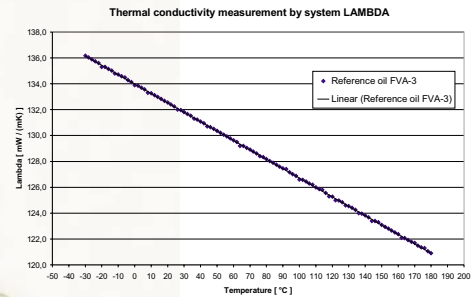


Measuring System LAMBDA

For thermal conductivity measurements of liquids

According to ASTM D2717



New: Now with measurement capability for nano/micro particle fluids and powders

By combining a high precision thermal conductivity sensor with a high dynamic wide range heating/cooling device, a new standard on the field of thermal conductivity measurement could be set.

The measurement principle is based on a resistance measurement at a hot-wire with a diameter of only 100 μ m.

By using modern microelectronics for the mathematical and physical analysis of the sensor and by employing of nonlinear, adaptive control algorithms, a compact measurement system was developed, which brings decisive advances to the customer.

Thermoelectric modules make it possible to achieve temperature gradients which are extremely high. This reduces your measurement times and increases your measurement throughput, see figure backside.

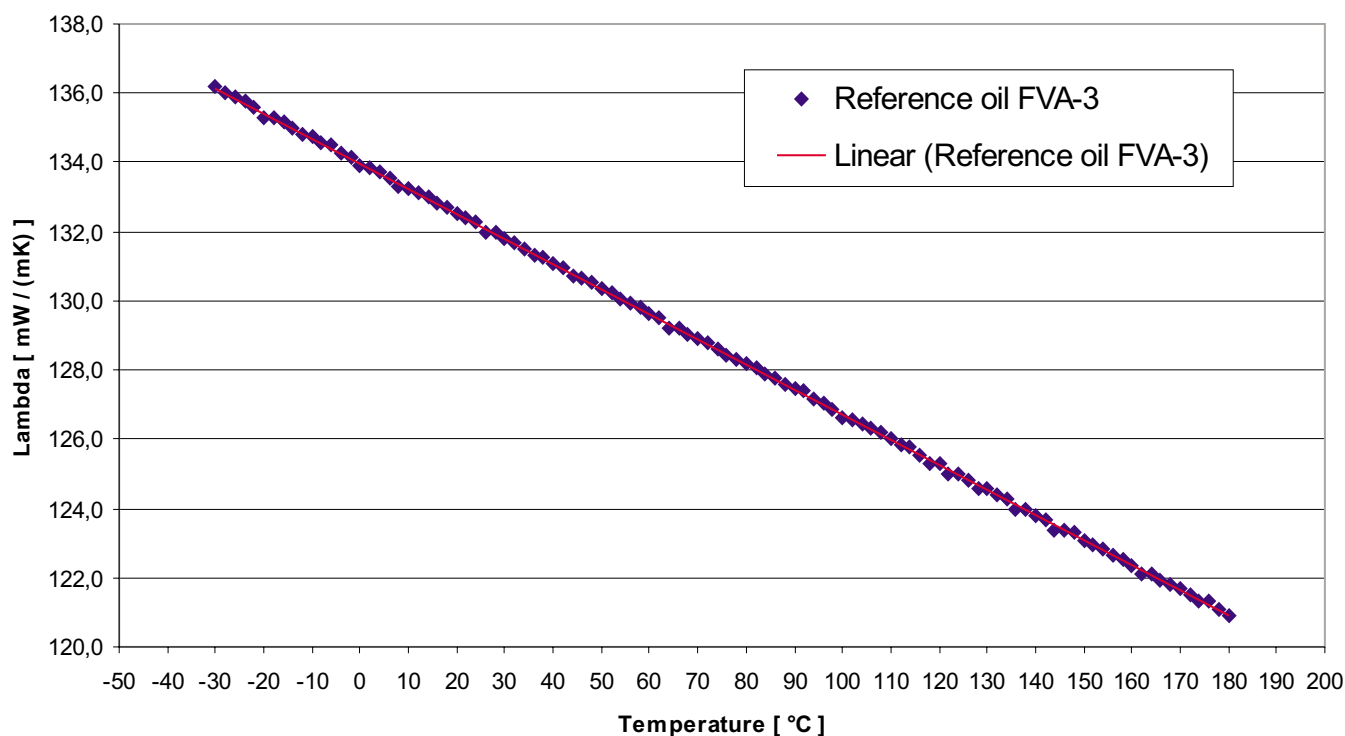
Application:

- Optimization of fluid development
- Optimization of fluid application
- Quality control
- In-field Fluid analysis

Characteristics:

- Fast stationary resistance measuring at a hot-wire (ASTM D2717)
- No convection influence
- Very high measurement accuracy
- Shortest setup time, easy handling
- Small test samples sufficient
- Usable on samples with high and low viscosity
- Additional calculation of thermal diffusivity

Thermal conductivity measurement by system LAMBDA



*Measurement of thermal conductivity
Reference oil FVA-3
-30°C to +180°C
Measurement duration: ca. 3.5h
106 data points*

Technical data:

Temperature range:	-30°C to +190°C, resolution: 0.1°C, accuracy: 0.1°C
Temperature measuring:	Pt100 (4-wire)
Cooling/heating power:	Cooling: max. 320 W, heating: max. 1400 W
Counter cooling:	Tap water at 3°C to 30°C, flow approx. rate 1 l/min, <i>no external cryostat needed</i>
Sensor power consumption:	< 10 mW
Reproducibility:	1%
Accuracy:	< 0.5 %, measured with toluene at 20°C
Power consumption:	Max. 1900 W, 230/115 V at 50/60 Hz (auto select)
Measuring of:	Fluids
Viscosity:	0.1 to 10 ⁵ mPas
Measuring frequency:	Approx. 60s
Data transfer:	RS 232 (V.24), analysis program requires Win 95/98/NT/XP/2000