Climate change and rising energy costs are increasing the need for more efficient system processes in water and wastewater applications. Mitchell Lewis & Staver offers an array of Variable Frequency Drives (VFDs) and NEMA Control Panels to optimize the supply of water and conserve energy while protecting pumps and piping in water systems to reduce downtime and water loss.

**Questions to consider when deciding which control is right for your application:**
- Do you need a soft starter/soft stop to reduce mechanical stress on the system?
- Does your system need additional precision speed control to maintain pressure/level/flow?
- Do you need to limit peak to peak demand charges?
- Is additional monitoring protection required?

**Questions to ask when sizing any control methods:**
- What is the application (Submersible)?
- What is the line voltage?
- Is harmonic mitigation required?
- Is surge suppression required?
- What enclosure rating is required?
- What is the max. ambient temperature?
- What is the altitude?
- How is this being controlled?

Our state-of-the-art facility manufactures both standard and custom control panels per UL508A or UL698A standards. Our panels use only high-quality Danfoss/Vacon variable frequency drives (VFDs) and range in size from 5 HP to 1,300 HP and beyond.

We offer a full array of built-in features including filtration, programmable logic controllers (PLC), touchscreen operation interface, telemetry options and multiple communication protocols.

We specialize in solutions for Industrial, Wastewater and Water Product applications including agricultural, irrigation, food and beverage, industrial and commercial. Mitchell’s Controls provides full panel customization, system testing, technical assistance, product training, and follow-up support.

Whether your job requires an off the shelf solution or a custom control panel, Mitchell’s has a solution to meet your precise specifications across a variety of industries and applications.
These Nema 4 and Nema 12 Soft Start panels provide ramp up and ramp down of a motor to reduce mechanical stress on the system by adjusting the voltage during starting and stopping. Panels are easily configured to meet the requirements of a variety of demanding applications from agricultural and municipal pumps to manufacturing conveyors and mixers.

**FEATURES**
- Optional remote keypad behind lockable window kit
- Lighted Hand-Off-Auto switch door mounted
- Reverse feed main breaker with door inter-locked handle
- Mounted NEMA 4 configuration
- Fused 120 Volt control
- Remote terminal strip

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The VLT® AQUA Drive FC 202 is designed to provide the highest level of performance of AC-motor-driven applications. Each drive is factory tested with a load connected, as a complete assembly, and can realistically offer first-year cost savings between 10-30% compared to traditional drive solutions.

Its high lifetime reliability and low energy consumption and maintenance costs provide you with the lowest cost of ownership. The quick and user-friendly setup reduces installation time by providing a fast route to maximum energy efficiency and motor control. By collecting the most important parameters in one place, the risk of incorrect configuration is reduced significantly.

**FEATURES**
- Up to 98% drive efficiency for superior energy savings
- Auto-tuning PI controller with flow compensation
- 500’ shielded / 1000’ unshielded motor cable
- UL-listed single-phase units provide phase conversion for applications in remote areas
- Outdoor-rated option: NEMA 4X / IP66
- On-board manual
- Conformal coating of circuit boards
- Initial, Final and Check Valve ramps
- Preventive maintenance functions
- Multiple pump cascade controller
- Flow / pressure / level control
- 2-year manufacturer warranty (extended warranties available)
Mitchell's Genuine Controls “D” Series NEMA 3R VFD control panels feature the industry leading Danfoss line of Variable Frequency Drives. Fully engineered and customized to your exact specifications, internal features and added components are easily configured, often without modifications to the panel chassis. The D-Series allows for flush-mounting to any surface.

**FEATURES**
- 120V transformer with fusing for ancillary equipment
- Pre-programmed with customized menu and quick start guide
- Service entrance rated disconnect with external operator and door interlock
- Lockable acrylic hinged cover w/ UV inhibitors
- 120V and VFD I/O wired to a terminal strip for convenience with field connections
- Mounting kits for wall or floor installation
- Back Channel cooling eliminates 90% of generated heat
- Door mounted VFD operator interface

**Configurable Components**
- Power Quality Monitor
- Input Line Reactors
- Passive Harmonic Filters
- Output Load Reactor
- Output DV/DT Filters
- Output Sine Wave Filters
- Across the Line Bypass
- Reduced Voltage Soft Starter Bypass
- Remote Monitoring

**D-SERIES | MITCHELL’S GENUINE CONTROLS**

**W-SERIES | MITCHELL’S GENUINE CONTROLS**

Mitchell’s Genuine Controls “W” Series NEMA 3R VFD control panels feature the industry leading Danfoss FC202 Aqua Drive with heat sink cooling up to 125 HP. The fan cooled heat sink drive extends through the back of the panel, providing a reduced enclosure footprint and a significant reduction in the internal heat load.

**FEATURES**
- Service entrance rated disconnect with external operator and door interlock
- External heat sink cooling for high-temperature applications 125HP and below
- 120V transformer with fusing for ancillary equipment
- Door mounted VFD operator interface, HOA selector, and speed potentiometer
- Pre-programmed with customized menu and quick start guide
- Sealed weatherproof enclosure protects sensitive electronics from outside air
- No fans, filters, or air conditioning required for improved performance and reduced maintenance
- Lockable acrylic hinged cover w/ UV inhibitors
- 120V and VFD I/O wired to a terminal strip for convenience with field connections
- Wall mount brackets
Mitchell’s Custom Controls featuring Danfoss® drives and are available from 5 to 1,300+ horsepower, NEMA-rated and packed with a full-array of features to fit your project requirements. We provide full panel customization, documentation, system testing, technical assistance, product training, and follow-up support. Our in-house engineering Department will assist you in designing and building the right system for the job, every time.

**AS A FULL-SERVICE, CUSTOM PANEL SHOP, MLS PROVIDES MANY OPTIONS:**

- Emergency across-the-line or soft start bypass
- Programming and hardware for pressure, level, flow, or combination closed loop control
- Fully engineered wiring schematics, layouts, and 3D renderings provided
- Multiple set-point and HOA selector switch
- Heat Sink Cooling for high temperature and polluted environments
- Integrated input and output line reactors and filters
- Remote Monitoring and Recording Data
- Hand-off-Auto & Speed Potentiometer
- Load Reactor, DV/DT, and sine wave output filters
- Digital and analog radio control and feedback systems
- Programmable Logic Controllers
- Service Entry Rated Disconnect
- Multiple drive systems and communication protocols
- Multiple pump operation
- 60kA surge protection
- Touchscreen interface
- PID Autotune
- NEMA Rated
- Telemetry
- Filtration
- Engineering resources to support enhanced PLC/SCADA programming capabilities for:
  - Rockwell Automation
  - Siemens
Mitchell's RMS solution from Measure Tek is a SGMA-Compliant, cloud-based system that integrates seamlessly into new and existing systems, regardless of brand, and offers a variety of enhanced reporting tools. View data in real-time for precision operational control through field sensors that help monitor soil conditions, pumps and valves, pressure, flow, humidity, and outside air temperature to ensure optimum water usage.

Automated control capabilities allow you to micromanage your resources, create flexible schedules, set parameters and alarms, and enjoy significant savings in labor, resources, and consumables.