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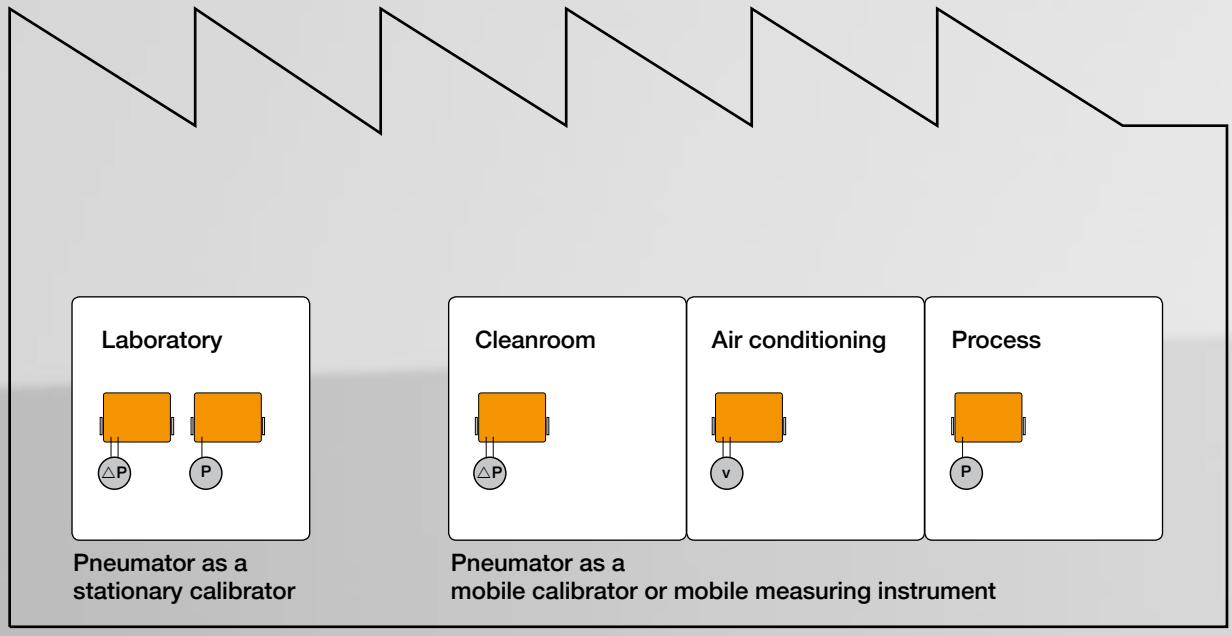
Pneumator

Pressure calibrator and measuring instrument

Full versatility for industrial requirements

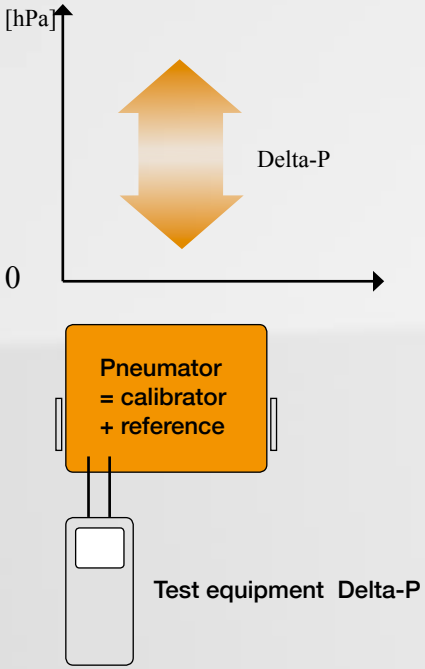
In industrial practice, the precision of the measurement technology used is of increasing significance. This is especially the case where the accuracy of the measuring instruments is tested: in calibration. However, not all pressure or differential pressure calibrations can be carried out in a laboratory – the deinstallation of the test object is often not possible, for instance. The Pneumator fulfils both requirements: it can be used not only for stationary applications (in a laboratory), but also as a mobile calibrator. In addition to this, it also serves as a precision measuring instrument on site, combining highest accuracy with reliable battery operation.



Application example: differential pressure calibration

The demands placed on the accuracy of measured differential pressure values are constantly increasing. In calibration, this means that highly accurate measuring instruments need to be tested – and for this purpose, the accuracy of the calibrator must be higher still. The Pneumator offers this accuracy, in stationary as well as in mobile calibration applications. It serves simultaneously as a reference measuring instrument (with whose value the test object is compared). The pressure value of the internal pump is regulated quickly and accurately.

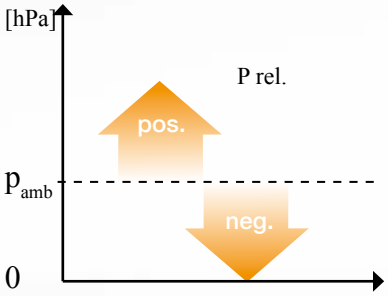
Stationary or mobile calibrator

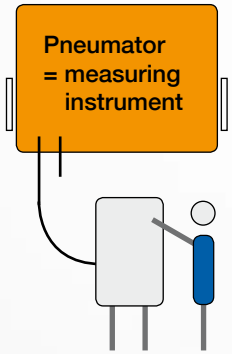


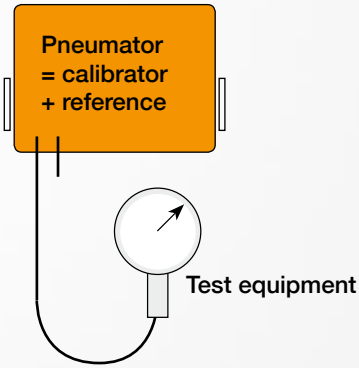
Relative pressure measurement or calibration

While the accuracy requirements for the measurement of high relative pressures (for example in compressed air systems) are usually comparatively slight, low positive pressures are more relevant to quality. For example, gloveboxes (isolators) must have a certain positive pressure over the surrounding room in order to prevent contamination. Exact positive pressures are also often of great significance in technical apparatus in medicine. In this field too, the Pneumator proves itself as a versatile laboratory or mobile calibrator, or as a mobile precision measuring instrument.

Stationary or mobile calibrator/mobile measuring instrument



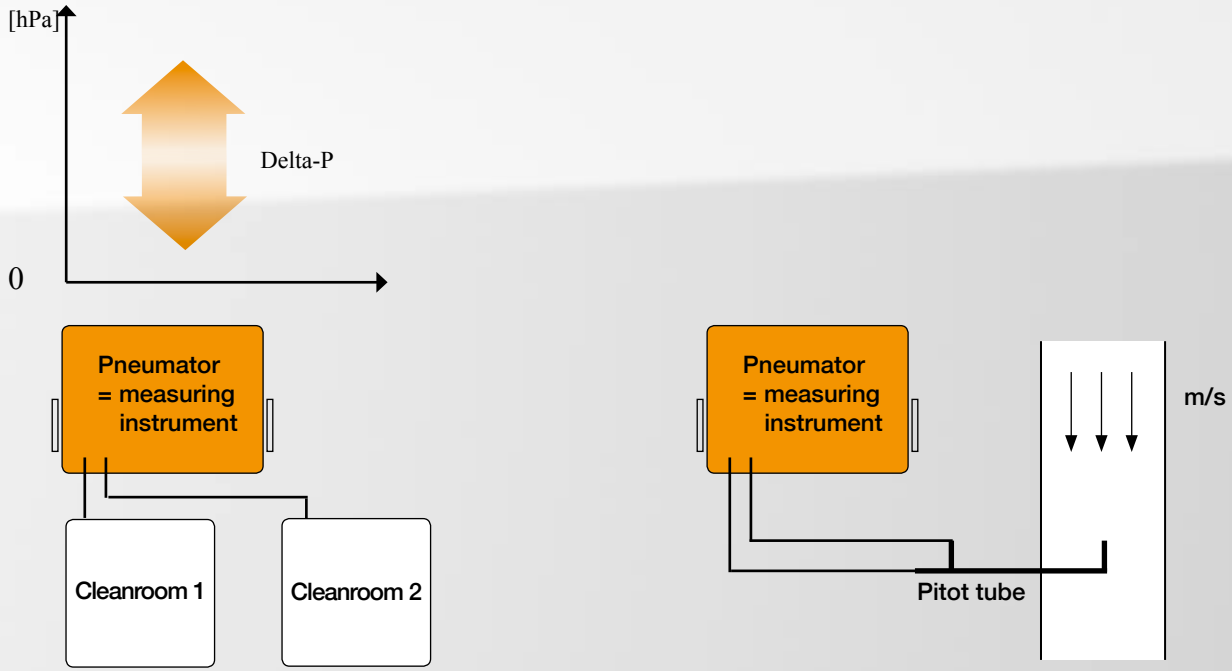




Application example: differential pressure/flow and velocity measurement

Differential pressure measurements on cleanroom filters as well as cleanroom positive pressure measurements place high demands on the stability of the measurement, which must also run accurately and quickly. In critical air conditioning applications, it must be ensured that at the same time, the flow velocity and volume flow in the air duct meet requirements. For these measurements, the Pneumator has a “measurement mode”, in which the precise measurement value is displayed directly in the desired pressure, flow velocity or volume flow unit. This is carried out at the highest level of mobility – the high-performance rechargeable battery allows 8 hours of use without mains supply.

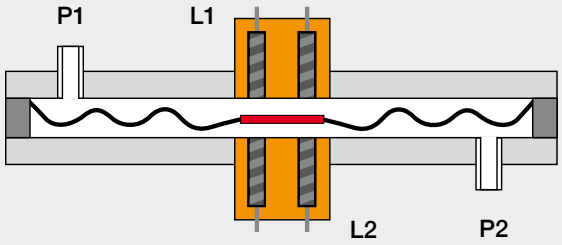
Mobile measuring instrument

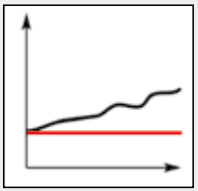


Long-term stable and overload-safe

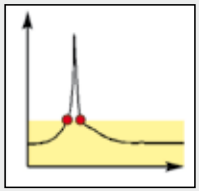
Inductive sensor

The differential pressure sensor of the Pneumator operates completely free of friction and wear. In the centre of the concentrically corrugated copper-beryllium membrane is a core, magnetized on both sides. Its displacement causes a highly sensitive alteration of the inductivities of the coils L1 and L2. This allows even the slightest pressure differences in the sub-Pascal range to be recorded. Automatically controlled magnetic valves ensure that excellent zero point stability is present at all times. At the same time, these valves prevent damage due to overload, by disconnecting the measuring cell from the over-pressure within seconds.





Zero point stability



Overload-proof

Ordering information

Pneumator	1 hPa	0519.0816
	10 hPa	0519.0817
	100 hPa	0519.0818
	1000 hPa	0519.0819
Accessory	transport case	0519.0849
	ISO calibration certificate, 5 points	0520.0025
	DKD calibration certificate max. 11 points	0520.0215
Included in delivery:	wide-range mains unit and 1m hose	

Optimum mobility in transport case 0519.0849

Versatile, precise, mobile

- **Use as calibrator or measuring instrument**
- **Highest accuracy even in lower Pa range**
- **Long-term battery operation for mobile applications**
- **High zero point stability due to automatic adjustment**
- **Fast provision of differential and and relative pressures in calibration mode**
- **Programmable pressure sequences**
- **Wide selection of pressure, volume flow and flow velocity units**
- **Menu German/English**

Specifications

Measuring range/Pressure range	4 types (1, 10, 100, 1000 hPa)
Measurement principle	inductive differential pressure measurement
Operating modes	Calibration (manually or with programmed sequences), Measuring (Pressure, velocity, volume flow), Zeroing, Venting, Pressure-Tightness test
Measurement inaccuracy	0,3% of scale ± 1 Digit (Measurement range 1 hPa) 0,1% of scale ± 1 Digit (Measurement range 10, 100, 1000 hPa)
Linearity	0,2% of scale ± 1 Digit (Measurement range 1 hPa) 0,1% of scale ± 1 Digit (Measurement range 10, 100, 1000 hPa)
Hysteresis	0,1% v. E. max.
Temperature drift int. reference sensor	Zero point: 0,03% of scale/K (0% by zero point adjustment) Span: 0,03% of scale/K
Zero point adjustment	automatic (at settable intervals), manual (ZERO button)
Long-term stability	0,5% of scale per year (max.)
Working temperature range	+10°...+40°C

Storage temperature range	-10°..+70°C
Usable pressure and measurement range	-10...110%
Specified pressure and measurement range	0...100%
Overpressure protection	When exposed to overpressures higher than 125% of range, the internal reference sensor is separated from pressure and vented
Pressure units	Pa, kPa, hPa, bar, mbar, psi, inH2O, inHg, mmHg, Torr
Velocity/volume flow units	m/s, km/h, fpm, mph, m3/h, l/s, lpm, cfm
Media	Air, non-aggressive, non-corrosive gases
Pressure connection	6,6x11 mm (hoses D=6 mm)
Supply	24VDC/1A internal accumulator, charges automatically upon net supply · Type: Lithium-Manganese · minimum use: 8h
Interface	USB
Measures	Dimensions without handle : (HxWxD) 102,6 mm x 257 mm x 271 mm
Weight	4,6 kg

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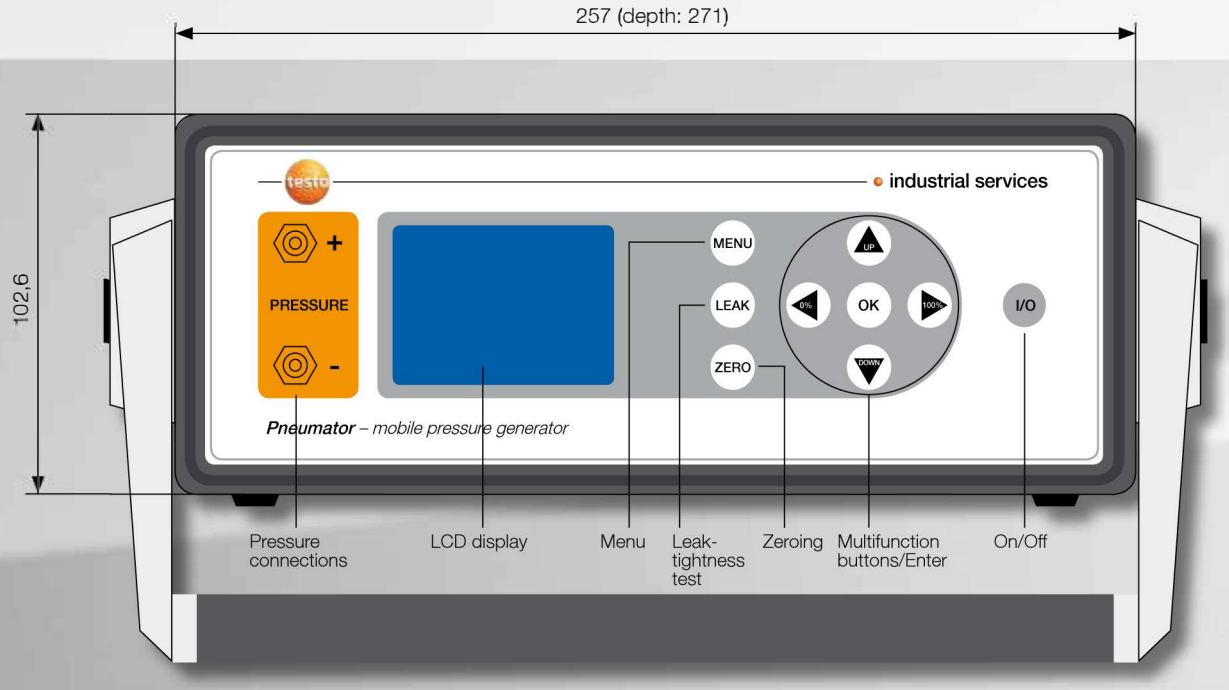
Dimensional drawing



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