

# Houillon viscosity reinvented

# S-flow IV<sup>+</sup> kinematic viscometry system

FOR PETROLEUM PRODUCTS



"The newest generation of S-flow systems offers the ultimate in fast, accurate viscosity testing and now also features an optional autosampler for fully unattended operation".



AUTO  
SAMPLER



SMALL SAMPLE  
VOLUME



HIGH  
THROUGHPUT



LOW SOLVENT  
CONSUMPTION



HIGHLY  
ACCURATE

## FEATURES

- Optional autosampler
- Simultaneous tests at 2 temperatures
- High throughput: up to 80 samples per hour
- Fast & easy tube replacement

**The S-flow IV<sup>+</sup> instrument consists of compact, bench-top automated viscometry systems for the analysis of Newtonian fluids. It complies fully with ASTM D7279 and as such, gives full correlation with ASTM D445. It is the ideal system for used oil labs that need to test a wide range of lubricant viscosities.**

### Fast & accurate

The latest generation of S-flow builds on the strong foundation of its predecessors to offer the ultimate in automatic viscosity testing of Newtonian samples such as petroleum products. The system offers all the tried and tested advantages of a Houillon-type tube design such as short process times, small sample volume and low solvent consumption, but now also includes an optional auto-sampler to allow for fully unattended operation. All controlled from a central user interface that takes care of result storage, auto-sampler control, VI calculations and much more.

### 2 temperatures

The new S-flow IV<sup>+</sup> consists of a 2 bath system with 2 tubes in each bath, providing a total of 4 tubes. The baths were designed to work independently, making it possible to use both baths at the same temperature, or at different temperature, ranging from 20°C to 120°C. Other options include dual solvent cleaning and integrated duplo testing which obtains 2 flow time determinations with only 1 sample injection.

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. The complete cycle time ranges are 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.

### Options and accessories

All measurement parameters, such as warmup times and cleaning parameters can be set through the high resolution 12" touchscreen or with optional PC software. The diagnostic system alerts the operator to possible issues such as empty solvent supply tanks, full waste bottles and other potential issues. The optional auto-sampler is fully modular and in-field upgradeable, meaning you can purchase the analyser first and then upgrade to auto-sampling when the need arises.

Compliant with ASTM D7279, ASTM 2270  
Correlating with ASTM D445

## S-flow IV<sup>+</sup> kinematic viscometry system for petroleum products

### SPECIFICATIONS

Features	S-flow IV <sup>+</sup>
Number of baths	2
Viscometers per bath	2
Standard methods	Compliant with ASTM D7279, ASTM 2270 Correlating with ASTM D445
Built-in VI calculation	Yes
Measuring range	0.3 - 3,000 mm <sup>2</sup> /s @40°C
Temperature range	20 - 120°C *
Temperature stability	Better than ±0.02°C
Timer resolution	0.001 s
Sample volume	0.3 - 1.0 ml
Solvent consumption	2 - 3 ml per cycle
Samples per hour	40 - 80 **
Viscometer type	Houillon
Sensor type	Optical, self-calibrating
Time measurement	Automatic
Integrated cleaning pump	Yes
Solvent injection	Automatic
Warmup prior to measuring	Yes
Touchscreen	12" capacitive
Instrument dimensions	40 x 58 x 66 cm (w x d x h)
Weight	52 kg
Data export	USB storage device
Power requirement	950 W; 115 / 240 V - 50 / 60 Hz

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

\*\* Measurements per hour; depends on sample viscosity, tube, operating temperatures and solvents.

### THE S-FLOW IV<sup>+</sup> IS SUPPLIED WITH

Viscometer tubes

Starter kit

Reference standards

Bath oil

### OPTIONS AND ACCESSORIES

Autosampler

Duplo measurement

Dual solvent injection

Advanced PC software

External cooling system

Air compressor

Silicone oil



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