



Advantages / Benefits

- ▶ *Easy* to Commission with **TEACH-IN** Function



- ▶ *Easy* to Install with **SIMULATION** Function

- ▶ *Easy* System Integration Provides low Total Cost of Ownership



- ▶ Resistant to contaminated fluids

- ▶ **CE** Approval

Application

Conductivity measurements

Waste engineering

Contaminated liquids

Liquids with particles

Liquids with coating and sealing build up

Design

This conductivity transmitter compactly combines a conductivity sensor and a transmitter with a display in a splash-proof plastic NEMA 4 enclosure.

The sensor component consists of a pair of magnetic coils in a PVDF enclosure. In order to measure conductivity, an AC voltage source is connected to the primary magnetic coil. The magnetic field induced generates a current in the secondary magnetic coil. The intensity of the induced current is a direct function of the conductivity of the solution.

The temperature sensor for automatic compensation is a standard feature in the sensor housing.

The transducer component converts the measured signal and displays the actual value.

The transducer Type 8226 functions in a 3-wire circuit and requires a power supply of 12-30 VDC. A 4-20mA standard signal is available as output signal, proportional to the conductivity or the temperature of the fluid. The setpoint values of the relays are freely adjustable.

A wide range of stainless steel, brass and plastic fittings available. (see corresponding ordering data)

Burkert Contromatic USA
2602 McGaw Avenue
Irvine, CA 92614
Tel. 949.223.3100
Fax 949.223.3198
www.burkert-usa.com

Burkert Contromatic Inc.
760 Pacific Road, Unit 3
Oakville, Ontario, Canada
L6L 6M5
Tel. 905.847.5566
Fax 905.847.9006

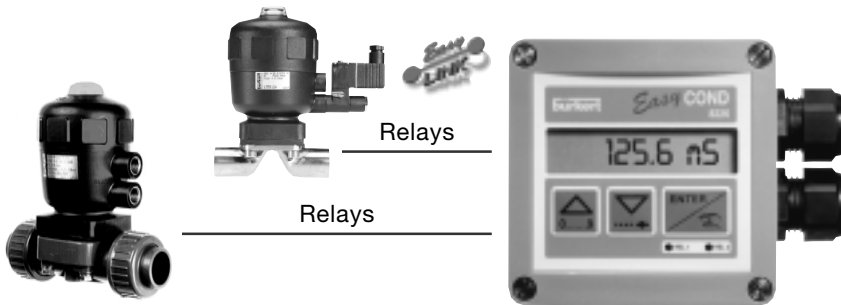
The Easy Conductivity - Control System

ON / OFF Process Control

Description:
ON / OFF Valve

8226 Transmitter

Applications:
Neutralization
Dosing
Waste Water Processing

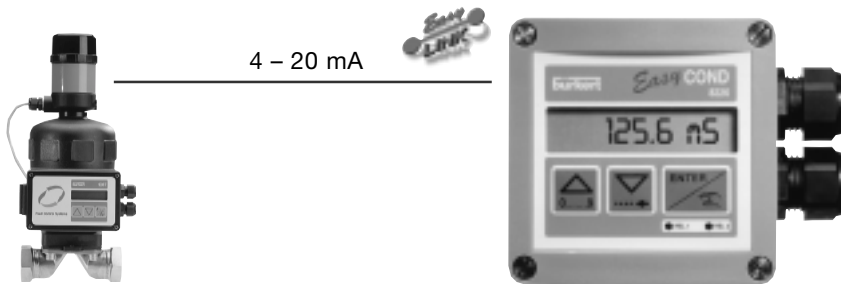


Continuous Process Control

Description:
Continuous Control Valve

8226 Transmitter

Applications:
Water Monitoring
Continuous Chemical Dosing
Waste Water Treatment



Design

This conductivity measuring system is available as a compact version Type 8226. The cell constant is an average value over the whole measuring range. It can be readjusted depending on application. The temperature sensor for automatic compensation is a standard feature in the conductivity sensor housing. The 8226 inductive conductivity transmitter output signal is a standard 4 – 20 mA signal. Optional with two freely adjustable relay outputs.

Principle of Operation

The conductivity is defined as the ability of a solution to conduct electrical current. The load carriers are ions (e.g. dissolved salts or acids). In order to measure conductivity, an AC voltage source is connected to the primary magnetic coil. The magnetic field induced generates a current in the secondary magnetic coil. The intensity of this induced current is a direct function of the conductivity of the solution. The transmitter comes without relays or with 2 relays functions in a 3-wire circuit. Limit values are freely adjustable.

Installation

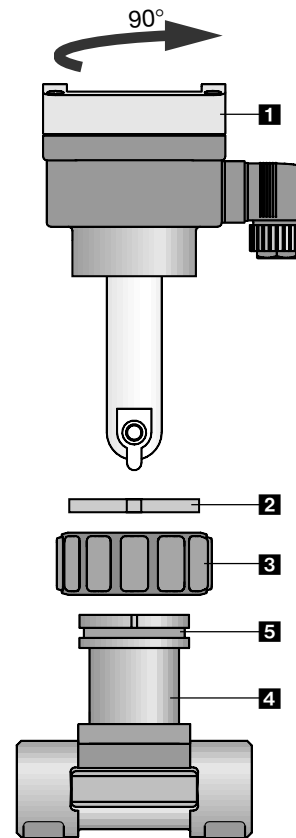
A The inductive conductivity transmitter Type 8226 is mounted in vertical position (max. $\pm 90^\circ$) in a horizontal pipe.

B The inductive conductivity transmitter 8226 can be easily installed into pipes using our specially designed fitting system:

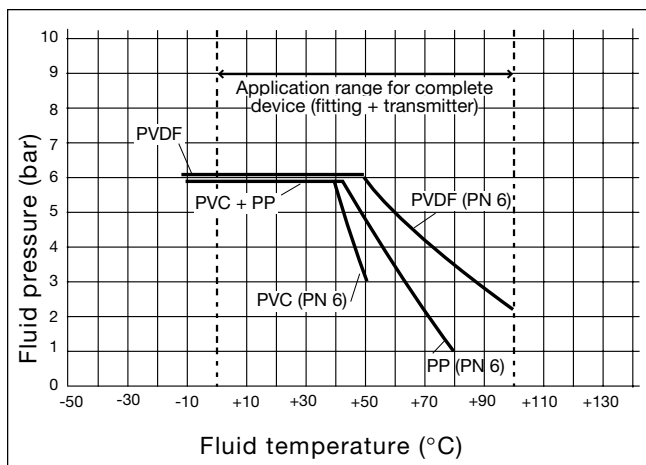
1. The fitting **4** must be installed into the pipe according to the installation specifications.
2. Insert plastic nut **3** into fitting and let plastic ring **2** snap into guide bush **5**.
3. Carefully insert transmitter **1** into fitting. If installed properly, the transmitter cannot be rotated.
4. Tighten transmitter housing to fitting with plastic nut **3**.

C The device must be protected against constant heat radiation and other environmental influences, such as magnetic fields or direct exposure to sunlight.

Important!
When mounted, the transmitter is turned 90°

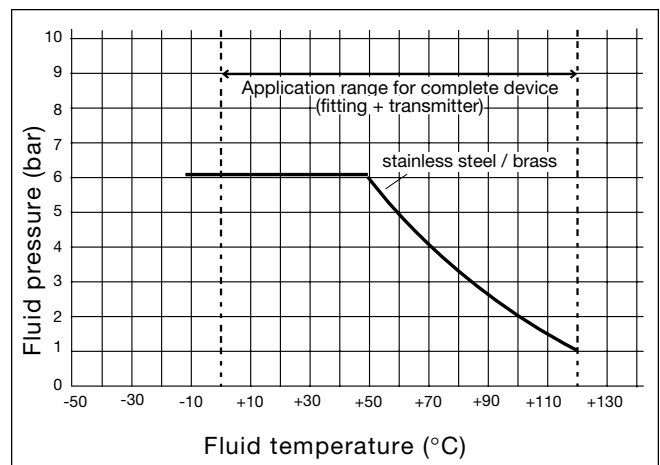


Pressure Temperature Diagram (plastic fittings):



Note: 1 bar = 14.5 PSI

Pressure Temperature Diagram (metal fittings):



Note: 1 bar = 14.5 PSI

Operation / Commissioning

Customized adjustments, such as measuring ranges, engineering units and alarm setpoints can be changed using the built-in menu-guided, multi-language display. Please consider the respective operating instructions prior to commissioning the devices.

Installation

The operation of the conductivity transmitter is divided into the following 3 menus:

Main Menu

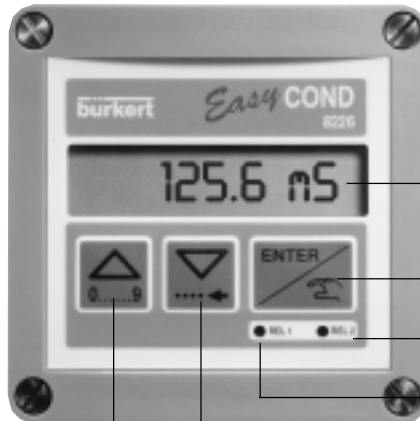
- Conductivity
- Temperature
- Output current
- HOLD function

Calibration Menu

- Language
- Engineering units
- Cell constant
- Temperature compensation
- Measuring range 4 – 20 mA
- Relay function
- Filter selection

Test Menu

- Offset
- Span
- Conductivity non-compensated
- Simulation of conductivity



Display Type 8226

- 8 digits alphanumeric

Description of Buttons

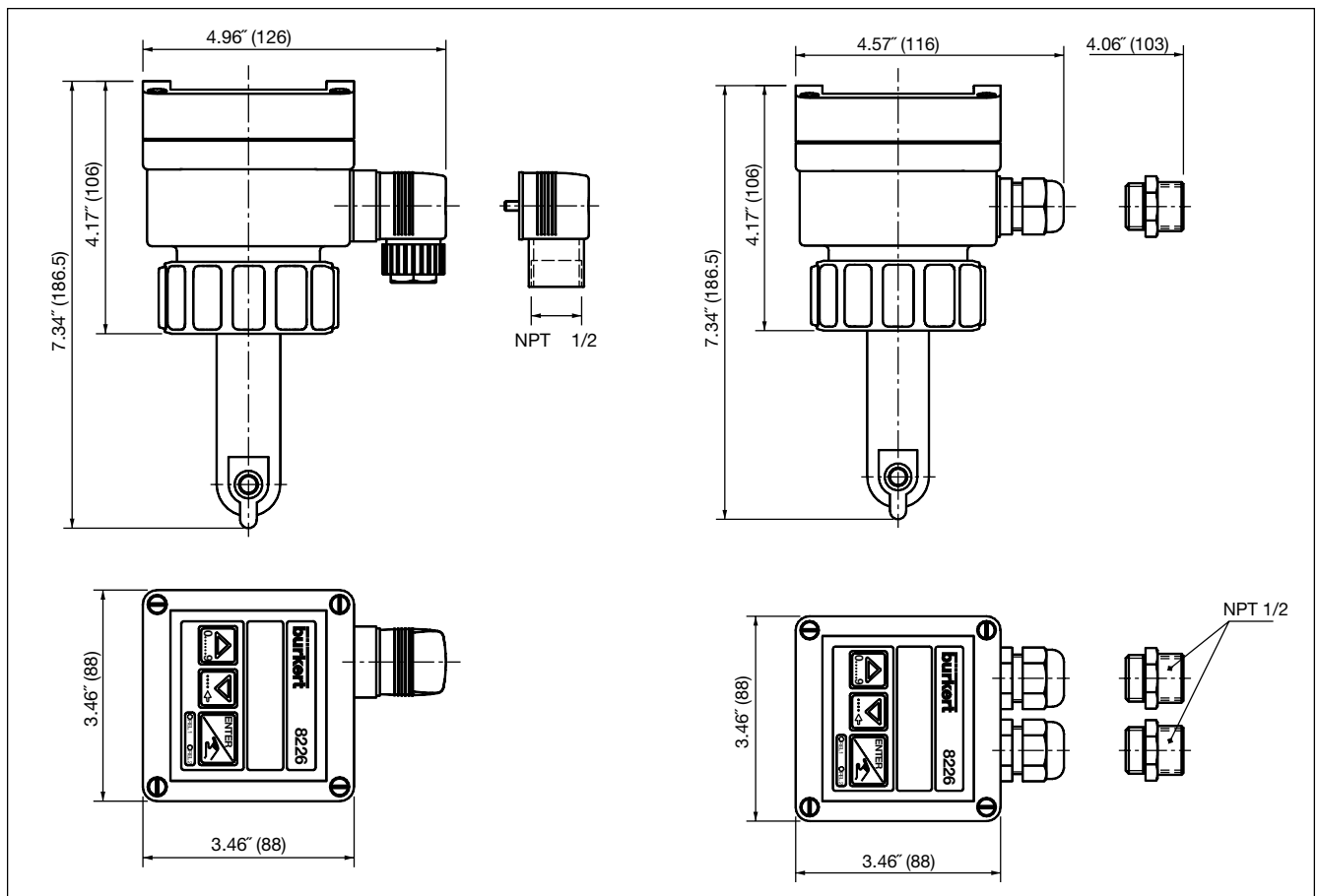
- Acceptance of chosen parameter or adjusted value
- LED relay 2 (contact closed)
- LED relay 1 (contact closed)
- Direction downwards in menu or sideways for digit selection
- Display selection and increasing key (numeric values) impulses or automatic

Technical Data

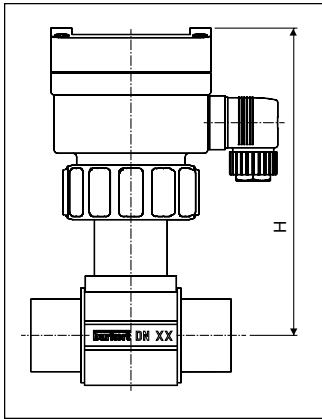
Measuring range	100 μ S/cm – 2 S/cm	Electronic housing	Polycarbonate
Measuring error	\pm 2% of measured value	Sensor housing	PVDF; O-rings FPM / EPDM
Temperature compensation	Automatic with standardized integrated temperature sensor with reference temperature 77°F (25°C)	Voltage supply	12-30 VDC
Fluid temperature	32°F to 248°F (0°C to 120°C) (depending on fitting, see Pressure Temperature Diagram)	Consumption	Maximum 250 mA
Ambient temperature	32°F to 140°F (0°C to 60°C)	Display	15 x 60 mm LCD 8 digits, alphanumeric 15 segments, 9 mm high
Storage temperature	32°F to 140°F (0°C to 60°C)	Analog output signal	4 – 20 mA programmable, proportional to the conductivity or temperature
Fluid pressure	(depending on temperature, see Pressure-Temperature-Diagram)	Load	< 1000 Ω at 30 V < 800 Ω at 24 V < 450 Ω at 15 V < 330 Ω at 12 V
Pressure class	87 PSI	Relay output (optional)	2 relays, 3 A / 230 V; freely adjustable
Enclosure	NEMA 4 (IP 65) Relative humidity max. 80%		

Dimensions [inch (mm)]

Conductivity Transmitter Type 8226 Compact



Dimensions [inch] - Fittings S020, DN 1/2" - 2" for Transmitter 8226

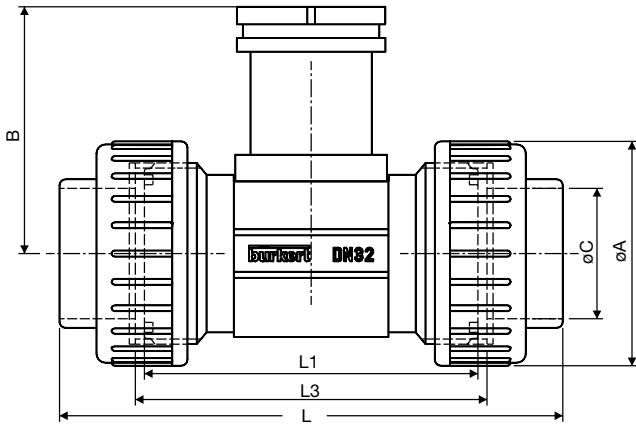


Variable Dimensions [inch]

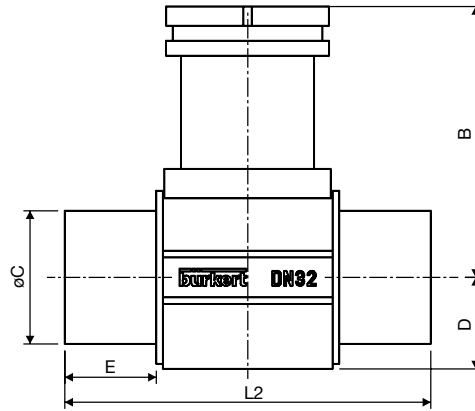
DN	H
1/2	6.96
3/4	6.96
1	6.96
1-1/4	6.96
1-1/2	7.00
2	7.24

Applicable for all fitting materials 1/2" to 2" and process connections.

True Union - PVC, PP, PVDF



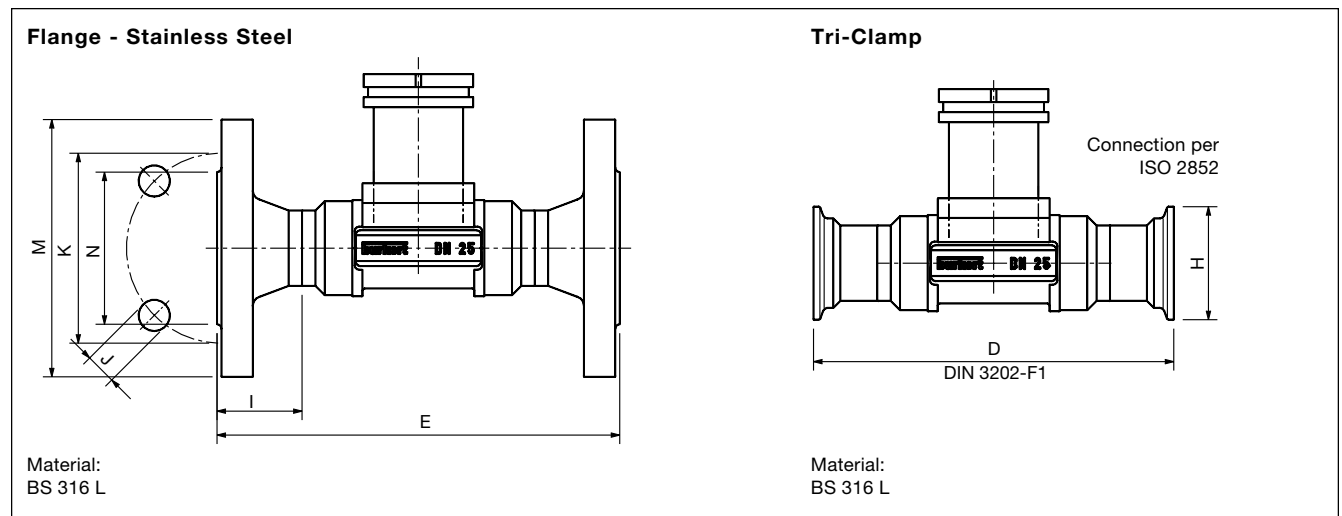
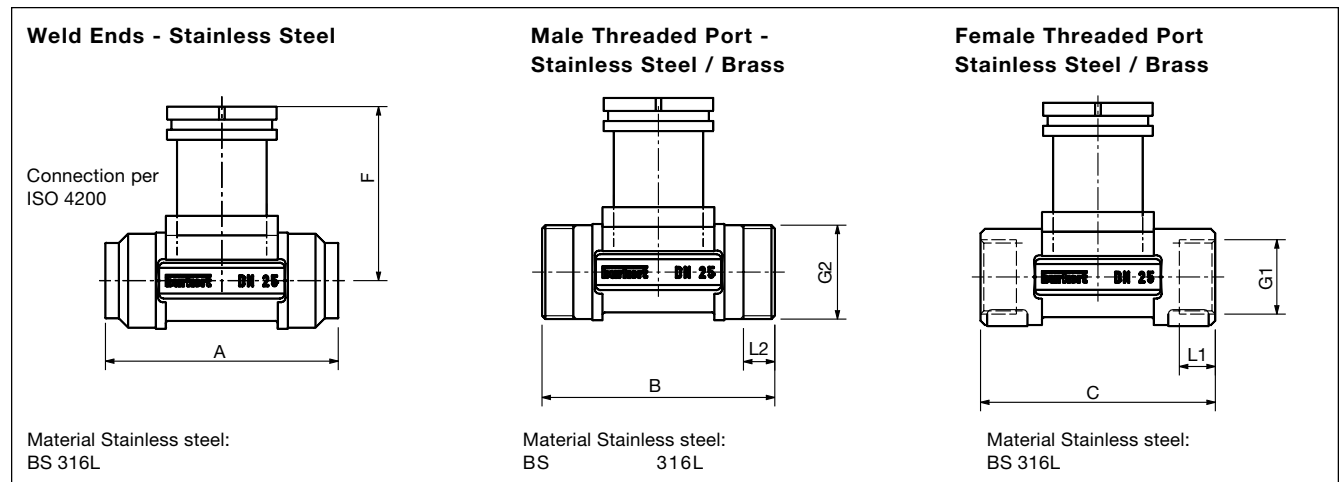
Solvent Spigot - PVC, PP, PVDF



True Union								Solvent Spigot							
B	øA	L			øC			L1	L3	DN	D	L2		E	
		DIN	ANSI	JIS	(DIN)	(ANSI)*	(JIS)*					PVC	PP/PVDF	PVC	PP/PVDF
3.20	2.91	5.82	—	—	3/4"	—	—	4.33	4.56	1/2"	—	—	—	—	—
3.20	2.91	6.06	—	—	1"	—	—	4.33	4.56	3/4"	—	—	—	—	—
3.20	2.91	6.30	—	—	1-1/4"	—	—	4.33	4.56	1"	—	—	—	—	—
3.20	2.91	6.61	6.69	6.65	1-1/2"	1.66	1.51	4.33	4.56	1-1/4"	1.08	4.33	3.93	1.08	0.78
3.35	3.26	7.40	7.48	7.48	2"	1.90	1.91	4.72	5.00	1-1/2"	1.24	4.72	4.17	1.18	0.90
3.60	4.05	8.34	8.40	8.38	2-1/2"	2.37	2.39	5.11	5.35	2"	1.55	5.11	4.33	1.45	1.06

* only for PVC with true union

Dimensions [inch] - Fittings S020, 1/2" - 2"



Variable Dimensions [inch] for Weld Ends, Male Threaded Port, Female Threaded Port, Flange, Tri-Clamp

Orifice NPT	Weld Ends		Length Dimensions							Thread				Tri-Clamp	Flange Dimensions					
	ø Outside	Wall Thickness	A	B	C	D	E (DIN) (ANSI)	E (JIS)	F	G1	L1	G2	L2	H**	Norm*	I	J	K	M	N
1-1/4"	1.67	0.07	4.68	4.68	4.72	7.08	7.08	7.00	3.21	G 1-1/4	0.92	G 1/2	0.70	1.98	DIN	1.22	4x0.70	3.93	5.51	3.07
										NPT 1-1/4	0.82				ANSI	1.22	4x0.62	3.50	4.60	2.50
										Rc	0.82				JIS	1.22	4x0.74	3.93	5.31	2.99
1-1/2"	1.90	0.07	5.07	5.07	5.11	7.87	7.87	7.48	3.36	G 1-1/2	0.92	M21.6 x2	0.74	2.51	DIN	1.41	4x0.70	4.33	5.90	3.46
										NPT 1-1/2	0.78				ANSI	1.41	4x0.62	3.87	5.00	2.87
										Rc	0.74				JIS	1.41	4x0.74	4.13	5.51	3.18
2"	2.37	0.10	5.86	5.86	5.90	9.05	9.05	8.50	3.60	G 2	1.08	M2.51 x2	0.78	3.05	DIN	1.61	4x0.70	4.92	6.49	4.01
										NPT 2	0.94				ANSI	1.61	4x0.74	4.74	5.98	3.62
										Rc 2	0.94				JIS	1.61	4x0.74	4.72	6.10	3.78

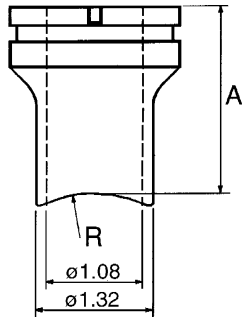
* Flange: DIN 2501/2633, length according to DIN 3201-F1;
ANSI B16-5-1988, length according to DIN 3201-F1
JIS 10K, length according to ANSI B16-10

** per ISO 2852. BS 4825 available on request.

Dimensions [inch] - Fittings 2-1/2" - 4"

Weld-o-Let Fittings with Radius - Stainless Steel

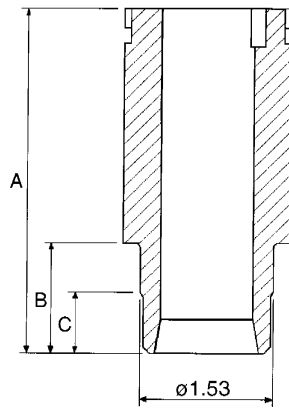
Material: 316L (B.S.)



Variable Dimensions [inch]

DN	A	R
2-1/2"	2.14	1.44
3"	2.08	1.75
4"	1.99	2.25

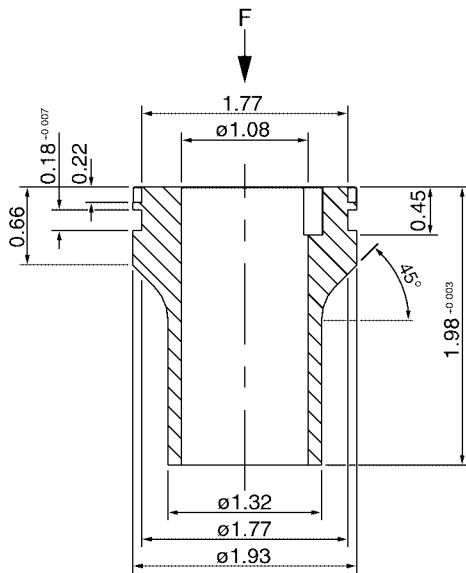
Weld-o-Let Fittings - PE, PP, PVDF



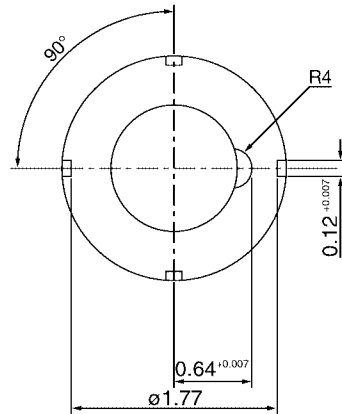
Variable Dimensions [inch]

DN	A	PE		PP		PVDF	
		B	C	B	C	B	C
65 - 100	2.85	0.51	—	0.51	—	0.40	—

Weld-o-Let Fittings for Side-Wall Mounting



View F



Ordering Chart for Inductive Conductivity Transmitter 8226

Conductivity Transmitter Compact 4 – 20mA Output; Without Relays

Type Description	Gasket	Cable Connection	Voltage	Item No.
Compact transmitter 8226 with 4 – 20 mA	FPM	Cable plug PG 9	12-30 VDC	431 673 U
Compact transmitter 8226 with 4 – 20 mA	FPM	Cable gland PG 13.5	12-30 VDC	431 674 V
Compact transmitter 8226 with 4 – 20 mA	EPDM	Cable plug PG 9	12-30 VDC	431 675 W
Compact transmitter 8226 with 4 – 20 mA	EPDM	Cable gland PG 13.5	12-30 VDC	431 676 X
Compact transmitter 8226 with 4 – 20 mA	FPM	2x Cable gland PG 13.5	115-230 VAC	431 677 Y
Compact transmitter 8226 with 4 – 20 mA	EPDM	2x Cable gland PG 13.5	115-230 VAC	431 678 H
Compact transmitter 8226 with 4 – 20 mA	FPM	Cable plug NPT 1/2	12-30 VDC	431 683 P
Compact transmitter 8226 with 4 – 20 mA	EPDM	Cable plug NPT 1/2	12-30 VDC	431 684 Q
Compact transmitter 8226 with 4 – 20 mA	FPM	2x Conduit entry NPT 1/2	115-230 VAC	431 685 R
Compact transmitter 8226 with 4 – 20 mA	EPDM	2x Conduit entry NPT 1/2	115-230 VAC	431 686 J

Conductivity Transmitter Compact 4 – 20mA Output; With 2 Relays

Type Description	Gasket	Cable Connection	Voltage	Item No.
Compact transmitter 8226 with 4 – 20mA	FPM	2x Cable gland PG 13.5	12-30 VDC	431 679 A
Compact transmitter 8226 with 4 – 20mA	EPDM	2x Cable gland PG 13.5	12-30 VDC	431 680 Y
Compact transmitter 8226 with 4 – 20mA	FPM	2x Cable gland PG 13.5	115-230 VAC	431 681 M
Compact transmitter 8226 with 4 – 20mA	EPDM	2x Cable gland PG 13.5	115-230 VAC	431 682 N
Compact transmitter 8226 with 4 – 20mA	FPM	2x Conduit entry NPT 1/2	12-30 VDC	431 687 K
Compact transmitter 8226 with 4 – 20mA	EPDM	2x Conduit entry NPT 1/2	12-30 VDC	431 688 U
Compact transmitter 8226 with 4 – 20mA	FPM	2x Conduit entry NPT 1/2	115-230 VAC	431 689 V
Compact transmitter 8226 with 4 – 20mA	EPDM	2x Conduit entry NPT 1/2	115-230 VAC	431 690 S

Ordering Data for Stainless Steel Fittings S020

Diameters	Materials	Item No.
SS - Female G-Threaded Ports		
DN 32	SS, FPM	428 739 B
DN 40	SS, FPM	428 740 Q
DN 50	SS, FPM	428 741 D
SS - Female NPT-Threaded Ports		
1-1/4"	SS, FPM	428 745 H
1-1/2"	SS, FPM	428 746 A
2"	SS, FPM	428 747 B
SS - Female ISO 7 (JIS) Threaded Ports		
DN 32	SS, FPM	428 751 F
DN 40	SS, FPM	428 752 G
DN 50	SS, FPM	428 753 H
SS - Male G Threaded Ports		
DN 32	SS, FPM	428 757 D
DN 40	SS, FPM	428 758 N
DN 50	SS, FPM	428 759 P
SS - Weld Ends		
DN 32	SS, FPM	428 763 B
DN 40	SS, FPM	428 764 C
DN 50	SS, FPM	428 765 D
SS - Tri-Clamp (ISO 2852)		
DN 32	SS, FPM	428 769 R
DN 40	SS, FPM	428 770 N
DN 50	SS, FPM	428 771 B
SS - DIN Flanges (DIN 2501)		
DN 32	SS, FPM	428 775 F
DN 40	SS, FPM	428 776 G
DN 50	SS, FPM	428 777 H
SS - Flanges (JIS 10K)		
DN 32	SS, FPM	431 056 M
DN 40	SS, FPM	431 057 N
DN 50	SS, FPM	431 058 X
SS - ANSI Flanges (ANSI B16-5-1988)		
1-1/4"	SS, FPM	428 781 W
1-1/2"	SS, FPM	428 782 X
2"	SS, FPM	428 783 Y
SS - Weld-o-Let		
2-1/2"	SS	418 112 M
3"	SS	418 113 N
4"	SS	418 114 P
SS - Weld-o-Let for Side-Wall Mounting		
—	SS	415 294 R

Ordering Data for Brass Fittings Type S020

Diameters	Materials	Item No.
Brass - Female G-Threaded Ports		
DN 32	Brass, FPM	428 715 T
DN 40	Brass, FPM	428 716 U
DN 50	Brass, FPM	428 717 V
Brass - Female NPT-Threaded Ports		
1-1/4"	Brass, FPM	428 721 Z
1-1/2"	Brass, FPM	428 722 S
2"	Brass, FPM	428 723 T
Brass - Female ISO 7 (JIS) Threaded Ports		
DN 32	Brass, FPM	428 727 X
DN 40	Brass, FPM	428 728 G
DN 50	Brass, FPM	428 729 H
Brass - Male G/metric Threaded Ports		
DN 32	Brass, FPM	428 733 V
DN 40	Brass, FPM	428 734 W
DN 50	Brass, FPM	428 735 X

Ordering Data for Plastic Fittings Type S020

Diameters	Materials	Item No.
PVC - True Union DIN		
DN 15	PVC, FPM	430 837 L
DN 20	PVC, FPM	430 838 V
DN 25	PVC, FPM	430 839 W
DN 32	PVC, FPM	428 673 H
DN 40	PVC, FPM	428 674 A
DN 50	PVC, FPM	428 675 B
PVC - True Union ASTM		
1-1/4"	PVC, FPM	428 685 W
1-3/4"	PVC, FPM	428 686 X
2"	PVC, FPM	428 687 Y
PVC - True Union JIS		
DN 32	PVC, FPM	429 081 M
DN 40	PVC, FPM	429 082 N
DN 50	PVC, FPM	429 083 P
PVC - Solvent Spigot		
DN 32	PVC, FPM	428 679 P
DN 40	PVC, FPM	428 680 D
DN 50	PVC, FPM	428 681 S
PE - Weld-o-Let		
DN 65 - 100	PE	418 642 G

Diameters	Materials	Item No.
PP - True Union with Threaded Port		
DN 15	PP, FPM	430 840 B
DN 20	PP, FPM	430 841 Y
DN 25	PP, FPM	430 842 Z
DN 32	PP, FPM	428 691 U
DN 40	PP, FPM	428 692 V
DN 50	PP, FPM	428 693 W
PP - Weld Ends		
DN 32	PP, FPM	428 697 S
DN 40	PP, FPM	428 698 B
DN 50	PP, FPM	428 699 C
PP - Weld-o-Let		
DN 65 - 100	PP	418 650 L
PVDF - True Union with Threaded Port		
DN 15	PVDF, FPM	430 843 S
DN 20	PVDF, FPM	430 844 T
DN 25	PVDF, FPM	430 845 U
DN 32	PVDF, FPM	428 703 G
DN 40	PVDF, FPM	428 704 H
DN 50	PVDF, FPM	428 705 A
PVDF - Weld Ends		
DN 32	PVDF, FPM	428 709 N
DN 40	PVDF, FPM	428 710 A
DN 50	PVDF, FPM	428 711 X
PVDF - Weld-o-Let		
DN 65 - 100	PVDF	418 658 Q

Technical Data



Easy ON/OFF Control




-50%



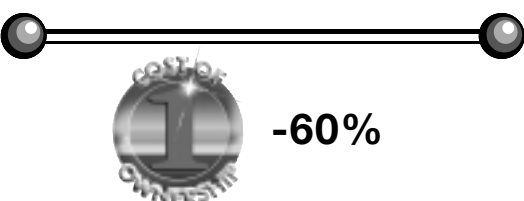
Easy ON/OFF Control



-50%



Easy Continuous Control



-60%

