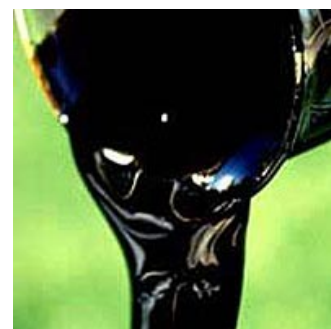


## RHEOTEK HighVis HVV-6

Suitable for measuring transparent & opaque petroleum products including residual fuels, vacuum residuals, liquid asphalts (bitumens) and asphalt cements in accordance with ASTM D 445, ASTM D 2170, EN 12595, ISO 3105, DIN 51366, BS 2000 parts 71 & 319.

The RHEOTEK HighVis HVV-6 is a fully automated viscometer system suitable for measuring the kinematic viscosity of a wide range of petroleum products in accordance with standard test methods.



HighVis HVV-6 with 2 measuring positions

### ANALYZER FEATURES

- Optical flow detection
- Reverse flow capillary tubes
- Up to 6 tubes per bath
- High Viscosity measuring capability
- In situ cleaning & drying
- RS 232C interface to WINDOWS software

### ADVANTAGES

- Specially suitable for high viscosity samples
- Small sample volume
- Very efficient sample removal
- Solvent cleaning & drying
- Full compliance with test methods
- Compact design
- Easy to calibrate

### APPLICATION FEATURES

- Viscosity range up to 60.000 cSt, mm<sup>2</sup>/s
- Temperature range up to 150°C
- Results reported in mm<sup>2</sup>/s, cSt, SUS or SFS
- Up to 6 measuring positions per bath
- Single or dual temperature configuration



Head office, manufacturer (UK):

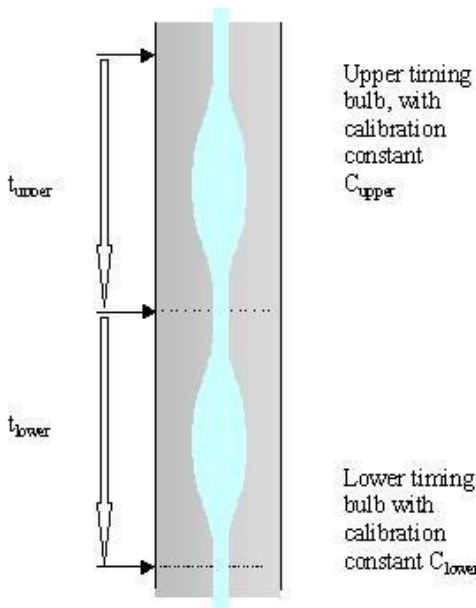
**POULTEN, SELFE & LEE Ltd**, Russell House

Burnham-on-Crouch. Essex CM0 8TE. [www.rheotek.com](http://www.rheotek.com) +44 (0)1621 787100

## PRINCIPLE OF OPERATION

The RHEOTEK HighVis uses specially designed reverse flow capillary tubes to measure a fixed volume of sample flowing under gravity. Each tube is calibrated using calibration data from ISO 17025 certified viscosity reference standards.

Kinematic viscosity is calculated by the viscometer calibration constant. The final result is based upon the average of the two flow times obtained and determinability is calculated & displayed along with the result.



## GLASS CAPILLARY VISCOMETER

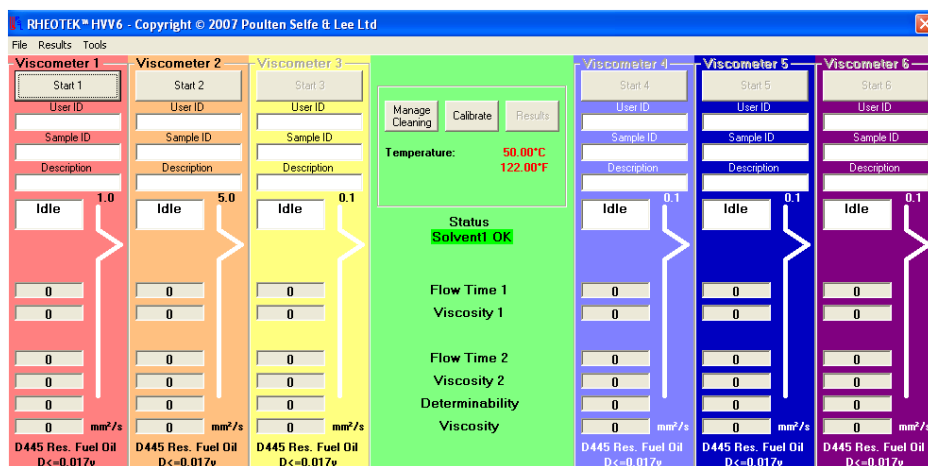
HVV-6 viscometer tubes are manufactured from borosilicate glass. Each has two timing bulbs which give two flow times. This feature enables the result to be calculated in accordance with standard test methods such as ASTM D 445.

The HVV-6 utilizes fiber optic sensors mounted against the glass capillary viscometer, flow times are measured to an accuracy of 0.001 seconds for transparent and opaque samples.

The design of the viscometer also assists the cleaning. The cleaning is highly efficient, even the most viscous of samples are removed with ease.

## SOFTWARE

The RHEOTEK HighVis HVV-6 is equipped with an easy to use WINDOWS software package. Up to six or 12 tubes (dual bath) can be run simultaneously side by side. In addition, a built in calibration mode fully automates the calibration of the capillary tubes in situ. Results are stored in a powerful database with sorting & filtering options available for automatic generation of reports tailored to individual requirements



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## PRECISION & METHODOLOGY

The design of the RHEOTEK HighVis HVV-6 is based on the procedures described in ASTM D445 and ASTM D 2170. Following the appropriate sample preparation treatment, a small volume of sample is delivered into the top of the viscometer using a positive displacement pipette. The sample is then left in the viscometer in order to stabilize at the required test temperature before the flow time is measured. Two flow times are automatically recorded as the sample passes through two timing bulbs. The RHEOTEK HighVis HVV-6 complies fully to ASTM D445 as well as ASTM D 2170 for bitumen/asphalt samples.



## HighVis HVV-6 Specifications

Temperature range	20 - 150°C	(cooling required 20...40°C)
Viscosity range	Up to 60,000 mm <sup>2</sup> /s, cSt.	
Viscometer positions	1 to 6 for single bath 2 to 12 for dual bath	
Utilities required	AC electricity and laboratory vacuum supply	
Standard compliance	ASTM D 445, ASTM D 2170, D 2161, IP 319, EN 12595, ISO 3105, DIN 51366, DIN 51562, BS 2000, Parts 71 & 319	
HVV-6 dimensions	600mm (width) x 380mm (depth) x 850mm (height)	

## Single bath models

RHEOTEK HVV-6/2	Single bath Viscosity system – two measuring positions
RHEOTEK HVV-6/4	Single bath Viscosity system – four measuring positions

## Dual bath models

RHEOTEK HVV-6/4DT	Dual bath Viscosity system – four measuring positions
RHEOTEK HVV-6/6DT	Dual bath Viscosity system – six measuring positions
RHEOTEK HVV-6/8DT	Dual bath Viscosity system – eight measuring positions



## HighVis HVV-6 Tube Sizes

HVV-6/0.3	Viscosity range 9 to 180 mm <sup>2</sup> /s, cst.
HVV-6/0.5	Viscosity range 15 to 300 mm <sup>2</sup> /s, cst.
HVV-6/1.0	Viscosity range 30 to 600 mm <sup>2</sup> /s, cst.
HVV-6/3.0	Viscosity range 90 to 1800 mm <sup>2</sup> /s, cst.
HVV-6/5.0	Viscosity range 150 to 3000 mm <sup>2</sup> /s, cst.
HVV-6/10.0	Viscosity range 300 to 6000 mm <sup>2</sup> /s, cst.
HVV-6/30.0	Viscosity range 900 to 18000 mm <sup>2</sup> /s, cst.
HVV-6/50.0	Viscosity range 1500 to 30000 mm <sup>2</sup> /s, cst.
HVV-6/100.0	Viscosity range 3000 to 60000 mm <sup>2</sup> /s, cst.



### HVV-6 VISCOSITY REFERENCE STANDARDS KIT

A full range of Viscosity reference standards certified by the PSL Calibration laboratory is available for verification and calibration purposes. Certified viscosity values are traceable to the master viscometer procedure described in ASTM D 2162. The PSL Calibration laboratory is UKAS accredited & ISO 17025 certified. HVV-6 Calibration standards are supplied in a kit of 13 standards ranging from S3 to S30,000.

## HighVis HVV-6 Accessories

Refrigerated circulator	TLC-1 refrigerated circulator. Suitable for use with HighVis HVV-6
ASTM Viscosity Reference oils	ASTM Viscosity Reference Standards. S3 to S30000 recommended for the HighVis HVV-6
HighVis HVV-6 Tools & spares	Spares kit including essential tools
Vacuum pump (single stage)	Laboratory vacuum pump - single stage
Vacuum pump (dual stage)	Laboratory vacuum pump - dual stage
PC system	PC control system for HighVis HVV-6
Bath liquid	Silicone bath oil
Optical measuring assembly	Optical assembly to expand number of measuring positions

