

Pressure Standards

Types 6961, 6962, 6963

Reference sensors for the calibration of piezoelectric pressure sensors

The Type 696X... is a family of reference sensors for pressure sensor calibration systems. The reference sensors are ideally suited to quasi-static calibration procedures typically employed for piezoelectric pressure sensors.

- High sensitivity
- Exceptional linearity
- Minimal drift
- Very good thermal stability
- Insensitive to variations in mounting conditions
- Calibration traceable to national and international standards

Description

The very high sensitivity, exceptional linearity and outstanding thermal stability of the Type 696X... make these sensors ideal pressure standards. The sensing element is integrated into a robust stainless-steel body for mechanical protection and high thermal inertia, optimizing the stability of each calibration.

Application

The Type 696X... serve as transfer, or working standard in calibration and quality assurance laboratories for piezoelectric sensors. The wide range of available pressure standards enables calibration for a broad selection of applications such as.

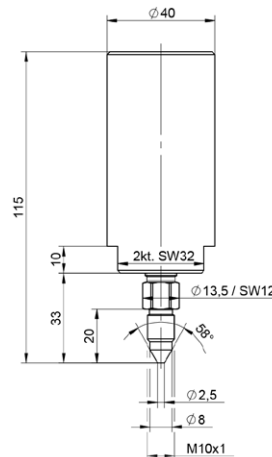
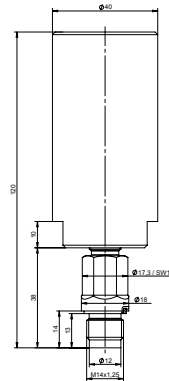
- combustion pressure sensors (up to 300 bar)
- high pressure sensors (up to 8 000 bar)

Working standard

As working standard, the Type 696X... forms an integral part of a pressure sensor calibration system. The working standard is the reference for the definition of pressure during the calibration process, i.e. the output of a unit under test is compared to the pressure measured with the working standard

Transfer standard

The Type 696X... may also be used as an intermediary to compare standards, i.e. as a transfer standard. The 696X... is calibrated at a primary laboratory and is then used to calibrate a working standard in the calibration system. In this case, the output of the working standard is compared to the pressure measured with the transfer standard.



Calibration

All pressure standards Types 696X... are delivered with a traceable calibration, conforming to the requirements set by ISO/IEC 17025. The calibration results are documented on a multi-page calibration certificate. In addition to the sensitivities for the calibration ranges as per the technical data, sensitivities at 15 step values are provided.

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Technica data

Type		6961C	6962C2000	6963A8000	6963AB
Measuring range	bar	0 ... 300	0 ... 2 000	0 ... 8 000	0 ... 8 000
Calibrated partial ranges	bar	0 ... 50 / 0 ... 100	0 ... 500 / 0 ... 1 000	0 ... 2 000 / 0 ... 6 000	0 ... 2 000 / 0 ... 6 000
Overload	bar	350	2 400	10 000	10 000
Nominal sensitivity	pC/bar	-90	-13	-1.2	-1.2
Linearity	%FSO	<0.1	<0.1	<0.3	<0.5
Operating temperature range	°C	25 ±5	25 ±5	25 ±5	25 ±5
Weight	g	685	685	685	685
Tightening torque	N·m	25	10	10	10
Mounting thread	-	M14x1.25	M10x1	M10x1	M10x1
Connector (charge output)	-	KIAG 10-32	KIAG 10-32	KIAG 10-32	KIAG 10-32

Mounting conditions (Type 6961C)

The sensor Type 6961C may be screwed directly into a M14x1.25 bore. Dimensions and tolerances for the mounting port are shown in Fig. 1. The sensor Type 6961C is tightened/removed with an open wrench, using the 15 mm hexagon flats as shown in Fig. 2.

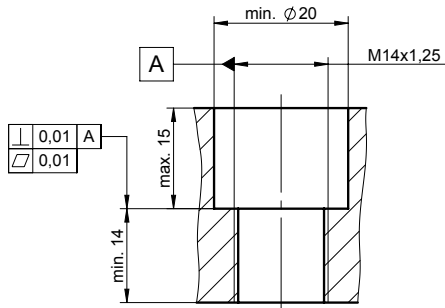


Fig. 1: Sensor mounting

Mounting conditions (Type 6962C und 6963A)

The sensor Type 6962 and 6963 may be screwed directly into a M10x1 bore. Dimensions and tolerances for the mounting port are shown in Fig. 3. The sensor Type 6962 and 6963 is tightened/removed with an open wrench, using the 12 mm hexagon flats as shown in Fig. 4.

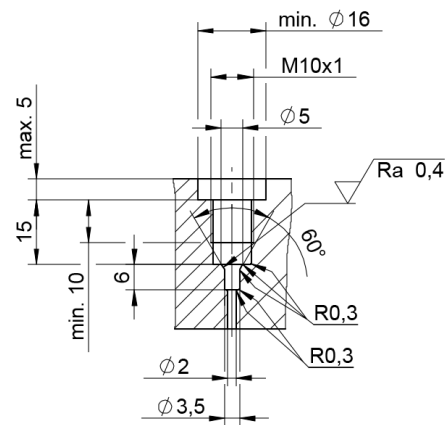


Fig. 3: Sensor mounting

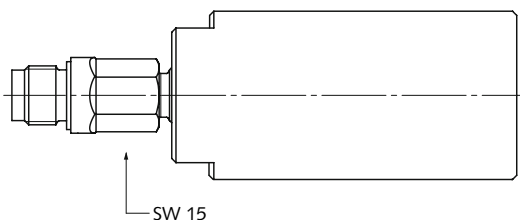


Fig. 2: Wrench flats

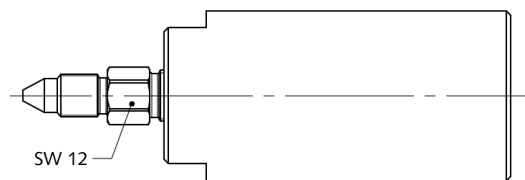


Fig. 4: Wrench flats

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