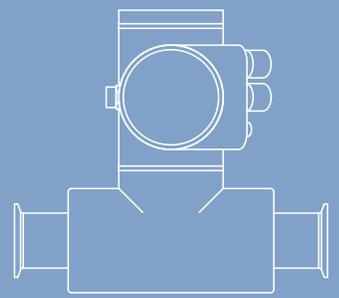
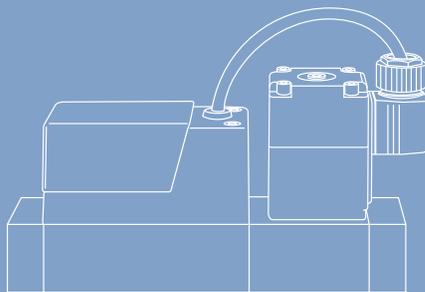


bürkert
FLUID CONTROL SYSTEMS

short form CATALOG



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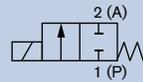
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Direct-acting 2/2-way plunger valve

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

Body material	Brass or stainless steel 1.4305
Seal material	FKM
Coil material	Epoxy (Class H)
Temperature media	14 °F to 212 °F (-10 °C to +100 °C)
Ambient temperature	131 °F (+55 °C), max.
Viscosity	max. 21 mm ² /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 ¹⁾	
	Opening [ms]	Closing [ms]
1.2	8-15	10-17
1.6		
2.0	8-15	10-17
2.4		

¹⁾ 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%

Envelope Dimensions [inch] (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	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
Brass						
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
Stainless steel						
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

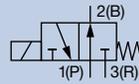
- Brass or stainless steel
- FKM seal as standard
- Slipped over coil system
- Simple and fast push-in, flange or manifold mounting



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.

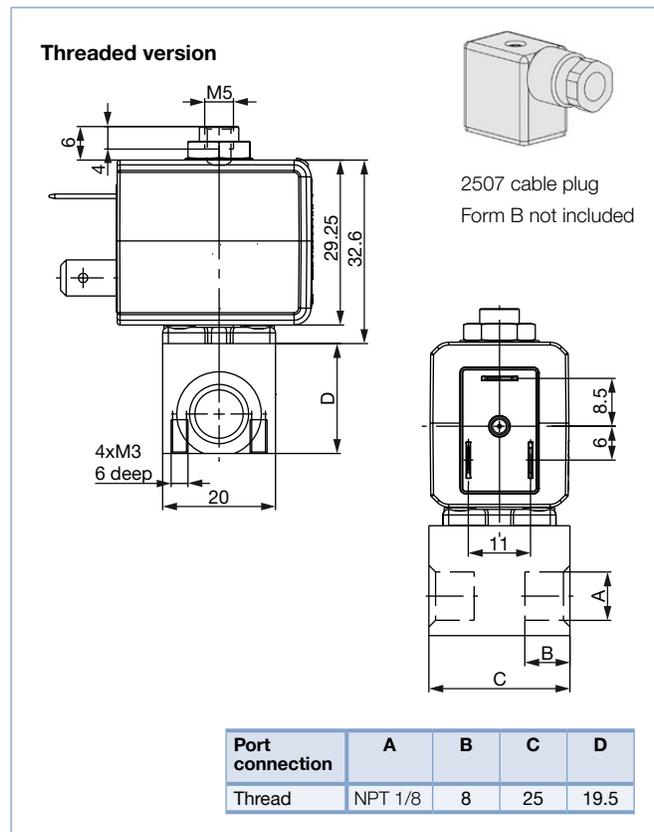
Technical Data

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 ² /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 ¹⁾	
	Opening [ms]	Closing [ms]
1.2	8-12	8-12
1.6		
2.0	8-12	8-12
2.4		

¹⁾ 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%

Envelope Dimensions [mm] (see datasheet for details)



Ordering Chart

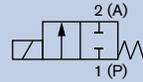
Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]		Item no. Voltage/Frequency [V/Hz]	
			[AC]	[DC]	24 V DC	120 V/60 Hz
Brass						
NPT 1/8	1.2	0.05	0-188	0-188	20009660	20009672
NPT 1/8	1.6	0.07	0-109	0-109	20009661	20012277
Stainless steel						
NPT 1/8	1.2	0.05	0-188	0-188	20009662	20009674
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 "Heavy-duty" welded plunger valve provides increased reliability and gas-tightness
- Opens without differential pressure
- Bolted-coil design built to withstand heavy vibration
- Slip over coil can be rotated in 4 X 90 degrees
- Vacuum rated valves available



Supplied as shown

CLICK ME



FOR DATA SHEET

Type 6013 "Heavy-duty" direct-acting plunger valve designed for demanding gas and liquid applications. Welded plunger and core guide tube provide a higher level of reliability, gas-tightness and pressure rating. Direct-acting valve can be used in applications without a pressure differential, such as gravity feed / drain or closed circulating systems. Flange mount available for manifold mounting to reduce space. Steam / High Temperature design to 356 °F with PTFE / Graphite seals. "Impulse" coils available to reduce power draw and heat generated by the coil.

Valves listed have a cULus (UL Listed for US and Canada) approval. Additional approvals available listed in the technical data section.

Technical Data

Materials	
Body	Brass, Stainless steel
Seals	FKM
Coil insulation	Epoxy Class H
Performance data	
Circuit function	Normally closed (NC)
Operating pressure	See table
Duty cycle (single valve)	100% continuous rating
Duty cycle (manifold)	60%
Operating voltage	24 V DC, 120 V/60 Hz
Medium temperature	
FKM seals (epoxy coil)	14 °F to 212 °F
Viscosity (maximum)	21 cP
Electrical connection	Cable plug Type 2509, Form A (included), without cable, 1/2" NPT conduit connection, Part #137943
Approvals	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
Brass						
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
Stainless steel						
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

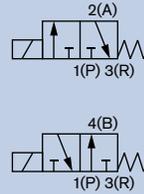
- Normally open (NO)
- Manual Override (Activation Lock Available)
- High Purity – Analytical Versions
- Helium Leak Testing
- Low Temperature design to (-40 °F)
- Dry gas design with sliding ring bearing to increase service life

Compact Plunger Operated 3/2-way Valve

6014

NPT 1/8" & NPT 1/4"

- Reliable double seated plunger operation
- Threaded or flange version
- High quality FKM seal as standard
- Slip over coil can be rotated in 4 x 90 degrees



Shown with 2508 plug

CLICK ME



FOR DATA SHEET

Direct-acting 3/2-way, normally closed or normally open solenoid valve. It is for neutral gases and liquids and it is also suitable for technical vacuum.

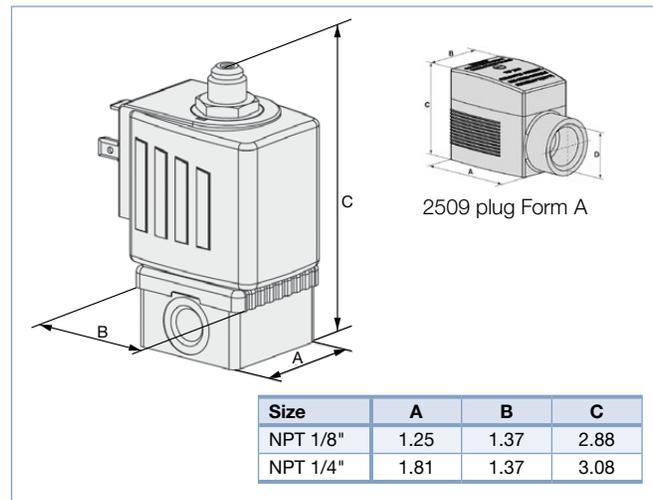
Technical Data

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

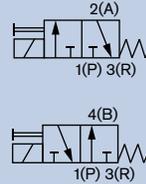
Port connection [inch]	Circuit function	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
					24 V DC	120 V/60 Hz
Brass						
NPT 1/8	C (3/2-way normally closed)	1.5	0.08	0-232	332738	332733
NPT 1/8		2.0	0.13	0-145	332727	332724
NPT 1/4		2.0	0.13	0-145	332737	332739
NPT 1/4		2.5	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	-
Stainless steel						
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
- Handles slightly contaminated fluids with ease
- Manual override as standard



CLICK ME



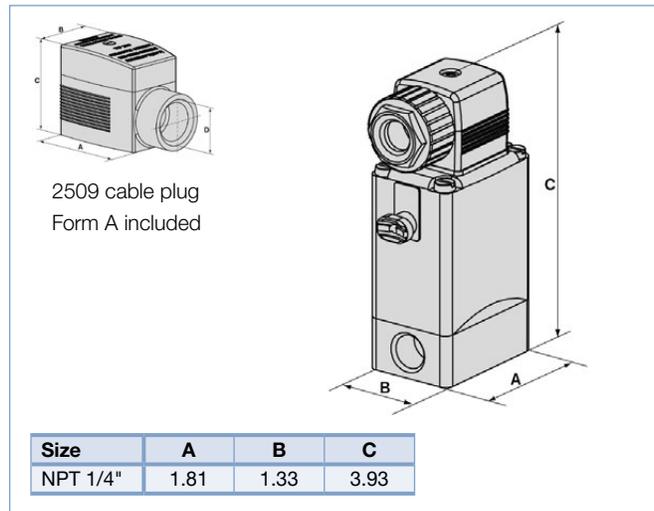
FOR DATA SHEET

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.

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 ² /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	Cable plug acc. to DIN EN 175301-803, Form A (included)
Accreditations	UL Listed

Envelope 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
- ATEX approval
- Version with higher purity and tightness (analysis model)
- CSA and FM approval
- Buna, EPDM, FFKM on request
- PVDF or Polypropylene on request
- 24V/60 Hz, 240/60 Hz

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 ¹⁾		Voltage/Frequency [V/Hz]			
			AC [PSI]	DC [PSI]	Brass		Stainless steel	
					24/DC	120/60	24V/DC	120V/60
3-way normally closed configuration								
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
3-way normally open configuration								
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	-	-

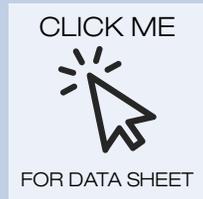
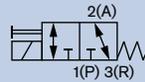
¹⁾ Pressure range for DC valves is 25% less than stated in the table.

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.

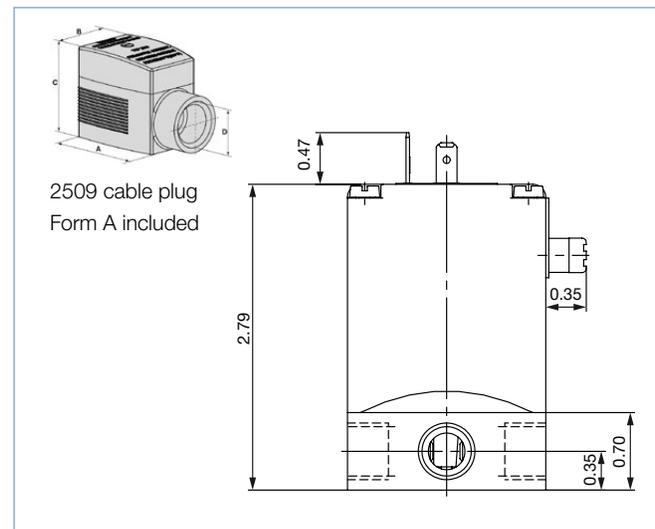
Technical Data

Temperature media	32 °F to 176 °F (0 °C to +80 °C)
Ambient temperature	131 °F (+55 °C), max.
Viscosity	Max. 37 mm ² /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%

Envelope 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
- ATEX approval
- Version with higher purity and tightness (analysis model)
- CSA and FM approval
- Buna, EPDM, FFKM on request
- PVDF or Polypropylene on request
- 24V/60 Hz, 240/60 Hz
- HazLoc Class 1 Div. 2

Ordering Chart

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

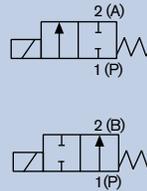
¹⁾ Pressure range for DC valves is 25% less than stated in the table.

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



CLICK ME



FOR DATA SHEET

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

Technical Data

Medium temperature	
normally closed	-10 °C to +140 °C
normally open	-10 °C to +100 °C
Ambient temperature	-10 °C to +55 °C
Viscosity	Max. 21 mm ² /s
Voltage tolerance	±10%
Duty cycle	Single valve 100% ED
Body material	Brass or stainless steel 1.4404 (316L)
Coil material	Epoxy (Class H)
Seal material	FKM, (PTFE/FKM and PTFE/graphite for high temperature versions, EPDM on request)
Electrical connection	According to DIN EN 175301-803 Form A for cable plug Type 2509 (included)
Protection class	IP65 with Cable Plug
Accreditations	UL Listed

Envelope Dimensions [inch] (see datasheet for details)

2509 cable plug Form A included

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

Options

- Vacuum version
- Analysis version
- 24V/60 Hz, 240/60 Hz
- Atex, UL Recognized, NEMA 4X
- High pressure versions up to 350 bar

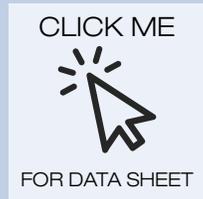
Ordering Chart

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
Brass							
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
Stainless steel							
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 250 bar
- Manifold mount options

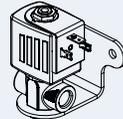


The 6240 valve is a servo-assisted piston valve. The stopper and plunger guiding tube are welded together to enhance pressure resistance and leak-tightness. The housing design and surface quality enable maximum flow rates. The coils are moulded with chemically resistant epoxy. An optional sliding ring 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

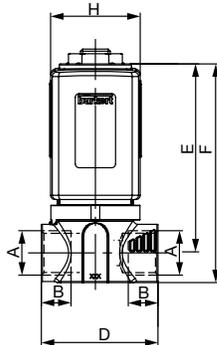
Medium data	
Viscosity	Max. 21 mm ² /sec
Media	Neutral gases and liquids, such as e.g. compressed air, water, hydraulic oil, steam and hot mediums
Media temperature	
Standard	Seat seal/External seal FKM/FKM: -10 °C...+140 °C EPDM/EPDM: -30 °C...+120 °C PTFE/FKM: -10 °C...+140 °C
Standard high temp	PTFE/PEEK DN 6: -40 °C...+180 °C PTFE/PEEK DN 12: -40 °C...+140 °C
Steam version DN13	FKM/FKM: 0 °C...+140 °C
Approval DIN EN 161 (PO17)	NBR/NBR (PO17): -10 °C...+80 °C
High pressure version up to 250 bar (MX32) or 160 bar (MX31)	PCTFE/FKM: -10 °C...+80 °C PCTFE/EPDM: -30 °C...+80 °C PCTFE/PEEK: -40 °C...+80 °C
Approvals and certificates	
Protection class	IP65 with cable plug, X/IECEx junction box version and cable connection version NEMA 4x with cable plug Type 2518 or Type 2509 with stainless steel versions (other versions on request)

Mounting bracket

Description	Item no.
	282304

Dimensions [mm] (see datasheet for more details)

Version DN12



Dimension may vary depending on options

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

Ordering Chart

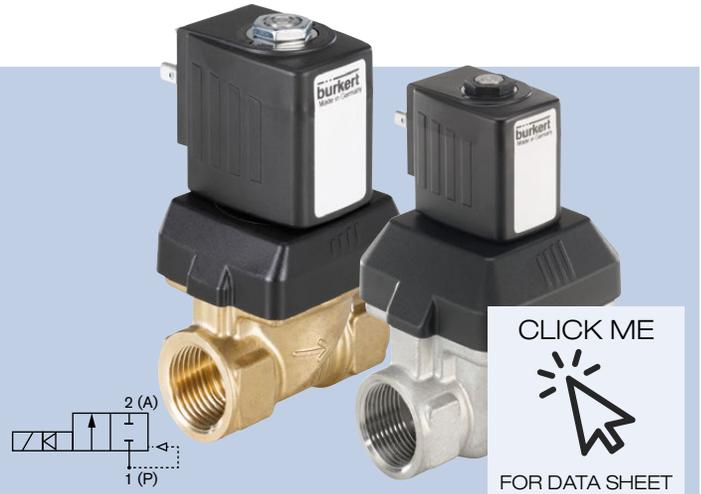
Circuit function	Port Connection	Orifice [mm]	Kv value [m3/h]	Max dP [bar]						Coil size [mm]	Item no.	
				Water		Oil		Air			024/DC [V/Hz]	120/60 [V/Hz]
				DC	AC	DC	AC	DC	AC			
A	NPT 1/2	12	2.2	1...250	1...250	1...250	1...250	1...250	1...250	42	343113	20040569
B	NPT 1/2	12	2.2	1...200	1...200	1...150	1...150	1...250	1...250	42	354400	20040570
A	NPT 1/4	6	0.7	1...250	1...250	1...250	1...250	1...250	1...250	65mm DC / 42 (KD Coil)	20040567	20040571
A	NPT 3/8	6	0.7	1...250	1...250	1...250	1...250	1...250	1...250	65mm DC / 42 (KD Coil)	20040568	20040572
A	NPT 1/4	6	0.6	0...16	0...16	0...16	0...16	0...16	0...16	32	312945	312946
A	NPT 1/2	12	2.2	0...16	0...16	0...16	0...16	0...16	0...16	42	312948	467191*

* Not UL Approved

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

Orifice	Standard DN10-40 mm
Body material	Brass acc. to DIN EN 50930-6, stainless steel 1.4408 (316)
Inner part of valve	Brass body SS body
	Brass, stainless steel and PPS Stainless steel and PPS
Seal material	NBR, FKM, (EPDM on request)
Medium	NBR FKM EPDM
	Neutral fluids, water, hydraulic oil, oil without additives Per-solutions, hot oils with additives Oil and fat-free fluids and gases
Ambient temperature	131 °F (+55 °C), max.
Medium temperature	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
Voltages	24V/DC, 120/60, (24/60, 240/60 on request)
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)
Protection class	IP65 with cable plug
Installation	As required, preferably with actuator upright
Response times¹⁾	0.1-1.5 sec. (depending on orifice and differential pressure)
Accreditations	UL Listed, UL Recognized

¹⁾ 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

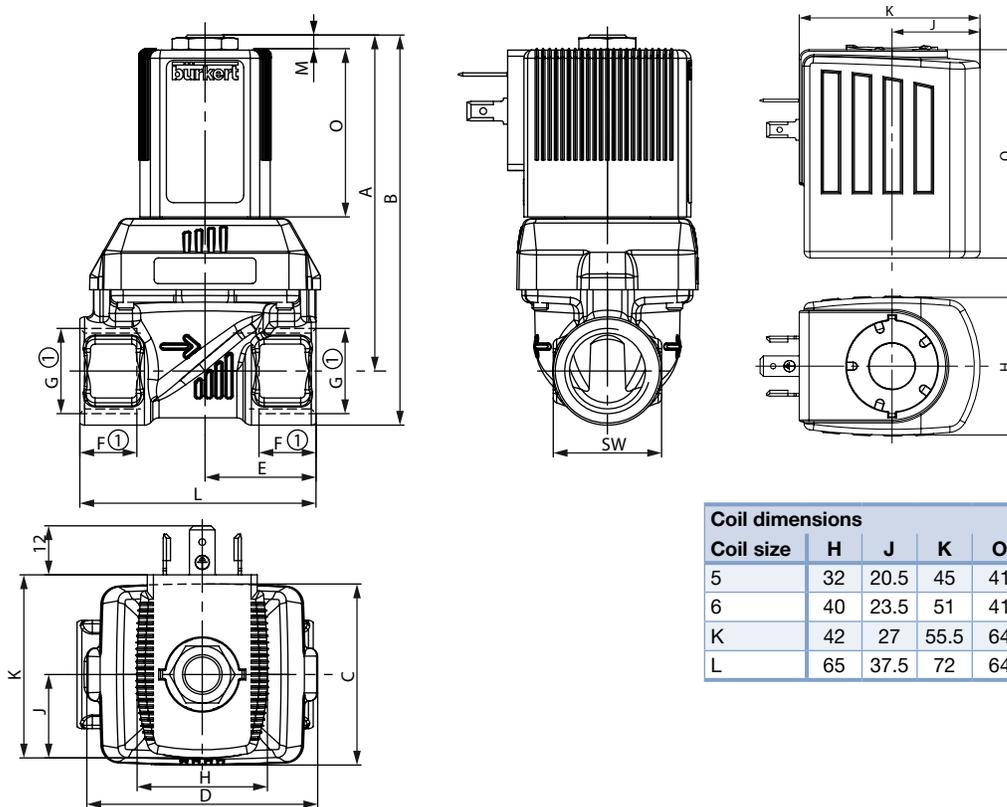
Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
				24 V DC	120 V/60 Hz
Brass UL Listed					
NPT 3/8	10	2.2	1.5 – 145	280512	280511
NPT 1/2	13	4.2	1.5 – 145	280508	280506
NPT 3/4	20	9.6	1.5 – 145	280502	280500
NPT 1	20	9.6	1.5 – 145	280486	276442
Stainless steel UL Listed					
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

- Hazardous Location Class I, Div. 2, Group A,B,C,D Approval
- Hazardous Location ATEX / IECEx Approvals
- 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
Brass UL Recognized						
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
Stainless steel UL Recognized						
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)

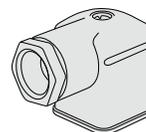
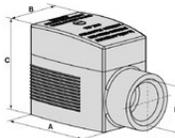


Coil dimensions					
Coil size	H	J	K	O	M
5	32	20.5	45	41	3.4
6	40	23.5	51	41	3.4
K	42	27	55.5	64	7
L	65	37.5	72	64	7

- 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

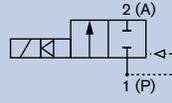
DN	A	B	C	D	E (MS/VA)	NPT		L (MS/VA)	SW	Coil size
						F	G			
10	2.84	3.28	1.44	1.84	.88	.40	NPT 1/4	2	.88	5 and 6
10 ②	2.92	3.46			.98	.41	NPT 3/8	2		
10 ③			2.92	3.46	.98	.52	NPT 1/2	2.2	1.0	
13 ②	3.30	3.83	1.78	2.27	1.10	.54	NPT 1/2	2.32	1.08	5 and 6
13 ③	3.38	4.02			1.3			2.6		
13			3.38	4.02	2.6	3.06	1.3	.56	NPT 3/4	2.6
20	3.88	4.52	2.6	3.06			37	.56	NPT 3/4	3.06
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 1/4	5.04	2	K and L
40	6.37	7.57			2.44	.69	NPT 1 1/2	5.04	2.4	
40	6.61	8.01	4.18	4.7	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



Supplied as shown

CLICK ME



FOR DATA SHEET

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

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

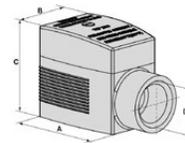
Options

- Normally open
- Cable plug with LED
- Cable plug with varistor
- UL Recognized version
- BUNA and EPDM seal materials on request
- HazLoc Class 1 Div. 2

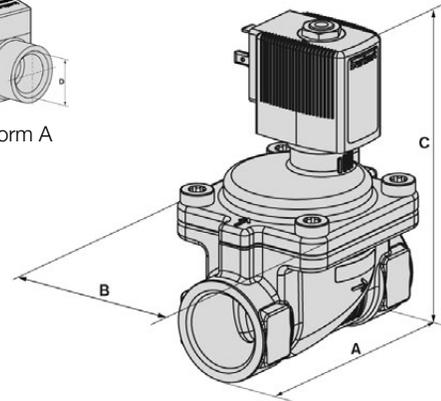
Ordering Chart

Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
				24 V DC	120 V/60 Hz
Brass					
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
Stainless steel					
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

Envelope Dimensions [inch] (see datasheet for details)



2509 plug Form A



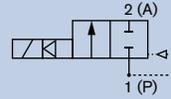
Size	A	B	C
1/2"	2.6	1.68	4.18
3/4"	3.2	2.4	4.62
1"	3.8	2.8	5.08
1-1/4"	3.8	2.8	5.46
1-1/2"	5.04	4	6.22
2"	6.56	4.6	6.19

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

Pressure range	2.9 - 145 PSI (0.2-10 bar)
Temperature media	32 °F to 194 °F (0 °C to +90 °C)
Ambient temperature	131 °F (+55 °C), max.
Body material	Brass or Stainless steel
Seal material	NBR with brass, FKM with Stainless
Coil material	Epoxy (Class H)
Power consumption	DC: 8 W, AC: 21 VA (inrush), 12 VA (hold)
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803 Form A (included)
Accreditations	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 ¹⁾	
Opening [s]	Closing [s]
0.1-0.8	1.0-4.0

¹⁾ 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%

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

Ordering Chart

Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
				24 V DC	120 V/50-60 Hz
Brass					
NPT 1/2	13	4.66	2.9-145	329291	329285
NPT 3/4	20	5.83	2.9-145	329299	329293
NPT 1	25	11.65	2.9-145	329288	329286
NPT 1 1/4	32	23.30	2.9-145	341697	329333
NPT 1 1/2	40	23.30	2.9-145	329303	329311
NPT 2	50	46.60	2.9-145	329298	329284
Stainless steel					
NPT 1/2	13	4.66	2.8-145	329304	329282
NPT 3/4	20	5.83	2.8-145	329294	329314
NPT 1	25	11.65	2.8-145	329310	329290
NPT 1 1/4	32	23.30	2.8-145	329337	329328
NPT 1 1/2	40	23.30	2.8-145	329305	329292
NPT 2	50	46.60	2.8-145	329323	329324

Options

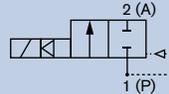
- Normally open
- Electrical position feedback
- Impulse coil
- Cables plug with LED
- Cable plug with varistor
- FM Class 1, Div 1&2, CSA
- Ex-version available
- Atex version available
- Range of diaphragm seals to suit aggressive media
- 24V/60 Hz, 240V/60 Hz
- HazLoc Class 1 Div. 2

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



CLICK ME



FOR DATA SHEET

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

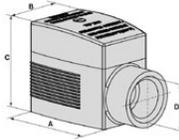
Medium temperature ¹⁾	NBR	14 °F to 176 °F (-10 °C to +80 °C)
	FKM	32 °F to 248 °F (0 °C to +120 °C)
	EPDM	-22 °F to 248 °F (-30 °C to +120 °C)
Ambient temperature	131 °F (+55 °C), max.	
Voltage tolerance	±10%	
Duty cycle	100% continuous rating	
Body material	Brass, stainless steel 1.4581	
Seal material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

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

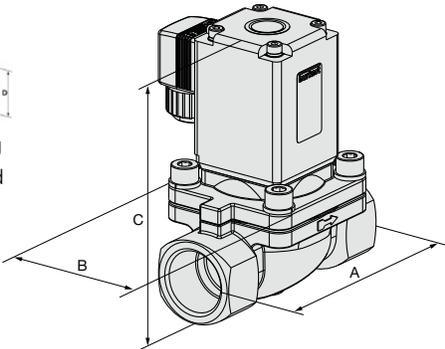
Options

- 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)



2509 cable plug
Form A included



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
Brass							
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
Stainless steel							
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

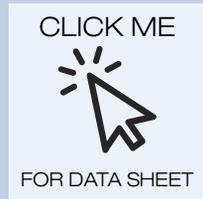
 = Burkert Express Program Items

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 ² /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)

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

Size	A	B	C
1/2"	2.6	1.6	5.3
3/4"	4	2.4	5.42
1"	4.6	2.8	5.84
1-1/4"	5.04	3.4	6.7
1-1/2"	5.04	3.4	7

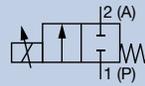
Ordering Chart

Port connection	Circuit function	Orifice	CV	Pressure range	Item no. Voltage/Frequency [V/Hz]	
[inch]		[mm]		[PSI]	24 V AC/DC	110-120 V AC
Brass body, seal combination PTFE/Graphite						
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

Setting range	1:200: DN 0.8 – 2.0mm, 1:500: DN 0.05 – 0.6mm
Materials	Brass, Stainless Steel
Pressure range	-14.0 – 174 PSI
Operating voltage	24V DC (12V on request)
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)
Viscosity (max.)	21 cP

Options

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

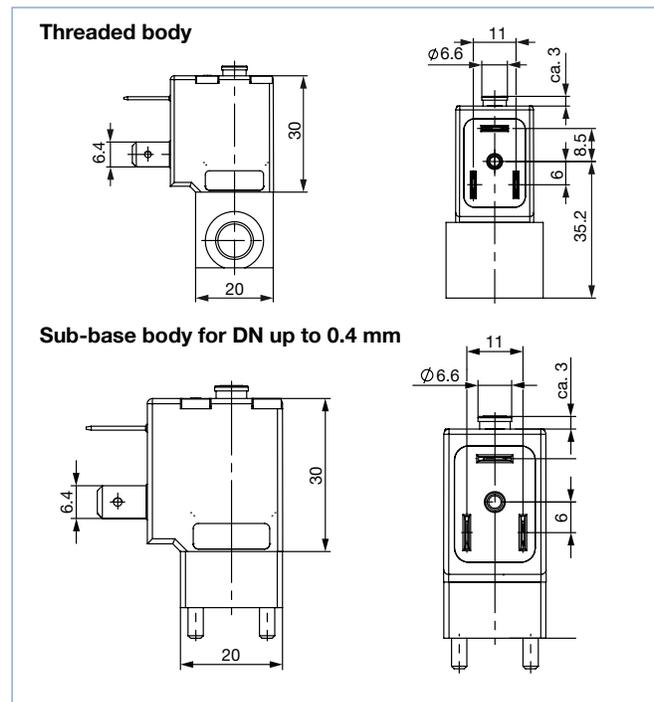
Note:

- 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

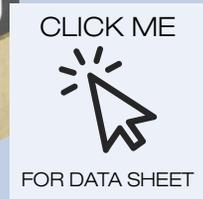
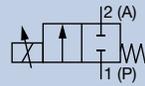
Dimensions [mm] (see datasheet for details)



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



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

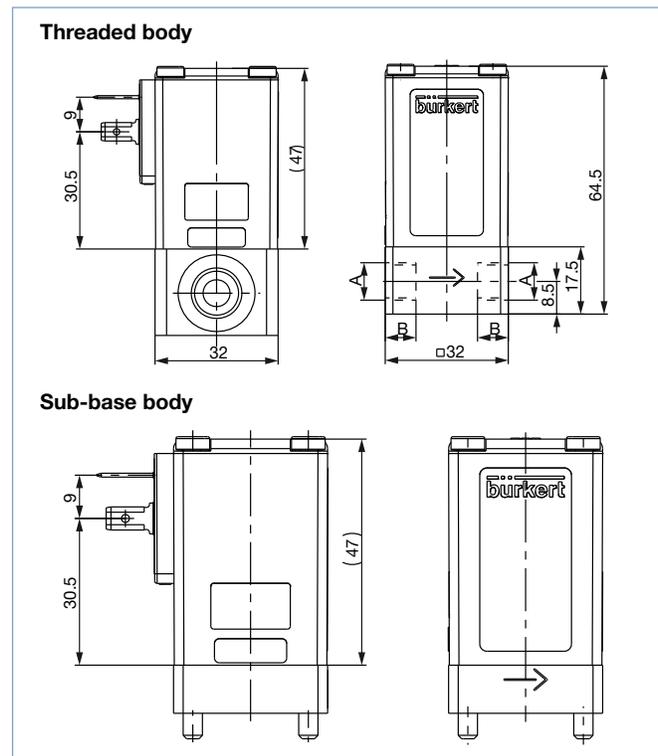
Options

- 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)



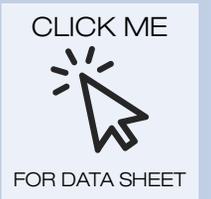
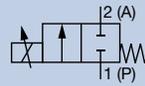
Ordering Chart

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



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

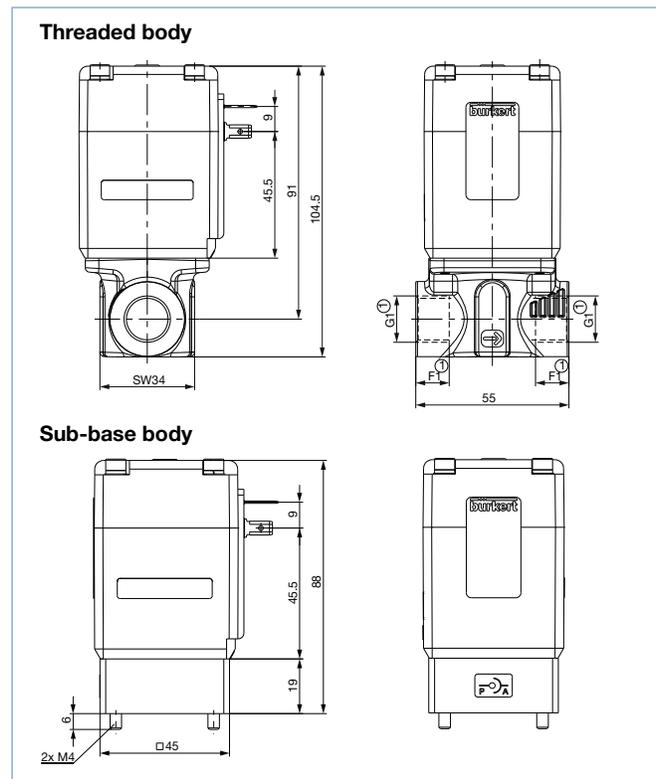
Options

- 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)



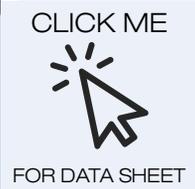
Ordering Chart

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.

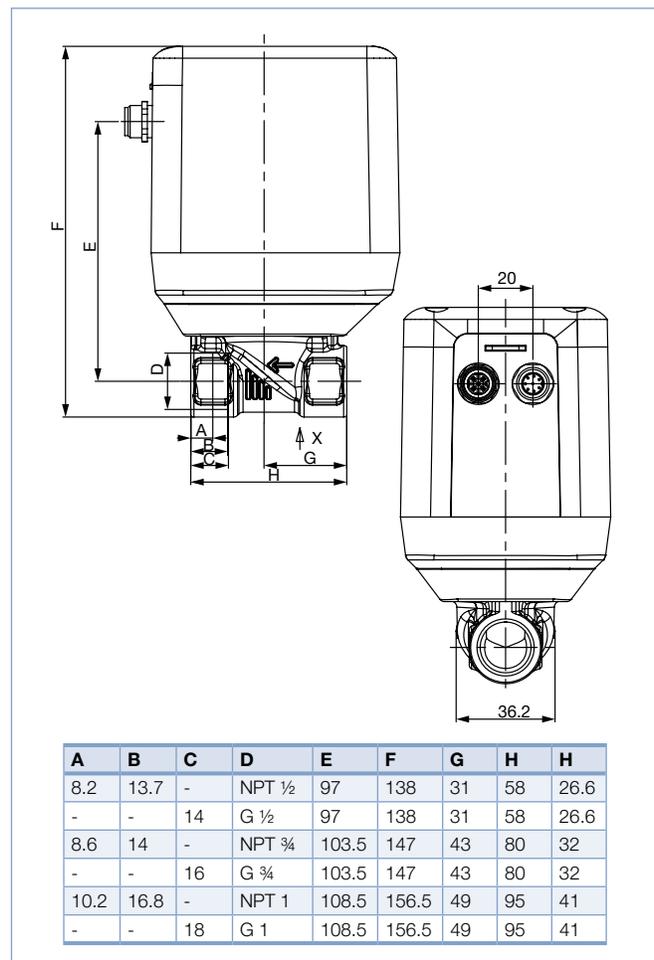
Technical Data

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



CLICK ME



FOR DATA SHEET

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)

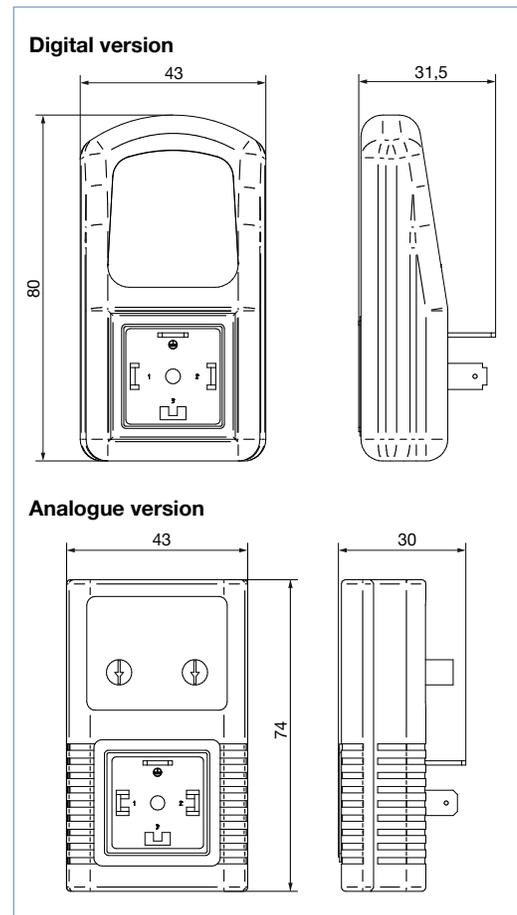


CLICK ME
FOR DATA SHEET

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
Electrical data		
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)
Performance data		
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)
Approvals and Certificates		
Protection class	IP65 (NEMA 4)	IP65 (NEMA 4)
Product connections		
Plug connection	DIN EN 175301- 803 (Form A)	DIN EN 175301- 803 (Form A)
Environment and installation		
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

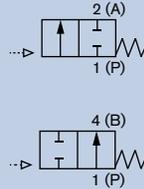
Timer	Approval	Product code	Voltage range	Item no.
Analogue	cURus	1087-A-BCH-UC- 28	10...30 V AC/DC	348906
Analogue	cURus	1087-A-BDK-UC- 28	24...240 V AC/DC	348907
Digital	cURus	1087-A-BFW-UC- 29	10...48 V AC/DC	348908
Digital	cURus	1087-A-BDX-UC- 29	110...240 V AC/DC	348909

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 power head to orient air control connections



The angle seat valve consists of a pneumatically actuated piston-drive and a 2-way valve body. Depending on the ambient temperature the drive is available in two different materials, PA and PPS. The self reliable 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

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



8697 feedback for classic actuators

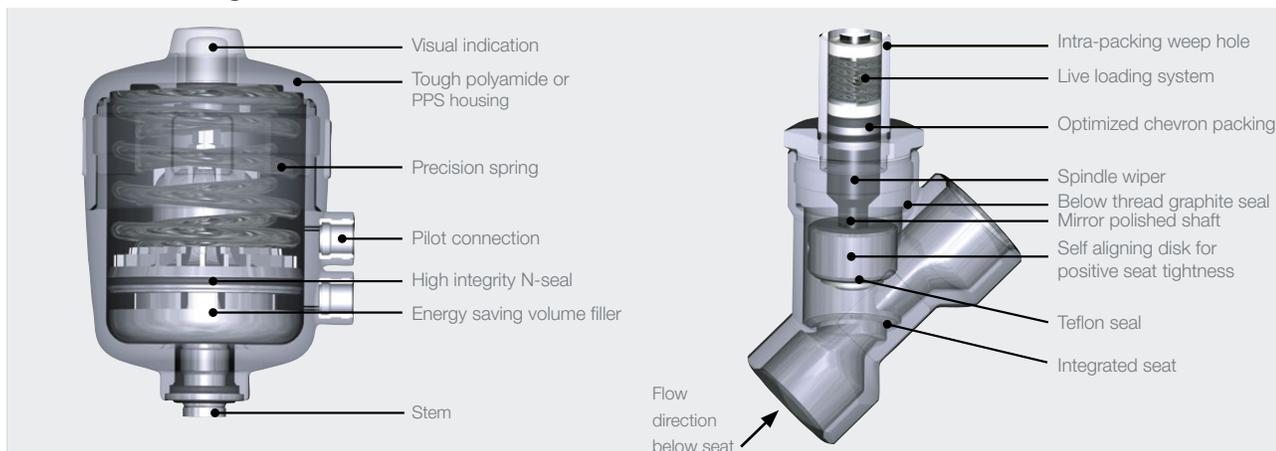
6014 banjo

7012P pilot valve

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
Normally closed					
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
Normally open					
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
Normally closed					
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
Normally open					
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

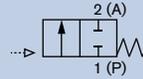
= Burkert Express Program Items

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 power head to orient air control connections



CLICK ME



FOR DATA SHEET

Burkert's classic angle seat valve for steam applications. With this product and its longevity is it world wide dependable. These valves with flow direction above the seat for steam and gas are equipped with maintenance-free gland packing.

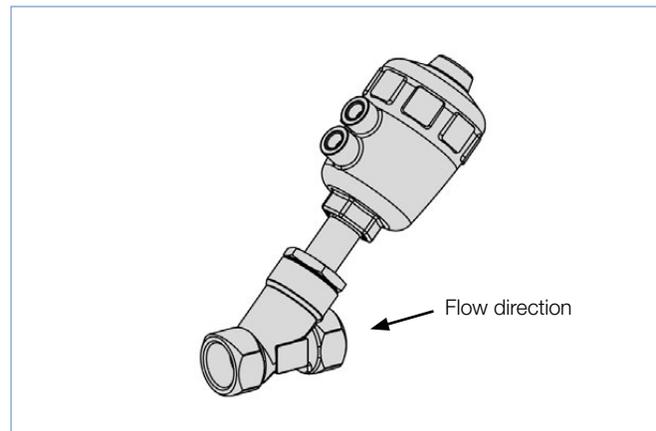
Technical Data

Pressure range	See Ordering Chart	
Temperature media	14 °F to 356 °F (-10 °C to +180 °C)	
Viscosity	max. 600 mm ² /s	
Stuffing socket (with silicone grease)	PTFE V-Rings with spring compensation	
Ambient temperature max.		
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)	
Body material	Gunmetal or stainless steel 316L	
Seal material	PTFE	
Actuator material	Polyamide or PPS	
Control medium	Instrument air at 87 PSI	
Flow direction	Over seat to minimise actuator size	
Safe position	Normally closed	
Max. pilot pressure		
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
Pilot air port	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
Normally closed polyamide head				
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
Normally closed, high ambient temperature PPS actuator				
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

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		677681	679743
DN 80		677682	679744
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

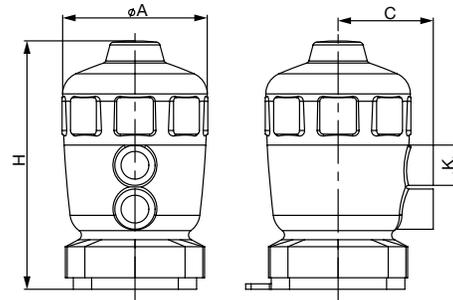
Port connection	1/2" to 2 1/2" available (port connection only)
Diaphragm size	3/8" to 4.0" (DN8 to DN100)
Port connections	
Weld ends	ASME BPE
Clamps	ASME BPE (other piping standards available on request)
Materials	
Body	Stainless Steel 316L / 1.4435 / BN2
Diaphragm materials	PTFE/EPDM (EA), EPDM (AD), Advanced PTFE/EPDM (EU) on request: advanced PTFE/EPDM (EU), FKM (FF) PPS, PA (on request)
Actuator / Cover	
Media	Neutral gases and liquids, high-purity, sterile, aggressive or abrasive fluids
Viscosity	Up to viscous
Surface finish	
Mechanically polished:	Wetted surfaces: Ra <= 0.5µm (ASME BPE SF1) & External surfaces (fluidic body): Ra <= 1.6µm
Electro polished:	Wetted surfaces: Ra <= 0.38µm (ASME BPE SF4) & External surfaces (fluidic body): Ra <= 0.76µm
(more available on request)	
Medium temperature	
EPDM (AD) ¹⁾	14 to 289.4°F (steam sterilization 302°F for 60 min)
PTFE/EPDM (EA) ¹⁾	14 to 266°F (steam sterilization 284°F for 60 min)
Advanced PTFE/EPDM (EU) ¹⁾	23 to 289.4°F (steam sterilization 302°F for 60 min)
Ambient temperature	
PPS Actuator size ≤80 mm	+5...140°C ⁵⁾
PPS Actuator size 100 mm, 125 mm	+5...90 °C (briefly at +140 °C) ⁵⁾
Control medium	Neutral gases; air
Max. pilot pressure	max. 145 PSI (101 PSI with actuator size 130 mm)

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

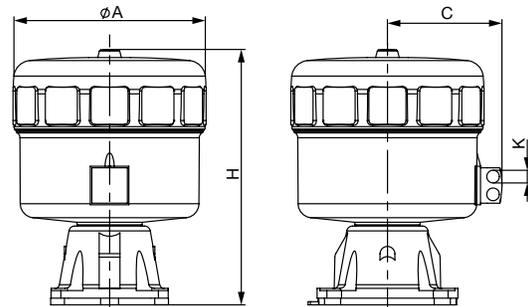
5) For standard version

Dimensions [mm]

Diaphragm size 8...50



Diaphragm size 65...100

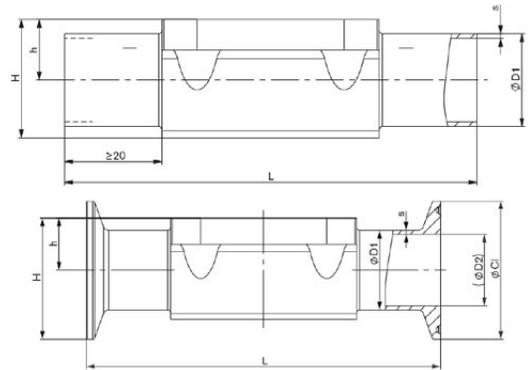


Diaphragm size	Actuator size Ø	ØA	C	K	H
8	40(C)	53	34	G 1/8"	89
15	50(D)	64	39	G 1/8"	108
	63(E)	80	52	G 1/4"	125
20	63(E)	80	52	G 1/4"	131
	80(F)	101	60	G 1/4"	152
25	63(E)	80	52	G 1/4"	136
	80(F)	101	60	G 1/4"	156
40	100(G)	127	73	G 1/4"	205
	125(H)	158	86	G 1/4"	243
50	100(G)	127	73	G 1/4"	207
	125(H)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

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	73-145	145	145	3.59
20	3/4"	3/4"	70	73-145	145	145	9.83
25	1"	1"	90	73-145	145	116	16.77
40	1-1/2"	1-1/2"	130	73-102	145	102	42.79
50	2"	2"	130	73-102	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]							
ASME BPE								
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	Cl	ØD2	h	H	L	Self-drain angle [°]
[mm]	[inch]									
ASME BPE										
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	Seat	Surface finish	Variant	Item no. Welded Versions	Item no. Triclamp Versions
Actuator function Normally Closed						
EPDM	1/2"	15	mech. polished	NK52+NO14+NO19	20026380	20026348
	3/4"	20	mech. polished	NK52+NO14+NO19	20026381	20026349
	1"	25	mech. polished	NK52+NO14+NO19	20026382	20026350
	1-1/2"	40	mech. polished	NK52+NO14+NO19	20026383	20026351
	2"	50	mech. polished	NK52+NO14+NO19	20026384	20026352
PTFE / EPDM	1/2"	15	mech. polished	NK52+NO14+NO19	20026385	20026353
	3/4"	20	mech. polished	NK52+NO14+NO19	20026386	20026354
	1"	25	mech. polished	NK52+NO14+NO19	20026387	20026355
	1-1/2"	40	mech. polished	NK52+NO14+NO19	20026388	20026356
EPDM	1/2"	15	el. polished	NK52+NO15+NO17	20025836	20026358
	3/4"	20	el. polished	NK52+NO15+NO17	20025837	20026360
	1"	25	el. polished	NK52+NO15+NO17	20025838	386113
	1-1/2"	40	el. polished	NK52+NO15+NO17	20025839	386114
PTFE / EPDM	1/2"	15	el. polished	NK52+NO15+NO17	20025840	386115
	3/4"	20	el. polished	NK52+NO15+NO17	20025889	348114
	1"	25	el. polished	NK52+NO15+NO17	358333	354019
	1-1/2"	40	el. polished	NK52+NO15+NO17	20025890	20026363
EPDM	1/2"	15	el. polished	NK52+NO15+NO17	20025891	347746
	3/4"	20	el. polished	NK52+NO15+NO17	20025893	20026367
	1"	25	el. polished	NK52+NO15+NO17	20025893	20026367
	1-1/2"	40	el. polished	NK52+NO15+NO17	20025893	20026367
PTFE / EPDM	1/2"	15	el. polished	NK52+NO15+NO17	20025940	20026368
	3/4"	20	el. polished	NK52+NO15+NO17	378553	20026370
	1"	25	el. polished	NK52+NO15+NO17	20025943	20026371
	1-1/2"	40	el. polished	NK52+NO15+NO17	20025944	20026372
PTFE / EPDM	1/2"	15	el. polished	NK52+NO15+NO17	20025945	20026374
	3/4"	20	el. polished	NK52+NO15+NO17	20026340	20026375
	1"	25	el. polished	NK52+NO15+NO17	20026341	20026376
	1-1/2"	40	el. polished	NK52+NO15+NO17	20026343	20026377
PTFE / EPDM	1/2"	15	el. polished	NK52+NO15+NO17	20026344	20026378
	2"	50	el. polished	NK52+NO15+NO17	20026345	20026379

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

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

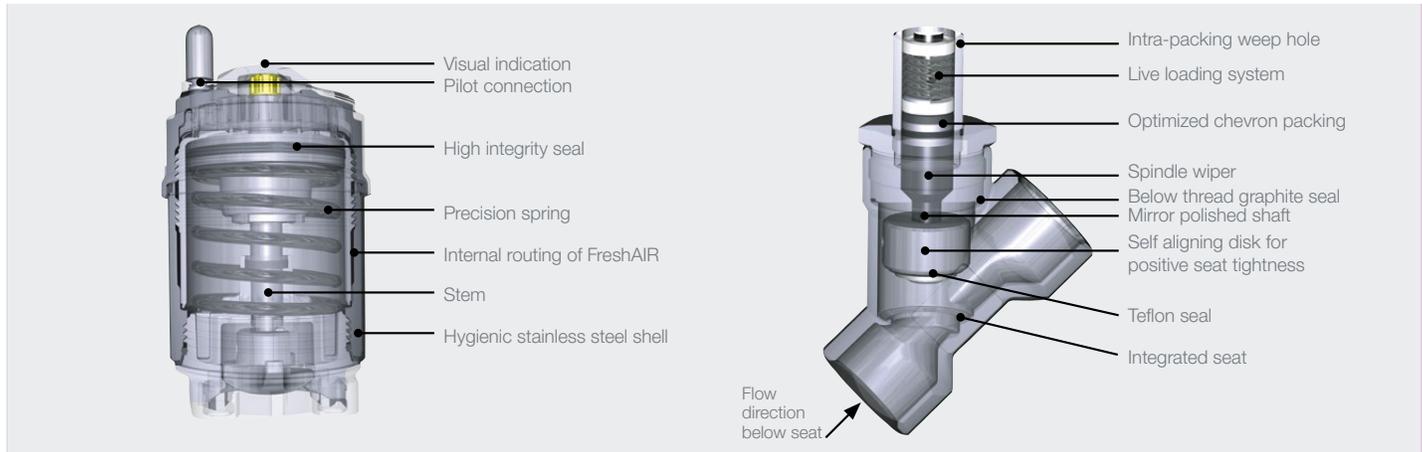
Pilot air ports for 6/4 mm tubing

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

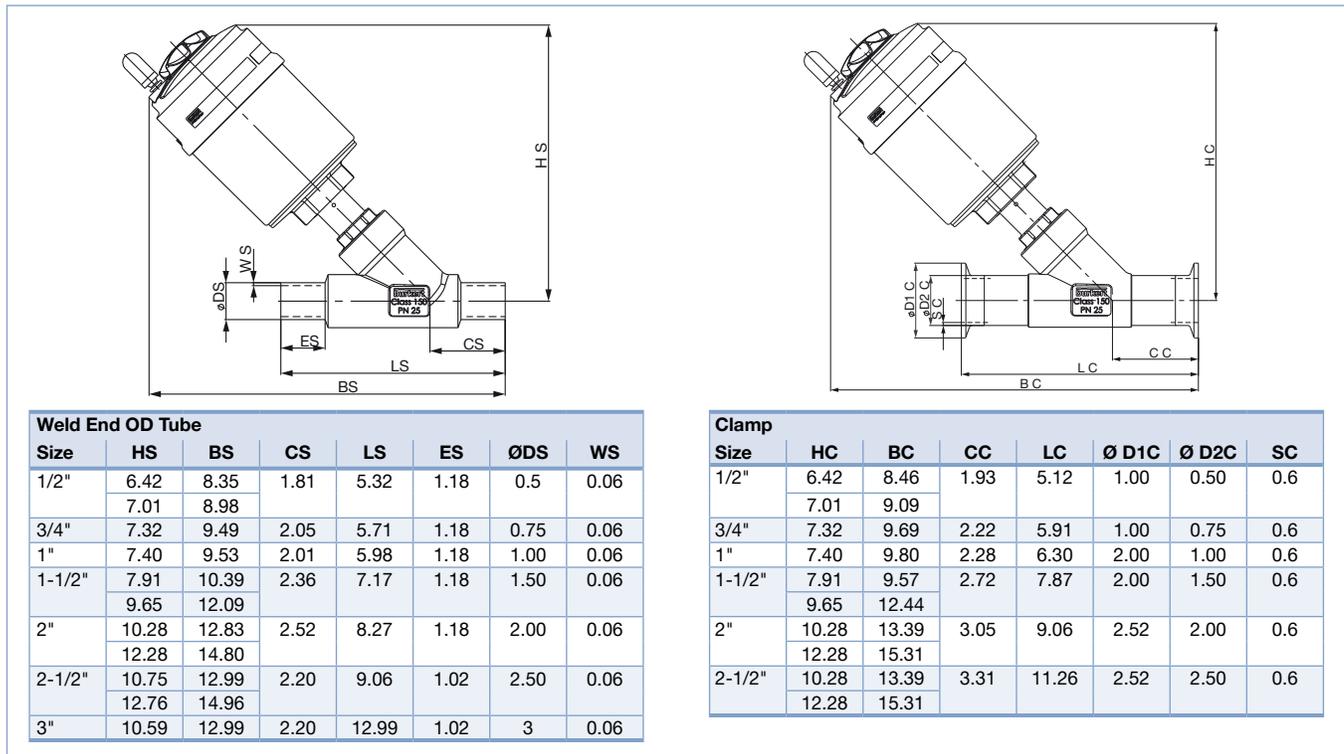
Options

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

Sectional Drawings



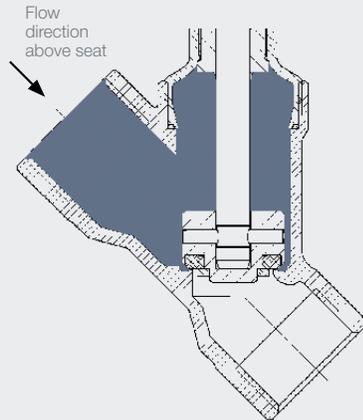
Dimensions [inch] (see datasheet for further details)



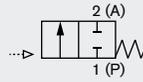
Ordering Charts

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!

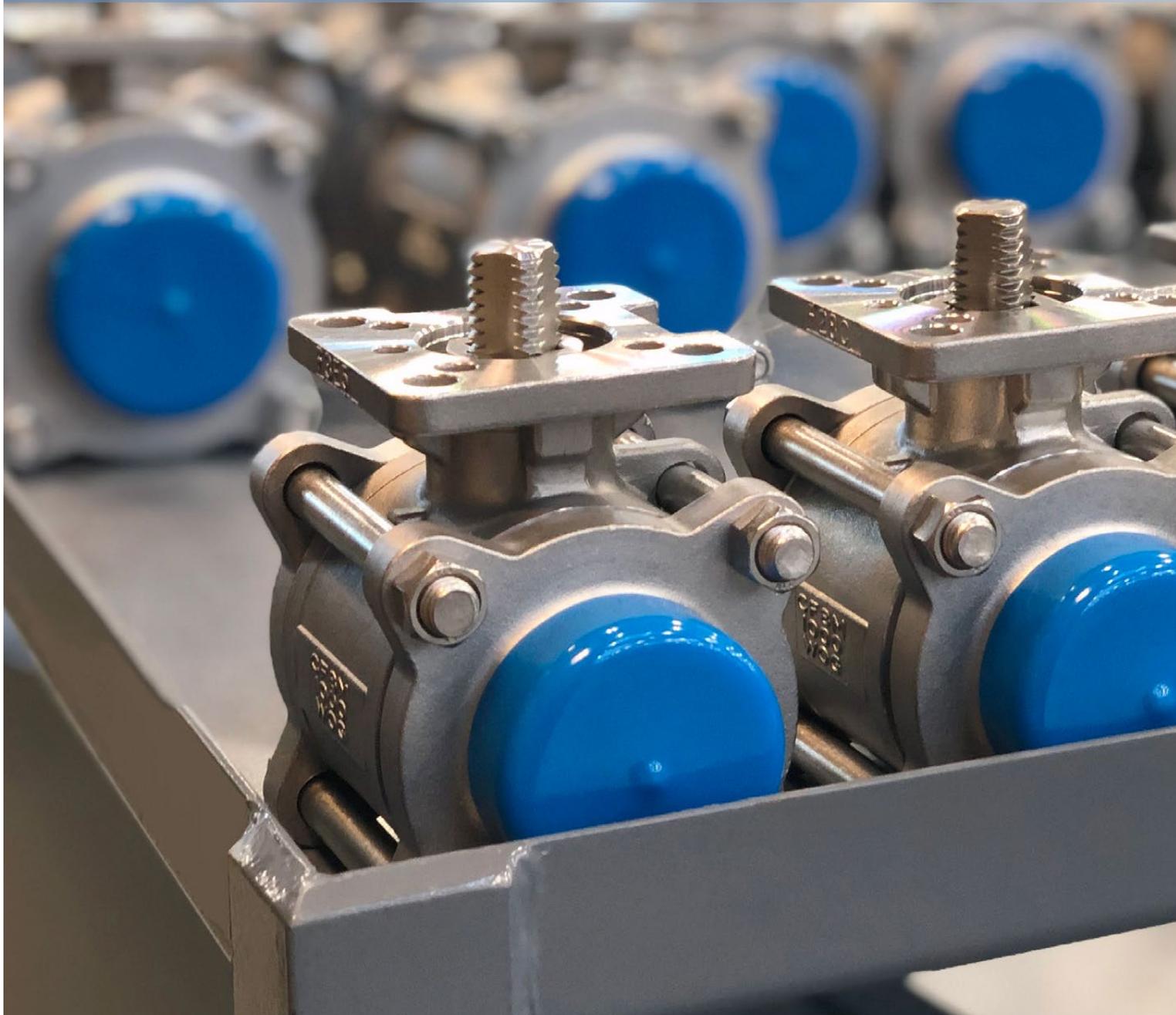
Ordering Charts

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

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

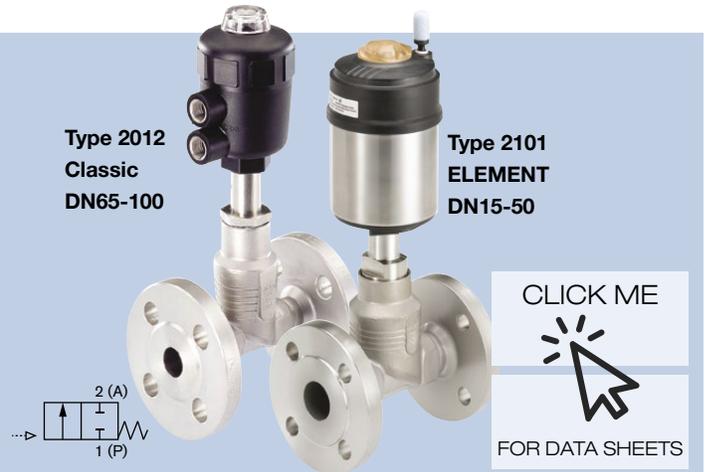


Pneumatically Operated 2/2-way Globe Valves

2101 / 2012

1/2" - 4"

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



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.

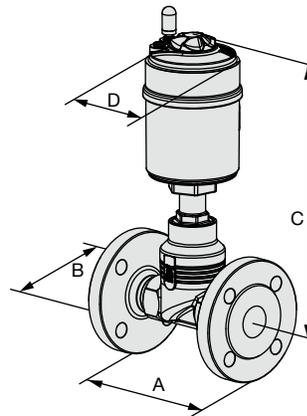
Technical Data

Pressure range	see Ordering Chart
Nominal pressure	PN25 (body)
Temperature media	14 °F to 356 °F (-10 °C to +180 °C) (CLASSIC) / 365 °F (+185 °C) (ELEMENT)
Ambient temperature	
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)
CLASSIC	32 °F to 140 °F (0 °C to +60 °C) (connector hose air supply)
	14 °F to 140 °F (-10 °C to +60 °C)
Body material	Cast stainless steel 316L
Viscosity	Max. 600 mm ² /s
Seal material	PTFE
Actuator material	PPS and St.st. 316L (ELEMENT), PA (Classic)
Control medium	Neutral gases, air
Flow direction	Under seat anti water-hammer
Port connection	Flange DIN EN 1092-1
Pilot air port	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)

Envelope Dimensions [inch] (see datasheet for details)



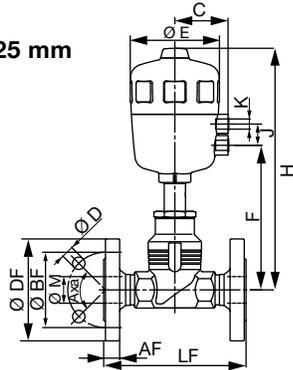
Dimensions shown for 2101 for exact 2012 dimensions please see datasheet

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)

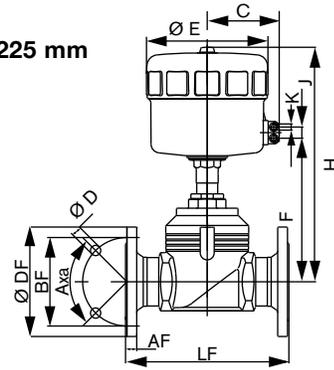
DN 10-65

Actuator size 40-125 mm



DN 65-100

Actuator size 175 and 225 mm



ANSI flange														
DN	Actuator [mm]	C	OE	F	H	K	J	ODF	LF	OBF	AF	OD	AxD	OM
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									

Ordering Charts

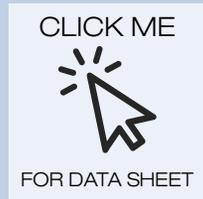
Port Connection flange [inch]	Actuator [mm]	Cv	Minimum pilot pressure CFA [PSI]	Maximum operating pressure (PSI)	Item no. ELEMENT, Type 2101
Type 2101 ELEMENT					
1/2"	50	5.4	75	363	203095
1/2"	70	5.4	70	363	466863
3/4"	70	9.4	70	290	203097
1"	70	15.0	70	232	203099
1 1/2"	70	35.9	70	87	203100
1 1/2"	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
Type 2012 CLASSIC					
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

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

2103 forged On/Off

- Optimized flow and zero deadleg
- Diaphragm hermetically separates the fluids from the operating mechanism
- Easy integration of ELEMENT automation units
- SS body with clamp or weld ends
- Internationally certified for pharmaceutical, aseptic, sterile and sanitary food applications



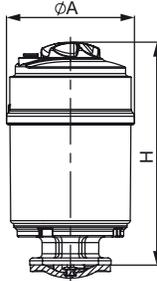
The externally piloted diaphragm valve type 2103 consists of a pneumatically operated piston actuator, a diaphragm and a 2-way valve housing made of forged stainless steel. The high quality actuator with a stainless steel cover is designed for usage in hygienic or aggressive environments. The flow optimized 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

Port connection	1/2" to 2 1/2" available (port connection only)
Diaphragm size	1/2" to 2" (DN15 to DN50; DN08 available on request)
Port connections	
Weld ends	ASME BPE
Clamps	ASME BPE (other piping standards available on request)
Materials	
Body	Stainless Steel 316L /1.4435 / BN2
Diaphragm materials	PTFE/EPDM (EA), EPDM (AD), EPDM Laminated (ER) on request: advanced PTFE/EPDM (EU), FKM (FF) PPS / Stainless Steel 1.4561 (316Ti)
Actuator / Cover	
Media	Neutral gases and liquids, high-purity, sterile, aggressive or abrasive fluids
Viscosity	Up to viscous
Surface finish	Wetted surfaces: Ra <= 0.5µm (ASME BPE SF1) & External surfaces (fluidic body): Ra <= 1.6µm
Electro polished:	Wetted surfaces: Ra <= 0.38µm (ASME BPE SF4) & External surfaces (fluidic body): Ra <= 0.76µm
(more available on request)	
Medium temperature	
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)
Ambient temperature	+41°F to +140°F
Control medium	Neutral gases; air
Max. pilot pressure	max. 145 PSI (101 PSI with actuator size 130mm)

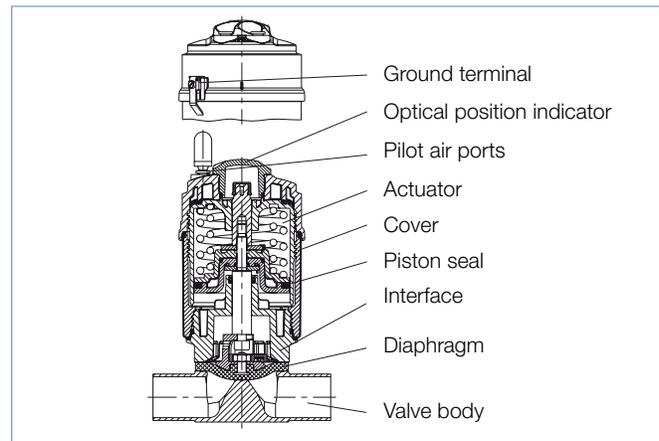
Dimensions [inch]



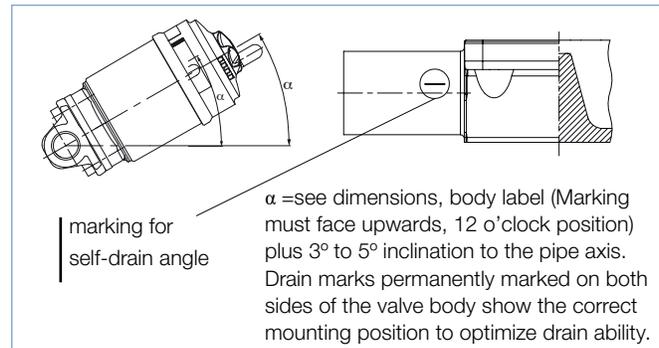
Diaphragm size	Actuator size Ø [mm]	ØA	H
1/2"	70	3.58	6.26
3/4"	70	3.58	6.26
1"	90	4.72	7.78
1-1/2"	130	6.26	10.51
2"	130	6.26	10.81

2103 with 360° rotatable interface, stainless steel

Materials



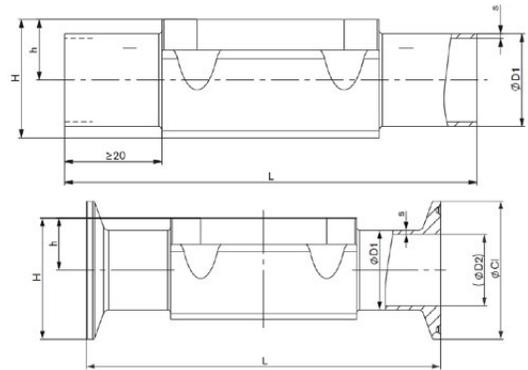
Installation for self-draining operation



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	73-145	145	145	3.59
20	3/4"	3/4"	70	73-145	145	145	9.83
25	1"	1"	90	73-145	145	116	16.77
40	1-1/2"	1-1/2"	130	73-102	145	102	42.79
50	2"	2"	130	73-102	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]							
ASME BPE								
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	Cl	ØD2	h	H	L	Self-drain angle [°]
[mm]	[inch]									
ASME BPE										
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 Charts

Welded connection acc. ASME BPE

Inspection Certificate 3.1 acc. to EN 10204 - Material Test Report (included in delivery)

Port connection DN		Diaphragm size	Actuator size Ø	Cv	Pilot pressure	Max. operating pressure	Item no. mechanically polished Ra ≤ 0.5 µm	Item no. electropolished Ra ≤ 0.38 µm
[mm]	[inch]							
Diaphragm material EPDM (AD)								
15	1/2"	1/2"	70	3.59	70-145	145	325900	325905
20	3/4"	3/4"	70	9.83	70-145	145	325901	325906
25	1"	1"	90	17.93	73-145	145	325902	325907
40	1-1/2"	1-1/2"	130	42.79	73-102	145	328459	328460
50	2"	2"	130	76.34	73-102	145	325904	325909
Diaphragm material PTFE/EPDM (EA)								
15	1/2"	1/2"	70	3.59	70-145	145	295873	325911
20	3/4"	3/4"	70	9.83	70-145	145	295875	325912
25	1"	1"	90	16.77	73-145	116	325910	325913
40	1-1/2"	1-1/2"	130	43.37	73-102	145	295878	325914
50	2"	2"	130	76.34	73-102	102	295880	325915

Clamp connection acc. ASME BPE

Inspection Certificate 3.1 acc. to EN 10204 - Material Test Report (included in delivery)

Port connection DN		Diaphragm size	Actuator size Ø	Cv	Pilot pressure	Max. operating pressure	Item no. mechanically polished Ra ≤ 0.5 µm	Item no. electropolished Ra ≤ 0.38 µm
[mm]	[inch]							
Diaphragm material EPDM (AD)								
15	1/2"	1/2"	70	3.59	70-145	145	325932	325938
20	3/4"	3/4"	70	9.83	70-145	145	325933	325939
25	1"	1"	90	17.93	73-145	145	325935	325940
40	1-1/2"	1-1/2"	130	42.79	73-102	145	328461	328462
50	2"	2"	130	76.34	73-107	145	325937	325942
Diaphragm material PTFE/EPDM (EA)								
15	1/2"	1/2"	70	3.59	70-145	145	325943	325947
20	3/4"	3/4"	70	9.83	70-145	145	325944	325948
25	1"	1"	90	16.77	73-145	116	266735	325949
40	1-1/2"	1-1/2"	130	43.37	73-102	145	266734	325950
50	2"	2"	130	76.34	73-107	102	325946	325951

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

2103 TVB

- Hydroformed pharmaceutical grade tube valve body
- Optimal design for hygienic environments
- Easy integration of automation units with ELEMENT
- Reduced mass up to 75% allows for optimized heating and cooling cycles



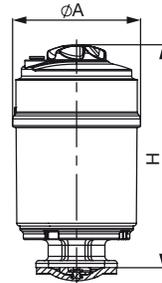
CLICK ME

 FOR DATA SHEET

The externally piloted diaphragm valve 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 actuator design enables the easy integration of automation units whether they are electrical/optical position feedback, pneumatic control units, an integrated fieldbus interface or even explosion proof device versions. The fully integrated system has a compact and smooth design, integrated pneumatic lines, IP65/67, NEMA Type 4X protection class and superior chemical resistance. The diaphragm valve with tube body is perfect for hygienic applications in the food and beverage, pharma, and cosmetic industries. It is designed in accordance with ASME BPE 2016 guidelines and is certified by EHEDG.

Dimensions [inch]

Actuator



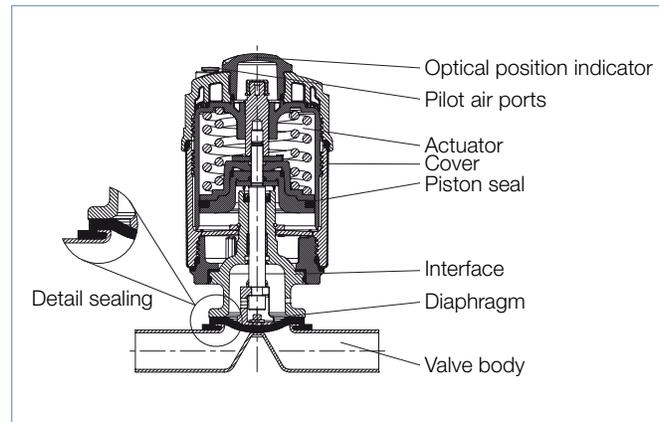
Diaphragm size	Actuator size Ø [mm]	ØA	H
1/4"	50	2.54	5.35
1/2"	70	3.58	6.26
3/4"	70	3.58	6.26
1-1/4"	90	4.72	8.89
1-1/2"	130	6.26	10.81

2103 with 360° rotatable interface, stainless steel

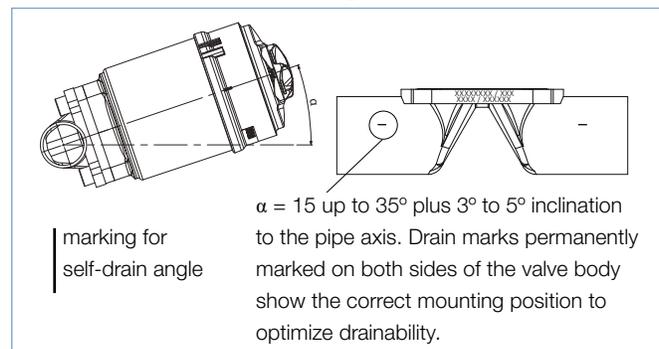
Technical Data

Port connection	1/2" to 2"
Diaphragm size	1/4" to 1-1/2"
Port connections	Weld ends ASME BPE
Materials	Body: Stainless Steel 316L /1.4435 / BN2 Diaphragm materials: PTFE/EPDM (EA), EPDM (AD), EPDM Laminated (ER) on request: advanced PTFE/EPDM (EU), FKM (FF) PPS / Stainless Steel 1.4561 (316Ti)
Media	Neutral gases and liquids, high-purity, sterile, aggressive or abrasive fluids
Viscosity	Up to viscous
Surface finish	Internally electropolished Ra ≤ 15 Ra (ASME BPE SF4)
Medium temperature	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)
Ambient temperature	+41°F to +140°F
Control medium	Neutral gases; air
Max. pilot pressure	max. 145 PSI, 100 PSI with actuator size 130mm
Pilot air ports	Push-in connector for external Ø 6 mm or 1/4" tube, thread G1/8 (on request)

Materials



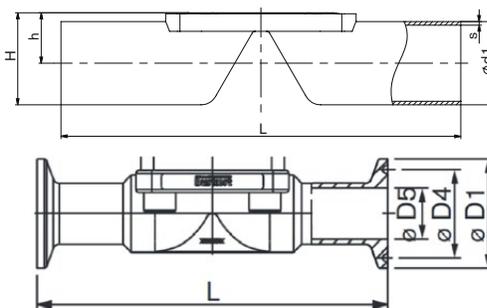
Installation for self-draining operation



Technical data (continued)

Port connection DN		Diaphragm size	Actuator size Ø	Pilot pressure	Max. operating pressure for seal material [PSI]		Cv [gpm]
[mm]	[inch]				EPDM	PTFE, advanced PTFE	
8	1/2"	1/4"	50	73-145	145	145	2.54
15	3/4"	1/2"	70	73-145	145	145	7.52
20	1"	3/4"	70	73-145	145	145	14.69
32	1-1/2"	1-1/2"	90	73-145	116	87	37.01
40	2"	2"	130	73-145	145	145	53.20

Flow rate: Cv value [gpm] measured at +60°F, 1 PSI pressure at valve inlet and free outlet



Weld end port connections

Port connection DN		Diaphragm size	ØD1	s	h	H	L
[mm]	[inch]						
ASME BPE							
15	1/2"	1/4"	0.5	0.06	0.35	0.63	3.54
20	3/4"	1/2"	0.75	0.06	0.51	0.91	4.61
25	1"	3/4"	1.0	0.06	0.63	1.14	5.0
40	1-1/2"	1-1/4"	1.5	0.06	0.91	1.65	6.26
50	2"	1-1/2"	2.0	0.06	1.22	2.20	7.48

Clamp port connections

Port connection DN		Diaphragm size	ØD1	ØD4	ØD5	L
[mm]	[inch]					
ASME BPE						
15	1/2"	1/4"	0.98	0.81	0.37	3.50
20	3/4"	1/2"	0.98	0.81	0.62	4.02
25	1"	3/4"	1.99	1.71	0.87	4.49
40	1-1/2"	1-1/4"	1.99	1.71	1.36	5.51
50	2"	1-1/2"	2.52	2.22	1.87	6.26

Ordering Charts

Welded connection ASME BPE

electropolished Ra ≤ 15 Ra and Inspection certificate 3.1 acc. to EN-ISO 10204 (included in delivery)

Port connection DN		Diaphragm size	Actuator size [mm]	Cv [gpm]	Pilot pressure [PSI]	Max. operating pressure [PSI]	Item no. interface 360° rotatable, stainless steel
[mm]	[inch]						
Diaphragm material EPDM (AD)							
15	1/2"	1/4"	50	2.54	54-145	145	321038
20	3/4"	1/2"	70	7.52	70-145	145	324754
25	1"	3/4"	70	14.69	70-145	145	321066
40	1-1/2"	1-1/4"	90	37.01	73-145	116	321082
50	2"	1-1/2"	130	53.20	73-102	145	324809
Diaphragm material PTFE/EPDM (EA)							
15	1/2"	1/4"	50	2.54	64-145	145	290514
20	3/4"	1/2"	70	7.52	70-145	145	290516
25	1"	3/4"	70	14.69	70-145	145	290518
40	1-1/2"	1-1/4"	90	37.01	73-145	87	290520
50	2"	1-1/2"	130	53.20	73-102	145	290525

Clamp connection ASME BPE

electropolished Ra ≤ 15 Ra micrometer and Certification of Conformity for Raw Material EN-ISO 10204 3.1 (included in delivery)

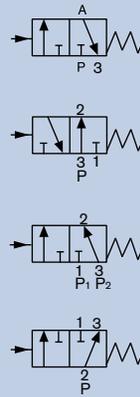
Port connection DN		Diaphragm size	Actuator size [mm]	Cv [gpm]	Pilot pressure [PSI]	Max. operating pressure [PSI]	Item no. interface 360° rotatable, stainless steel
[mm]	[inch]						
Diaphragm material EPDM (AD)							
15	1/2"	1/4"	50	2.54	54-145	145	317717
20	3/4"	1/2"	70	7.52	70-145	145	317719
25	1"	3/4"	70	14.69	70-145	145	317721
40	1-1/2"	1-1/4"	90	37.01	73-145	116	317723
50	2"	1-1/2"	130	53.20	73-102	145	317727
Diaphragm material PTFE/EPDM (EA)							
15	1/2"	1/4"	50	2.54	64-145	145	317718
20	3/4"	1/2"	70	7.52	70-145	145	317720
25	1"	3/4"	70	14.69	70-145	145	317722
40	1-1/2"	1-1/4"	90	37.01	73-145	87	317724
50	2"	1-1/2"	130	53.20	73-102	145	317728

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 ² /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

Manually Operated Tank Bottom Diaphragm Valve

3235

- Valve housing and diaphragms available in various materials
- Standard surface finish SF1 Ra $\leq 0.5 \mu\text{m}$... $1.6 \mu\text{m}$ (optionally electro polished)
- Available DN8 to DN100 with clamp and weld connections

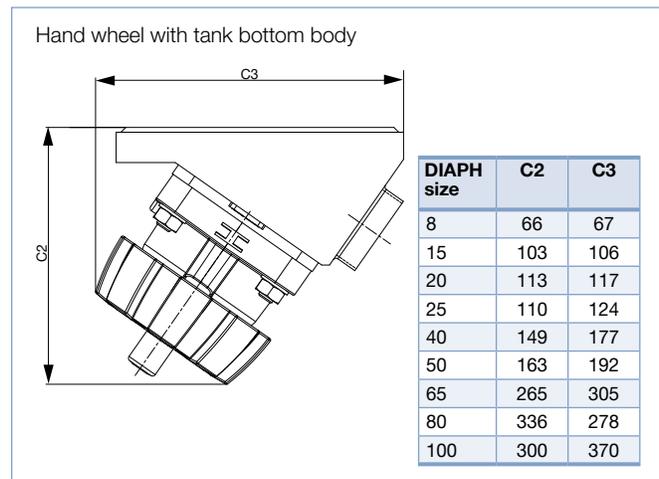


CLICK ME
FOR DATA SHEET

Technical Data

Material	
Block body (V1)	Stainless steel 1.4435/BN2/ASME BPE; Fe <0.5%/C $\leq 0.03\%$
Diaphragm	EPDM (AD), PTFE/EPDM (EA), advanced PTFE/EPDM (EU)
Actuator (Actuator/handwheel) -	Diaphragm size 8...50 PPS w/SS bonnett
Actuator (Actuator/handwheel) -	Diaphragm size 65...100 SS/SS
Diaphragm size	8...100
Standard surface quality	
Block body (V1)	Internal mechanically polished : Ra $\leq 0.5 \mu\text{m}$ (NO14) (ASME BPE SF1) (external Ra $\leq 1.6 \mu\text{m}$)
	Internal electrically polished on request : Ra $\leq 0.38 \mu\text{m}$ (NO17) (ASME BPE SF4/DIN HE4) (external Ra $\leq 1.6 \mu\text{m}$)
Medium Data	
Medium	Neutral gases and fluids, highly purified, sterile, aggressive or abrasive medium
Medium temperature:	
EPDM (AD)	-10...+143 °C (steam sterilisation +150 °C for 60 min)
PTFE/EPDM (EA)	-10...+130 °C (steam sterilisation +140 °C for 60 min)
Adv. PTFE/EPDM (EU)	-5...+143 °C (steam sterilisation +150 °C for 60 min)
Process/Port connection & communication	
Nominal diameter	DN06...DN100 (1/8" ...4")
Port connections	
Welded connection	ASME BPE/DIN 11866 series C
Clamp connection	ASME BPE
Ambient temperature	
PPS/PPS	0...+130 °C (short-term up to +150 °C)
Stainless steel/PPS	0...+130 °C (short-term up to +150 °C)

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®/EPDM laminated
DN		Max. [bar]
8...80	SS/SS	10
100	SS/SS	6
8...50	SS/PPS	10
8...40	PPS/PPS	10
50	PPS/PPS	7

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

SML	Port	Connection	Item no.		
			PTFE / EPDM diaphragm	EPDM diaphragm	
3235 -2-15,0-VI-F065-	TG02-D058 * NK52+NO14+NO19	Clamp ASME	1/2"	20027049	20027050
3235 -2-20,0-VI-F085-	TG03-D058 * NK52+NO14+NO19	Clamp ASME	3/4"	557733	20027051
3235 -2-25,0-VI-F120-	TG04-D058 * NK52+NO14+NO19	Clamp ASME	1"	557663	20027053
3235 -2-40,0-VI-F150-	TG05-D058 * NK52+NO14+NO19	Clamp ASME	1 1/2"	557581	20027055
3235 -2-50,0-VI-F180-	TG06-D058 * NK52+NO14+NO19	Clamp ASME	2"	348794	342213
3235 -2-20,0-VI-F085-	SA93-D058 * NK52+NO14+NO19	weld end ASME	3/4"	20027057	20027059
3235 -2-25,0-VI-F120-	SODF-D058 * NK52+NO14+NO19	weld end ASME	1"	20027061	20027062
3235 -2-40,0-VI-F150-	SODH-D058 * NK52+NO14+NO19	weld end ASME	1 1/2"	20027063	20027064
3235 -2-50,0-VI-F180-	SODI-D058 * NK52+NO14+NO19	weld end ASME	2"	20027065	20027066

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

3233

OD Tube Butt Weld and Clamp Port Connections 1/4"-2"

- Hermetical separation of fluid from operating mechanism by diaphragm
- Zero dead volume
- Various surface finishes
- Quality certifications 



CLICK ME



FOR DATA SHEET

The manually-operated diaphragm valve in compact form of the Type 3233 consists of a flow-optimized stainless steel body and a manual actuator. The material combinations are selectable. The diaphragm is both a switch element and a sealing element to the outside. It can be easily replaced. The flow can be continually adjusted with the handwheel. The valves have no dead volume and can be mounted to be self-draining. This enables high flow capacities and a variety of applications to be realized. The valves are autoclavable.

Technical Data

Port connection	1/4" to 2 1/2" (stock program) or up to 4" (generally)
Diaphragm size	8-50 and 1/4" to 2 1/2" (stock) or 8-100 and 1/4" to 4" (generally)
Port connections	
Weld ends acc.	ASME BPE
Clamps acc.	ASME BPE (further port connections on request)
Materials	
Body	Stainless Steel 316L /1.4435 / BN2
Actuator	Hand wheel / bonnet PPS / Stainless steel
Diaphragm materials	PTFE/EPDM (EA), EPDM (AD), EPDM Laminated (ER) on request: advanced PTFE/EPDM (EU), FKM (FF)
Media	Neutral gases and liquids, high-purity, sterile, aggressive or abrasive fluids
Viscosity	Up to viscous
Surface finish	
Mechanically polished:	Wetted surfaces: Ra <= 0.5µm (ASME BPE SF1) & External surfaces (fluidic body): Ra <= 1.6µm
Electro polished:	Wetted surfaces: Ra <= 0.38µm (ASME BPE SF4) & External surfaces (fluidic body): Ra <= 0.76µm
(more available on request)	
Medium temperature	
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) FKM (FF)	23° to 266°F (steam sterilization 284°F for 60 min) 32° to 266°F (not recommended for steam)
Ambient temperature	Up to +266°F (briefly up to +302°F)
Installation	As required, best with actuator in upright position

Applications

- Pharma ■ Biotechnology ■ Food industry

Technical data, pressure

Port connection DN	Diaphragm size	Max. media pressure	Cv
[mm]	[inch]	[PSI]	[gpm] ASME BPE
8	1/4"	145	0.8
10	3/8"	145	2.1
15	1/2"	145	3.6
20	3/4"	145	9.8
25	1"	145	16.8
40	1-1/2"	145	43.4
50	2"	145	76.3

Flow rate: Cv value [gpm] for elastomer diaphragms measured at +60°F and 1 PSI pressure drop at mean operating pressure | Pressure values: Overpressure to the atmospheric pressure. valve closes dynamically against max. operating pressure

Dimensions [inch]

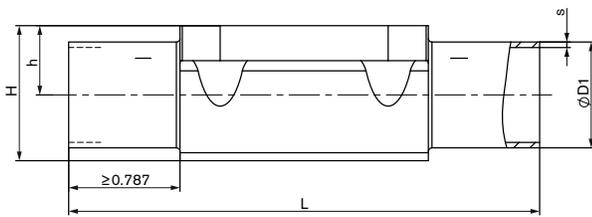
Diaphragm size 1/4" - 2"

Diaphragm size	H1	H2	ØA
1/4"	1.83	-	1.38
1/2"	2.76	0.28	3.39
3/4"	2.87	0.43	3.39
1"	2.95	0.47	3.39
1-1/2"	3.46	0.75	4.49
2"	3.82	0.98	4.49

Dimensions [inch]

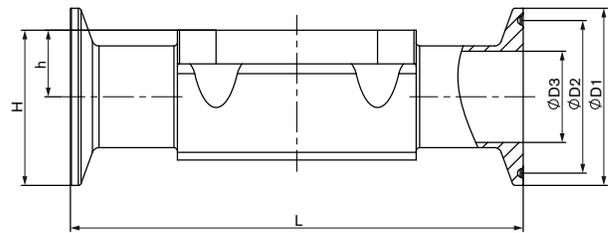
Forged body - weld end

Port connection		DIAPH size	ØD1	s	h	H	L	Self-drain angle [°]
[mm]	[inch]							
DIN EN ISO 1127 / ISO 4200 / DIN 11866 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]									
ASME BPE										
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 Charts

Welded connection acc. ASME BPE

(Actuator material handwheel / bonnet: PPS / Stainless steel)

Port connection DN		Diaphragm size	Cv [gpm]	Max. operating pressure [bar]	Item no.	
[mm]	[inch]				Mechanical polished, Ra ≤ 0.5µm	Electropolished Ra ≤ 0.38 µm
Diaphragm material EPDM (AD)						
8	1/4"	1/4"	0.9	145	325820	325827
10	3/8"	1/4"	1.9	145	325821	325828
15	1/2"	1/2"	3.6	145	325822	325829
20	3/4"	3/4"	9.8	145	325823	325830
25	1"	1"	17.9	145	325824	325831
40	1 1/2"	1 1/2"	42.8	145	325825	325670
50	2"	2"	76.3	145	325826	325832
Diaphragm material PTFE/EPDM (EA)						
8	1/4"	1/4"	0.9	145	447997	447998
10	3/8"	1/4"	2.1	145	448002	448003
15	1/2"	1/2"	3.6	145	446299	446300
20	3/4"	3/4"	9.8	145	446304	446305
25	1"	1"	16.8	145	446309	446310
40	1 1/2"	1 1/2"	43.4	145	446314	446315
50	2"	2"	76.3	145	446319	446320

Clamp connection acc. ASME BPE

(Actuator material handwheel / bonnet: PPS / Stainless steel)

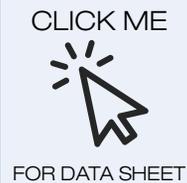
Port connection DN		Diaphragm size	Cv [gpm]	Max. operating pressure [bar]	Item no.	
[mm]	[inch]				Mechanical polished, Ra ≤ 0.5µm	Electropolished Ra ≤ 0.38 µm
Diaphragm material EPDM (AD)						
8	1/4"	1/4"	0.9	145	318870	325864
10	3/8"	1/4"	1.9	145	325859	325695
15	1/2"	1/2"	3.6	145	318923	325866
20	3/4"	3/4"	9.8	145	325860	325867
25	1"	1"	17.9	145	325861	325868
40	1 1/2"	1 1/2"	42.8	145	325862	325869
50	2"	2"	76.3	145	325863	325870
Diaphragm material PTFE/EPDM (EA)						
8	1/4"	1/4"	0.9	145	446547	446548
10	3/8"	1/4"	2.1	145	446552	446553
15	1/2"	1/2"	3.6	145	446557	446558
20	3/4"	3/4"	9.8	145	446562	446563
25	1"	1"	16.8	145	446567	446568
40	1 1/2"	1 1/2"	43.4	145	446572	446573
50	2"	2"	76.3	145	446577	446578

Manually operated 2-way Diaphragm Valve, Tube Valve Body

3233

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

- Light tube valve body
- Flow optimized body in stainless steel
- Zero dead volume
- Easy to weld



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 leg and a high cleanability certified by EHEDG.

Technical Data

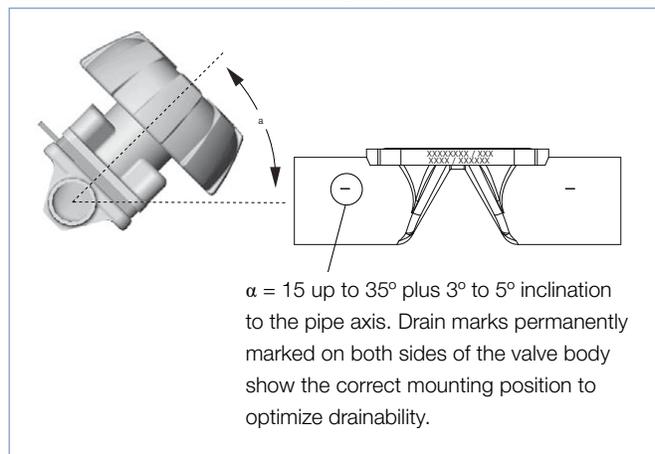
Port connection	1/2" - 2"
Diaphragm size	1/4" to 1-1/2"
Port connections	
Weld ends acc.	ASME BPE
Clamps acc.	ASME BPE
	(further port connections on request)
Materials	
Body	Stainless Steel 316L
Actuator	PPS hand wheel and stainless steel bonnet
Seal	PTFE/EPDM (EA), EPDM (AD), EPDM laminated (ER) on request: advanced PTFE/EPDM (EU), FKM (FF)
Fluid	Natural gases and liquids, high-purity, sterile, aggressive or abrasive fluids
Viscosity	Up to viscous
Viscosity	Up to viscous
Surface finish (inner surface)	
Electro polished	Ra ≤ 0.38 μm (ASME BPE SF4)
Medium temperature	
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)
Ambient temperature	Up to 266°F (briefly up to 302°F)
Options	Locking function

Technical data, pressure

Port connection DN		Diaphragm size	Max. media pressure [PSI]	Cv [gpm] ASME BPE
[mm]	[inch]			
15	1/2"	1/4"	145	2.3
20	3/4"	1/2"	145	7.5
25	1"	3/4"	145	14.5
40	1-1/2"	1-1/4"	145	34.7
50	2"	1-1/2"	145	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

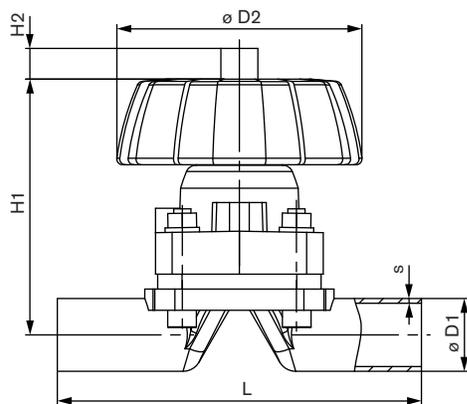
Installation for self-draining operation



Dimensions [inch]

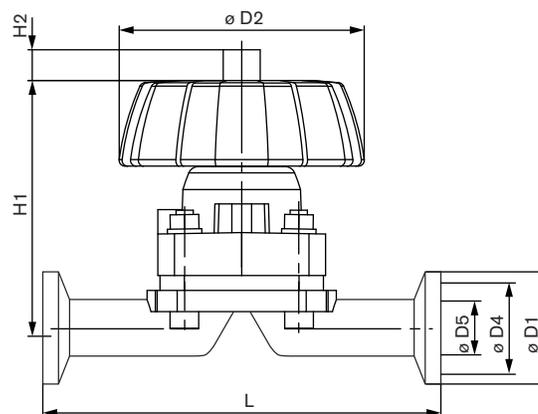
Weld ends port connection

Port connection		DIAPH size	L	H1	H2	ØD2	ØD1	s
[mm]	[inch]							
ASME BPE								
15	1/2"	1/4"	3.54	2.20	-	1.38	0.50	0.06
20	3/4"	1/2"	4.61	3.27	0.28	3.15	0.75	0.06
25	1"	3/4"	5.00	3.50	0.43	3.15	1.00	0.06
40	1 1/2"	1 1/4"	6.26	4.45	0.75	4.49	1.50	0.06
50	2"	1 1/2"	7.48	4.65	0.75	4.49	2.00	0.06



Clamp port connection

Port connection		DIAPH size	L	H1	H2	ØD2	ØD1	ØD4	ØD5
[mm]	[inch]								
ASME BPE									
15	1/2"	1/4"	3.50	2.20	-	1.38	0.98	0.81	0.37
20	3/4"	1/2"	4.02	3.27	0.28	3.15	0.98	0.81	0.62
25	1"	3/4"	4.49	3.50	0.43	3.15	1.99	1.71	0.87
40	1 1/2"	1 1/4"	5.51	4.45	0.75	4.49	1.99	1.71	1.36
50	2"	1 1/2"	6.26	4.65	0.75	6.26	2.52	2.22	1.87



Ordering charts

Welded connection ASME BPE

(PPS Handwheel & Stainless steel bonnet, electropolished Ra ≤ 0.38 µm and Inspection certificate 3.1 acc. to EN-ISO 10204 (included in delivery))

Port connection DN		Diaphragm size	Cv [gpm]	Max. operating pressure [PSI]	Item no. EPDM (AD) seal material	Item no. PTFE/EPDM (EA) seal material
[mm]	[inch]					
15	1/2"	1/4"	2.31	145	295770	275865
20	3/4"	1/2"	7.52	145	295772	299776
25	1"	3/4"	14.46	145	295778	299777
40	1-1/2"	1-1/4"	34.70	145	295782	299778
50	2"	1-1/2"	46.26	145	295773	299779

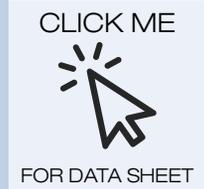
Clamp connection ASME BPE

(PPS Handwheel & Stainless steel bonnet, electropolished Ra ≤ 0.38 µm and Inspection certificate 3.1 acc. to EN-ISO 10204 (included in delivery))

Port connection DN		Diaphragm size	Cv [gpm]	Max. operating pressure [PSI]	Item no. EPDM (AD) seal material	Item no. PTFE/EPDM (EA) seal material
[mm]	[inch]					
15	1/2"	1/4"	2.31	145	317523	317524
20	3/4"	1/2"	7.52	145	325847	325851
25	1"	3/4"	14.46	145	325848	325852
40	1-1/2"	1-1/4"	34.70	145	325849	325853
50	2"	1-1/2"	46.26	145	325850	325854

Universal attachment for hygienic process valves

- 3 switching points
- Color status display
- Manual override to be used with closed housing
- Communication interface AS-Interface (option)



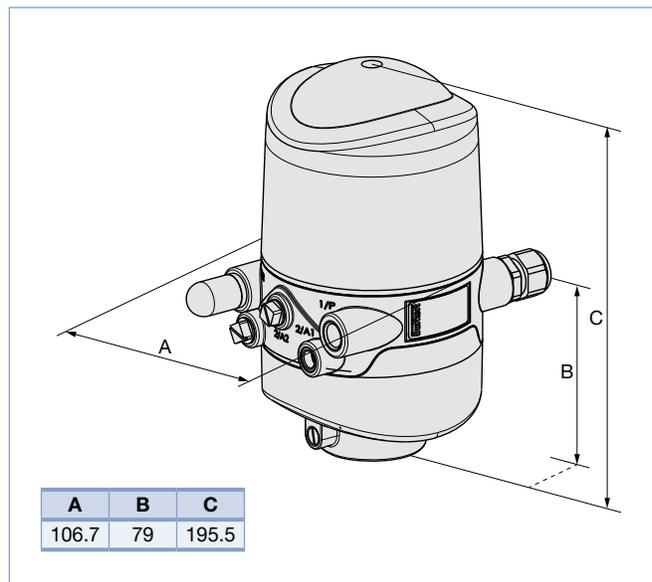
Type 8681 control head is optimized for decentralised automation of hygienic process valves. Thanks to its universal adapter it can be combined with all normal commercial butterfly valves, ball valves, single and double seated valves. With a decentralised automation concept, the control head takes over 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

Material	
Body	PA, PPO, VA
Cover	PC
Seal	CR, EPDM
Control medium	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/m ³)
Pressure condensation point	class 3 (<-4 °F (-20°C))
Oil concentration	class 5 (<25 mg/m ³)
Supply pressure	36.25 to 116 PSI
Air capacity solenoid valve¹⁾ (supply and exhaust air per solenoid valve adjustable)	110 l _N /min - for pressurization and exhaust, lifting device 110 l _N /min - delivery condition 200 l _N /min - max. typical flow rate (throttle)
Pilot air ports	
Air inlet and outlet	G 1/4"
Service ports	G 1/8"
Position sensor	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 Max. 100 mA per feedback signal
Outlet current	0 to 80 mm
Stroke range	≤ 0.1 mm
Resolution	± 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)
Total error	
Ambient temperature	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)
Installation	As required, preferably with actuator in upright position

¹⁾ 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)

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

Options

- Class 1 Div. 2



 = Burkert 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
PMO Versions (for Alfa Laval valves)						
without	12 to 28 V DC	M12, 12-pin, cable 80 cm	no	3	3 int. + 1 ext.	326752
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.	326754
bÜS/CANopen	via Bus	M12, 5-pin, cable 80 cm	no	3	3 int. + 1 ext.	20002262
IO-Link	via Bus	Multipole 4-pin, cable 10 cm (Port class A)	no	3	3 int. + 1 ext.	378706

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

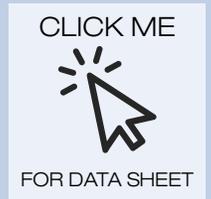
6 optimized LED colors: green, yellow, red, orange, white, and blue to indicate valve positions, error messages and warnings. In addition, the user has 6 different LED display modes to choose from.



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

Materials	
Body	PPS, stainless steel
Cover	PC
Sealing	EPDM
Control medium	
	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)
Supply pressure	3 to 7 bar ¹⁾
Air input filter	
Mesh aperture	exchangeable ~0.1 mm
Pilot air ports	Threaded ports G 1/8, stainless steel
Position feedback	Analogue position sensor (contact-free) with teach function; switchpoint (PNP) (NPN on request)
Stroke range valve spindle	2.5 to 45 mm
Ambient temperature	
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)

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

Ordering Chart

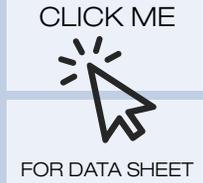
Control head for decentralized automation of ELEMENT On/Off process valves Type 21xx

Communication	Electrical connection	Control function pilot valve system	Pilot air ports threaded ports	Item no.	
				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	227254	227265
		without	G 1/8	285493	20008340
IO-Link	Flat cable clip cable	single-acting	G 1/8	227258	237659
		without	G 1/8	307371	307372
bÜS - Bürkert System Bus	M12 multipole connector	single-acting	G 1/8	307377	307378
		without	G 1/8	307375	307376
Without fieldbus communication	M12 multipole connector	single-acting	G 1/8	307379	307380
		without	G 1/8	227262	227272
Cable gland	Cable gland	single-acting	G 1/8	246211	265937
		without	G 1/8	227260	227270
				264943	238078

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)



Technical Data

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

Air input filter	Exchangeable (mesh aperture~0.1 mm)
Actuator system	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
Position detection module	Contact-free, wear-free

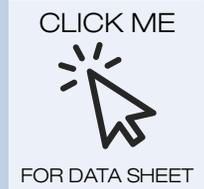
Ordering Chart

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 ¹⁾	PID Software	Binary inputs	Pilot air threaded ports	Item no.
8692 Positioner for Burkert series Type 23xx (FA03)									
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
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				G 1/8	306849
			via Bus	via Bus		no		G 1/8	306850
8692 Positioner for 175mm and 225mm Burkert series Type 27xx and 3rd party valves (FA05)									
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
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				G 1/8	313266
			via Bus	via Bus		no		G 1/8	313266
8693 Controller for Burkert series Type 23xx (FA03)									
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
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				G 1/8	306867
			via Bus	via Bus		yes		G 1/8	306868
8693 Controller for 175mm and 225mm Burkert series Type 27xx and 3rd party valves (FA05)									
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
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				G 1/8	20002484
			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

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

¹⁾ 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.
8694 Positioner for Bürkert series Type 23xx (FA03)							
Low air capacity single acting (E1) size \varnothing 70/90 mm	24 V DC	Multipole	Yes	Yes	Yes	G 1/2	323256
	24 V DC	Cable Gland	Yes	Yes	Yes	G 1/2	323266
	Asi v. 3.0	1M Flat clip with cable	via bus	via bus	via bus	G 1/2	239615
	I/O Link (Port Class B)	Multipole	via bus	via bus	via bus	G 1/2	323232
High air capacity single acting (E2) Size \varnothing 130 mm	24 V DC	Multipole	Yes	Yes	Yes	G 1/2	323258
	24 V DC	Cable Gland	Yes	Yes	Yes	G 1/2	323267
	Asi v. 3.0	1M Flat clip with cable	via bus	via bus	via bus	G 1/2	239616
	I/O Link (Port Class B)	Multipole	via bus	via bus	via bus	G 1/2	323233
8694 Positioner for 175mm and 225mm Bürkert series Type 27xx and 3rd party valves (FA05)							
Low air capacity single acting (E1) size \varnothing 70/90 mm	24V DC	Multipole	Yes	Yes	Yes	G 1/2	323259
	24V DC	Cable Gland	Yes	Yes	Yes	G 1/2	323268
	I/O Link (Port Class B)	Multipole	via Bus	via Bus	via Bus	G 1/2	323234
	Asi v. 3.0	1M Flat clip with cable	via Bus	via Bus	via Bus	G 1/2	239611
	buS	Multipole	via Bus	via Bus	via Bus	G 1/2	323238
High air capacity single acting (E2) size \varnothing 130 mm	24V DC	Multipole	Yes	Yes	Yes	G 1/2	323260
	24V DC	Cable Gland	Yes	Yes	Yes	G 1/2	323269
	I/O Link (Port Class B)	Multipole	via Bus	via Bus	via Bus	G 1/2	323235
	Asi v. 3.0	1M Flat clip with cable	via Bus	via Bus	via Bus	G 1/2	239612
	buS	Multipole	via Bus	via Bus	via Bus	G 1/2	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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FOR DATA SHEETS

8791 / 8792 / 8793

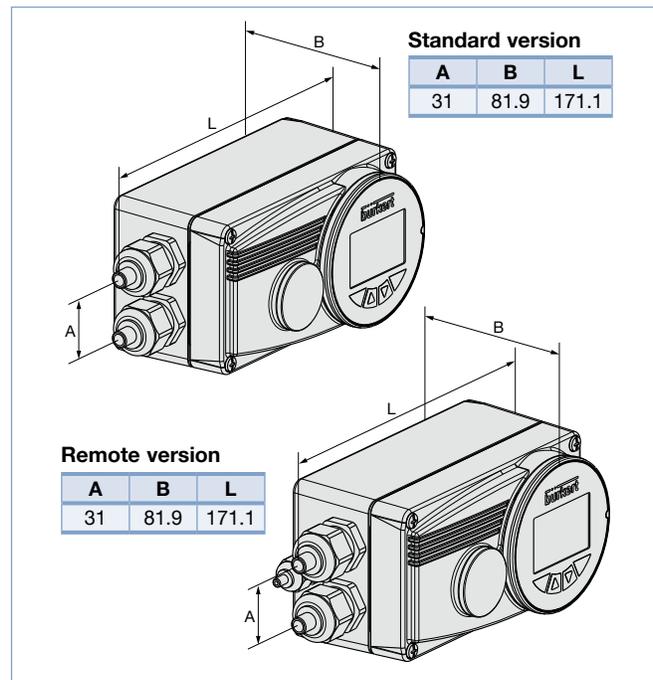
The type 8791, 8792 and 8793 are designed to standardization acc. to IEC 60534-6-1 or VDI/VDE 3845 (IEC 60534-6-2) for assembly with linear and rotary actuators. In addition, the remote versions can be combined with Bürkert process control valves. They can be operated with the usual current and voltage 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

Material	
Body	Aluminium plastic-coated
Seal	EPDM, NBR, FKM
Operating voltages	24 V DC \pm 10 %
Residual ripple	Max. 10%
Input resistance	0/4-20 mA: 180 Ω
Analogue feedback	4-20 mA, 0-20 mA
Binary input	Galvanically isolated, 0-5 V = log "0", 10-30 V = log "1"
Binary output	Galvanically separated 100 mA
Ambient temperature	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)
Pilot air ports	Threaded ports G 1/4
Supply pressure	7.25-14.50 PSI (1.4...7 bar) ¹⁾²⁾

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

Envelope Dimensions [mm] (see datasheets for details)



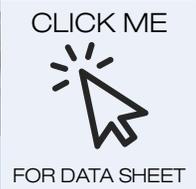
Ordering Chart

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.
8791 BLIND Positioner for 1/4 turn and Yoke Syle valves, NAMUR Mount (requires adapter)									
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
8792 DISPLAY Positioner for 1/4 turn and Yoke Syle valves, NAMUR Mount (requires adapter)									
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
8793 DISPLAY Controller for 1/4 turn and Yoke Syle valves, NAMUR Mount (requires adapter)									
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

8801 / 2100 / 2101

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



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

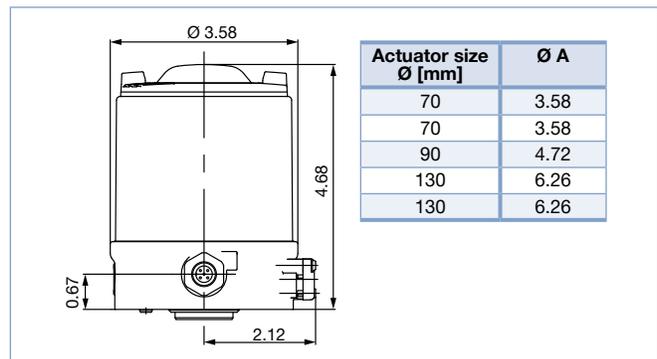
	2100 Angle Seat	2101 Globe
Orifice	0.5" (DN15) to 2.5" (DN65)	0.5" (DN15) to 4" (DN100)
Medium temperature	-10°C to +185°C; 14°F to 365°F	
High temp. option	(CF38) up to 446F (230C)	
Ambient temperature	-10°C to +60°C; 14°F to 140°F (push-in air ports) -10°C to +100°C; 14°F to 212°F (threaded air ports)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

*other options available

8691 Technical Data

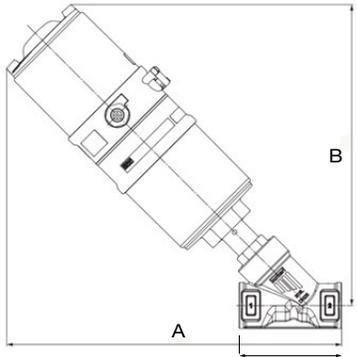
Material	
Body	0.5" (DN15) to 2.5" (DN65)
Cover	PC
Sealing	EPDM
Control medium	neutral gases, air, quality classes acc. to ISO 8573-1
Dust concentration	Class 7 (<40µm particle size)
Particle density	Class 5 (<10mg/m³)
Pressure condensation	Class 3 (<-20°C)
Oil concentration	Class X (<25mg/m³)
Supply pressure	43.5-101.5 PSI
Pilot air ports	316L stainless steel
Seal material	PTFE
Position feedback	Analogue position sensor (contact-free) with teach function; switchport (PNP)
Ambient temperature	
with pilot valve	14°F to 131°F; -10°C to 55°C
Protection type	IP65 and IP67 according to EN 60529, Type 4X
Approvals	cULus Cert. No 238179

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



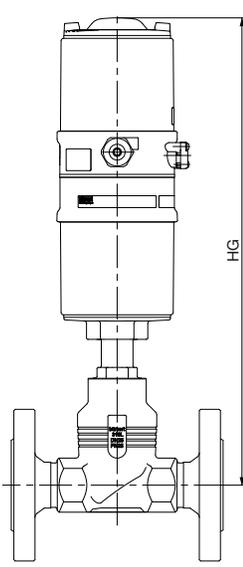
Dimensions [inch] (see datasheet for details)

8801 NPT end



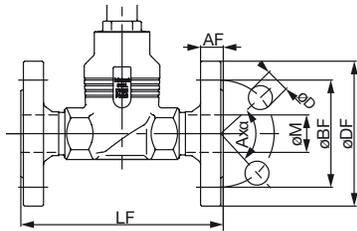
Connection	Actuator [mm]	A	B	C
1/2"	70	9.9	11.0	2.58
3/4"	70	10.2	11.4	2.95
1"	70	10.4	11.7	3.54
1 1/2"	130	14.0	15.4	4.72
2"	130	14.5	16.3	5.91
2 1/2"	130	15.1	17.3	7.28

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
Flow from below the seat (liquids)							
1/2"	70	5.8	73	363	 303637	 286261	 290366
3/4"	70	12.7	73	363	 302452	 274542	 302523
1"	70	20.8	73	232	 464795	 253137	 295044
1 1/2"	90	46.2	73	232	 307516	 302457	 302526
2"	130	71.7	73	232	 302455	 302521	 302527
2 1/2"	130	109.8	81	218	 302456	 302522	 302529
Flow from above the seat (steam and other gases)							
1/2"	70	5.9		232	 295043	 306674	
3/4"	70	13.87		232	 306647	 268818	
1"	70	21.96		232	 294405	 306675	
1 1/2"	90	46.34		232	 306672	 306676	
2"	90	63.58		232	 295174	 306677	
2 1/2"	90	98.26		232	 306673		

Valve System On/Off (2101 + 8691)

Size	Actuator [mm]	Min. pilot pressure [PSI]	Max. pressure [PSI]	Item no. ANSI Flange
Flow direction below the seat (gases and liquids)				
1/2"	70	70	362	305469
3/4"	70	70	290	305470
1"	70	70	232	261751
1 1/2"	90	72.5	232	305472
2"	130	72.5	232	305473
2 1/2"	130	82	232	305474
3"	130	82	145	305475
4"	130	82	87	305477



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



8802 Technical Data

Material	
Body	PPS, stainless steel
Cover	PC
Sealing	EPDM
Control medium	
Dust concentration	neutral gases, air, quality classes acc. to ISO 8573-1 Class 7 (<40µm particle size)
Particle density	Class 5 (<10mg/m³)
Pressure condensation	Class 3 (<-20°C)
Oil concentration	Class X (<25mg/m³)
Supply pressure	
Low air flow rate 0-101.52 PSI (0 to 7 bar ¹⁾)	
High air flow rate 43.5-101.52 PSI (3 to 7 bar)	
Pilot air ports	Threaded ports G1/8 stainless steel
Seal material	EPDM
Electrical Connection	
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
Ambient temperature	-10°C to 55°C; 14°F to 131°F
Protection type	IP65/IP67 acc. to EN 60529, Type 4X acc. to NEMA 250 standard

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

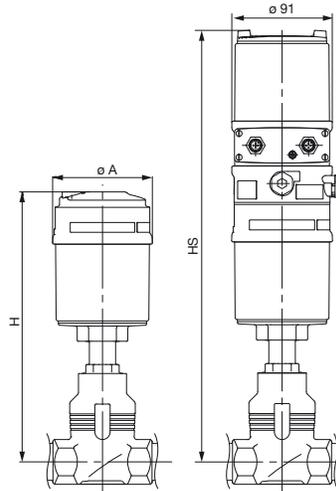
Dimensions [inch] (see datasheet for more details)

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

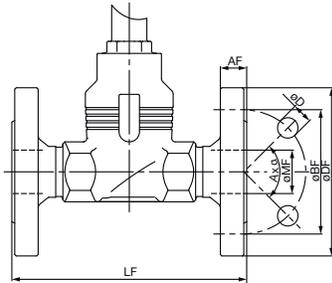
Dimensions [inch] (see datasheet for more details)

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	-	-

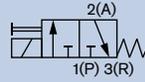
Size	Orifice [mm]	Cv	Pressure	Tube		Clamp	
				PTFE/St.st.	St.st./St.st.	PTFE/St.st.	St.st./St.st.
1/2"	10	3.1	232	338227	337316	-	-
	15	5	232	-	-	338255	333093
3/4"	15	5	232	338234	337317	337288	338257
1"	20	8.3	232	338239	336479	337289	338249
1 1/2"	32	20.7	232	338242	336459	337290	338259
2"	40	27.7	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

CLICK ME



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
Pressure range	0-145 PSI max.	0-188 PSI max
Temperature media	14 °F to 140 °F (-10 °C to +60 °C)	14 °F to 140 °F (-10 °C to +60 °C)
Ambient temperature	14 °F to 104 °F (-10 °C to +40 °C)	14 °F to 104 °F (-10 °C to +40 °C)
Body material	PPS	Polyamide
Banjo bolt material	Brass, nickel plated	Brass, nickel plated
Seal material	FKM	FKM
Coil material	Polyamide	Epoxy (Class H)
Voltage tolerance	±10%	±10%
Power consumption	DC: 8 W, AC: 24 VA (inrush), 17 VA (hold)	DC: 7 W, AC: 4 W
Protection class	IP65, NEMA 4 (with cable plug)	IP65 (with cable plug)
Electrical connection	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)
Response times ¹⁾		
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

¹⁾ 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

CLICK ME



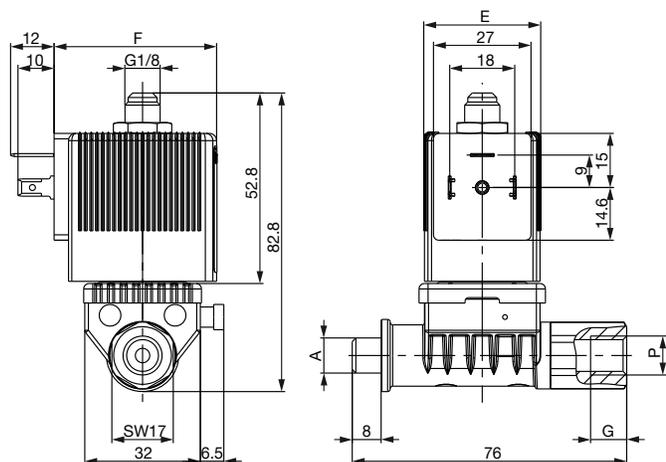
FOR DATA SHEET

Dimensions [inch] (see datasheet for details)

Type 6014 P

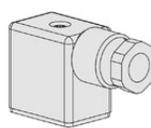


2518 cable plug
Item no. 314 802
(not included)

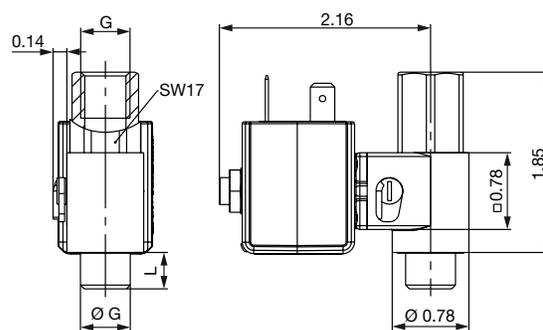


Type	A	B	C
6014 P	3.04	1.28	3.31

Type 7012 P Threaded version for compressed air



2507 cable plug
Form B
(not included)



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

Ordering Chart

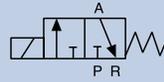
Connection Actuator/Air	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
				24 V DC	120 V/60 Hz
6014 P					
1/8" BSP / 1/4" NPT	1.6	0.06	0-232	20035022	20035020
1/4" BSP / 1/4" NPT				20035013	20035018
1/8" BSP / 1/4" NPT	2.0	0.1	0-145	20035017	20035016
1/4" BSP / 1/4" NPT			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

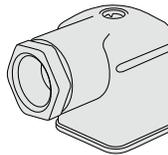
Options

- Manifolds of many engineering materials

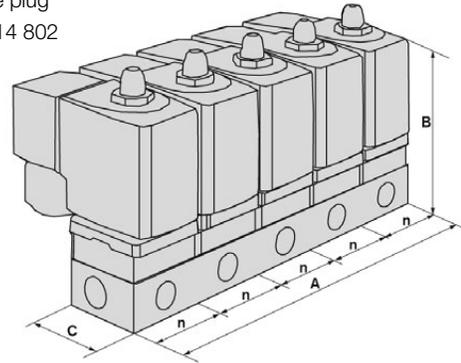
Ordering Chart for manifold mount valves

Voltage	Item no. standard
24 VDC	125375
120 VAC	467127

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

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



Simplified Process Automation Solutions

Type 8098



Type 8792/93



Type 8693



Type 8692

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



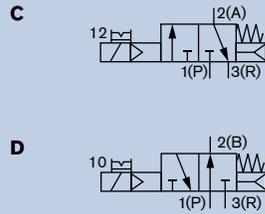
Electronic Data Sheet (EDS) Also Available on a wide range of devices: Including Type 8652 Valve Manifold Island, Types 8741, 8742, 8745, 8746, 8756 Mass Flow Controllers, Type 8619 Multifunction Controller, ME43 bUs Gateway, ME61 Graphic Display



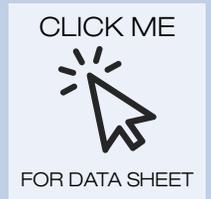
Servo-assisted 3/2 way Solenoid Valve for pneumatics

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



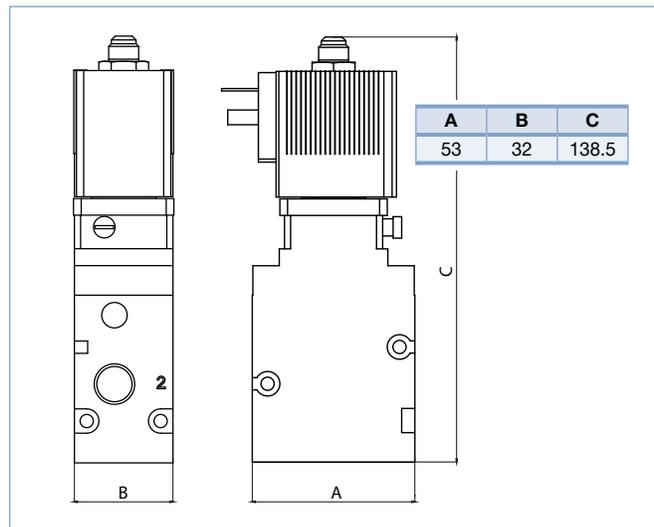
The Type 6518 is a servo-assisted 3/2-way valve. The use of high quality materials makes it possible to use these valves in the open air and under chemical atmospheres. The valve can be used individually or in blocks.

Technical Data

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

¹⁾ 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

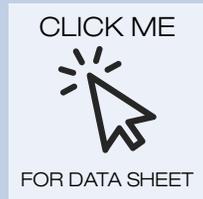
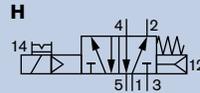


Ordering Chart for 6518 NPT

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

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



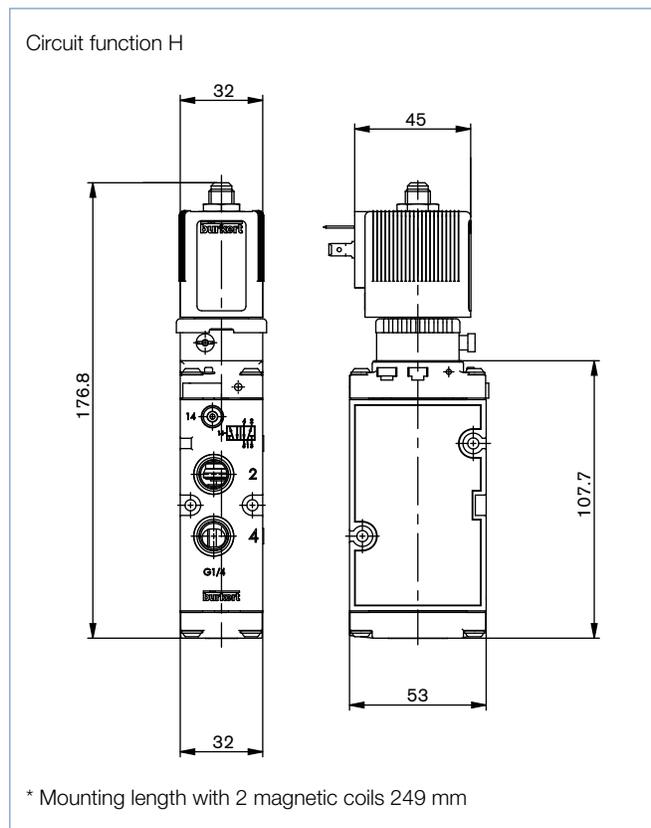
The 6519 is a pilot operated 5/2 or 5/3 way valve. The valve width of 32 mm allows high flow rates. The use of high quality materials allows the use of the valves even under outdoor and chemical atmosphere. The valves can be used individually or in blocks.

Technical Data

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

¹⁾ 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

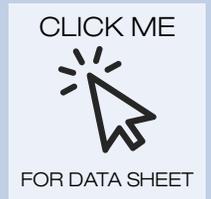
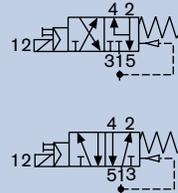
Type	Connections mechanical / electrical	Approvals	Item No.		
			24/DC	120/60	EX-i
Standard	NPT1/4" Nickel-plated / 2518 plug	UR (cURus)	296432	296479	
Standard	NPT1/4" Nickel-plated / 2509 plug	UL (cULus)	296510	296507	
Hazloc	NPT 1/4" Nickel-plated ports / 3 meter molded cable version	(UL Class I Div 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

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

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

¹⁾ 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

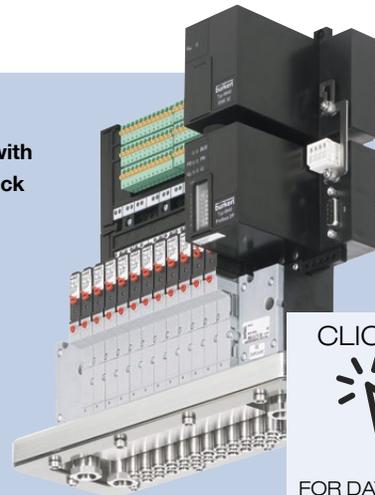
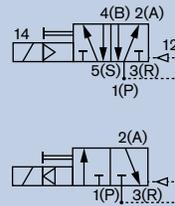
8640

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

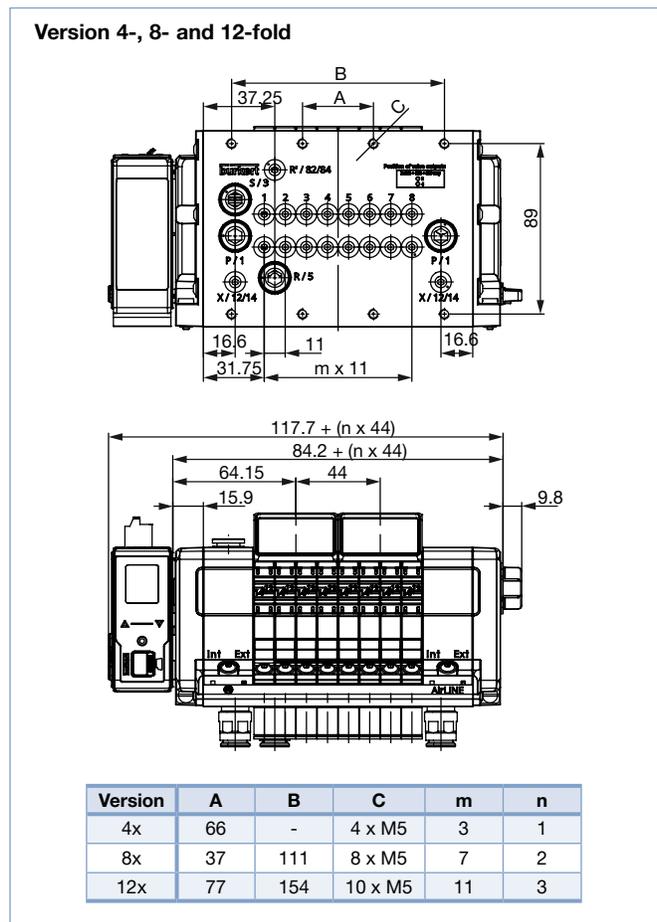
The valve island Type 8652 AirLINE has been especially developed for applications in process automation. New diagnostic functions can be visualized at the LC display, both in clear text as well as symbols. This makes it easy to relate to the shown messages and helps to save time during start-up and maintenance. 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 ¹⁾
Approvals	cULus
Optional	cURus Haz. Loc. Cl I, II, III, Div2

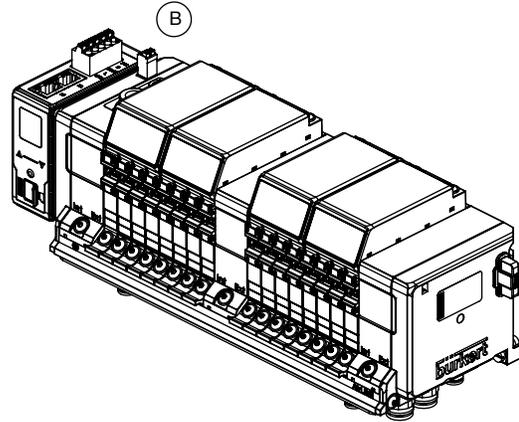
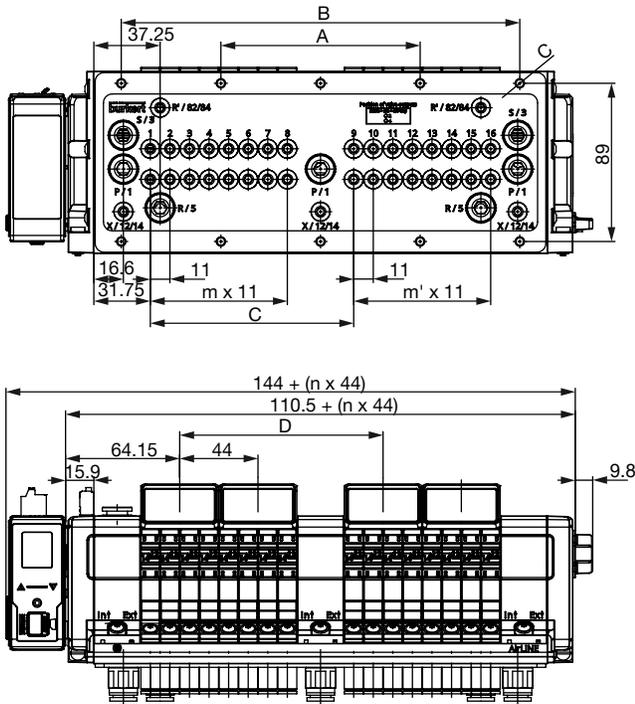
¹⁾ Maximum flow depending on the valve function

Dimensions [mm] (see datasheet for details)



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

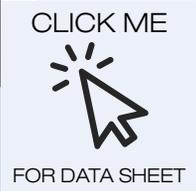
Ordering Chart

Valves	Function	Total outputs	Flow rate	Control air	Valve output	Check valve	Pressure sensor	Digital inputs	Communication	cULus	Item no.
Airline QUICK Adapter Plate: Stainless Steel											
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
Airline QUICK Adapter Plate: Aluminum											
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

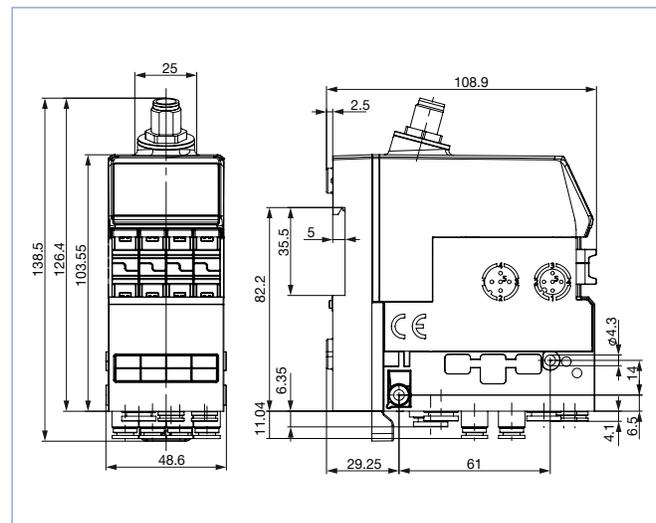


The valve island Type 8653 AirLINE Field comes with diagnostic functions that can be visualized at the LC display, both in clear text as well as symbols. This makes it easy to relate to the shown messages and helps to save time during startup and maintenance. Furthermore the diagnostic message is also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

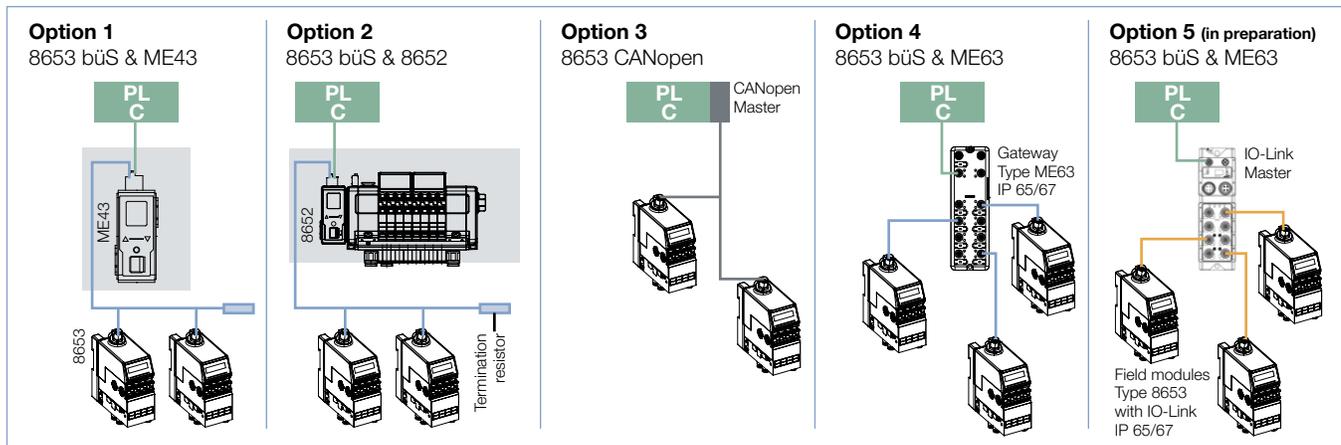
Technical Data

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



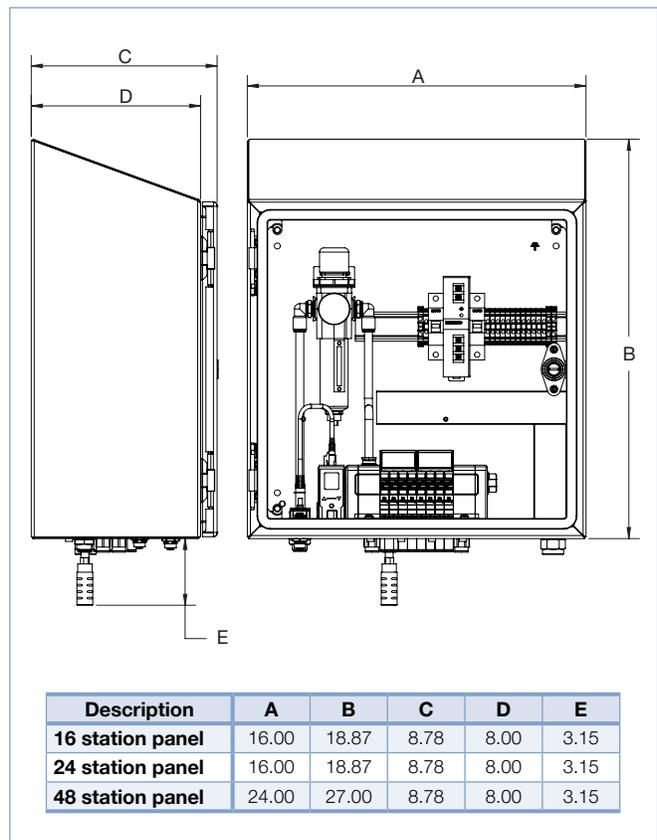
The Type 8615 AirLINE PANEL is a ready-to-mount, hygienic control cabinet with standardised connection options for many applications

Technical Data

Width/station	11 mm
Circuit functions	C 2 x 3/2-way (NC/NC)
Flow rate	310 l/min ¹⁾
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

¹⁾ 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

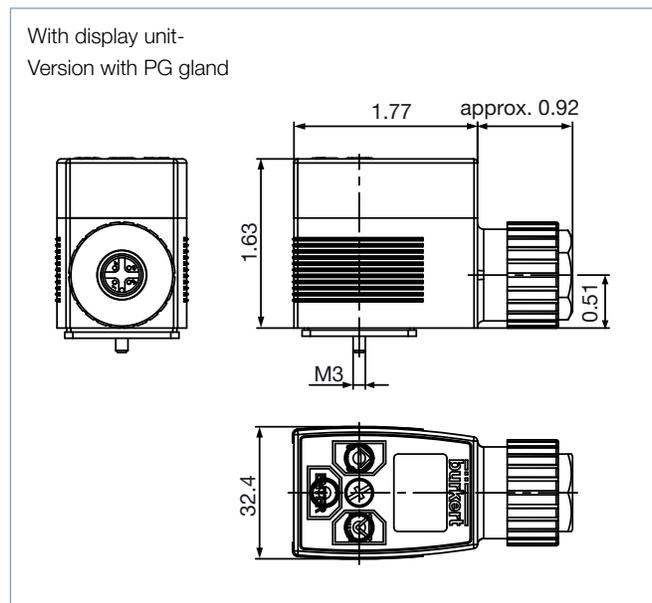
Power supply	12-30 V DC, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level
Voltage tolerance	± 10 %
Residual ripple	< 5 %
Power consumption max.	
Flow transmitter (4-20 mA output, 2-wire operation)	0.6 W
Pulse divider (NPN/PNP output, 3-wire operation)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



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FOR DATA SHEETS

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.

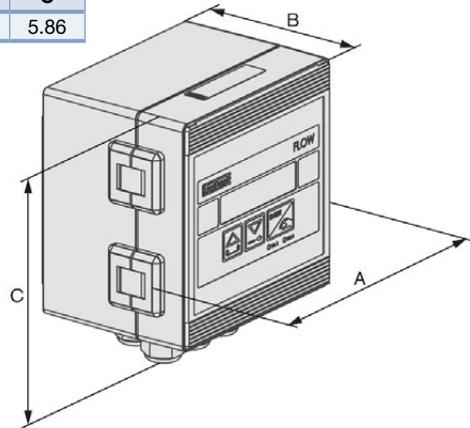
Technical data 8025

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

Envelope Dimensions [mm] (see datasheet for details)

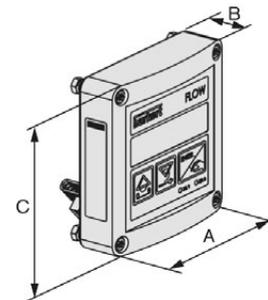
Wall Mount

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	433740	433741
Panel mount	2	2 x 3 A	Terminal strip	419536	-

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	443360
		Hall	UL Recognized for US and Canada	2 cable glands	564398
	115/230 V AC	Hall	-	2 cable glands	423926

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



CLICK ME



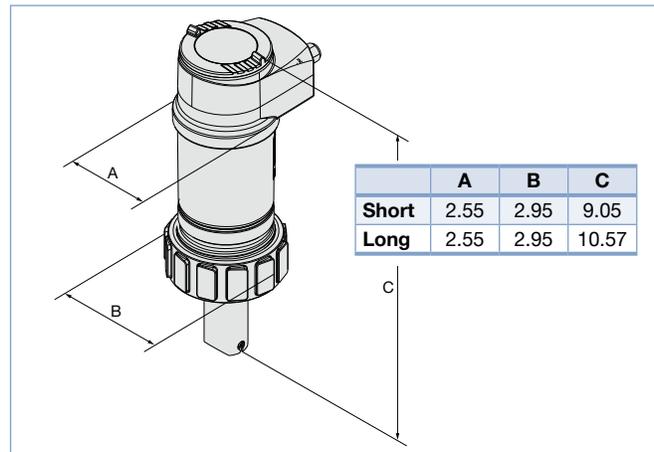
FOR DATA SHEET

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)	$\leq \pm 1\%$ o.FS (at 33fps)
Measuring error (std. k-factor)	$\leq \pm(0.5\%$ o.FS + 2.5% o.R)
Linearity	$\leq \pm 0.5\%$ 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
with display			
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
without display			
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

CLICK ME



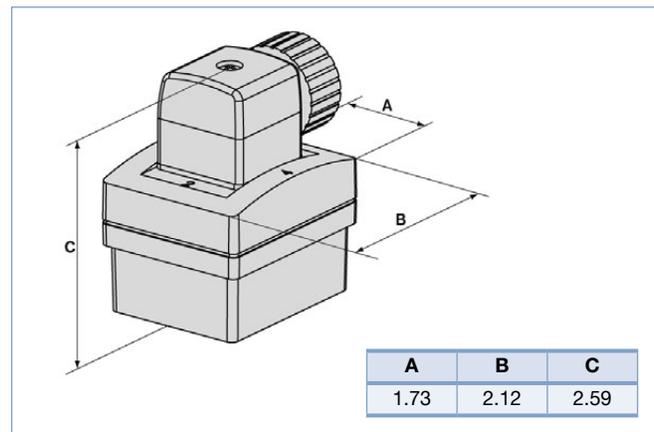
FOR DATA SHEET

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

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



CLICK ME



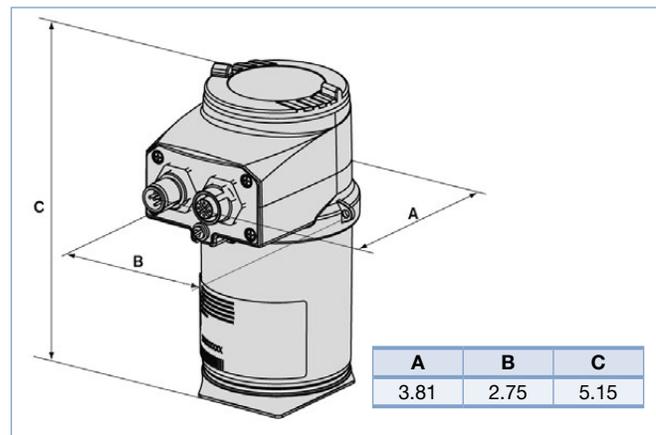
FOR DATA SHEET

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

Electronic module	
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
Integrated sensor and fitting module	
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)

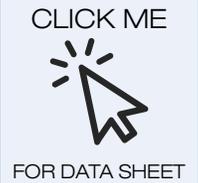
Blind INSERTION Magmeter

8041

For use with fitting 1/2" to 16"

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

Please see fitting S020



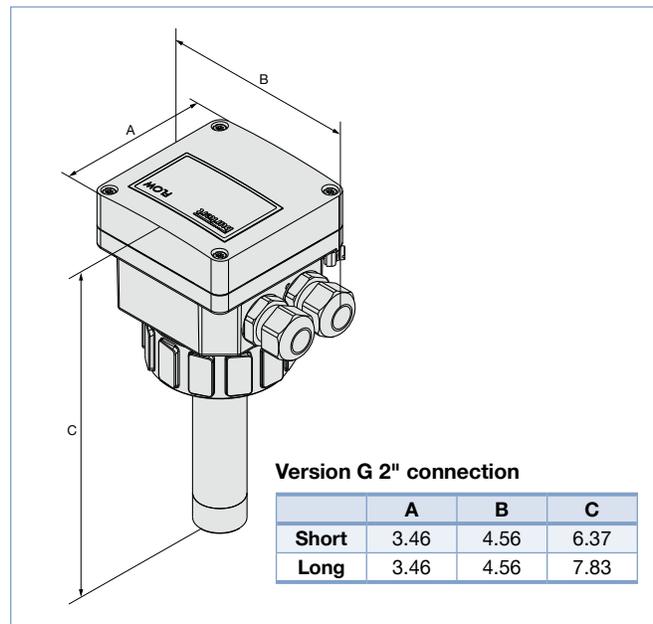
The insertion magmeter constructed from a PVDF finger and high quality blind electronic module. Perfect for contaminated or aggressive fluids it has both 4-20 mA and pulse output, with optional 3A relays, making this a flexible solution for flow control or batching.

Technical Data

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 (standard k-factor)	≤ ±4% o.R. (3.28-32.81 ft/s)
Linearity	≤ ±(1% o.R. + 0.1% o.FS)
Repeatability	±0.25% o.R.
Housing material	PC+20% glass fibre
Electrode material	316L SS
Mag-sensor material	PVDF or SS
O-rings	FKM
Max. fluid temperature	
PVDF sensor version	176 °F (depending on fitting)
SS sensor version	302 °F* (depending on fitting)
Ambient temperature range	14 °F to 140 °F
Max. fluid pressure	145 PSI (PVDF & SS version with S020 plastic fitting) 232 PSI (SS version with S020 metal fitting)
Fluid conductivity	> 20 µS (Micro-Siemens)
Storage temperature	-4 °F to 140 °F
Voltage supply	18-36 VDC
Current consumption Max.	≤ 220 mA
Electrical protection	Short circuit protection Reversed polarity of DC 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. 1100 Ω at 36 V Max. 330 Ω at 18 V
Ingress protection	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



CLICK ME



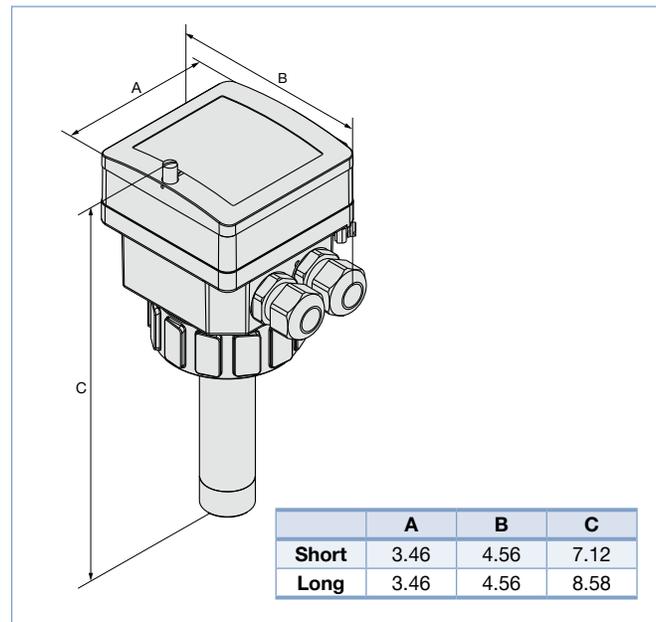
FOR DATA SHEET

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.

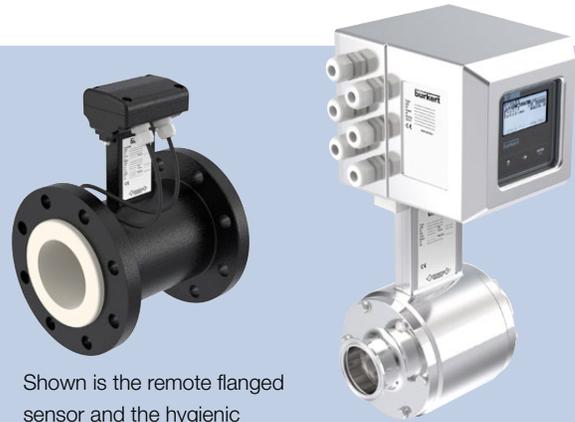
To select a complete device the following items need to be ordered:

- 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

Full bore INLINE Magmeter

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

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



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.

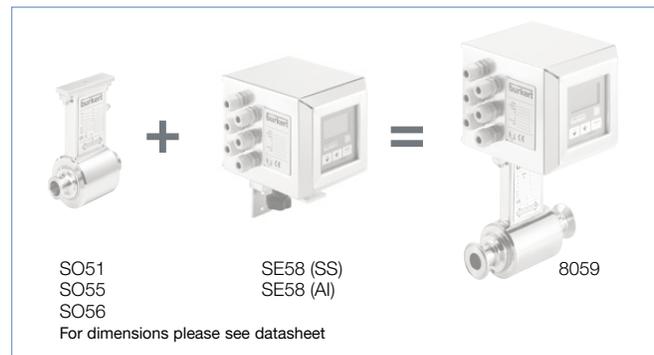
Technical Data

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

Fittings for 8202 & 8222 pH and Conductivity Sensors

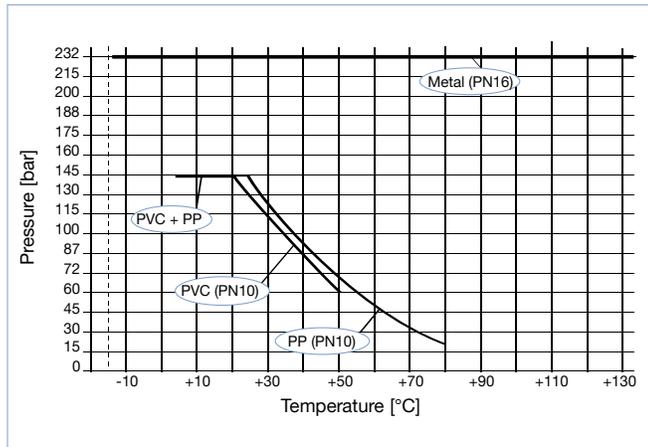
Tee Fittings and Adaptors

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



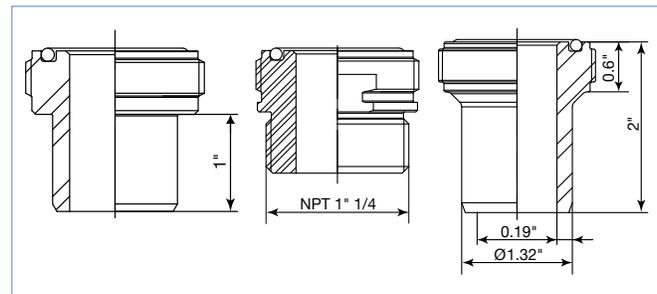
Fittings to connect the compact analytical transmitters to the media. Materials included are PVC-U, PP, Stainless steel, and PVC thread. For chemical resistance details please download our chemical resistance booklet from our website www.burkert-usa.com.

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

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



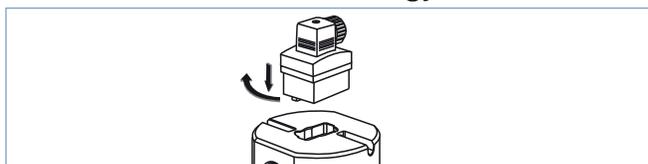
This positive displacement sensor fitting is specially designed for flow measurement and/or batch control of highly viscous fluids like glue, honey or oil. This measuring element must be associated to a transmitter SE30, SE32, SE35, SE36 with hall sensor principle only, quickly and easily connected together 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

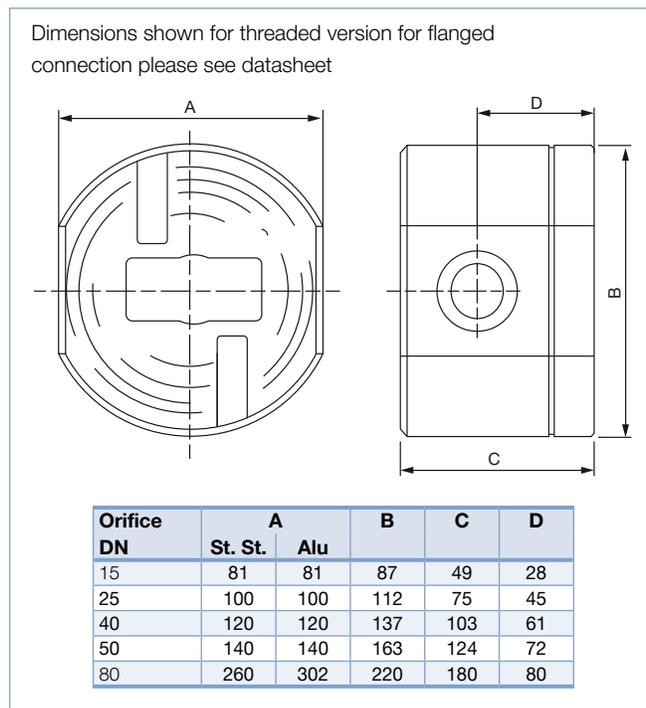
General data	
Compatibility	With transmitter SE30, SE32, SE35, SE36 with Hall sensor principle (see separate data sheet)
Wetted parts materials	
Body	Aluminium, stainless steel 316L (1.4401)
Rotor	PPS, aluminium, stainless steel 316L (1.4401)
Shaft	Stainless steel 316L (1.4401)
Seal	FKM or FEP/PTFE encapsulated
Complete device data	
Pipe diameter	DN15 - DN100
Thread connection	½"; 1"; 1½"; 2"; 3" (NPT)
Flange connection	1"; 1½"; 2"; 3" or 4" ANSI 150LB flange
Medium temperature max.	
Aluminium body:	-4 °F to 176 °F (-20 to +80 °C)
Stainless steel body:	-4 °F to 248 °F (-20 to +120 °C)
Medium pressure max.	
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)
Viscosity	1 Pa.s max. (higher on request)
Repeatability	± 0.03 % of Reading
Environment	
Ambient temperature	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]



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

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, display and Wi-Fi



Blind 8098 "S" OEM version

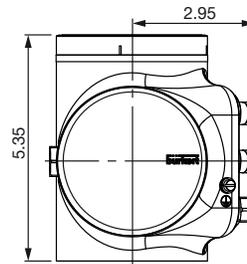
CLICK ME
FOR DATA SHEET

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 (differentiation factor, acoustic transmission factor) offer additional information about the particular liquid in use (details, see data sheet).

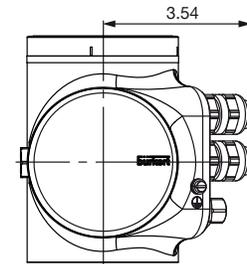
Technical Data

Fluids	Non dangerous liquids complying with article 4 §1 of 2014/68/EU directive
Ambient temperature	-4 °F to 140 °F
Process connection/pipe size acc. to	DIN 32676 series C (ASME BPE) 3/8", 1/2", 3/4", 1", 1 1/2", 2", 2 1/2", 3"
Electrical connections	2 x M20 x 1.5 cable glands and 1x5 pin M12 male fixed connector (A-coded) or 2x4 pin M12 female fixed connectors (D-coded) and 1x5 pin M12 male fixed connector (A-coded)
Sensor housing	Stainless steel 304/1.4301
Blind cover	Stainless steel 304/1.4301
Seal	VMQ silicone
Surface finish	
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)
Display module	2.4", monochrome graphic (240 x 160 pixels) German, English, French languages
Temperature measurement	
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 %
Refresh time	1 s

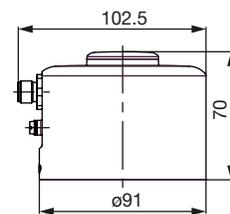
Transmitter SE98 Dimensions [inch]



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

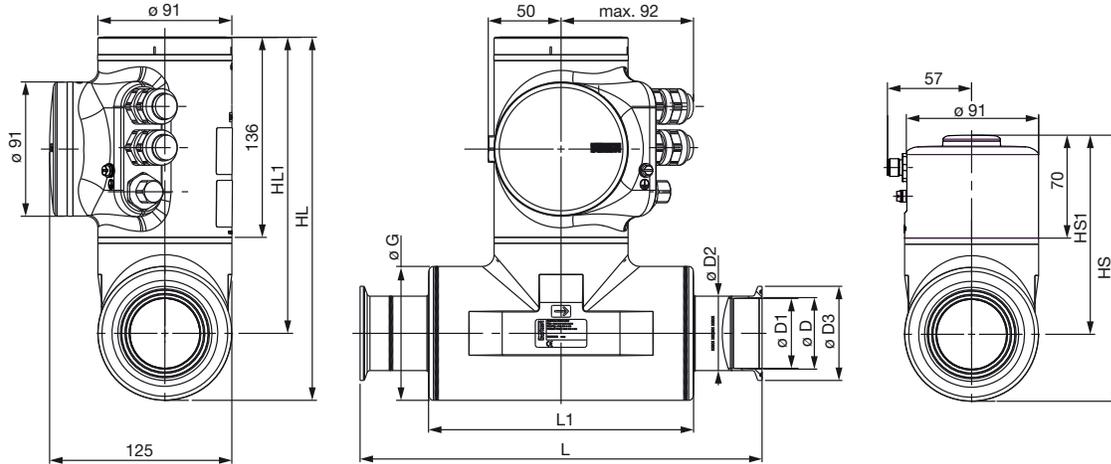


with 1 x 8 pin male connector

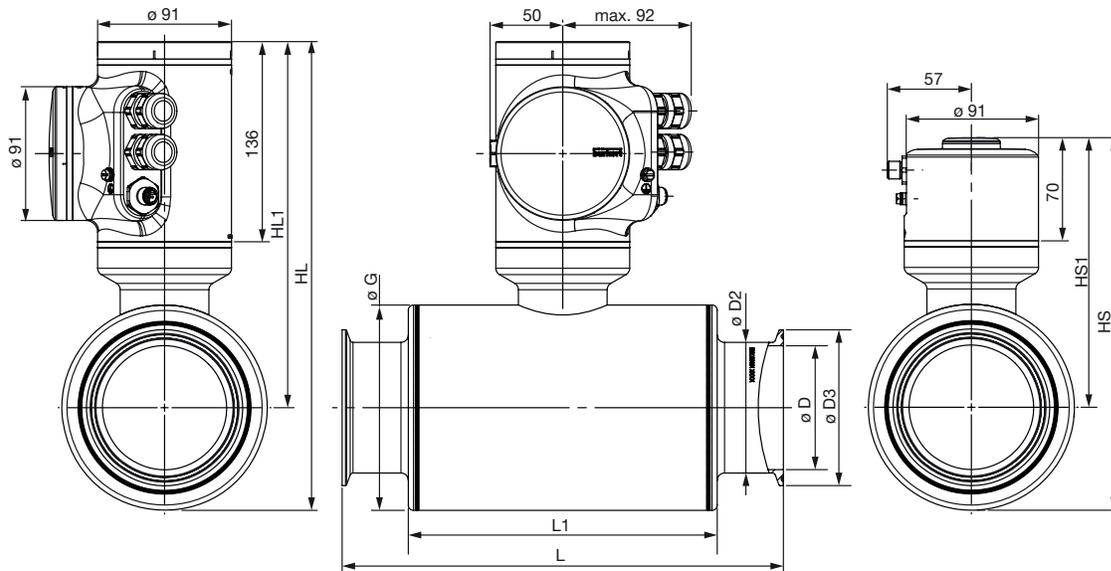
Dimensions [inch] (see datasheet for details)

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 m³/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 m³/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 m³/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 m³/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 m³/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 m³/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 m³/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 m³/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:

Device with Wi-Fi interface available on request.

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 m³/h	1 X 8 pin M12 Male Connector	Yes	571794
1/2"			2.5 m³/h		Yes	571797
3/4"			7 m³/h		Yes	571800
1"			14 m³/h		Yes	571803
1 1/2"			35 m³/h		Yes	571806
2"			64 m³/h		Yes	571809
2 1/2"			100 m³/h		Yes	574718
3"			150 m³/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.



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

Options

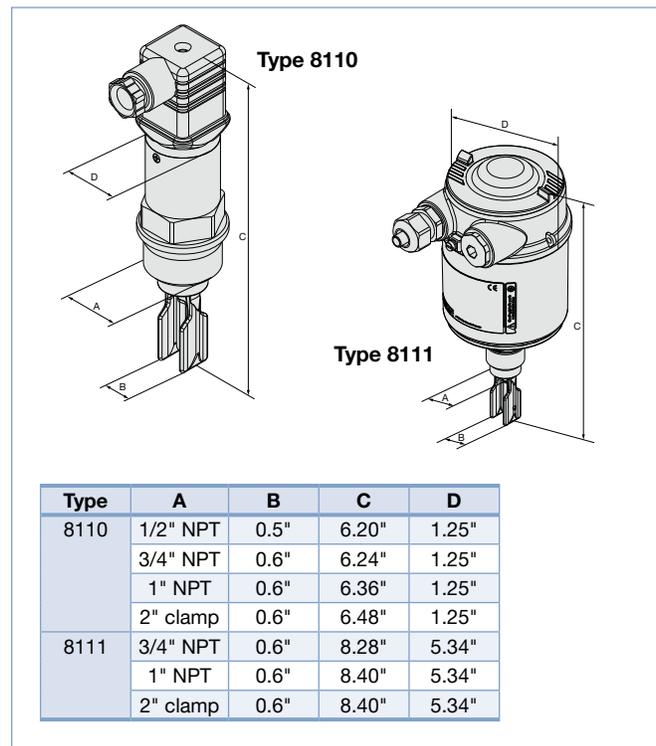
8110

- 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.
8110		
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.
8111		
NPT 3/4"	2 x M20 glands	558111
NPT 1"	2 x M20 glands	558113
Clamp 2"	2 x M20 glands	558114

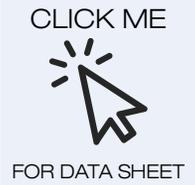
Extension tubes are available (see datasheet Type 8112).

Ultrasonic Level Transmitter for General Application

8177

NPT and G thread process connection

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

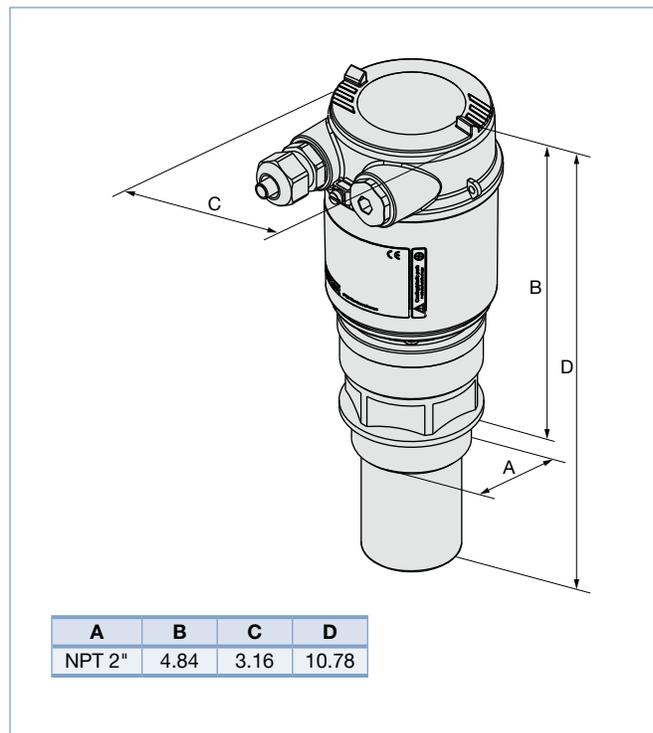


Ultrasonic level transmitters for non-contact measurement of process liquids and solids. Standard HART and 4-20 mA HART compatible output.

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

Envelope Dimensions [inch] (see datasheet for details)



Option

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

Ordering Chart (versions with display)

Area of application	Process connection [inch]	Range (liquids)	Range (solids)	Electrical connection	Item no.
8177					
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/NPT½" + 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



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FOR DATA SHEETS

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

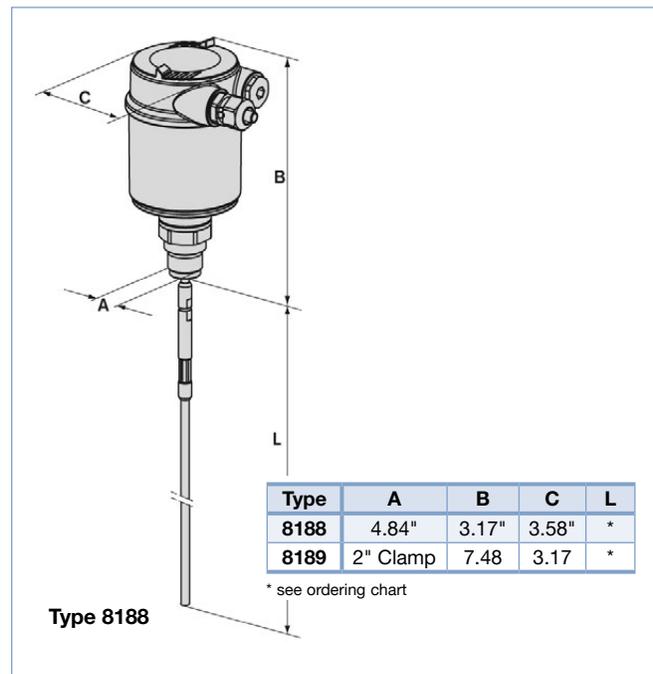
Technical Data

Housing / Cover	PBT, Stainless steel 316L / PC
Seal ring / Ground terminal	NBR / Stainless steel 316L
Display	LCD in full dot matrix
Ambient temperature	-4 to 176 °F
Current limitation	21.5 mA (max. output current)
Electrical connections	Cable gland M20 x 1.5
Output signal	4-20 mA/HART
Output Load Max.	See datasheet
Deviation	± 2 mm (See drawing in datasheet)
Min. Dielectric	Rod and cable $\epsilon_r > 1.6$ Coax. - ϕ 21.3 mm $\epsilon_r > 1.4$
Process temperature	-40 to 302 °F
Temperature drift	0.03% /10K
Measurement type	Level of liquids
Protection	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.
Type 8188						
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
Type 8189						
Specifications	Voltage supply	Output	Probe	Length	Electrical connection	Item no.
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



CLICK ME



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.

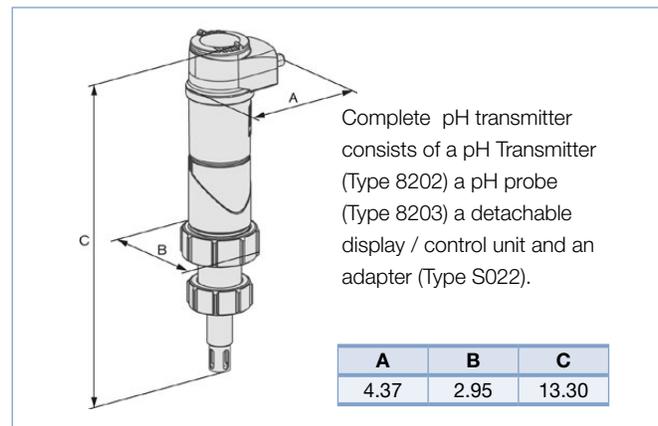
Technical Data

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

Options

- Blind version (Neutrino)
- ORP: see datasheet 8202

Envelope Dimensions [inch] (see datasheet for details)



Ordering Chart

Wiring	Outputs	Nut	M12	Item no.
Transmitter				
2-wire	2 x transistors + 1 x 4-20 mA	PVC	5-pin male	559634
		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	561025

Accessories

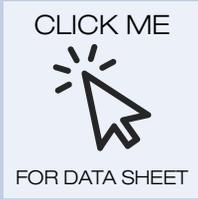
Description	Item no.
Display/programming module	559168
Electrical connector, 5-pin M12 male, plug only	560946
Electrical connector, 5-pin M12 male, 2 m prewired	559177
Electrical connector, 5-pin M12 female, plug only	917116
Electrical connector, 5-pin M12 female, 2 m prewired	438680

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

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

Technical Data

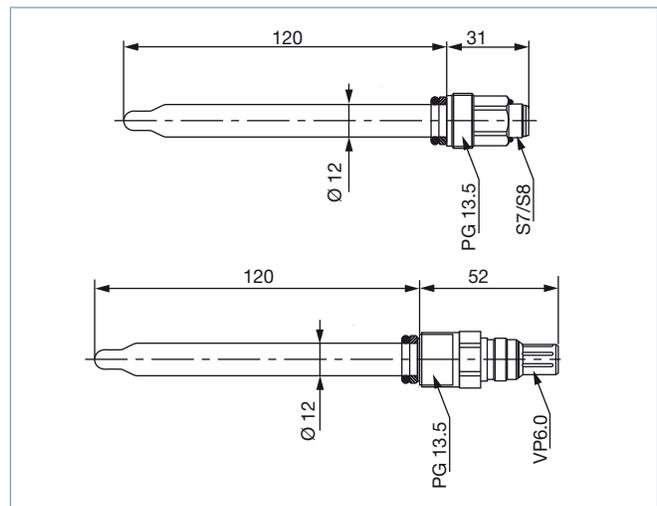
General data	
pH probe Measuring range	0 ... 14 pH
Medium temperature	Temperature limits may depend on the inserted probe. Refer to the relevant instruction manual or technical data. If the temperature ranges given for the holder and the inserted probe are different, use the most restrictive range.
Medium pressure	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.
Temperature compensation	Automatic (integrated Pt100 or Pt1000) or manual compensation reference temperature 77 °F (25 °C)
Electrical connection	Coaxial shielded cables with connector for pH/ORP and 4-wire cable for Pt1000/Liquid earth rod
Electrical data	
Output	Analog signal, to be connected to ELEMENT or ELEMENT neutrino pH meter Type 8202 or multi-CELL transmitter/controller Type 8619
Environment	
Ambient temperature	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
Medium	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
Medium temperature	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)
Minimal conductivity	50 µS/cm	50 µS/cm	2 µS/cm	2 µS/cm	3 µS/cm	1 µS/cm
Max. pressure at max. temperature	87 PSI (6 bar)	58 PSI (4 bar)	87 PSI (6 bar)	145 PSI (10 bar)	87 PSI (6 bar)	87 PSI (6 bar)
No. of diaphragms	1	1	1	2	3	1
Diaphragms	"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



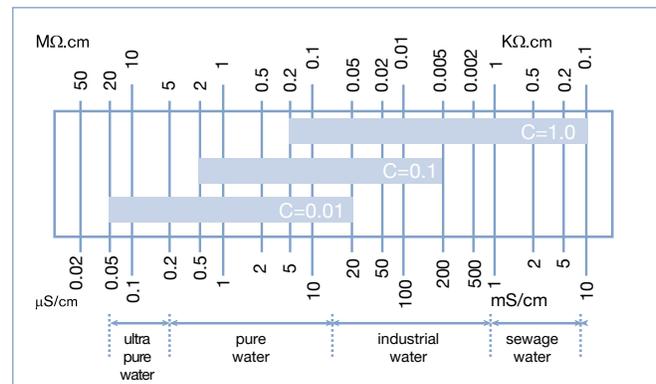
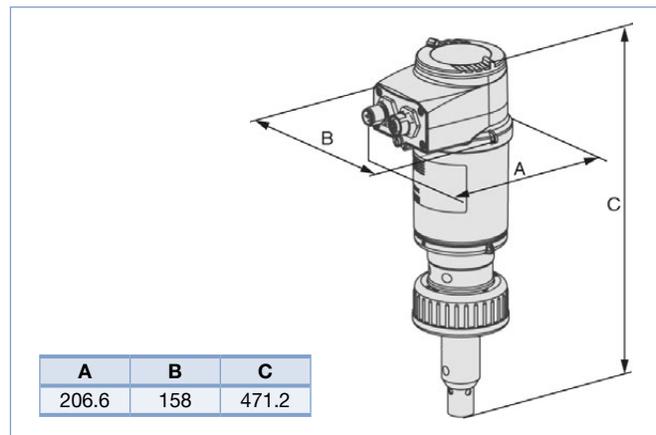
8222 ELEMENT

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

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

Envelope Dimensions [inch] (see datasheet for details)



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

Ordering Chart

Nut material	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.

Accessories (see page 85)

Options: Dual Analog 4-20 mA output

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
- Removable backlighted display
- Simulation of process values and diagnostic functions
- Sensor-versions available with PEEK, PVDF or PP

Please see fitting S020



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FOR DATA SHEET

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

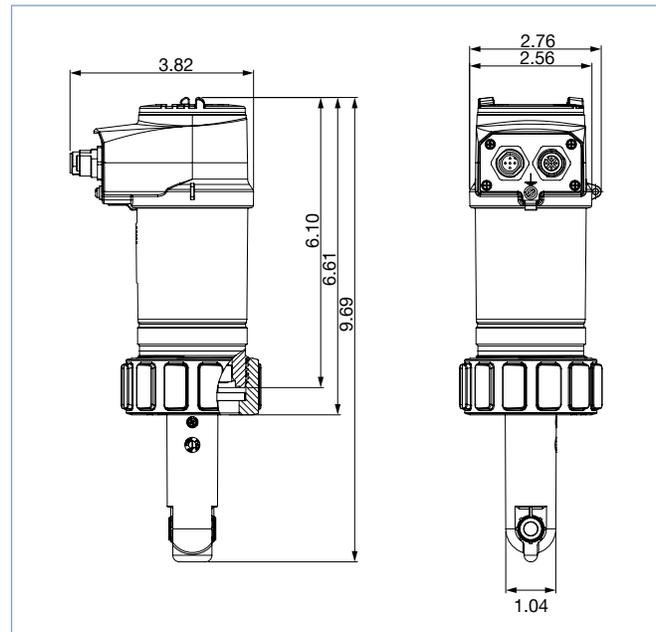
Environment

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
- CIP version
- Preparameterized conductivity meters
- Tri-clamp connection (2")

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

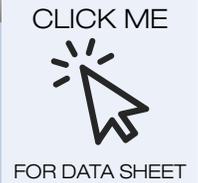
Note for ordering chart: For a complete conductivity unit the following items must be ordered:
 - Transmitter Type 8228 - INSERTION Fitting Type S020
 Further versions and information see datasheet type 8228.

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

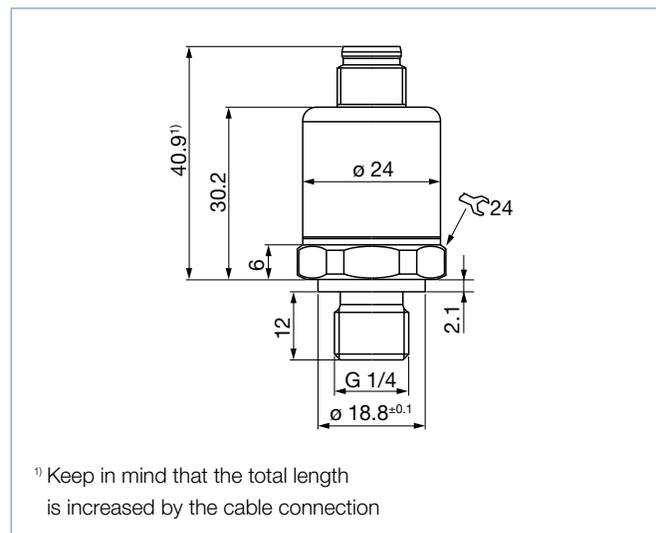
Body material	Stainless steel (1.4404)
Electrical connection	Round male connector M12 × 1
Process connection	NPT 1/4" external
Measurement procedure	Relative pressure measurement
Measurement range	0 to 14.5, 58, 87, 145, 232, 580, or 1450 PSI (0...1, 4, 6, 10, 16, 40 or 100 bar)
Fluid temperature	5 to 257 °F (-15 to +125 °C)
Seal material	FKM
Voltage	8-33 volts
Accuracy	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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FOR DATA SHEET

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.

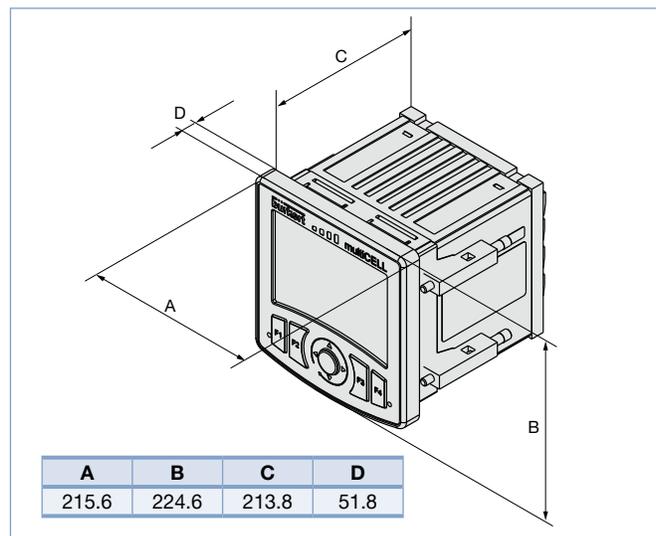
Optional software features can be simply activated when required by the application and an SD card is standard for data logging and up/down loading of parameterization files.

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 backlit; 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
- VAC powered
- PID function
- Data logger
- EtherNet, Modbus or PROFINET communication

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.

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

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	418111	98146031	98146032	
2 1/2"				418112		98146034	413469
3"				418113	98146024	98146035	413470
4"				418114	98146025	98146020	98146019
5"				418115			
6"				418116	98146026	98146021	98146017
8"				418117	98146027	98146022	98146030
10"				418756	98146028	98146023	
12"				420070	98146029	98146036	
14"				416637	98109612		

 = Burkert Express Program Items

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

8741

Nominal flow ranges from 0.010 I_N/min to 160 I_N/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



CLICK ME



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

Turn-down ratio	50:1, optional 100:1
Operating medium	Neutral, non-contaminated gases, others available on request
Calibration gas	Operating gas or air
Max operating pressure (overpressure to the atmospheric pressure)	10 bar (145 PSI), 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
Measuring accuracy (after 1 min. warm up time)	± 0.8 % o. R. ± 0.3 % F. S.
Repeatability	±0.1% F.S.
Settling time (MFC) / response (MFM) time (t_{95%})	<300 ms
Body material	Aluminium or stainless steel
Port connection	NPT 1/4", G 1/4", compression fittings or subbase, others on request
Power supply	24 V DC
Voltage tolerance	±10%
Voltage tolerance	±10%
Power consumption¹⁾	1-3 W (as MFM), Max. 3-12 W (as MFC, depending on type of solenoid control valve)

¹⁾ 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).

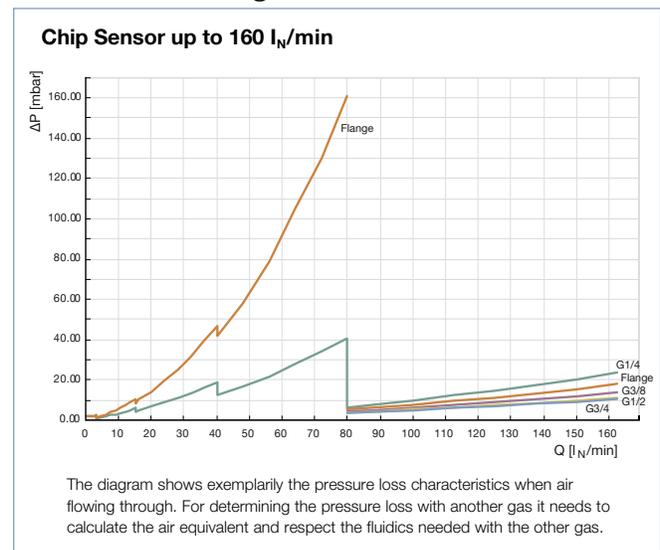
Technical Data, continued (see datasheet for details)

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

¹⁾ Supply voltage via separate terminal block

²⁾ 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

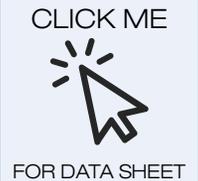
The actual flow rate is detected by a sensor. This operates according to a thermal principle which has the advantage of providing the mass flow which is independent on pressure and temperature.

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

8742

Nominal flow ranges from 0.010 I_N/min to 160 I_N/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



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

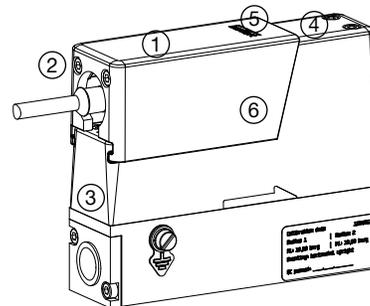
Turn-down ratio	50:1, optional 100:1
Operating medium	Neutral, non-contaminated gases, others on request
Calibration medium	Operating gas or air
Max operating pressure	145 PSI (10 bar), with MFCs the max. pressure depends on the orifice of the valve
Medium temperature	14°F to 158°F (-10°C to 70°C) (-10°C 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 _{95%})	<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 ¹⁾	1-3 W (as MFM), Max. 3-12 W (as MFC, depending on type of solenoid control valve)

¹⁾ 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 _{nom} [I _N /min]	Max. Q _{nom} [I _N /min]
Carbon dioxide	0.02	80
Air	0.01	160
Oxygen	0.01	160
Nitrogen	0.01	160
Hydrogen	0.01	1000

Measuring Principle

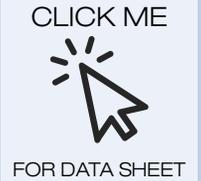
The actual flow rate is detected by a sensor. This operates according to a thermal principle which has the advantage of providing the mass flow which is independent on pressure and temperature.

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

8745

Nominal flow ranges from 20 I_N/min to 2500 I_N/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 ¹⁾ to 158°F (-10°C to 70°C) (-10 °C ¹⁾ 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) ²⁾
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 (included in delivery)	EEPROM (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) ³⁾
Analog	4-20 mA, 0-20 mA, 0-10 V or 0-5 V via D-Sub 9 ⁴⁾ 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.

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

²⁾ When using a motor valve additionally:

- Type 3280 DN4: Seat seal in PEEK

- Type 3285: Seat seal in Al₂O₃

³⁾ Supply voltage via separate terminal block.

⁴⁾ 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
Turndown ratio		50:1 ¹⁾
Max. operating pressure 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)
Accuracy (after 15 min. warm up time)	±1.5 % o.R. ±0.3 % F.S.	±2 % o.R. ±0.5 % F.S.
Repeatability	±0.1 % F.S.	±0.5 % F.S.
Settling/Response time (t95 %)	<500 ms	<5 sec.
Proportional valve	(solenoid) normally closed, valve orifice range: 0.8...12mm, Kvs value range: 0.02...2.5m ³ /h	(motor-driven) normally persisten, valve orifice range: 2...20mm, Kvs value range: 0.5...7.8m ³ /h

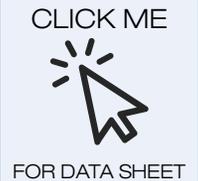
¹⁾ With vertical installation and flow downwards the turndown ratio is 10:1

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

8746

Nominal flow ranges from 20 I_N/min to 2500 I_N/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



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 ¹⁾ to 158°F (-10°C to 70°C) (-10 °C ¹⁾ 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) ²⁾
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

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

²⁾ When using a motor valve additionally:

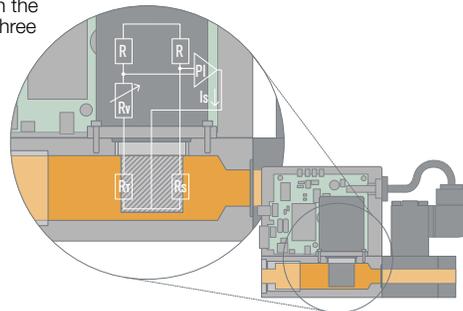
- Type 3280 DN4: Seat seal in PEEK
- Type 3285: Seat seal in Al₂O₃

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
Turndown ratio		50:1 ¹⁾
Max. operating pressure 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)
Accuracy (after 15 min. warm up time)	±1.5 % o.R. ±0.3 % F.S.	±2 % o.R. ±0.5 % F.S.
Repeatability	±0.1 % F.S.	±0.5 % F.S.
Settling/Response time (t95 %)	<500 ms	<5 sec.
Proportional valve	(electromagnetic) normally closed, valve orifice range: 0.8...12mm, Kvs value range: 0.02...2.5m ³ /h	(motor-driven) normally persisting, valve orifice range: 2...20mm, Kvs value range: 0.5...7.8m ³ /h

¹⁾ With vertical installation and flow downwards the turndown ratio is 10:1

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

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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

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Burkert Korea

8th Floor, Xi-tower(B) 67,
Saebitgongwon-ro,
Gwangmyeong-si, Gyeonggi-do,
14348, Rep. of KOREA

Tel. +82 2 3462 5592

Fax. +82 2 3462 5594

sales.korea@burkert.com

www.burkertkorea.com

