SpectroVISC Q300 Automatic Viscometer

Features

- Compliant with requirements for ASTM D 445, D 7279 and related specifications.
- High throughput – up to 60 samples per hour to ASTM precision.
- Small sample volume – 0.3 to 0.6 ml.
- Low solvent consumption – 2.5 ml per sample.
- Extremely easy to use.
- Automatic flow time measurement.
- Fully automatic cleaning and drying.
- Fast, easy tube replacement, no need to drain bath.
- Single or dual solvent injection system.
- Ultra-precise meniscus detection.
- No PC required for system to operate.
- System is chemically resistant.
- Optional dual measurement capability.

"A fast, accurate, and cost effective instrument for the determination of kinematic viscosity in used oils and other fluids."

The SpectroVISC Q300 Viscometer

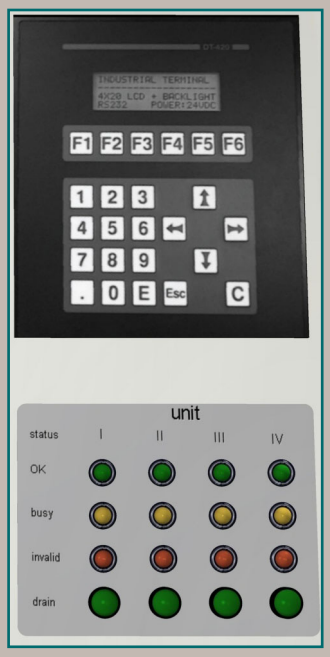
The SpectroVISC Q300 is a bench-top semi-automatic kinematic temperature bath viscometer optimized for the analysis of used and new lubricants. It conforms to the requirements in ASTM D445, D446, D7279, IP 71 and ISO 3104. It is also the ideal system for used oil analysis laboratories that need to test a wide range of lubricant viscosities.

The SpectroVISC Q300 is a self-contained viscometer system that consists of a thermostatic bath with circular heater and a control column. The bath contains 4 patented viscometer tubes together with optical sensors to detect the flow of oil through the tubes. All measuring tubes function independently of each other. The control column has an LCD display that provides the user with information about the system's status and an array of LED's indicate the current status of each measuring tube. An optional external computer can also be used to control the system for applications where more extensive data handling requirements are necessary.

The user of the SpectroVISC Q300 has the option to operate in two modes, standard viscosity determinations or measuring tube calibration. In both modes, the user chooses how many determinations have to be made for an average result. Additional parameters such as tube constants, and cleaning cycle are also controlled by the operator.

SPECTRO INC.
QinetiQ North America

SpectroVISC Q^{300} System Operation

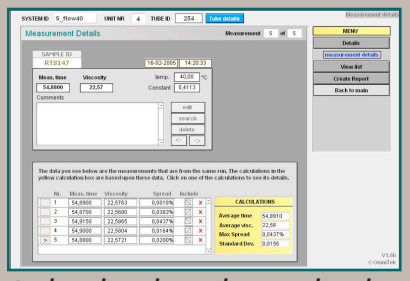


The SpectroVISC Q^{300} can be operated from the built-in control panel or from an optional external PC.

The SpectroVISC Q^{300} viscometer system is semi-automatic and very easy to operate. The analysis procedure starts with the user injecting less than 1 ml of sample into the measuring tube. Before it travels to the capillary, the sample warms up to bath temperature as it travels down the tube and collects in its horizontal arm. The measurement time is initiated when the bottom of the oil column reaches the first optical sensor. The "Busy" LED for the tube will light up denoting that the measurement has started. The oil sample will continue to travel down the capillary and the system will terminate the measuring time as soon as the second optical sensor has been reached. At this time, the kinematic viscosity result for the tube will be shown on the LCD screen or on an optional computer or printer.

Immediately upon completion of the measurement, the system automatically starts the cleaning cycle by first draining the tube, performing the user specified number of cleaning solvent injections and finally drying the tube. An optional dual cleaning solvent system is also available for difficult and heavily contaminated samples. The entire cycle time from sample injection to data readout ranges from 4 to 8 minutes per tube when ASTM D445 precision is required. Sample throughput can be increased considerably by reducing cycle times for used oil analysis applications based on trending.

Specifications



Analytical results can be viewed on the built-in LCD display or with the included data management software on an optional external PC.

Standard Methods:	ASTM D445, D446, D7279, IP 71, ISO 3104
Measuring Range:	0.6 - 3,000 mm^2/s (cSt)
Meniscus Detection:	Optical (new and used oils)
Sample Injection:	Manual
Solvent Injection:	Automatic (optional dual solvent)
Tube Drying	Automatic
Viscometer Tube:	4 Glass capillary, modified Zeitfuchs Crossarm
Display:	Clear LCD
Temperature Range:	20 - 110°C
Temperature Stability:	± 0.01°C @ 40°C, ± 0.03°C @ 100°C
Bath Volume:	7.5 liters (2 gallons)
PC Software:	Included
External PC:	Optional
Dimensions:	43.5 x 47.5 x 62.0 cm. ($17^{1/8}$ x $18^{11/16}$ x $24^{7/16}$ in.)
Weight:	33 Kg (72.6 lbs), without tubes and bath oil
Electrical Requirements:	System: 110-230 VAC, 50-60 Hz., 170 W. Thermostat: 1.2 kW@110 VAC; 2.3 kW@230VAC
External Requirements:	Compressed air: 5-6 Bar

Spectro Incorporated is the only company dedicated exclusively to provide instrumentation, software and applications support for machine condition monitoring through oil analysis.

Contact us for your instrumentation needs and complete turnkey systems for oil analysis.

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v.1.5 /9 March 2010

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