



## AVL FUELEXACT MASS FLOW & PLU

Efficient and professional fuel consumption measurement for steady state and dynamic test cycles

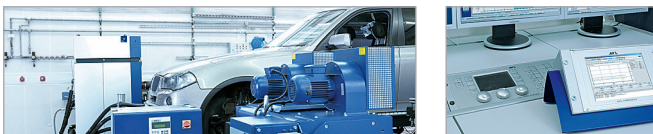
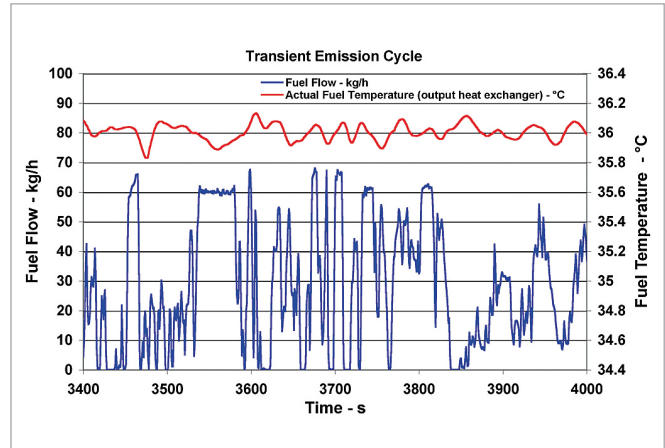
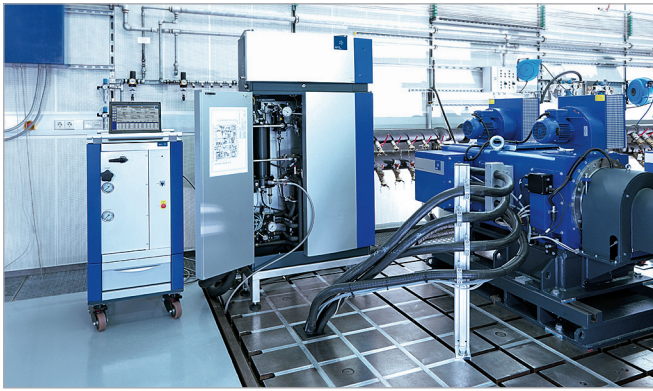
Do you need a measurement device which is also designed for future requirements? Do you want a measurement device which can be adjusted to different engine types and injection systems in an easy and safe way?

The FuelExact is a high precision fuel consumption measurement system. It ensures higher testbed efficiency by determining fuel consumption with highest precision and minimum measurement time.

The application focus is engines up to 2500kW. Highest fuel temperature stability and cooling power fulfill all actual requirements linked to transient and dynamic testing.

### Your benefits:

- High flexibility for adaptation to different injection systems as well as a wide range of engine power up to 2500kW
- High efficiency on the testbed by unique repeatability and reproducibility of measurements values at minimum measurement time
- Easy service due to a large number of diagnostics functions as well as easy accessible hardware components
- Minimized commissioning effort via standardized interfaces and diagnosis functions
- System calibration according to ISO, UN ECE R49 & US EPA 40 C.F.R. Part 1065 via AVL Fuel Reference
- Not influenced by pressure pulsations caused by the injection system



Top left: AVL FuelExact calibration with AVL Fuel Reference  
 Top right: Transient fuel consumption during an emission cycle  
 Bottom left: AVL FuelExact Mass Flow in powertrain testbed configuration  
 Bottom right: AVL InScreen remote control unit

- Fuel circulation rates up to 840 l/h, feed pressure from vacuum to 10 bar, return pressure from 0.1 to 2 bar\*\*\* as well as device configurations with a measurement range from 20 l/h up to 500 kg/h ensure the universal usage of the measurement system
- Well established and high precise measurement principles (PLU or Mass Flow) in combination with the worldwide best fuel conditioning ensure repeatable and reproducible measurement results at low measurement time. A data rate up to 20 Hz combined with purposive fuel conditioning enables proper dynamic testing
- Large number of diagnostics functions reduces training, service and operating costs. Newest WEB technology (RSI Remote Service Interface) enables easy integration to the testbed automation system and remote diagnosis
- Standardized hydraulic and electrical interfaces as well as diagnosis functions reduce the commissioning effort to a minimum
- The AVL FuelExact can be calibrated via the AVL Fuel Reference according to ISO, UN ECE R49 und US EPA 40 C.F.R. Part 1065
- An open hydraulic system respectively pressure compensators allow safe testing without testbed shut-off even if there is a return flow in the feed line of the injection system

\*\*\*) 0,1 ... 0,5 bar for FuelExact Mass Flow

### Technical Data

Type:	AVL 740
Measurement principle:	PLU or mass flow
Measurement range:	<ul style="list-style-type: none"> <li>• PLU 0.03 ... 500 l/h*)</li> <li>• Mass Flow 0 ... 500 kg/h *)</li> </ul>
Systematic measurement uncertainty	<ul style="list-style-type: none"> <li>• Sensor: &lt;= 0.1 % (acc. to DIN 1319)</li> <li>• Density: 1 g/dm<sup>3</sup></li> </ul>
Interfaces:	Ethernet, RS232, Analog I/O 0 ... 10V, Digital I/O
Fuels:	standard** & 100% bio fuels
Fuel feed pressure:	0 ... 10 bar (vacuum optional)
Fuel return pressure:	0.1 ... 2 bar*** (vacuum optional)
Fuel circulation rate:	up to 840 l/h (up to 2400 l/h using an external heat exchanger)
Fuel conditioning:	<ul style="list-style-type: none"> <li>• Control range: 10 ... 80°C (-10°C optional)</li> <li>• Stability: better than 0.02°C</li> </ul>
Heating / Cooling:	3 kW/6 kW
Power supply:	3 x 400 V AC, 50-60 Hz
Ambient temperature:	+5 ... +50 °C
Dimensions (W x H x D):	960 x 1710 x 430 mm
Weight:	approx. 300 kg

\*) With different sensors

\*\*\*) With max. 20% alcohol und up to 10% bio diesel

For further information please contact:

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