



2/2-way Diaphragm Valve with stainless steel design, weld end or clamp connection, DN 8-50

- Hermetical separation of fluids from the operating mechanism by diaphragm
- Zero dead volume
- Various surface finishes
- Certified according to **FDA**
- Clean design for optimal use in hygienic environment

Type 2103 forged continuous can be combined with...



Type 8692/8693
Positioner / Process Controller TopControl



Type 8694
Positioner TopControl Basic



Type 8696
TopControl Basic



Type 8792/93
SideControl Remote versions



Type 8645
Automation system FreeLINE



Type 8110
Level sensor

The externally piloted diaphragm valve consists of a pneumatically operated piston actuator, a diaphragm and a 2-way valve housing made of forged stainless steel. The high-quality actuator with a stainless steel cover is designed for usage in hygienic or aggressive environments.

The flow optimised and zero dead volume valve body makes high flow rates possible and a variety of applications to be realised.

The design enables the easy integration of automation modules whether they are electrical/optical position feedback, pneumatic control units, an integrated fieldbus interface or even an explosion proof feedback.

The fully integrated system has a compact and smooth design, integrated pneumatic lines, IP65/67/NEMA4X protection class and superior chemical resistance.

1) Advanced PTFE/EPDM is recommended for sterilization cycle

Technical data	
Orifice	DN 8 to 50
Body material	Forged stainless steel 316L / 1.4435/BN2 Fe < 0.5% / C ≤ 0.03%
Actuator material	Actuator: PPS Cover: Stainless steel 1.4561 (316Ti)
Diaphragm materials	EPDM, PTFE/EPDM (advanced PTFE/EPDM, FKM on request)
Medium	For neutral gases and liquids, high purity, sterile, aggressive or abrasive fluids
Viscosity	Up to viscous
Surface finish	(average surface finish)
internal mechanical polished (external forged surface)	Ra ≤ 0.6 µm
internal electro polished (external forged surface electro polished)	Ra ≤ 0.4 µm
internal mirror finished	Ra ≤ 0.25 µm (on request)
Medium temperature	EPDM, PTFE/EPDM, advanced PTFE/EPDM (on request) ¹⁾ FKM on request
	-10 to +130 °C (briefly up to +150°C for steam sterilisation) -10 to +130°C
Ambient temperature	+5 to +60 °C
Control medium	Neutral gases, air
Max. pilot pressure	max. 10 bar; Actuator size 130 mm 7 bar
Port connections	
Welded acc.	EN ISO 1127/ISO 4200, DIN 11850 Series 2, ASME BPE, BS4825, SMS 3008 (on request)
Clamp acc. to	DIN 32676, ASME BPE, ISO 2852 (on request)
Sterile threaded ports	on request
Pilot air ports	Push-in connector for external Ø 6 mm or 1/4" tube, Thread G 1/8 (on request)
Installation	As required, preferably with actuator in upright position

Content



Valve specifications

Type 2103 forged Continuous

Technical data & ordering info.

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System Continuous ELEMENT

Type 8802-DF

Ordering info. & technical data

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Request for quotation

Type 8802-DF

p. 15

Technical data valves

Kv-values

Orifice		Kv value water (m ³ /h)	Actuator size Ø [mm]	Permitted pilot pressure [bar]		Max. operating pressure [bar] for seal material	
[mm]	[inch]			min.	max.	EPDM, FKM [bar]	PTFE/EPDM and advanced PTFE/ EPDM [bar]
8	1/4"	1.0	50	5	10	10	10
10	3/8"	1.0	50	5	10	10	10
15	1/2"	5.5	70	5	10	10	10
20	3/4"	10.0	70	5	10	10	10
25	1"	14.0	70	5	10	6.5	6
			90	5.5	10	10	8
40	1 1/2"	30.0	130	5.0	7	10	10
50	2"	51.5	130	5.0	7	8	7

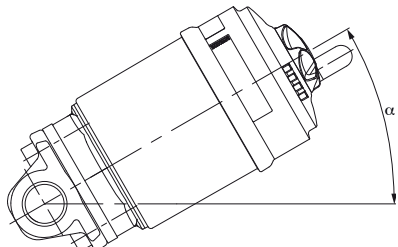
Flow rate: Kv-value water (m³/h)

Measured at +20 °C, 1 bar pressure at valve inlet and free outlet

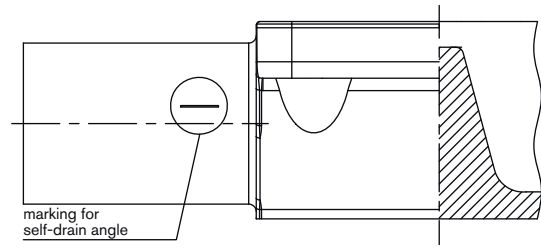
Pressure values (bar)

Measured as overpressure to the atmospheric pressure

Installation for self-draining operation

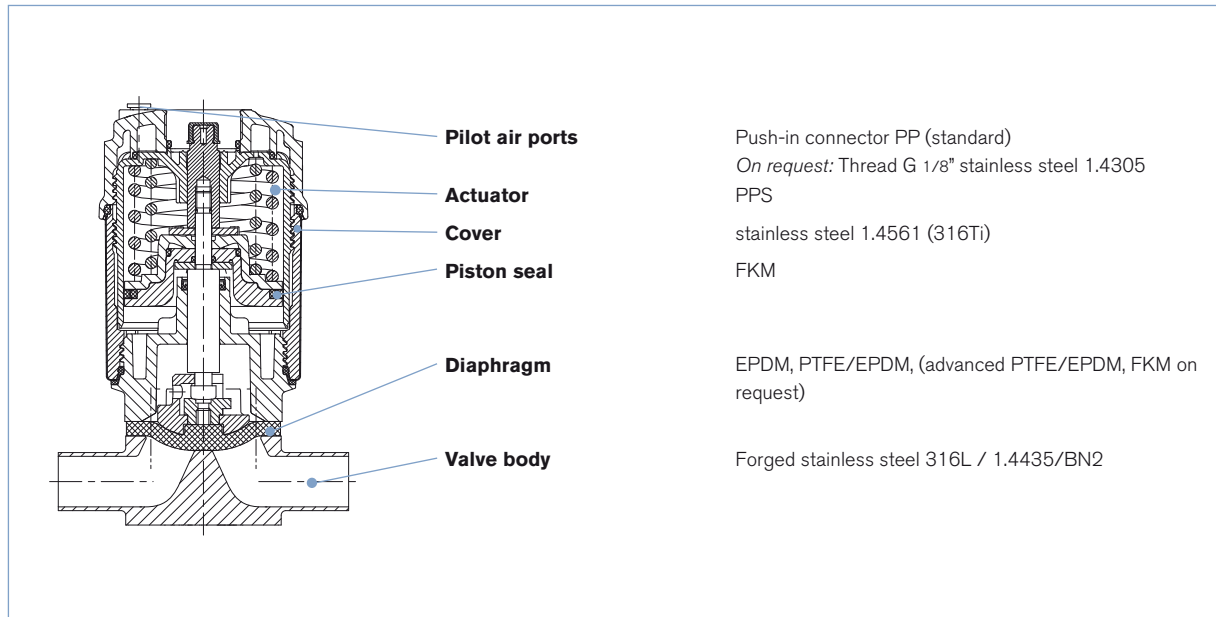


$\alpha = 15$ up to 35° (Marking must face upwards, 12 o'clock position)
plus 3° to 5° inclination to the pipe axis.
Drain marks permanently marked on both sides of the valve body
show the correct mounting position to optimise drain ability.



marking for
self-drain angle

Materials



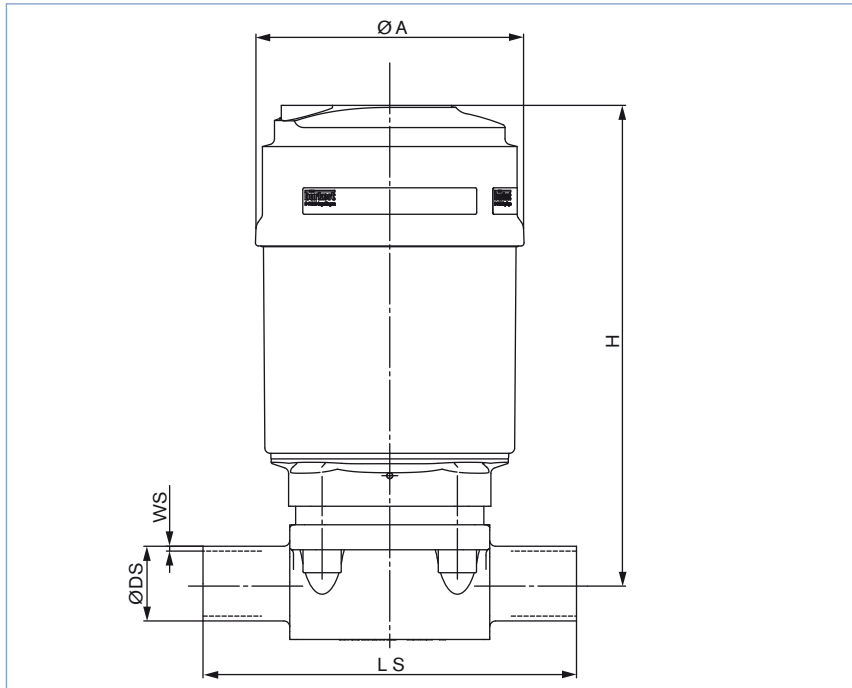
Approvals

Suitability for foodstuffs / sterile applications

FDA • The composition of the EPDM, PTFE/EPDM and advanced PTFE/EPDM diaphragms corresponds to the *Code of Federal Regulations*, published by the *FDA* (Food and Drug Administration, USA).

Dimensions Type 2103 forged diaphragm valve [mm]

Welded connection



EN ISO 1127/ISO 4200 and DIN 11850 S2

All bodies			EN ISO 1127/ISO 4200						DIN 11850 S2	
Orifice		Actuator size Ø [mm]	Ø A	H	LS	Ø DS	WS	Ø DS	WS	
[mm]	[inch]									
8	1/4"	50	64.5	119	90	13.5	1.6	-	-	
10	3/8"	50	64.5	119	90	17.2	1.6	13	1.0	
15	1/2"	50	64.5	134	110	21.3	1.6	19	1.5	
		70	91	150	110	21.3	1.6	19	1.5	
20	3/4"	70	91	160	119	26.9	1.6	23	1.5	
25	1"	70	91	163	129	33.7	2.0	29	1.5	
		90	120	196	129	33.7	2.0	29	1.5	
40	1 1/2"	130	159	277	161	48.3	2.0	41	1.5	
50	2"	130	159	300	192	60.3	2.0	53	1.5	

ASME BPE and BS 4825

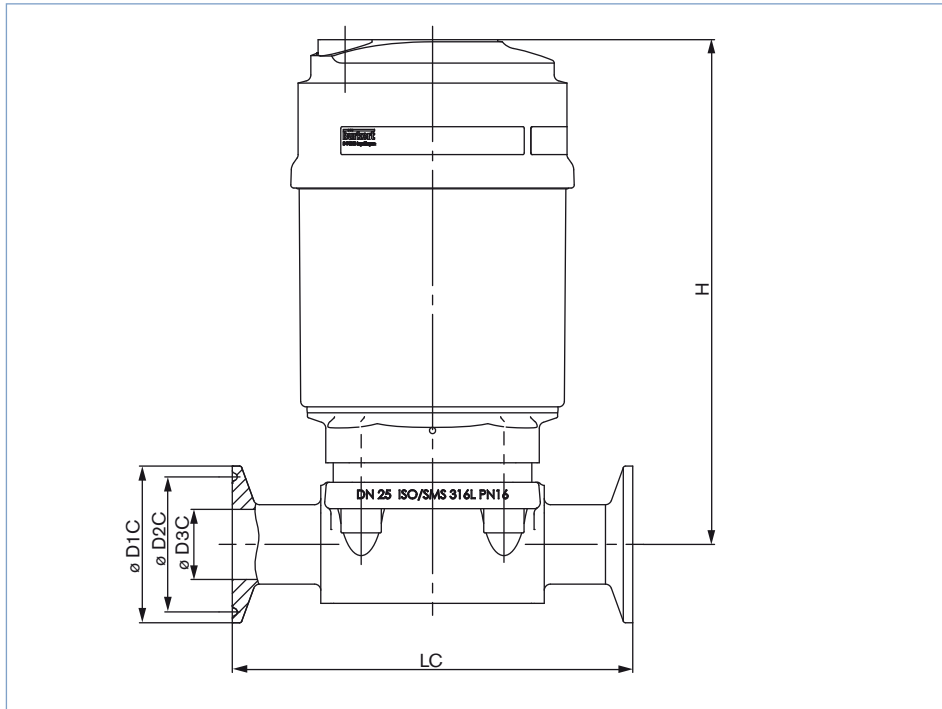
All bodies			ASME BPE					BS 4825	
Orifice		Actuator size Ø [mm]	Ø A	H	LS	Ø DS	WS	Ø DS	WS
[mm]	[inch]								
8	1/4"	50	64.5	119	78	6.35	0.89	6.35	1.2
10	3/8"	50	64.5	119	78	6.35	0.89	6.35	1.2
15	1/2"	70	91	150	108	12.70	1.65	12.70	1.2
20	3/4"	70	91	160	117	19.05	1.65	19.05	1.2
25	1"	70	91	163	127	25.40	1.65	25.40	1.65
		90	120	196	127	25.40	1.65	25.40	1.65
40	1 1/2"	130	159	277	159	38.10	1.65	38.10	1.65
50	2"	130	159	300	190	50.80	1.65	50.80	1.65

On request: SMS 3008

Orifice		Actuator size Ø [mm]	Ø A	H	LS	Ø DS	WS
[mm]	[inch]						
25	1"	70	91	163	129	25	1.2
		90	120	196	129	25	1.2
40	1 1/2"	130	159	277	161	38	1.2
50	2"	130	159	300	192	51	1.2

Dimensions Type 2103 forged diaphragm valve [mm], continued

Clamp connection



DIN 32676

Orifice		Actuator size Ø [mm]	H	LC	Ø D1C	Ø D2C	Ø D3C
[mm]	[inch]						
15	1/2"	70	150	110	34	27.5	16
20	3/4"	70	160	119	34	27.5	20
25	1"	70	163	129	50.5	43.5	26
		90	196	129	50.5	43.5	26
40	1 1/2"	130	277	161	50.5	43.5	38
50	2"	130	300	192	64	56.5	50

ASME BPE

Orifice		Actuator size Ø [mm]	H	LC		Ø D1C	Ø D2C	Ø D3C
[mm]	[inch]			long dimension	short dimension			
8	1/4"	50	119	78	64.5	25	21.8	3.95
10	3/8"	50	119	78	-	25	-	9.4
15	1/2"	70	150	108	89	25	-	9.4
20	3/4"	70	160	117	102	25	-	15.75
		70	163	127	114	50.5	43.5	22.2
25	1"	90	196	127	114	50.5	43.5	22.2
		130	277	159	140	50.5	43.5	34.9
40	1 1/2"	130	277	159	140	50.5	43.5	34.9
50	2"	130	300	190	159	64	56.5	47.6

On request: ISO 2852

Orifice		Actuator size Ø [mm]	H	LC	Ø D1C	Ø D2C	Ø D3C
[mm]	[inch]						
25	1"	70	163	129	50.5	43.5	22.6
		90	196	129	50.5	43.5	22.6
40	1 1/2"	130	277	161	50.5	43.5	35.6
50	2"	130	300	192	64	56.5	48.6

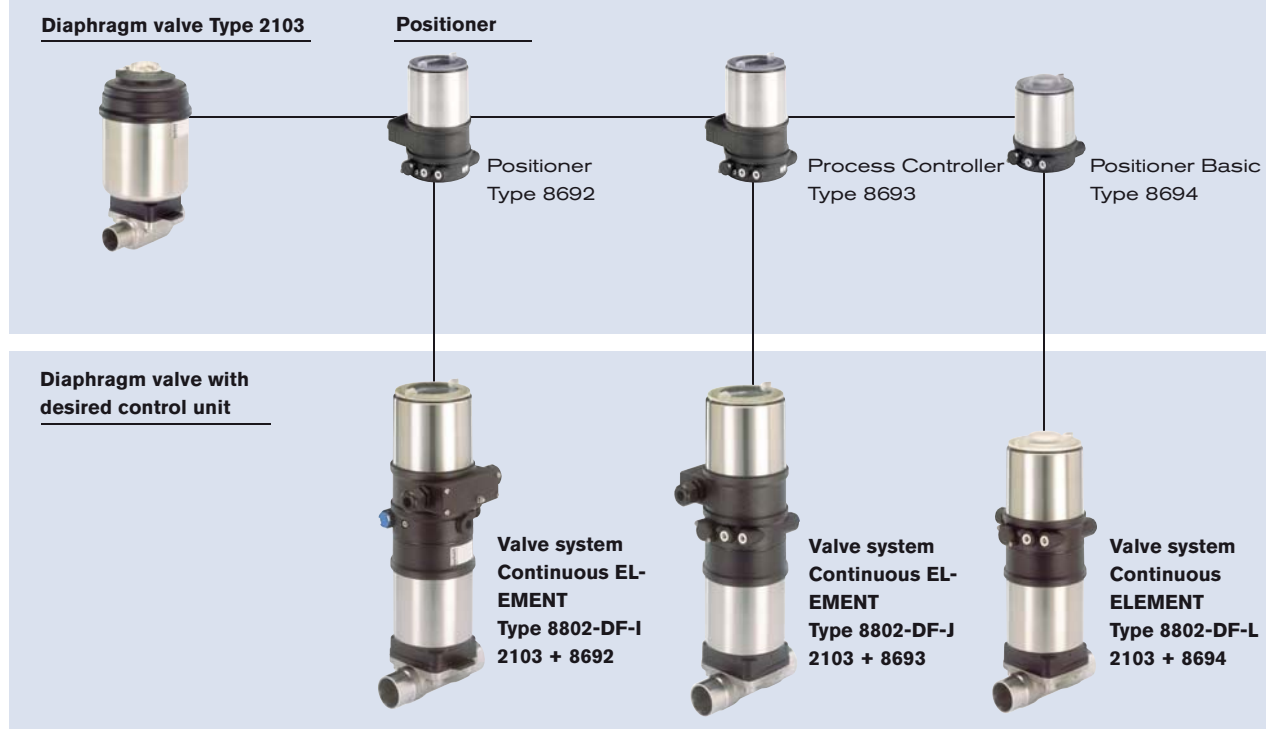
Ordering information for valve system Continuous ELEMENT Type 8802-DF

A valve system Continuous ELEMENT Type 8802-DF consists of a diaphragm valve Type 2103 and a digital electropneumatic Positioner Type 8692, a digital electropneumatic Process Controller Type 8693, a digital electropneumatic Positioner Basic Type 8694 (below), an electropneumatic positioner Type 8792/8793 (for valve actuator sizes ø70/90/130 mm) or a digital electropneumatic Positioner Type 8696 (for valve actuator size ø50 mm) (see next page) (see separate datasheets).

For the configuration of further valve systems please use the "Request for quotation" on p. 12 [go to page](#)

You order two components and receive a complete assembled and certified valve.

Ordering the valve system Continuous ELEMENT Type 8802-DF



When you click on the orange box "More info." below, you will come to our website for the resp. product where you can download the datasheet.

Positioner TopControl Type 8692 [More info.](#) **Process Controller TopControl Type 8693** [More info.](#)

PROFIBUS DPV1 DeviceNet™ Ex

The new generation of integrated positioners/process controllers for combination with actuators from the process valve series Type 23xx/2103 is specially designed for the requirements of hygienic process environments. The easy handling and the selection of additional software functions are done either on a big graphic display with backlight and keypad or via a PC interface. A contact-free analogue position sensor registers the valve position without deterioration. Single-acting or double-acting actuators are controlled via the integral positioner system. With Type 8693, the process controller function is superimposed on the position control loop. Profibus DPV1 and DeviceNet communication interfaces are available as options.

Main customer benefits:

- Compact design of the valve system with integrated positioner/process controller meets the demands for plant washdown environments through the selection of materials, external seals and integrated control air supply to the actuator
- Extremely simple commissioning and operation thanks to the backlighting of the graphics display and proven multilingual software structure
- Automatic parameterisation of the positioner and process controller using the TUNE functions
- Field bus communication via Profibus DPV1 or DeviceNet
- Air intake filter enhances the process valve system availability
- Simple and reliable actuator adaption
- Explosion-proof models for zone 2/22

Positioner TopControl Basic Type 8694 [More info.](#)

The new generation of integrated positioners for combination with actuators from the process valve series Type 23xx/2103 is specially designed for the requirements of hygienic process environments. The operation and selection of the software functions close tight function, inversion of the operating direction of the setpoint signal, characteristic curves selection and switching manual/automatic operation are effected via push-buttons and DIP switches or via the PC interface. The position setpoint is set using the standard signal 4 - 20 mA. In addition, the enable can be controlled via the binary input and an optional position feedback can be integrated. The positioner, Type 8694, registers the valve position without deterioration through a contact-free analogue position sensor. Single-acting or double-acting actuators are controlled via the integral positioner system. An AS-Interface communication interface is available as an option.

Main customer benefits:

- Compact design of the valve system with integrated positioner meets the demands for plant washdown environments through the selection of materials, external seals and integrated control air supply to the actuator
- Automatic parameterisation of the positioner using the Process TUNE function
- Field bus communication via optional AS-Interface
- Air intake filter enhances the process valve system availability
- Simple and reliable actuator adaption allowing additional actuators of the process valve series, Type 20xx or actuators from other manufacturers to be used
- Explosion-proof models for zone 2/22

Ordering information for valve system Continuous ELEMENT Type 8802-DF, continued

A valve system Continuous ELEMENT Type 8802-DF consists of a diaphragm valve Type 2103 and a digital electropneumatic Positioner Type 8692, a digital electropneumatic Process Controller Type 8693, a digital electropneumatic Positioner Basic Type 8694 (previous page), an electropneumatic positioner Type 8792/8793 (for valve actuator sizes $\varnothing 70/90/130$ mm) or a digital electropneumatic Positioner Type 8696 (for valve actuator size $\varnothing 50$ mm) (see below) (see separate datasheets).

For the configuration of further valve systems please use the "Request for quotation" on p. 12 [go to page](#)

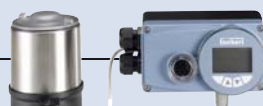
You order two components and receive a complete assembled and certified valve.

Ordering the valve system Continuous ELEMENT Type 8802-DF

Diaphragm valve Type 2103



Positioner



Positioner
 Type 8792/
 Process Controller Type 8793



TopControl Basic Type 8696
 Only for actuator size
 $\varnothing 50$ mm

**Diaphragm valve with
 desired control unit**



Valve system
Continuous Classic
Type 8802-DF-P
2103 + 8792 /
Type 8802-DF-Q
2103 + 8793



Valve system
Continuous ELEMENT
Type 8802-DF-N
Type 2103 + 8696

When you click on the orange box "More info." below, you will come to our website for the resp. product where you can download the datasheet.

Positioner SideControl Type 8792



Process Controller SideControl Type 8793



Type 8792/8793 is a digital electropneumatic positioner with an optional, integrated process controller (8793) for precise control requirements. The compact design with integrated position encoder and LCD display was developed for demanding applications of the process industry. A Profibus DPV1 communication interface is available as an option.

Main customer benefits:

- Time saving algorithms for temperature, flow and pressure PID parameters through ProcessTUNE function.
- Quick and simple menu driven parameterization through keyboard or Profibus DPV1 PA
- Adaption acc. to IEC534-6 and VDI/VDE 3845 for lift and swivel drives or as a Remote version together with Bürkert process valves
- Rugged anodised aluminium housing
- Suitable for hazardous locations per zone 2/22

TopControl Basic Type 8696



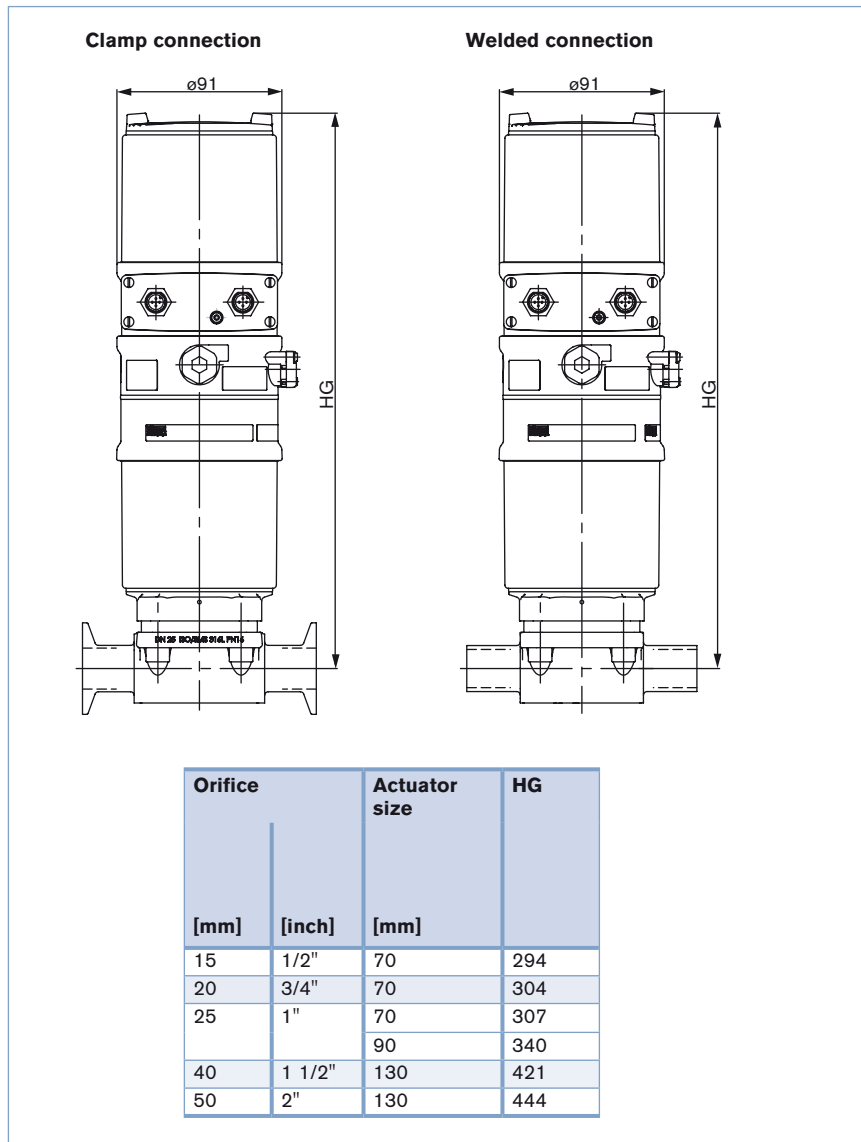
The new generation of integrated positioners for combination with small actuators from the process valve series Type 23xx/2103 is specially designed for the requirements of hygienic process environments. The operation and selection of the software functions close tight function, inversion of the operating direction of the setpoint signal, characteristic curves selection and switching manual/automatic operation are effected via push-buttons and DIP switches or via the PC interface. The position setpoint is set using the standard signal 4 - 20 mA. In addition, the enable can be controlled via the binary input and an optional position feedback can be integrated. The positioner, Type 8696, registers the valve position without deterioration through a contact-free analogue position sensor. Single-acting actuators are controlled via the integral positioner system.

Main customer benefits:

- Compact design of the valve system with integrated positioner meets the demands for plant washdown environments through the selection of materials, external seals and integrated control air supply to the actuator
- Automatic parameterisation of the process controller using the Process TUNE function
- Simple and reliable actuator adaption
- Suitable for hazardous locations per zone 2/22

Dimensions for valve system Continuous ELEMENT Type 8802-DF [mm]

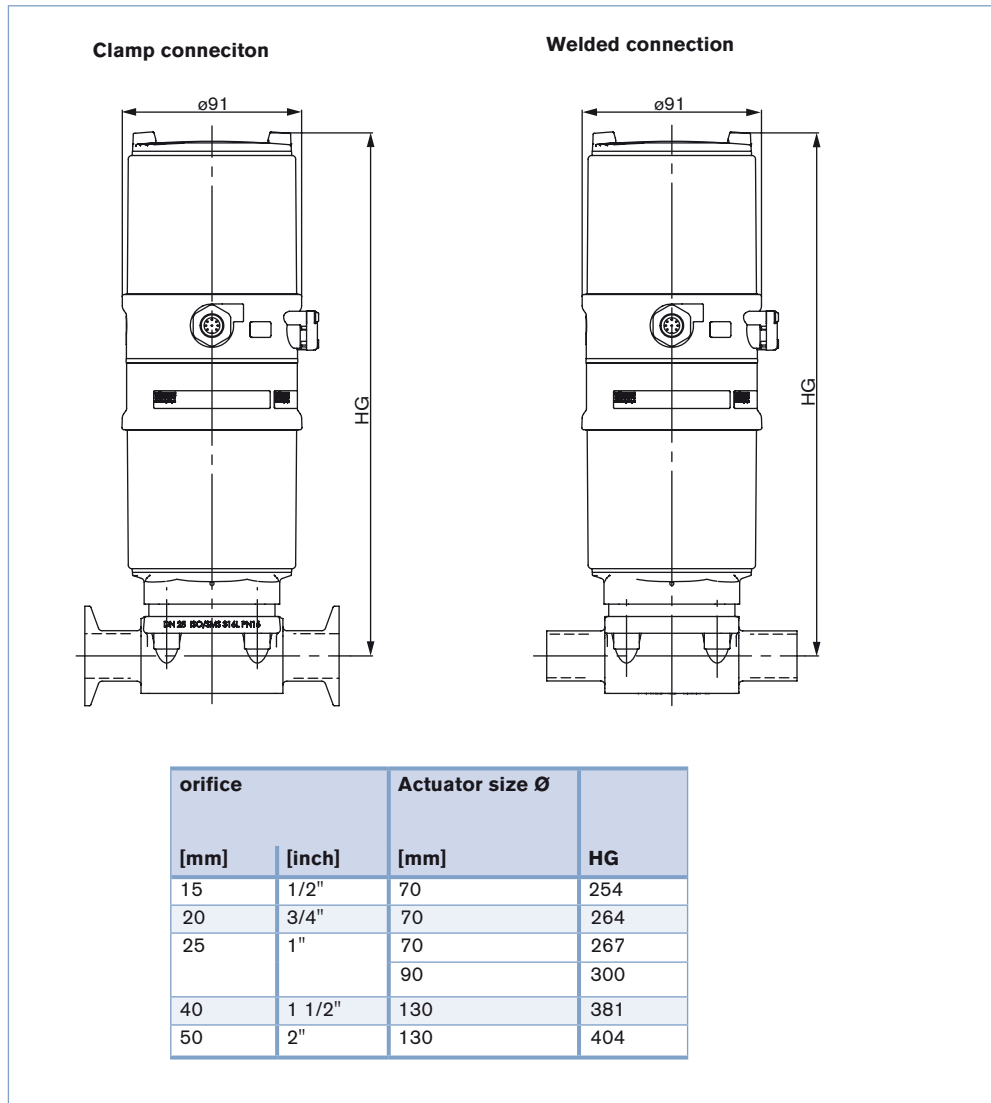
Dimensions valve system Continuous ELEMENT Type 8802-DF-I with Positioner TopControl Type 8692 and 8802-DF-J with Process Controller TopControl Type 8693 [mm]



For further dimensions see page 7/8

Dimensions for valve system Continuous ELEMENT Type 8802-DF [mm], continued

Dimensions valve system Continuous ELEMENT Type 8802-DF-L with Positioner TopControl Basic Type 8694 [mm]

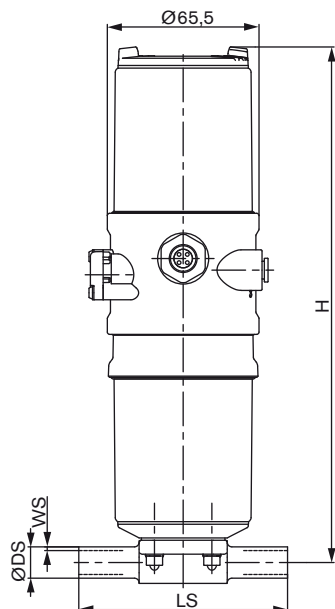


For further dimensions see page 7/8

Dimensions for valve system Continuous ELEMENT Type 8802-DF [mm], continued

Dimensions valve system Continuous ELEMENT Type 8802-DF-N with Positioner TopControl Basic Type 8696 [mm]

Welded connection



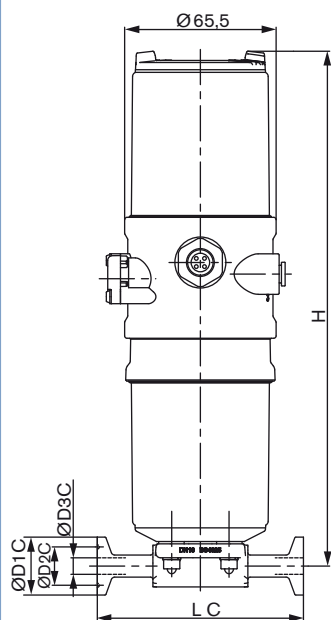
EN ISO 1127/ISO 4200 and DIN 11850 S2

Orifice		Actuator size [mm]	H	LS	EN ISO 1127/ISO 4200		DIN 11850 Series 2	
[mm]	[inch]				Ø DS	Ø WS	Ø DS	Ø WS
8	1/4"	50	223	90	13.5	1.6	-	-
10	3/8"	50	238	110	17.2	1.6	13.0	1.5

On request: ASME BPE and BS 4825

Orifice		Actuator size Ø [mm]	H	LS	ASME BPE		BS 4825	
[mm]	[inch]				Ø DS	WS	Ø DS	WS
8	1/4"	50	223	78	6.35	0.89	6.35	1.2
10	3/8"	50	238	108	9.53	0.89	9.53	1.2

Clamp connection



DIN 32676

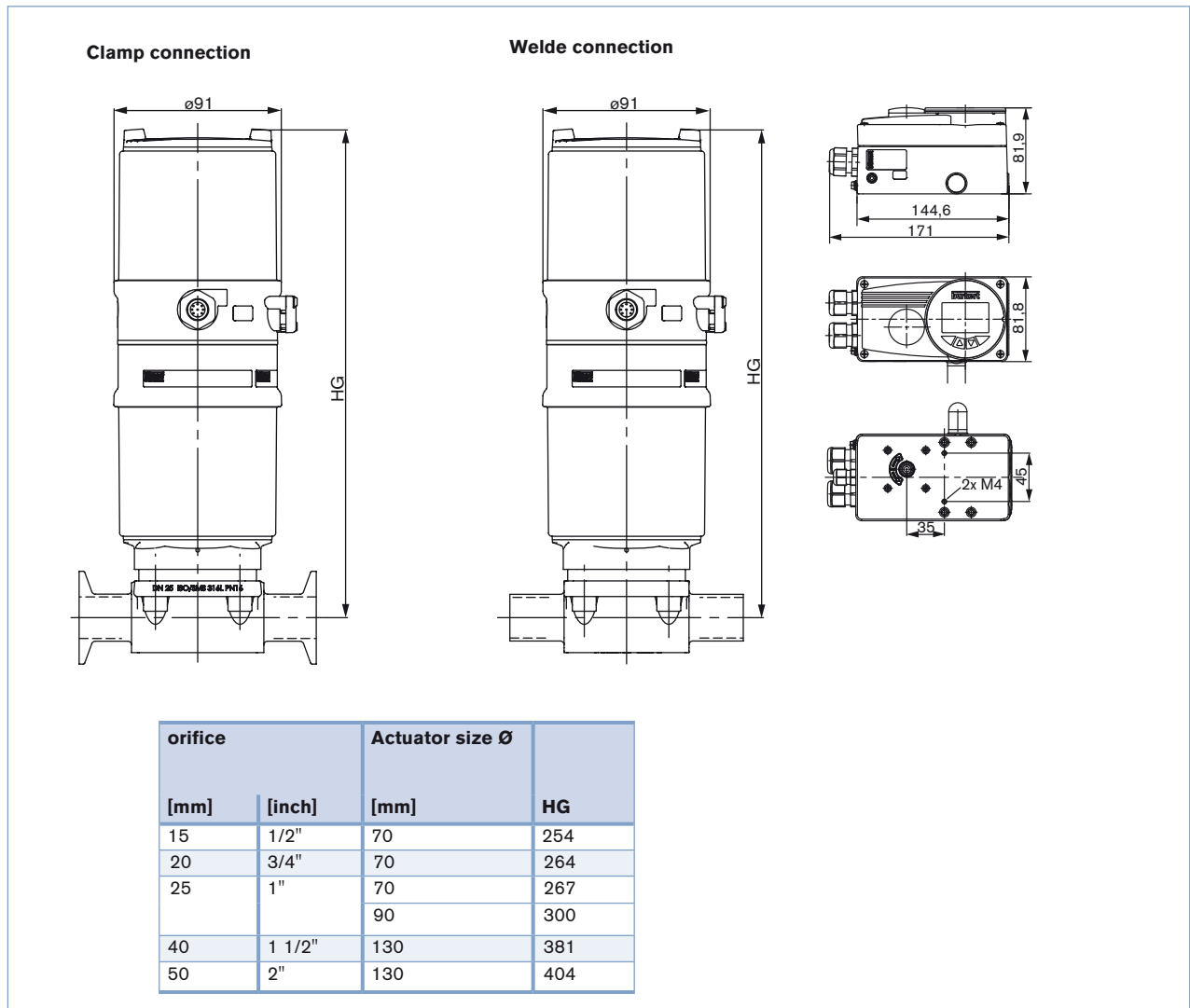
Orifice		Actuator size [mm]	H	DIN 32676			
[mm]	[inch]			LC	ØD1 C	ØD2 C	ØD3 C
10	3/8"	50	238	110	34	27.5	16

ASME BPE

Orifice		Actuator size [mm]	H	ASME BPE				
[mm]	[inch]			LC long dimension	short dimension	ØD1 C	ØD2 C	ØD3 C
8	1/4"	50	223	78	64.5	25	21.8	3.95
10	3/8"	50	238	89	89	25	21.8	9.4

Dimensions for valve system Continuous ELEMENT Type 8802-DF [mm], continued

Dimensions valve system Continuous ELEMENT Type 8802-DF-P with Positioner SideControl Remote Type 8792 and Type 8802-DF-Q with Process Controller SideControl Remote Type 8793 [mm]



For further dimensions see page 7/8

Note

You can fill out the fields directly in the PDF file before printing out the form.

Valve system Continuous ELEMENT Type 8802-DF - Request for quotation

▶ Please fill out and send to your nearest Bürkert facility* with your inquiry or order

Company	Contact person
Customer no.	Department
Address	Tel./Fax
Postcode/town	E-Mail

= mandatory fields to fill out

Quantity

Required delivery date

Operating data

Pipeline	DN	<input type="text"/>	PN	<input type="text"/>
Pipe material	<input type="text"/>			
<input type="checkbox"/> Process medium	<input type="text"/>			
<input type="checkbox"/> Type of medium	<input type="checkbox"/> Liquid	<input type="checkbox"/> Steam	<input type="checkbox"/> Gas	

Valve features

Specification key

automatically transferred from last page

[go to page](#)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VS	<input type="text"/>	<input type="text"/>
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Surface finish (if not standard)

internal µm

external µm

Pilot pressure

min.

max.

continued next page

Comments

Formular zurücksetzen

Valve features, specification key

Example

A 15 AB VS SA42 NO23

Specification key

Please make a choice

CONTROL FUNCTION

A	NC by spring action
B	normally open by spring action
I	double-acting

SIZE [mm]

08
10
15
20
25
32
40
50

SEAL MATERIAL

AB	EPDM in food quality
EA	PTFE/EPDM
FF	FKM
EU	advanced PTFE/EPDM in two pieces
ET	advanced PTFE (bonded on EPDM)

BODY MATERIALS

VS	Forged st.st. 1.4435BN2/ASME BPE
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VARIABLE CODES

Surface finish, internal	
NO07	Int. mirror finished Ra=0.25 µm
NO14	Int. mechanical polished Ra=0.5µm
NO17	Internal electro polished Ra=0.4µm
NO23	Int. mechanical polished Ra=0.6µm <i>Standard</i>



PORT CONNECTION

Welded connection

Port conn. [mm]	EN ISO 1127/ISO 4200	SMS 3008	DIN 11850				BS 4825	ASME BPE	JIS Sanitary	JIS Utility
			Series 0	Series 1	Series 2	Series 3				
8	SA40=13.5x1.6		SC42=10x1.0				SODB=6.35x1.2	SA90=6.35x0.89	SA70=13.8x1.65	
10	SA41=17.2x1.6			SF40=12x1.0	SD40=13x1.5	SE40=14x2.0	SODC=9.53x1.2	SA91=9.53x0.89	SA71=17.3x1.65	
15	SA42=21.3x1.6		SC43=18x1.5	SF41=18x1.0	SD42=19x1.5	SE42=20x2.0	SODD=12.7x1.2	SA92=12.7x1.65	SA72=21.7x2.1	
20	SA43=26.9x1.6		SC44=22x1.5	SF42=22x1.0	SD43=23x1.5	SE43=24x2.0	SODE=19.05x1.2	SA93=19.05x1.65	SA76=27.2x2.1	SA80=27.2x2.1
25	SA44=33.7x2.0	SA60=25.0x1.2	SC45=28x1.5	SF43=28x1.0	SD44=29x1.5	SE44=30x2.0	SODF=25.4x1.65	SODF=25.4x1.65	SA73=25.4x1.2	SA81=34x2.0
32	SA45=42.4x2.0		SC46=34x1.5	SF44=34x1.0	SD45=35x1.5	SE45=36x2.0				SA83=42.7x2.0
40	SA46=48.3x2.0	SA62=38.0x1.2	SC47=40x1.5	SF45=40x1.0	SD46=41x1.5	SE46=42x2.0	SODH=38.1x1.65	SODH=38.1x1.65	SA74=38.1x1.2	SA84=60.5x2.0
50	SA47=60.3x2.0	SA63=51.0x1.2	SC48=52x1.5	SF46=52x1.0	SD47=53x1.5	SE47=54x2.0	SODI=50.8x1.65	SODI=50.8x1.65	SA75=50.8x1.5	

Clamp connection

Port conn. [mm]	ISO 2852 SMS 3017	ASME BPE		DIN 32676
		Short dimension	Long dimension	
8	TC51=Clamp 34 - for tube ISO 4200	TI40=Clamp 25 - tube 6.35x0.89	TG40=Clamp 25 - tube 6.35x0.89	
10	TC41=Clamp 34 - for tube ISO 4200	TI41=Clamp 25 - tube 9.53x0.89	TG41=Clamp 25 - tube 9.53x0.89	TD41=Clamp 34 - tube 13x1.5
15	TC42=Clamp 34 - for tube ISO 4200	TI42=Clamp 25 - tube 12.7x1.65	TG42=Clamp 25 - tube 12.7x1.65	TD42=Clamp 34 - tube 19x1.5
20	TC43=Clamp 50.5 - for tube ISO 4200	TI43=Clamp 25 - tube 19.05x1.65	TG43=Clamp 25 - tube 19.05x1.65	TD43=Clamp 34 - tube 23x1.5
25	TC44=Clamp 50.5 - for tube ISO 4200	TI44=Clamp 50.5 - tube 25.4x1.65	TG44=Clamp 50.5 - tube 25.4x1.65	TD44=Clamp 50.5 - tube 29x1.5
40	TC46=Clamp 64 - for tube ISO 4200	TI46=Clamp 50.5 - tube 38.1x1.65	TG45=Clamp 50.5 - tube 38.1x1.65	TD46=Clamp 50.5 - tube 41x1.5
50	TC47=Clamp 77.5 - for tube ISO 4200	TI47=Clamp 64 - tube 50.8x1.65	TG46=Clamp 64 - tube 50.8x1.65	TD47=Clamp 64 - tube 53x1.5