seal material	
[mm]	[inch]				EPDM, FKM	PTFE/EPDM and advanced PTFE/EPDM, laminate of GYLON® and EPDM
			[mm]	[bar]	[bar]	[bar]
<b>ELEMENT actuator</b>						
8	¼"	8	50 (D)	5.0...10	10	10
15	½"	15	50 (D)	5.0...10	7.5	–
			70 (M)	5.0...10	10	10
20	¾"	20	70 (M)	5.0...10	10	10
25	1"	25	70 (M)	5.0...10	6.5	4.5
			90 (N)	5.0...10	10	8
40	1½"	40	90 (N)	5.5...10	5.5	5 <sup>1.)</sup>
			130 (P)	5.0...7	10	10
50	2"	50	130 (P)	5.0...7	8	7
65	2½"	65	130 (P)	5.0...7	5.5	3.5
			225(L)	5.0...7	8	8 <sup>5.)</sup>
80	3"	80	225(L)	5.0...7	10	8
100	4"	100	225(L)	5.0...7	8	5.5
<b>CLASSIC actuator</b>						
8	¼"	8	40 (C)	5.0...7	10	10
15	½"	15	50 (D)	5.0...7	8.5	–
			63 (E)	5.0...7	10	10
20	¾"	20	63 (E)	5.5...7	10	5
			80 (F)	5.0...7	10	10
25	1"	25	80 (F)	5.5...7	10	7.5
40	1¼"	40	100 (G)	5.5...7	6.5	6 <sup>2.)</sup>
			125 (H)	5.5...7	10	10
50	2"	50	125 (H)	5.5...7	8	7
65	2½"	65	175 (K)	5.0...6	8	5
80	3"	80	175 (K)	5.0...6	5	3 <sup>4.)</sup>
			225 (L)	5.0...6	10	7 <sup>3.)</sup>
100	4"	100	225 (L)	5.0...6	8	4
<b>Stainless steel/INOX actuator</b>						
8	¼"	8	32 (B)	5.5...10.5	10	6
15	½"	15	50 (D)	5.0...10.5	8.5	–
			70 (M)	5.0...10.5	10	10
20	¾"	20	70 (M)	5.0...10.5	10	10
25	1"	25	70 (M)	5.0...10.5	6.5	4.5
			90 (N)	5.0...10.5	10	8
40	1½"	40	90 (N)	5.5...10.5	5.5	5 <sup>1.)</sup>
			130 (P)	5.0...7.5	10	10
50	2"	50	130 (P)	5.0...7.5	8	7

1.) The variant with with laminate of laminate of GYLON® and EPDM (ER) is not available.

2.) The maximum operating pressure of GYLON® and EPDM (ER) is 4 bar.

3.) The maximum operating pressure of GYLON® and EPDM (ER) is 8.5 bar.

4.) The tightness value only applies of GYLON® and EPDM (ER diaphragm), otherwise 0 bar for PTFE/EPDM and advanced PTFE/EPDM (EA and EU diaphragms).

5.) Der maximale Betriebsdruck für Laminat aus GYLON® und EPDM beträgt 6.5 bar.

**Manual actuator**

Diaphragm size	Actuator material	Maximum operating pressure for seal material EPDM, PTFE/EPDM, advanced PTFE/EPDM, laminate of GYLON® and EPDM
		[bar]
8...80	VA/VA	10
100	VA/VA	6
8...50	VA/PPS	10
8...40	PPS/PPS	10
50	PPS/PPS	7

**6. Ordering information**

**6.1. 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](#)

**6.2. Bürkert product filter**



**Bürkert product filter – Get quickly to the right product**

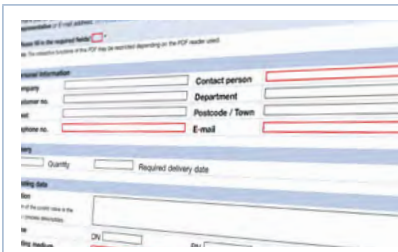
You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

[Try out our product filter](#)

**6.3. Bürkert Product Enquiry Form**

**Note:**

Please see our Product Enquiry Form for a full explanation of our specification key.



**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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