

# Pressure transducers HydroFox® DMU 09

## Level probe – for chemical applications



- Chemical-resistant plastic version
- Robust ceramic diaphragm without transmission liquid
- Highly resistant FEP cable
- Special calibration for all standard pressure units possible



**Application** For electronic, continuous level measurement in extremely corrosive liquids, e.g. chemicals or waste water from landfill sites.

**Description** Pressure transducers HydroFox® convert physical pressure into an electrical signal proportional to the pressure. HydroFox® DMU 09 uses a capacitance ceramic measuring cell.

### Technical specifications

#### Measuring accuracy

Deviation from the characteristic curve according to IEC 60770 – limit point calibration (non-linearity, hysteresis, repeatability):  $< \pm 0.35\%$  FSO

#### Measuring ranges

Relative pressure: 0/40 mbar to 0/10 bar

#### Overpressure safety

$\leq 400$  mbar at least 5 x FS  
 $> 400$  mbar at least 3 x FS

#### Operating temperature range

Medium: -25/70 °C  
Ambient: -25/70 °C  
Storage: -25/70 °C

#### Temperature error band

In compensated range  
 $0/70\text{ °C} \leq \pm 0.1\%$  FSO/10 K

#### Dynamic characteristics

Response time  $< 200$  ms

#### Materials

Housing: PP  
Diaphragm: Ultra-pure ceramic ( $\text{Al}_2\text{O}_3$  99.9 %)  
Seals: FKM (Viton)

#### Output signal/supply voltage

4–20 mA DC 9–32 V  
2-wire

#### Load

4–20 mA:  $R_{\text{max}} = [(U_B - U_{B\text{min}}) / 0.02 \text{ A}] \Omega$

#### Current input

4–20 mA  $< 21$  mA

#### Electrical protection

Short circuit proof and protected against reverse polarity

#### Electrical connection/degree of protection

FEP cable (IP 68)  
With integrated breather tube for reference to the ambient atmospheric pressure

#### CE conformity (EMC)

EMC Directive 2014/30/EU

#### Accessories (options)

- Screw connector kit
- Junction box
- Anchor clamp

### Options

- Housing PVDF
- Cable protection conduits
- FFKM seals

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See chapter 5 for the complete "Level Measurement" range.

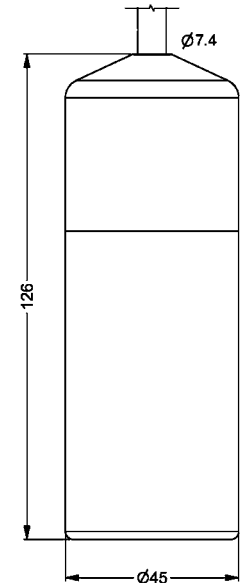
See page 239 for prices.

# Pressure transducers HydroFox® DMU 09

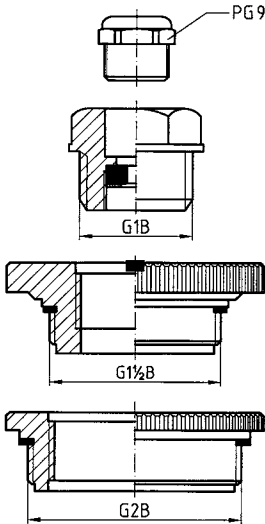
## Dimensions (mm) and electrical connections

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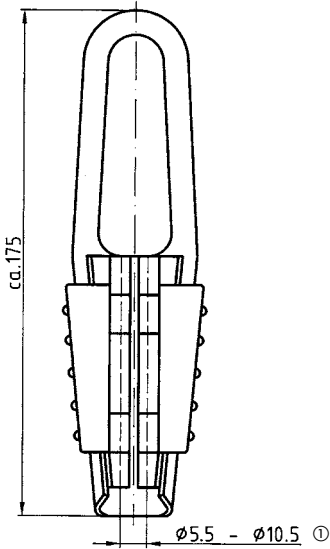
Standard version



Screw connector kit

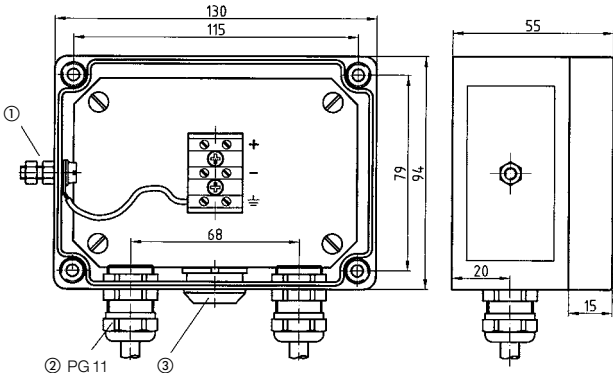


Anchor clamp



① Cable diameter

Junction box with pressure relief port



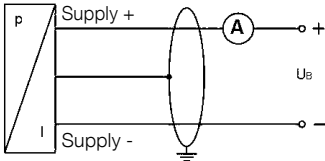
① Earth

② Cable gland PG 11

③ Pressure compensation element

Wiring diagram

2-wire 4–20 mA



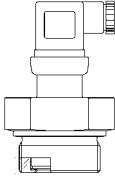
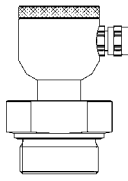



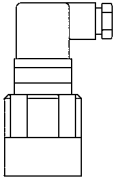
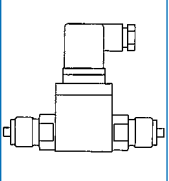
Pin assignment table

Cable colours (DIN 47100)	
2-wire system: Supply + (4–20 mA)	White
Supply –	Brown
Earth	Yellow/green

The units are shipped with a detailed connection diagram.

# Pressure transducers DMU 07 – DMU 11 D

DG: H, PG: 4

Type	DMU 07	DMU 07 FG	DMU 08	DMU 08 T**	DMU 09	DMU 10 D	DMU 11 D*
Version							
Measuring principle	Capacitance ceramic measuring cell		Piezo-resistive stainless steel measuring cell	Piezo-resistive stainless steel measuring cell	Piezo-resistive ceramic measuring cell	Piezo-resistive silicon measuring cell	Piezo-resistive stainless steel measuring cell
Measuring accuracy (IEC 60770)	0.35 % FSO	0.35 % FSO	0.35 % FSO (≤ 0.4 bar 0.5 % FSO)	0.35 % FSO (≤ 0.4 bar 0.5 % FSO)	0.35 % FSO	> 160 mbar = 0.35 % FSO 40–160 mbar = 1 % FSO < 40 mbar = 2 % FSO	0.5 % FSO (with ref. to nominal pressure)
Wetted parts	Ceramic/FKM Stainless steel 316 L	Ceramic/FKM Stainless steel 316 L	Stainless steel/ FKM 316 L	Stainless steel/ FKM 316 L	PP/ceramic/ FKM	Aluminium/silicon/glass RTV/ceramic, nickel/PUR (glued)	Stainless steel/ FKM 316 Ti
Connection	G1½B with flush diaphragm	G1½B with flush diaphragm	---	---	---	2 x G1½B female thread	2 x G1½B EN 837
Supply voltage	DC 9–32 V	DC 9–32 V	DC 8–32 V	DC 10–30 V	DC 9–32 V	DC 8–32 V	DC 12–36 V
Output	4–20 mA	4–20 mA	4–20 mA	4–20 mA	4–20 mA	4–20 mA	4–20 mA
System	2-wire	2-wire	2-wire	2-wire	2-wire	2-wire	2-wire
Electrical connection	Connector ISO 4400 (43650-A)	Field housing M12 x 1.5	5 m PUR cable	5 m PUR cable	5 m FEP cable	Connector ISO 4400 (43650-A)	
Measuring range	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.
Price €							
0/6 mbar	---	---	---	---	---	31861	---
0/10 mbar	---	---	---	---	---	31862	---
0/25 mbar	---	---	---	---	---	31863	---
0/40 mbar	31789	31821	---	---	31767	31864	31830
0/60 mbar	31790	31805	---	---	31768	31865	31831
0/100 mbar	31791	31547	<b>31555</b>	31555T0070	31571	31866	31813
0/160 mbar	31792	31806	<b>31556</b>	31556T0070	31572	31867	31814
0/200 mbar	31793	31548	<b>31557</b>	31557T0070	31573	---	---
0/250 mbar	31794	31807	<b>31558</b>	31558T0070	31574	31868	31815
0/300 mbar	---	---	<b>31519</b>	31519T0070	31812	---	---
0/400 mbar	31795	31549	31559	31559T0070	31575	31869	31832
0/600 mbar	31796	31808	31560	31560T0070	31576	31870	31833
0/1 bar	31797	31550	31561***	31561T0070	31577	31871	31816
0/1.6 bar	31798	31809	31562	31562T0070	31578	---	31834
0/2 bar	31799	31551	31563	31563T0070	31579	---	---
0/2.5 bar	---	---	31564	31564T0070	31580	---	31817
0/4 bar	31800	31552	31565	31565T0070	31581	---	31835
0/6 bar	31801	31810	31566	31566T0070	31582	---	31818
0/10 bar	31802	31553	31567	31567T0070	31583	---	31836
0/16 bar	---	---	31568	31568T0070	---	---	31837
0/20 bar	---	---	31569	31569T0070	---	---	---
0/25 bar	---	---	31570	31570T0070	---	---	---

\* Please specify required nominal pressure/maximum static pressure when ordering. Standard temperature range: 0–70 °C Replace the designation of the part number, if necessary \*\* 0–30 °C, designation: 0030 / 0–50 °C, designation: 0050 / 0–70 °C, designation: 0070 \*\*\* Electrical connection 15 m PUR cable, price €

Blue part no. = in-stock items

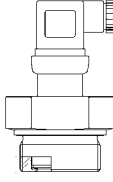
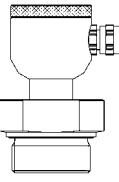


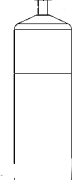
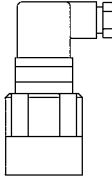
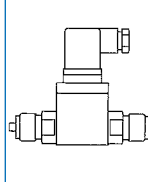


See page 240 for extra charges for and accessories.

# Extra charges/accessories for DMU 07 – DMU 11 D

DG: H, PG: 4

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Type	DMU 07	DMU 07 FG	DMU 08	DMU 08 T	DMU 09	DMU 10 D	DMU 11 D
Version							
	<b>Price €</b>	<b>Price €</b>	<b>Price €</b>	<b>Price €</b>	<b>Price €</b>	<b>Price €</b>	<b>Price €</b>
EX protection II 1G EEx ia IIC T4				---	---	---	---
2 x G $\frac{3}{4}$ female thread	---	---	---	---	---	---	
2 x hose connection 6 mm	---	---	---	---	---		<b>On request</b>
2 x $\frac{7}{16}$ UNF	---	---	---	---	---	---	
Other connections	<b>On request</b>	<b>On request</b>	---	---	---	<b>On request</b>	<b>On request</b>
Cable connection per metre PUR cable	---	---			---	---	---
Cable connection per metre FEP cable	---	---				---	---
Binder connector		---	---	---	---	---	---
Fixed cable connection 2 metres		---	---	---	---		---
Cable extension per metre		---	---	---	---		---
Output 0–20 mA, 3-wire	---	---		---	---	---	---
Output 0–10 V, 3-wire				---	---		
Other output signals	<b>On request</b>	<b>On request</b>	<b>On request</b>	---	<b>On request</b>	<b>On request</b>	<b>On request</b>
Measuring accuracy 0.25 % FSO			---	---	---	---	---
5-point calibration report (for measuring accuracy up to 0.25 % FSO)			---	---	---	---	---
SIL 2 (4–20 mA only)	---	---		---	---	---	---

## Accessories for DMU 08/ DMU 09

DG: H	PG	Part no.	Price €
Screw connector kit G2" – 1½" – 1"	1	<b>52125</b>	
Screw connector kit stainless steel G1"	3	<b>31822</b>	
Junction box with pressure relief port (IP 65)	1	<b>31824</b>	
Anchor clamp	3	<b>31825</b>	

Blue part no. = in-stock items

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See chapter 8 for digital display units and signal processing.

