LPX 7000 Series

Flush Diaphragm Pressure Transmitters

GE Druck

- Ranges from 50mbar to 35 bar
- Thick abrasion-resistant flush diaphragm, no isolation oil required
- Full wet/wet media compatibility, uni or bi-directional
- High accuracy, stability, reliability
- 4:1 rangeable, User-adjustable damping
- High process temperature capability

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Since 1972, Druck products have successfully applied technological innovation and application focus to a diverse and demanding world of pressure. Now part of GE Industrial Systems' Measurement & Sensing Technologies business, GE Druck manufactures a comprehensive range of pressure sensors and related test/calibration instruments for the field, workshop and laboratory.

High performance, rugged design

The LPX 7000 Series flush diaphragm pressure transmitter is designed for use in hostile conditions where conventional flush diaphragm devices cannot deliver the performance required.

The transmitter directly measures pressure difference between the two sides of the flush diaphragm. No additional isolation membrane or fluid fill are required, enhancing the high ruggedness. The thick diaphragm is manufactured from thermally treated Inconel X750; this ensures high durability, even with abrasive fluids such as sludge, drilling mud and pulverised coal.

Innovative oil free technology

The measurement cell consists of a flush diaphragm with non-magnetic target mounted in its centre. The heat-treated Inconel X750 diaphragm has a maximum displacement of 0.2mm depending on the applied pressure, and is 5 to 10 times thicker than most fluid filled isolation membranes. A hermetically sealed eddy current detector formed by two coils measures the displacement with no mechanical contact, resulting in extremely low hysteresis and excellent repeatability. This innovative technology allows the use of diaphragms well within their elastic and fatigue limits, allowing millions of cycles with virtually no zero drift and excellent resistance to shock and vibration.

For demanding applications

Typical applications range from pharmaceutical and beverage process monitoring to slurry and semi-solid/sludge pump monitoring. The LPX 7000 Series is particularly suited for tank level and process pressure measurement with fluids that exercise abrasion, pressure and temperature shocks. This transmitter is the ultimate solution for these demanding applications where a permanently accurate and reliable pressure measurement is required.

Flexible Configurations

For gauge configuration, the reference pressure is on the concealed side of the flush diaphragm. Pressure media makes contact with stainless steel and Inconel X750, providing a full wet/wet process compatible transmitter. This same technology can also be configured to produce a true absolute sensor, by placing the reference chamber behind the diaphragm under a sealed vacuum. The addition of a longer neck between the membrane and the sensor head allows application at much higher process temperatures and also to withstand ambient temperature up to 80°C.

Product guide and selection

The LPX7000 series has been designed to be easily adaptable to a wide range of applications. Following the selection guide gives an overview of the versions presently available. Should you require any further features please contact us direct and we will arrange for a specialist engineer to personally discuss your detailed requirements.

STANDARD SPECIFICATIONS

Pressure Measurement

Operating Pressure Ranges
From 50 mbar/20" WC (lower pressure capability dependant on front end size) to 35 bar/500 psi, gauge or absolute (differential on request).

Standard pressure ranges: see page 3
Other ranges and units available upon request

Range Adjustment
4:1 rangeability

Zero offset
User adjustable over 15%URL

Overpressure
4 x range with maximum 50 bar

Process Media
Any liquid, gas or vapour compatible with Inconel X750, stainless steel 316L and seal ring material

Supply Voltage
12-30 Vdc

Output Current
4-20mA (2 wire configuration) proportional to the calibrated pressure range

Performance

Typical accuracy
Typically 0.5% URL, combined effects of non-linearity, hysteresis and repeatability. *Improved accuracy available upon request.*

Operating Temperature ranges

Ambient	-40°C to +85°C
Process	-40°C to +85°C (higher process temperatures up to 450°C in long neck/LN versions)
Compensated	-10°C to 50°C in transmitter head area *optional -20°C to 80°C available on request*

Temperature Effects
On transmitter head: Less than +/-2% URL over -10°C to 50°C,
On front-end, for long neck (LN) versions: less than +5% per 100°C

Long term stability
At standard reference conditions, the calibration will not change by more than 0.25% URL/year

Response time/Damping
Response typically 10 ms, damping user adjustable from 10 ms to 1 sec.

Humidity limit
100%RH on reference side for gauge and differential applications.

Physical

Housing material
316L stainless steel

Electrical connections
LPX7330 version: DIN A connector. LPX7380 version: 1/2 NPT male conduit fitting/1.5m cable. (Longer cable available).

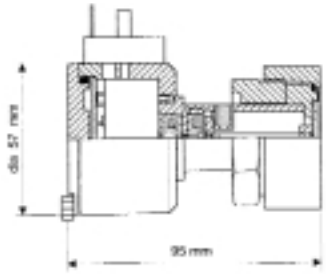
Environmental Protection
IP67 for LPX7380 version. IP65 for LPX7330 version.

CE Conformity
CE marked for EMC emissions (EN50081-1) and Immunity (EN50082-1)

Weight
From 900g depending on specific mechanical configuration.

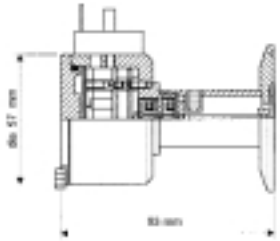
PROCESS CONNECTIONS

PX7330-PF with M44x1.25 nut



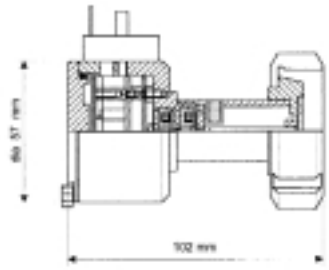
500mbar/7 psi to 35bar/500 psi, supplied with a Nitrile seal ring
Options: -316L weld-on nipple, the corresponding female thread piece to weld on the vessel or pipe
- 316L plug, useful when welding the nipple to avoid deformations, and to plug when retrieving the transmitter

LPX7330-Tx with Triclamp®



50mbar/20" WC (2.5" Tri-clamp® only) or 500mbar/7 psi to 35 bar/500 psi

LPX7330-AB with DIN 11851 PN40 DN25

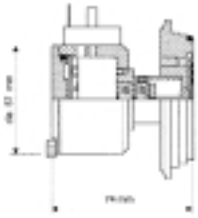


500mbar/7 psi to 35 bar/500 psi

LPX7330-SM for saddle installation

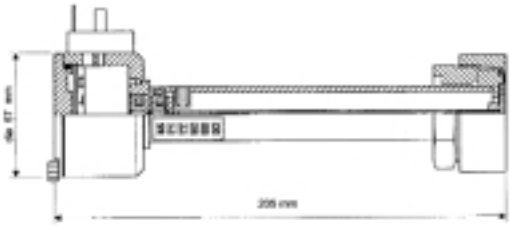
500mbar/7 psi to 35bar/500 psi
For the installation onto pipes which do not allow easy welding.
An in-built crimping system allows the flush membrane to be set at a final position on site. Adapts to, or can be suppled with, saddles that adapt to most pipelines. Also available for in-service installation.

LPX7330-VV with Varivent®



50mbar/20" WC to 35 bar/500 psi

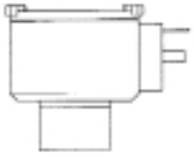
LPX7330-xx-LN for higher process temperatures



Available with the different process connections.
Process temperatures of up to 450°C.
Neck length may vary with process temperature.

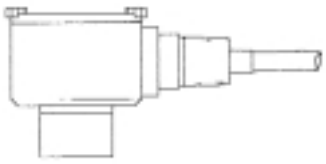
ELECTRICAL CONNECTIONS

DIN A connector



Rugged electronics in a sealed body with a practical DIN A connector (IP 65).

1/2 NPT Male Conduit



For the most demanding applications, a 1/2 NPT male conduit fit supplied with an integral cable (IP67)

ORDERING INFORMATION

Code	Output Type
LPX	Current Output

Code	Series Identifier
7	Base Model

Code	Reference
3	Inconel Diapraghm

Code	Electrical Connection
3	DIN 43650-A Connector
8	1/2" - 14 NPT Male Conduit Fitting

Code	Compensated Temperature
0	-10°C to 50°C
1	-20°C to 80°C
2	Other

Code	Gauge, Differential, Absolute
G	Gauge
D	Differential (on special request)
A	Absolute

Standard Pressure Range Check (URL) -
Check if available with chosen process seal

Gauge and Absolute

Limits -100% (or -1 bar) to 100% range

	Code		Code
50 mbar	BE	20inH_2O	BU
500 mbar	CE	7psi	CU
1.75 bar	DE	25psi	DU
5 bar	EE	5psi	EU
10 bar	FE	150psi	FU
25 bar	GE	350psi	GU
35 bar	HE	500psi	HU

non standard, to be specified separately

>	NE	>	NU

Code	Process Seal
PB	PMC M44 x 1.25 fitting
PC	2" NPT
SM	Saddle-mount
TC	1.5" Tri-Clamp
TD	2" Tri-Clamp
TF	2.5" Tri-Clamp
AB	DIN 11851 PN40 DN25
VV	Varivent
X	Other

Code	Accessories for PB configuration
WN	SS Weld Nipple
DP	SS Dummy Plug
TG	Teflon Gasket
VG	Viton Gasket
BT	Brass Test Nipple
FL	Flange w/PMC Fitting

Code	Accessories for SM configuration
SA	Adapted saddle, spec separately

Code	Options
LN	Long neck for higher
TC	Teflon coating of diapraghm
X	Other

LPX	7	3	3	0	G	EE	-	PB	-	WN	-	LN	Typical Model Number

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RELATED PRODUCTS

- Ranges from 0.25mbar to 70mbar
- Full wet/wet media compatibility
- Optional LCD, panel or wall mounting
- 0.5% accuracy standard, 0.25% optional
- Current or voltage outputs

- Ranges from 0.1mbar to 10 bar
- Accuracy better than 0.1% FS BSL
- Line pressure from vacuum to 200 bar
- Uni-directional or bi-directional operation
- Excellent thermal and long term stability

- Full scale ranges from ±1.0 to ±60 inH_2O
- Accuracy 0.05% of span
- Generates pressure and vacuum
- Automatic zero equalization
- RS 232 interface and documenting versions

- Ranges from 70mbar
- 0.1% FS accuracy
- Rugged, lightweight and handheld
- Leak test, tare, max/min and filter
- Intrinsically safe version

- Vacuum to 28.5 inHg
- Pneumatic pressures to 600 psig
- Hydraulic pressures to 10,000 psig
- inH_2O range fine control
- Rugged, lightweight design

- Measure or Source 0 to 24 mA
- Accuracy 0.01% of reading
- Dual mA and % readout,linear or flow
- Step, Span Check, Value Check, Ramp
- 60 Vd.c. measurement and continuity

- Ranges from 1mbar to 700 bar
- Precision to 0.025% reading
- Multi-channel capability
- Split-screen LCD display
- Data storage, RS232 and IEEE488

- Range 0.05mbar to 160mbar
- Accuracy better than 0.02% of reading
- Fully traceable to International Standards
- Quick and simple to operate
- Gas operated

- Ranges from 25mbar gauge
- Precision 0.015% F.S
- Control stability 0.001mbar
- User friendly, high speed control
- RS232/IEEE488 communications

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