

Instrumentation/Media Conditioning Equipment



AVL Fuel Balance & Fuel Temperature Control

Modern test bed measurement methods and the demand for greater test bed efficiency have resulted in a distinct trend toward fully automated testing. Fuel consumption measurement systems hold a key function within that context, firstly to make this measurement parameter continuously available and secondly as a reliable fuel supply unit for the IC engine.

With the advantages such as operational reliability, measurement accuracy of 0,12 %, and unbelievably little maintenance, the AVL Fuel Balance has in the interim become the most widely used measurement system on engine test beds.

Used in conjunction with the AVL Fuel Temperature Control. The AVL Fuel Balance is the perfect choice for equipping R&D, Quality and Endurance Test Beds.

The AVL Fuel Temperature Control with its temperature control accuracy of +/- 0,02°C remains unrivalled and ensures the high measurement accuracy for the entire system under operational conditions on the test bed. In addition users can also set the fuel temperature to anything from 10 to 80° C.

Areas of Usage

Engine- and Chassis Dyno Test Beds especially for gasoline and diesel engines – transient and steady – state measurement

AVL Fuel Balance & Temperature Control

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
- Continuous and dynamic fuel consumption measurement on engines with air bubbles in the engine return line – integrated gas bubble separator and detector
- Universal measurement system for different injection systems and engine sizes
- Easy to integrate in different automation systems thanks to the presence of compatible interfaces

Technical Data

- Recommended measuring range: 0...150 kg/h
- Systematic measurement uncertainty: $U_s < 0,12 \%$
- Maximum measurement frequency: 10 Hz
- No. of measurements (running average): 1...99
- Ambient temperature: 0...50° C
- Fuel supply pressure to the system: 0,1...0,8 bar
- Fuel supply flow: max. consumption + 100 kg/h
- Fuel supply temperature: -10...+70° C
- Fuels: diesel and petrol fuels with up to 20 % alcohol content (M20 or E20)
- Fuel circulation capacity: 250 l/h
- Fuel return pressure: approx. 0,3 bar
- Cooling power: 1,6 kW at 10° C spread
- Max. temperature control range: 15...45° C
- Temperature stability: + / - 0,02° C
- Interfaces: RS232 (AK compliant)
- Power supply: 230 V, 50 Hz
- Power consumption: 0,4 kW
- Dimensions: 770 x 1460 x 325 mm (W x H x D)
- Weight (dry): approx. 135 kg

AVL Fuel Balance & Temperature Control

Options

- 100% alcohol resistant (M100, E100)
- Fuel Heating: 1,6 kW
- Fuel circulation capacity: 150 l/h (single cylinder)
500 l/h (heavy duty)
- Pressure control modules: feed pressure: ~0...6 bar
return pressure: ~0...0,8 bar
- Special temperature control ranges: -8° C...70° C; -30° C...80° C
- AVL Instrument Controller: for remote display and operation of the measurement system
- Interfaces: Analogue 0...10 V
Digital I/Os
- Filling pump module: for quick refilling of the measurement system
- By-pass valve
- Fuel filter
- Flame Filter
- Instrument Trolley
- Power supply: 220 V / 60 Hz
100 V / 50-60 Hz
115 V / 60 Hz