Test Method
Determines the time required for 60mL of sample to flow through a calibrated orifice under precisely controlled conditions. Saybolt Universal Seconds (SUS) is the standard measurement for lubricants, insulating oils and lighter fuel grades, and Saybolt Fueled Seconds (SF) is used for heavier oils and bitumens.

SV3000 Saybolt Viscosity Bath and New SV4000 Saybolt Viscosity Bath for Automatic Viscosity Timing

- Microprocessor control of temperature between ambient and 240°C (464°F)
- Four tube capacity
- Dual digital displays show setpoint and actual temperature
- Selectable temperature scale - Celsius or Fahrenheit
- Automatic timing option for simplified, accurate measurement of efflux times
- Conforms to ASTM D88, D244, E102, and related specifications

Constant temperature bath with available automatic timing feature for viscosity determinations using Saybolt viscometer tubes and orifice. Microprocessor PID circuitry assures precise temperature control within ASTM specified tolerances throughout the operating range of the bath. Simple push-button controls and dual digital displays permit easy setting and monitoring of bath temperature. Two place calibration offset is provided. Accommodates four viscometers and four 60mL receiving flasks. Sliding draft shields and a chemical-resistant alignment plate facilitate handling of the flask. and glare-free fluorescent backlighting is provided for easy viewing of the samples. Communications software (RS232, etc.) ramp-to-set, and other enhanced features are available at additional cost. Contact your Koehler representative for additional information.

Automatic Timing Option – At the push of a button, the automatic timer starts the sample flow, senses the 60mL end point, and digitally records and displays the efflux time in 0.1 seconds resolution with an accuracy of 0.05%. Automatic timing improves testing accuracy and convenience, eliminating the chain and cork assembly and the need to manually time each sample. Timer installation is available in any configuration from 1 to 4 positions.

Bath Construction and Safety Features – Insulated bath interior is constructed entirely of heavy gauge stainless steel. A built-in overflow pipe and drain valve simplifies filling of the bath fluid to the proper level. Chemical resistant stop plate provides excellent insulation and is easily removed to allow for cleaning of the bath interior. A cooling coil for tap water or refrigerated coolant is provided for operation at near-ambient temperatures. Steel cabinet has leveling feet and a chemical resistant polyurethane-epoxy finish.

Specifications
Conforms to the specifications of:
- ASTM D88, D244, E102; ASHTE T72; FTM 701-004
- Capacity: 4 viscometer tubes
- Temperature Range: ambient to 464°F (240°C)
- Temperature Stability: ±0.05°F (±0.03°C)
- Bath Capacity: 5 gal (19L)
- Recommended Bath Medium: water or suitable heat transfer fluid
- Electrical Requirements: 115V 60Hz, single phase, 12.3A
- 220-240V 50/60Hz, single phase, 6.4A

Included Accessories
- Cleaning Plunger
- Chained Corks
- Oil Strainer
- Withdrawal Tube
- Tube Nut Wrench
- Orifice Wrench
- Port Closures
- Port Covers
- Thermometer Supports

Dimensions: 20x25x33 (74x63x84)
Net Weight: 65 lbs (29.5kg)
Shipping Information
Shipping Weight: 82 lbs (37kg)
Dimensions: 10 Cu. Ft.
Saybolt Viscosity

Saybolt Viscometer Tubes and Orifices
- Conforming to ASTM D48, E102 and related specifications
- Choice of brass or stainless steel tubes

Viscometer Tubes—Precisely machined brass and stainless steel tubes meeting ASTM requirements. Tubes mount vertically in Saybolt Viscometer Baths and accommodate stainless steel orifices interchangeably. Supplied with mounting hardware.

Orifices—Stainless Steel Universal and Furrol Orifices meeting ASTM specifications. Orifices insert in viscometer tubes using K22030 Orifice wrench (supplied with viscometer baths). Also available - Kansas Road Oil Orifice (requires K22039 wrench). Universal and Furrol Orifices are available with a calibration certificate.

Ordering Information

<table>
<thead>
<tr>
<th>Catalog No.</th>
<th>Viscometer Tubes</th>
<th>Orifices</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>K22009</td>
<td>Saybolt Viscometer Tube, Brass</td>
<td>Saybolt Universal Orifice</td>
<td>Borosilicate Glass Receiving Flask, 60mL for SV3000</td>
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<tr>
<td>K22309</td>
<td>Saybolt Viscometer Tube, Stainless Steel</td>
<td>Saybolt Universal Orifice with calibration certificate</td>
<td>Borosilicate Glass Receiving Flask, 60mL for SV4000</td>
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<tr>
<td>K22010</td>
<td>Saybolt Universal Orifice</td>
<td>Saybolt Universal Orifice with calibration certificate</td>
<td>Orifice Wrench for Universal and Furrol Orifices</td>
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<tr>
<td>K22010-C/F</td>
<td>Saybolt Universal Orifice with calibration certificate</td>
<td>Saybolt Universal Orifice with calibration certificate</td>
<td>Orifice Wrench for Kansas Road Oil Orifices</td>
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<tr>
<td>K22020</td>
<td>Furrol Orifice</td>
<td>Saybolt Universal Orifice with calibration certificate</td>
<td>Socket Wrench</td>
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<tr>
<td>K22020-C/F</td>
<td>Saybolt Universal Orifice with calibration certificate</td>
<td>Saybolt Universal Orifice with calibration certificate</td>
<td>Oil Strainer</td>
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<td>K22029</td>
<td>Kansas Road Oil Orifice</td>
<td>Saybolt Universal Orifice with calibration certificate</td>
<td>Cleaning Plunger</td>
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Saybolt Viscosity Thermometers

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<th>Thermometer</th>
<th>Test Temperature °F</th>
<th>°C</th>
<th>Range</th>
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<td>ASTM 17F</td>
<td>60 to 80°F</td>
<td>16 to 28°C</td>
<td>66 to 80°F</td>
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<td>ASTM 18F</td>
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<td>37.8°C</td>
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<td>ASTM 18C</td>
<td>100°F</td>
<td>37.8°C</td>
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<tr>
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<td>ASTM 19F</td>
<td>122°F 130°F</td>
<td>65°C 70°C</td>
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<td>122°F 130°F</td>
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<td>87.2°C</td>
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</table>

Test apparatus for lubricants, insulating oils, and heater fuel grades:
- Catalog No. | Order Qty
- K2910 | Saybolt Viscometer Bath
- K22009 | Viscometer Tube
- K22010 | Universal Orifice
- 332-003-003 | Receiving Flask (SV3000)
- 332-003-014 | Borosilicate Glass Receiving Flask, 60mL for SV4000
- 355-001-001 | White Technical Oil
- 250-000-17F | Series ASTM Thermometers or
- 250-000-17C | Series ASTM Thermometers

Test apparatus for bituminous materials:
- Catalog No. | Order Qty
- K29140 | Saybolt Viscometer Bath
- K22009 | Viscometer Tube
- K22020 | Universal Orifice
- K22030 | Displacement Ring
- 332-003-003 | Receiving Flask (SV3000)
- 332-003-014 | Borosilicate Glass Receiving Flask, 60mL for SV4000
- 355-001-002 | High Temperature Heat Transfer Fluid
- 250-000-17F | Series ASTM Thermometers or
- 250-000-17C | Series ASTM Thermometers