

## Industrial Fans

### Application Overview

Variable speed fan control applications are ideal candidates for energy savings since the power requirement varies with the cube of the fan speed. VFDs offer significant energy savings when compared to traditional damper or inlet vane control and have a quicker payback period that depends on duty cycle. Control Techniques offer a wide range of easy to use Variable Frequency Drive solutions that include advanced features such as energy savings mode, setpoint PID control (for constant flow, pressure or temperature, etc.), built-in PLC, fieldbus and Ethernet connectivity.

### Application Requirements

#### Control & Connectivity

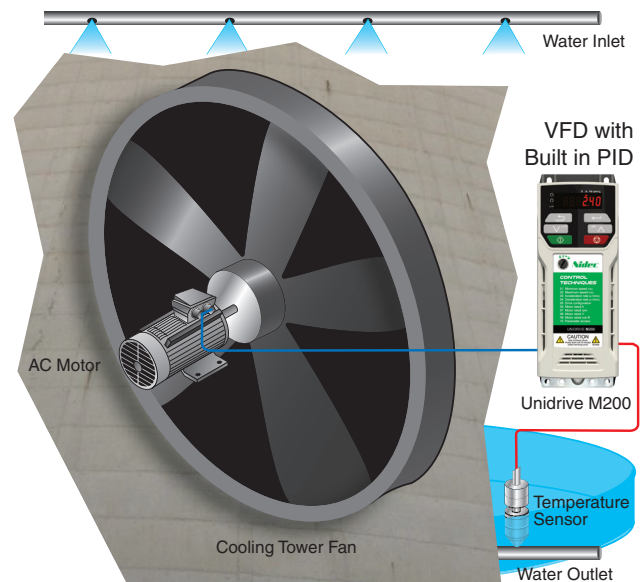
- Wide voltage & HP range
- Flexible accel/decel profiles
- Power-loss ride through
- On-the-fly or catch a spinning motor restart
- Built-in PID control
- Connectivity to PLC—Operator Interface

#### Protection

- Motor, machine and system protection
- Minimize mechanical stress—Limit inrush current
- Minimize mechanical stress with features like frequency skipping to avoid mechanical resonance zones

#### Minimize Operating Costs

- Energy conservation
- Maximize uptime—High reliability
- Ease of setup—Flexible control



### Control Techniques' Solutions

#### VFDs and Packaged drives

- Wide horsepower range, available up to 4,200 HP
- Global voltage ratings (115 V, 208-240 V, 380-480 V, 575 V, 690 V)
- Global standards (UL, cUL, CE, C-Tick, ISO 14001, RoHS)
- Compatible with standard NEMA B motors
- NEMA1 with UL Type 1 conduit box options
- On-board PLC functionality programmed using complimentary Machine Control Studio software
- Extended I/O option module adds analog inputs, digital I/O, and relays
- All major fieldbus and Ethernet connectivity options such as EtherNet/IP, DeviceNet, PROFINET, and EtherCAT
- Modbus RTU via RS485 with optional AI-485-24V-Adaptor
- Complimentary Connect configuration software with built-in scoping tool
- Complimentary Energy Savings Estimator and Harmonic Estimator software
- Industry leading warranties - 2 year standard and 5 year extended

# Industrial Fan Solutions

## Control Techniques' Performance Advantages

### Control

- Energy savings mode
- Built-in power meter, energy cost calculator
- Built-in independent PID
- Catch spinning motor (bi-directional)
- Volt/current/pulse speed reference options with automatic scaling
- 8 preset speeds; 8 sets of accel/decel rates
- V/Hz, OL vector & Rotor Flux Control modes
- Built-in braking transistors
- DC injection braking
- High voltage braking
- Parameter cloning option with smartcard or PC tools
- Real Time Clock option for trip timestamp and power meter

### Total System Protection

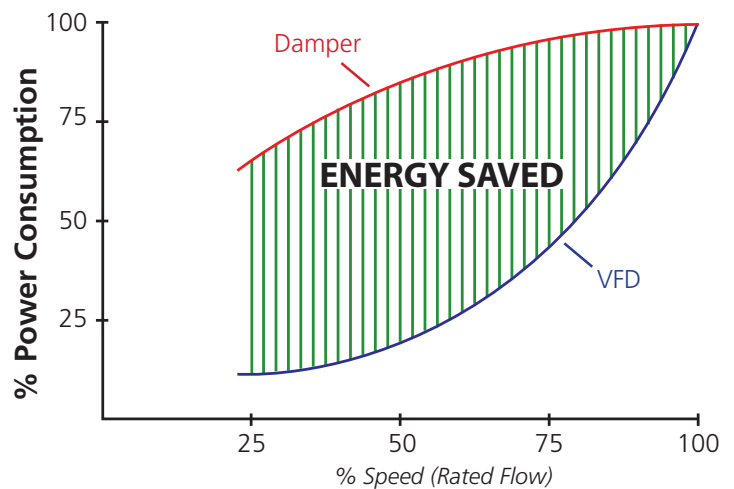
- Frequency skipping to avoid mechanical resonance zones
- S-ramp soft start for reduced mechanical stress
- Intelligent thermal motor protection
- Built-in diagnostics

### Maximum uptime

- Very high quality—Product reliability
- Supply loss ride through
- Automatic reset
- Easy Setup with keypad or PC tools
- Auto tune—Static and rotational
- Trips logged

## World Class Products & Support

- Worldwide Application & Field Service Network
- 24/7 support line +1 800 893-2321



Large Packaged AC Drives



Unidrive M200 AC Drives



Unidrive M700 Series AC/Servo Drives