

Quartz High-Pressure Sensor

for ballistic pressure measurement to 6,000 bar

Type 6215...

The front sealed high pressure sensor suitable for ballistic pressure measurement up to 6,000 bar.

- NATO Standard
- Extremely long service life
- Very good long term stability

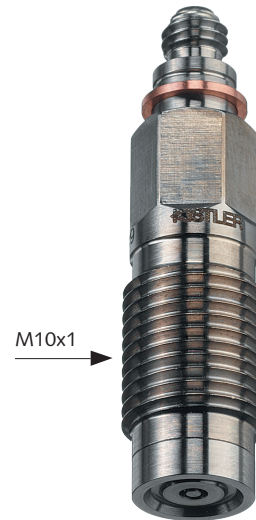
Description

Front sealed diaphragm, therefore very low mechanical and thermal stress of the sensor, no mounting gap (small dead volume) and a largely reduced surface pressure in the sealing part.

Sensor Type 6215 has been accepted by NATO as the successor to Kistler Type 6203 (AC/225 LG/3-SG/1) and is integrated part of NATO Standardization Agreements (STANGAGs) and Manner of Proof and Inspections (MOPIs).

Application

Use for all ballistic measurements. Depending on the measuring configuration, the sensor can be installed with an additional thermal protection shield or a diaphragm protection.



Technical data

| | | |
|--|--------|-------------------|
| Range | bar | 0 ... 6,000 |
| Calibrated partial range | bar | 0 ... 600 |
| Overload | bar | 6,600 |
| Sensitivity | pC/bar | -1.4 |
| Natural frequency | kHz | >240 |
| Rise time | µs | 1 |
| Linearity for all ranges | %FSO | ±1 |
| Acceleration sensitivity | | |
| axial | bar/g | <0.002 |
| transverse | bar/g | <0.005 |
| Shock resistance | | |
| axial | g | 25,000 |
| transverse | g | 10,000 |
| Temperature coefficient of the sensitivity | %/°C | ±0.02 |
| Operating temperature range | °C | -50 ... 200 |
| Capacitance | pF | ≈8 |
| Insulation resistance at 20°C | Ω | >10 ¹³ |
| Tightening torque | N·m | 20 |
| Weight | g | 12 |

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Dimensions and mounting bore Type 6215

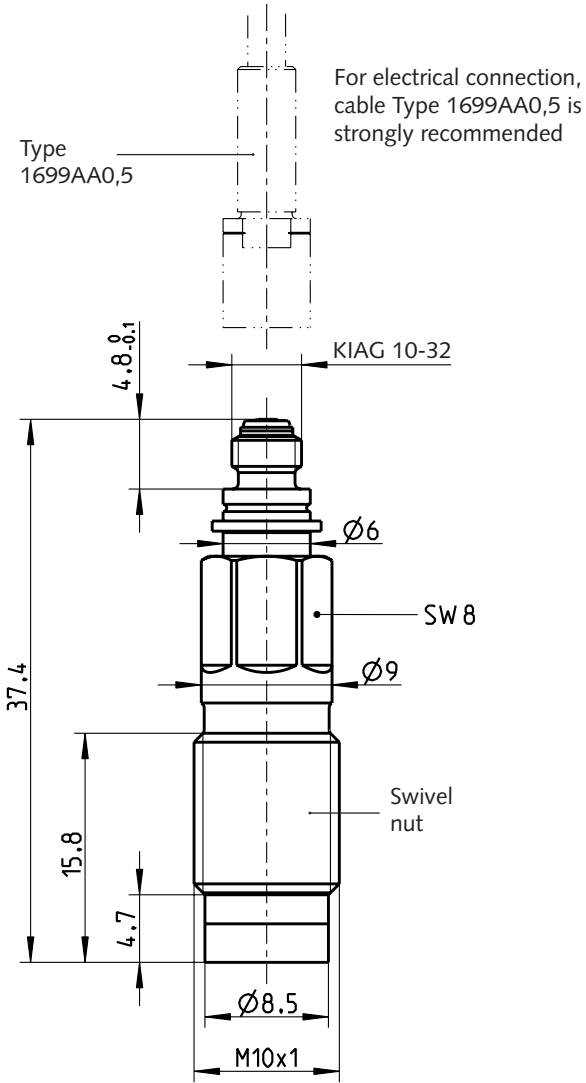


Fig. 1: Dimensions Type 6215

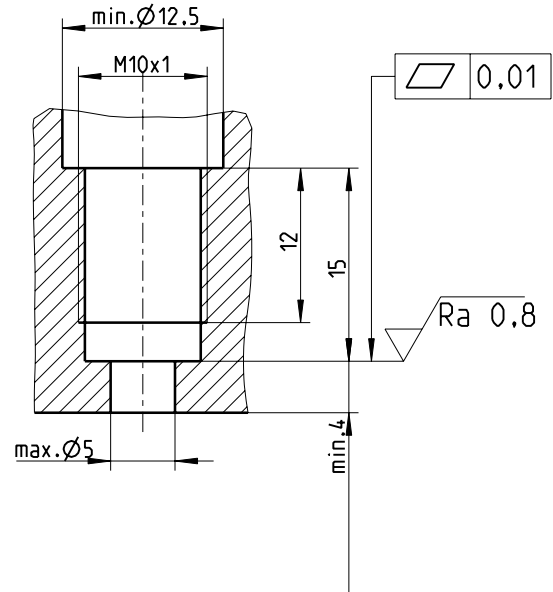


Fig. 2: Mounting bore Type 6215

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Mounting

To mount the sensor, a threaded hole M10x1 with accurately machined contact face, which has been finished with the surface finishing tool Type 1300A25, is sufficient. The sensor can be fitted without special thermal protection, using only the sealing ring Type 1100 (Fig. 3).

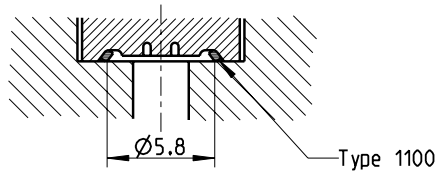


Fig. 3: Direct mounting

The front seal allows the use of an additional attachment. Fig. 4 shows the installation with thermal protection shield Type 6565A and thermal protective plate Type 1181A to reduce thermal shock error. For measurements in which the sensor is exposed to heat over the entire pressure profile (e.g. in pressure bombs and cartridge chambers). Fig. 5 shows the installation with diaphragm protector Type 6567. Recommended for measurements at the case mouth and along the measuring barrel as protection against mechanical damage from metal fragments and powder particles. It is essential to follow the operating instructions when machining the measuring hole and for installation (doc. no 6215_002-023).

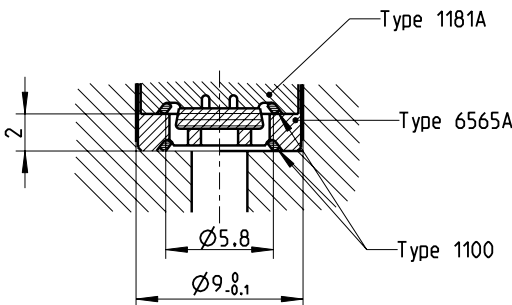


Fig. 4: Mounting with thermal protective plate (Type 1181A) and thermal protection shield (Type 6565A)

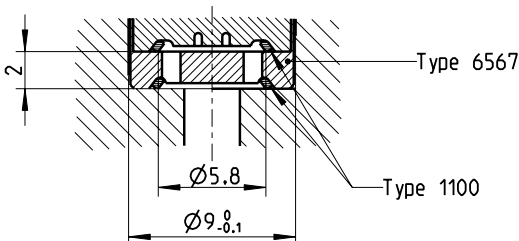


Fig. 5: Mounting with diaphragm protection (Type 6567)

Accessories included

- Sealing ring 10x
- Lubrication grease 1x

Type

- 1100
- 1063

Optional accessories

- Thermal protective plate 1181A
- Thermal protection shield 6565A
- Diaphragm protection 6567
- Sealing ring 10x 1100
- Dummy plug 6449
- Adapter to pressure generator 6905A/6906 6925
- Reduction sleeve Z14998
- Connection cable for Type 6215B, (KIAG 10-32 pos./KIAG 10-32 neg.) 1699AA0,5
- Special drilling tool 1327
- Screw tap M10x1 1353
- Surface finishing tool 1300A25
- Torque wrench 1371B
- Tubular socket wrench hex. 8 mm 1373A1

Ordering key

| | |
|--|----|
| Quartz High-Pressure Sensor | - |
| Quartz High-Pressure Sensor with additional accessories included Types 1300A25, 1327, 1353, 1373A1 | A1 |

Type 6215

Short version with integrated cable is available, see data sheet No. 6215BA_000-845.

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