

General Specifications

Model ISC40 Inductive Conductivity sensor and fittings

The model ISC40 sensors are designed for use with the EXA: ISC202g(S) 2-wire transmitters and the EXA: ISC450G 4-wire analyzers. This combination exceeds all expectations for conductivity measurement in terms of: reliability, accuracy, rangeability and price performance.

The accuracy is 0.5% of reading plus 0.5 uS/cm for any conductivity value: whether measured in rinse water or in concentrated acids. The materials of construction guarantee a long life under harsh industrial conditions:

- The erosion/abrasion resistant PEEK (Poly Ether Ether Ketone), which also features excellent chemical resistance in all solutions except fluoric acid or oxidizing concentrated acids.
- The ultimate material in terms of chemical resistance: PFA for applications in hydrofluoric acid and oxidizing concentrated acids (nitric, sulfuric, oleum).

The PEEK sensor is provided with a rugged Stainless Steel mounting thread, nut and gasket combination for ultimate flexibility in installation using bulk head installation technique. There is also a wide range of holders and options available for reliable in-line or off-line installation with double O-ring seals for long service life of the sensor. Additional models are available for use in Ball-Valve Insertion applications and in Sanitary Flange installations.

The PFA sensor comes with an integral lap-joint flange, because in applications, where this sensor is used, it is very difficult to find O-rings that are resistant to the process.

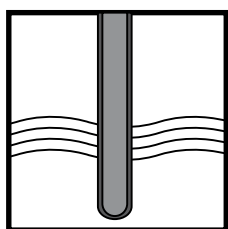
Both sensors have a large bore for optimal resistance to fouling processes and when properly installed, the flow will keep the sensor clean preventing measuring errors.



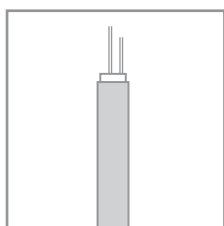
Features and Applications

- Inductive Conductivity technique for elimination of fouling and polarization errors.
- Wide bore sensors for long term stability.
- Installation flexibility by wide range of holders and by the use of universal bulkhead construction.
- Wide rangeability in terms of conductivity (1 μ S/cm to 2 S/cm) and temperature (-20 to 130°C).
- All applications where severe electrode fouling prevents the use of contacting electrodes.
- All ranges except the (ultra) pure water applications.
- All slurry applications where conventional systems suffer from plugging or erosion.
- All applications where the 6 decade rangeability is necessary for accurate process control.

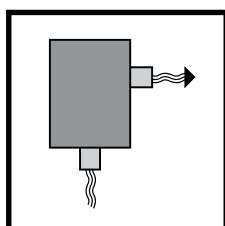
System Configuration



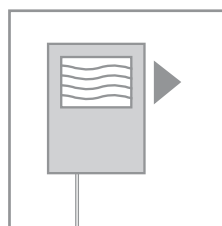
Sensors



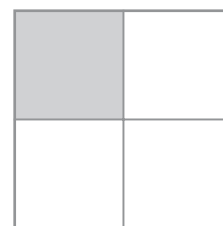
Cables



Fittings



Transmitters

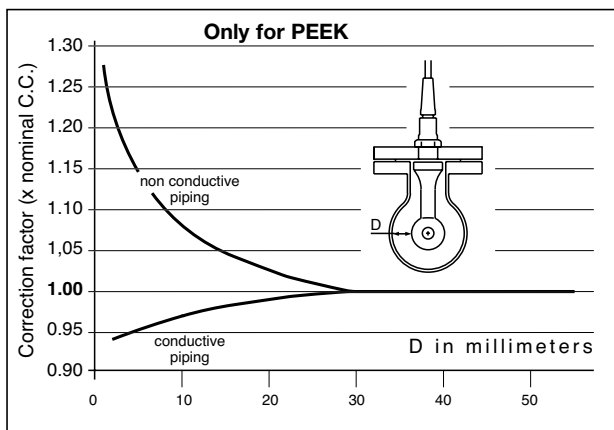


Accessories

General Specifications

Model ISC40 Inductive conductivity sensor

- A. Compatibility** : ISC40G is suitable for use with both ISC450G and I(S)C202G(S) inductive conductivity transmitter.
- B. Hazardous area** : ISC40S is suitable for use with the I(S)C202S conform to ATEX, FM and CSA intrinsic safety standards
- ATEX intrinsic safety : II 1 G EEx ib [ia] IIC T6 for ambient temp. -10 to 40°C
: II 1 G EEx ia [ia] IIC T4 for ambient temp. -10 to 55°C
 - ATEX certificate no. : KEMA 00 ATEX 1067 X
 - FM intrinsic safety : IS CL1, DIV1, GP ABCD T3B for ambient temp. (ta) -10°C to 55°C and T4 for ambient temp. (ta) -10°C to 40°C.
 - FM approval report : J.L. 1Y1A7.AX
 - CSA intrinsic safety : Ex [ia] Class I, Division 1, Groups C and D, T4a
 - CSA approval file : LR 102851-1
- C. Measuring range** : 0- 2000 mS/cm at actual process temperatures. The sensor has an error of 0.5 μ S/cm (PEEK sensors) or 1 μ S/cm (PFA sensor) that must be considered when application range is chosen.
- D. Installation factor** : Cellconstant: The nominal cell constant of the sensor is 1.88/cm for the PEEK sensor types and 3.00/cm for the PFA sensor. The calibrated values are indicated on the cable markers and the actual installation can change this factor. If there is less than 25 mm spacing between sensor and holder, in-situ calibration is necessary to meet the specified accuracies. An indication is given in figure.



Actual installed cell-constant as function of spacing around the sensor.

E. Process temperature range

- Peek : -20 to 130°C (0 to 270 °F) for Response time 5 min. (90%)
- PFA : -20 to 100°C (0 to 212 °F) Response time 10 min. (90%)

F. Process pressure

- Peek : Maximum 20 bar (300 psi) dependant on installation.

PFA :		°C	°F	°C	°F
		100	212	20	36
	BAR (PSI)	5	71	10	142

G. Materials

- Sensor wetted parts : Victrex PEEK (Poly-Ether-Ether-Ketone)
- : PFA (High purity Perfluoro alkoxy alkane)
- Sealing gasket : Viton for PEEK
- : Gore tex for PFA
- Process adapters : AISI 316 SS, PVC or PVDF (only for PEEK)

H. Process connection

- : Process connection are made in combination with a variety of adapters and fittings. See relevant sections in this document.

I. Cables

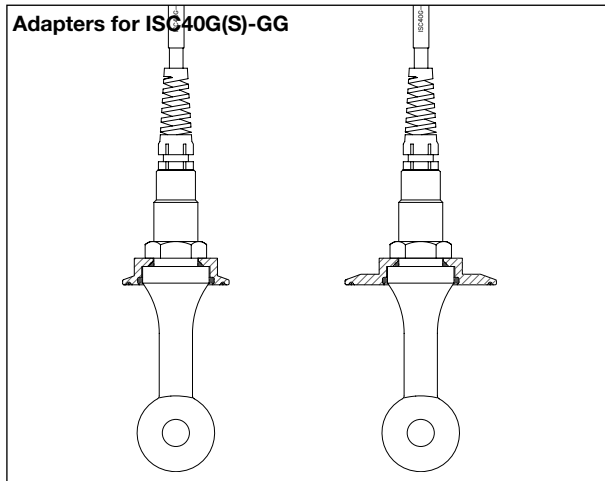
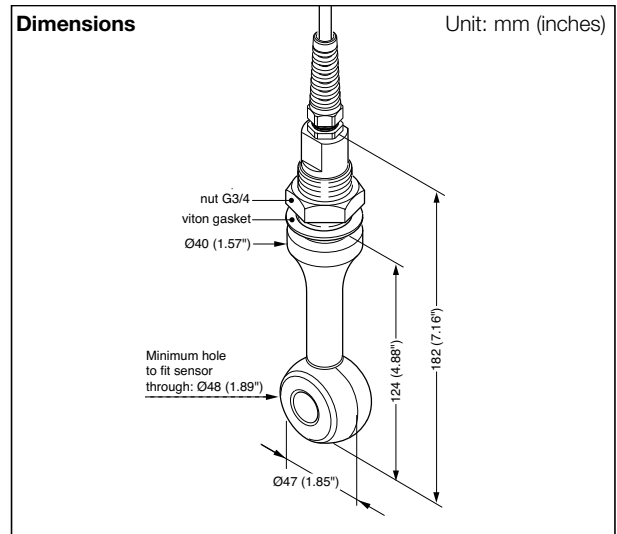
- Connection cable : Integral connection cable in a variety of lengths up to 20 meter.
- Extension cable : Extension cable with WF10 junction box BA10 can be used to a total of 50 meters (fixed cable and extension cable).

J. Shipping details

- Package
- 3-5 meters : WxHxD = 350x270x50 mm
- 10-20 meters : WxHxD = 320x240x110 mm
- Packed weight approx.
- 03 m : 1.0 kg
- 05 m : 1.3 kg
- 10 m : 1.6 kg
- 15 m : 2.1 kg
- 20 m : 2.5 kg
- protection hose : 0.8 kg (approx.)

ISC40G(S)-GG Model

Model	Suffix	Option	Description
ISC40G			General purpose inductive conductivity sensor
ISC40S			Intrinsically safe inductive conductivity sensor
Sensor type	-GG		Glass filled PEEK, general model
Temperature sensor	-T1 -T3		Pt1000 30k thermistor, for IC200 select only T3
Cable length	-03 -05 -10 -15 -20		03 meter 05 meter 10 meter 15 meter 20 meter
Options for Sensor			Material Proc.Connection
Flange adapters -GG	/SFA /SFD /STW /S2W		AISI 316 SS 2" ANSI 150 lbs AISI 316 SS NW50-PN16 AISI 316 SS 3" tri-clamp AISI 316 SS 2" tri-clamp
Certificates	/M /Q		Material certificate Not for -GR Quality certificate



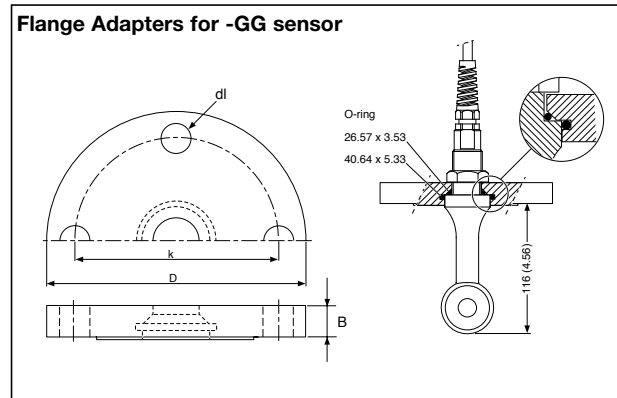
according ISO 2852

Partno.	Description
K1541KB	3" Triclamp (STW) (ISO 2852)
K1541KC	2" Triclamp (S2W) (ISO 2852)

Note: clamp not included

O-rings spare parts for ISC40 sensor & Options as spare parts

Dimensions	O-ring material				Quantity
	EPDM	Viton	Silicon	KALREZ	
O-rings for option /SFA /SFD 40.64 x 5.33 / 26.57 x 3.53	K1500CA	K1500CB	K1500CC		5 sets of 2 O-rings
O-rings for K1541KC (/S2W) 40.87 x 3.53 / 26.57 x 2.62 2" seal-clamp	K1541ZH	K1500DJ	K1500DK		2 sets of 3 O-rings
O-rings for K1541KB (/STW)° 40.87 x 3.53 / 26.57 x 2.62 3" seal-clamp	K1541ZK	K1500DL	K1500DM		2 sets of 3 O-rings
O-rings for old models Viton gasket		K1500AM			5 O-rings



Flange adapter for -GG sensor

DIMENSIONS

mm (inches)

	d	D1	D2	Material
/SFA	Ø 19 (0.75)	121 (4.75)	152 (6.0)	SS
/SFD	Ø 18 (0.71)	125 (5.00)	165 (6.5)	SS

Fittings for ISC40G(S)-GG Inductive Conductivity Sensors

For liquid analysis, the sensors are frequently mounted in either a flow or an immersion fitting. Yokogawa supplies for the model ISC40 inductive conductivity sensors a full range of fittings with particular emphasis on designs that reduce installation and maintenance time and consequently save operation costs.

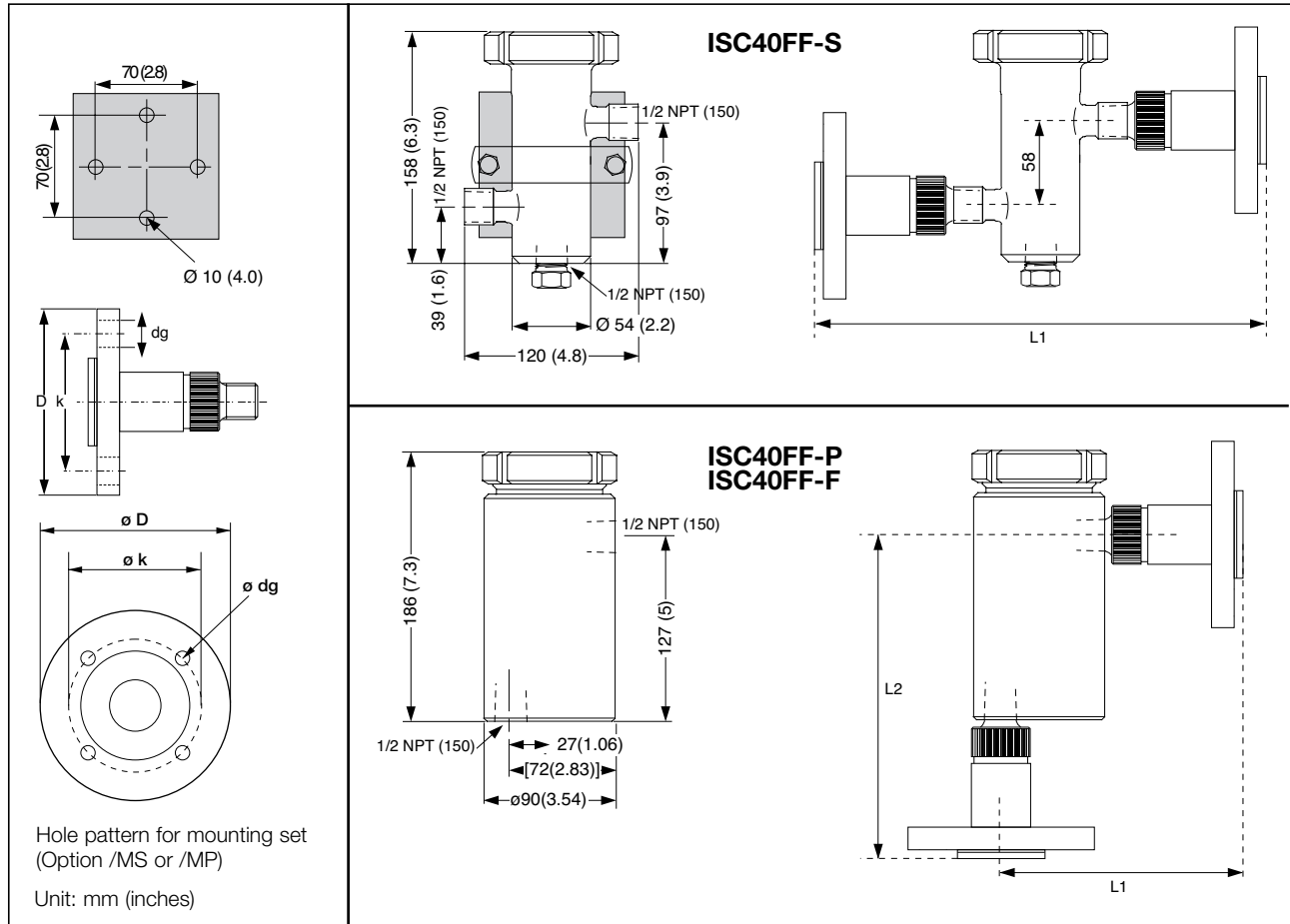
A wide choice of construction materials gives the user the optimal solution for any process considering chemical resistance, pressure and temperature specifications.

The flow fittings are used for installation of the sensors in sample by-pass lines. This makes maintenance easy without having to interrupt the main process stream. The subassemblies simplifies mounting of the sensors direct into process lines or vessels. This is particularly important where sample lines give problems, for instance with settling slurries.

Features

- Wide choice of construction materials.
- Built in drain on stainless steel flow fitting.
- Quick disconnect direct insertion sub assemblies.
- High temperature PVC immersion fitting with optional flanged process connection for adjustable insertion depth.
- High pressure and temperature specifications.
- Electrolytically polished stainless steel fittings for optimal corrosion resistance.

Dimensions



Model ISC40FF Flow fitting

A. Process temperature

- Model ISC40FF-S : Maximum 150°C (300°F)
- Model ISC40FF-P : Maximum 100°C (210°F)
- Model ISC40FF-F : Maximum 130°C (270°F)

B. Process pressure

- Model ISC40FF-S : Max. 1.0 MPa (150 psi) at 150°C (300 °F)
- Model ISC40FF-P : Max. 0.6 MPa (90 psi) at 20°C (70°F)
Max. 0.1 MPa (15 psi) at 100°C (210°F)
- Model ISC40 FF-F : Max. 1.0 MPa (150 psi) at 20°C (70°F)
Max. 0.1 MPa (15 psi) at 120°C (250°F)

C. Wetted materials

- Model ISC40FF-S : AISI 316 Stainless Steel
- Model ISC40FF-P : Polypropylene
- Model ISC40FF-F : PVDF (KYNAR®)

Non-wetted materials

- Nut : AISI 304 stainless steel.
- Mounting set : AISI 304 Stainless Steel (optional)
- Flange adapters : AISI 304 Stainless Steel (optional)

Adapter dimensions

	L1	L2	L3
FP1 - FF1	161	216	
FP2 - FF2	151	206	
FP3 - FF3	163	218	
FP4 - FF4	149	204	
FS1	278		112
FS2	298		122
FS3	274		110
FS4	298		122

Flange dimensions

	D	k	dg
DN25	ø115	ø85	ø13.5
1 Inch	ø108	ø79.2	ø15.7
1/2 Inch	ø88.7	ø66.6	ø15.7
DN15	ø95	ø65	ø13.5

Panel dimensions

100x100, holes 70x70 ø10mm

Model and Suffix Codes

Model	Suffix	Option	Description
ISC40FF			flow fitting
Material	-S -P -F		AISI 316 stainless steel Polypropylene (PP) PVDF (KYNAR®)
Process connection	-A -J		NPT ISO 7/1 R
1/2"NPT Flange adapters	/FF1 /FF2 /FF3 /FF4 /FP1 /FP2 /FP3 /FP4 /FS1 /FS2 /FS3 /FS4		PVDF, DN15 PN10 PVDF, DN25 PN10 PVDF, ANSI 1/2"-150lbs PVDF, ANSI 1"-150lbs PP, DN15 PN10 PP, DN25 PN10 PP, ANSI 1/2"-150lbs PP, ANSI 1"-150lbs AISI 316 SS, DN15 PN10 AISI 316 SS, DN25 PN10 AISI 316 SS, ANSI 1/2"- 150lbs AISI 316 SS, ANSI 1"- 150lbs
Mounting set	/MS /MP		Wall/pipe for SS flow fitting Wall/pipe for PP or PVDF flow fitting
Material certificate	/M		3.1. according EN 10024 for wetted metal parts only

Model ISC40FS Direct insertion subassemblies

A. Process temperature

- Model ISC40FS/SCS: Maximum 150°C (300 °F)
- Model ISC40FS-PCS: Maximum 100°C (210 °F)
- Model ISC40FS-FCS: Maximum 130°C (270 °F)

B. Process pressure

- Model ISC40FS/SCS : Max. 1.0 MPa (150 psi) at 150°C (300°F)
 Model ISC40FS-PCS : Max. 0.6 MPa (90 psi) at 20°C (70°F)
 Max. 0.1 MPa (15 psi) at 100°C (210°F)
 Model ISC40FS-FCS : Max. 1.0 MPa (150 psi) at 20°C (70°F)
 Max. 0.1 MPa (15 psi) at 120°C (250°F)

C. Wetted materials

- Model ISC40FS/SCS: AISI 316 Stainless steel
- Model ISC40FS-PCS: Polypropylene
- Model ISC40FS-FCS: PVDF (KYNAR®)
- All models : Viton O-ring, EPDM (only S2WN and STWN)

Non wetted materials

- Nut : AISI 304 Stainless steel

D. Process connection

- Model ISC40FS-SCS/PCS/FCS : 2" screw-in coupling

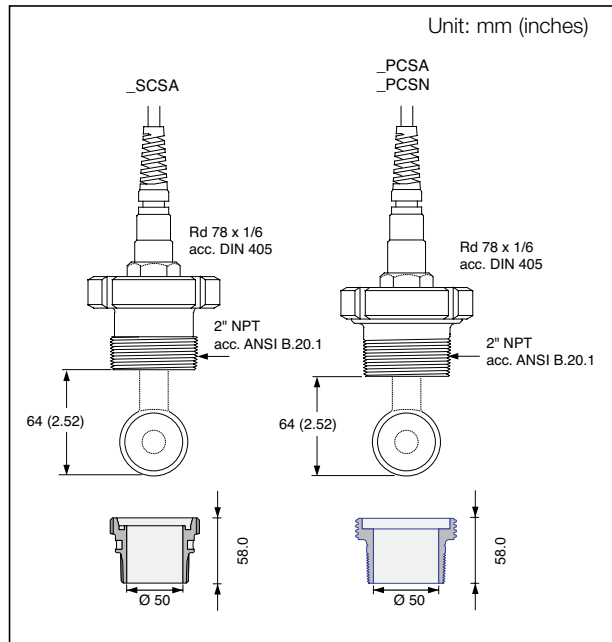
E. Shipping details

- Dimensions : Refer to section Dimensions
- Package : Normally packed with sensor
- Weight : 500 g. (1 lbs)

Model and Suffix Codes

Model	Suffix	Option	Description
ISC40FS			Flow fitting subassembly
Material	-F -P -S		PVDF Polypropylene Stainless Steel
Process connection	CS CW		Coupling screw-in Coupling welded
Thread type NPT or R	A N		NPT No thread (for weld-in couplings)
Options		/M	Material certificate 3.1. EN 10024 for wetted metal parts only

Dimensions



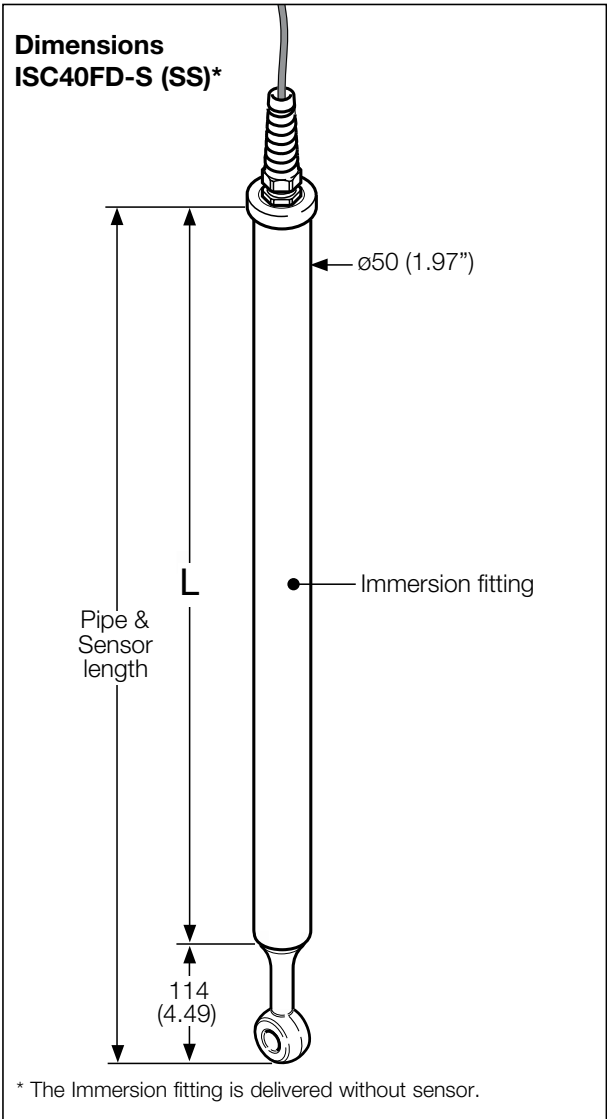
Model ISC40FD Immersion fitting

- A. Process temperature** : Max. 80°C (180 °F) PVC
: Max. 150°C (300 °F)
AISI 316 Stainless steel
- B. Process pressure**
- PVC : Max. 0.2 MPa (30 PSI) at 20°C (70°F)
Max. 0.1 MPa (15 PSI) at 80°C (180°F)
- AISI316 Stainless steel : 10 bar
- C. Wetted materials**
- Probe tube : C-PVC
- Process sealing O-ring : Viton
- Flange : PVC (Optional)
Non wetted materials
- Cable insulation : Thermoplastic rubber
- D. Process connection** :
- Adjustable flange : Hole pattern according to DIN DN50-PN10 and ANSI 2" 150 lbs. Only for the PVC (Optional).
- Mounting set : Galvanized steel (Optional).

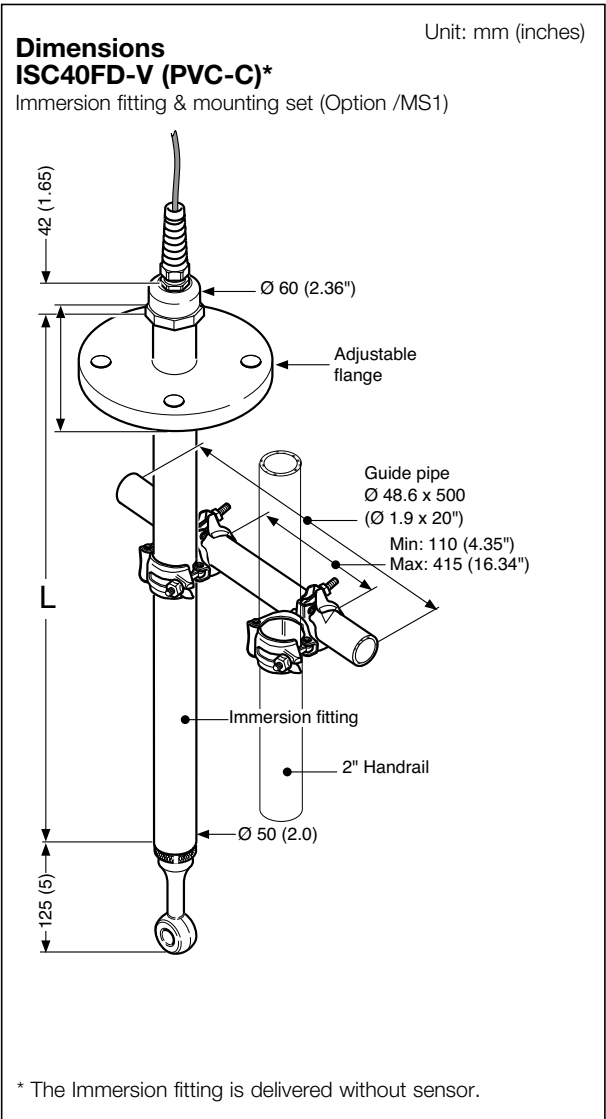
Note: Adjustable flange (/FA) is only for the PVC fitting

Model and Suffix Codes

Model code	Suffix code	Option	Description
ISC40FD			Immersion fitting
Material	-S -V		AISI 316 Stainless steel PVC-C
Pipe length	- □ □		Between 05 to 20 meter Example: 05 = 0.5 m
Flange	-NFL -SFA -SFD		No flange AISI316 SS 2" AISI316 SS DN50
Options		/MS1	Pipe mounting set (Carbon steel)
		/FA	Adjustable flange with DIN DN50-PN10 and ANSI 2" 150 lbs hole pattern (only for PVC)
		/PH5	Protection hose for 5 m cable
		/PH10	Protection hose for 10 m cable
Material certificate		/M	3.1. according EN 10204 (for wetted metal parts only)



GS 12D8J2-E-E



ISC40G(S)-TF Model

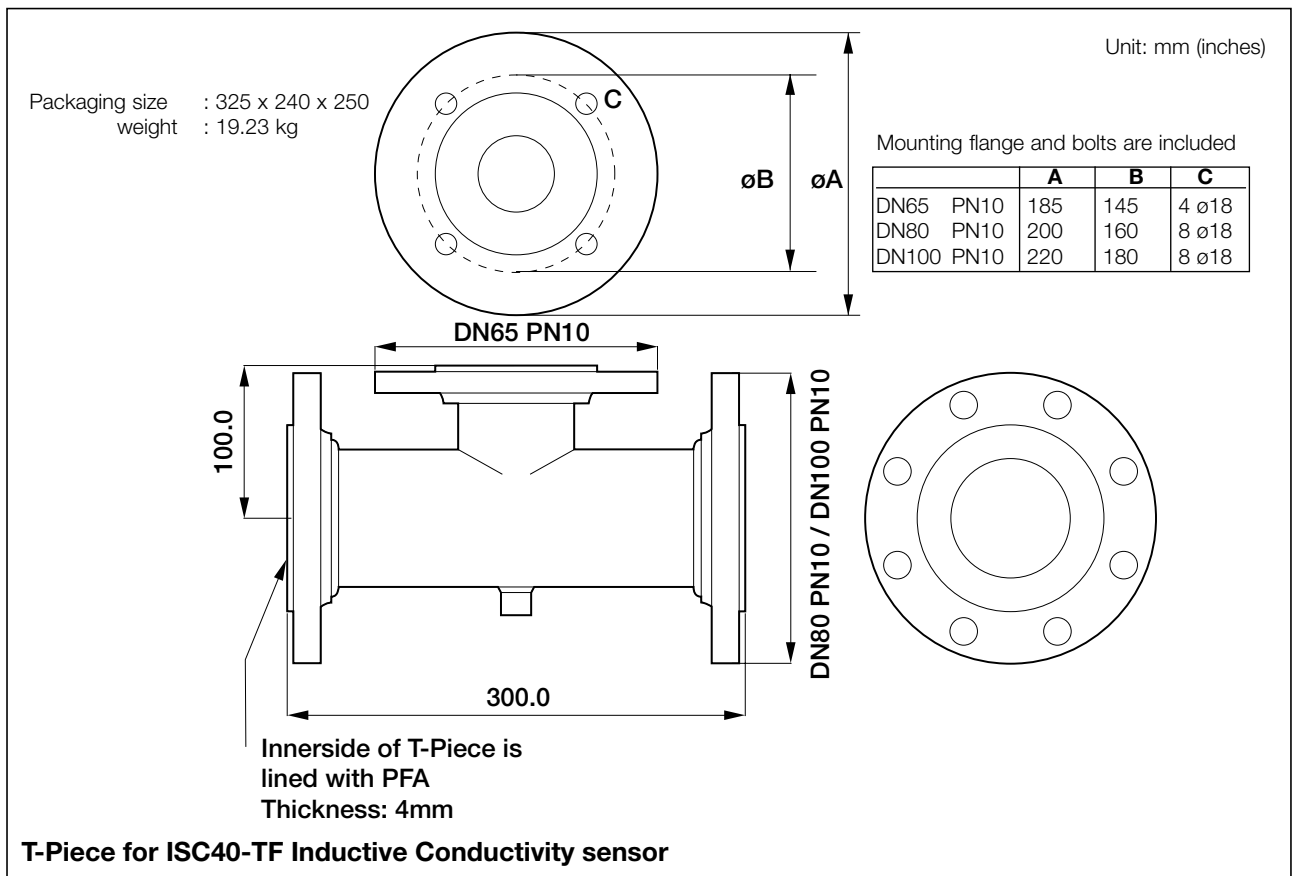
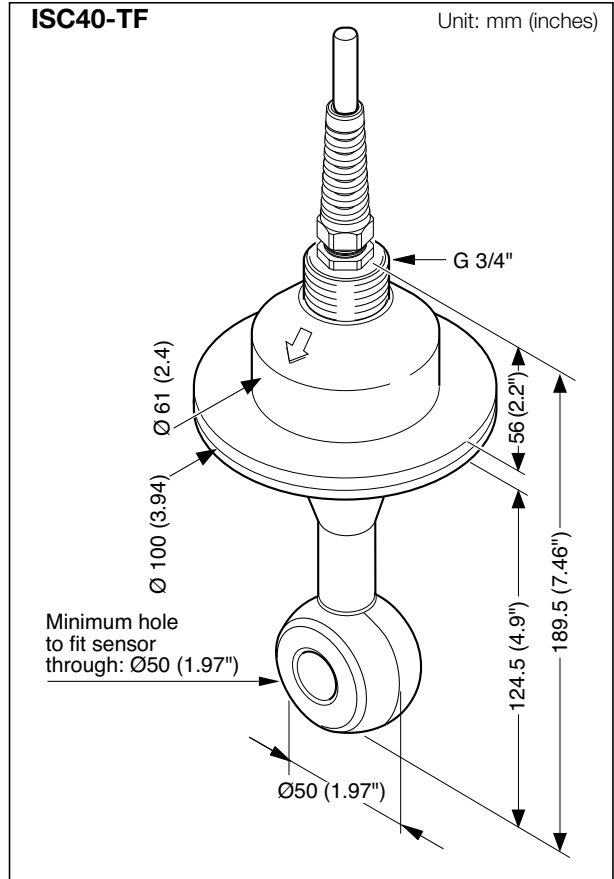
Model and Suffix Codes

Model	Suffix	Option	Description
ISC40G-TF			General purpose, PFA, flange model
ISC40S-TF			Intrinsically safe, PFA, flange model
Temperature sensor	-T1		Pt1000
Cable length	-03		03 mtr
	-05		05 mtr
	-10		10 mtr
	-15		15 mtr
	-20		20 mtr
Protection hose for -TF sensor	/PH□□		03m, 05m, 10m, 15m, 20m (the same length as the cable)
Certificates	/M		Material certificate (only apply to SS316 wetted part)
	/Q		Quality certificate

Option	Description	Part No.
/PH03	03 meter protection hose	K1500DN
/PH05	05 meter protection hose	K1500DP
/PH10	10 meter protection hose	K1500DQ
/PH15	15 meter protection hose	K1500DR
/PH20	20 meter protection hose	K1500DS

T-Piece ISC40-TF

Partno.	Flanges	Description
K1500HG	DN80 PN10	T-Piece, DN80 Flange
K1500HF	DN100 PN10	T-Piece, DN100 Flange
K1500HP	DN65	Gore-Tex seal for ISC40-TF (DN50)

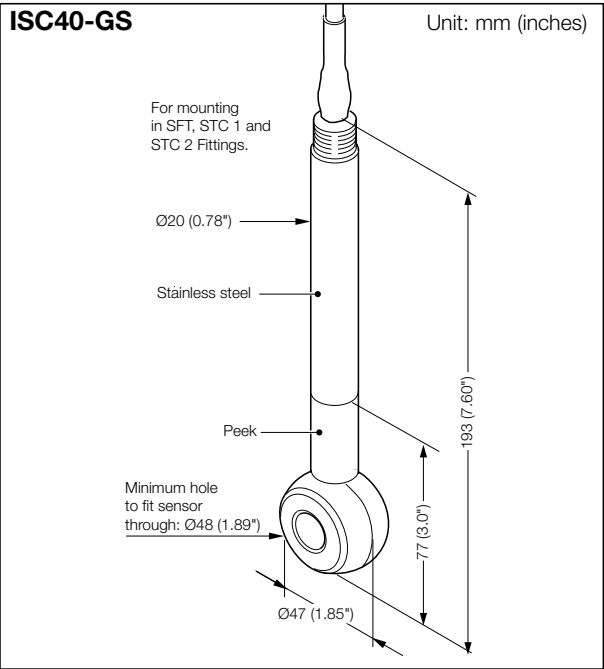


ISC40G(S)-GS Model

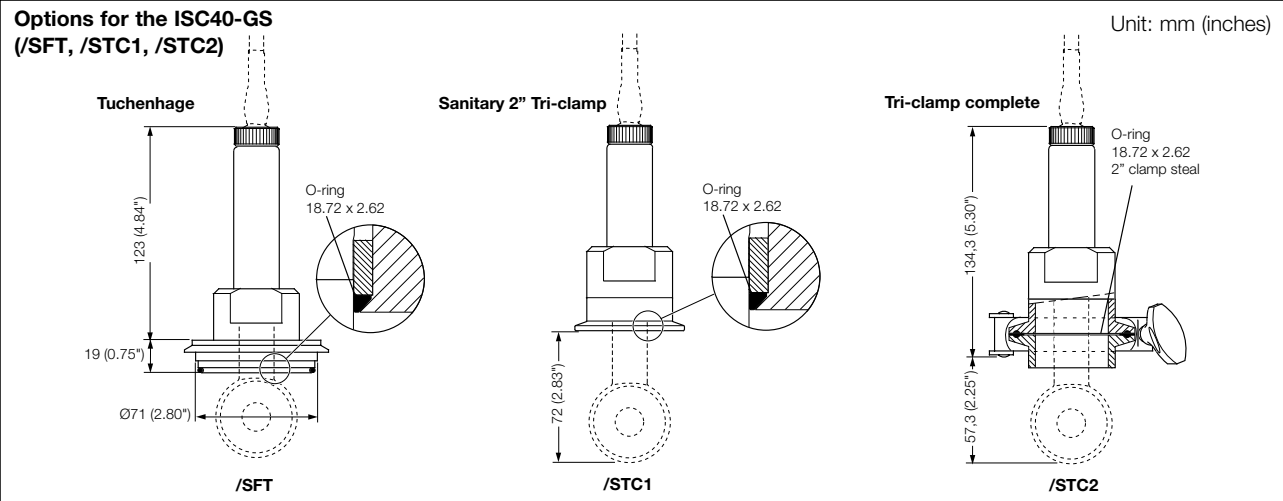
Model and Suffix Codes

Model	Suffix	Option	Description
ISC40G-GS			General purpose, glass filled PEEK, shaft model
ISC40S-GS			Intrinsically safe, glass filled PEEK, shaft model
Temp. sensor	-T1		Pt1000
Cable length	-03		03 mtr
	-05		05 mtr
	-10		10 mtr
	-15		15 mtr
	-20		20 mtr
Flange adapters for -GS sensor	/SFT1	AIS316 SS	Sanitary Tuchenhagen
	/STC1	AIS316 SS	Sanitary 2" Tri-clamp*
	/STC2	AIS316 SS	Tri-clamp*
Certificates	/M		Material certificate (only applies to SS316 wetted part)
	/Q		Quality certificate

* according to ISO 2852



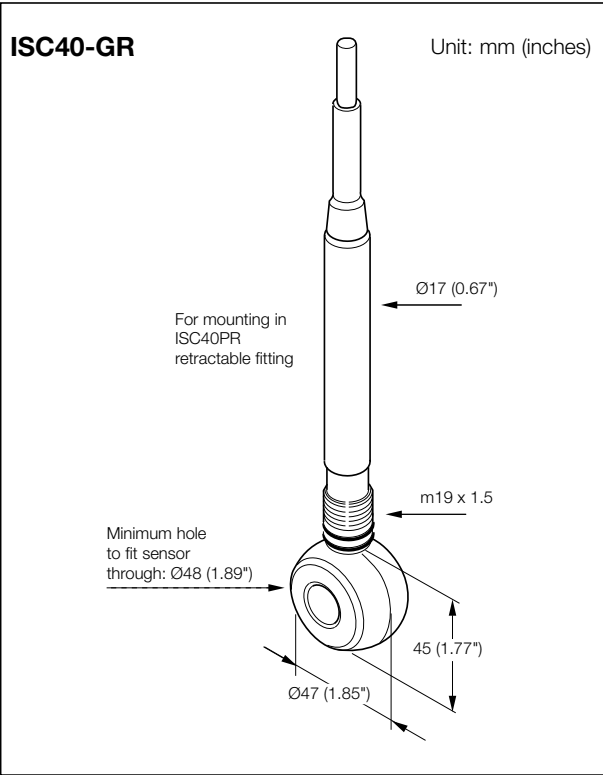
Options for -GS Sensor



ISC40G(S)-GR Model

Model and Suffix Codes

Model	Suffix	Option	Description
ISC40G-GR			General purpose, glass filled PEEK, retractable model
ISC40S-GR			Intrinsically safe, glass filled PEEK, retractable model
Temp. sensor	-T1		Pt1000
Cable length	-03		03 mtr
	-05		05 mtr
	-10		10 mtr
	-15		15 mtr
	-20		20 mtr
Certificates	/M		Material certificate (only applies to SS316 wetted part)
	/Q		Quality certificate



Retractable fitting for ISC40PR for Inductive Conductivity sensor

The ISC40PR retractable fitting can be applied in all processes where it is necessary to remove the sensor without interrupting the process. The Yokogawa design ensures the safe retraction of the sensor from the process without requiring a shut-down.

The optional adapters make selection of a suitable installation easy. The flanged connection is available in DIN or ANSI version. The threaded connections are available in R2 or 2" NPT. When inserted, the probe can be locked at any position (between the minimum and maximum) with a locking ring. In addition, the optional drain port makes it possible to relieve the pressure before complete disassembly.

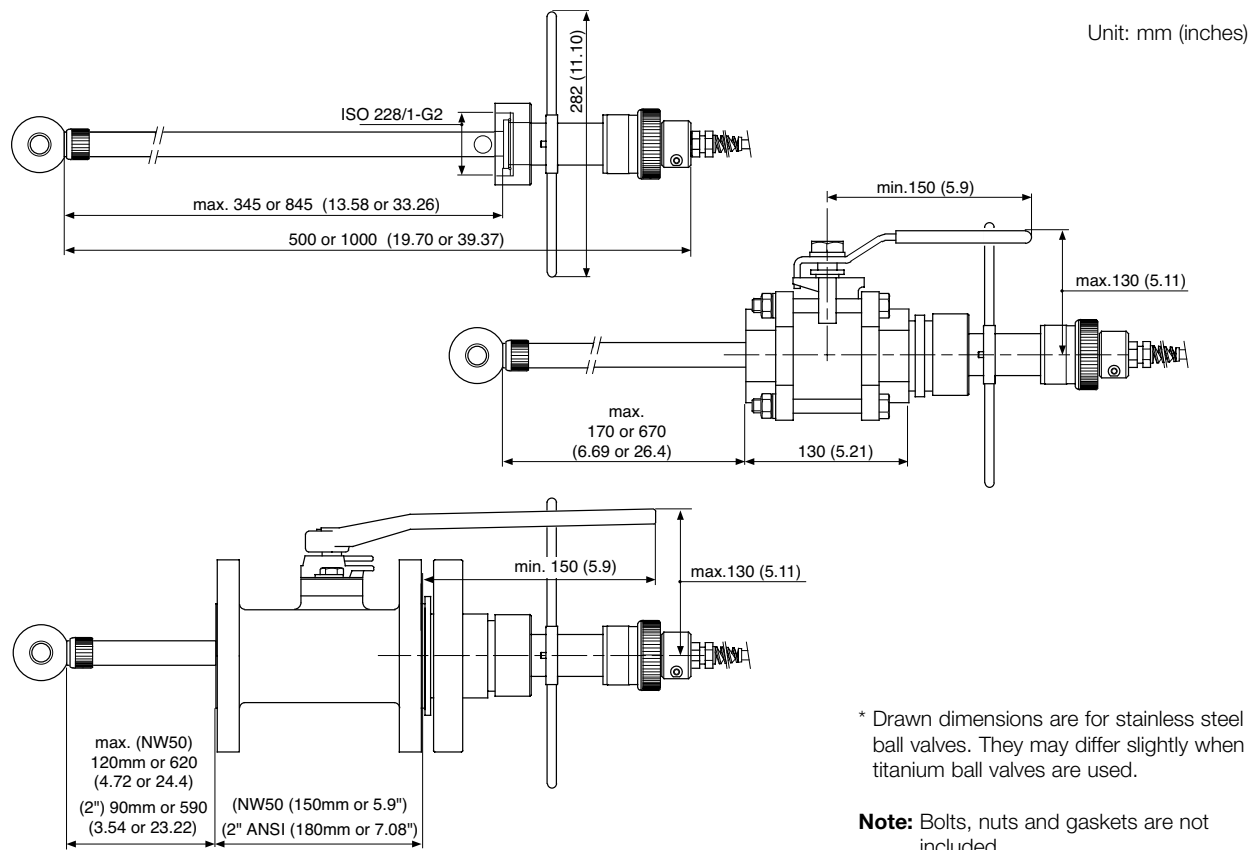
The choice between stainless steel and titanium (as construction materials) makes use in many applications possible.

Yokogawa recommends using the sensor ISC40□-GR-□□-□□. For model code see page 8. For safety reasons Yokogawa recommends to use a flanged ball-valve.

Features

- Adjustable insertion depth for optimal positioning in the process.
- Easy cleaning of the sensor.
- Damped probe retraction by o-ring friction with pressurized systems.
- Adaptable to most installations by a range of options.
- Optional drain port for relieving pressure, prior to extraction.

External Dimensions



General Specifications

A. Materials:

Wetted parts

Model ISC40PR-S (Stainless steel)	Stainless steel AISI 316
-Probe	Stainless steel AISI 316
-O-ring seals	Viton 70° shore

Model ISC40PR-T (Titanium)	Titanium Grade 2 or 3
-Probe	Titanium Grade 2 or 3
-O-ring seals	Viton 70° shore

Non-wetted parts

-Stainless steel (AISI 316) and polyphenylene sulphide (PPS)

B. Insertion length

The probe length can be adjusted to a maximum of either 0.5 or 1 meter. The actual probe insertion length depends on the use of optional adapters and/or ball valves. The dimensional drawing indicates the maximum insertion length for both specified probe lengths.

C. Pressure / temperature ratings

- Static conditions	2 MPa at 20°C 500 kPa at 130°C
- Operating conditions maintenance	max. 500 kPa max. 130°C
- Flange ratings	DIN flange DN50 PN16 ANSI flange 2" 150 lbs

D. Weight

Approx 2.5 kg. (stainless steel version without ball-valve and adapters)

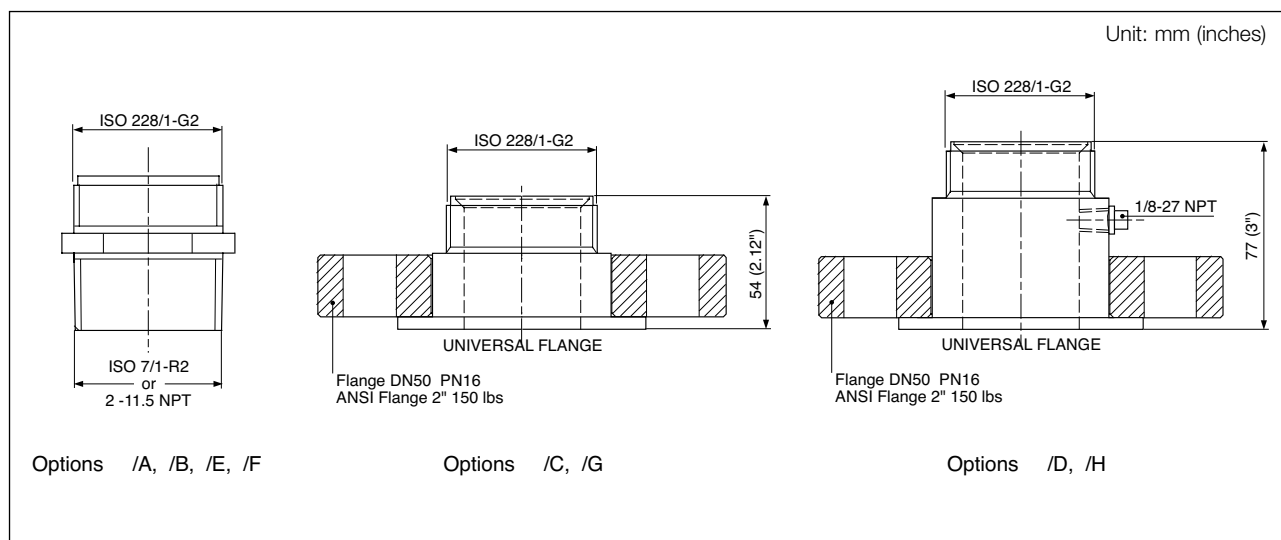
Model and Suffix Codes

Model Code	Suffix Code	Option Code	Description
ISC40PR			Retractable Fitting, 2" BSP-female
Material	-S -T		Stainless steel AISI 316 Titanium Grade 2 or 3
Probe length	-05 -10		0.5 m 1.0 m
		/A /B /C /D /E /F /G /H /M /T /J /K /L /N	Adapter R2-G2 (SS AISI 316) Adapter 2" NPT-G2 (SS AISI 316) Flange adapter (SS AISI 316) Flange adapter for drain (SS AISI 316) Adapter R2-G2 (Titanium Grade 2 or 3) Adapter 2" NPT-G2 (Titanium Grade 2 or 3) Flange adapter (Titanium Grade 2 or 3) Flange adapter for drain (Titanium Grade 2 or 3) Material certificate 3.1.B according to EN 10 204 (DIN 50 049) (on wetted parts) Test certificate for hydrostatic pressure test (2 MPa at ambient temperature) Ball valve R2 (SS AISI 316) Ball valve 2" NPT (SS AISI 316) Ball valve 2" ANSI Flanged (SS AISI 316) Ball valve DN 50 PN16 Flanged (SS AISI 316)

Table 1. Titanium Ball valves

Model	Option	Description
BV40		Titanium ball valve 1" (25 mm)
	/P	2"BSPT
	/Q	2" NPT female + adapter
	/R	2" ANSI flanged
	/S	DN50 PN16 flanged

Options for -PR Sensor



Chemical Compatibility Chart

			Material							
			PVDF (Kynar)	S.S. 316	VITON	PEEK	PP	PVC	PFA	
			Temp. °C % Conc.	20 60 100	20 60 100	20 60 100	20 60 100	20 60	20 60 100	
Inorganic acid	Sulfuric acid	10	0 0 0	X X X	0 0 0	0 0 0	0 0	0 X	0 0 0	
		50	0 0 0	X X X	0 0 0	0 0 X	0 0	0 0	0 0 0	
		95	0 X -	X X X	0 0 0	- - -	X -	X X	0 0 0	
		fuming	- - -	- - -	0 0 0	- - -	- -	- -	0 0 0	
	Hydrochloric acid	10	0 0 0	- - -	0 0 0	0 0 X	0 0	0 X	0 0 0	
		sat.	0 0 0	- - -		0 0 X	0 0	0 0	0 0 0	
	Nitric acid	25	0 0 X	X X X	0 0 X	0 0 0	0 0	0 X	0 0 0	
		50	0 0 X	X X X	- - -	X X X	X -	0 X	0 0 0	
		95	0 X -	0 0 0	- - -	- - -	- -	- -	0 0 0	
		fuming	- - -	0 0 0	- - -	- - -	- -	- -	0 0 0	
	Phosphoric acid	25	0 0 0	- - -	0 0 0	0 0 0	0 0	0 X	0 0 0	
		50	0 0 0	X X X	0 0 0	0 0 0	0 0	0 0	0 0 0	
95		0 0 0	0 0 0	X X -	0 0 0	0 0	0 0	0 0 0		
Hydrofluoric acid	40	0 0 0	- - -	0 0 0	- - -	0 0	0 X	0 0 0		
	75	0 0 0	- - -	0 0 0	- - -	0 0	X X	0 0 0		
Organic acid	Acetic acid	10	0 0 0	0 0 X	- - -	0 0 0	0 0	0 X	0 0 0	
		glacial	0 X -	0 0 X	- - -	0 0 X	0 X	X X	0 0 0	
	Formic acid	80	0 0 0	X X X	- - -	X X X	0 0	0 -	0 0 X	
	Citric acid	50	0 0 0	0 0 0	0 0 0	0 0 0	0 0	0 0	0 0 0	
Alkali	Calcium hydroxide	sat.	0 0 0	0 0 0	0 0 0	0 0 0	0 0	0 0	0 0 0	
	Potassium hydroxide	50	0 0 X	0 0 0	0 0 0	0 0 0	0 0	0 0	0 0 0	
	Sodium hydroxide	40	0 0 X	0 0 0	X X X	0 0 0	0 0	0 X	0 0 0	
	Ammonia in water	30	0 0 0	0 0 0	X X X	0 0 0	0 0	0 X	0 0 0	
Acid salt	Ammonium chloride	sat.	0 0 0	X X X	0 0 0	0 0 0	0 0	0 0	0 0 0	
	Zinc chloride	50	0 0 0	X X X	0 0 0	0 0 0	0 0	0 0	0 0 0	
	Iron (III) chloride	50	0 0 0	- - -	0 0 0	0 0 0	0 0	0 0	0 0 0	
Basic salt	Sodium sulfite	sat.	0 0 0	0 0 0	- - -	0 0 0	0 0	0 0	0 0 0	
	Sodium carbonate	sat.	0 0 0	0 0 0	0 0 0	0 0 0	0 0	0 0	0 0 0	
Neutral salt	Potassium chloride	sat.	0 0 0	X X X	0 0 0	0 0 0	0 0	0 0	0 0 0	
	Sodium sulfate	sat.	0 0 0	0 0 0	0 0 0	0 0 0	0 0	0 0	0 0 0	
	Calcium chloride	sat.	0 0 0	X X X	0 0 0	0 0 0	0 0	0 0	0 0 0	
	Sodium chloride	sat.	0 0 0	X X X	0 0 0	0 0 0	0 0	0 0	0 0 0	
	Sodium nitrate	50	0 0 0	X X X	0 0 0	0 0 0	0 0	0 0	0 0 0	
	Aluminium chloride	sat.	0 0 0	- - -	0 0 0	0 0 0	0 0	0 0	0 0 0	
Oxidizing agent	Hydrogen peroxide	30	0 0 0	0 0 0	0 0 0	0 0 0	0 0	0 0	0 0 0	
	Sodium hypochloride	50	0 0 0	X X X	0 0 X	0 0 0	X X	X X	0 0 0	
	Potassium dichromate	sat.	0 0 0	0 0 0	0 0 0	0 0 0	0 0	0 0	0 0 0	
	Chlorinated lime		0 X -	X X X		X X X	- -	0 0	0 0 0	
Organic solvent	Ethanol	80	0 0 X	0 0 0	X - -	0 0 0	0 0	0 X	0 0 0	
	Cyclohexane		0 0 X	0 0 0	0 0 0	0 0 0	- -	0 0	0 0 0	
	Toluene		0 0 0	0 0 0	- - -	0 0 0	X -	- -	0 0 0	
	Trichloroethane		X X X	0 0 X	X X X	0 0 0	- -	- -	0 0 0	
	Water		0 0 0	0 0 0	0 0 0	0 0 0	0 0	0 0	0 0 0	

O = can be used,
X = shortens useful life,
- = cannot be used

Note: Information in this list is based on our general experience and literature data and given in good faith.
However Yokogawa is unable to accept responsibility for claims related to this information.

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