

# **Pressure Transducers with Hydraulic Connector**

and remote adjustable amplifier for 0...10 V

**DGW-11(K)** / 10...500 bar



#### **Purpose**

Pressure measuring, esp. remote measuring

#### Operating

Signal of strain gauge array applied to the diaphragm, amplified by an internal operation amplifier, is adjusted for Zero and Range in the external feeding set.

### **Advantages**

- Tight, non corroding, high overload
- Extreme small dead room, normally no evacuation necessary
- Simple mounting: Standard SAE-flange
- Zero signal extremely independent from fastening influences
- · Reproducibility and linearity very good
- Suitable for wet areas; flange rexeptacle waterproof with gold-plated contacts
- · HF-protection by shielding and filter
- Output allows signal cable up to 500 m
- CAL-Unit within the transducer
- K-Option has small tolerances and three years quarantee
- Replaces older models DGW-15(K) using transient plug-in-connector and an adapted flange

## **Application**

Static and dynamic pressure measuring, remote control, even in wet and electric disturbed areas.

Electro-hydraulic control, e.g. of the forces in gap of rolling mills, combined with feeding sets as NK 10-15/Z2/3/4 (data sheet E 12.4), NW-17 (dwg. M 33 209 00) or AN-15/P2/3/4

#### Construction

The diaphragm part as well as the whole mechanical parts of the transducer are made from high strength stainless steel or bronce. It bears:

- Strain gauge array and adjusting elements for Zero and Range, at K-Option moreover for shift
- Amplifier in shockproof SMD-technics with HFprotection, remote balancing and remote switchable CAL-Unit, strain gauges and amplifier separately feeded
- Front plate with flange receptacle
- Protecting tube, tightened by O-rings and fastened by screws

Delivery: within foam plastic packaging with caps, spare O-rings, cable connector, flange according SAE DN-19.

# **Electrical Data**

Ziootiioai Data
Resistance, nom. value4 x 350 $\Omega$
" actual vaaluesee test certificate
Flange receptacleBinder Ser.723 7p
waterproof goldplated contacts
Strain gauge excitingmax. 12 V symmetr.
" contacts6 / 3
Amplifier feeding15 V / 0 V / +15 V
" contacts2 / 7 / 4
Output (0nom. press.)010 V, max.12 V
" contacts5 / 7
CAL-Unit simulates100 % nom. pressure
Balancing nearly± 1 V for ± 10 %
" contact1
TolerancesStandard/K-Option
Zero signal*)< 2 % < 1 %
" temp.shift/10K< 0.5 % < 0.2 %
Output*)/nom.val< 2 % < 1 %
" /Type plate< 0.1 % < 0.05 %
" temp. shift/10K< 0.5 % < 0.1 %
including unbalance byfastening
without loss of range
*)adjustable through feeding set, incl. Zero shift caused
by screw on, without loss in measuring range
Combined error≤ 0.7 %
" K-Typ ≤ 250 bar:≤ 0,1 %
> 250 bar:≤ 0,25 %*)
Common mode rejection100 dB 100 Hz typ.
Ampl.frequency range020 kHz 3 dB
Nominal temp. range20°C+80°C
Tolerated range 50°C+ 100°C
For installation test we recommend Phantom for
DGW-10/11(Data sheet E 15.5)

**Mechanical Data** 

Pressure connection  " with staple flange  Very small dead room	DN-19 Normally no
Working pressure Limiting pressure Destroying pressure	2 x nom. pressure
Standard ranges(bar) Other ranges	100 - 250 - 500
Natural frequencies at ranges Weight without flange	25250 bar 0.35 kg
Dimensions	see drawing

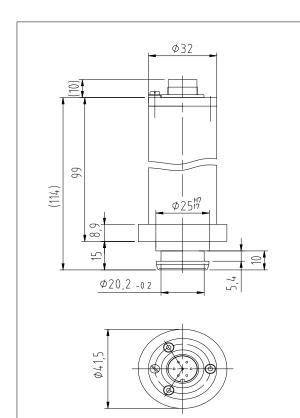
Transducers DGW-11 contain a CAL-Unit simulating 100% nom. pressure to be activated by pressing the CAL-key in feeding set NK 10-15/Z2/3/4 or AN-15/P2/3/4 (data sheet 12.4), in newer sets NW-17 (dwg. M 33 209 00). Ranges of output signals:

0...10 V at Z2/P2; 0...20 mA at Z3/P3; 4...20 mA at Z4/P4.

Therefore it is not more necessary to measure near the transducer or to induce an exact pressure value to the transduer. But older feeding sets e.g. NK 10-15/Z1 remain compatible, without remote calibrating.

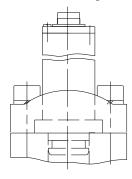
For spare, the older models DGW-12(K) and DGW-15(K) remain deliverable.

**Attention:** The similar models DGY-11 with output 0... 20 mA (3/4 leads) and DGZ-11 with output 4...20 mA (2 leads) need no special feeding set. See data sheet E 01.5a, E 01.5b.

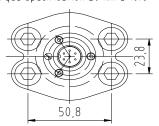


Data sheet E 01.5 page 2 (07/2003)

Refer installation instruction! Figured with SAE-flange DN 19 (3/4")



Use <u>only</u> screws M10xmin.35 class 12.9 with locker Torque specification 20 Nm ± 10%



01-5\_DGW-Y-Z-11.dwg Stand: 07/′03