

Overview

The Marley Premium VFD (Variable Frequency Drive) control system is configured specifically for cooling towers, providing better setpoint control, lower energy costs and improved uptime for your process.

Primary Benefits

- Improves system set-point control allowing your process to work closer to optimum temperatures
- Saves energy costs as much as 30% compared to non-variable speed systems
- Maximizes tower uptime with easy to use, fully configured system, specific to cooling towers

Benefit Detail

Optimum Temperature Control:

- Running a tower off of the set-point either wastes energy or creates process inefficiencies
- VFDs enable continuous adjustment of fan speeds keeping set-points where they need to be
- VFDs also enable system optimization (e.g. with chillers) by adding the ability to continuously adjust the optimum setpoint of the system

Lower Energy Costs:

- VFDs take advantage of saving energy during off peak tower loads
- 20% reduction in fan speed will typically save 50% of electrical energy
- A VFD system saves enough energy for a two year payback of upfront costs

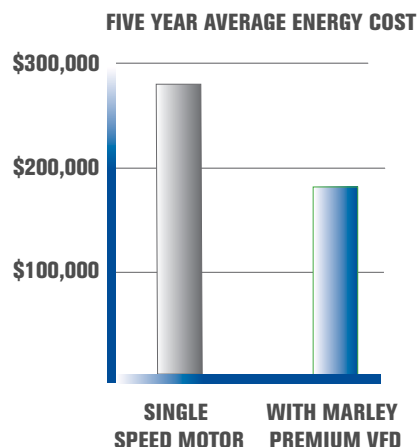
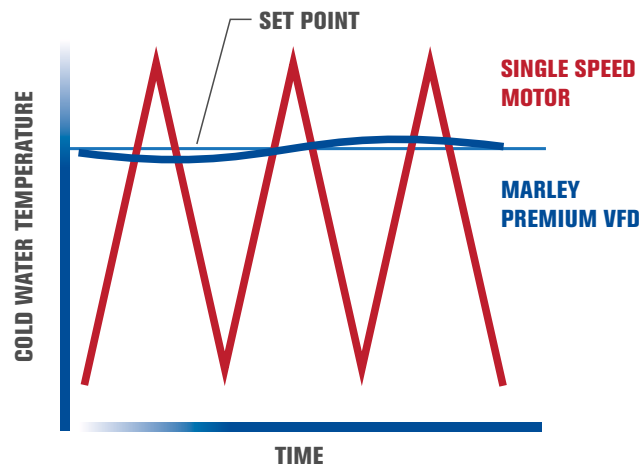
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Control Panel



RTD Temperature Probe



Benefit Detail

User Friendly System:

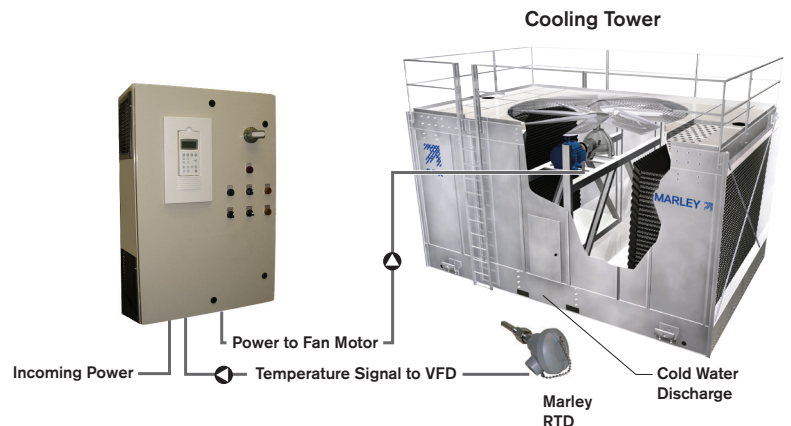
- Stand alone system with Marley software matched with RTD — no external controller required
- Status indicators on front of drive panel — water temperatures and set-point temperatures displayed on keypad provide easy tower control
- Soft start of motor — enables less wear to mechanical equipment and less noise than using across-the-line starters
- Eliminates the need for fan pitch adjustments, saving hours to weeks of annual manhours
- Application and troubleshooting assistance from experienced Marley techs

Improved Tower Uptime:

- “Tripless” design of drive eliminates most nuisance faults (under-voltage, over-voltage, flying start, downdraft back drive) keeping the tower running
- Automatic Modulating Bypass transfers the fan motor from the VFD drive to a bypass contactor if the VFD faults out on specific parameters, allowing continuous operation of the tower
- Reduced fan speeds extends motor bearing life and pulls less airborne contaminants into the tower, minimizing maintenance shutdowns
- De-Icing function keeps towers running smoothly in winter conditions

Special Design Considerations

- Hand or Auto operation from front of drive panel— Hand operation allows operator direct control of motor speed
- Internal Bypass override switch allows running the motor during startup to check motor wiring
- Startup assistance with three year warranty including parts, labor and travel in the US



Capacity Range

- 3 to 250 horsepower

Features and Options

- UL Listed
- PWM drive with IGBT switching and integrated bypass design
- Indoor NEMA 12 standard enclosure, NEMA 3R outdoor enclosure optional
- 208 through 575 VAC power choices
- 3% line impedance standard, 5% total impedance optional
- User terminal points for vibration switch and run enable circuits
- Main circuit breaker disconnect with provisions for lock-out tag-out padlocks
- Switch to isolate VFD from voltage supply when servicing

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