Fuji Electric

FCX-AII

DIFFERENTIAL AND GAUGE PRESSURE TRANSMITTER FOR REMOTE SEAL(S)

Analog pressure transmitter

DATA SHEET **FYB, FYD...K,L**

The analog FCX-AII series differential and gauge pressure transmitters accurately measures and transmits proportional 4 to 20mA signal.
The transmitters utilize the unique micromachined capacitive silicon sensor with state-of-the-art microprocessor technology to provide exceptional performance and functionality.
FYB and FYB series are specially designed for safety related applications encountered in nuclear power plans where high reliability and long lifetime undo mild to harsh environment is required (radiation with total integrated dose (TID) 50 kGray).

FEATURES

1. **High accuracy**
   Fuji's micro-capacitance silicon sensor assures a high accuracy for all elevated or suppressed calibration ranges without additional adjustment.

2. **Minimum environmental influence**
   The "Advanced Floating Cell" design which, protects the pressure sensor against changes in temperature, static pressure, and overpressure substantially reduces total measurement error in actual field applications.

3. **Application flexibility**
   Various features that render the FCX-AII suitable for almost any process applications include.
   - Hazardous area approvals
   - Built-in RFI filter and lightning arrester
   - Stainless steel electronics housing

4. **Fully analog electronics**
   The design of the electronics without any SMART device embedded ensure the ability to address the highest safety levels in nuclear applications.

Functional specifications

Type :

- FYD : Analog differential pressure transmitter with remote seal(s)
- FYB : Analog gauge pressure transmitter with remote seal

Service :

Liquid, gas or vapour

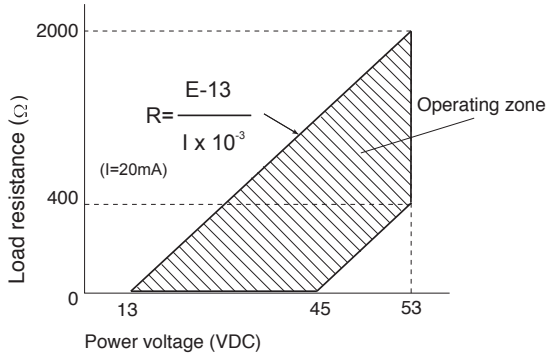
Span and range limits :

Model	Span limits Minimum		Span limits Maximum		Range limits **FKD**
	(mbar)	[kPa]	(mbar)	[kPa]	(mbar)
FYD☐☐3	53	5.3	320	32	± 320
FYD☐☐5	217	21.7	1300	130	± 1300
FYD☐☐6	833	83.3	5000	500	± 5000
	FKB				
	(bar)	[kPa]	(bar)	[kPa]	(bar)
FYB☐☐1	0,217	21.7	1,3	130	-1 à + 1,3
FYB☐☐2	0,833	83.3	5	500	-1 à + 5
FYB☐☐3	5	500	30	3000	-1 à + 30
FYB☐☐4	17	1700	100	10 000	-1 à + 100

Overrange limit :
To maximum static pressure limit of flange

Output signal :
4 to 20 mA (linear for FYD).

Power supply :
Transmitter operates on 13 to 53 V DC at transmitter terminals as per load limitations detailed in the following figure.



Load limitations :
Mini = 0 Ω
Maxi = 550 Ω

Hazardous locations :
ATEX : Exd IIC T5, T6

Zero / span adjustment :
Zero is adjustable from outside screw on the electronics housing and the span with the internal screw.

Damping :
Possible damping : 0.1, 0.4, 1.2 and 3.2 sec.

Zero elevation / suppression :
Adjustable with the external screw on the electronic housing between -100 to +100% of URL.

Span Adjustment :
Adjustable with the internal screw on the electronics housing : 1/6 to URL.

Temperature limits :
Ambient :
0 to +70°cC
Storage :
-40 to +90°C
Accidental conditions :
Max. ambient temperature 125°C during 65h

Humidity limit :
0 to 100% RH (electronics housing closed and sealed)

Performance specifications

(Reference conditions, silicone oil fill, SS 316L isolating diaphragms).

(Transmitter only)

Accurancy rating :
(including linearity, hysteresis and repeatability)
For span greater than 1/6 of URL :
±0,5 % of calibrated span
For span smaller than 1/6 of URL :
Fuji Electric does not guaranty the measurement accuracy

Linearity :
±0.25% CS

Stability :
±0.5% of URL for 30 days

Temperature effect : (transmitter only)
Effect per 55°C change
Zero shift : ±2% CS
Total effect : ±4% CS

Static pressure effect (FYD) :
Zero shift :
±0.6 % of URL / 4 MPa (capillary max 6 m)
±2% of URL / 4 MPa (capillary > 6m till 10 m)
Span shift :
±0.6 % of URL / 4 MPa (capillary max 6 m)
±2% of URL / 4 MPa (capillary > 6m till 10 m)

Overrange effect (FYB) :
Zero shift :
0.2% of URL, for any overrange pressures (limited to the max. overrange pressure)

Overrange effect (FYD) :
Zero shift : ±0.1% of URL / 100 bar

Supply voltage effect :
Less than 0.05% of calibrated span per 10 V.

RFI effect :
Less than 0.2% of URL for the frequences of 20 to 1000 MHz and field strength of 10 V/m when electronics housing covers on.

Response time : (at 63.2% of output signal)

Range	Response time
320 mbar	800 msec
1,3 bar	500 msec
5 bar	300 msec
30 to 100 bar	200 msec

Mounting position effect :
Zero shift :
< 12 mm WC for 10° tilt in any position.
This can be corrected with the zero adjustment.
No influence on span adjustment.

Material fatigue :
Please consult Fuji Electric

Seismic resistance
Qualifaication to the "assembly" seismic spectrum x 1.5 according to RCC-E :
- Horizontal 7.5g ZPA
- Vertical 6g ZPA.

Dielectric strenght :

500V AC, 50/60Hz during 1 minute between terminals **+** & **-** on the one hand, and transmitter body on the other hand.
Leak current less than 3 mA.

Vibration effect :

FYD : ±1% of URL
FYB : ±1.5 % of URL
Frequency 10 to 500 Hz, acceleration 9.8 m/sec^2

Insulation resistance :

More than 100MΩ at 500V DC, during 1 min., between terminals **+** & **-** on the one hand, and transmitter body on the other hand.

Turn-on time :

4 seconds

Irradiation effect :

±5% of URL at Total Integrated Dose (50k Gray)
Maximum Total Integrated Dose wothout permanent failure 65 kGy.

Physical specifications

Electrical connections :

M20 x 1,5 or
Souriau 8N35 connector, or
Souriau 8N45S connector, or
Souriau 8N45 connector, or
SAIB NU25 ref. 251-103-401 / M20 x 1,5 connector (Compatible with 8N45 installed base)

Process-wetted parts material :

Material code (7th digit)	Process cover	Diaphragm	Wetted sensor body	Vent/ Drain
V	SS 316	SS 316 L or Hastelloy C	SS 316L	SS 316

Non wetted parts material :

Electronics housing :
Standard : SS 316
Bolts and nuts :
Standard : SS 316L
Filling fluid :
Standard : silicone oil
Mounting bracket :
SS 304L or SS 316L (option)
Process gasket :
EPDM O-ring (mandatory when submitted to radiation with TID>50 Gray)

Environmental protection :

IEC IP66/IP67

Mounting :

Without mounting bracket :
Direct mounting
With optional mounting bracket :
For 50mm (2") pipe or direct wall mounting.

Weight :

Transmitter only : about 7.4 kg
Add : 0,5 kg for the mounting bracket

Diaphragm seal(s) :

A comprehensive selection of seals can be chosen in accordance with the specific seal.

Arrester :

A built-in arrester protects the electronics from lightning surges.
Lightning surge immunity : 4 kV (1.2 × 50 µs)

Optional features

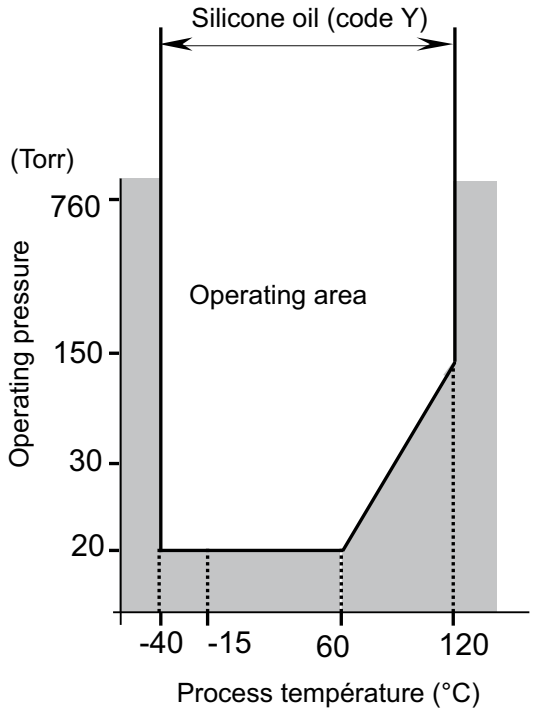
Degreasing :

Process-wetted parts are cleaned, but the fill fluid is standard silicone oil.

Customer tag :

A stailess steel tag with customer tag data is wired to the transmitter

Vacuum service :



Models FYB and FYD only

Relation between max. temperature and operating pressure for transmitters only.

Accessories

Cable gland :

M20 x 1.5 in stainless steel Exd IIC

Code Symbols - FYD

1	2	3	4	5	6	7	8	9	10	11	12	13	14		Description
F	Y	D				V		-					Y		**Analog differential pressure transmitter** Output 4-20 mA
			W												**Conduit connections** M20 x 1,5 (ATEX ADF cable gland for flameproof (optional))
			3												Souriau 8N45S connector
			6												Souriau 8N45 connector (not for EPR reactors)
			7												Souriau 8N35 connector (not for EPR reactors)
			8												SAIB NU25, ref. 251-103-401 / M20x1,5 connector (compatible with 8N45 installed equipment)
				8											**Diaphragm seal rating** PN 40
					3									(*1)	**Spans** 53 to 320 mbar (5,3 to 32 kPa)
					5									(*1)	0,217 to 1,3 bar (21,7 to 130 kPa)
					6										0,833 to 5 bar (83,3 to 500 kPa)
						V	**K**	**-**	**A**						**Transmitter version**: EDF “K3 Classification” / EDF “not classified” — **Indicator**: None
						V	**L**	**-**	**A**						
										A					**Approvals for hazardous locations (consulter Fuji)** None (standard)
										X				(*3)	Flameproof housing ATEX
														(*2)	**Mounting design**: HP & LP side capillary — **Ambient temperature correction**: Transmitter
											H				
												3			**Cell flange design & Stainless steel parts** — Operating pressure: p ≤ 50 bar — Bolts / nuts: None — Tag plate: None — Housing: Yes
												4			Operating pressure: p ≤ 50 bar — Bolts / nuts: None — Tag plate: Yes — Housing: Yes

Notes* :

All models are equipped with specific surge arrester.

1- For DN = 50 consult Fuji Electric for your application with the specific operating conditions
2- Transmitter and diaphragm seals with different diaphragm seals or capillary lenghtes on HP and LP side must be temperature corrected.
3- Not disponible SAIB, Souriau 8N35 / 8N45 / 8N45S and Jaeger sockets.
To be used with ATEX flameproof cable gland delivered by Fuji Electric (option) or mounted by customer.

Code Symbols - FYB

1	2	3	4	5	6	7	8	9	10	11	12	13	14		Description
F	Y	B				V		-					Y		**Analog gauge pressure transmitter** Output 4-20 mA
			W												**Conduit connections**
			3												Souriau 8N45S connector
			6												Souriau 8N45 connector (not for EPR reactors)
			7												Souriau 8N35 connector (not for EPR reactors)
			8												SAIB NU25, ref. 251-103-401 / M20x1,5 connector (compatible with 8N45 installed equipment)
				8											**Diaphragm seal rating**
															PN 40
															Spans
					1									(*1)	0,217 to 1,3 bar (21,7 to 130 kPa)
					2									(*2)	0,833 to 5 bar (83,3 to 500 kPa)
					3										5 to 30 bar (500 to 3000 kPa)
					4									(*3)	17 to 100 bar (1,7 to 10 MPa)
															Transmitter version / **Indicator**
						V	**K**	**-**	**A**						EDF “K3 Classification” / None
						V	**L**	**-**	**A**						EDF “not classified”
															Approvals for hazardous locations (ask Fuji)
										A					None (standard)
										X				(*5)	Flameproof housing ATEX
														(*4)	**Mounting design (*5)** / **Ambient temperature correction**
											G				Capillary / Transmitter
															Cell flange design & stainless steel parts

	Operating pressure	Bots/nuts	Tag plate	Housing and mounting bracket
3	p ≤ 50 bar	None	None	Yes
4	p ≤ 50 bar	None	Yes	

Notes* :

All models are equipped with specific surge arrester.

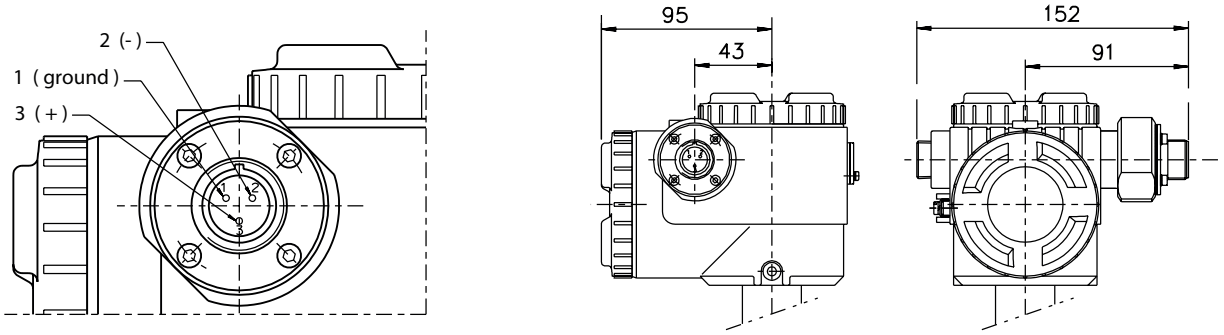
1- Consult Fuji Electric for your application with the specific operating conditions
2- For DN < 50 : consult Fuji Electric for your application with the specific operating conditions
3- Flange rating according max. operating pressure - for size PN > 100 bar, consult Fuji Electric
4- Transmitter with capillary design has a standard mounting bracket - rigid mounting design are always without mounting bracket
5- Not disponible SAIB, Souriau 8N35 / 8N45 / 8N45S and Jaeger connectors.
To be used with ATEX flameproof cable gland delivered by Fuji Electric (option) or mounted by customer

OUTLINE DIAGRAM (unit : mm)

Conduit connection for SOURIAU connectors (4th digit = code 3, 6 or 7)

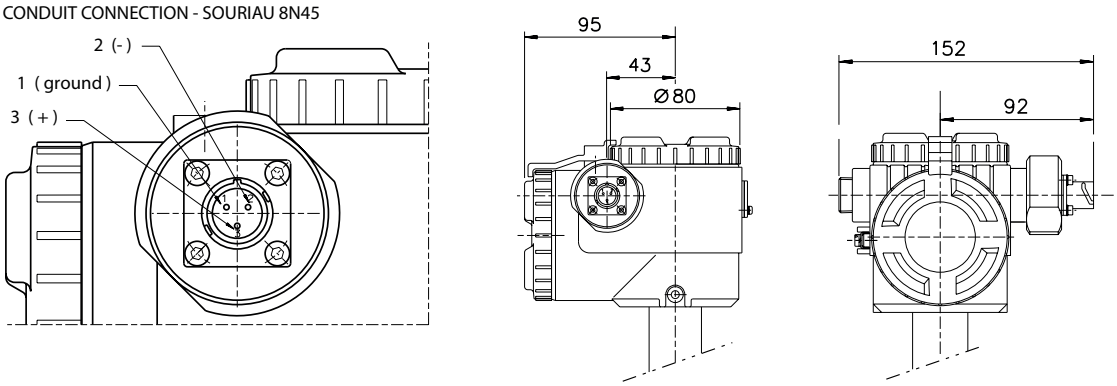
For Souriau 8N35 connector

CONDUIT CONNECTION - SOURIAU 8N35



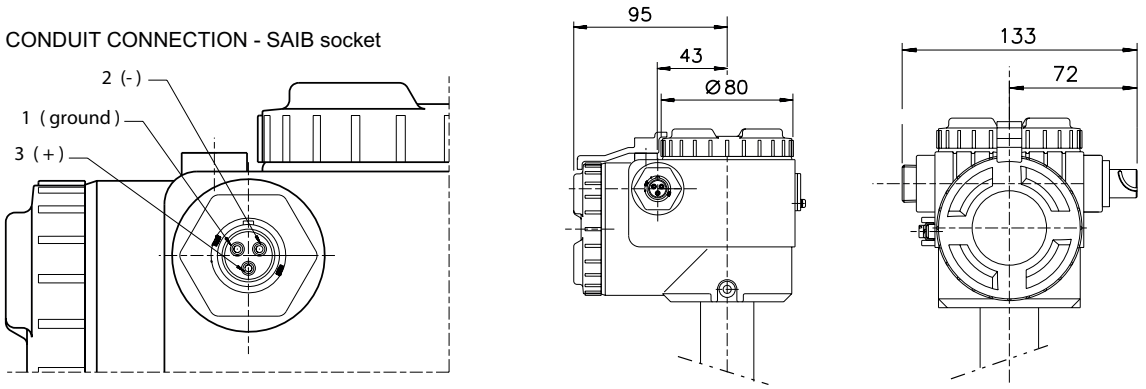
For Souriau 8N45 / 8N45S connector

CONDUIT CONNECTION - SOURIAU 8N45



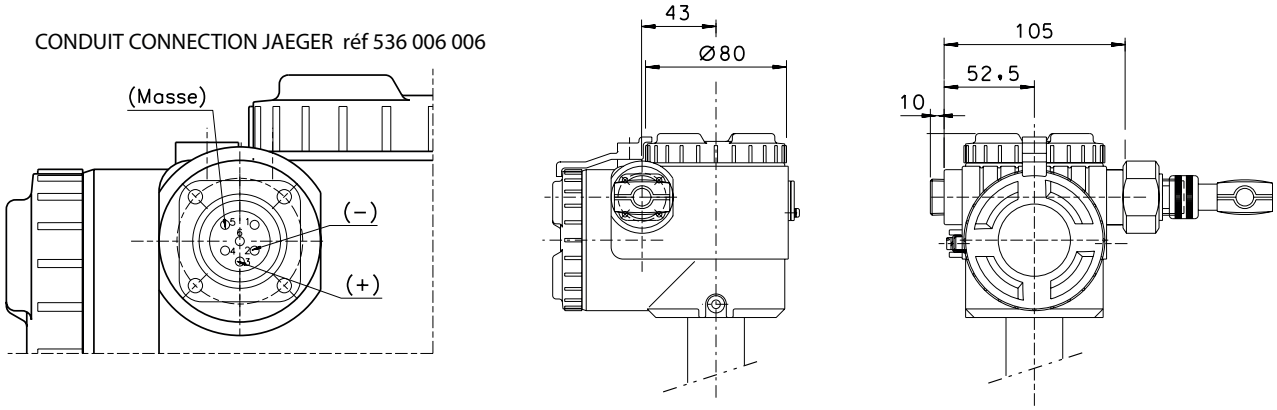
Conduit connection SAIB connector (4th digit = code 8)

CONDUIT CONNECTION - SAIB socket



Conduit connection JAEGER connector (4th digit = code 9)

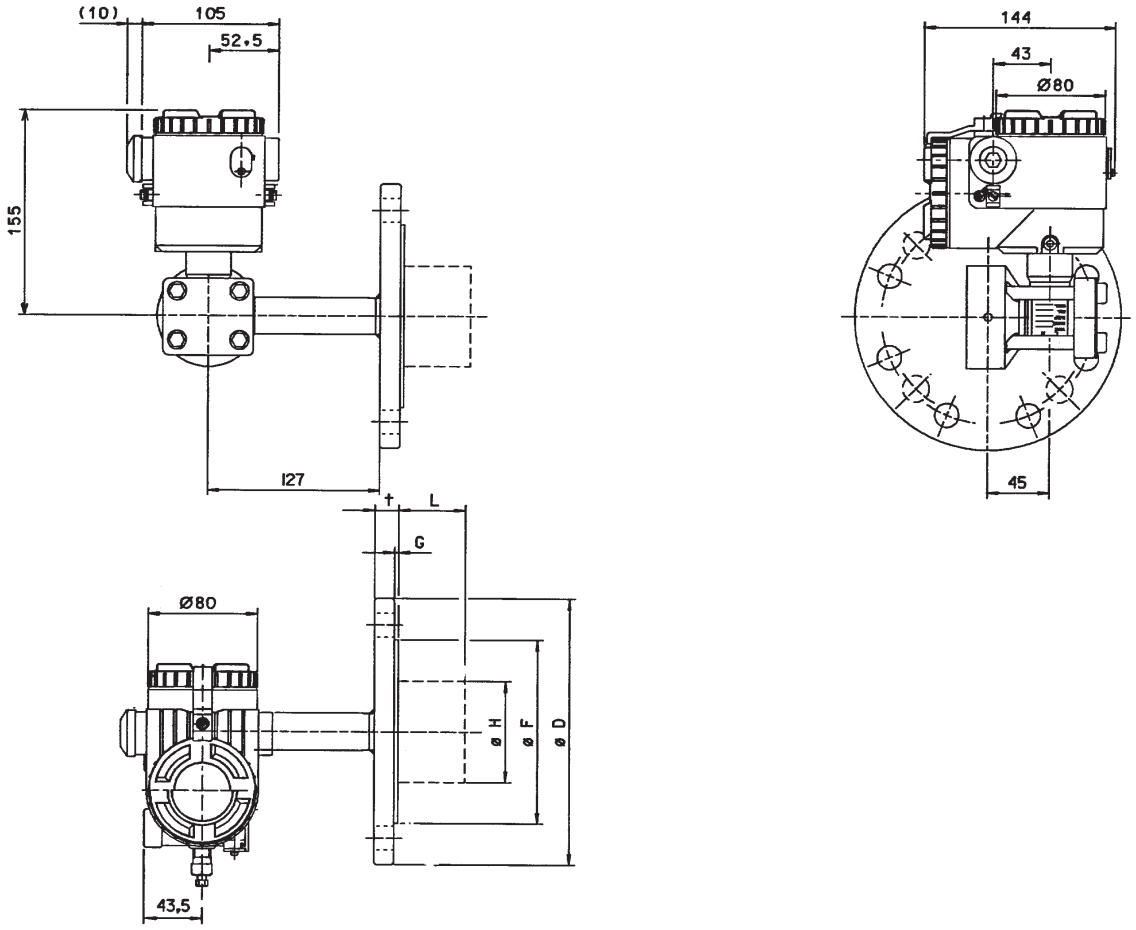
CONDUIT CONNECTION JAEGER réf 536 006 006



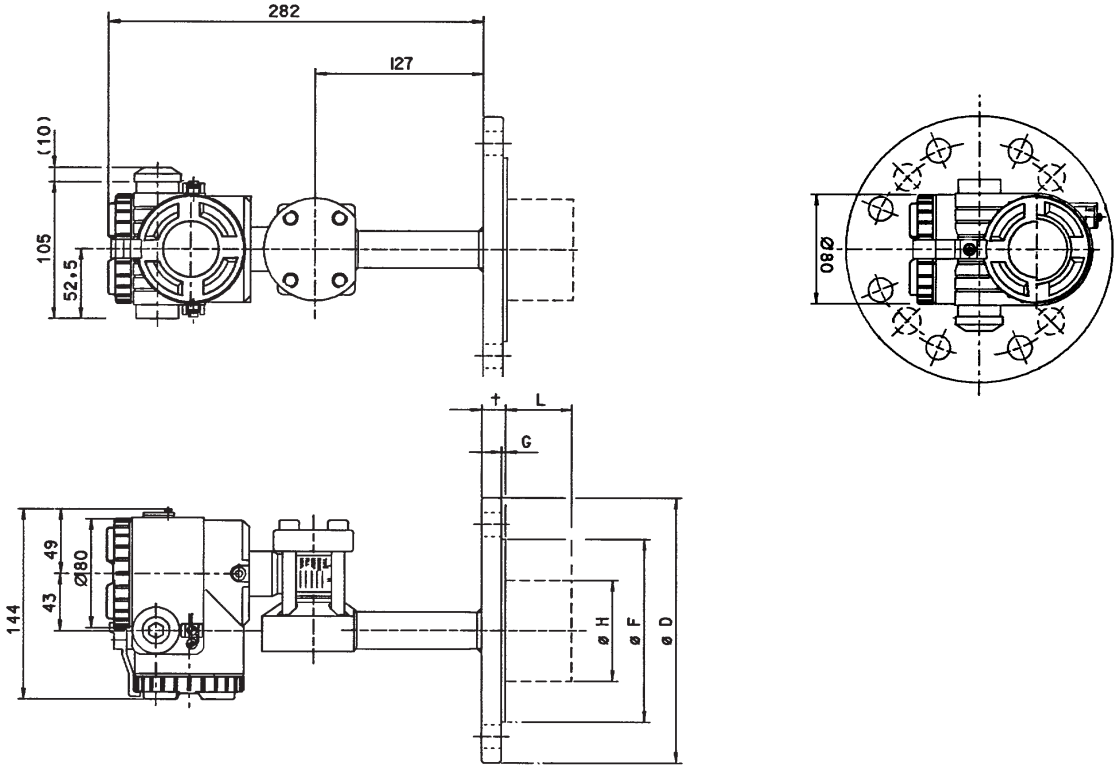
Outline dimensions for rigid mounted diaphragm seal on a gauge pressure transmitter (units : mm)

Dimensions of the seal - refer to pages 13 and 14

Short mounting design



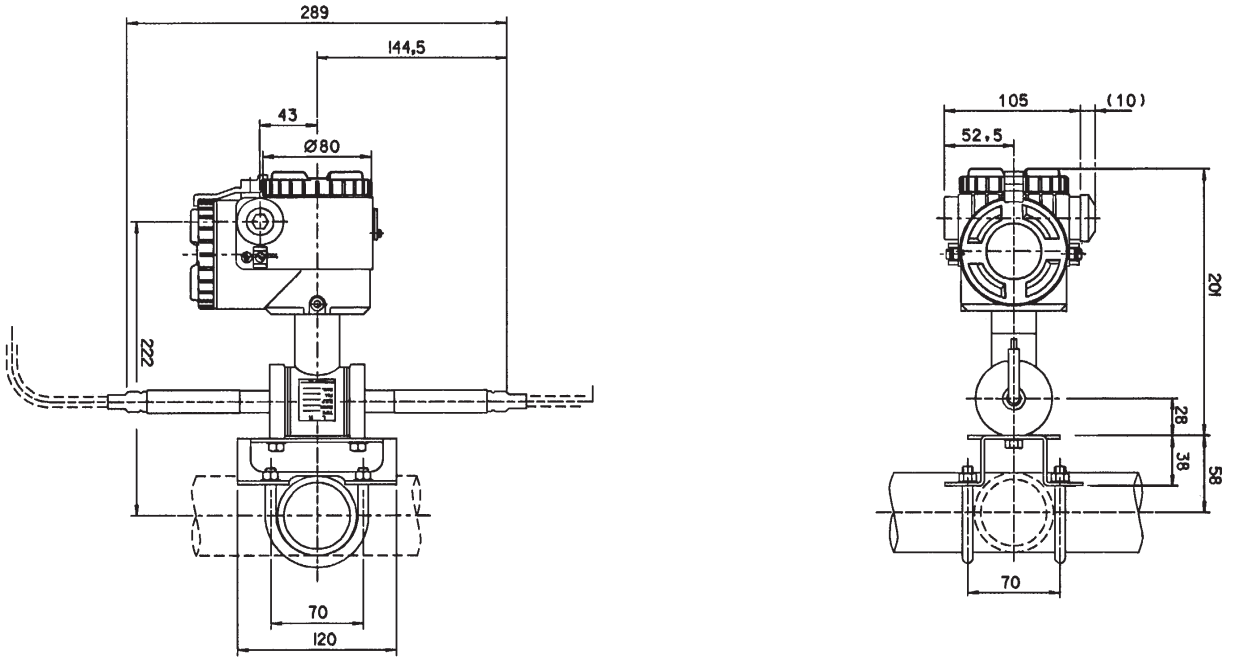
Long mounting design



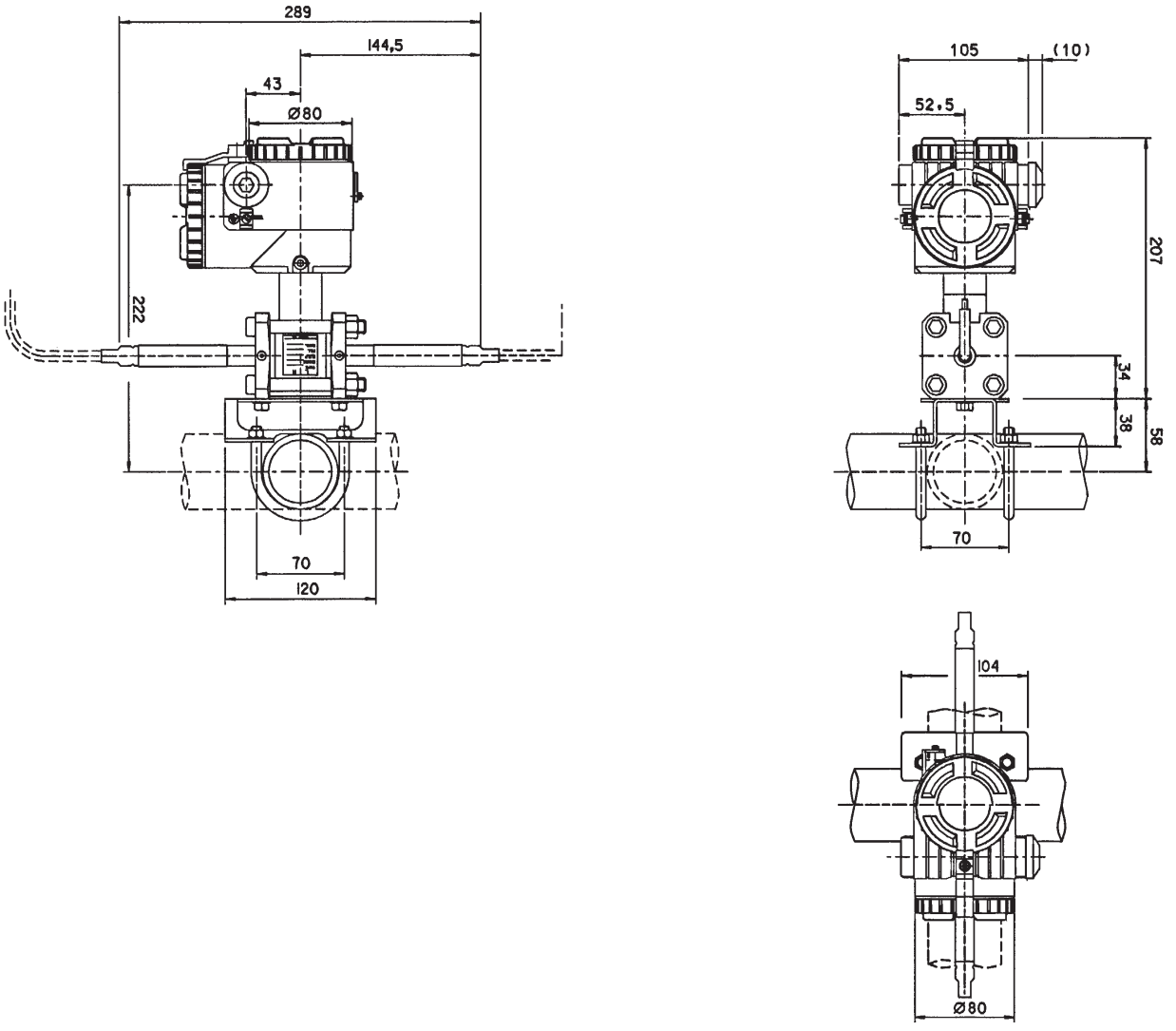
Outline dimensions for capillary mounted diaphragm seal(s) on a differential pressure transmitter (units : mm)

Dimensions of the seal - refer to pages 13 and 14

For PN ≤ 50 bar : reduced volume flanges are welded on the measuring cell



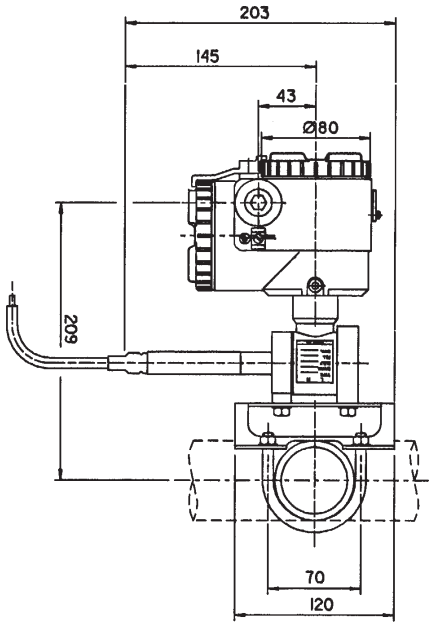
For PN > 50 bar : reduced volume flanges are welded and bolted on the measuring cell

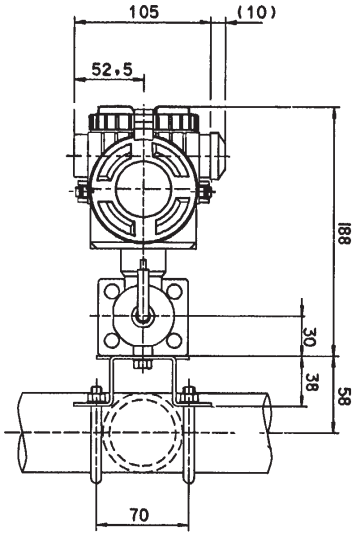


Outline dimensions for capillary mounted diaphragm seal(s) on a gauge pressure transmitter (units : mm)

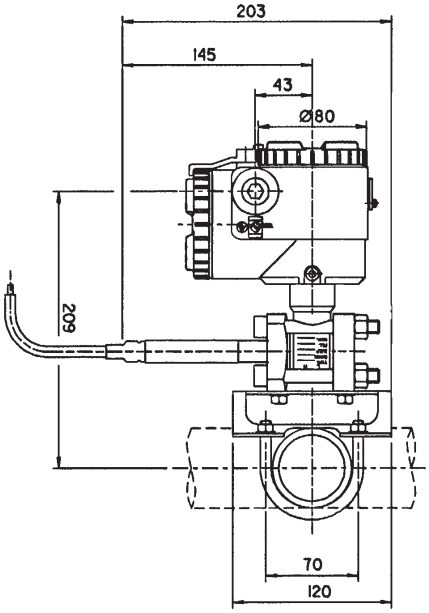
Dimensions of the seal - refer to pages 13 and 14

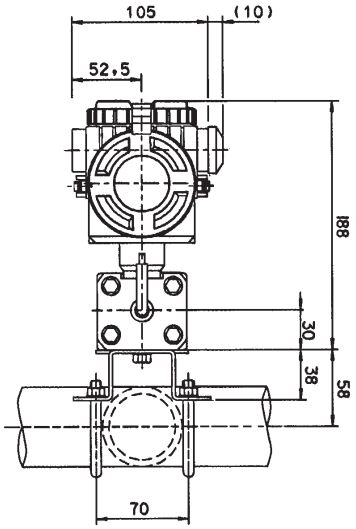
For PN ≤ 50bar : reduced volume flanges are welded on the measuring cell



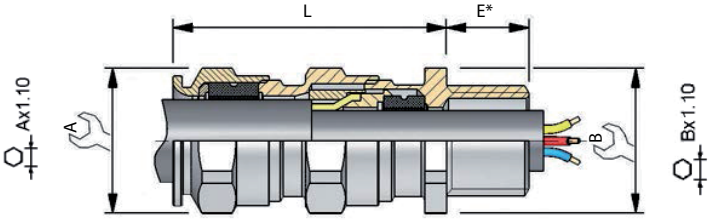


For PN > 50 bar : reduced volume flanges are welded and bolted on the measuring cell





Outline dimensions M20 FDA connector



SELECTION TABLE				DIMENSIONS						SIZE
THREAD	THREAD CODE	THREAD	THREAD CODE	CLAMPING RANGE		WIRES	A	B	L	
ISO		NPT		INTERNAL SHEATH MIN - MAX	EXTERNAL SHEATH MIN - MAX	THICKNESS				
20	M20	1/2"	N05	7.0 - 12.0	10.0 - 16.0	0.2 -1.25	30	24	51	6

DIAPHRAGM SEAL(S)

DATA SHEET S

Diaphragm seals designed by Fuji Electric are used to measure accurately liquid level, density on open and closed tanks, or flow measurement in pipes. The use of the diaphragm seal(s) avoid(s) that the measuring cell is directly in contact with the process. High temperature, hig corrosives, viscous, sticking, crystallizable and abrasive process conditions) as well as to deport the transmitter electronic of the radiological atmospheres.

FEATURES

1- Construction

The diaphragm seals are mounted on differential, gauge and absolute pressure transmitters of FCX-AII series. The seal can be rigid, (direct) mounted on the transmitter or with capillaries between the seal and the transmitter.

The construction is an all welded design without any gasket between the seal and the transmitter diaphragm and is filled with the suitable oil for your application.

2- Operating principle

The measuring pressure is applied on the diaphragm seal and transferred by the filling fluid through the capillary tube to the measuring cell of the pressure transmitter.

3- Parts materials

Wetted parts materials (diaphragm and gasket face) are in SS 316L, Hastelloy.

Other parts are in SS 316L : capillary tube, reduced volume flange, diaphragm seal body.

Standard filling fluid is silicone oil.

High temperature oil and vacuum service filling are available upon request.

4- Diaphragm seal types

According to the mounting and operating conditions different seal types can be useful :

Flush mounting design from DN80 to DN100.

Flanged, screwed or weld neck adaptors

For specific seals, please consult Fuji Electric.

Functional specifications

Diaphragm seal application :

The seal(s) are capillary mounted to distance the measuring point away from the transmitter (for example in case of high process temperature).

Capillary tube specifications :

Standard capillary lengthes :

1,5 / 3 / 6 m (others upon request)

Inside diameter :

1 mm (standard)

2 mm for vacuum service and high process temperature applications

Smallest bending radius of the capillary :

50 mm

Capillary tube sheald possibilities :

Stainless steel sheald temperature limit :

-40 à 400°C

Process connection possibilities :

The diaphragme seals can be :

- Flush mounting design
- Adaptors mounting (flanged, screwed or welded neck).

The adaptors mounting can adapt the remote seals to special connection and increase the sensitivity of the transmitter during special process conditions.

Temperature limits :

Ambiant temperature :

-0 to 70°C

Accident :

max 125°C during 65h

Process temperature :

-40 to 350°C for capillary design, and according the filling fluid limitations.

Pressure limits :

Working pressure :

Limited by the static pressure or the working pressure of the transmitter or by the nominal flange rating of the diaphragm seal (PN). (Please take the smallest of both).

Vacuum limit :

Depending of the limit of the transmitter and the filling fluid of the seal.
For a differential or gauge pressure transmitter the lowest vaccum is 20 Torr (27 mbar abs.).
For the utilization of vacuum service < 20 Torr, please consult Fuji Electric with your service conditions.

Codify “vaccum service” for all vaccum measure.

Performance specifications

To calculate the total performance, both the transmitter and the diaphragm seals performances have to be added.
(Under reference conditions, silicone oil fill, isolated seals SS 316L)

Accuracy :

The assembling of 1 or 2 diaphragm seals on a transmitter increases the accuracy error at reference conditions of ±0,1% of the span.

Influence de la température ambiante :

Effect when transmitter alone is corrected in temperature. (See digit 11 code G, S, T of the code symbols FKB and FKM and code G, H of the code symbols FKD).

Seals / Transmitters	DN80/3” SS Diaphragm	DN80/3” Other diaphragm materials	DN100/4” SS Diaphragm	Adaptator SS Diaphragm
FKB Gauge pressure	0.11	0.22	0.04	0.11
Capillary (m)	0.08	0.2	0.03	0.08
FKD - Differential Pressure	0.04	0.05	0.02	0.04
Capillary (m)	0.03	0.07	0.01	0.03

Note : the indicated values are in mbar/10°C for capillary length of 1m and internal capillary tube Ø of 1mm.

A thermal isolation or a heating of the capillaries minimises the ambient temperature effect.

Process temperature effect :

Seals / Transmitters	DN80/3” SS diaphragm	DN80/3” Other diaphragm materials	DN100/4” SS diaphragm	Adaptator SS diaphragm
FKB	0.17	0.73	0.08	0. 17
FKD	0.09	0.22	0.05	0.09

Note : the indicated values are in mbar/10°C

Static pressure effect for ΔP transmitter with stainless steel diaphragms (FKD transmitter with DN80 and DN100 seals) :

Zero shift :
± 0,2% of URL for flange rating

Oil filling	Code digit 7	Response time	
		0 to 320 mbar	0 to 1.3 bar
Standard silicone oil	Y, G	0.15	0.037
Oil for vacuum or high temperature	V, U, X	0.25	0.065

Response time : (mean values)

The indicated values are in seconds per meter of capillary length with internal tube diameter Ø 1mm.
The indicated response time is based on a pressure change of 0 to 100% of the calibrated span at reference temperature of 20°C.
The indicated values do not include the response time of the transmitter. (Refer to the datasheet).

Filling fluid of the diaphragm seals :

Code digit 7	Designation	Densité	Temperature resistance (°C)	
			P abs ≥ 1 bar	P abs < 1 bar
Y and G	Silicone oil	0.95	-40 to +180	-40 to +120
V	Silicone oil	1.07	0 to +300	0 to +200

The indicated values and limits are indicated for the most common applications (standard filling fluids).
Please consult Fuji Electric for special applications indicating your temperature, pressure and vacuum conditions (vacuum and temperature can occure together).
Other filling fluids can be used for your applications.

Seals Code symbols - S

1	2	3	4	5	6	7		8		DESCRIPTION
S							-			
	A									Flanged axial diaphragm seal connection
									(*1)	**Flanges RF (Flange size and rating)**
		A							(*2)	Flange adaptor PN 40 DN 25 - SS 316L
		B							(*2)	Flange adaptor ANSI-150LB 1" - ISO PN 20 DN 25 - 316L
		C							(*2)	Flange adaptor ANSI-300LB 1" - ISO PN 50 DN 25 - 316L
		D							(*2)	Flange adaptor PN 40 DN 40 - 316L
		E							(*2)	Flange adaptor ANSI-150LB 1"1/2 - ISO PN 20 DN 40 - 316L
		F							(*2)	Flange adaptor ANSI-150LB 1"1/2-ISO PN 50 DN 40 - 316L
		M							(*2)	Flange adaptor PN 40 DN 50 - 316L
		N							(*2)	Flange adaptor PN 40 DN 80 - 316L
		P							(*2)	Flange adaptor PN 40 DN 100 - 316L
		Q							(*2)	Flange adaptor PN 16 DN 100 - 316L
		R							(*2)	Screwed adaptor 1/4 NPT female - 904L
		S							(*2)	Screwed adaptor 1/2 NPTE
		Y							(*2)	Welded adaptor on tube 3/8"
			V							**Diaphragm seal material**
			H							
			C							

Diaphragm	Flange raised face	Flange
SS 316 L	SS 316 L	SS 316L
Hastelloy-C 276	Hastelloy-C 276	SS 316L
SS 316 L + gold coat	SS 316L	SS 316L

				Y						**Diaphragm seal design**
										Flush mounting
					G				(*3)	**Transmission diaphragm seal to measuring cell**
					H				(*3)	
					K				(*3)	
					L				(*3)	

Mounting design	Capillary length	Capillary design
Capillary	1,5 m	SS sheald
Capillary	3 m	SS sheald
Capillary	6 m	SS sheald
Capillary	Upon request	SS sheald

						Y				**Special applications and fill fluid for the diaphragm seal only**
						G				
						V			(*4)	
						U			(*4)	
						X			(*4)	
							-	*		**Special options**
										Special, no code available

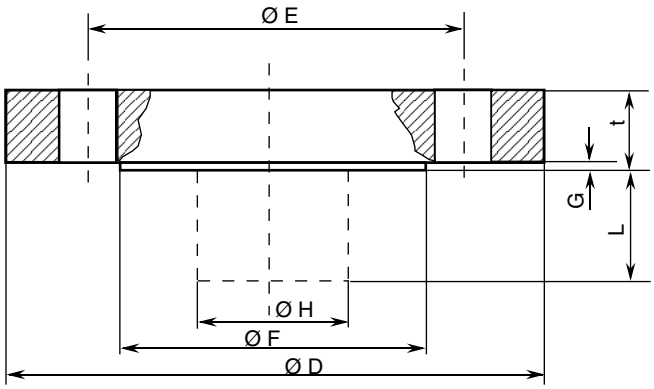
Treatment	Fill fluid
None (standard)	Silicone oil
Degreasing	Silicone oil
Vacuum service - max temp 200°C	Silicone oil
Very high temperature (0 to 300°C)	Silicone oil
Very high temperature (20 to 350°C)	Silicone oil

*Notes :

1- Different flange machinings (recess, groove, ...)
2- Axial diaphragm seal connection - no extension possible
3- Recommended for vacuum or High Temperature applications T > 120°C - (Capillary internal diameter = 2mm)
4- Consult Fuji Electric for your application with the specific operating conditions

Outline dimensions of the standard diaphragm seals
Flush and extension (units : mm)

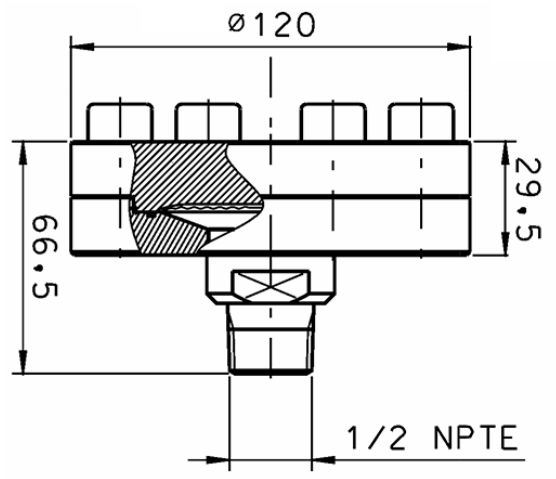
DN 50 / DN80 / DN100



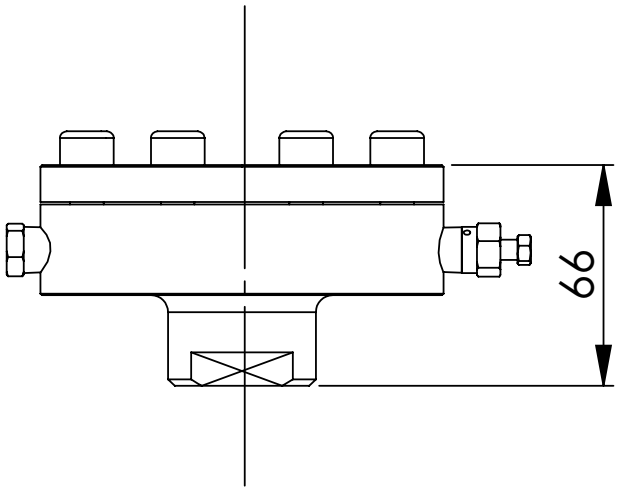
FLANGES DIMENSIONS ACCORDING B16.5 (EN 1759-1)										
DIN / ISO		ANSI								
PN	DN	NP	NW	ØD	ØE	ØF	G	ØH	t	N x Øh
40	50			165	125	102	3	48	20	4 x 18
40	80			200	160	138	3	73	20	8 x 18
16	100			220	180	158	3	96	20	8 x 18
20	50	150 lbs	2”	150	120.5	92	1.6	48	20	4 x 20
20	80	150 lbs	3”	190	152.5	127	1.6	73	24	4 x 20
20	100	150 lbs	4”	230	190.5	158	1.6	96	24	8 x 20
50	50	300 lbs	2”	165	127	92	1.6	48	22.5	8 x 20
50	80	300 lbs	3”	210	168.5	127	1.6	73	29	8 x 22
50	100	300 lbs	4”	255	200	158	1.6	96	32	8 x 22

Outline dimensions of the standard diaphragm seals with adaptors (unis:mm)

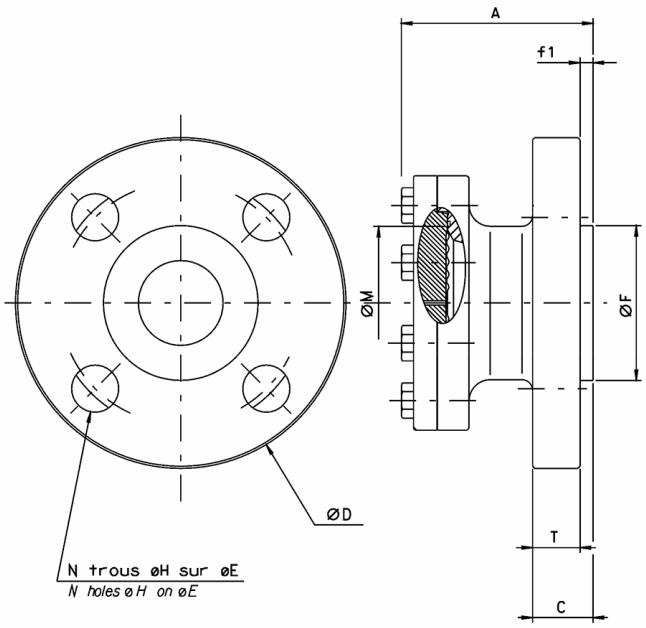
Screwed adaptors - 1/2 NPTE



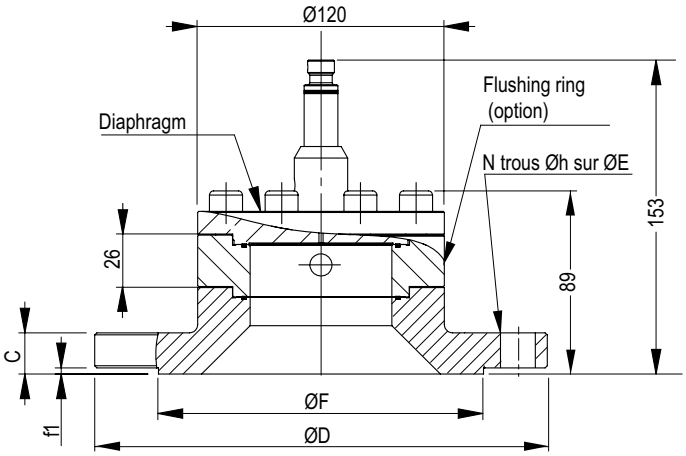
Screwed adaptors - 1/4” NPT female



Flange adaptor DN 25 to DN50

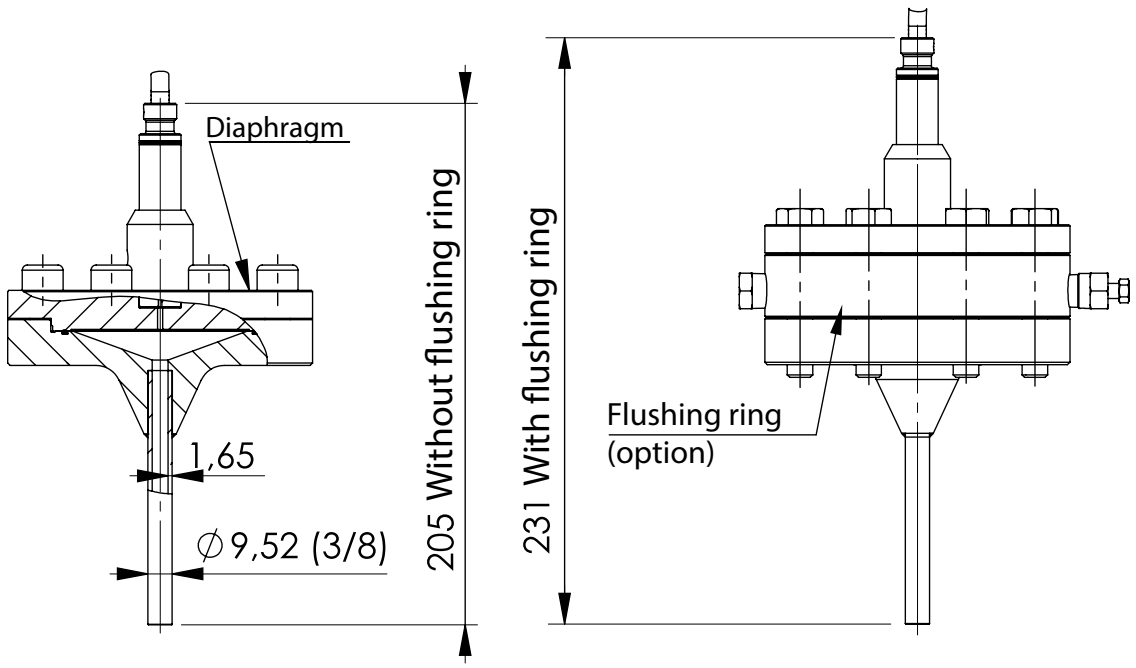


Flange adaptor DN 80 and DN100



FLANGES DIMENSIONS FLANGE ADAPTORS ACCORDINGt DIN / EN 1092-1 et B16.5 (EN 1759-1)											
DIN / ISO		ANSI									
PN	DN	NP	NW	ØD	ØE	ØF	f1	C1 min	A	ØM	N x Øh
40	25			115	85	68	2	18	83	72.2	4 x 14
20	25	150 lbs	1"	108	79.4	50,8	1.6	16	81	72.2	4 x 15.8
50	25	300 lbs	1"	124	89	50,8	1.6	17.5	86	72.2	4 x 19
40	40			150	110	88	3	18	85	72.2	4 x 18
20	40	150 lbs	1"1/2	127	98.4	73	1.6	18	85	72.2	4 x 15.8
50	40	300 lbs	1"1/2	156	114.3	73	1.6	21	91	72.2	4 x 22.2
40	50			165	125	102	2	20	91	72.2	4 x 18
40	80			200	160	138	3	24	59,5	72.2	8 x 18
40	100			235	190	162	3	24	59,5	72.2	8 x 22
16	100			220	180	158	3	20	59,5	72.2	8 x 18

Welded adaptor 3/8"



ELECTROMAGNETIC COMPATIBILITY

All FCX-AII series of pressure transmitters are in conformity with the provision of the EMC Directive 2014/30/EU on the harmonization of the laws of the Members States relating to electromagnetic compatibility.

All these models of pressure transmitters are in accordance with the following harmonized standards :

• **EN 61326-1** *(Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements).*

• **EN 61326-2-3** *(Particular requirements - Test configuration, operational conditions and performance criteria for tranducers with integrated or remote signal conditioning).*

Emission limits (according to EN 55011 / CISPR 11, Group 1 Class A)

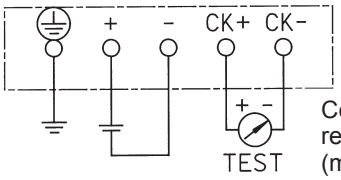
Frequency range (MHz)	Limits	Result
30 to 230	40 dB (µV/m) quasi peack, measured at 10 m distance	Passed
230 to 1000	47 dB (µV/m) quasi peack, measured at 10 m distance	

Immunity

Phenomenon	Test value	Standard	Required Performance criteria	Result of criteria
Electrostatic Discharge	±4 kV (Contact) ±8 kV (Air)	EN/IEC 61000-4-2	**B**	**A**
Radiated, Electromagnetic Field	10 V/m (0.08 to 1.0 GHz) 3 V/m (1.4 to 2.0 GHz) 1 V/m (2.0 to 2.7 GHz)	EN/IEC 61000-4-3	**A**	**A**
Fast transients (burst)	2 kV (5/50 ns, 5 kHz	EN/IEC 61000-4-4	**B**	**A**
Surge Transients	1 kV Line to line 2 kV Line to ground	EN/IEC 61000-4-5	**B**	**A**
Conducted RF Disturbances	3 Vrms (150 kHz to 80 MHz) 80% AM @ 1 kHz	EN/IEC 61000-4-6	**A**	**A**
Power Frequency Magnetic Field	30 A/m (50 Hz, 60 Hz)	EN/IEC 61000-4-8	**A**	**A**

Performance criteria (A & B): according to IEC 61326

CONNECTION DIAGRAM



Connection remote indicator of current 4/20mA loop test milliampmeter. (max impedance = 12Ω)

Fuji Electric

Fuji Electric France S.A.S.

46 rue Georges Besse - ZI du brézet - 63039 Clermont ferrand

Tél : 04 73 98 26 98 - Fax : 04 73 98 26 99

Mail : sales.dpt@fujielectric.fr - web : www.fujielectric.fr