

Fuel Consumption Measurement



AVL Fuel Balance

Reducing the fuel consumption of engines calls for the measurement of increasingly small differences in fuel flow.

The AVL Fuel Balance allows for the measurement of these slight differences with maximum reliability.

The AVL Fuel Balance is based on the principle of gravimetric measurement. The amount of fuel consumption is determined directly by measuring the time related weight decrease of the measuring vessel by means of a capacitive sensor.

Convenient calibration and easy maintenance provide optimum ease of operation.

Areas of Usage

The AVL Fuel Balance is used to measure the fuel consumption of engine- and chassis dyno test beds for transient and steady-state measurement.

Your benefits at a glance

- The precision measurement accuracy of $< 0,12\%$ can be verified according to ISO9001 within a few minutes on the engine test by the integrated calibration unit
- Test bed times are minimised due to extreme reliability and long maintenance intervals
- Dynamic fuel consumption measurement on engines with air bubbles in the engine return line
- Easy to integrate in different automation systems thanks to the presence of compatible interfaces

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Technical Data

- Recommended measuring range: 0...160 kg/h
(wider ranges up to 240kg/h on request)
- Vessel capacity: 1800 g
can be switched to 900 g/ 450 g/ 225 g
- Systematic measurement uncertainty: $U_s < 0,12 \%$
- Maximum measurement frequency: 10 Hz
- No. of measurements (running average): 1...99
- Ambient temperature: 0...60° C
- Fuel supply pressure to the system: 0,1...0,8 bar
- Fuel supply flow: max. consumption + 100 kg/h
- Fuels: diesel- and gasoline fuels with up to 20 % alcohol (M20 or E20)
- Interfaces: RS232 (AK compliant)
or 733/730 protocol
- Power supply: 24 V \pm 0,5 V DC, 1,6 A
- Power consumption: 40 W
- Dimensions: 510 x 640 x 280 mm (W x H x D)
- Weight (dry): approx. 45 kg

Options

- AVL Instrument Controller: for remote display and operation of the AVL Fuel Balance
- Interfaces: Analogue 0...10 V
Digital I/Os
- Filling pump module: for quick refilling of the measurement system
- Alcohol additives up to 100% methanol or 100% ethanol (M100, E100)
- Overflow sensor
- By-pass valve
- Safety shut-off-valve
- Fuel filter
- Flame Filter