Vessel pressure controller

- Automatic stand-alone solution
- Fast cleaning
- Flexible for different process conditions
- Permanent process monitoring
- Various variants available for different hygiene requirements (self-draining, CIP and SIP capable, electropolished surface, FDA, dead space reduced)

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

Can be combined with

Type 2380 ▸
Hygienic 2-way bellows control valve

Type 2301 ▸
Pneumatically operated 2-way Globe Control Valve

Type 8693 ▸
Digital electropneumatic process controller for integrated mounting on process control valves

Type 8696 ▸
Digital electropneumatic positioner for integrated mounting on process control valves

Type 8325 ▸
Pressure transmitter for general applications, 0...25 bar

Type description

The pressure control system for containers is ideal for maintaining a defined pressure in containers containing air, nitrogen or other gases to protect the product in closed processes and especially in hygienic applications. Application examples: Gassing (inerting with gas), control of fermentation processes, transport of special media (time-pressure filling, buffer container) and much more. Two control valves work in combination with a pressure transmitter in a closed control loop. The goal is to maintain a constant pressure in the containers during filling and emptying or during fermentation processes.

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Visit product website ▸

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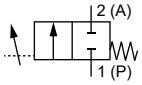
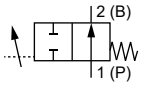
1. General technical data

Product properties	Block solution (8880-PB)	Tank-integrated solution (8880-PT)	Welded solution (8880-PW)	Solenoid solution (8880-PS)
Description	• For tank attachment via tank nozzles • For aseptic processes with high demands on cleanability and material quality	• For direct integration into the container lid • For aseptic processes with the highest demands on cleanability and material quality	• For tank attachment via tank nozzles • For processes with lower cleanability requirements	• For tank attachment via tank nozzles • No pilot pressure required
Dimensions	Further information can be found in chapter "5. Dimensions" on page 7.			
Valve type	Hygienic bellows control valve (diaphragm valve on request)		Globe control valve	Solenoid valve with media separation
Seat size	1.5...20 (further sizes on request)		3...25 (further sizes on request)	1.4...4
K_{VS} values	0.05...6.2 m³/h	0.05...6.2 m³/h	0.1...12 m³/h	0.055...0.37 m³/h
Safety setting in case of power failure	Further information can be found in chapter "2. Control functions and circuit functions" on page 4.	-	-	-
Performance data				
Operating pressure (further pressure on request)	-0.9...6 bar(g)	-0.9...6 bar(g)	-0.9...25 bar(g)	-0.9...16 bar(g) (depending on nominal diameter)
Pilot pressure	5.5...7 bar	5.5...7 bar	5.5...7 bar	Electric solenoid drive
Electrical data				
Operating voltage	24 V/DC ± 10 %			
Residual ripple	10 %, no technical direct current			
Power consumption	< 10 W	< 10 W	< 10 W	< 15 W
Input/output				
Set-point value signal	0/4...20 mA 0...5/10 V			
Actual value signal	4...20 mA			
Analogue feedback	0/4...20 mA or 0...5/10 V			
Medium data				
Operating medium (process gas)	Air, nitrogen, CO_2 and other neutral gases			
Medium temperature (depending on the configuration)	0 °C...+ 80 °C (steam sterilisation on request)	0 °C...+ 80 °C (steam sterilisation on request)	- 40 °C...+ 230 °C (steam sterilisation on request)	0 °C...+ 50 °C + 90 °C permissible for rinsing cycles (max. 30 min)
Control medium	Air, neutral gases	Air, neutral gases	Air, neutral gases	Not necessary
Product connections				
Welded connection	Sizes on request			
Clamp connection	Sizes on request			
Flange connection	Sizes on request			
Threaded connection	Sizes on request			

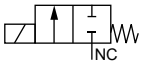
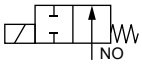
Electrical connection	1 x cable gland M16 × 1.5 (cable Ø 5...10 mm) with connection terminals for cable cross sections 0.14...1.5 mm²			• M12, 8-pin (signal exchange) • M12, 4-pin (power supply)
Pilot air port	Thread G ⅛	Thread G ⅛	Thread G ⅛	Not necessary
Approvals and conformities				
Degree of protection	IP65/IP67 according to EN60529, 4X according to NEMA 250 Standard			IP65
Explosion protection	Further information can be found in chapter "3.4. Explosion protection" on page 5.			
Environment and installation				
Ambient temperature	-10...+ 55 °C			
Installation position	Any, preferably with tank connection downwards			
Service interface	Connection with PC via USB port			

2. Control functions and circuit functions

2.1. Variant with block solution (PB/PT) and welded solution (PW)

Symbol	Description
	**Control function A (CF A)** Pneumatically operated 2/2-way control valve Normally closed by spring force
	**Control function B (CF B)** Pneumatically operated 2/2-way control valve Normally opened by spring force

2.2. Variant with solenoid valve solution (PS)

Symbol	Description
	**Circuit function A (CF A)** 2/2-way solenoid valve Direct-acting Normally closed
	**Circuit function B (CF B)** 2/2-way solenoid valve Direct-acting Normally open

2.3. Safety function

Note:
Normally, the inlet valve has control function A. The exhaust valve can be chosen to be control function A or B, resulting in different fail-safe behaviour:

Exhaust valve control function	Fail-safe behaviour
A	Tank pressure is maintained
B	Tank is vented

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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	Block solution (8880-PB / 8880-PT)	Welded solution (8880-PW)	Solenoid solution (8880-PS)
	Optional: Explosion protection ATEX components (valid for variable code PX50)	Type 8693, 8696: II 3D Ex tc IIIC T135 °C Dc II 3G Ex ec IIC T4 Gc		-
		Valve Type 2380: EPS 18 ATEX 2 008 X II 2G Ex h IIC T4...T2 Gb II 2D Ex h IIIC T135 °C... T300 °C Db	Valve Type 2301: EPS 18 ATEX 2 008 X II 2G Ex h IIC T4...T2 Gb II 2D Ex h IIIC T135 °C... T300 °C Db	
		Pressure sensor: ATEX II 3G Ex ec IIC T4/T5/T6 Gc X Optional: ATEX II 1/2G, 2G Ex d IIC T6		

3.5. Foods and beverages/Hygiene

Conformity	Description	Block solution (8880-PB / 8880-PT)	Welded solution (8880-PW)	Solenoid solution (8880-PS)
FDA	**FDA – Code of Federal Regulations (valid for variable code PL02, PL03)** All wetted materials are compliant with the Code of Federal Regulations published by the FDA (Food and Drug Administration, USA) according to the manufacturer's declaration.	Yes	Yes	Yes
USP	**United States Pharmacopeial Convention (USP) (valid for variable code PL04)** All wetted materials are biocompatible according to the manufacturer's declaration.	Yes	Yes	No
	EC Regulation 1935/2004 of the European Parliament and of the Council (valid for variable code PL01, PL02) All wetted materials are compliant with EC Regulation 1935/2004/EC according to the manufacturer's declaration.	Yes	Yes	No

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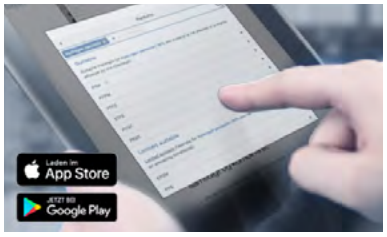
4. Materials

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

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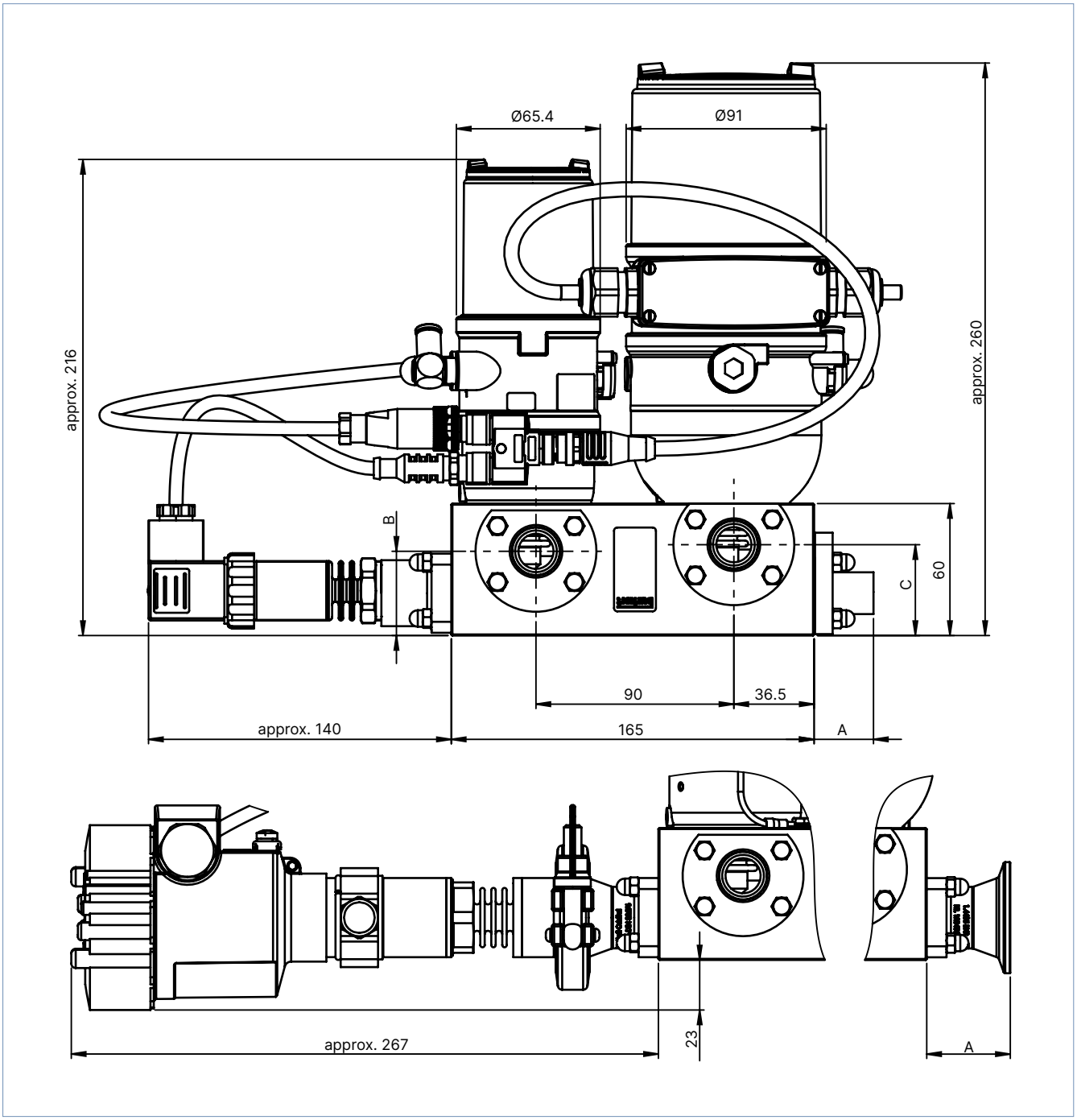
5. Dimensions

5.1. Variant with block solution, overview (PB0X)

PB01 variant

Note:

- Dimensions in mm
- The dimensions A, B and C depend on the nominal diameter and the port connection.



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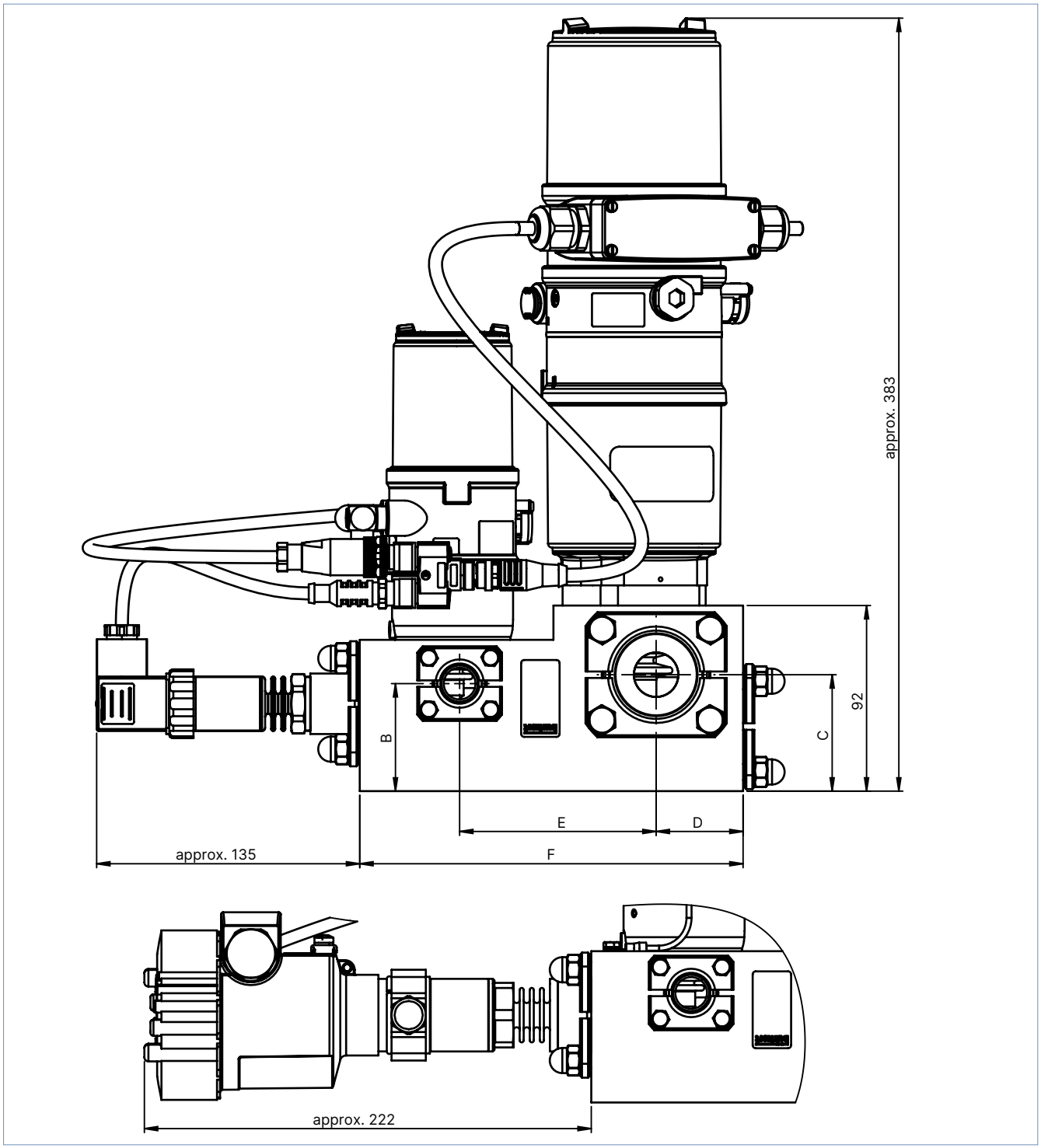
PB03 variant

Note:
Dimensions in mm



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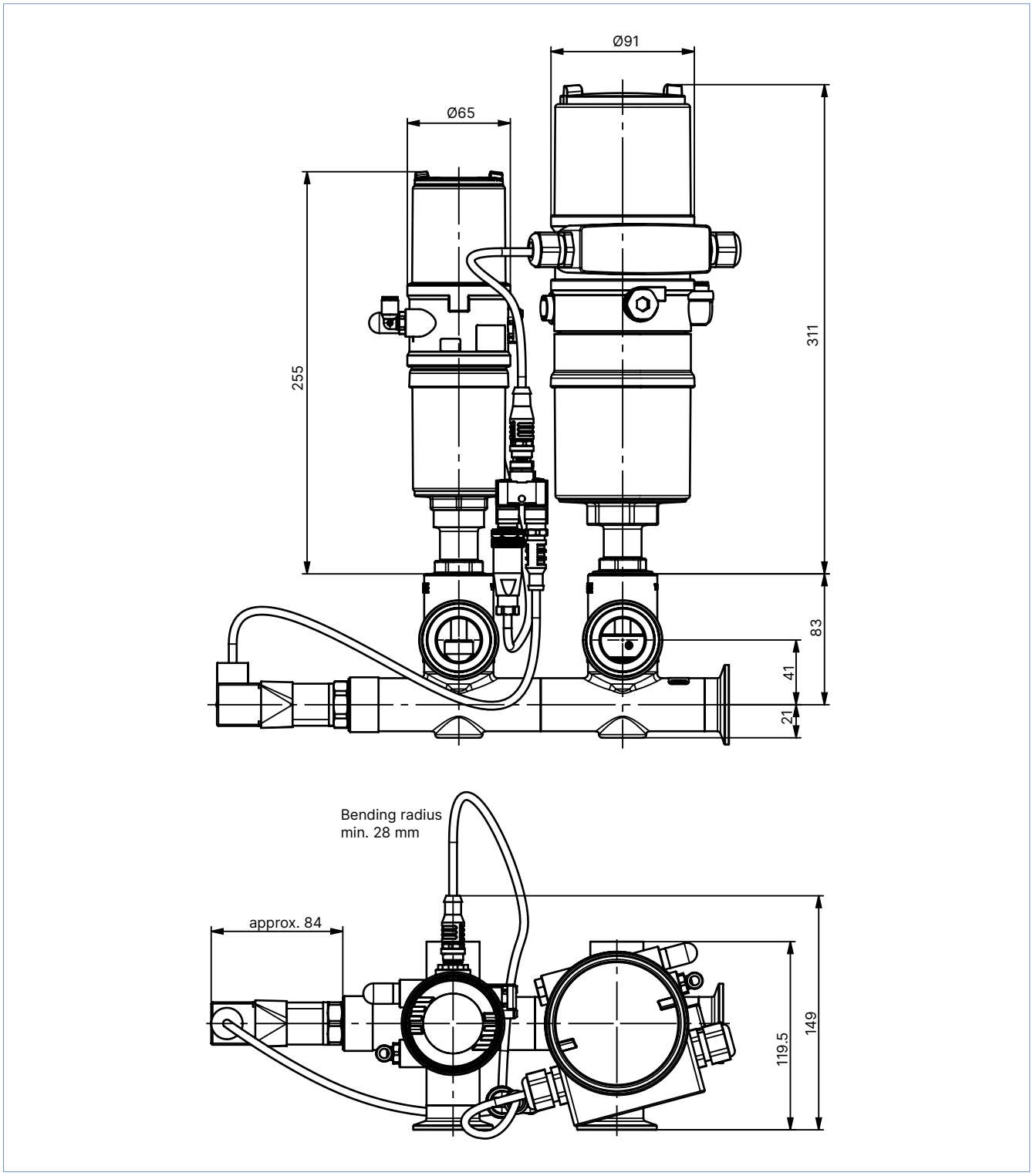
5.2. Variant with welded solution, overview (PW)

Note:
Dimensions in mm



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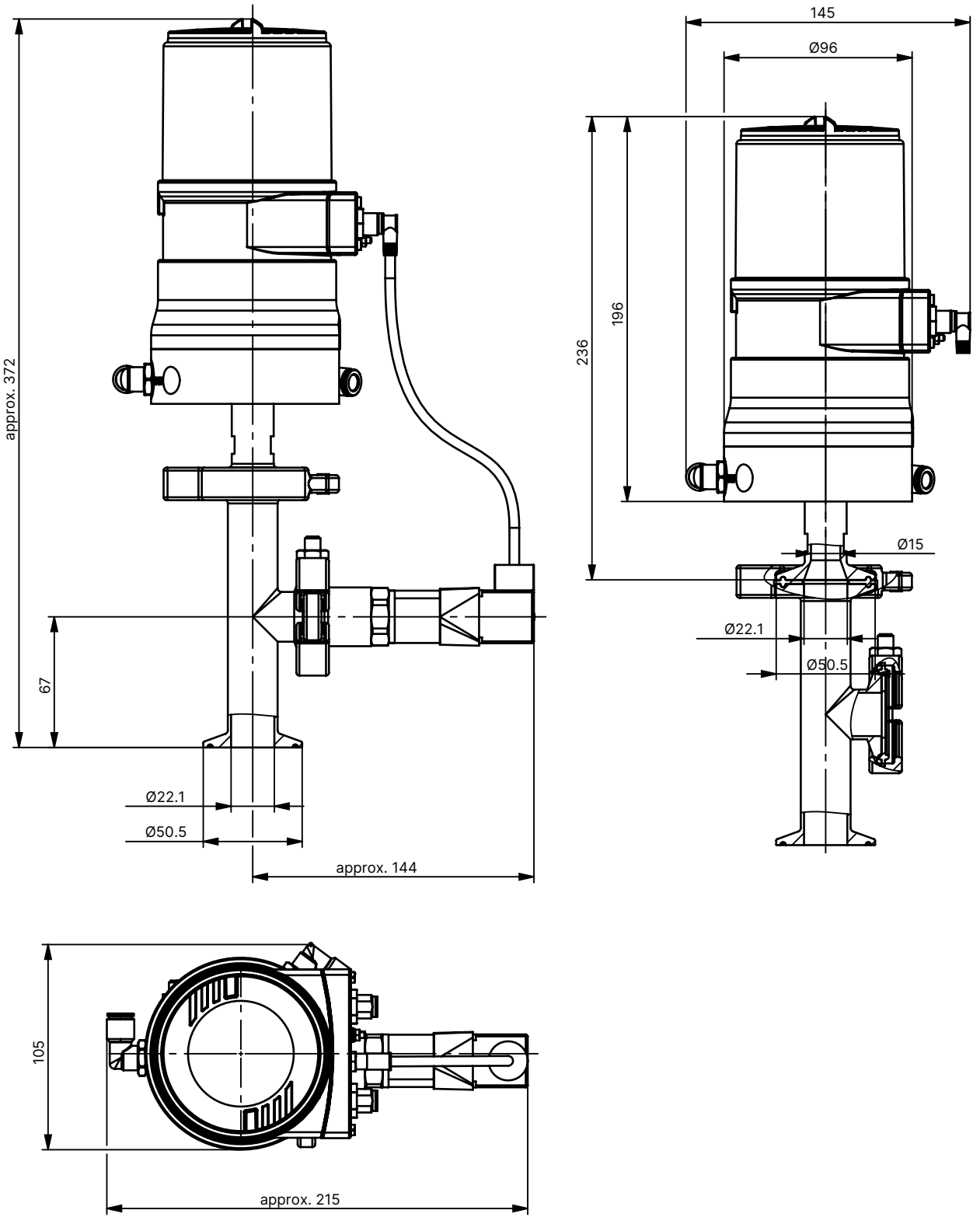
5.3. Variant with solenoid valve solution, overview (PS)

Note:
Dimensions in mm



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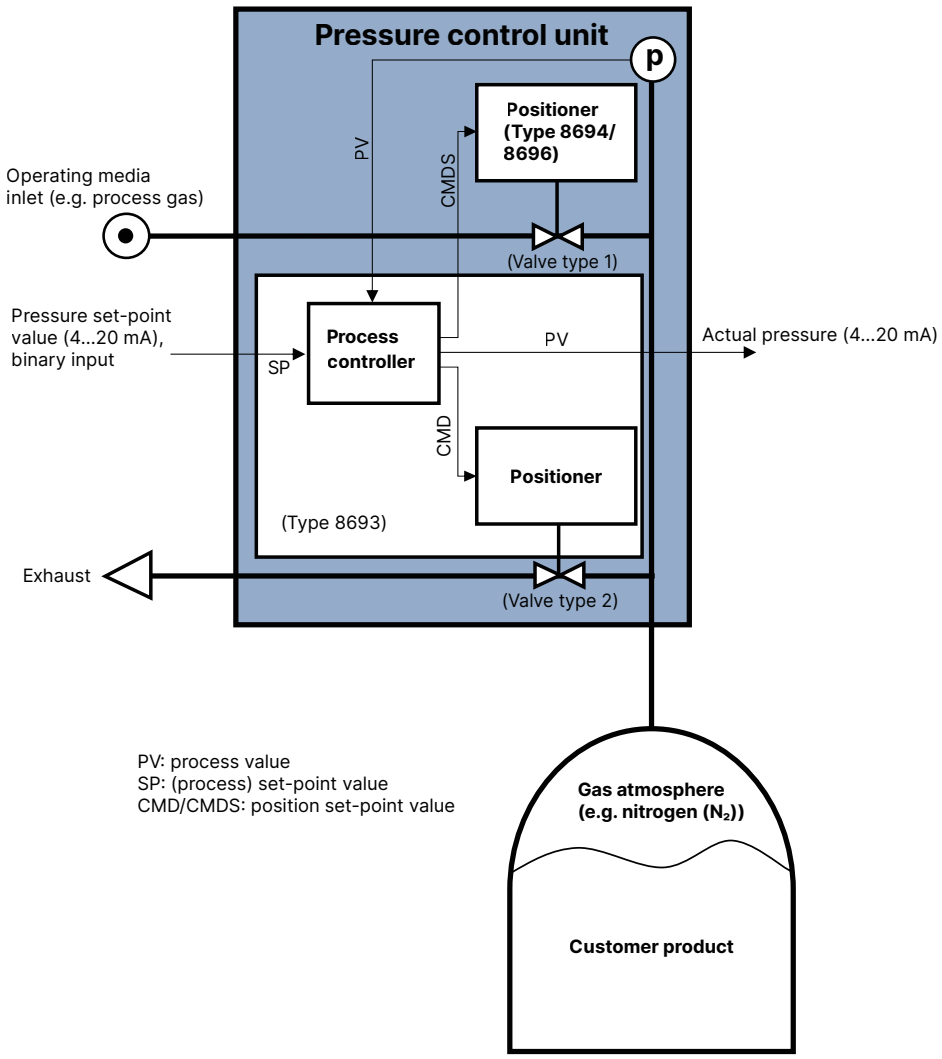
6. Product operation

6.1. PB, PT and PW variants

Note:
The following scheme shows the system's main components, the fluidic principle and the controller connections.



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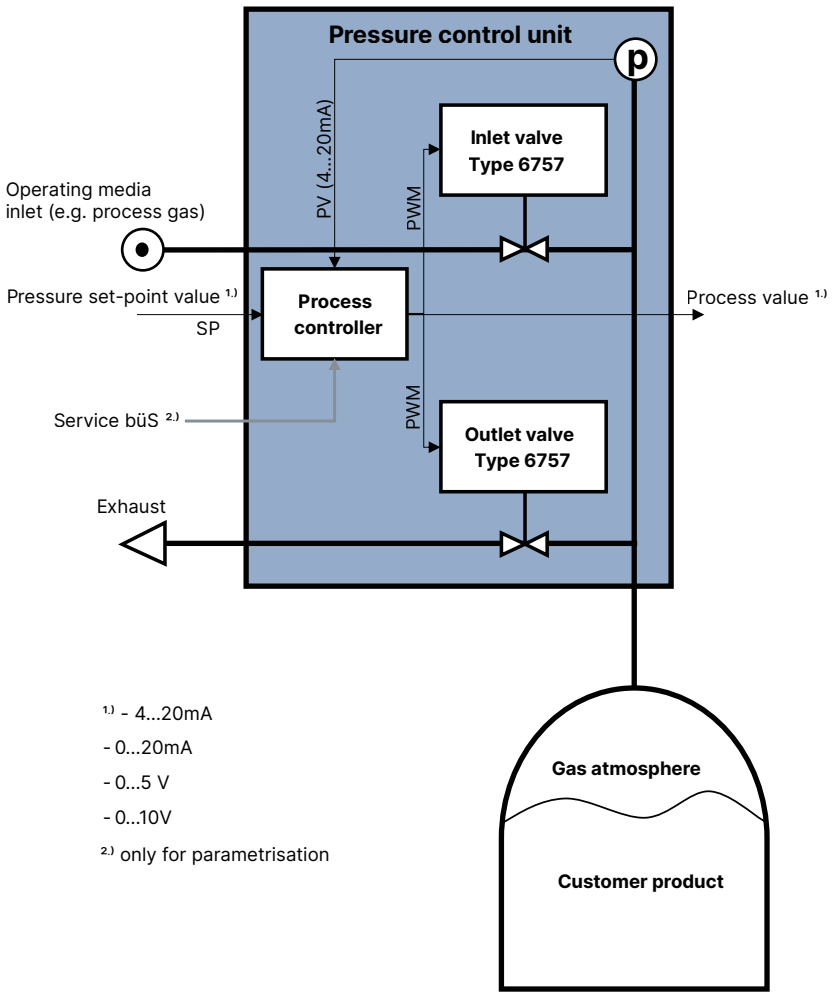
6.2. PS variant

Note:
The following scheme shows the system's main components, the fluidic principle and the controller connections.



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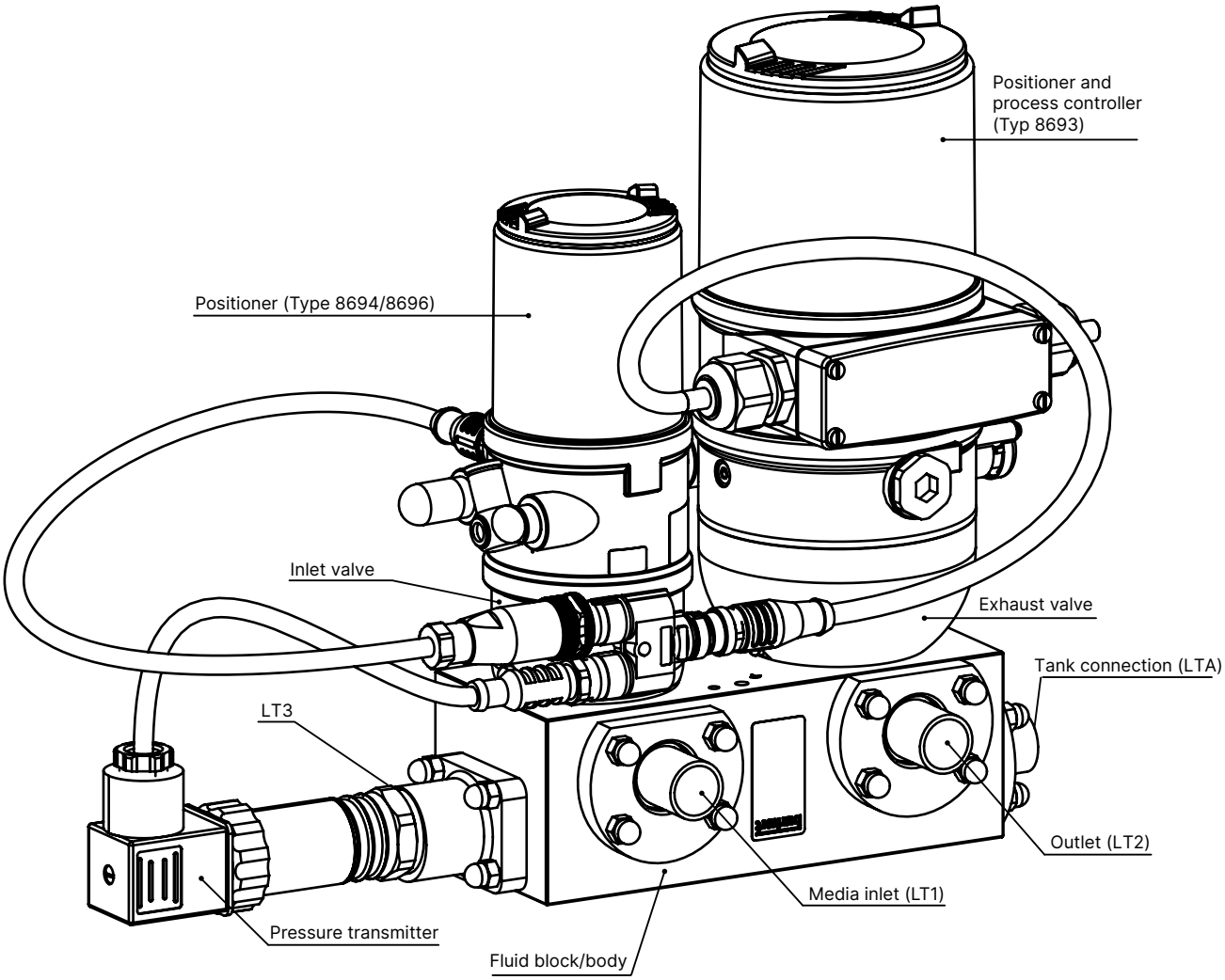
7. Product design and assembly

7.1. Variant with block solution (PB)



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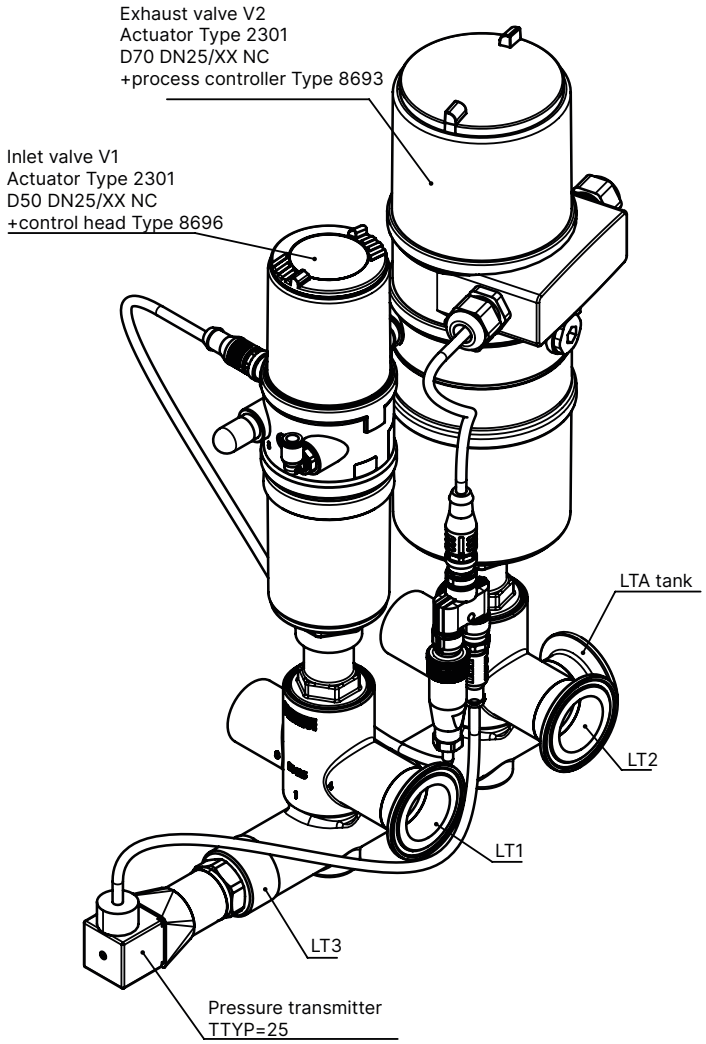
7.2. Variant with welded solution (PW)



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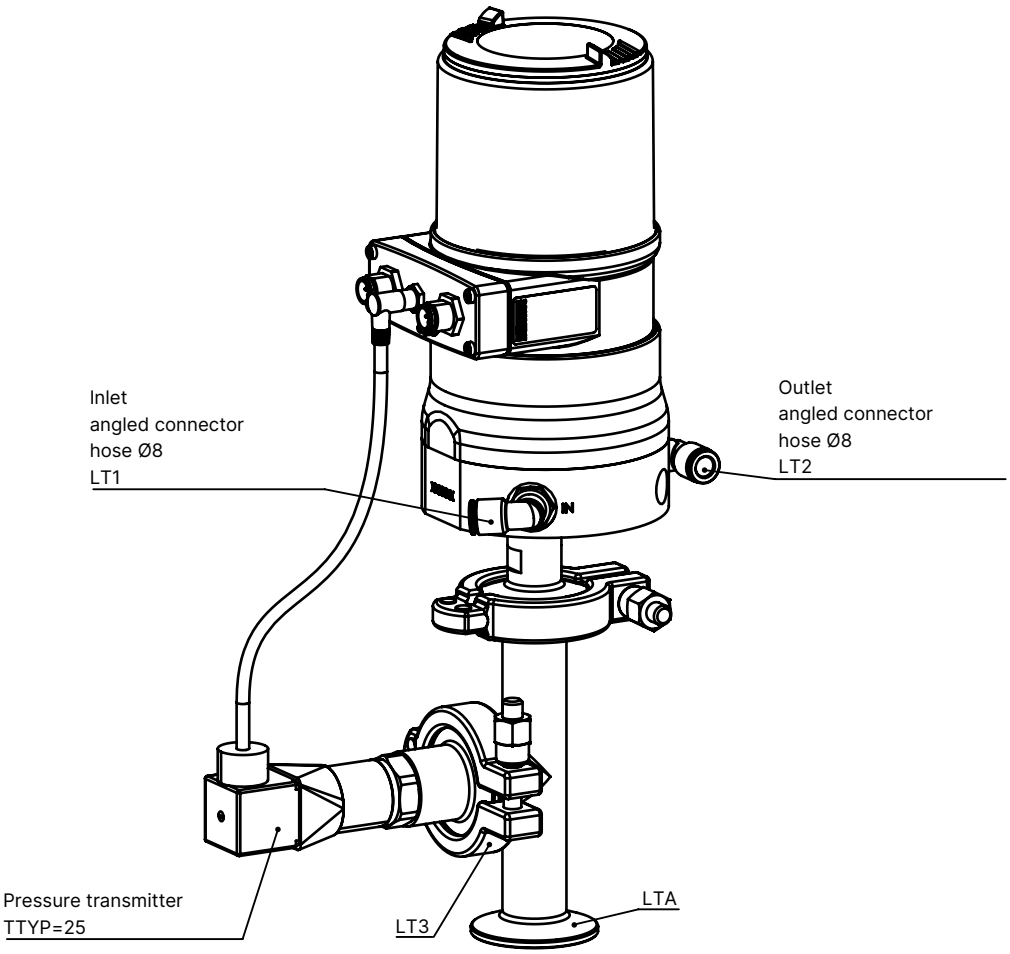
7.3. Variant with solenoid valve solution (PS)



8. Ordering information

8.1. 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

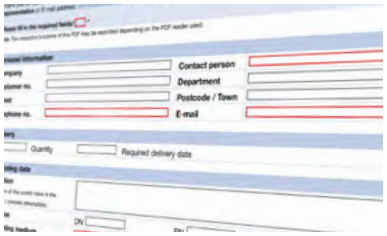
8.2. Bürkert product filter

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

8.3. 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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