

Perfection in fluids.

The right *flow*
by German engineering.



SMF[®] - MFC | Mobile Flow Calibrator

Compressed air operation

Data Sheet EPE-160352





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Compressed air operation



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Made in GERMANY



Similar to Figure

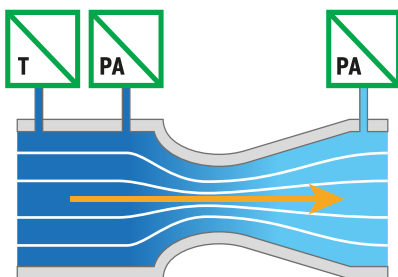
Technical data

Mass flow, volume flow	
Low-Flow	0.006...2.0 kg/h
	0.05...4.8 Nm³/h
Medium-Flow	0.6...24 kg/h
	0.5...20 Nm³/h
High-Flow	2.0...80 Kg/h
	1.6...66 Nm³/h
Accuracy (@ atmosph. cond.)	up to 0.3% (DAkKS)
	up to 0.4% (PTB)
Medium	Compressed air, nitrogen, other gases
Dimensions (L x W x H)	500 x 400 x 420 mm

Measurement sizes

Pressure abs. in front of nozzle	P_{NOZZLE}
Pressure abs. behind nozzle	P_{NOZZLE}
Temperature in front of nozzle	T_{NOZZLE}
Rel. humidity nozzle	rH_{NOZZLE}

! This is only an **example** interpretation and is of course individually adaptable to your needs.



Measurement principle

Sonic Master Flow®

Mobile flow calibration with sonic nozzles

Operation with air or other gases in overpressure
3 sonic nozzles with inlet pressure control
Mass flows up to 80 kg/h

Description

The series of SMF® - MFC Flow Calibrator SonicMasterFlow® are calibration systems for high-precision flow measurement of air and other gases (option) (volume and mass flow) measuring with sonic nozzles. The system works in gauge pressure (compressed air or alternatively with other gases, e.g. nitrogen), medium supply on-site. By combining the different sonic nozzles and by the inlet pressure control flow could be generated continuously from minimum to maximum flow. The SMF® - MFC Mobile Flow Calibrator is installed in a rolling, compact box, which makes it is perfectly suited for mobile applications, e.g. calibrations on-site or flow generation for test purposes at different production sites. Optionally an EP software for determination of free cross-sectional areas or diameter of hard-to-reach holes that cannot be determined by geometric measurement methods is available.

Advantages

- ✓ Compact & mobile design
- ✓ Continuous flow generation
- ✓ Highest accuracy - up to 0.15% MV
- ✓ Approved by the PTB as a calibration standard
- ✓ Representation of volume flow or mass flow
- ✓ Flexible adaptation of nozzles to customer requirements
- ✓ Gas meter calibration up to G 40
- ✓ Best long-term stability - recalibration period up to 10 years for laval nozzles



Standard solutions

Application examples:



Gas- and flow measurement:

Calibration test bench for gas meters, MFM, MFC, LFE, venturi nozzles



Automotive: Testing of manufacturing tolerances of oil wells in engine casings, cylinder heads, etc.; Adjustment level for valves, actuators, flow meters, ...



Automation: Adjustment level for valves, actuators, flow meters, ...



Aviation: Inspection of injectors for engines, testing the internal geometry of turbine blades



Power plant technology: Testing of burner sections, inspection of the internal geometry of turbine blades



For special requirements we are happy to advise you. Subject to change. / EPE-160352 / Last update: 06/2018 / V02
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+49 (0) 79 32 . 6 06 66 - 0 / +49 (0) 79 32 . 6 06 66 - 11 / info@ep-e.com / www.ep-e.com