

General Specifications

Yokogawa EJX510A and EJX530A Absolute and Gauge Pressure Transmitter with Wika 990.22 Diaphragm Seal (P1S)



The high performance Yokogawa absolute and gauge pressure transmitter EJX510A and EJX530A feature single crystal silicon resonant sensors and are suitable to measure liquid, gas, or steam pressure. EJX510A and EJX530A output a 4 to 20 mA DC signal corresponding to the measured pressure. It also features quick response, remote setup and monitoring via HART communications.

The Combination of a Wika Sanitary Diaphragm Seal with Sterile process connection and wetted parts suitable for sanitary Applications make this transmitter suitable for use in the highest accuracy pharmaceutical, Biotech and Food Industry applications.



APPLICATIONS:

- Food and beverage production
- Pharmaceutical industry, biotechnology,
- Aseptic applications

SPECIAL FEATURES:

- Suitable for SIP and CIP
- 3-A compliant
- Compliant per ASME BPE

Measurement Span/Range		MPa	psi (/D1)	bar (/D3)	kg/cm ² (/D4)
A	Span	8 to 200 kPa	1.16 to 29	0.08 to 2	0.08 to 2
	Range	-100 to 200 kPa	-14.5 to 29	-1 to 2	-1 to 2
B	Span	0.04 to 2	5.8 to 290	0.4 to 20	0.4 to 20
	Range	-0.1 to 2	-14.5 to 290	-1 to 20	-1 to 20
C	Span	0.2 to 10	29 to 1450	2 to 100	2 to 100
	Range	-0.1 to 10	-14.5 to 1450	-1 to 100	-1 to 100
D	Span	1 to 50	145 to 7200	10 to 500	10 to 500
	Range	-0.1 to 50	-14.5 to 7200	-1 to 500	-1 to 500

Reference Accuracy of Calibrated Span

(includes the effects of terminal-based linearity, hysteresis, and repeatability)

Measurement span	Reference Accuracy	
	Span ≥ X	Span < X
A	±0.04% of Span	±(0.004 URL/ span)% of Span
B		±(0.005+0.0035 URL/ span)% of Span
C		±(0.004 URL/ span)% of Span
D		±(0.004 URL/ span)% of Span

Material of wetted parts

Diaphragm: Stainless steel 1.4435 (316L)

Surface roughness of the wetted parts

Ra ≤ 0.38 µm per ASME BPE SF3 (except for weld seam)

Level of cleanliness of wetted parts

Oil and grease free per ASTM G93-03 level E (WIKAI standard)

Standard version Diaphragm Seal 990.22

Type of process connection

Model 990.22: Clamp connection
 Model 990.52: Clamp connection per DIN 32676 Model
 990.53: Clamp connection per ISO 2852
 For exact designs and nominal widths see table 1 on page 3

Nominal pressure

See table 1 on page 3

Measuring ranges

min. 0 ... 0.6 bar, max. 0 ... 40 bar
 (also vacuum and +/- measuring ranges)

Material of upper body

CrNi-Stahl 1.4435 (316 L)

Material of wetted parts

Diaphragm: Stainless steel 1.4435 (316L)

Surface roughness of the wetted parts

Ra ≤ 0.38 µm per ASME BPE SF3 (except for weld seam)

Level of cleanliness of wetted parts

Oil and grease free per ASTM G93-03 level E (WIKA standard)
 and ISO 15001 (< 550 mg/m²)

Connection to measuring instrument

Axial weld-in connection

Yokogawa Model: EJX530 (GP-Tx, pressure gauge connection) measuring span: see capsule

Output signal: 4 ... 20 mA DC with HART-Protocol
 Process connection: 1/2 NPT female
 Lower scaling prefix: +
 Calibrated range start: 0.20
 upper scaling prefix: +
 calibrated range end: 10.00
 Display unit: MPa
 Assembly specification High-Side: Cooling element
 System fill fluid: KN 59 Neobee M-20; for food and pharmaceutical applications ;FDA
 Service category: Basic Service according to Technical Information IN 00.25
 Process temperature min.: + 10°C
 Process temperature max.: + 130°C
 Ambient temperature pressure meas. min: + 10°C
 Ambient temperature pressure meas. max: + 40°C
 Diaphragm seal for hygienic applications
 Specifications according to data sheet: DS 99.41
 Diaphragm seal: Model 990.22

Options

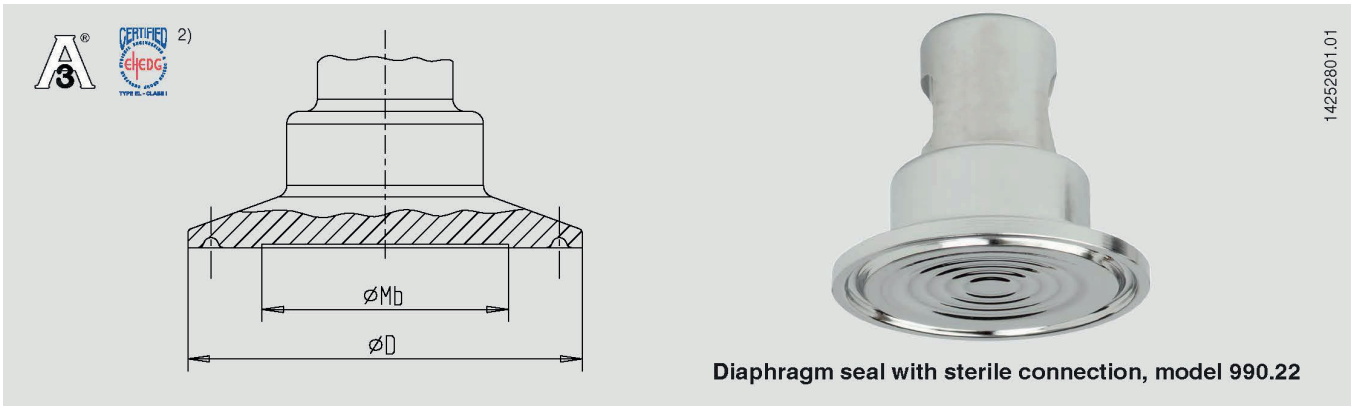
- **Higher nominal pressures on request** (for maximum pressure range consider pressure rating of clamp)
- **Surface roughness of the wetted parts Ra ≤ 0.38 µm per ASME BPE SF4**, only with electropolished surface (except for weld seam)
- Sealing from EPDM or PTFE
- Connection to measuring instrument **G 1/2, G 1/4, 1/2 NPT or 1/4 NPT (female)**
- Origin of wetted parts (EU, CH, USA)
- Marking of the diaphragm seal with 3-A standard 74-06



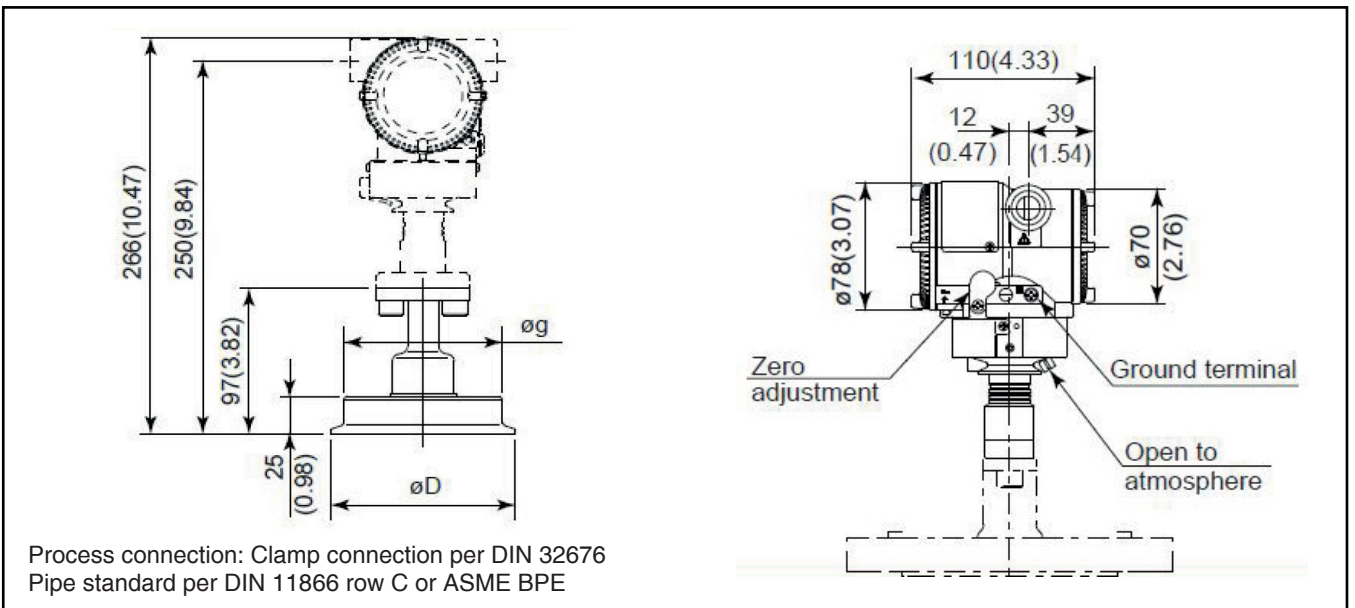
Process connection type: Clamp following DIN 32676
 Process connection: 1 inch to 3 inch (see table 1 on page 3)
 Pipe standard: Pipe dimensions per DIN 11866 row C or ASME BPE
 Upper body material / main body material: Stainless steel 1.4435 (316L) electro-polished; UNS S31603
 Diaphragm material: Stainless steel 1.4435 (316L) electro-polished; UNS S31603
 Surface roughness wetted parts, welding seam excluded: Ra ≤ 0.38µm
 Clamp diameter: 50.5 mm
 Certificate type: Inspection certificate acc. to EN 10204 3.1
 Certificate Language: English and German
 Certificate for: Diaphragm seal system with process transmitter
 Accuracy: Calibration values listed
 Material certificate: Wetted parts material (metal contents) with mill certificate

Documentation Diaphragm Seals

- 3.1 Material Certificates
- 3.1 Calibration Certificate
- 2.2 Surface Finish Certificate



Diaphragm seal with sterile connection, model 990.22



• Terminal Configuration

• Terminal Wiring

SUPPLY	+	①	Power supply and output terminals
-	②		
CHECK	+	③	External indicator (ammeter) terminals*1,2 or
or	-	②	
ALARM	+	③	Status contact output terminals*2 (when /AL is specified)
-	②		
			Ground terminal

*1: When using an external indicator or check meter, the internal resistance must be 10 Ω or less. A check meter or indicator cannot be connected when /AL option is specified.
*2: Not available for FOUNDATION Fieldbus and PROFIBUS PA communication types.

Table 1

DN	PN ¹⁾	Dimensions in mm (in)			
		For pipe outer \varnothing x wall thickness	Pipe inner \varnothing	D	Mb
1"	40	25.4 x 1.65 (1 x 0.065)	22.1 (0.87)	50.5 (1.988)	22 (0.866)
1 ½"	40	38.1 x 1.65 (1.5 x 0.065)	34.8 (1.37)		32 (1.26)
2"	40	50.8 x 1.65 (2 x 0.065)	47.5 (1.87)	64 (2.52)	40 (1.575)
2 ½"	40	63.5 x 1.65 (2.5 x 0.065)	60.2 (2.37)	77.5 (3.051)	52 (2.047)
3"	25	76.2 x 1.65 (3 x 0.065)	72.9 (2.87)	91 (3.583)	59 (2.323)

Model	Suffix Codes	Description
EJX510A	Absolute pressure transmitter
EJX530A	Gauge pressure transmitter
Output signal	-e -J -F -G	4 to 20 mA DC Output with digital communication (HART 5 protocol) 4 to 20 mA DC with digital communication (HART 5 / HART 7 protocol) (Refer to GS 01C25T01-01EN) Digital communication (FOUNDATION Fieldbus protocol, refer to GS 01C25T02-01EN) Digital communication (PROFIBUS PA protocol, refer to GS 01C25T04-01EN)
Measurement span (capsule)	A B C D	8 to 200 kPa (1.16 to 29 psi) 0.04 to 2 MPa (5.8 to 290 psi) 0.2 to 10 MPa (29 to 1450 psi) 1 to 50 MPa (145 to 7200 psi)
Wetted parts material *2	S	Process connector Diaphragm Others 316L SST# Hastelloy C-276 *1# 316L SST#
Process connections	Wika990.22 X	1 ½ inch wika Triclamp 990.22 (See table 1 on page 3) Other size
—	N	Always N
—	-0	Always 0
Amplifier housing	▶ 1 2	Cast aluminum alloy ASTM CF-8M stainless steel
Electrical connection	▶ 0 2 4 5 7 9 A C D	G1/2 female, one electrical connection without blind plugs 1/2 NPT female, two electrical connections without blind plugs M20 female, two electrical connections without blind plugs G1/2 female, two electrical connections with a blind plug*6 1/2 NPT female, two electrical connections with a blind plug*6 M20 female, two electrical connections with a blind plug*6 G1/2 female, two electrical connections and a 316 SST blind plug 1/2 NPT female, two electrical connections and a 316 SST blind plug M20 female, two electrical connections and a 316 SST blind plug
Integral indicator	▶ D E N	Digital indicator *7 Digital indicator with the range setting switch (push button) *8 (None)
Mounting bracket	▶ L N	316 SST 2-inch pipe mounting None
Optional Codes		<input type="checkbox"/> / Optional specification



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