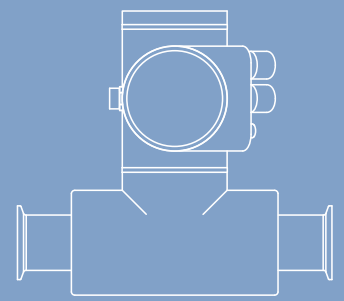
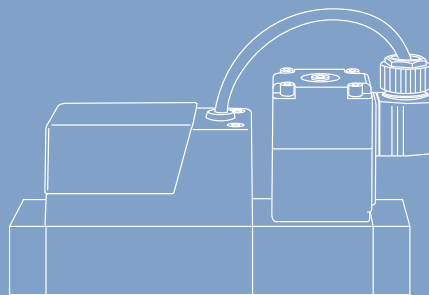
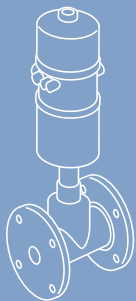


**bürkert**  
FLUID CONTROL SYSTEMS

# CORE PRODUCTS CATALOG



**We make ideas flow.**

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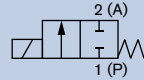
106

# Direct-acting 2/2-way plunger valve

7011

## NPT 1/8" or manifold mounting

- Brass or stainless steel
- FKM seal as standard
- Slipped over coil system
- Simple and fast flange or manifold mounting



Shown without plug



CLICK ME



FOR DATA SHEET

The 7011 valve is a direct-acting plunger valve. The stopper and the core guide tube are welded together to enhance pressure resistance and leak-tightness. Various body and seal material combinations are available depending on the actual application.

### Technical Data

<b>Body material</b>	Brass or stainless steel 1.4305
<b>Seal material</b>	FKM
<b>Coil material</b>	Epoxy (Class H)
<b>Temperature media</b>	14 °F to 212 °F (-10 °C to +100 °C)
<b>Ambient temperature</b>	131 °F (+55 °C), max.
<b>Viscosity</b>	max. 21 mm <sup>2</sup> /s
<b>Port connection</b>	NPT 1/8
<b>Voltage tolerance</b>	±10%
<b>Duty cycle</b>	
Single valve	100% continuous rating
<b>Power consumption</b>	DC: 7 W, AC: 6 W
<b>Protection class</b>	IP65 (with cable plug)
<b>Electrical connection</b>	Cable plug Type 2507 Form B Industry standard (not included)
<b>Accreditations</b>	CE

Orifice [mm]	Response times <sup>1)</sup>	
	Opening [ms]	Closing [ms]
1.2	8-15	10-17
1.6		
2.0	8-15	10-17
2.4		

<sup>1)</sup> Measured at valve outlet at 87 PSI (6 bar) and 68 °F (+20 °C)  
Opening: pressure rise 0 to 10%, Closing: pressure drop 100 to 90%

### Dimensions [mm] (see datasheet for details)

**Threaded version**

Port connection	A	B	C	D
Thread	NPT 1/8	8	25	15

### Ordering Chart

Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]		Item no. Voltage/Frequency [V/Hz]	
			[AC]	[DC]	24 V DC	120 V/60 Hz
<b>Brass</b>						
NPT 1/8	1.6	0.07	0-435	0-188	20009651	20009665
NPT 1/8	2.0	0.13	0-319	0-130	20009653	20009667
NPT 1/8	2.4	0.15	0-188	0-73	20009655	20009668
<b>Stainless steel</b>						
NPT 1/8	1.6	0.07	0-435	0-188	20009656	20009669
NPT 1/8	2.0	0.13	0-319	0-130	20009657	20009670
NPT 1/8	2.4	0.15	0-188	0-73	20009658	20009671

# Direct-acting 3/2-way plunger valve

7012

## NPT 1/8" or manifold mounting

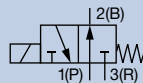
- Brass or stainless steel
- FKM seal as standard
- Slipped over coil system
- Simple and fast push-in, flange or manifold mounting



CLICK ME



FOR DATA SHEET



Shown without plug

The 7012 valve is a direct-acting plunger valve. The stopper and the core guide tube are welded together to enhance pressure resistance and leak-tightness. Various body and seal material combinations are available depending on the actual application.

## Technical Data

Body material	Brass or stainless steel 1.4305
Seal material	FKM
Temperature media	14 °F to 212 °F (-10 °C to +100 °C)
Ambient temperature	131 °F (+55 °C), max.
Coil material	Epoxy (Class H)
Viscosity	max. 21 mm <sup>2</sup> /s
Port connection	NPT 1/8
Voltage tolerance	±10%
Duty cycle	
Single valve	100% continuous rating
Power consumption	DC: 7 W, AC: 6 W
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug Type 2507 Form B Industry standard (not included)
Accreditations	CE

Orifice [mm]	Response times <sup>1)</sup>	
	Opening [ms]	Closing [ms]
1.2	8-12	8-12
1.6		
2.0	8-12	8-12
2.4		

<sup>1)</sup> Measured at valve outlet at 87 PSI (6 bar) and 68 °F (+20 °C)  
Opening: pressure rise 0 to 10%, Closing: pressure drop 100 to 90%

## Dimensions [mm] (see datasheet for details)

**Threaded version**

2507 cable plug  
Form B not included

Port connection	A	B	C	D
Thread	NPT 1/8	8	25	19.5

## Ordering Chart

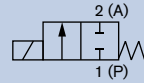
Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]		Item no. Voltage/Frequency [V/Hz]	
			[AC]	[DC]	24 V DC	120 V/60 Hz
<b>Brass</b>						
NPT 1/8	1.2	0.05	0-188	0-188	20009660	20009672
NPT 1/8	1.6	0.07	0-109	0-109	20009661	20012277
<b>Stainless steel</b>						
NPT 1/8	1.2	0.05	0-188	0-188	20009662	20009674
NPT 1/8	1.6	0.07	0-109	0-109	20009664	20009675

# Direct-Acting Plunger 2-way Solenoid Valve

6013

## NPT 1/8" - NPT 1/4"

- Direct-acting and compact valve up to diameter of DN 6.0
- Opens without differential pressure
- Vibration-proof, bolted coil system
- Slipped over coil system
- Vacuum rated valves available



Supplied as shown

CLICK ME



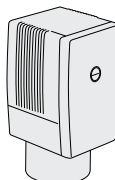
FOR DATA SHEET

Valve 6013 is a direct-acting plunger valve. The stopper and plunger guide tube are welded together to enhance pressure resistance and leak-tightness. Various seal material combinations are available depending on the application. A Bürkert-specific flange design (SFB) enables space-saving arrangement of valves on a manifold. Kick and Drop coils are available for the reduction of electrical power consumption during operation.

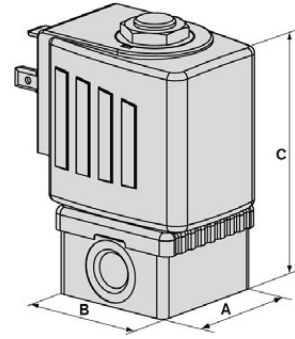
### Technical Data

<b>Materials</b>	
Body	Brass, Stainless steel
Seals	FKM
Coil insulation	Epoxy Class H
<b>Performance data</b>	
Circuit function	Normally closed (NC)
Operating pressure	See table
Duty cycle (single valve)	100% continuous rating
Duty cycle (manifold)	60%
<b>Operating voltage</b>	24 V DC, 120 V/60 Hz
<b>Medium temperature</b>	
FKM seals (epoxy coil)	14 °F to 212 °F
<b>Viscosity (maximum)</b>	21 cP
<b>Electrical connection</b>	Cable plug Type 2509, Form A (included), without cable, 1/2" NPT conduit connection, Part #137943
<b>Approvals</b>	cULus (UL Listed for US and Canada) (To meet UL Listed Approval requirements, the valve must be used with a Type 2509 cable plug.)

### Envelope Dimensions [inch] (see datasheet for details)



2509 cable plug  
Form A included



Size	A	B	C
1/8"	1.28	1.37	2.59
1/4"	1.92	1.37	2.82

### Optional Approvals

- Hazardous Location Class I, Division 1 and Division 2
- Hazardous Location ATEX / IECEx
- cURus (Coil UL Recognized for US and Canada)

### Ordering Chart

Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]		Item no. Voltage/Frequency [V/Hz]	
			[AC]	[DC]	24 V DC	120 V/60 Hz
<b>Brass</b>						
NPT 1/8	2	0.14	0-362	0-174	332772	341755
NPT 1/8	2.5	0.19	0-232	0-145	332761	341756
NPT 1/8	3	0.27	0-145	0-87	332775	332762
NPT 1/4	3	0.27	0-145	0-87	332773	332758
NPT 1/4	4	0.35	0-58	0-22	332750	332757
<b>Stainless steel</b>						
NPT 1/8	2	0.14	0-362	0-174	332768	332753
NPT 1/8	3	0.27	0-145	0-87	341751	332755
NPT 1/4	3	0.27	0-145	0-87	332770	332769
NPT 1/4	4	0.35	0-58	0-22	341753	341757

### Options

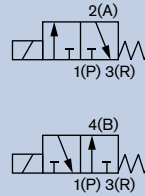
- Normally open (NO)
- Manual Override (Activation Lock Available)
- High Purity – Analytical Versions
- Helium Leak Testing
- Low Temperature design to (-40 °F)
- Dry gas design with sliding ring bearing to increase service life

# Compact Plunger Operated 3/2-way Valve

6014

## NPT 1/8" & NPT 1/4"

- Threaded or flange version
- High quality FKM seal as standard
- Slipped over coil system



Shown with 2509 plug

CLICK ME



FOR DATA SHEET

Direct-acting 3/2-way, normally closed or normally open solenoid valve. The stopper and plunger guide tube are welded together to enhance pressure resistance and leak-tightness. It is for neutral gases and liquids and it is also suitable for technical vacuum.

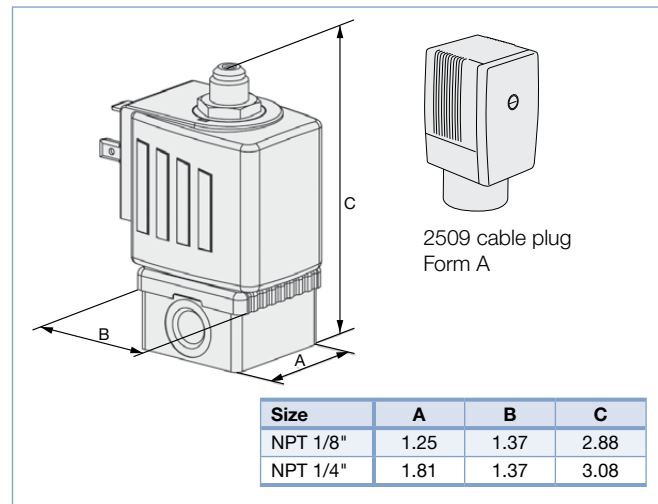
### Technical Data

<b>Temperature media</b>	14 °F to 212 °F (-10 °C to +100 °C)
<b>Ambient temperature</b>	14 °F to 131 °F (-10 °C to +55 °C)
<b>Viscosity</b>	Max. 21 mm <sup>2</sup> /s
<b>Voltage tolerance</b>	+10%
<b>Duty cycle</b>	
Single valve	100% continuous rating
for block mounting on sub-base	Intermittent 60% (30 min)
<b>Body material</b>	Brass, Polyamide (Flange), (SS optional)
<b>Seal material</b>	FKM (EPDM on request)
<b>Coil insulation class</b>	Epoxy class H
<b>Coil material</b>	Epoxy
<b>Protection class</b>	IP65, NEMA 4 (with cable plug)
<b>Electrical connection</b>	Cable plug acc. to DIN EN 175301-803 Form A (included)
<b>Accreditations</b>	UL Listed

Orifice [mm]	Power consumption		Response times	
	Inrush AC	Hold AC	Opening [ms]	Closing [ms]
1.5	24 VA	17 VA (8 W)	10-15	15-20
2.0	24 VA	17 VA (8 W)	10-15	15-20
2.5	24 VA	17 VA (8 W)	15-20	10-22

**Response times [ms]:** Measured at valve outlet at 87 PSI (6 bar) and 68 °F (+20 °C)  
**Opening:** pressure build-up 0 to 90%, **Closing:** pressure relief 100 to 10%

### Envelope Dimensions [inch] (see datasheet for details)



### Options

- Cable plug with LED and varistor
- Impulse version
- Oxygen version
- Vacuum version
- Analysis version
- Hazardous area approvals
- Explosion-proof version
- Further circuit functions
- SIL - certificated
- UL and CSA approvals
- 24V/60 Hz, 240/60 Hz

### Ordering Chart

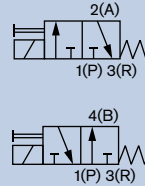
Port connection [inch]	Circuit function	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
					24 V DC	120 V/60 Hz
<b>Brass</b>						
NPT 1/8	C (3/2-way normally closed)	1.5	0.08	0-232	332738	332733
NPT 1/8		2.0	0.13	0-145	332727	332724
NPT 1/4		2.0	0.13	0-145	332737	332739
NPT 1/4		2.5	0.18	0-87	332722	-
NPT 1/8	D (3/2-way normally open)	1.5	0.08	0-232	332742	-
NPT 1/8		2.0	0.13	0-145	332732	-
NPT 1/4		2.0	0.13	0-145	332721	-
NPT 1/4		2.5	0.18	0-87	332723	-
<b>Stainless steel</b>						
NPT 1/8	C (3/2-way NC)	1.5	0.08	0-232	332720	-
NPT 1/4		2.0	0.13	0-145	332741	332728
NPT 1/8	T (universal)	1.5	0.08	0-101	332729	-

# Pivot Operated 3/2-way Solenoid Valve in brass or stainless steel

0330

## NPT 1/4"

- Isolating separating diaphragm design
- Long service life
- Maintenance-free pivoted armature technology
- Service-friendly, robust manual override



Direct-acting 3/2-way normally closed and normally open solenoid valves with pivoted armature and isolating diaphragm. This flexible valve series includes many options, various body materials, diaphragm and sealing materials and a range of electrical connections to suit many applications. Since the coil system is separated from the medium by a diaphragm, the valve is especially suitable for critical media such as aggressive acids and lyes.

### Technical Data

Temperature media	32 °F to 176 °F (0 °C to +80 °C)
Ambient temperature	131 °F (+55 °C), max.
Viscosity	Max. 37 mm <sup>2</sup> /s
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Body material	Brass (stainless steel on request)
Seal material	FKM
Coil material	Epoxy (Class H)
Power consumption	DC: 8 W, AC: 30 VA (inrush), 15 VA (hold)
Protection class	IP65, NEMA 4X for stainless steel only (with cable plug)
Electrical connection	Standard version: Pin terminal acc. to DIN EN 175301-803 form A for cable plug Type 2518/2509 (also on request with moulded cable)
Accreditations	UL Listed

Orifice [mm]	Response times			
	AC		DC	
	Opening [ms]	Closing [ms]	Opening [ms]	Closing [ms]
2-4	8-15	8-15	10-20	10-20

Response times [ms]: Measured at valve outlet at 87 PSI (6 bar) and 68 °F (+20 °C)  
Opening: pressure relief 0 to 90%, Closing: pressure relief 100 to 10%

### Ordering Chart

Port connection [inch]	Orifice [mm]	Cv	Pressure range <sup>1)</sup>		Voltage/Frequency [V/Hz]			
			AC [PSI]	DC [PSI]	Brass		Stainless steel	
					24/DC	120/60	24V/DC	120V/60
<b>3-way normally closed configuration</b>								
NPT 1/4	2	0.13	0-174	0-174	341670	327520	327518	327522
NPT 1/4	3	0.27	0-145	0-145	327249	327244	327532	327599
<b>3-way normally open configuration</b>								
NPT 1/4	2	0.13	0-174	0-174	327737	327739	328196	328016
NPT 1/4	3	0.27	0-145	0-145	327504	327251	-	-

<sup>1)</sup> Pressure range for DC valves is 25% less than stated in the table.

### Envelope Dimensions [inch] (see datasheet for details)

2509 cable plug Form A included

Size	A	B	C
NPT 1/4"	1.81	1.33	3.93

### Options

- Electrical position feedback
- Impulse coil
- Vacuum version
- Cable plug with LED and varistor
- Flange version Type 0331 with manifold mounting
- ATEX approval
- Version with higher purity and tightness (analysis model)
- CSA and FM approval
- Buna, EPDM, FFKM on request
- Polypropylene on request
- 24V/60 Hz, 240/60 Hz

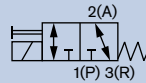


# Pivot Operated 3/2-way Universal Solenoid Valve in brass or stainless steel

0330

**NPT 1/4", 0-174 PSI max.**

- Universal flow function
- Isolating separating diaphragm design
- Handles slightly contaminated fluids with ease
- Manual override as standard
- Long lifetime



Direct-acting 3/2-way universal function (E) solenoid valves with pivoted armature and isolating diaphragm. This flexible valve series includes many options, various body materials, diaphragm and sealing materials and a range of electrical connections to suit many applications.

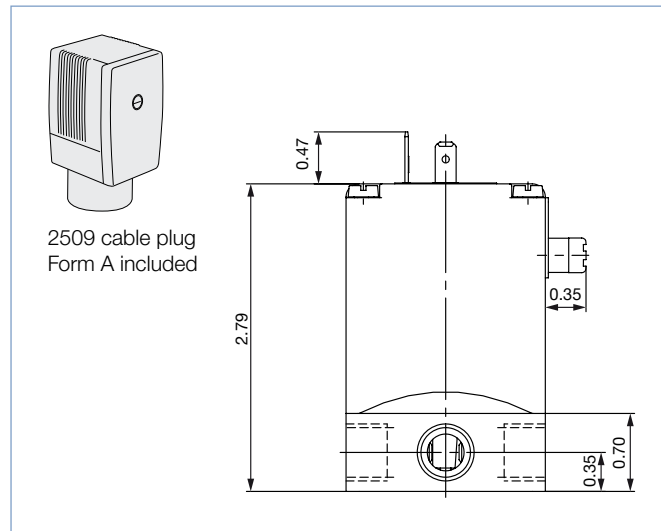
## Technical Data

Temperature media	32 °F to 176 °F (0 °C to +80 °C)
Ambient temperature	131 °F (+55 °C), max.
Viscosity	Max. 37 mm <sup>2</sup> /s
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Body material	Brass or Stainless steel 1.4401
Seal material	FKM (FFKM, NBR and EPDM on request)
Coil material	Epoxy (Class H)
Power consumption	DC: 8 W, AC: 30 VA (inrush), 15 VA (hold)
Protection class	IP65, NEMA 4X for stainless steel only (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)
Accreditations	UL Listed

Orifice [mm]	Response times			
	AC		DC	
	Opening [ms]	Closing [ms]	Opening [ms]	Closing [ms]
2-4	8-15	8-15	10-20	10-20

**Response times [ms]:** Measured at valve outlet at 87 PSI (6 bar) and 68 °F (+20 °C)  
Opening: pressure relief 0 to 90%. Closing: pressure relief 100 to 10%

Dimensions [inch] (see datasheet for details)



## Options

- Electrical position feedback
- Impulse coil
- Vacuum version
- Cable plug with LED and varistor
- Flange version Type 0331 with manifold mounting
- Version with higher purity and tightness (analysis model)
- Buna, EPDM, FFKM on request
- Polypropylene on request
- 24V/60 Hz, 240/60 Hz
- UL listed, UR recognized, CSA, UL Hazloc Div. 2 coil, FM Hazloc Div.1 coil, Atex Cat. 2

## Ordering Chart

Port connection [inch]	Orifice [mm]	Cv	Pressure range <sup>1)</sup>		Voltage/Frequency [V/Hz]	
			AC [PSI]	DC [PSI]	24/DC	120/60
<b>Brass valve body</b>						
NPT 1/4	3	0.27	0-85	0-85	327514	327509
NPT 1/4	4	0.33	0-42	0-42	327895	341669
<b>Stainless steel valve body</b>						
NPT 1/4	3	0.27	0-85	0-85	327927	327816
NPT 1/4	4	0.33	0-42	0-42	341668	327820

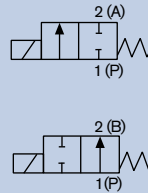
<sup>1)</sup> Pressure range for DC valves is 25% less than stated in the table.

# Direct-acting 2/2-way plunger valve

6027

## NPT 1/4"

- Direct-acting, powerful valve with diameter of up to DN 12
- Vibration-proof, bolted coil system
- Increased leak-tightness with welded plunger guiding tube
- Explosion proof versions



Direct-acting plunger valve. The stopper and plunger guiding tube are welded together to enhance pressure resistance and leak-tightness.

### Technical Data

<b>Medium temp</b>	normally closed 14 °F to 284 °F normally open 14 °F to 212 °F
<b>Ambient temp</b>	14 °F to 131 °F
<b>Viscosity</b>	Max. 21 mm <sup>2</sup> /s
<b>Voltage tolerance</b>	±10%
<b>Duty cycle</b>	Single valve 100% ED
<b>Body material</b>	Brass or stainless steel 1.4404 (316L)
<b>Coil material</b>	Epoxy (Class H)
<b>Seal material</b>	FKM, (PTFE/FKM and PTFE/graphite for high temperature versions, EPDM on request)
<b>Electrical connection</b>	Form A for cable plug Type 2509 (included)
<b>Degree of protection</b>	IP65 with Cable Plug UL HazLoc Class I, Div 2 with terminal box or cable version NEMA 4X with cable plug Type 2509 with SS versions

### Envelope Dimensions [inch] (see datasheet for details)

Size	A	B	C
1/4"	2.20	2.22	3.92
3/8"	2.20	2.22	4.05
1/2"	2.36	2.22	4.12

2509 cable plug Form A included

### Options

- Vacuum version
- Analysis version
- 24V/60 Hz, 240/60 Hz
- High pressure versions up to 350 bar

### Ordering Chart

Port connection [inch]	Circuit function	Orifice [mm]	Cv	Pressure range [PSI]		Item no. Voltage/Frequency [V/Hz]	
				DC	AC	24 V DC	120 V/60 Hz
<b>Brass</b>							
NPT 1/4	normally closed	3.0	0.32	0-435	0-406	307748	307780
NPT 1/4		4.0	0.62	0-174	0-188.5	307749	307781
NPT 1/4		6.0	1.09	0-44	0-79.7	307750	307782
NPT 3/8		3.0	0.32	0-435	0-406	307751	307783
NPT 3/8		4.0	0.62	0-174	0-188.5	307752	307784
NPT 3/8		6.0	1.09	0-44	0-79.7	307753	307785
NPT 3/8		8.0	1.84	0-15	0-33	307754	307786
NPT 1/2		6.0	1.09	0-44	0-87	307755	307787
NPT 1/2		8.0	1.84	0-15	0-43.5	307756	307788
NPT 1/2		10.0	2.08	0-6	0-18.85	307757	307789
<b>Stainless steel</b>							
NPT 1/4	normally closed	3.0	0.32	0-435	0-406	307764	307796
NPT 1/4		4.0	0.62	0-174	0-188.5	307765	307797
NPT 1/4		6.0	1.09	0-44	0-79.7	307766	307798
NPT 3/8		3.0	0.32	0-435	0-406	307767	307799
NPT 3/8		4.0	0.62	0-174	0-188.5	307768	307800
NPT 3/8		6.0	1.09	0-44	0-79.7	307769	307801
NPT 3/8		8.0	1.84	0-15	0-33	307770	307802
NPT 1/2		6.0	1.09	0-44	0-87	307771	307803
NPT 1/2		8.0	1.84	0-15	0-43.5	307772	307804
NPT 1/2		10.0	2.08	0-6	0-18.85	307773	307805
NPT 1/2	12.0	2.31	-	0-14.5	307774	307806	



# Servo-assisted 2/2 way piston valve

6240

- Servo-assisted and compact piston valve with diameter of up to DN 13
- Vibration-resistant , screwed coil system
- Increased leak-tightness with welded plunger guiding tube
- Safe opening with hard-coupled piston system
- High pressure versions up to 3626 psi
- Manifold mount options

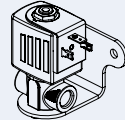


The 6240 valve is a servo-assisted piston valve. The stopper and plunger guiding tube are welded together to enhance pressure resistance and leak-tightness. The housing design and surface quality enable maximum flow rates. The coils are moulded with chemically resistant epoxy. An optional sliding ring bearings increases the life cycle with dry gases. In combination with a plug in accordance with DIN EN 175301-803 Form A, the valves satisfy protection class IP65. Stainless steel valves satisfy NEMA 4X.

## Technical Data

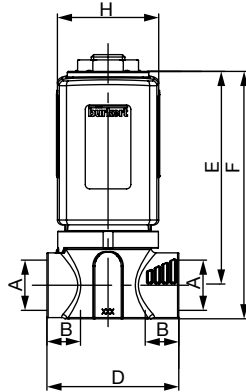
<b>Material</b>	
Body	Brass, stainless steel 1.4404 / 316L
Coil	Epoxy
<b>Orifice</b>	DN 6, DN 12, DN 13 (steam version)
<b>Viscosity</b>	Max. 21 mm <sup>2</sup> /sec
<b>Media</b>	Neutral gases and liquids, such as e.g. compressed air, water, hydraulic oil, steam and hot mediums
<b>Media temperature</b>	<b>Seat seal/External seal</b>
Standard	FKM/FKM: 14 °F...+284 °F EPDM/EPDM: -22 °F...+248 °F PTFE/FKM: 14 °F...+284 °F
Standard high temp	PTFE/PEEK DN 6: -40 °F...+356 °F PTFE/PEEK DN 12: -40 °F...+284 °F
Steam version DN13	FKM/FKM: 32 °F...+284 °F
Approval DIN EN 161 (PO17)	NBR/NBR (PO17): 14 °F...+176 °F
High pressure version up to 250 bar (MX32) or 160 bar (MX31)	PCTFE/FKM: 14 °F...+176 °F PCTFE/EPDM: -22 °F...+176 °F PCTFE/PEEK: -40 °F...+176 °F
<b>Degree of protection</b>	IP65 with cable plug Type 2518   UL HazLoc Class I, Div 2 with terminal box or cable version   NEMA 4X with cable plug Type 2509 with SS versions (other versions on request)

## Mounting bracket

Description	Item no.
	282304

## Dimensions [mm] (see datasheet for more details)

**Version DN12**



A (body connection)	B	D	E	F	H
G ½	14	55	89	103	42
NPT ½	13.7	55	89	103	42
RC ½	13.2	55	89	103	42

Dimension may vary depending on options

## Ordering Chart

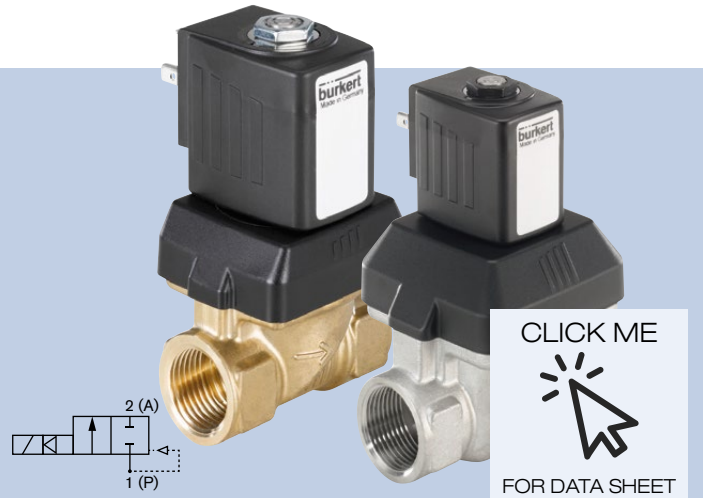
Circuit function	Port Connection	Orifice [mm]	Kv value [m3/h]	Max dP [bar]						Coil size [mm]	Item no.	
				Water		Oil		Air			024/DC [V/Hz]	120/60 [V/Hz]
				DC	AC	DC	AC	DC	AC			
A	NPT 1/2	12	2.2	14...3626	14...3626	14...3626	14...3626	14...3626	14...3626	42	343113	20040569
B	NPT 1/2	12	2.2	14...2900	14...2900	14...2175	14...2175	14...3626	14...3626	42	354400	20040570
A	NPT 1/4	6	0.7	14...3626	14...3626	14...3626	14...3626	14...3626	14...3626	65mm DC / 42 (KD Coil)	20040667	20040571
A	NPT 3/8	6	0.7	14...3626	14...3626	14...3626	14...3626	14...3626	14...3626	65mm DC / 42 (KD Coil)	20040568	20040572
A	NPT 1/4	6	0.6	0...232	0...232	0...232	0...232	0...232	0...232	32	312945	312946
A	NPT 1/2	12	2.2	0...232	0...232	0...232	0...232	0...232	0...232	42	312948	467191

\* Item numbers that are UL Approved: 312945, 312946, 312948

## 2/2-way Solenoid Valve for liquids and gases

6213 EV

- Coupled spring diaphragm system
- Waterhammer free and low noise
- Flow-optimized housing and diaphragm geometry for high flow



Type 6213 EV is a 2/2-way normally closed solenoid valve with a spring coupled diaphragm system. It is universally used for liquids. A minimum differential pressure of 1.5 PSI is required for full opening.

### Technical Data

<b>Orifice</b>	Standard DN10-40 mm
<b>Body material</b>	Brass acc. to DIN EN 50930-6, stainless steel 1.4408 (316)
<b>Inner part of valve</b>	Brass body SS body
	Brass, stainless steel and PPS Stainless steel and PPS
<b>Seal material</b>	NBR, FKM, (EPDM on request)
<b>Medium</b>	NBR FKM EPDM
	Neutral fluids, water, hydraulic oil, oil without additives Per-solutions, hot oils with additives Oil and fat-free fluids and gases
<b>Ambient temperature</b>	131 °F (+55 °C), max.
<b>Medium temperature</b>	NBR FKM EPDM
	14 °F to 176 °F (-10 °C to +80 °C) 32 °F to 194 °F (0 °C to +90 °C) with polyamide coil 32 °F to 248 °F (0 °C to +120 °C) with epoxy coil -22 °F to 194 °F (-30 °C to +90 °C) with polyamide coil -22 °F to 212 °F (-30 °C to +100 °C) with epoxy coil
<b>Voltages</b>	24V/DC, 120/60, ( 24/60, 240/60 on request)
<b>Voltage tolerance</b>	±10%
<b>Duty cycle</b>	100% continuous rating
<b>Electrical connection</b>	Cable plug acc. to DIN EN 175301-803, Form A (included)
<b>Protection class</b>	IP65 with cable plug
<b>Installation</b>	As required, preferably with actuator upright
<b>Response times<sup>1)</sup></b>	0.1-1.5 sec. (depending on orifice and differential pressure)
<b>Accreditations</b>	UL Listed, UL Recognized

<sup>1)</sup> Measured at valve outlet at 87 PSI (6 bar) and 68 °F (+20 °C)  
Opening: pressure build-up 0 to 90%, Closing: pressure drop 100 to 10%



### Ordering Charts

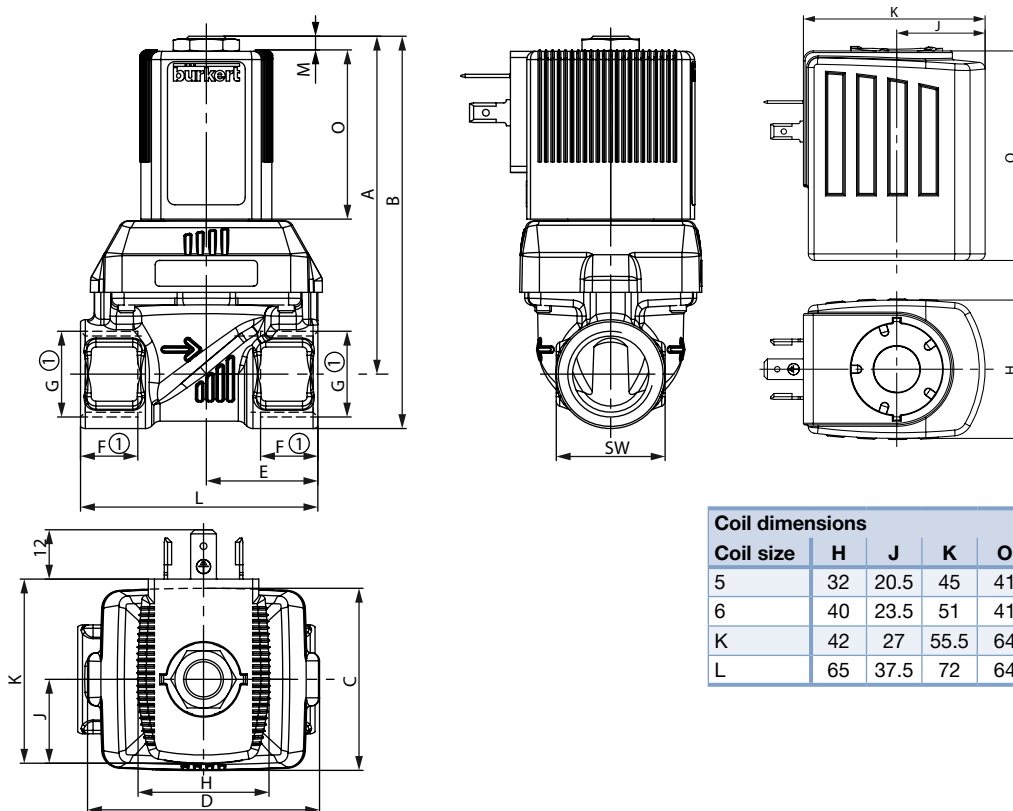
Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
				24 V DC	120 V/60 Hz
<b>Brass UL Listed</b>					
NPT 3/8	10	2.2	1.5 – 145	280512	280511
NPT 1/2	13	4.2	1.5 – 145	280508	280506
NPT 3/4	20	9.6	1.5 – 145	280502	280500
NPT 1	20	9.6	1.5 – 145	280486	276442
<b>Stainless steel UL Listed</b>					
NPT 1/4	10	2.2	1.5 – 145	280432	280431
NPT 3/8	10	2.2	1.5 – 145	280426	280425
NPT 1/2	13	4.2	1.5 – 145	280420	280418
NPT 3/4	20	9.6	1.5 – 145	280415	280413
NPT 1	20	9.6	1.5 – 145	280411	280409

### Options

- Coil UL Recognized for USA and Canada cURus
- Energy-saving double coil technology with “Kick and Drop” (KD) electronics
- Cable plug with LED and varistor

Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]	Weight [lbs]	Item no. Voltage/Frequency [V/Hz]	
					24 V DC	120 V/60 Hz
<b>Brass UL Recognized</b>						
NPT 1 1/4	25	12.7	1.5 – 145	4.8	273558	333885
NPT 1 1/2	40	34.7	1.5 – 87	8.8	273559	333912
NPT 2	40	34.7	1.5 – 87	9.2	273560	333915
<b>Stainless steel UL Recognized</b>						
NPT 1 1/4	25	12.7	1.5 – 145	4.9	273643	333906
NPT 1 1/2	40	34.7	1.5 – 87	8.2	273645	333933
NPT 2	40	34.7	1.5 – 87	9.1	273646	333939

Dimensions [inch] (see datasheet for details)

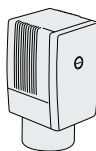


Coil dimensions					
Coil size	H	J	K	O	M
5	32	20.5	45	41	3.4
6	40	23.5	51	41	3.4
K	42	27	55.5	64	7
L	65	37.5	72	64	7

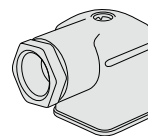
- ① The dimensions F and G apply to NPT-threads
- ② Brass NPT - thread port version only
- ③ Stainless steel NPT - thread port version only

For UL Listed Valves

For UL Recognized Valves



2509 plug Form A included



2518 plug Form A included

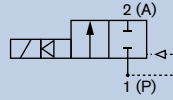
DN	A	B	C	D	E (MS/VA)	NPT		L (MS/VA)	SW	Coil size			
						F	G						
10	2.84	3.28	1.44	1.84	.88	.40	NPT 1/4	2	.88	5 and 6			
10 ②	2.92	3.46			.98	.52	NPT 3/8	2			1.0		
10 ③							NPT 1/2	2.2					
13 ②	3.30	3.83	1.78	2.27	1.10	.54	NPT 1/2	2.32	1.08	5 and 6			
13 ③					1.3			2.6					
13	3.38	4.02			1.3	.56	NPT 3/4	2.6	1.28				
20	3.88	4.52	2.6	3.06	37	.56	NPT 3/4	3.06	1.28	5 and 6			
20	3.98	4.80			1.5			.67			NPT 1	3.2	1.64
25	5.73	6.53	3.08	3.52	1.8	.67	NPT 1	3.8	1.6	K and L			
25	5.93	6.93			1.8			.69			NPT 1 1/4	3.8	2
40 ②	6.15	7.15	4.18	4.7	2.44	.69	NPT 1 1/2	5.04	2.4	K and L			
40	6.37	7.57			2.44			.69			NPT 1 1/4	5.04	2.4
40	6.37	7.57			2.44			.69			NPT 1 1/2	5.04	2.4
40	6.61	8.01			2.56			.70			NPT 2	5.28	2.8

# Servo-Assisted Solenoid Valve with Plunger Pilot

6281 EV

## NPT 1/2" - NPT 2", 2.9-232 PSI

- Waterhammer-free
- Rugged molded diaphragm
- Compact design with high flow rates



Servo-assisted brass plunger piloted solenoid valve with un-coupled rugged diaphragm. This valve is designed for neutral gases and liquids where a rugged and reliable solution is required.

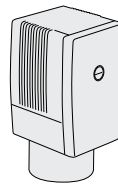
### Technical Data

<b>Pressure range</b>	2.9-232 PSI max.
<b>Temperature media</b>	+14 °F to +176 °F
<b>Ambient temperature</b>	131 °F, max.
<b>Body material</b>	Brass, Stainless steel
<b>Seal material</b>	FKM
<b>Coil material</b>	Epoxy (Class H)
<b>Power consumption</b>	DC: 8 W, AC: 21 VA (inrush), 12 VA (hold)
<b>Protection class</b>	IP65 (with cable plug)
<b>Electrical connection</b>	Cable plug acc. to DIN EN 175301-803, Form A (included)
<b>Accreditations</b>	UL Listed

### Options

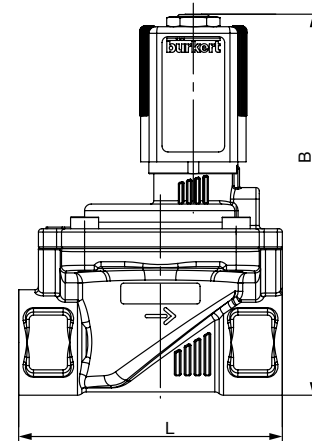
- Normally open
- Cable plug with LED
- Cable plug with varistor
- UL Recognized version
- BUNA and EPDM seal materials on request

### Dimensions [mm] (see datasheet for details)



2509 cable plug  
Form A included

DN	B	L
10 <sup>1)</sup>	94.1	50
		50
10 <sup>2)</sup>	94.6	50
		50
13 <sup>1)</sup>	104.6	55
		58
13		65
		65
20	115.6	80
		80
25	127.1	95
		95



1.) Only brass threaded port version  
2.) Only stainless steel threaded port version

### Ordering Chart

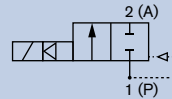
Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
				24 V DC	120 V/60 Hz
<b>Brass</b>					
NPT 1/2	13	4.66	2.9-232	306547	306617
NPT 3/4	20	10.00	2.9-232	306548	306618
NPT 1	25	14.11	2.9-232	306552	306619
NPT 1 1/4	25	14.11	2.9-232	306560	306620
NPT 1 1/2	40	23.30	2.9-232	306561	306621
NPT 2	50	46.60	2.9-232	306562	306622
<b>Stainless steel</b>					
NPT 1/2	13	4.66	2.9-232	306563	306623
NPT 3/4	20	10.00	2.9-232	306564	306624
NPT 1	25	14.11	2.9-232	306566	306625
NPT 1 1/4	25	14.11	2.9-232	306567	306626
NPT 1 1/2	40	23.30	2.9-232	306568	306627
NPT 2	50	46.60	2.9-232	306569	306629

# 2/2-way Servo-Assisted Solenoid Valve with Isolated Pilot

5282

## NPT 1/2" - NPT 2"

- Unique isolated technology for slightly contaminated fluids
- Independently adjustable open / close rate
- Easily configurable for normally open
- Manual override



CLICK ME



FOR DATA SHEET

Completely unique servo-assisted solenoid valve with isolated pivoted armature pilot. This valve design is much less sensitive to fluid contamination than plunger operated valves and therefore offers many advantages in the process environment. The pilot section can be rotated in the field to make the valve normally open.

### Technical Data

<b>Pressure range</b>	2.9-232 PSI for brass, 2.9-174 PSI for stainless steel
<b>Temperature media</b>	32 °F to 194 °F
<b>Ambient temperature</b>	131 °F, max.
<b>Body material</b>	Brass or Stainless steel
<b>Seal material</b>	NBR with brass, FKM with Stainless
<b>Coil material</b>	Epoxy (Class H)
<b>Power consumption</b>	DC: 8 W, AC: 21 VA (inrush), 12 VA (hold)
<b>Protection class</b>	IP65 (with cable plug)
<b>Electrical connection</b>	Cable plug acc. to DIN EN 175301-803 Form A (included)
<b>Accreditations</b>	UL Listed

To open the full cross-section a pressure difference of 7.2 PSI (0.5 bar) is required. The switching times can be changed by turning the flow control screw (on the cover).

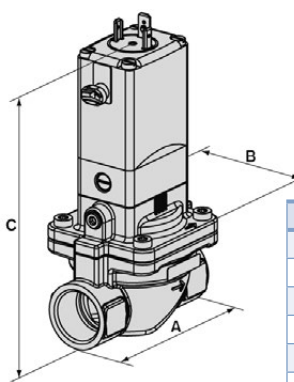
Response times <sup>1)</sup>	
Opening [s]	Closing [s]
0.1-0.8	1.0-4.0

<sup>1)</sup> Measured at valve outlet at 87 PSI (6 bar) and 68 °F  
Opening: pressure rise 0 to 90%, Closing: pressure drop 100 to 10%

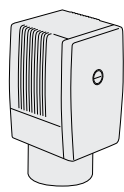
### Ordering Chart

Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]		Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
				24 V DC	120 V		24 V DC	120 V
<b>Brass</b>								
NPT 1/2	13	4.66	2.9-145	329291	329285	2.9-232	20068156	20068157
NPT 3/4	20	5.83	2.9-145	329299	329293	2.9-232	20068158	20068159
NPT 1	25	11.65	2.9-145	329288	329286	2.9-232	20068162	20068163
NPT 1 1/4	32	23.30	2.9-145	341697	329333	2.9-232	20068166	20068167
NPT 1 1/2	40	23.30	2.9-145	329303	329311	2.9-232	20068170	20068172
NPT 2	50	46.60	2.9-145	329298	329284	2.9-232	20068177	20068178
<b>Stainless steel</b>								
NPT 1/2	13	4.66	2.8-145	329304	329282	2.9-174	20076136	20076138
NPT 3/4	20	5.83	2.8-145	329294	329314	2.9-174	20076139	20076140
NPT 1	25	11.65	2.8-145	329310	329290	2.9-174	20068164	20068165
NPT 1 1/4	32	23.30	2.8-145	329337	329328	2.9-174	20068168	20068169
NPT 1 1/2	40	23.30	2.8-145	329305	329292	2.9-174	20068174	20068176
NPT 2	50	46.60	2.8-145	329323	329324	2.9-174	20068179	20068180

### Envelope Dimensions [inch] (see datasheet for details)



2509 cable plug Form A included



Size	A	B	C
1/2"	2.56	1.57	4.84
3/4"	3.94	2.36	5.16
1"	4.53	2.76	5.55
1 1/4"	4.96	3.35	5.79
1 1/2"	4.96	3.35	6.14
2"	6.46	4.53	6.97
2 1/2"	7.09	4.53	7.28

### Options

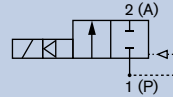
- Normally open
- Electrical position feedback
- Impulse coil
- Cables plug with LED
- Cable plug with varistor
- Ex-version available
- Atex version available
- Range of diaphragm seals to suit aggressive media
- 24V/60 Hz, 240V/60 Hz
- HazLoc Class 1 Div. 2

# 2/2-way hard-coupled Solenoid Valve

0290

## NPT 1/2" - NPT 2"

- Switches without differential pressure
- Operates on vacuum
- Process proven rugged and reliable design



One of the ever reliable workhorses of the Burkert solenoid range this hard-coupled solenoid valve with plunger piloted rugged diaphragm seal is perfect for vacuum, neutral gases and liquids. The high-performance design is available in brass and stainless steel with a range of diaphragm and seal materials.

### Technical Data

<b>Medium temperature <sup>1)</sup></b>	NBR	14 °F to 176 °F (-10 °C to +80 °C)
	FKM	32 °F to 248 °F (0 °C to +120 °C)
	EPDM	-22 °F to 248 °F (-30 °C to +120 °C)
<b>Ambient temperature</b>	131 °F (+55 °C), max.	
<b>Voltage tolerance</b>	±10%	
<b>Duty cycle</b>	100% continuous rating	
<b>Body material</b>	Brass, stainless steel 1.4581	
<b>Seal material</b>	FKM (NBR or EPDM on request)	
<b>Coil material</b>	Epoxy (Class H)	
<b>Protection class</b>	IP65 (with cable plug)	
<b>Electrical connection</b>	Cable plug acc. to DIN EN 175301-803, Form A (included)	
<b>Accreditations</b>	UL Listed	

<sup>1)</sup> Max. medium temperature for versions with high power electronics (with coding... /UC) withstands 194 °F (90 °C)

### Options

- Cable plug with LED and varistor
- Oxygen version
- UR/cURus approval
- Flange connection acc. to DIN 2501 (DN25-50 mm)
- 24V/60 Hz, 240V/60 Hz

### Envelope Dimensions [inch] (see datasheet for details)

Size	A	B	C
NPT 1/2"	2.93	2.75	3.75
NPT 3/4"	3.93	2.75	4.80
NPT 1"	4.52	2.75	5.15
NPT 1 1/4"	4.96	2.75	5.70
NPT 1 1/2"	4.96	2.75	6.06
NPT 2"	6.45	2.75	8.30

### Ordering Chart

Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]	Power consumption		Item no. Voltage/Frequency [V/Hz]	
				Inrush [W]	Hold [W]	24 V AC/DC	120 V AC/DC
<b>Brass</b>							
NPT 1/2	12	2.1	0-232	120	8.5	298109	298110
NPT 3/4	20	7.5	0-232	145	10	298115	298116
NPT 1	25	11.6	0-232	145	10	298119	298120
<b>Stainless steel</b>							
NPT 1/2	12	2.1	0-232	120	8.5	298112	298113
NPT 3/4	20	7.5	0-232	145	10	298117	298118
NPT 1	25	11.6	0-232	145	10	298122	298123

= Burkert Quick Delivery Express Program Items



# Servo-Assisted 2/2-way Steam Piston Valve

6407

## NPT 1/2" - NPT 1 1/2", 0-145 PSI

- Servo-assisted piston valve
- Safe opening with hard-coupled piston system without differential pressure
- Vibration-resistant, push-over coil system
- Energy-saving double coil technology with "Kick and Drop" (KD) electronics

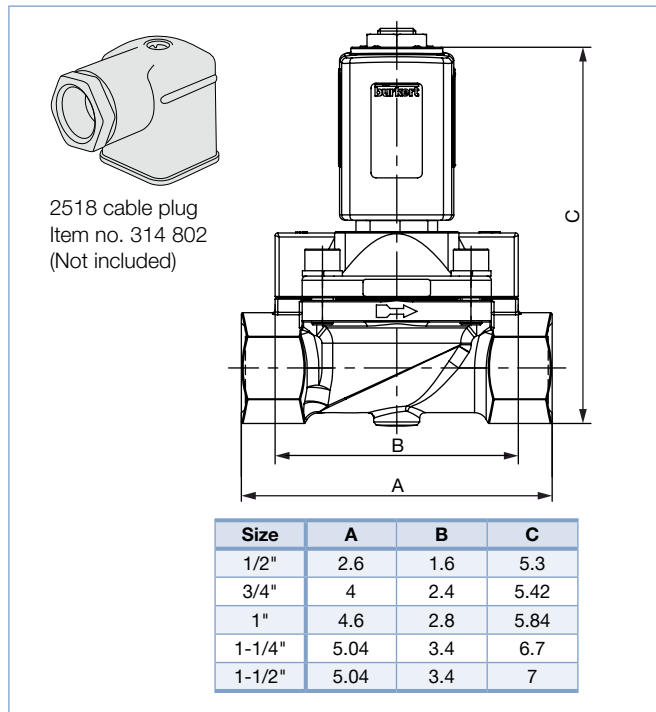


The Type 6407 is a servo-assisted piston valve with a welded stopper and core guide pipe design that provides an increased pressure rating and leak-tightness. As compared to a diaphragm valve, a piston valve is a more robust design for demanding higher pressure applications such as gases, compressed air, hot water and steam. As well as liquids with low operating temperatures. The valve is specifically designed for steam service with PTFE/graphite seals and SS seats to provide increased service life.

### Technical Data

Orifice	DN13-DN50
Pressure range	0-145 PSI max.
Medium temperature	-40 °F to 302 °F (-40 °C...+150 °C)
Ambient temperature	32 °F to 113 °F (0 to 45°C)
Body material	Brass
Seal material	PTFE/graphite
Coil material	Epoxy (Class H)
Switch function	On/Off
Flow	Above seat
Viscosity	Max. 21 mm <sup>2</sup> /s
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A

### Dimensions [inch] (see datasheet for details)



### Ordering Chart

Port connection [inch]	Circuit function	Orifice [mm]	CV	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
					24 V AC/DC	110-120 V AC
<b>Brass body, seal combination PTFE/Graphite</b>						
NPT 1/2	A NC, normally closed	13	3.9	0-145	320874	320863
NPT 3/4		20	6.6	0-145	320875	320864
NPT 1		25	11.6	0-145	320876	320865
NPT 1 1/4		32	18.5	0-145	330421	330425
NPT 1 1/2		32	18.5	0-145	330442	330443

# Direct-acting 2-way proportional solenoid control valve

2871

- Precise flow control
- High and low differential pressure designs
- Vacuum rated
- Direct-acting valve for demanding control functions (wide control range, high cycling and dry gases)



Type 2871 direct-acting proportional solenoid control valves are used as the regulating unit in control loops. Precise control is provided by utilizing Burkert's proportional control technology, a Type 8605 PWM Digital Controller.

Not all proportional valves are created equal. Valve size selection is critical since Burkert's flow-efficient designs provide high flow capacities (Cv) in compact designs. A Burkert valve can reach its full flow rate with a small opening (stroke) and will be oversized. As a result, the valve will not provide the desired control and may cause the system to hunt or cycle. For Burkert Solenoid Control Valves, typically the required valve size or orifice size is smaller than the corresponding line size.

Type 2871 solenoid control valves provide a linear flow characteristic. To provide good valve control, a major portion of the pressure drop should be taken across the valve even when it is fully open. The recommended pressure drop across the valve is >25% of the total system pressure drop, but <50%. It is recommended Burkert Technical Sales review your application.

## Technical Data

<b>Setting range</b>	1:200: DN 0.8 – 2.0mm, 1:500: DN 0.05 – 0.6mm
<b>Materials</b>	Brass, Stainless Steel
<b>Pressure range</b>	-14.0 – 174 PSI
<b>Operating voltage</b>	24V DC (12V on request)
<b>Medium temperature</b>	14 °F to 194 °F (-10 °C to +90 °C) (with FKM) -22 °F to 194 °F (-30 °C to +90 °C) (with EPDM)
<b>Viscosity (max.)</b>	21 cP

## Options

- Manifold mount
- O2 cleaning
- UL recognized
- FDA conformity
- USP Class VI

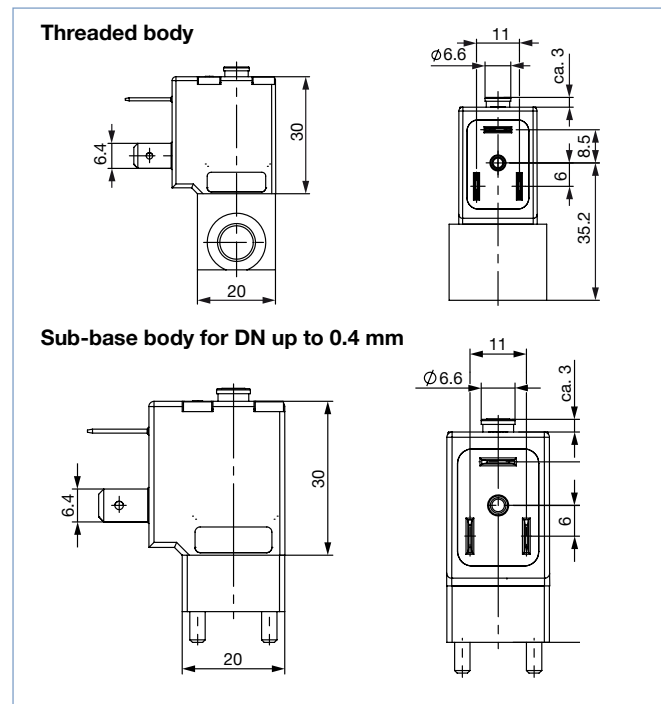
### Note:

- All valves with FKM seals, other materials available on request
- DN 0.05 and DN 0.1 valves supplied with PCTFE seats with FKM seals
- TYPE 2507 Cable Plug, Form B (Not Included)
- TYPE 8605 PWM Controller Versions - Cable plug for direct mounting or DIN rail mounting (Controller Not Included)
- TYPE 2871 Valve requires a DIN Rail Version of the TYPE 8605 Controller (Form B Size Controllers are not available)

## Ordering Chart

Orifice [mm]	Port connection [inch]	Cv	Nominal pressure [PSI]	Maximum differential pressure [PSI]	Item no.	
					Brass Body	S.S. Body
0.05	NPT 1/8	0.00007	-14.0...145	145	254968	254971
0.1	NPT 1/8	0.0003	-14.0...145	145	254972	254973
0.2	NPT 1/8	0.0012	-14.0...145	145	254974	254975
0.3	NPT 1/8	0.0023	-14.0...145	145	254977	254978
0.4	NPT 1/8	0.005	-14.0...116	116	254979	254980
0.6	NPT 1/8	0.012	-14.0...87	87	254981	254982
0.6	NPT 1/8	0.012	-14.0...174	174	-	360155
0.8	NPT 1/8	0.021	-14.0...174	174	255598	255600
1.0	NPT 1/8	0.031	-14.0...145	145	255604	255606
1.2	NPT 1/8	0.044	-14.0...116	116	255611	255614
1.6	NPT 1/8	0.064	-14.0...87	87	255620	255623
2.0	NPT 1/8	0.104	-14.0...43	43	255632	255636

## Dimensions [mm] (see datasheet for details)

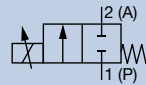




# Direct-acting 2-way standard solenoid control valve

2873

- Excellent range
- Neutral gases and liquids
- Compact valve design
- Orifice sizes 0.8 ... 6 mm
- Optional: Explosion-protected coil



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The direct-acting solenoid control valve Type 2873 is used as the regulating unit in control loops. Due to an elastomeric seat seal the valve closes tight (integrated shut-off function), up to the DN specific nominal pressure. The plunger of the valve is assembled frictionless, which leads to an extraordinary adjustment characteristic. This valve is particularly suitable for demanding control tasks (high control range, dry gases, etc.).

## Technical Data

Setting range	1:200
Materials	Brass, Stainless Steel
Actuating time	<20 ms
Pressure range	0 – 16 bar (vacuum on request)
Operating voltage	12V, 24V DC
Medium temperature	14 °F to 194 °F (-10 °C to +90 °C) (with FKM) -22 °F to 194 °F (-30 °C to +90 °C) (with EPDM)
Degree of protection	IP65

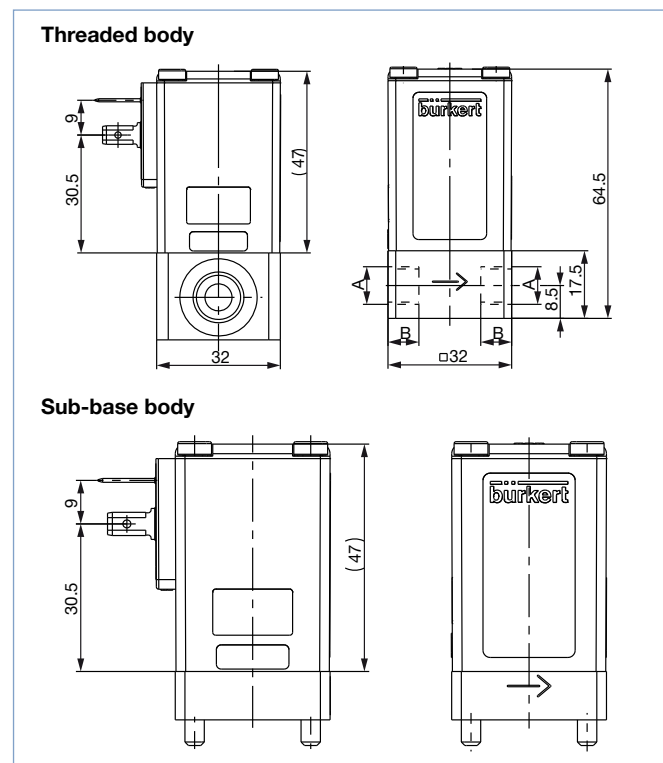
## Options

- Manifold mount
- Vacuum rating
- Flying leads
- O2 cleaning
- UL recognized
- FDA conformity
- USP Class VI
- High differential pressure
- ATEX

### Note:

- All valves with FKM seals, others available on request
- Please note that the cable plug must be ordered separately, see datasheet for Type 2518 (cable plug Type 2518, form A DIN 175301-803)
- For liquids, select version for high differential pressure (NF64)
- Type 8605 PWM controller needed with device

Dimensions [mm] (see datasheet for details)



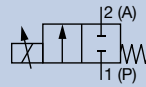
## Ordering Chart

Orifice [mm]	Port connection	Kvs-value water [m³/h]	Nominal pressure [bar]	Maximum differential pressure [bar]	Item no.	
					Brass Body	S.S. Body
0.8	NPT 1/8	0.018	16	8	236229	236230
0.8	NPT 1/8	0.018	16	16	255643	255646
1.2	NPT 1/8	0.040	12	6	236231	236232
1.2	NPT 1/8	0.040	12	12	255654	255656
1.5	NPT 1/8	0.060	10	5	236233	236234
1.5	NPT 1/8	0.060	10	10	255658	255659
2.0	NPT 1/4	0.100	8	4	236237	236238
2.0	NPT 1/4	0.100	8	8	254369	255670
2.5	NPT 1/4	0.150	5	2.5	236239	236241
2.5	NPT 1/4	0.150	5	5	255674	255676
3.0	NPT 1/4	0.220	3.5	1.75	236242	236243
3.0	NPT 1/4	0.220	3.5	3.5	255683	255685
4.0	NPT 1/4	0.320	2	1	236244	236245
4.0	NPT 1/4	0.320	2	2	255692	255693

# Direct-acting 2-way standard solenoid control valve

2875

- Excellent range
- Neutral gases and liquids
- Compact valve design
- Orifice sizes 2 ... 9.5 mm
- Optional: Explosion-protected coil



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The direct-acting solenoid control valve Type 2875 is used as the regulating unit in control loops. Due to an elastomeric seat seal the valve closes tight (integrated shut-off function), up to the DN specific nominal pressure. The plunger of the valve is assembled frictionless, which leads to an extraordinary adjustment characteristic. This valve is particularly suitable for demanding control tasks (high control range, dry gases, etc.).

## Technical Data

Setting range	1:200
Materials	Brass, Stainless Steel
Actuating time	<25 ms
Pressure range	0 – 25 bar (vacuum on request)
Operating voltage	12V, 24V DC
Medium temperature	14 °F to 194 °F (-10 °C to +90 °C) (with FKM) -22 °F to 194 °F (-30 °C to +90 °C) (with EPDM)
Degree of protection	IP65

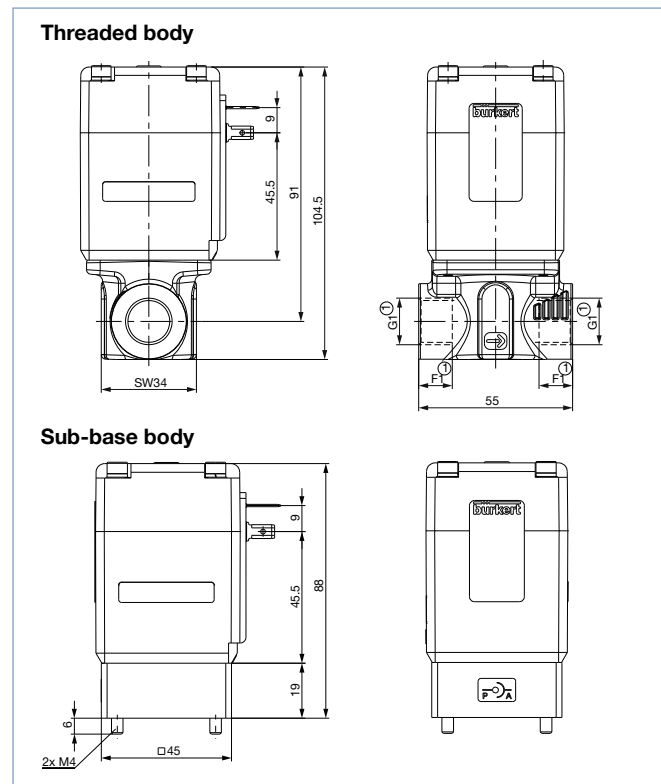
## Options

- Manifold mount
- Vacuum rating
- Flying leads
- O2 cleaning
- UL recognized
- FDA conformity
- USP Class VI
- High differential pressure
- ATEX

## Note:

- All valves with FKM seals, others available on request
- Please note that the cable plug must be ordered separately, see datasheet for Type 2518 (cable plug Type 2518, form A DIN 175301-803)
- For liquids select version with high differential pressure (NF64)
- Type 8605 PWM controller needed with device

Dimensions [mm] (see datasheet for details)



## Ordering Chart

Orifice [mm]	Port connection	Kvs-value water [m³/h]	Nominal pressure [bar]	Maximum differential pressure [bar]	Item no.	
					Brass Body	S.S. Body
2.0	NPT 3/8	0.12	25	12.5	-	236900
2.0	NPT 3/8	0.12	25	25	255705	255707
3.0	NPT 3/8	0.25	10	5	236902	236904
3.0	NPT 3/8	0.25	10	10	251069	255713
4.0	NPT 1/2	0.45	8	4	236909	236913
4.0	NPT 1/2	0.45	8	8	255728	255732
6.0	NPT 1/2	0.8	4	2	236917	236921
6.0	NPT 1/2	0.8	4	4	255742	255745
8.0	NPT 1/2	1.1	2	1	236923	236925
8.0	NPT 1/2	1.1	2	2	255751	255752
9.5	NPT 1/2	1.4	0.7	0.35	314555	314559
9.5	NPT 1/2	1.4	0.7	0.7	314556	314560

## 2/2 way Proportional Valve (motor-driven)

3285

- Actuator isolated from flow path
- Excellent range and fast response times
- Low power consumption
- Orifice sizes 8 to 25 mm
- Versions: Standard, positioner, process controller



The direct-acting motor valve of Type 3285 is used for dosing of liquids and gases in closed or open control loops. The valve features a stepper motor as the actuator. The integrated electronics simplifies the process integration; additional actuation modules are not necessary. The motor's power consumption to hold a specific opening position of the valve is zero. This key feature can reduce the energy consumption of a plant dramatically and thus make it more efficient. Type 3285 is available as a standard ON/OFF or proportional valve, as a version with integrated positioner and as a version with integrated process controller.

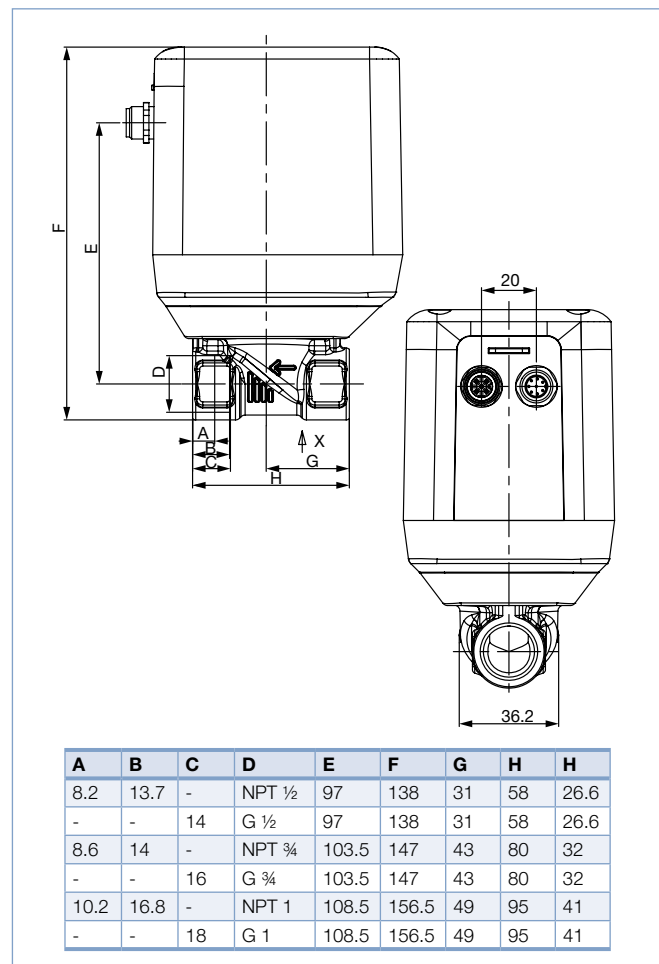
### Technical Data

Setting range	1:100
Materials	Brass, Stainless Steel
Actuating time	4 s (0-100% open)
Pressure range	0 – 6 bar
Operating voltage	12V, 24V DC
Medium temperature	32 °F to 158 °F (0 °C to 70 °C)
Degree of protection	IP50

#### Note:

– All valves are process controller version with 4-20mA/bus input and 4-20mA output signals

### Dimensions [mm] (see datasheet for details)



### Ordering Chart

Orifice [mm]	Port connection	Kvs-value water [m³/h]	Nominal pressure [bar]	Item no.	
				Brass Body	S.S. Body
8.0	NPT 1/2	1.8	6	287902	287908
10.0	NPT 1/2	2.5	6	287903	287909
12.0	NPT 3/4	3.9	6	287904	287910
15.0	NPT 3/4	5.4	6	287905	287911
20.0	NPT 1	8.1	6	287906	287912
25.0	NPT 1	9.6	6	287907	287913

# PWM Control Electronics for Solenoid Control Valves

8605

- Programmable digital electronics
- Converts an analogue input signal into a PWM output signal
- Adjustable PWM frequency
- Digital communication possible (bÜS)
- Optional integrated time control and digital/analogue input signals



The digital control electronics Type 8605 are used to operate proportional solenoid control valves in a power range from 40-2000 mA. The electronics convert an external standard signal into a pulse-width modulated (PWM) signal, which enables infinite adjustment of the opening of the proportional valve and hence a fluidic output parameter (e.g. flow rate). An internal current control with the duty cycle of the PWM signal as an actuating variable ensures that every value of the input signal, irrespective of the thermal state of the coil, is unambiguously assigned a given value of the effective coil current. A display and operating keys allow the electronics to be easily adapted to a particular proportional valve and to the specific conditions of an application. In order to integrate the control unit - and thus also the proportional valve - into a higher-level controller, the CAN-based variant of the control unit (called bÜS) is required. Parameterisation and configuration of the proportional valve can be performed quickly and easily using the Bürkert Communicator software. Furthermore, the bÜS control electronics enables the integration of shut-off valves into bÜS/CAN systems. By using the integrated time control function, a shut-off valve can be opened or closed for a certain period of time. This enables, for example, batch control solutions in filling processes. Optionally, Type 8605 can be equipped with an additional I/O board. This allows the connection of external sensors or switches. The valve behaviour on these input signals can be configured (e.g. 2-point control).

## Ordering Chart

### Type 8605 control for proportional valves

#### Note:

- For two possible current ranges, the smaller one should be preferred.
- When using the control electronics in combination with valves from other manufacturers, make sure that these valves do not fall below a minimum load of 7Ω. Activation of valves with lower minimum load will damage the Type 8605 electronic control unit.

Version	Max. coil current range  [mA]	Item no.	2861, 2871 24 V DC	2861, 2871 12 V DC	2863, 2873 24 V DC	2863, 2873 12 V DC	2865, 2875 24 V DC	2865, 2875 12 V DC	2836 24 V DC	6024 24 V DC	6024 12 V DC	6223 24 V DC	6223 12 V DC
Cable plug with PG gland	200...1000	316530			x	x	x			x		x	
Cable plug with M12 connection	200...1000	316528			x	x	x			x		x	
Cable plug with PG gland	500...2000	316529			x	x	x	x	x	x	x		x
Cable plug with M12 connection	500...2000	316526				x	x	x	x	x	x		x
Cable plug with PG gland without control unit	200...1000	316521			x	x	x			x		x	
Cable plug with M12 connection without control unit	200...1000	316522			x	x	x			x		x	
Cable plug with PG gland without control unit	500...2000	316523				x	x	x	x	x	x		x
Cable plug with M12 connection without control unit	500...2000	316525				x	x	x	x	x	x		x
DIN rail	40...220	316531	x										
DIN rail	200...1000	316532	x	x	x	x	x			x		x	
DIN rail	500...2000	316533				x	x	x	x	x	x		x
Cable plug with M12 connection bÜS PWM	200...1000	355655			x	x	x			x		x	
Cable plug with M12 connection bÜS PWM	500...2000	364714				x	x	x	x	x	x		x

### Type 8605 (bÜS) control for shut-off/solenoid valves

Version	Item no.
Cable plug with M12 connection	302988
Cable plug with M12 connection and sensor input (M12)	302990

### Accessories - Analogue version

Accessory	Item no.
Control unit for Type 8605 Cable plug	582878
Right-angle plug M12 4-pol.	784301
M12 connecting cable 4-pol. 5 m length	918038
Cover set (for control electronics without control unit)	670549

# Digital Timer

- Digital version with bright LED display
- Analogue version with LED illumination to indicate switching status
- Connection according to DIN EN 175301-803 (form A)
- Protection class IP65 (NEMA 4)

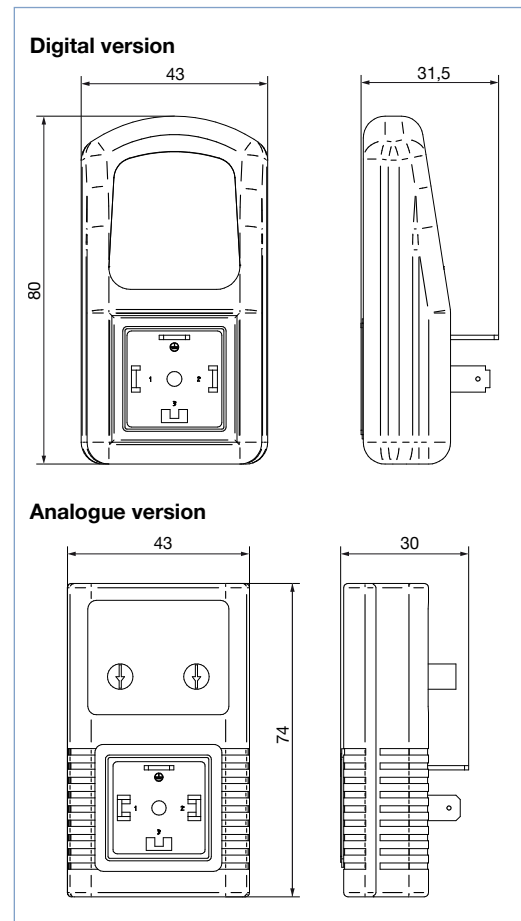


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## Technical Data

Product properties	Digital version	Analogue version
Timer PCB	SMT	SMT
Cycle display time	bright LED display	bright LED display
Housing material	ABS plastic	ABS plastic
Test function	Yes	Yes
<b>Electrical data</b>		
Voltage	10...48 V AC/DC 50/60 Hz 240 V AC/DC 50/60 Hz	24...240 V AC/DC 50/60 Hz 48...380 V AC/DC 50/60 Hz
Switching current	Max. 2,0 A Max. 1,0 A (cURus approved)	Max. 2,0 A Max. 1,0 A (cURus approved)
<b>Performance data</b>		
Timer cycle (on/off)	0.01 seconds up to 99 hours (ON) 0.01 seconds up to 99 hours (OFF)	0.5...10 seconds (ON) 0.5...45 minutes (OFF)
<b>Approvals and Certificates</b>		
Protection class	IP65 (NEMA 4)	IP65 (NEMA 4)
<b>Product connections</b>		
Plug connection	DIN EN 175301- 803 (Form A)	DIN EN 175301- 803 (Form A)
<b>Environment and installation</b>		
Ambient temperature	-40 °C...+55 °C (-40 °F...+131 °F)	-40 °C...+55 °C (-40 °F...+131 °F)

## Dimensions [mm] (see datasheet for details)



## Ordering Chart

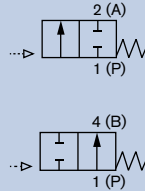
Timer	Approval	Product code	Voltage range	Item no.
Analogue	cURus	1087-A-BCH-UC- 28	10...30 V AC/DC	348906
Analogue	cURus	1087-A-BDK-UC- 28	24...240 V AC/DC	348907
Digital	cURus	1087-A-BFW-UC- 29	10...48 V AC/DC	348908
Digital	cURus	1087-A-BDX-UC- 29	110...240 V AC/DC	348909

# On-Off Pneumatically Operated 2/2-way Angle Valve for Liquids

2000

## NPT 1/2" - NPT 2 1/2"

- Waterhammer-free
- High flow rates
- Self adjusting double packing
- Optical position indicator is standard
- Rotating actuator to orient air control connections



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The angle seat valve consists of a pneumatically actuated actuator and a 2-way valve body. Depending on the ambient temperature the actuator is available in two different materials, PA and PPS. The self adjusting gland packing ensures a good seal. The 2/2-way flow valve body made of bronze or stainless steel precision casting allows high flow rates. These durable and robust valves can be retrofitted with a comprehensive range of accessories for position indication, stroke limitation or manual override.

### Technical Data

<b>Pressure range</b>	See Ordering Chart
<b>Viscosity</b>	max. 600 mm <sup>2</sup> /s
<b>Stuffing socket (with silicone grease)</b>	PTFE V-Rings with spring compensation
<b>Temperature media</b>	14 °F to 356 °F (-10 °C to +180 °C)
<b>Ambient temperature</b>	
for PA-Actuator	14 °F to 140 °F (-10 °C to +60 °C)
for PPS-Actuator <sup>1)</sup> Ø 40-80	41 °F to 284 °F (+5 °C to +140 °C)
for PPS-Actuator <sup>1)</sup> Ø 100-125	41 °F to 194 °F (+5 °C to +90 °C), temporary up to 284 °F (+140 °C)
<b>Body material</b>	Gunmetal or stainless steel 316L
<b>Seal material</b>	PTFE
<b>Actuator material</b>	Polyamide or PPS
<b>Control medium</b>	Instrument air at 87 PSI
<b>Flow direction</b>	Under seat
<b>Safe position</b>	Normally closed or normally open
<b>Pilot air port</b>	1/4" (Actuator Ø 40 = 1/8")

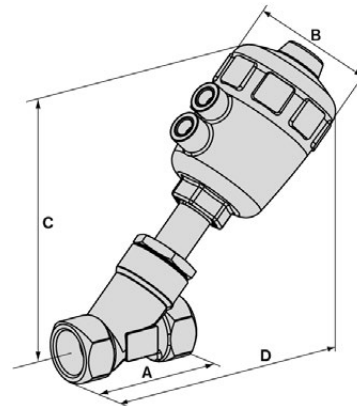
### Options

- Double acting
- Solenoid pilot valves
- Vacuum version
- Feedback switches
- Cleaned for oxygen service
- Seal material NBR, FKM, EPDM
- GL, SIL approvals
- Stroke limiter
- High Temp option (CF38) up to 446F (230C)

### Accessories for 2000



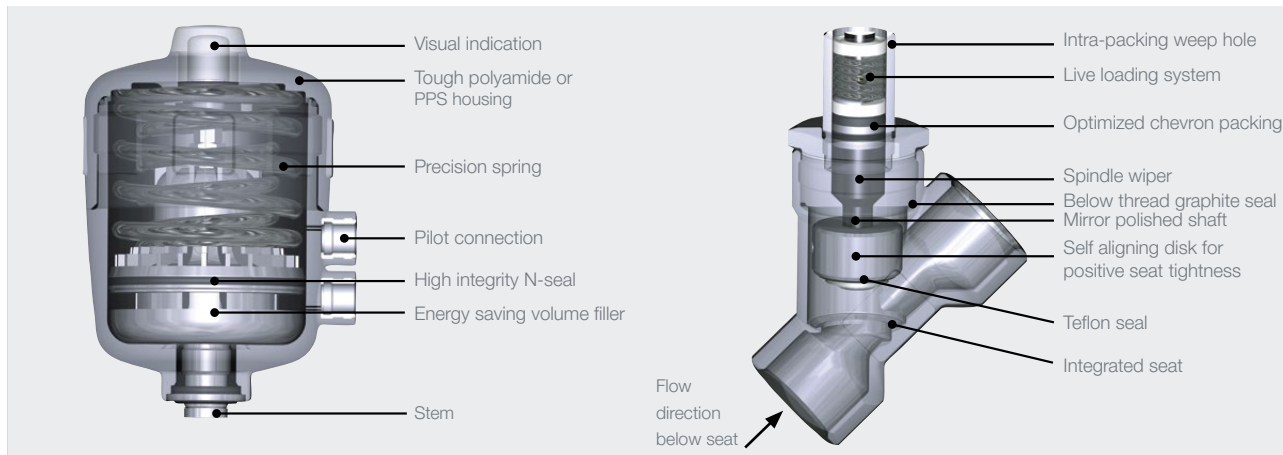
### Envelope Dimensions [inch] (see datasheet for details)



Size	Actuator [mm]	A	B	C	D
NPT 1/2"	40	2.55	2.08	4.52	5.47
NPT 1/2"	50	2.55	2.51	5.51	6.41
NPT 3/4"	50	2.95	2.51	5.66	6.73
NPT 3/4"	63	2.95	3.14	6.73	7.79
NPT 1"	50	3.54	2.51	5.98	7.12
NPT 1"	63	3.54	3.14	6.96	8.11
NPT 1"	80	3.54	3.97	7.79	8.97
NPT 1 1/4"	63	4.33	3.14	7.20	8.62
NPT 1 1/4"	80	4.33	3.97	8.07	9.44
NPT 1 1/2"	63	4.72	3.14	7.40	8.74
NPT 1 1/2"	100	4.72	5.00	10.23	11.61
NPT 1 1/2"	125	4.72	6.22	11.37	12.75
NPT 2"	80	5.90	3.97	8.85	10.62
NPT 2"	100	5.90	5.00	10.70	12.48
NPT 2"	125	5.90	6.22	11.88	13.66
NPT 2 1/2"	80	7.28	3.97	9.40	11.65
NPT 2 1/2"	100	7.28	5.00	11.29	13.54
NPT 2 1/2"	125	7.28	6.22	12.48	14.72



## Sectional Drawings



## Ordering Charts

### Standard PA Actuator

2000 for liquids	Actuator [mm]	Cv	Pressure	Item no. Bronze	Item no. Stainless Steel
<b>Normally closed</b>					
NPT 1/2"	40	4.3	217	468156	468186
NPT 1/2"	50	4.9	232	468157	468187
NPT 3/4"	50	9.8	160	468158	468041
NPT 3/4"	63	10.4	232	468159	468188
NPT 1"	63	20.8	160	468039	468043
NPT 1"	80	20.8	232	468160	468189
NPT 1 1/4"	80	31.3	203	468161	468190
NPT 1 1/2"	80	43.9	131	468162	468044
NPT 1 1/2"	100	46.3	181	468216	468217
NPT 1 1/2"	125	46.3	232	468163	468191
NPT 2"	100	63.6	104	468131	468134
NPT 2"	125	63.6	145	468142	468045
NPT 2 1/2"	125	104.1	75	468132	468135
NPT 2 1/2"	125	104.1	151	468453	468454
<b>Normally open</b>					
NPT 1/2"	40	4.3	232	468164	468192
NPT 1/2"	50	4.9	232	468165	468193
NPT 3/4"	50	9.8	232	468166	468194
NPT 1"	50	11.6	232	468167	468195
NPT 1 1/4"	63	28.9	232	468168	468464
NPT 1 1/2"	63	40.5	232	468169	468196
NPT 1 1/2"	80	43.9	232	468218	468219
NPT 2"	63	56.7	188	468133	468449
NPT 2"	80	60.1	232	468143	468144
NPT 2 1/2"	80	89.1	217	468451	468450

### PPS Actuator for high temperatures and severe washdown environment

2000 for liquids	Actuator [mm]	Cv	Pressure	Item no. Bronze	Item no. Stainless Steel
<b>Normally closed</b>					
NPT 1/2"	40	4.3	218	468176	468204
NPT 1/2"	50	4.9	232	468177	468205
NPT 3/4"	50	9.8	160	468178	468206
NPT 3/4"	63	10.4	232	468455	468207
NPT 1"	63	20.8	160	-	468208
NPT 1"	80	31.2	232	468456	468465
NPT 1 1/4"	80	31.2	203	468457	468466
NPT 1 1/2"	80	43.9	131	468458	468467
NPT 2"	100	63.6	105	468473	468474
NPT 2"	125	63.6	145	468452	468475
<b>Normally open</b>					
NPT 1/2"	40	4.3	232	468179	468468
NPT 1/2"	50	4.9	232	468459	468209
NPT 3/4"	50	9.8	232	468460	468469
NPT 1"	50	11.6	232	468461	468470
NPT 1 1/4"	63	28.9	232	468462	468471
NPT 1 1/2"	63	40.6	232	468463	468472
NPT 2"	63	56.8	188	468476	468477
NPT 2"	80	60.3	218	468478	468479

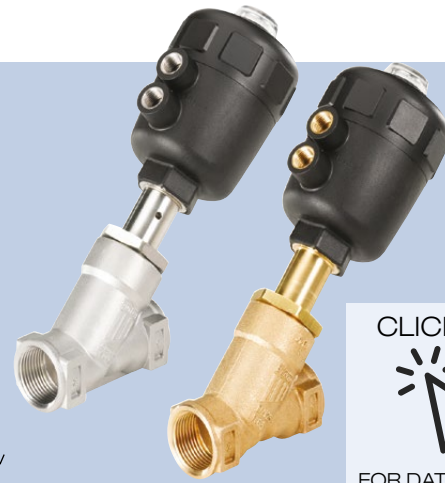
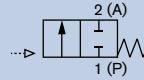
= Burkert Quick Delivery Express Program Items

# On-Off Pneumatically Operated 2/2-way Angle Valve for Steam and Gases

2000

## NPT 1/2" - NPT 2 1/2"

- Flow direction above seat
- PPS actuator for hot environments
- Optical position indicator is standard
- Self adjusting double packing
- High flow rates
- Rotating actuator to orient air control connections



CLICK ME



FOR DATA SHEET

Burkert's classic angle seat valve for steam and gas applications. These valves are trusted worldwide because of their longevity. These valves with flow direction above the seat for steam and gas are equipped with maintenance-free gland packing.

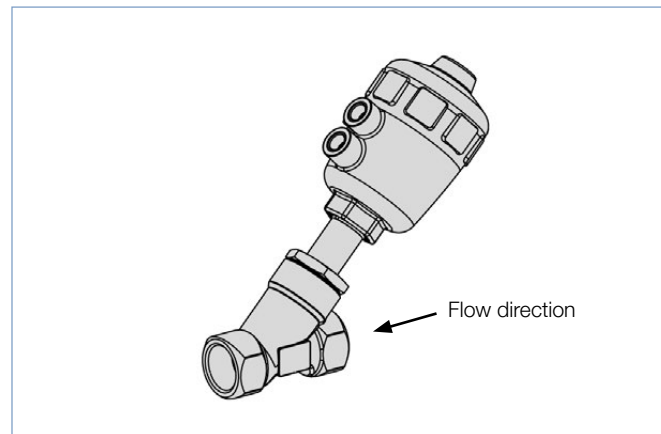
### Technical Data

<b>Pressure range</b>	See Ordering Chart	
<b>Temperature media</b>	14 °F to 356 °F (-10 °C to +180 °C)	
<b>Viscosity</b>	max. 600 mm <sup>2</sup> /s	
<b>Stuffing socket (with silicone grease)</b>	PTFE V-Rings with spring compensation	
<b>Ambient temperature max.</b>		
PA actuator	14 °F to 140 °F (-10 °C to +60 °C)	
PPS actuator Ø 40-80	284 °F (+140 °C)	
PPS actuator Ø 100-125	194 °F (+90 °C)	
<b>Body material</b>	Gunmetal or stainless steel 316L	
<b>Seal material</b>	PTFE	
<b>Actuator material</b>	Polyamide or PPS	
<b>Control medium</b>	Instrument air at 87 PSI	
<b>Flow direction</b>	Over seat to minimise actuator size	
<b>Safe position</b>	Normally closed	
<b>Max. pilot pressure</b>		
Actuator size Ø 40-80	PA and PPS	145 PSI
Actuator size Ø 100	PA	145 PSI
Actuator size Ø 100	PPS	101 PSI
Actuator size Ø 125	PA and PPS	101 PSI
<b>Pilot air port</b>	1/4" (Actuator Ø 40 = 1/8")	

### Options

- Normally open
- Double acting
- Solenoid pilot valves
- Vacuum version
- Feedback switches
- Cleaned for oxygen service
- Stroke limiter
- Seal material NBR, FKM, EPDM
- High Temp option (CF38) up to 446F (230C)

### Flow Direction



### Ordering Chart

Connection	Actuator [mm]	Cv	Item no. Bronze	Item no. Stainless Steel
<b>Normally closed polyamide head</b>				
1/2" NPT	50	4.9	468170	468197
3/4" NPT	40	8.1	468171	468198
3/4" NPT	50	9.8	468172	468199
1" NPT	50	11.6	468173	468200
1" NPT	63	20.8	468031	468201
1 1/4" NPT	63	28.9	468174	468202
1 1/2" NPT	63	40.5	468175	468203
2" NPT	80	60.8	468137	468140
2 1/2" NPT	80	90	468138	468141
<b>Normally closed, high ambient temperature PPS actuator</b>				
1/2" NPT	50	4.9	468180	468210
3/4" NPT	50	9.8	468181	468211
1" NPT	50	11.6	468182	468212
1" NPT	63	20.8	468183	468213
1 1/4" NPT	63	28.9	468184	468214
1 1/2" NPT	63	40.6	468185	468215
2" NPT	80	60.1	468145	353068
2 1/2" NPT	100	104.1	468569	468568



# Ball Valve Configurator

Use the simple Ball Valve Configurator to select the item number with the right parameters and call-in your order for Burkert Express Program options - even faster than the delivery times offered online.

BALL VALVE  
Configurator

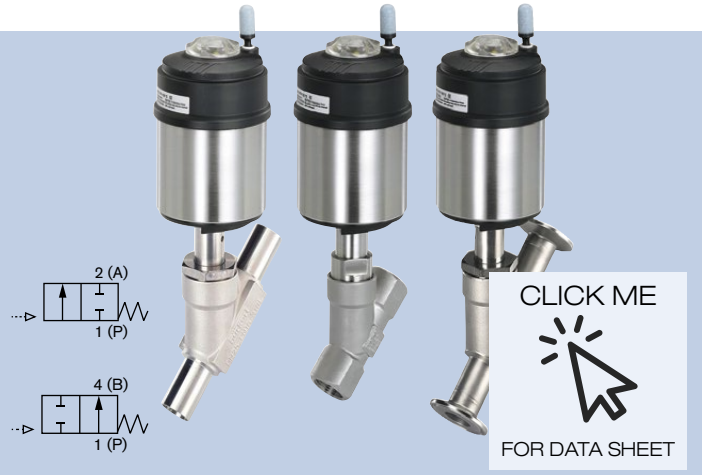


# On-Off Pneumatically Operated 2/2-way ELEMENT Angle Valve

2100

## NPT 1/2" - NPT 2 1/2"

- Perfect for clean applications
- Wide range of accessories
- Compressed air recycling control function with ELEMENT control tops
- With flow direction below or above seat
- High flow rates
- High cycle life



2100 ELEMENT angle seat valves are designed for unmatched life cycle performance. Shown on this page in a normally closed configuration, with underseat flow for liquids, these valves exhibit bit loaded packing with all of the advantages of the ELEMENT platform: Intelligent, Integrated and Beautiful.

### Technical Data

<b>Pressure range</b>	See Ordering Chart
<b>Viscosity</b>	max. 600 mm <sup>2</sup> /s
<b>Temperature media</b>	14 °F to 365 °F (-10 °C to +185 °C)
<b>Ambient temperature</b>	32 °F to 131 °F (0 °C to +55 °C) (with integrated control) 32 °F to 140 °F (0 °C to +60 °C) (connector hose air supply) 32 °F to 212 °F (0 °C to +100 °C) (threaded piping)
<b>Body material</b>	316L stainless steel
<b>Seal material</b>	PTFE
<b>Medium</b>	Water, alcohol, oils, fuels, hydraulic fluids, salt solution, alkali solutions, organic solvents, steam, optional fuel gas, (EC Gas Appliances Directive 2009/142/EG)
<b>Actuator material</b>	Actuator PPS Cover stainless steel 1.4561 (316Ti)
<b>Control medium</b>	Neutral gases, air
<b>Max. pilot pressure</b>	max. 145 PSI; actuator size 130 mm, 101 PSI
<b>Pilot air ports</b>	Threaded ports G1/8 stainless steel
<b>Port connection</b>	Threaded, weld end, clamp
<b>Spindle packing</b>	PTFE seal with spring compensation
<b>Safe position</b>	Normally closed, normally open

### Ordering Chart

Stainless Steel 316L, NPT Threaded					
Size	Orifice [mm]	Actuator [mm]	Pressure [PSI]	Cv	Item no.
1/2"	15	50	362	5.6	213644
1/2"	15	70	362	5.8	213645
3/4"	20	70	290	12.7	213646
1"	25	70	232	20.8	213647
1 1/4"	32	70	123	31.2	213648
1 1/4"	32	90	232	32.4	213649
1 1/2"	40	70	87	44.0	213650
1 1/2"	40	90	232	46.3	213651
2"	50	90	145	63.6	188641
2"	50	130	232	71.7	188642
2 1/2"	65	90	73	98.3	239457
2 1/2"	65	130	232	109.9	239473

### Envelope Dimensions [inch] (see datasheet for details)

Dimensions shown for threaded version for others please see datasheet

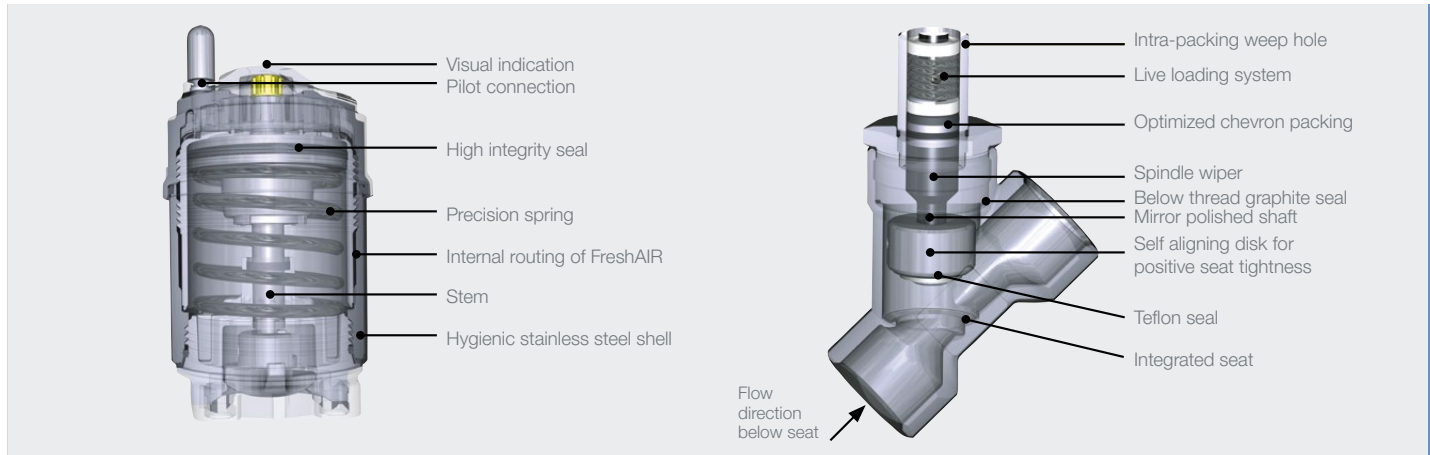
Pilot air ports for 6/4 mm tubing

Port connection	Actuator [mm]	A	B	C	D
NPT 1/2"	50	2.55	2.53	6.22	7.28
NPT 1/2"	70	2.55	3.58	6.81	7.91
NPT 3/4"	50	2.95	2.53	6.53	7.67
NPT 3/4"	70	2.95	3.58	7.12	8.30
NPT 1"	50	3.54	2.53	6.77	8.03
NPT 1"	70	3.54	3.58	7.36	8.66
NPT 1 1/4"	70	4.33	3.58	7.67	9.25
NPT 1 1/4"	90	4.33	4.72	9.44	10.90
NPT 1 1/2"	70	4.72	3.58	7.75	9.29
NPT 1 1/2"	90	4.72	4.72	9.52	10.94
NPT 2"	70	5.90	3.58	8.42	10.31
NPT 2"	90	5.90	4.72	10.03	11.85
NPT 2"	130	5.90	6.25	12.04	13.81

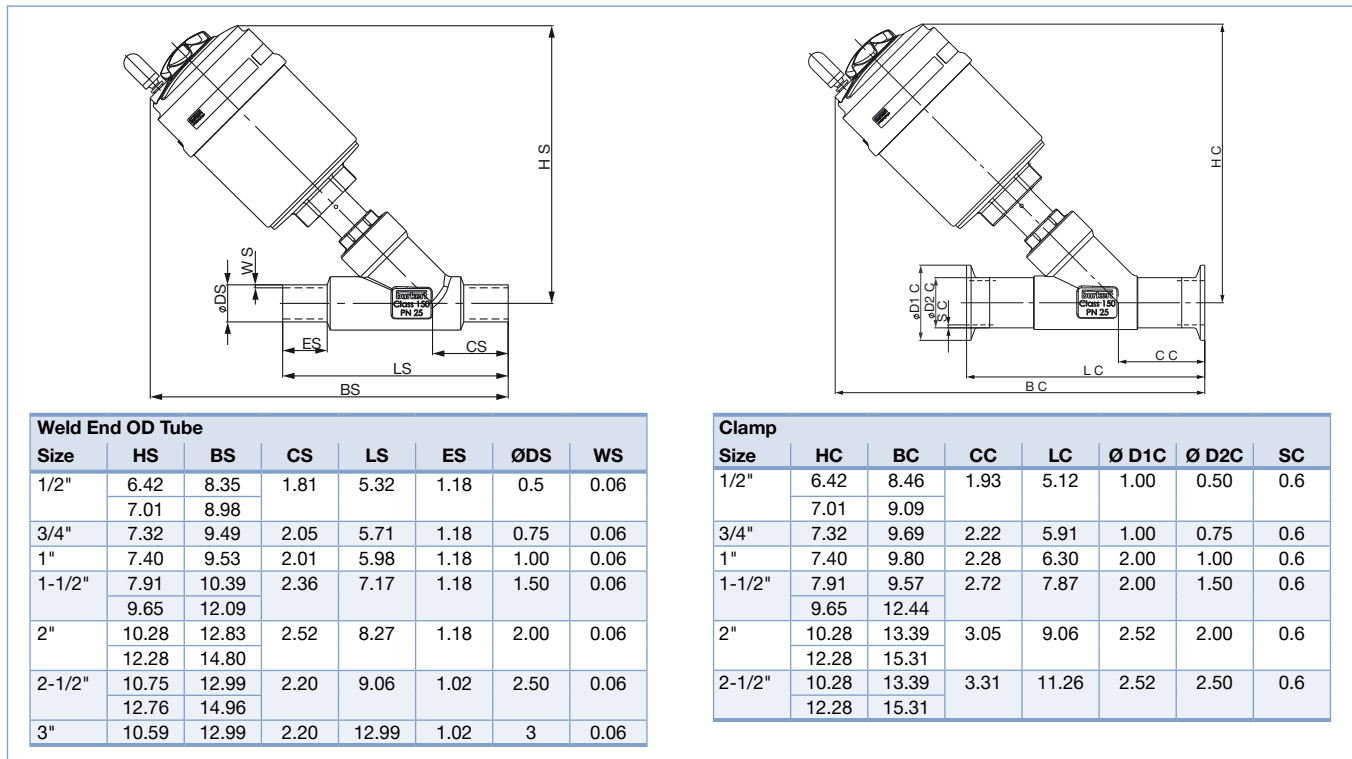
### Options

- Double acting
- Solenoid pilot valves
- Vacuum version
- Feedback switches

## Sectional Drawings



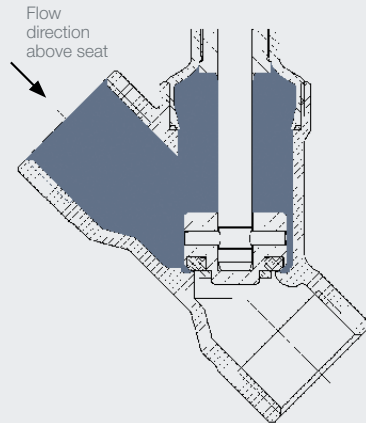
## Dimensions [inch] (see datasheet for further details)



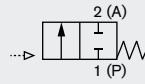
## Ordering Charts

Stainless Steel 316L, Weld end acc. to ASME BPE					
Size	Orifice [mm]	Actuator [mm]	Pressure [PSI]	Cv	Item no.
1/2"	15	50	362	5.6	187077
1/2"	15	70	362	5.8	188726
3/4"	20	70	290	12.7	188727
1"	25	70	232	20.8	188728
1 1/2"	40	70	87	44.0	188729
1 1/2"	40	90	232	46.3	188730
2"	50	90	145	63.6	188731
2"	50	130	232	71.7	188732
2 1/2"	65	90	73	98.3	239461
2 1/2"	65	130	232	109.9	239478
3"	65	130	232	111.2	385194

Stainless Steel 316L, Clamp acc. to ASME BPE					
Size	Orifice [mm]	Actuator [mm]	Pressure [PSI]	Cv	Item no.
1/2"	15	50	362	5.6	187103
1/2"	15	70	362	5.8	188806
3/4"	20	70	290	12.7	188807
1"	25	70	232	20.8	188808
1 1/2"	40	70	87	44.0	188809
1 1/2"	40	90	232	46.3	188810
2"	50	90	145	63.6	188811
2"	50	130	232	71.1	188812
2 1/2"	65	90	73	98.3	293842
2 1/2"	65	130	232	109.9	329535



### Control function A



Pneumatically operated on/off valve, normally closed by spring force, flow direction above seat

### Attention!

Valves with flow above the seat are only usable for compressible medium. There is danger of waterhammer!

## Ordering Charts

Stainless Steel 316L, NPT Threaded					
Size	Orifice [mm]	Actuator [mm]	Pressure [PSI]	Cv	Item no.
1/2"	15	50	232	5.6	213652
1/2"	15	70	232	5.8	213653
3/4"	20	70	232	12.7	213655
1"	25	70	232	20.8	213657
1 1/4"	32	70	232	31.2	213658
1 1/2"	40	70	232	44.0	213659
1 1/2"	40	90	232	46.3	213660
2"	50	70	174	60.2	188649
2"	50	90	232	63.6	188650
2 1/2"	65	90	116	98.3	463893
Stainless Steel 316L, Weld end acc. to ASME BPE					
Size	Orifice [mm]	Actuator [mm]	Pressure [PSI]	Cv	Item no.
1/2"	15	50	232	5.6	187078
1/2"	15	70	232	5.8	188733
3/4"	20	70	232	12.7	188734
1"	25	70	232	20.8	188735
1 1/2"	40	70	232	44.0	188736
1 1/2"	40	90	232	46.3	188737
2"	50	70	174	60.2	188738
2"	50	90	232	63.6	188739
2 1/2"	65	90	116	98.3	467543
Stainless Steel 316L, Clamp acc. to ASME BPE					
Size	Orifice [mm]	Actuator [mm]	Pressure [PSI]	Cv	Item no.
1/2"	15	50	232	5.6	187104
1/2"	15	70	232	5.8	188813
3/4"	20	70	232	12.7	188814
1"	25	70	232	20.8	188815
1 1/2"	40	70	232	44.0	188816
1 1/2"	40	90	232	46.3	188817
2"	50	70	174	60.2	188818
2"	50	90	232	63.6	188819





# Pneumatically Operated 2/2-way Globe Valves

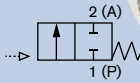
2101 / 2012

1/2" - 4"

- Flow direction below seat
- Long life
- Flow optimized stainless steel body 316L
- Perfect replacement for flanged ball valves

**Type 2012  
Classic  
DN65-100**

**Type 2101  
ELEMENT  
DN15-50**



CLICK ME



FOR DATA SHEETS

The externally piloted globe valve consists of a pneumatically operated piston actuator and a 2-way angle valve body. Sealing integrity is guaranteed by the proven self adjusting gland. These maintenance-free and robust valves can be retrofitted with a comprehensive range of accessories for position indication, stroke limitation or manual override.

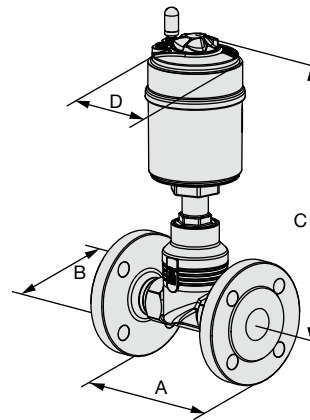
## Technical Data

<b>Pressure range</b>	see Ordering Chart
<b>Nominal pressure</b>	PN25 (body)
<b>Temperature media</b>	14 °F to 356 °F (-10 °C to +180 °C) (CLASSIC) / 365 °F (+185 °C) (ELEMENT)
<b>Ambient temperature</b>	
Actuator size up to Ø 125	14 °F to 140 °F (-10 °C to +60 °C)
Actuator size Ø 175-225	14 °F to 122 °F (-10 °C to +50 °C)
ELEMENT	32 °F to 131 °F (0 °C to +55 °C) (with integrated control)
	32 °F to 140 °F (0 °C to +60 °C)
CLASSIC	(connector hose air supply)
	14 °F to 140 °F (-10 °C to +60 °C)
<b>Body material</b>	Cast stainless steel 316L
<b>Viscosity</b>	Max. 600 mm <sup>2</sup> /s
<b>Seal material</b>	PTFE
<b>Actuator material</b>	PPS and St.st. 316L (ELEMENT), PA (Classic)
<b>Control medium</b>	Neutral gases, air
<b>Flow direction</b>	Under seat anti water-hammer
<b>Port connection</b>	Flange DIN EN 1092-1
<b>Pilot air port</b>	for ELEMENT connector hose for plastic hose, 6/4 mm for Classic, NPT 1/4"

## Options

- Normally open
- Double acting
- Solenoid pilot valves
- Vacuum version
- Feedback switches
- High temperature actuator
- Chemically resistant actuator
- Stroke limiter
- JIS and DIN flanges
- Type 2101 with threaded air connection for ambient temp. up to 212 °F (+100 °C)
- High Temp option (CF38) up to 446F (230C)

## 2101 Dimensions [inch] (see datasheet for details)

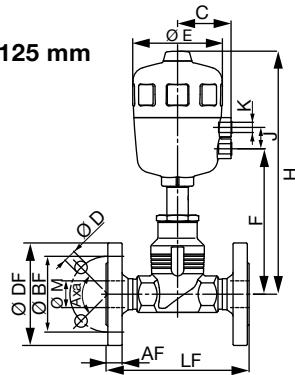


Size (DN) [mm]	Actuator [mm]	A	B	C	D
15	50	5.11	3.74	9.29	2.53
20	50	5.90	4.13	9.52	2.53
20	70	5.90	4.13	10.07	3.58
25	50	6.29	4.52	9.64	2.53
25	70	6.29	4.52	10.19	3.58
32	70	7.08	5.51	11.02	3.58
32	90	7.08	5.51	13.38	4.72
40	70	7.87	5.90	11.22	3.58
40	90	7.87	5.90	13.58	4.72
50	90	9.05	6.49	13.81	4.72
50	130	9.05	6.49	15.86	6.25

2012 Dimensions [inch] (see datasheet for further details)

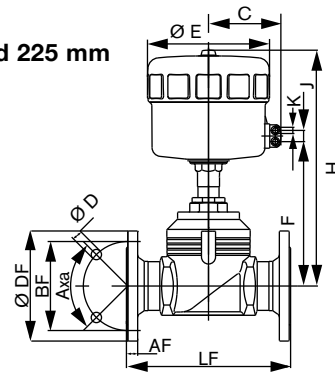
**DN 10-65**

**Actuator size 40-125 mm**



**DN 65-100**

**Actuator size 175 and 225 mm**



**ANSI flange**

DN	Actuator [mm]	C	ØE	F	H	K	J	ØDF	LF	ØBF	AF	ØD	AxD	ØM
1/2"	50	1.73	2.52	5.16	8.31	G1/4	0.95	3.50	7.24	2.38	0.44	0.62	4x90°	0.63
3/4"	63	2.05	3.15	6.10	9.72	G1/4	0.95	3.90	7.24	2.75	0.50	0.62	4x90°	0.83
1"	80	2.36	3.98	6.46	10.75	G1/4	0.95	4.25	7.24	3.12	0.56	0.62	4x90°	1.06
1 1/2"	125	3.39	6.18	8.66	15.63	G1/4	1.18	5.00	8.74	3.82	0.69	0.62	4x90°	1.61
2"	125	3.39	6.18	10.00	16.93	G1/4	1.18	7.01	10.87	5.50	0.88	0.75	4x90°	2.48
2 1/2" *	125	3.39	6.18	10.00	16.93	G1/4	1.18	7.01	10.87	5.50	0.88	0.75	4x90°	2.48
	175	5.12	8.31	11.38	19.33									
3"	175	5.12	8.31	11.65	19.61	G1/4	0.95	7.48	11.73	6.00	0.94	0.75	4x90°	3.07
	225*	6.10	10.28	11.77	19.45									
4"	175	5.12	8.31	12.05	20.00	G1/4	0.95	9.02	13.86	7.50	0.94	0.75	8x45°	4.02
	225*	6.10	10.28	12.17	19.84									

\* Contact your Burkert representative about our 225mm SS Actuator option.

**Ordering Charts**

Port Connection flange [inch]	Actuator [mm]	Cv	Minimum pilot pressure CFA [PSI]	Maximum operating pressure (PSI)	Item no. ELEMENT, Type 2101
<b>Type 2101 ELEMENT</b>					
1/2"	50	5.4	75	363	203095
1/2"	70	5.4	70	363	466863
3/4"	70	9.4	70	290	203097
1"	70	15.0	70	232	203099
1 1/2"	70	35.9	70	87	203100
1 1/2"	90	35.9	73	232	203101
2"	90	52.1	73	145	203102
2"	130	52.1	73	232	218419
2 1/2" *	90	75.2	73	73	239525
2 1/2" *	130	75.2	81	232	219535
3" *	130	127.3	81	145	239529
4" *	130	190.9	81	87	239532

Port Connection flange [inch]	Actuator [mm]	Cv	Minimum pilot pressure CFA [PSI]	Maximum operating pressure (PSI)	Item no. CLASSIC, Type 2012
<b>Type 2012 CLASSIC</b>					
1/2"	50	5.4	57	232	146258
3/4"	63	9.4	65	232	146294
1"	80	15.0	73	232	146572
1 1/2"	125	35.9	46	232	146338
2"	125	52.1	46	145	146356
2 1/2" *	125	84.5	81	174	152742
2 1/2" *	175	84.5	65	232	152760
3"	175	127.3	65	145	152778
3"	225*	127.3	48	232	152796
4"	175	179.3	65	102	152814
4"	225*	179.3	70	232	152832

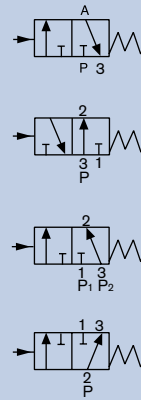
\* Contact your Burkert representative about our 225mm SS Actuator option.

# 3/2-way Globe Valve, pneumatically operated

2106

## NPT 1/2" - NPT 1 1/2"

- Different flow circuit functions and control functions
- Long life actuator
- Optical display as standard in series
- Rotary actuator aligns the pilot air ports



The externally piloted globe valve consists of a pneumatically operated piston actuator and a 3-way valve body. The drive is manufactured as standard in PPS. High flow rates are attained with the self proven stainless steel body. A reliable self-adjusting packing gland provides high sealing integrity. Various fluidic circuit functions can be obtained by a simple exchange of the pressure and service ports. These maintenance-free and robust valves can be retrofitted with a comprehensive range of accessories for position indication, stroke limitation or manual override.

### Technical Data

Pressure range	See Ordering Chart
Temperature media	14 °F to 365 °F (-10 °C to +185 °C)
Ambient temperature	14 °F to 212 °F (-10 °C to +100 °C)
Viscosity	Max. 600 mm <sup>2</sup> /s
Body material	Stainless steel
Seal material	PTFE
Actuator material	PPS
Stuffing socket (with silicone grease)	PTFE V-Rings with spring compensation
Max. pilot pressure	145 PSI, 101 PSI with actuator size Ø 130
Control medium	Instrument air at 87 PSI
Safe position	Normally closed or normally open

### Ordering Chart

Stainless Steel NPT Threaded A 3/2-way, normally closed (NC) (port 1)							
Size	Orifice [mm]	Actuator Size Ø [mm]	Cv		Max. operating pressure [PSI]		Item no.
			1 to 2	2 to 3	1 to 2	2 to 3 3 to 1	
1/2"	15	50	8.1	5.2	232	232	292478
1/2"	15	70	8.1	5.2	232	232	292531
3/4"	20	50	10.4	7.2	232	232	292532
3/4"	20	70	10.4	7.2	232	232	292533
1"	25	50	19.7	12.7	131	160	292534
1"	25	70	19.7	12.7	232	232	292535
1 1/4"	32	70	37.0	24.3	116	160	292536
1 1/4"	32	90	37.0	24.3	160	232	292537
1 1/2"	40	70	40.5	27.7	101	160	292538
1 1/2"	40	90	40.5	27.7	174	232	292539
2"	50	90	59.0	40.5	131	116	292540
2"	50	130	59.0	40.5	232	232	292541

### Options

- Double acting
- Feedback switches
- Stroke limiter

Dimensions [inch] (see datasheet for details)

**Pilot air ports 6mm or 1/4" push-in-tube**

Actuator [mm]	K
D (50)	9.7
M (70)	11
N (90)	
P (130)	

to determine the basic dimensions for the versions with mounting option

Push-in connector for plastic tubing 6/4 mm or G1/8 connection

G 1	Actuator Size Ø [mm]	Ø A	B	C	R	H	NPT C1/C2
NPT 1/2"	D (50)	2.54	0.24	0.78	0.78	7.97	0.54
NPT 1/2"	M (70)	3.58	0.33	0.92	1.20	7.97	0.54
NPT 3/4"	D (50)	2.54	0.24	0.78	0.78	7.97	0.55
NPT 3/4"	M (70)	3.58	0.33	0.92	1.20	7.97	0.55
NPT 1"	D (50)	2.54	0.24	0.78	0.78	8.95	0.66
NPT 1"	M (70)	3.54	0.33	0.92	1.20	8.95	0.66
NPT 1 1/4"	M (70)	3.58	0.33	0.92	1.20	9.24	0.68
NPT 1 1/4"	N (90)	4.72	0.33	0.92	1.20	11.59	0.68
NPT 1 1/2"	M (70)	3.58	0.33	0.92	1.20	9.24	0.68
NPT 1 1/2"	N (90)	4.72	0.33	0.92	1.20	11.59	0.68
NPT 2"	N (90)	4.72	0.33	0.92	1.20	12.23	0.69
NPT 2"	P (130)	6.26	0.33	0.92	1.20	13.93	0.69



# OEM Replacement Diaphragms




- Suitable for CIP (cleaning in place), SIP (sterilization in place) and vacuum applications
- Independently tested by BioProcess Institute to comply with ASME BPE Standard requirements for Standard Process Test Conditions (SPTC)
- Internationally certified for use in stringent pharmaceutical, aseptic, sterile and sanitary food applications



## Technical Data

Material	Burkert code	DIAPH size	Temperature			Approvals				Vacuum	ADI/TSE free
			min.	max.	Steam sterilization	FDA	EC 1935/2004	3A	USP Class VI		
EPDM	AD	8 to 100	-10°C	+143°C	+150°C for 60 min	yes	yes	yes	yes	yes	yes
PTFE/EPDM 2 - pieces	EA	8 to 100	-10°C	+130°C	+140°C for 60 min	yes	yes	-	yes	yes	yes
Advanced PTFE/EPDM 2 - pieces	EU	8 to 100	-5°C	+143°C	+150 °C for 60 min	yes	yes	-	yes	yes	yes

## Connection Types

Button	Thread	Bayonet
		
Elastomer button for connecting to the actuator.	Pin with thread - the pin is screwed into the actuator.	Radial arm pin: The pin is fixed in the pressure piece of the actuator via a quarter-turn - significantly easier, error-free assembly.

## Ordering Charts

Diameter	Connection	EPDM spare ID number
DN 08	Button	688421
DN 15		688422
DN 20		688423
DN 15	Bayonet	693163
DN 20		693166
DN 25	Thread	688424
DN 32		688425
DN 40		688426
DN 50		688427
DN 65		688428
DN 80		688429
DN 100		688430

Diameter	Connection	PTFE/EPDM ID number	Advanced PTFE/EPDM ID number
DN 08	Button	677674	679540
DN 15	Bayonet	677675	679541
DN 20		677676	679542
DN 25		677677	679543
DN 32		677678	679544
DN 40		584378	584379
DN 50		584386	584387
DN 65		20047938	20047940
DN 80		20047939	20047941
DN 100	677683	679745	

# Pneumatically Operated 2/2-way Diaphragm Valve CLASSIC for Decentralized Automation

2031 forged On/Off

- Diaphragm hermetically separates the fluids from the operating mechanism
- Easy integration of limit switches and banjo solenoids
- SS body with clamp or weld ends
- Internationally certified for pharmaceutical, aseptic, sterile and sanitary food applications



CLICK ME



FOR DATA SHEET

The externally piloted diaphragm valve Type 2031 consists of a pneumatically operated piston actuator, a diaphragm and a 2-way valve housing made of forged stainless steel. The high-quality and chemically resistant PPS (thermoplastic) actuator with a visual open/close indicator, is designed for usage in hygienic or aggressive environments. The flow optimized and zero dead volume valve body makes high flow rates possible and a variety of applications to be realized. The design enables the easy integration of electrical position feedback and local actuation via directly-mounted NAMUR type solenoid valves.

## Technical Data

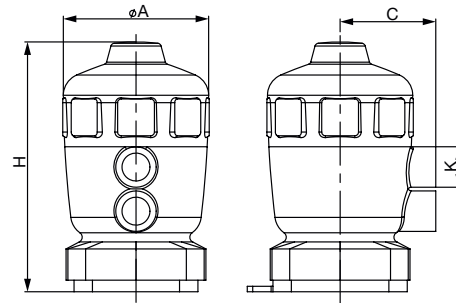
<b>Port connection</b>	1/4" to 4" available (port connection only)
<b>Diaphragm size</b>	3/8" to 4.0" (DN8 to DN100)
<b>Port connections</b>	
Weld ends	ASME BPE
Clamps	ASME BPE (other piping standards available on request)
<b>Materials</b>	
Body	Stainless Steel 316L / 1.4435 / BN2
Diaphragm materials	PTFE/EPDM (EA), EPDM (AD), Advanced PTFE/EPDM (EU) on request: FKM (FF) PPS, PA (on request)
<b>Actuator / Cover</b>	PPS, PA (on request)
<b>Media</b>	Neutral gases and liquids, high-purity, sterile, aggressive or abrasive fluids
<b>Surface finish</b>	As listed, alternative internal/external surface finishes available upon request
<b>Medium temperature</b>	
EPDM (AD) <sup>1)</sup>	14 to 289.4°F (steam sterilization 302°F for 60 min)
PTFE/EPDM (EA) <sup>1)</sup>	14 to 266°F (steam sterilization 284°F for 60 min)
Advanced PTFE/EPDM (EU) <sup>1)</sup>	23 to 289.4°F (steam sterilization 302°F for 60 min)
<b>Ambient temperature</b>	
PPS Actuator size ≤80 mm	41...284°F <sup>5)</sup>
PPS Actuator size 100 mm, 125 mm	41...194 °F (briefly at 284 °F) <sup>5)</sup>
<b>Control medium</b>	Neutral gases; air
<b>Max. pilot pressure</b>	102 PSIG (87 PSIG for actuator size 175/225mm)

1) This information is part of the product key (see data sheet)

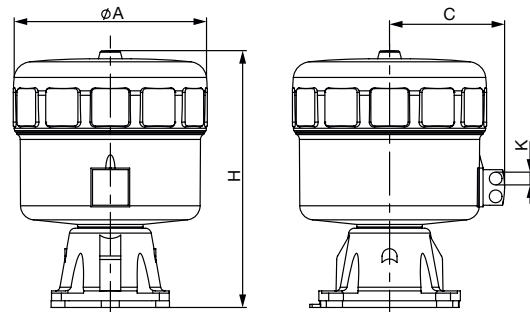
5) For standard version

## Dimensions [mm]

### Diaphragm size 8...50

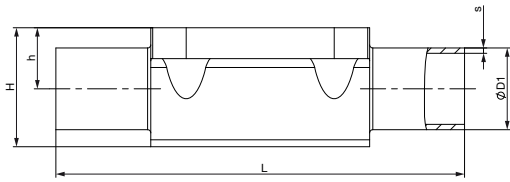


### Diaphragm size 65...100



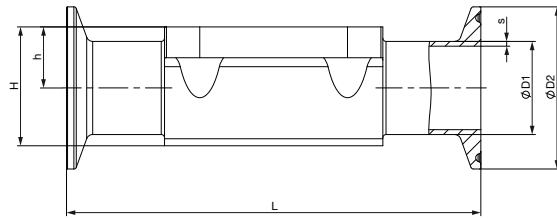
Diaphragm size	Actuator size Ø	ØA	C	K	H
8	40(C)	53	34	G 1/8"	89
15	50(D)	64	39	G 1/8"	108
	63(E)	80	52	G 1/4"	125
20	63(E)	80	52	G 1/4"	131
	80(F)	101	60	G 1/4"	152
25	63(E)	80	52	G 1/4"	136
	80(F)	101	60	G 1/4"	156
40	100(G)	127	73	G 1/4"	205
	125(H)	158	86	G 1/4"	243
50	100(G)	127	73	G 1/4"	207
	125(H)	158	86	G 1/4"	242
65	175(K)	211	130	G 1/4"	350
	175(K)	211	130	G 1/4"	350
80	225(L)	261	155	G 1/4"	345
	225(L)	261	155	G 1/4"	345

Technical data (continued)



Forged body - weld end

Port connection DN		DIA. size	ØD1	s	L	h	H	Self-drain angle [°]
[mm]	[inch]							
<b>ASME BPE</b>								
10	1/4"	3/8"	0.25	0.065	3.07	0.38	0.73	48
10	3/8"	3/8"	0.375	0.065	3.50	0.38	0.73	39
10	1/2"	3/8"	0.5	0.065	3.50	0.38	0.73	26
15	1/2"	1/2"	0.5	0.065	4.25	0.32	0.79	41
20	3/4"	3/4"	0.75	0.065	4.61	0.71	1.18	29
25	1"	1"	1	0.065	5.00	0.79	1.16	27
40	1-1/2"	1-1/2"	1.5	0.065	6.26	1.13	2.05	24
50	2"	2"	2	0.065	7.48	1.40	2.68	20
50	2.5"	2"	2.5	0.065	7.56	1.40	2.70	11



Forged body - clamp

Port connection DN		DIA. size	ØD1	s	ØD2	h	H	L	Self-drain angle [°]
[mm]	[inch]								
<b>ASME BPE</b>									
10	1/4"	3/8"	0.25	0.065	1.0	0.22	0.60	2.54	48
10	3/8"	3/8"	0.375	0.065	1.0	0.22	0.60	3.50	39
10	1/2"	3/8"	0.5	0.065	1.0	0.37	0.74	2.52	26
15	1/2"	1/2"	0.5	0.065	1.0	0.37	0.78	3.50	41
20	3/4"	3/4"	0.75	0.065	1.0	0.63	1.19	4.02	29
25	1"	1"	1	0.065	2.0	0.75	1.46	4.49	27
40	1-1/2"	1-1/2"	1.5	0.065	2.0	1.10	2.06	5.51	24
50	2"	2"	2	0.065	2.5	1.40	2.69	6.26	20
50	2.5"	2"	2.5	0.065	3.0	1.40	2.69	7.48	11

Ordering Chart

DIA.	Connection (in.)	Seat (mm)	Internal surface finish	Actuator Size (O, mm)	Cv (usgpm)	Max. Process Pressure (PSIg)	Item no. Welded	Item no. Triclamp
<b>Actuator Function Normally Closed (air to open)</b>								
EPDM	1/4"	8	20 Ra Mechanical (BPE SF1)	40	0.81	147	347874	20022210
	3/8"	8		40	1.85	147	350272	20059655
	1/2"	8		40	1.73	147	341468	341139
	1/2"	15		63	3.58	147	348033	20065077
	3/4"	20		80	10.40	147	20065079	20065080
	1"	25		80	17.92	147	341470	341141
	1-1/2"	40		125	42.77	147	347707	347712
	2"	50		125	76.30	116	341472	341143
PTFE / EPDM	2-1/2"	50	125	76.30	116	341473	341144	
	1/4"	8	20 Ra Mechanical (BPE SF1)	40	0.81	147	347926	343159
	3/8"	8		40	2.08	147	347927	347937
	1/2"	8		40	2.20	147	341483	341155
	1/2"	15		63	3.58	147	348090	348111
	3/4"	20		80	10.40	147	363104	348338
	1"	25		80	16.76	125	341485	341157
	1-1/2"	40		125	43.35	147	345919	345367
2"	50	125		76.30	103	341487	341160	
EPDM	2-1/2"	50	125	76.30	103	341488	341161	
	1/4"	8	15 Ra Electropolished (BPE SF4)	40	0.81	103	20048780	20059654
	3/8"	8		40	1.85	103	20048782	20059656
	1/2"	8		40	1.73	103	341475	341147
	1/2"	15		63	3.58	103	348031	392941
	3/4"	20		80	10.40	103	20065084	20065085
	1"	25		80	17.92	103	341477	341149
	1-1/2"	40		125	42.77	103	347708	20065086
2"	50	125		76.30	103	341479	341151	
PTFE / EPDM	2-1/2"	50	125	76.30	103	341480	341152	
	1/4"	8	15 Ra Electropolished (BPE SF4)	40	0.81	103	20059657	20059662
	3/8"	8		40	2.08	103	20059659	347938
	1/2"	8		40	2.20	103	341490	341163
	1/2"	15		63	3.58	103	358219	348113
	3/4"	20		80	10.40	103	348323	348340
	1"	25		80	16.76	103	341492	341165
	1-1/2"	40		125	43.35	103	346978	347745
2"	50	125		76.30	103	341494	341167	
2-1/2"	50	125	76.30	103	341495	341168		

## Ordering Chart

DIA.	Connection (in.)	Seat (mm)	Internal surface finish	Actuator Size (O, mm)	Cv (usgpm)	Max. Process Pressure (PSIg)	Item no. Welded	Item no. Triclamp
<b>Actuator Function Normally Open (air to close)</b>								
EPDM	1/4"	8	20 Ra Mechanical (BPE SF1)	40	0.81	147	20059777	20059974
	3/8"	8		40	1.85		20059781	20059980
	1/2"	8		40	1.73		348147	348150
	1/2"	15		63	3.58		20065091	20065092
	3/4"	20		63	9.25		20060389	345370
	1"	25		80	17.92		387534	348331
	1-1/2"	40		125	42.77		20065100	20065101
	2"	50		125	76.30		20060408	20060409
	2-1/2"	50		125	76.30		20060419	20060426
PTFE / EPDM	1/4"	8	20 Ra Mechanical (BPE SF1)	40	0.81	147	20060015	20060193
	3/8"	8		40	2.08		20060017	20060204
	1/2"	8		40	2.20		20060019	348170
	1/2"	15		63	3.58		20065102	348243
	3/4"	20		63	9.25		20060395	20060397
	1"	25		80	16.76		348357	348359
	1-1/2"	40		125	43.35		20065103	349447
	2"	50		125	76.30		20060445	348463
	2-1/2"	50		125	76.30		20060447	348467
EPDM	1/4"	8	15 Ra Electropolished (BPE SF4)	40	0.81	147	20059778	20059975
	3/8"	8		40	1.85		20059966	20059984
	1/2"	8		40	1.73		20059970	20060014
	1/2"	15		63	3.58		20065104	20065105
	3/4"	20		63	9.25		20060392	20060394
	1"	25		80	17.92		20048785	20060401
	1-1/2"	40		125	42.77		20065106	20065107
	2"	50		125	76.30		348442	20060416
	2-1/2"	50		125	76.30		20060420	20060442
PTFE / EPDM	1/4"	8	15 Ra Electropolished (BPE SF4)	40	0.81	147	20060016	20060197
	3/8"	8		40	2.08		20060018	20060205
	1/2"	8		40	2.20		380887	371958
	1/2"	15		63	3.58		20065109	20065110
	3/4"	20		63	9.25		20060396	20060398
	1"	25		80	16.76		348355	348361
	1-1/2"	40		125	43.35		348412	348414
	2"	50		125	76.30		348459	371970
	2-1/2"	50		125	76.30		348461	20060448

Local USA Diaphragm Valve Manufacturing now in our Huntersville, North Carolina Location



# Pneumatic operated 2/2 way Diaphragm Valve - Tube Valve Body

2031 TVB

- Hydroformed pharmaceutical grade tube valve body
- Optimal design for hygienic environments
- Reduced mass up to 75% allows for optimized heating and cooling cycles
- Ultra-compact design supports sustainability initiatives



The externally piloted diaphragm valve Type 2031 consists of a pneumatically operated piston actuator, a diaphragm and a 2-way tube valve body. Burkert's patented hydroforming technology allows the manufacturing of a flow optimized stainless steel valve body with high surface quality. A laser-welded mounting interface ensures robustness and hygienic design. The diaphragm valve with tube body is perfect for hygienic applications in food and beverage, pharma, and cosmetic industries. It is designed in accordance with ASME BPE guidelines and is certified by EHEDG.

## Technical Data

<b>Port connection</b>	1/2" to 4.0"	<b>Media</b>	Neutral gases and liquids, high-purity, sterile, aggressive or abrasive fluids
<b>Diaphragm size</b>	5/16" to 3.0" (DN8 to DN80)	<b>Medium temperature</b>	
<b>Port connections</b>		EPDM (AD) <sup>1)</sup>	14 to 289.4°F (steam sterilization 302°F for 60 min)
Weld ends	ASME BPE	PTFE/EPDM (EA) <sup>1)</sup>	14 to 266°F (steam sterilization 284°F for 60 min)
Clamps	ASME BPE (other piping standards available on request)	Advanced PTFE/EPDM (EU) <sup>1)</sup>	23 to 289.4°F (steam sterilization 302°F for 60 min)
<b>Materials</b>		<b>Ambient temperature</b>	
Body	Stainless Steel 316L / 1.4435 / B2	PPS Actuator ≤80 mm	41...284°F <sup>5)</sup>
Diaphragm materials	EPDM (AD), PTFE/EPDM (EA) on request: Advanced PTFE/EPDM (EU), FKM (FF)	PPS Actuator 100 mm, 125 mm	41...194°F (briefly at 284°F) <sup>5)</sup>
Actuator / Cover	PPS, PA (on request)	PA Actuator ≤ 125mm	14...140°F
		PA Actuator ≥ 175mm	14...122°F
		<b>Control medium</b>	Neutral gases; air
		<b>Max. pilot pressure</b>	102 PSig (87 PSig for actuator size 175/225mm)

5) For standard version

## Ordering Chart

DIA.	Connection (in.)	Seat (mm)	Internal surface finish	Actuator Material	Actuator Size (Ø, mm)	Cv (usgpm)	Max. Process Pressure (PSig)	Item no. Welded	Item no. Triclamp
<b>Actuator Function Normally Closed (air to open)</b>									
EPDM	1/2"	8	15 Ra Electropolished (BPE SF4)	PPS	40	2.54	147	345338	344067
	3/4"	15		PPS	63	7.51	147	346883	20065037
	1"	20		PPS	80	14.68	147	20065069	20065070
	1-1/2"	32		PPS	100	36.99	147	346803	347654
	2"	40		PPS	125	53.18	147	346804	347698
	2-1/2"	50		PPS	125	63.58	116	347026	20001767
	3"	65		PA	175	95.95	116	347030	20001768
	4"	80		PA	225	167.62	147	347033	-
PTFE / EPDM	1/2"	8	15 Ra Electropolished (BPE SF4)	PPS	40	2.54	147	350270	347915
	3/4"	15		PPS	63	7.51	147	346800	20033048
	1"	20		PPS	80	14.68	147	350271	20033051
	1-1/2"	32		PPS	100	36.99	116	347656	347657
	2"	40		PPS	125	53.18	147	347735	347736
	2-1/2"	50		PPS	125	63.58	103	347027	20001770
	3"	65		PA	175	95.95	73	347031	20001771
	4"	80		PA	225	167.62	103	347034	-



# Pneumatically Operated 2/2-way Diaphragm Valve ELEMENT for Decentralized Automation

- Industry leading flow rate (CV)
- Diaphragm hermetically separates the fluids from the operating mechanism
- Easy integration of ELEMENT automation units: on/off or modulating
- SS body with clamp or weld ends
- Internationally certified for pharmaceutical, aseptic, sterile and sanitary food applications



CLICK ME



FOR DATA SHEET

The externally piloted diaphragm valve Type 2103 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 optimized and zero dead volume valve body makes high flow rates possible and a variety of applications to be realized.

The design enables the easy integration of automation modules whether they are electrical/optical position feedback, pneumatic control units or an integrated fieldbus interface. The fully integrated system has a compact and smooth design, integrated pneumatic lines, IP65/67, NEMA Type 4X protection class and superior chemical resistance.

## Technical Data

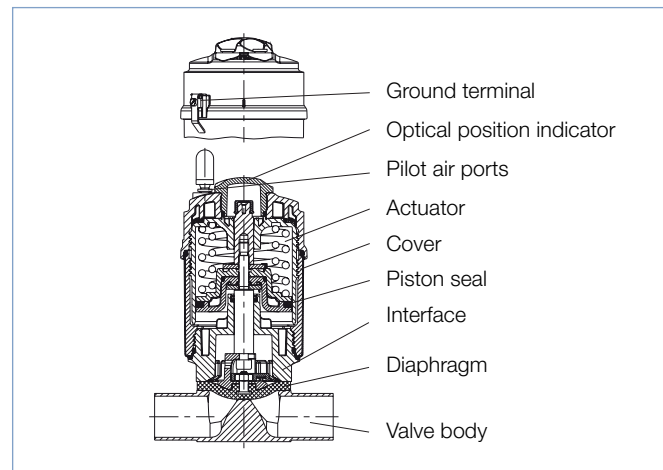
<b>Port connection</b>	1/4" to 2 1/2" available (port connection only)
<b>Diaphragm size</b>	3/8" to 2" (DN15 to DN50; DN08 available on request)
<b>Port connections</b>	
Weld ends	ASME BPE
Clamps	ASME BPE (other piping standards available on request)
<b>Materials</b>	
Body	Stainless Steel 316L / 1.4435 / BN2
Diaphragm materials	PTFE/EPDM (EA), EPDM (AD), Advanced PTFE/EPDM (EU) on request: FKM (FF)
Actuator / Cover	PPS / Stainless Steel 1.4561 (316Ti)
<b>Media</b>	Neutral gases and liquids, high-purity, sterile, aggressive or abrasive fluids
<b>Surface finish</b>	As listed, alternative internal/external surface finishes available upon request
<b>Medium temperature</b>	
PTFE/EPDM (EA)	14 to 266°F (steam sterilization 284°F for 60 min)
EPDM (AD), advanced PTFE/EPDM (EU)	23 to 289°F (steam sterilization 302°F for 60 min)
EPDM laminated (ER)	23 to 266°F (steam sterilization 140°C for 60 min)
FKM (FF)	32 to 266°F (not recommended for steam)
<b>Ambient temperature</b>	+41°F to +140°F
<b>Control medium</b>	Neutral gases; air
<b>Max. pilot pressure</b>	max. 145 PSI (101 PSI with actuator size 130mm)

## Dimensions [inch]

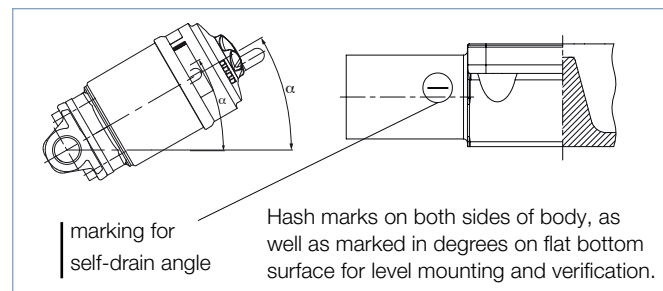
Diaphragm size	Actuator size Ø [mm]	ØA	H
3/8"	50	2.56	4.69
1/2"	70	3.58	6.26
3/4"	70	3.58	6.26
1"	90	4.72	7.78
1-1/2"	130	6.26	10.51
2"	130	6.26	10.81

2103 with 360° rotatable interface, SS

## Materials



## Installation for self-draining operation

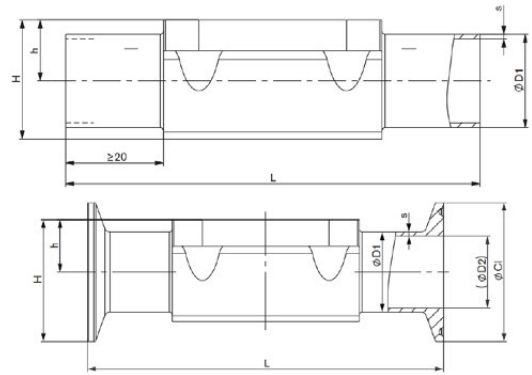




Technical data (continued)

Port connection DN		Diaphragm size	Actuator size Ø	Pilot pressure	Max. media pressure [PSI]		Cv [gpm]
[mm]	[inch]				[mm]	[PSI]	
15	1/2"	1/2"	70	73-147	145	145	3.59
20	3/4"	3/4"	70	73-147	145	145	9.83
25	1"	1"	90	73-147	145	116	16.77
40	1-1/2"	1-1/2"	130	73-103	145	102	42.79
50	2"	2"	130	73-103	145	102	76.34

Flow rate: Cv value [gpm] for elastomer diaphragms measured at +68°F and 1 PSI pressure drop at mean operating pressure | Pressure valves: Overpressure to the atmospheric pressure, valve closes dynamical against max. operating pressure



Forged body - weld end

Port connection DN		DIAPH size	ØD1	s	h	H	L	Self-drain angle [°]
[mm]	[inch]							
<b>ASME BPE</b>								
15	1/2"	1/2"	0.5	0.065	0.315	0.787	4.252	41
20	3/4"	3/4"	0.75	0.065	0.63	1.181	4.606	29
25	1"	1"	1	0.065	0.748	1.157	5.0	27
40	1-1/2"	1-1/2"	1.5	0.065	1.102	2.047	6.26	24
50	2"	2"	2	0.065	1.417	2.677	7.48	20

Forged body - clamp

Port connection DN		DIAPH size	ØD1	s	CI	ØD2	h	H	L	Self-drain angle [°]
[mm]	[inch]									
<b>ASME BPE</b>										
15	1/2"	1/2"	0.5	0.065	0.984	0.37	0.315	0.827	3.504	41
20	3/4"	3/4"	0.75	0.065	0.984	0.62	0.63	1.142	4.016	29
25	1"	1"	1	0.065	1.988	0.87	0.748	1.732	4.488	27
40	1-1/2"	1-1/2"	1.5	0.065	1.988	1.37	1.102	2.087	5.512	24
50	2"	2"	2	0.065	2.52	1.87	1.417	2.677	6.26	20

Ordering Chart

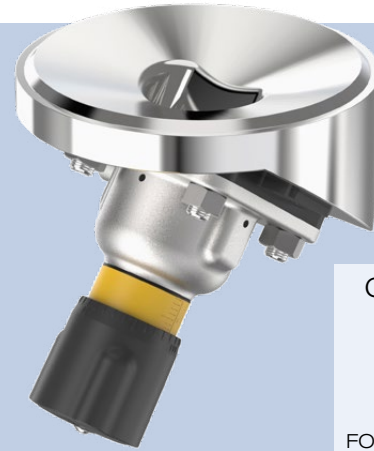
DIA.	Connection (in.)	Seat [mm]	Internal Surface Finish	Actuator Size (O, mm)	Cv (usgpm)	Max. Process Pressure (PSI <sub>g</sub> )	Item no. Welded	Item no. Triclamp
<b>Actuator Function Normally Closed (air to open)</b>								
EPDM	1/4"	8	20 Ra Mechanical (BPE SF1)	50	0.81	147	380396	20055429
	3/8"	8		50	1.85	147	20055412	20059617
	1/2"	8		50	1.73	147	282848	282771
	1/2"	15		70	3.58	147	20022475	20065114
	3/4"	20		70	9.83	147	20005594	20055687
	1"	25		90	17.92	147	20022483	20055694
	1-1/2"	40		130	42.77	147	20022484	20065115
	2"	50		130	76.30	116	363842	20065116
	2-1/2"	50		130	76.30	116	20022485	20059723
PTFE/EPDM	1/4"	8	20 Ra Mechanical (BPE SF1)	50	0.81	147	20055442	299605
	3/8"	8		50	2.08	147	20055483	20059680
	1/2"	8		50	2.20	147	20055485	20055588
	1/2"	15		70	3.58	147	20055597	266710
	3/4"	20		70	9.83	147	20055688	20055689
	1"	25		90	16.76	116	20060025	287995
	1-1/2"	40		130	43.35	147	20055701	266741
	2"	50		130	76.30	103	20055707	266722
	2-1/2"	50		130	76.30	103	20059807	20059815
EPDM	1/4"	8	15 Ra Electropolished (BPE SF4)	50	0.81	147	379689	321041
	3/8"	8		50	1.85	147	20055423	20059666
	1/2"	8		50	1.73	147	20055427	20055432
	1/2"	15		70	3.58	147	20055595	20025981
	3/4"	20		70	9.83	147	20055680	357758
	1"	25		90	17.92	147	20055692	20055696
	1-1/2"	40		130	42.77	147	20055698	357759
	2"	50		130	76.30	116	20055705	357761
	2-1/2"	50		130	76.30	116	20059719	20059732
PTFE / EPDM	1/4"	8	15 Ra Electropolished (BPE SF4)	50	0.81	147	20055481	299544
	3/8"	8		50	2.08	147	20055484	20059715
	1/2"	8		50	2.20	147	20022553	20055594
	1/2"	15		70	3.58	147	298874	20055599
	3/4"	20		70	9.83	147	294145	20055690
	1"	25		90	16.76	116	361060	20055697
	1-1/2"	40		130	43.35	147	361061	356810
	2"	50		130	76.30	103	20055708	20055709
	2-1/2"	50		130	76.30	103	20059812	20059945

## Ordering Chart

DIA.	Connection (in.)	Seat [mm]	Internal Surface Finish	Actuator Size (O, mm)	Cv (usgpm)	Max. Process Pressure (PSig)	Item no. Welded	Item no. Triclamp
<b>Actuator Function Normally Open (air to close)</b>								
EPDM	1/4"	8	20 Ra Mechanical (BPE SF1)	50	0.81	147	20059981	20059998
	3/8"	8		50	1.85	147	20059989	20060002
	1/2"	8		50	1.73	147	20059993	20060036
	1/2"	15		70	3.58	147	20060637	20005592
	3/4"	20		70	9.83	147	20005593	20060790
	1"	25		90	17.92	147	20060994	20061002
	1-1/2"	40		130	42.77	147	20061023	20061053
	2"	50		130	76.30	147	20061089	20061129
	2-1/2"	50		130	76.30	147	20061133	20061143
PTFE/EPDM	1/4"	8	20 Ra Mechanical (BPE SF1)	50	0.81	147	20060100	20060561
	3/8"	8		50	2.08	147	20060104	20060588
	1/2"	8		50	2.20	147	20060111	20060620
	1/2"	15		70	3.58	147	20060640	266733
	3/4"	20		70	9.83	147	20060815	20060827
	1"	25		90	16.76	147	20061013	287996
	1-1/2"	40		130	43.35	147	20061055	266742
	2"	50		130	76.30	147	20061149	266730
	2-1/2"	50		130	76.30	147	20061162	20061165
EPDM	1/4"	8	15 Ra Electropolished (BPE SF4)	50	0.81	147	20059985	20059999
	3/8"	8		50	1.85	147	20059992	20060021
	1/2"	8		50	1.73	147	20059996	20060038
	1/2"	15		70	3.58	147	20060638	20025700
	3/4"	20		70	9.83	147	20060789	20060791
	1"	25		90	17.92	147	20061001	20061008
	1-1/2"	40		130	42.77	147	20061046	20061054
	2"	50		130	76.30	147	20061092	20061130
	2-1/2"	50		130	76.30	147	20061139	20061146
PTFE / EPDM	1/4"	8	15 Ra Electropolished (BPE SF4)	50	0.81	147	20060101	20060576
	3/8"	8		50	2.08	147	20060106	20060606
	1/2"	8		50	2.20	147	20060112	20060627
	1/2"	15		70	3.58	147	20060641	20060785
	3/4"	20		70	9.83	147	20060818	20060992
	1"	25		90	16.76	147	20061014	20061016
	1-1/2"	40		130	43.35	147	20061086	20061087
	2"	50		130	76.30	147	20061154	20061159
	2-1/2"	50		130	76.30	147	20061163	20061205

# Manually Operated Tank Bottom Diaphragm Valve

- Valve housing and diaphragms are available in various materials
- Standard surface finish SF1 Ra  $\leq 0.5 \mu\text{m} \dots 1.6 \mu\text{m}$  (optionally electropolished)
- Available DN8 to DN50 with clamp and weld connections
- Minimum stroke limiter/closing force limiter as standard

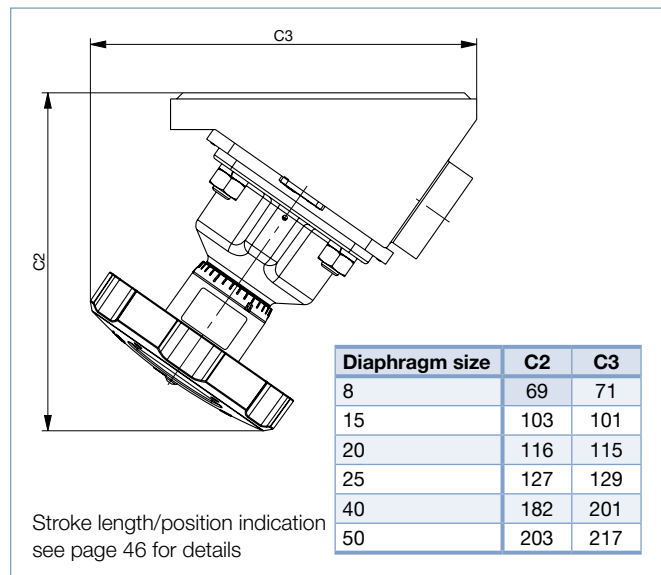


## Technical Data

Product properties	
<b>Material</b> <sup>1)</sup>	
Block body (VH) <sup>1)</sup>	SS 1.4435/316 L
Block body (V) <sup>1)</sup>	SS 1.4435/BN2/ASME BPE, Fe <0.5%/C $\leq 0.03\%$
Actuator/handwheel	Stainless steel/PPS
<b>Diaphragm size</b>	8...50
<b>Standard surface quality</b> <sup>2)</sup>	
Block body (VH/V) <sup>1)</sup>	Interior electrically polished: Ra $\leq 0.38 \mu\text{m}$ (NO17) <sup>1)</sup> (ASME BPE SF4/DIN HE4) (external: Ra $\leq 1.6 \mu\text{m}$ ) Interior mechanically polished: Ra $\leq 0.5 \mu\text{m}$ (NO14) <sup>1)</sup> (ASME BPE SF1) (external: Ra $\leq 1.6 \mu\text{m}$ )
Medium data	
<b>Operating medium</b>	Neutral gases and fluids, highly purified, sterile, aggressive or abrasive media
<b>Medium temp</b>	
EPDM (AD) <sup>1)</sup>	14...289.4 °F (steam sterilization 302 °F for 60 min)
PTFE/EPDM (EA) <sup>1)</sup>	14...266 °F (steam sterilization 284 °F for 60 min)
Advanced PTFE/EPDM (EU) <sup>1)</sup>	23...289.4 °F (steam sterilization 302 °F for 60 min)
GYLON®/laminated EPDM (ER) <sup>1)</sup>	23...266 °F (steam sterilization 284 °F for 60 min)
Process/Port connection & communication	
<b>Nominal diameter</b>	DN 06...DN 65 (1/8"...2 1/2")
<b>Port connection<sup>2)</sup> for SS body <sup>2)</sup></b>	
Welded connection <sup>2)</sup>	DIN EN ISO 1127/ISO 4200/DIN 11866 series B DIN 11850 series 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
Features	
<b>Option</b>	The manual actuator can be equipped with proximity switches for position feedback
<b>Ambient temperature: actuator (diaphragm bonnet/handwheel)</b>	
Stainless steel/PPS, PPS/PPS	14...266 °F (short-term up to 302 °F), autoclavable

1.) This information is part of the product key (see "6.3. Bürkert Product Enquiry Form").  
2.) Further versions are available on request.

## Dimensions [mm] (see datasheet for details)



## Performance Specifications - Medium pressure

Diaphragm size	Actuator material	Max. operating pressure for seal material EPDM, PTFE/EPDM, advanced PTFE/EPDM, GYLON®/laminated EPDM Max. [PSI]
DN		
8...50	SS/PPS	147
8...40	PPS/PPS	147
50	PPS/PPS	103

## Ordering Chart Contact your local Bürkert representative for valves with EU (Advanced PTFE/ EPDM) diaphragm material and for valves greater than DN50 (2").

DIA.	Connection (in.)	Seat [mm]	Internal Surface Finish	Cv (usgpm)	Max. Process Pressure (PSIg)	Item no. Welded	Item no. Triclamp
<b>Actuator Function Normally Open (air to close)</b>							
EPDM	1/2"	15	20 Ra Mechanical (BPE SF1)	3.58	147	20081466	20075522
	3/4"	20		10.40	147	20075527	20075523
	1"	25		17.92	147	20075528	20075524
	1-1/2"	40		42.77	147	20075529	20075525
	2"	50		76.30	147	20075530	20075526
PTFE / EPDM	1/2"	15	20 Ra Mechanical (BPE SF1)	3.58	147	20081464	20075513
	3/4"	20		10.40	147	20075518	20075514
	1"	25		17.92	147	20075519	20075515
	1-1/2"	40		42.77	147	20075520	20075516
	2"	50		76.30	147	20075521	20075517

# 2/2-way Diaphragm Valve, Manually Operated, Forged Valve Body

2933 Forged

- Industry leading flow rate (CV)
- Diaphragm hermetically separates the fluids from the operating mechanism
- SS body with clamp or weld ends
- Internationally certified for pharmaceutical, aseptic, sterile and sanitary food applications
- Minimum stroke limiter/closing force limiter as standard



CLICK ME



FOR DATA SHEET

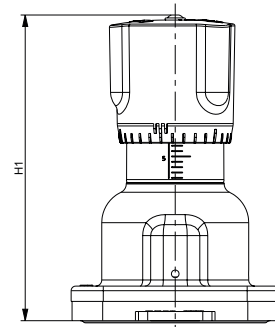
The Type 2933 manually operated diaphragm valve consists of a manually operated actuator, a diaphragm and a 2-way valve body. The manual actuator with plastic handwheel ensures use in hygienic or aggressive ambient conditions. The flow-optimized valve body with minimum dead space enables high flow rates and a wide range of possible applications. The valve body and the diaphragm are available in all common materials and variants. The actuator has a compact, autoclavable design and is compatible with all other Bürkert diaphragm valves. The manual actuator is available in stainless steel and is equipped with an integrated visual position indicator, a reproducible stroke scale.

## Technical Data

<b>Port connection</b>	1/4" - 2.5"
<b>Diaphragm size</b>	1/4" - 2.0"
<b>Port connections</b>	
Weld ends acc.	ASME BPE
Clamps acc.	ASME BPE (further port connections on request)
<b>Materials</b>	
Body	Stainless Steel 316L
Actuator	PPS hand wheel and stainless steel bonnet
Seal	PTFE/EPDM (EA), EPDM (AD), EPDM laminated (ER) on request: advanced PTFE/EPDM (EU), FKM (FF)
<b>Fluid</b>	Natural gases and liquids, high-purity, sterile, aggressive or abrasive fluids
<b>Surface finish</b>	As listed, alternative internal/external surface finishes available upon request
<b>Medium temperature</b>	
PTFE/EPDM (EA)	14° to 266°F (steam sterilization 284°F for 60 min)
EPDM (AD), advanced PTFE/EPDM (EU)	23° to 289°F (steam sterilization 302°F for 60 min)
EPDM Laminated (ER)	23° to 266°F (steam sterilization 284°F for 60 min)
FKM (FF)	32° to 266°F (not recommended for steam)
<b>Ambient temperature</b>	Up to 266°F (briefly up to 302°F)
<b>Option</b>	The manual actuator can be equipped with proximity switches for position feedback
<b>Ambient temperature: actuator (diaphragm bonnet/handwheel)</b>	
SS/PPS, PPS/PPS	14...266 °F (short-term up to 302 °F), autoclavable

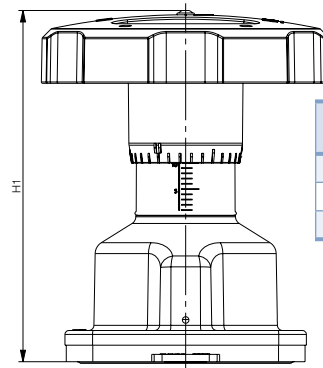
## Dimensions [mm]

### Diaphragm size 8...25 Position open



DIAPH size	H1
8	54
15	84
20	95
25	101

### Diaphragm size 32...50 Position open



DIAPH size	H1
32	129
40	134
50	149

## Stroke length/position indication



When turning the handwheel anticlockwise, a yellow marking becomes visible between the attachment and the handwheel

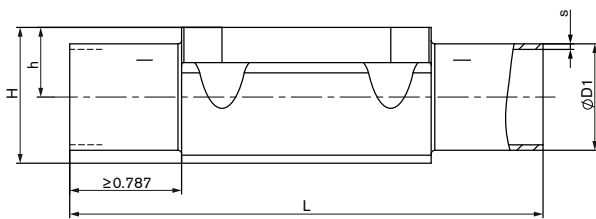
Handwheel with scale

Reproducible stroke scale

Dimensions [inch]

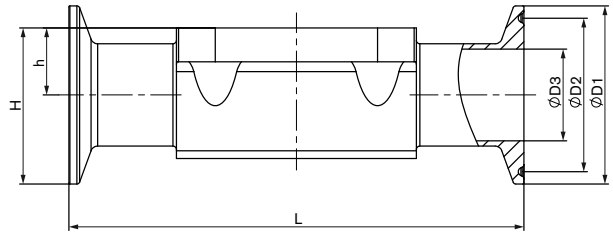
Forged body - weld end

Port connection		DIAPH size	ØD1	s	h	H	L	Self-drain angle [°]
[mm]	[inch]							
<b>DIN EN ISO 1127 / ISO 4200 / DIN 11866 B</b>								
8	1/4"	1/4"	0.250	0.035	0.236	0.591	3.071	48
10	3/8"	1/4"	0.375	0.035	0.236	0.591	3.504	39
15	1/2"	1/2"	0.500	0.065	0.315	0.787	4.252	41
20	3/4"	3/4"	0.750	0.065	0.630	1.181	4.606	29
25	1"	1"	1.000	0.065	0.748	1.457	5.000	27
40	1 1/2"	1 1/2"	1.500	0.065	1.102	2.047	6.260	24
50	2"	2"	2.000	0.065	1.417	2.677	7.480	20



Forged body - clamp

Port connection		DIAPH size	ØD1	s	Cl	ØD2	h	H	L	Self-drain angle [°]
[mm]	[inch]									
<b>ASME BPE</b>										
8	1/4"	1/4"	0.250	0.035	0.984	0.180	0.236	0.709	2.520	48
10	3/8"	1/4"	0.368	0.035	0.984	0.305	0.236	0.709	3.504	39
15	1/2"	1/2"	0.500	0.065	0.984	0.370	0.315	0.827	3.504	41
20	3/4"	3/4"	0.750	0.065	0.984	0.620	0.630	1.142	4.016	29
25	1"	1"	1.000	0.065	1.988	0.870	0.748	1.732	4.488	27
40	1 1/2"	1 1/2"	1.500	0.065	1.988	1.370	1.102	2.087	5.512	24
50	2"	2"	2.000	0.065	2.520	1.870	1.417	2.677	6.260	20



Ordering Chart

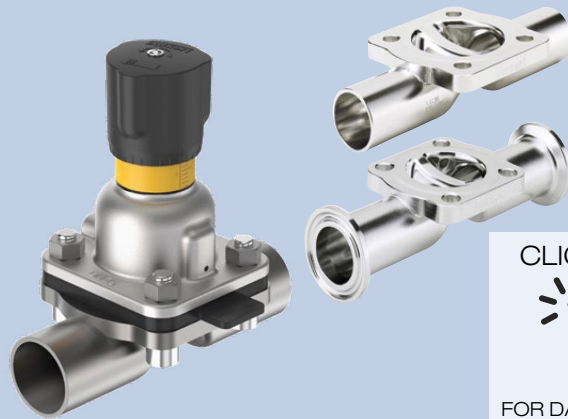
DIA.	Connection (in.)	Seat [mm]	Internal Surface Finish	Cv (usgpm)	Max. Process Pressure (PSIg)	Item no.Welded	Item no.Triclamp
<b>Manual Actuator</b>							
EPDM	1/4"	8	20 Ra Mechanical (BPE SF1)	0.81	147	20072057	20070242
	3/8"	8		1.85	147	20072059	20072279
	1/2"	8		1.73	147	20069658	20069643
	1/2"	15		3.58	147	20072067	20072055
	3/4"	20		10.40	147	20072074	20072076
	1"	25		17.92	147	20069660	20069653
	1-1/2"	40		42.77	147	20069661	20069654
	2"	50		76.30	147	20069662	20069655
PTFE/EPDM	2-1/2"	50	76.30	147	20069663	20069657	
	1/4"	8	20 Ra Mechanical (BPE SF1)	0.81	147	20072062	20050378
	3/8"	8		2.08	147	20072063	20050404
	1/2"	8		2.20	147	20050353	20050377
	1/2"	15		3.58	147	20072070	20070865
	3/4"	20		10.40	147	20072080	20072079
	1"	25		16.76	147	20050412	20069735
	1-1/2"	40		43.35	147	20069685	20069736
2"	50	76.30		147	20069686	20069737	
EPDM	2-1/2"	50	76.30	147	20069687	20069738	
	1/4"	8	15 Ra Electropolished (BPE SF4)	0.81	147	20072058	20072061
	3/8"	8		1.85	147	20072060	20050369
	1/2"	8		1.73	147	20050396	20050407
	1/2"	15		3.58	147	20072068	20072069
	3/4"	20		10.40	147	20072075	20072077
	1"	25		17.92	147	20065202	20072082
	1-1/2"	40		42.77	147	20072083	20072084
2"	50	76.30		147	20072088	20072087	
PTFE / EPDM	2-1/2"	50	76.30	147	20072089	20072090	
	1/4"	8	15 Ra Electropolished (BPE SF4)	0.81	147	20072073	20072066
	3/8"	8		2.08	147	20072064	20072280
	1/2"	8		2.20	147	20050359	20072065
	1/2"	15		3.58	147	20072074	20072072
	3/4"	20		10.40	147	20072081	20072078
	1"	25		16.76	147	20050370	20050397
	1-1/2"	40		43.35	147	20050400	20072085
2"	50	76.30		147	20050403	20072092	
2-1/2"	50	76.30	147	20050387	20072091		

# Manually operated 2-way Diaphragm Valve, Tube Valve Body

2933 TVB

## OD Tube Weld and Clamp Port Connections 1/2"-2"

- Diaphragm hermetically separates the fluids from the operating mechanism
- SS body with clamp or weld ends
- Internationally certified for pharmaceutical, aseptic, sterile and sanitary food applications
- Minimum stroke limiter/closing force limiter as standard



One of the most common necessities for manufacturing pharmaceuticals, cosmetics, food and beverages are diaphragm valves. What used to be a dull two-way race between forged and cast body variants is now being challenged by an exciting, ground-breaking technology. The hydroformed, light-weight diaphragm tube valve body will change the way you think about plant design and operation – as it helps you create more sustainable processes while meeting the industry's demanding regulations. And during operation, it can increase overall productivity of your plant. The diaphragm valve with tube body is perfect for hygienic application in the food and beverage, pharma, and cosmetic industries. It is designed with zero dead legs and compliant with the ASME BPE Standard.

### Technical Data

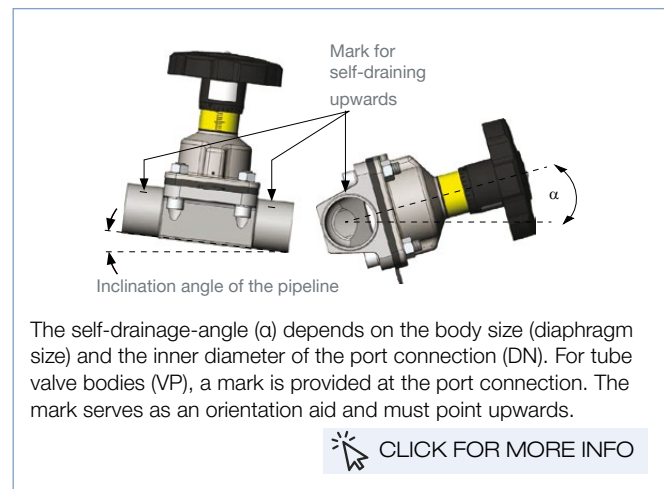
<b>Port connection</b>	1/2" - 2"
<b>Diaphragm size</b>	1/4" to 1-1/2"
<b>Port connections</b>	
Weld ends acc.	ASME BPE
Clamps acc.	ASME BPE
	(further port connections on request)
<b>Materials</b>	
Body	Stainless Steel 316L
Actuator	PPS hand wheel and stainless steel bonnet
Seal	PTFE/EPDM (EA), EPDM (AD), EPDM laminated (ER) on request: advanced PTFE/EPDM (EU), FKM (FF)
<b>Fluid</b>	Natural gases and liquids, high-purity, sterile, aggressive or abrasive fluids
<b>Surface finish (inner surface)</b>	
Electro polished	$Ra \leq 0.38 \mu\text{m}$ (ASME BPE SF4)
<b>Medium temperature</b>	
PTFE/EPDM (EA)	14° to 266°F (steam sterilization 284°F for 60 min)
EPDM (AD), advanced PTFE/EPDM (EU)	23° to 289°F (steam sterilization 302°F for 60 min)
EPDM Laminated (ER)	23° to 266°F (steam sterilization 284°F for 60 min)
FKM (FF)	32° to 266°F (not recommended for steam)
<b>Ambient temperature</b>	Up to 266°F (briefly up to 302°F)
<b>Option</b>	The manual actuator can be equipped with proximity switches for position feedback
<b>Ambient temperature: actuator (diaphragm bonnet/handwheel)</b>	
SS/PPS, PPS/PPS	14...266 °F (short-term up to 302 °F), autoclavable

### Technical data, pressure

Port connection DN		Diaphragm size	Max. media pressure [PSI]	Cv [gpm] ASME BPE
[mm]	[inch]			
15	1/2"	1/4"	147	2.3
20	3/4"	1/2"	147	7.5
25	1"	3/4"	147	14.5
40	1-1/2"	1-1/4"	147	34.7
50	2"	1-1/2"	147	46.3

Flow rate: Cv value [gpm] measured at +60°F, 1 PSI pressure at valve inlet and free outlet  
Pressure values [bar]: Overpressure to the atmospheric pressure

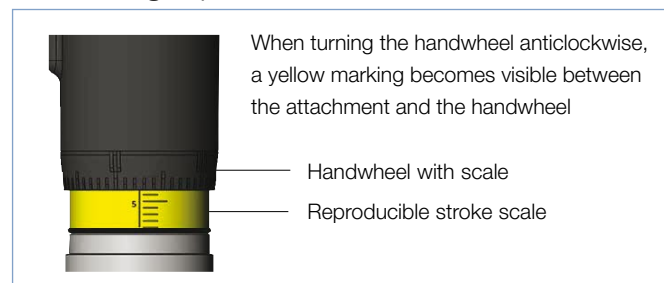
### Installation for self-draining operation



The self-drainage-angle ( $\alpha$ ) depends on the body size (diaphragm size) and the inner diameter of the port connection (DN). For tube valve bodies (VP), a mark is provided at the port connection. The mark serves as an orientation aid and must point upwards.



### Stroke length/position indication

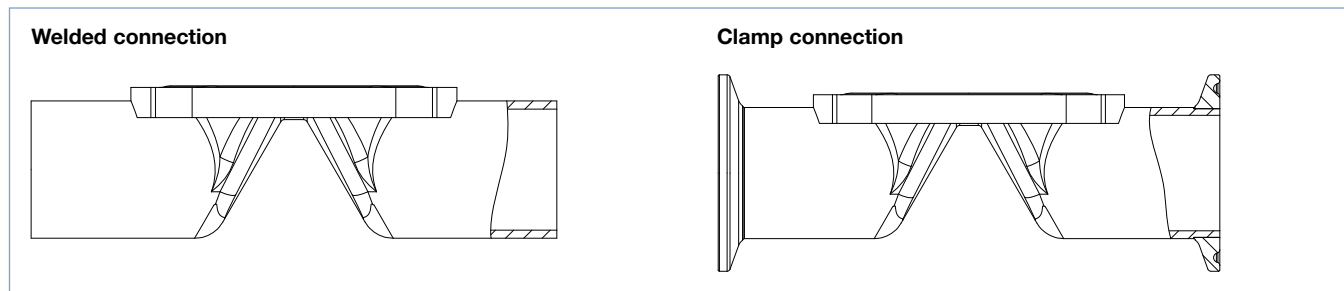


When turning the handwheel anticlockwise, a yellow marking becomes visible between the attachment and the handwheel

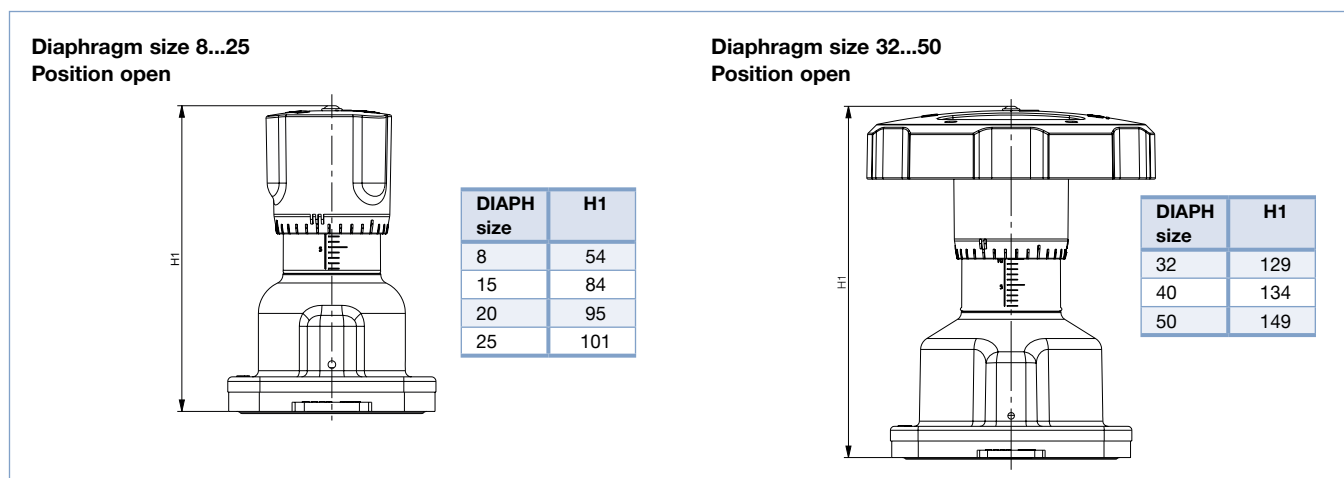
- Handwheel with scale
- Reproducible stroke scale



## Drawings



## Dimensions [mm]



## Ordering Chart

DIA.	Connection (in.)	Seat [mm]	Cv (usgpm)	Max. Process Pressure (PSig)	Item no.Welded	Item no.Triclamp
<b>Manual Actuator</b>						
EPDM	1/2"	8	2.54	147	20050380	20073431
	3/4"	15	7.51	147	20050405	20073044
	1"	20	14.68	147	20072803	20070244
	1-1/2"	32	36.99	147	20072847	20073045
	2"	40	53.18	147	20070982	20072086
	2-1/2"	50	63.58	147	20073047	20073046
PTFE / EPDM	1/2"	8	2.54	147	20050388	20069302
	3/4"	15	7.51	147	20050391	20069303
	1"	20	14.68	147	20050372	20050399
	1-1/2"	32	36.99	147	20050394	20073051
	2"	40	53.18	147	20050392	20073050
	2-1/2"	50	63.58	147	20050382	20073049

## Universal attachment for hygienic process valves

- 3 switching points
- Color status display
- Manual override to be used with closed housing
- Fieldbus AS-Interface, IO-Link or bÜS (CANopen)



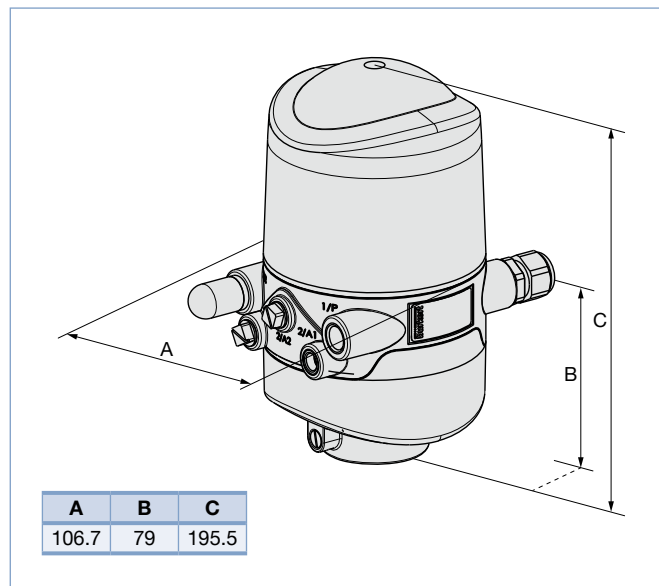
Type 8681 control head is optimized for decentralised automation of hygienic process valves. Thanks to its universal adapter it can be combined with all normal commercial butterfly valves, ball valves, single and double seated valves. With a decentralised automation concept, the control head takes over all pneumatic actuation, feedback and diagnostic functions up to and including field bus communication. The housing is easy to clean and features proven electrical IP protection and chemically resistant materials for use in hygienic processing in food, beverage and pharmaceutical industries.

### Technical Data

<b>Material</b>	
Body	PA, PPO, VA
Cover	PC
Seal	CR, EPDM
<b>Control medium</b>	neutral gases, air DIN ISO 8573-1 (filter 5 µm recommended)
Dust concentration	class 5 (<40 µm particle size)
Particle density	class 5 (<10 mg/m³)
Pressure condensation point	class 3 (<-4 °F (-20°C))
Oil concentration	class 5 (<25 mg/m³)
<b>Supply pressure</b>	36.25 to 116 PSI
<b>Air capacity solenoid valve<sup>1)</sup></b> (supply and exhaust air per solenoid valve adjustable)	110 l <sub>N</sub> /min - for pressurization and exhaust, lifting device 110 l <sub>N</sub> /min - delivery condition 200 l <sub>N</sub> /min - max. typical flow rate (throttle)
<b>Pilot air ports</b>	
Air inlet and outlet	G 1/4"
Service ports	G 1/8"
<b>Position sensor</b>	Non-contact Position Sensor, 3 self-regulated switching points PNP (Teach-In-function) closer (normally open), PNP-output short-circuit proof, with clamping short-circuit protection
Outlet current	Max. 100 mA per feedback signal
Stroke range	0 to 80 mm
Resolution	≤ 0.1 mm
Total error	± 0.5 mm - when using a target for the dimensional drawing, material 1.4021 and a piston rod (Ø 22 mm, material 1.4301) (error refers to the reproducibility of a teach-position)
<b>Ambient temperature</b>	14 °F to 131 °F 41 °F to 131 °F (ATEX II 3G Ex nA IIC T4; ATEX II 3G Ex tD A22 T135°C)
<b>Installation</b>	As required, preferably with actuator in upright position

<sup>1)</sup> QNn-value acc. to the definition with decrease in pressure from 7 to 6 bar absolute with 68°C.

### Envelope Dimensions [mm] (see datasheet for details)



### Technical Data (continued)

<b>Type of protection</b>	IP 65/67 acc. to EN 60529
<b>Protection class</b>	3 acc. to VDE 0580
<b>Fieldbus communication</b>	AS-Interface
<b>EG-Conformity</b>	EMV2004/108/EG; ATEX 94/9/EG
<b>Ignition protection</b>	ATEX II 3G Ex nA IIC T4 ATEX II 3G Ex tD A22 T135°C

### Options

- Class 1 Div. 2



= Burkert Quick Delivery Express Program Items

## Ordering Chart

Communication	Supply voltage	Connection	FM CL1D2 NI	Quantity of solenoid valves	Feedback	Item no.
without	12 to 28 V DC	cable gland	no	0	3 int. + 1 ext.	196410
			no	1	3 int. + 1 ext.	196411
			no	3	3 int. + 1 ext.	196413
		without	yes	0	3 int. + 1 ext.	267358
			yes	1	3 int. + 1 ext.	261483
			yes	3	3 int. + 1 ext.	261484
without	12 to 28 V DC	M12, 12-pin, cable 80 cm	no	0	3 int. + 1 ext.	196420
			no	1	3 int. + 1 ext.	196421
			no	3	3 int. + 1 ext.	196423
without	120 VAC	cable gland	no	0	3 int. + 1 ext.	196470
			no	1	3 int. + 1 ext.	196471
			no	3	3 int. + 1 ext.	196473
AS-Interface v3.0 (62 slaves)	29.5 to 31.6 V DC	Version with ASI flat cable clip	no	0	3 int. + 1 ext.	196430
			no	1	3 int. + 1 ext.	196431
			no	3	3 int. + 1 ext.	196433
		without	yes	0	3 int. + 1 ext.	20013509
			yes	1	3 int. + 1 ext.	261485
			yes	3	3 int. + 1 ext.	261486
büS/CANopen	via Bus	M12, 5-pin, cable 80 cm	no	0	3 int. + 1 ext.	on request
			no	1	3 int. + 1 ext.	363140
			no	3	3 int. + 1 ext.	363163
IO-Link	via Bus	Multipole 4-pin, cable 10 cm (port class A)	no	0	3 int. + 1 ext.	359167
			no	1	3 int. + 1 ext.	358578
			no	3	3 int. + 1 ext.	358579
			yes	0	3 int. + 1 ext.	20013513
			yes	1	3 int. + 1 ext.	20002932
			yes	3	3 int. + 1 ext.	20003427
<b>PMO Versions</b> (for Alfa Laval mixproof valves - includes fittings for 1/4" poly tubing)						
without	12 to 28 V DC	M12, 12-pin, cable 80 cm	no	3	3 int. + 1 ext.	98134546
AS-Interface (62 slaves)	29.5 to 31.6 V DC	Version with ASI flat cable clip and cable 80 cm	no	3	3 int. + 1 ext.	98134547
büS/CANopen	via Bus	M12, 5-pin, cable 80 cm	no	3	3 int. + 1 ext.	98138074
IO-Link	via Bus	Multipole 4-pin, cable 10 cm (Port class A)	no	3	3 int. + 1 ext.	98137651

## Notes:

- UL and ATEX zone 2/22 cat. 3 versions available upon request
- 2 solenoid versions available upon request
- FM versions always come without an electrical connection!
- FM versions of feedback units are always with pneumatic housing (ports are plugged)
- IO-Link Port class B available upon request

**6 optimized LED colors:** green, yellow, red, orange, white, and blue to indicate valve positions, error messages and warnings. In addition, the user has 6 different LED display modes to choose from.



# Control Head for decentralized automation of ELEMENT process valves

8691

- Contact-free inductive valve position registration (teach function)
- Colored illuminated status display
- Integrated control air routing
- Fieldbus AS-Interface, IO-Link or bÜS (CANopen)



## Technical Data

<b>Materials</b>	
Body	PPS, stainless steel
Cover	PC
Sealing	EPDM
<b>Control medium</b>	
	neutral gases, air, quality classes acc. to ISO 8573 - 1
Dust concentration	Class 7 (< 40 µm particle size)
Particle density	Class 5 (< 10 mg/m³)
Pressure condensation point	Class 3 (< -20 °C)
Oil concentration	Class X (< 25 mg/m³)
<b>Supply pressure</b>	3 to 7 bar <sup>1)</sup>
<b>Air input filter</b>	
Mesh aperture	exchangeable ~0.1 mm
<b>Pilot air ports</b>	Threaded ports G 1/8, stainless steel
<b>Position feedback</b>	Analogue position sensor (contact-free) with teach function; switchpoint (PNP) (NPN on request)
<b>Stroke range valve spindle</b>	2.5 to 45 mm
<b>Ambient temperature</b>	
with pilot valve	- 10 to + 55 °C
without pilot valve	- 20 to + 60 °C

## Status Shown Through Colored LEDs

**6 optimized LED colors:** green, yellow, red, orange, white and blue for display of three valve positions (upper, middle and lower), error message and warnings. Visible even under dirty or dark environments.



## Technical Data (continued)

<b>Installation</b>	As required, preferably with actuator upright
<b>Protection type</b>	IP65/IP67 acc. to EN 60529, Type 4X acc. to NEMA 250 standard
<b>Protection class</b>	3 acc. to DIN EN 61140
<b>Fieldbus communication</b>	AS-Interface, IO-Link, bÜS - Bürkert System Bus (based on CANopen)
<b>Conformity</b>	EMC directive 2014/30/EU
<b>Ignition protection</b>	II 3D Ex tc IIC T135 °C Dc II 3G Ex ec IIC T4 Gc

## Ordering Chart

### Control head for decentralized automation of ELEMENT On/Off process valves Type 21xx

Communication	Electrical connection	Control function pilot valve system	Pilot air ports threaded ports	Item no.	Item no.
				Standard	3rd Party
AS-Interface Slave profile: S-B.A.E (A/B slave, max. 62 slaves)	M12 multipole connector	single-acting	G 1/8	<b>20024895</b>	20024896
		without	G 1/8	20024891	20024892
	Flat cable clip cable	G 1/8	20024901	20024902	
IO-Link	M12 multipole connector	single-acting	G 1/8	<b>20024938</b>	20024939
		without	G 1/8	20024930	20024931
bÜS - Bürkert System Bus	M12 multipole connector	single-acting	G 1/8	20024974	20024975
		without	G 1/8	20024966	20024967
Without fieldbus communication	M12 multipole connector	single-acting	G 1/8	<b>20024842</b>	20024843
		without	G 1/8	20024819	20024820
	Cable gland	single-acting	G 1/8	20024840	20024841
		without	G 1/8	20024817	20024818

# Digital electropneumatic Positioner/Controller for the integrated mounting on process control valves

8692 / 8693

- Integrated PID Control (8693)
- Compact, robust stainless Steel design
- Easy start-up by automatic X-Tune function
- Contact-free position sensor
- Integrated control air routing with spring chamber aeration
- Available as 4-20 mADC/0-10 VDC or Ethernet I/P (with AOP)



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## Technical Data

<b>Materials</b>	
Body	PPS, stainless steel
Cover	PC
Sealing	EPDM
<b>Power supply</b>	24 V DC $\pm$ 10 % cULus Listed NEC Class 2
<b>Setpoint setting</b>	0/4 to 20 mA and 0 to 5/10 V
<b>Output resistance</b>	0/4 to 20 mA: 180 $\Omega$ 0 to 5/10 V: 19 k $\Omega$
<b>Ambient temperature</b>	- 10 to + 55 $^{\circ}$ C
<b>Supply pressure</b>	43.51 to 101.52 PSI

<b>Air input filter</b>	Exchangeable (mesh aperture~0.1 mm)
<b>Actuator system</b>	
Actuator series Type 23xx	Low air flow rate : $\varnothing$ Actuator 70/90 mm High air flow rate: $\varnothing$ Actuator 130 mm
Actuator series Type 27xx	High air flow rate: $\varnothing$ Actuator 175/225 mm
<b>Position detection module</b>	Contact-free, wear-free

## Ordering Chart

Control function Pilot valve system	Communication	Electrical connection	Analogue input 0/4 - 20 mA	Analogue feedback 0/4 - 20 mA + 2 binary outputs	Diagnostic function <sup>1)</sup>	PID Software	Binary inputs	Pilot air threaded ports	Item no.
<b>8692 Positioner for Burkert series Type 23xx (FA03)</b>									
Low air capacity single-acting (E1) size $\varnothing$ 70/90 mm	24 V DC	cable gland	yes	yes	yes	no	yes	G 1/8	307005
		M12 multipole connector	yes	yes	yes	no	yes	G 1/8	307123
	EtherNet/IP		via Bus	via Bus	yes	no		G 1/8	306849
High air capacity single acting (E2) Size $\varnothing$ 130 mm	24 V DC	cable gland	yes	yes	yes	no	yes	G 1/8	307007
		M12 multipole connector	yes	yes	yes	no	yes	G 1/8	307126
	EtherNet/IP		via Bus	via Bus	no			G 1/8	306850
<b>8692 Positioner for 175mm and 225mm Burkert series Type 27xx and 3rd party valves (FA05)</b>									
Low air capacity single-acting (E1) size $\varnothing$ 70-90 mm	24 V DC	cable gland	yes	yes	yes	no	yes	G 1/8	306918
		M12 multipole connector	yes	yes	yes	no	yes	G 1/8	307030
	EtherNet/IP		via Bus	via Bus	yes	no		G 1/8	382296
High air capacity single acting (E2) size $\varnothing$ 130 mm	24 V DC	cable gland	yes	yes	yes	no	yes	G 1/8	306927
		M12 multipole connector	yes	yes	yes	no	yes	G 1/8	307043
	EtherNet/IP		via Bus	via Bus	no			G 1/8	313266
<b>8693 Controller for Burkert series Type 23xx (FA03)</b>									
Low air capacity single-acting (E1) size $\varnothing$ 70/90 mm	24 V DC	cable gland	yes	yes	yes	yes	yes	G 1/8	306965
		M12 multipole connector	yes	yes	yes	yes	yes	G 1/8	307105
	EtherNet/IP		via Bus	via Bus	yes	yes		G 1/8	306867
High air capacity single acting (E2) Size $\varnothing$ 130 mm	24 V DC	cable gland	yes	yes	yes	yes	yes	G 1/8	306973
		M12 multipole connector	yes	yes	yes	yes	yes	G 1/8	307113
	EtherNet/IP		via Bus	via Bus	yes	yes		G 1/8	306868
<b>8693 Controller for 175mm and 225mm Burkert series Type 27xx and 3rd party valves (FA05)</b>									
Low air capacity single-acting (E1) size $\varnothing$ 70/90 mm	24 V DC	cable gland	yes	yes	yes	yes	yes	G 1/8	306942
		M12 multipole connector	yes	yes	yes	yes	yes	G 1/8	307058
	EtherNet/IP		via Bus	via Bus	yes	yes		G 1/8	20002484
High air capacity single acting (E2) size $\varnothing$ 130 mm	24 V DC	cable gland	yes	yes	yes	yes	yes	G 1/8	306952
		M12 multipole connector	yes	yes	yes	yes	yes	G 1/8	307070
	EtherNet/IP		via Bus	via Bus	yes			G 1/8	313276



# Digital electropneumatic positioner for the integrated mounting on process control valves

8694

- Compact, robust stainless steel design
- Easy start-up by automatic X-Tune function
- Contact-free position sensor
- Integrated control air routing
- Available as 4-20 mADC, AS-Interface, IO-Link (with AOI) or Bürkert System bus (bÜS)
- Configurable 3-wire mode (4-20 mADC) via COMMUNICATOR software



The compact positioner is designed for integrated mounting on pneumatically operated process valves. Remote setpoint adjustment via a 4-20 mA signal IO-Link or through AS-Interface. A contact-free analogue position sensor measures the position of the valve spindle. Simple installation through automatic X-Tune function and setting through DIP-switch or via the USB configuration port and complimentary Bürkert COMMUNICATOR software. Dip switches also allow for close-tight functionality, customized characteristic curves and manual/automatic operation. Close tight binary input is available as standard and configurable to trigger an X-Tune, safety closure/interlock or auto/manual operation. Additional parametrisation options are possible through digital communication protocols. The valve position indication is shown through LED's or can be accessed via the COMMUNICATOR software, without impacting the process control signal. All devices can be configured via the service port and USB modem. See the "accessories" page for ordering details.

## Technical Data

<b>Materials</b>	PPS, stainless steel
Body	PC
Cover	EPDM
Seal	
<b>Operating voltage</b>	24 V DC $\pm 25\%$ UL: NEC Class 2
<b>Air supply filter</b>	Exchangeable (mesh size $\sim 0.1$ mm)
<b>Positioning system</b>	
<b>Low air capacity</b>	
Single-acting	7 IN/min for aeration and ventilation (QNn- value acc. to definition at pressure drop from 7 to 6 bar absolute) Type 23xx, $\varnothing$ actuator 70/90 mm
Actuator series/size	
<b>High air capacity</b>	
Single-acting	130 IN/min for aeration and ventilation (QNn- value acc. to definition at pressure drop from 7 to 6 bar absolute) Type 23xx, $\varnothing$ actuator 130 mm Type 27xx, $\varnothing$ actuator 175/225 mm
Actuator series/size	
<b>Ambient temperature</b>	-1...+60 °C
<b>Supply pressure</b>	
Low air capacity	0...7 bar <sup>1)</sup>
High air capacity	3...7 bar

<sup>1)</sup> The supply pressure applied must be 0.5 to 1 bar above the minimum required pilot pressure of the valve actuator

## Ordering Chart

Control function Pilot valve system	Communication	Electrical connection	Analogue input 0/4 - 20 mA	Analog output 0/4-20mA	Binary input	Threaded air ports	Item no.
<b>8694 Positioner for Bürkert series Type 23xx (FA03)</b>							
Low air capacity single acting (E1) size $\varnothing$ 70/90 mm	24 V DC	Multipole	Yes	Yes	Yes	G 1/8	323256
	24 V DC	Cable Gland	Yes	Yes	Yes	G 1/8	323266
	Asi v. 3.0	1M Flat clip with cable	via Bus	via Bus	via Bus	G 1/8	239615
	I/O Link (Port Class B)	Multipole	via Bus	via Bus	via Bus	G 1/8	323232
	I/O Link (Port Class A)	Multipole	via Bus	via Bus	via Bus	G 1/8	20032463
High air capacity single acting (E2) Size $\varnothing$ 130 mm	24 V DC	Multipole	Yes	Yes	Yes	G 1/8	323258
	24 V DC	Cable Gland	Yes	Yes	Yes	G 1/8	323267
	Asi v. 3.0	1M Flat clip with cable	via Bus	via Bus	via Bus	G 1/8	239616
	I/O Link (Port Class B)	Multipole	via Bus	via Bus	via Bus	G 1/8	323233
	I/O Link (Port Class A)	Multipole	via Bus	via Bus	via Bus	G 1/8	20032465
<b>8694 Positioner for 175mm and 225mm Bürkert series Type 27xx and 3rd party valves (FA05)</b>							
Low air capacity single acting (E1) size $\varnothing$ 70/90 mm	24V DC	Multipole	Yes	Yes	Yes	G 1/8	323259
	24V DC	Cable Gland	Yes	Yes	Yes	G 1/8	323268
	I/O Link (Port Class B)	Multipole	via Bus	via Bus	via Bus	G 1/8	323234
	I/O Link (Port Class A)	Multipole	via Bus	via Bus	via Bus	G 1/8	20032466
	Asi v. 3.0	1M Flat clip with cable	via Bus	via Bus	via Bus	G 1/8	239611
High air capacity single acting (E2) size $\varnothing$ 130 mm	BuS	Multipole	via Bus	via Bus	via Bus	G 1/8	323238
	24V DC	Multipole	Yes	Yes	Yes	G 1/8	323260
	24V DC	Cable Gland	Yes	Yes	Yes	G 1/8	323269
	I/O Link (Port Class B)	Multipole	via Bus	via Bus	via Bus	G 1/8	323235
	I/O Link (Port Class A)	Multipole	via Bus	via Bus	via Bus	G 1/8	20032468
	Asi v. 3.0	1M Flat clip with cable	via Bus	via Bus	via Bus	G 1/8	239612
	BuS	Multipole	via Bus	via Bus	via Bus	G 1/8	323239



# Digital Electropneumatic Positioner SideControl and Digital Electropneumatic Process Controller SideControl

- Integrated PID Control (8793)
- Compact and robust design
- Easy start-up by automatic X-Tune function
- Integrated diagnostic functions for valve monitoring
- Dynamic positioning system with no air consumption in controlled state
- Available as 4-20 mADC or Ethernet I/P (with AOP), AS-i 3.0 or IO Link (with AOI)



Can be combined with yoke type actuators and rotary actuators.

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8791 / 8792 / 8793

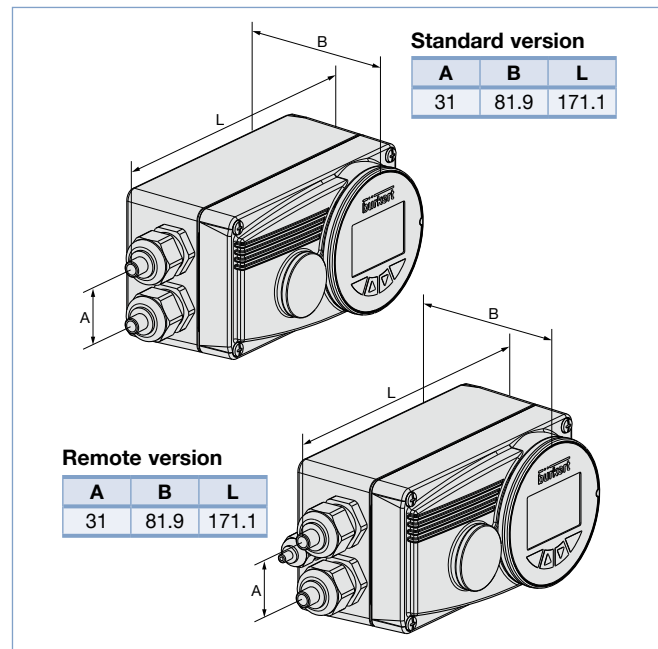
The Type 8791, 8792 and 8793 are designed to standardization acc. to IEC 60534-6-1 or VDI/VDE 3845 (IEC 60534-6-2) for assembly with linear and rotary actuators. In addition, the remote versions can be combined with Bürkert process control valves. They can be operated with the usual current and voltage standard signals and can also be equipped with the fieldbus interface. They are equipped with additional diagnostic functions to monitor the state of the valve. This allows planned maintenance and optimizes plant availability. The pilot valve system can be used equally for single and double-acting actuators.

## Technical Data

<b>Material</b>	
Body	Aluminium plastic-coated
Seal	EPDM, NBR, FKM
<b>Operating voltages</b>	24 V DC ± 10 %
<b>Residual ripple</b>	Max. 10%
<b>Input resistance</b>	0/4-20 mA: 180 Ω
<b>Analogue feedback</b>	4-20 mA, 0-20 mA
<b>Binary input</b>	Galvanically isolated, 0-5 V = log "0", 10-30 V = log "1"
<b>Binary output</b>	Galvanically separated 100 mA
<b>Ambient temperature</b>	14 °F to 140 °F; -10 °C...+60 °C (no Ex-Approval)
	32 °F to 140 °F; 0 °C...+60 °C (with ATEX/IECEX-Approval)
<b>Pilot air ports</b>	Threaded ports G 1/4
<b>Supply pressure</b>	7.25-14.50 PSI (1.4...7 bar) <sup>1)2)</sup>

<sup>1)</sup> The supply pressure has to be 7.25-14.50 PSI above the minimum required pilot pressure for the valve actuator <sup>2)</sup> Pressure specifications: Overpressure with respect to atmospheric pressure

## Envelope Dimensions [mm] (see datasheets for details)



## Ordering Chart

Control function pilot valve system	Communication	Electrical connection	Analog Input 0/4-20 mA	Analog feedback (output) 0/4-20 mA	2 binary outputs	Diagnostic function 1)	PID Software	Binary input	Item no.
<b>8791 BLIND Positioner for 1/4 turn and Yoke Syle valves, NAMUR Mount (requires adapter)</b>									
Universal, Single and Double Acting	24VDC	M12 multipole connector	yes	yes	no	yes	no	yes	323216
	AS-I 3.0		via Bus	via Bus	via Bus	yes	no	yes	239617
	IO Link, Class B		via Bus	via Bus	via Bus	yes	no	yes	323207
	IO Link, Class A		via Bus	via Bus	via Bus	yes	no	yes	20032774
<b>8792 DISPLAY Positioner for 1/4 turn and Yoke Syle valves, NAMUR Mount (requires adapter)</b>									
Universal, Single and Double Acting	24VDC	M12 multipole connector	yes	no	yes	yes	no	yes	317989
	24VDC		yes	yes	yes	yes	no	yes	317990
	EtherNet/IP		via Bus	via Bus	via Bus	yes	no	yes	317933
<b>8793 DISPLAY Controller for 1/4 turn and Yoke Syle valves, NAMUR Mount (requires adapter)</b>									
Universal, Single and Double Acting	24VDC	M12 multipole connector	yes	yes	yes	yes	yes	yes	317980
	EtherNet/IP		via Bus	via Bus	via Bus	yes	yes	yes	317931

# Angle Seat Valve System for on/off Control and Globe Valve System for on/off Control

- Long service life
- Easy integration of automation units with ELEMENT
- Stainless steel housing
- Suitable for 10 bar(g)/145 PSI steam



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FOR DATA SHEET

The design of the System Type 8801 On/Off ELEMENT enables the easy integration of automation units whether they are electrical/optical position feedback, pneumatic control units or an optional integrated fieldbus interface. The fully integrated system with valve and automation system has a compact and smooth design, integrated pneumatic lines, IP65/67/NEMA4X protection class and superior chemical resistance.

**2100** - In line with Burkert's philosophy for modular valves and sensors the construction of the 2100 angle-seat valve fulfills tough criteria for process environments. Unrivalled cycle life and sealing integrity is guaranteed by the proven self adjusting spindle packing with V-seals.

**2101** - The globe valve Type 2101 is specially optimized for decentralized process automation and fulfills tough criteria for process environments. The design enables the easy integration of automation units whether they are electrical/optical position feedback, pneumatic control units or an integrated fieldbus interface. Unrivalled service life and sealing integrity is guaranteed by the proven self-adjusting spindle packing with chevron seals.

**8691** - The Control Head Type 8691 is optimized for integrated mounting on the 21XX process valve series. The registration of the valve end position is done through a contact-free analog position sensor, which automatically recognizes and saves the valve end position through the Teach function when starting up. The integrated pilot valve controls single acting actuators and provides two position feedback via two PNP transistors.

## Technical Data

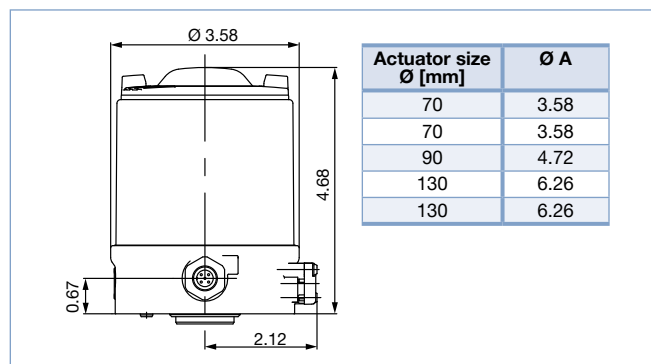
	2100 Angle Seat	2101 Globe
<b>Orifice</b>	0.5" (DN15) to 2.5" (DN65)	0.5" (DN15) to 4" (DN100)
<b>Medium temperature</b>	-10°C to +185°C; 14°F to 365°F	
<b>High temp. option</b>	(CF38) up to 446F (230C)	
<b>Ambient temperature</b>	-10°C to +60°C; 14°F to 140°F (push-in air ports) -10°C to +100°C; 14°F to 212°F (threaded air ports)	
<b>Body material</b>	316L stainless steel	
<b>Sealing material</b>	PTFE	
<b>Actuator material</b>		
Actuator	PPS	
Cover	Stainless steel 1.4561 (316Ti)	
<b>Control medium</b>	Instrument air at 75-100 PSI	
<b>Flow direction</b>	Under seat anti water-hammer/ above seat for steam and gases	
<b>Port connection</b>	2100 NPT/OD Tube/Clamp and 2301ANSI Flanged*	
<b>Safe position</b>	Normally closed	

\*other options available

## 8691 Technical Data

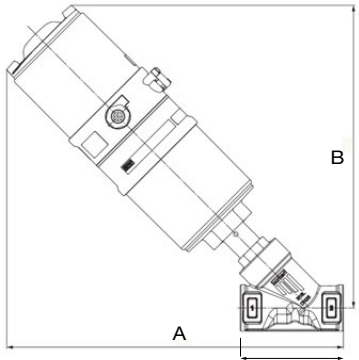
<b>Material</b>	
Body	0.5" (DN15) to 2.5" (DN65)
Cover	PC
Sealing	EPDM
<b>Control medium</b>	neutral gases, air, quality classes acc. to ISO 8573-1
Dust concentration	Class 7 (<40µm particle size)
Particle density	Class 5 (<10mg/m <sup>3</sup> )
Pressure condensation	Class 3 (<-20°C)
Oil concentration	Class X (<25mg/m <sup>3</sup> )
<b>Supply pressure</b>	43.5-101.5 PSI
<b>Pilot air ports</b>	316L stainless steel
<b>Seal material</b>	PTFE
<b>Position feedback</b>	Analogue position sensor (contact-free) with teach function; switchport (PNP)
<b>Ambient temperature</b>	
with pilot valve	14°F to 131°F; -10°C to 55°C
<b>Protection type</b>	IP65 and IP67 according to EN 60529, Type 4X
<b>Approvals</b>	cULus Cert. No 238179

## 8691 Dimensions [inch] (see datasheet for more details)



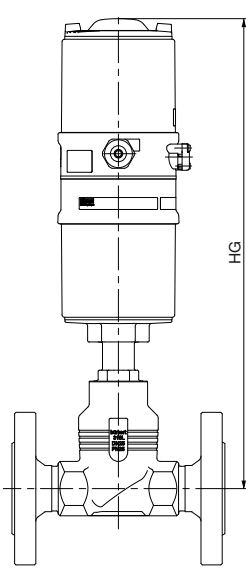
Dimensions [inch] (see datasheet for details)

**8801 NPT end**



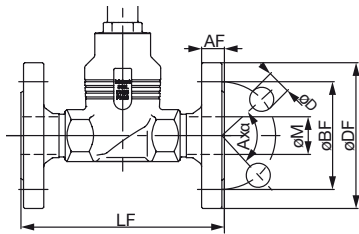
Connection	Actuator [mm]	A	B	C
1/2"	70	9.9	11.0	2.58
3/4"	70	10.2	11.4	2.95
1"	70	10.4	11.7	3.54
1 1/2"	130	14.0	15.4	4.72
2"	130	14.5	16.3	5.91
2 1/2"	130	15.1	17.3	7.28

**2101 flanged body**



Orifice		Actuator [mm]	HG [inch]
[mm]	[inch]		
15	1/2"	70	13.622
20	3/4"	70	13.858
25	1"	70	13.976
40	1 1/2"	90	17.362
50	2"	130	19.646
65	2 1/2"	130	20.787
80	3"	130	22.087
100	4"	130	22.48



























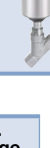
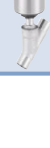

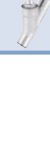
**2101 flanged body**



Port size (tube) [inch]	Actuator size [mm]	Actuator [mm]					
		ØDF	LF	ØBF	AF	ØD	ØMF
1/2"	70	3.50	7.24	2.38	0.41	0.61	0.61
3/4"	70	3.89	7.24	2.75	0.50	0.61	0.81
1"	70	4.25	7.24	3.11	0.55	0.61	1.05
1-1/2"	90	5.00	8.74	3.88	0.68	0.61	1.05
2"	130	5.98	10.00	4.75	0.75	0.75	2.07
2 1/2"	130	7.00	10.86	5.50	0.87	0.75	2.48
3"	130	7.48	11.73	6.00	0.94	0.75	3.07
4"	130	9.01	13.85	7.50	0.94	0.75	4.01

### Ordering charts

#### Angle Seat-Valve System On/Off (2100 + 8691)

Size	Actuator [mm]	Cv	Min. pilot pressure [PSI]	Max. pressure [PSI]	NPT	Tube	Clamp
<b>Flow from below the seat (liquids)</b>							
1/2"	70	5.8	73	363	 <a href="#">20063706</a>	 <a href="#">20063366</a>	 <a href="#">20063693</a>
3/4"	70	12.7	73	363	 <a href="#">20063370</a>	 20056993	 <a href="#">20063694</a>
1"	70	20.8	73	232	 <a href="#">20063381</a>	 <a href="#">20063365</a>	 20056994
1 1/2"	90	46.2	73	232	 <a href="#">20063380</a>	 <a href="#">20063372</a>	 <a href="#">20063375</a>
2"	130	71.7	73	232	 <a href="#">20063371</a>	 <a href="#">20063373</a>	 <a href="#">20063376</a>
2 1/2"	130	109.8	81	218	 20063676	 20063374	 20063698
<b>Flow from above the seat (steam and other gases)</b>							
1/2"	70	5.9		232	 <a href="#">20063369</a>	 <a href="#">20063704</a>	
3/4"	70	13.87		232	 <a href="#">20063701</a>	 20063705	
1"	70	21.96		232	 <a href="#">20063702</a>	 <a href="#">20063707</a>	
1 1/2"	90	46.34		232	 <a href="#">20063379</a>	 <a href="#">20063709</a>	
2"	90	63.58		232	 <a href="#">20061939</a>	 <a href="#">20063710</a>	
2 1/2"	90	98.26		232	 20063703		

#### Valve System On/Off (2101 + 8691)

Size	Actuator [mm]	Min. pilot pressure [PSI]	Max. pressure [PSI]	Item no. ANSI Flange
<b>Flow direction below the seat (gases and liquids)</b>				
1/2"	70	70	362	20063377
3/4"	70	70	290	20063711
1"	70	70	232	<a href="#">20063712</a>
1 1/2"	90	72.5	232	<a href="#">20063713</a>
2"	130	72.5	232	<a href="#">20063714</a>
2 1/2"	130	82	232	<a href="#">20063378</a>
3"	130	82	145	20063715
4"	130	82	87	<a href="#">20063716</a>



# Angle Control Valve and Globe Control Valve

8802 / 2300 / 2301

## 2/2-way continuous control, 1/2" to 4"

- High cycle life and maintenance-free operation
- Stainless IP65 and 67, NEMA4 protection
- Excellent control characteristics and impact resistance
- Simple to install and commission



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FOR DATA SHEET

## ELEMENT Control Valves

As part of a remarkable range of attractive and reliable process control components our hardworking angle control valves offer high flows for large capacity heat exchange operations while our globe valves offer extreme precision and quiet operation. Both can be incorporated in the superlative 8802 control valve system. The 8802 Continuous ELEMENT architecture enables the easy integration of three levels of automation modules: a simple blind Positioner; a positioner with display; and a fully functional process controller. A range of fieldbus interfaces (AS-i, Profibus, IO-Link, Ethernet IP, etc...) can be added with ease.

Simple, intuitive, multilingual menu driven HMI allows you to control your loop with the minimum time investment.

Threaded, OD tube weld ends, clamp, and flanged connections make this an easily installed part of your control loop. These control valves offer unmatched life cycle performance. Truly Intelligent, Integrated and Beautiful.

## Technical Data

	2300 Angle Seat	2301 Globe
<b>Orifice</b>	1/2" (DN15) to 2 1/2" (DN65)	3/8" (DN10) to 4" (DN100)
<b>Medium temperature</b>	14°F to 365°F; -10°C to +185°C	
<b>High temp. option</b>	(CF38) up to 446F (230C)	
<b>Ambient temperature</b>	Max. 55°C; 131°F	
<b>Body material</b>	316L stainless steel	
<b>Sealing material</b>	PTFE/stainless steel	
<b>Actuator material</b>	PPS/stainless steel band	
<b>Control medium</b>	Instrument air at 85-100 PSI	
<b>Flow direction</b>	Under seat anti water-hammer	
<b>Port connection</b>	2300/2301 NPT/OD Tube/Clamp and 2301 ANSI Flanged	
<b>Safe position</b>	Normally closed	



## 8802 Technical Data

<b>Material</b>	
Body	PPS, stainless steel
Cover	PC
Sealing	EPDM
<b>Control medium</b>	neutral gases, air, quality classes acc. to ISO 8573-1
Dust concentration	Class 7 (<40µm particle size)
Particle density	Class 5 (<10mg/m³)
Pressure condensation	Class 3 (<-20°C)
Oil concentration	Class X (<25mg/m³)
<b>Supply pressure</b>	Low air flow rate 0-101.52 PSI (0 to 7 bar <sup>1)</sup> High air flow rate 43.5-101.52 PSI (3 to 7 bar)
<b>Pilot air ports</b>	Threaded ports G1/8 stainless steel
<b>Seal material</b>	EPDM
<b>Electrical Connection</b>	
Multipole connection	M12, 8-pins or 4-pins
Cable gland	2xM16 x 1.5 (cable-Ø 5 – 10 mm) with connection terminals for cable cross-sections 0.14 – 1.5 mm²
<b>Ambient temperature</b>	-10°C to 55°C; 14°F to 131°F
<b>Protection type</b>	IP65/IP67 acc. to EN 60529, Type 4X acc. to NEMA 250 standard

<sup>1</sup> The supply pressure has to be 7.25-14.05 bar above the minimum required pilot pressure for the valve actuator.

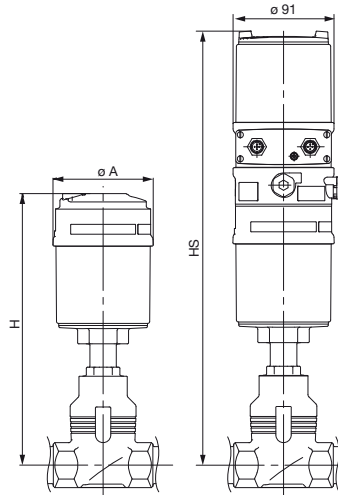
## Dimensions [inch] (see datasheet for more details)

8802 NPT end	Connection	Actuator [mm]	HM	BM	LM
	1/2"	70	11.02	12.13	2.56
	3/4"	70	11.34	12.52	2.95
	1"	70	13.03	14.25	3.54
	1 1/2"	130	15.12	15.08	4.72
	2"	130	15.63	17.40	5.91
	2 1/2"	130	16.93	19.17	7.28

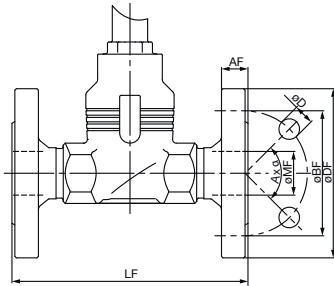
Dimensions [inch] (see datasheet for more details)

**2301 without and with TopControl Type 8692**

Size	Actuator [mm]	ØA	H	HS with 8692
1/2"	70	3.58	9.40	15.07
3/4"	70	3.58	9.64	15.31
1"	90	4.72	11.85	17.52
1 1/2"	130	6.26	15.19	20.86
2"	130	6.26	15.43	21.10
2 1/2"	130	6.26	17.55	23.22
3"	130	6.26	17.87	23.54
4"	130	6.26	18.26	23.93



**2301 flanged body**



Port size (tube) [inch]	Actuator size [mm]	Actuator [mm]					
		ØDF	LF	ØBF	AF	ØD	ØMF
1/2	70	3.50	7.24	2.38	0.41	0.61	0.61
3/4	70	3.89	7.24	2.75	0.50	0.61	0.81
1	70	4.25	7.24	3.11	0.55	0.61	1.05
1-1/2	90	5.00	8.74	3.88	0.68	0.61	1.05
2	130	5.98	10.00	4.75	0.75	0.75	2.07
2 1/2	130	7.00	10.86	5.50	0.87	0.75	2.48
3	130	7.48	11.73	6.00	0.94	0.75	3.07
4	130	9.01	13.85	7.50	0.94	0.75	4.01

**Ordering charts**

**Angle Control Valve (2300 + 8692)**

Size	Orifice [mm]	Cv	Pressure	NPT		Tube		Clamp	
				PTFE/St.st.	St.st./St.st.	PTFE/St.st.	St.st./St.st.	PTFE/St.st.	St.st./St.st.
1/2"	15	5.8	232	336492	337376	336509	337391	337343	336461
3/4"	20	11.6	232	336494	467877	336511	337395	337344	337420
1"	25	18.5	232	336495	337378	336512	337402	337346	338033
1 1/2"	40	41.6	232	336496	467878	337313	337408	337373	338034
2"	50	61.3	232	336504	467874	337314	336458	333086	338036
2 1/2"	65	104.1	232	336508	337287	337315	337412	337375	333091

**Globe Control Valve (2301 + 8692)**

Size	Orifice [mm]	Cv	Pressure	Flange		NPT	
				PTFE/St.st.	St.st./St.st.	PTFE/St.st.	St.st./St.st.
1/2"	15	5	232	338037	337323	337384	467880
3/4"	20	8.3	232	338038	337324	338073	337413
1"	25	13.9	232	338039	337338	467881	337134
1 1/2"	40	27.7	232	338042	337339	338075	337414
2"	50	43	232	338045	467872	338124	337416
2 1/2"	65	75.6	232	338049	333067	338216	337419
3"	80	116.3	145	338070	333059	-	-
4"	100	162.8	87	338072	337340	-	-

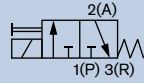
Size	Orifice [mm]	Cv	Pressure	Tube		Clamp	
				PTFE/St.st.	St.st./St.st.	PTFE/St.st.	St.st./St.st.
1/2"	10	3.1	232	338227	337316	-	-
	15	5	232	-	-	338255	333093
3/4"	15	5	232	338234	337317	337288	338257
1"	20	8.3	232	338239	336479	337289	338249
1 1/2"	32	20.7	232	338242	336459	337290	338259
2"	40	27.7	232	336462	336474	338256	338253
2 1/2"	50	43	232	338244	338223	-	-
3"	65	75.58	232	338246	337320	-	-
4"	100	162.8	87	338248	336350	-	-

# Direct mounting pilot valves for pneumatic actuators

6014 / 7012 Pilot

## NPT 1/8" or NPT 1/4"

- Simple to connect to valve and air supply
- Low power
- Tough and reliable
- Manual override as standard



Type 6014 P

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FOR DATA SHEET

Direct-acting, 3/2-way, normally closed solenoid valves are plunger operated and designed to fit simply and securely to process valves. Type 6014 P with a higher air capacity because of the 2 mm orifice. For the Type 7012 P a banjo connection with banjo bolt is the ideal solution for easy direct mounting on a pneumatic actuator.

## Technical Data

	6014 P	7012 P
<b>Pressure range</b>	0-145 PSI max.	0-188 PSI max
<b>Temperature media</b>	14 °F to 140 °F (-10 °C to +60 °C)	14 °F to 140 °F (-10 °C to +60 °C)
<b>Ambient temperature</b>	14 °F to 104 °F (-10 °C to +40 °C)	14 °F to 104 °F (-10 °C to +40 °C)
<b>Body material</b>	PPS	Polyamide
<b>Banjo bolt material</b>	Brass, nickel plated	Brass, nickel plated
<b>Seal material</b>	FKM	FKM
<b>Coil material</b>	Polyamide	Epoxy (Class H)
<b>Voltage tolerance</b>	±10%	±10%
<b>Power consumption</b>	DC: 8 W, AC: 24 VA (inrush), 17 VA (hold)	DC: 7 W, AC: 4 W
<b>Protection class</b>	IP65, NEMA 4 (with cable plug)	IP65 (with cable plug)
<b>Electrical connection</b>	Cable plug, Type 2518, Form A acc. to DIN EN 175301-803 (not included)	Cable plug, Type 2507, Form B acc. to industry standard (not included)
<b>Response times <sup>1)</sup></b>		
DC opening	ca. 18 ms	7-12 ms
DC closing	ca. 22 ms	7-12 ms
AC opening	ca. 18 ms	7-12 ms
AC closing	ca. 22 ms	7-12 ms

<sup>1)</sup> Measured at valve outlet at 87 PSI (6 bar) and 68 °F (+20 °C)

Opening: pressure rise 0 to 90%, Closing: pressure drop 100 to 10%

## Options

### 6014 P

- Normally open
- Cable plug with LED and varistor
- Hazardous area approvals

### 7012 P

- Normally open
- Other voltages on request





Type 7012 P



Dimensions [inch] (see datasheet for details)

**Type 6014 P**

2518 cable plug  
Item no. 314 802  
(not included)

Type	A	B	C
6014 P	3.04	1.28	3.31

**Type 7012 P** Threaded version for compressed air

2507 cable plug  
Item no. 423845  
(not included)

Type	G	L
7012 P	G 1/8	0.25
7012 P	G 1/4	0.37

Ordering Chart

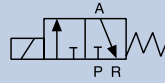
Connection Actuator/Air	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
				24 V DC	120 V/60 Hz
<b>6014 P</b>					
1/8" BSP / 1/4" NPT	1.6	0.06	0-232	20035022	20035020
1/4" BSP / 1/4" NPT				20035013	20035018
1/8" BSP / 1/4" NPT	2.0	0.1	0-145	20035017	20035016
1/4" BSP / 1/4" NPT				20034154	20034716
<b>7012 P</b>					
1/8" BSP / 1/8" NPT	1.2	0.05	0-188	390864	20009676
1/4" BSP / 1/4" NPT				390916	20009677

# Heavy Duty 3/2-way Pilot Valve Blocks

6014 Manifold

## NPT 1/4", 0-145 PSI

- Extremely rugged
- Slip over coil design
- Manual override



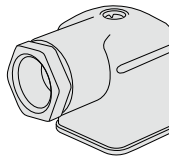
Shown with 2508 plugs

Plug and play, pre-assembled and tested manifold solutions featuring our direct-acting 3/2-way normally closed solenoid valve. The valves are plunger operated and designed to work in process environments with double FKM seals and a strong 32mm coil. These small flexible systems are engineered specifically for process compressed air however Burkert specializes in custom manifolds to suit any fluid purpose from 0.05mm to 4".

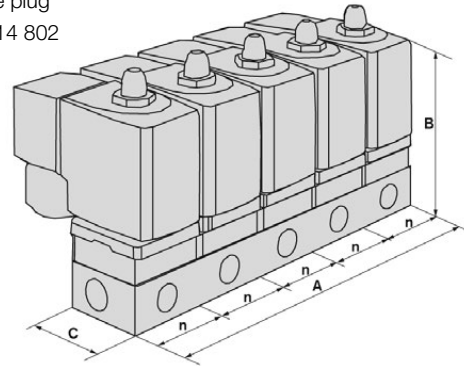
### Technical Data

Pressure range	0-145 PSI, max.
Temperature media	14 °F to +212 °F
Ambient temperature	131 °F, max.
Manual override	Yes
Body material	Brass
Manifold material	Anodized aluminum
Connections	NPT 1/4"
Valves	24 VDC (466 359) or 120 VAC (467 127)
Orifice	2 mm
Cv	0.13
Seal material	FKM
Coil material	Epoxy
Power consumption	DC: 8 W, AC: 24 VA (inrush), 17 VA (hold)
Protection class	IP67 with cable plug
Electrical connection	2518 Cable plug Form A (included)
Accreditations	CSA, CE, UR

### Envelope Dimensions [inch] (see datasheet for details)



2518 cable plug  
Item no. 314 802



No. of blocks	A	B	C
2	2.56	1.77	3.30
3	3.86	1.77	3.30
4	5.16	1.77	3.30
5	6.46	1.77	3.30
6	7.76	1.77	3.30
7	9.06	1.77	3.30
8	10.35	1.77	3.30
9	11.65	1.77	3.30
10	12.95	1.77	3.30

### Ordering Chart for manifold mount valves

Voltage	Item no. standard
24 VDC	125375
120 VAC	467127

### Options

- Manifolds of many engineering materials

### Ordering Chart for manifold

Positions	Item no.
2	006104
3	613828
4	006106
5	613829
6	613598
8	613831
10	613833



# Simplified Process Automation Solutions

Type 8098



Type 8693



Type 8692



Type 8792/93

## Now with Rockwell Add-On Profiles (AOP) -

The compact positioner **Type 8692 & Type 8693 process controller** are optimized for integrated mounting on the pneumatic actuators in our process valve series and is specially designed for the requirements of a hygienic process environment. The **Type 8792 SideControl Positioner & Type 8793 SideControl Controller** provide a compact and robust design for assembly onto linear and rotary actuators. AOP coming soon for **Type 8098 SAW (Surface Acoustic Wave) flowmeter** is designed for applications with the highest hygienic demands.

## Now with Add-On Instructions (AOI) -

The **Type 8653 Valve Island** has been especially developed for applications in process automation with integrated diagnostic functions that can be visualized on the included LC display. The **Type 8691 Control Head** designed for decentralized automation of our line of hygienic pneumatic process valves. The **Type 8694 Compact Positioner** was created for integrated mounting on pneumatically operated process valves. The **Control Head Type 8681** is optimized for decentralized automation of hygienic process valves and using a universal adapter it can be combined with all normal commercial butterfly valves, ball valves, single and double seated valves.



Type 8653



Type 8691



Type 8694



Type 8681



**Electronic Data Sheet (EDS) Also Available on a wide range of devices:** Including Type 8652 Valve Manifold Island, Types 8741, 8742, 8745, 8746, 8756 Mass Flow Controllers, Type 8619 Multifunction Controller, ME43 bUs Gateway, ME61 Graphic Display

CLICK ME

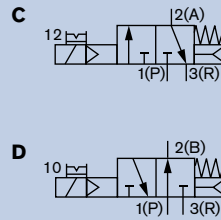


FOR MORE INFO

# Servo-assisted 3/2 way Solenoid Valve for pneumatics

6518

- High flow-rate capacity
- Single or manifold mounting
- Circuit function NC and NO
- Push-over solenoid coil
- Reduced power consumption
- With manual override



Shown: Standard Coil



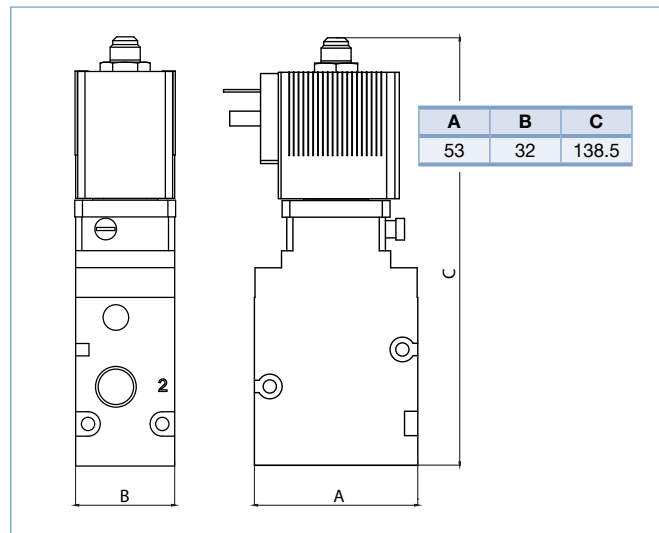
The Type 6518 is a servo-assisted 3/2-way valve. The use of high quality materials makes it possible to use these valves in the open air and under chemical atmospheres. The valve can be used individually or in blocks.

## Technical Data

<b>Orifice</b>	DN8 mm
<b>Body Materials</b>	Pilot and main valve Polyamide , reinforced glass-fibre
<b>Thread socket material</b>	Brass (stainless steel on request)
<b>Seal material</b>	NBR and PUR
<b>Pneumatic connection</b>	Supply ports 1, 3, 5 Thread 1/4" NPT Service ports 2 & 4 Thread 1/4" NPT
<b>Electrical connection</b>	Tag connector acc. to DIN EN 175301-803 Form A for cable plug Type 2518 (not included)
<b>Power consumption</b>	AC 11 VA (inrush), 6 VA (hold), DC 2 W
<b>Protection</b>	IP65 with cable plug
<b>Operating voltage</b>	24 V DC 24/ 110/ 230 V/ 50-60 Hz
<b>Voltage tolerance</b>	±10%
<b>Duty cycle</b>	100 % continuous operation
<b>Ambient temperature</b>	-13 °F to 131 °F (-25 °C to +55 °C)
<b>Mediums</b>	Neutral Medium, e.g. lubricated or non-lubricated compressed air
<b>Response times <sup>1)</sup></b>	Opening 20 ms Closing 40 ms

<sup>1)</sup> Measured at valve outlet at 87 PSI (6 bar) and 68 °F (+20 °C) acc. to ISO 12238.  
Opening: pressure rise 0 to 90%. Closing: pressure drop 100 to 10%

## Dimensions [mm] (see datasheet for details)



## 6518 and 6519 Coils



## Ordering Chart for 6518 NPT

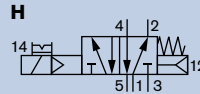
Type	Connections mechanical / electrical	Approvals	Item no.		
			24/DC	120/60	EX-i
Standard	NPT1/4" Nickel-plated ports / 2518 plug	UR (cURus)	296518	296519	
Standard	NPT1/4" Nickel-plated ports / 2509 plug	UL (cULus)	296530	296527	
Hazloc	NPT 1/4" Nickel-plated ports / 3 meter molded cable version	(UL Class I Div 2 + Atex)	20021441	20021442	
Hazloc	NPT 1/4" Nickel-plated ports / junction box version	(UL Class I Div 2 +Atex)	372091	20021443	
FM	NPT 1/4" Nickel-plated ports / 1/2" NPT Metal Conduit with 19 inch leads	(cFMus Class 1 Div 1 T6 + T4)	20012740	20012739	
Intrinsically Safe	NPT 1/4" Nickel-plated ports / 2518 plug/ requires barrier	EX-i			20011528



# 5/2 way Solenoid Valve for pneumatics

6519

- High flow rate
- Low power consumption
- Single and manifold assembly
- High switching reliability
- Manual override as standard
- Corrosion-resistant construction



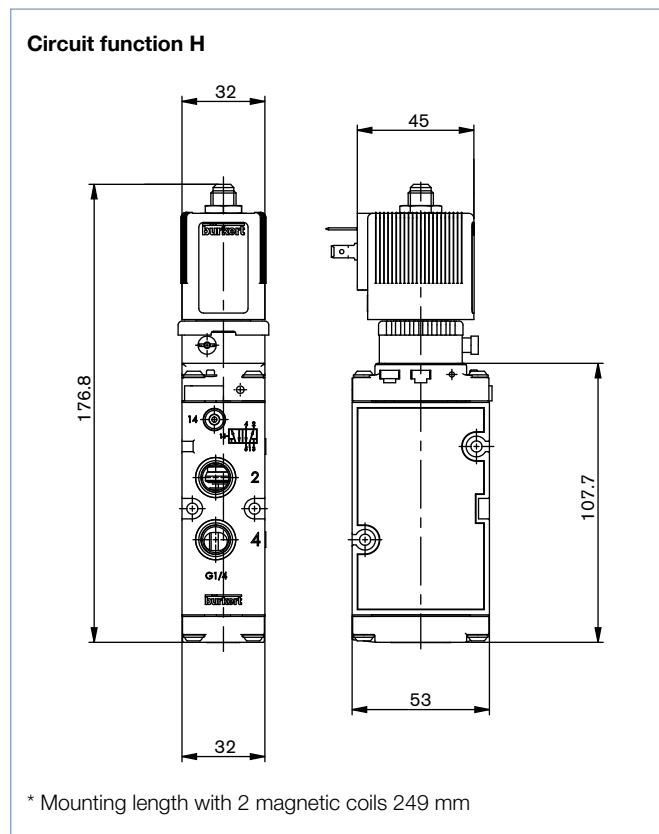
The 6519 is a pilot operated 5/2 or 5/3 way valve. The valve width of 32 mm allows high flow rates. The use of high quality materials allows the use of the valves even under outdoor and chemical atmosphere. The valves can be used individually or in blocks.

## Technical Data

<b>Orifice</b>	DN8 and 9 mm
<b>Body Materials</b>	
Pilot valve	Polyamide , reinforced
Main valve	Polyamide (5/2 way), aluminium (5/3 way)
<b>Thread insert material</b>	Brass (stainless steel on request)
<b>Seal material</b>	NBR and PUR (5/2 way), NBR (5/3 way)
<b>Pneumatic connection</b>	
Supply ports 1, 3, 5	Thread 1/4" NPT
Service ports 2 & 4	Thread 1/4" NPT
<b>Electrical connection</b>	Tag connector acc. to DIN EN 175301-803 Form A for cable plug Type 2518 (not included)
<b>Power consumption</b>	AC 11 VA (inrush), 6 VA (hold), DC 2 W
<b>Protection</b>	IP65 with cable plug
<b>Operating voltage</b>	24 V DC 24/ 110/ 230 V/ 50-60 Hz
<b>Voltage tolerance</b>	±10%
<b>Duty cycle</b>	100 % continuous operation
<b>Ambient temperature</b>	-13 °F to 131 °F (-25 °C to +55 °C)
<b>Mediums</b>	Neutral Medium, e.g. lubricated or non-lubricated compressed air
<b>Environmental conditions</b>	Open air, chemical atmosphere
<b>Response times <sup>1)</sup></b>	
Opening	20 ms
Closing	40 ms

<sup>1)</sup> Measured at valve outlet at 87 PSI (6 bar) and 68 °F (+20 °C) acc. to ISO 12238.  
Opening: pressure rise 0 to 90%, Closing: pressure drop 100 to 10%

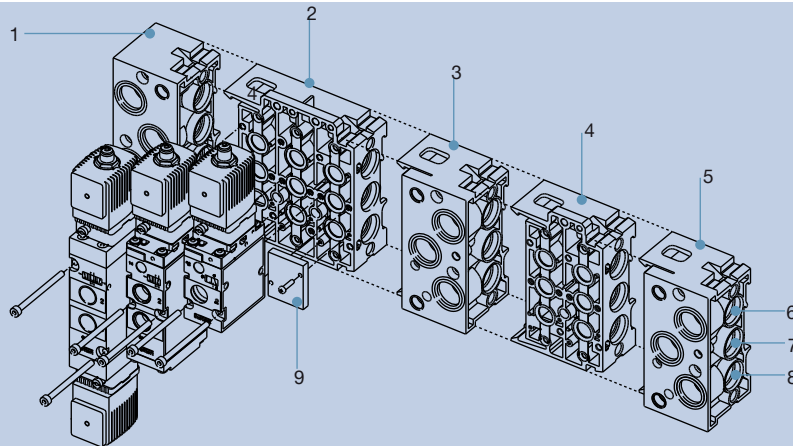
Dimensions [mm] (see datasheet for details)



## Ordering Chart for 6519 H Standard NPT

Type	Connections mechanical / electrical	Approvals	Item No.		
			24/DC	120/60	EX-i
Standard	NPT1/4" Nickel-plated / 2518 plug	UR (cURus)	296432	296479	
Standard	NPT1/4" Nickel-plated / 2509 plug	UL (cULus)	296510	296507	
Hazloc	NPT 1/4" Nickel-plated ports / 3 meter molded cable version	(UL Class I Div 2 + Atex)	369904	20021445	
Hazloc	NPT 1/4" Nickel-plated ports / junction box version	(UL Class I Div 2 +Atex)	372092	20021446	
FM	NPT 1/4" Nickel-plated ports / 1/2" NPT Metal Conduit with 19 inch leads	(cFMus Class 1 Div 1 T6 + T4)	20012738	20012737	
Intrinsically Safe	NPT 1/4" Nickel-plated ports / 2518 plug/ requires barrier	EX-i			20011529

## 3/2 way and 5/2 way Manifold Parts



The Type 6518 is a servo-assisted 3/2-way valve and the Type 6519 is a 3/2, 5/2 or 5/3-way valve. Together, they form a product line. The valves can be used individually or in blocks. The valves work without a continuous air consumption and are used for the pneumatic control of double or single-acting actuators. The use of high quality materials makes it possible to use these valves in the open air and under chemical atmospheres. The product line contains units with Ex-Approvals and NAMUR flange interface. Product variants described in the data sheet may differ from the product presentation and description.

### Product Design and Assembly

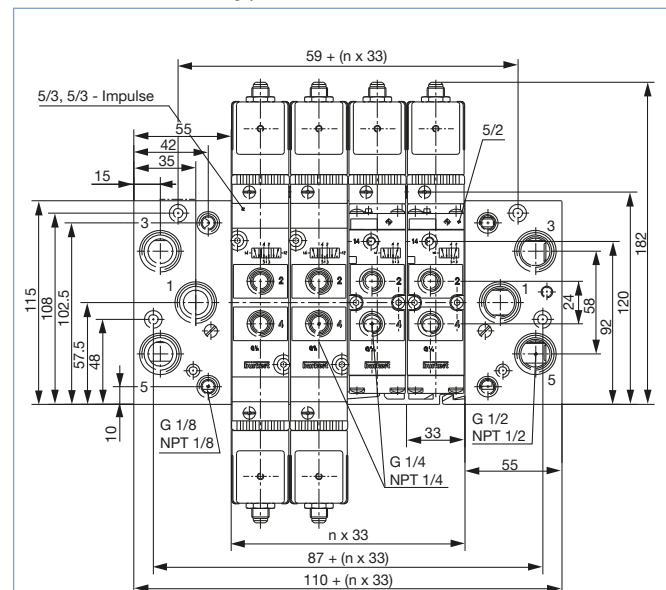
**Note:** Single modules or pre-mounted blocks are available

No.	Element
1	Connector module left
2	Basic module 3-fold
3	Intermediate supply module: supply channel pushed through for additional pressure supply or connector module, right: supply channel closed off, there by several operational pressures possible in a single block
4	Basic module 2-fold
5	Connector module right
6	Supply port: 3(R)
7	Supply port: 1(P)
8	Supply port: 5(S)
9	Covering plate for 3/2-way valve (to cover unused connections)

### Ordering Chart - MP07 pneumatic module and complementary products

Version	Item no.
Connector module, right NPT 1/2	639618
Pneumatic intermediate supply module	637505
Pneumatic basic module 2 valves universal (for 3/2-, 5/2-, 5/3-way)	635319
Pneumatic basic module 3 valves universal (for 3/2-, 5/2-, 5/3-way)	635343
Connector module, left NPT 1/2	639616
Covering plate for 5/2 and 5/3 (to cover the unused valve positions)	635335
Covering plate for 3/2 (to cover the unused connections)	635337

### Dimensions for Type MP07 [mm]



- n = no. of valves, maximum 12
- Block mounting on wall or with DIN rail 50022 or 50023
- Valve mounting on the pneumatic modules Type MP07 by means of included M4 screws





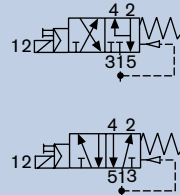


# 5/2 way on 3/2 way Convertible Solenoid Valve for pneumatics, NAMUR version

6519 NAMUR

## NPT 1/4", NAMUR

- High flow rate
- Low power consumption
- High switching reliability
- Manual override as standard
- Corrosion-resistant construction



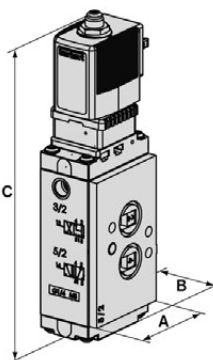
The solenoid valve, Type 6519 NAMUR, is provided with a NAMUR standard flange for easy, direct mounting to pneumatic actuators. It is manufactured from high-quality man-made materials.

### Technical Data

<b>Orifice</b>	DN6.0 mm
<b>Body Materials</b>	
Pilot valve and main valve	Polyamide (PA)
<b>Thread insert material</b>	Brass, nickel-plated or stainless steel
<b>Seal material</b>	NBR and PUR
<b>Pneumatic connection</b>	
Supply ports 1, 3, 5	Threaded port NPT 1/4"
Service ports 2 and 4	NAMUR flange
<b>Electrical connection</b>	Tag connector acc. to DIN EN 175301-803 Form A for cable plug Type 2518 (not included)
<b>Power consumption</b>	AC 11 VA (inrush), 6 VA (hold), DC 2 W
<b>Protection</b>	IP65 with cable plug
<b>Operating voltage</b>	024/DC, 024/230 V, 50-60 Hz
<b>Voltage tolerance</b>	±10%
<b>Duty cycle</b>	100 % continuous rating
<b>Ambient temperature</b>	-13 °F to 131 °F (-25 °C to +55 °C)
<b>Mediums</b>	Compressed air, nitrogen, instrument air
<b>Environmental conditions</b>	Slightly aggressive, also open air
<b>Response times <sup>1)</sup></b>	
Opening	20 ms
Closing	40 ms

<sup>1)</sup> Measured at valve outlet at 87 PSI (6 bar) and 68 °F (+20 °C) acc. to ISO 12238. Opening: pressure rise 0 to 90%, Closing: pressure drop 100 to 10%

### Envelope Dimensions [mm] (see datasheet for details)



For plug details please see datasheet and table below. Class 1 Div I valves are supplied with flying leads and conduit connector.

Size	A	B	C
1/4"	1.81	1.38	3.12

### 6519 Switching Plate



### Ordering Chart

Type	Connections mechanical / electrical	Approvals	Item no.		
			24/DC	120/60	EX-i
Standard	NPT1/4" Nickel-plated / 2518 plug	UR (cURus)	296425	296428	
Standard	NPT1/4" Nickel-plated / 2509 plug	UL (cULus)	296478	296488	
Hazloc	NPT 1/4" Nickel-plated ports / 3 meter molded cable version	(UL Class I Div 2 + Atex)	377092	377091	
Hazloc	NPT 1/4" Nickel-plated ports / junction box version	(UL Class I Div 2 +Atex)	373244	373249	
FM	NPT 1/4" Nickel-plated ports / 1/2" NPT Metal Conduit with 19 inch leads	(cFMus Class 1 Div 1 T6 + T4)	20009258	20012736	
Intrinsically Safe	NPT 1/4" Nickel-plated ports / 2518 plug/ requires barrier	EX-i			20000918

# Modular pneumatic valve unit

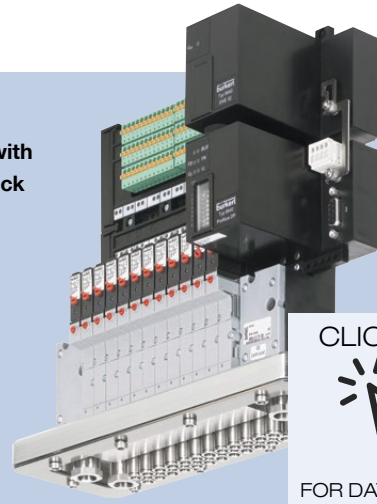
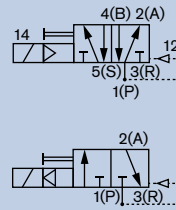
8640

## AirLINE and AirLINE Quick

- Compact design
- Modular configuration
- Cost savings in the control cabinet with AirLINE Quick
- Simple exchange of valves



Type 8640 with AirLINE Quick



CLICK ME



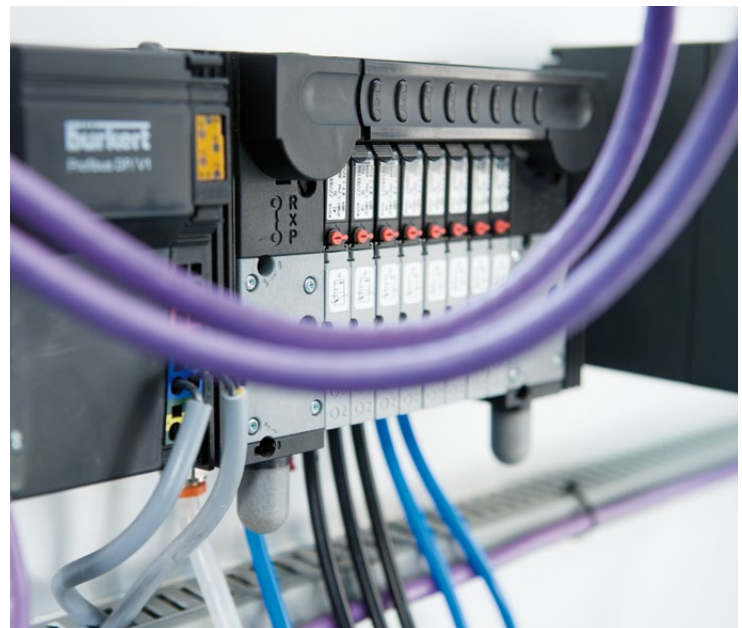
FOR DATA SHEET

The versatile operational capability of the valve terminal, Type 8640, in the food and beverage industry will push in extended connections for hygienic applications by AirLINE Quick adapter plate with stainless steel and stainless steel. Installation and commissioning times are reduced to a minimum. For general applications AirLINE Quick is available in aluminum.

## Technical Data

Body material	PA (Polyamide)
Seal material	FKM, NBR
Medium	Lubricated and non-lubricated dry air; neutral gases (5 µm filter)
Manual override	Yes
Voltage	24 V DC
Voltage tolerance	±10%
Nominal power	1 W per valve
Duty cycle	Continuous operation (100% ED)
QNn	300 l/min
Pilot method	Flipper pilot valve
Circuit function	3/2-way, normally closed, 5/2-way
Pressure range	36.2-145 PSI
Width/station	11 mm
Ambient temperature	32 °F to 131 °F
Protection class	3 acc. to VDE 0580
Type of protection	IP20 with terminal
Orifice	4 mm
Pneumatic connection	6 mm Push-in

Our fieldbus modules (Profinet IO, Profibus DP, Modbus TCP) can be combined under a bus address each with up to 7 RIO slave modules. Valve terminals with Modbus TCP on request.



## Ordering Chart

Communication	Item no. 16 valves (8 x (2 x 3/2-way))	Item no. 24 valves (12 x (2 x 3/2-way))
Individually wired (common ground)	217928	217934
Multipole 25 pin connector	217930	217935
Profibus DPV 1	217932	217937

This chart shows only 6 simple configurations. The 8640 can be configured in a vast array of possibilities. Please visit the website for the configurators or call our experienced technical support.

# AirLINE - the valve island optimized for process automation

8652

- Compact design
- Easy diagnostics by LC display
- Process reliability through pneumatic functions
- Optimized for installation at the bottom of the control cabinet



CLICK ME



FOR DATA SHEET

The valve island Type 8652 AirLINE has been especially developed for applications in process automation. New diagnostic functions can be visualized at the LC display, both in clear text as well as symbols. This makes it easy to relate to the shown messages and helps to save time during start-up and maintenance. Furthermore the diagnostic message is also available in the control. This therefore enables a fast overview of the plant status. The hardware is optimized for installation at the bottom of the control cabinet. Of course it is also possible to fix the AirLINE to top hat rail. Moreover, key pneumatic functions ensure increased process reliability. For instance, the non-return valves in the exhaust air ducts make sure there is no unplanned actuation due to pressure peaks. Optional 5/2 way and 5/3 way on request.

## Technical Data

Body material	PA (polyamide)
Seal material	NBR, PUR
Width/station	11 mm
Manual override	Yes
Pressure range	Vac. to 10 bar
Max. number of modules	6
Number of valve slots per module	4 valve slots (max. 8 valve functions)
Max. number of valve functions	48
Degree of protection	IP 20
Manual override	Available and lockable
Operating voltage	24 V DC
Voltage tolerance	±10%
Nominal power per valve	0.7 W (0.175 W after power reduction)
Nominal current per valve	29 mA (10 mA after power reduction)
Valve island flow	310 l/min <sup>1)</sup>
Approvals	cULus
Optional	cURus Haz. Loc. Cl I, II, III, Div2

<sup>1)</sup> Maximum flow depending on the valve function

Dimensions [mm] (see datasheet for details)

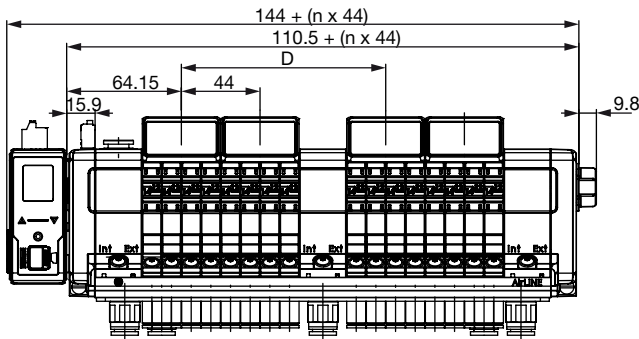
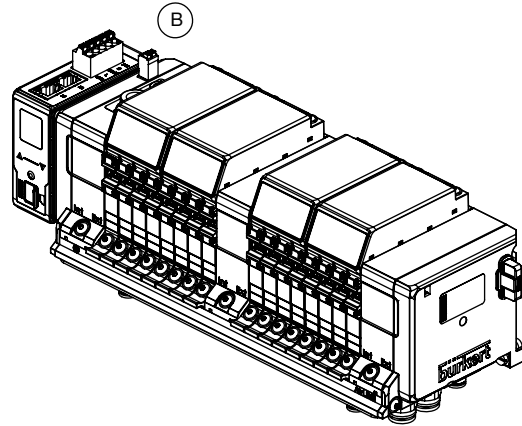
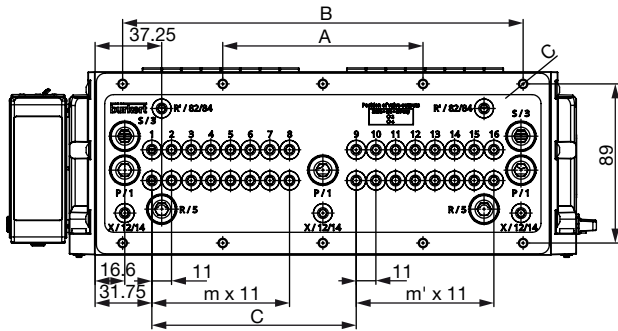
**Version 4-, 8- and 12-fold**

The top view shows dimensions A, B, C, and m x 11. The front view shows dimensions 117.7 + (n x 44), 84.2 + (n x 44), 64.15, 15.9, 44, 9.8, and 89. The front view also shows 'Int Ext' labels and 'AIRLINE' branding.

Version	A	B	C	m	n
4x	66	-	4 x M5	3	1
8x	37	111	8 x M5	7	2
12x	77	154	10 x M5	11	3

Dimensions continued [mm] (see datasheet for details)

Version 16-, 20- and 24-fold



Version	A	B	C	D	m	m'	n
16x	112	224	10 x M5	114.3	7	7	4
20x	134	268	10 x M5	158.3	11	7	5
24x	156	312	10 x M5	158.3	11	11	6

Ordering Chart

Valves	Function	Total outputs	Flow rate	Control air	Valve output	Check valve	Pressure sensor	Digital inputs	Communication	cULus	Item no.
<b>Airline QUICK Adapter Plate: Stainless Steel</b>											
4	(2) 3/2 Pilots	8	310 l/min	"3/8"" Push-fit (Internal)"	1/4" Push-fit	no	no	no	Ethernet	yes	20037470
8	(2) 3/2 Pilots	16	310 l/min	"3/8"" Push-fit (Internal)"	1/4" Push-fit	no	no	no	Ethernet	yes	20007245
12	(2) 3/2 Pilots	24	310 l/min	"3/8"" Push-fit (Internal)"	1/4" Push-fit	no	no	no	Ethernet	yes	20007250
24	(2) 3/2 Pilots	48	310 l/min	"3/8"" Push-fit (Internal)"	1/4" Push-fit	no	no	no	Ethernet	yes	20007252
<b>Airline QUICK Adapter Plate: Aluminum</b>											
4	(2) 3/2 Pilots	8	310 l/min	"3/8"" Push-fit (Internal)"	1/4" Push-fit	no	no	no	Ethernet	yes	20043952
8	(2) 3/2 Pilots	16	310 l/min	"3/8"" Push-fit (Internal)"	1/4" Push-fit	no	no	no	Ethernet	yes	20043953
12	(2) 3/2 Pilots	24	310 l/min	"3/8"" Push-fit (Internal)"	1/4" Push-fit	no	no	no	Ethernet	yes	20043954
24	(2) 3/2 Pilots	48	310 l/min	"3/8"" Push-fit (Internal)"	1/4" Push-fit	no	no	no	Ethernet	yes	20043955

# AirLINE Field - the valve island

8653

- Compact field-mount design
- Easy to read LCD display
- LED Status indication
- Supports IO-Link (AOI), CANopen or buS
- IP 65/67 wash-down rated
- Configurable with COMMUNICATOR software

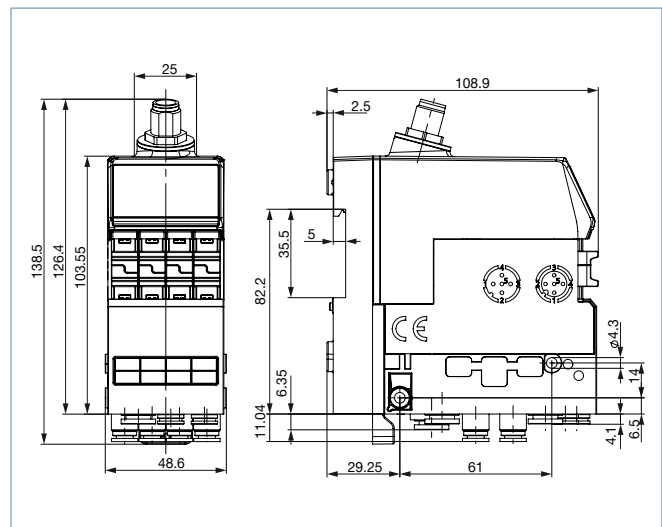


The valve island Type 8653 AirLINE Field comes with diagnostic functions that can be visualized at the LC display, both in clear text as well as symbols. This makes it easy to relate to the shown messages and helps to save time during startup and maintenance. Furthermore the diagnostic message is also available at the control. This enables a fast overview of the plant status. The hardware structure is optimized for installation close to the actuator.

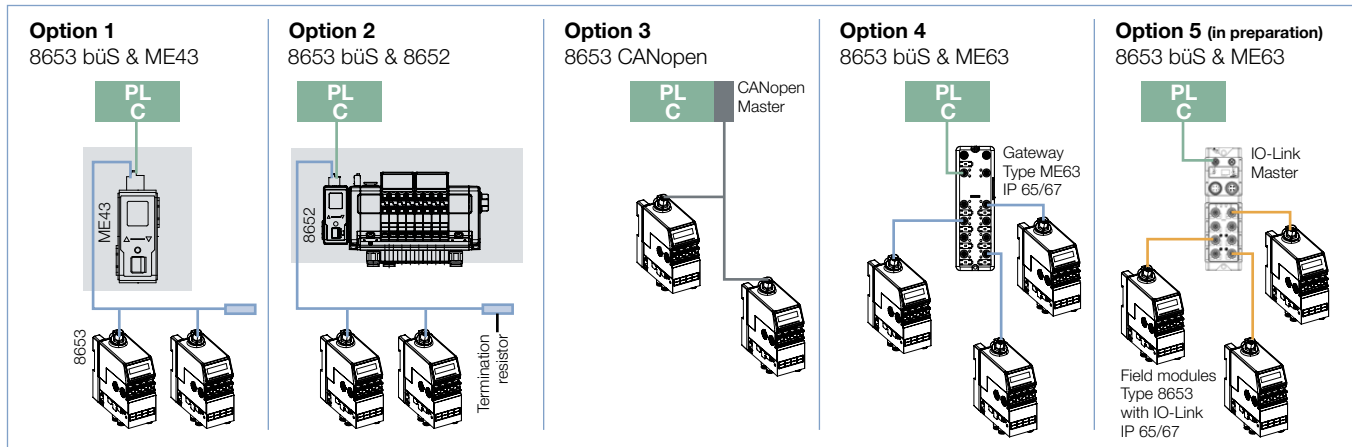
## Technical Data

<b>Body material</b>	PA (polyamide)
<b>Seal material</b>	NBR and PUR
<b>Communications</b>	IO Link, CAN/bUs
<b>Width/station</b>	11 mm
<b>Manual override</b>	Available and lockable
<b>Pressure range</b>	Vac. to 8 bar
<b>Valve slots per module</b>	4
<b>Max. valve functions</b>	8
<b>Product connections</b>	
Working port	Plug-in coupling diameter 6 mm, D1/4"
Air supply connection	Plug-in coupling diameter 8 mm, 5/16"
<b>Degree of protection</b>	IP65/67

Dimensions [mm] (see datasheet for details)



## Type 8653 AirLINE Field Communication



## Ordering Chart

Communication	Electrical connection	No. of valves	Function of valves	Total no. of outputs	Flow rate [l/min]	Latchable manual override	Pilot supply connection	Valve output connection	Item no.
CAN/Burkert bUs	M12 x 5 pin Multipol	4	(2x) 3/2 type C	8	270	yes	5/16" Tubing	1/4" Tubing	20004273
IO-Link Port Class B	M12 x 5 pin Multipol	4	(2x) 3/2 type C	8	270	yes	5/16" Tubing	1/4" Tubing	20008554



# Standard Panel

8615

## 16, 24 and 48 station manifolds double 3/2-way NC

- Reduced space requirement in the control cabinet
- Makes it possible to use more compact control cabinets
- Hose connections directly at the bottom of the switch cabinet



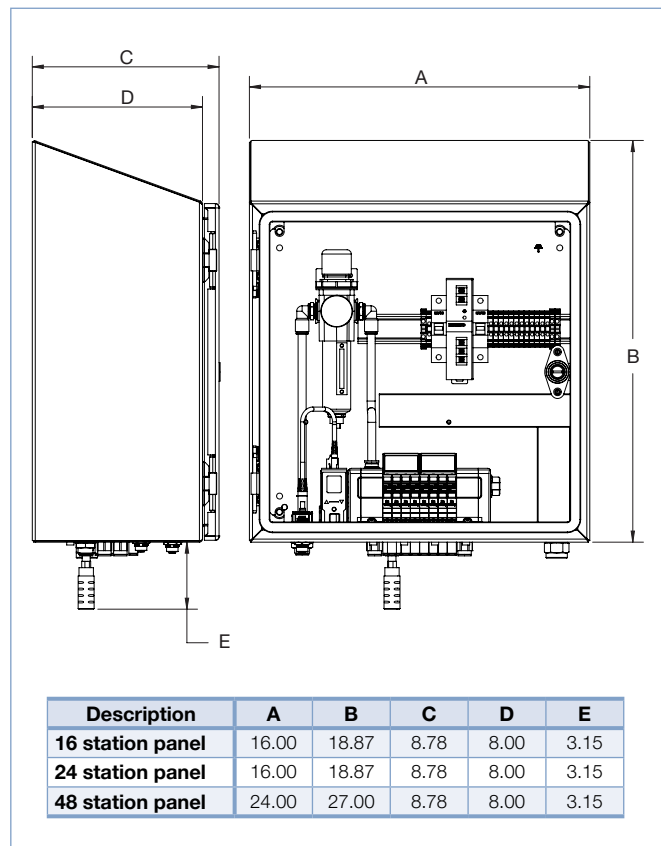
The Type 8615 AirLINE PANEL is a ready-to-mount, hygienic control cabinet with standardised connection options for many applications

### Technical Data

Width/station	11 mm
Circuit functions	C 2 x 3/2-way (NC/NC)
Flow rate	310 l/min <sup>1)</sup>
Pressure range	Vac. up to 145.03 PSI
Outlet port	Plug-in coupling diameter 6 mm, D 1/4"
Connection air supply	Plug-in coupling diameter 10 mm, D 3/8"
Max. number of modules	Up to 6 modules possible
Valve positions per module	4 valve positions (max. 8 valve functions)
Max. number valve functions	24 (later up to 48 valve functions possible)
Communication interfaces	PROFIBUS DP Industrial Ethernet (PROFINET I/O, EtherNet IP, Modbus TCP, EtherCAT)
Electrical modules	Type ME43
Operating voltage	24 V DC
Voltage tolerance	±10%
Nominal power per valve	0.7 W (0.1 W after power reduction)
Rated current per valve	29 mA (10 mA after power reduction)
Ambient temperature	14 °F to 131 °F; -10 °C to +55 °C
Storage temperature	14 °F to 140 °F; -10 °C to +60 °C
Protection class	NEMA 4x
Enclosure	316 stainless steel slope top

<sup>1)</sup> Maximum flow depending on the valve function

Dimensions [inch] (see datasheet for details)



### Ordering Chart

Description	Item no.
16 station panel	98134761
24 station panel	98134800
48 station panel	98134993

# Flow Transmitter/Pulse Divider

8022

- Microprocessor-controlled electronics
- 2-wire (4-20 mA) / 3-wire (NPN/PNP) - operation
- Removable display unit
- Pluggable to flow sensor 8020 and 8030



The electronic module Type 8022 operates either as a flow transmitter (only with sensors pulse “Low Power” version Type 8020 and 8030) or as a pulse divider (with all versions of sensors of Type 8020 and 8030). The module operates the output of the sensors, displays the flow value and converts it to the signal output in mA or pulse. In operation as a flow transmitter, the frequency signal of the sensor is converted in a 4-20 mA signal (2-wire operation). In operation as a pulse divider, the input frequency is converted into an adjustable output frequency. The use of the display unit allows the switching between the two modes.

## Technical Data

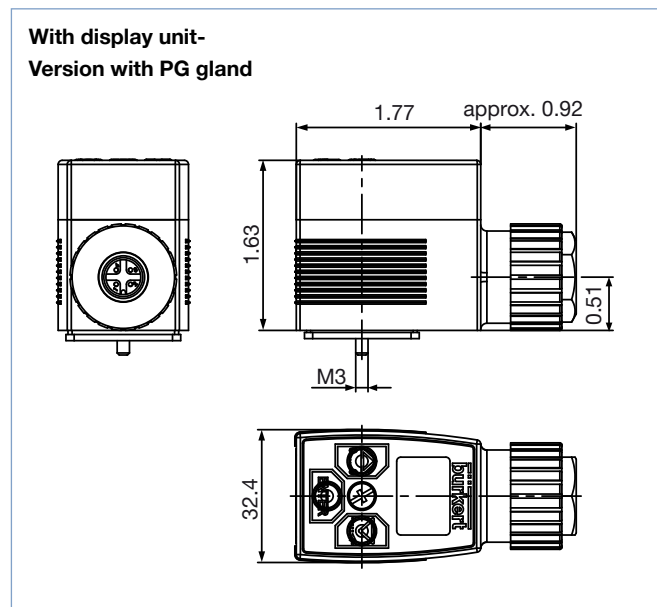
<b>Power supply</b>	12-30 V DC, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level
<b>Voltage tolerance</b>	± 10 %
<b>Residual ripple</b>	< 5 %
<b>Power consumption max.</b>	
Flow transmitter (4-20 mA output, 2-wire operation)	0.6 W
Pulse divider (NPN/PNP output, 3-wire operation)	3.2 W with <ul style="list-style-type: none"> <li>• 0.2 W from the device</li> <li>• 1.5 W max. from the flow sensor*</li> <li>• 1.5 W max. from the PNP/NPN output*</li> </ul>
<b>Ambient temperature</b>	14 °F to 140 °F (-10 to +60 °C)
<b>Frequency input</b>	1-600 Hz
<b>4-20 mA output</b>	Accuracy ± 1.5 % of full scale max. loop impedance: 1000 W at 30 V DC ; 700 W at 24 V DC; 100 W at 12 V DC
<b>NPN/PNP output</b>	Accuracy ± 1 % of measured value 1-600 Hz, “open collector”, max. 50 mA
<b>Electrical connection</b>	Terminal strip 4 pins or male M12 connector
<b>Housing material</b>	Polyamide / PC

\* depending on the customer configuration

## Ordering Chart

Description	UL certification	*Item no.
Flow transmitter / pulse divider Type 8022 without display unit, PG connection	No	215644
Flow transmitter / pulse divider Type 8022 with display unit, PG connection	No	215645
Flow transmitter / pulse divider Type 8022 without display unit, PG connection	Recognized	563223
Flow transmitter / pulse divider Type 8022 with display unit, PG connection	Recognized	563224
Flow transmitter / pulse divider Type 8022 without display unit, male M12 connector	No	215646
Flow transmitter / pulse divider Type 8022 with display unit, male M12 connector	No	215647
Display unit for Type 8022	No	562876
Cover set (for operating without display unit)	No	670549
Right-angle female M12 connector, 4 pins	No	784301
Straight female M12 connector, 4 pins, with 5 m cable	No	918038

## Dimensions [inch] (see datasheet for details)



## Functions

- Microprocessor-controlled electronics
- Scalable 4-20 mA signal
- Pulse divider operation: Transforms the input to an adjustable output frequency (3-wire operation)
- Displays the flow in a selectable unit
- Removable display unit (is only required to configure or to display)
- Transmitter operation: conversion of the input frequency into a 4-20 mA signal (2-wire operation)

# Batch Controller for panel or wall mounting

## 7 batch sizes, 2 relay outputs

- Controls 7 batches automatically
- Fast fill and fine control for accuracy
- Shows both flow rate and volume

See flow sensor 8020, 8030, 8070

 (Panel version)



CLICK ME



FOR DATA SHEET

8025 / SE35  
Batch controller

The remote 8025 batch controller can be connected (with pulse output signal) with Burkert flowmeters Type 8020, 8030, 8070 or other flow sensor devices which emit a frequency signal. The 8025 is a batch controller with display, available in wall-mounted and panel versions:

**The panel version** is made up of an electronics integrated in an open housing with display. The electrical connection is carried out on the terminal blocks of the electronics board

**The wall-mounted version** is made up of an electronics board which is integrated in a housing with a cover and display. The electrical connection is made via the terminal blocks of the electronic board via 5 cable glands.

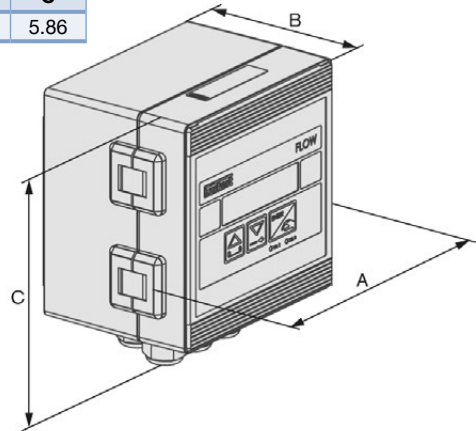
### Technical data 8025

<b>Housing material</b>	ABS, PC* (* Panel mount version)
<b>Front panel foil</b>	Polyester
<b>Screws</b>	Stainless Steel
<b>Cable plug / gland</b>	PA
<b>Ambient temperature</b>	32 °F to 140 °F
<b>Display</b>	15 x 60mm, 8-digit LCD, alphanumeric, 15 segments, 9mm high
<b>Voltage supply</b>	12-30 VDC or 115/230 VAC, 50-60 Hz
<b>Current consumption Max.</b>	≤ 70 mA without consumption of inputs/outputs
<b>Electrical Protection</b>	Reversed polarity of DC protected
<b>Compatibility with Burkert sensors</b>	Any Burkert flow sensor with frequency output (8020, 8030, 8030HT, 8041, 8031, 8070, 8071)
<b>Compatibility with other sensors</b>	Any open collector NPN, coil, TTL, CMOS
<b>Electrical connections</b>	PG Cable glands
<b>Outputs</b>	2 relays, freely programmable, 3A, 230V
<b>Flow input frequency</b>	2.5 Hz up to 700 Hz
<b>Sensor power supply</b>	12...30, or 0...18 VDC, 100 mA Max. (24V Version); +15 V or +27V, 25 mA Max. (115V version)
<b>Ingress protection</b>	IP65

### Envelope Dimensions [mm] (see datasheet for details)

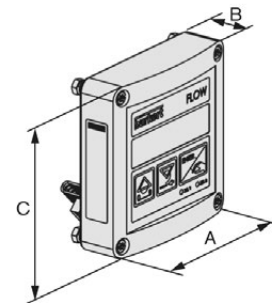
#### Wall Mount

A	B	C
4.96	3.54	5.86



#### Panel Mount

A	B	C
3.46	0.98	3.46



### Ordering Chart Type 8025 Remote Batch Controller

Description	Totalizers	Relays	Connection	Item no. 12-30 V DC	Item no. 115-230 V AC
Wall mount	2	2 x 3 A	5 x PG 13.5 cable gland	<a href="#">433740</a>	<a href="#">433741</a>
Panel mount	2	2 x 3 A	Terminal strip	<a href="#">419536</a>	-

### Type SE35 Compact Batch Controller Electronic (requires S030 fitting)

Description	Voltage supply	Sensor version	Certification	Electrical connection	Item no.
Transmitter - batch controller	12...36 V DC	Hall	-	2 cable glands	<a href="#">443360</a>
		Hall	UL Recognized for US and Canada	2 cable glands	564398
	115/230 V AC	Hall	-	2 cable glands	<a href="#">423926</a>

# Insertion Flow Transmitter for continuous measurement

8026

## For pipe > 2", 0-145 PSI

- Up and download of the data through removable display
- Pipe sizes 1/2" to 16"
- Preferably, for pipe diameter greater than 2"

Please see fitting S020

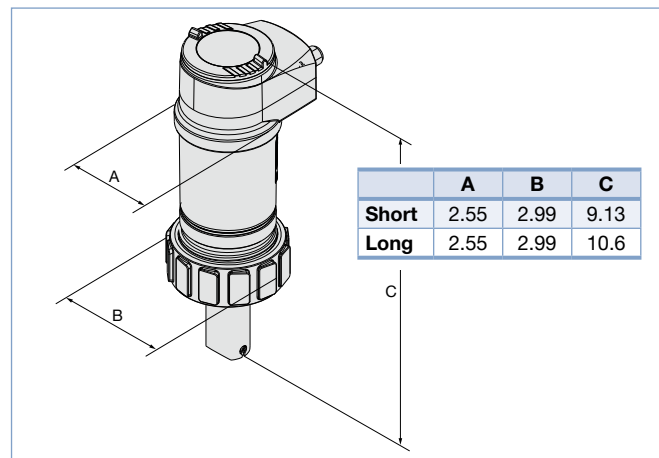


The insertion style flow meter provides a 4-20 mA output directly proportional to flow. A range of fittings from weld-o-lets to saddles makes these ELEMENT style transmitters perfect for neutral, solid free liquids. A backlit removable display with joystick programming makes commissioning a breeze.

### Technical Data

Insertion Flow Meter	
Size range	1/2" - 16"
Display	Removable dot matrix 128 x 64 with backlight
Measuring ranges	1 to 33 fps
Measuring error (teach in)	≤ ± 1% o.FS (at 33fps)
Measuring error (std. k-factor)	≤ ±(0.5% o.FS + 2.5% o.R)
Linearity	≤ ± 0.5% o.FS (at 33fps)
Repeatability	0.4% o.R.
Housing material	Stainless steel, PPS, PC
Paddle wheel	PVDF
Axis and bearing	Ceramic
O-rings	FKM as standard
Max. Fluid Temperature	212 °F (depending on fitting)
Ambient temperature range	14 °F to 140 °F
Max. fluid pressure	145 PSI
Voltage supply	14...36 VDC for 2-wire models
Electrical Protection	Short circuit protection Reversed polarity of DC protected
Electrical connections	M12
Outputs	4-20 mA for flow rate Transistor output NPN and PNP, 700 mA
Output Load	< 1100 Ω at 36 V < 610 Ω at 24 V < 180 Ω at 14 V
Ingress protection	IP65 and 67, NEMA4X Accreditations - CE, CSA, UR

### Envelope Dimensions [inch] (see datasheet for details)



### Accessories

Description	Item no.
Display/programming module	559168
Electrical connector, 5-pin M12 male, plug only	560946
Electrical connector, 5-pin M12 male, 2 m prewired	559177
Electrical connector, 5-pin M12 female, plug only	917116
Electrical connector, 5-pin M12 female, 2 m prewired	438680

### Options

- Various sealing materials
- Individual calibration certificate
- Pre-wired connection ports, M12 plug and cable

**Note:** Type 8026, a complete flow transmitter with integrated paddle, consists of Type 8026 which is a compact ELEMENT Flow Transmitter, a removable display/programming module and Type S020, an INSERTION fitting (the latter must be ordered separately)

### Ordering Chart

Output	Electrical connection	Item no. (UR approved)	
		Short	Long
<b>with display</b>			
1 x transistor NPN + 1 x 4-20 mA (2-wire)	5-pin M12 male	561863	561873
2 x transistor NPN / PNP + 1 x 4-20 mA (2-wire)	5-pin M12 male	561864	561874
2 x transistor NPN / PNP + 2 x 4-20 mA (3-wire)	5-pin M12 male and 5-pin M12 female	561865	561875
<b>without display</b>			
1 x transistor NPN + 1 x 4-20 mA (2-wire)	5-pin M12 male	560863	560873
2 x transistor NPN / PNP + 1 x 4-20 mA (2-wire)	5-pin M12 male	560864	560874
2 x transistor NPN / PNP + 2 x 4-20 mA (3-wire)	5-pin M12 male and 5-pin M12 female	560865	560875

# INLINE Flowmeter for continuous flow measurement

8030 / SE30

## For use with fitting S030, 1/2" to 2"

- Turn and lock bayonet fitting isolates sensor from media
- Economic integration in pipe systems
- 3-wire frequency version for direct connection to PLC (PNP and NPN)
- Connection to Burkert remote electronics

Please see fitting S030



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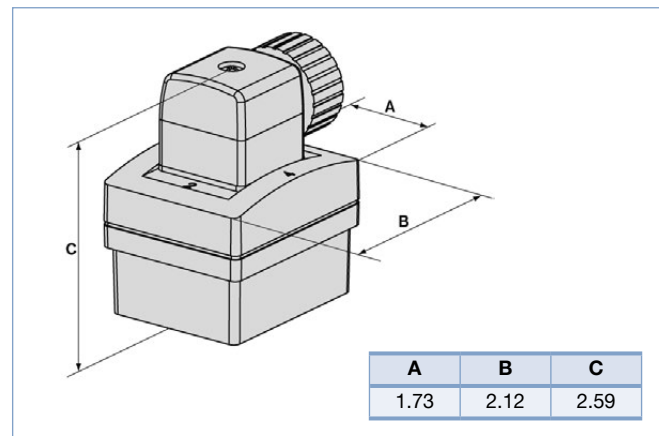
FOR DATA SHEET

Unique bayonet style flow meter constructed from an SE30 sensor and an S030 flow fitting. Perfect for neutral, solid free liquids. A hall-effect sensor produces a square wave frequency proportional to the flow rate.

## Technical Data

<b>SE30 Housing material</b>	Polycarbonate
<b>Ambient temperature</b>	5 °F to 140 °F
<b>Voltage supply / Current</b>	12-36 VDC ≤ 30 mA
<b>Max. cable length</b>	164' shielded
<b>Electrical connections</b>	Cable plug
<b>Outputs</b>	Transistor PNP and NPN, Max. 100mA
<b>Protection and Approvals</b>	IP65, CE
<b>Sensor size range</b>	1/2" to 2" with bayonet fitting
<b>Measuring ranges</b>	1 to 33 fps
<b>Measuring error</b> (stand. k-factor)	≤ ±(0.5% o.FS + 2.5% o.R)
<b>Linearity, Repeatability</b>	≤ ± 0.5% o.FS (at 33fps), 0.4% o.R.
<b>Fitting materials</b>	Brass, Stainless* (NPT), PVC (ASTM Union)
<b>Sensor materials</b>	PVDF paddle wheel with ceramic bearings
<b>O-rings</b>	FKM
<b>Max. fluid temperature</b>	212 °F (Metallic), 122 °F (PVC)
<b>Max. fluid pressure</b>	232 PSI (metal), 145 PSI (PVC)

## Envelope Dimensions [inch] (see datasheet for details)



## Options

- High temperature version to 275 °F
- Hygienic clamp and ASME weld end connections
- ANSI flange connection
- PVDF and PP fittings.
- High flow fittings (8020) to DN350 mm
- Various sealing materials
- Individual calibration certificate

## Ordering Chart

Description	Item no.
SE30 Hall Effect	423913
SE30 Low Power Hall Effect (only for use with Type 8022 xmtr or remote 8025 electronics)	423914

**Note:** The electronic module, SE30 and the fitting, S030 must be ordered separately



# In-Line Flow Transmitter for continuous measurement

8036 / SE36

For use with fitting S030, 1/2" to 2"

- Up and download of the data through removable display
- Automatic calibration: TEACH-IN
- All output signals without presence of flow

Please see fitting S030



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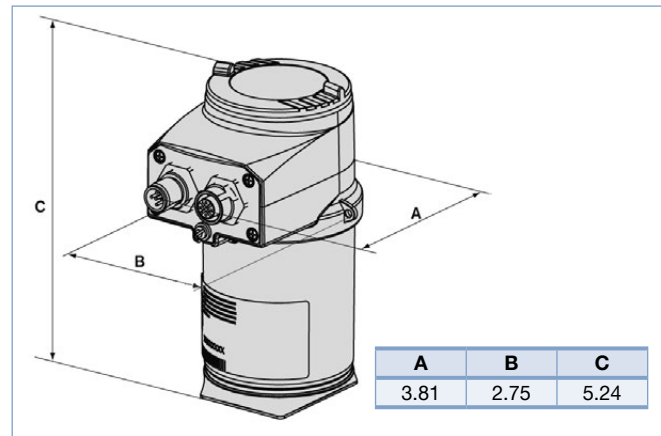
FOR DATA SHEET

Unique bayonet style flow meter constructed from an SE36 sensor and any of the S030 fittings. This two-wire 4-20 mA INLINE flow meter is manufactured to provide true, reliable flow for neutral, solid free liquids. A backlit removable display allows the system to be flexible and adds more value.

## Technical Data

<b>Electronic module</b>	
Housing material	Stainless steel, PPS, PC
Display	Removable dot matrix 128 x 64 with backlight
Ambient temperature	32 °F to 140 °F
Voltage supply	14...36 VDC for 2-wire models
Electrical Protection	Short circuit protection Reversed polarity of DC protected
Electrical connections	M12
Outputs	4-20 mA for flow rate Transistor output NPN and PNP, 700 mA
Output Load Max.	< 1100 Ω at 36 V < 610 Ω at 24 V < 180 Ω at 14 V
Ingress protection	IP65 and 67, NEMA4X
Approvals	UL Recognized, CSA through cURus, CE
<b>Integrated sensor and fitting module</b>	
Size range	1/2" to 2" with bayonet fitting
Measuring ranges	1 to 33 fps
Measuring error (teach in)	≤ ± 1% o.FS (at 33fps)
Measuring error (Std. k-factor)	≤ ±(0.5% o.FS + 2.5% o.R)
Linearity	≤ ± 0.5% o.FS (at 33fps)
Repeatability	0.4% o.R.
Fitting Materials	PVC, PVDF, PP, Brass, Stainless, Stainless HT
Paddle wheel	PVDF
Axis and bearing	Ceramic
O-rings	FKM
Max. fluid temperature	212 °F (metal), 122 °F (PVC)
Ambient temperature range	0 to 140 °F
Max. fluid pressure	232 PSI (metal), 145 PSI (PVC)

## Envelope Dimensions [inch] (see datasheet for details)



## Options

- High flow rate (8026) to DN350 mm
- Hygienic clamp & weld end connections
- Individual calibration certificate
- Various sealing materials
- ANSI/DIN flange connection

## Accessories

Description	Item no.
Display/programming module	559168
Electrical connector, 5-pin M12 male, plug only	560946
Electrical connector, 5-pin M12 male, 2 m prewired	559177
Electrical connector, 5-pin M12 female, plug only	917116
Electrical connector, 5-pin M12 female, 2 m prewired	438680

## Ordering Chart

Specifications	Output	Electrical connection	Item no. (UR approved)	
			without display	with display
2 outputs	1 x transistor + 1 x 4-20 mA (2 wire)	5-pin M12 male fixed connector	560883	561883
3 outputs	2 x transistor + 1 x 4-20 mA (2 wire)	5-pin M12 male fixed connector	560884	561884
4 outputs	2 x transistor + 2 x 4-20 mA (3 wire)	5-pin M12 male and 5-pin M12 female	560885	561885

**Note:** The following items must be ordered separately  
The SE36 electronic module and the S030 fitting  
M12 cable plugs (only female for single 4-20 mA, 1 male + 1 female for dual 4-20 mA transmitter)



# Blind INSERTION Magmeter

8041

For use with fitting 1/2" to 16"

- Solid state technology
- Clean in place (CIP)
- FDA approved

Please see fitting S020



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FOR DATA SHEET

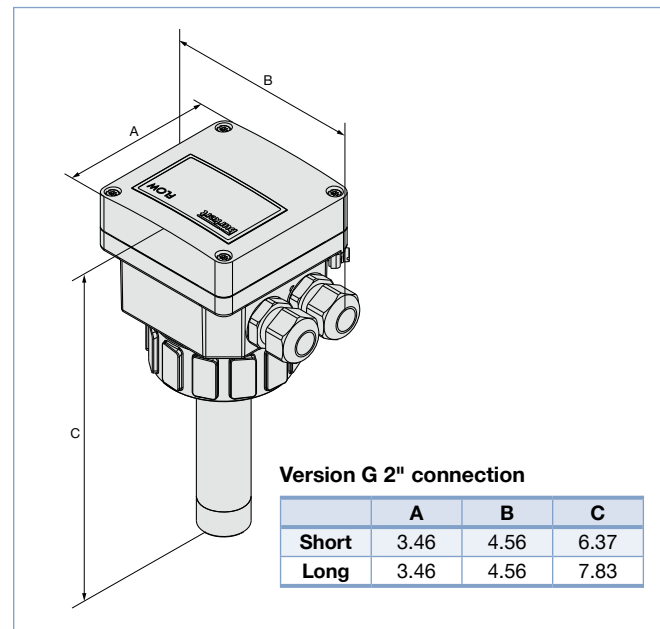
The insertion magmeter constructed from a PVDF finger and high quality blind electronic module. Perfect for contaminated or aggressive fluids it has both 4-20 mA and pulse output, with optional 3A relays, making this a flexible solution for flow control or batching.

## Technical Data

<b>Size range</b>	1/2" - 16"
<b>Measuring ranges</b>	0.7 - 33 ft/s
<b>Measuring error (teach in)</b>	≤ ±2% o.R. (3.28-32.81 ft/s)
<b>Measuring error (standard k-factor)</b>	≤ ±4% o.R. (3.28-32.81 ft/s)
<b>Linearity</b>	≤ ±(1% o.R. + 0.1% o.FS)
<b>Repeatability</b>	±0.25% o.R.
<b>Housing material</b>	PC+20% glass fibre
<b>Electrode material</b>	316L SS
<b>Mag-sensor material</b>	PVDF or SS
<b>O-rings</b>	FKM
<b>Max. fluid temperature</b>	
PVDF sensor version	176 °F (depending on fitting)
SS sensor version	302 °F* (depending on fitting)
<b>Ambient temperature range</b>	14 °F to 140 °F
<b>Max. fluid pressure</b>	145 PSI (PVDF & SS version with S020 plastic fitting) 232 PSI (SS version with S020 metal fitting)
<b>Fluid conductivity</b>	> 20 µS (Micro-Siemens)
<b>Storage temperature</b>	-4 °F to 140 °F
<b>Voltage supply</b>	18-36 VDC
<b>Current consumption Max.</b>	≤ 220 mA
<b>Electrical protection</b>	Short circuit protection Reversed polarity of DC protected
<b>Electrical connections</b>	M20 cable glands (optional 1/2" conduit)
<b>Outputs</b>	4-20 mA Transistor, Max. 100mA, frequency 0...240 Hz Relay output 3 A/250 VAC
<b>Output load</b>	Max. 1100 Ω at 36 V Max. 330 Ω at 18 V
<b>Ingress protection</b>	IP65

\*302 °F with SS finger and S020 metal fitting

## Envelope Dimensions [inch] (see datasheet for details)



## Options

- Hastelloy C Electrodes
- Tri-Clamp connection

## Ordering Chart Transmitter Type 8041

Voltage supply	Output	Relay	Housing material	Seal material	Sensor version	Electrical connection	Item no.
18...36 V DC	4-20 mA, frequency	1	PC	FKM	short, PVDF	2 cable glands	558064
					long, PVDF	2 cable glands	558065
			PPA	FKM	short, stainless steel	2 cable glands	552779
					long, stainless steel	2 cable glands	552780

**Note:** 1 Kit 558 102, 1 relay connection kit 552 812 and 1 EPDM seal are supplied with each transmitter. | To select a complete device the following items need to be ordered: • Prod. no. of the desired flow meter for Type 8041 • Prod. no. of the Type S020 fitting, for gauges with G 2" connector, must be ordered separately

# INSERTION Magmeter with display

8045

For use with fitting 1/2" to 16"

- Simple to read display
- Easy push button menu
- Clean in place (CIP)
- FDA approved

Please see fitting S020



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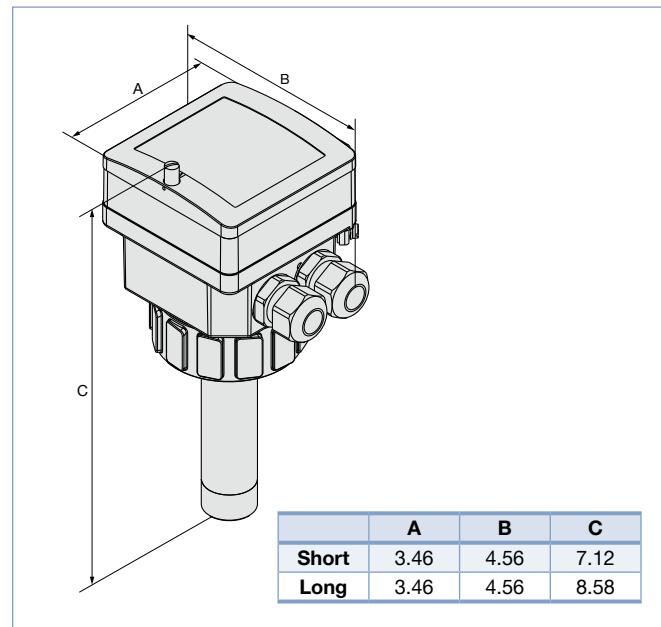
FOR DATA SHEET

With a stainless steel insertion finger and high quality electronic display module this unit is perfect for contaminated or aggressive fluids. 4-20 mA and pulse output with optional 3A relays makes this a flexible solution for flow control, batching or CIP control in FDA applications.

## Technical Data

Size range	1/2" - 16"
Measuring ranges	0.7 - 33 ft/s
Measuring error (teach in)	≤ ±2% o.R. (3.28-32.81 ft/s)
Measuring error	≤ ±4% o.R. (3.28-32.81 ft/s)
Linearity	≤ ±(1% o.R. + 0.1% o.FS)
Repeatability	±0.25% o.R.
Housing material	PPA
Electrode Material	316L SS
Mag-sensor Material	316L SS (FDA compliant)
O-rings	FKM
Max. Fluid Temperature	230 °F (depending on fitting)
Ambient temperature range	14 °F to 140 °F
Max. fluid pressure	232 PSI (depending on fitting)
Fluid conductivity	> 20 µS (Micro-Siemens)
Voltage supply	18-36 VDC
Current consumption Max.	≤ 300 mA
Electrical Protection	Short circuit and reversed polarity protected
Electrical connections	M20 cable glands (optional 1/2" conduit)
Outputs	4-20 mA Transistor, Max. 100mA, frequency 0...240 Hz Relay output 3 A/250 VAC
Output Load	Max. 1300 Ω at 36 V Max. 700 Ω at 18 V
Ingress protection	IP65

## Envelope Dimensions [inch] (see datasheet for details)



## Options

- PVDF finger
- Hastelloy electrodes
- Tri-Clamp connection

## Ordering Chart (please order fitting separately)

Voltage supply	Relays	Housing material	Sensor version	Item no.
18...36 V DC	No	PPA	Short, Stainless Steel (FDA)	449670
			Long, Stainless Steel (FDA)	449672
	2		Short, Stainless Steel (FDA)	449671
			Long, Stainless Steel (FDA)	449673

**Note:** Delivered with 1 set 551 775 and 1 EPDM seal.

To select a complete device the following items need to be ordered:

- Product no. of the desired flow meter for Type 8045
- Product no. of the Type S020 fitting, for gauges with G 2" connector, must be ordered separately

# S030 and S020 flow fittings

1/2" to 14", 0-232 PSI

- Straight thru tube assures maximum accuracy
- Wide range of materials and connections
- Unique INLINE version isolates medium from measuring device

S020 PVC







S030 PVC

S030 and S020 Fittings




## Ordering Chart

S030 (for SE30, SE32, SE35 and SE36)

Connection	PVC (ASTM)	Brass NPT	Stainless NPT	PVDF	SS Hygienic Clamp	SS OD Tube	ANSI B16-5
1/2"	 423950	 423986	 424010	 423968	-	-	424046
3/4"	423951	423987	424011	423969	443395	443369	424047
1"	423952	423988	424012	423970	443396	443370	424048
1 1/4"	423953	423989	424013	423971	-	-	424049
1 1/2"	423954	423990	424014	423972	443397	443372	424050
2"	423955	423991	424015	423973	443398	443373	424051
2 1/2"	-	-	-	-	443399	443374	-

## Ordering Chart

S020 (for 8025, 8026, 8041, 8045) -  Short sensor  Long sensor

Connection	PVC (ASTM)	Brass NPT	Stainless NPT	SS weldolet	Steel saddle	Steel weldolet	PVC saddle
1/2"	 428682	 428718	 428742				
3/4"	428683	428719	428743				
1"	428684	428720	428744				
1 1/4"	428685	428721	428745				
1 1/2"	428686	428722	428746				
2"	428687	428723	428747				
2 1/2"				418111	98146031	98146032	
3"				418112	98146024	98146034	413469
4"				418113	98146025	98146035	413470
5"				418114	98146020	98146020	98146019
6"				418115			
8"				418116	98146026	98146021	98146017
10"				418117	98146027	98146022	98146030
12"				418756	98146028	98146023	
14"				420070	98146029	98146036	
				416637	98109612		

 = Burkert Quick Delivery Express Program Items

# Compact Magmeter with display

8050

- For continuous multiparameter monitoring
- Measuring and monitoring of flow, temperature and conductivity
- Quick and flexible start-up via IO-Link and Bluetooth
- Easy adjustment to suit the process by using adapters

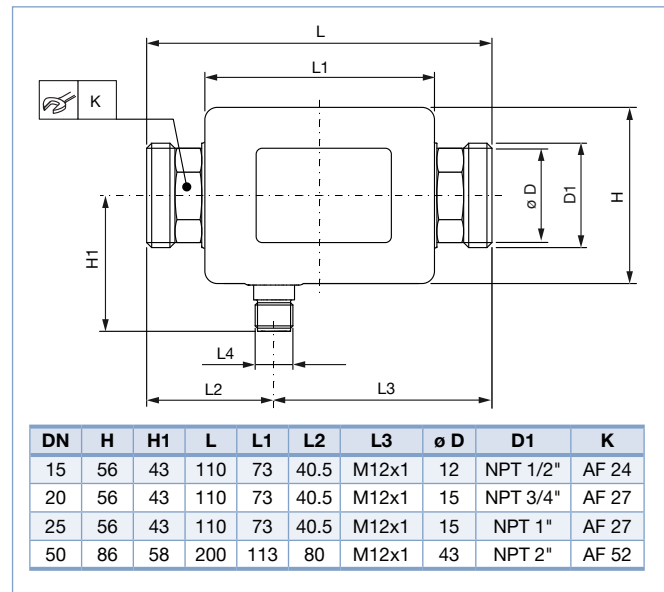


The Type 8050 is a compact magnetic-inductive flow measuring device that will help you monitor your processes. Thanks to its compact and robust design, this device is the perfect solution for applications where space needs to be saved. The integration can be performed easily thanks to the additional process adapter, and start-up is made easier by the Bluetooth connection.

## Technical Data

<b>Measuring principle</b>	Electromagnetic flow measurement
<b>Fluid</b>	Suited for conductive liquids ( $\geq 10 \mu\text{S/cm}$ )
<b>Display</b>	1.4" TFT color display, auto-rotatable (dependent on orientation)
<b>Operation</b>	<ul style="list-style-type: none"> <li>• SmartBlue App for smartphone or tablet (Bluetooth)</li> <li>• IO-Link for operation via process control system</li> </ul>
<b>Material</b>	<ul style="list-style-type: none"> <li>• Housing: 1.4404/316L, 1.4409/CF3M</li> <li>• Measuring tube: PEEK</li> <li>• Electrodes: 1.4435/316L</li> <li>• Process connection: 1.4404/316L</li> <li>• Display: polycarbonate</li> <li>• Seals: FKM</li> </ul>
<b>Power supply</b>	DC 18 to 30 V
<b>Process temp.</b>	-10 to +70 °C (14 to +158 °F), temporarily up to +85 °C (+185 °F)
<b>Degree of protection</b>	IP65/67 (Type 4 enclosure)
<b>Communication</b>	Via Bluetooth or IO-Link
<b>Nominal diameter</b>	DN 15 (1/2"), DN 20 (3/4"), DN 25 (1"), DN 50 (2")
<b>Measured variables</b>	Volume flow, temperature, conductivity (temperature-compensated)
<b>Process connections</b>	1/2"-2" female NPT
<b>Measuring range</b>	<ul style="list-style-type: none"> <li>• DN 15 (1/2"): 0.01 to 6.6 gal/min</li> <li>• DN 20 (3/4"): 0.03 to 13.2 gal/min</li> <li>• DN 25 (1"): 0.05 to 26.4 gal/min</li> <li>• DN 50 (2"): 0.4 to 198.1 gal/min</li> </ul>
<b>Inlet/outlet run</b>	Not required (0 x DN)
<b>Process pressure</b>	16 bar (232 psi)
<b>Max. measured error</b>	Flow: $\pm 0.8\%$ o.r. $\pm 2\%$ of full scale; temp: $\pm 4.5$ °F
<b>Repeatability</b>	Flow: $\pm 0.2\%$ o.f.s.; temp: $\pm 0.9$ °F; cond: $\pm 5\%$ o.r. $\pm 5 \mu\text{S/cm}$

## Envelope Dimensions [mm] (see datasheet for details)



## Accessories Ordering Chart

Voltage supply		Item no.
M12 straight circular female connector with cable, 4x0.34, in PUR (polyurethane)	2 m	571222
	5 m	571223
	10 m	571224
M12 angled (90°) circular female connector with cable, 4x0.34, in PUR (polyurethane)	2 m	571225
	5 m	571226
	10 m	571227

## Ordering Chart

DN [mm]	Measuring range			Pipe connection	Seal material	Item no.
	Volume flow rate	Temperature	Conductivity			
<b>Flowmeter with external (male) thread pipe connection</b>						
15	0.05...35 l/min (0.013...9.2 gal/min)	-10...+70 °C (+14...+158 °F)	20...30 000 $\mu\text{S/cm}$	NPT 1/2"	FKM	571166
					EPDM	571167
20	0.1...75 l/min (0.026...19.8 gal/min)		20...30 000 $\mu\text{S/cm}$	NPT 3/4"	FKM	571174
					EPDM	571175
25	0.2...150 l/min (0.052...39.6 gal/min)		20...30 000 $\mu\text{S/cm}$	NPT 1"	FKM	571182
				EPDM	571183	
50	1.5...750 l/min (0.4...198.1 gal/min)	20...10 000 $\mu\text{S/cm}$	NPT 2"	FKM	571190	
				EPDM	571191	

# Full bore INLINE Magmeter

1/2" to 6", Up to 232 PSI

- Full bore section
- High frequency sampling
- Flow or batch control

S056 Fitting



Shown is the remote flanged sensor and the hygienic clamp compact version



8059

These full bore magmeters accurately measure the flow of liquids with conductivities as low as 5 µS/cm with or without solids. Varied application environments such as water, wastewater, sludge, slurries, pastes, acids, alkalis, juices, fruit pulp can easily be handled. This extremely robust, time tested design incorporates the latest electronics and when combined with a valve as the actuating element they can control high-precision dosing operations. A simple HMI and a wide range of materials, measuring tube liners and process connections makes this a simple choice.

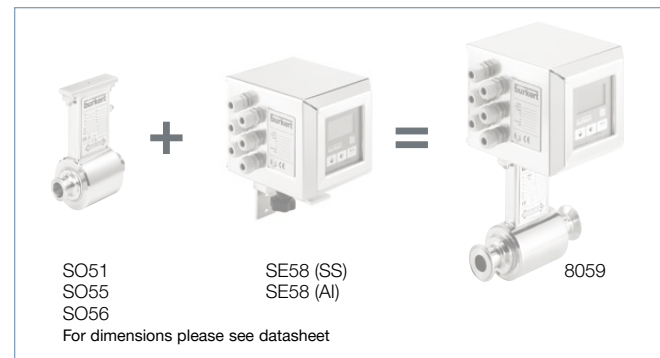
## Technical Data

<b>Housing material</b>	Die cast aluminum or 304 Stainless steel
<b>Ambient temperature</b>	-4 °F to 140 °F
<b>Voltage supply</b>	100-240 VAC/ 44 Hz-66 Hz
<b>Electrical connections</b>	PG glands
<b>Outputs</b>	1 x 4-20 mA 2 x transistor (30VDC, 100mA, Fmax=1250Hz) Standard input 1 x digital (0 up to 40 VDC)
<b>Ingress protection</b>	IP65(SS), IP65,IP67(Aluminum)
<b>Approvals</b>	CE
<b>Size range</b>	1/4" to 6"
<b>Measuring ranges</b>	1.5 to 33 ft/s
<b>Measuring error (std. k-factor)</b>	± 0.2% of Reading (for liquid velocity > 1.5 ft/s)
<b>Repeatability</b>	≤ ±0.1% of the measured value for flow velocity >0.5 m/s
<b>Electrode material</b>	SS 316L (optional 4 x Hastelloy C / Titanium / Tantal / Platinum - Rhodium)
<b>Axis and bearing</b>	Minimum conductivity 5 µS/cm
<b>O-rings</b>	FKM
<b>Max. fluid temperature</b>	212 °F (PTFE lining), 140 °F (PP lining)
<b>Max. fluid pressure</b>	Fluid pressure Max. 232 PSI

## Options

- 10-35 VDC electronic
- Various sealing materials
- Larger sizes
- Individual calibration certificate
- Other options Remote versions (10/20m cable, IP68), blind version
- SS body and 300# flanges S055
- PTFE lining and PN40 pressure class for S051 and S055
- Hart, Modbus over RS-485, RS485

## System Architecture



## Ordering Chart

Transmitter / Batch Controller Electronics - SE56				Item no.
Stainless steel				571508
Aluminum				571501
INLINE Flow Meter				
Connection	Orifice [mm]	Flow Rate [GPM]	Lining	Item no.
NPT INLINE Meter Fittings - S051				
1/4"	3	0.04 - 1.10	PTFE	554213
3/8"	6	0.17 - 4.40	PTFE	555892
1/2"	10	0.53 - 13.20	PTFE	555111
3/4"	15	1.05 - 26.4	PTFE	557659
1"	20	2.2 - 55.00	PTFE	553663
ANSI 150# INLINE Meter Fittings - S055				
1"	25	3.17 - 79.25	PP	554353
2"	50	12.7 - 317.00	PP	554354
3"	80	31.7 - 792.52	PP	554351
4"	100	49.31 - 1232.80	PP	554352
6"	150	112.7 - 2817.8	PP	561426
Hygienic Clamp INLINE Meter Fittings - S056				
1/2"	3	0.04 - 1.10	PTFE	559786
1/2"	6	0.17 - 4.40	PTFE	553325
1/2"	10	0.53 - 13.20	PTFE	554350
3/4"	15	1.05 - 26.4	PTFE	553533
1"	20	2.2 - 55.00	PTFE	553534
1"	25	3.17 - 79.25	PTFE	553535
1 1/2"	40	7.92 - 198.13	PTFE	553536
2"	50	12.7 - 317.00	PTFE	553537
2 1/2"	65	21.13 - 528.34	PTFE	553538
3"	80	31.7 - 792.52	PTFE	559791



# FLOWave SAW Flowmeter

8098

- Without any parts in the measuring tube
- Conforms to hygienic requirements CIP/SIP capable
- Ideal for liquids with low or no conductivity
- Compact, lightweight and low energy consumption
- Digital communication, parameter setting via communicator and display
- Optional density and mass flow measurement
- Combine with ME43 or ME63 for batch control



Blind 8098 "S" OEM version

CLICK ME



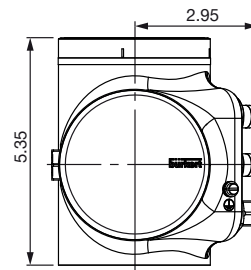
FOR DATA SHEET

The Type 8098L (with display) and 8098S (blind) flowmeter opens up new possibilities for hygienic and process applications. With its unique SAW technology (Surface Acoustic Waves), the device has no sensor elements in the measuring tube and makes it easy to fulfil very high hygienic requirements. This is achieved by using: - suitable stainless steel materials - a measuring tube free of any wetted parts except for the actual tube - the ideal outer hygienic design. FLOWave offers a range of integrated functions, including the advantages of flexibility, ease of cleaning, compact dimensions, lightweight, easy installation and handling, and is compliant with numerous standards. Optimal measurement results can be achieved with homogeneous, air and solid free liquids. Integrated viscosity compensation can be used for higher viscous liquids. Gas and steam cannot be measured; however, their flow does not have any negative effect on the device or its operation. Other liquids flowing through again afterwards are measured correctly as before. Special functions derived from further process values (mass flow, density, differentiation factor, acoustic transmission factor) offer additional information about the particular liquid in use (see data sheet).

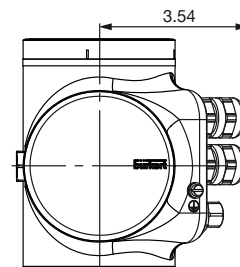
## Technical Data

<b>Fluids</b>	Non dangerous liquids complying with article 4 §1 of 2014/68/EU directive
<b>Ambient temperature</b>	-4 °F to 140 °F
<b>Process connection/pipe size acc. to</b>	DIN 32676 series C (ASME BPE) 3/8", 1/2", 3/4", 1", 1 1/2", 2", 2 1/2", 3"
<b>Electrical connections</b>	2 x M20 x 1.5 cable glands and 1 x 5 pin M12 male fixed connector (A-coded) or 2 x 4 pin M12 female fixed connectors (D-coded) and 1 x 5 pin M12 male fixed connector (A-coded)
<b>Sensor housing</b>	Stainless steel 304/1.4301
<b>Blind cover</b>	Stainless steel 304/1.4301
<b>Seal</b>	VMQ silicone
<b>Degree of protection</b>	IP65, IP67 (according to IEC/EN 60529), NEMA 4X (according to NEMA250), if the product is wired and if the cable glands are tightened and the covers are screwed tight
<b>Surface finish</b>	
Measurement tube (inner surface)	Ra < 0.8 µm (32 µin.) available upon request or Ra < 0.4 µm (15 µin.) (electro-polished)
Meas. tube (outer surface), housing	Ra < 1.6 µm (excluding welding seams)
<b>Display module</b>	2.4", monochrome graphic (240 x 160 pixels) German, English, French languages
<b>Measurement deviation</b>	From 10% of full scale up to full scale: ±0.4% of the measured value; From 1% of full scale up to 10% of full scale: ±0.08% of full scale
<b>Temperature measurement</b>	
Measurement range	-4 to 284 °F (-20 to +140 °C)
Measurement deviation for T° ≤ 100 °C	±1 °C
100 °C < T° < 140 °C	±1.5 °C
Refresh time	1 s

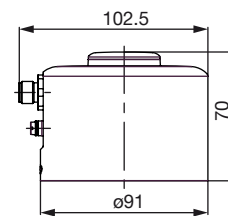
## Transmitter SE98 Dimensions [inch]



Ethernet version with 2 x 4 pin M12 female connectors and 1 x 5 pin M12 male connector



with 2 x M20 x 1.5 cable glands in nickel plated brass and 1 x 5 pin M12 male connector



with 1 x 8 pin male connector

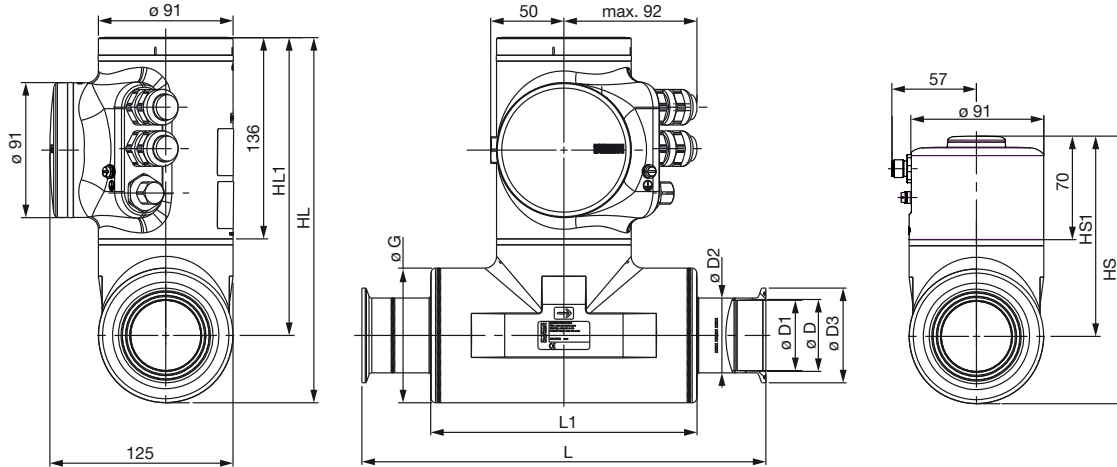




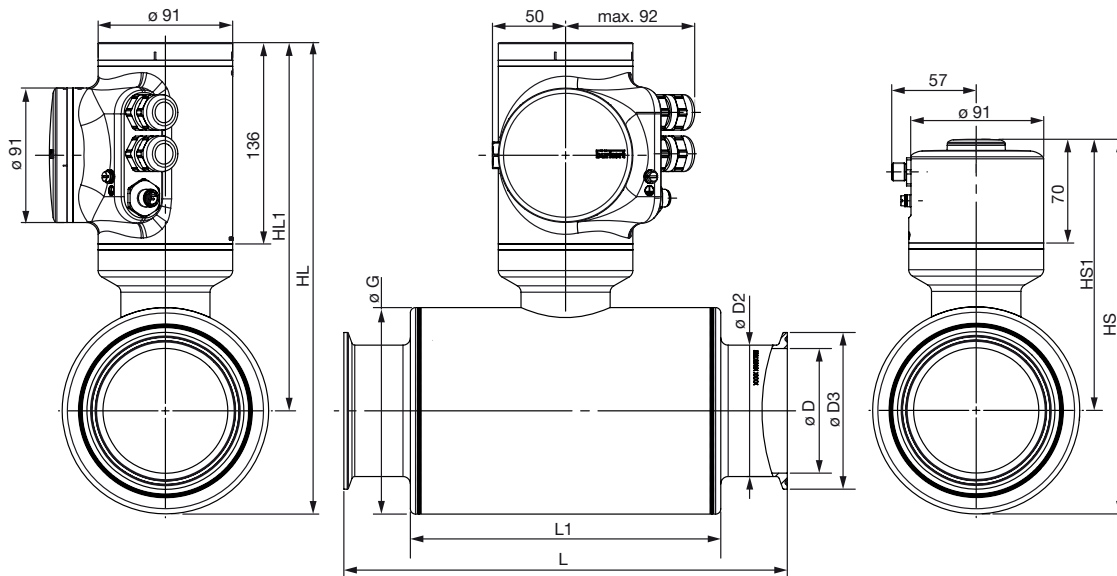
Dimensions [mm] (see datasheet for details)

**Flowmeter 8098 with clamp according to DIN 32676 series (ASME BPE)**

Sensor with process connection  $\leq$  DN 50/2"



Sensor with process connection  $>$  DN 50/2"



Clamp/pipe size											
Clamp according to DIN 32676 series C and process pipe according to DIN 11866 series C (ASME BPE)											
[inch]	HL	HL1	HS	HS1	D1	D	D2	D3	G	L1	L
3/8	250	220	184	154	7.75	7.75	14	25	60.3	105	158
1/2	250	220	184	154	9.4	9.4	14	25	60.3	105	158
3/4	250	220	184	154	15.75	15.75	19.05	25	60.3	105	143
1	250	220	184	154	22.1	22.1	25.4	50.5	60.3	105	143
1 1/2	250	200	184	134	34.8	34.8	38.1	50.5	91	180	273
2	250	200	184	134	47.5	47.5	50.8	64	91	180	273
2 1/2	321	251	255	185	60.2	60.2	63.5	77.5	139.7	210	300
3	321	251	255	185	72.9	72.9	76.2	91	139.7	210	300

## Ordering Chart

8098L (with display)						
Clamp and pipe size	Measurement tube (inner surface)	Operating voltage	Maximal flow rate	Electrical connection	Display	Item no.
3/8"	0.4 µm	12-35 V DC	1.7 m <sup>3</sup> /h	2 cable glands* M20 × 1.5 + 1 × 5 pin M12 male connector	Yes	573116
				2 × 4 pin M12 female connectors + 1 × 5 pin M12 male connector (Ethernet version)	Yes	573118
1/2"	0.4 µm	12-35 V DC	2.5 m <sup>3</sup> /h	2 cable glands* M20 × 1.5 + 1 × 5 pin M12 male connector	Yes	573123
				2 × 4 pin M12 female connectors + 1 × 5 pin M12 male connector (Ethernet version)	Yes	573125
3/4"	0.4 µm	12-35 V DC	7 m <sup>3</sup> /h	2 cable glands* M20 × 1.5 + 1 × 5 pin M12 male connector	Yes	569675
				2 × 4 pin M12 female connectors + 1 × 5 pin M12 male connector (Ethernet version)	Yes	569679
1"	0.4 µm	12-35 V DC	14 m <sup>3</sup> /h	2 cable glands* M20 × 1.5 + 1 × 5 pin M12 male connector	Yes	569676
				2 × 4 pin M12 female connectors and 1 × 5 pin M12 male connector (Ethernet version)	Yes	569680
1 1/2"	0.4 µm	12-35 V DC	35 m <sup>3</sup> /h	2 cable glands* M20 × 1.5 + 1 × 5 pin M12 male connector	Yes	569677
				2 × 4 pin M12 female connectors and 1 × 5 pin M1 male connector (Ethernet version)	Yes	569681
2"	0.4 µm	12-35 V DC	64 m <sup>3</sup> /h	2 cable glands* M20 × 1.5 + 1 × 5 pin M12 male connector	Yes	569678
				2 × 4 pin M12 female connectors and 1 × 5 pin M12 male connector (Ethernet version)	Yes	569682
2 1/2"	0.4 µm	12-35 V DC	100 m <sup>3</sup> /h	2 cable glands* M20 × 1.5 + 1 × 5 pin M12 male connector	Yes	574710
				2 × 4 pin M12 female connectors + 1 × 5 pin M12 male connector (Ethernet version)	Yes	574720
3"	0.4 µm	12-35 V DC	150 m <sup>3</sup> /h	2 cable glands* M20 × 1.5 + 1 × 5 pin M12 male connector	Yes	574711
				2 × 4 pin M12 female connectors + 1 × 5 pin M12 male connector (Ethernet version)	Yes	574721

\*Cable gland in nickel plated brass

**8098L NOTES:**

Clamp acc. to DIN 32676 series C (ASME BPE) process connection for pipe acc. to DIN 11866 series C (ASME BPE).

All versions are UL,3A and EHEDG certified and equipped with the special functions ATF (acoustic transmission factor) and DF (differentiation factor).

8098S (blind)						
Clamp and pipe size	Measurement tube (inner surface)	Operating voltage	Maximal flow rate	Electrical connection	UL	Item no.
3/8"	0.4 µm	12-35 V DC	1.7 m <sup>3</sup> /h	1 X 8 pin M12 Male Connector	Yes	571794
1/2"			2.5 m <sup>3</sup> /h		Yes	571797
3/4"			7 m <sup>3</sup> /h		Yes	571800
1"			14 m <sup>3</sup> /h		Yes	571803
1 1/2"			35 m <sup>3</sup> /h		Yes	571806
2"			64 m <sup>3</sup> /h		Yes	571809
2 1/2"			100 m <sup>3</sup> /h		Yes	574718
3"			150 m <sup>3</sup> /h		Yes	574719

**8098S NOTES:**

Clamp acc. to DIN 32676 series C (ASME BPE) process connection for pipe acc. to DIN 11866 series C (ASME BPE).

To set up these devices, please order the USB buS interface kit ,Type 8920, ID 772426 and the 8-pin female to 5-pin male cable, ID 773286.

All above mentioned 8098S versions are UL, 3A and EHEDG certified and equipped with the special functions ATF (acoustic transmission factor) and DF (differentiation factor).

All units have 2x configurable AO or DO's.

# Positive Displacement Sensor Fitting for continuous flow measurement

S077

## DN15 - DN100

- INLINE Quarter-Turn technology
- Electronics available for indication, monitoring, transmitting, On/Off control and batch control



CLICK ME



FOR DATA SHEET

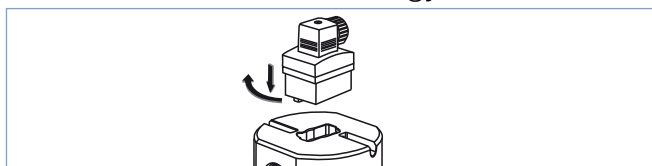
This positive displacement sensor fitting is specially designed for flow measurement and/or batch control of highly viscous fluids like glue, honey or oil. This measuring element must be associated to a transmitter SE30, SE32, SE35, SE36 with hall sensor principle only, quickly and easily connected together by a Quarter-Turn. The design of this fitting is based on the oval rotor principle. This has proven to be a reliable and highly accurate volumetric method of measuring flow. Exceptional repeatability and high accuracy over a wide range of viscosities and flow rates are features of that design. The low pressure drop and high pressure rating make it suitable for both gravity and pump (inline) applications.

### Technical Data

General data	
<b>Compatibility</b>	With transmitter SE30, SE32, SE35, SE36 with Hall sensor principle (see separate data sheet)
<b>Wetted parts materials</b>	
Body	Aluminium, stainless steel 316L (1.4401)
Rotor	PPS, aluminium, stainless steel 316L (1.4401)
Shaft	Stainless steel 316L (1.4401)
Seal	FKM or FEP/PTFE encapsulated
Complete device data	
<b>Pipe diameter</b>	DN15 - DN100
Thread connection	½"; 1"; 1½"; 2"; 3" (NPT)
Flange connection	1"; 1½"; 2"; 3" or 4" ANSI 150LB flange
<b>Medium temperature max.</b>	
Aluminium body:	-4 °F to 176 °F (-20 to +80 °C)
Stainless steel body:	-4 °F to 248 °F (-20 to +120 °C)
<b>Medium pressure max.</b>	
DN15	798.05 PSI (threaded process connection)
DN25	798.05 PSI*
DN40 or DN50	261.18 PSI
DN80 / DN100	174.12 PSI/10 bar (145.1 PSI)
<b>Viscosity</b>	1 Pa.s max. (higher on request)
<b>Repeatability</b>	± 0.03 % of Reading
Environment	
<b>Ambient temperature</b>	32 °F to 140 °F (0 °C to +60 °C) (operation and storage)

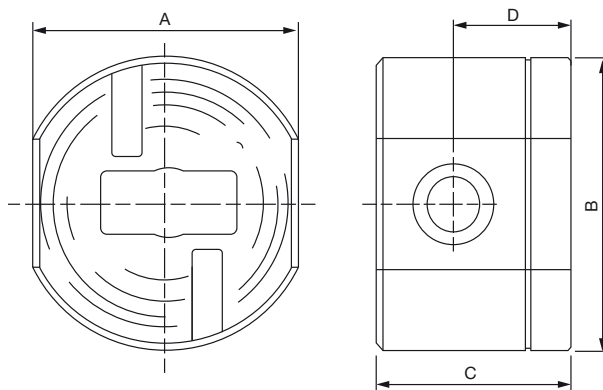
\* or in accordance to the value of the used flanges

### Burkert Quarter-turn Technology



### Dimensions [mm]

Dimensions shown for threaded version for flanged connection please see datasheet



Orifice DN	St. St.	Alu	B	C	D
15	81	81	87	49	28
25	100	100	112	75	45
40	120	120	137	103	61
50	140	140	163	124	72
80	260	302	220	180	80

### Ordering Chart

DN	Connection	Body material	Seal	Item no.
15	NPT ½"	Al	FKM	567225
		SS	FEP/PTFE	567226
25	NPT 1"	Al	FKM	567229
		SS	FEP/PTFE	567230
	1" ANSI 150 LB flange	Al	FKM	567233
		SS	FEP/PTFE	567234
40	NPT 1½"	Al	FKM	567237
		SS	FEP/PTFE	567238
	1½" ANSI 150 LB flange	Al	FKM	567241
		SS	FEP/PTFE	567242
50	NPT 2"	Al	FKM	567244
	2" ANSI 150 LB flange	Al	FKM	567247
		SS	FEP/PTFE	567248
80	NPT 3"	Al	FKM	567250
		Al	FKM	567252
	4" ANSI 150 LB flange	Al	FKM	567254

# Tuning-Fork Level Switch

8110 / 8111

## 1/2", 3/4" or 1" NPT and clamp 2"

- For universal use as overflow or dry run protection system
- Hygienic surface finish
- Extension tubes available



Type 8110



Type 8111

CLICK ME



FOR DATA SHEETS

Level switch for liquids with a tuning fork as a sensor element. Simple setup without adjustment makes this perfect for deployment into process environments. This device provides peace of mind from overflow or run dry

**Type 8110** - The small tuning fork (40 mm length) can be used in vessels, tanks or pipes.

**Type 8111** - SuperBRIGHT visual output lets the user know the status from a distance.

### Technical Data

Type	8110	8111
<b>Process Connection</b>	1/2" NPT, 3/4" NPT, 1" NPT or 2" hygienic clamp	3/4" NPT, 1" NPT or 2" hygienic clamp
<b>Max. Fluid Temperature</b>	212 °F NPT 302 °F clamp	302 °F NPT 302 °F clamp
<b>Materials</b>	Stainless / PBT housing Stainless steel forks Klingersil seal	Stainless / PEI housing Stainless steel forks Klingersil seal
<b>Max. fluid pressure</b>	928 PSI	928 PSI
<b>Voltage supply</b>	10-55 VDC / Max. 0.5 W	20-253 VAC (5 A), 50-60 Hz, or 20-72 VDC
<b>Electrical connections</b>	M12	M20 cable glands (optional 1/2" conduit)
<b>Outputs</b>	Transistor output PNP, 250 mA	Relay (DPDT), 2 floating SPDTs
<b>Ingress protection</b>	IP66 and 67, NEMA 4X	IP66 and 67, NEMA4X

### Options

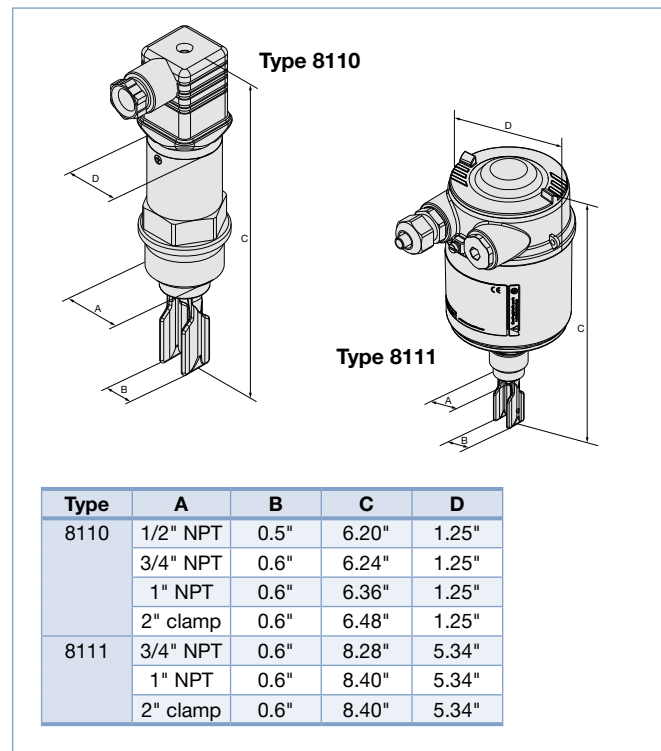
#### 8110

- DIN 11851, Flange, SMS
- Higher temperatures on request

#### 8111

- ATEX approvals
- DIN 11851, Flange, SMS
- ECTFE, enamel, Hastelloy C4 or PFA
- Higher temperatures on request

### Envelope Dimensions [inch] (see datasheet for details)



### Ordering Chart

Process connection	Electrical connection	Item no.
<b>8110</b>		
NPT 1/2"	Multipin M12	563555
NPT 3/4"	Multipin M12	557154
NPT 1"	Multipin M12	557155
Clamp 2"	Multipin M12	555294

Process connection	Electrical connection	Item no.
<b>8111</b>		
NPT 3/4"	2 x M20 glands	558111
NPT 1"	2 x M20 glands	558113
Clamp 2"	2 x M20 glands	558114

Extension tubes are available (see datasheet Type 8112).

# Radar Level Transmitter for General Purpose and Hygienic Applications

8140

## NPT thread, ANSI flange and tri-clamp process connections

- Continuous filling level measurement up to 120 m, 4...20 mA, 2-wire
- Available process connections: mounting bracket, thread (G, NPT 3/4 and 1 1/2), flange (DN50, 2" ASME), clamp (2")
- Excellent 80 GHz radar signal focusing and high measurement dynamics
- Adjustable via the display/configuration module and keys, alternatively via Bluetooth



CLICK ME

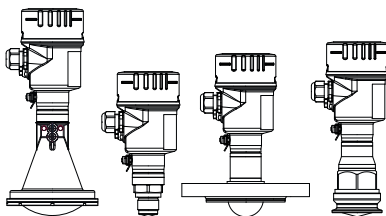


FOR DATA SHEET

The excellent focus of the radar signal and the high measurement dynamics allow excellent measurement results even in small, narrow and high containers, as the risk of signal interference by installations, constructions and vessel walls is significantly reduced. Signal damping, e.g. due to signal length, foaming or low dielectric constant values of liquids, become much less important.

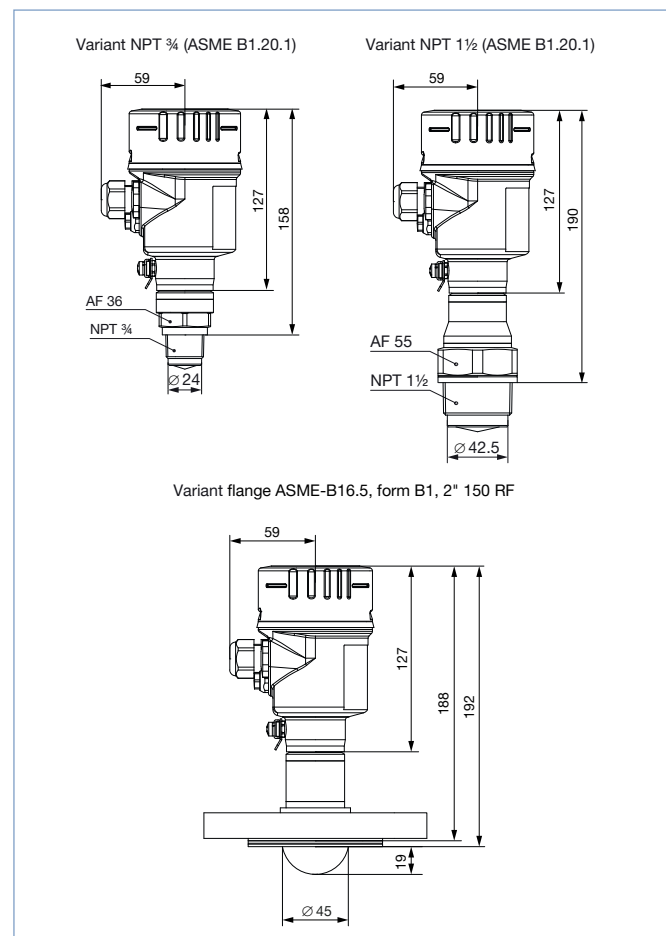
## Technical Data

<b>Housing/Cover</b>	Stainless steel 316L
<b>Seal</b>	EPDM
<b>Transducer</b>	PVDF
<b>Display</b>	LCD in full dot matrix
<b>Ambient temperature</b>	-40 °F to 176 °F
<b>Voltage supply</b>	2-wire, 12 to 35 V DC
<b>Current consumption Max.</b>	22 mA
<b>Electrical connections</b>	Cable glands M20 x 1.5
<b>Outputs</b>	4-20 mA/HART
<b>Output Load Max.</b>	See datasheet
<b>Measuring frequency</b>	W-Band (80 GHz technology)
<b>Beam angle</b>	Depends on process connection. See datasheet.
<b>Accuracy</b>	± 1 mm
<b>Process temperature</b>	Depends on process connection. See datasheet.
<b>Ingress protection</b>	IP66, IP67 with cable plug mounted and tightened M20x1.5
<b>Approvals</b>	3A, EHEDG, FDA, ECR 1935/2004, Ex, IECEx available



The device is equipped with a plastic horn antenna, an integrated horn antenna or with an encapsulated antenna system. The latter variant is available with flange or hygienic connection. The technical data depends on the radar level meter variant.

## Dimensions [mm] (see datasheet for details)



## Ordering Chart

Description	Operating voltage	Process connection	Output	Electrical connection	Item no.
Plastic horn antenna	12...35 V DC	Mounting bracket, 170 mm	4...20 mA/HART (2 wires)	Cable gland M20 x 1.5	574925
Thread with integrated antenna		NPT 3/4, PN 40			574927
		NPT 1 1/2, PN 40			574929
Flange with encapsulated antenna system	DN 50 EN1092-1/DIN2501, 40 bar	574932			
	2" ASME B16.5 150 RF	574933			
Hygienic connection with encapsulated antenna system		Clamp 2"			574934



# Flowmeter Type 8050

Fast setup and diagnosis

Digital connected

Multiparameter sensor





# Ultrasonic Level Transmitter for General Application

8177

## NPT and G thread process connection

- Two-wire version
- Reliable non-contact measurement
- HART communication



Ultrasonic level transmitters for non-contact measurement of process liquids and solids. Standard HART and 4-20 mA HART compatible output.

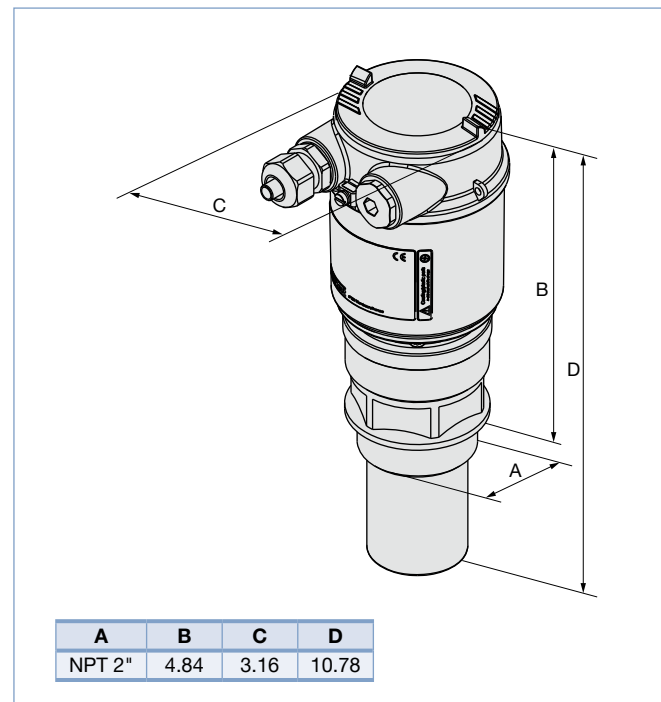
## Technical Data

Housing/Cover	PBT, Stainless steel 316L / PC
Seal ring/Ground terminal	NBR / Stainless steel 316Ti/316L (1.4571/1.4435)
Seal	EPDM
Transducer	PVDF
Display	LCD in full dot matrix
Ambient temperature	-4 °F to 158 °F
Voltage supply	2-wire, 14 to 36 V DC
Current consumption Max.	22 mA
Electrical connections	Cable glands M20 x 1.5
Outputs	4-20 mA/HART
Output Load Max.	See datasheet
Beam angle	11°
Accuracy	< 0.2% or ± 4 mm
Process temperature	-40 °F to 176 °F
Temperature coefficient	0.06%/10K
Ingress protection	IP66, IP67, NEMA4X
Approvals	CSA, CE, Optional EEx ia IIC T6

## Option

- Process connection clamp 2", 3", 4"

## Envelope Dimensions [inch] (see datasheet for details)



## Ordering Chart (versions with display)

Area of application	Process connection [inch]	Range (liquids)	Range (solids)	Electrical connection	Item no.
<b>8177</b>					
Standard	NPT 2"	1.3 ft - 26.2 ft	1.3 ft - 11.5 ft	M20 cable gland	559244

Note: Display/programmer (559279) not included, must be ordered separately (see accessories)

## Accessories for Type 8177

Description	Item no.
Set with 2 reductions M20 x 1.5/NPT1/2" + 2 neoprene flat seals for cable gland + 2 screw-plugs M20 x 1.5	551782
Set with a display/configuration module, a transparent cover and a seal ring	559279
Set with a transparent cover and a seal ring	561006

# Microwave Level Transmitter for General Application

8188 / 8189

- Universal level measurement device for fluids
- Liquid interface measurement
- Insensitive to dust and steam
- 4-20 mA/HART - 2 wires, ATEX/IECEX approvals Ex



Level measurement devices designed for continuous level measurement. The units are suitable to liquids, for industrial use in all areas of process technology.

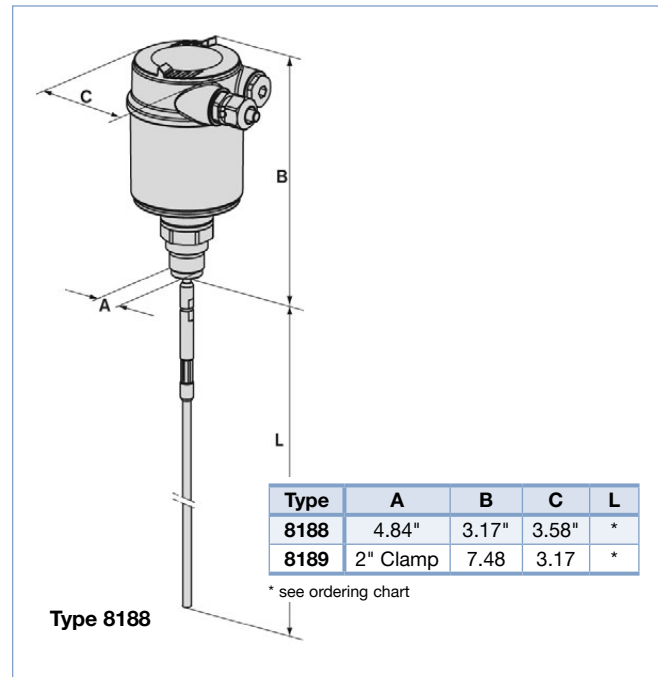
## Technical Data

<b>Housing / Cover</b>	PBT, Stainless steel 316L / PC
<b>Seal ring / Ground terminal</b>	NBR / Stainless steel 316L
<b>Display</b>	LCD in full dot matrix
<b>Ambient temperature</b>	-4 to 176 °F
<b>Current limitation</b>	21.5 mA (max. output current)
<b>Electrical connections</b>	Cable gland M20 x 1.5
<b>Output signal</b>	4-20 mA/HART
<b>Output Load Max.</b>	See datasheet
<b>Deviation</b>	± 2 mm (See drawing in datasheet)
<b>Min. Dielectric</b>	Rod and cable $\epsilon_r > 1.6$ Coax. $\text{-}\phi 21.3 \text{ mm } \epsilon_r > 1.4$
<b>Process temperature</b>	-40 to 302 °F
<b>Temperature drift</b>	0.03% /10K
<b>Measurement type</b>	Level of liquids
<b>Protection</b>	IP66/IP67 with M20 x 1.5 gland mounted and tightened

## Options

- ATEX/IECEX versions
- Other hygienic fittings

## Envelope Dimensions [inch] (see datasheet for details)



## Ordering Chart

Specification	Operating voltage	Output	Probe	Length	Electrical connection	Item no.
<b>Type 8188</b>						
NPT 3/4" mounting thread, PN6, temp. max 80 °C	9.6-35 V DC	4-20 mA/HART (2 wires)	Rod	1 m	Cable gland M20 x 1.5	565801
				2 m	Cable gland M20 x 1.5	565805
			Cable	5 m	Cable gland M20 x 1.5	565813
				10 m	Cable gland M20 x 1.5	565817
			Coax	1 m	Cable gland M20 x 1.5	565827
				2 m	Cable gland M20 x 1.5	565828
NPT 1" mounting thread, PN40, temp. max 150 °C	9.6-35 V DC	4-20 mA/HART (2 wires)	Rod	1 m	Cable gland M20 x 1.5	565803
				2 m	Cable gland M20 x 1.5	565807
			Cable	5 m	Cable gland M20 x 1.5	565815
				10 m	Cable gland M20 x 1.5	565819
			Coax	1 m	Cable gland M20 x 1.5	565829
				2 m	Cable gland M20 x 1.5	565830
<b>Type 8189</b>						
<b>Specifications</b>	<b>Voltage supply</b>	<b>Output</b>	<b>Probe</b>	<b>Length</b>	<b>Electrical connection</b>	<b>Item no.</b>
Clamp 2"	9.6-35 V DC	4-20 mA/HART (2 wires)	Rod	1 m	Cable gland M20 x 1.5	565850
				2 m	Cable gland M20 x 1.5	565852

Note: Display/programmer (559279) included

# pH Transmitter

- Accepts all standard pH probes
- Removable programming puck
- Data upload/download via puck
- With temperature compensation
- Diagnostic function

Please see S022 fittings and 8203 pH electrodes



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FOR DATA SHEET

8202 ELEMENT

pH transmitter with programmable outputs. pH and temperature output via single or dual analog 4-20 mA. Two transistor outputs are also included. Transmitters are engineered for a wide scope of measuring ranges and can be delivered in 2-wire or 3-wire configurations. Intelligent, integrated, beautiful design fits perfectly with an assortment of easily configured fittings.

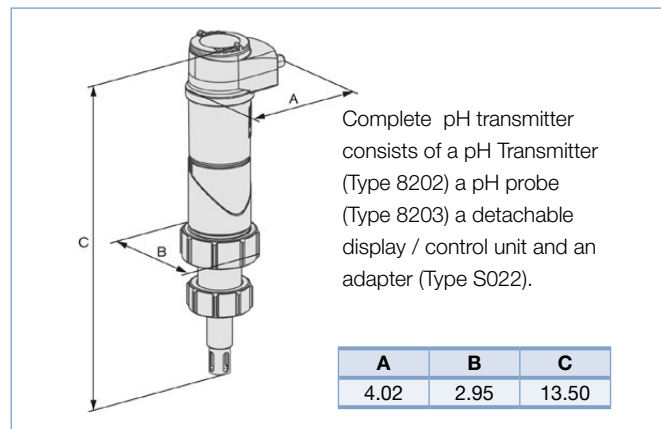
## Technical Data

<b>Measuring range</b>	2 ... 14pH
<b>Measuring error</b>	± 0.02pH
<b>Temperature compensation</b>	Automatic via integrated temperature sensor
<b>Temperature Performance (via integrated Pt1000)</b>	Measuring range -40 °F to 266 °F Measuring error ± 1.8 °F
<b>Available Fitting Materials</b>	Stainless, PP, PVC
<b>Housing material</b>	Stainless steel, PPS, PC
<b>Insertion finger</b>	PVDF
<b>Gasket seal</b>	EPDM
<b>Max. Fluid Temperature</b>	-40 °F to 266 °F (depending on fitting)
<b>Max. fluid pressure</b>	232 PSI
<b>Ambient temperature</b>	14 °F to 140 °F
<b>Storage temperature</b>	14 °F to 140 °F (without probe)
<b>Ingress protection</b>	IP65, IP67, NEMA4X
<b>Voltage supply</b>	14...36 VDC for 2-wire models 12...36 VDC for 3-wire models
<b>Protection</b>	Reversed polarity of DC and peak protected
<b>Current consumption Max.</b>	1 A Max. (with transistor load)
<b>Electrical connections</b>	1 x 5pin M12 male (2-wire) 1 x 5pin M12 male + 1 x 5 pin M12 female (3-wire)
<b>Outputs</b>	4-20 mA configurable temperature or pH 2 Transistors, configurable, open collector, 700 mA Max., 0.5 A Max. per transistor if the 2 transistor output are wired
<b>Output Load</b>	< 1100 Ω at 36 V < 610 Ω at 24 V < 180 Ω at 14 V
<b>Approval</b>	UL-Recognized for US and Canada

## Options

- Blind version (Neutrino)
- ORP: see datasheet 8202
- IO-Link
- (bùS)/CANopen

## Envelope Dimensions [inch] (see datasheet for details)



## Ordering Chart

Wiring	Outputs	Nut	M12	Item no.
<b>Transmitter</b>				
2-wire	2 x transistors + 1 x 4-20 mA	PVC	5-pin male	<b>559634</b>
		PVDF	5-pin male	559636
3-wire	2 x transistors + 2 x 4-20 mA	PVC	5-pin male + female	559635
		PVDF	5-pin male + female	559637

**Note:** Display/programmer (559168) not included. Must be ordered separately.

Probe Type 8203 (additional versions available)	Item no.
pH probe 32 °F to 266 °F, 0-232 PSI, pH 0-14 - UNITRODE PLUS pH 120 mm	560376
pH probe 32 °F to 176 °F, 0-87 PSI, pH 0-14 - FLATRODE pH 120 mm	<b>561025</b>

## Accessories

Description	Item no.
Display/programming module	<b>559168</b>
Electrical connector, 5-pin M12 male, plug only	560946
Electrical connector, 5-pin M12 male, 2 m prewired	559177
Electrical connector, 5-pin M12 female, plug only	<b>917116</b>
Electrical connector, 5-pin M12 female, 2 m prewired	438680

**Note:** For a complete transmitter the following items must be ordered:

- Transmitter, Type 8202 ELEMENT
- pH or ORP probe, Type 8203
- Display/programmer module
- M12 cable socket, cable connector (only cable socket for a 4-20 mA current output, cable and cable connector for two 4-20 mA current outputs)

**For use with 8202 pH transmitter**

- For many different types of installations and applications



The pH Bükert meter is a modular device designed for the measurement of: - the pH in clean liquids or liquids containing solids, sulfides or proteins.

**Technical Data**

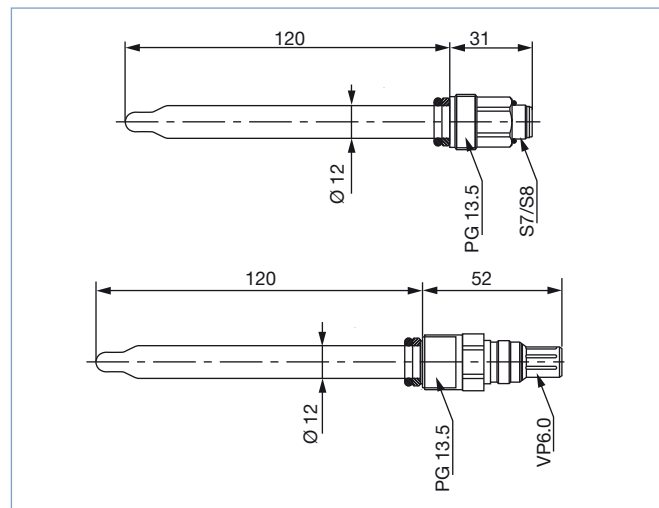
General data	
<b>pH probe Measuring range</b>	0 ... 14 pH
<b>Medium temperature</b>	Temperature limits may depend on the inserted probe. Refer to the relevant instruction manual or technical data. If the temperature ranges given for the holder and the inserted probe are different, use the most restrictive range.
<b>Medium pressure</b>	Pressure limits may depend on the inserted probe. Refer to the relevant instruction manual or technical data. If the pressure ranges given for the holder and the inserted probe are different, use the most restrictive range.
<b>Temperature compensation</b>	Automatic (integrated Pt100 or Pt1000) or manual compensation reference temperature 77 °F (25 °C)
<b>Electrical connection</b>	Coaxial shielded cables with connector for pH/ORP and 4-wire cable for Pt1000/Liquid earth rod
Electrical data	
<b>Output</b>	Analog signal, to be connected to ELEMENT or ELEMENT neutrino pH meter Type 8202 or multi-CELL transmitter/controller Type 8619
Environment	
<b>Ambient temperature</b>	Temperature limits may depend on the inserted probe. Refer to the relevant instruction manual or technical data.

OPR Electrodes also available (see 8203 datasheet for details)

**pH Probe - Technical Data** (see datasheet for details)

Type	PLASTRODE	FLATRODE	LOGOTRODE	UNITRODE PLUS	CERATRODE	FERMTRODE
<b>Medium</b>	Cost effective probe for drinking water, aquarium, swimming-pool...	Contaminated (viscous, suspended solids, paints, cosmetics, foodstuffs)	Clean (drinking water, cooling-water, aquarium, swimming-pool...)	- Contaminated - Containing sulfides/ proteins	- High pressure, high flowrate applications	Biotechnology, pharma, food industry
<b>Medium temperature</b>	14 °F to 104 °F (-10 °C to +40 °C)	32 °F to 176 °F (0 °C to +80 °C)	14 °F to 140 °F (-10 °C to +60 °C)	32 °F to 266 °F (0 °C to +130 °C)	32 °F to 266 °F (0 °C to +130 °C)	32 °F to 284 °F (0 °C to +140 °C)
<b>Minimal conductivity</b>	50 µS/cm	50 µS/cm	2 µS/cm	2 µS/cm	3 µS/cm	1 µS/cm
<b>Max. pressure at max. temperature</b>	87 PSI (6 bar)	58 PSI (4 bar)	87 PSI (6 bar)	145 PSI (10 bar)	87 PSI (6 bar)	87 PSI (6 bar)
<b>No. of diaphragms</b>	1	1	1	2	3	1
<b>Diaphragms</b>	"single pore™"	Annular and centered, in High Density Polyethylen	"single pore™"	"single pore™"	HP ceramics	HP-COATRAMIC

**Dimensions [mm]**



**Ordering Chart**

Probe	Item no.
PLASTRODE pH 120 mm	560377
FLATRODE pH 120 mm	561025
LOGOTRODE pH 120 mm	427114
UNITRODE PLUS pH 120 mm	560376
CERATRODE pH 120 mm	418319
FERMTRODE pH 120 mm	561727

# Conductivity transmitter with removable operating unit

- Intuitive menu structure
- Removable programming puck
- Data upload / download via puck
- Diagnostic function

Please see S022 fittings + adapters



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FOR DATA SHEET

8222 ELEMENT

Conductivity transmitter with programmable outputs. Conductivity and temperature output via single or dual analog 4-20 mA. Two transistor outputs are also included. Transmitters are engineered for a wide scope of measuring ranges and can be delivered in 2-wire or 3-wire configurations. Intelligent, integrated, beautiful design fits perfectly with an assortment of easily configured fittings.

## Technical Data

<b>Measuring range</b>	0.05 µS/cm ... 10 mS/cm , -4 °F to 266 °F
<b>Measuring error</b>	± 3% of measured value, ± 1.8 °F
<b>Temperature compensation</b>	Automatic via integrated temperature sensor acc. to a predefined graph (NaCl or ultra-pure water)
<b>Available fitting materials</b>	Stainless, PP, PVC
<b>Housing material</b>	Stainless steel, PPS, PC
<b>Insertion finger</b>	PVDF/SS for 0.01 or 0.1; graphite for 1.0
<b>O-rings</b>	EPDM
<b>Fluid temperature</b>	-4 °F - 212 °F (depending on fitting) (PVC 32 °F - 122 °F)
<b>Max. fluid pressure</b>	232 PSI (depending on fitting)
<b>Ambient temperature</b>	14 °F to 140 °F
<b>Storage temperature</b>	14 °F to 140 °F (without probe)
<b>Ingress protection</b>	IP65, IP67, NEMA4X
<b>Voltage supply</b>	14...36 VDC for 2-wire models 12...36 VDC for 3-wire models
<b>Protection</b>	Reversed polarity of DC and peak protected
<b>Approval</b>	UL-Recognized for US and Canada
<b>Outputs</b>	4-20 mA configurable temperature or conductivity 2 Transistors, configurable, open collector, 700 mA Max., 0.5 A Max. per transistor if the 2 transistor output are wired
<b>Output load</b>	< 1100 Ω at 36 V < 610 Ω at 24 V < 180 Ω at 14 V

## Ordering Chart

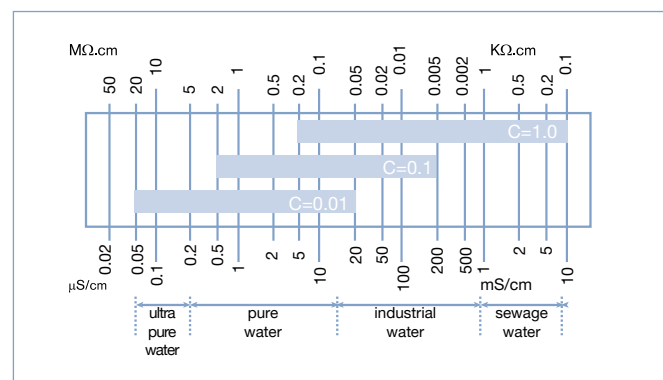
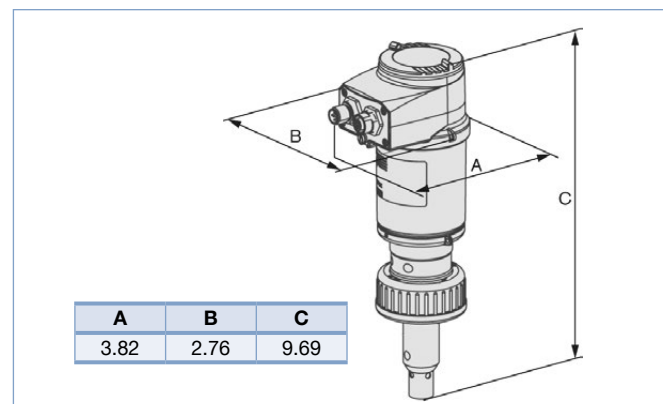
Nut	Cell constant	Electrical connection	Item no.
PVC	C = 0.01	5-pin M12 male and 5-pin M12 female	562394
	C = 0.1	5-pin M12 male and 5-pin M12 female	559624
	C = 1.0	5-pin M12 male and 5-pin M12 female	559638
PVDF	C = 0.01	5-pin M12 male and 5-pin M12 female	562396
	C = 0.1	5-pin M12 male and 5-pin M12 female	559626
	C = 1.0	5-pin M12 male and 5-pin M12 female	559622

**Note:** Display/programmer (559 168) not included. Must be ordered separately.

## Options

- Blind version (Neutrino)
- IO-Link
- (büS)/CANopen

## Envelope Dimensions [inch] (see datasheet for details)



The electrode is selected according to the measuring range & medium by using this table.

## Accessories

Description	Item no.
Display/programming module	559168
Electrical connector, 5-pin M12 male, plug only	560946
Electrical connector, 5-pin M12 male, 2 m prewired	559177
Electrical connector, 5-pin M12 female, plug only	917116
Electrical connector, 5-pin M12 female, 2 m prewired	438680

### Note:

For a complete transmitter the following items must be ordered:

- Transmitter, Type 8222 ELEMENT
- Display/programmer module
- INSERTION Adapters (see Type S022)
- M12 cable socket, cable connector (only cable socket for a 4-20 mA current output, cable and cable connector for two 4-20 mA current outputs)



# Inductive conductivity meter

8228

- Configurable outputs: up to 2 transistor and up to 2 analogue 4-20 mA outputs
- Simulation of process values and diagnostic functions
- Sensor-versions available with PEEK, PVDF or PP
- Conversion tables of conductivity to concentration for selected solutions

Please see fitting S020



The analysis gauge, Type 8228, includes a detachable display module. This is used for setup, configuration and calibration or required as a process value display. For temperature calibration, a temperature sensor is included as standard.

## Technical Data

### Complete device data (fitting + conductivity meter)

#### Conductivity measurement

Measuring range	100 µS/cm...2 S/cm
Resolution	0.1 µS/cm
Measurement deviation	±(2% of the measured value + 5 µS/cm)
Linearity	±2%
Repeatability	±(0.2% of the measured value + 2 µS/cm)
Response time t90	from 3 s (without filter) to 40 s (with slow filter)

#### Temperature measurement

Measuring range	-40 °C to +150 °C (-40 to 302 °F)
Resolution	0.1 °C (0.18 °F)
Measuring uncertainty	±1 °C (1.8 °F)
Response time t90	< 280 s (without filter)

#### Temperature compensation

- none or
- according to a predefined graph (NaCl, NaOH, HNO3 or H2SO4) or
- according to a graph defined especially for your process

**Approval** UL-Recognized for US and Canada

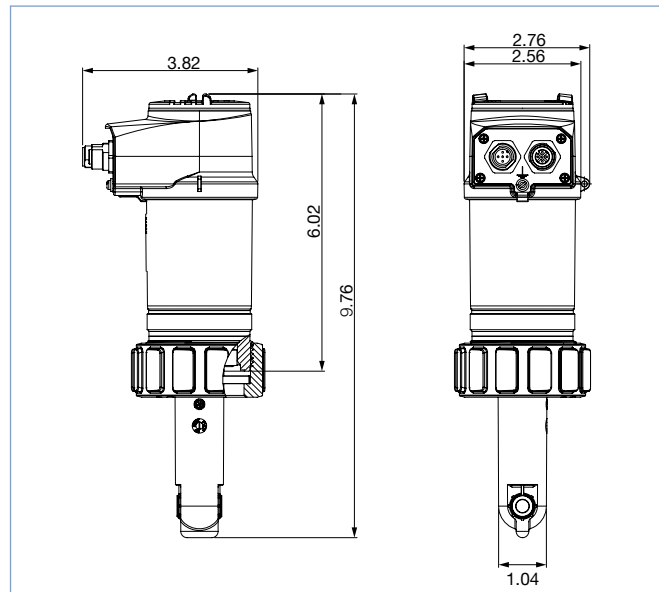
#### Environment

**Ambient temperature** -10 °C to +60°C (14 to 140 °F) (operating and storage)

**Relative humidity** ≤ 85%, without condensation

**Height above sea level** Max. 2000 m

## Envelope Dimensions [inch] (see datasheet for details)



## Options

- UL and CSA approvals
- Preparameterized conductivity meters
- CIP version
- Tri-clamp connection (2")
- All Plastic version for corrosive environments(MP98)
- IO-Link
- (büS)/CANopen

## Ordering Chart

Specifications	Voltage supply	Output	Material		Electrical connection	Item no.	
			sensor holder	sensor seal		without display	with display
Compact conductivity meter	12...36 V DC	1 x transistor NPN/PNP + 1 x 4 to 20 mA	PP	FKM	5-pin M12 male fixed connector	565611	566611
			PVDF	FKM	5-pin M12 male fixed connector	565613	566613
			PEEK	FKM	5-pin M12 male fixed connector	565615	566615
		2 x transistor NPN/PNP + 2 x 4 to 20 mA	PP	FKM	5-pin M12 male and 5-pin M12 female fixed connectors	565612	566612
			PVDF	FKM	5-pin M12 male and 5-pin M12 female fixed connectors	565614	566614
			PEEK	FKM	5-pin M12 male and 5-pin M12 female fixed connectors	565616	566616

**Note for ordering chart:** For a complete conductivity unit the following items must be ordered:  
 - Transmitter Type 8228 - INSERTION Fitting Type S020  
 Further versions and information see datasheet type 8228.

**Note:**  
 Display/programmer (559168) not included. Must be ordered separately.

# Pressure Measuring Device

8316

- Ceramic/thick film measurement cell
- 2-wire version for 4-20 mA output
- Compact, stable construction for the highest operational reliability



The compact Type 8316 pressure measuring device meets the highest requirements with regard to mechanical loading, EMC characteristics and operational reliability. It is particularly suitable for demanding industrial applications. For aggressive media where stainless steel is not resistant, process connections in PVDF are available.

## Technical Data

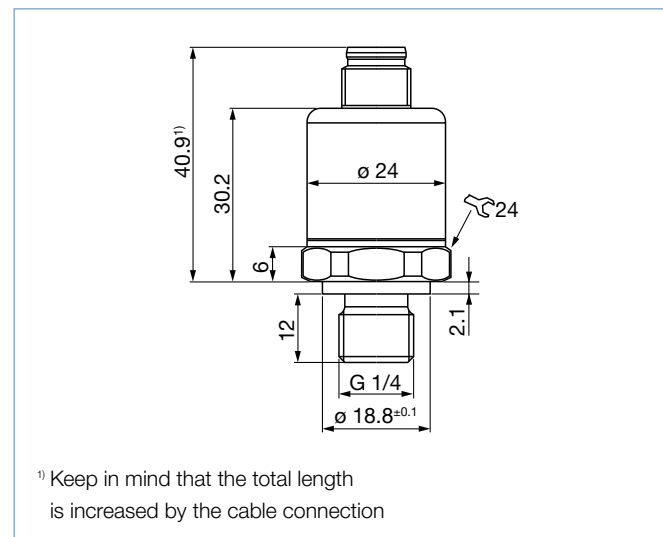
<b>Body material</b>	Stainless steel (1.4404)
<b>Electrical connection</b>	Round male connector M12 × 1
<b>Process connection</b>	NPT 1/4" external
<b>Measurement procedure</b>	Relative pressure measurement
<b>Measurement range</b>	0 to 14.5, 58, 87, 145, 232, 580, or 1450 PSI (0...1, 4, 6, 10, 16, 40 or 100 bar)
<b>Fluid temperature</b>	5 to 257 °F (-15 to +125 °C)
<b>Seal material</b>	FKM
<b>Voltage</b>	8-33 volts
<b>Accuracy</b>	Sum of linearity, hysteresis and reproducibility, balancing accuracy of zero point and full scale: ≤ 0.5 % of Full Scale.

**Certification**  
UL-Listed for  
USA and Canada



UL 61010-1 + CAN/CSA-C22.2 No.61010-1

## Dimensions [mm]



## Further Versions on Request

- **Pressure:** other measuring ranges
- **Additional:** electrical outputs: 0-10 V DC, 0-5 V DC

## Ordering Chart

Pressure connection	Pressure range	Operating voltage	Output signal	Electrical connection	Item no.
NPT 1/4"	0 to 60 PSI	7-33 V DC	4-20 mA	M12 male connector	564466
UL-Listed for USA and Canada	0 to 150 PSI	7-33 V DC	4-20 mA	M12 male connector	564467
	0 to 300 PSI	7-33 V DC	4-20 mA	M12 male connector	564468

## Accessories

Description	Item no.
5 pin M12 female cable connector with plastic threaded locking ring	917116
5 pin M12 female connector moulded on cable (2 m, shielded)	438680

# Multi-channel, multi-functional transmitter/controller

8619

## 1/4" DIN Panel Mount

- Flexible analytical and flow transmitter
- Compatible with most flow, pH/ORP, chlorine and conductivity sensors
- Intuitive programming
- SD card for data logging and upload/download



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Burkert's 8619 transmitter/controller is the latest addition to the process control program. The 1/4DIN panel mounted transmitter/controller incorporates a large backlit LCD display for adding up to 6 boards in a free mix for pH, conductivity incl. temperature, and output boards are connected to the digital inputs of the mainboard.

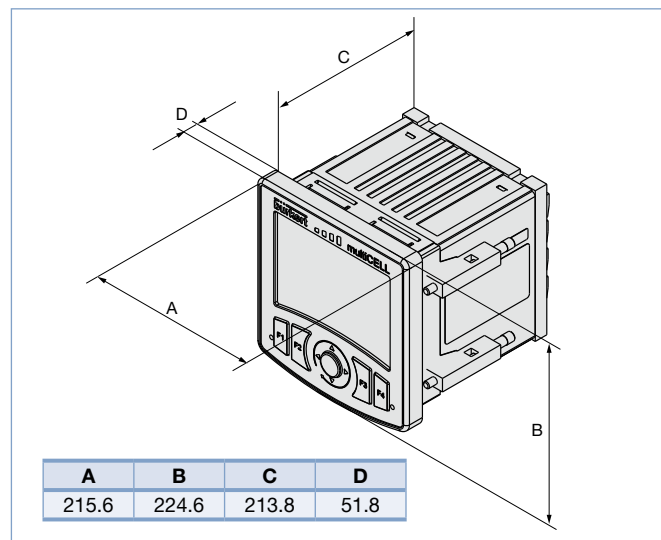
Optional software features can be simply activated when required by the application and an SD card is standard for data logging and up/down loading of parameterization files.

Special integrated dosing and control functions allow use in a large range of applications without the need of additional devices.

## Technical Data

pH input	-2.00...+16.00 (-600...+6000 mV)
ORP redox input	-2000...+2000 mV
Conductivity input	0 µS/cm ... 2 S/cm
pH/ORP/cond temp input	Pt100 / Pt1000
Digital input	Voltage: 5-36 V DC, 2 to 2500 Hz
Analog output	4-20 mA 1100 Ω at 36 V DC 610 Ω at 24 V DC 100 Ω at 12 V DC
Digital output	PNP/NPN Max. 700 mA Max. 2000 Hz
Cover, vision panel / overlay	PC / Silicone rubber
Display	Light blue backlighted; 128 x 168 pixels
Languages	English, French, German
Mounting panel	92mm x 92mm DIN cutout
Ambient temperature range	14 to 140 °F Limited at 32 to 140 °F if memory card is used
Ingress protection	IP65, NEMA 4X
Storage temperature	-4 °F to 140 °F
Voltage supply	12...36 VDC
Protection	Reversed polarity of DC and peak protected
Current consumption	100 mA at 12 V DC 50 mA at 24 V DC
Data logging	SD Card
Data retention	EEPROM, Real time clock

## Envelope Dimensions [inch] (see datasheet for details)



## Options

- Wall mount
- Data logger
- VAC powered
- EtherNet, Modbus or PROFINET communication
- PID function

## Ordering Chart

Description	Digital Inputs	Raw signals	RTD	Digital Outputs	Analog	Item no.
BASE unit	2	-	-	2	2	560213
pH/ORP transmitter	2	1 (pH/ORP)	1	2	2	560208
pH/ORP transmitter	2	2 (pH/ORP)	2	4	4	560210
CONDUCTIVITY transmitter	2	1 (Cond.)	1	2	2	560209
CONDUCTIVITY transmitter	2	2 (Cond.)	2	4	4	560211
pH/ORP and CONDUCTIVITY transmitter	2	1 (pH/ORP) + 1 (Cond.)	2	4	4	560212

### Note for ordering the above multiCELL Transmitter / Controller:

In all the above variations are arithmetic, PASS, REJECT, DEVIAT, PROP, the On/Off function standard features. In the basic model, the flow measurement function is included. When a totalizer function is needed, then a flow meter via a digital input (main or input board) must be connected. Other optional features can be ordered later, see data sheet.

# Fittings for 8202 & 8222 pH and Conductivity Sensors

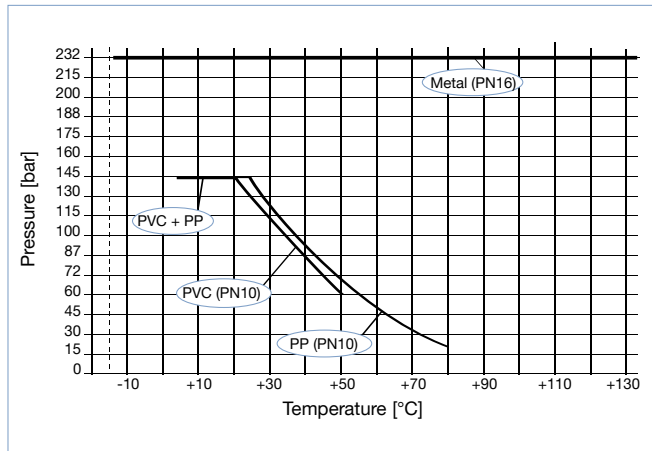
## Tee Fittings and Adaptors

- Simple installation guaranteed
- Range of chemically compatible materials
- Modular concept for pH, ORP and conductivity



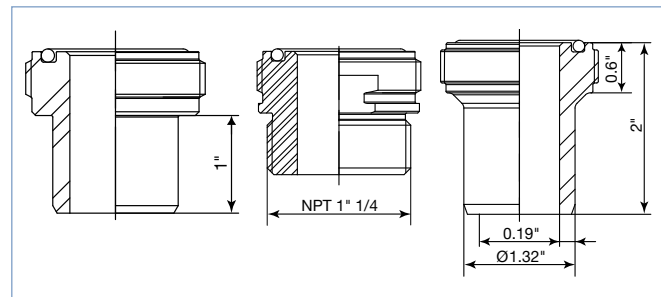
Fittings to connect the compact analytical transmitters to the media. Materials included are PVC-U, PP, Stainless steel, and PVC thread. For chemical resistance details please download our chemical resistance booklet from our website [www.burkert-usa.com](http://www.burkert-usa.com).

## Pressure / temperature chart




**Note:** Always take lowest Max. medium temp. of both adapter and used ELEMENT transmitter.







## Envelope Dimensions [inch] (see datasheet for details)



## Ordering Chart for insertion fitting for connection on pipe (ASTM True Union)

	Materials Body / Seal	Type of Installation or DN	Item no.
	PVC/FKM	15	560691
20		560692	
25		560693	
32		560694	
40		560695	
50	560696		

## Ordering Chart for insertion adaptor for connection into T-fitting or pipe

Adaptor S022	Piping systems	DN	Description	Materials Body / Seal	Type of Installation	Item no.
 PVC-U, PP metric or ASTM		32 up to 110 (06 up to 25 with reduction)	ASTM solvent adaptor with G1 1/2" external threaded for ELEMENT transmitter connection	PVC-U / FKM, EPDM	Solvent weld on 1"x1" to 3"x1" Tee fitting	561227
 Stainless steel **		Respect recommendations of installation	Welding adaptor with G 1 1/2" external threaded for ELEMENT transmitter connection	Stainless steel / FKM, EPDM	To weld directly on pipe	561232
 PVC-U, G or NPT 1 1/4" screw-on		Respect recommendations of installation	NPT 1 1/4" screw-on adaptor with G 1 1/2" external threaded for ELEMENT transmitter connection	PVC-U / FKM, EPDM	To screw on tank or pipe	561228

\*\* see Type S022 datasheet for Tee Fittings

# Mass Flow Controller (MFC)/Mass Flow Meter (MFM) for Gases

8741

## Nominal flow ranges from 0.010 I<sub>N</sub>/min to 160 I<sub>N</sub>/min

- High accuracy and repeatability
- Very fast response times
- Easy device exchange through configuration memory
- Field Calibration through Burkert Communicator Wizard
- Optional: USP Class VI and FDA



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FOR DATA SHEET

The mass flow controller (MFC) / meter (MFM) Type 8741 for gases is available in two versions:

**MFC / MFM Type 8741 Standard:** with Industrial Ethernet or analog interface, suitable for a wide range of applications.

**MFC / MFM Type 8741 bÜS / CANopen:** suitable for the integration in existing CANopen networks, as well as Industrial Ethernet or fieldbus networks in combination with the fieldbus gateway of type ME43.

Type 8741 can be configured as MFM or MFC. Optional, up to four different gases can be calibrated. Type 8741 is especially designed for use in cabinets.

## Technical Data

<b>Turn-down ratio</b>	50:1, optional 100:1
<b>Operating medium</b>	Neutral, non-contaminated gases, others available on request
<b>Calibration gas</b>	Operating gas or air
<b>Max operating pressure (overpressure to the atmospheric pressure)</b>	10 bar (145 PSI), with MFCs the max. pressure depends on the orifice of the valve
<b>Medium temperature</b>	14°F to 158°F (-10°C to 70°C) (-10°C to 60°C with oxygen)
<b>Ambient temperature</b>	14°F to 122°F (-10°C to 50°C) higher temperatures on request
<b>Measuring accuracy (after 1 min. warm up time)</b>	± 0.8 % o. R. ± 0.3 % F. S.
<b>Repeatability</b>	±0.1% F.S.
<b>Settling time (MFC) / response (MFM) time (t<sub>95%</sub>)</b>	<300 ms
<b>Body material</b>	Aluminium or stainless steel
<b>Port connection</b>	NPT 1/4", G 1/4", compression fittings or subbase, others on request
<b>Power supply</b>	24 V DC
<b>Voltage tolerance</b>	±10%
<b>Voltage tolerance</b>	±10%
<b>Power consumption<sup>1)</sup></b>	1-3 W (as MFM), Max. 3-12 W (as MFC, depending on type of solenoid control valve)

<sup>1)</sup> Data refers to the typical power consumption (at 23 °C ambient temperature, nominal flow rate and 30 min control mode). The specifications according to UL 61010-1 can differ (see instruction manual).

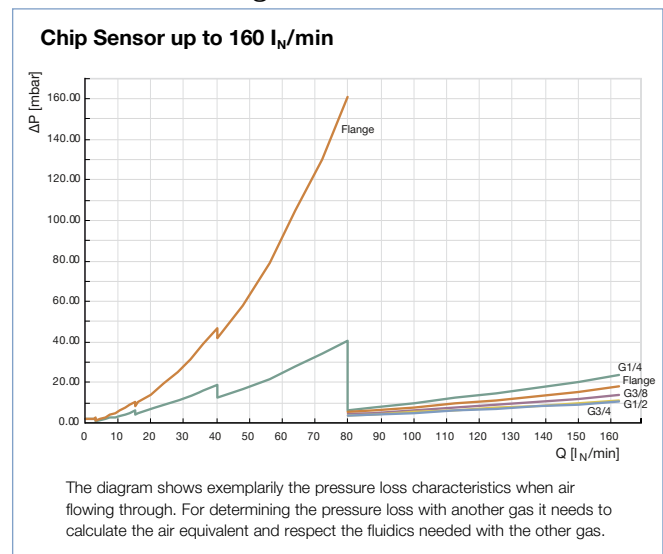
## Technical Data, continued (see datasheet for details)

Elektrischer Anschluss	8741 Standard	8741 bÜS / CANopen
<b>Industrial Ethernet</b>	PROFINET, Ethernet/IP, EtherCAT, Modbus-TCP via 2 x RJ45 (Switch) <sup>1)</sup>	-
<b>Fieldbus</b>	-	bÜS (CAN-based Bus) / CANopen via terminal block, 4 pin
<b>Analog</b>	4-20 mA, 0-20 mA, 0-10 V or 0-5 V via D-Sub9 <sup>2)</sup> or terminal block 6 pin	-
<b>Input impedance</b>	>20 kΩ (voltage), <300 Ω (current)	
<b>Max. current (voltage output) / Max. load (current output)</b>	10 mA / 600 Ω	

<sup>1)</sup> Supply voltage via separate terminal block

<sup>2)</sup> The analog version with D-Sub9 features an additional digital input and a relay output

## Pressure Loss Diagram of a MFM (ref. to air)



## Measuring Principle

The actual flow rate is detected by a sensor. This operates according to a thermal principle which has the advantage of providing the mass flow which is independent on pressure and temperature.



# Mass Flow Controller (MFC)/Mass Flow Meter (MFM) for Gases

8742

## Nominal flow ranges from 0.010 I<sub>N</sub>/min to 160 I<sub>N</sub>/min

- High accuracy and repeatability
- Protection class IP65 and IP67
- Optional: ATEX II Kat. 3G/D, USP Class VI and FDA
- Field Calibration through Burkert Communicator Wizard
- CANopen, Analog and Profibus-DP protocols available



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FOR DATA SHEET

The mass flow controller (MFC) / meter (MFM) Type 8742 for gases is suitable for a wide range of applications. Type 8742 communicates via the Bürkert system bus (büS). This CANopen based interface is suitable for the integration into existing CANopen networks, as well as Industrial Ethernet or fieldbus networks in combination with the fieldbus gateway of Type ME43. The second option is tailor-made for applications with many control loops. Up to 32 MFC / MFM can be connected to one fieldbus gateway. Type ME43 translates the internal CANopen based communication to industry standards for both Industrial Ethernet and fieldbuses. The mass flow controller / meter can always be switched between büS and CANopen communication. Type 8742 can be configured as MFM or MFC. Optional, up to four different gases calibrations can be stored in the device. The thermal MEMS sensor is located directly in the gas stream and therefore reaches very fast response times. A direct-acting proportional valve as regulating unit guarantees high sensitivity. The integrated PI controller ensures outstanding control characteristics of the MFC / MFM. Type 8742 is especially designed for use in harsh environments due to high protection class and explosion-proof.

## Technical Data

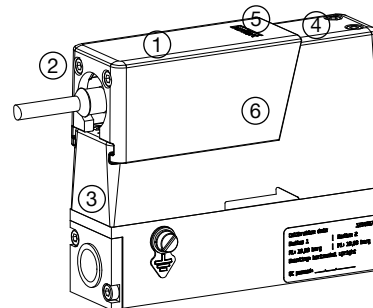
Turn-down ratio	50:1, optional 100:1
Operating medium	Neutral, non-contaminated gases, others on request
Calibration medium	Operating gas or air
Max operating pressure	145 PSI (10 bar), with MFCs the max. pressure depends on the orifice of the valve
Medium temperature	14°F to 158°F (-10°C to 70°C) (-10°C to 60°C with oxygen)
Ambient temperature	14°F to 122°F (-10°C to 50°C) (higher temperatures on request)
Accuracy (after 1 min. warm up time)	±0.8% o. R. ±0.3% F.S.
Repeatability	±0.1% F.S.
Settling(MFC)/ response (MFM) time (t <sub>95%</sub> )	<300 ms
Body material	Aluminium or stainless steel
Port connection	NPT 1/4", G 1/4", screw-in fitting or sub-base, others on request
Electr. connection	M12 plug, 5 pin
Power supply	24 V DC
Voltage tolerance	±10%
Power consumption <sup>1)</sup>	1-3 W (as MFM), Max. 3-12 W (as MFC, depending on type of solenoid control valve)

<sup>1)</sup> Data refers to the typical power consumption (at 23 °C ambient temperature, nominal flow rate and 30 min control mode). The specifications according to UL 61010-1 can differ (see instruction manual).

## Features to fulfill the ATEX requirements

### Devices with ATEX conformity meet protection class IP65

- ① Impact protection cap prevents damage of the M12 plug and all connected elements if mechanical stress is applied. No particular ATEX sockets are required.
- ② Screws prevent uncoupling of the M12 connection under tension.
- ③ Diecast housing maintains IP protection under high mechanical stress.



- ④ Standard requirements for cable glands are fulfilled for versions with external valve.
- ⑤ LED display protected against mechanical stress.
- ⑥ M12 plug achieves protection class IP65 and IP67 with or without mounted counterpart.

## Nom. Flow Ranges of Typical Gases

(see datasheet for more)

Gas	Min. Q <sub>nom</sub> [I <sub>N</sub> /min]	Max. Q <sub>nom</sub> [I <sub>N</sub> /min]
Carbon dioxide	0.02	80
Air	0.01	160
Oxygen	0.01	160
Nitrogen	0.01	160
Hydrogen	0.01	1000

## Measuring Principle

The actual flow rate is detected by a sensor. This operates according to a thermal principle which has the advantage of providing the mass flow which is independent on pressure and temperature.

# Mass Flow Controller (MFC)/Mass Flow Meter (MFM) for Gases

8745

## Nominal flow ranges from 20 I<sub>N</sub>/min to 2500 I<sub>N</sub>/min

- High accuracy and repeatability
- Communication via standard signals or Industrial Ethernet
- Easy device exchange through configuration memory
- Field Calibration through Burkert Communicator Wizard
- Optional: USP Class VI and FDA



The MFC / MFM Type 8745 is suitable for the mass flow control of high flow rates. Type 8745 can be configured as MFM or MFC. Optional, four different gases can be calibrated. The thermal inline sensor is located directly in the main gas stream and therefore reaches very fast response times. A direct-acting proportional valve as regulating unit guarantees high sensitivity. The integrated PI controller ensures outstanding control characteristics of the MFC / MFM. Available in two versions: with electromagnetic proportional valve and with motor-driven proportional valve.

### Technical Data

General data	
Operating medium	Neutral, non-contaminated gases, others on request
Calibration medium	Operating gas or air with correction function
Medium temperature	14°F <sup>1)</sup> to 158°F (-10°C to 70°C) (-10 °C <sup>1)</sup> to +60 °C with oxygen)
Ambient temperature	14°F to 122°F (-10°C to 50°C) higher temperatures on request
Fluidics body materials	Aluminium
Seals materials	FKM or EPDM (depending on gas) <sup>2)</sup>
Port connection	G or NPT 1/4", 3/8", 1/2", 3/4", 1" Sub-base
Operating voltage	24 V DC
Voltage tolerance	±10%
Configuration memory	EEPROM
(included in delivery)	(µSIM card: būs relevant data and information about spec. control loop in order to ease replacement)
Electrical connection	
Industrial Ethernet	PROFINET, Ethernet/IP, EtherCAT, Modbus-TCP via 2 x RJ45 (Switch) <sup>3)</sup>
Analog	4-20 mA, 0-20 mA, 0-10 V or 0-5 V via D-Sub 9 <sup>4)</sup> or terminal block
Input impedance	>20 kΩ (voltage), <300 Ω (current)
Max. current (voltage output)	10 mA
Max. load (current output)	600 Ω

**Type 8745 with solenoid proportional valve:** Type 8745 can be configured as MFM or MFC. For MFCs the direct-acting proportional valves of Types 287x are used. These solenoid proportional valves are normally closed and stand for highest accuracy and repeatability with settling/response times of a few hundred milliseconds.

**Type 8745 with motor-driven proportional valve:** The Type 8745 with motor-driven valves is especially designed for applications with high inlet pressures. The motor's power consumption to hold a specific opening position is nearly zero. This key feature can reduce the energy consumption of a plant dramatically. Without electrical power the valve remains in its current position. The maximum duty cycle of the motor depends on the ambient temperature. The duty cycle does not refer to the duty cycle of the device but to the duty cycle of the motor.

<sup>1)</sup> When using a motor valve the minimum medium temperature is 0 °C.

<sup>2)</sup> When using a motor valve additionally:

- Type 3280 DN4: Seat seal in PEEK

- Type 3285: Seat seal in Al<sub>2</sub>O<sub>3</sub>

<sup>3)</sup> Supply voltage via separate terminal block.

<sup>4)</sup> The analog version with D-Sub9 features an additional digital input and a relay output.

### Technical Data Continued (see datasheet for details)

Type 8745	With solenoid proportional valve	With motor-driven proportional valve
<b>Turndown ratio</b>		50:1 <sup>1)</sup>
<b>Max. operating pressure</b> Data in overpressure to atmospheric pressure	10 bar (with MFCs the max. pressure depends on the orifice of the valve) optional up to 25 bar for MFM	22 bar (with MFCs the max. pressure depends on the orifice of the valve)
<b>Accuracy</b> (after 15 min. warm up time)	±1.5 % o.R. ±0.3 % F.S.	±2 % o.R. ±0.5 % F.S.
<b>Repeatability</b>	±0.1 % F.S.	±0.5 % F.S.
<b>Settling/Response time (t95 %)</b>	<500 ms	<5 sec.
<b>Proportional valve</b>	(solenoid) normally closed, valve orifice range: 0.8...12mm, Kvs value range: 0.02...2.5m <sup>3</sup> /h	(motor-driven) normally persisten, valve orifice range: 2...20mm, Kvs value range: 0.5...7.8m <sup>3</sup> /h

<sup>1)</sup> With vertical installation and flow downwards the turndown ratio is 10:1

# Mass Flow Controller (MFC)/Mass Flow Meter (MFM) for Gases

8746

## Nominal flow ranges from 20 I<sub>N</sub>/min to 2500 I<sub>N</sub>/min

- High accuracy and repeatability
- Communication via fieldbus based on CANopen
- Optional: ATEX II Cat. 3G/D, USP Class VI, FDA
- Electromagnetic and motor-driven valve actuation available
- Field Calibration through Burkert Communicator Wizard



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FOR DATA SHEET

For a pure and flawless melt: The MFC 8746 mass flow controller is designed with a motor valve for regulation of pressures up to 20 bar and reliable operation even under the most stringent conditions. To ensure higher process reliability in the gas supply the valve can be regulated at full differential pressure. And the self-locking drive ensures that the motor valve is not affected by pressure fluctuations. In addition, the MFC 8746 features the latest digital technology – with the integrated bus interface, it is ready for Industry 4.0.

### Technical Data

General data	
Operating medium	Neutral, non-contaminated gases, others on request
Calibration medium	Operating gas or air with correction function
Medium temperature	14°F <sup>1)</sup> to 158°F (-10°C to 70°C) (-10 °C <sup>1)</sup> to +60 °C with oxygen)
Ambient temperature	14°F to 122°F (-10°C to 50°C) higher temperatures on request
Materials	
Body	Stainless steel or aluminium
Housing	Aluminium diecasting (coated)
Seals	FKM or EPDM (depending on the gas) <sup>2)</sup>
Port connection	G or NPT 1/4", 3/8", 1/2", 3/4", 1" Sub-base
Electr. connection	M12 plug, 5 pin
Operating voltage	24 V DC
Voltage tolerance	±10%
Digital Comm.	CANopen or CAN based bus
Input-/Output signals	None, communication via bus

<sup>1)</sup> When using a motor valve the minimum medium temperature is 0 °C.

<sup>2)</sup> When using a motor valve additionally:

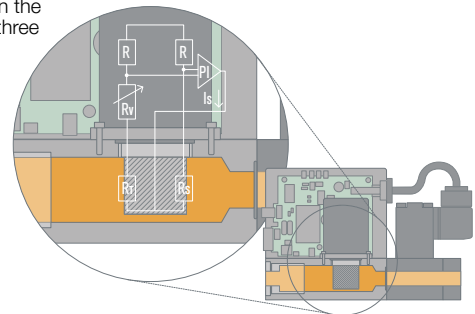
- Type 3280 DN4: Seat seal in PEEK
- Type 3285: Seat seal in Al<sub>2</sub>O<sub>3</sub>

**Type 8746 with electromagnetic proportional valve:** Type 8746 can be configured as MFM or MFC. For MFCs the direct-acting proportional valves of Types 287x are used. These solenoid proportional valves are normally closed and stand for highest accuracy and repeatability with settling/response times of a few hundred milliseconds.

**Type 8746 with motor-driven proportional valve:** The Type 8746 with motor-driven valves is especially designed for applications with high inlet pressures up to 22 bars or high flow rates (at a low pressure drop). The motor's power consumption to hold a specific opening position is nearly zero. This key feature can reduce the energy consumption of a plant dramatically. Without electrical power the valve remains in its current position. The maximum duty cycle of the motor depends on the ambient temperature. The duty cycle does not refer to the duty cycle of the device but to the duty cycle of the motor. The motor is not switched on unless the valve is to move. Frequent set-point value changes will drastically increase the duty cycle of the motor.

### Measuring Principle

This sensor works as a hot-film anemometer in the so-called CTA operational mode (Constant Temperature Anemometer). To do this, two resistors with precisely specified temperature coefficients located directly in the media flow and three resistors located outside the flow are connected together to form a bridge.



### Technical Data Continued (see datasheet for details)

Type 8746	With electromagnetic proportional valve	With motor-driven proportional valve
<b>Turndown ratio</b>		50:1 <sup>1)</sup>
<b>Max. operating pressure</b> Data in overpressure to atmospheric pressure	10 bar (with MFCs the max. pressure depends on the orifice of the valve) optional up to 25 bar for MFM	22 bar (with MFCs the max. pressure depends on the orifice of the valve)
<b>Accuracy</b> (after 15 min. warm up time)	±1.5 % o.R. ±0.3 % F.S.	±2 % o.R. ±0.5 % F.S.
<b>Repeatability</b>	±0.1 % F.S.	±0.5 % F.S.
<b>Settling/Response time (t95 %)</b>	<500 ms	<5 sec.
<b>Proportional valve</b>	(electromagnetic) normally closed, valve orifice range: 0.8...12mm, Kvs value range: 0.02...2.5m <sup>3</sup> /h	(motor-driven) normally persisting, valve orifice range: 2...20mm, Kvs value range: 0.5...7.8m <sup>3</sup> /h

<sup>1)</sup> With vertical installation and flow downwards the turndown ratio is 10:1

# Mass flow controller (MFC)/ Mass flow meter (MFM) for liquids

8756

## Flow measurement / control up to 120 kg/h

- Very high accuracy and measuring range
- High long-term stability, no zero-point adjustment necessary
- Highly resistant wetted materials
- The measuring principle of the sensor is based on the Coriolis effect and is completely independent of the medium
- Density and temperature measurements

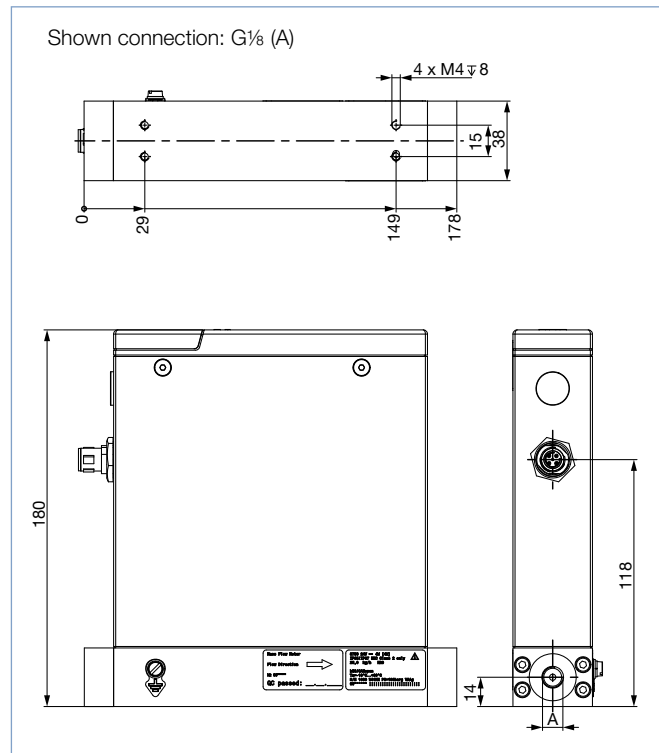


The mass flow controller (MFC) / mass flow meter (MFM) Type 8756 is particularly suitable for the very precise measurement or control of small quantities of liquid that also require a medium-separated sensor. The measuring principle of the sensor is based on the Coriolis effect and is completely independent of the medium. Pressure and temperature deviations have no impact on the measuring accuracy. In addition to the flow rate, the density and temperature of the liquid are measured. The device design enables a stable flow measurement that is immune to external impacts and does not require a zero-point adjustment when the process conditions change. All materials that come into contact with the medium are highly resistant and enable use with a variety of liquids, whether aggressive or neutral media. Type 8756 is available in the variants MFM, MFC with an interface for a modular actuator, MFC with integrated proportional valve and MFC with integrated micro annular gear pump. The high-precision pump is self-priming and the space in contact with the medium is sealed hermetically. It offers a very large control range and generates extremely low pulsations. This variant is used as a control or dosing system for liquids which have to be conveyed from an unpressurised container.

### Technical Data

General data	
<b>Material</b>	Housing: Aluminium Body (wetted): SS 1.4404 / 316L (optionally with inspection certificate 3.1 according to EN 10204), Alloy C22 Size 1 Sensor (wetted): SS 1.4404 / 316L, Alloy C22 size 1 Seals (wetted): FFKM, metal or PCTFE
<b>Configuration</b>	Industrial µSIM card for easy device replacement
<b>Total mass</b>	>3 kg
<b>LED display</b>	RGB-LED based on NAMUR NE107
<b>Software</b>	Bürkert Communicator
Electrical data	
<b>Operating voltage</b>	24 V DC
<b>Voltage tolerance</b>	±10%
<b>Power consumption</b>	<2 W (as MFM) <10 W (as MFC with proportional valve Type 2873) <16 W (as MFC with pump)
Medium data	
<b>Operating medium</b>	Any neutral and aggressive liquids (chemical resistance of wetted parts assumed)
<b>Calibration medium</b>	Water
<b>Medium temperature</b>	-10 °C...70 °C (as MFC: max. 60°C)
Process/Port connection & communication	
<b>Process connection</b>	G ½, NPT ½, VCR ½, VCR ¼, compression fitting (½, ¼, 4 mm, 6 mm), flange

### Dimensions [mm] (see datasheet for details)



### Approvals

Approval	Description
	<b>Optional: Explosion protection</b>  <b>ATEX:</b> II 3G Ex ec nC IIC T5 Gc X II 3D Ex tc IIIC T100°C Dc X
	<b>Optional: UL Listed for the USA and Canada</b> The products are UL Listed according to: • UL 61010-1 (ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE – Part 1: General Requirements) • CAN/CSA-C22.2 No. 61010-1











# Fittings, Mufflers and Cables

The comprehensive modular accessory program for process valves from Burkert - everything for your specific demands.

## Ordering Chart

Accessory	Description	Item no.
 Elbow	90° nickel plated brass, 1/4" push-to-connect tube x 1/8" universal threaded male	98133666
	90° nickel plated brass, 1/4" push-to-connect tube x 1/4" universal threaded male	98133667
 PTC Elbow	90° plastic/brass, 1/4" push-to-connect tube x 1/8" universal threaded male	98124810
	90° plastic/brass, 1/4" push-to-connect tube x 1/4" universal threaded male	98130360
 	nickel plated brass, 1/4" push-to-connect tube x 1/4" NPTF	98163250
	1/4" push-to-connect tube x 1/8" universal threaded male	98132544
 Silencer	muffler polyethylene G1/8	780779
	muffler polyethylene G1/4	780780
 Silencer	muffler polyethylene 6mm push tube	902662
 Silencer	muffler sintered bronze G1/8	788927
	muffler sintered bronze G1/4	788928
 Silencer	muffler stainless steel G1/8	788934
	muffler stainless steel G1/4	788935
 Silencer	muffler stainless steel cylindrical G1/8	788965
	muffler stainless steel cylindrical G1/8	788966
 Silencer	muffler sintered bronze conical G1/8	780805
	muffler sintered bronze conical G1/4	780806
 Silencer	muffler sintered bronze hexagonal flat G1/8	780810
	muffler sintered bronze hexagonal flat G1/4	780811
 Blanking Plug	nickel plated 1/8"	780141
	nickel plated 1/4"	780142
 Cables	M12 socket, 8 pin female with 5m cable	919267
	M12 socket, 8 pin female with 2m cable	919061
	M12 socket, 4 pin female with 5m cable	918038
	M12 socket, 4 pin female with 2m cable	438680
	M8 socket, 4 pin female with 5m cable	264602
	M8 socket, 4 pin female with 2m cable	919060

# EDIP (Efficient Device Integration Platform)

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## Ordering Chart

Accessory	Description	Item no.
 Termination Resistors	M12 5 pin A-coded Male (Plug)	772424
 Termination Resistors	M12 5 pin A-coded Female (Socket)	772425
 bÜS Extension Cables	M12 5 pin A-coded Female (Socket) x Male (Plug) 0.1m	772492
	M12 5 pin A-coded Female (Socket) x Male (Plug) 0.2m	772402
	M12 5 pin A-coded Female (Socket) x Male (Plug) 0.5m	772403
	M12 5 pin A-coded Female (Socket) x Male (Plug) 1m	772404
	M12 5 pin A-coded Female (Socket) x Male (Plug) 3m	772405
	M12 5 pin A-coded Female (Socket) x Male (Plug) 5m	772406
	M12 5 pin A-coded Female (Socket) x Male (Plug) 10m	772407
	M12 5 pin A-coded Female (Socket) x Male (Plug) 20m	772408
 bÜS Y-Connectors	standard M12 5 pin A-coded Bottom Female (Socket) Top Female (Socket) +Male (Plug)	772420
	with power interrupt M12 5 pin A-coded Bottom Female (Socket) Top Female (Socket) +Male (Plug)	772421
 bÜS Interface Kits	USB-bÜS Interface Set 1 (includes: power supply, cable M12 female to USB mini (A), cable M12 male to USB micro (B), cable M12 male to flying leads, USB BuS stick, M12 male to male gender changer, M12 male terminating resistor, M12 5 pinY-adaptor A-coded Bottom Female (Socket) Top Female (Socket) +Male (Plug))	772426
 bÜS Interface Kits	USB-bÜS Interface Set 2 (includes: cable M12 female to USB mini (A), cable M12 male to USB micro (B), USB BuS stick, M12 male to male gender changer)	772551
 Set of o-ring-Collets	includes x2 collets and x2 o-rings	98139120





The information in this catalog is designed to help you find the best solution to your needs. Every effort has been made to ensure the accuracy of the information in the catalog, please note that our products are always evolving and may alter the information contained in this publication.



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<b>Australia</b>	Baulkham Hills	sales.au@burkert.com	<a href="https://www.burkert.com.au/en">https://www.burkert.com.au/en</a>
<b>Austria</b>	Wien	info@buerkert.at	<a href="https://www.buerkert.at/de">https://www.buerkert.at/de</a>
<b>Beijing</b>	Beijing	info.chn@burkert.com	<a href="https://www.burkert.com.cn">https://www.burkert.com.cn</a>
<b>Belgium</b>	Wijnegem Zone 1 "De Hoek"	sales.be@burkert.com	<a href="https://www.burkert.nl/nl">https://www.burkert.nl/nl</a>
<b>Brazil</b>	São Paulo	burkert@burkert.br	<a href="https://www.burkert.com.ar/es">https://www.burkert.com.ar/es</a>
<b>Canada</b>	Burlington, Ontario	sales.ca@burkert.com	<a href="https://www.burkert.ca">https://www.burkert.ca</a>
<b>Chengdu</b>	Chengdu	info.chn@burkert.com	<a href="https://www.burkert.com.cn">https://www.burkert.com.cn</a>
<b>China</b>	Shanghai	info.chn@burkert.com	<a href="https://www.burkert.com.cn">https://www.burkert.com.cn</a>
<b>Czech Republic</b>	Krenova 35	obchod@burkert.cz	<a href="https://www.burkert.cz/cz">https://www.burkert.cz/cz</a>
<b>Denmark</b>	Herlev	info.dk@burkert.com	<a href="https://www.burkert.dk/da">https://www.burkert.dk/da</a>
<b>Estonia</b>	Tallinn	info@burkert.ee	<a href="https://www.burkert.com">https://www.burkert.com</a>
<b>Finland</b>	Helsinki	sales.fi@burkert.com	<a href="https://www.burkert.fi">https://www.burkert.fi</a>
<b>France</b>	Triembach au Val	burkert.france@burkert.com	<a href="https://www.burkert.fr">https://www.burkert.fr</a>
<b>Germany</b>	Ingelfingen	info@buerkert.de	<a href="https://www.buerkert.de">https://www.buerkert.de</a>
<b>Guangzhou</b>	Guangzhou	info.chn@burkert.com	<a href="https://www.burkert.com.cn">https://www.burkert.com.cn</a>
<b>Hong Kong</b>	Kwai Chung	info.hkg@burkert.com	<a href="https://www.burkert.com.hk/cn">https://www.burkert.com.hk/cn</a>
<b>India</b>	Chennai	sales.in@burkert.com	<a href="https://www.burkert.in/en">https://www.burkert.in/en</a>
<b>Italy</b>	Cassina De' Pecchi	info@buerkert.it	<a href="https://www.burkert.it">https://www.burkert.it</a>
<b>Japan</b>	Tokyo	info.jpn@burkert.com	<a href="https://www.burkert.jp">https://www.burkert.jp</a>
<b>Korea</b>	Seoul	info.kor@burkert.com	<a href="https://www.burkert.com">https://www.burkert.com</a>
<b>Malaysia</b>	Penang	info.sin@burkert.com	<a href="https://www.burkert.com">https://www.burkert.com</a>
<b>New Zealand</b>	Auckland	sales.nz@burkert.com	<a href="https://www.burkert.co.nz/en">https://www.burkert.co.nz/en</a>
<b>Netherlands</b>	Utrecht	info@burkert.nl	<a href="https://www.burkert.nl">https://www.burkert.nl</a>
<b>Norway</b>	Skjetten	info@burkert.no	<a href="https://www.burkert.no">https://www.burkert.no</a>
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