

Semi-automated CMRV-5000 is a compact and completely self-contained mini-rotary viscometer for measuring low temperature pumping viscosity from  $-5^{\circ}\text{C}$  to  $-40^{\circ}\text{C}$ . It comes with five removable test cells and offers integrated thermoelectric air cooling.

#### Common Applications

- Drive line lubricants
- New engine oils
- Used automotive oils

# CMRV-5000

## Self-Contained Mini-Rotary Viscometer

For Low Temperature Pumping Viscosity of Engine Oils  
ASTM D3829, ASTM D4684, ASTM D6821\*, ASTM D6896,  
SAE J300

### Reliable and accurate results

- Meets requirements of ASTM D3829, ASTM D4684, ASTM D6821\* and ASTM D6896
- Meets latest SAE J300 specifications for low-temperature pumpability
- Reliable and accurate temperature control from  $-5^{\circ}\text{C}$  to  $-40^{\circ}\text{C}$
- High resolution optical encoder for digital detection of yield stress and viscosity
- Dry gas purge regulator maintains a frost-free environment throughout the precise, microprocessor-controlled cooling cycle

### Compact, efficient design

- Completely self-contained benchtop unit measures yield stress and viscosity for drive line lubricants and engine oils
- Thermoelectrically air-cooled unit requires no external refrigeration or heat exchangers, eliminating the need for potentially hazardous refrigerants
- Environmentally friendly (no Freon gas), solid-state thermoelectric cooling removes temperature gradients to provide enhanced precision and uniform temperature across all 5 test cells
- High performance rotors with locking pins and carbon fiber shafts minimize test cell heat transfer
- Five removable test cells allow for easy cleaning and sample handling

### Semi-automated testing

- Windows®-based VISCPRO® software offers preconfigured profiles for each SAE-specified oil grade and referenced ASTM method as well as the option for custom cooling profile configuration
- Software provides graphical representation of cooling profiles
- Viscosity and yield stress are automatically calculated and stored or exported via built-in LIMS output
- Optional multi-unit interface kit permits networking and control of up to four CMRV units from a single PC
- Reaches up to  $80^{\circ}\text{C}$  during automated sample preparation



\*With optional drive line rotor kit.



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# CMRV-5000 | Self-Contained Mini-Rotary Viscometer

## Ordering Information

CMRV-5000 Self-Contained Mini-Rotary Viscometer consists of the viscometer unit, five removable test cells, cell caps, N105B oil viscosity calibration standard, a high precision digital thermometer with probe, and data storage/management software. Computer sold separately.

Description	Part #
100/115 VAC, 50/60 Hz	9728-R26
230 VAC, 50/60 Hz	9728-R27

## Accessories & Consumables

Description	Part #
Replacement rotor	52.4506
High performance drive line rotor kit (1)	52.5060
Weight set (2.5 g increments) with weight cage for ASTM D6821	50.1020
Multi-unit interface kit	61.3913
Spare parts kit (for one year)	52.5090
Low temp viscosity calibration standard, N105B	9727-T10
Low temp viscosity standards for yield stress verification	
YS-30, yield stress 70 Pa $\pm$ 35 Pa at $-30^{\circ}\text{C}$	9727-T20
YS-35, yield stress 70 Pa $\pm$ 35 Pa at $-35^{\circ}\text{C}$	9727-T25
Replacement cell (1 each)	52.5019
Rotor collar/cell cap (set of 1 each)	52.5059
Thread with loop and ring set (5 pc)	52.5075

## Product Specifications

Dimensions (W x D x H)	28.4 cm x 39.6 cm x 61.7 cm (11.2 in x 15.6 in x 24.3 in)
Weight	23 kg (50 lb)
Shipping dimensions (W x D x H)	58.4 cm x 48.3 cm x 68.6 cm (23 in x 19 in x 27 in)
Shipping weight (with all items)	29.5 kg (65 lb)
Max throughput	5 samples per test cycle
Automated sample capacity	5
Temperature range & accuracy	$-5^{\circ}\text{C}$ to $-40^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$
Minimum sample volume	10 mL per test
Operating conditions	$15^{\circ}\text{C}$ to $30^{\circ}\text{C}$ , 10% to 75% relative humidity (non-condensing), Installation Category II; Pollution Degree 2
Electrical specifications	100/115 VAC, 50/60 Hz; 230 VAC, 50/60 Hz; 600 watts power consumption
Compliance	CE Mark; EMC directive (2004/108/EC); Low voltage directive (2006/95/EC); HI-POT (1900 VDC, 60 sec.); ROHS

CANNON Instrument Company\* provides a variety of physical property testing equipment and consumables (vials, bath fluids, and reference materials) for your testing needs. To learn more, contact [sales@cannoninstrument.com](mailto:sales@cannoninstrument.com).



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