



Modular process valve cluster – distributor and collector

- Valve cluster ready for installation
- Compact design without any potential leakage
- No assembly effort
- No piping between the valves needed
- Trusted actuators for simple automation

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

Can be combined with

	Type 8647 AirLINE SP – electropneumatic automation system	▶
	Type 8697 Pneumatic control unit for decentralised automation of process valves ELEMENT	▶
	Type 8691 Control head for decentralised automation of ELEMENT process valves	▶
	Type 8695 Control head for decentralised automation of ELEMENT process valves	▶
	Type 2000 Pneumatically operated 2/2-way angle seat valve CLASSIC	▶
	Type 2100 Pneumatically operated 2/2-way angle seat valve ELEMENT for decentralized automation	▶
	Type 2060 Pneumatically operated 2/2-way angle seat valve with stainless steel actuator	▶

Type description

Type 8840 comes with ready to install modules of tried and tested Bürkert process valves. The valve cluster, based on a modular valve body, allows different configurations. The individual parts are joined hermetically tight and in a very compact way. No installation effort for pipework, fittings or sealings is needed. For the sizes DN 20 (¾") and DN 25 (1") orbital welding is used. The smaller variants in DN 10 are threaded together using trusted graphite seals. To avoid dangerous water hammer, all valves have the flow direction below the seat. This is made possible by the two variants for the fluidic main function distribution and collecting, mixing or feed.

Depending on the requirement and preferred type of automation, it is possible to choose from different actuator variants. The robust CLASSIC actuators (in stainless steel or plastic) are controlled by a central valve island or by a pilot valve.

The proven ELEMENT actuators allow a simple decentralized automation by using intelligent control heads. Furthermore it is possible to expand the system by using continuous control valves, sensors, customer specific pipework or further accessories.

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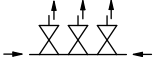
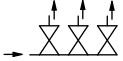
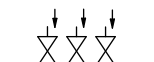
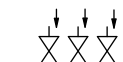
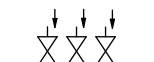
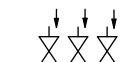
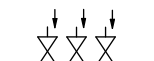
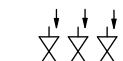
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Modular process valve cluster collector	20

1. General technical data

1.1. Modular process valve cluster Type 8840

Product properties	
Dimensions	Further information can be found in chapter “4. Dimensions” on page 9.
Material	
Housing	Precision cast stainless steel 316L (CF3M)
Actuator	
INOX DN 10	Stainless steel (on request)
CLASSIC DN 20, DN 25	PA (PPS on request)
ELEMENT DN 20, DN 25	Actuator: PPS, cover: stainless steel 1.4561 (316Ti)
Seal	PTFE
Packing gland	PTFE seal with spring compensation
Nominal diameter (port connection)	DN 10 (threaded) DN 20, DN 25 (welded)
Control function	CF A (closed by spring force) CF B (opened by spring force) on request
Number of valve positions	
DN 10 (threaded)	2...9 (clusters with larger number of valves on request)
DN 20, DN 25 (welded)	2...5 (clusters with larger number of valves on request)
Performance data	
Nominal pressure	PN 25 (housing)
Pilot pressure	Max. 10 bar
Medium data	
Medium	Steam, water, neutral gases, alcohols, oils, fuels, hydraulic fluids, salt solutions, alkalis and organic solvents
Medium temperature	- 10...+ 180 °C
Viscosity	Max. 600 mm ² /s
Control medium	Neutral gases, air
Process/Port connection & communication	
Port connection	
Threaded connection	G 3/8...G 1, NPT 3/8...NPT 1
Welded connection	ISO 4200 (on request)
Clamp connection	DIN 32676 series B (on request)
Pilot air ports	
INOX DN 10	Female elbow fitting (hose Ø 4)
CLASSIC DN 20, DN 25	G 1/4
ELEMENT DN 20, DN 25	Push-in connector 6/4
Approvals and conformities	
Further information can be found in chapter “2. Approvals and conformities” on page 6.	
Environment and installation	
Ambient temperature	
INOX DN 10	0...+ 60 °C
CLASSIC DN 20, DN 25	- 10...+ 60 °C (PA actuator) + 5...+ 140 °C (PPS actuator)
ELEMENT DN 20, DN 25	0...+ 60 °C

1.2. Description of application

Function	Description of application	DN 10 depiction		DN 15, DN 20, DN 25 depiction	
Distributor 	Distributing: The valve block distributes the medium originating from an inlet to several consumers.				
	Collector: A medium originating from several consumers can be collected.				
	Mixing: Various mediums, e.g. hot and cold water or a range of chemicals, can be mixed.				
	Feeding: Various mediums, e.g. a range of cleaning media, can be supplied to a consumer alternately.				

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1.3. Actuator version

Note:

- K_v value [m³/h]: Measured with water at + 20 °C, 1 bar pressure at valve inlet and free outlet
- Pressure data [bar]: Overpressure to atmospheric pressure

Actuator version	Nominal diameter (port connection)	Actuator size Ø	K_v value water	Pilot pressure min.	Operating pressure max. + 180 °C	
	[mm]	[mm]	[m³/h] ¹⁾	CF A [bar]	CF A [bar]	CF B [bar]
	10	32 (B)	2.1	5.5	16	16
	20	50 (D)	6.8	3.9	11	16
	25	63 (E)	11.5	4.2	11	16
	20	50 (D)	6.8	5.2	16	16
	25	70 (M)	12.1	5.0	16	16

1.) Maximum K_v value of a valve slot. The value may drop when several valve slots are actuated simultaneously.

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 versions 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																
 	Optional: Explosion protection As a category 2 device suitable for zone 1/21 and zone 2/22 (optional). ATEX: EPS 18 ATEX 2 008 X II 2G Ex h IIC T4...T2 Gb II 2D Ex h IIIC T135 °C...T300 °C Db IECEx: IECEx EPS 18.0007 X Ex h IIC T4...T2 Gb Ex h IIIC T135 °C...T300 °C Db <table><tr><td>Temperature class</td><td>T2</td><td>T3</td><td>T4</td></tr><tr><td>Permissible surface temperature</td><td>+ 300 °C</td><td>+ 200 °C</td><td>+ 135 °C</td></tr><tr><td>Ambient temperature</td><td>- 40...+ 130 °C</td><td>- 40...+ 130 °C</td><td>- 40...+ 100 °C</td></tr><tr><td>Maximum medium temperature</td><td>+ 285 °C</td><td>+ 185 °C</td><td>+ 125 °C</td></tr></table>	Temperature class	T2	T3	T4	Permissible surface temperature	+ 300 °C	+ 200 °C	+ 135 °C	Ambient temperature	- 40...+ 130 °C	- 40...+ 130 °C	- 40...+ 100 °C	Maximum medium temperature	+ 285 °C	+ 185 °C	+ 125 °C
Temperature class	T2	T3	T4														
Permissible surface temperature	+ 300 °C	+ 200 °C	+ 135 °C														
Ambient temperature	- 40...+ 130 °C	- 40...+ 130 °C	- 40...+ 100 °C														
Maximum medium temperature	+ 285 °C	+ 185 °C	+ 125 °C														

2.5. Foods and beverages/Hygiene

Approval	Description
FDA	FDA – Code of Federal Regulations (valid for the 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.
	EC Regulation 1935/2004 of the European Parliament and of the Council (valid for the variable code PL01, PL02) All wetted materials are compliant with EC Regulation 1935/2004/EC according to the manufacturer's declaration.

3. Materials

3.1. Bürkert resistApp



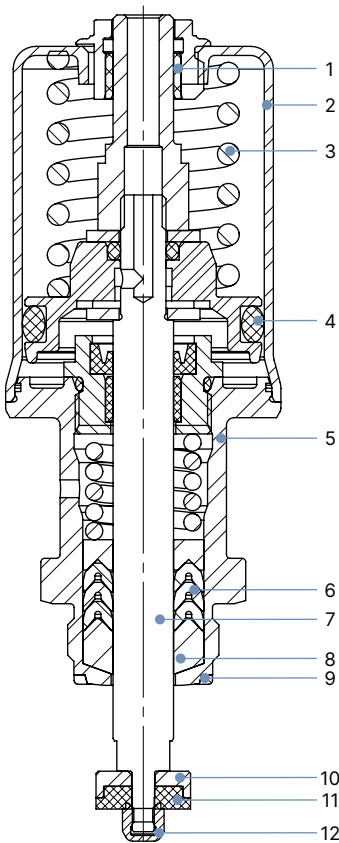
Bürkert resistApp – Chemical resistance chart

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](#)

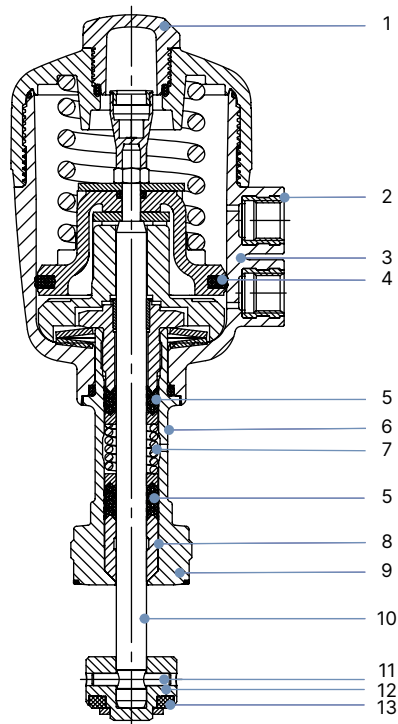
3.2. Material specifications

Actuator size 32 (B)



No.	Element	Material
1	Optical position indicator/Pilot air ports	Stainless steel 1.4104 Thread M5
2	Actuator cover	Stainless steel 1.4404
3	Spring	1.4310
4	Piston seal	FPM
5	Pipe	Stainless steel 1.4404
6	Spindle seal	PTFE V-Rings (filled) with spring compensation
7	Spindle	Stainless steel 1.4404
8	Wiper	PTFE (filled)
9	Body seal	Graphite
10	Seal holder	Stainless steel 1.4404
11	Seat seal	PTFE
12	Dome nut	Stainless steel 1.4404

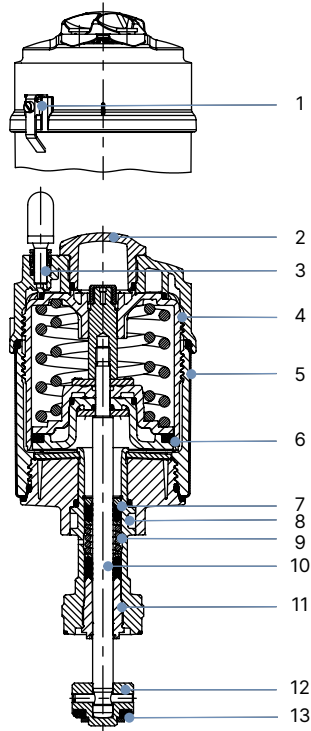
CLASSIC actuator DN 20, DN 25



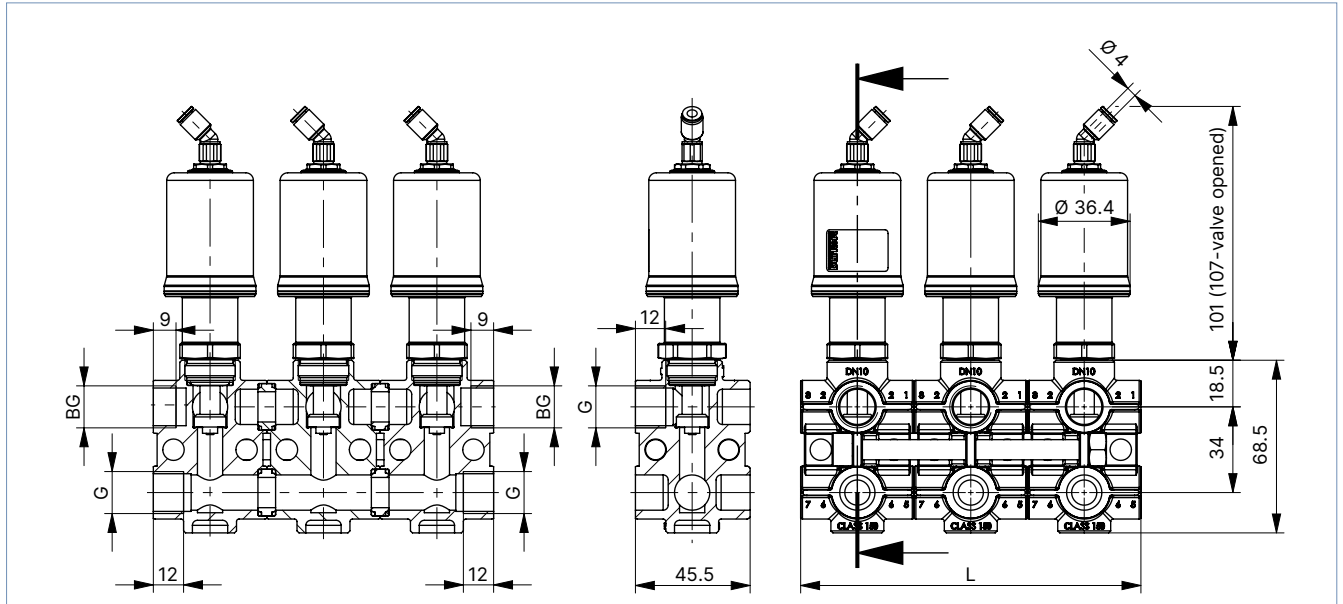
No.	Element	Material
1	Transparent cap	PC (with PPS actuator: PSU)
2	Pilot air ports	Stainless steel 1.4305
3	Actuator	PA (PPS on request)
4	Piston seal	NBR (with PPS actuator: FKM)
5	Spindle seal	PTFE (FKM on request)
6	Pipe	Stainless steel 1.4404/316L ¹⁾
7	Spring	Stainless steel 1.4310
8	Wiper	PTFE
9	Nippel ²⁾	Stainless steel 1.4404/316L ¹⁾
10	Spindle	Stainless steel 1.4401
11	Pin	Stainless steel 1.4401
12	Swivel plate	Stainless steel 1.4401
13	Seal	PTFE (NBR, FKM, EPDM on request)

1) For actuator size 63 mm (E)

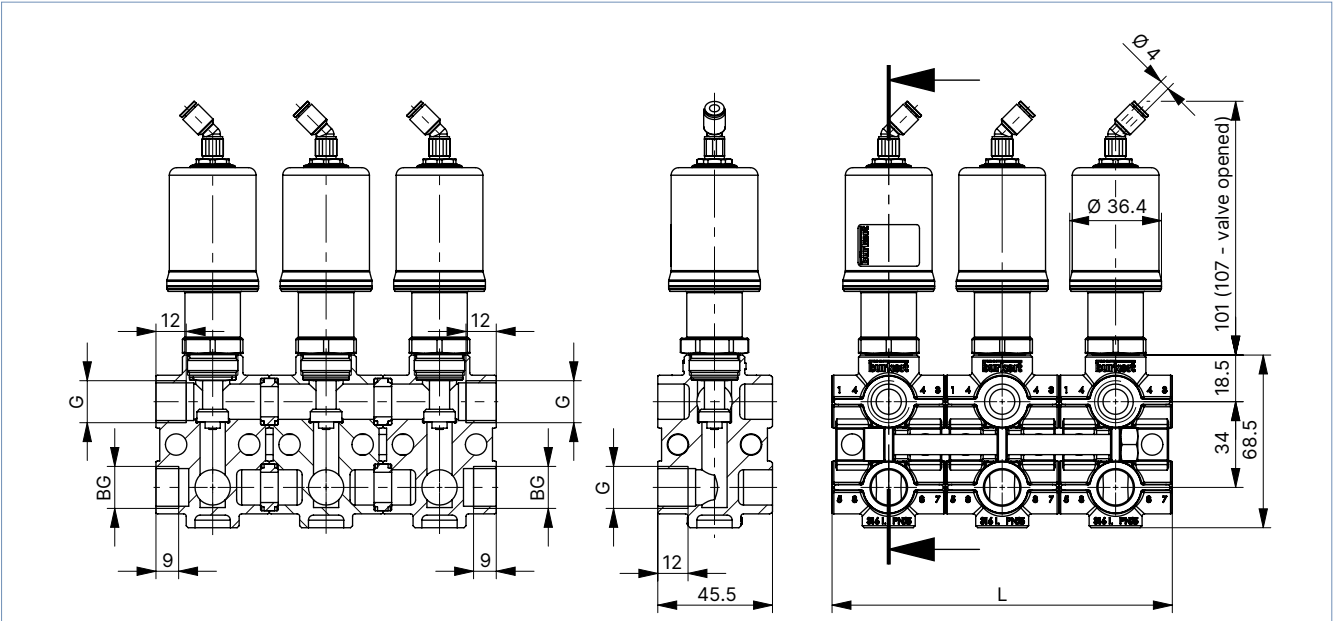
ELEMENT actuator DN 20, DN 25



No.	Element	Material
1	Ground terminal	Stainless steel 1.4301/1.4305 only for ATEX variant
2	Transparent cap	PSU
3	Pilot air ports	Push-in connector: PP (standard) (Thread G 1/8: stainless steel on request)
4	Actuator	PPS
5	Cover	Stainless steel 1.4561 (316Ti)
6	Piston seal	FKM
7	Spring	Stainless steel 1.4310
8	Pipe	Stainless steel 1.4401 (316)/1.4404 (316L)
9	Spindle seal	PTFE
10	Spindle	Stainless steel 1.4401 (316)/1.4404 (316L)
11	Spindle guide	PEEK
12	Swivel plate	Stainless steel 1.4401 (316)/1.4404 (316L)
13	Seal	PTFE

Distributor

Collector



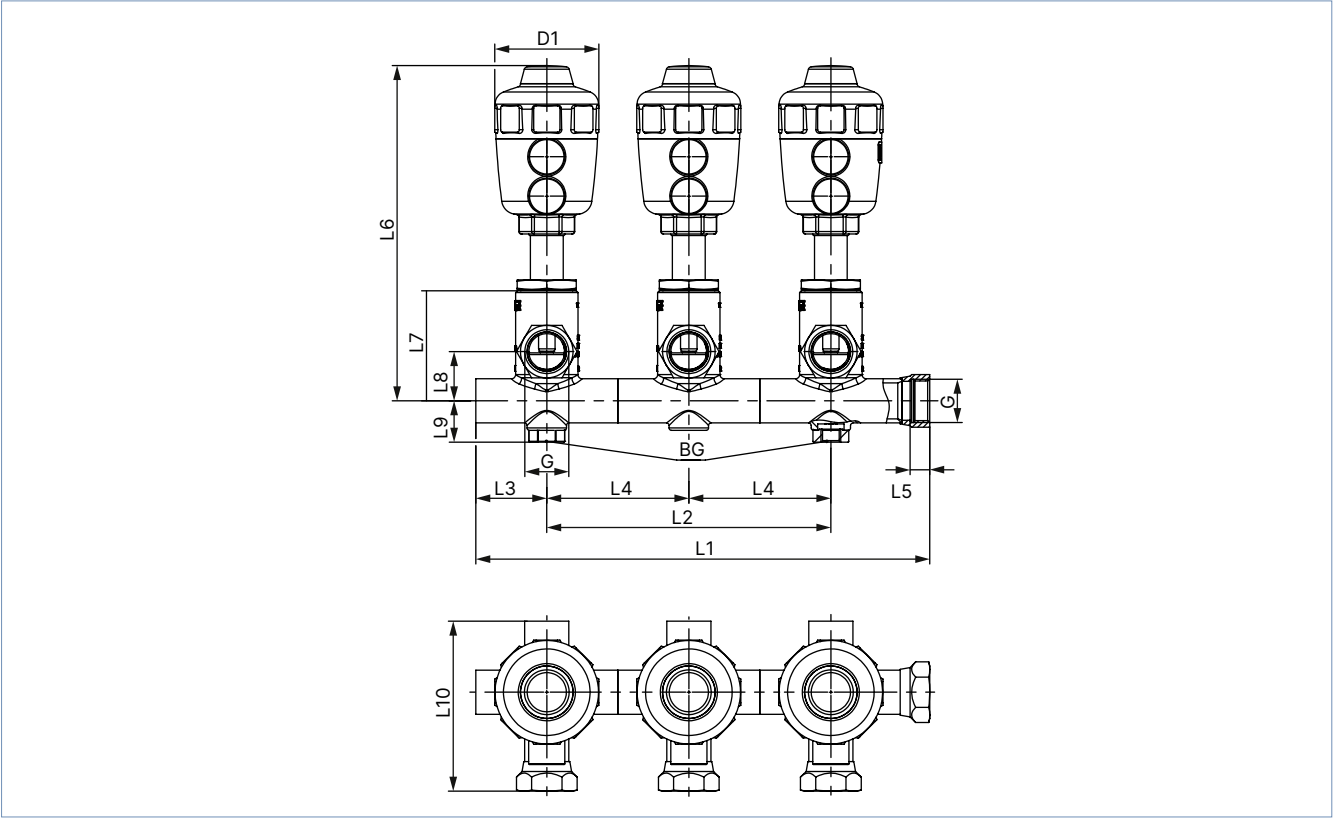
DN [mm]	Actuator size Ø [mm]	Thread G	Thread BG ^{1.)}	Number of valves	L [mm]
10	32 (B)	G 3/8 or NPT 3/8	G 3/8 or NPT 3/8	2	90
10	32 (B)	G 3/8 or NPT 3/8	G 3/8 or NPT 3/8	3	135
10	32 (B)	G 3/8 or NPT 3/8	G 3/8 or NPT 3/8	4	180
10	32 (B)	G 3/8 or NPT 3/8	G 3/8 or NPT 3/8	5	225
10	32 (B)	G 3/8 or NPT 3/8	G 3/8 or NPT 3/8	6	270
10	32 (B)	G 3/8 or NPT 3/8	G 3/8 or NPT 3/8	7	315
10	32 (B)	G 3/8 or NPT 3/8	G 3/8 or NPT 3/8	8	360
10	32 (B)	G 3/8 or NPT 3/8	G 3/8 or NPT 3/8	9	405

1.) Threads can be used to attach the valve block, e.g. to a mounting plate or a frame.

4.2. CLASSIC actuator DN 20, DN 25

Note:
Dimensions in mm

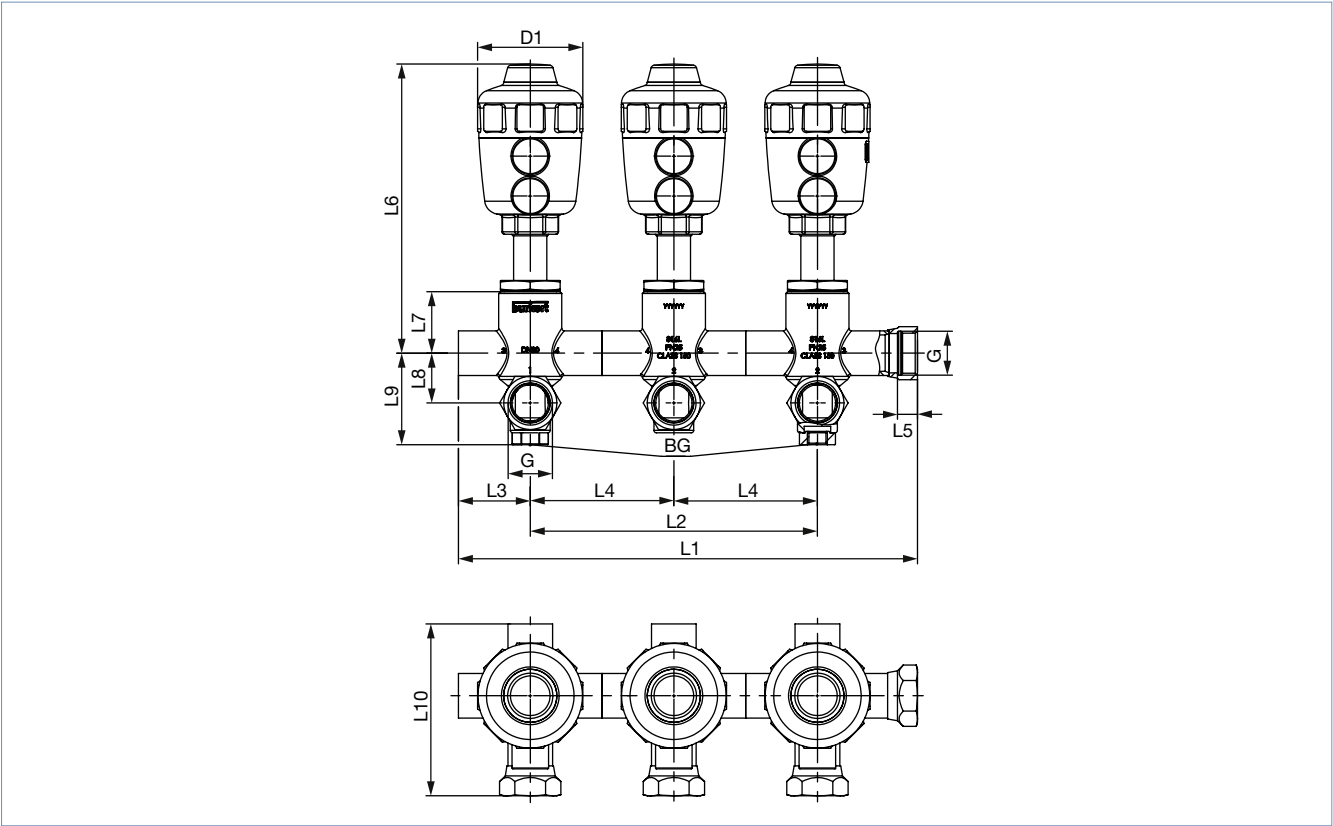
Distributor



DN	Actuator size Ø	Thread G	Thread BG ¹⁾	Number of valves	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	D1
[mm]	[mm]														
20	50 (D)	G ¾ or NPT ¾	M12/8 deep	2	190	86.5	43.3	86.5	12	205	67	30	25	104	63
				3	277	173									
				4	363	259.5									
				5	450	346									
25	63 (E)	G 1 or NPT 1	M16/13 deep	2	228	104	52	104	14	253	83	41	32	124	80
				3	332	208									
				4	436	312									
				5	540	416									

1.) Threads can only be used to attach the valve block, e.g. to a mounting plate or a frame.

Collector



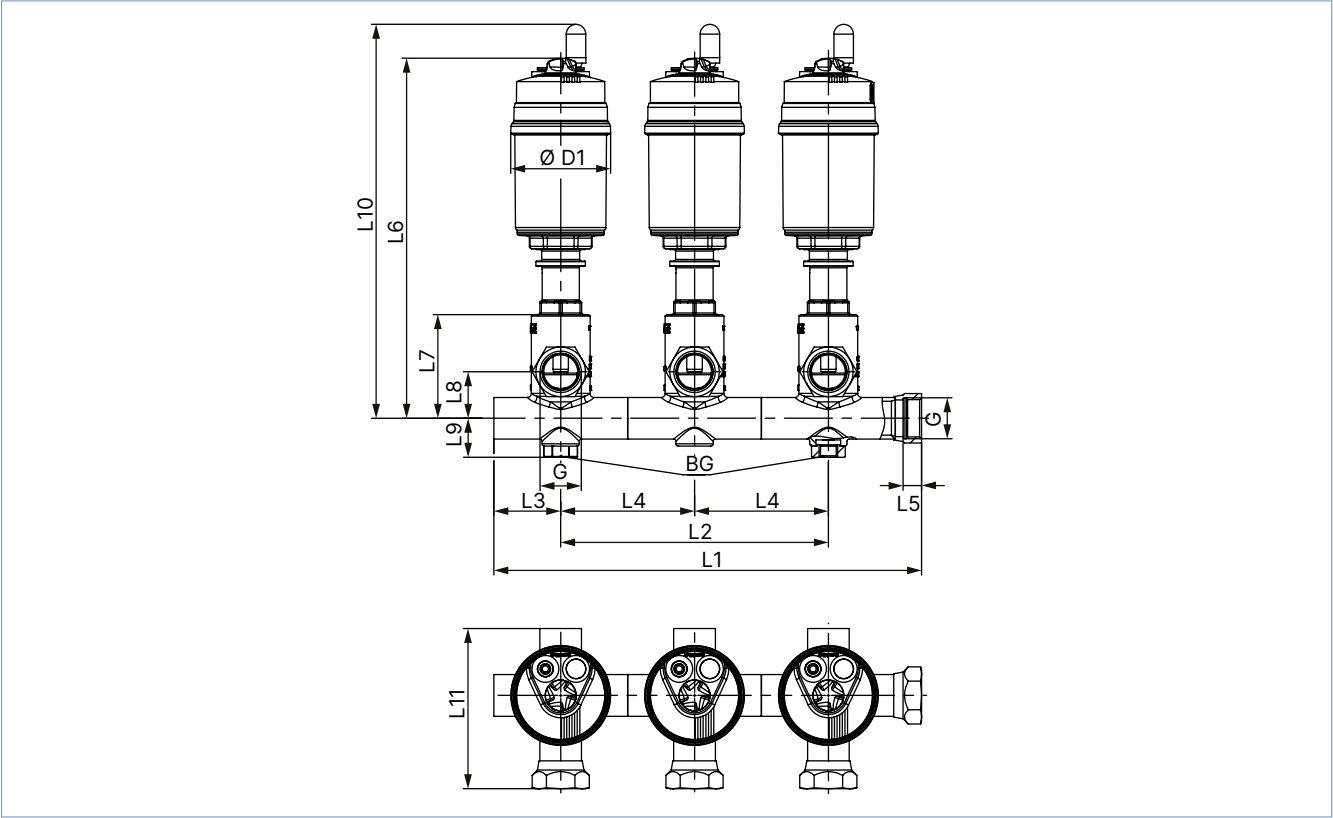
DN	Actuator size Ø	Thread G	Thread BG ^{1.)}	Number of valves	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	D1
[mm]	[mm]														
20	50 (D)	G ¾ or NPT ¾	M12/8 deep	2	190	86.5	43.3	86.5	12	175	37	30	55	104	63
				3	277	173									
				4	363	259.5									
				5	450	346									
25	63 (E)	G 1 or NPT 1	M16/13 deep	2	228	104	52	104	14	212	42	41	73	124	80
				3	332	208									
				4	436	312									
				5	540	416									

1.) Threads can only be used to attach the valve block, e.g. to a mounting plate or a frame.

4.3. ELEMENT actuator DN 20, DN 25

Note:
Dimensions in mm

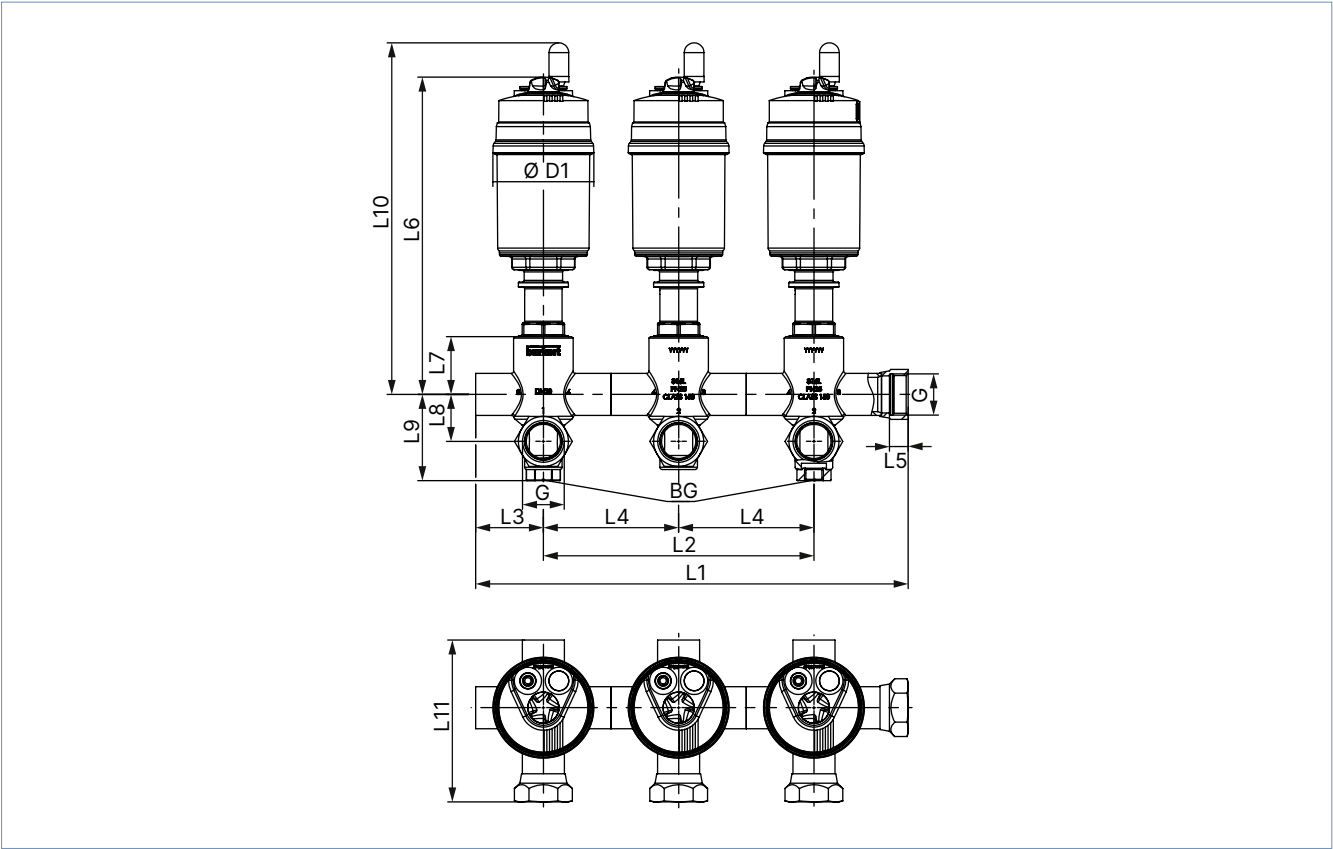
Distributor



DN	Actuator size Ø	Thread G	Thread BG ¹⁾	Number of valves	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	D1	D1
[mm]	[mm]															
20	50 (D)	G ¾ or NPT ¾	M12/8 deep	2	190	86.5	43.3	86.5	12	233	67	30	25	255	104	65
				3	277	173										
				4	363	259.5										
				5	450	346										
25	63 (E)	G 1 or NPT 1	M16/13 deep	2	228	104	52	104	14	261	83	41	32	281	124	91
				3	332	208										
				4	436	312										
				5	540	416										

1.) Threads can only be used to attach the valve block, e.g. to a mounting plate or a frame.

Collector



DN	Actuator size Ø	Thread G	Thread BG ¹⁾	Number of valves	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	D1	D1
[mm]	[mm]															
20	50 (D)	G ¾ or NPT ¾	M12/8 deep	2	190	86.5	43.3	86.5	12	203	37	30	55	225	104	65
				3	277	173										
				4	363	259.5										
				5	450	346										
25	63 (E)	G 1 or NPT 1	M16/13 deep	2	228	104	52	104	14	220	42	41	73	240	124	91
				3	332	208										
				4	436	312										
				5	540	416										

1.) Threads can only be used to attach the valve block, e.g. to a mounting plate or a frame.

5. Product design and assembly

5.1. Application examples

Valve system	Description of application
	Distributing gas in the pharmaceutical and food industries Controlling and regulating process gas (e.g. CO₂ and N₂) for: • Pneumatic conveyance • Inertisation • Preservation • Flushing • ...
	Cleaning processes in the pharmaceutical and food industries Distributing cleaning media and water for: • Keg and cask cleaning • Filling and packaging machines • Grinding and crushing systems • Container cleaning • ...
 	Controlling temperature in industrial processes Controlling and regulating temperature control processes for: • Injection moulding machines • Die-casting machines • Temperature control devices • Tools for carbon fibre-reinforced components • ...
 	

6. Product accessories

Electrical position indicator	
Control head	
Type 8691 ▶ Actuator size Ø 70 mm	
	The control heads Type 8691 and Type 8695 are optimised for integrated mounting on process valves of the 21XX series. The valve position is detected without contact via an analogue sensor element. The sensor element automatically detects and stores the valve end positions during commissioning using the teach function. The integrated pilot valve controls single-acting or double-acting actuators. The valve switching status is indicated by coloured high-performance LEDs. Features • Status indication via coloured high-performance LEDs • Wear-free inductive position sensor • Pilot valve with manual override • Teach function for automatic recognition of valve end positions • Hygienic stainless steel design • Easy-to-clean, chemically resistant housing according to IP65/67, 4X rating • AS-Interface, IO-Link, Bürkert system bus (bÜS)
Type 8695 ▶ Actuator size Ø 50 mm	
	Customer benefits • Simple and safe commissioning using the teach function • Easy process monitoring and fault detection through visible coloured high-performance LEDs • High degree of system availability due to increased actuator service life by means of spring chamber ventilation • Minimal space requirement in plant piping for more flexibility in plant design
Pneumatic control unit/position feedback	
Type 8690 ▶ Actuator size Ø 70 mm	
	The pneumatic control units Type 8690 and 8697 are optimised for integrated mounting on process valves of the 21XX series. Mechanical or inductive limit switches detect the valve position. The integrated pilot valve controls single-acting or double-acting (Type 8690) actuators. Features • Optical position indicator • Mechanical or inductive proximity switches for end position detection • Pilot valve with manual override • Compact design • Easy-to-clean, chemically resistant housing according to IP65/67, 4X rating • Optionally intrinsically safe design according to ATEX/IECEx
Type 8697 ▶ Actuator size Ø 50 mm	
	Customer benefits • Simple and safe commissioning using the teach function (Type 8697) • Signal reliability due to the automatic adjustment of the limit switches • Minimal space requirement in plant piping for more flexibility in plant design

7. Networking and combination with other Bürkert products

7.1. Modular platform for process control and regulation

Combination options based on Type 8840

Note:

Individual customer solutions available on request

Type 8840 enables Bürkert to provide quickly and efficiently all common valve assemblies for distributing and collecting functions already in the pre-configured state (for other possible variations, see **"4. Dimensions" on page 9**). Furthermore, individual customer solutions are available on request. Thanks to the modular platform for process control and regulation, various application-specific requirements can be met.

The modular platform for process control and regulations also enables every combination option when selecting the actuator, control and measuring principle and the fluid functions:

Actuator variations: Electromotive, pneumatic, manual

Control, regulation principle: On/Off, continuous

Sensor variations: Temperature, pressure, flow rate

Irrespective of whether the system is to be actuated by an electric motor, pneumatically or manually, Bürkert offers the ideal actuator and control/regulation principle for every requirement. Moreover, the ideal measuring principle can be selected from the extensive sensor range for measuring temperature, pressure and flow rate. They guarantee reliable measurement values and can be easily integrated into the system.

Besides the standard distributing and collecting functions, specified fluid combinations can be achieved.

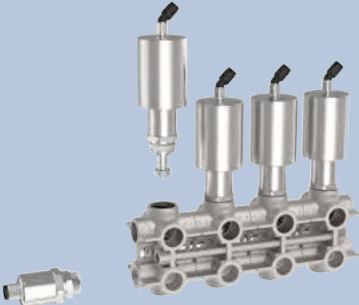
Example 1



Example 2

Actuator variants				
				
Pneumatic INOX		Manual		
+				
Housing				
				
+				
Sensor variants				
				
Flow (ultrasound)	Flow (paddle wheel)	Pressure	Temperature	Temperature (detector/transmitter)

System



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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

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](#)

8.4. Ordering chart

Modular process valve cluster collector

Note:

Other versions are available on request.

Actuator version	Nominal diameter (port connection)	Threaded connection	Actuator size Ø	Pilot pressure min.	Operating pressure max. + 180 °C	Number of valves	Article no.
			[mm]	[bar]	[bar]		
G-threaded connection							
	20	G ¾	50 (D)	3.9	11	2	283906 
						3	283908 
						4	283909 
						5	283910 
	25	G 1	63 (E)	4.2	11	2	283941 
						3	283942 
						4	283943 
						5	283944 
	20	G ¾	50 (D)	5.2	16	2	283911 
						3	283912 
						4	283913 
						5	283914 
	25	G 1	70 (M)	5.0	16	2	283945 
						3	283946 
						4	283947 
						5	283948 
NPT-threaded connection							
	20	NPT ¾	50 (D)	3.9	11	2	283915 
						3	283916 
						4	283917 
						5	283918 
	25	NPT 1	63 (E)	4.2	11	2	283949 
						3	283950 
						4	283951 
						5	283952 
	20	NPT ¾	50 (D)	5.2	16	2	283919 
						3	283920 
						4	283922 
						5	283923 
	25	NPT 1	70 (M)	5.0	16	2	283953 
						3	283954 
						4	283955 
						5	283956

G-threaded connection							
	20	G 3/4	50 (D)	3.9	11	2	283924 
						3	283925 
						4	283926 
						5	283927 
	25	G 1	63 (E)	4.2	11	2	283958 
						3	283960 
						4	283961 
						5	283962 
	20	G 3/4	50 (D)	5.2	16	2	283928 
						3	283929 
						4	283930 
						5	283931 
	25	G 1	70 (M)	5.0	16	2	283963 
						3	283964 
						4	283965 
						5	283966 
NPT-threaded connection							
	20	NPT 3/4	50 (D)	3.9	11	2	283932 
						3	283933 
						4	283934 
						5	283935 
	25	NPT 1	63 (E)	4.2	11	2	283968 
						3	283969 
						4	283971 
						5	283972 
	20	NPT 3/4	50 (D)	5.2	16	2	283936 
						3	283937 
						4	283938 
						5	283939 
	25	NPT 1	70 (M)	5.0	16	2	283973 
						3	283974 
						4	283975 
						5	283976 

Further versions on request

	Material Seal between body and actuator PTFE (FDA-compliant version)		Nominal diameter DN 10 threaded, DN 15 welded
	Process connection Weld end according to ISO 4200, clamp according to DIN 32676/Series B		