

The right temperature worldwide

LAUDA



- Capillary viscometer compliant with DIN 51562, ASTM D445
- Fully automated measurement and evaluation
- Easy "Plug & Play" handling

NEW

LAUDA
Viscometer iVisc

iVisc Capillary Viscometer

The fully automatic, space-saving iVisc is easy to operate and ideal for starting out in professional viscometry. Simply plug in the USB cable, start the software and the capillary viscometer is ready to use. The iVisc can be operated independently with a low-cost computer or netbook.

The compact, intelligent viscosity measuring stand is designed for a wide range of standard glass capillaries (e.g. Ubbelohde, Cannon-Fenske and micro-Ostwald). With a suitable LAUDA clear-view thermostat (e.g. LAUDA ECO ET 15 S) and the appropriate glass capillaries, kinematic viscosities can be determined in the range from 0.3 up to 30.000 mm²/s. This versatility allows for a broad range of applications: solution viscosity of polymers, determining chain length of proteins or temperature resistance of lubricants are just a few application examples in which reliable results are required.



Polymer producers and plastic processors

Application examples

- Quality assurance from granulate producer and compounder to plastic processor (e.g. automotive industry)
- PET, PVC, PA, PC, PMMA, ABS, PE, PP etc.
- Determining polymer parameters (K-value, viscosity number, intrinsic and inherent viscosity, molecular mass)

Pharmaceutical, biochemistry, paper and food industry

Application examples

- Research and quality assurance
- Base substances, polypeptides, cellulose
- Determining chain length of proteins, molecular mass

Petrochemistry, lubricants, oils and fuels

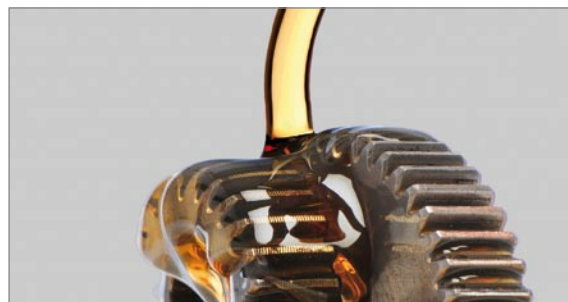
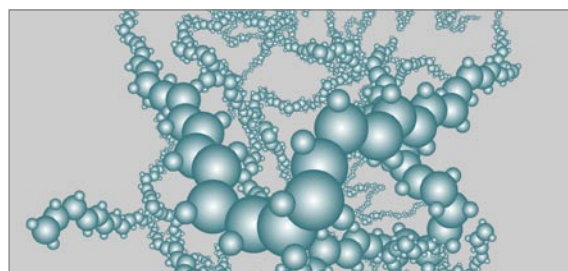
Application examples

- Development, optimisation and quality control in close proximity to the application
- Viscosity adjustment for engine oil, lubricant, fuel, kerosene, additives etc.
- Determining absolute kinematic viscosity in mm²/s



Distinguishing Features:

- "Plug & play" equipment installation
- Connection of up to two iVisc per computer
- Intuitive software user guidance
- Start/stop buttons on the equipment
- Exact and intelligent optical meniscus sensing even for problematic fluids
- Control and power supply possible from a computer via USB (PC, notebook etc.)
- LED operating status indicator
- Only one cable (USB) for control and power supply
- Only one Watt power consumption
- Measuring temperature from -20 up to 150 °C



We were thinking of the user ...

The complete control of the measuring process including pumps and compensation valves, the highly flexible meniscus detection by means of a NIR light barrier, and the precise measurement of the time to process the sample through the measuring capillaries is carried out in the head of the measuring stand. Standard-compliant measurements of K-value, intrinsic, reduced or inherent viscosity are conducted "out of the box". Even complex measuring applications are easy to activate and configure.

All the required formulas and calculations are contained in the software. The clear software interface visibly simplifies the measuring process. After the simple insertion of a filled glass capillary, one piece of software co-ordinates all the stages required for the measurement and carries out the evaluation. The precise measurement of the flow time is based on intelligent, self-adaptive NIR meniscus detection.



Capillary List

No.	Size	Constant	Device No. / Remark
1	10	0.030000	
2	50	0.004000	
3	10c	0.300000	
4	10	1.000000	

Measurement Parameters:

- Stand Parameter:
 - Kinetic energy Correction
 - Automatic Calculation
- Error Calculation:
 - Standard deviation
 - Percentage deviation
 - Percentage (repeated)
- Desired units for Concentration:
 - or
- Measurement Parameter:
 - Pre-measurement:
 - Main-measurement:
 - Max. std. dev.:
 - Start delay: Min.
 - K1 or KH:

Measurement Results Table:

Date	Time	Sample Ident.	Sample No.	Measure Mode	Cap.	Result
14.09.2009	21:48:08			Kinematic Viscosity	4	0.82239
14.09.2009	21:50:24			Kinematic Viscosity	4	0.80238
14.09.2009	21:53:32			Kinematic Viscosity	4	0.79688
14.09.2009	21:56:49			Inherent	4	2.00594
22.10.2009	07:57:19	test 3	123	Kinematic Viscosity	3	1.89754
22.10.2009	10:13:38	test 3	123	Kinematic Viscosity	3	1.8769

Timing and Pressure Graphs:

- Overpump time: s
- Pause time: s
- Pump pressure: (Min. to Max.)

Stage 1:

Determining the capillary type

Stage 2:

Selection of the desired measured values

Stage 3:

"Start"

The ongoing measuring time and all individual measuring results after statistical evaluation are shown during measuring.

LAUDA iVisc



Standards

LAUDA iVisc for Standard-Compliant Measurements

ASTM D445 · ASTM D2270 · ASTM D789
 ASTM D1243 · ASTM D4603 · ASTM D4878
 DIN 51562 · DIN 53728 · EN ISO 1628
 EN ISO 307 · ISO 3104 · ISO 2909

Important Accessories:

Suitable LAUDA thermostats e.g. ECO ET 15 S,
 Proline PV 15, PV 24, PV 36

Computer supplied upon request

Suitable capillaries: Ubbelohde, Cannon-Fenske,
 micro-Ubbelohde, micro-Ostwald



Technical Properties		iVisc
Sample temperature range	°C	-20 to 150
Ambient temperature	°C	10 to 45
Timing range	s	0 to 9,999.99
Recommended flow timing	s	30...1000
Viscosity range	mm ² /s	0.3 to 30,000
Timing resolution	s	0.01
Timing accuracy	ppm	1
Meniscus detection		Optical (near infrared)
Total power consumption	W	1
Dimensions (WxDxH)	mm	95x96x425
Power supply		USB
Weight, net	kg	1.4

Thermostats · Circulation chillers · Water baths
 Process cooling systems · Heat transfer systems · Secondary circuit systems
 Viscometers · Tensiometers

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