

ENGINE BLOW-BY METER M400MR



For Engine Testing, Lubricant Testing and Fleet Maintenance in Dynamometer Cells and Vehicles.

The M400MR measures the flow of gases from an engine's crankcase. This flow, called blow-by, is caused by piston ring, valve guide and turbocharger leakage. Blow-by data is used to determine engine condition and lubricating oil effectiveness.

Blow-by is quantified either by:

The flowrate at a given engine load or speed

or:

The time it takes for a certain volume of gas to flow over a given engine cycle.

The M400MR has both flow rate and totaliser modes and can therefore supports both types of measurement. The Blow-by meter operates on a vortex shedding principle which provides a fast response and an insensitivity to temperature, pressure and velocity. There are no moving parts in the meter and the vortex shedding principle ensures perfect zero stability.

Flow Ranges:

Flow ranges are set by adjustable by-pass ports:

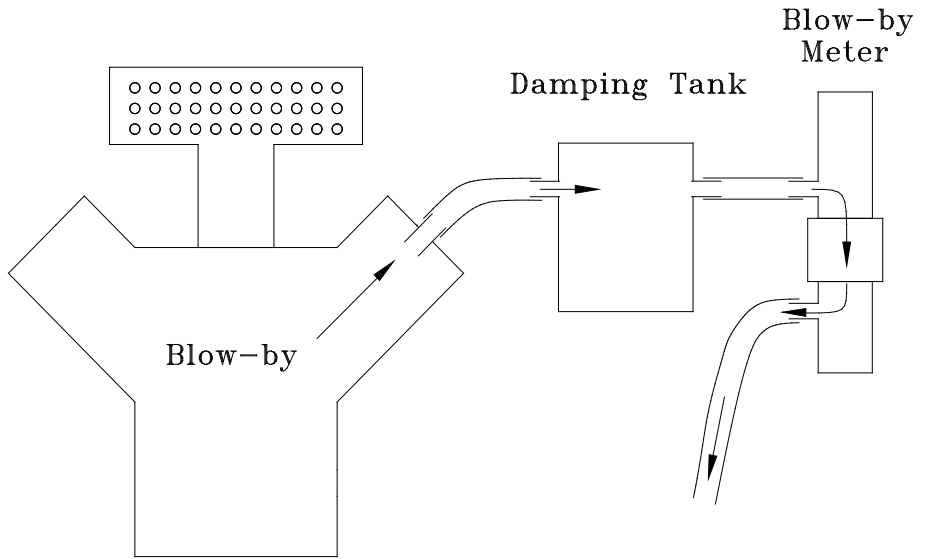
User selectable: 4 to 150 LPM (0.15 to 5.4 CFM)
11 to 300 LPM (0.41 to 10.8 CFM)
15 to 400 LPM (0.56 to 14.4 CFM)

Total Flow: 1,000 Litres (total), 100.0 ft³ (total)

M400MR Features:

- Wide flow measurement range (user-selectable)
- Suitable for spark ignition and diesel engines
- 0-5V linearised, programmable output
- Easy-to-read display for flow output and configuration
- Flow rate and totaliser modes
- User-defined engineering units (LPM, CFM, Litre or Cubic Feet)
- Low flow restriction
- Built in oil separators and dampers
- Integral ports for temperature and pressure probes

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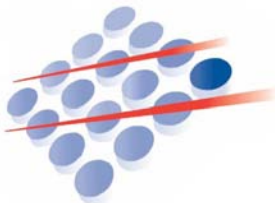
The M400MR is easy to install. Connect a 3/4" (20mm) hose from the valve cover of the engine to the inlet of the meter. Connect a second hose from the outlet to the atmosphere

All other connections to the crankcase should be plugged to ensure all gases pass through the meter. In some applications, a damping tank is required upstream of the meter.

Flow rate and totaliser information is displayed and via an analogue output channel and RS-232 channel. The same RS-232 post is used to configure the meter and to modify calibration details as part of a planned routine.

Specifications:

- Accuracy: 1% of reading
- Repeatability: 0.5% of reading
- DP Drop: 0.5" (12.7mm)H₂O @20% of max.flow
- Operating Temp: 0 to 250 deg C (Flow) -20 to 85 deg C (electronics)
- Outputs: Analogue (0-5 VDC), RS-232 (bidirectional)
- Programmable: Output update rate, analogue output range, averaging period and flow range
- Exposed Material: Anodized aluminium, Stainless steel & Teflon
- Power: 11 to 29 VDC @ 300mA ,
240VAC Power Supply Included
- Size: 102 x 366 x 133 mm
- Weight: 2.5 kg



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