

Calibration Manifold

Type 6935A...

6-Channel High-Temperature Calibration System

Calibration manifold for the calibration of up to 6 pressure sensors over a wide temperature range.

Especially suited for the calibration requirements of combustion engine R&D laboratories.

- Parallel calibration of multiple sensors
- Uniform pressure and temperature distribution
- Accurate, closed-loop temperature control
- Air cooled
- Bleed valve for air-free calibration
- Compatible to Kistler Type 6904 hydraulic pressure generator

Description

Multiple calibration ports allow simultaneous calibration of up to six pressure sensors. Heated versions of the manifold are fitted with high performance electric heating cartridges. The cartridges are spaced symmetrically around the calibration ports, which are countersunk to minimise temperature gradients within the sensor. Coolant is supplied by a laboratory air supply or an auxiliary cooling unit.

Feedback to the closed loop PID temperature controller is provided by a PT100 temperature sensor.

Air trapped during sensor mounting is easily bled to ensure uniform pressure and temperature distribution to the sensor diaphragm.

Calibration pressure is supplied by an auxiliary pressure generator such as the Kistler Type 6904.

Application

Calibration of pressure sensors for combustion indication and injection pressure measurement. The Calibration Manifold Type 6935A... enables customer-site laboratories to calibrate pressure sensors at temperatures that simulate typical operating conditions.

The accurate temperature control, together with minimised trapped air volumes allow for quick and effective calibration of multiple high temperature pressure sensors, under conditions similar to that applied during Kistler works calibrations.



Type 6935A2
High-Temperature Calibration
Manifold with Thermo Controller

Type 6935A0
Room Temperature Calibration
Manifold

Technical Data

Number of sensors	–	6
Sensor connection	–	M14x1,25
Pressure range	bar	0 ... 250
Calibration procedure	–	Continuous
Pressure medium	–	Silicon-Oil
Compatible pressure generator	–	Type 6904
Dimensions*		
B	mm	280 (280)
H	mm	350 (350)
D	mm	330 (180)
Weight*	kg	12 (8)

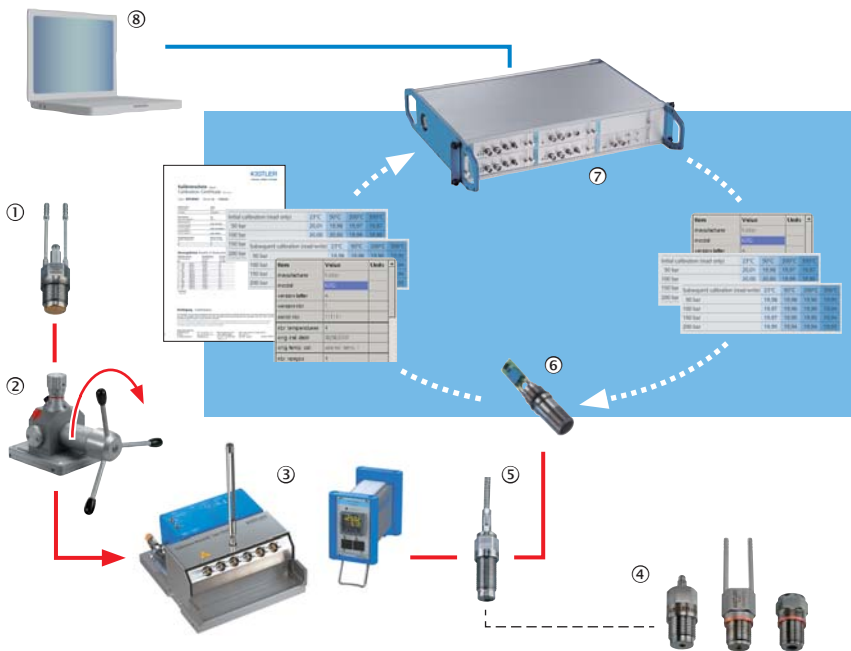
*Room-Temperature versions in brackets

High Temperature Versions

Temperature range	°C	20 ... 250
Temperature control resolution	°C	±0,1
Heating rate	°C/min	15
Cooling rate	°C/min	5
Temperature control	–	PID
Heating method	–	Electro-resistive
Cooling medium*	–	Compressed Air
Cooling Air supply pressure	bar (max.)	10
Connection details		
Power supply	VAC	230/115
Supply frequency	Hz	48 ... 62
Rated power (heating)	W	1750
Auxiliary power output	V	230/115
	A	2

*Connected to an external air supply

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Typical System Configuration

Legend:

- | | |
|--|--|
| 1. Reference Sensor
e.g. Type 7061B... | 5. Units Under Test
Pressure Sensor (6x)
e.g. Type 6052B... |
| 2. Pressure Generator
Type 6904 | 6. PiezoSmart
Sensor Identification
with Transducer Electronic Data sheet |
| 3. Calibration Manifold
Type 6935A...
- 6 Sensors
- RT ... 250 °C
- 0 ... 250 bar | 7. Signal Conditioning
SCP or SCP-Compact |
| Thermo Controller
Type Z20078 | 8. Calibration PC
PC with Calibrate software suite and National Instruments data acquisition |
| 4. Adapters
for most Kistler Sensors | |

Fig. 1: Typical system configuration for automated processing of calibration data

Mounting

Six sensor mounting ports for direct mounting of M14x1,25 pressure sensors. Mounting adapters are available for most Kistler pressure sensors.

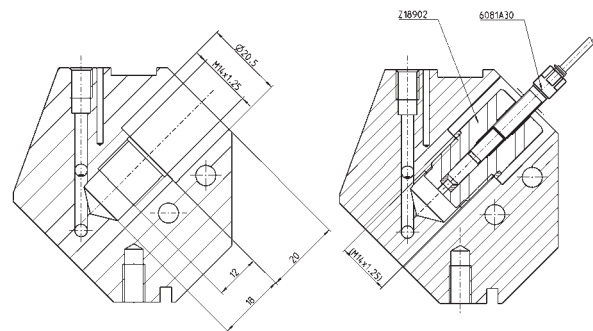


Fig. 2: Direct mounting

Fig. 3: Sensor with adapter

Accessories Included

- Calibration Fluid
- Blanking Plugs
- Cu-Be Seal
- Torque Wrench

Optional Accessories

- Pressure generator
- High temperature sensor cable
- Calibrate software suite
- Interface cable RS232
- Cleaning spray
- Sensor specific adapters and assembly tools

Type/Art.No.

- 1055
- Z18553-20
- Z18553-30
- 1300A11

Type/Art.No.

- 6904
- 1648
- Z18906A
- 1200A27
- 1003

Ordering Key

Version

Room Temperature, No heating system	0
High-Temperature, 230 VAC, 19"-Rack mounting Thermo controller	1
High-Temperature, 230 VAC, Desktop Thermo controller	2
High-Temperature, 115 VAC, 19"-Rack mounting Thermo controller	3
High-Temperature, 115 VAC, Desktop Thermo controller	4

Type 6935A



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