MASTER THE LEAK – BLOWBY MEASUREMENT ON THE NEXT LEVEL

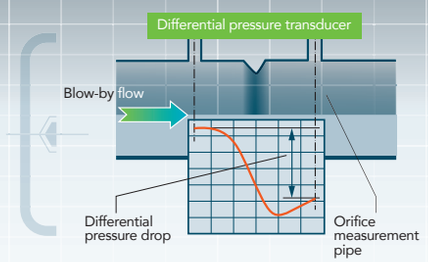
AVL BLOW BY METER™

DEVICE DESCRIPTION

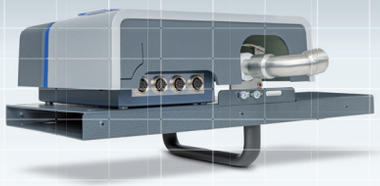
The AVL BLOW BY METER 442S is used for the continuous measurement and monitoring of blowby gases which escapes via gaps from the pistons, piston rings and valve guides (and in turbo-charged engines also from the bearing and bearing gaskets). These gases enter the crankcase and leaks via the crankcase breather. The volume of blowby gas has proven to be a sensitive indicator of the state of the piston rings, pistons and cylinder wall, both in engines under development and in engines fresh out of production and already in use. The orifice principle combined with therefor specifically developed AVL damping system guarantees highly dynamic and correct bidirectional measurement with a data rate of up to 500 Hz. Due to the high data acquisition rate a precise measurement of dynamic processes in the engines is ensured.

YOUR ADVANTAGES

- Ideal for steady state, transient and dynamic blowby measurement
- Unique data quality due to outstanding data rate and interface performance
- Due to the marginal pressure drop, the original blowby behavior of the engine will be unaffected
- The accuracy of 1,0% FSO comply with the stringent requirements of engine measurement technology
- Fast testbed setup and easy integration into any automation system via CANBus, Analogue or Ethernet interface
- Easy operation and parametrization with the AVL Device Center Software
- Standardized oil separator to reduce maintenance efforts and improve the stability of measuremen results



Blowby Meter Orifice Measurement Principle



Details Housing and Interfaces

AVL Device Center Operater Interface

CUSTOMER REQUIREMENTS

Blowby measurement nowadays is standard on engine test beds. To be able to comply with the emission legislation for new combustion engines today and in the future, the requirements for crankcase ventilation systems will continue to increase. The necessity of continuous measurement of the blowby flow to monitor the engine condition make the AVL BLOW BY METER 442S an indispensable instrument for engine testing.

APPLICATION

On the basis of the interchangeable measurement ranges between 0,2 and 2,400 l/min, the AVL BLOW BY METER 442S can be used from small-scale and single-cylinder engines up to diesel engines for ships. The areas of application cover engine research and optimization of the piston-cylinder assembly, furthermore this system is used when designing crankcase ventilation systems and on quality and endurance testbeds. The devcie easily can be integrated via CANBus, Analogue or Ethernet interface. Standardized oil seperator ensure reduced maintenance efforts, along with the mobile on-site calibration service a high device availability is guaranteed.

TECHNICAL DATA

Type	AVL BLOW BY METER 442S
Measurement principle	Orifice principle
Measurement range	0,2….2400 l/min*
Measurement uncertainty Reproducibility	<= 1,5% FSO <= 1,0% FSO 0,1% of reading
Interfaces	RS232 Analog out (+/-10V; 4…20mA) CANBus Ethernet TCP/IP
Step response time	< 20 ms
Data rate • Analogue out • CAN Bus • Ethernet • RS232	 Up to 500 Hz Up to 500 Hz 10 Hz Industrial Standard
Voltage supply	24 VDC
Power consumption (max)	35W
Ambient temperature	-25°C…55°C
Dimensions (W x H x D)	268 x 378 x 107,50 mm

* With different sensors

FOR FURTHER INFORMATION PLEASE CONTACT:

AVL List GmbH, Hans-List-Platz 1, 8020 Graz, Austria
Phone: +43 316 787-0, fax: +43 316 787-400, email: info@avl.com, www.avl.com

April 2018, Classification Public