



Marley counterflow cooling tower distribution systems offer you the following benefits:

#### **Corrosion Resistant Plastic**

**Construction**—All piping is either PVC or FRP fiberglass. Plastic pipe provides low friction loss to reduce pump head requirements. Other materials are available for special applications.

**Non-Clogging**—High performance Marley NS nozzles are available with 1" to 3 1/2" orifice sizes. Each system is designed to minimize silt or debris collection.

**Self-Draining**—The nozzle outlet is always the lowest elevation in the distribution system. This arrangement is self draining when the supply water is shut off. There are no special valves to open or close.

**Economical Installation**—Nozzles are installed in pairs—each supply pipe serving multiple pairs of nozzles. Multiple nozzle pairs per supply pipe mean larger pipe spacing and, therefore, lower installed cost than most other systems.

**Economical Operation**—The entire system is computer-designed to maximize thermal performance and can be optimized to minimize pump head. The design also minimizes structural interference with water distribution. The Marley system avoids the uneven water distribution and high operating pressures associated with upspray nozzle systems.

#### **Easy Disassembly and**

**Reassembly**—Assembly of the entire system requires only a few simple hand tools. All connections are positive—yet the design allows repeated disassembly and reassembly.



## SUGGESTED SPECIFICATION

The system will distribute hot water to the fill of a counterflow cooling tower.

### Construction and Materials

The circulating water will be distributed to the fill by injection-molded polypropylene nozzles complete with polypropylene diffuser rings. Nozzles will be spaced on 3'-0" (maximum) centers.

Each pair of nozzles shall be fed by a single polypropylene distributor tee attached to the bottom of a PVC distribution pipe by a gasketed bolted joint.

The PVC distribution pipes shall be connected to a side inlet header of heavy-duty plastic pipe (PVC or FRP).

The inlet header shall terminate just outside the tower casing at the face of a flat faced flange. The flange drilling must conform to Class 125 ANSI B 16.1 specifications .

### Nozzles

The nozzles shall be non-clogging down-spray types, with no orifices or internal passageways less than one inch diameter. Internal turbulators or moving parts are not acceptable.

The nozzles shall develop a "full cone" spray pattern at pressures as low as two feet of water to assure proper water distribution to all areas of the fill.

### Operation

The system shall be self-draining and must contain no blind connections or other locations where silt or debris might accumulate. The nozzle outlets shall be the lowest point in the system. Upspray systems are not acceptable.

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