

BlowByRate

BlowBy measuring system



The FEV BlowByRate provides continuous measurement of combustion BlowBy gases leaking into the crankcase during combustion engine operation. Combustion engine cylinder gases can leak into the engine crankcase in a variety of ways – including around the pistons, piston rings, and valve guides. In supercharged engines with a turbo charger, gases can also leak through the bearing and bearing gaskets. BlowBy gases, once in the engine crankcase, will leak out of the engine through the crankcase ventilation system.

Experience shows that measuring the amount of BlowBy gases during engine operation provides a very good method for determining the integrity of pistons, piston rings, and the cylinder wall. Continuous monitoring for increased or decreased BlowBy levels can provide immediate indication that changes in the engine may have occurred. The amount of BlowBy can increase for a number of reasons including a reduction of the mobility of the piston rings due to oil carbon buildup or a lack of the lubrication and seizing of the pistons or the piston rings.

The amount of BlowBy can decrease due to deposit formation along the bottom of the piston ring grooves. Early detection of engine changes using the FEV BlowByRate can lead to a reduction in test times and prevention of test object damage. The FEV BlowByRate is a robust, reliable, and user friendly system providing accurate BlowBy measurement in spite of contamination from BlowBy gas.

Your benefits

- High speed response
- Robust and reliable system
- Orifice change performed without any tools
- Continuous measurement over long time periods is possible due to low drift (frequent zeroing not required)
- Integrated display shows the current BlowBy value as well as any system messages
- Measurement range change easily performed using integrated keypad
- Communication with the test bench computer available using an analog interface or AK-reports over USB or RS232
- FEV BlowByRate can be calibrated by the end user
- Compact size, minimal installation requirements

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Technical Data

BlowByRate	
medium to be measured	blow by gases
measuring principle	differential pressure measurement
measuring range	1.5 ... 75 l/min 3 ... 150 l/min 6 ... 300 l/min 12 ... 600 l/min 24 ... 1200 l/min
Measuring sample rate	15 Hz
Measuring accuracy	< 1 % f.s. (standard linearization)
Reproducibility	< 0.25 % f.s. (standard linearization)
ADC resolution	24 bit
display	
2-lines 16 x 2 LCD-Display	for the system messages, measurement value, measuring range and calibration
keypad	
Integrated	keypad with 4 keys for the adjustment and calibration
analogue output	
Analog output	-10 ... +10V, proportional to the adjusted measuring range update rate 15 Hz
interface	
Serial	1 x AK to RS 232 or to USB
power supply system	
Operating voltage	24 V DC
Input power	ca. 35 W
dimensions (basic unit without pulsation damper)	
BlowByRate	width x depth x height (mm): 400 x 360 x 320
weight basic unit	14 kg
environmental condition	
temperature range	10...+55 °C
protection class	IP 65