ASTM D7279 • ASTM D2270

OMNITEK

# Automatic Houillon

Kinematic viscometry system for petroleum products


## The S-flow viscometry system

The S-flow range of instruments consist of compact, bench-top automatic viscometry systems for the analysis of Newtonian fluids. It complies fully with in ASTM D7279 and as such, gives full correlation to ASTM D445. It is the ideal system for used oil analysis labs that need to test a wide range of lubricant viscosities.

### Fast & accurate

The S-flow system is a self-contained viscometer system that consists of a thermostatic bath with circular heater and a control column. The bath contains 4 viscometer tubes together with optical sensors to detect the flow of the sample 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. Although a PC is not required to operate the instrument, additional software is available for operationg and data storage and reporting

The user has the option to operate in two modes, standard viscosity determination or tube calibration. In both modes, the operator 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. Because the sample volume is very low (0.3-1 ml), the entire measurement cycle is very short. After the user inject the sample into the tube, the sample travels down towards the optical sensors and heats up to the test temperature very quickly. Upon reaching the first sensor, the time measurement is started. When the second sensor is reached, the measurement is stopped and the result displayed on-screen or through the PC software. Then, a predefined cleaning cycles automatically commences, cleaning and drying the viscometer completely. The entire cycle time ranges between 3-10 minutes per tube, allowing a throughput of up to 80 tests per hour. After the injection of the sample, operator presence is no longer required. The operator needs only to return after the system has completed the measurement and cleaned the tube.

*"The S-flow system was designed for maximum throughput and ease of use while minimizing sample quantity and solvent consumption. It is the ideal viscometer for quick and accurate results"*

# Features

- Fully compliant with ASTM D7279 Correlation to ASTM D445
- Extremely easy to use and maintain
- Single or dual solvent injection to meet any application
- High throughput: up to 80 samples per hour with ASTM precision
- Integrated VI calculations (on 3000 model only)
- Fully functional as a stand-alone unit but advanced PC software available
- Small sample volume: 0.3-1.0 ml
- Fully automatic cleaning and drying
- Chemically resistant to allow for all common solvents
- Low solvent consumption: 2-3 ml per sample
- Fast & easy tube replacement without the need to drain the bath
- Optional duplo measurement capability

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## The S-flow is supplied with:

- Viscometer tubes
- Starter kit
- Calibration standards
- Backflush kit

## Options and accessories

- Dual solvent injection
- Duplo measurement
- Advanced PC software
- Cooling spiral

## Specifications

| Standard methods | D7279, D2270, correlation with D445 |
|---|---|
| Measuring range | 1-3000 mm²/s @ 40ºC |
| Temperature range | 20 - 120º C * |
| Temperature stability | ±0.01ºC @ 40º C, ±0.03 @ 100º C |
| Timer resolution | 0.0025 sec |
| Sample volume | 0.3 - 1.0 ml |
| Solvent consumption | 2-3 ml per cycle |
| Sample throughput | up to 160 samples per hour |
| Viscometer type | Houillon |
| Sensor type | Optical |
| PC Control | Multiple instrument networking through 1 PC |

** For temperatures around ambient, an external chiller is required*

## Available models

S-flow 850
Automatic measurement
manual cleaning

S-flow 1200
Automatic measurement
automatic cleaning

S-flow 3000 VI
Fully automatic dual bath unit
with integrated Viscosity Index

| Feature | S-flow 850 | S-flow 1200 | S-flow 3000 VI |
|---|---|---|---|
| Automatic time measurement | X | X | X |
| Integrated cleaning pump | X | X | X |
| Chemically resistant | X | X | X |
| Automatic solvent injection | | X | X |
| Integrated Viscosity Index | | | X |
| Dual solvent option | | X | X |
| Duplo measurement option | | X | X |
| Software available | X | X | X |
| Samples per hour | 25-40 | 40-80 | 80-160 |

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