

## 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



Control Panel

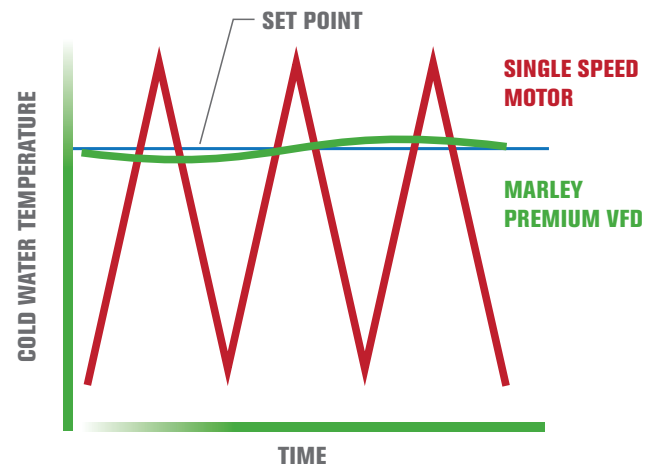


RTD Temperature Probe

## 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

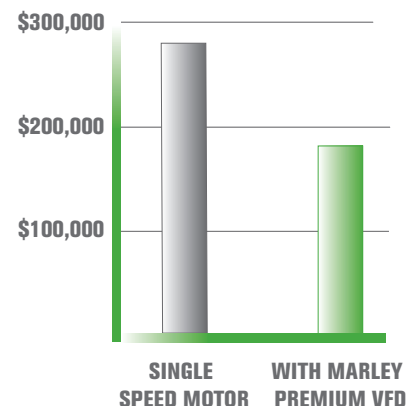


### Lower Energy Costs:

- 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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### FIVE YEAR AVERAGE ENERGY COST



# Premium VFD INSIGHT

## Benefit Detail

### User Friendly System:

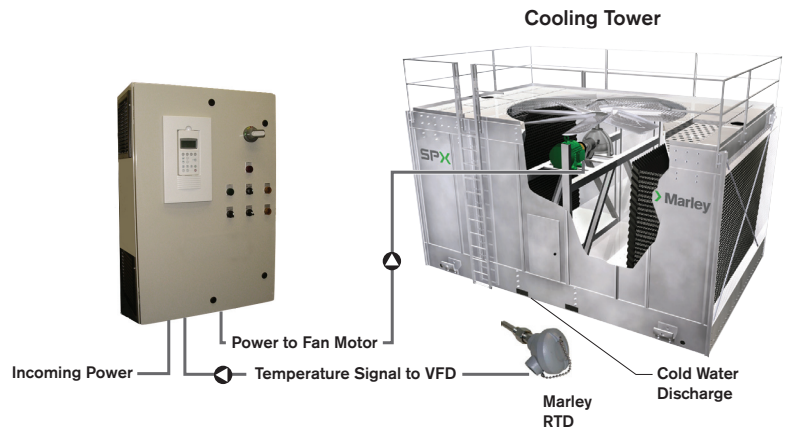
- Stand alone system with Marley software matched with RTD – no external controller required
- Status indicators on front of drive panel – water temperatures and set-point temperatures displayed on keypad provide easy tower control
- Soft start of motor – enables less wear to mechanical equipment and 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:

- “Triplex” 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

**SPX**

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