

- PIECE INDUKCYJNE, SZAFY STEROWNICZE,
- APARATURA KONTROLNO-POMIAROWA,
- HYDROCYKLONY, POJEMNIKI DPPL,
- TRUDNOŚCIERALNE PŁYTY GUMOWO-METALOWE,
- TRUDNOŚCIERALNE WYŁOŻENIA MŁYNÓW KULOWYCH,
- REMONTY MASZYN I URZĄDZEŃ DLA PRZEMYSŁU,

MPR-300 Rotational Gas Velocity Meter

Application

The MPR-300 Rotational Gas Velocity Meter, has been designed for a broad range of (pure and dusted) gas velocity measurements in flow channels, also at low speeds (below 3 m/s), which cannot be measured with impact pressure tubes.

The MPR-300 is composed of a measuring probe with compact design, whose transverse dimension is 42 mm (passes through a standard M64x4 ferrule) and a meter featuring a graphic display and RAM memory, supplied from an accumulator.

The MPR-300 does not need to know gas density (temperature, pressure and chemical composition) for gas velocity and gas stream volume measurements (after stating a cross-sectional area of the channel).

Construction and operation

The principle of the measurement of gas velocity is based on the generation of Karman vortices as a result of the flow of the gas through the bar placed in the head of the measuring probe and detection of the frequency of the formation of the vortices using the ultrasonic sensor. After stating a cross-sectional area of the measurement, the stream of gas volume is measured, based on the average speed in the section obtained as a result of stating empirical coefficient of the profile which is the quotient of the average speed and the speed of the gas in any point of the section. MPR-300 is designed for taking measurements both in laboratory and range conditions because it is fitted with internal power supply (accumulator). MPR-300 has the facility to record automatically and manually the results of measurements (while grouping them) in the RAM internal memory. Besides measuring time, it is possible to transmit the results of measurements to a computer and save them as text series.

MPR-300 meter is easy to operate and has got the casing in the shape of suitcase. The frontal, horizontal plate with the hermetic keyboard made of foil is the place of all connections and usage operations of the device.

MPR-300 in cooperation with P-10ZA dust meter, is used to take distinct measurements of speed distribution (and the stream of volume) of gas in flow channels, particularly in the conditions where low speeds occur locally i.e. below 5m/s. The user can use the measurement of gas pressure and temperature in the channel using the central unit of the dust meter CJP-10 for the alternative conversion of the stream of gas volume measured, into conventional conditions.



The kit consists of:

- MPR-300 meter;
- Höntzsch probe;
- Power adapter;
- Cord for data transmission;
- Diskette with program;
- Case.

Consumers:

- Silesian University of Technology EngD Wojciech Kierat tel. (0 32) 237-26-88
- BAASK EngD Jerzy Szulikowski tel. (0 32) 353-93-00
- MONDI Świecie Eng Andrzej Klonowski tel. (0 52) 332-11-74
- KGHM Polska Miedź Adam Będziechowski tel. (0 76) 836-74-65
- WIOŚ Toruń Piotr Stawarczyk tel. (0 56) 659-89-98
- TESMO Warszawa Grzegorz Kozicki tel (0 22) 498-75-19

Technical data

- Measuring range of gas velocity 0,6÷40 m/s
- Resolution
 - 0,01 m/s in the range 0,6÷25 m/s
 - 0,1 m/s in the range 25÷40 m/s
- Max. error of speed measurement 1 %
- Error of speed measurement in case of probe rotation at the angle of $\pm 15^\circ$ 5 %
- Measuring length of measuring probe made of segments do 3 m
- Thread of head fixing the probe M6x4
- Range of gas temperature -20÷240°C
- Range of working temperature (environment) 0÷50°C
- Number of results of measurements recorded in RAM internal memory up to 16000
- Facility to group results in series in RAM internal memory
- Period of automatic recording of results of measurement 1÷999s, every 1s
- Averaging time of results of measurement 1÷120s, every 1s
- Internal quartz clock data + 24h time
- LCD graphic display with backlight 38x131 mm
- Dimensions of the meter 330x180x210 mm
- Weight of the meter 5 kg
- Cooperation with computer (min. 386, 16MB RAM): transmission of the content of RAM memory to text series, deletion of RAM memory, clock synchronization.
- Power supply: internal accumulator (Ni-Cd) or from power adapter ~220V/-18V, 3A which is to charge accumulators (continuous working time after charged: up to 20h).

Production in cooperation with: **SENSOTRON - Aparatura Elektroniczna - EngD Wojciech Kierat**

www.sensotron.pl