

Petroleum and Viscosity Testing

CAV sample vials/holders

The Profile Designer feature permits custom configuration of unique cooling profiles (temperature over time). The VISCPRO software downloads test information to the CMRV microprocessor and calculates and displays yield stress and viscosity values calculated from information returned by the instrument. Optional RS-485 network connections permit control of up to four CMRV-4500 instruments from a single PC.

A Plexiglas cover includes a molded inlet port for a dry gas purge which assists in maintaining a frost-free environment around the cells during the cooling phase of the test. An optional gas purge flow regulator is also available.

Thermoelectrically-Cooled

The CMRV-4500 is cooled with build-in thermoelectric modules, eliminating the need for methanol-based external refrigeration devices. Instead, the CMRV-4500 uses a compact air/water heat exchanger that circulates a mixture of coolant water and antifreeze through the instrument to cool the hot side of the thermoelectric cells. The result is a quiet, low-maintenance system without potentially hazardous refrigerants. Solid-state thermoelectric cooling provides superb temperature uniformity for all nine test cells, removing temperature gradients not only from the left to the right side of the block, but also from front to back and top to bottom. This important enhancement significantly improves the instrument's precision.

New Options

The Dry Gas Purge Option includes a side-mounted flow meter with a needle-valve adjustment, as well as connecting tubing from the meter to the inlet port on the Plexiglas cover (see order information below). The Drive Line Rotor Kit contains rotors specifically designed for the ASTM D 6821 method are available from CANNON.

Multi-Unit Interface Kit

The CMRV-4000 Series Multi-Unit Interface Kit enables a single PC to control up to four different CMRV-4000 Series instruments. Note that firmware upgrades are required for earlier 4000 Series instruments that will operate in tandem with the CMRV-4500 and the VISCPRO controlling software for windows 95/98/NT/XP.

Drive Line Rotor Kit for testing per ASTM D 6821

Drive Line rotors specifically designed from the STM D 6821 test method are available from CANNON. The Drive Line Rotor Kit includes nine DL-type rotors with specially designed geometrics appropriate for drive line fluid testing. The Kit also includes a copy of STM D 6821 (Standard Test Method for Low Temperature Viscosity of Drive Line Lubricants in a Constant Shear Stress Viscometer) and a weight set with mass increments of 2.5 grams.

The temperature profile for this method consists of a 1.5-hour soak at 50°C +/-1°C, a 2-hour nonlinear cool-down to the test temperature (+10 to -40°C), and a 14-hour soak +/- 0.02°C at the test temperature. The entire temperature profile, up to the point of measuring yield stress and viscosity, requires 17.5 hours.

CMRV Cell Caps

Cell caps are now available for all versions of the CANNON mini-Rotary Viscometer. The caps enhance temperature control while preventing condensation during cooldown that can affect test results. The caps are made of Delrin and are designed to fit atop the viscometric cell without impeding the rotation of the rotor. Each cap is in two sections, permitting the user to place and remove them without disturbing the rotor.

Drive Line Rotor Order Information

| Product no | Description |
|------------|--------------------------------------------------|
| 13660/30 | Drive Line Rotor Kit for testing per ASTM D 6821 |
| 13660/31 | DL Carbon Rotor for CMRV-4200/4300 |
| 13660/32 | DL Carbon Rotor Set/9 for CMRV-4200/4300 |
| 13660/33 | DL Carbon Rotor for CMRV-4500 |
| 13660/34 | DL Carbon Rotor Set/9 for CMRV4500 |

CMRV Cell Caps Order information

| Product no | Description |
|------------|-----------------------------|
| 13660/35 | CMRV Cell Cap Set/9, Delrin |

Dry Gas Purge order information

| Product no | Description |
|------------|----------------------|
| 13660/36 | Dry Gas Purge Option |