

AirRate – Air mass flow measuring system



The AirRate is used for non-contact-measurement of the air mass flow rate, considering temperature, pressure and humidity of the intake air in engine test benches.

Our Performance Your benefits:

- High measuring accuracy through ultrasound transit time method with 8 sensors and 4 measuring paths
- Very high response characteristics, adapted for high-dynamic measurements
- Very low pressure loss, without impact on engine characteristics
- Constant high measure quality between 1% to 100 % of measurement range
- Long-term stability, recommended calibration interval every 2 years
- Non-sensitive to contamination
- No moveable components, hence no wear
- Nearly maintenance-free through the application of titan-ultrasound transducer
- Compact design, easy and quick installation
- 7" Touch-Screen, scalable, editable
- Easy access for service purposes via integrated WIFI, presentation in web browser (PC, Smartphone, Tablet)
- Available in three ranges: 1,000 / 3,000 / 5,000 (up to kg/h each), other ranges on request

Technical Data

Duct diameter	DN 100	DN 150	DN 200
Measuring			
Measured component	Air, non-flammable gases or gas mixtures		
Measured values	Air mass flow (volume flow, temperature, humidity and absolute pressure)		
	DN 100	DN 150	DN 200
Measuring principle	Ultrasonic propagation time delay, 4 paths with 8 sensors		
Measuring range (Further ranges on demand)	DN 100: 10 kg/h ... 1,000 kg/h	DN 150: 30 kg/h ... 3,000 kg/h	DN 200: 50 kg/h ... 5,000 kg/h
Accuracy	< ±1.0% of measuring value for whole range		
Reproducibility	< ±0,25 at measuring value		
Temperature measurement (standard)	-20 °C ... +70 °C		
Humidity measurement	0 % ... 100 % relative humidity (no condensation)		
Pressure measurement AirRate	700 mbar...1300 mbar (absolute pressure)		
Display			
7"Touch LC-Display	Measured values, warning and system messages 1,024 x 600 pixel		
Interfaces			
Analog output	4 mA ... 20 mA 0 V ... 10 V Max refresh rate 20 Hz		
Data interface	1 x AK via RS 232 or 1x AK Ethernet RJ45 Max refresh rate 20 Hz		
Visualization	WIFI and Ethernet RJ45 connection for parameter settings by web-browser using PC/ tablet		
Power supply			
Voltage	24 V-DC, ±10 %		
Power consumption	Max. 48 W		
Ambient conditions			
Temperature range	-20 °C ... +50 °C		
Enclosure rating	IP61		
Dimensions (including pipes)			
L x H x D	1,265 x 480 x 314 mm	1,500 x 532 x 339 mm	1,890 x 573 x 359 mm
Weight	33 kg (22 kg main body and 11 kg for pipes)	47 kg (27 kg main body and 20 kg for pipes)	59 kg (30 kg main body and 29 kg for pipes)