



Gravimetric Measurement System GMS

Decrease of oil consumption as well as reduced component abrasion is of utmost importance to help realize sophisticated exhaust standards for piston engines.

Oil mist separators are basic components of a crank case ventilation system. They will be benchmarked after differential pressure and oil flow.

The Topas gravimetric measurement system GMS 141 allows the comfortable detection of oil content in blow-by after oil mist separators with a filter blank sheet or filter cartridge directly on engines or engine test stands.

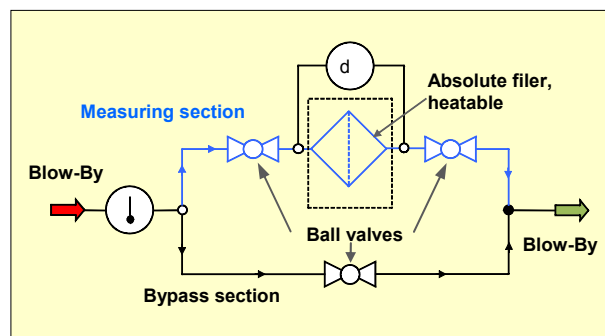
The measuring device combines a simple and rugged assembly with an economic low-cost manual application and handling. The device is controlled via visualisation in a web browser.

### Applications

- Gravimetric benchmark of oil mist separators for crank case ventilations in combustion engines by analytical determination of the blow-by oil content
- Calibration of aerosol generators

### Special Advantages

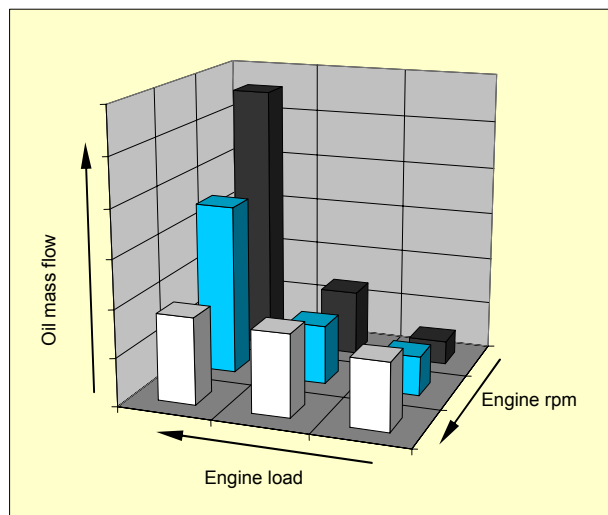
- Time-saving reproducible detection of oil content after oil mist separator in blow-by of combustion engines
- Installation of two different absolute filters possible. Selection by flow rate and filter charging:
  - Filter blank sheet with  $d = 110 \text{ mm}$  or
  - Filter cartridge with  $d = 65 \text{ mm}$ ,  $L = 93 \text{ mm}$
- Two independent sections: bypass and measuring. Running up to the working point over bypass section and measuring over measuring section. Prevention of undesirable filter charging.
- Switching between both sections with pneumatic ball valves; feature: manual or automatic switching (by default time or differential pressure)
- Heatable absolute filter box in order to avoid condensation (up to  $110 \text{ }^\circ\text{C}$ )
- Display for differential pressure at absolute - filter (information about filter charging)
- Display for blow-by-temperature and absolute filter temperature
- Convenient device control with web browser
- Easy to use, rugged, space-saving design



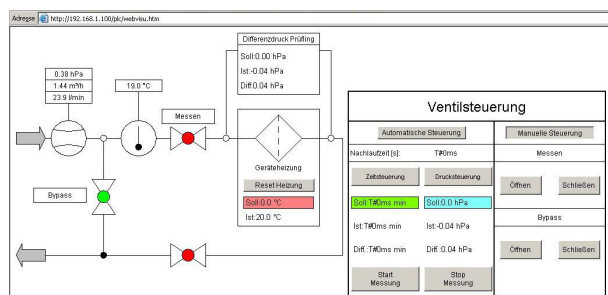
Schematic diagram of the GMS 141

# Specifications

## Details



Example measurement: oil flow after oil mist separator on a combustion engine [source: Atanassow, B.; diploma thesis; Mahle Filtersysteme, Stuttgart, March 2007]



Web browser user interface of the GMS 141

## Technical Data

Flow rate	up to 300 l/min (18 m <sup>3</sup> /h)
Installation	in-line
Differential pressure measuring range at filter box	100 hPa
Pipe connection diameter	DN 28 mm
Dimensions of absolute filter	Filter blank sheet: Ø 110 mm (effective Ø 100 mm / filter area: 78,5 cm <sup>2</sup> )  Filter cartridge: Ø 65 mm, L= 93 mm filter area: 679 cm <sup>2</sup>
Aerosol contacted materials	stainless steel, aluminium, FKM
Heatable filter box	< 110 °C (adjustable)
I/O-System	analog and digital out-/input, PC connection via TCP/IP
Compressed air supply	3...8 bar
Power supply	230 V AC / 50 Hz, 3 x 200 W, 3 A
Dimensions W x D x H	520 x 240 x 350 mm
Weight	14 kg

QMS certified to  
DIN EN ISO 9001.



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For more information please visit  
our website at  
[www.topas-gmbh.de](http://www.topas-gmbh.de)

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