

### ASSEMBLY, INSTALLATION & OPERATING INSTRUCTIONS SERIES CC CALIBRATION COLUMNS

#### 1. IMPORTANT – BEFORE INSTALLING

Plast- O-Matic all PVC Calibration Columns will provide visual indication of flow or dosage when properly installed and used within the recommended range of pressure, temperature, and chemical compatibility. PVC is not recommended for all chemicals. The ultimate determination of material compatibility is previous successful use in the same application.

POM Calibration Columns are resistant to degradation from ultraviolet (UV) light or sunlight.

Material Reference:

Material	P/N Suffix	Max. Temp
PVC	-PV	140°F (60°C)

#### 2. INSTALLATION

**Threaded Connections:** A suitable thread sealant (ex. Teflon tape) should be applied to male tapered threads to assure a “leak-tight” seal. Assemble “hand-tight” followed by a quarter (1/4) turn with a strap wrench. Do not over tighten or use pipe wrenches on plastic pipe and components.



**Caution:** Teflon tape will “string” as pipe threads are joined. Loose “strings” could lay in the flow path and possibly be released into the media. To avoid this problem, clean out old tape, and do not apply tape to the first thread.

**Caution:** Connect to plastic pipe and fitting only; metal pipe should only be installed with an intervening plastic nipple. Metal pipe and straight threaded pipe tend to cut, stretch, and distort the plastic bodies, which could result in cracking or leaking over time.

**Non-Threaded Connections:** For solvent cementing follow instructions supplied with the cement or fusion equipment, or contact your distributor.

#### INSTALLATION INSTRUCTIONS

**Warning: PVC Calibration Columns are not compatible with all chemicals.**

Install the calibration column on the inlet side of the pump to be checked. The calibration column must be mounted in a vertical position and must be below the level of the liquid in the tank so the calibration column will fill when a valve is opened.

Two ball valves of the same size and type must be installed in the system locations shown in the diagram. (Ball valves are recommended because they offer a minimum resistance to flow and they can be opened and closed quickly..

An overflow or return line connection must be installed from the top of the calibration column back to the supply tank. The calibration column must be vented to the atmosphere when in use.

Installing a support hangar or bracket may be necessary for stability.

Calibration Columns with removable caps are rated for zero pressure.

### CALIBRATION COLUMN OPERATING INSTRUCTIONS

A stop watch, wrist watch or clock that can be used to measure time in seconds will be required when using a Plast-O-Matic calibration column.

1. Open valve **A** and start the pump being checked. While the pump is running under normal conditions, open valve **B** and the calibration column should begin to fill with fluid. When the liquid level reaches the zero mark on the calibration column, close valve **A** and start counting seconds.

If the column does not fill with the pump running, turn off the pump with valves **A** and **B** open and fill the calibration column with liquid to the zero mark on the column and then close valve **B**. Start the pump. While the pump is running under normal conditions, close valve **A**, open valve **B** and start counting seconds.

2. Time the liquid consumption of the pump for 60 seconds and record the volume pumped in either milliliters/minutes or US gallons/hour from the scale on the calibration column. Plast-O-Matic calibration columns give a direct reading of the liquid pumped without any calculation

If it is difficult to get the fluid level to zero to start the timing, the timing can be started at any increment on the scale as long as the start level is recorded and subtracted from the final volume when the 60 second test period is up.

3. At the end of the 1 minute test period, valve **A** can be opened to let the system function normally. The supply valve (valve **A**) should always be open when the pump is running (except while the test is being done) as not to run the pump dry.

If the pump requires more than the capacity of the calibration column, a 30 second time period can be used but the volume measured from the scale on the calibration column must be multiplied by 2 to get mL/min or GAL/hour.

If the pump uses a relatively small volume from the calibration column, a 2 or 3 minute time period can be used for more accurate readings but the final volume recorded will have to be divided by 2 or 3 respectively to get back to mL/min or GAL/hour.

When not in use, the calibration column can be used as a tank level indicator or drained by temporarily closing valve **A** with the pump running till all the liquid is pulled from the column line. If this is done, be sure to reopen valve **A** so the pump does not run dry.

#### RECOMMENDED INSTALLATION

