High Precision Pressure Sensor

Code:	8264 EN
Delivery:	ex stock
Warranty:	24 months

For measurement of absolute pressure Model 8264 "TJE"
For measurement against atmosphere Model 8267 "TJE"

- **Measuring ranges between 0 ... 100 mbar to 0 ... 2000 bar**
- **Accuracy < 0.1 %**
- **Output 0 ... 5 V or 4 ... 20 mA available**
- **Suitable for liquid and gaseous media**
- **For dynamic and static measurements**
- **Made of stainless steel**

8264 EN

Application

High-precision pressure transducers of these models are a very attractive and economic solution for making extremely accurate pressure measurements for users from all fields of engineering. Thanks to their excellent long-term stability, reliability and rugged construction, the pressure transducers are suitable for use in both research and production, in mechanical engineering and industrial processes, aerospace engineering and many other applications.

These high-precision pressure transducers can be used for static and dynamic measurements on gaseous and liquid media. Being made of stainless steel they are also suitable for measurements on corrosive media. Critical media may result in damage around the welded seams inside the transducer. Please contact us.

Description

Model 8264 high-precision pressure transducers measure the absolute pressure with respect to a vacuum. Built-in overload protection for measuring ranges ≤ 0 ... 500 mbar prevents the sensor element being damaged by atmospheric pressure.

Model 8267 high-precision pressure transducers measure the pressure with respect to the surrounding atmosphere in measuring ranges ≤ 0 ... 20 bar. They are designed as „true gauge“ sensors, i.e. the chamber behind the diaphragm is in direct contact with the atmosphere through a small opening in the sensor body. This atmosphere can be damp and corrosive, because the sensor element is protected by a second diaphragm.

In measuring ranges ≥ 0 ... 50 bar, pressures are measured with respect to a sealed atmosphere of approximately 1 bar as reference pressure. The medium to be measured is conducted via the pressure connector into a sealed chamber where it acts on a diaphragm. This diaphragm is connected to the sensor element, a double bending beam, via a rod. Four foil strain gauges connected in a Wheatstone bridge are applied to the sensor element to convert the physical variable (pressure) into an electrical variable.

Technical Data

Order Code Absolute Measurement **Model 8264**	Order Code Against Atmosphere **Model 8267**	Measuring Range	Dimensions [mm] Model 8264 ø D	Model 8264 L	Model 8267 øD	Model 8267 L	Resonance Frequency [kHz]	Dead Volume [cm³]
-	8267-4100	0 ... 100 mbar	-	-	57.2	67.9	0.5	5.24
-	8267-4200	0 ... 200 mbar	-	-	57.2	67.9	1.0	5.24
8264-4500	8267-4500	0 ... 500 mbar	38.1	81.7	44.5	72.8	1.3	4.10
8264-5001	8267-5001	0 ... 1 bar	38.1	81.7	44.5	72.8	1.6	4.10
8264-5002	8267-5002	0 ... 2 bar	38.1	81.7	38.1	73.0	1.7	2.79
8264-5005	8267-5005	0 ... 5 bar	38.1	81.7	38.1	73.0	2.5	2.79
8264-5010	8267-5010	0 ... 10 bar	38.1	81.7	38.1	73.0	4.0	2.79
8264-5020	8267-5020	0 ... 20 bar	38.1	81.7	38.1	73.0	7.2	2.79
8264-5050	8267-5050	0 ... 50 bar	38.1	81.7	38.1	81.7	12.0	2.79
8264-5100	8267-5100	0 ... 100 bar	38.1	81.7	38.1	81.7	20.0	2.79
8264-5200	8267-5200	0 ... 200 bar	38.1	71.9	38.1	71.9	40.0	1.97
8264-5500	8267-5500	0 ... 500 bar	38.1	71.9	38.1	71.9	80.0	1.97
8264-6001	8267-6001	0 ... 1000 bar	38.1	67.3	38.1	67.3	95.0	1.97
8264-6002	8267-6002	0 ... 2000 bar	38.1	67.3	38.1	67.3	110.0	1.97

Electrical values

Bridge resistance: foil strain gauges 350 Ω , nominal

Calibration resistor: 59 kΩ ± 0.1 %
The bridge output voltage caused by a shunt of this value is given in the calibration protocol.

Excitation voltage: calibrated with 10 V DC or AC
possible maximum 12 V DC or AC

Sensitivity: 3 mV/V, nominal
measuring range 0 ... 100 mbar 2 mV/V, nominal

Environmental conditions

Range of operating temperature:
measuring range ≤ 0 ... 1000 bar - 70 °C ... 160 °C
measuring range 0 ... 2000 bar - 70 °C ... 95 °C

Nominal temperature range: 15 °C ... 70 °C

Influence of temperature on zero: ≤ ± 0.005 % F.S./K

Influence of temperature on sensitivity: ≤ ± 0.005 % Rdg./K

Mechanical values

Combined error consisting of non-linearity, hysteresis and variation: < ± 0.1 % F.S.

Kind of measurement:
model 8264 absolute pressure
model 8267 pressure against atmosphere

Measuring ranges: refer to table

Dead volume: refer to table

Overload: 50 % over capacity
pressure transducers of model 8264 with measuring range ≤ 0 ... 500 mbar have a internal overload protection, active up to 1 bar.

Burst pressure:
measuring range ≤ 0 ... 200 bar 300 % over capacity
measuring range 0 ... 500 bar 200 % over capacity
measuring range ≥ 0 ...1000 bar 70 % over capacity

Dynamic load
recommended: 70 % of capacity
possible: 100 % of capacity

Design:
Pressure transducer with hermetically sealed measurement chamber, diaphragm and housing are welded. Pressure transducers of model 8264 with measuring range ≥ 0 ... 50 bar uses a sealed atmosphere, pressure approx. 1 bar, as reference.

Material: stainless steel 17 - 4 PH (similar to material 1.4542)

Pressure connection:
measuring range ≤ 0 ... 100 bar external thread 1/4-18NPT
measuring range 0 ... 200 bar, 0 ... 500 bar int. thread 1/4-18NPT
measuring range ≥0 ... 1000 bar Autoklave AE F250-C

Sealing: at transducer, conical, self-sealing thread, respectively with conical nipple.

Electrical connection:
6 pin bayonet plug-in connector Souriau 851-07A10-6P

Wiring (standard):

pins A + B	excitation voltage	positive
pins C + D	excitation voltage	negative
pin E	output signal	negative
pin F	output signal	positive

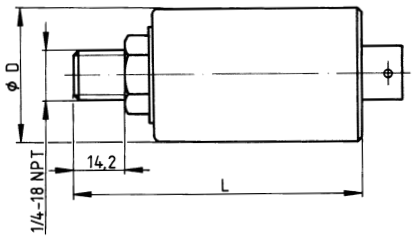
Mating connector: (included in scope of delivery) model 9945
Souriau 851-06E-C-10-6S or Amphenol 62GB-16F-10-6S

Dimension: refer to table and dimensional drawing

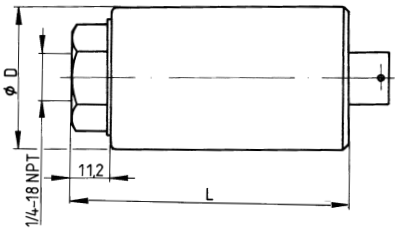
Weight: approx. 290 g

Dimensional drawing models 8264 and 8267

Measuring Range
≤ 0 ... 100 bar



Measuring Ranges
0 ... 200 bar and
0 ... 500 bar



Order Codes

Refer to tables, mention options with corresponding short terms

Accessories

Connecting cable for transducers with bridge output, with connector and socket, 6 pin, shielded, bending radius > 5 mm, PVC insulated, length 3 m

with open, color coded and tinned cable ends **Model 9986**

to burster evaluation electronics (desktop versions) **Model 9911**

for transducers with internal amplifier, with open color coded and tinned cable ends **Model 99545-000D-0160030**

Other lengths or special cable versions on request.

Test and Calibration Certificate

Included in delivery, et al. with specification of zero output, sensitivity and shunt calibration factor.

Options

Extension of the nominal temperature range to 20 °C ... 120 °C **...-xxFxxxxx**

Extension of the nominal temperature range to 20 °C ... 160 °C, possible for measuring range ≥ 0 ... 1bar **...-xxGxxxxx**

Internal measurement amplifier with voltage output 0 ... 5 V DC **...-x1xxxxxx**
technical data refer to data sheet 83-IMV

Internal measurement amplifier with current output 4 ... 20 mA **...-x4xxxxxx**
technical data refer to data sheet 83-IMV

Factory Calibration Certificate (WKS)

Calibration of a pressure transducer separately as well as connected to an indicator. Standard is a certificate with 11 points, starting at zero, running up and down in 20% increments and covering the complete measuring range. Special calibrations on request. Calculation of costs by base price plus additional costs per point.

Order Code 82WKS-82...