sauermann®

MP 120

Manometer

Supplied with CALIBRATION certificate*

Pitot tube not included, sold separately

Easy to use

Hold-min-max function

Selection of units

Manual autozero

Features

- Pressure measurement
- Air velocity measurement
- Coefficient of the adjustable differential pressure element
- Temperature and atmospheric pressure compensation
- Selection of units
- Manual autozero
- Hold function
- Display of minimum and maximum values
- Configurable auto shut-off
- Backlight

Technical specifications

Parameters	Measuring units	Accuracy**	Measuring range	Resolution
Pressure	Pa, mmH$_2$O, inWg, daPa, m/s, fpm	±0.5% of reading ±2 Pa	From -1000 to +1000 Pa	1 Pa
Air velocity	m/s, fpm, km/h	From 2 to 5 m/s: ±0.7 m/s From 5 to 40 m/s: ±0.5% of reading ±0.3 m/s	From 0 to 40 m/s	0.1 m/s

*Except class 110 S which is supplied with adjustment certificate.
**All the accuracies indicated in this technical datasheet were stated in laboratory conditions, and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.

General features

Measuring element	Piezoresistive sensor
Tolerated overpressure	250 mbar
Connector	Ø 6.2 mm threaded connectors made of nickelled brass
Display	4 lines, LCD technology. Dimensions 50 x 36 mm. 2 lines of 5 digits with 7 segments (value) 2 lines of 5 digits with 16 segments (unit)
Housing	ABS, protection IP54
Keypad	5 keys
European directives	2014/30/EU EMC; 2014/35/EU Low Voltage; 2011/65/EU RoHS II; 2012/19/EU WEEE
Power supply	4 batteries AAA LR03 1.5 V
Battery life	180 hours
Ambience	Neutral gas
Conditions of use (°C,%RH, m)	From 0 to +50 °C. In non condensing conditions. From 0 to 2000 m.
Storage temperature	From -20 to +80 °C
Auto shut-off	Adjustable from 0 to 120 minutes
Weight	220 g

Operating principle

Piezoresistive sensor
The pressure deforms the silicon layer. This layer deformation generates a voltage at its terminates. This voltage is proportional to the pressure applied.
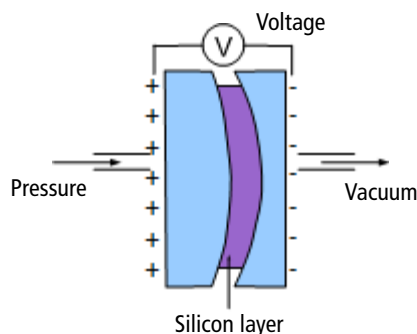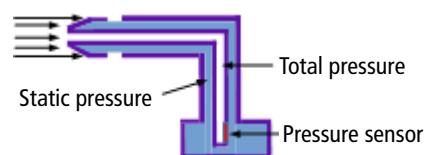

Pitot tube
Dynamic pressure is measured by Pitot tube:
Pd = Total pressure **(Pt)** – Static pressure **(Ps)**
Air velocity is calculated according to Bernoulli simplified formula.
Formula with temperature correction:

$$V_{m/s} = K \times \sqrt{\frac{574{,}2\,\theta + 156842{,}77}{P_0}} \times \sqrt{\Delta P_{enPa}}$$

Po = Barometric pressure in Pa
θ = temperature in °C
K = Pitot tube coefficient

Maintenance

We carry out calibration, adjustment and maintenance of your instruments to guarantee a constant level of quality of your measurements.
As part of Quality Assurance Standards, we recommend you to carry out a yearly checking.
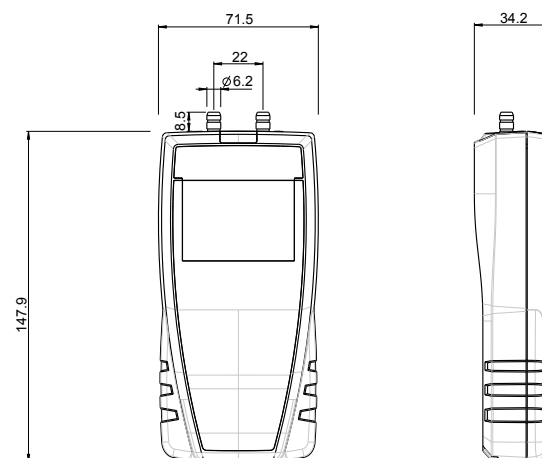
Dimensions (in mm)

Kit content

Designation	Sales reference	Description
MP 120	24620	Manometer with 2 x 1 m of silicon tube Ø 4 x 7 mm, stainless steel tip Ø 6 x 100 mm, calibration certificate and soft transport case
MP 120 S	24722	Manometer with 2 x 1 m of silicon tube Ø 4 x 7 mm, stainless steel tip Ø 6 x 100 mm, adjustment certificate and soft transport case

Certificates

Calibration certificate: A calibration is a comparison of the values of the instrument with those of a standard to determine a measurement error with an associated calibration uncertainty. A calibration certificate guarantees the traceability of measurements to national standards.

Adjustment certificate: An adjustment certificate is a document that ensures the conformity of the device with the tolerances of the data sheet. It ensures that the device has followed the manufacturing process.

Accessories

Designation	Sales reference	Description
CQ 15	24633	Magnetic protective housing
J.T.C	11922	Straight junctions in T for Ø 5 x 8 mm tube
J.T.Y	11923	Straight junctions in Y for Ø 5 x 8 mm tube
Pitot Tubes	-	Different lengths, Ø 3/6 or 8 mm, bent or straight. See related data sheet.
MT 51	24636	ABS transport case
ST 110	24635	Soft transport case

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