CHILLER ASSEMBLY

The two modes of operation for the Model 75 Viscometer are: (1) standard heat with tap water cool-down mode and (2) chilled sample mode.

For most efficient operation in the chilled sample mode, enter the desired temperature using the front panel keypad, the sample temperature will be indicated on the LCD readout.

Chiller operation:

Refer to Fig. B.

Disconnect the **Drain Line** from the **"Drain"** connection on the manifold, and replace with the chiller **Liquid In** line. Connect the **Liquid Out** line to the **"Chiller"** connection on the manifold. The **"Water Inlet"** connection on the remote test station can remain connected as the internal solenoid valve will stop tap water from entering the unit.

Set the chiller operating temperature 4?C to 8?C colder than the desired sample temperature (this will speed-up the cooling process). When the sample temperature is within this 4?C to 8?C range, change the chiller temperature setting to with-in 2?C below the desired sample temperature.

NOTE: The coldest temperature that can be set on the chiller is minus 12?C.

The chiller assembly can cool a 200 Centipoise silicone calibration fluid from room temperature to -7?C in less than 30 minutes (with sample stirred at 40 RPM). When the sample is maintained at a temperature below freezing for any length of time, an ice shell builds around the cell holder. This ice can be heated off or allowed to slowly melt off, but in either case a considerable amount of water will accumulate on the base plate.

A mixture of 50% ethylene glycol (P/N F4173) and 50% distilled water (P/N 52717) can be used as the chiller coolant. This mixture should be replaced after three months of service.

During operation of the chiller, the pressure gauge at the outlet should read in the 15 - 25 PSI range. A pressure reading below 15 PSI indicates: (A) a possible leak in the system, or (B) the bypass valve has been opened too much. A reading above 30 PSI indicates: (A) the possibility of an obstruction, or (B) the bypass valve is closed too much.

The use of the cell insulator cap (P/N C6121) is required for sample temperature equilibrium, and prevents an ice shell from forming on the top cap. The cell insulator cap must be removed for heated operation as its upper limit is 120?C before melting.

Standard heated sample/tap water cool down operation:

Refer to Fig. A

Connect the **Water Drain** line to the **"Drain"** connection on the manifold. The **Tap Water In** line should be connected to the **"Water Inlet"** on the manifold. The liquid out line from the chiller can be left connected to the "Chiller Inlet" on the remote test station during the heating operation, as the check valve will prevent contamination of chiller coolant.

CHILLER SPECIFICATIONS:

Power Required……8 amps at 115VAC, 60hz
Reservoir……0.5 gallon (2 liters)
Pumping rate……1.6 gallon per minute at 45-60 psig
Weight……80 pounds
Dimensions……13” X 21” X 19”

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