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SMF[®]100 - DD SonicMasterFlow[®]

Data sheet EPE-146008



Made in
GERMANY

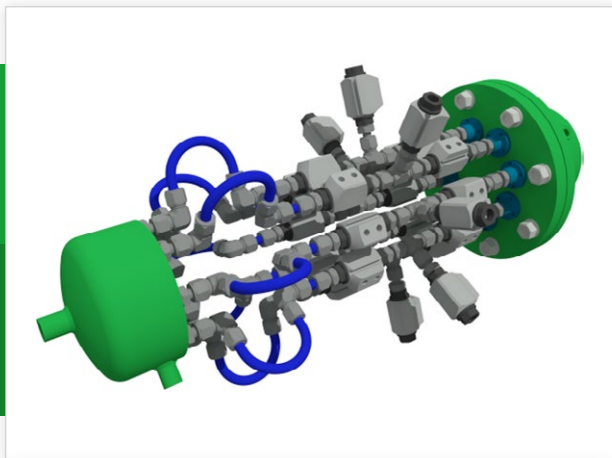


SMF[®]100 - DD SonicMasterFlow[®]

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Calibration rig with sonic nozzles Drum Design

Calibration rig with up to 8 sonic nozzles
Flow generation up to 100 m³/h
Nozzle equipment according to customer requirements



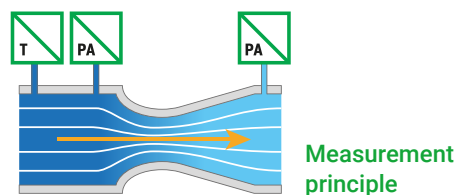
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Technical data

Volume flow	0.0025...100 m ³ /h
Medium	atm. air, compressed air, natural gas, hydrogen, other gases
Dimensions (D x W x H)	800 x 1600 x 2000 (mm)
Weight	approx. 500 kg

Measurement parameters

Absolute pressure – ambient	p_{amb}
Temperature - ambient	T_{amb}
Absolute pressure – in front of nozzles	$p_{NOZZLE UP}$
Temperature – in front of nozzles	T_{NOZZLE}
rel. humidity - in front of nozzles	rH_{NOZZLE}
Absolute pressure – downstream from nozzle	$p_{NOZZLE DOWN}$



Description

The series of SMF[®] nozzle test benches has been specifically designed for calibration with gases. Up to 8 sonic nozzles can be combined, depending on customer requirements. The different circuits resulting therefrom allow a flow generation of 2⁸ = 256 different flow rates. A precise flow can be adjusted in a very short period of time (about 500 ms). The register is made of drum configuration and equipped with appropriate sensors (temperature, pressure and humidity) for density determination. A calibration assembly provides an atmospheric suction through the test item and the nozzle drum. A vacuum pump, or the connection to house vacuum power, ensures the generation of the necessary sonic pressure ratio downstream. Alternatively, operation can be carried out with overpressure. The system is controlled by a PC with precise data acquisition hardware and control software in LabVIEW.

Advantages

- ✓ Compact design
- ✓ Integrated inlet section
- ✓ Highest accuracy – up to 0.15%
- ✓ Approved by the PTB as a calibration standard
- ✓ Representation of the volume flow or mass flow
- ✓ Flexible nozzle adjustment per customer requirements
- ✓ Gas meter calibration up to G 65
- ✓ Excellent long-term stability - recalibration period up to 10 years for sonic nozzles



Standard solutions Application examples:



Gas and flow measurement technology:
Calibration rig for gas meters, MFM, MFC, LFE, Venturi nozzles



Automotive:
Balance stand for valves, actuators, flow meters, HFM, ...



Filtration technology:
Test rig for filters



Valve technology:
Characteristic test for valves



Chemistry/Chemical Engineering:
Dosage of process gases



Pharmaceuticals:
Inhaler test



For special requirements we are happy to advise you. Subject to change. / EPE-146008 / Last update: 01/2018 / V02
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