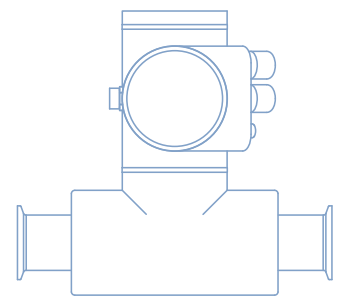
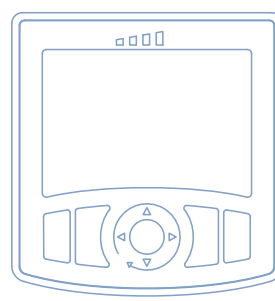
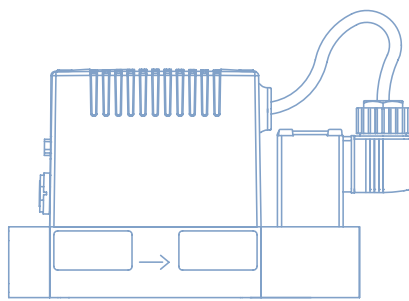
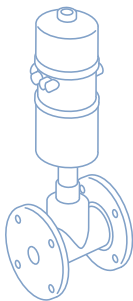
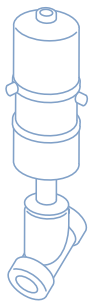




short form CATALOG



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Quick Delivery Program

It is said that Good Things Come to Those Who Wait but that certainly does not help anyone when there is a production line down.

Burkert is pleased to offer the Quick-Delivery program, with over 500 of our top selling items in the most frequently used sizes and options including: Control Valve Packages, Diaphragm Valves, Process Transmitter/Controllers, Angle Seat Valves, Universal Control Tops, Flow Meters, and Control Cabinets - all assembled to meet your application requirements.

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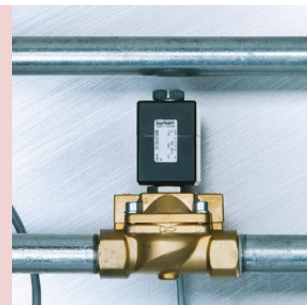


Part numbers included in this program are highlighted in this catalog for easy identification.

USA Select

SOLENOID VALVES

0290 p.6, 0330 p.7-8, 0340 p.9, 5282 p.10, 6011 p.11, 6013 p.12, 6014 p.13, 6027 p.14, 6213 p.16-17, 6281 p.18, 6407 p.19



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PROCESS VALVES & CONTROL HEADS

2000 p.20-23, 2100 p.24-25, 2101 & 2012 p.26-27, 2103 p.28-31, 2106 p.33, 3233 p.34-37, 8186 p.38-39, 8792 & 8793 p.40, 8801 2100+2101 p.42-43, 8802 2300+2301 p.44-45



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PNEUMATIC ACTUATION

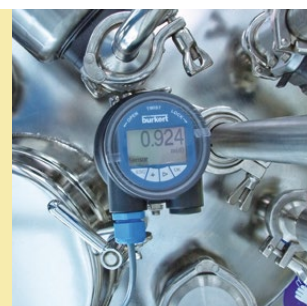
6012 p.46, 6014 p.46-47, 6519 p.48, 8640 p.49, 8644 p.50-51, 8652 p.52



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SENSORS, TRANSMITTERS & CONTROLLERS

8022 p.53, 8025 p.54, 8026 p.55, 8030 p.56, 8036 p.57, 8041 p.58, 8045 p.59, 8051+8055+8056 p.60, S077 p.61, 8098 p.62-63, 8110+8111 p.64, 8737+8738 p.65, 8177 p.66, 8188+8189 p.67, 8202 p.68, 8203 p.69, 8222 p.70, 8228 p.71, 8311 p.72, 8316 p.73, 8400 p.74, 8619 p.75, S020+S030 p.76, S022 p.77



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MASS FLOW

8626 p.79, 8711 p.80, 8713 p.81, 8741 p.82, 8742 p.83, 8745 p.84, 8746 p.85



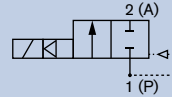
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2/2-way hard-coupled Solenoid Valve

0290

NPT 1/2" - NPT 2"

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



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

Technical Data

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)

Orifice [mm]	Power consumption		Response times ²⁾	
	UC [W]	UC [W]	Opening [ms]	Closing [ms]
12	120	8.5	100	700
20	145	10	to	to
25	145	10	250	2000

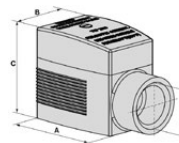
²⁾ Measured at valve outlet at 87 PSI (6 bar) and 68 °F (+20 °C), pressure rise 0 to 90%, pressure drop 100 to 10%

Ordering Chart

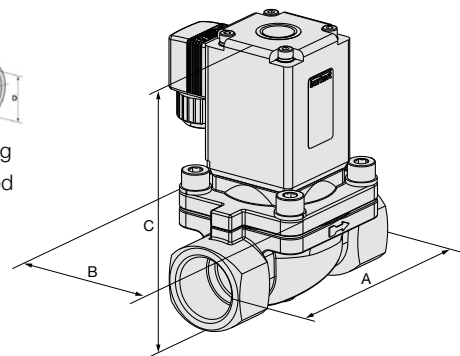
Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]	Power consumption		Item no. Voltage/Frequency [V/Hz]	
				Inrush [W]	Hold [W]	24 V AC/DC	120 V AC/DC
Brass							
NPT 1/2	12	2.1	0-232	100	25	298 109	298 110
NPT 3/4	20	5.8	0-232	120	32	298 115	298 116
NPT 1	25	11.7	0-232	120	32	298 119	298 120
Stainless steel							
NPT 1/2	12	2.1	0-232	100	25	298 112	298 113
NPT 3/4	20	5.8	0-232	120	32	298 117	298 118
NPT 1	25	11.7	0-232	120	32	298 122	298 123

= Quick Delivery Items

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

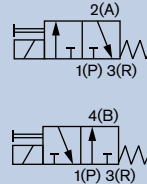
Options

- 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

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

NPT 1/4"

- Isolating separating diaphragm design
- Long service life
- Handles slightly contaminated fluids with ease
- Manual override as standard



0330

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 mm²/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

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

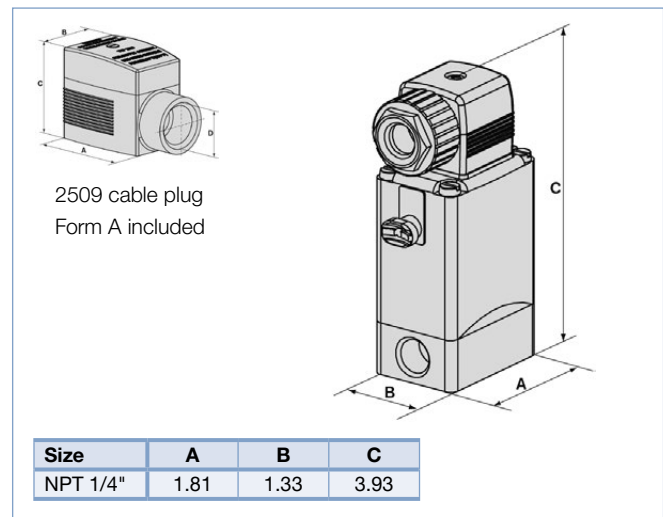
Response times [ms]: Measured at valve outlet at 87 PSI (6 bar) and 68 °F (+20 °C)
Opening: pressure relief 0 to 90%, Closing: pressure relief 100 to 10%

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	341 670	327 520	327 518	327 522
NPT 1/4	3	0.27	0-145	0-145	327 249	327 244	327 532	327 599
3-way normally open configuration								
NPT 1/4	2	0.13	0-174	0-174	327 739	327 739	328 196	328 016
NPT 1/4	3	0.27	0-145	0-145	327 504	327 251	-	-

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

Envelope Dimensions [inch] (see datasheet for details)



Options

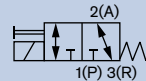
- Electrical position feedback
- Impulse coil
- Vacuum version
- Cable plug with LED and varistor
- Flange version Type 0331 with manifold mounting
- ATEX approval
- Version with higher purity and tightness (analysis model)
- CSA and FM approval
- Buna, EPDM, FFKM on request
- PVDF or Polypropylene on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

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.

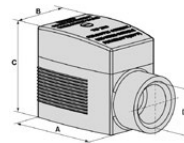
Technical Data

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

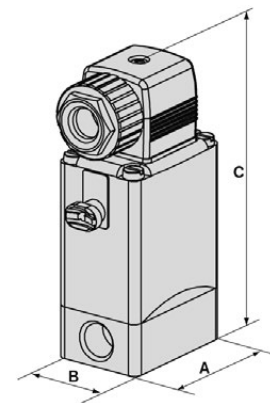
Orifice [mm]	Response times			
	AC		DC	
	Opening [ms]	Closing [ms]	Opening [ms]	Closing [ms]
2-4	8-15	8-15	10-20	10-20

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)



2509 cable plug
Form A included



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

Options

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

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	327 514	327 509
NPT 1/4	4	0.33	0-42	0-42	327 895	341 669
Stainless steel valve body						
NPT 1/4	3	0.27	0-85	0-85	327 927	327 816
NPT 1/4	4	0.33	0-42	0-42	341 668	327 820

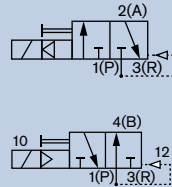
¹⁾ Pressure range for DC valves is 25% less than stated in the table.

3/2-way Solenoid Valve with pivoted armature pilot drive

0340

NPT 1/4" - NPT 1 1/2"

- Servo-Piston for large flow rates
- Pivoted armature isolated pilot
- Manual override as standard
- Fast ventilation function



Servo-assisted 3/2-way normally closed and normally open solenoid valve with a pivoted armature and isolating diaphragm. This series encompasses a range of diaphragms, sealing materials and electrical connections. Perfect for pneumatic actuation of very large process valves. For the complete opening and closing a differential pressure of 7.25 PSI is required.

Technical Data

Temperature media	32 °F to 194 °F (0 °C to +90 °C)
Ambient temperature	131 °F (+55 °C), max.
Viscosity	Max. 21 mm ² /s
Voltage tolerance	±10%
Duty cycle	100% continuous rating
Body material	Brass
Seal material	NBR
Coil material	Epoxy (Class H)
Power consumption	DC: 8 W, AC: 30 VA (inrush), 15 VA (hold)
Protection class	IP65, NEMA 4 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A (included)
Response times [ms]	Measured at valve outlet at 6 bar and +20 °C Opening: Pressure build-up 0 to 90% Closing: Pressure decay 100 to 10% (see Ordering Chart)
Accreditations	UL Listed

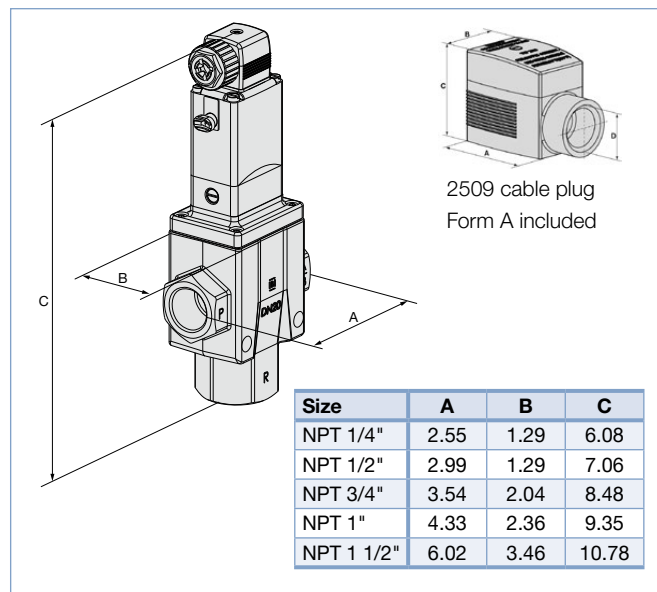
Options

- Electrical position feedback
- Impulse coil
- Range of diaphragm seals to suit difficult media
- Cable plug with LED and varistor
- 24V/60 Hz, 240/60 Hz

Ordering Chart

Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
				24 V DC	120 V/60 Hz
Circuit function C					
NPT 1/4	8	1.1	7-232	331 022	341 978
NPT 3/8	12	2.7	7-232	331 053	331 048
NPT 1/2	12	3.0	7-232	331 025	331 029
NPT 3/4	20	7.7	7-232	341 977	331 040
NPT 1	25	11.7	7-232	331 055	331 042
Circuit function D					
NPT 3/8	12	2.7	7-232	—	341 980
NPT 1/2	12	3.0	7-232	331 044	341 981

Envelope Dimensions [inch] (see datasheet for details)



Orifice [mm]	Response times ¹⁾	
	Opening [ms]	Closing [ms]
8	25	25
12	30	30
20	40	40
25	70	70
40	120	120

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

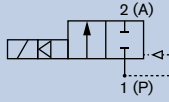
Opening: pressure rise 0 to 90%, Closing: pressure drop 100 to 10%

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



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).

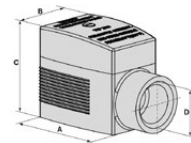
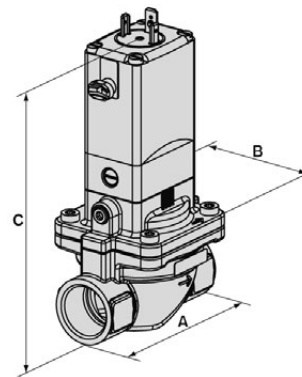
Response times ¹⁾	
Opening [s]	Closing [s]
0.1-0.8	1.0-4.0

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%

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	329 291	329 285
NPT 3/4	20	5.83	2.9-145	329 299	329 293
NPT 1	25	11.65	2.9-145	329 288	329 286
NPT 1 1/4	32	23.30	2.9-145	341 697	329 333
NPT 1 1/2	40	23.30	2.9-145	329 303	329 311
NPT 2	50	46.60	2.9-145	329 298	329 284
Stainless steel					
NPT 1/2	13	4.66	2.8-145	329 304	329 282
NPT 3/4	20	5.83	2.8-145	329 294	329 314
NPT 1	25	11.65	2.8-145	329 310	329 290
NPT 1 1/4	32	23.30	2.8-145	329 337	329 328
NPT 1 1/2	40	23.30	2.8-145	329 305	329 292
NPT 2	50	46.60	2.8-145	329 323	329 324

Envelope Dimensions [inch] (see datasheet for details)



2509 cable plug
Form A included

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

Options

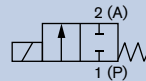
- Normally open
- Electrical position feedback
- Impulse coil
- Cables plug with LED
- Cable plug with varistor
- FM Class 1, Div 1&2, CSA
- Ex-version available
- Atex version available
- Range of diaphragm seals to suit aggressive media
- 24V/60 Hz, 240V/60 Hz

Plunger Operated 2/2-way Solenoid Valve

6011

NPT 1/8" or manifold mounting

- Brass or stainless steel
- FKM seal as standard
- Slip over coil can be rotated in 4 x 90 degrees



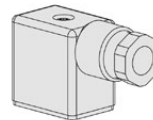
Shown without plug

Direct-acting miniature solenoid valve which is plunger operated for neutral gases, liquids and technical vacuum. Available in standalone or manifold mount versions, there is also an "analysis" version which is manufactured under cleanroom conditions.

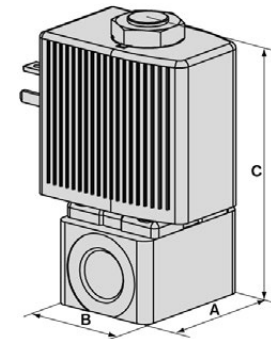
Technical Data

Body material	
Type 6011	Brass, polyamide (PA), SS 1.4305
Type 6011 A	Brass, SS 1.4305
Sealing material	
FKM	
Temperature media	
14 °F to 212 °F (-10 °C to +100 °C)	
Ambient temperature	
131 °F (+55 °C), max.	
Body material	
Brass or stainless steel 1.4305	
Seal material	
FKM	
Coil material	
Epoxy (Class H)	
Viscosity	
max. 21 mm ² /s	
Port connection	
Type 6011	NPT 1/8
Voltage tolerance	
±10%	
Duty cycle	
Single valve	100% continuous rating
Power consumption	
DC: 6.5 W, AC: 4.5 W	
Protection class	
IP65 (with cable plug)	
Electrical connection	
Cable plug Type 2507 Form B Industry standard (included)	
Accreditations	
UL Recognized	

Envelope Dimensions [inch] (see datasheet for details)



2507 cable plug
Form B included



Size	A	B	C
1/8"	.98	.78	1.98

Orifice [mm]	Response times ¹⁾	
	Opening [ms]	Closing [ms]
1.2	8-12	14-16
1.6		
2.0	8-12	14-16
2.4		

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%

Ordering Chart

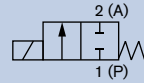
Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]		Item no. Voltage/Frequency [V/Hz]	
			[AC]	[DC]	24 V DC	120 V/60 Hz
Brass						
NPT 1/8	1.6	0.07	0-174	0-87	461 767	461 769
NPT 1/8	2.0	0.13	0-116	0-65	461 771	461 773
NPT 1/8	2.4	0.15	0-87	0-43	461 775	461 777
Stainless steel						
NPT 1/8	1.6	0.07	0-174	0-87	461 779	461 781
NPT 1/8	2.0	0.13	0-116	0-65	461 783	461 785
NPT 1/8	2.4	0.15	0-87	0-43	461 787	461 789

Plunger Operated 2/2-way Solenoid Valve

6013

NPT 1/8" - NPT 1/4"

- Normally close
- With threaded body in brass or SS
- Slip over coil can be rotated in 4 x 90 degrees
- FKM seal material with high quality standard



Supplied as shown

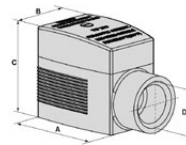
Direct-acting small solenoid valve which is plunger operated for neutral gases, liquids and technical vacuum. Special versions are also available for use with steam.

Technical Data

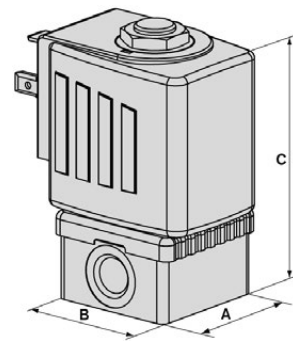
Body material	
Type 6013	Brass, Stainless steel 1.4305
Seal material	
FKM, (PTFE/Graphite EPDM on request)	
Temperature media	
14 °F to 212 °F (-10 °C to +100 °C)	
Ambient temperature	
131 °F (+55 °C), max.	
Viscosity	
Max. 21 mm ² /s	
Voltage tolerance	
±10%	
Duty cycle	
Single valve 100% ED	
Body material	
Brass or Stainless steel 1.4305	
Seal material	
FKM	
Coil insulation class	
Epoxy (class H)	
Power consumption	
AC: 24 VA (inrush), 17 VA (hold) DC: 8 W	
Protection class	
IP65	
Electrical connection	
Cable plug acc. to DIN EN 175301-803, Form A (included)	
Response times¹⁾	
Opening	20 ms
Closing	30 ms
Accreditations	
UL Listed	

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
1/8"	1.28	1.37	2.59
1/4"	1.92	1.37	2.82

Options

- Normally open
- Impulse version
- Cable plug with LED and varistor
- PTFE/graphite seal to 356 °F
- SIL certificate
- UL / UR
- ATEX version
- 24V/60 Hz, 240V/60 Hz

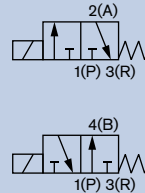
Ordering Chart

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	332 772	341 755
NPT 1/8	2.5	0.19	0-232	0-145	332 761	341 756
NPT 1/8	3	0.27	0-145	0-87	332 775	332 762
NPT 1/4	3	0.27	0-145	0-87	332 773	332 758
NPT 1/4	4	0.35	0-58	0-22	332 750	332 757
Stainless steel						
NPT 1/8	2	0.14	0-362	0-174	332 768	332 753
NPT 1/8	3	0.27	0-145	0-87	341 751	332 755
NPT 1/4	3	0.27	0-145	0-87	332 770	332 769
NPT 1/4	4	0.35	0-58	0-22	341 753	341 757

Compact Plunger Operated 3/2-way Valve

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

6014

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.

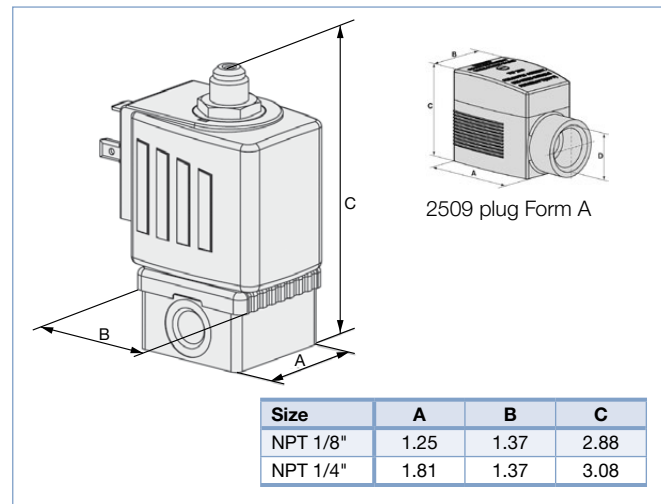
Technical Data

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

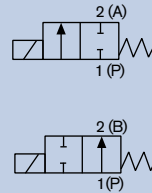
Port connection [inch]	Circuit function	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
24 V DC120 V/60 Hz						
Brass						
NPT 1/8	C (3/2-way normally closed)	1.5	0.08	0-232	332 738	332 733
NPT 1/8		2.0	0.13	0-145	332 727	332 724
NPT 1/4		2.0	0.13	0-145	332 737	332 739
NPT 1/4		2.5	0.18	0-87	332 722	-
NPT 1/8	D (3/2-way normally open)	1.5	0.08	0-232	332 742	-
NPT 1/8		2.0	0.13	0-145	332 732	-
NPT 1/4		2.0	0.13	0-145	332 721	-
NPT 1/4		2.5	0.18	0-87	332 723	-
Stainless steel						
NPT 1/8	C (3/2-way NC)	1.5	0.08	0-232	332 720	-
NPT 1/4		2.0	0.13	0-145	332 741	332 728
NPT 1/8	T (universal)	1.5	0.08	0-101	332 729	-

Direct-acting 2/2-way plunger valve

6027

NPT 1/4"

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

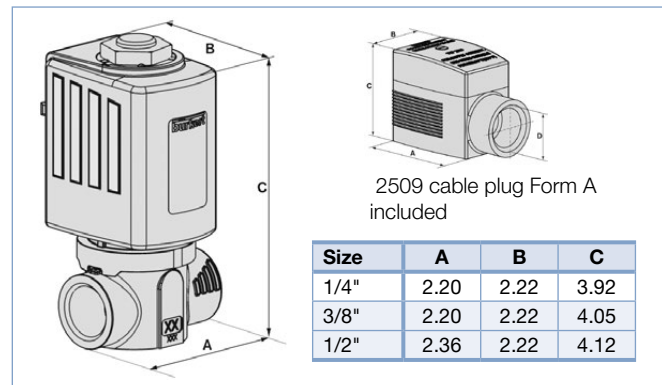


Direct-acting plunger valve. The stopper and plunger guiding tube are welded together to enhance pressure resistance and leak-tightness.

Technical Data

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 mm²/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 2508 (not included)
Protection class	IP65 with Cable Plug
Accreditations	UL Listed

Envelope Dimensions [inch] (see datasheet for details)



Options

- Vacuum version
- Analysis version
- 24V/60 Hz, 240/60 Hz
- Atex, UL Recognized

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	307 748	307 780
NPT 1/4		4.0	0.62	0-174	0-188.5	307 749	307 781
NPT 1/4		6.0	1.09	0-44	0-79.7	307 750	307 782
NPT 3/8		3.0	0.32	0-435	0-406	307 751	307 783
NPT 3/8		4.0	0.62	0-174	0-188.5	307 752	307 784
NPT 3/8		6.0	1.09	0-44	0-79.7	307 753	307 785
NPT 3/8		8.0	1.84	0-15	0-33	307 754	307 786
NPT 1/2		6.0	1.09	0-44	0-87	307 755	307 787
NPT 1/2		8.0	1.84	0-15	0-43.5	307 756	307 788
NPT 1/2		10.0	2.08	0-6	0-18.85	307 757	307 789
Stainless steel							
NPT 1/4	normally closed	3.0	0.32	0-435	0-406	307 764	307 796
NPT 1/4		4.0	0.62	0-174	0-188.5	307 765	307 797
NPT 1/4		6.0	1.09	0-44	0-79.7	307 766	307 798
NPT 3/8		3.0	0.32	0-435	0-406	307 767	307 799
NPT 3/8		4.0	0.62	0-174	0-188.5	307 768	307 800
NPT 3/8		6.0	1.09	0-44	0-79.7	307 769	307 801
NPT 3/8		8.0	1.84	0-15	0-33	307 770	307 802
NPT 1/2		6.0	1.09	0-44	0-87	307 771	307 803
NPT 1/2		8.0	1.84	0-15	0-43.5	307 772	307 804
NPT 1/2		10.0	2.08	0-6	0-18.85	307 773	307 805
NPT 1/2	12.0	2.31	-	0-14.5	307 774	307 806	



When safety and hygiene
are at stake, you can count
on us.

For applications with very strict hygiene requirements, Cleaning-in-Place (CIP) plays a particularly important role. Processes that run reliably and efficiently as well as the dependable dosing and delivery of cleaning media are the key factors in food safety. In this context, we offer a comprehensive product portfolio backed by in-depth consulting expertise for your CIP plant.

Our solutions enable

- **dependable fluid delivery,**
using a variety of valve types such as diaphragm valves, solenoid valves and dosing pumps as well as complete valve block solutions.
- **reliable process automation**
with rapid switching and direct feedback.
- **seamless quality control,**
with analysis, level, pressure or temperature sensors that can detect deviations at an early stage, to prevent faults. This delivers lasting improvements in process reliability.

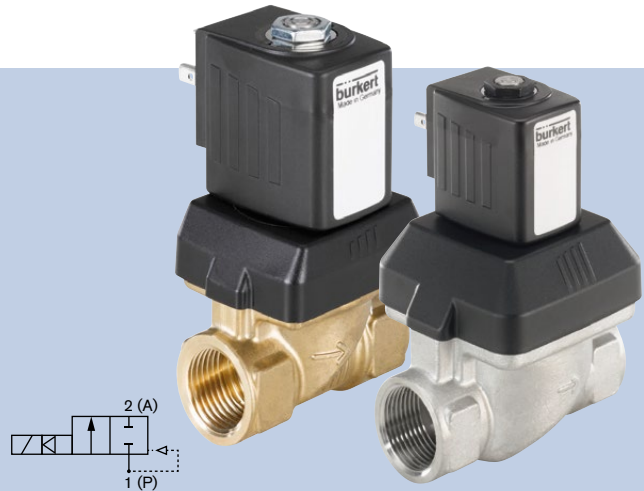
We would be delighted to develop a bespoke system solution for you – feel free to contact us.



2/2-way Solenoid Valve for liquids and gases

6213 EV

- Coupled spring diaphragm system opened
- 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⁾	0.1-4 seconds (depending on orifice and differential pressure)
Accreditations	UL Listed

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%

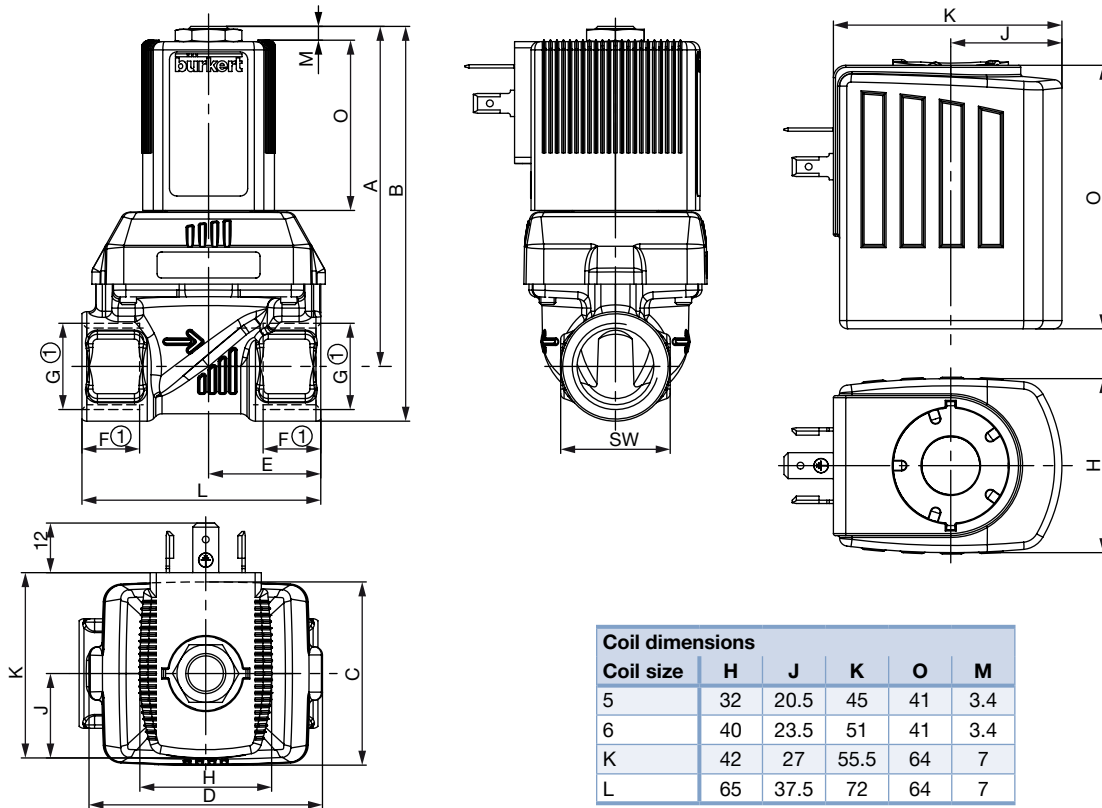


Ordering Chart

Port connection [inch]	Orifice [mm]	Cv	Pressure range [PSI]	Power consumption			Item no. Voltage/Frequency [V/Hz]	
				Inrush [VA]	Hold [VA]	Hold [W]	24 V DC	120 V/60 Hz
Brass								
NPT 3/8	10	2.4	1.5 – 145	34	14	8	280 512	280 511
NPT 1/2	13	4.2	1.5 – 145	36	14	8	280 508	280 506
NPT 3/4	20	9.8	1.5 – 145	38	14	8	280 502	280 500
NPT 1	20	9.8	1.5 – 145	160	38	18	280 486	276 442
NPT 1 1/4	25	12.9	1.5 – 145	160	14	8	–	–
NPT 1 1/2	40	35.1	1.5 – 145	202	38	18	–	–
NPT 2	40	35.1	1.5 – 145	202	38	18	–	–
Stainless steel								
NPT 1/4	10	2.4	1.5 – 145	34	14	8	280 432	280 431
NPT 3/8	10	2.4	1.5 – 145	34	14	8	280 426	280 425
NPT 1/2	13	4.2	1.5 – 145	36	14	8	280 420	280 418
NPT 3/4	20	9.8	1.5 – 145	38	14	8	280 415	280 413
NPT 1	20	9.8	1.5 – 145	38	14	8	280 411	280 409

Options

- Cables plug with LED
- Cables plug with varistor
- UL Recognized version

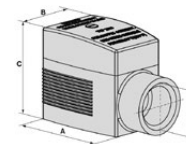


Coil dimensions					
Coil size	H	J	K	O	M
5	32	20.5	45	41	3.4
6	40	23.5	51	41	3.4
K	42	27	55.5	64	7
L	65	37.5	72	64	7

- ① The dimensions F1 and G 1 apply to G-threads
The dimensions F2 and G 2 apply to NPT-threads
The dimensions F3 and G 3 apply to RC-threads

- ② only as brass - thread port version

- ③ only as stainless steel - thread port version



2509 plug Form A
included

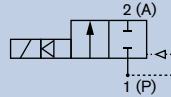
DN	A	B	C	D	E (MS/VA)	* NPT F2 ①	G 2 ①	L (MS/VA)	SW	coil size
10	2.84	3.28	1.44	1.84	.88	.40	NPT 1/4	2	.88	5 and 6
10 ②	2.92	3.46				.41	NPT 3/8	2		
10 ③					.98	.52	NPT 1/2	2.2	1.0	
13 ②	3.30	3.83	1.78	2.27	1.10	.54	NPT 1/2	2.32	1.08	5 and 6
13 ③	3.38	4.02			1.3			2.6	1.28	
13	3.38	4.02			1.3	.56	NPT 3/4	2.6	1.28	
20	3.88	4.52	2.6	3.06	37	.56	NPT 3/4	3.06	1.28	5 and 6
20	3.98	4.80			1.5			3.2	1.64	
13 ②	4.37	4.91	1.9	2.2	1.09	.54	NPT 1/2	2.32	1.08	K and L
13 ③	4.45	5.09			1.3			2.6	1.08	
13	4.45	5.09			1.3	.56	NPT 3/4	2.6	1.28	
20	4.95	5.59	2.6	3.06	1.4	.56	NPT 3/4	3.06	1.28	K and L
20	5.06	5.87			1.5			3.2	1.6	
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			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			5.04	2.4	
40	6.61	8.01			2.56	.70	NPT 2	5.28	2.8	

Servo-Assisted Solenoid Valve with Plunger Pilot

6281 EV

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

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



Supplied as shown

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.

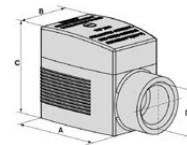
Technical Data

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

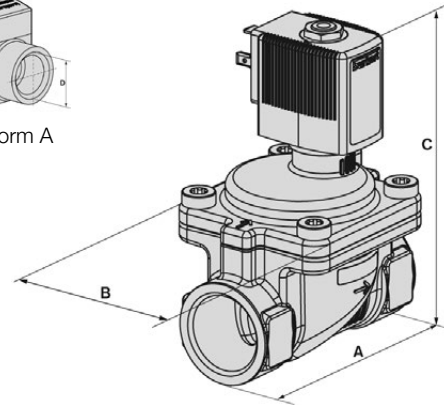
Options

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

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

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	306 547	306 617
NPT 3/4	20	10.00	2.9-232	306 548	306 618
NPT 1	25	14.11	2.9-232	306 552	306 619
NPT 1 1/4	25	14.11	2.9-232	306 560	306 620
NPT 1 1/2	40	23.30	2.9-232	306 561	306 621
NPT 2	50	46.60	2.9-232	306 562	306 622
Stainless steel					
NPT 1/2	13	4.66	2.9-232	306 563	306 623
NPT 3/4	20	10.00	2.9-232	306 564	306 624
NPT 1	25	14.11	2.9-232	306 566	306 625
NPT 1 1/4	25	14.11	2.9-232	306 567	306 626
NPT 1 1/2	40	23.30	2.9-232	306 568	306 627
NPT 2	50	46.60	2.9-232	306 569	306 629

Servo-Assisted 2/2-way Steam Piston Valve

6407

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

- Up to diameter DN50
- Vibration-resistant, push-over coil
- Energy-saving double coil technology with Kick and Drop electronics



Servo-assisted piston valve. The fix coupling between pilot valve and piston provides an opening of the valve without pressure difference. This valve is suitable for media such as gas and steam. As well as liquids with low operating temperature below 32 °F.

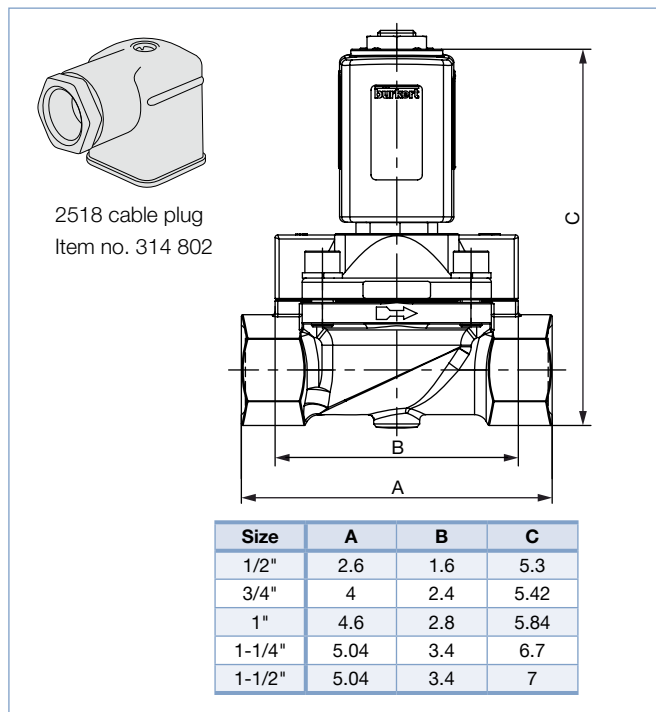
Technical Data

Orifice	DN13-DN50
Pressure range	0-145 PSI max.
Temperature media	32 °F to 302 °F (0 to 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 mm²/s
Protection class	IP65 (with cable plug)
Electrical connection	Cable plug acc. to DIN EN 175301-803, Form A

Orifice [mm]	Response times	
	Opening [ms]	Closing [ms]
13	30	250
20	30	250
25	60	700
32	80	900
50	500	2000

Measured with water at valve outlet at 87.02 PSI and 68 °F
Opening: pressure build-up 0 to 90 %, closing: pressure relief 100 to 10 %
(depending on the application conditions, deviations are possible)

Dimensions [inch] (see datasheet for details)



Ordering Chart

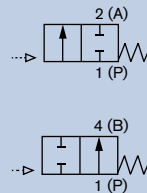
Port connection	Circuit function	Orifice	Kv value water	Pressure range	Item no. Voltage/Frequency [V/Hz]	
[inch]		[mm]	[m³/h]¹)	[PSI]	24 V AC/DC	110-120 V AC³)
Brass body, seal combination PTFE/Graphite						
NPT 1/2	A NC, normally closed	13	3.7	0-145	320 874	320 863
NPT 3/4		20	5.6	0-145	320 875	320 864
NPT 1		25	10.0	0-145	320 876	320 865
NPT 1 1/4		32	16.0	0-145	330 421	330 425
NPT 1 1/2		32	16.0	0-145	330 442	330 443

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")

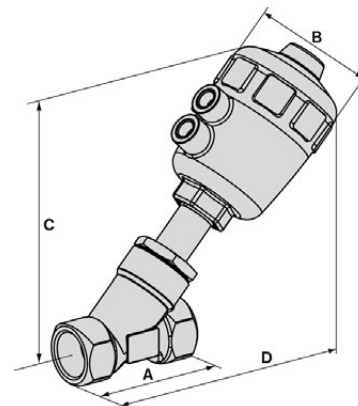
Options

- Double acting
- Solenoid pilot valves
- Vacuum version
- Feedback switches
- Cleaned for oxygen service
- Seal material NBR, FKM, EPDM
- GL, SIL approvals
- Stroke limiter

Accessories for 2000

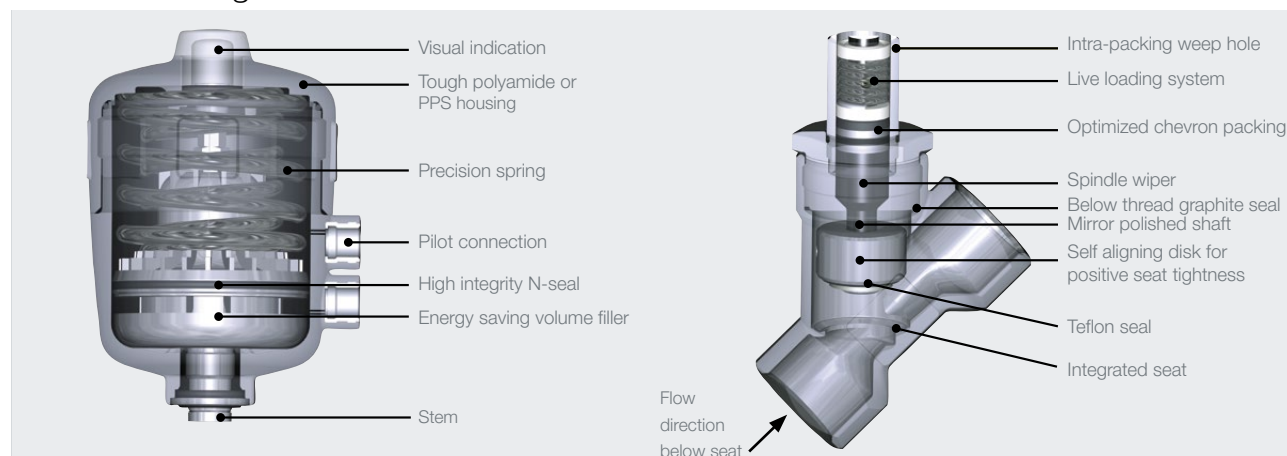


Envelope Dimensions [inch] (see datasheet for details)



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

Sectional Drawings



Ordering Charts

Standard PA Actuator

2000 for liquids	Actuator [mm]	Cv	Pressure	Item no. Bronze	Item no. Stainless Steel
Normally closed					
1/2"	40	4.3	217	468 156	468 186
1/2"	50	4.9	232	468 157	468 187
3/4"	50	9.8	160	468 158	468 041
3/4"	63	10.4	232	468 159	468 188
1"	63	20.8	160	468 039	468 043
1"	80	20.8	232	468 160	468 189
1 1/4"	80	31.3	203	468 161	468 190
1 1/2"	80	43.9	131	468 162	468 044
1 1/2"	100	46.3	181	468 216	468 217
1 1/2"	125	46.3	232	468 163	468 191
2"	100	63.6	104	468 131	468 134
2"	125	63.6	145	468 142	468 045
2 1/2"	125	104.1	75	468 132	468 135
2 1/2"	125	104.1	151	468 453	468 454
Normally open					
1/2"	40	4.3	232	468 164	468 192
1/2"	50	4.9	232	468 165	468 193
3/4"	50	9.8	232	468 166	468 194
1"	50	11.6	232	468 167	468 195
1 1/4"	63	28.9	232	468 168	468 464
1 1/2"	63	40.5	232	468 169	468 196
1 1/2"	80	43.9	232	468 218	468 219
2"	63	56.7	188	468 133	468 449
2"	80	60.1	232	468 143	468 144
2 1/2"	80	89.1	217	468 451	468 450

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					
1/2" NPT	40	4.3	218	468 176	468 204
1/2" NPT	50	4.9	232	468 177	468 205
3/4" NPT	50	9.8	160	468 178	468 206
3/4" NPT	63	10.4	232	468 455	468 207
1" NPT	63	20.8	160	-	468 208
1" NPT	80	31.2	232	468 456	468 465
1 1/4" NPT	80	31.2	203	468 457	468 466
1 1/2" NPT	80	43.9	131	468 458	468 467
2" NPT	100	63.6	105	468 473	468 474
2" NPT	125	63.6	145	468 452	468 475
Normally open					
1/2" NPT	40	4.3	232	468 179	468 468
1/2" NPT	50	4.9	232	468 459	468 209
3/4" NPT	50	9.8	232	468 460	468 469
1" NPT	50	11.6	232	468 461	468 470
1 1/4" NPT	63	28.9	232	468 462	468 471
1 1/2" NPT	63	40.6	232	468 463	468 472
2" NPT	63	56.8	188	468 476	468 477
2" NPT	80	60.3	218	468 478	468 479

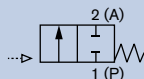
 = Quick Delivery Items

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



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.

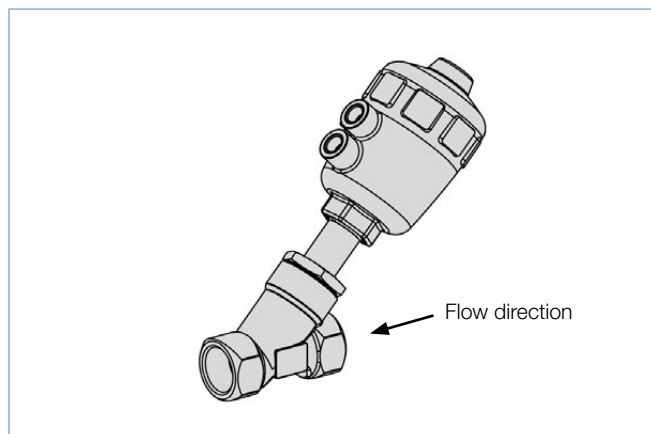
Technical Data

Pressure range	See Ordering Chart		
Temperature media	14 °F to 356 °F (-10 °C to +180 °C)		
Viscosity	max. 600 mm²/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

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	468 170	468 197
3/4" NPT	40	8.1	468 171	468 198
3/4" NPT	50	9.8	468 172	468 199
1" NPT	50	11.6	468 173	468 200
1" NPT	63	20.8	468 031	468 201
1 1/4" NPT	63	28.9	468 174	468 202
1 1/2" NPT	63	40.5	468 175	468 203
2" NPT	80	60.8	468 137	468 140
2 1/2" NPT	80	90	468 138	468 141
Normally closed, high ambient temperature PPS actuator				
1/2" NPT	50	4.9	468 180	468 210
3/4" NPT	50	9.8	468 181	468 211
1" NPT	50	11.6	468 182	468 212
1" NPT	63	20.8	468 183	468 213
1 1/4" NPT	63	28.9	468 184	468 214
1 1/2" NPT	63	40.6	468 185	468 215
2" NPT	80	60.1	468 145	353 068
2 1/2" NPT	100	104.1	468 569	468 568

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

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

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 live 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

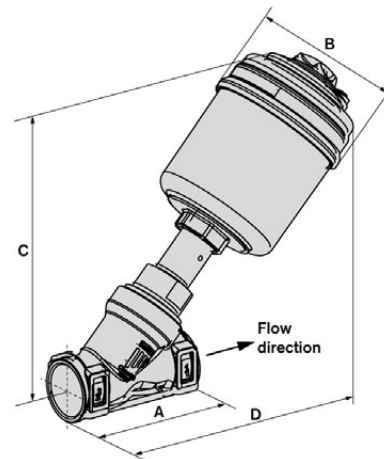
Ordering Chart

Stainless Steel 316L, NPT Threaded					
Size	Orifice [mm]	Actuator [mm]	Pressure [PSI]	Cv	Item no.
1/2"	15	50	362	5.6	213 644
1/2"	15	70	362	5.8	213 645*
3/4"	20	70	290	12.7	213 646*
1"	25	70	232	20.8	213 647*
1 1/4"	32	70	123	31.2	213 648
1 1/4"	32	90	232	32.4	213 649
1 1/2"	40	70	87	44.0	213 650
1 1/2"	40	90	232	46.3	213 651*
2"	50	90	145	63.6	188 641
2"	50	130	232	71.7	188 642*
2 1/2"	65	90	73	98.3	239 457
2 1/2"	65	130	232	109.9	239 473*

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

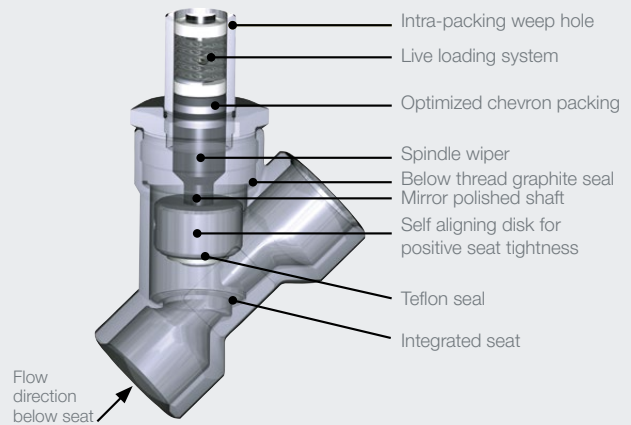
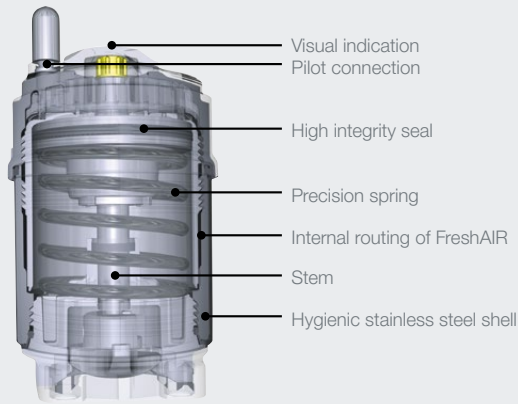


Port connection	Actuator [mm]	A	B	C	D
NPT 1/2"	50	2.55	2.53	6.22	7.28
NPT 1/2"	70	2.55	3.58	6.81	7.91
NPT 3/4"	50	2.95	2.53	6.53	7.67
NPT 3/4"	70	2.95	3.58	7.12	8.30
NPT 1"	50	3.54	2.53	6.77	8.03
NPT 1"	70	3.54	3.58	7.36	8.66
NPT 1 1/4"	70	4.33	3.58	7.67	9.25
NPT 1 1/4"	90	4.33	4.72	9.44	10.90
NPT 1 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

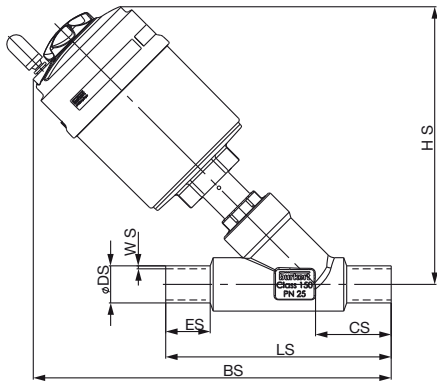
Options

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

Sectional Drawings

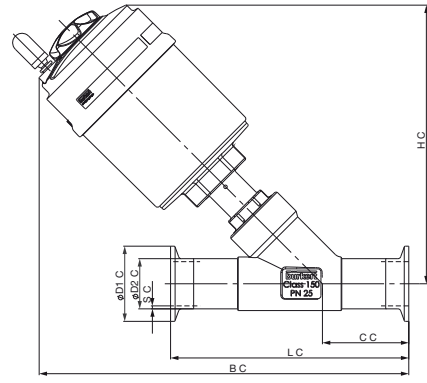


Dimensions [inch] (see datasheet for further details)



Weld End OD Tube

Size	HS	BS	CS	LS	ES	ØDS	WS
1/2"	6.42	8.35	1.81	5.32	1.18	0.5	0.06
	7.01	8.98					
3/4"	7.32	9.49	2.05	5.71	1.18	0.75	0.06
1"	7.40	9.53	2.01	5.98	1.18	1.00	0.06
1-1/2"	7.91	10.39	2.36	7.17	1.18	1.50	0.06
	9.65	12.09					
2"	10.28	12.83	2.52	8.27	1.18	2.00	0.06
	12.28	14.80					
2-1/2"	10.75	12.99	2.20	9.06	1.02	2.50	0.06
	12.76	14.96					



Clamp

Size	HC	BC	CC	LC	Ø D1C	Ø D2C	SC
1/2"	6.42	8.46	1.93	5.12	1.00	0.50	0.6
	7.01	9.09					
3/4"	7.32	9.69	2.22	5.91	1.00	0.75	0.6
1"	7.40	9.80	2.28	6.30	2.00	1.00	0.6
1-1/2"	7.91	9.57	2.72	7.87	2.00	1.50	0.6
	9.65	12.44					
2"	10.28	13.39	3.05	9.06	2.52	2.00	0.6
	12.28	15.31					
2-1/2"	10.28	13.39	3.31	11.26	2.52	2.50	0.6
	12.28	15.31					

Ordering Charts

Stainless Steel 316L, Weld End OD Tube

Size	Orifice [mm]	Actuator [mm]	Pressure [PSI]	Cv	Item no.
1/2"	15	50	362	5.6	187 077
1/2"	15	70	362	5.8	188 726*
3/4"	20	70	290	12.7	188 727*
1"	25	70	232	20.8	188 728*
1 1/2"	40	70	87	44.0	188 729
1 1/2"	40	90	232	46.3	188 730*
2"	50	90	145	63.6	188 731
2"	50	130	232	71.7	188 732*
2 1/2"	65	90	73	98.3	239 461
2 1/2"	65	130	232	109.9	239 478*

Stainless Steel 316L, Clamp acc. to ASME BPE

Size	[clamp Ø]	Orifice [mm]	Actuator [mm]	Pressure [PSI]	Cv	Item no.
1/2"	1"	15	50	362	5.6	187 103
1/2"	1"	15	70	362	5.8	188 806*
3/4"	1"	20	70	290	12.7	188 807*
1"	2"	25	70	232	20.8	188 808*
1 1/2"	2"	40	70	87	44.0	188 809
1 1/2"	2"	40	90	232	46.3	188 810*
2"	2 1/2"	50	90	145	63.6	188 811
2"	2 1/2"	50	130	232	71.1	188 812*
2 1/2"	2 1/2"	65	90	73	98.3	293 842
2 1/2"	2 1/2"	65	130	232	109.9	329 535*

*part of US standard stocking program

Ordering Charts

Stainless Steel 316L, NPT Threaded						
Size	Orifice [mm]	Actuator [mm]	Pressure [PSI]	Cv	Item no.	
1/2"	15	50	232	5.6	213 652	
1/2"	15	70	232	5.8	213 653*	
3/4"	20	70	232	12.7	213 655*	
1"	25	70	232	20.8	213 657*	
1 1/4"	32	70	232	31.2	213 658	
1 1/2"	40	70	232	44.0	213 659	
1 1/2"	40	90	232	46.3	213 660*	
2"	50	70	174	60.2	188 649	
2"	50	90	232	63.6	188 650*	
2 1/2"	65	90	116	98.3	463 893*	
Stainless Steel 316L, Weld End OD Tube						
Size	Orifice [mm]	Actuator [mm]	Pressure [PSI]	Cv	Item no.	
1/2"	15	50	232	5.6	187 078	
1/2"	15	70	232	5.8	188 733*	
3/4"	20	70	232	12.7	188 734*	
1"	25	70	232	20.8	188 735*	
1 1/2"	40	70	232	44.0	188 736	
1 1/2"	40	90	232	46.3	188 737*	
2"	50	70	174	60.2	188 738	
2"	50	90	232	63.6	188 739*	
2 1/2"	65	90	116	98.3	463 543	
Stainless Steel 316L, Clamp acc. to ASME BPE						
Size	[clamp Ø]	Orifice [mm]	Actuator [mm]	Pressure [PSI]	Cv	Item no.
1/2"	1"	15	50	232	5.6	187 104
1/2"	1"	15	70	232	5.8	188 813
3/4"	1"	20	70	232	12.7	188 814
1"	2"	25	70	232	20.8	188 815
1 1/2"	2"	40	70	232	44.0	188 816
1 1/2"	2"	40	90	232	46.3	188 817
2"	2 1/2"	50	70	174	60.2	188 818
2"	2 1/2"	50	90	232	63.6	188 819

Pneumatically Operated 2/2-way Globe Valves with Flange connection acc. to DIN EN 1092-1

1/2" - 4"

- Flow direction below seat
- Long life
- Flow optimized stainless steel body 316L
- Silencer, Type 2101 included
- 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.

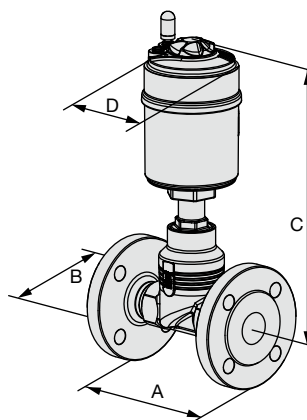
Technical Data

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 ANSI flanges
- Type 2101 with threaded air connection for ambient temp. up to 212 °F (+100 °C)

Envelope Dimensions [inch] (see datasheet for details)



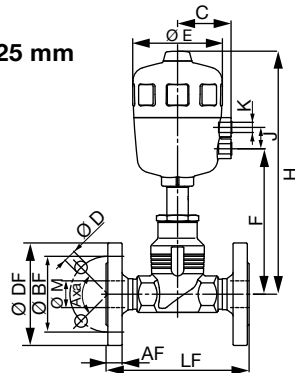
Dimensions shown for 2101 for exact 2012 dimensions please see datasheet

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)

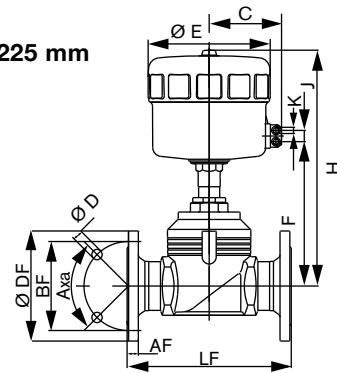
DN 10-65

Actuator size 40-125 mm



DN 65-100

Actuator size 175 and 225 mm



ANSI flange													
DN	Actuator [mm]	C	ØE	F	H	K	J	ØDF	LF	ØBF	AF	ØD	ØM
1/2"	50	1.73	2.52	5.16	8.31	G1/4	0.95	3.50	7.24	2.38	0.44	0.62	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	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	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	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	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	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	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	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	203 095
1/2"	70	5.4	70	363	466 863*
3/4"	70	9.4	70	290	203 097*
1"	70	15.0	70	232	203 099*
1 1/2"	70	35.9	70	87	203 100
1 1/2"	90	35.9	73	232	203 101*
2"	90	52.1	73	145	203 102
2"	130	52.1	73	232	218 419*
2 1/2"	90	75.2	73	73	239 525
2 1/2"	130	75.2	81	232	219 535*
3"	130	127.3	81	145	239 529*
4"	130	190.9	81	87	239 532*

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	146 258
3/4"	63	9.4	65	232	146 294
1"	80	15.0	73	232	146 572
1 1/2"	125	35.9	46	232	146 338
2"	125	52.1	46	145	146 356
2 1/2"	125	84.5	81	174	152 742
2 1/2"	175	84.5	65	232	152 760
3"	175	127.3	65	145	152 778
3"	225	127.3	48	232	152 796
4"	175	179.3	65	102	152 814
4"	225	179.3	70	232	152 832

*part of US standard stocking program

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

- 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
- FDA/3A quality certifications



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.

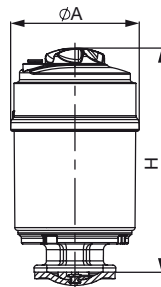
The design enables the easy integration of automation modules whether they are electrical/optical position feedback, pneumatic control units or an integrated fieldbus interface. The fully integrated system has a compact and smooth design, integrated pneumatic lines, IP65/67, NEMA Type 4X protection class 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), Gylon®/ 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)
GYLON®/EPDM laminated (ER) FKM (FF)	23 to 266°F (steam sterilization 140°C for 60 min) 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]

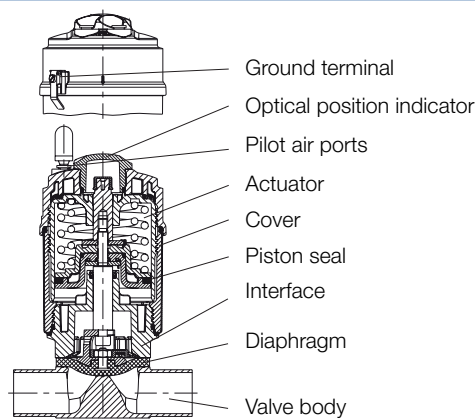
Actuator



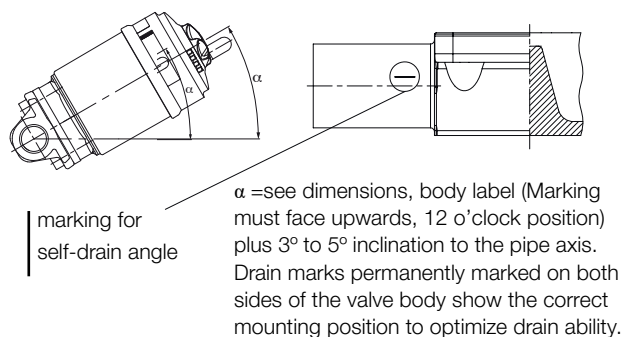
Diaphragm size	Actuator size Ø [mm]	ØA	H
1/2"	70	3.58	6.26
3/4"	70	3.58	6.26
1"	90	4.72	7.78
1-1/2"	130	6.26	10.51
2"	130	6.26	10.81

2103 with 360° rotatable interface, stainless steel

Materials



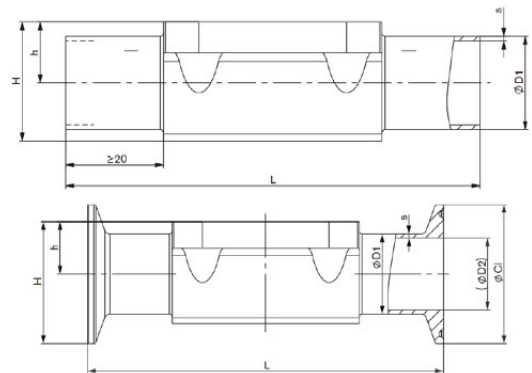
Installation for self-draining operation



Technical data (continued)

Port connection DN		Diaphragm size	Actuator size Ø	Pilot pressure	Max. media pressure [PSI]		Cv [gpm]
[mm]	[inch]		[mm]	[PSI]	EPDM FKM	PTFE, advanced PTFE, GYLON®	ASME BPE
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]		[mm]	[gpm]	[PSI]	[PSI]		
Diaphragm material EPDM (AD)								
15	1/2"	1/2"	70	3.59	70-145	145	325 900	325 905
20	3/4"	3/4"	70	9.83	70-145	145	325 901	325 906
25	1"	1"	90	17.93	73-145	145	325 902	325 907
40	1-1/2"	1-1/2"	130	42.79	73-102	145	328 459	328 460
50	2"	2"	130	76.34	73-102	145	325 904	325 909
Diaphragm material PTFE/EPDM (EA)								
15	1/2"	1/2"	70	3.59	70-145	145	295 873	325 911
20	3/4"	3/4"	70	9.83	70-145	145	295 875	325 912
25	1"	1"	90	16.77	73-145	116	325 910	325 913
40	1-1/2"	1-1/2"	130	43.37	73-102	145	295 878	325 914
50	2"	2"	130	76.34	73-102	102	295 880	325 915
Diaphragm material Gylon ®/EPDM Laminated (ER)								
15	1/2"	1/2"	70	3.59	70-145	145	325 916	325 922
20	3/4"	3/4"	70	9.83	70-145	145	325 917	325 923
25	1"	1"	90	16.77	73-145	116	325 918	325 924
40	1-1/2"	1-1/2"	130	43.37	73-102	145	325 920	325 925
50	2"	2"	130	76.34	73-102	102	325 921	325 926

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]		[mm]	[gpm]	[PSI]	[PSI]		
Diaphragm material EPDM (AD)								
15	1/2"	1/2"	70	3.59	70-145	145	325 932	325 938
20	3/4"	3/4"	70	9.83	70-145	145	325 933	325 939
25	1"	1"	90	17.93	73-145	145	325 935	325 940
40	1-1/2"	1-1/2"	130	42.79	73-102	145	328 461	328 462
50	2"	2"	130	76.34	73-107	145	325 937	325 942
Diaphragm material PTFE/EPDM (EA)								
15	1/2"	1/2"	70	3.59	70-145	145	325 943	325 947
20	3/4"	3/4"	70	9.83	70-145	145	325 944	325 948
25	1"	1"	90	16.77	73-145	116	266 735	325 949
40	1-1/2"	1-1/2"	130	43.37	73-102	145	266 734	325 950
50	2"	2"	130	76.34	73-107	102	325 946	325 951
Diaphragm material Gylon ®/EPDM Laminated (ER)								
15	1/2"	1/2"	70	3.59	70-145	145	325 952	325 957
20	3/4"	3/4"	70	9.83	70-145	145	325 953	325 958
25	1"	1"	90	16.77	73-145	116	325 954	325 960
40	1-1/2"	1-1/2"	130	43.37	73-102	145	325 955	325 961
50	2"	2"	130	76.34	73-102	102	325 956	325 962

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

- 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



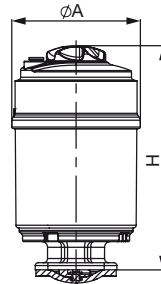
The externally piloted diaphragm valve consists of a pneumatically operated piston actuator, a diaphragm and a 2-way tube valve body. Burkert's patented hydroforming technology allows the manufacturing of a flow optimized stainless steel valve body with high surface quality. A laser-welded mounting interface 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.

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), Gylon/ 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	
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)
GYLON®/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)

Dimensions [inch]

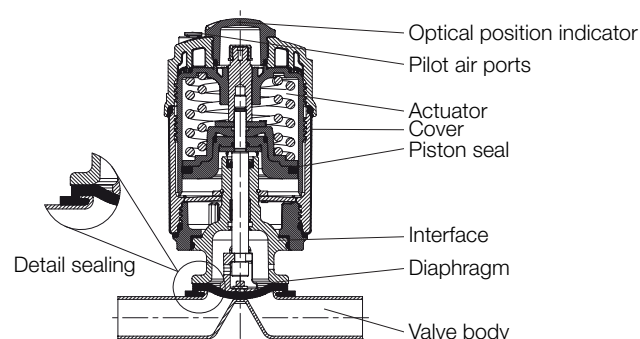
Actuator



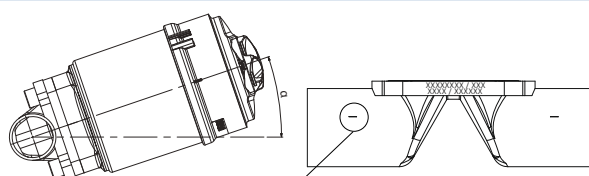
Diaphragm size	Actuator size Ø [mm]	ØA	H
1/4"	50	2.54	5.35
1/2"	70	3.58	6.26
3/4"	70	3.58	6.26
1-1/4"	90	4.72	8.89
1-1/2"	130	6.26	10.81

2103 with 360° rotatable interface, stainless steel

Materials



Installation for self-draining operation



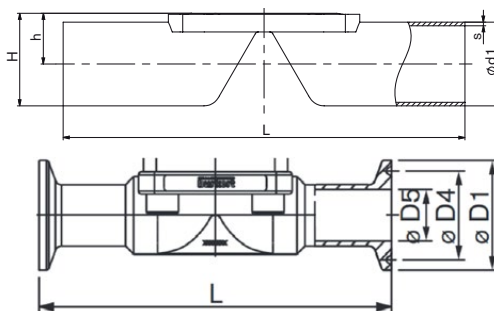
marking for self-drain angle

$\alpha = 15^\circ$ up to 35° plus 3° to 5° inclination to the pipe axis. Drain marks permanently marked on both sides of the valve body show the correct mounting position to optimize drainability.

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, GYLON®	
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]						
Diaphragm material EPDM (AD)							
5	1/2"	1/4"	50	2.54	54-145	145	321 038
20	3/4"	1/2"	70	7.52	70-145	145	324 754
25	1"	3/4"	70	14.69	70-145	145	321 066
40	1-1/2"	1-1/4"	90	37.01	73-145	116	321 082
50	2"	1-1/2"	130	53.20	73-102	145	324 809
Diaphragm material PTFE/EPDM (EA)							
15	1/2"	1/4"	50	2.54	64-145	145	290 514
20	3/4"	1/2"	70	7.52	70-145	145	290 516
25	1"	3/4"	70	14.69	70-145	145	290 518
40	1-1/2"	1-1/4"	90	37.01	73-145	87	290 520
50	2"	1-1/2"	130	53.20	73-102	145	290 525
Diaphragm material Gylon ®/EPDM Laminated (ER)							
15	1/2"	1/4"	50	2.54	64-145	145	325 896
20	3/4"	1/2"	70	7.52	70-145	145	325 897
25	1"	3/4"	70	14.69	70-145	145	325 898
40	1-1/2"	1-1/4"	90	37.01	73-145	87	291 907
50	2"	1-1/2"	130	53.20	73-102	145	325 899

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]						
Diaphragm material EPDM (AD)							
15	1/2"	1/4"	50	2.54	54-145	145	317 717
20	3/4"	1/2"	70	7.52	70-145	145	317 719
25	1"	3/4"	70	14.69	70-145	145	317 721
40	1-1/2"	1-1/4"	90	37.01	73-145	116	317 723
50	2"	1-1/2"	130	53.20	73-102	145	317 727
Diaphragm material PTFE/EPDM (EA)							
15	1/2"	1/4"	50	2.54	64-145	145	317 718
20	3/4"	1/2"	70	7.52	70-145	145	317 720
25	1"	3/4"	70	14.69	70-145	145	317 722
40	1-1/2"	1-1/4"	90	37.01	73-145	87	317 724
50	2"	1-1/2"	130	53.20	73-102	145	317 728
Diaphragm material Gylon ®/EPDM Laminated (ER)							
15	1/2"	1/4"	50	2.54	64-145	145	325 927
20	3/4"	1/2"	70	7.52	70-145	145	325 928
25	1"	3/4"	70	14.69	70-145	145	325 929
40	1-1/2"	1-1/4"	90	37.01	73-145	87	325 930
50	2"	1-1/2"	130	53.20	73-102	145	325 931



Millions of operations

The seat and seal materials in a Bürkert angle seat valve are designed to complete millions of operations with total consistency and reliability.

The ESTS compact range of autoclaves, that are designed to provide sterilization for medical and lab equipment use only Bürkert Type 2000 steam control valves to ensure reliability and guarantee that many more operations can go ahead as planned. Bürkert valves are manufactured and tested to the very highest standards of quality performing millions of operations, so that you can have total trust in their performance and reliability in any application.

Bürkert Type 2000 Angle Seat valves used exclusively on the innovative ESTS compact range of autoclaves for totally dependable steam control.



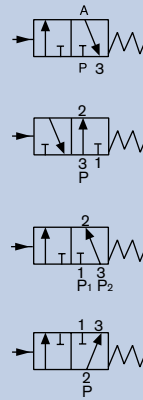
*ESTS 300L
Autoclave*

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 mm²/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

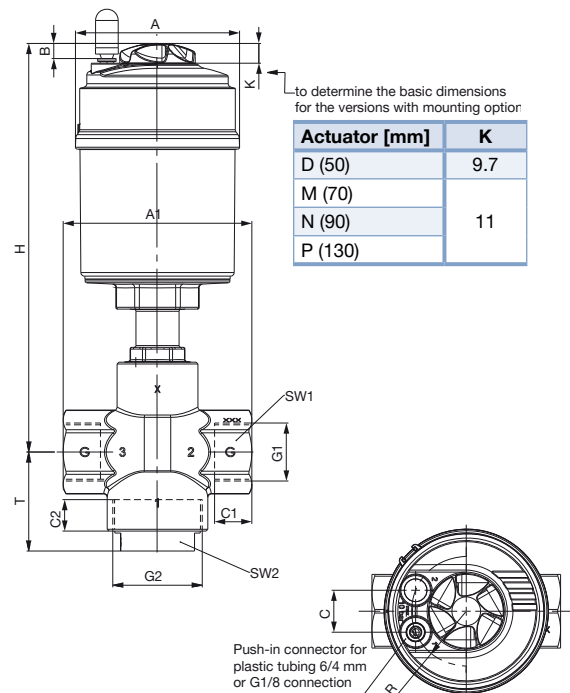
Stainless Steel NPT Threaded A 3/2-way, normally closed (NC) (port 1)							
Size	Orifice [mm]	Actuator Size Ø [mm]	Cv		Max. operating pressure [PSI]		Item no.
			1 to 2	2 to 3	1 to 2	2 to 3 3 to 1	
1/2"	15	50	8.1	5.2	232	232	292 478
1/2"	15	70	8.1	5.2	232	232	292 531
3/4"	20	50	10.4	7.2	232	232	292 532
3/4"	20	70	10.4	7.2	232	232	292 533
1"	25	50	19.7	12.7	131	160	292 534
1"	25	70	19.7	12.7	232	232	292 535
1 1/4"	32	70	37.0	24.3	116	160	292 536
1 1/4"	32	90	37.0	24.3	160	232	292 537
1 1/2"	40	70	40.5	27.7	101	160	292 538
1 1/2"	40	90	40.5	27.7	174	232	292 539
2"	50	90	59.0	40.5	131	116	292 540
2"	50	130	59.0	40.5	232	232	292 541

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)	

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

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 **FDA**



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. Clamps acc.	ASME BPE ASME BPE (further port connections on request)
Materials Body Actuator	Stainless Steel 316L / 1.4435 / BN2 Hand wheel / bonnet PPS / Stainless steel
Diaphragm materials	PTFE/EPDM (EA), EPDM (AD), GYLON®/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) EPDM (AD), advanced PTFE/ EPDM (EU) GYLON®/EPDM Laminated (ER) FKM (FF)	14° to 266°F (steam sterilization 284°F for 60 min) 23° to 289°F (steam sterilization 302°F for 60 min) 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

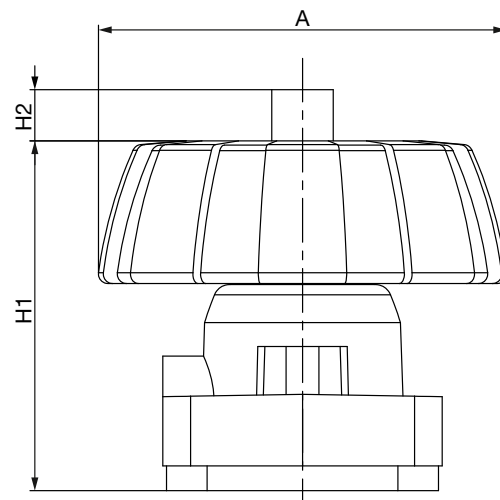
Technical data, pressure

Port connection DN	Diaphragm size	Max. media pressure	Cv [gpm]
[mm]	[inch]	[PSI]	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"

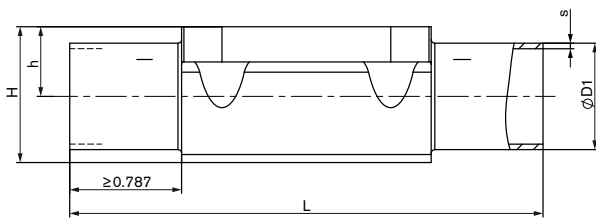


Diaphragm size	H1	H2	ØA
1/4"	1.83	-	1.38
1/2"	2.76	0.28	3.39
3/4"	2.87	0.43	3.39
1"	2.95	0.47	3.39
1-1/2"	3.46	0.75	4.49
2"	3.82	0.98	4.49

Dimensions [inch]

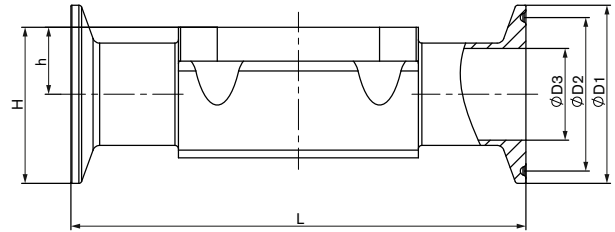
Forged body - weld end

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	325 820	325 827
10	3/8"	1/4"	1.9	145	325 821	325 828
15	1/2"	1/2"	3.6	145	325 822	325 829
20	3/4"	3/4"	9.8	145	325 823	325 830
25	1"	1"	17.9	145	325 824	325 831
40	1 1/2"	1 1/2"	42.8	145	325 825	325 670
50	2"	2"	76.3	145	325 826	325 832
Diaphragm material PTFE/EPDM (EA)						
8	1/4"	1/4"	0.9	145	447 997	447 998
10	3/8"	1/4"	2.1	145	448 002	448 003
15	1/2"	1/2"	3.6	145	446 299	446 300
20	3/4"	3/4"	9.8	145	446 304	446 305
25	1"	1"	16.8	145	446 309	446 610
40	1 1/2"	1 1/2"	43.4	145	446 314	446 315
50	2"	2"	76.3	145	446 319	446 320
Diaphragm material Gylon ® (ER)						
8	1/4"	1/4"	0.9	145	325 833	325 840
10	3/8"	1/4"	2.1	145	325 834	325 841
15	1/2"	1/2"	3.6	145	325 835	325 842
20	3/4"	3/4"	9.8	145	325 836	325 843
25	1"	1"	16.8	145	325 837	325 844
40	1 1/2"	1 1/2"	43.4	145	325 838	325 845
50	2"	2"	76.3	145	325 839	325 846

Clamp connection acc. ASME BPE

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

Port connection DN					Item no.	
[mm]	[inch]	Diaphragm size	Cv [gpm]	Max. operating pressure [bar]	Mechanical polished, Ra ≤ 0.5µm	Electropolished Ra ≤ 0.38 µm
Diaphragm material EPDM (AD)						
8	1/4"	1/4"	0.9	145	318 870	325 864
10	3/8"	1/4"	1.9	145	325 859	325 695
15	1/2"	1/2"	3.6	145	318 923	325 866
20	3/4"	3/4"	9.8	145	325 860	325 867
25	1"	1"	17.9	145	325 861	325 868
40	1 1/2"	1 1/2"	42.8	145	325 862	325 869
50	2"	2"	76.3	145	325 863	325 870
Diaphragm material PTFE/EPDM (EA)						
8	1/4"	1/4"	0.9	145	446 547	446 548
10	3/8"	1/4"	2.1	145	446 552	446 553
15	1/2"	1/2"	3.6	145	446 557	446 558
20	3/4"	3/4"	9.8	145	446 562	446 563
25	1"	1"	16.8	145	446 567	446 568
40	1 1/2"	1 1/2"	43.4	145	446 572	446 573
50	2"	2"	76.3	145	446 577	446 578
Diaphragm material Gylon ® (ER)						
8	1/4"	1/4"	0.9	145	325 872	325 878
10	3/8"	1/4"	2.1	145	325 873	325 879
15	1/2"	1/2"	3.6	145	325 874	325 880
20	3/4"	3/4"	9.8	145	325 875	325 881
25	1"	1"	16.8	145	298 091	325 883
40	1 1/2"	1 1/2"	43.4	145	325 876	325 884
50	2"	2"	76.3	145	325 877	325 885

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

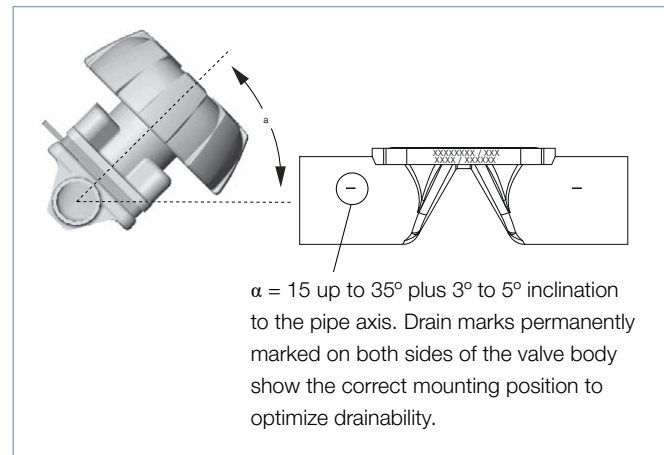
Port connection	1/2" - 2"
Diaphragm size	1/4" to 1-1/2"
Port connections	
Weld ends acc.	ASME BPE
Clamps acc.	ASME BPE
	(further port connections on request)
Materials	
Body	Stainless Steel 316L
Actuator	PPS hand wheel and stainless steel bonnet
Seal	PTFE/EPDM (EA), EPDM (AD), GYLON®/EPDM laminated (ER) 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)
GYLON®/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

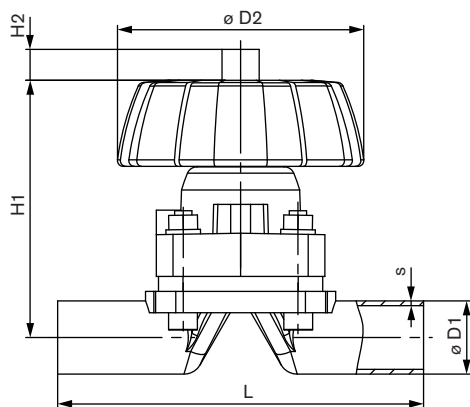
Installation for self-draining operation



Dimensions [inch]

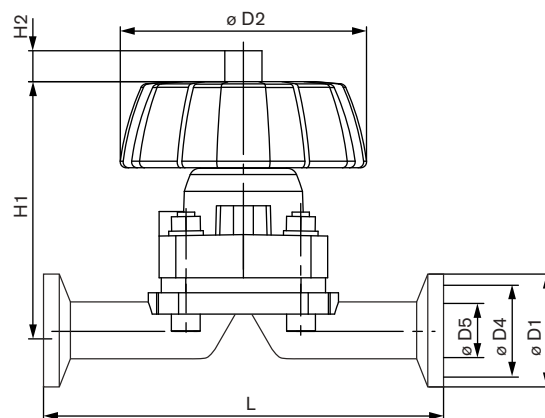
Weld ends port connection

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 $Ra \leq 0.38 \mu m$ and Inspection certificate 3.1 acc. to EN-ISO 10204 (included in delivery))

Port connection DN		Diaphragm size	Cv	Max. operating pressure	Item no. EPDM (AD) seal material	Item no. PTFE/EPDM (EA) seal material	Item no. Gylon®/EPDM Laminated (ER), seal material
[mm]	[inch]		[gpm]	[PSI]			
15	1/2"	1/4"	2.31	145	295 770	275 865	325 817
20	3/4"	1/2"	7.52	145	295 772	299 776	313 447
25	1"	3/4"	14.46	145	295 778	299 777	325 818
40	1-1/2"	1-1/4"	34.70	145	295 782	299 778	325 819
50	2"	1-1/2"	46.26	145	295 773	299 779	325 360

Clamp connection ASME BPE

(PPS Handwheel & Stainless steel bonnet, electropolished $Ra \leq 0.38 \mu m$ and Inspection certificate 3.1 acc. to EN-ISO 10204 (included in delivery))

Port connection DN		Diaphragm size	Cv	Max. operating pressure	Item no. EPDM (AD) seal material	Item no. PTFE/EPDM (EA) seal material	Item no. Gylon®/EPDM Laminated (ER), seal material
[mm]	[inch]		[gpm]	[PSI]			
15	1/2"	1/4"	2.31	145	317 523	317 524	325 855
20	3/4"	1/2"	7.52	145	325 847	325 851	325 856
25	1"	3/4"	14.46	145	325 848	325 852	325 857
40	1-1/2"	1-1/4"	34.70	145	325 849	325 853	325 611
50	2"	1-1/2"	46.26	145	325 850	325 854	325 858

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)



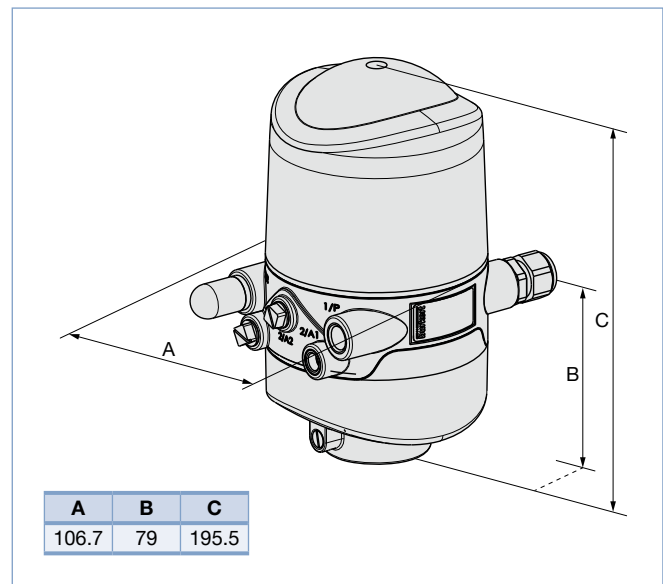
Type 8681 control head is optimized for decentralised automation of hygienic process valves. Thanks to its universal adapter it can be combined with all normal commercial butterfly valves, ball valves, single and double seated valves. With a decentralised automation concept, the control head takes over 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/m³)
Pressure condensation point	class 3 (<-4 °F (-20°C))
Oil concentration	class 5 (<25 mg/m³)
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 clocking short-circuit protection	
Outlet current	Max. 100 mA per feedback signal
Stroke range	0 to 80 mm
Resolution	≤ 0.1 mm
Total error	± 0.5 mm - when using a target for the dimensional drawing, material 1.4021 and a piston rod (Ø 22 mm, material 1.4301) (error refers to the reproducibility of a teach-position)
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, DeviceNet (in preparation)
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

 = Quick Delivery Items

Technical data (continued)

Without fieldbus communication; 24V DC	
Power consumption	< 5 W (acc. to version and operating status see instruction manual)
Valve control inputs (Y1 - Y3)	
Signal level - active	$U < 5 \text{ V}$, max. 24 V DC + 10%
Signal level - inactive	$U < 5 \text{ V}$
Impedance	$U > 30 \text{ k}\Omega$
Outputs / binary feedback signals	
Design	S1 out - S4 out
Switchable output current	Normally open contact, PNP output short-circuit proof with self-locking short circuit protection
Output voltage - active	max. 100 mA per feedback signal
Output voltage - inactive	$\geq$ (operating voltage - 2 V)
	max. 1 V in unloaded state
Input / proximity switches (external initiator: S4 in)	
Power supply	Voltage present at control head - 10 %
Current carrying capacity, sensor power supply	max. 90 mA short-circuit protection
Design	DC 2- and 3-conductor, NO or NC (factory setting NO), PNP output
Input current 1 signal	$I_{\text{Sensor}} > 6.5 \text{ mA}$, limited internally to 10 mA
Input voltage 1 signal	$U_{\text{Sensor}} > 10 \text{ V}$
Input current 0 signal	$I_{\text{Sensor}} < 4 \text{ mA}$
Input voltage 0 signal	$U_{\text{Sensor}} < 5 \text{ V}$
Electrical connection	
Multipole	M12 12-pin with cable 8 cm, 1 x M16 x 1.5 cable glands for external initiator (clamping range 3 ... 6 mm)
Cable gland	M16 x 1.5 (cable-Ø 5 ... 10 mm, screw terminals 0.14 ... 1.5 mm ²), 1 x M16 x 1.5 cable glands for external initiator (clamping range 3 ... 6 mm)
With Fieldbus communication; AS-Interface	
Power consumption equipment without external power supply	
Max. Current consumption	240 mA (incl. external initiator with 90 mA)
Current consumption in normal operation	$\leq 150 \text{ mA}$
(acc. to reduction of electric current; valve + 1 end position achieved)	3 valves activated, 1 position feedback with LED display, no external initiator
Power consumption equipment with external power supply	
The power supply unit must include a secure disconnect in accordance with IEC 364-4-41. It must conform to the SELV standard. The ground potential may not have an earth connection.	19.2 V DC up to 31.6 V DC $\leq 100 \text{ mA}$ 24 V DC $\leq 150 \text{ mA}$ type.
Output	
Contact rating	0.8 W with AS-Interface, per Solenoid Valve (0.9 W Switch-on power)
Watch-dog function	integrated
Input / proximity switches (external Initiator: S4 in)	
Power supply	AS interface voltage present at control head - 10 %
Current carrying capacity, sensor power supply	max. 30 mA short-circuit protection
Design	DC 2- and 3-conductor, NO or NC (factory setting NO), PNP output
Input current 1 signal	$I_{\text{Sensor}} > 6.5 \text{ mA}$, limited internally to 10 mA
Input voltage 1 signal	$U_{\text{Sensor}} > 10 \text{ V}$
Input current 0 signal	$I_{\text{Sensor}} < 4 \text{ mA}$
Input voltage 0 signal	$U_{\text{Sensor}} < 5 \text{ V}$
Electrical connection	
(ASI flat cable clip at cable 80 cm as standard)	M12 4-pin at cable 8 cm (acc. 0.3 m cable length acc. to AS-Interface Specification) 1 x M 16 x 1.5 cable glands for external initiator clamping range 3 ... 6 mm. M12 4-pin at cable 80 cm (acc. 1.0 m cable length acc. to AS-Interface Specification) 1 x M 16 x 1.5 cable glands for external initiator clamping range 3 ... 6 mm.

Ordering Chart

Communication	Supply voltage	Connection	ATEX zone 2/22 cat. 3	Quantity of solenoid valves	Feedback	Item no.
without	12 to 28 V DC	cable gland	without	0	3 int. + 1 ext.	196 410
			without	1	3 int. + 1 ext.	196 411
			without	2	3 int. + 1 ext.	196 412
			without	3	3 int. + 1 ext.	196 413
			with	1	3 int. + 1 ext.	196 415
without	12 to 28 V DC	M12, 12-pin, cable 8 cm	without	0	3 int. + 1 ext.	196 420
			without	1	3 int. + 1 ext.	196 421
			without	2	3 int. + 1 ext.	196 422
			without	3	3 int. + 1 ext.	196 423
			with	1	3 int. + 1 ext.	196 425
AS-Interface (62 slaves)	29.5 to 31.6 V DC	version with ASI flat cable clip and cable 80 cm	without	0	3 int. + 1 ext.	196 430
			without	1	3 int. + 1 ext.	196 431
			without	2	3 int. + 1 ext.	196 432
			without	3	3 int. + 1 ext.	196 433
			with	1	3 int. + 1 ext.	196 435
DeviceNet	via Bus	M12, 5-pin, cable 80 cm	without	1	3 int. + 1 ext.	196 451
			without	2	3 int. + 1 ext.	196 452
			without	3	3 int. + 1 ext.	196 453
büS/CANopen	via Bus	M12, 5-pin, cable 80 cm	without	1	3 int. + 1 ext.	298 715
			without	2	3 int. + 1 ext.	300 866
			without	3	3 int. + 1 ext.	300 867

For PMO configurations please contact the valve manufacturer or a Burkert representative.

Digital Electropneumatic Positioner SideControl and Digital Electropneumatic Process Controller SideControl

8792 / 8793

- Compact and robust design
- Easy start-up using tune function
- Integrated diagnostic functions for valve monitoring
- Dynamic positioning system with no air consumption in controlled state
- PROFIBUS DP-V1, DeviceNet, EtherNet/IP, PROFINET, Modbus TCP or bÜS (Bürkert System Bus)

8792



8793

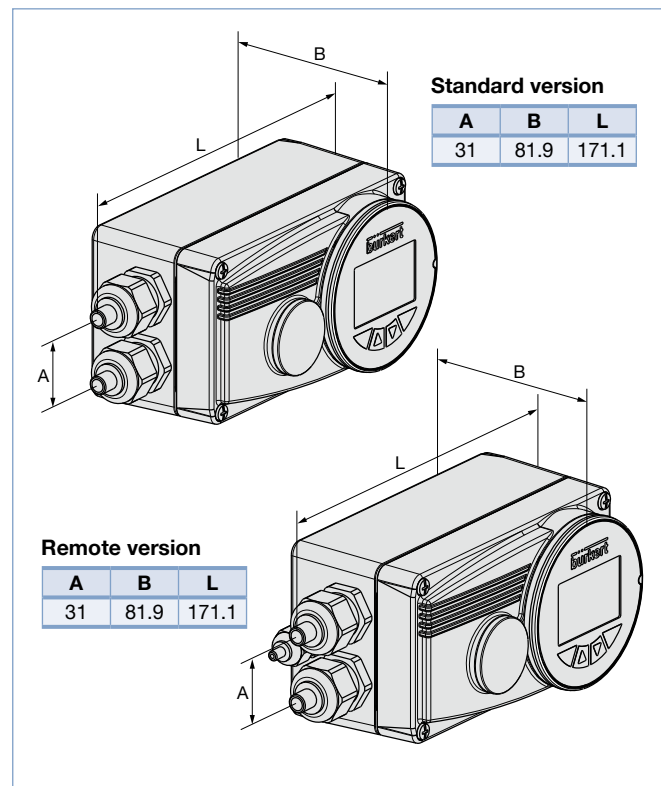
The type 8792 and 8793 are designed to standardization acc. to IEC 60534-6-1 or VDI/VDE 3845 (IEC 60534-6-2) for assembly with linear and rotary actuators. In addition, the remote versions can be combined with Bürkert process control valves. They can be operated with the usual current and voltage standard signals and can also be equipped with the fieldbus interface. Type 8792 and 8793 are equipped with additional diagnostic functions to monitor the state of the valve. With the diagnosis, the operating conditions of the control valves can be monitored. This allows planned maintenance and optimizes plant availability. Operation occurs via the external operation and display module with a backlit graphical display. The pilot valve system can be used equally for single and double-acting actuators. It is characterized by a defined safety feature in case of failure of the electrical or pneumatic power supply and possesses an enormous air capacity range with pressure supply up to 101.526 PSI.

Technical Data

Material	
Body	Aluminium plastic-coated
Seal	EPDM, NBR, FKM
Operating voltages	24 V DC $\pm$ 10 %
Residual ripple	Max. 10%
Setpoint setting	0/4-20 mA and 0-5/10 V
Input resistance	0/4-20 mA: 180 Ω 0-5/10 V: 19 k Ω
Analogue feedback	4-20 mA, 0-20 mA 0-10 V, 0-5 V
Binary input	Galvanically isolated, 0-5 V = log "0", 10-30 V = log "1"
Binary output	2 Outputs (optional), galvanically separated
Current limit	100 mA, Output will be synchronised when overloaded
Control medium	Neutral gases, air quality classes acc. to ISO 8573-1
Dust concentration	Class 7 (< 40 μ m particle size)
Particle density	Class 5 (< 10 mg/m ³)
Pressure condensation point	Class 3 (< -20 °C)
Oil concentration	Class X (< 25 mg/m ³)
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⁾

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)





Clean up your Cabinet!

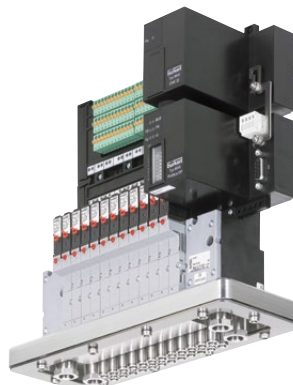
Smart solutions for flexible automation

Pneumatic control of processes can be so easy! Whether low or high flow rate for controlling of pneumatically driven valves, our AirLINE valve islands match your flow rate specifications. Be it for direct wiring or interface modules like Multipol, Profibus, DeviceNet, CANopen, Profinet, Ethernet or Modbus, any kind of communications are available.

Furthermore - with AirLINE Quick for example - our new adapter for valve islands and automation systems significantly reduces the need for components in the control cabinet like pneumatic hoses and cables - without any bulkhead connections! This cleans up your control cabinet and even allows for smaller ones. AirLINE Quick is available as a component or individually designed in a control cabinet - it is your choice!



AirLINE Quick automation system type 8644 with interface module and I/O modules from cooperation partner Siemens ET 200S, 16 valve functions



AirLINE Quick valve island type 8640 with Profibus DPV1, 24 valve functions and 24 digital inputs

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

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



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

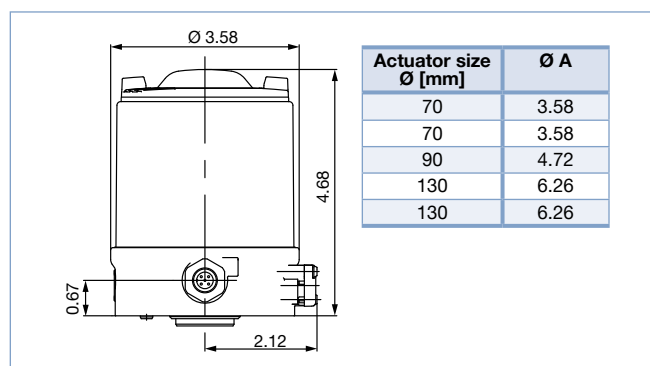
	2100 Angle Seat	2101 Globe
Orifice	0.5" (DN15) to 2.5" (DN65)	0.5" (DN15) to 4" (DN100)
Medium temperature	-10°C to +185°C; 14°F to 365°F	
Ambient temperature	-10°C to +60°C; 14°F to 140°F (push-in air ports) -10°C to +100°C; 14°F to 212°F (threaded air ports)	
Body material	316L stainless steel	
Sealing 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

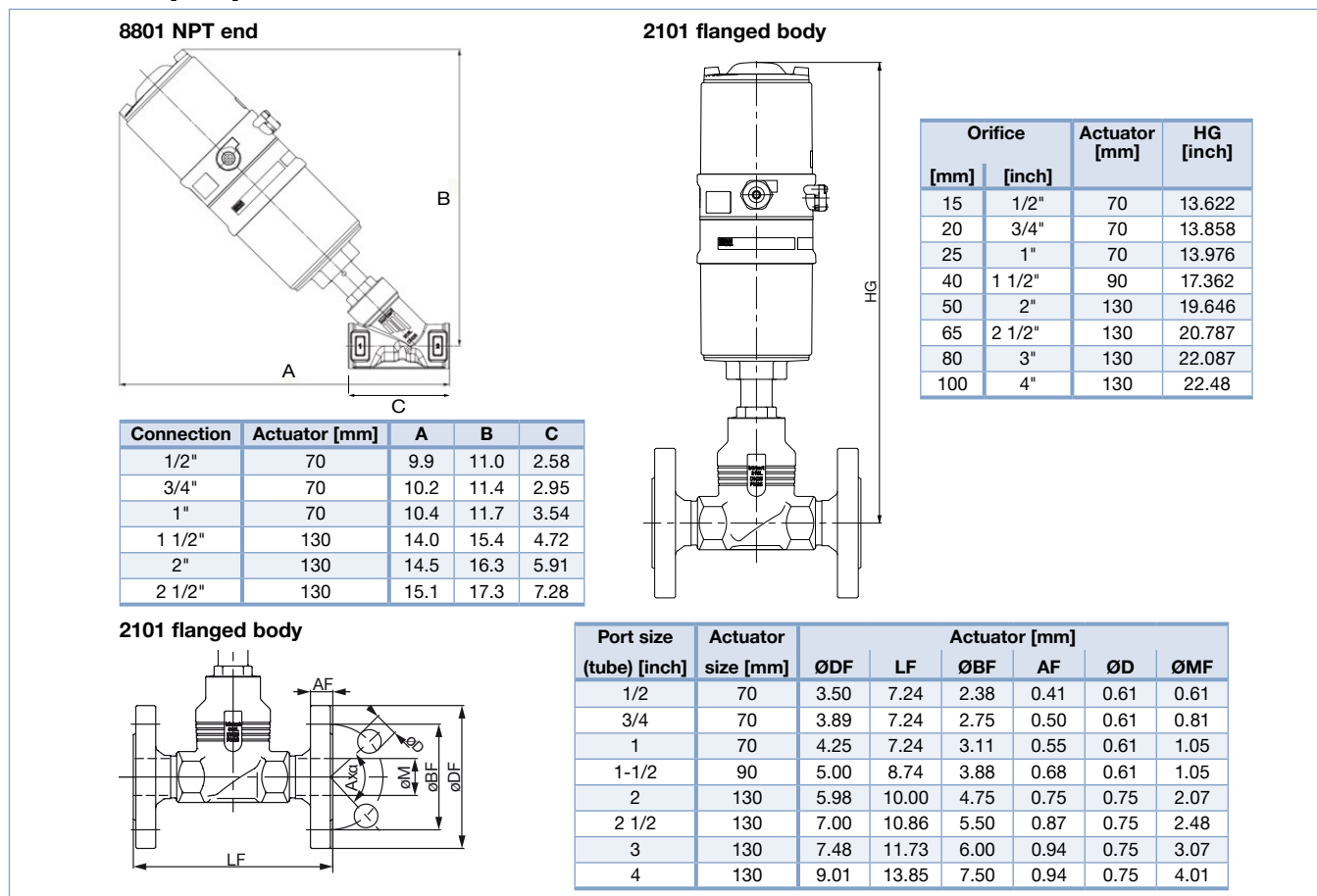
8691 Technical Data

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)



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			
3/4"	70	12.7	73	363	303 637	286 261	290 366
1"	70	20.8	73	232	302 452	274 542	302 523
1 1/2"	90	46.2	73	232	464 795	253 137	295 044
2"	130	71.7	73	232	307 516	302 457	302 526
2 1/2"	130	109.8	81	218	302 455	302 521	302 527
					302 456	302 522	302 529
Flow from above the seat (steam and other gases)							
1/2"	70	5.9		232			
3/4"	70	13.87		232	295 043	306 674	
1"	70	21.96		232	306 647	268 818	
1 1/2"	90	46.34		232	294 405	306 675	
2"	90	63.58		232	306 672	306 676	
2 1/2"	90	98.26		232	295 174	306 677	
					306 673		

Valve System On/Off (2101 + 8691)

Size	Actuator [mm]	Min. pilot pressure [PSI]	Max. pressure [PSI]	Item no.
Flow direction below the seat (gases and liquids)				
1/2"	70	70	362	305 469
3/4"	70	70	290	305 470
1"	70	70	232	261 751
1 1/2"	90	72.5	232	305 472
2"	130	72.5	232	305 473
2 1/2"	130	82	232	305 474
3"	130	82	145	305 475
4"	130	82	87	305 477



Angle Control Valve and Globe Control Valve

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



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 or DeviceNET) 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	
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	



8692 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.

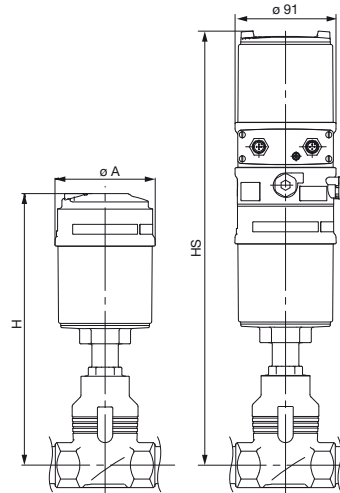
Dimensions [inch] (see datasheet for more details)

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

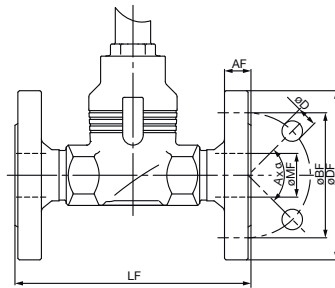
Dimensions [inch] (see datasheet for more details)

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]	ØDF	LF	Actuator [mm]	ØBF	AF	ØD	ØMF
1/2	70	3.50	7.24	2.38	0.41	0.61	0.61	0.61
3/4	70	3.89	7.24	2.75	0.50	0.61	0.61	0.81
1	70	4.25	7.24	3.11	0.55	0.61	1.05	1.05
1-1/2	90	5.00	8.74	3.88	0.68	0.61	1.05	1.05
2	130	5.98	10.00	4.75	0.75	0.75	2.07	2.07
2 1/2	130	7.00	10.86	5.50	0.87	0.75	2.48	2.48
3	130	7.48	11.73	6.00	0.94	0.75	3.07	3.07
4	130	9.01	13.85	7.50	0.94	0.75	4.01	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	336 492	337 376	336 509	337 391	337 343	336 461
3/4"	20	11.6	232	336 494	467 877	336 511	337 395	337 344	337 420
1"	25	18.5	232	336 495	337 378	336 512	337 402	337 346	338 033
1 1/2"	40	41.6	232	336 496	467 878	337 313	337 408	337 373	338 034
2"	50	61.3	232	336 504	467 874	337 314	336 458	338 086	338 036
2 1/2"	65	104.1	232	336 508	337 287	337 315	337 412	337 375	333 091

Globe Control Valve (2301 + 8692)

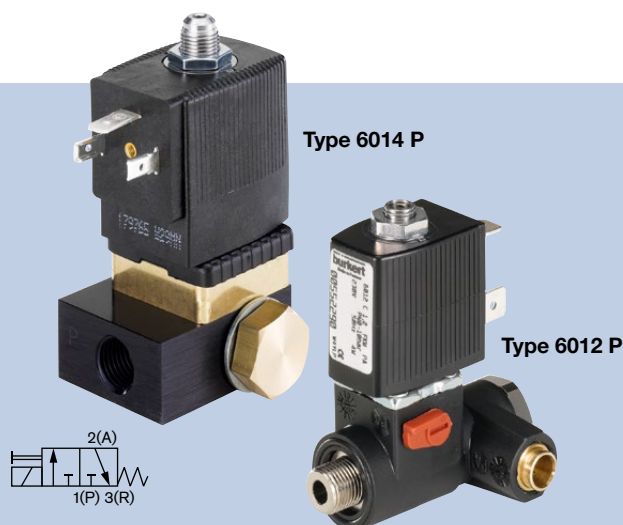
Size	Orifice [mm]	Cv	Pressure	Flange		NPT	
				PTFE/St.st.	St.st./St.st.	PTFE/St.st.	St.st./St.st.
1/2"	15	5	232	338 037	337 323	337 384	467 880
3/4"	20	8.3	232	338 038	337 324	338 073	337 413
1"	25	13.9	232	338 039	337 338	467 881	337 134
1 1/2"	40	27.7	232	338 042	337 339	338 075	337 414
2"	50	43	232	338 045	467 872	338 124	337 416
2 1/2"	65	75.6	232	338 049	333 067	338 216	337 419
3"	80	116.3	145	338 070	333 059	-	-
4"	100	162.8	87	338 072	337 340	-	-

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	338 227	337 316	-	-
	15	5	232	-	-	338 255	333 093
3/4"	15	5	232	338 234	337 317	337 288	338 257
1"	20	8.3	232	338 239	336 479	337 289	338 249
1 1/2"	32	20.7	232	338 242	336 459	337 290	338 259
2"	40	27.7	232	336 462	336 474	338 256	338 253
2 1/2"	50	43	232	338 244	338 223	-	-
3"	65	75.58	232	338 246	337 320	-	-
4"	100	162.8	87	338 248	336 350	-	-

Direct mounting pilot valve for pneumatic actuators

NPT 1/8" or NPT 1/4"

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



Direct-acting, 3/2-way, normally closed solenoid valve is plunger operated and designed to fit simply and securely to process valves. Type 6012 P has a compact design and a 1.2 mm orifice. Type 6014 P with a higher air capacity because of the 2 mm orifice.

Technical Data

	6012 P	6014 P
Pressure range	0-145 PSI max.	0-145 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	Polyamide	Brass and aluminium
Banjo bolt material	Brass, nickel plated	Brass, nickel plated
Seal material	Banjo screw: NBR Valve: FKM	FKM
Coil material	Epoxy (Class H)	Polyamide
Voltage tolerance	±10%	±10%
Power consumption	DC: 4 W, AC: 9 VA (inrush), 6 VA (hold)	DC: 8 W, AC: 24 VA (inrush), 17 VA (hold)
Protection class	IP65 (with cable plug)	IP65, NEMA 4 (with cable plug)
Electrical connection	Cable plug, Type 2507, Form B acc. to industry standard (not included)	Cable plug, Type 2508, Form A acc. to DIN EN 175301-803 (not included)
Response times ¹⁾		
DC opening	7-12 ms	ca. 18 ms
DC closing	7-12 ms	ca. 22 ms
AC opening	7-10 ms	ca. 18 ms
AC closing	9-12 ms	ca. 22 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

6012 P

- Normally open
- Cable plug with LED and varistor
- Other voltages on request

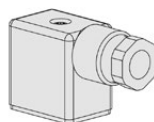
6014 P

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

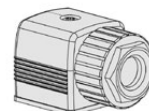
Ordering Chart

Connection Actuator/Air	Orifice [mm]	Cv	Pressure range [PSI]	Item no. Voltage/Frequency [V/Hz]	
				24 V DC	120 V/60 Hz
6012 P					
1/8" BSP / 1/4" NPT	1.2	1.7	0-145	552 275	552 277
1/4" BSP / 1/4" NPT				552 279	552 281
6014 P					
1/8" BSP / 1/4" NPT	1.6	0.08	0-230	429 142	429 144
1/4" BSP / 1/4" NPT				429 130	429 132
1/8" BSP / 1/4" NPT	2.0	0.13	0-140	429 146	429 148
1/4" BSP / 1/4" NPT				429 134	429 136

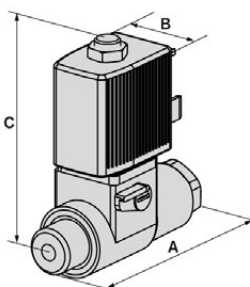
Envelope Dimensions [inch] (see datasheet for details)



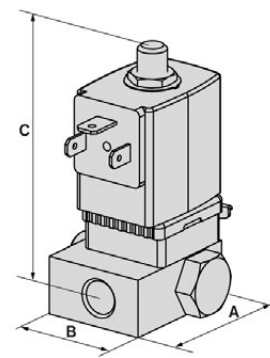
2507 cable plug
Form B
(not included)



2508 cable plug
Form A
(not included)



Type 6012 P



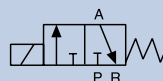
Type 6014 P

Type	A	B	C
6012 P	1.85	0.78	2.04
6014 P	1.77	1.41	3.11

Heavy Duty 3/2-way Pilot Valve Blocks

NPT 1/4", 0-145 PSI

- Extremely rugged
- Slip over coil design
- Manual override



Shown with 2508 plugs

6014 Manifold

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

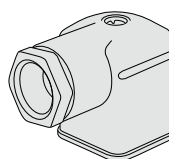
Options

- Manifolds of many engineering materials
- Intrinsically safe range (1 option shown in table as example)

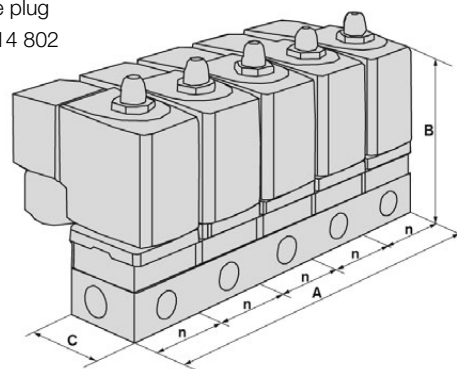
Ordering Chart for manifold mount valves

Voltage	Item no. standard	Item no. with manual override
24 VDC	125 375	289 548
120 VAC	467 127	465 592

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

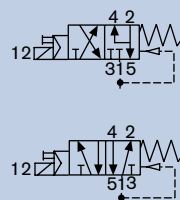
Ordering Chart for manifold

Positions	Item no.
2	006 104
3	613 828
4	006 106
5	613 829
6	613 598
8	613 831
10	613 833

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

NPT 1/4", NAMUR

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



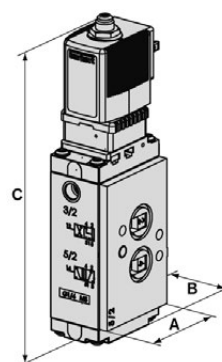
The solenoid valve, Type 6519 NAMUR, is provided with a NAMUR standard flange for easy, direct mounting to pneumatic actuators. It is manufactured from high-quality man-made materials.

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, Type 2508 (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
1/8"	1.26	1.38	2.89
1/4"	1.81	1.38	3.12

Ordering Chart

Type	Connections mechanical / electrical	Approvals	Item No.	
			24/DC	120/60
Standard	NPT1/4" Nickel-plated / 2508 plug	UR	296 425	296 428
Standard	NPT1/4" Nickel-plated / 2509 conduit plug	UL	296 478	296 488
HazEx™	NPT1/4" Stainless / conduit with 18" flying leads	FM, CSA Class I, Div 1	459 232	459 233

Modular pneumatic valve unit

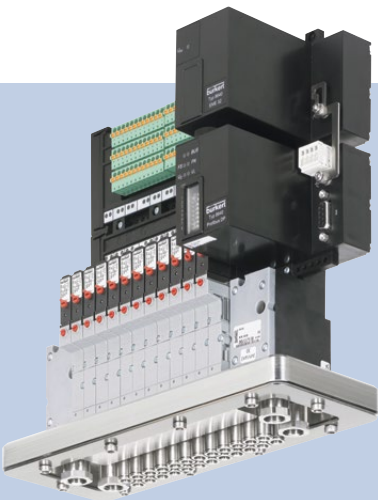
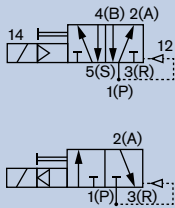
8640

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

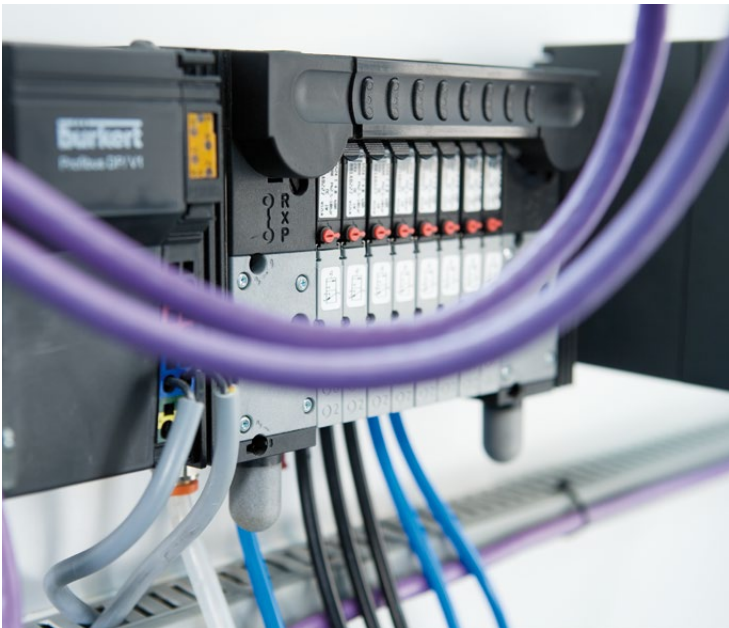


The versatile operational capability of the valve terminal, Type 8640, in the food and beverage industry will push in extended connections for hygienic applications by AirLINE Quick adapter plate with stainless steel and stainless steel. Installation and commissioning times are reduced to a minimum. 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)	217 928	217 934
Multipole 25 pin connector	217 930	217 935
DeviceNet	217 931	217 936
Profibus DPV 1	217 932	217 937

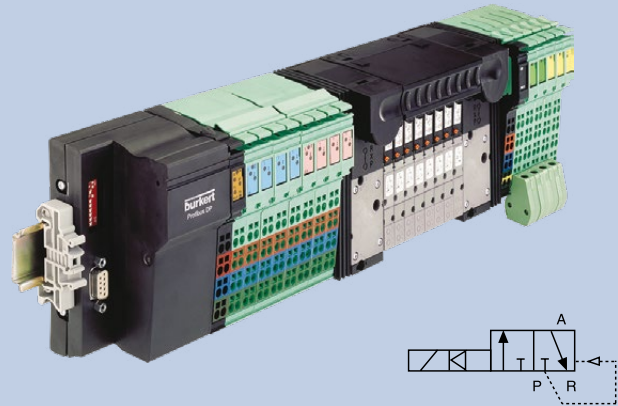
This chart shows only 8 simple configurations. The 8640 can be configured in a vast array of possibilities. Please visit the website for the configurators or call our experienced technical support.

AirLINE Modular Process Actuation and Networking System

8644

3/2-way or 5/2-way valves plus analog and digital I/O, bus or conventional communication

- Combines fieldbus, I/O and pneumatic pilots
- Extreme application flexibility



Stemming from our expertise in the supervision and control of complete loops AirLINE is more than a valve island. It accepts a wide array of digital and analogue field inputs and sends digital and analogue outputs for exact control where it matters.

This unique device marries virtually any combination of valve island functionality and electronic signals to the widest range of fieldbus connectivity.

AirLINE leaves the freedom to choose between electronic modules as it creates a fully integrated fieldbus communication, process valve actuation and control platform.

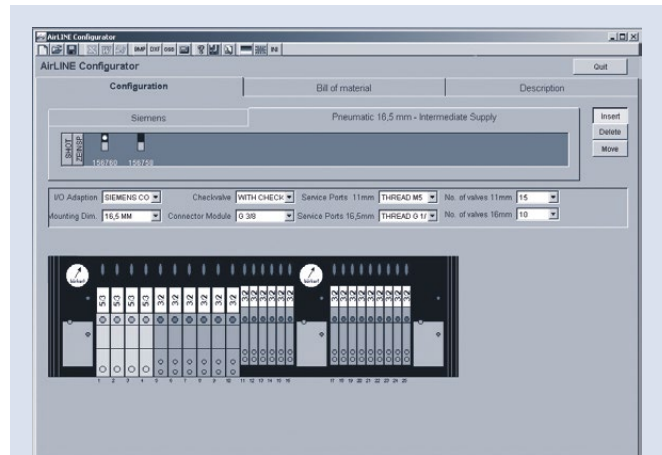
Special features make Burkert AirLINE unique:

- Burkert's exceptional process pneumatics designed and manufactured in Germany for valve actuation in the process environment
- Our ground-breaking modular system fit in your world and in your cabinet
- AirLINE with WAGO I/O System 750 and AirLINE with Siemens ET 200S can be used in hazardous applications in Zone 2
- With integrated P shut-off you are able to replace a valve even during operation
- Additional integrated check valves give a better protection for your installation
- Perfect process pneumatics with multiple communication possibilities

Technical Data

Body material	PA (polyamide)
Seal material	FKM, NBR
Media	Lubricated and non-lubricated dry air, neutral gases (5 µm-Filter)
Manual override	Yes
Voltage 24 V DC	24 V DC
Nominal power	2 x 1 W
Duty cycle	Continuous operation (100% ED)
Cv	0.28 / QNn = 300l/min
Pilot method	Flipper pilot
Circuit function	C 3/2-way normally closed
Pressure range	36.25-145 PSI
Orifice size	4 mm
Pneumatic outlet	Push in 1/4" tube

Configuration Software



AirLINE is a system of modular design which is precisely adapted to the specific requirements of the customer. Burkert offers a software programme, the simple, precise generation of the required configuration of each AirLINE system.

The Burkert Configurator defines

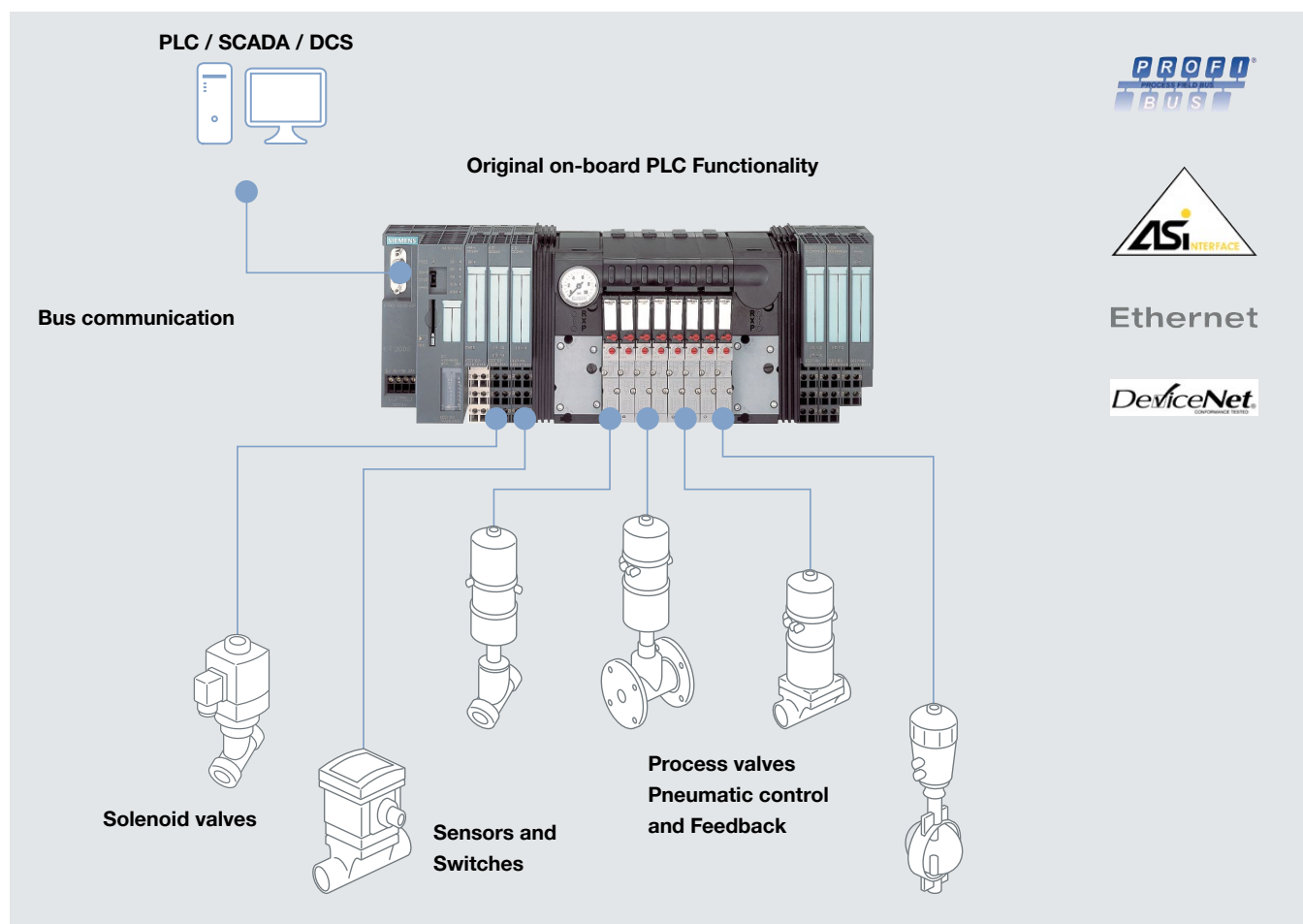
- Number and types of valves
- Type of (intermediate) supplies
- Combination of Fieldbus, pilot valves and I/O modules

The results supplied by the Configurator

- Bill of materials, incl. list prices
- Illustration
- Drawings

Options

- Further valves
- Allen Bradley, Wago, Phoenix Contact, Siemens compatible islands
- Circuit function D (normally open 3/2-way valves)
- Circuit function H (5/2-way valves)
- 16mm wide valves with Cv of 0.64 / 600l/min
- Cover plates for open slots
- Fully installed in one piece cabinet



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))
AB	98127373	98123841
Siemens	98130353	
Wago	98125290	

This chart shows only 4 simple configurations. The 8644 can be configured in a vast array of possibilities. Please visit the website for the configurators or call our experienced technical support.

Standard Panel

8652

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

- Process reliability with pneumatics functions
- Pressure regulator
- LC-Display - clear text diagnosis



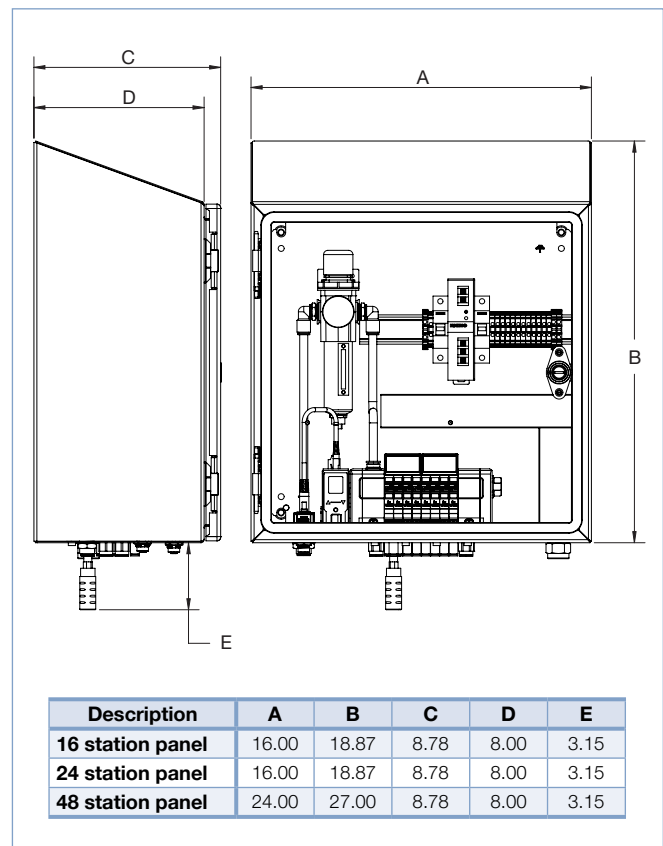
The Type 8652 AirLINE PANEL has been especially developed for applications in process automation. New diagnostic functions can be visualized at the LC display, both in clear text as well as symbols. This makes it easy to relate to the shown messages and helps to save time during startup and maintenance. 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 Air-LINE 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.

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

 = Quick Delivery Items

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

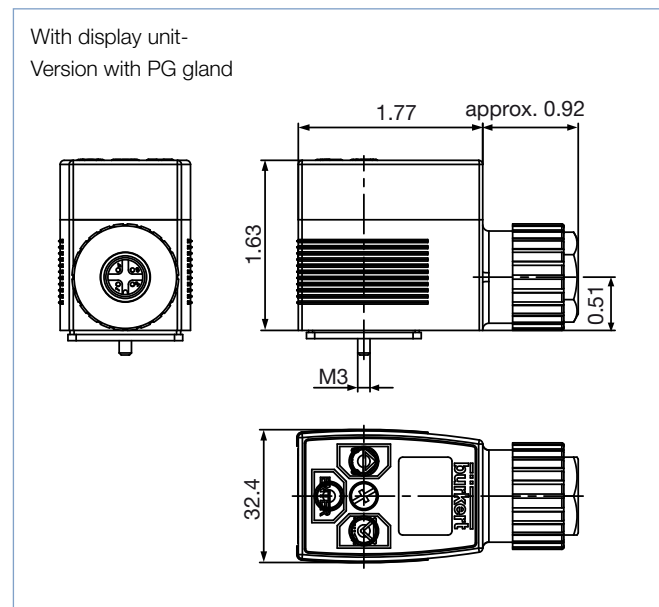
Power supply	12-30 V DC, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level
Voltage tolerance	± 10 %
Residual ripple	< 5 %
Power consumption max.	
Flow transmitter (4-20 mA output, 2-wire operation)	0.6 W
Pulse divider (NPN/PNP output, 3-wire operation)	3.2 W with • 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	215 644
Flow transmitter / pulse divider Type 8022 with display unit, PG connection	No	215 645
Flow transmitter / pulse divider Type 8022 without display unit, PG connection	 Recognized	563 223
Flow transmitter / pulse divider Type 8022 with display unit, PG connection	 Recognized	563 224
Flow transmitter / pulse divider Type 8022 without display unit, male M12 connector	No	215 646
Flow transmitter / pulse divider Type 8022 with display unit, male M12 connector	No	215 647
Display unit for Type 8022	No	562 876
Cover set (for operating without display unit)	No	670 549
Right-angle female M12 connector, 4 pins	No	784 301
Straight female M12 connector, 4 pins, with 5 m cable	No	918 038

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)



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.

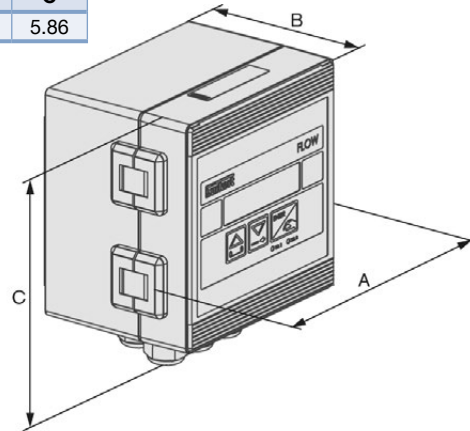
Technical data 8025

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)

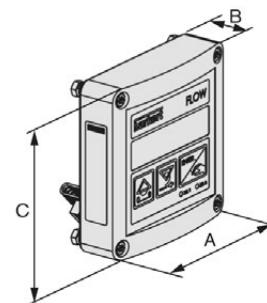
Wall Mount

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	433 740	433 741
Panel mount (CSA)	2	2 x 3 A	Terminal strip	419 536	–

Type SE35 Compact Batch Controller Electronic (requires S030 fitting)

Specifications	Voltage supply	Sensor version	Certification	Electrical connection	Item no.
Transmitter - batch controller	12...36 V DC	Hall	–	2 cable glands	443 360
		Hall	UL Recognized for US and Canada	2 cable glands	564 398
	115/230 V AC	Hall	–	2 cable glands	423 926

Insertion Flow Transmitter for continuous measurement

2" plus, 0-145 PSI

- Up and download of the data through removable display
- Pipe sizes 2 1/2" to 14"
- Preferably, for pipe diameter greater than 2 1/2"

Please see fitting S020



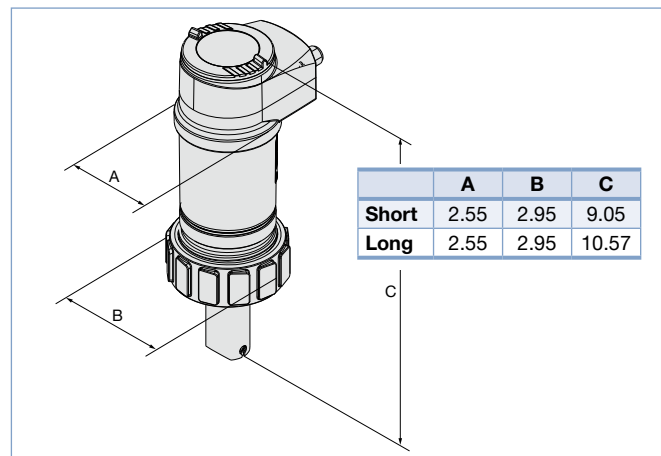
8026

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	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 (also depends on piping material)
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	559 168
Electrical connector, 5-pin M12 male, plug only	560 946
Electrical connector, 5-pin M12 male, 2 m prewired	559 177
Electrical connector, 5-pin M12 female, plug only	917 116
Electrical connector, 5-pin M12 female, 2 m prewired	438 680

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	561 863	561 873
2 x transistor NPN / PNP + 1 x 4-20 mA (2-wire)	5-pin M12 male	561 864	561 874
2 x transistor NPN / PNP + 2 x 4-20 mA (3-wire)	5-pin M12 male and 5-pin M12 female	561 865	561 875
without display			
1 x transistor NPN + 1 x 4-20 mA (2-wire)	5-pin M12 male	560 863	560 873
2 x transistor NPN / PNP + 1 x 4-20 mA (2-wire)	5-pin M12 male	560 864	560 874
2 x transistor NPN / PNP + 2 x 4-20 mA (3-wire)	5-pin M12 male and 5-pin M12 female	560 865	560 875

INLINE Flowmeter for continuous flow measurement

SE30 / 8030

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

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)

Options

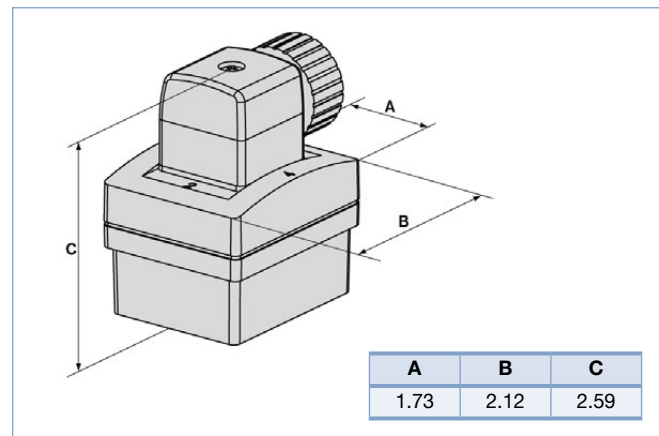
- High temperature version to 275 °F
- Hygienic clamp and ASME weld end connections
- ANSI flange connection
- PVDF and PP fittings.
- High flow fittings (8020) to DN350 mm
- Various sealing materials
- Individual calibration certificate

Ordering Chart

Description	Item no.
SE30 Hall Effect	423 913
SE30 Low Power Hall Effect (only for use with Type 8022 xmt or remote 8025 electronics)	423 914

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

Envelope Dimensions [inch] (see datasheet for details)



In-Line Flow Transmitter for continuous measurement

SE36 / 8036

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

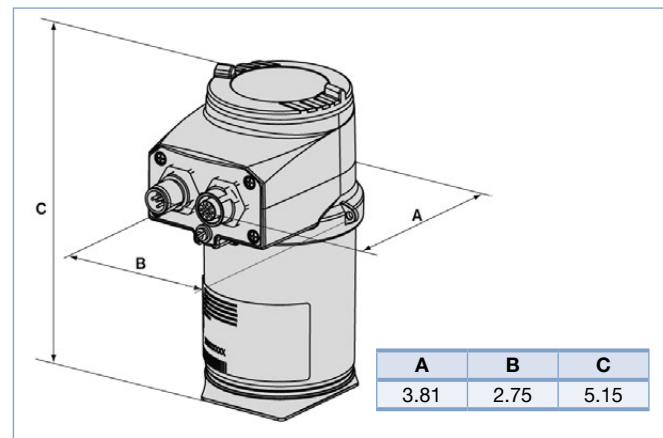


Unique bayonet style flow meter constructed from an SE36 sensor and any of the S030 fittings. This two-wire 4-20 mA INLINE flow meter is manufactured to provide true, reliable flow for neutral, solid free liquids. A backlit removable display allows the system to be flexible and adds more value.

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	559 168
Electrical connector, 5-pin M12 male, plug only	560 946
Electrical connector, 5-pin M12 male, 2 m prewired	559 177
Electrical connector, 5-pin M12 female, plug only	917 116
Electrical connector, 5-pin M12 female, 2 m prewired	438 680

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	560 883	561 883
3 outputs	2 x transistor + 1 x 4-20 mA (2 wire)	5-pin M12 male fixed connector	560 884	561 884
4 outputs	2 x transistor + 2 x 4-20 mA (3 wire)	5-pin M12 male and 5-pin M12 female	560 885	561 885

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 14"

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

Please see fitting S020



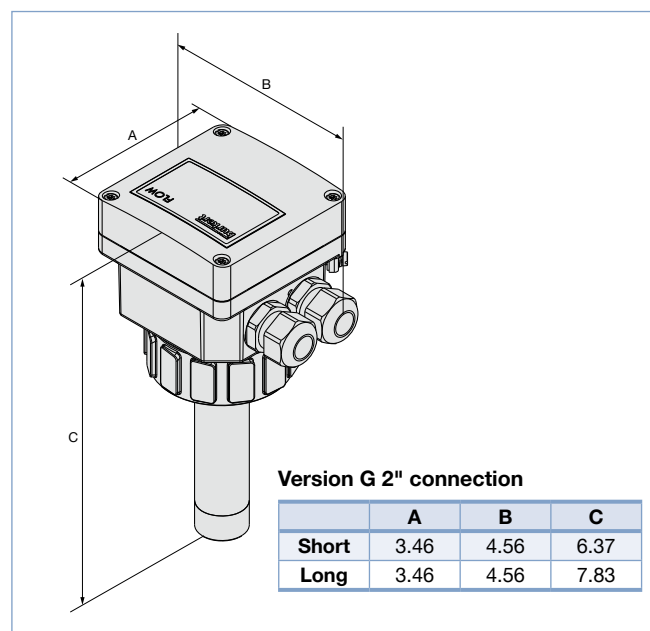
The insertion magmeter constructed from a PVDF finger and high quality blind electronic module. Perfect for contaminated or aggressive fluids it has both 4-20 mA and pulse output, with optional 3A relays, making this a flexible solution for flow control or batching.

Technical Data

Size range	1/2" - 14"
Measuring ranges	0.7 - 33 ft/s
Measuring error (teach in)	$\leq \pm 2\%$ o.R. (3.28-32.81 ft/s)
Measuring error (standard k-factor)	$\leq \pm 4\%$ o.R. (3.28-32.81 ft/s)
Linearity	$\leq \pm (1\% \text{ o.R.} + 0.1\% \text{ o.FS})$
Repeatability	$\pm 0.25\%$ 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
SS sensor version	302 °F*
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.	$\leq 220 \text{ mA}$
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	558 064
					long, PVDF	2 cable glands	558 065
			PPA	FKM	short, stainless steel	2 cable glands	552 779
					long, stainless steel	2 cable glands	552 780

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 14"

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

Please see fitting S020

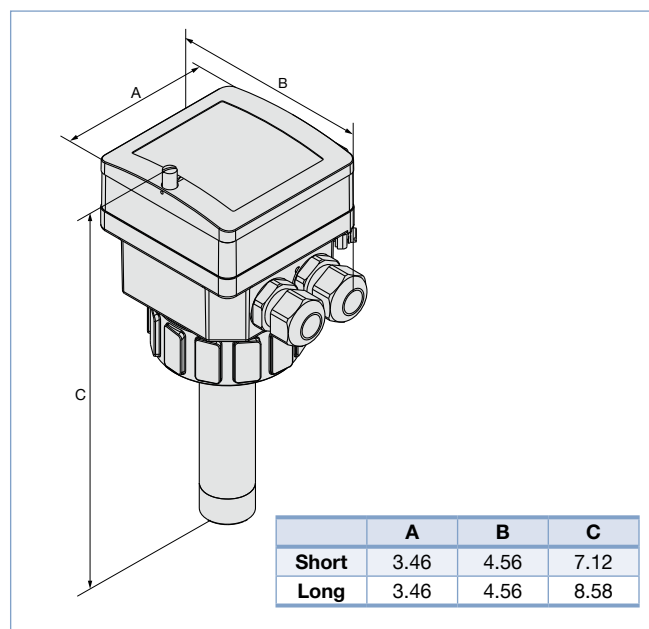


With a stainless steel insertion finger and high quality electronic display module this unit is perfect for contaminated or aggressive fluids. 4-20 mA and pulse output with optional 3A relays makes this a flexible solution for flow control, batching or CIP control in FDA applications.

Technical Data

Size range	1/2" - 14"
Measuring ranges	0.7 - 33 ft/s
Measuring error (teach in)	$\leq \pm 2\%$ o.R. (3.28-32.81 ft/s)
Measuring error	$\leq \pm 4\%$ o.R. (3.28-32.81 ft/s)
Linearity	$\leq \pm (1\% \text{ o.R.} + 0.1\% \text{ o.FS})$
Repeatability	$\pm 0.25\%$ o.R.
Housing material	PPA
Electrode Material	316L SS
Mag-sensor Material	316L SS (FDA compliant)
O-rings	FKM
Max. Fluid Temperature	212 °F
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.	$\leq 300 \text{ mA}$
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)	449 670
	2		Long, Stainless Steel (FDA)	449 672
			Short, Stainless Steel (FDA)	449 671
			Long, Stainless Steel (FDA)	449 673

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

8051 / 8055 / 8056

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

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.

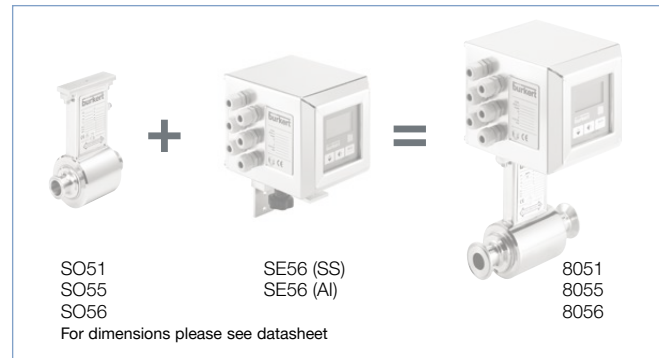
Technical Data

Housing material	Die cast aluminum or 304 Stainless steel
Ambient temperature	-4 °F to 140 °F
Voltage supply	90-265 VAC
Electrical connections	PG glands
Outputs	1 x 4-20 mA 2 x transistor (40VDC, 100mA, Fmax=1250Hz) Standard input 1 x digital (0 up to 40 VDC)
Ingress protection	IP65 and 67, NEMA4X
Approvals	CE
Size range	1/4" to 6"
Measuring ranges	1 to 33 fps
Measuring error (teach in)	± 0.2% of Reading (for liquid velocity > 3 ft/s)
Measuring error (std. k-factor)	± 0.2% of Reading (for liquid velocity > 3 ft/s)
Linearity	≤ ± 0.5% o.FS (at 33fps)
Repeatability	Repeatability better than 0.1%
Electrode material	SS 316L (optional 3 x SS 316L or 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)
Ambient temperature range	-4 to 140 °F
Max. fluid pressure	Fluid pressure Max. 232 PSI

Options

- 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
- 2 relay outputs NO/NC 2A-250VAC, 60W 125VA
- Hart, Profibus, RS232, RS485

System Architecture



Ordering Chart

Transmitter / Batch Controller Electronics - SE56				Item no.
Stainless steel				558 306
Aluminum				558 747
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	554 213
3/8"	6	0.17 - 4.40	PTFE	555 892
1/2"	10	0.53 - 13.20	PTFE	555 111
3/4"	15	1.05 - 26.4	PTFE	557 659
1"	20	2.2 - 55.00	PTFE	553 663
ANSI 150# INLINE Meter Fittings - S055				
1"	25	3.17 - 79.25	PP	554 353
2"	50	12.7 - 317.00	PP	554 354
3"	80	31.7 - 792.52	PP	554 351
4"	100	49.31 - 1232.80	PP	554 352
6"	150	112.7 - 2817.8	PP	561 426
Hygienic Clamp INLINE Meter Fittings - S056				
1/2"	3	0.04 - 1.10	PTFE	559 786
1/2"	6	0.17 - 4.40	PTFE	553 325
1/2"	10	0.53 - 13.20	PTFE	554 350
3/4"	15	1.05 - 26.4	PTFE	553 533
1"	20	2.2 - 55.00	PTFE	553 534
1"	25	3.17 - 79.25	PTFE	553 535
1 1/2"	40	7.92 - 198.13	PTFE	553 536
2"	50	12.7 - 317.00	PTFE	553 537
2 1/2"	65	21.13 - 528.34	PTFE	553 538
3"	80	31.7 - 792.52	PTFE	559 791

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



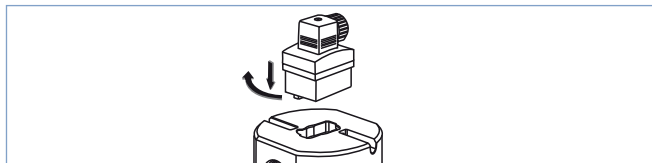
This positive displacement sensor fitting is specially designed for flow measurement and/or batch control of highly viscous fluids like glue, honey or oil. This measuring element must be associated to a transmitter SE30, SE32, SE35, SE36 with hall sensor principle only, quickly and easily connected together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

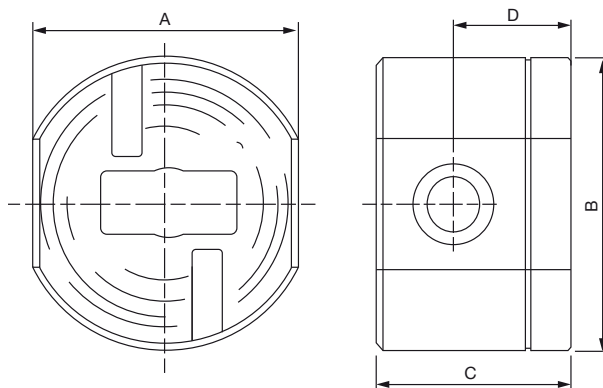
* or in accordance to the value of the used flanges

Burkert Quarter-turn Technology



Dimensions [mm]

Dimensions shown for threaded version for flanged connection please see datasheet



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

Ordering Chart

DN	Connection	Body material	Seal	Item no.
15	NPT ½"	AI	FKM	567 225
		SS	FEP/PTFE	567 226
25	NPT 1"	AI	FKM	567 229
		SS	FEP/PTFE	567 230
	1" ANSI 150 LB flange	AI	FKM	567 233
		SS	FEP/PTFE	567 234
40	NPT 1½"	AI	FKM	567 237
		SS	FEP/PTFE	567 238
	1½" ANSI 150 LB flange	AI	FKM	567 241
		SS	FEP/PTFE	567 242
50	NPT 2"	AI	FKM	567 244
		AI	FKM	567 247
	2" ANSI 150 LB flange	AI	FKM	567 247
		SS	FEP/PTFE	567 248
80	NPT 3"	AI	FKM	567 250
		AI	FKM	567 252
	3" ANSI 150 LB flange	AI	FKM	567 252
100	4" ANSI 150 LB flange	AI	FKM	567 254

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

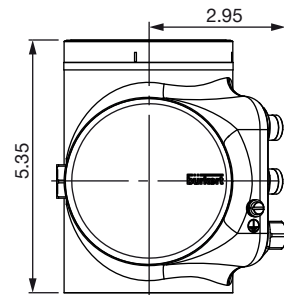


The Type 8098 FLOWave flowmeter from Burkert opens up entirely new possibilities for hygienic and process applications. With its unique SAW technology (Surface Acoustic Waves), the device has no sensor elements in the measuring tube and makes it easy to fulfil very high hygienic requirements. This is 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 (density factor, acoustic transmission factor) offer additional information about the particular liquid in use (for details, see data sheet).

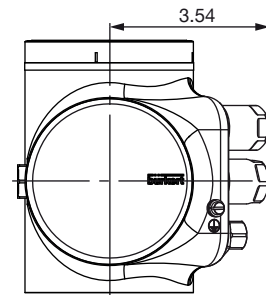
Technical Data

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) ¾", 1", 1½", 2"
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 finish⁴⁾	
Measurement tube (inner surface)	Ra < 0.8 µm (32 µin.) 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

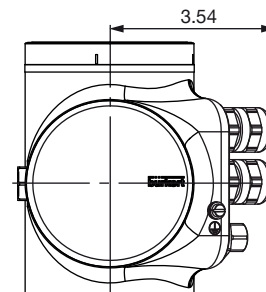
Transmitter SE98 Dimensions [inch]



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



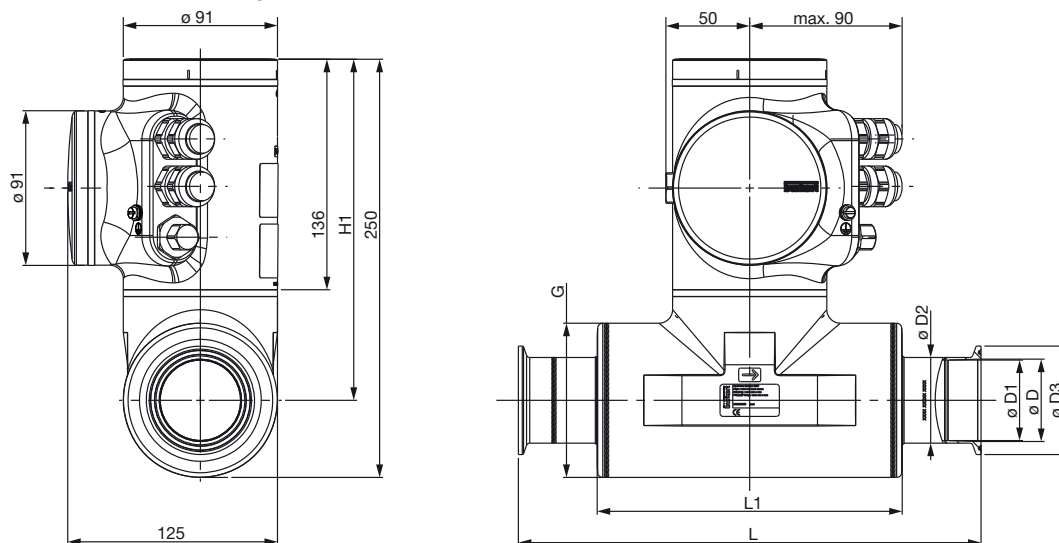
with 2 x M20 x 1.5 cable glands in stainless steel and 1 x 5 pin M12 male connector



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

Dimensions [inch] (see datasheet for details)

Flowmeter 8098 with clamp according to DIN 32676 series



Clamp/pipe size	Standard		H1	D1	D	D2	D3	G	L1	L
	Clamp	Process pipe								
3/4"	DIN 32676 series C (ASME BPE)	DIN 11866 series C (ASME BPE)	8.66	0.62	0.62	0.75	0.98	2.37	4.13	5.62
1"	DIN 32676 series C (ASME BPE)	DIN 11866 series C (ASME BPE)	8.66	0.87	0.87	1	1.98	2.37	4.13	5.62
1 1/2"	DIN 32676 series C (ASME BPE)	DIN 11866 series C (ASME BPE)	7.87	1.37	1.37	1.5	1.98	3.58	7.08	10.74
2"	DIN 32676 series C (ASME BPE)	DIN 11866 series C (ASME BPE)	7.87	1.87	1.87	2	2.51	3.58	7.08	10.74

Ordering Chart

NOTE: To set up a device without a display, please use the USB-bUS interface, Type 8920 (has to be ordered separately). 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 these versions are 3A and EHEDG certified and equipped with the special functions ATF (acoustic transmission factor) and DF (density factor)

Clamp and pipe size	Measurement tube (inner surface)	Operating voltage	Maximal flow rate	Electrical connection	Display	Item no.
3/4"	0.8 µm	12-35 V DC	7 m³/h	2 cable glands* M20 × 1.5 + 1 × 5 pin M12 male connector	Yes	566 203
	0.8 µm				No	566 207
	0.4 µm				Yes	566 211
	0.4 µm				No	566 215
	0.4 µm				Yes	569 675**
	0.4 µm			2 × 4 pin M12 female connectors + 1 × 5 pin M12 male connector (Ethernet version)	Yes	569 679
1"	0.8 µm	12-35 V DC	14 m³/h	2 cable glands* M20 × 1.5 + 1 × 5 pin M12 male connector	Yes	566 204
	0.8 µm				No	566 208
	0.4 µm				Yes	566 212
	0.4 µm				No	566 216
	0.4 µm				Yes	569 676**
	0.4 µm			2 × 4 pin M12 female connectors and 1 × 5 pin M12 male connector (Ethernet version)	Yes	569 680
1 1/2"	0.8 µm	12-35 V DC	35 m³/h	2 cable glands* M20 × 1.5 + 1 × 5 pin M12 male connector	Yes	566 205
	0.8 µm				No	566 209
	0.4 µm				Yes	566 213
	0.4 µm				No	566 217
	0.4 µm				Yes	569 677**
	0.4 µm			2 × 4 pin M12 female connectors and 1 × 5 pin M12 male connector (Ethernet version)	Yes	569 681
2"	0.8 µm	12-35 V DC	64 m³/h	2 cable glands* M20 × 1.5 + 1 × 5 pin M12 male connector	Yes	566 206
	0.8 µm				No	566 210
	0.4 µm				Yes	566 214
	0.4 µm				No	566 218
	0.4 µm				Yes	569 678**
	0.4 µm			2 × 4 pin M12 female connectors and 1 × 5 pin M12 male connector (Ethernet version)	Yes	569 682

*Cable gland in nickel plated brass

**UL Listed

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

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 Klingsil seal	Stainless / PEI housing Stainless steel forks Klingsil 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

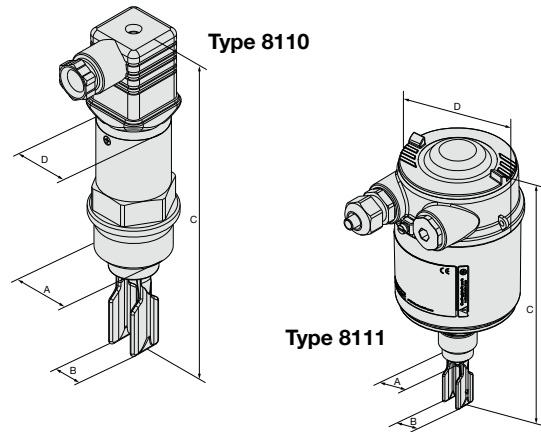
8110

- 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)



Type	A	B	C	D
8110	1/2" NPT	0.5"	6.20"	1.25"
	3/4" NPT	0.6"	6.24"	1.25"
	1" NPT	0.6"	6.36"	1.25"
	2" clamp	0.6"	6.48"	1.25"
8111	3/4" NPT	0.6"	8.28"	5.34"
	1" NPT	0.6"	8.40"	5.34"
	2" clamp	0.6"	8.40"	5.34"

Ordering Chart

Process connection	Electrical connection	Item no.
8110		
NPT 1/2"	Multipin M12	563 555
NPT 3/4"	Multipin M12	557 154
NPT 1"	Multipin M12	557 155
Clamp 2"	Multipin M12	555 294

Process connection	Electrical connection	Item no.
8111		
NPT 3/4"	2 x M20 glands	558 111
NPT 1"	2 x M20 glands	558 113
Clamp 2"	2 x M20 glands	558 114

Extension tubes are available (see datasheet Type 8112).

Radar Level Transmitter for Liquids

NPT thread or flange connection

- For filling level measurement up to 33 ft.
- High pressure version
- Two-wire version
- Adjustable via display and buttons as well as PC-Tool with DTM



8137 / 8138

Radar level transmitter for aggressive media and high pressure. A sleek, compact stainless steel design incorporates a 2-wire HART transmitter which is easily PC configurable.

Technical Data

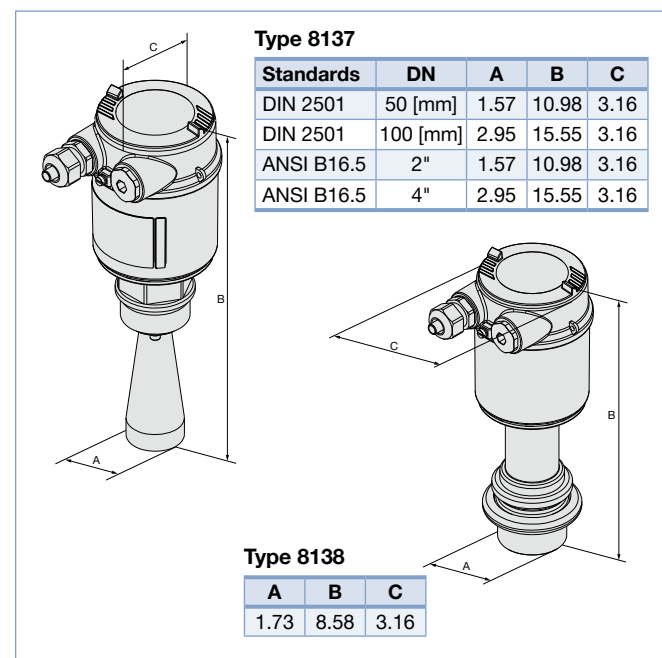
Housing / Cover	PBT, Stainless steel 316L / PC
Seal ring / Ground terminal	NBR / Stainless steel 316Ti/316L (1.4571/1.4435)
Seal	Klingspil C-4400 (8137), EPDM (8138)
Antenna / cone	Stainless steel 316L (8137), Advanced PTFE-PTFE (8138) / PTFE (Advanced PTFE 1600 PTFE) (8137)
Seal (antenna system)	FKM
Display	LCD in full dot matrix
Ambient temperature	-40 °F to 176 °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
Dead zone	2"
Measuring range (40mm antenna)	2" to 30'
Accuracy	± 3 mm
Min. Dielectric	$\epsilon_r > 1.6$
Temperature coefficient	0.03%/10K
Ingress protection	IP66, IP67, NEMA4X
Approvals	CSA, CE, Optional EEx ia IIC T6

Ordering Chart

Area of application	Process connection	Electrical connection	Item no.
8137			
Standard	NPT 1 1/2"	M20 cable gland	560 159
	Flange 2" ANSI B16.5	M20 cable gland	560 163
8138			
Standard	Clamp 2"	M20 cable gland	560 169

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

Envelope Dimensions [inch] (see datasheet for details)



Option

- Other hygienic fittings
- 98 ft. max with 75 mm antenna

Accessories

Description	Item no.
Set with 2 M20 x 1.5 / NPT 1/2" -Reductions + 2 Neoprene gaskets for cable gland M20 x 1.5 + 2 sealing plugs	551 782
HART-USB Modem	560 177
Set with a display/configuration module, a transparent cover and a seal ring	559 279
Set with a transparent cover and a sealing ring	561 006

Ultrasonic Level Transmitter for General Application

8177

NPT and G thread process connection

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



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

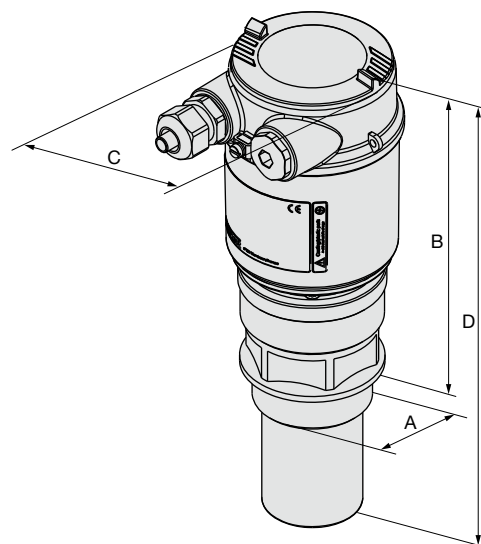
Technical Data

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

Option

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

Envelope Dimensions [inch] (see datasheet for details)



A	B	C	D
NPT 2"	4.84	3.16	10.78

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	559 244

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	551 782
Set with a display/configuration module, a transparent cover and a seal ring	559 279
Set with a transparent cover and a seal ring	561 006

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



Type 8188

Type 8189

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

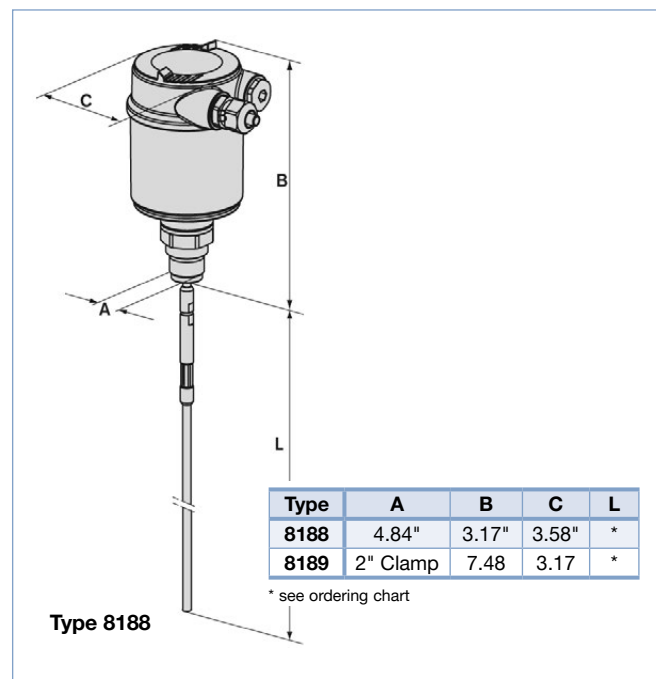
- ATEX/IECEx versions
- Other hygienic fittings

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	565 801
				2 m	Cable gland M20 x 1.5	565 805
			Cable	5 m	Cable gland M20 x 1.5	565 813
				10 m	Cable gland M20 x 1.5	565 817
			Coax	1 m	Cable gland M20 x 1.5	565 827
				2 m	Cable gland M20 x 1.5	565 828
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	565 803
				2 m	Cable gland M20 x 1.5	565 807
			Cable	5 m	Cable gland M20 x 1.5	565 815
				10 m	Cable gland M20 x 1.5	565 819
			Coax	1 m	Cable gland M20 x 1.5	565 829
				2 m	Cable gland M20 x 1.5	565 830
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	565 850
				2 m	Cable gland M20 x 1.5	565 852

Note: Display/programmer (559279) included

Envelope Dimensions [inch] (see datasheet for details)



Type 8188

pH Transmitter

8202 ELEMENT

- 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



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.

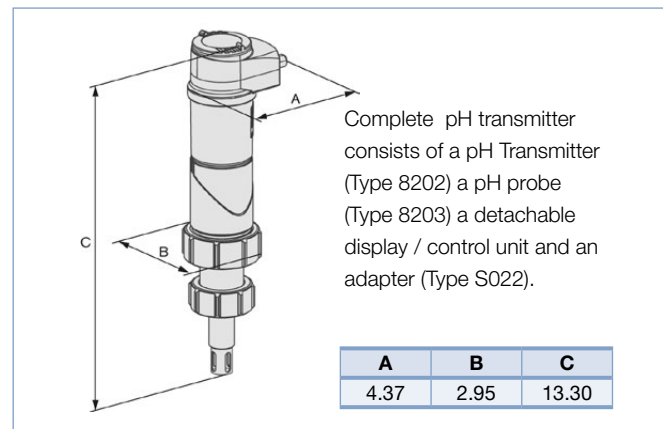
Technical Data

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	559 634
		PVDF	5-pin male	559 636
3-wire	2 x transistors + 2 x 4-20 mA	PVC	5-pin male + female	559 635
		PVDF	5-pin male + female	559 637

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	560 376
pH probe 32 °F to 176 °F, 0-87 PSI, pH 0-14 - FLATRODE pH 120 mm	561 025

Accessories

Description	Item no.
Display/programming module	559 168
Electrical connector, 5-pin M12 male, plug only	560 946
Electrical connector, 5-pin M12 male, 2 m prewired	559 177
Electrical connector, 5-pin M12 female, plug only	917 116
Electrical connector, 5-pin M12 female, 2 m prewired	438 680

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

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

For use with 8202 pH transmitter

- For many different types of installations and applications



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

Technical Data

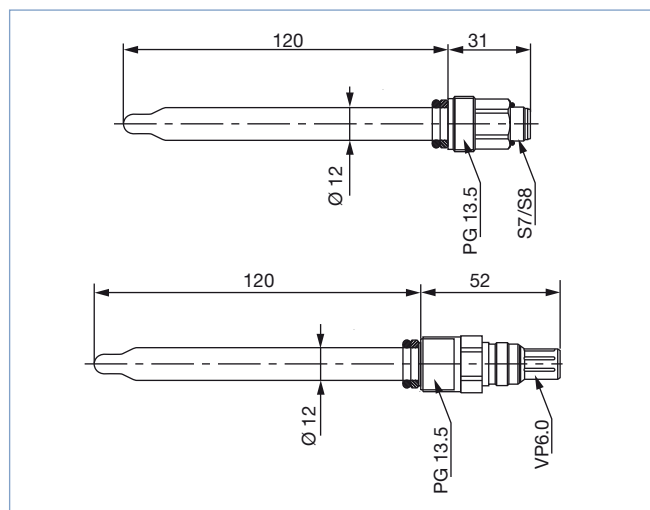
General data	
pH probe Measuring range	0 ... 14 pH
Medium temperature	Temperature limits may depend on the inserted probe. Refer to the relevant instruction manual or technical data. If the temperature ranges given for the holder and the inserted probe are different, use the most restrictive range.
Medium 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	560 377
FLATRODE pH 120 mm	561 025
LOGOTRODE pH 120 mm	427 114
UNITRODE PLUS pH 120 mm	560 376
CERATRODE pH 120 mm	418 319
FERMTRODE pH 120 mm	561 727

Conductivity transmitter with removable operating unit

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

Please see S022 fittings + adapters

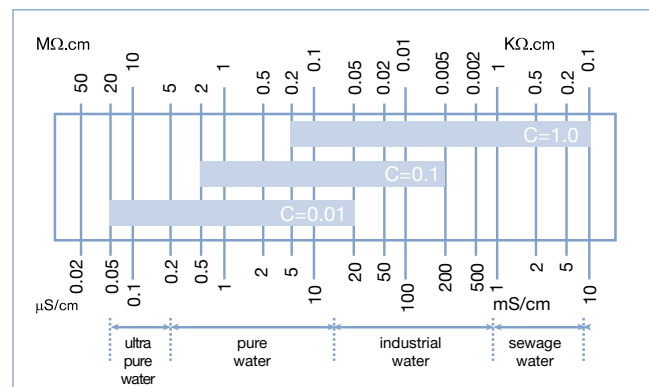
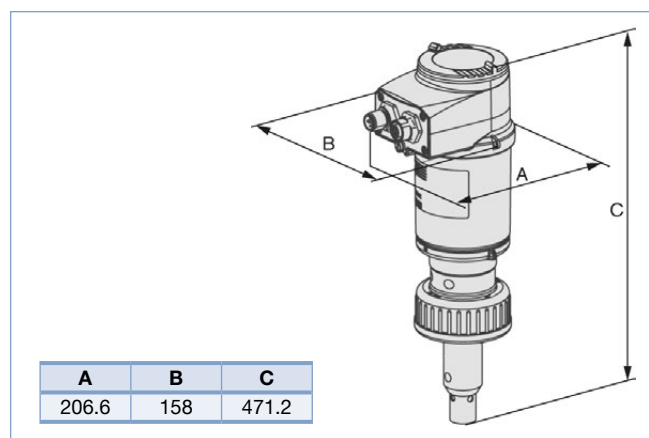


Conductivity transmitter with programmable outputs. Conductivity and temperature output via single or dual analog 4-20 mA. Two transistor outputs are also included. Transmitters are engineered for a wide scope of measuring ranges and can be delivered in 2-wire or 3-wire configurations. Intelligent, integrated,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

Technical Data

Measuring range	0.05 $\mu\text{S/cm}$... 10 mS/cm , -4 °F to 266 °F
Measuring error	$\pm 3\%$ 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	562 394
	C = 0.1	5-pin M12 male and 5-pin M12 female	559 624
	C = 1.0	5-pin M12 male and 5-pin M12 female	559 638
PVDF	C = 0.01	5-pin M12 male and 5-pin M12 female	562 396
	C = 0.1	5-pin M12 male and 5-pin M12 female	559 626
	C = 1.0	5-pin M12 male and 5-pin M12 female	559 622

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

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)

Accessories (see page 68)

Options: Dual Analog 4-20 mA output

Inductive conductivity meter

- 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



8228

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 μ S/cm...2 S/cm
Resolution	0.1 μ S/cm
Measurement deviation	$\pm$ (2% of the measured value + 5 μ S/cm)
Linearity	$\pm$ 2%
Repeatability	$\pm$ (0.2% of the measured value + 2 μ S/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	$\pm$ 1 °C (1.8 °F)
Response time t90	< 280 s (without filter)

Temperature compensation

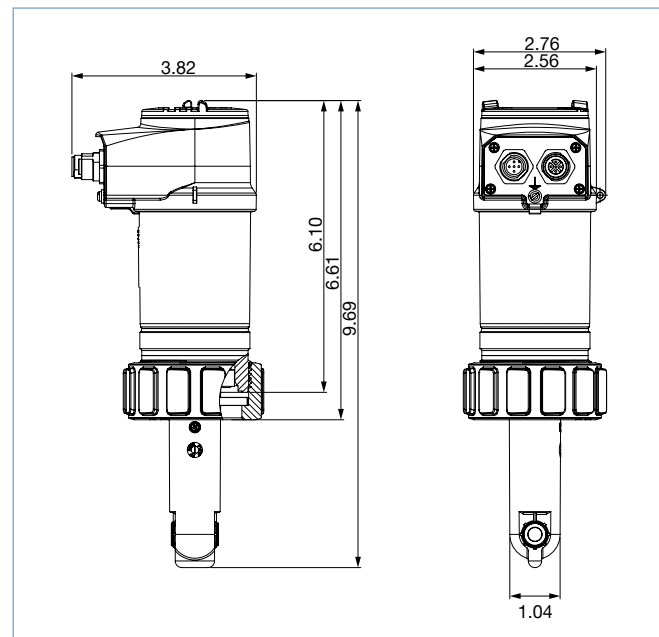
- none or
- according to a predefined graph (NaCl, NaOH, HNO₃ or H₂SO₄) or
- according to a graph defined especially for your process

Approval	UL-Recognized for US and Canada
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Environment

Ambient temperature	-10 °C to +60°C (14 to 140 °F) (operating and storage)
Relative humidity	$\leq$ 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	565 611	566 611
			PVDF	FKM	5-pin M12 male fixed connector	565 613	566 613
			PEEK	FKM	5-pin M12 male fixed connector	565 615	566 615
		2 x transistor NPN/PNP + 2 x 4 to 20 mA	PP	FKM	5-pin M12 male and 5-pin M12 female fixed connectors	565 612	566 612
			PVDF	FKM	5-pin M12 male and 5-pin M12 female fixed connectors	565 614	566 614
			PEEK	FKM	5-pin M12 male and 5-pin M12 female fixed connectors	565 616	566 616

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.

Intelligent Sensor/Switch/Display

8311

- Accurate, reliable pressure switching
- Switch for alarm or event logging
- Bar graph display for local monitoring

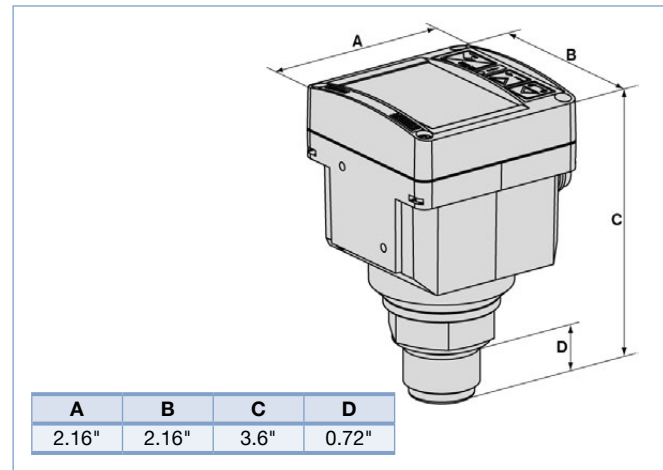


Programmable pressure sensor with switching and transmitting functions. It has a large display with bar graph and simple menu guided controls. Connection to the process with standard stainless steel connection and it can be set up with alarm, control or monitoring functions.

Technical Data

Measuring range	To 725 PSI
Switching accuracy ± 0.9 °F (0-176 °F)	$\pm 1.5\%$ FS
Medium temperature	-4 °F to 212 °F (212 °F for an ambient temperature of Max. 104 °F)
Repeatability	0.25% FS
Housing, cover	PC+20% glass fiber
Sensor element	Ceramic
Wetted parts (NPT seal)	316L stainless steel, ceramic/FKM (EPDM optional)
Ambient temperature range	0 °F to 140 °F
Ingress protection	IP65
Voltage supply	12-30 VDC
Protection	Reversed polarity of DC protected
Current consumption max.	750 mA max (with load - PNP output configuration)
Electrical protection	Short circuit protection
Max. cable length	164' shielded
Electrical connections	Cable plug Multipin 5 pin, M12
Output	Transistor output NPN and PNP 5-30 VDC, 700 mA

Envelope Dimensions [inch] (see datasheet for details)



Options

- Cable plug 2508, DIN 43650A 1/2" conduit
- Outputs: Relay 3 A/250 or 3 A/30 VDC
- 4-20 mA output
- Two-wire loop powered

Ordering Chart

Pressure range	Electrical connection	Output	Burst Pressure [PSI]	Max. Pressure [PSI]	*Item no.
0-30	M12 plug	NPN/PNP	102	58	98108565
0-73	M12 plug	NPN/PNP	174	145	98108558
0-145	M12 plug	NPN/PNP	363	290	98108551

*Includes M12 cable plug

Accessories for Type 8311	Item no.
M12 female cable connector with plastic threaded locking ring	917 116
5 pin M12 female connector moulded on cable (2 m, shielded)	438 680

More Versions	Pressure [PSI]	Item no.
Transmitter Version is also available with 4-20 mA output in 8 pin M12 (please see datasheet for details)	0-30	444 640
	0-73	444 641
	0-145	444 642

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

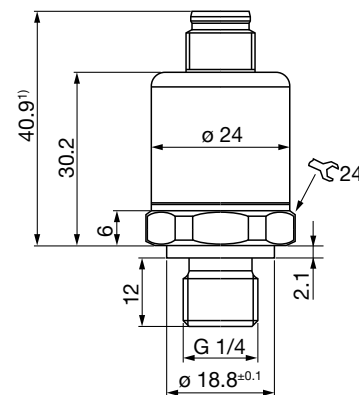
Body material	Stainless steel (1.4404)
Electrical connection	Round male connector M12 x 1
Process connection	NPT 1/4" external
Measurement procedure	Relative pressure measurement
Measurement range	0 to 14.5, 58, 87, 145, 232, 580, or 1450 PSI (0...1, 4, 6, 10, 16, 40 or 100 bar)
Fluid temperature	5 to 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]



¹⁾ Keep in mind that the total length is increased by the cable connection

Further Versions on Request

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

Ordering Chart

Process 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	564 466
UL-Listed for	0 to 150 PSI	7-33 V DC	4-20 mA	M12 male connector	564 467
USA and Canada	0 to 300 PSI	7-33 V DC	4-20 mA	M12 male connector	564 468

Accessories

Description	Item no.
5 pin M12 female cable connector with plastic threaded locking ring	917 116
5 pin M12 female connector moulded on cable (2 m, shielded)	438 680

Temperature Transmitter/Switch with display

- Menu-guided configuration
- Wide choice of connections and outputs
- Large digital display
- Bar graph display for local monitoring
- Continuous On/Off control
- 2-wire transmitter

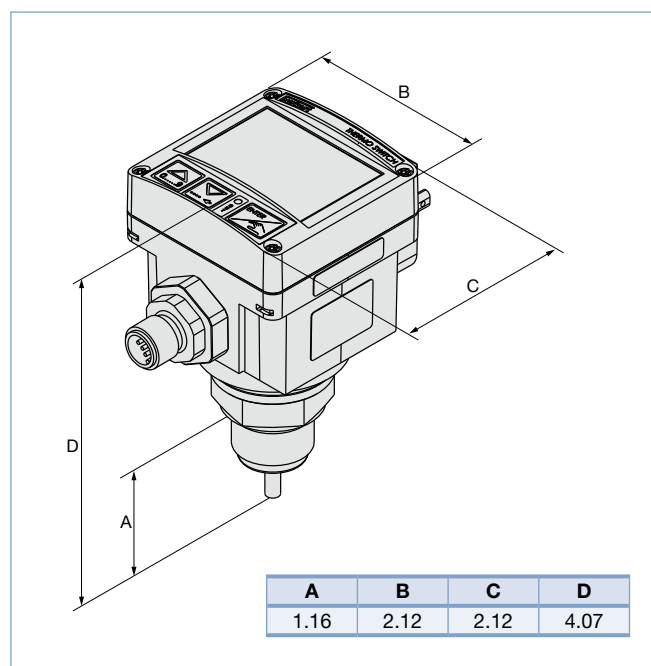


This intelligent sensor / switch with a particularly large display is designed specifically for monitoring limit values or an on/off or continuous control loop. The switching points can be programmed directly via buttons on the display or optionally externally by a PLC via a 4-20 mA standard signal input. In addition, the process value can be transmitted via a 4-20 mA signal to the PLC.

Technical Data

Measuring range (ambient 32 °F to 104 °F)	-40 °F to 257 °F
Switching accuracy	±0.09 °F (0 to 176 °F)
Switching activity	±2.7 °F
Repeatability	0.40%
Housing material, cover	PC+20% glass fiber
Sensor element	Pt100
Wetted parts (NPT seal)	316L stainless steel, FKM
Ambient temperature range	0 °F to 140 °F
Ingress protection	IP65
Voltage supply	12-30 VDC
Protection	Reversed polarity of DC protected
Current consumption max.	80 mA (no Load)
Max. cable length	328.1' shielded
Electrical connections	Cable plug Multipin 5 pin, M12
Output	Transistor output NPN and PNP open collector 5-30 VDC, 700 mA

Envelope Dimensions [inch] (see datasheet for details)



Option

- 8400: Outputs : Relay 3 A/250 or 3 A/30V DC

Ordering Chart

8400 Sensor/Switch for sensor connection NPT 1/2"	*Item no.
NPN and PNP, free positionable 5-pin M12	98108577
Transmitter Version with 4-20 mA output and relay with 8-pin M12 and cable plug EN175301-803	98108573
Relay version, free positionable 5-pin M12 and cable plug EN175301-803	98108576

*Includes electrical plug or moulded cable

Accessories

ON/OFF Temperature Control System 8400	Item no.
5-pin M12 female connector with moulded on cable (2 m long, shielded)	438 680
5-pin M12 female cable connector with plastic threaded locking ring	917 116

Multi-channel, multi-functional transmitter/controller

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



8619

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.

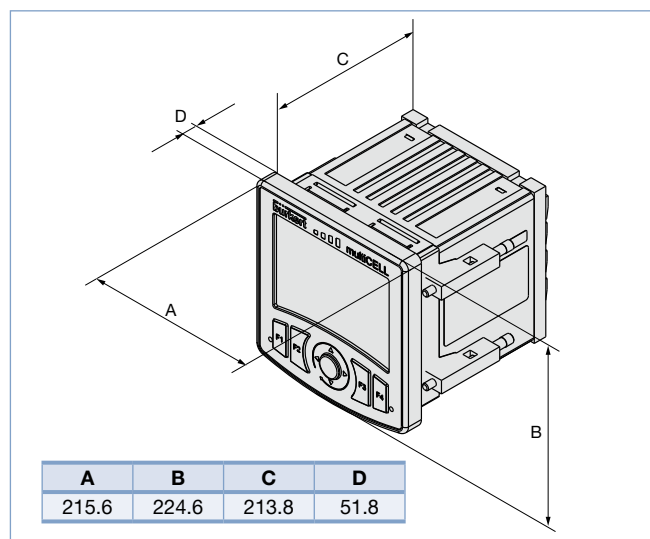
Optional software features can be simply activated when required by the application and an SD card is standard for data logging and up/down loading of parameterization files.

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

Ordering Chart

Description	Digital Inputs	Raw signals	RTD	Digital Outputs	Analog	Item no.
BASE unit	2	–	–	2	2	560 213
pH/ORP transmitter	2	1 (pH/ORP)	1	2	2	560 208
pH/ORP transmitter	2	2 (pH/ORP)	2	4	4	560 210
CONDUCTIVITY transmitter	2	1 (Cond.)	1	2	2	560 209
CONDUCTIVITY transmitter	2	2 (Cond.)	2	4	4	560 211
pH/ORP and CONDUCTIVITY transmitter	2	1 (pH/ORP) + 1 (Cond.)	2	4	4	560 212

Note for ordering the above multiCELL Transmitter / Controller:

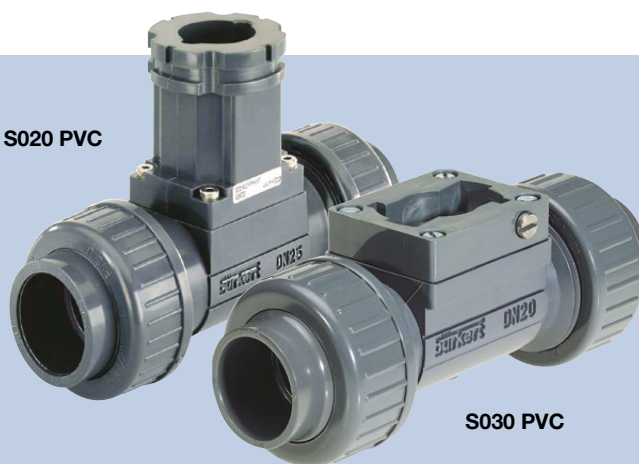
In all the above variations are arithmetic, PASS, REJECT, DEVIAT, PROP, the On/Off function standard features. In the basic model, the flow measurement function is included. When a totalizer function is needed, then a flow meter via a digital input (main or input board) must be connected. Other optional 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"	423 950	423 986	424 010	423 968	—	—	424 046
3/4"	423 951	423 987	424 011	423 969	443 395	443 369	424 047
1"	423 952	423 988	424 012	423 970	443 396	443 370	424 048
1 1/4"	423 953	423 989	424 013	423 971	—	—	424 049
1 1/2"	423 954	423 990	424 014	423 972	443 397	443 372	424 050
2"	423 955	423 991	424 015	423 973	443 398	443 373	424 051
2 1/2"	—	—	—	—	443 399	443 374	—

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"	428 682	428 718	428 742				
3/4"	428 683	428 719	428 743				
1"	428 684	428 720	428 744				
1 1/4"	428 685	428 721	428 745				
1 1/2"	428 686	428 722	428 746				
2"	428 687	428 723	428 747	418 111	98146031	98146032	
2 1/2"				418 112		98146034	413 469
3"				418 113	98146024	98146035	413 470
4"				418 114	98146025	98146020	98146019
5"				418 115			
6"				418 116	98146026	98146021	98146017
8"				418 117	98146027	98146022	98146030
10"				418 756	98146028	98146023	
12"				420 070	98146029	98146036	
14"				416 637	98109612		

 = Quick Delivery Items

Fittings for 8202 & 8222 pH and Conductivity Sensors

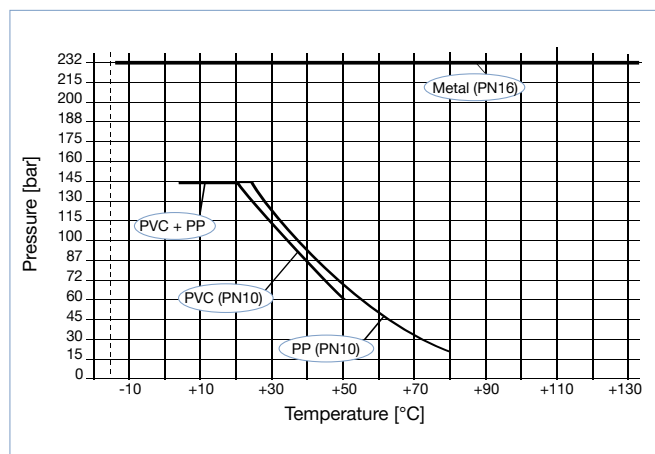
Tee Fittings and Adaptors

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



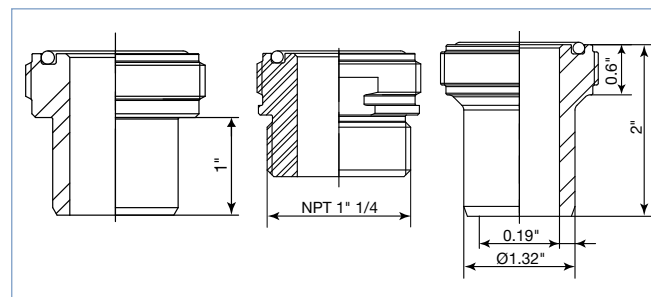
Fittings to connect the compact analytical transmitters to the media. Materials included are PVC-U, PP, Stainless steel, and PVC thread. For chemical resistance details please download our chemical resistance booklet from our website www.burkert-usa.com.

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	560 691
		20	560 692
		25	560 693
		32	560 694
		40	560 695
		50	560 696

Ordering Chart for insertion adapter 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	561 227
 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	561 232
 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	561 228

** see Type S022 datasheet for Tee Fittings



The best for your RO-System

Intelligent, modular solutions for monitoring and controlling the reverse osmosis process

Monitoring of your reverse osmosis process can be so easy! With the multichannel controller you can monitor any parameter needed for the process – such as pressure, flow, pH-value, ORP, conductivity or free chlorine. Furthermore, with the mathematical functions it is possible to calculate important process parameters like TMP (trans membrane pressure), rejection rate or recovery rate. The choice is yours.



multiCELL

8619:

Multiparameter controller/transmitter with data logging and math functions – wall, pipe or cabinet mounted versions

Sensors for flow monitoring, pressure control and analytical control (pH, ORP, conductivity, chlorine)



Mass Flow Controller for Gases (MFC)

8626

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

- High accuracy
- Fast settling times
- Fieldbus option
- Special version for ammonia gas
- Protection class IP65



The mass flow controller is suited for regulating the mass flow of high gas flows. The thermal inline sensor is located directly in the gas stream and therefore reaches very fast response times. A direct-acting proportional valve from Bürkert guarantees a high sensitivity. The integrated PI controller ensures outstanding control characteristics of the MFC. Type 8626 can optionally be calibrated for two different gases; the user can switch between these two gases. The mass flow controller type 8626 is especially designed for use in harsh environments due to a low sensitivity to contamination and the high protection class. The MFC fits for various applications.

Technical Data

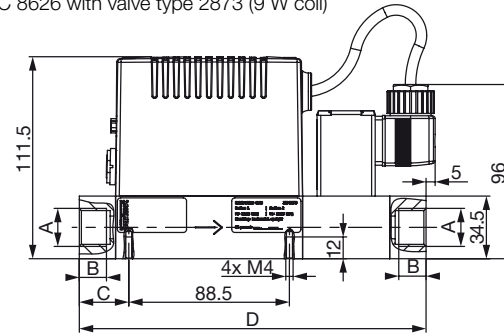
Turn-down ratio	1:50 ³⁾
Operating gas	Neutral, non-contaminated gases, others available on request
Calibration gas	Operating gas or air with correcting function
Max operating pressure (inlet pressure)	Up to max. 145 PSI (10 bar), depending on the orifice of the valve
Gas temperature	14°F to 158°F (-10°C to 70°C) (-10°C to 60°C with oxygen)
Ambient temperature	14°F to 113°F (-10°C to 45°C) higher temperatures on request
Accuracy (after 15min warm up time)	±1.5% of rate ±0.3% F.S. (o.R.: of reading; F.S.: of full scale)
Repeatability	±0.1% F.S.
Settling time (t _{95%})	<500 ms
Body material	Stainless steel, aluminium
Port connection	G 1/4", 3/8", 1/2", 3/4", 1" NPT 1/4", 3/8", 1/2", 3/4", 1"
Communication	Standard signal, RS-232 or RS-485, Profibus DP, DeviceNet, CANopen, Modbus
Operating voltage	24 V DC
Voltage tolerance	±10%
Power consumption	12.5 W - 37 W (depending on the version)

Nominal Flow Ranges (other gases on request)

Gas	Min. Q _{nom} [I _N /min]	Max. Q _{nom} [I _N /min]
Ammonia	20	1250
Argon	20	1500
Carbon dioxide	20	800
Air	20	1500
Methane	20	750
Propane	20	400
Oxygen	20	1500
Nitrogen	20	1500

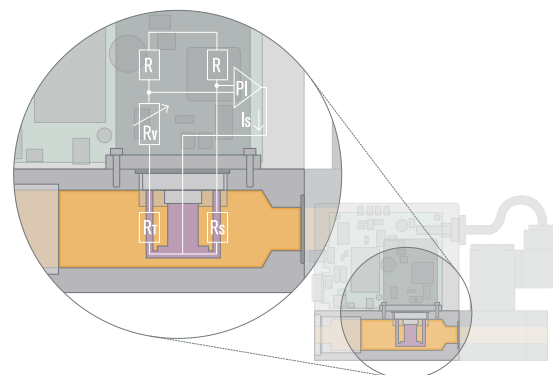
Dimensions [mm] (see datasheet for more details)

MFC 8626 with valve type 2873 (9 W coil)



A	B	C	D
NPT 1/4"	10	22.25	181
NPT 3/8"	11	22.25	181
NPT 1/2"	14	27.25	191
NPT 3/4"	15	27.25	191

Measuring Principle



The inline sensor works in the CTA operating mode (Constant Temperature Anemometer), whereby an electrical heating resistance (RS) and a measurement resistance (RT) are regulated at a constant temperature difference. Both resistances are directly placed in the flow channel; three more resistances are outside. Together they are all connected into a measurement bridge.

Mass Flow Controller for Gases (MFC)

8711

**Nominal flow ranges from
0.010 I_N /min to 80 I_N /min**

- High accuracy and repeatability
- Fast settling time
- Fieldbus option



The mass flow controller (MFC) Type 8711 is suited for regulating the mass flow of gases over a big flow range. The thermal MEMS sensor is located directly in the gas stream and therefore reaches very fast response times. A direct-acting proportional valve from Bürkert guarantees a high sensitivity. The integrated PI controller ensures outstanding control characteristics of the MFC. Type 8711 can optionally be calibrated for two different gases; the user can switch between these two gases. As electrical interfaces both, analog standard signals and fieldbuses are available. The mass flow controller type 8711 fits for various applications, like e.g. burner controls, heat treatment, material coatings, bio reactors, fuel cell technology or test benches.

Technical Data

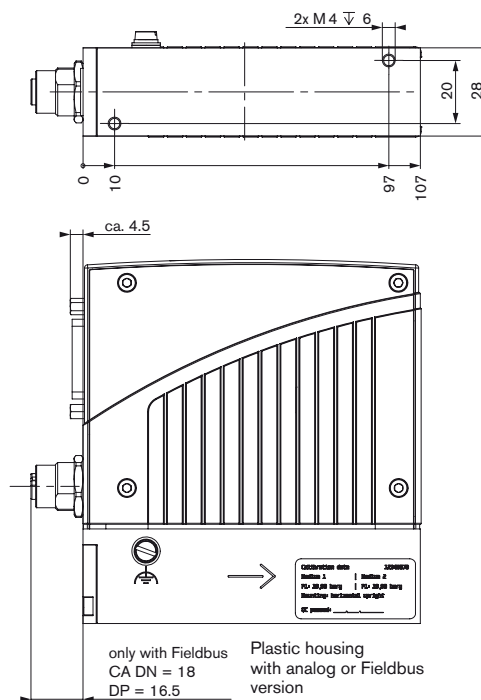
Turn-down ratio	1:50, higher turn-down ratio on request
Operating gas	Neutral, non-contaminated gases, others available on request
Calibration gas	Operating gas or air with conversion function
Max operating pressure (inlet pressure)	Up to max. 145 PSI (10 bar), depending on the orifice of the valve
Gas 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)
Accuracy (after 1 min. warm up time)	± 0.8 % o. R. ± 0.3 % of F. S.
Repeatability	±0.1% F.S.
Settling time ($t_{95\%}$)	<300 ms
Body material	Stainless steel, aluminium
Port connection	NPT 1/4", G 1/4", screw-in fitting or flange, others on request
Communication	Standard signal, RS-232 or RS-485, Profibus DP, DeviceNet, CANopen, Modbus
Power supply	24 V DC
Voltage tolerance	±10%
Power consumption	Max. 3.5 W - 14 W (depending on the proportional valve used)

Nominal Flow Ranges (other gases on request)

Gas	Min. Q_{nom} [I_N /min]	Max. Q_{nom} [I_N /min]
Argon	0.01	80
Helium	0.01	500
Carbon dioxide	0.02	40
Air	0.01	80
Methane	0.01	80
Oxygen	0.01	80
Nitrogen	0.01	80

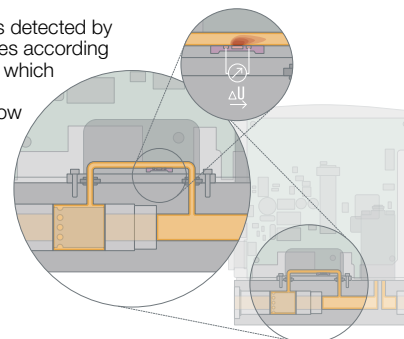
Dimensions [mm] (see datasheet for more details)

Standard Version



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 for Gases (MFC)

Direct flow measurement by MEMS - technology for nominal flow rates from 10 ml_N/min to 80 l_N/min (N2)

- High accuracy
- Short settling time
- Compact design
- Digital communication via RS485



8713

Type 8713 controls the mass flow of gases that is relevant for most applications in process technologies. The measured value will be compared in the digital control electronics with the predefined set point according to the signal; if a control difference is present, the control value output to the proportional valve will be modified using a PI-control algorithm. Due to the fact that the sensor is directly in contact with the gas a very fast response time of the MFC is reached. In this way, the mass flow can be maintained at a fixed value or a predefined profile can be followed, regardless of pressure variations or other changes in the system. Type 8713 can optionally be calibrated for two different gases, the user is able to switch between these two gases. As control element a direct-acting proportional valve guarantees a high sensitivity and a good control characteristics of the MFC. This instrument communicates digitally with master devices, no further A/D conversions needed. The MassFlowCommunicator software can be used for parameterization and diagnosis.

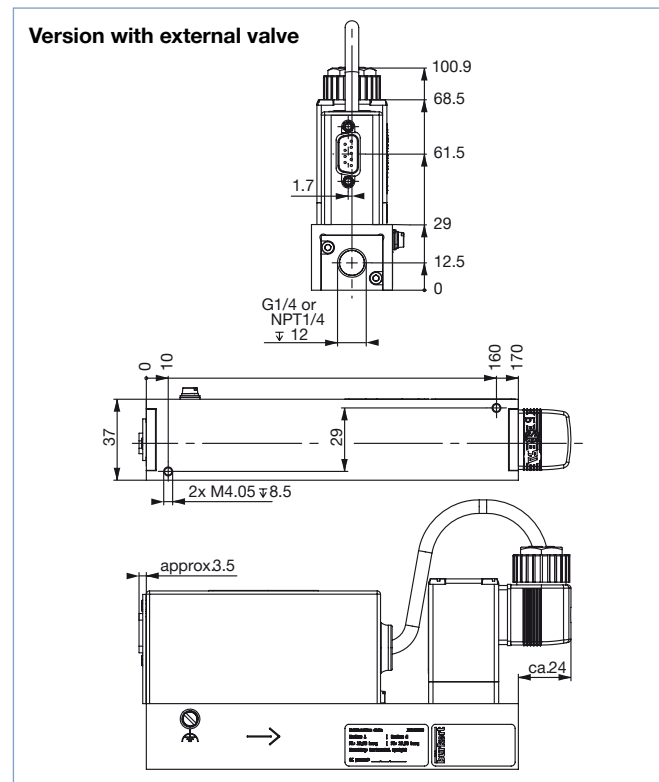
Technical Data

Turn-down ratio	1:50, higher turn-down ratio on request
Operating gas	Neutral, non-contaminated gases, others available on request
Calibration gas	Operating gas or air with conversion factor
Max operating pressure (inlet pressure)	145 PSI (10 bar) depending on the orifice of the valve
Gas 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)
Accuracy (after 1 min. warm up time)	±0.8% o. R. ±0.3% F.S.
Repeatability	±0.1% F.S.
Settling 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
Communication	Digital via RS485 (half-duplex or full duplex), RS422
Power supply	24 V DC
Voltage tolerance	±10%
Power consumption	3.5 W - 11.5 W (depending on control valve used)

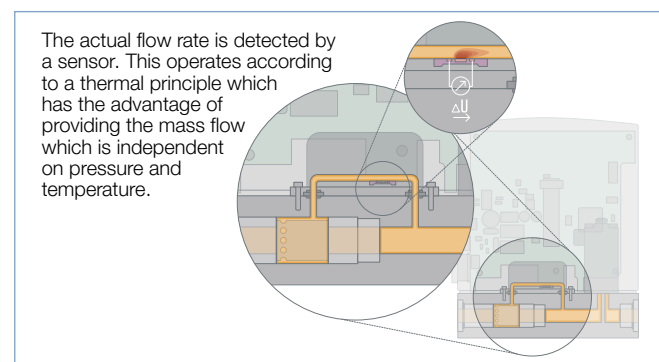
Nominal Flow Ranges (other gases on request)

Gas	Min. Q _{nom} [l _N /min]	Max. Q _{nom} [l _N /min]
Air	0.01	80
Helium	0.01	500
Carbon dioxide	0.02	40

Dimensions [mm] (see datasheet for more details)



Measuring Principle



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
- Available in 2 versions: 8741 Standard and 8741 bÜS/CANopen



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).

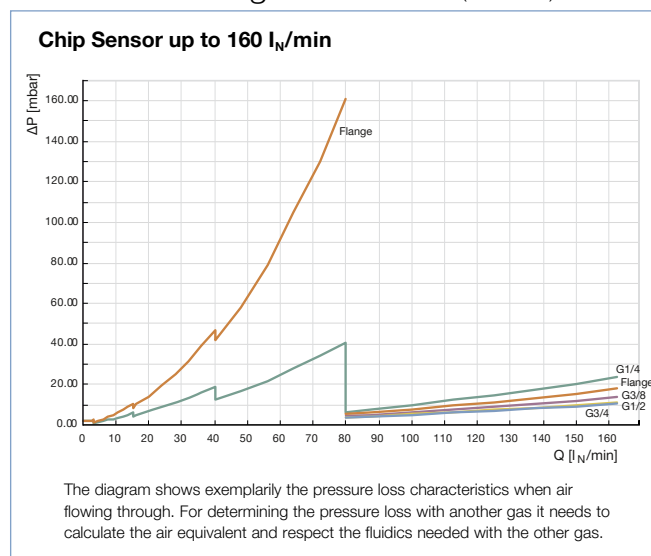
Technical Data, continued (see datasheet for details)

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)	10 mA	-
Max. load (current output)	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
- Communication via fieldbus based on CANopen



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

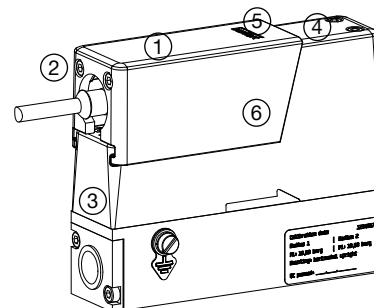
Turn-down ratio	50:1, optional 100:1
Operating medium	Neutral, non-contaminated gases, others on request
Calibration medium	Operating gas or air
Max operating pressure	145 PSI (10 bar), with MFCs the max. pressure depends on the orifice of the valve
Medium temperature	14°F to 158°F (-10°C to 70°C) (-10°C 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 l_N/min to 2500 l_N/min**

- High accuracy and repeatability
- Communication via standard signals or Industrial Ethernet
- Easy device exchange through configuration memory



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	EEPROM
(included in delivery)	(µSIM card: bus 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
- Electromagnetic and motor-driven valve actuation available



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:

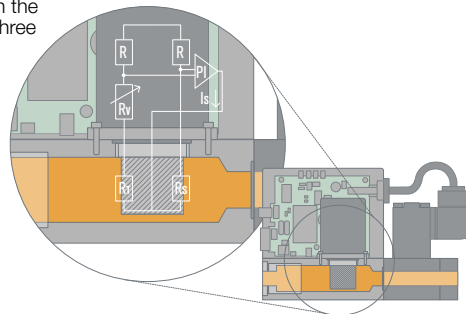
- Type 3280 DN4: Seat seal in PEEK
- Type 3285: Seat seal in Al₂O₃

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...2.5m³/h	(motor-driven) normally persisting, valve orifice range: 2...20mm, Kvs value range: 0.5...7.8m³/h

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

Burkert - Close to You

Country	Address	E-mail	Web
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