Fuji Electric

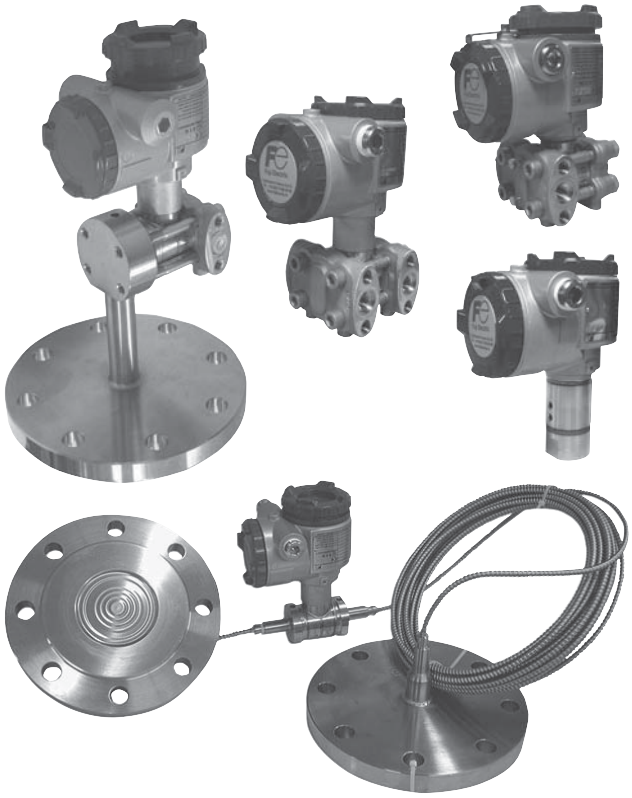
FCX-AII

PRESSURE TRANSMITTER WITH SAFETY FUNCTIONS

DATA SHEET

The FCX-AII VG serie of pressure transmitter with safety functions use the unique and proven silicon sensor with state-of-the-art digital processing to provide exceptional performances and functionalities.

The pressure transmitter with Safety functions complies with Safety Integrity Levels 2/3 according to IEC 61508.



FEATURES

1. Safety function

   Specific hardware and software feature have been intagrated to provide Safety Integrity Levels 2 (HFT* = 0) and 3 (HFT = 1) according to IEC 61508 Standard.

   * Handcare Fault Tolerance

2. High accuracy and stability with minimum environment influence

   Fuji's micro-capacitance silicon sensor assures this accuracy for all elevated or suppressed calibration ranges without additional adjustment.

   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. Minimum inventory and design

   Electronics unit, local indicators and electronics housing are interchageable among all FCX-AII transmitters.

4. Fuji/HART® revision 7 communication protocols

   FCX–AII series transmitter offers digital communication protocols to speak both Fuji proprietary protocol and HART®. Any HART® compatible devices can communicate with FCX-AII.

5. Application flexibility

   Various options that render the FCX-AII suitable for almost any process applications include.

   – Analog indicator at either the electronics side or terminal side

   – 6 digit and 5% increment bar graph LCD meter with engineering unit

   – Hazardous area approvals upon request

   – Built-in RFI filter and lightning arrester

   – Stainless steel electronics housing

   – Wide selection of materials

6. Programmable output Linearization Function

   Output signal can be freely programmable. (Up to 14 compensated points at approximation).

7. Burnout current flexibility (Under Scale : 3.4 to 3.8 mA, Over Scale : 20.8 to 22.5 mA)

   Burnout signal level is adjustable to comply with NAMUR NE43.

8. Dry calibration without reference pressure

   Thanks to the best combination of unique construction of me-chanical parts (Sensor unit) and high performance electronics circuit (electronics unit), reliability of dry calibration without reference pressure is at equal level as wet calibration.

Model Configuration

■ Standard process covers

Differential pressure / Flow transmitter (model : FKC...G)	
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Gauge pressure transmitter (model : FKG...G)	
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Absolute pressure transmitter (model : FKA...G)	
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■ Direct mounted

Direct mount type gauge pressure transmitter (model : FKP...G)	
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Direct mount type absolute pressure transmitter (model : FKH...G)	
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■ Level transmitter

Level pressure transmitter (model : FKE...G)	
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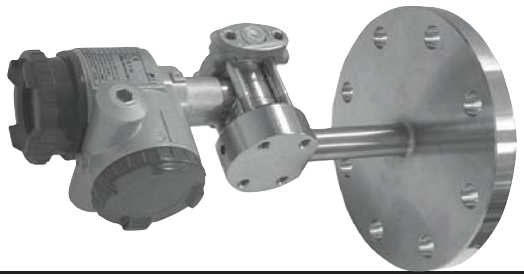

■ Remote seal

Remote seal type differential pressure/Flow transmitter (model : FKD...G)	
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Remote seal type gauge or absolute pressure transmitter (model : FKB...F/FKM...G)	
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Remote seal type gauge pressure transmitter (model : FKP...G)	
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Remote seal type absolute pressure transmitter (model : FKH...G)	
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Common specifications	4-6
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Code symbols	25
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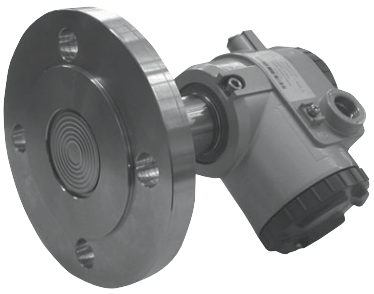


SPECIFICATIONS

(1) Common specifications

Functional and performance specifications

Service :

Liquid, gas, or vapour

Type :

Smart, 4 to 20 mA DC + Fuji / Hart® revision 7 digital signal

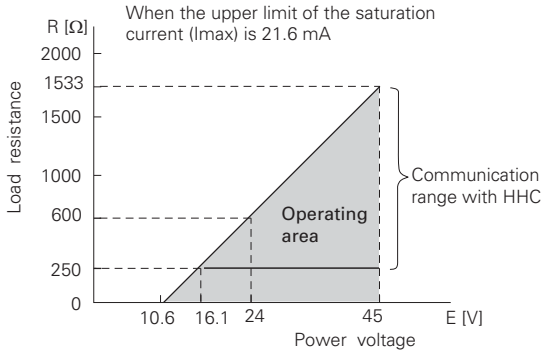
Output signal :

4 to 20 mA DC (linear or square root)

Power supply :

Transmitter operates on 10.5 V to 45 V DC at transmitter terminals. 10.5 V to 32 V DC with optional arrester.

Load limitations : see figure below



Note) The load resistance varies with the upper limit of the saturation current [I max]

$$R\,[\Omega] = \frac{E\,[V] - 10.5}{(I\ max\ [mA] + 0.9) \times 10^{-3}}$$

Hazardous Locations:

Markings	Flameproof / Explosion Proof
ATEX (X)	Ⓔx II 2 G Ex d IIC T5 / T6 Gb II 2 D Ex tb IIIC T85 °C / T100 °C Db Ambient temperature range: -40 °C to +85 °C for T5 / T100 °C -40 °C to +65 °C for T6 / T85 °C Power supply: 45 Vdc max. (without arrester) *(32 Vdc max. with arrester)* Output: 4 ... 20 mA
cCSAus (E)	Class I, Groups C and D; Class II, Groups E,F and G ; Class III Maximum ambient temperature 85°C Maximum working pressure 50 MPa Rated: 42.4 Vdc, 4 to 20 mA (without arrester) *(32 Vdc, 4 to 20 mA with arrester)* Note: "Do not open while energized" "Seal within 18" of enclosure wall"
IECEx (R)	Ex d IIC T5 / T6 Gb Ex tb IIIC T85 °C / T100 °C Db Ambient temperature range: -40 °C to +85 °C for T5 / T100 °C -40 °C to +65 °C for T6 / T85 °C Power supply: 45 Vdc max. (without arrester) *(32 Vdc max. with arrester)* Output: 4 ... 20 mA

SIL Certification :

Hardware:SIL2 / Software:SIL3 according to IEC 61508

Probability of dangerous failure per hour (PFH) < 3.5×10^{-7}/h

Probability of dangerous failure on demand (PFD) < 3.5×10^{-3}

Safety failure fraction (SFF) ≥ 90%.

Zero/span adjustment :

Zero and span are adjustable from the hand held communicator. Zero and span are also adjustable externally from the adjustable screw.

Damping :

Adjustable from the hand held communicator or local adjustment unit with LCD display. The time constant is adjustable between 0.04 to 32 sec.

Normal / reverse action :

Selectable from the hand held communicator.

Indication :

Analog indicator or 6 digit and 5% increment bar graph LCD meter, as specified.

A plug-in analog indicator can be mounted on the electronics unit or the terminal block.

Saturation current

Lower limit : 3.6 to 4.0 mA. Default value 3.8 mA

Upper limit : 20 to 21.6 mA. Default value 20.8 mA

Burnout direction :

If self-diagnostic detects a transmitter failure, the analog signal will be driven to either "Output Hold", "Output Overscale" or "Output Underscale" modes.

"Output Hold" :

Output signal is hold as the value just before failure happens.

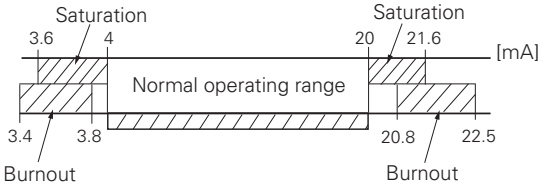
"Default value : 21.6 mA" :

Adjustable within the range 20.8 mA to 22.5 mA from the hand held communicator.

"Default value : 3.6 mA" :

Adjustable within the range 3.4 to 3.8 mA from the hand held communicator.

Output limits conforming to NAMUR NE43 by order.



Loop-check output :

Transmitter can be configured to provide constant signal 3.4 mA through 22.5 mA.

Temperature limit :

Ambient : -40 to +85°C
-30 to +80°C (for LCD indicator)
-40 to +60°C (for arrester option)
-10 to +60°C (for fluorinated oil filled transmitters)

For explosion proof units, ambient temperature must be within the limits specified for such a standard.

Storage : -40 to +90°C

Humidity limit :

0 to 100% RH (Relative Humidity)

Communication :

With the portable communicator (model FXW), following items can be remotely displayed or configured.

Note : Hand held communacator version must be higher than 7.0 (or FXW □□□□1-□4), for FCX-AII. for supporting these items : "Saturate current", "Write protect", and "History".

For Hart®, the version must be 7 or higher.

Hart® registered Device Description files can be retreived from the Fieldcomm Group tm website (Manufacturer ID : 0X0015 ; Expanded Device ID : 0X1504).

Items		Fuji Protocol with FXW		Hart® Protocol		By local configurator (LCD indicator)	
		Display	Set	Display	Set	Display	Set
Tag No.		v	v	v	v	v	v
Model No.		v	v	v	v	v	v
Serial No. & Software Version		v	—	v	—	v	—
Engineering unit		v	v	v	v	v	v
Range limit		v	—	v	—	v	—
Measuring range		v	v	v	v	v	v
Damping		v	v	v	v	v	v
Output mode	Linear	v	v	v	v	v	v
	Square root	v	v	v	v	v	v
Burnout direction		v	v	v	v	v	v
Calibration current output		v	v	v	v	v	v
Output adjust		—	v	—	v	—	v
Data		v	—	v	—	v	—
Self diagnoses		v	—	v	—	v	—
Printer (In case of FXW with printer option)		v	—	—	—	—	—
External switch lock		v	v	v	v	v	v
Transmitter display							
– LDV,UDV,LcdUnit		v	v	v	v	v	v
– LcdOpt		—	—	v	v	v	v
Linearize		v	v	v	v	v	v
Rerange		v	v	v	v	v	v
Saturate current		v	v	v	v	v	v
Write protect		v	v	v	v	v	v
History		v	—	v	—	v	—

Programmable output linearization function :

Output signal can be characterized with "14 points linear approximation function"

Low flow cut-off:

The output signal is proportional to √ differential pressure between low flow cut-off and the measuring range. Between zero and low flow cut-off, the output signal is programmable to zero or linear between 0 and 20% of the flow.

Performance specifications common for both output modes

Supply voltage effect :

Less than 0.05% of calibrated span and zero per 10V

Update rate :

40 msec

RFI effect:

< 0,2% of URL for the frequences of 20 to 1000 MHz and field strength of 10 V/m when electronic housing covers are on (Classification : 2-abc : 0,2% of span according SAMA PMC 33.1)

Mounting position effect :

Zero shift, less than 0.12 kPa {1.2 mbar} for a 10° tilt in any plane. This error can be corrected by adjusting Zero. (Double the effect for fluorinated fill sensor).

No effect on span.

Material fatigue :

Please consult Fuji Electric.

Vibration effect :

< ±0,25% Of span for spans greater than 1/10 of URL. Frequency 10 to 150 Hz, acceleration 39,2 m/sec2 .

Dielectric strength :

500 V AC, 50/60Hz 1 min., between circuit and earth.

Insulation resistance :

More than 100 MΩ at 500 V DC

Internal resistance for external field indicator :

12 Ω max. (connected to test terminal CK+ and CK-)

Physical specifications

Non-wetted parts material :

Electronics housing :

Low copper die-cast aluminum alloy finished with polyester coating (standard), or SS 316 as specified.

Bolts and nuts:

Cr-Mo alloy (standard).

Options :

SS 316 (L) for static pressure if 160 bar max.

SS 660 (M10) for static pressure < 160 bar.

SS 660 (M12) for static pressure > 160 bar

Fill fluid :

Silicone oil (standard) or fluorinated oil (option)

Mounting bracket :

SS 304L or 316L (option)

Environmental protection:

IEC IP66/IP67 and NEMA 4X

Mounting:

Without mounting bracket :

Direct mounting on manifold (optional)

With optional mounting bracket :

For 50 mm (2") pipe or direct wall mounting

Optional Features

Indicator :

A plug-in analog indicator (2.5% accuracy) can be housed in the electronics compartment or in the terminal box of the housing.

An optional 6 digit and 5% increment bar graph LCD meter with engineering unit is also available.

Local configurator with LCD display :

An optional 6 digit and 5% increment bar graph LCD meter with 3 push buttons can support items without using communication with the portable communicator.

Arrester :

A built-in arrester protects the electronics from lightning surges.

Lightning surge immunity: 4 kV (1.2 × 50 µs).

Oxygen service :

Special cleaning procedures are followed throughout the process to maintain all process wetted parts oil free. The fill fluid is fluorinated oil.

Chlorine service :

The fill fluid is fluorinated oil. Same procedure and same fill fluid that above.

Degreasing :

Process-wetted parts are cleaned, but the fill fluid is standard silicone oil. Not for use on oxygen or chlorine measurement.

NACE specification :

Metallic materials for all pressure boundary parts comply with NACE MR 0175/ISO 15156.

SS 660 or SS 660/660 bolts and nuts comply with NACE MR 0175/ISO 15156.

Optional tag plate :

An extra stainless steel tag with customer tag data is wired to the transmitter.

Accessories

Oval flanges :

Converts process connection to 1/2"-14 NPT

Manifolds :

Available in SS 316 and in pressure rating 16 MPa or 42 MPa.

Hand held communicator :

FXW model (refer to datasheet N° EDS8-47)

Vacuum service :

Special silicone oil and filling procedure are applied

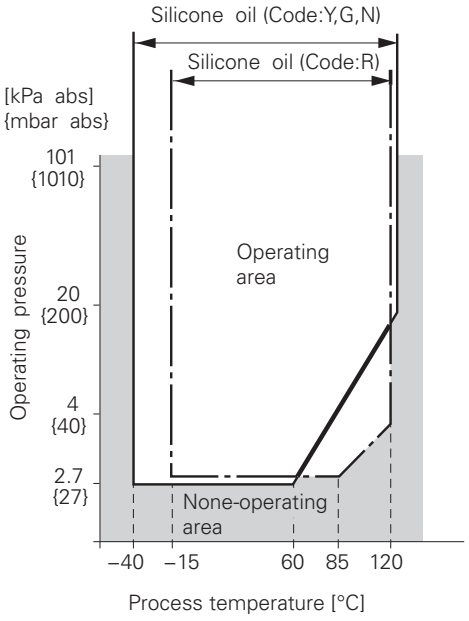


Fig. 1

Relation between process temperature and operating pressure

(2) Individual specifications

Reference conditions, silicone oil fill, SS 316L isolating diaphragms, 4 to 20 mA analog output in linear mode.

Differential Pressure/Flow Transmitter FKC...G

Static pressure, span, and range limit :

Type	Static pressure MPa {bar}	Span limit kPa {m bar}		Range limit kPa {m bar}
		Min.	Max.	
FKC□11	-0.1 to +3.2 {-1 to +32}	0.1 {1}	1 {10}	±1 {±10}
FKC□22	-0.1 to +10 {-1 to +100}	0.1 {1}	6 {60}	±6 {±60}
FKC□33	-0.1 to +16 {-1 to +160}	0.32 {3.2}	32 {320}	±32 {±320}
FKC□35	-0.1 to +16 {-1 to +160}	1.3 {13}	130 {1300}	±130 {±1300}
FKC□36	-0.1 to + 16 {-1 to +160}	5 {50}	500 {5000}	±500 {±5000}
FKC□38	-0.1 to +16 {-1 to +160}	30 {300}	3000 {30000}	±3000 {±30000}
FKC□43	-0.1 to +42 {-1 to +420}	0.32 {3.2}	32 {320}	±32 {±320}
FKC□45	-0.1 to +42 {-1 to +420}	1.3 {13}	130 {1300}	±130 {±1300}
FKC□46	-0.1 to +42 {-1 to +420}	5 {50}	500 {5000}	±500 {±5000}
FKC□48	-0.1 to +30 {-1 to +300}	30 {300}	3000 {30000}	±3000 {±30000}
FKC□49*	-0.1 to +30 {-1 to +300}	500 {5000}	20000 {200000}	+20000,-10000 {+200000,-100000}

Remark : To minimize environmental influence, span should be greater than 1/40 of the max. span in most applications.

*Important : For FDC□49, max possible overload pressure on LP side must be ≤ 100 bar.
The accuracy is not guaranteed when used at negative DP.

Lower limit of static pressure (vacuum limit) :

Silicone fill sensor : See Fig. 1

Fluorinated fill sensor : 66 kPa abs (500 mmHg abs) at temperature below 60°C

Over range limit :

To maximum static pressure limit

Zero elevation / suppression :

-100% to +100% of URL

Performance specifications for linear output

Accuracy rating :

(including linearity, hysteresis, and repeatability)

Max span above 32 kPa to 3000 kPa model :

For spans greater than 1/10 of URL :

±0.065% of span

±0,04% of span (option)

For spans below 1/10 of URL :

$$\pm \left(0.015+0.05\frac{0.1 \times \text{URL}}{\text{Span}}\right) \text{ \% of span}$$

Max span 20 MPa models :

For spans ≥ 5 MPa :

±0.1% of span

For spans < 5 MPa :

$$\pm \left(0.05+0.05\ \frac{5\ \text{MPa}}{\text{Span}}\right) \text{ \% of span}$$

Max span 1kPa, 6kPa model :

For spans greater than 1/10 of URL:

±0.1% of span

For spans below 1/10 of URL:

$$\pm \left(0.05+0.05\ \frac{0.1 \times \text{URL}}{\text{Span}}\right) \text{ \% of span}$$

Stability :

±0.1% of upper range limit (URL) for 10 years for 6th digit code 3, 5, 6, 8 and 9

Temperature effect :

Effects per 28°C change between the limits of – 40°C and +85°C

Range code (6th digit in Code Symbols) (max. span)	Zero shift (% of span)	Total effect (% of span)
"1"/1 kPa {10 mbar} "2"/6 kPa {60 mbar}	$\pm\left(0.125+0.1\frac{URL}{Span}\right)$	$\pm\left(0.15+0.1\frac{URL}{Span}\right)$
"3"/32 kPa {320 mbar} "5"/130 kPa {1300 mbar} "6"/500 kPa {5000 mbar} "8"/3000 kPa {30000 mbar} "9"/20000 kPa {200000 mbar}	$\pm\left(0.075+0.0125\frac{URL}{Span}\right)$	$\pm\left(0.095+0.0125\frac{URL}{Span}\right)$

Double the effects for material code (7th digit in codes symbols) "H", "M", "T"

Static pressure effect :

Static pressure code (5th digit in Code symbols)	Zero shift (% of URL)
"1" /1kPa [10 mbar] sensor	±0.2% / 3.2 MPa [32 mbar]
"2" /6kPa [60 mbar] sensor	±0.2% / 10MPa [100 bar]
"3"	±0.035% / 6.9 MPa [69 bar]
"4"	±0.2% / 6.9 MPa [69 bar] FDC□49

Double the effects for material code (7th digit in codes symbols) "H", "M", "T"

Overrange effect :

Static pressure code (5th digit in Code symbols)	Zero shift (% of URL)
"1" / 1 kPa {10 mbar} sensor	±0.2% / 3.2 MPa {32 bar}
"2" / 6 kPa {60 mbar} sensor	±0.2% / 10 MPa {100 bar}
"3"	±0.1% / 16 MPa {160 bar} FDC□35,36,38
"3"	±0.15% / 16 MPa {160 bar} FDC□33
"4"	±0.25% / 42 MPa {420 bar} FDC□43,45,46,48
"4"	±0.2% / 10 MPa {100 bar} FDC□49

Double the effects for material code (7th digit in codes symbols) "H", "M", "T"

Response time :

80ms whitout additionnal damping and including dead time of 40ms (except FKC code 1 and 2 digit 6)

Pressure equipment directive (PED) 2014/68/UE :

Digit 5 code 1, 2, 3, 8 and 9 according to Article 4.3

Digit 5 code 4 : Category III module H1

Performance specifications for square root output

Accuracy rating :

Output	Span	
	over 0.1 × URL	below 0.1 × URL
50 to 100%	±0.065%	±(0.015+0.05 × 0.1 × URL/Span)%
20 to 50%	±0.163%	±2.5 × (0.015+0.05 × 0.1 × URL/Span)%
10 to 20%	±0.325%	±5 × (0.015+0.05 × 0.1 × URL/Span)%

Max span 1kPa, 6kPa model :

Output	Accuracy
50 to 100%	±0.1 %
20 to 50%	±0.25%
10 to 20%	±0.5 %

Temperature effect :

Effects per 28°C change between the limits of -40°C and +85°C

Range code	Shift at 20% output point
"1" and "2"	$\pm\left(0.375+0.25\frac{URL}{Span}\right)$ %/28°C
"3" through "9"	$\pm\left(0.24+0.03125\frac{URL}{Span}\right)$%/28°C

Physical specifications

Electrical connections :

1/2"-14 NPT, Pg 13.5 or M 20 × 1.5

Process connections :

1/4"-18 NPT meets DIN 19213.

Option : 1/2"-14 NPT for oval flanges

Process-wetted parts material :

Material code (7th digit)		Process cover	Diaphragm	Wetted sensor body	Vent/drain
V	Ranges 1 & 2	SS 316L	SS 316L	SS 318LN	SS 316L
	Ranges 3 to 8	SS 316L	SS 316L	SS 316L	SS 316L
W		SS 316L	Hastelloy-C	SS 316L	SS 316L
H		SS 316L	Hastelloy-C	Hastelloy-C	SS 316L
J		SS 316L	SS 316L + Gold coating	SS 316L	SS 316L
M		SS 316L	Monel	Monel lining	SS 316L
T		SS 316L	Tantalum	Tantalum lining	SS 316L

Mass {weight} :

Transmitter approximately 3.5 kg without options.

Refer to outline dimensions

Pressure Transmitter : FKG...G

Span, range and overrange limit :

Type	Span limit kPa [bar]		Range limit kPa [bar]		Overrange limit MPa [bar]
	Min.	Max.	Lower limit	Upper limit	
FKG□01	1.3 [0.013]	130 [1.3]	-100 [-1]	130 [1.3]	1 [10]
FKG□02	5 [0.05]	500 [5]	-100 [-1]	500 [5]	1.5 [15]
FKG□03	30 [0.3]	3000 [30]	-100 [-1]	3000 [30]	9 [90]
FKG□04	100 [1]	10000 [100]	-100 [-1]	10000 [100]	15 [150]
FKG□05	500 [5]	50000 [500]	-100 [-1]	50000 [500]	75 [750]

Remark: To minimize environmental influence, span should be greater than 1/40 of the max. span in most applications.

Lower range limit (vacuum limit) :

Silicone fill sensor : See Fig. 1

Fluorinated fill sensor : 66kPa abs (500 mmHg abs) at below 60°C

Process temperature limit:

Filled oil	13th code	Process temperatuer
Silicone oil	Y, G, N	–40 to +100°C
Fluorinated oil	W, A, D	–20 to +80°C

Response time :

80ms whitout additionnal damping and including dead time of 40ms

Pressure equipment directive (PED) 2014/68/UE :

Digit 6 code 1, 2, 3, 4 and 9 according to Article 4.3

Digit 6 code 5 : Category III module B

Performance specifications

Accuracy rating :

(including linearity, hysteresis, and repeatability)

Max span above 32kPa model :

For spans greater than 1/10 of URL :

±0.065% of span

±0,04% of span (option)

For spans below 1/10 of URL :

$$\pm\left(0.015+0.05\,\frac{0.1\times URL}{Span}\right)\%\ \text{of span}$$

For model with max. span 50000 kPa :

For spans greater than 1/10 of URL :

±0.1% of span

For spans below 1/10 of URL :

$$\pm\left(0.05+0.05\,\frac{0.1\times URL}{Span}\right)\%\ \text{of span}$$

Stability :

±0.1% of upper range limit (URL) for 10 years

Temperature effect :

Effects per 28°C change between the limits of – 40°C and +85°C

Zero shift: $\pm(0.075+0.0125\,\frac{URL}{span})\%$

Total effect : $\pm(0.095+0.0125\,\frac{URL}{span})\%$

Double the effects for material code (7th digit in codes symbols) "H", "M", "T"

Overrange effect :

Zero shift: 0.2% of URL for any overrange to maximum limit

Physical specifications

Process-wetted parts material :

Material code (7th digit in code symbols)	Process cover	Diaphragm	Wetted sensor body	Vent/drain
V	SS 316L	SS 316L	SS 316L	SS 316L
W	SS 316L	Hastelloy-C	SS 316L	SS 316L
J	SS 316L	SS 316L +Au coating	SS 316L	SS 316L
H	SS 316L	Hastelloy-C	Hastelloy-C	SS 316L
M	SS 316L	Monel	Monel lining	SS 316L
T	SS 316L	Tantalum	Tantalum lining	SS 316L

Process connections :

1/4"- 18 NPT as specifed.

Option : 1/2"-14 NPT for oval flanges.

Mass {weight} :

Transmitter approximately 2.9 to 3.4 kg without options.

Refer to outline dimensions

Vacuum service :

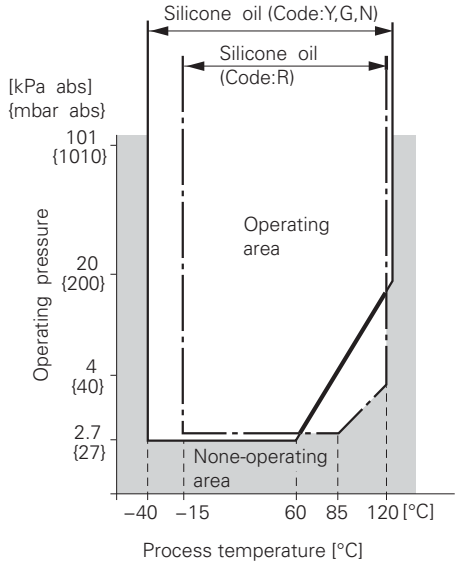


Fig.1 Relation between process temperature and operating pressure

Absolute Pressure Transmitter : FKA...G

Span, range and overrange limit:

Type	Span limit kPa abs [bar abs] Min.	Span limit kPa abs [bar abs] Max.	Range limit kPa abs [bar abs]	Overrange limit MPa [bar]
FKA□01	1.6 [0.016]	16 [0.16]	0 to +16 [0 to +0.16]	0.5 [5]
FKA□02	1.6 [0.016]	130 [1.3]	0 to +130 [0 to +1.3]	0.5 [5]
FKA□03	5 [0.05]	500 [5]	0 to +500 [0 to +5]	1.5 [15]
FKA□04	30 [0.3]	3000 [30]	0 to +3000 [0 to +30]	9 [90]
FKA□05	100 [1]	10000 [100]	0 to +10000 [0 to +100]	15 [150]

Remark: To minimize environmental influence, span should be greater than 1/40 of the max. span in most applications.

Process temperature limit :

–40 to +85°C for silicone oil fill sensor

Response time :

80ms whitout additionnal damping and including dead time of 40ms

Pressure equipment directive (PED) 2014/68/UE :

According to Article 4.3

Performance specifications

Accuracy rating :

(including linearity, hysteresis, and repeatability).

For spans greater than 1/10 of URL :

±0.2% of span

±0,1% of span (option)

For spans below 1/10 of UR L :

$$\pm\left(0.1+0.1\,\frac{0.1\times URL}{Span}\right)\%\ \text{of span}$$

(Not available for Max span 16kPa abs, 130kPa abs)

For spans greater than 1/10 of URL :

±0.1% of span

For spans below 1/10 of URL :

$$\pm\left(0.05+0.05\,\frac{0.1\times URL}{Span}\right)\%\ \text{of span}$$

Stability :

±0.2% of upper range limit (URL) for 10 years

Temperature effect :

Effect per 28°C change between the limits of – 40°C and +85°C

Zero shift : $\pm\left(0.125+0.1\,\frac{URL}{Span}\right)\%$

Total effect : $\pm\left(0.15+0.1\,\frac{URL}{Span}\right)\%$

Double the effects for material code (7th digit in codes symbols) "H", "M", "T"

Overrange effect :

Zero shift : ±0.2% of URL for any overrange to maximum limit

Physical specifications

Process connections :

1/4"- 18 NPT as specifed.

Option : 1/2"-14 NPT for oval flanges.

Process-wetted parts material :

Material code (7th digit in code symbols")	Process cover	Diaphragm	Wetted sensor body	Vent/drain
V	SS 316L	SS 316L	SS 316L	SS 316L
H	PVDF or SS 316L	Hastelloy C	Hastelloy C	SS 316L
J	SS 316L	SS 316L + gold coating	SS 316L	SS 316L

Mass {weight} :

Transmitter approximately 3.5 kg without options.

Refer to outline dimensions

Direct mount Type Gauge Pressure Transmitter : FKP...G

Span, range, and overrange limits:

Type	Span limit kPa {bar}		Range limit kPa {bar}	Overrange limit MPa {bar}
	Min.	Max.		
FKP□01	8.125 {0.08125}	130 {1.3}	-100 to + 130 {-1 to +1.3}	1 {10}
FKP□02	31.25 {0.3125}	500 {5}	-100 to + 500 {-1 to +5}	1.5 {15}
FKP□03	187.5 {1.875}	3000 {30}	-100 to +3000 {-1 to +30}	9 {90}
FKP□04	625 {6.25}	10000 {100}	-100 to +10000 {-1 to +100}	15 {150}

Lower range limit (vacuum limit) :

Silicone fill sensor : See Fig. 1

Fluorinated fill sensor : 66 kPa abs (500mmHg abs) at below 60°C

Process temperature limit :

Filled oil	13th code	Process temperature
Silicone oil	Y, G,N	–40 to +100°C
fluorinated oil	A	–20 to +80°C

Response time :

80ms whitout additionnal damping and including dead time of 40ms

Pressure equipment directive (PED) 2014/68/UE :

According to Article 4.3

Performance specifications

Accuracy rating : (including linearity, hysteresis, and repeatability)

For spans greater than 1/10 of URL :

±0.1% of span

For spans below 1/10 of URL :

$$\pm \left(0.05+0.05 \frac{0.1 \times URL}{Span}\right) \% \text{ of span}$$

Stability :

±0.2% of upper range limit (URL) for 10 years (in case of 6th digit code "2", "3", "4")

Temperature effect :

Effect per 28°C change between the limits of –40°C and +85°C

Zero shift : $\pm \left(0.4+0.1 \frac{URL}{Span}\right) \%$ of span

Total effect : $\pm \left(0.475+0.1 \frac{URL}{Span}\right) \%$ of span

Overrange effect :

Zero shif : ±0.3% of URL for any overrange to maximum limit

Physical specifications

Process connections :

1/2"-14 NPT, 1/4"-18 NPT, Rc 1/2", G1/2" A manometer fitting, M20 x 1,5

Process-wetted parts material :

Material code (7th digit in Code symbols)	Process cover	Diaphragm	Wetted sensor body
J	SS 316L	SS 316L + Gold coating	SS 316L
V	SS 316L	SS 316L	SS 316L

Mass {weight} :

Transmitter approximately 1.7 kg without options.

Refer to outline dimensions

Direct mount Type absolute pressure Transmitter : FKH...G

Span, range, and overrange limits :

Type	Span limit kPa abs {bar abs}		Range limit kPa abs {bar abs}	Overrange limit MPa {bar}
	Min.	Max.		
FKH□02	8.125 {0.08125}	130 {1.3}	0 to 130 {0 to 1.3}	0.5 {5}
FKH□03	31.25 {0.3125}	500 {5}	0 to 500 {0 to 5}	1.5 {15}
FKH□04	187.5 {1.875}	3000 {30}	0 to 3000 {0 to 30}	9 {90}

Process temperature limit :

–40 to +85°C for silicone oil fill sensor

Response time :

80ms whitout additionnal damping and including dead time of 40ms

Pressure equipment directive (PED) 2014/68/UE :

According to Article 4.3

Performance specifications

Accuracy rating :

(including linearity, hysteresis, and repeatability)

For spans greater than 1/10 of URL :

±0.2% of span

For spans below 1/10 of URL :

$$\pm \left(0.1+0.1 \frac{0.1 \times URL}{Span}\right) \% \text{ of span}$$

Stability :

±0.2% of upper range limit (URL) for 10 years "(In case of 6th digit code "3", "4")"

Temperature effect :

Effect per 28°C change between the limits of –40°C and +85°C

Zero shift : $\pm \left(0.4+0.2 \frac{URL}{Span}\right) \%$ of span

Total effect : $\pm \left(0.475+0.2 \frac{URL}{Span}\right) \%$ of span

Overrange effect :

Zero shif : ±0.3% of URL for any overrange to maximum limit

Physical specifications

Process connections :

1/2"-14 NPT, 1/4"-18 NPT, Rc 1/2", G1/2" A manometer fitting, M20 x 1,5

Process-wetted parts material :

Material code (7th digit in Code symbols)	Process cover	Diaphragm	Wetted sensor body
J	SS 316L	SS 316L + Gold coating	SS 316L
V	SS 316L	SS 316L	SS 316L

Mass {weight} :

Transmitter approximately 1.7 kg without options.

Refer to outline dimensions

Vacuum service :

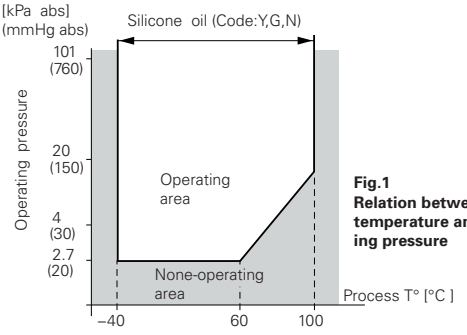


Fig.1
Relation between process temperature and operating pressure

Level Transmitter : FKE...G

Static pressure, span, and range limit :

Type	Static pressure	Span limit (mmH2O)		Range limit (mmH2O)
		Min.	Max.	
FKE□□2	Up to flange rating	10	600	± 600
FKE□□3		32	3200	± 3200
FKE□□5		130	13000	± 13000
FKE□□6		500	50000	± 50000
FKE□□8		3000	300000	±300000

Remark : To minimize environmental influence, span should be greater than 1/40 of the max. span in most applications.

Lower limit of static pressure (vacuum limit) :

Silicone fll sensor : See Fig.1

Fluorinated fillsensor : 66 kPa abs (500 mmHg abs) at temperature below 60 °C (See Fig.2)

Over range limit : To maximum static pressure limit

Process temperature and negative pressure tolerance limit :

Filled oil	Code in the 13th digit of "Code symbols"	Process temperature	Lower limit of static pressure
Fluorinated oil	W, A	-20 to 120°C	Atmospheric
Silicone oil	Y and G	-40 to 150°C	20 torr

Note: For higher process temperature, please consult Fuji Electric.

Response time :

Range code (6th digit in code symbols)	Response time (at 23°C)
"3"	550 msec
"5" to "8"	300 msec

Whitout additionnal damping and including dead time of 40ms

Pressure equipment directive (PED) 2014/68/UE :

According to Article 4.3

Performance specifications

Accuracy rating :

(including linearity, hysteresis, and repeatability)

For spans greater than 1/10 of URL :

±0.165% of span

For spans below 1/10 of URL :

$$\pm \left(0.1 + 0.1 \frac{0.1 \times URL}{Span}\right) \% \text{ of span}$$

(Option)

For spans greater than 1/10 of URL :

±0.1% of span

For spans below 1/10 of URL :

$$\pm \left(0.05 + 0.05 \frac{0.1 \times URL}{Span}\right) \% \text{ of span}$$

Stability :

±0.2% of upper range limit (URL) for 10 years

Temperature effect :

Effects per 28°C change between the limits of -40°C and +85°C

Zero shift (transmitter only) :

±0,3 of URL

Zero shift (level kit only) :

+0,3 mbar/28°C

Total effect (level kit and transmitter) :

±0,3% of URL

Note :

The indicated values are for temperature compensation made on transmitter only, without level kit.

Zero shift is improved (2 to 3 times) by an additional temperature compensation of the complete level transmitter (level kit and transmitter).

Static pressure effect :

Zero shift : ±0.2% of URL / 1MPa

Span shift : ±0.2% of calibrated span / 1MPa

Double the effects for material code (7th digit in codes symbols) "H", "M", "T", "B", "P" and "R"

Overrange effect :

Zero shift : ±0.15% of URL (160bar max)

Double the effects for material code (7th digit in codes symbols) "H", "M", "T", "B", "P" and "R"

Physical specifications

Process connections :

LP side : 1/4"-18 NPT

1/2"-14 NPT with oval flanges (option)

HP side : ANSI or DIN raised face fange. Raised face flange machining : Stockfinish - SS 316L diaphragm Smooth finish - Other diaghragm materials

Process-wetted parts material :

Material code (7th digit in Code symbols)	LP side			HP side
	Process cover	Diaphragm	Wetted sensor body	Diaphragm & flange face
V	SS 316L	SS 316L	SS 316L	SS 316L
W	SS 316L	Hastelloy-C	SS 316L	Hastelloy-C
H	SS 316L	SS 316L	SS 316L	Hastelloy-C
M	SS 316L	SS 316L	SS 316L	Monel
T	SS 316L	SS 316L	SS 316L	Tantalum
A	SS 316L	SS 316L	SS 316L	SS 316L + FEP lining diaphragm
B	SS 316L	SS 316L	SS 316L	SS 316L + Gold coating
P	SS 316L	SS 316L	SS 316L	Titanium
R	SS 316L	SS 316L	SS 316L	Zirconium

Mass {weight} :

Transmitter :

Approx. 10.2 to 19.2 kg without options.

Refer to the previous outline dimensions

Vacuum limit :

Fig. 1

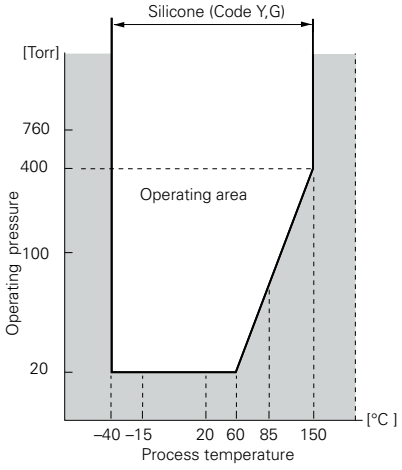
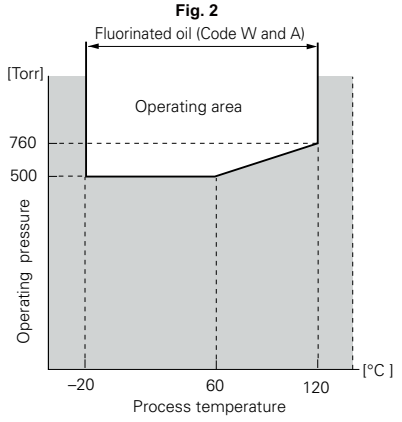


Fig. 2



Relation between process temperature and operating pressure

Remote Seal Type Diffential Pressure / Flow Transmitter : FKD...G

Static pressure, span, and range limit :

Type	Static pressure	Span limit [mbar]		Range limit [mbar]
		Min.	Max.	
FKD□□3	Up to flange rating	3.2	320	± 320
FKD□□5		13	1300	±1300
FKD□□6		50	5000	±5000
FKD□□8		300	30 000	±30 000
FKD□□9*		2000	200 000	±200 000

Remark : To minimize environmental influence, span should be greater than 1/40 of the max. span in most applications.

*Note : For FKD□49, max possible overload pressure on LP side must be ≤ 100 bar. The accuracy is not guaranteed when used at negative DP.

Over range limit :

To maximum static pressure limit

Process temperature limit :

Check in the seal - datasheet with the specific temperature conditions

Response time :

300 msec whitout additionnal damping and including dead time of 40ms

Pressure equipment directive (PED) 2014/68/UE :

According to Article 4.3

Performance specifications

Accuracy rating :

(including linearity, hysteresis, and repeatability)

For spans greater than 1/10 of URL :

0.065% of span

For spans below 1/10 of URL :

$$\pm \left(0.015+0.05 \frac{0.1 \times URL}{Span} \right) \% \text{ of span}$$

Stability :

±0.2% of upper range limit (URL) for 10 years

Linearity :

0,05% of calibrated span

Temperature effect:

Effects per 28°C change between the limits of – 40°C and +85°C

Zero shift : $\pm \left(0.075+0.125 \frac{0.1 \ URL}{Span} \right)$ % of span

Total effect : $\pm \left(0.095+0.125 \frac{0.1 \times URL}{Span} \right)$ % of span

Static pressure effect:

Zero shift: ±0.035% of URL for 100 bar

Overrange effect:

Zero shift: ±0.15% of URL / 160 bar limit

Physical specifications

Process connections:

1/4"-18 NPT meets DIN 19213

1/2"-14 NPT for oval flanges (option)

Process-wetted parts material :

Diaphragm :

SS 316L, Hastelloy-C, Monel, Tantalum, Titanium or Zirconium

Flange face :

SS 316L, Hastelloy-C, Monel, Tantalum, Titanium or Zirconium

Extension :

SS 316L, Hastelloy-C (refer to code symbols)

Mass {weight} :

Transmitter approximately 3.5 kg without options.

Refer to outline dimensions

Remote Seal Type Pressure Transmitter : FKB...G

Span and range limit:

Type	Span limit [bar]		Range limit [bar]
	Min.	Max.	
FKB□□1	0,013	1,3	–1 to +13
FKB□□2	0,05	5	–1 to +5
FKB□□3	0,3	30	–1 to +30
FKB□□4	1	100	–1 to +100
FKB□□5	5	500	–1 to +500

Remark: To minimize environmental influence, span should be greater than 1/40 of the max. span in most applications.

Process temperature limit:

Check in the seal - datasheet with the specific temperature conditions

Response time :

200 msec whitout additionnal damping and including dead time of 40ms

Pressure equipment directive (PED) 2014/68/UE :

Digit 6 code 1, 2, 3, 4 according to Article 4.3

Digit 6 code 5 : Category III module B

Performance specifications

Accuracy rating:

(including linearity, hysteresis, and repeatability)

For spans greater than 1/10 of URL :

±0.065% of span

± 0,1% of span (option)

For spans below 1/10 of URL :

$$\pm \left(0.015+0.05 \frac{0.1 \times URL}{Span} \right) \% \text{ of span}$$

Stability :

±0.2% of upper range limit (URL) for 10 years

Linearity :

0,05% of calibrated span

Temperature effect:

Effect per 28°C change between the limits of –40°C and +85°C

Zero shift : $\pm \left(0.075+0.0125 \frac{URL}{Span} \right)$ % of span

Total effect : $\pm \left(0.095+0.0125 \frac{URL}{Span} \right)$ % of span

Overrange effect:

Zero shif : ±0.2% of URL for any overrange to maximum limit

Physical specifications

Process connections :

1/4"-18 NPT meets DIN 19213.

1/2"-14 NPT for oval flanges (option)

Process-wetted parts material :

Diaphragm :

SS 316L, Hastelloy-C, Monel, Tantalum, Titanium or Zirconium

Flange face :

SS 316L, Hastelloy-C, Monel, Tantalum, Titanium or Zirconium

Extension :

SS 316L, Hastelloy-C (refer to code symbols)

Mass {weight} :

Transmitter approximately 3.5 to 4 kg without options.

Refer to outline dimensions

Remote Seal Type Absolute Pressure Transmitter : FKM...G

Span and range limit :

Type	Span limit [bar abs]		Range limit [bar abs]
	Min.	Max.	
FKM□□1	0.016	0.16	0 to +0.16
FKM□□2	0.013	1.3	0 to +1.3
FKM□□3	0.05	5	0 to +5
FKM□□4	0.3	30	0 to +30
FKM□□5	1	100	0 to +100

Remark: To minimize environmental influence, span should be greater than 1/40 of the max. span in most applications.

Process temperature and negative pressure tolerance limit:
Check in the seal - datasheet with the specific temperature conditions

Response time :
200 msec whitout additionnal damping and including dead time of 40ms

Pressure equipment directive (PED) 2014/68/UE :
According to Article 4.3

Performance specifications

Accuracy rating :
(including linearity, hysteresis, and repeatability)
For spans greater than 1/10 of URL:
±0.2% of span
For spans below 1/10 of URL:

$$\pm \left(0.1+0.1 \frac{0.1 \times URL}{Span} \right) \% \text{ of span}$$

Stability :
±0.2% of upper range limit (URL) for 10 years

Linearity : 0,1% of calibrated span

Temperature effect :
Effect per 28°C change between the limits of –40°C and +85°C

Zero shift : $\pm \left(0.125+0.1 \frac{URL}{Span} \right) \%$ of span

Total effect : $\pm \left(0.15+0.1 \frac{URL}{Span} \right) \%$ of span

Overrange effect :
Zero shif :
±0.2% of URL for any overrange to maximum limit

Physical specifications

Process connections :
1/4"-18 NPT meets DIN 19213.
1/2"-14 NPT for oval flanges (option)

Process-wetted parts material :
Diaphragm :
SS 316L, Hastelloy-C, Monel, Tantalum, Titanium or Zirconium
Flange face :
SS 316L, Hastelloy-C, Monel, Tantalum, Titanium or Zirconium
Extension :
SS 316L, Hastelloy-C (refer to code symbols)

Mass {weight} :
Transmitter approximately 3.5 to 4 kg without options.
Refer to outline dimensions

Remote seal type gauge pressure transmitter (rigid or capillary mounted) : FKP...VG

Span, range, and overrange limits :

Type	Span limits (bar)		Range limits (bar)	Overrange limits (bar)
	Minimum	Maximum		
FKP□01	0,08125	1,3	-1 à +1,3	10
FKP□02	0,3125	5	-1 à +5	15
FKP□03	1,875	30	-1 à +30	90
FKP□04	6,25	100	-1 à +100	150

Note: to minimise environmental influence, span should be greater than 1/10 of the max. span in most applications.

Zero elevation/suppression :
-1 bar to 100% of URL

Process temperature limit :
Check in the seal datasheet with the specific temperature conditions

Response time :
200 msec whitout additionnal damping and including dead time of 40ms

Pressure equipment directive (PED) 2014/68/UE :
According to Article 4.3

Performance specifications

Accuracy rating:
(including linearity, hysteresis, and repeatability)
For spans greater than 1/10 of URL:
±0.1% of span
For spans below 1/10 of URL:

$$\pm \left(0.05+0.05 \frac{0.1 \times URL}{Span} \right) \% \text{ of span}$$

Stability:
±0.2% of upper range limit (URL) for 10 years

Temperature effect:
Effect per 28°C change between the limits of –40°C and +85°C

Zero shift : $\pm \left(0.4+0.1 \frac{URL}{Span} \right) \%$ of span

Total effect : $\pm \left(0.475+0.1 \frac{URL}{Span} \right) \%$ of span

Overrange effect:
Zero shif :
±0.3% of URL (max overrange pressure = 1.5% max span)

Mass {weight }:
Transmitter approximately 2kg without options.
Refer to outline dimensions

Remote seal type absolute pressure transmitter (rigid or capillary mounted) : FKH...VG

Span, range, and overrange limits :

Type	Span limits (bar abs)		Range limits (bar abs)	Overrange limits (bar abs)
	Minimum	Maximum		
FKH□02	0,08125	1,3	0 à +1,3	5
FKH□03	0,3125	5	0 à +5	15
FKH□04	1,875	30	0 à +30	90

Note: to minimise environmental influence, span should be greater than 1/10 of the max. span in most applications.

Zero elevation/suppression :

0 kPa Abs to +100 % of URL

Process temperature limit :

Check in the seal datasheet with the specific temperature conditions

Response time :

200 msec whitout additionnal damping and including dead time of 40ms

Pressure equipment directive (PED) 2014/68/UE :

According to Article 4.3

Performance specifications

Accuracy rating :

(including linearity, hysteresis, and repeatability)

For spans greater than 1/10 of URL:

±0.2% of span

For spans below 1/10 of URL:

$$\pm \left(0.1+0.1\frac{0.1 \times URL}{Span}\right) \% \text{ of span}$$

Stability :

±0.2% of upper range limit (URL) for 10 years

Temperature effect:

Effect per 28°C change between the limits of –40°C and +85°C

Zero shift : $\pm \left(0.4+0.2\frac{URL}{Span}\right) \%$ of span

Total effect : $\pm \left(0.475+0.2\frac{URL}{Span}\right) \%$ of span

Overrange effect:

Zero shif :

±0.3% of URL (max overrange pressure = 1.5% max span)

Mass {weight} :

Transmitter approximately 2kg without options.

Refer to outline dimensions

CODE SYMBOLS

Diffential pressure / flow transmitter : FKC...G

1	2	3	4	5	6	7	8		9	10	11	12	13		14	15		16	DESCRIPTION
							G	-						-			-		
F	K	C																	**Type** Smart, 4-20 mAdc + Fuji/Hart® digital signal

Connections

	Process connections	Oval flange connection	Electrical connection
M	(*9)	1/4"-18 NPT	M10	M20 x 1,5
N	(*9)	1/4"-18 NPT	M10	Pg 13,5
P	(*9)	1/4"-18 NPT	M10	1/2"-14 NPT
R	(*8)	1/4"-18 NPT	7/16"-20 UNF	M20 x 1,5
T	(*8)	1/4"-18 NPT	7/16"-20 UNF	1/2"-14 NPT
V	(*1)	1/4"-18 NPT	M10 or M12 (*1)	Pg 13,5
W	(*1)	1/4"-18 NPT	M10 or M12 (*1)	M20 x 1,5
X	(*8)	1/4"-18 NPT	7/16"-20 UNF	Pg 13,5

Range & wetted parts material

				Static pressure limits	Spans (*2)	Process - cover LP side	Process - cover HP - side	Measuring diaphragm	Wetted cell body
1	1	V	(*2) (*3)	-1	10/100	SS 316L		SS 316L	SS 318LN
1	1	W		to		SS 316L		Hastelloy C	SS 318LN
1	1	J			mm WC	SS 316L		Gold coat	SS 318LN
1	1	H		32 bar		SS 316L		Hastelloy C	Hastelloy C
2	2	V		-1	10/600	SS 316L		SS 316L	SS 318LN
2	2	W		to		SS 316L		Hastelloy C	SS 318LN
2	2	J			mm WC	SS 316L		Gold coat	SS 318LN
2	2	H		100 bar		SS 316L		Hastelloy C	Hastelloy C
3	3	V				SS 316L		SS 316L	SS 316L
3	3	W				SS 316L		Hastelloy C	SS 316L
3	3	H			32	SS 316L		Hastelloy C	Hastelloy C
3	3	M			/3200	SS 316L		Monel	Monel lining
3	3	J	(*4)		mm WC	SS 316L		Gold coat	SS 316L
3	3	C				SS 316L		Gold/ceramic	Gold/ceramic
3	3	T		-1		SS 316L		Tantalum	Tantalum lining
3	5	V				SS 316L		SS 316L	SS 316L
3	5	W				SS 316L		Hastelloy C	SS 316L
3	5	H		to	0,13	SS 316L		Hastelloy C	Hastelloy C
3	5	M			/13	SS 316L		Monel	Monel lining
3	5	J	(*4)		m WC	SS 316L		Gold coat	SS 316L
3	3	C				SS 316L		Gold/ceramic	Gold/ceramic
3	5	T		160 bar (*3)		SS 316L		Tantalum	Tantalum lining
3	6	V				SS 316L		SS 316L	SS 316L
3	6	W				SS 316L		Hastelloy C	SS 316L
3	6	H			0,5/50	SS 316L		Hastelloy C	Hastelloy C
3	6	J	(*4)			SS 316L		Gold coat	SS 316L
3	6	M			m WC	SS 316L		Monel	Monel lining
3	6	T				SS 316L		Tantalum	Tantalum lining
3	8	V			3/300 m WC	SS 316L		SS 316L	SS 316L
3	8	W				SS 316L		Hastelloy C	SS 31L6
3	8	J	(*4)			SS 316L		Gold coat	SS 316L
4	3	V	(*11)			SS 316L		SS 316L	SS 316L
4	3	W	(*11)			SS 316L		Hastelloy C	SS 316L
4	3	H	(*11)		32/3200	SS 316L		Hastelloy C	Hastelloy C
4	3	M	(*11)		mm WC	SS 316L		Monel	Monel lining
4	3	J	(*4, *11)	-1		SS 316L		Gold coat	SS 316L
4	5	V	(*11)			SS 316L		SS 316L	SS 316L
4	5	W	(*11)			SS 316L		Hastelloy C	SS 316L
4	5	H	(*11)	to	0,13/13	SS 316L		Hastelloy C	Hastelloy C
4	5	M	(*11)		m WC	SS 316L		Monel	Monel lining
4	5	J	(*4, *11)	420 bar		SS 316L		Gold coat	SS 316L
4	6	V	(*11)			SS 316L		SS 316L	SS 316L
4	6	W	(*11)			SS 316L		Hastelloy C	SS 316L
4	6	H	(*11)		0,5/50	SS 316L		Hastelloy C	Hastelloy C
4	6	M	(*11)			SS 316L		Monel	Monel lining
4	6	J	(*4, *11)		m WC	SS 316L		Gold coat	Monel lining
4	8	V	(*11)			SS 316L		SS 316L	SS 316L
4	8	W	(*11)	-1 to 300 bar	3/300 m WC	SS 316L		Hastelloy C	SS 316L
4	8	J	(*4, *11)			SS 316L		Gold coat	SS 316L
4	9	V	(*11)			SS 316L		SS 316L	SS 316L
4	9	J	(*12) (*4, *11)	-1 to 300 bar	50/2000 m WC	SS 316L		Gold coat	SS 316L
8	1	H	(*5)		10/100 mmWC	PVDF Insert		Hastelloy C	Hastelloy C
8	2	H	(*5)		10/600 mmWC	PVDF Insert		Hastelloy C	Hastelloy C
8	3	H	(*5)		32	PVDF Insert		Hastelloy C	Hastelloy C
8	3	M	(*5)	0	/3200	PVDF Insert		Monel	Monel lining
8	3	T	(*5)		mm WC	PVDF Insert		Tantalum	Tantalum lining
8	5	H	(*5)	to	0,13	PVDF Insert		Hastelloy C	Hastelloy C
8	5	M	(*5)		/13	PVDF Insert		Monel	Monel lining
8	5	T	(*5)	15 bar	m WC	PVDF Insert		Tantalum	Tantalum lining
8	6	H	(*5)		0,5	PVDF Insert		Hastelloy C	Hastelloy C lining
8	6	M	(*5)		/50	PVDF Insert		Monel	Monel lining
8	6	T	(*5)		m WC	PVDF Insert		Tantalum	Tantalum lining
9	1	H	(*5)		10/100 mmWC	PVDF Insert	SS 316L	Hastelloy C	Hastelloy C
9	2	H	(*5)		10/600 mmWC	PVDF Insert	SS 316L	Hastelloy C	Hastelloy C
9	3	H	(*5)		32	PVDF Insert	SS 316L	Hastelloy C	Hastelloy C
9	3	M	(*5)	0	/3200	PVDF Insert	SS 316L	Monel	Monel lining
9	3	T	(*5)		mm WC	PVDF Insert	SS 316L	Tantalum	Tantalum lining
9	5	H	(*5)	to	0,13	PVDF Insert	SS 316L	Hastelloy C	Hastelloy C
9	5	M	(*5)		/13	PVDF Insert	SS 316L	Monel	Monel lining
9	5	T	(*5)	15 bar	m WC	PVDF Insert	SS 316L	Tantalum	Tantalum lining
9	6	H	(*5)		0,5	PVDF Insert	SS 316L	Hastelloy C	Hastelloy C
9	6	M	(*5)		/50	PVDF Insert	SS 316L	Monel	Monel lining
9	6	T	(*5)		m WC	PVDF Insert	SS 316L	Tantalum	Tantalum lining

1	2	3	4	5	6	7	8		9	10	11	12	13		14	15		16	DESCRIPTION
F	K	C					G	-						-			-		

Indicator & Arrester

																			Indicator	Arrester	Initial setting
			G	-	A														None	None	
			G	-	B													(*11)	Analog, 0-100% linear scale	None	
			G	-	C													(*11)	Analog, 0-100% √scale	None	
			G	-	D													(*11)	Analog, Custom scale	None	4-20 mA DC
			G	-	J													(*11)	Analog, double scale	None	
			G	-	E														None	Yes	+
			G	-	F													(*11)	Analog, 0-100% linear scale	Yes	
			G	-	G													(*11)	Analog, 0-100% √ scale	Yes	Hart® / Fuji
			G	-	H													(*11)	Analog, Custom scale	Yes	digital signal
			G	-	K													(*11)	Analog, double scale	Yes	"SMART"
			G	-	1														Digital, 0-100% with push button	None	
			G	-	2														Digital, Custom scale with push button	None	
			G	-	3														Digital, 0-100% √scale with push button	None	
			G	-	4														Digital, 0-100% with push button	Yes	
			G	-	5														Digital, Custom scale with push button	Yes	
			G	-	6														Digital, 0-100% √ scale with push button	Yes	

Approvals for hazardous locations (consult FUJI for availability)

										A									None (Standard)		
										X									ATEX - Flameproof enclosures (digit 4 = "M, P, R, T" & "W" only)		
										E									CSA - Explosion-Proof (digit 4 = "P" & "T" only)		
										R									IECEx - Flameproof enclosures (digit 4 = "M, P, R, T" & "W" only)		

Side vent/drain & mounting bracket

																			Side Vent/drain	Mounting bracket
											A								Standard	None
											C								Standard	Yes, SS 304L
											K								Standard	Yes, SS 316L
											D								Side	None
											F								Side	Yes, SS 304L
											L								Side	Yes, SS 316L

SS parts

																			SS tag plate	SS housing
												Y							None	None
												B							Yes	None
												C							None	Yes
												E							Yes	Yes

Special applications & fill fluid

																			Treatment	Fill fluid
													Y						None (std)	Silicone oil
													W						None (std)	Fluorinated oil
													G						Degreasing	Silicone oil
													A						Oxygen service	Fluorinated oil (digit 7 = J, V, W)
													D						Chlorine service	Fluorinated oil (digit 7=H,T)
													N					(*7)	NACE	Silicone oil

Process cover gasket

														-	A				Viton	
														-	C				PTFE square section gasket in SS flange (FEF design)	
														-	D			(*5)	PTFE square section gasket in PVDF insert	

Bolts/screws material

																A			Carbon steel Cr-Mo (standard) M10	
																U		(*3)	SS 316(L) / 316(L) (bolt/nuts) M10	
																V			Carbon steel Cr-Mo M12 (standard) for static pressure > 160 bar	
																W		(*10)	SS 660/660 (bolt/nuts) M10 for static pressure < 160 bar	
																W		(*10)	SS 660/660 (bolt/nuts) M12 for static pressure > 160 bar	

Special options or design

																(*6)	-	*	special, no code available	

Notes*:

1- The thread is M12, if static pressure 300/420 bar
2- Turn down of 100:1 is possible, but it should be used at a span greater than 1/40 of the maximum span for better performance
3- Max. static pressure 160 bar for SS 316(L) bolts/nuts; for static pressure > 160 bar, please specify SS 660 bolts
4- Gold coating on wetted measuring cell parts for Hydrogen service - Hydroseal version - gold/ceramic coating is available upon request
5- Process cover with PVDF insert with 1/2"-14 NPT side process connection/no vent drain, other upon request - square section PTFE gasket
6- When no code can be found in the current code symbols, place (*) in concerned code digit(s) & add(*) in 16 th digit
7- Our bolts/nuts in SS 660 are in conformity with the NACE MR 0175/ISO 15156 requirements and must be used for NACE MR 0175/ISO 15156 service
8- For the static pressure option 420 bar and process cover gasket PTFE please use only code "R","T" or "X"
9- Process connection on the bottom side
10- SS 660 bolts/nuts have to be used for oil & gas applications
11- Approval upon request

Gauge pressure transmitter : FKG...G

1	2	3	4	5	6	7	8		9	10	11	12	13		14	15		16	DESCRIPTION
F	K	G					G	-						-			-		
																			Type
																			Smart, 4-20 mAdc + Fuji/Hart® digital signal
																			Connections

	Process	Oval flange	Electrical
R	1/4"-18 NPT	7/16"-20 UNF	M20 x 1,5
T	1/4"-18 NPT	7/16"-20 UNF	1/2"-14 NPT
V	1/4"-18 NPT	M10 or M12 (*1)	Pg 13,5
W	1/4"-18 NPT	M10 or M12 (*1)	M20 x 1,5
X	1/4"-18 NPT	7/16"-20 UNF	Pg 13,5

Range & wetted parts material

																			Spans (*2)	Process cover	Measuring diaph.	Wetted cell body
																		(*2)				
0	1	V																		SS 316L	SS 316L	SS 316L
0	1	W																		SS 316L	Hastelloy C	SS 316L
0	1	H																	13	SS 316L	Hastelloy C	Hastelloy C
0	1	M																		SS 316L	Monel	Monel lining
0	1	J																(*3)		SS 316L	Gold coat	SS 316L
0	1	T																	to	SS 316L	Tantalum	Tantalum lining
9	1	H																(*4)		PVDF insert	Hast. C	Hastelloy C
9	1	M																(*4)		PVDF insert	Monel	Monel lining
9	1	T																(*4)	1300 mbar	PVDF insert	Tantalum	Tantalum lining
0	2	V																		SS 316L	SS 316L	SS 316L
0	2	W																	0,05	SS 316L	Hastelloy C	SS 316L
0	2	H																		SS 316L	Hastelloy C	Hastelloy C
0	2	M																		SS 316L	Monel	Monel lining
0	2	J																(*3)		SS 316L	Gold coat	SS 316L
0	2	C																	to	SS 316L	Gold / ceramic	Gold / ceramic
0	2	T																		SS 316L	Tantalum	Tantalum lining
9	2	H																(*4)		PVDF insert	Hastelloy C	Hastelloy C
9	2	M																(*4)		PVDF insert	Monel	Monel lining
9	2	T																(*4)	5 bar	PVDF insert	Tantalum	Tantalum lining
0	3	V																		SS 316L	SS 316L	SS 316L
0	3	W																	0,3	SS 316L	Hastelloy C	SS 316L
0	3	H																		SS 316L	Hastelloy C	Hastelloy C
0	3	M																		SS 316L	Monel	Monel lining
0	3	J																(*3)		SS 316L	Gold coat	SS 316L
0	3	C																	to	SS 316L	Gold / ceramic	Gold / ceramic
0	3	T																		SS 316L	Tantalum	Tantalum lining
9	3	H																(*4)		PVDF insert	Hastelloy C	Hastelloy C
9	3	M																(*4)		PVDF insert	Monel	Monel lining
9	3	T																(*4)	30 bar	PVDF insert	Tantalum	Tantalum lining
0	4	V																		SS 316L	SS 316L	SS 316L
0	4	W																	1	SS 316L	Hastelloy C	SS 316L
0	4	H																		SS 316L	Hastelloy C	Hastelloy C
0	4	M																	to	SS 316L	Monel	Monel lining
0	4	J																(*3)		SS 316L	Gold coat	SS 316L
0	4	C																	100 bar	SS 316L	Gold / ceramic	Gold / ceramic
0	4	T																		SS 316L	Tantalum	Tantalum lining
0	5	V																(*8)		SS 316L	SS 316L	SS 316L
0	5	W																	5	SS 316L	Hastelloy C	SS 316L
0	5	H																(*8)	to	SS 316L	Hastelloy C	Hastelloy C
0	5	J																(*3, *8)	500 bar	SS 316L	Gold coat	SS 316L

Indicator & Arrester (next)

																			Indicator	Arrester	Initial setting
			G	-	A														None	None	4-20mA DC + Hart® /Fuji digital signal "SMART"
			G	-	B													(*8)	Analog, 0-100% linear scale	None	
			G	-	D													(*8)	Analog, Custom scale	None	
			G	-	J													(*8)	Analog, double scale	None	
			G	-	E														None	Yes	
			G	-	F													(*8)	Analog, 0-100% linear scale	Yes	
			G	-	H													(*8)	Analog, Custom scale	Yes	
			G	-	K													(*8)	Analog, double scale	Yes	
			G	-	1														digital, 0-100% with push buttons	None	
			G	-	2														digital, Custom scale with push buttons	None	
			G	-	4														digital, 0-100% with push buttons	Yes	
			G	-	5														digital, Custom scale with push buttons	Yes	

Approvals for hazardous locations (consult FUJI for availability)

A																			None (Standard)
X																			ATEX - Flameproof enclosures (digit 4 = "R, T" & "W" only)
E																			CSA - Explosion-Proof (digit 4 = "T" only)
R																			IECEx - Flameproof enclosures (digit 4 = "R, T" & "W" only)

Side vent/drain & mounting bracket

																			Side Vent/drain	Mounting bracket
A																			None	None
C																			None (Standard)	Yes, SS 304L
K																			None	Yes, SS 316L
D																		(*4)	Yes	None
F																		(*4)	Yes (Side)	Yes, SS 304L
L																		(*4)	Yes	Yes, SS 316L

SS parts

																			SS tag plate	SS housing
Y																			None	None
B																			Yes	None
C																			None	Yes
E																			Yes	Yes

Special applications & fill fluid

																			Treatment	Fill fluid
Y																			None (std)	Silicone oil
W																			None (std)	Fluorinated oil
G																			Degreasing	Silicone oil
A																			Oxygen service	Fluorinated oil (only w / digit 7 = V)
D																			Chlorine service	Fluorinated oil (only w/d igit 7= H, T)
N																		(*6)	NACE	Silicone oil

Process cover gasket

-	A																		Viton
-	C																		PTFE square section gasket in SS flange
-	D																	(*4)	PTFE square section gasket in PVDF insert

Bolts/screws material

A																			Carbon steel Cr-Mo (standard) M10
U																			SS 316 (L) / 316 5L) (bolt/nuts) M10
V																			Carbon steel Cr-Mo M12 for static pressure > 100 bar
W																		(*7)	SS 660/660 (bolt/nuts) M10 for static pressure < 100 bar
W																		(*7)	SS 660/660 (bolt/nuts) M12 for static pressure > 100 bar

Special options or design

																		(*5)	- * Special, no code available

Notes* :

1- M12 oval flange screw required for 500 bar units
2- Turn down of 100:1 is possible, but it should be used at a span greater than 1/40 of the maximum span for better performance.
3- Gold coating on wetted measuring cell parts for Hydrogen service - Hydroseal version - Gold/ceramic coating is available upon request.
4- Process cover with PVDF insert with 1/2"-14 NPT side process connection/ no vent drain, other upon request - square section PTFE gasket
5- When no code can be found in the current code symbols, place * in concerned code digit(s) & add * in 16 th digit
6- Our bolts/nuts in SS 660 are in conformity with the NACE MR0175/ISO 15156 requirements and must be used for NACE MR0175/ISO 15156 service
7- SS 660 bolts/nuts have to be used for oil & gas applications
8- Approval upon request

Absolute pressure transmitter : FKA...G

1	2	3	4	5	6	7	8		9	10	11	12	13		14	15		16	DESCRIPTION
F	K	A					G	-						-			-		

Type
Smart 4-20 mAdc + Fuji/Hart digital® signal

Connections

	Process	Oval flange	Conduit
R	1/4-18 NPT	7/16-20 UNF	M 20 x 1,5
T	1/4-18 NPT	7/16-20 UNF	1/2-14 NPT
V	1/4-18 NPT	M10	Pg 13,5
W	1/4-18 NPT	M10	M 20 x 1,5
X	1/4-18 NPT	7/16-20 UNF	Pg 13,5

Range and materials

	Span (*1)	Process cover	Diaphragm	Wetted cell body
0 1 V	0,016/0,16 bar abs	SS 316L	SS 316L	SS 316L
0 1 H		SS 316L	Hastelloy C	Hastelloy C
0 1 J		SS 316L	Gold coat	SS 316L
9 1 H (*3)		PVDF insert	Hastelloy C	Hastelloy C
0 2 V	0,016/1,3 bar abs	SS 316L	SS 316L	SS 316L
0 2 H		SS 316L	Hast.C	Hastelloy C
0 2 J		SS 316L	Gold coat	SS 316L
9 2 H (*3)		PVDF insert	Hastelloy C	Hastelloy C
0 3 V	0,05/5 bar abs	SS 316L	SS 316L	SS 316L
0 3 H		SS 316L	Hastelloy C	Hastelloy C
0 3 J		SS 316L	Gold coat	SS 316L
9 3 H (*3)		PVDF insert	Hastelloy C	Hastelloy C
0 4 V	0,3/30 bar abs	SS 316L	SS 316L	SS 316L
0 4 H		SS 316L	Hastelloy C	Hastelloy C
0 4 J		SS 316L	Gold coat	SS 316L
9 4 H (*3)		PVDF insert	Hastelloy C	Hastelloy C
0 5 V	1/100 bar abs	SS 316L	SS 316L	SS 316L
0 5 J		SS 316L	Gold coat	SS 316L

Indicator & Arrester

	Indicator	Arrester	Initial setting
G - A	None	None	4-20mA DC + Hart® / Fuji digital signal "SMART"
G - B (*6)	Analog, 0-100% linear scale	None	
G - D (*6)	Analog, Custom scale	None	
G - J (*6)	Analog, double scale	None	
G - E	None	Yes	
G - F (*6)	Analog, 0-100% linear scale	Yes	
G - H (*6)	Analog, Custom scale	Yes	
G - K (*6)	Analog, double scale	Yes	
G - 1	Digital, 0-100% with push button	None	
G - 2	Digital, Custom scale with push button	None	
G - 4	Digital, 0-100% with push button	Yes	
G - 5	Digital, Custom scale with push button	Yes	

Approvals for hazardous locations (consult FUJI for availability)

A	None (Standard)
X	ATEX - Flameproof enclosures (digit 4 = "R, T" & "W" only)
E	CSA - Explosion-Proof (digit 4 = "T" only)
R	IECEx - Flameproof enclosures (digit 4 = "M, P, R, T" & "W" only)

Side vent/drain & mounting bracket

	Side vent/drain	Mounting bracket
A	None	None
C	None	Yes, SS 304L
K	None	Yes, SS 316L
D	Yes	None
F	Yes	Yes, SS 304L
L	Yes	Yes, SS 316L

SS parts

	SS tag plate	SS housing
Y	None	None
B	Yes	None
C	None	Yes
E	Yes	Yes

Special applications & fill fluid

	Treatment	Fill fluid
Y	None (std)	Silicone oil
G	Degreasing	Silicone oil
N (*4)	NACE specification	Silicone oil

Process cover gasket

- A	Viton
- C	PTFE square section gasket in SS flange
- D (*3)	PTFE square section gasket in PVDF insert

Bolts/screws material

A	Carbon steel Cr-Mo (standard) M10
U	SS 316 (L) / 316 (L) (bolt/nuts) M10
W	SS 660 / 660 (bolt/nuts) M10

Special options or design

(*2) - *	Special, no code available

Notes* :

1- Turn down of 100 : 1 is possible, but it should be used at a span greater than 1/40 of the maximum span for better performance.
2- When no code can be found in the current code symbols, place* in concerned code digit(s) & add* in 16 th digit
3- Process cover with PVDF insert with 1/2-14 NPT side process connection/no vent drain, other upon request - square section PTFE gasket
4- Our stainless steel bolts/nuts in SS 660 are in conformity with the NACE MR 0175/ISO 15156.
5- Approval upon request

Direct mount type gauge pressure transmitter : FKP...G

1	2	3	4	5	6	7	8		9	10	11	12	13		14	15		DESCRIPTION
F	K	P		0			G	-						-	0			
																		Type
																		Smart, 4-20 mAdc + Fuji/Hart® digital signal
																		Connections
			T															See digit 15 / 1/2-14 NPT
			V															See digit 15 / Pg 13,5
			W															See digit 15 / M 20 x 1,5
																		Range & wetted parts material
				0	1	V												0,08125/1,3 bar / SS 316L / SS 316L
				0	1	J												0,08125/1,3 bar / SS 316L / gold coat / SS 316L
				0	2	V												0,3125/5 bar / SS 316L / SS 316L
				0	2	J												0,3125/5 bar / SS 316L / gold coat / SS 316L
				0	3	V												1,875/30 bar / SS 316L / SS 316L
				0	3	J												1,875/30 bar / SS 316L / gold coat / SS 316L
				0	4	V												6,25/100 bar / SS 316L / SS 316L
				0	4	J												6,25/100 bar / SS 316L / gold coat / SS 316L
																		Indicator & Arrester
							G	-	A									None / None / 4-20 mA DC + Hart® /Fuji digital signal "SMART"
							G	-	B								(*1)	Analog, 0-100% linear scale / None
							G	-	D								(*1)	Analog, Custom scale / None
							G	-	J								(*1)	Analog, double scale / None
							G	-	E									None / Yes
							G	-	F								(*1)	Analog, 0-100% linear scale / Yes
							G	-	H								(*1)	Analog, Custom scale / Yes
							G	-	K								(*1)	Analog, double scale / Yes
							G	-	1									Digital, 0-100% with push button / None
							G	-	2									Digital, Custom scale with push button / None
							G	-	4									Digital, 0-100% with push button / Yes
							G	-	5									Digital, Custom scale with push button / Yes
																		Approvals for hazardous locations (consult FUJI for availability)
										A								None (Standard)
										X								ATEX - Flameproof enclosures (digit 4 = "T" & "W" only)
										E								CSA - Explosion-Proof (digit 4 = "T" only)
										R								IECEx - Flameproof enclosures (digit 4 = "M, P, R, T" & "W" only)
																		Mounting bracket
											A							None
											C							Yes (SS 304L)
																		Stainless Steel parts / Tag plate / Housing
													Y					None / None
													B					Yes / None
													C					None / Yes
													E					Yes / Yes
																		Special applications & fill fluid / Treatment / Fill fluid
														Y				None (std) / Silicone oil
														G				Degreasing / Silicone oil
														A				Oxygen service / Fluorinated oil
														N				NACE / Silicone oil
																		Process connection (welded) adaptor - all stainless steel parts
															-	0	Y	1/2 - 14 NPTI
															-	0	B	Rc 1/2 I
															-	0	C	1/4 - 18 NPTI
															-	0	D	1/2 - 14 NPTE
															-	0	E	G 1/2"A manometer fitting
															-	0	F	M20 x 1,5

Note* :
1 - Approval upon request

Direct mount type absolute pressure transmitter : FKH...G

1	2	3	4	5	6	7	8		9	10	11	12	13		14	15		DESCRIPTION
F	K	H		0			G	-						-	0			
																		Type
																		Smart, 4-20 mAdc + Fuji/Hart® digital signal
																		Connections
			T															See digit 15 / 1/2-14 NPT
			V															See digit 15 / Pg 13,5
			W															See digit 15 / M 20 x 1,5
				0	2	V												**Range & wetted parts material** — Span (bar abs) / Diaphragm material / Wetted parts: 0,08125/1,3 / SS 316L / SS 316L
				0	2	J												0,08125/1,3 / SS 316L / gold coat / SS 316L
				0	3	V												0,3125/5 / SS 316L / SS 316L
				0	3	J												0,3125/5 / SS 316L / gold coat / SS 316L
				0	4	V												1,875/30 / SS 316L / SS 316L
				0	4	J												1,875/30 / SS 316L / gold coat / SS 316L
																		Indicator & Arrester — Indicator / Arrester / Initial setting
							G	-	A									None / None
							G	-	B								(*1)	Analog, 0-100% linear scale / None / 4-20 mA DC + Hart® / Fuji digital signal "SMART"
							G	-	D								(*1)	Analog, Custom scale / None
							G	-	J								(*1)	Analog, double scale / None
							G	-	E									None / Yes
							G	-	F								(*1)	Analog, 0-100% linear scale / Yes
							G	-	H								(*1)	Analog, Custom scale / Yes
							G	-	K								(*1)	Analog, double scale / Yes
							G	-	1									Digital, 0-100% with push button / None
							G	-	2									Digital, Custom scale with push button / None
							G	-	4									Digital, 0-100% with push button / Yes
							G	-	5									Digital, Custom scale with push button / Yes
										A								**Approvals for hazardous locations (consult FUJI for availability)**
										X								None (Standard)
										E								ATEX - Flameproof enclosures (digit 4 = "T" & "W" only)
										R								CSA - Explosion-Proof (digit 4 = "T" only)
																		IECEx - Flameproof enclosures (digit 4 = "M, P, R, T" & "W" only)
											A							**Mounting bracket (SS)**
											C							None / Yes
																		Stainless steel parts — SS tag plate / SS housing
													Y					None / None
													B					Yes / None
													C					None / Yes
													E					Yes / Yes
																		Special applications & fill fluid — Treatment / Fill fluid
														Y				None (std) / Silicone oil
														G				Degreasing / Silicone oil
														N				NACE / Silicone oil
															-	0	Y	**Processconnection (welded) adaptor - all stainless steel parts**
															-	0	B	1/2 - 14 NPTI
															-	0	C	Rc 1/2 I
															-	0	D	1/4 - 18 NPTI
															-	0	E	1/2 - 14 NPTE
															-	0	F	G 1/2"A manometer fitting
															-	0		M20 x 1,5

Note* :

1 - Approval upon request

Level transmitter : FKE...VG

1	2	3	4	5	6	7	8		9	10	11	12	13		14	15		16
F	K	E					G	-						-			-	

DESCRIPTION

Type
Smart, 4-20 mAdc + Fuji/Hart® digital signal

Connections

	LP side connections		Electric. housing
	Process	Oval flange screw	Conduit
R	1/4-18 NPT	7/16-20 UNF	M 20 x 1,5
T	1/4-18 NPT	7/16-20 UNF	1/2-14 NPT
V	1/4-18 NPT	M10	Pg 13,5
W	1/4-18 NPT	M10	M 20 x 1,5
X	1/4-18 NPT	7/16-20 UNF	Pg 13,5

Mounting flange

	Material	Size and rating	Flange mount. position
4	SS 316 L	ANSI-150LB3"-ISO PN 20 DN 80	Long design
5		ANSI-150LB4"-ISO PN 20 DN 100	
8		DIN PN40 DN80	
9		DIN PN16 DN100	
L		ANSI-150LB3"-ISO PN 20 DN 80	Short design
M		ANSI-150LB4"-ISO PN 20 DN 100	
P		DIN PN40 DN80	
Q		DIN PN16 DN100	

Measuring range (mmH2O)

2	(*6)	10	600
3	(*1)	32	3200
5		130	13000
6		500	50000
8		3000	300000

Material

		LP side			HP side
		Process cover	Diaphragm	Wetted sensor body	Diaphragm and flange face
V		SS 316L	SS 316L	SS 316L	SS 316L
W	(*2)	SS 316L	Hastelloy-C	SS 316L	Hastelloy-C
H	(*2)	SS 316L	SS 316L	SS 316L	Hastelloy-C
M	(*2)	SS 316L	SS 316L	SS 316L	Monel
T	(*2)	SS 316L	SS 316L	SS 316L	Tantalum
A	(*2)	SS 316L	SS 316L	SS 316L	SS 316L + PFA lining
B	(*2)	SS 316L	SS 316L	SS 316L	SS 316L + gold coat
P	(*2)	SS 316L	SS 316L	SS 316L	Titanium
R	(*2)	SS 316L	SS 316L	SS 316L	Zirconium

Indicator and arrester

		Indicator	Arrester	Initial setting
G - A		None	None	4-20mA DC + Hart® /Fuji digital signal 'SMART"
G - B	(*7)	Analog, 0 to 100% linear scale	None	
G - D	(*7)	Analog, custom scale	None	
G - J	(*7)	Analog, double scale	None	
G - E		None	Yes	
G - F	(*7)	Analog, 0 to 100% linear scale	Yes	
G - H	(*7)	Analog, custom scale	Yes	
G - K	(*7)	Analog, double scale	Yes	
G - 1		Digital, 0 to 100% with push button	None	
G - 2		Digital, custom scale with push button	None	
G - 4		Digita, 0 to 100% with push button	Yes	
G - 5		Digital, custom scale with push button	Yes	

Approvals for hazardous locations (consult FUJI for availability)

A	None (Standard)
X	ATEX - Flameproof enclosures (digit 4 = "R, T" & "W" only)
E	CSA - Explosion-Proof (digit 4 = "T" only)
R	IECEx - Flameproof enclosures (digit 4 = "R, T" & "W" only)

Diaphragm extension (mm)

		Extension (mm)	Applicable material code
Y		0	Any
A	(*3)	50	Material code "V"
B	(*3)	100	
C	(*3)	150	
D	(*3)	200	
E	(*3)	50	Material code "H"
F	(*3)	100	
G	(*3)	150	
H	(*3)	200	
J	(*3)	50	Material code "M"
K	(*3)	100	
L	(*3)	150	
M	(*3)	200	
P	(*3)	50	Material code "T"
R	(*3)	100	
S	(*3)	150	
T	(*3)	200	

SS parts

	SS tag plate	SS housing
Y	None	None
B	Yes	None
C	None	Yes
E	Yes	Yes

Special applications and fill fluid (fill fluid of cell = Silicone oil)

		Treatment	Fill fluid of diaphragm seal
Y		None (stand)	Silicone oil
W		None (stand)	Fluorinated oil
F		None (stand)	Sanitary fill fluid
G		Degreasing	Silicone oil
A		Oxygen service	Fluorinated oil cell & seal (Material code "V" only)
D		Chlorine service	Fluorinated oil (Material code "H" & "T" only)
N	(*5)	NACE	Silicone oil
V		Vacuum (max 27 mbar abs)	

Process cover gasket

- A	Viton
- C	PTFE square section gasket in SS flange (FEF design)

Bolts/screws material

A	Cr-Mo (standard)
U	SS 316 (L) /316 (L) (bolts/nuts)
W	SS 660/660 (bolts/nuts)

Special options or design

(*4)	-	* Special, no code available

Notes* :

1- Turn down of 100 : 1 is possible, but it should be used at a span greater than 1/40 of the maximum span for better performance.
2- Add values for material options are for DN80 PN40 or ANSI - 150 LB3" flangerate, DN100 or 4" add values are available upon request, LP side writed cell body diaphragm in exotic materials are available upon request.
3- All wetted parts in the same material (diaphragm, extension, flange gasket area).
4- When no code can be found in the current code symbols, place* in concerned code digit(s) & add* in 16 th digit.
5- Our stainless steel bolts/nuts in SS 660 are in conformity with the NACE MR 0175/ISO 15156 requirements and must be used for NACE MR 0175/ISO 15156 service.
6- Please consult Fuji with you application conditions
7- Approval upon request

Remote seal type differential pressure transmitter : FKD...VG

1	2	3	4	5	6	7	8		9	10	11	12	13	DESCRIPTION
F	K	D				V	G	-					Y	

Type (*5)

Code	Description
FKD	Differential pressure transmitter - Smart, 4-20 mAdc + Fuji/Hart® digital signal

Conduit connection (digit 4)

Digit 4	Description
T	1/2"-14NPT
V	Pg 13.5
W	M20 x 1.5

Diaphragm seal rating (digit 5)

Digit 5	Note	Description
2		PN 25
4		PN 20 - 150 Lbs
6		PN 50 - 300 Lbs
8		PN 40
9		PN 16
L		PN 100 - 600Lbs
M		PN 150 - 900 lbs
N	(*8)	PN 250 - 1500 lbs
P	(*9)	PN 420 - 2500 lbs

Spans (*1) (digit 6)

Digit 6	Note	Description
3	(*2)	0 to 3,2/320 mbar
5	(*2)	0 to 0,013/1,3 bar
6		0 to 0,05/5 bar
8		0 to 0,3/30 bar
9		0 to 2/200 bar

Indicator, arrester and initial setting (digits 7, 8, 9)

Digits 7-8	Digit 9	Note	Indicator	Arrester	Initial setting
V G -	A		None	None	4-20mA DC + Hart®/Fuji digital signal "SMART"
V G -	B	(*9)	Analog, 0-100% linear scale	None	
V G -	C	(*9)	Analog, 0-100% √ scale	None	
V G -	D	(*9)	Analog, Custom scale	None	
V G -	J	(*9)	Analog, double scale	None	
V G -	E		None	Yes	
V G -	F	(*9)	Analog, 0-100% linear scale	Yes	
V G -	G	(*9)	Analog, 0-100% √ scale	Yes	
V G -	H	(*9)	Analog, Custom scale	Yes	
V G -	K	(*9)	Analog, double scale	Yes	
V G -	1		Digital, 0-100% with push button	None	
V G -	2		Digital, Custom scale with push button	None	
V G -	3		Digital, 0-100% √ scale with push button	None	
V G -	4		Digital, 0-100% with push button	Yes	
V G -	5		Digital, Custom scale with push button	Yes	
V G -	6		Digital, 0-100% √ scale with push button	Yes	

Approvals for hazardous locations (consult FUJI for availability) (digit 10)

Digit 10	Description
A	None (Standard)
X	ATEX - Flameproof enclosures (digit 4 = "T" & "W" only)
E	CSA - Explosion-Proof (digit 4 = "T" only)
R	IECEx - Flameproof enclosures (digit 4 = "T" & "W" only)

Mounting design (*3) (*5) (*6) (digit 11)

Digit 11	Note	Mounting design (*3)	Ambiant temperature correction
B		Capillary on HP side	Transmitter and diaphragm seal assembly
C		Capillary on HP & LP side	Transmitter and diaphragm seal assembly
E	(*6)	Rigid short design on HP & capillary on LP side	Transmitter and diaphragm seal assembly
G		Capillary on HP side	Transmitter
H		Capillary on HP & LP side	Transmitter

Cell flange design / Stainless Steel parts (digits 12, 13)

Digit 12	Digit 13	Note	Cell flange design: Operating pressure (bar)	Stainless Steel parts: Bolts/nuts	Tag plate	Housing
1	Y	(*4)	p ≤ 50 bar	None	None	None
2	Y	(*4)	p ≤ 50 bar	None	Yes	None
3	Y	(*4)	p ≤ 50 bar	None	None	Yes
4	Y	(*4)	p ≤ 50 bar	None	Yes	Yes
Y	Y		50 < p ≤ 160	Carbon steel	None	None
B	Y		50 < p ≤ 160	Carbon steel	Yes	None
C	Y		50 < p ≤ 160	Carbon steel	None	Yes
E	Y		50 < p ≤ 160	Carbon steel	Yes	Yes
A	Y		p ≤ 160 bar	SS 316(L)/SS 316(L)	None	None
D	Y		p ≤ 160 bar	SS 316(L)/SS 316(L)	Yes	None
F	Y		p ≤ 160 bar	SS 316(L)/SS 316(L)	None	Yes
G	Y		p ≤ 160 bar	SS 316(L)/SS 316(L)	Yes	Yes
H	Y	(*7)	p ≤ 160 bar	SS 660/SS 660	None	None
J	Y	(*7)	p ≤ 160 bar	SS 660/SS 660	Yes	None
K	Y	(*7)	p ≤ 160 bar	SS 660/SS 660	None	Yes
L	Y	(*7)	p ≤ 160 bar	SS 660/SS 660	Yes	Yes

Notes* :

1- Turn down of 100:1 is possible, but should be used at the span greater than 1/10 of the maximum span for better performance.
2- For DN = 50 consult FUJI for your application with the specific operating conditions.
3- Transmitter with capilary design has a standard mounting bracket
4- If direct mounted seal design is required, bolts are necessary even when p < 50 bar
5- Standard fill fluid of measuring cells : silicone oil - Others fill fluids : upon request
6- Transmitter with different diaphragm seals or capillary lenghtes on HP and LP side must be temperature corrected.
7- Our bolts/nuts in SS 660 are in conformity with the NACE MR 0175/ISO 15156 requirements and must be used for NACE MR 0175/ISO 15156 service.
8- High static pressure DP measuring cell and M12 bolting required (upon request).
9- Approval upon request

Remote seal type gauge pressure transmitter : FKB...VG

1	2	3	4	5	6	7	8	-	9	10	11	12	13						DESCRIPTION
F	K	B				V	G	-					Y						**Type**
																			Smart, 4-20 mAdc + Fuji/Hart® digital signal
																			Conduit connection
			T																1/2"-14NPT
			V																Pg 13.5
			W																M20 x 1.5
																			Diaphragm seal rating
				2															PN 25
				4															PN 20 - 150 Lbs
				6															PN 50 - 300 Lbs
				8															PN 40
				9															PN 16
				L															PN 100 - 600Lbs
				M															PN 150 - 900Lbs
				N															PN 250 - 1500Lbs
				P															PN 420 - 2500Lbs
																		(*1)	**Spans**
					1													(*2)	0 to 0.013/1.3 bar
					2													(*3)	0 to 0.05/5 bar
					3														0 to 0.3/30 bar
					4													(*4)	0 to 1/100 bar
					5													(*4)	0 to 5/500 bar
																			Indicator, arrester and initial setting
																			Indicator / **Arrester** / **Initial setting**
						V	G	-	A										None / None
						V	G	-	B									(*8)	Analog, 0-100% linear scale / None
						V	G	-	D									(*8)	Analog, Custom scale / None
						V	G	-	J									(*8)	Analog, double scale / None / 4-20mA DC
						V	G	-	E										None / Yes / +
						V	G	-	F									(*8)	Analog, 0-100% linear scale / Yes / Hart® /Fuji
						V	G	-	H									(*8)	Analog, Custom scale / Yes / digital signal
						V	G	-	K									(*8)	Analog, double scale / Yes / "SMART"
						V	G	-	1										Digital, 0-100% with push button / None
						V	G	-	2										Digital, Custom scale with push button / None
						V	G	-	4										Digital, 0-100% with push button / Yes
						V	G	-	5										Digital, Custom scale with push button / Yes
																			Approvals for hazardous locations (consult FUJI for availability)
										A									None (Standard)
										X									ATEX - Flameproof enclosures (digit 4 = "T" & "W" only)
										E									CSA - Explosion-Proof (digit 4 = "T" only)
										R									IECEx - Flameproof enclosures (digit 4 = "T" & "W" only)
																		(*5)	**Mounting design** / **Ambiant temperature correction**
											B								Capillary / Transmitter and diaphragm seal assembly
											L								Rigid - long design / Transmitter and diaphragm seal assembly
											M								Rigid - short design / Transmitter and diaphragm seal assembly
											G								Capillary / Transmitter
											S								Rigid - long design / Transmitter
											T								Rigid - short design / Transmitter
																			Cell flange design / **Stainless Steel parts**
																			Operating pressure (bar) / Bolts/nuts / Tag plate / Housing & mounting bracket
												1	Y	(*7)				(*6)	p ≤ 50 bar / none / None / None
												2	Y	(*7)				(*6)	p ≤ 50 bar / none / Yes / None
												3	Y	(*7)				(*6)	p ≤ 50 bar / none / None / Yes
												4	Y	(*7)				(*6)	p ≤ 50 bar / none / Yes / Yes
												Y	Y	(*7)					50 < p ≤ 100 / carbon steel / None / None
												B	Y	(*7)					50 < p ≤ 100 / carbon steel / Yes / None
												C	Y	(*7)					50 < p ≤ 100 / carbon steel / None / Yes
												E	Y	(*7)					50 < p ≤ 100 / carbon steel / Yes / Yes
												A	Y	(*7)					p ≤ 100 bar / SS 316(L)/SS 316(L) / None / None
												D	Y	(*7)					p ≤ 100 bar / SS 316(L)/SS 316(L) / Yes / None
												F	Y	(*7)					p ≤ 100 bar / SS 316(L)/SS 316(L) / None / Yes
												G	Y	(*7)					p ≤ 100 bar / SS 316(L)/SS 316(L) / Yes / Yes
												H	Y	(*7)				(*7)	p ≤ 100 bar max / SS 660/SS 660 / None / None
												J	Y	(*7)				(*7)	p ≤ 100 bar max / SS 660/SS 660 / Yes / None
												K	Y	(*7)				(*7)	p ≤ 100 bar max / SS 660/SS 660 / None / Yes
												L	Y	(*7)				(*7)	p ≤ 100 bar max / SS 660/SS 660 / Yes / Yes

Notes* :

1- Turn down of 100:1 is possible, but should be used at the span greater than 1/10 of the maximum span for better performance.
2- Consult FUJI for your application with the specific operating conditions
3- For DN < 50 consult FUJI for your application with the specific operating conditions
4- Flange rating according max. operating pressure - for DN < 50 flange size and / or PN > 150, consult FUJI
5- Transmitter with capilary design has a standard mounting bracket - Rigid mounting design are always without mounting bracket
6- Codify bolts and nuts for all mounting even if p < 50 bar7- Standard fill fluid of measuring cells : silicone oil - Other fill fluids : upon request
7- Our bolts/nuts in SS 660 are in conformity with the NACE MR 0175/ISO 15156 requirements and must be used for NACE MR 0175/ISO 15156 service.
8- Approval upon request

Remote seal type absolute pressure transmitter : FKM...VG

1	2	3	4	5	6	7	8		9	10	11	12	13					DESCRIPTION
F	K	M				V	G	-					Y					
																		Type
																		Smart, 4-20 mAdc + Fuji/Hart® digital signal
																		Conduit connection
			T															1/2"-14NPT
			V															Pg 13.5
			W															M20 x 1.5
																		Diaphragm seal rating
				2														PN 25
				4														PN 20 - 150 Lbs
				6														PN 50 - 300 Lbs
				8														PN 40
				9														PN 16
																	(*1)	**Spans**
					1												(*2)	0 to 0.016/0.16 bar abs
					2												(*3)	0 to 0.013/1.3 bar abs
					3													0 to 0.05/5 bar abs
					4													0 to 0.3/30 bar abs
					5													0 to 1/100 bar abs
																		Indicator, arrester and initial setting
						V	G	-	A									None / None / 4-20mA DC + Hart®/Fuji digital signal "SMART"
						V	G	-	B								(*8)	Analog, 0-100% linear scale / None
						V	G	-	D								(*8)	Analog, Custom scale / None
						V	G	-	J								(*8)	Analog, double scale / None
						V	G	-	E									None / Yes
						V	G	-	F								(*8)	Analog, 0-100% linear scale / Yes
						V	G	-	H								(*8)	Analog, Custom scale / Yes
						V	G	-	K								(*8)	Analog, double scale / Yes
						V	G	-	1									Digital, 0-100% with push button / None
						V	G	-	2									Digital, Custom scale with push button / None
						V	G	-	4									Digital, 0-100% with push button / Yes
						V	G	-	5									Digital, Custom scale with push button / Yes
																		Approvals for hazardous locations (consult FUJI for availability)
										A								None (Standard)
										X								ATEX - Flameproof enclosures (digit 4 = "T" & "W" only)
										E								CSA - Explosion-Proof (digit 4 = "T" only)
										R								IECEx - Flameproof enclosures (digit 4 = "T" & "W" only)
																		Mounting design (*4) / **Ambiant temperature correction**
											B							Capillary / Transmitter and diaphragm seal assembly
											L							Rigid - long design / Transmitter and diaphragm seal assembly
											M							Rigid - short design / Transmitter and diaphragm seal assembly
											G							Capillary / Transmitter
											S							Rigid - long design / Transmitter
											T							Rigid - short design / Transmitter
																		Stainless steel parts

				Operat. pressure (bar)	Bolts/nuts	Tag plate	Housing & mounting bracket
1	Y	(*6)	(*5)	p ≤ 50 bar	None (capillary mounting)	None	None
2	Y	(*6)	(*5)	p ≤ 50 bar	None (capillary mounting)	Yes	None
3	Y	(*6)	(*5)	p ≤ 50 bar	None (capillary mounting)	None	Yes
4	Y	(*6)	(*5)	p ≤ 50 bar	None (capillary mounting)	Yes	Yes
Y	Y	(*6)		50 < p ≤ 100	Carbon steel	None	None
B	Y	(*6)		50 < p ≤ 100	Carbon steel	Yes	None
C	Y	(*6)		50 < p ≤ 100	Carbon steel	None	Yes
E	Y	(*6)		50 < p ≤ 100	Carbon steel	Yes	Yes
A	Y	(*6)		p ≤ 100 bar	SS 316(L)/SS 316(L)	None	None
D	Y	(*6)		p ≤ 100 bar	SS 316(L)/SS 316(L)	Yes	None
F	Y	(*6)		p ≤ 100 bar	SS 316(L)/SS 316(L)	None	Yes
G	Y	(*6)		p ≤ 100 bar	SS 316(L)/SS 316(L)	Yes	Yes
H	Y	(*6)	(*7)	p ≤ 100 bar	SS 660/SS 660	None	None
J	Y	(*6)	(*7)	p ≤ 100 bar	SS 660/SS 660	Yes	None
K	Y	(*6)	(*7)	p ≤ 100 bar	SS 660/SS 660	None	Yes
L	Y	(*6)	(*7)	p ≤ 100 bar	SS 660/SS 660	Yes	Yes

Notes* :

1- Turn down of 100:1 is possible, but should be used at the span greater than 1/10 of the maximum span for better performance.
2- Consult FUJI for your application with the specific operating conditions
3- For DN = 50 consult FUJI for your application with the specific operating conditions
4- Transmitter with capilary design has a standard mounting bracket - rigid monting design are always without monting bracket
5- Flange rating according max. operating pressure - for DN < 50 flange size and / or PN > 150 - Consult FUJI
6- Standard fill fluid of measuring cells : silicone oil - Other fill fluids : upon request
7- Our bolts/nuts in SS 660 are in conformity with the NACE MR 0175/ISO 15156 requirements and must be used for NACE MR 0175/ISO 15156 service.
8- Approval upon request

Remote seal type gauge pressure transmitter (rigid or capillary mounted) : FKP...VG

1	2	3	4	5	6	7	8		9	10	11	12	13			DESCRIPTION
F	K	P					G	-					Y			
																Type
																Smart, 4-20 mAdc + Fuji/Hart® digital signal
																Conduit connection
			T													1/2-14 NPT
			V													Pg 13,5
			W													M 20 x 1,5
																Diaphragm seal rating
				2												PN 25
				4												PN 20 - 150 Lbs
				6												PN 50 - 300 Lbs
				8												PN 40
				9												PN 16
				L												PN 100 - 600Lbs
																Span
					1	V										0,08125/1,3 bar
					2	V										0,3125/5 bar
					3	V										1,875/30 bar
					4	V										6,25/100 bar
																Indicator & Arrester
							G	-	A							None — none — 4-20 mA DC + Hart® / Fuji digital signal "SMART"
							G	-	B						(*1)	Analog, 0-100% linear scale — none
							G	-	D						(*1)	Analog, Custom scale — none
							G	-	J						(*1)	Analog, double scale — none
							G	-	E							None — yes
							G	-	F						(*1)	Analog, 0-100% linear scale — yes
							G	-	H						(*1)	Analog, Custom scale — yes
							G	-	K						(*1)	Analog, double scale — yes
							G	-	1							Digital, 0-100% with push button — none
							G	-	2							Digital, Custom scale with push button — none
							G	-	4							Digital, 0-100% with push button — yes
							G	-	5							Digital, Custom scale with push button — yes
																Approvals for hazardous locations (consult FUJI for availability)
										A						None (Standard)
										X						ATEX - Flameproof enclosures (digit 4 = "T" & "W" only)
										E						CSA - Explosion-Proof (digit 4 = "T" only)
										R						IECEx - Flameproof enclosures (digit 4 = "T" & "W" only)
																Mounting design — **Ambiant temperature correction**
											B					Capillary — Transmitter and diaphragm seal assembly
											G					Capillary — Transmitter
											L					Rigid — Transmitter and diaphragm seal assembly
											S					Rigid — Transmitter
																Stainless Steel parts
												Y	Y			Tag plate: None — Housing: None
												B	Y			Tag plate: Yes — Housing: None
												C	Y			Tag plate: None — Housing: Yes
												E	Y			Tag plate: Yes — Housing: Yes

Note* :
1- Approval upon request

Remote seal type absolute pressure transmitter (rigid or capillary mounted) : FKH...VG

1	2	3	4	5	6	7	8		9	10	11	12	13			
F	K	H					G	-					Y			DESCRIPTION

Type

Digits 1–3	Description
FKH	Smart, 4-20 mAdc + Fuji/Hart™ digital signal

Conduit connection

Digit 4	Description
T	1/2-14 NPT
V	Pg 13,5
W	M 20 x 1,5

Diaphragm seal rating

Digit 5	Description
2	PN 25
4	PN 20 - 150 Lbs
6	PN 50 - 300 Lbs
8	PN 40
9	PN 16
L	PN 100 - 600Lbs

Span

Digit 6	Digit 7	Description
2	V	0,08125/1,3 bar abs
3	V	0,3125/5 bar abs
4	V	1,875/30 bar abs

Indicator & Arrester

Digit 8		Digit 9	Note	Indicator	Arrester	Initial setting
G	-	A		None	None	4-20 mA DC + Hart® /Fuji digital signal "SMART"
G	-	B	(*1)	Analog, 0-100% linear scale	None	
G	-	D	(*1)	Analog, Custom scale	None	
G	-	J	(*1)	Analog, double scale	None	
G	-	E		None	yes	
G	-	F	(*1)	Analog, 0-100% linear scale	yes	
G	-	H	(*1)	Analog, Custom scale	yes	
G	-	K	(*1)	Analog, double scale	yes	
G	-	1		digital, 0-100% with push button	None	
G	-	2		digital, Custom scale with push button	None	
G	-	4		digital, 0-100% with push button	yes	
G	-	5		digital, Custom scale with push button	yes	

Approvals for hazardous locations (consult FUJI for availability)

Digit 10	Description
A	None (Standard)
X	ATEX - Flameproof enclosures (digit 4 = "T" & "W" only)
E	CSA - Explosion-Proof (digit 4 = "T" only)
R	IECEx - Flameproof enclosures (digit 4 = "M, P, R, T" & "W" only)

Digit 11	Mounting design	Ambiant temperature correction
B	Capillary	Transmitter and diaphragm seal assembly
G	Capillary	Transmitter
L	Rigid	Transmitter and diaphragm seal assembly
S	Rigid	Transmitter

Stainless Steel parts

Digit 12	Digit 13	Tag plate	Housing
Y	Y	None	None
B	Y	Yes	None
C	Y	None	Yes
E	Y	Yes	Yes

Note* :
1- Approval upon request

ELECTROMAGNETIC COMPATIBILITY

All FCX Series electronic pressure transmitters – Type FCX-AII – Models FK□□□□□G… 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 harmonized standards :

- **EN 61326-1:2013** *(Electrical equipment for measurement, control and laboratory use - EMC requirements – Part 1: General requirements).*
- **EN 61326-2-3:2013** *(Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning).*

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

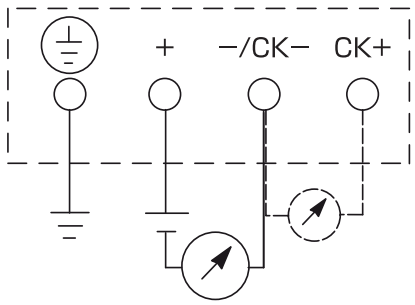
Frequency range (MHz)	Limits	Basic standard
30 to 230	50 dB (µV/m) quasi peak measured at 3m distance	Passed
230 to 1000	57 dB (µV/m) quasi peak measured at 3 m distance	

Immunity

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

Performance criteria (A & B): according to IEC 61326-1:2013, § 6.4.

Connection diagram



DIAPHRAGM SEAL(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. The welded seal construction assures excellent reliability in high temperature and high corrosive, viscous, sticking, crystallizable and abrasive process conditions.

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 stainless steel, Tantalum, Hastelloy, Monel, Titanium, Zirconium, Nickel, depending on the application requirements.

Other parts are in stainless steel : capillary tube, reduced volume flange, diaphragm seal body, direct mounting connection parts.

Standard filling fluid is silicone oil.

Fluorinated oil, sanitary oil, high temperature oil and vacuum service filling are available through model selection.

4- Diaphragm seal types

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

Flush mounting design from DN40 to DN100.

Seals with extensions (50 to 200 mm).

Flanged, screwed or weld neck adaptors

Seals for sanitary applications according DIN, SMS or Tri-Clamp standards.

For specifics seals, please consult Fuji Electric.

SPECIFICATIONS

Functional specifications

Diaphragm seal application :

The seal(s) can be mounted direct or rigid on the transmitter (for example for liquid level measurement at the bottom of the tank) or capillary mounted to distance the measuring point away from the transmitter (for example in case of high process temperature).

Nota :

For FKB, FKM and FKD

The rigid mounted seal can be assembled in a long design or in a short (compact) design according to the physical dimension requests of the customer (see outline dimensions drawings).

	Rigid mounting	Capillary mounting
FKB	short or long design	HP side
FKM	short or long design	HP side
FKD	see datasheet of level transmitter (FKE)	HP and LP side HP side LP side

Capillary tube specifications :

Standard capillary lengthes :

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

Inside diameter :

1 mm standard

2 mm for vacuum service, high process temperature applications, short response time requirements

Smallest bending radius of the capillary :

100 mm

Capillary tube sheald possibilities :

Temperature limit :

PVC sheald : -10 à 80°C

Stainless steel sheald : -40 à 350°C

Process connection possibilities :

The diaphragm seals can be:

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

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

Temperature limits :

Ambiant temperature :

-40 to 85°C for transmitter

Process temperature :

-40 to 150°C for rigid mounting,

0 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 or 27 mbar abs.

Only the absolute pressure transmitter can be used till absolute zero (FKM).

For the utilization of vacuum service < 20 Torr, please consult Fuji Electric.

The absolute pressure transmitter has to be used.

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, at linear mode)

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.

Ambiant temperature effect :

Effect when transmitter alone is corrected.

(See digit 11: code G, S, T of the code symbols FDB and FDM ,code G, H of the code symbols FDD).

(See digit 11 code G, S of the code symbols FDP and FDH).

Transmitters / Seals	Effect (mbar/10°C)			
	FKB/FKM & FKP/FKH - Gauge / Abs. pressure	Capillary (m)	FKD - Differential pressure	Capillary (m)
DN50 / 2" SS diaphr.	2.03	1.5	0.48	0.32
DN80 / 3" SS diaphr.	0.11	0.08	0.04	0.03
DN80 / 3" Other diaph. materials	0.22	0.2	0.05	0.07
DN100 / 4"	0.04	0.03	0.02	0.01
Adaptor	0.11	0.08	0.04	0.03
Clamp 2"	2.06			
DN 50 or 2" (SMS or DIN 11851)	2.85			
No dead volume	5.16			
G 1"-1/2	5.16			
G 2"	2.03			

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

Effect when transmitter and the seal assembly is corrected.

(See digit 11: codes B,C,L,M of the codification FKB, FKD and FKM).

(See digit 11: codes B, L of the codification FKP and FKH)

According to the complete transmitter design (transmitter and seals), a strong correction of the zero drift can be realized by an additional temperature correction operation on the complete transmitter unit (trasnmitter and seals).

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

Process temperature effect : (mbar/10°C)

Transmitters / Seals	Effect (mbar/10°C)	
	FKB/FKM & FKP/FKH - Gauge / Abs. pressure	FKD - Differential pressure
DN50 / 2" SS diaphr.	1.24	0.5
DN80 / 3" SS diaphr.	0.17	0.09
DN80 / 3" Other diaph. materials	0.73	0.22
DN100 / 4"	0.08	0.05
Adaptor	0.17	0.09
Clamp 2"	2.61	
DN 50 or 2" (SMS or DIN 11851)	4.22	
No dead volume	5.16	
G 1"-1/2	1.42	
G 2"	1.24	

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, up to 40 bar or 300 lbs

Oil filling	Code digit 7	Density at 25°C	Response time	
			0 to 320 mbar	0 to 1.3 bar
Std silicone oil	Y, G	0,95	0,15	0,037
Fluorinated oil	W,A,D	1,84	0,17	0,04
Oil for vaccum or high temperature	U, X	1,07	0,25	0,065

Response time : (mean values)

The indicated values are in seconds per meter of capillary length with internal tube diameter Ø 1 mm.
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.

Filling fluid of the diaphragm seals :

Code digit 7	Designation	Temperature resistance (°C)		Density (25°C)
		P abs ≥ 1 bar	P abs < 1 bar	
Y	Silicone oil	-40 to 180	-40 to 120	0,95
W	Fluorinated oil	-20 to 200	-20 to 120	1,84
F	Sanitary fill fluide	-10 to 250	-10 to 120	0,94
V	Silicone oil		20 to 200	1,07
U	Silicone oil	0 to 300	20 to 200	1,07
X	Silicone oil	-10 to 350	20 to 200	1,09

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.

CODE SYMBOLS - Diaphragm seals S

1	2	3	4	5	6	7		8													DESCRIPTION		
S							-																
	A																				Flanged axial diaphragm seal connection		
	R																				Flanged radial diaphragm seal connection - Not possible with rigid mounting design digit 6 : code R		
	W																				Wafer type - Not possible with rigid mounting design digit 6 : code R		
																				(*1)	**Flanges RF (Flange size and rating)**		
		4																			ANSI-150LB 3"-ISO PN 20 DN 80		
		5																			ANSI-150LB 4"-ISO PN 20 DN 100		
		6																			ANSI-300LB 3"-ISO PN 50 DN 80		
		7																			ANSI-300LB 4"-ISO PN 50 DN 100		
		8																			DIN PN40 DN80		
		9																			DIN PN16 DN100		
		H																		(*2)	ANSI-150LB 2"-ISO PN 20 DN 50		
		J																		(*2)	ANSI-300LB 2"-ISO PN 50 DN 50		
		G																		(*2)	DIN PN40 DN50		
		K																		(*9)	G 2" screwed seal		
		L																		(*9)	G 1 1/2" screwed seal		
		U																			PN 25 / DN 50 - coupling nut	DIN 11851 design	material code "V" only
		V																			PN 40 / DN 50 - coupling nut	SMS	material code "V" only
		W																			PN 40 / DN 50	Clamp	material code "V" only
		X																			No dead volume	Sanitary	material code "V" only
		A																		(*3)	Flange adaptor PN 40 DN 25		material code "V" - others UR
		B																		(*3)	Flange adaptor ISO PN 20 DN 25 (1"-150 ANSI)		material code "V" - others UR
		C																		(*3)	Flange adaptor ISO PN 50 DN 25 (1"- 300 ANSI)		material code "V" - others UR
		D																		(*3)	Flange adaptor PN 40 DN 40		material code "V" - others UR
		E																		(*3)	Flange adaptor ISO PN 20 DN 40 (1"1/2 - 150 ANSI)		material code "V" - others UR
		F																		(*3)	Flange adaptor ISO PN 50 DN 40 (1"1/2 - 300 ANSI)		material code "V" - others UR
		S																		(*3)	Screwed 1/2 NPTE		material code "V" - others UR
		T																		(*3)	To be welded (pipe 2"1/2)		material code "V" - others UR

Diaphragm seal material

	Diaphragm	Flange raised face	Flange
V	SS 316L	SS 316L	SS 316L
H	Hastelloy-C	Hastelloy-C	SS 316L
B	Monel	Monel	SS 316L
T	Tantalum	Tantalum	SS 316L
P (*8)	Titanium	Titanium	SS 316L
R (*8)	Zirconium	Zirconium	SS 316L
C	SS 316L + gold coat	SS 316 L	SS 316L
F (*4)	SS 316L + PFA lining	SS 316L + PFA lining	SS 316L

Diaphragm seal design

Y	Flush mounting	
A	Diaphragm extension 50 mm	
B	Diaphragm extension 100 mm	material code "V" - digit 4
C	Diaphragm extension 150 mm	
D	Diaphragm extension 200 mm	
E	Diaphragm extension 50 mm	
F	Diaphragm extension 100 mm	material code "H" - digit 4
G	Diaphragm extension 150 mm	
H	Diaphragm extension 200 mm	
J	Diaphragm extension 50 mm	
K	Diaphragm extension 100 mm	material code "B" - digit 4
L	Diaphragm extension 150 mm	
M	Diaphragm extension 200 mm	
P	Diaphragm extension 50 mm	
R	Diaphragm extension 100 mm	material code "T" - digit 4
S	Diaphragm extension 150 mm	
T	Diaphragm extension 200 mm	

Transmission diaphragm seal to measuring cell

	Mounting design	Capillary length	Capillary design
A	Capillary	1,5 m	PVC protection
B	Capillary	3 m	PVC protection
C	Capillary	6 m	PVC protection
D	Capillary	Upon request	PVC protection
G (*5)	Capillary	1,5 m	SS sheald
H (*5)	Capillary	3 m	SS sheald
K (*5)	Capillary	6 m	SS sheald
L (*5)	Capillary	Upon request	SS sheald
S (*10)	Rigid design - not possible with digit 2 = R, W ; max. process temperature : 150°C		

Special applications and fill fluid for the diaphragm seal only

	Treatment	Fill fluid
Y	None (standard)	Silicone oil
W	None (standard)	Fluorinated oil
F	None (standard)	Sanitary fill fluid
D	Chlorine service	Fluorinated oil
G	Degreasing	Silicone oil
A	Oxygen service	Fluorinated oil - materiel code "V" only
N	NACE	Silicone oil
V (*6)	Vacuum	Silicone oil
U (*6)	Very high temperature (0 to 300°C)	Silicone oil
X (*6)	Very high temperature (20 to 350°C)	Silicone oil

Special options or design

-	* (*7)	Special, no code available

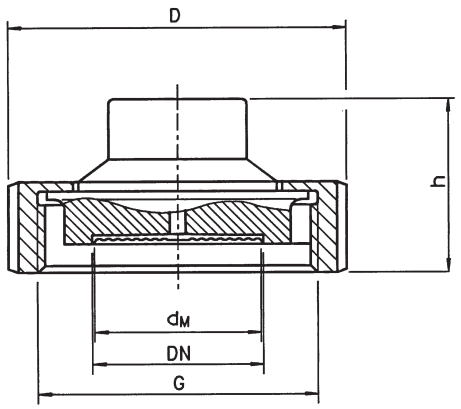
Notes :
- *1 Different flange machinings (recess, groove, ...) upon request
- *2 Only available with span higher than 0 to 0,5/5 bar - max process température : 150°C - Consult Fuji Electric with operating conditions
- *3 Axial diaphragm seal connection - no extension possible
- *4 Not possible with digit 7 : V, H, T
- *5 Recommended for Vacuum or High Temperature applications T > 120°C - (Capillary internal Ø = 2mm)
- *6 Consult FUJI for your application with the specific operating conditions
- *7 When no code can be found in the current code symbols, place * in concerned code digit(s) & add * in 8 th digit
- *8 Max process temperature 150 °C
- *9 Only for rigid mounted design on FDP, FDH transmitter - Only available with span ≥ 0 to 0,5/5 bar
- *10 Process temperature limit 260°C if no vacuum and 180°C if vacuum

Outline dimensions of sanitary diaphragm seals (units : mm)

The seals for the sanitary and pharmaceutical applications are available according DIN, SMS and Tri-Clamp standards

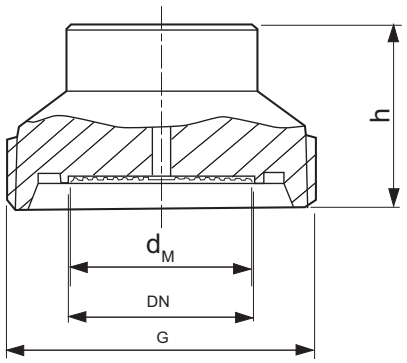
Seals according DIN 11851 et SMS

2 differents design exist for DIN 11851 and SMS :



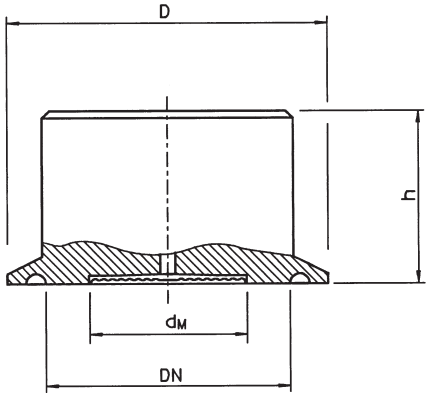
DIN 11851					
DN	PN (Max)	D	h	d_M	G
25	40	63	36	25	Rd 52 x 1/6
32	40	70	36	32	Rd 58 x 1/6
40	40	78	36	40	Rd 65 x 1/6
50	40	112	36	52	Rd 78 x 1/6
65	40	112	36	65	Rd 95 x 1/6
80	40	127	36	76	Rd 110 x 1/4
SMS					
38	40	74	38	40	Rd 48 x 1/6
51	40	84	38	52	Rd 60 x 1/6
63,5	40	100	38	65	Rd 85 x 1/6
76	40	114	38	76	Rd 98 x 1/6

Male thread design



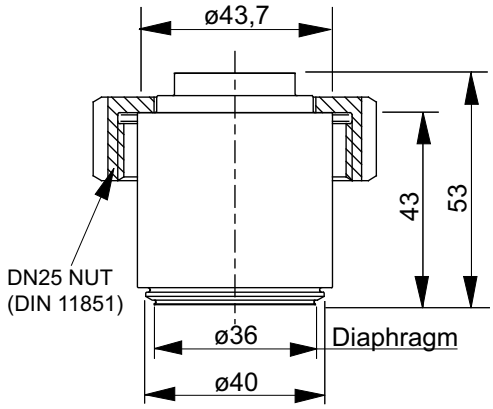
SMS					
DN	PN (Max)	D	h	d_M	G
25	40	51	38	25	Rd 40 x 1/6
32	40	60	38	32	Rd 48 x 1/6
38	40	74	38	40	Rd 60 x 1/6
51	40	84	38	52	Rd 70 x 1/6
63.5	40	100	38	65	Rd 85 x 1/6
76	40	114	38	76	Rd 98 x 1/4

Tri Clamp design

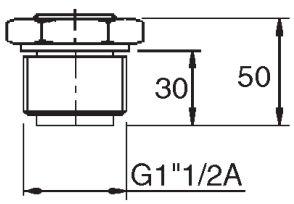


DN	PN (Max)	D	h	d_M
1"1/2	40	50	35	32
2"	40	64	35	40
2"1/2	40	77,5	35	50
3"	40	91	35	65

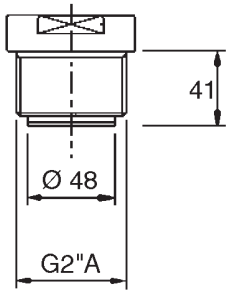
Dead volume seal



Screwed G 1"1/2 A

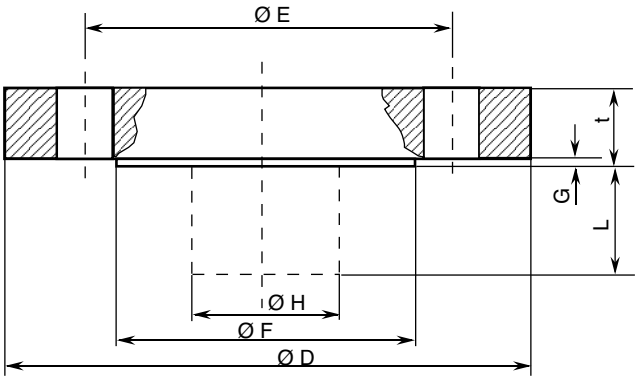


Screwed G 2"A

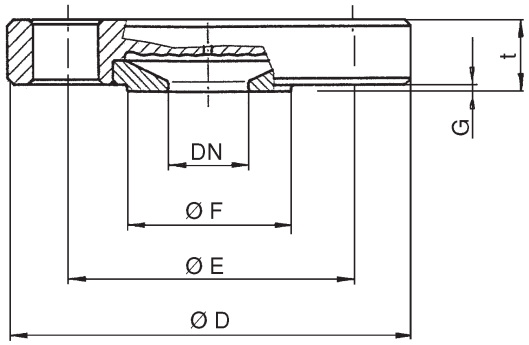


Outline dimensions of the standard diaphragm seals - Flush/extension (units : mm)

DN 50, 80, 100



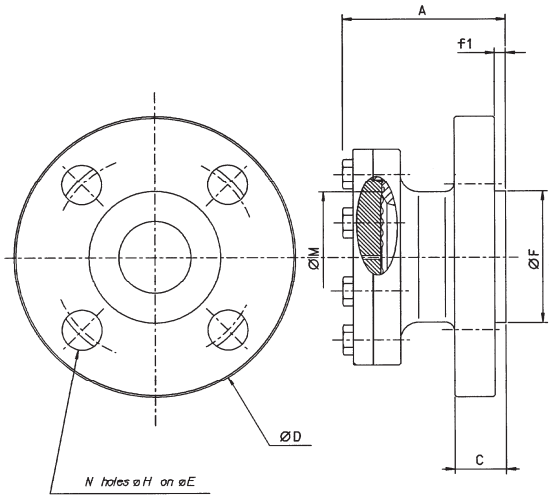
DN ≤ 25 or 1"



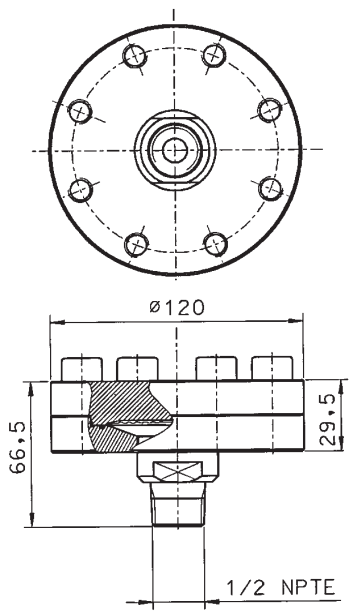
FLANGE DIMENSIONS ACCORDING DIN 2501 ET B16.5										
DIN / ISO		ANSI								
PN	DN	NP	NW	ØD	ØE	ØF	G	ØH	t	N x Øh
40	15			95	65	45	2		22	4 x 14
40	20			105	75	58	2		22	4 x 14
40	25			115	85	68	2		22	4 x 14
40	50			165	125	102	3	48	20	4 x 18
40	80			200	160	138	3	73	20	8 x 18
16	100			220	180	158	3	96	20	8 x 18
20	15	150 lbs	1/2"	95	60,5	35	2		22	4 x
16	20	20150 lbs		3/4"	100	70	43	2		22
4 x 1620		25150 lbs		1"	110	79,5	51	2		22
4 x 16										
50	15	300 lbs	1/2"	95	66,5	35	2		22	4 x 16
50	20	300 lbs	3/4"	120	82,5	43	2		22	4 x 20
50	25	300 lbs	1"	125	89	51	2		22	4 x 20
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 diaphragm seals with adaptors (units : mm)

Flange adaptor



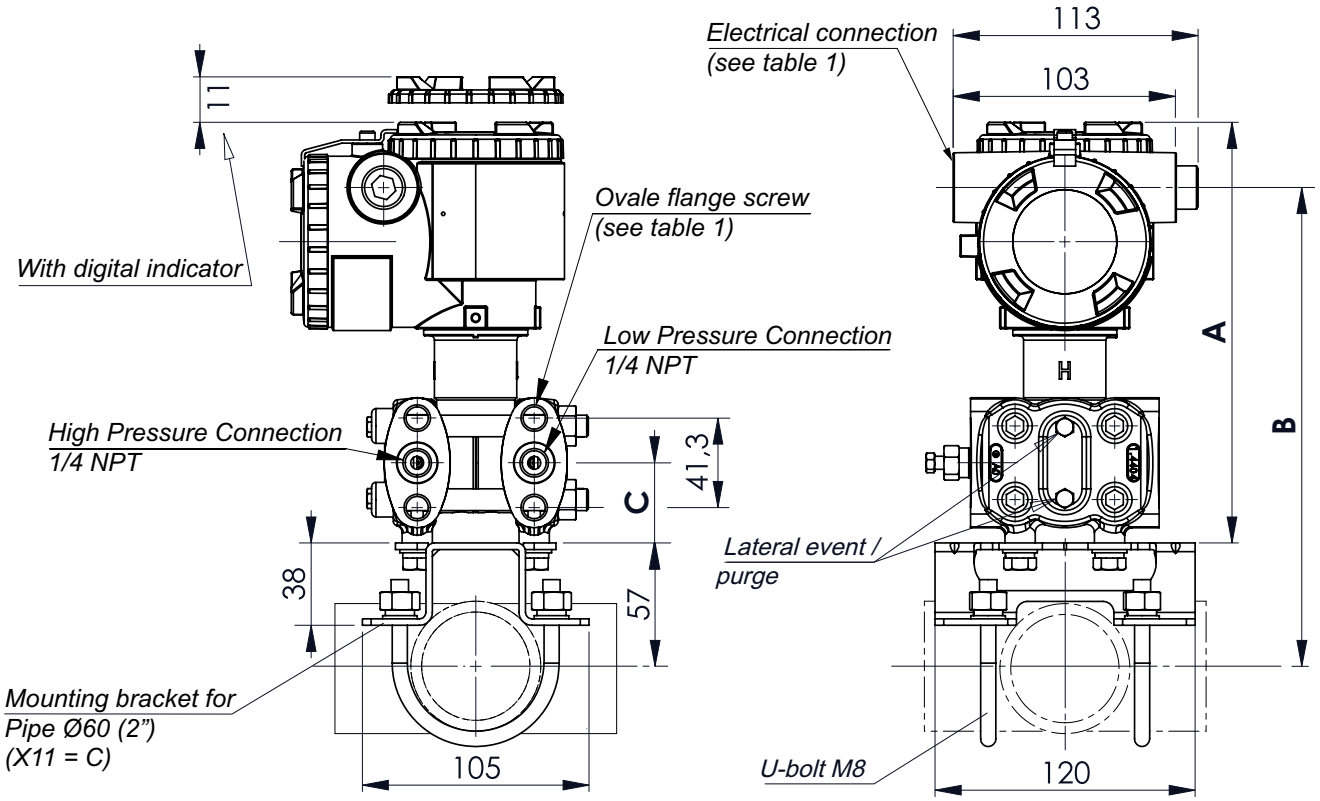
Screwed adaptor

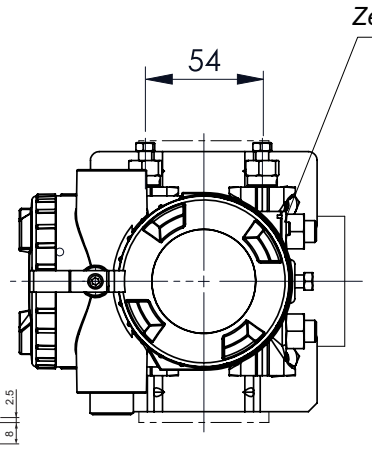


FLANGES DIMENSIONS												
DIN		AINSI		ØD	ØE			ØF	Cmin	f1	A	ØM
PN	DN	Pe	DN			N	ØH					
40	25			115	85	4	14	68	18	2	83	72,2
20	25	150	1"	108	79,5	4	15,8	50,8	16	1,6	81	72,2
50	25	300	1"	124	89	4	19	50,8	17,5	1,6	86	72,2
40	40			150	110	4	18	88	18	3	85	72,2
20	40	150	1 1/2"	127	98,4	4	15,8	73	18	16	85	72,2
50	40	300	11/2"	156	114,3	4	22,2	73	21	1,6	91	72,2

OUTLINE DIAGRAM OF EACH STANDARD MODEL (Unit:mm)

Diffential pressure / flow transmitter : FKC...G





MODEL	DIMENSIONS		
	A	B	C
FDC □11 FDC □22	*198,5*	*225,5*	*38,5*
FDC □33 FDC □35 FDC □36	*194*	*194*	*37*
FDC □38 FDC □43 FDC □45 FDC □46 FDC □48	*198,5*	*225,5*	*38,5*

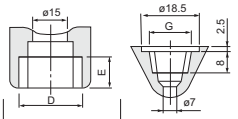


Table 1

Code X=4	Electrical connection D	E	Oval flange screw
R	M20x1.5	16	7/16-20 UNF
T	1/2-14NPT	16	7/16-20 UNF
V	Pg13.5	10,5	M10
W	M20x1.5	16	M10
X	Pg13.5	10,5	7/16-20 UNF

Weight :
About 3,5 kg (without option) Add : - 0,3 kg for indicator option
- 2 kg for stainless steel housing option
- 0,5 kg for mounting bracket

X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8 - X_9 X_{10} X_{11} X_{12} X_{13} - X_{14} X_{15} - X_{16}

F K C □ □ □ □ G - □ □ □ □ □ - □ □ - □

	SPAN LIMIT	
	Min.	Max.
FKC □□1	0,1 kPa (1 mbar)	1kPa (10 mbar)
FKC □□2	0,1 kPa (1 mbar)	6kPa (60 mbar)
FKC □□3	0,32 kPa (3,2 mbar)	32 kPa (320 mbar)
FKC □□5	1,3 kPa (13 mbar)	130 KPa (1,3 bar)
FKC □□6	5 kPa (50 mbar)	500 kPa (5 bar)
FKC □□8	30 kPa (300 mbar)	3 MPa (30 bar)

Gauge pressure transmitter : FKG...G

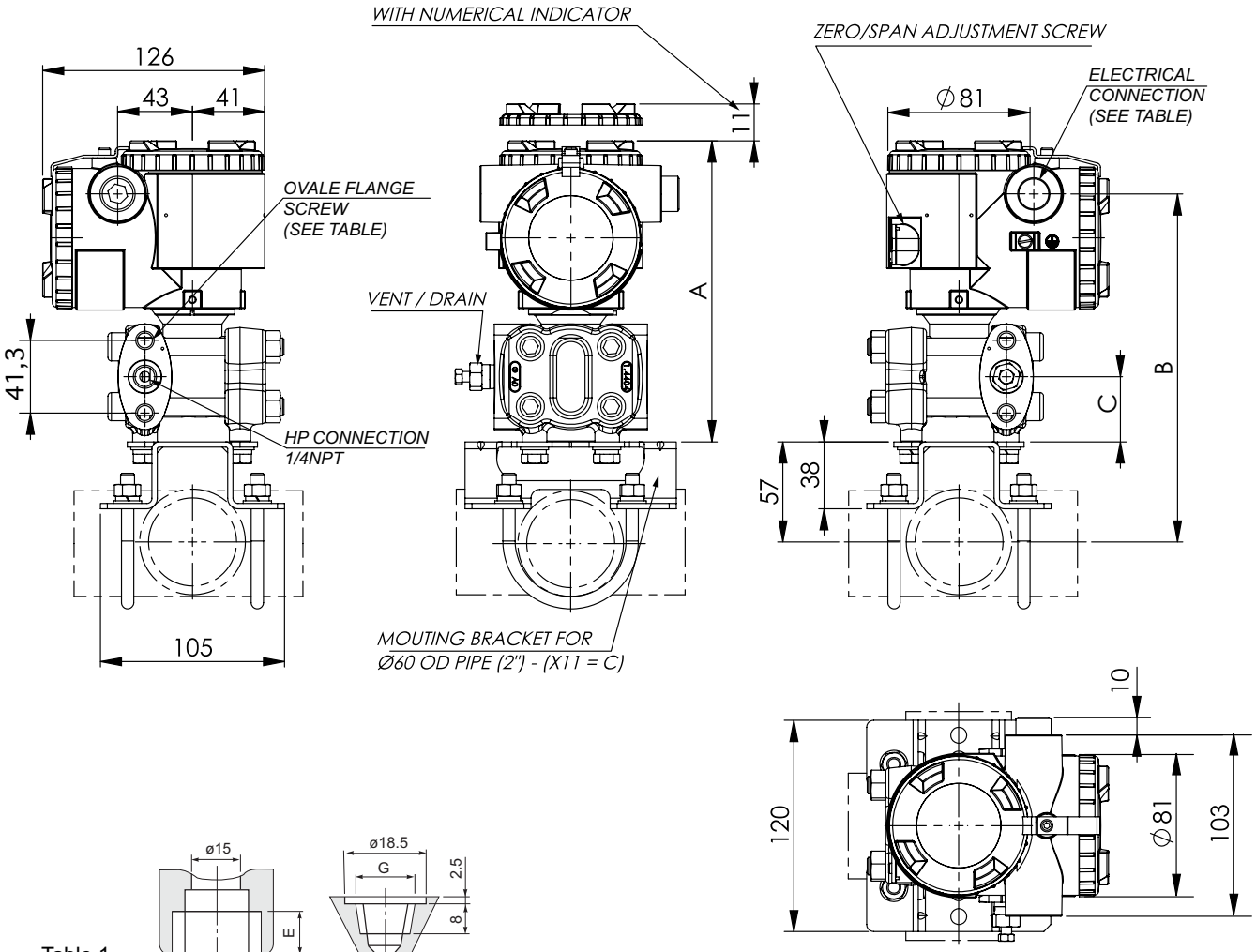


Table 1

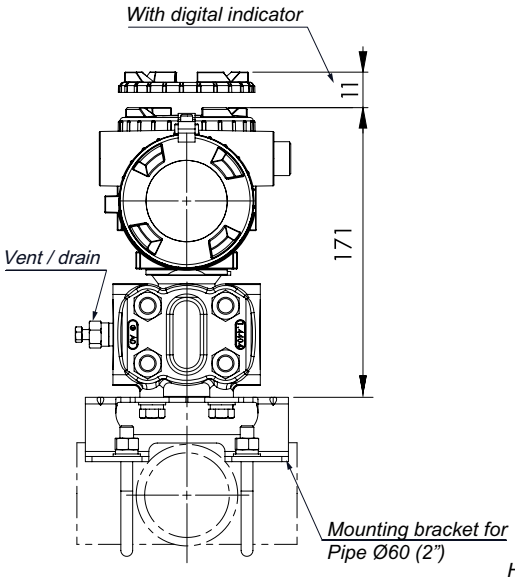
Code X=4	Electrical connection		Oval flange screw
	D	E	
R	M20x1.5	16	7/16-20 UNF
T	1/2-14NPT	16	7/16-20 UNF
W	M20x1.5	16	M10

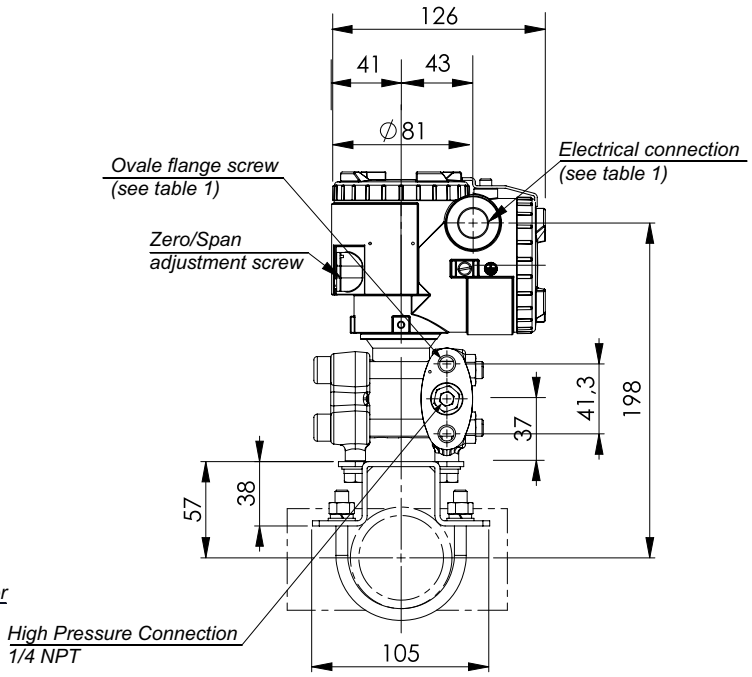
DIMENSIONS			
MODEL	A	B	C
FKG ☐01	171	198	37
FKG ☐02			
FKG ☐03			
FKG ☐04			
FKG ☐05	172,5	199,5	38,5

X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8 - X_9 X_{10} X_{11} X_{12} X_{13} - X_{14} X_{15} - X_{16}		*SPAN LIMIT*	
F K G ☐0☐☐5-☐☐☐☐☐-☐☐-☐		Min.	Max.
	FKG ☐01	1,3 KPa (13 mbar)	130 KPa (1300 mbar)
	FKG ☐02	5 KPa (50 mbar)	500 KPa (5 bar)
	FKG ☐03	30 KPa (0,3 bar)	3 MPa (30 bar)
	FKG ☐04	100 KPa (1 bar)	10 MPa (100 bar)
	FKG ☐05	500 KPa (5 bar)	50 MPa (500 bar)

Weight :
About 3,5 kg (without option) *Add : - 0,3 kg for indicator option*
- 0,5 kg for mounting bracket
- 2 kg for stainless steel housing option

Absolute pressure transmitter : FKA...G





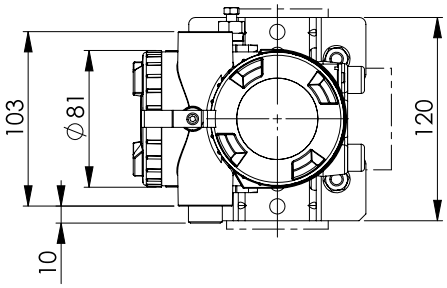
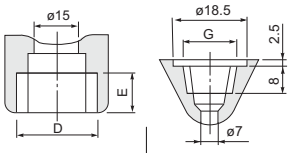


Table 1



Code X=4	Electrical connection		Oval flange screw
	D	E	
R	M20x1.5	16	7/16-20 UNF
T	1/2-14NPT	16	7/16-20 UNF
W	M20x1.5	16	M10

X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8 - X_9 X_{10} X_{11} X_{12} X_{13} - X_{14} X_{15} - X_{16}

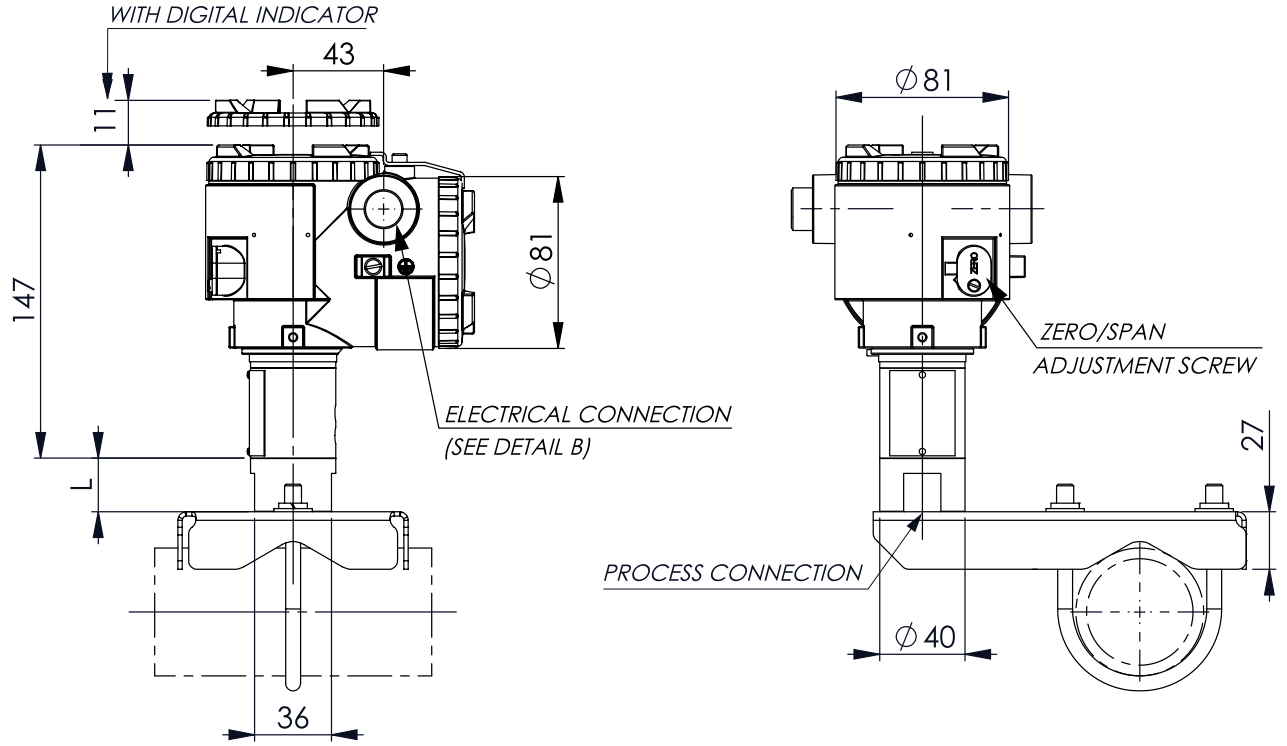
F K A □□□□ G - □□□□□ - □□ - □

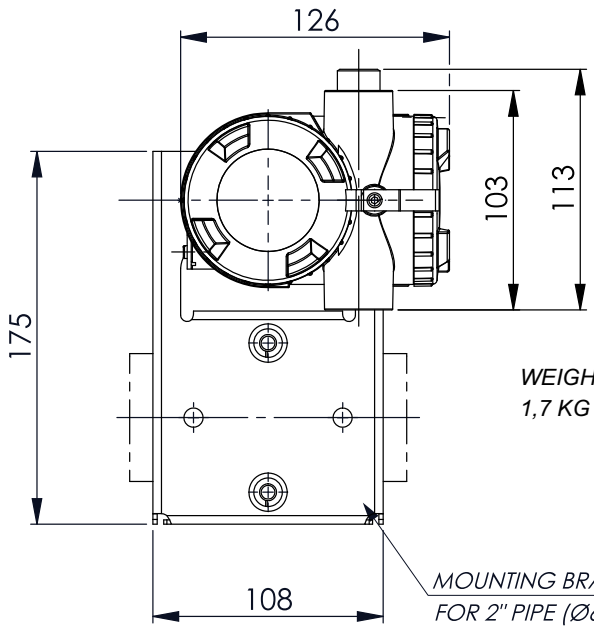
	SPAN LIMIT	
	Min.	Max.
FKA □01	1,6 KPa (16 mbar)	16 KPa (160 mbar)
FKA □02	1,6 KPa (16 mbar)	130 KPa (1,3 bar)
FKA □03	5 KPa (50 mbar)	500 KPa (5 bar)
FKA □04	30 KPa (300 mbar)	3 MPa (30 bar)
FKA □05	100 KPa (1 bar)	10 MPa (100 bar)

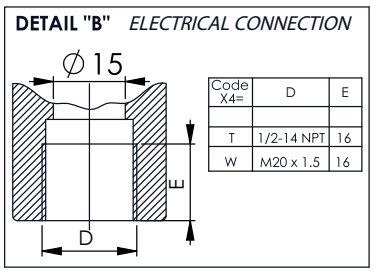
Weight :
About 3,5 kg (without option)

Add : - 0,3 kg for indicator option
- 2 kg for stainless steel housing option
- 0,5 kg for mounting bracket

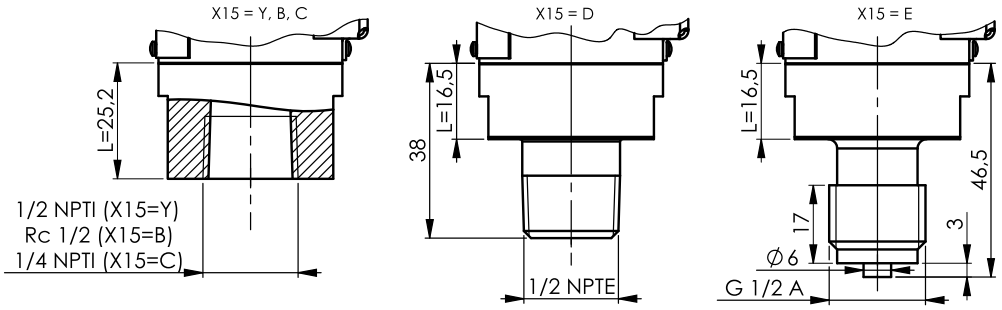
Direct mount type gauge pressure transmitter : FKP...G





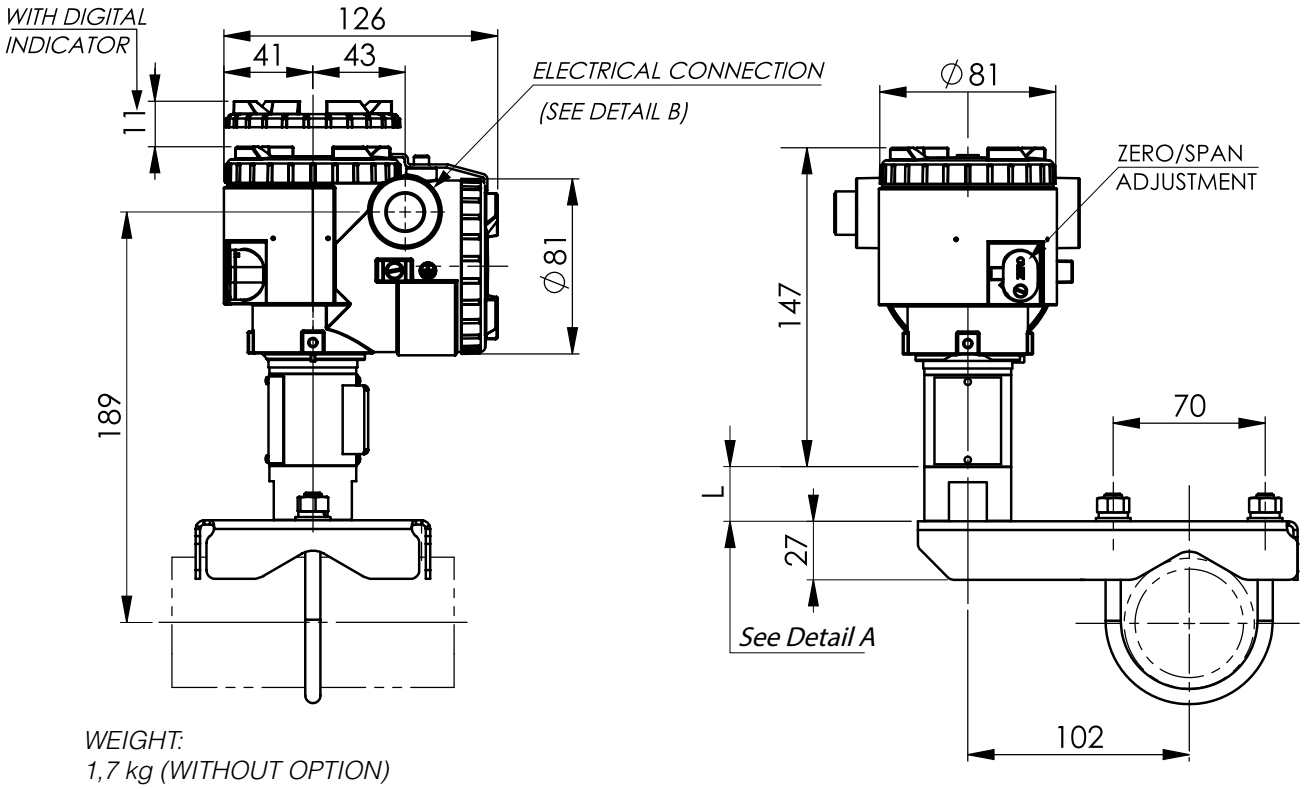


WEIGHT :
1,7 KG (WITHOUT OPTION)
ADD : - 0,5 KG FOR MOUNTING BRACKET
- 2 KG FOR STAINLESS STEEL HOUSING OPTION

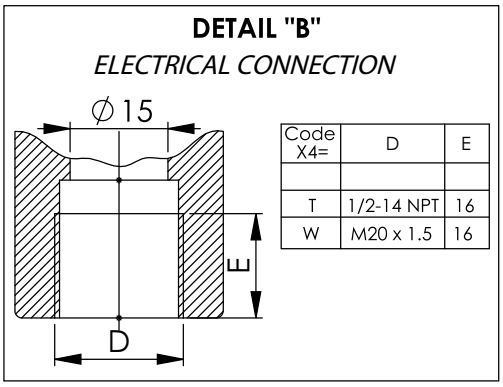


X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8 - X_9 X_{10} X_{11} X_{12} X_{13} - X_{14} X_{15}		SPAN LIMIT	
F K P □ 0 □ V G - □□□□□ - 0 □		Min.	Max.
	FKP□01	8,125 kPa (0,08125 bar)	130 kPa (1,3 bar)
	FKP□02	31,25 kPa (0,3125 bar)	500 kPa (5 bar)
	FKP□03	187,5 kPa (1,875 bar)	3000 kPa (30 bar)
	FKP□04	625 kPa (6,25 bar)	10000 kPa (100 bar)

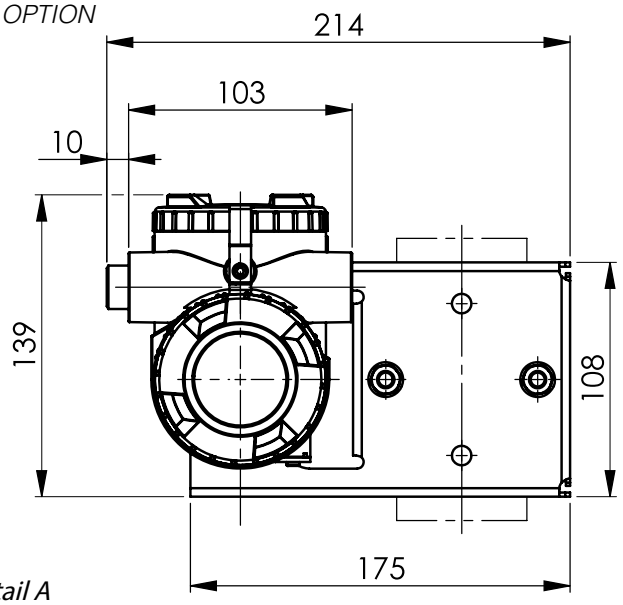
Direct mount type absolute pressure transmitter : FKH...G



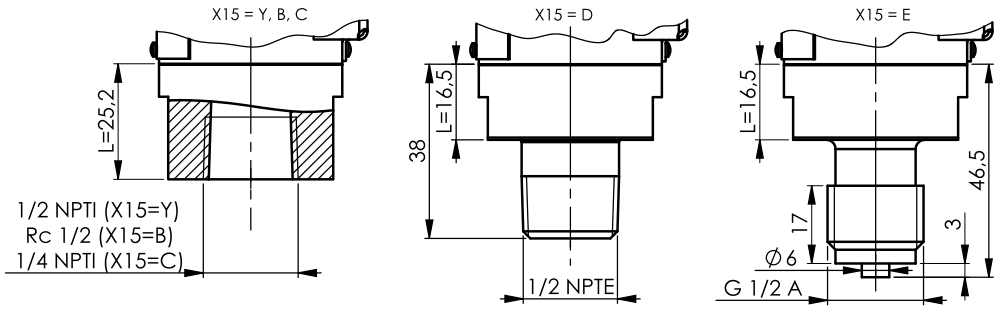
WEIGHT:
1,7 kg (WITHOUT OPTION)
ADD: - 0,5 kg FOR MOUNTING BRACKET
- 2 kg FOR STAINLESS STEEL HOUSING OPTION



Code X4=	D	E
T	1/2-14 NPT	16
W	M20 x 1.5	16



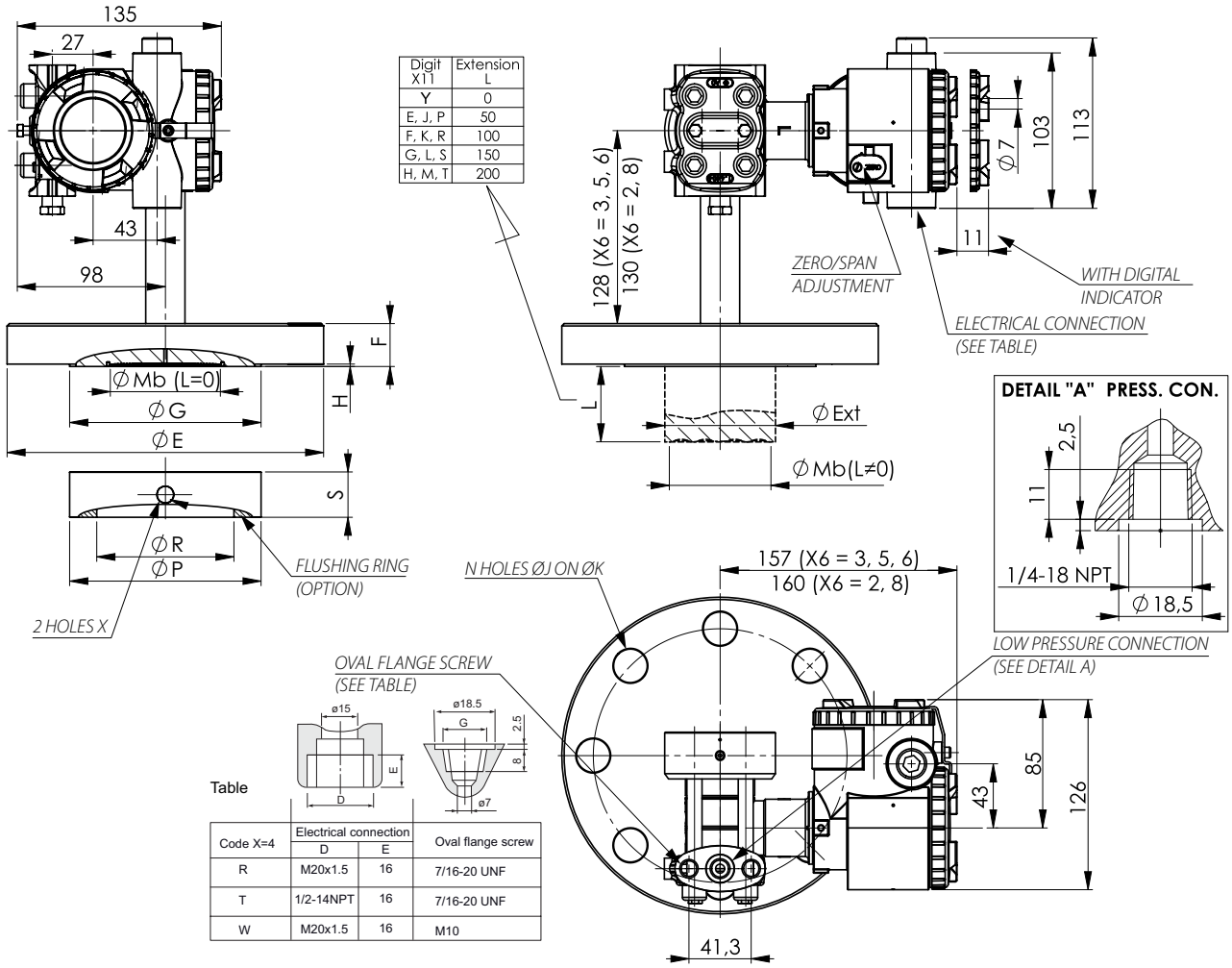
Detail A



X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8 - X_9 X_{10} X_{11} X_{12} X_{13} - X_{14} X_{15}		SPAN LIMIT	
F K H □ 0 □ □ G - □ □ □ □ □ - 0 □		Min.	Max.
	FKH □02	8,125 KPa (81,25 mbar)	130 KPa (1300 mbar)
	FKH □03	31,25 KPa (0,3125 mbar)	500 KPa (5 bar)
	FKH □04	187,5 KPa (1,875 mbar)	3000 KPa (30 bar)

Level transmitter : FKE...VG

Short Design Mounting



Table

Code X=4	Electrical connection D	Electrical connection E	Oval flange screw
R	M20x1.5	16	7/16-20 UNF
T	1/2-14NPT	16	7/16-20 UNF
W	M20x1.5	16	M10

FLUSHING RINGS DIMENSIONS					
EN 1092-1	EN 1759-1	*HOLES* X	ØP	ØR	S
DN 80		1/4-18 NPT	138	91	30
DN 80		1/2-14 NPT	138	91	30
	NPS 3"	1/4-18 NPT	127	91	30
	NPS 3"	1/2-14 NPT	127	91	30
DN 100		1/4-18 NPT	162	116	30
DN 100		1/2-14 NPT	162	116	30
	NPS 4"	1/4-18 NPT	157	116	30
	NPS 4"	1/2-14 NPT	157	116	30

FLANGES DIMENSIONS ACCORDING TO EN 1092-1 & EN 1759-1									*Diaphragm & extension* *Exotic material*	
EN 1092-1	EN 1759-1	ØE	F min	ØG	H	N x ØJ	ØK	*Weight* (kg)	L=0 (X11=Y) ØMb	L≠0 ØExt(ØMb)
DN50 PN40		165	20	102	2	4 x 18	125	3,3	59	48,3 (47)
	2" CLASS 150	152	21	92	1,6	4 x 19	120,6	2,7	59	48,3 (47)
	2" CLASS 300	165	22,5	92	1,6	8 x 19	127	3.7	59	48,3 (47)
DN80 PN40		200	24	138	2	8 x 18	160	5,8	89	76 (72)
	3" CLASS 150	190	24	127	1,6	4 x 19	152,4	5,3	89	76 (72)
	3" CLASS 300	210	28,5	127	1,6	8 x 22,2	168,3	7,8	89	76 (72)
DN100 PN16		220	22	158	2	8 x 18	180	5,9	89	94 (89)
	4" CLASS 150	229	24	157	1,6	8 x 19	190,5	7,7	89	94 (89)
	4" CLASS 300	254	32	157	1,6	8 x 22,2	200	12,7	89	94 (89)

Weight :
10.2 to 19.2 kg (without option)
Add : - Flange's weight (see table)
- 1 kg per 50 mm of extension
- 0.3 kg for indicator (option)
- 2 kg for SS mounting bracket (option)
- 0.5 kg for mounting bracket

$X_1\ X_2\ X_3\ X_4\ X_5\ X_6\ X_7\ X_8 - X_9\ X_{10} X_{11} X_{12} X_{13} - X_{14}\ X_{15}$

F K E □□□□ G - □□□□□ - □□

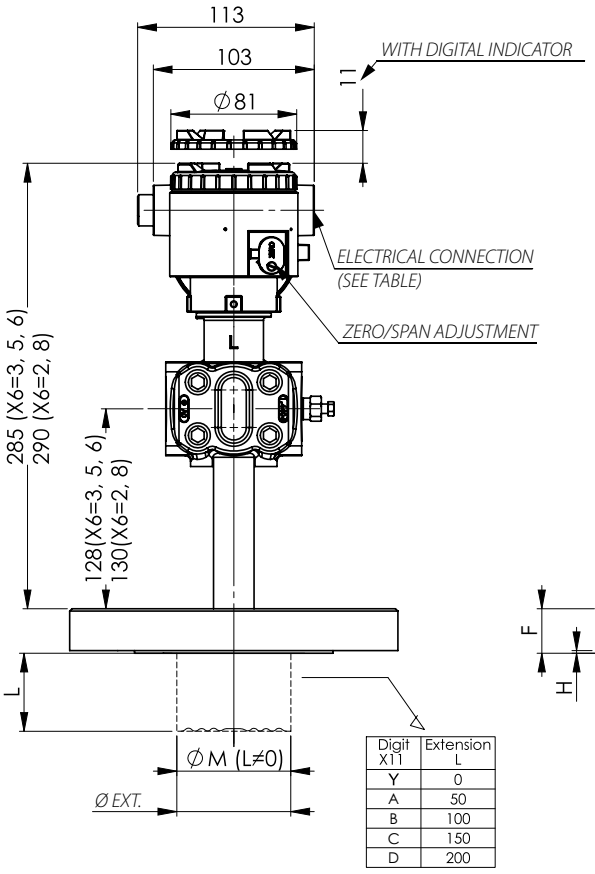
X7 = H, M, T, P, R

X11 = Y, E, F, G, H, J, K, L, M, P, R, S, T

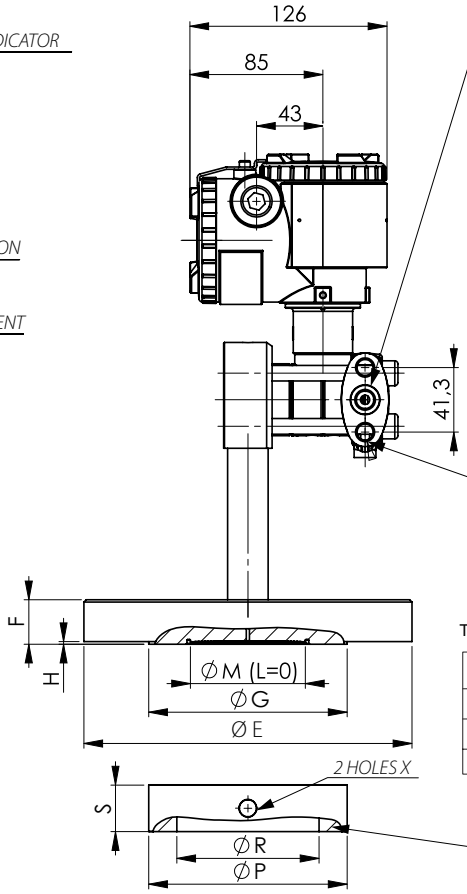
	SPAN LIMIT	
	Min.	Max.
FKE □□2	0,1 KPa (1 mbar)	6 KPa (60 mbar)
FKE □□3	0,32 KPa (3,2 mbar)	32 KPa (320 mbar)
FKE □□5	1,3 KPa (13 mbar)	130 KPa (1,3 bar)
FKE □□6	5 KPa (50 mbar)	500 KPa (5 bar)
FKE □□8	30 KPa (300 mbar)	3 MPa (30 bar)

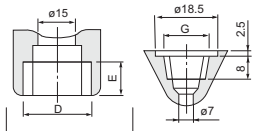
Level transmitter : FKE...VG

Long Design Mounting



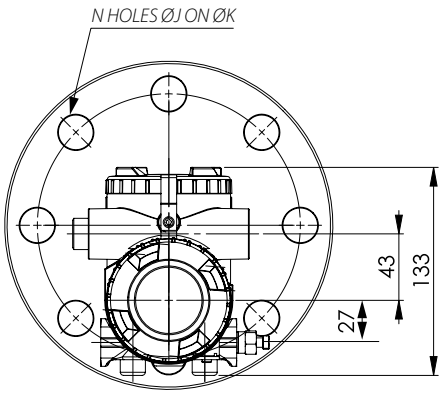
Digit X11	Extension L
Y	0
A	50
B	100
C	150
D	200





Table

Code X=4	Electrical connection D	Electrical connection E	Oval flange screw
R	M20x1.5	16	7/16-20 UNF
T	1/2-14NPT	16	7/16-20 UNF
W	M20x1.5	16	M10



FLUSHING RINGS DIMENSIONS					
EN 1092-1	EN 1759-1	HOLES X	ØP	ØR	S
DN 80		1/4-18 NPT	138	91	30
DN 80		1/2-14 NPT	138	91	30
	NPS 3"	1/4-18 NPT	127	91	30
	NPS 3"	1/2-14 NPT	127	91	30
DN 100		1/4-18 NPT	162	116	30
DN 100		1/2-14 NPT	162	116	30
	NPS 4"	1/4-18 NPT	157	116	30
	NPS 4"	1/2-14 NPT	157	116	30

FLANGES DIMENSIONS ACCORDING TO EN 1092-1 & EN 1759-1								Diaphragm & extension		Weight (kg)
EN 1092-1	EN 1759-1	ØE	F min	ØG	H	N x ØJ	ØK	L=0 ØM	L≠0 ØM=ØExt	
DN 50 PN 10/40		165	20	102	2	4 x 18	125	59	48	3,3
	NPS 2" CLASS 150	152	21	92	1,6	4 x 19	120,6	59	48	2,7
	NPS 2" CLASS 300	165	22,5	92	1,6	8 x 19	127	59	48	3.7
DN 80 PN 40		200	24	138	2	8 x 18	160	73	73	5,8
	NPS 3" CLASS 150	190	24	127	1,6	4 x 19	152,4	73	73	5,3
	NPS 3" CLASS 300	210	28,5	127	1,6	8 x 22,2	168,3	73	73	7,8
DN 100 PN 16		220	22	158	2	8 x 18	180	96	96	5,9
	NPS 4" CLASS 150	229	24	157	1,6	8 x 19	190,5	96	96	7,7
	NPS 4" CLASS 300	254	32	157	1,6	8 x 22,2	200	96	96	12,7

Weight :
10.2 to 19.2 kg (without option)
Add :
- *Flange's weight (see table)*
- *1 kg per 50 mm of extension*
- *0.3 kg for indicator (option)*
- *2 kg for SS mounting bracket (option)*
- *0.5 kg for mounting bracket*

X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8 - X_9 X_{10} X_{11} X_{12} X_{13} - X_{14} X_{15}

F K E □□□□ G - □□□□□ - □□

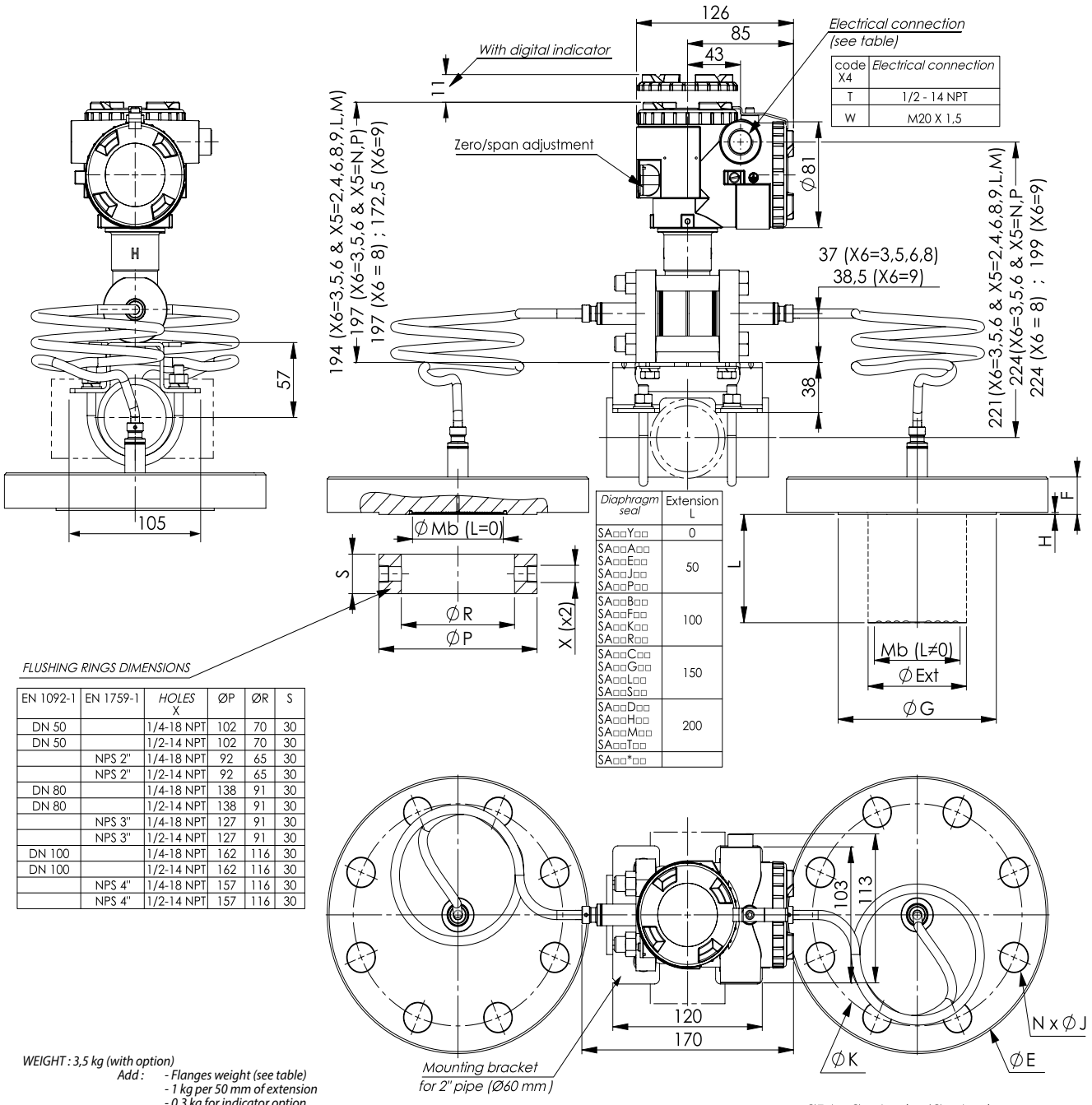
X7 = V, W, A, B

X11 = Y, A, B, C, D

	SPAN LIMIT	
	Min.	Max.
FKE □□2	0,1 KPa (1 mbar)	6 KPa (60 mbar)
FKE □□3	0,32 KPa (3,2 mbar)	32 KPa (320 mbar)
FKE □□5	1,3 KPa (13 mbar)	130 KPa (1,3 bar)
FKE □□6	5 KPa (50 mbar)	500 KPa (5 bar)
FKE □□8	30 KPa (300 mbar)	3 MPa (30 bar)

Remote seal type differential pressure transmitter : FKD...VG

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



EN 1092-1	EN 1759-1	*HOLES* X	ØP	ØR	S
DN 50		1/4-18 NPT	102	70	30
DN 50		1/2-14 NPT	102	70	30
	NPS 2"	1/4-18 NPT	92	65	30
	NPS 2"	1/2-14 NPT	92	65	30
DN 80		1/4-18 NPT	138	91	30
DN 80		1/2-14 NPT	138	91	30
	NPS 3"	1/4-18 NPT	127	91	30
	NPS 3"	1/2-14 NPT	127	91	30
DN 100		1/4-18 NPT	162	116	30
DN 100		1/2-14 NPT	162	116	30
	NPS 4"	1/4-18 NPT	157	116	30
	NPS 4"	1/2-14 NPT	157	116	30

WEIGHT : 3,5 kg (with option)

Add : - Flanges weight (see table)
- 1 kg per 50 mm of extension
- 0,3 kg for indicator option
- 2 kg for stainless steel housing option

ØExt = Ø extension/Ø extension

Wetted parts material

FLANGES DIMENSIONS ACCORDING TO EN 1092-1 & EN 1759-1										*SS 316L*		*Exotic material*	
diaphragm seal	EN 1092-1	EN 1759-1	ØE	F min	ØG	H	N x ØJ	ØK	*Weight* (kg)	L=0 ØMb	L≠0 ØExt=ØMb	L=0 ØMb	L≠0 ØExt(ØMb)
SAG□□□□	DN50 PN40		165	20	102	2	4 x 18	125	3,3	59	48	59	48,3 (47)
SAH□□□□		2" CLASS 150	152	21	92	1,6	4 x 19	120,6	2,7	59	48	59	48,3 (47)
SAJ□□□□		2" CLASS 300	165	22,5	92	1,6	8 x 19	127	3.7	59	48	59	48,3 (47)
SA8□□□□	DN80 PN40		200	24	138	2	8 x 18	160	5,8	73	73	89	76 (72)
SA4□□□□		3" CLASS 150	190	24	127	1,6	4 x 19	152,4	5,3	73	73	89	76 (72)
SA6□□□□		3" CLASS 300	210	28,5	127	1,6	8 x 22,2	168,3	7,8	73	73	89	76 (72)
SA9□□□□	DN100 PN16		220	22	158	2	8 x 18	180	5,9	96	96	89	94 (89)
SA5□□□□		4" CLASS 150	229	24	157	1,6	8 x 19	190,5	7.7	96	96	89	94 (89)
SA7□□□□		4" CLASS 300	254	32	157	1,6	8 x 22,2	200	12,7	96	96	89	94 (89)

X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8- X_9 X_{10} X_{11} X_{12} X_{13}

F K D □□□ V G-□□□□ Y

X11 = C, H

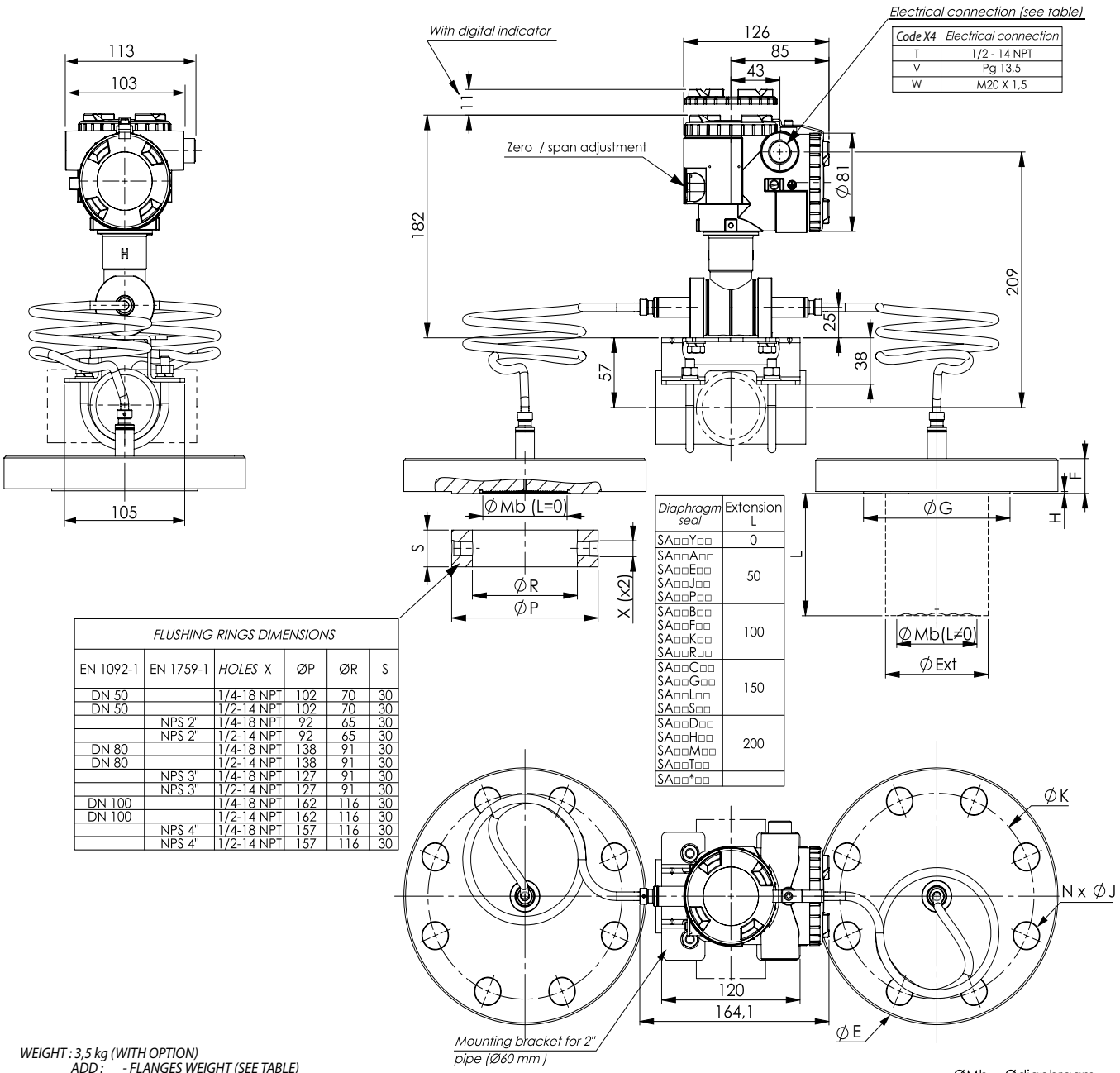
Diaphragm seals :

HP	LP
X_1 X_2 X_3 X_4 X_5 X_6 X_7	X_1 X_2 X_3 X_4 X_5 X_6 X_7
S A □□□□□	S A □□□□□

	SPAN LIMIT	
	Min.	Max.
FKD□□3	0,32 KPa (3,2 mbar)	32 KPa (320 mbar)
FKD□□5	1,3 KPa (13 mbar)	130 KPa (1,3 bar)
FKD□□6	5 KPa (50 mbar)	500 KPa (5 bar)
FKD□□8	30 KPa (300 mbar)	3 MPa (30 bar)

Remote seal type differential pressure transmitter : FKD...VG

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



Code X4	Electrical connection
T	1/2 - 14 NPT
V	Pg 13,5
W	M20 X 1,5

Diaphragm seal	Extension L
SA□□Y□□	0
SA□□A□□ SA□□E□□ SA□□J□□ SA□□P□□	50
SA□□B□□ SA□□F□□ SA□□K□□ SA□□R□□	100
SA□□C□□ SA□□G□□ SA□□L□□ SA□□S□□	150
SA□□D□□ SA□□H□□ SA□□M□□ SA□□T□□	200
SA□□*□□	

FLUSHING RINGS DIMENSIONS					
EN 1092-1	EN 1759-1	HOLES X	ØP	ØR	S
DN 50		1/4-18 NPT	102	70	30
DN 50		1/2-14 NPT	102	70	30
	NPS 2"	1/4-18 NPT	92	65	30
	NPS 2"	1/2-14 NPT	92	65	30
DN 80		1/4-18 NPT	138	91	30
DN 80		1/2-14 NPT	138	91	30
	NPS 3"	1/4-18 NPT	127	91	30
	NPS 3"	1/2-14 NPT	127	91	30
DN 100		1/4-18 NPT	162	116	30
DN 100		1/2-14 NPT	162	116	30
	NPS 4"	1/4-18 NPT	157	116	30
	NPS 4"	1/2-14 NPT	157	116	30

WEIGHT : 3,5 kg (WITH OPTION)
ADD : - FLANGES WEIGHT (SEE TABLE)
- 1 kg PER 50 mm EXTENSION
- 0,3 kg FOR INDICATOR OPTION
- 2 kg FOR STAINLESS STEEL HOUSING OPTION

ØMb= Ødiaphragm
ØExt = Ø extension

FLANGES DIMENSIONS ACCORDING TO EN 1092-1 & EN 1759-1										SS 316L		Exotic material	
diaphragm seal	EN 1092-1	EN 1759-1	ØE	F min	ØG	H	N x ØJ	ØK	Weight (kg)	L=0 ØMb	L≠0 ØExt=ØMb	L=0 ØMb	L≠0 ØExt(ØMb)
SAG□□□□	DN50 PN40		165	20	102	2	4 x 18	125	3,3	59	48	59	48,3 (47)
SAH□□□□		2" CLASS 150	152	21	92	1,6	4 x 19	120,6	2,7	59	48	59	48,3 (47)
SAJ□□□□		2" CLASS 300	165	22,5	92	1,6	8 x 19	127	3.7	59	48	59	48,3 (47)
SA8□□□□	DN80 PN40		200	24	138	2	8 x 18	160	5,8	73	73	89	76 (72)
SA4□□□□		3" CLASS 150	190	24	127	1,6	4 x 19	152,4	5,3	73	73	89	76 (72)
SA6□□□□		3" CLASS 300	210	28,5	127	1,6	8 x 22,2	168,3	7,8	73	73	89	76 (72)
SA9□□□□	DN100 PN16		220	22	158	2	8 x 18	180	5,9	96	96	89	94 (89)
SA5□□□□		4" CLASS 150	229	24	157	1,6	8 x 19	190,5	7,7	96	96	89	94 (89)
SA7□□□□		4" CLASS 300	254	32	157	1,6	8 x 22,2	200	12,7	96	96	89	94 (89)

X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8 - X_9 X_{10} X_{11} X_{12} X_{13}
F K D □ □ □ V G - □ □ □ □ Y
X5 = 2, 4, 6, 8, 9 — X11 = C, H

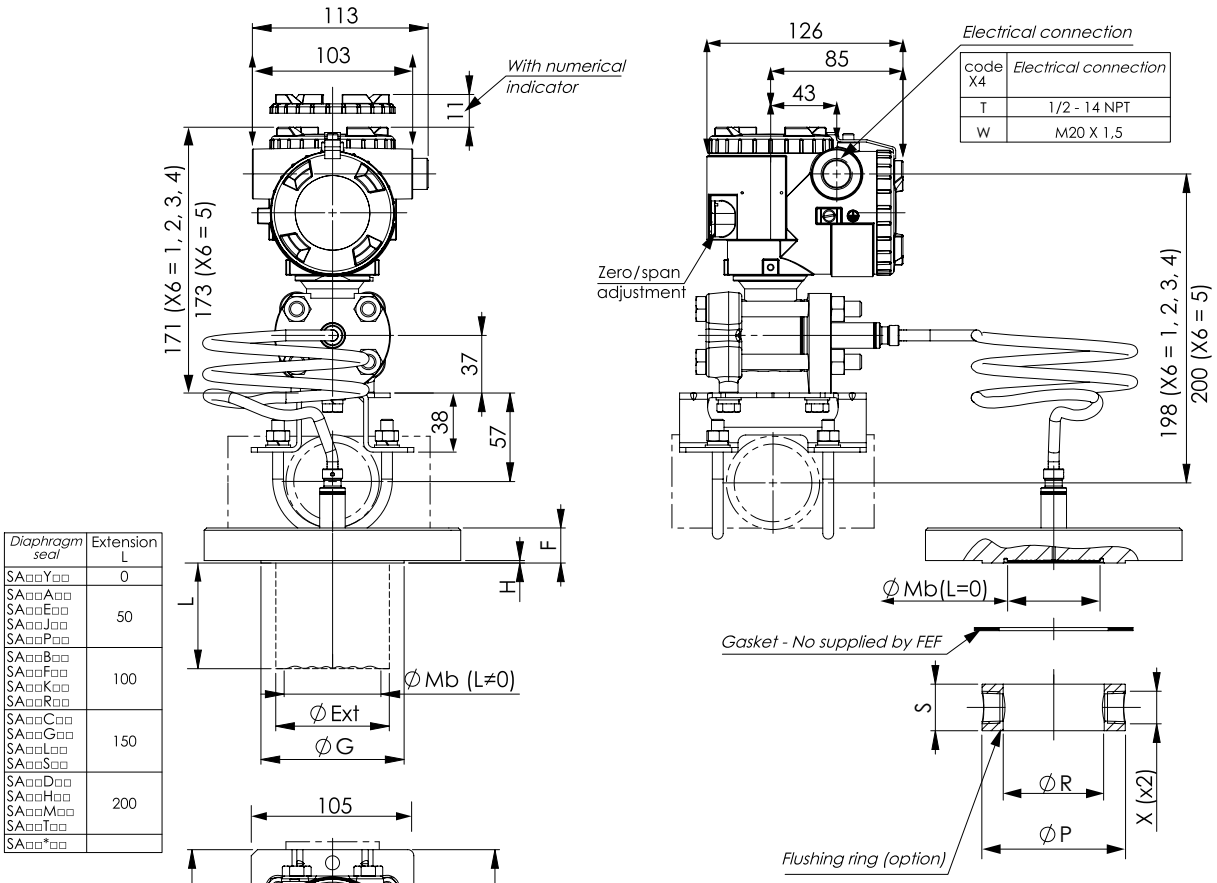
Diaphragm seals :

HP	LP
X_1 X_2 X_3 X_4 X_5 X_6 X_7	X_1 X_2 X_3 X_4 X_5 X_6 X_7
S A □ □ □ □ □	S A □ □ □ □ □

	SPAN LIMIT	
	Min.	Max.
FKD□□3	0,32 KPa (3,2 mbar)	32 KPa (320 mbar)
FKD□□5	1,3 KPa (13 mbar)	130 KPa (1,3 bar)
FKD□□6	5 KPa (50 mbar)	500 KPa (5 bar)

Remote seal type absolute or gauge pressure transmitter : FKB / FKM...VG

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



code X4	Electrical connection
T	1/2 - 14 NPT
W	M20 X 1,5

Diaphragm seal	Extension L
SA□□Y□□	0
SA□□A□□ SA□□E□□ SA□□J□□ SA□□P□□	50
SA□□B□□ SA□□F□□ SA□□K□□ SA□□R□□	100
SA□□C□□ SA□□G□□ SA□□L□□ SA□□S□□	150
SA□□D□□ SA□□H□□ SA□□M□□ SA□□T□□	200
SA□□*□□	

FLUSHING RINGS DIMENSIONS

EN 1092-1	EN 1759-1	TROUS / HOLES X	ØP	ØR	S
DN 50		1/4-18 NPT	102	70	30
DN 50		1/2-14 NPT	102	70	30
	NPS 2"	1/4-18 NPT	92	65	30
	NPS 2"	1/2-14 NPT	92	65	30
DN 80		1/4-18 NPT	138	91	30
DN 80		1/2-14 NPT	138	91	30
	NPS 3"	1/4-18 NPT	127	91	30
	NPS 3"	1/2-14 NPT	127	91	30
DN 100		1/4-18 NPT	162	116	30
DN 100		1/2-14 NPT	162	116	30
	NPS 4"	1/4-18 NPT	157	116	30
	NPS 4"	1/2-14 NPT	157	116	30

FLANGES DIMENSIONS ACCORDING TO EN 1092-1 & EN 1759-1

diaphragm seal	EN 1092-1	EN 1759-1	ØE	F min	ØG	H	N x ØJ	ØK	Weight (kg)	SS 316L L=0 ØMb	SS 316L L≠0 ØExt=ØMb	Exotic material L=0 ØMb	Exotic material L≠0 ØExt(ØMb)
SAG□□□□	DN50 PN40		165	20	102	2	4 x 18	125	3,3	59	48	59	48,3 (47)
SAH□□□□		2" CLASS 150	152	21	92	1,6	4 x 19	120,6	2,7	59	48	59	48,3 (47)
SAJ□□□□		2" CLASS 300	165	22,5	92	1,6	8 x 19	127	3.7	59	48	59	48,3 (47)
SA8□□□□	DN80 PN40		200	24	138	2	8 x 18	160	5,8	73	73	89	76 (72)
SA4□□□□		3" CLASS 150	190	24	127	1,6	4 x 19	152,4	5,3	73	73	89	76 (72)
SA6□□□□		3" CLASS 300	210	28,5	127	1,6	8 x 22,2	168,3	7,8	73	73	89	76 (72)
SA9□□□□	DN100 PN16		220	22	158	2	8 x 18	180	5,9	96	96	89	94 (89)
SA5□□□□		4" CLASS 150	229	24	157	1,6	8 x 19	190,5	7,7	96	96	89	94 (89)
SA7□□□□		4" CLASS 300	254	32	157	1,6	8 x 22,2	200	12,7	96	96	89	94 (89)

WEIGHT : 3,5 kg (WITHOUT OPTION)
ADD : - FLANGES WEIGHT (SEE TABLE)
- 1 kg PER 50 MM EXTENSION
- 0,8 kg FOR INDICATOR OPTION
- 2 kg FOR STAINLESS STEEL HOUSING OPTION

X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8- X_9 $X_{10}$$X_{11}$$X_{12}$$X_{13}$
F K B □□□ V G-□□□□ Y
X_{11} = B, G

Diaphragm seal :
X_1 X_2 X_3 X_4 X_5 X_6 X_7
S A □□□□□

	SPAN LIMIT Min.	SPAN LIMIT Max.
FKB □□1	1,3 kPa (0,013 bar)	100 kPa (1,3 bar)
FKB □□2	5 kPa (0,05 bar)	500 kPa (5 bar)
FKB □□3	30 kPa (0,3 bar)	3 MPa (30 bar)
FKB □□4	100 kPa (1 bar)	10 MPa (100 bar)
FKB □□5	500 kPa (5 bar)	50 MPa (500 bar)

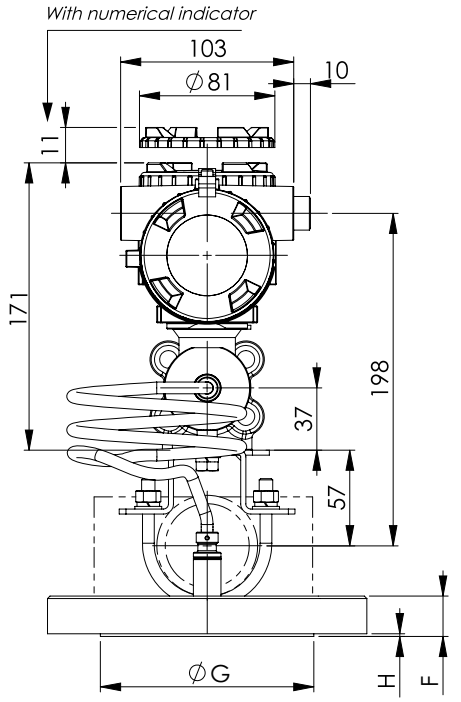
X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8- X_9 $X_{10}$$X_{11}$$X_{12}$$X_{13}$
F K M □□□ V G-□□□□ Y

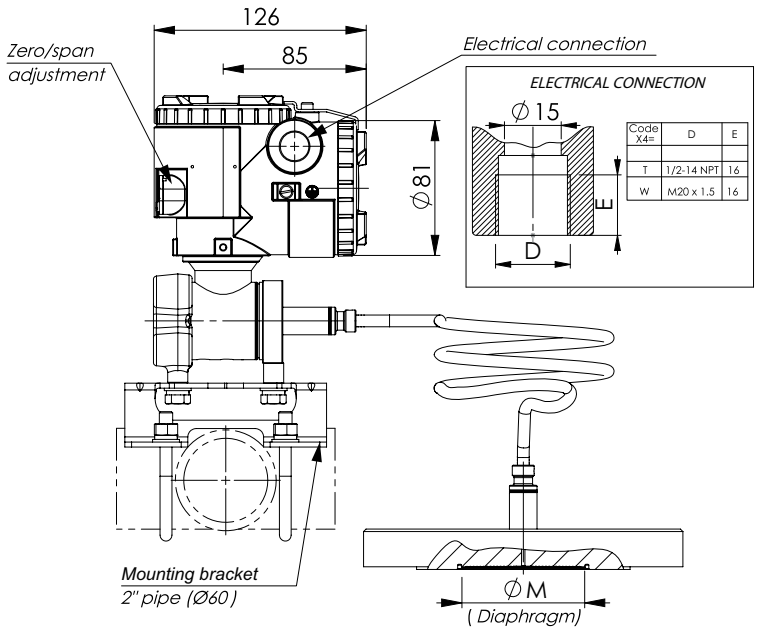
Diaphragm seal :
X_1 X_2 X_3 X_4 X_5 X_6 X_7
S A□V Y□□

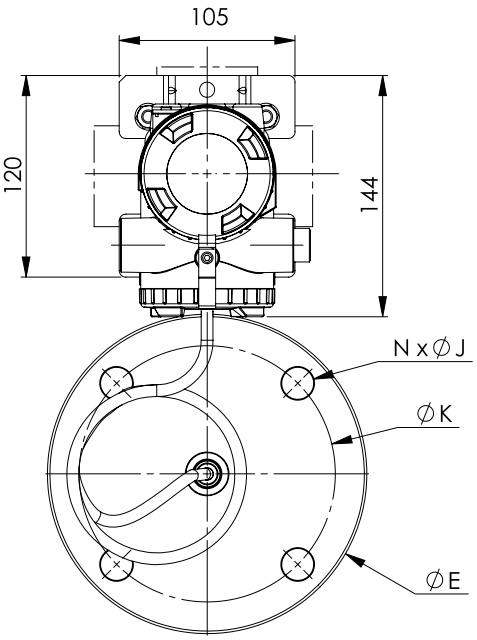
	SPAN LIMIT Min.	SPAN LIMIT Max.
FKM□□1	0,016 bar abs	0,16 bar abs
FKM□□2	0,013 bar abs	1,3 bar abs
FKM□□3	0,05 bar abs	5 bar abs
FKM□□4	0,3 bar abs	30 bar abs
FKM□□5	1 bar abs	100 bar abs

Remote seal type absolute or gauge pressure transmitter : FKB / FKM...VG

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







WEIGHT : 3,5 kg (WITHOUT OPTION)
ADD : - FLANGES WEIGHT (SEE TABLE)
- 0,8 kg FOR INDICATOR OPTION
- 2 kg FOR STAINLESS STEEL HOUSING OPTION

FLANGES DIMENSIONS ACCORDING TO EN 1092-1 & EN 1759-1										
Diaphragm seal	EN 1092-1	EN 1759-1	ØE	F min	ØG	H	N x ØJ	ØK	ØM	*Weight* (kg)
S A G V Y □ □	DN 50 PN 10/40		165	20	102	2	4 x 18	125	59	3,3
S A H V Y □ □		NPS 2" CLASS 150	152	21	92	1,6	4 x 19	120,6	59	2,7
S A J V Y □ □		NPS 2" CLASS 300	165	22,5	92	1,6	8 x 19	127	59	3.7
S A 8 V Y □ □	DN 80 PN 40		200	24	138	2	8 x 18	160	73	5,8
S A 4 V Y □ □		NPS 3" CLASS 150	190	24	127	1,6	4 x 19	152,4	73	5,3
S A 6 V Y □ □		NPS 3" CLASS 300	210	28,5	127	1,6	8 x 22,2	168,3	73	7,8
S A 9 V Y □ □	DN 100 PN 16		220	22	158	2	8 x 18	180	96	5,9
S A 5 V Y □ □		NPS 4" CLASS 150	229	24	157	1,6	8 x 19	190,5	96	7,7
S A 7 V Y □ □		NPS 4" CLASS 300	254	32	157	1,6	8 x 22,2	200	96	12,7

$X_1\ X_2\ X_3\ X_4\ X_5\ X_6\ X_7\ X_8$- $X_9\ X_{10} X_{11} X_{12} X_{13}$
F K B □□□ V G-□□□□ Y

Diaphragm seal :
$X_1\ X_2\ X_3\ X_4\ X_5\ X_6\ X_7$
S A□ V Y□□

	SPAN LIMIT	
	Min.	Max.
FKB □□1	1,3 kPa (0,013 bar)	100 kPa (1,3 bar)
FKB □□2	5 kPa (0,05 bar)	500 kPa (5 bar)
FKB □□3	30 kPa (0,3 bar)	3 MPa (30 bar)

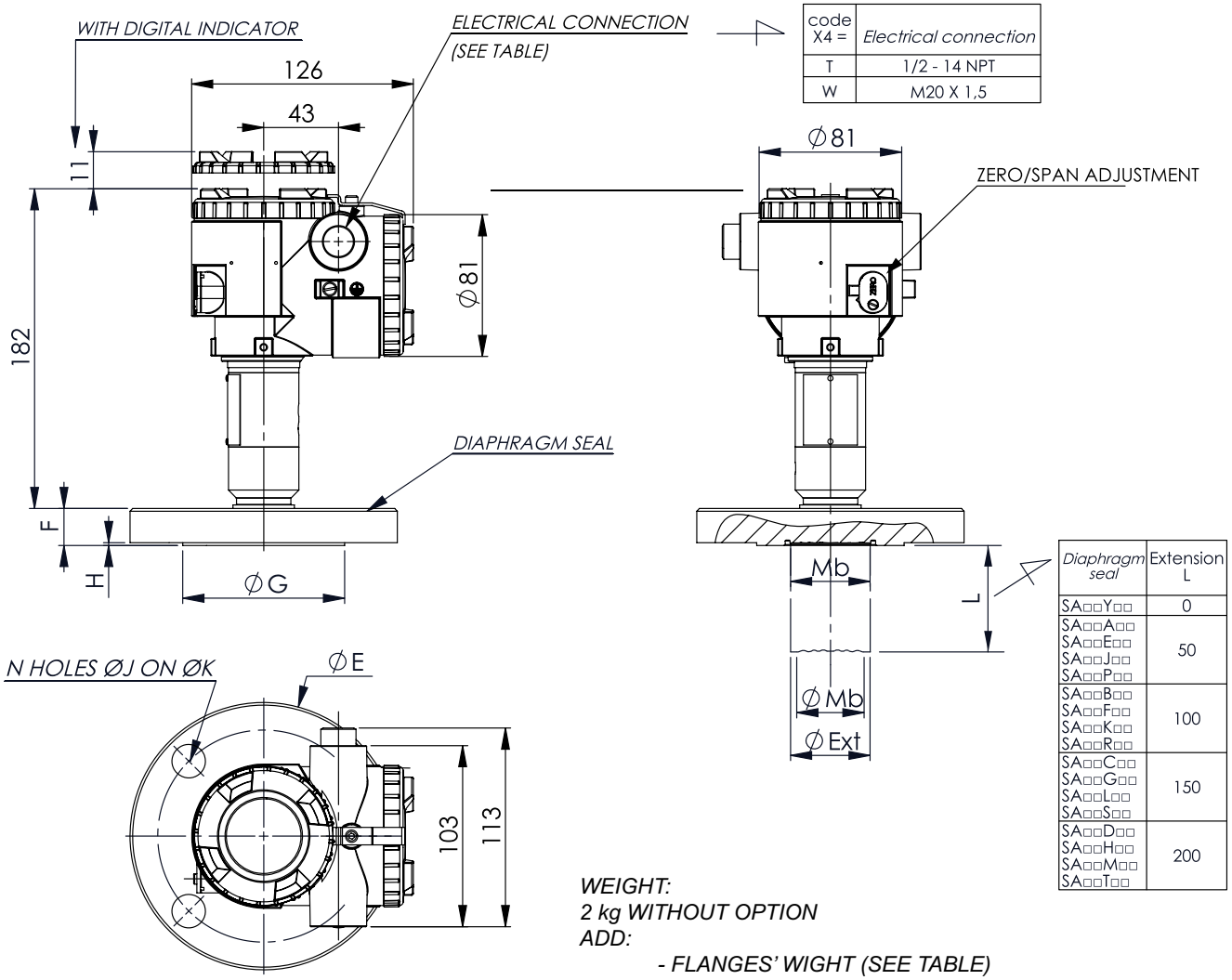
$X_1\ X_2\ X_3\ X_4\ X_5\ X_6\ X_7\ X_8$- $X_9\ X_{10} X_{11} X_{12} X_{13}$
F K M □□□ V G-□□□□ Y

Diaphragm seal :
$X_1\ X_2\ X_3\ X_4\ X_5\ X_6\ X_7$
S A□ V Y□□

	SPAN LIMIT	
	Min.	Max.
FKM□□1	0,016 bar abs	0,16 bar abs
FKM□□2	0,013 bar abs	1,3 bar abs
FKM□□3	0,05 bar abs	5 bar abs
FKM□□4	0,3 bar abs	30 bar abs

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

FKP...VG



code X4 =	Electrical connection
T	1/2 - 14 NPT
W	M20 X 1,5

Diaphragm seal	Extension L
SA□□Y□□	0
SA□□A□□ SA□□E□□ SA□□J□□ SA□□P□□	50
SA□□B□□ SA□□F□□ SA□□K□□ SA□□R□□	100
SA□□C□□ SA□□G□□ SA□□L□□ SA□□S□□	150
SA□□D□□ SA□□H□□ SA□□M□□ SA□□T□□	200

WEIGHT:
2 kg WITHOUT OPTION
ADD:
- *FLANGES' WIGHT (SEE TABLE)*
- *0,3 kg FOR INDICATOR OPTION*
- *2 kg FOR STAINLESS STEEL HOUSING OPTION*

FLANGES DIMENSIONS ACCORDING TO EN 1092-1 & EN 1759-1										*SS 316L*		*Exotic material*	
diaphragm seal	EN 1092-1	EN 1759-1	ØE	F min	ØG	H	N x ØJ	ØK	Poids *Weight* (kg)	L=0 ØMb	L≠0 ØExt=ØMb	L=0 ØMb	L≠0 ØExt(ØMb)
SAG□□□□	DN50 PN40		165	20	102	2	4 x 18	125	3,3	59	48	59	48,3 (47)
SAH□□□□		2" CLASS 150	152	21	92	1,6	4 x 19	120,6	2,7	59	48	59	48,3 (47)
SAJ□□□□		2" CLASS 300	165	22,5	92	1,6	8 x 19	127	3.7	59	48	59	48,3 (47)
SA8□□□□	DN80 PN40		200	24	138	2	8 x 18	160	5,8	73	73	89	76 (72)
SA4□□□□		3" CLASS 150	190	24	127	1,6	4 x 19	152,4	5,3	73	73	89	76 (72)
SA6□□□□		3" CLASS 300	210	28,5	127	1,6	8 x 22,2	168,3	7,8	73	73	89	76 (72)
SA9□□□□	DN100 PN16		220	22	158	2	8 x 18	180	5,9	96	96	89	94 (89)
SA5□□□□		4" CLASS 150	229	24	157	1,6	8 x 19	190,5	7,7	96	96	89	94 (89)
SA7□□□□		4" CLASS 300	254	32	157	1,6	8 x 22,2	200	12,7	96	96	89	94 (89)

← *Wetted parts material*

ØMb = *Ø diaphragm*
ØExt = extension

X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8- X_9 $X_{10}$$X_{11}$$X_{12}$$X_{13}$

Model : F K P □□□ V G - □□□□ Y

X_{11} = L, S

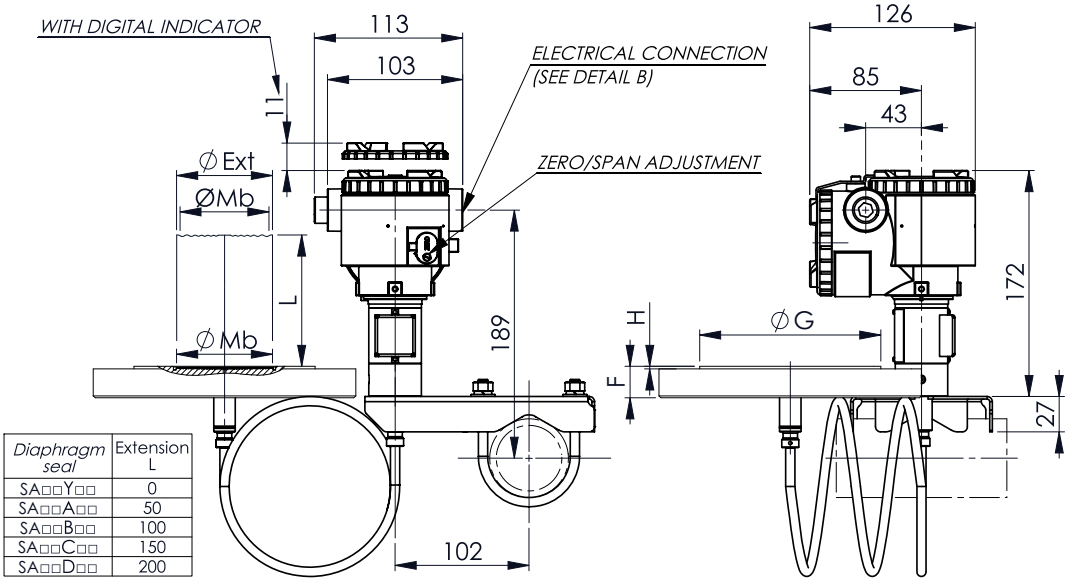
Diaphragm seal : X_1 X_2 X_3 X_4 X_5 X_6 X_7

S A □□□ S □

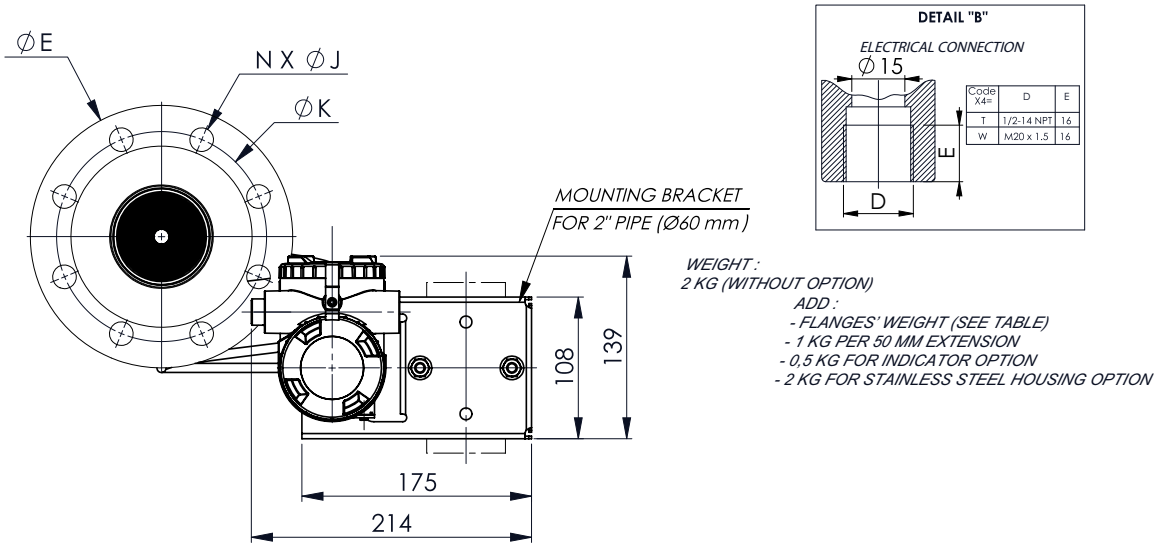
	SPAN LIMIT	
	Min.	Max.
FKP□□1	8,125 kPa (0,08125 bar)	130 kPa (1,3 bar)
FKP□□2	31,25 kPa (0,3125 bar)	500 kPa (5 bar)
FKP□□3	187,5 kPa (1,875 bar)	3000 kPa (30 bar)
FKP□□4	625 kPa (6,25 bar)	10000 kPa (100 bar)

Remote seal type gauge or absolute pressure transmitter (capillary mounted) : FKP / FKH...VG

Outline dimensions for capillary mounted diaphragm seal



Diaphragm seal	Extension L
SA□□Y□□	0
SA□□A□□	50
SA□□B□□	100
SA□□C□□	150
SA□□D□□	200



WEIGHT :
2 KG (WITHOUT OPTION)
ADD :
- FLANGES' WEIGHT (SEE TABLE)
- 1 KG PER 50 MM EXTENSION
- 0,5 KG FOR INDICATOR OPTION
- 2 KG FOR STAINLESS STEEL HOUSING OPTION

FLANGES DIMENSIONS ACCORDING TO EN 1092-1 & EN 1759-1										*SS 316L*		*Exotic material*	
diaphragm seal	EN 1092-1	EN 1759-1	ØE	F min	ØG	H	N x ØJ	ØK	*Weight* (kg)	L=0 ØMb	L≠0 ØExt=ØMb	L=0 ØMb	L≠0 ØExt(ØMb)
SAG□□□□	DN50 PN40		165	20	102	2	4 x 18	125	3,3	59	48	59	48,3 (47)
SAH□□□□		2" CLASS 150	152	21	92	1,6	4 x 19	120,6	2,7	59	48	59	48,3 (47)
SAJ□□□□		2" CLASS 300	165	22,5	92	1,6	8 x 19	127	3.7	59	48	59	48,3 (47)
SA8□□□□	DN80 PN40		200	24	138	2	8 x 18	160	5,8	73	73	89	76 (72)
SA4□□□□		3" CLASS 150	190	24	127	1,6	4 x 19	152,4	5,3	73	73	89	76 (72)
SA6□□□□		3" CLASS 300	210	28,5	127	1,6	8 x 22,2	168,3	7,8	73	73	89	76 (72)
SA9□□□□	DN100 PN16		220	22	158	2	8 x 18	180	5,9	96	96	89	94 (89)
SA5□□□□		4" CLASS 150	229	24	157	1,6	8 x 19	190,5	7,7	96	96	89	94 (89)
SA7□□□□		4" CLASS 300	254	32	157	1,6	8 x 22,2	200	12,7	96	96	89	94 (89)

ØMb = *Ø diaphragm*
ØExt = extension

Wetted parts material

X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8- X_9 $X_{10}$$X_{11}$$X_{12}$$X_{13}$
F K H □□□ V G-□□□□ Y
X11 = B, G

Diaphragm seal :

X_1 X_2 X_3 X_4 X_5 X_6 X_7
S A □□□□□
X11 = A, B, C, D, G, H, K, L

	SPAN LIMIT	
	Min.	Max.
FKH □□2	8,125 kPa (81,25 mbar)	130 kPa (1300 mbar)
FKH □□3	31,25 kPa (0,3125 bar)	500 kPa (5 bar)
FKH □□4	187,5 kPa (1,875 bar)	3000 kPa (30 bar)

X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8- X_9 $X_{10}$$X_{11}$$X_{12}$$X_{13}$
F K P □□□ V G-□□□□ Y
X11 = B, G

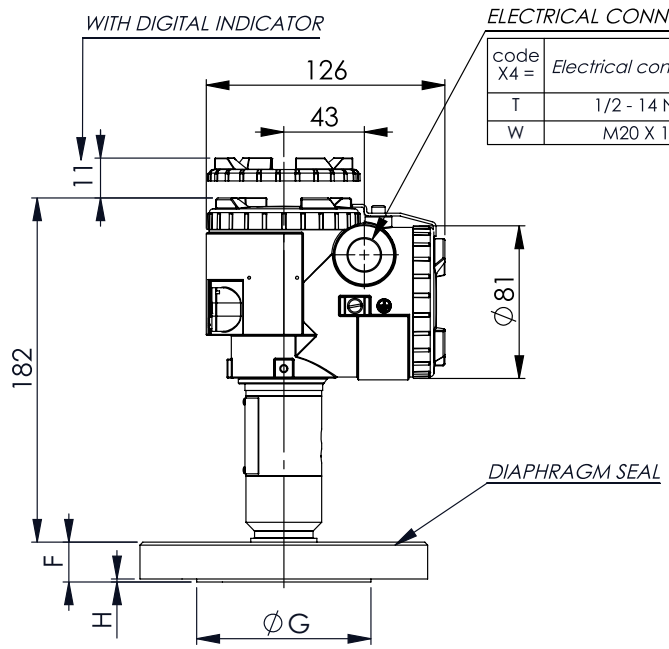
Diaphragm seal :

X_1 X_2 X_3 X_4 X_5 X_6 X_7
S A □□□□□

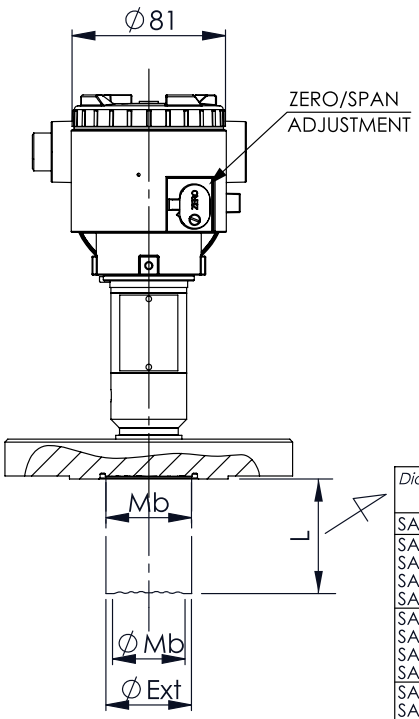
	SPAN LIMIT	
	Min.	Max.
FKP □□1	8,125 kPa (81,25 mbar)	130 kPa (1300 mbar)
FKP □□2	31,25 kPa (0,3125 bar)	500 kPa (5 bar)
FKP □□3	187,5 kPa (1,875 bar)	3000 kPa (30 bar)
FKP □□4	625 kPa (6,25 bar)	10000 kPa (100 bar)

Remote seal type gauge pressure transmitter (rigid mounted) : FKP / FKH...VG

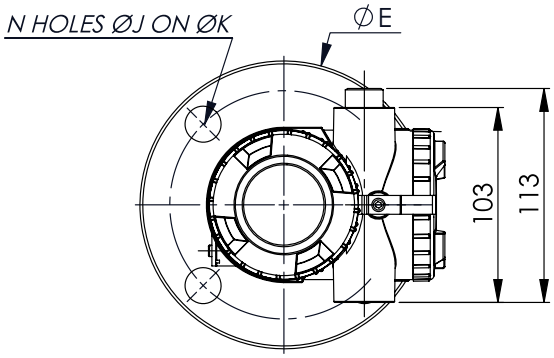
Outline dimensions for rigid mounted



code X4 =	Electrical connection
T	1/2 - 14 NPT
W	M20 X 1,5



Diaphragm seal	Extension L
SA□□Y□□	0
SA□□A□□ SA□□E□□ SA□□J□□ SA□□P□□	50
SA□□B□□ SA□□F□□ SA□□K□□ SA□□R□□	100
SA□□C□□ SA□□G□□ SA□□L□□ SA□□S□□	150
SA□□D□□ SA□□H□□ SA□□M□□ SA□□T□□	200



WEIGHT : 2 kg (*WITHOUT OPTION*)

ADD : - *FLANGE'S WEIGHT (SEE TABLE)*

- 0,8 kg *FOR INDICATOR OPTION*
- 1,3 kg *FOR STAINLESS STEEL HOUSING OPTION*

FLANGES DIMENSIONS ACCORDING TO EN 1092-1 & EN 1759-1										Inox 1.4404 *SS 316L*		*Exotic material*	
diaphragm seal	EN 1092-1	EN 1759-1	ØE	F min	ØG	H	N x ØJ	ØK	Poids *Weight* (kg)	L=0 ØMb	L≠0 ØExt=ØMb	L=0 ØMb	L≠0 ØExt(ØMb)
SAG□□□□	DN50 PN40		165	20	102	2	4 x 18	125	3,3	59	48	59	48,3 (47)
SAH□□□□		2" CLASS 150	152	21	92	1,6	4 x 19	120,6	2,7	59	48	59	48,3 (47)
SAJ□□□□		2" CLASS 300	165	22,5	92	1,6	8 x 19	127	3.7	59	48	59	48,3 (47)
SA8□□□□	DN80 PN40		200	24	138	2	8 x 18	160	5,8	73	73	89	76 (72)
SA4□□□□		3" CLASS 150	190	24	127	1,6	4 x 19	152,4	5,3	73	73	89	76 (72)
SA6□□□□		3" CLASS 300	210	28,5	127	1,6	8 x 22,2	168,3	7,8	73	73	89	76 (72)
SA9□□□□	DN100 PN16		220	22	158	2	8 x 18	180	5,9	96	96	89	94 (89)
SA5□□□□		4" CLASS 150	229	24	157	1,6	8 x 19	190,5	7,7	96	96	89	94 (89)
SA7□□□□		4" CLASS 300	254	32	157	1,6	8 x 22,2	200	12,7	96	96	89	94 (89)

← *Wetted parts material*

ØMb = *Ø diaphragm*
ØExt = extension

X_1 X_2 X_3 X_4 X_5 X_6 X_7 X_8- X_9 X_{10} X_{11} X_{12} X_{13}

Model : F K P □□□ V G - □□□□ Y

X_{11} = L, S

Diaphragm seal : X_1 X_2 X_3 X_4 X_5 X_6 X_7

S A □□□ S □

	SPAN LIMIT	
	Min.	Max.
FKP □□1	8,125 kPa (0,08125 bar)	130 kPa (1,3 bar)
FKP □□2	31,25 kPa (0,3125 bar)	500 kPa (5 bar)
FKP □□3	187,5 kPa (1,875 bar)	3000 kPa (30 bar)
FKP □□4	625 kPa (6,25 bar)	10000 kPa (100 bar)

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