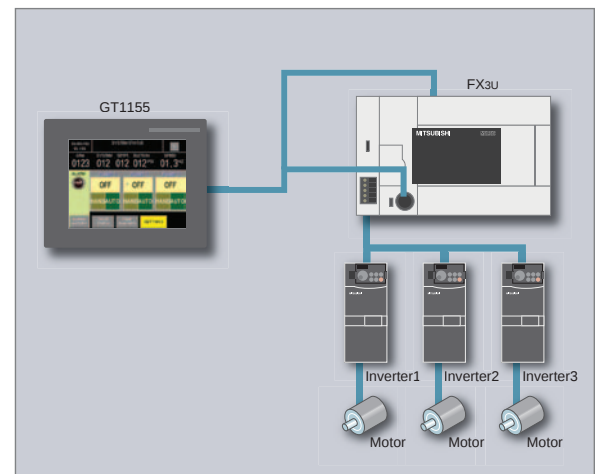


# VFD Domestic Water Booster Pump Control Panel

SyncroFlo has partnered with Mitsubishi Electric Automation, Inc. to offer a state-of-art variable speed booster pump control panel. With a single source manufacturer for touch screen operator interface, PLC and variable frequency drives, SyncroFlo offers superior visibility, diagnostics and adjustability. Variable frequency drives are interfaced digitally to the Mitsubishi 3rd generation PLC, offering precise control and response to changing demands. Integration is the key to quality and operability; in addition the system controls are covered by a free 5 year warranty.



The GOT1000 is one of Mitsubishi's most popular series touch screens. Alarming and animation are standard programming features. Common hardware features include an enhanced CPU.



#### Features:

- Multilevel Security Protection
- Graphical Trending, Data Sampling and Time Scheduling Functions
- Auto PLC Bypass Mode
- Advanced Maintenance and Diagnostics
- Ultra-Wide Viewing Angles
- High Speed 64bit RISC Processor
- Embedded Communication Ports
- Compact Flash Expansion Slot
- Removable Flash Media/Screen Changer
- Multi Language Upgrade Available
- True Type Font
- Ease of Operator Navigation, Including Custom Designed Start-Up Screens
- 3MB Onboard Memory
- Maintenance Free Design

The FX3 Series open architecture is the original dual system-bus, high-speed, fully expandable compact PLC designed to seamlessly control communication, networking and analog. The FX3 Series uses its power and flexibility to provide a solution for a variety of applications. Over 6 Million units sold, more than any other micro PLC.

#### Features:

- 3<sup>rd</sup> Generation Compact PLC
- Exchangeable Communication Expansion Boards that Mount Directly into the Main Unit
- Integrated Real-Time Clock
- Full Control of VFD Parameters via Network
- Additional Communication Options to Third Party Devices
- Maintenance Free Design



The 700 Series is one of the most popular drives under 25kW in the world. Advanced features and functions such as USB port for commissioning and monitoring with an embedded M-dial and display. The 700 Series promises to continue Mitsubishi's long history of providing the best micro drives in the industry.



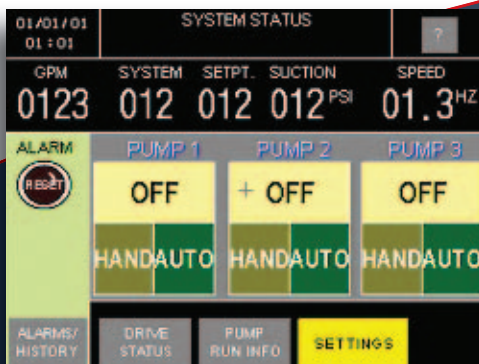
#### Features:

- 150% Torque at 1Hz and 200% Torque at 3Hz Using General-Purpose Magnetic Flux Vector Control
- Password Function for Parameter Setting Protection
- Integrated Digital Communications to the PLC
- Advanced Energy Savings Mode (reduces power at low demand)
- 550' Motor Leads Without dV/dT Protection
- Advanced Tuning Mode
- 100K SCCR Rating
- Integrated PLC Communication
- 10 Year Maintenance Free Design
- UL, cUL, CE

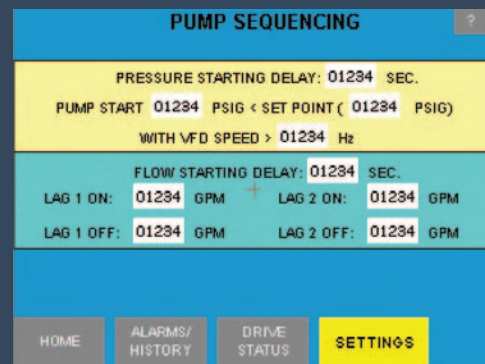
Since 1964, SyncroFlo has been the industry standard domestic water booster pump for commercial buildings up to 20 stories tall. This series of high value close-coupled end suction pumps include the most essential features in the standard model, and offer the most valuable options that owners want. The result? A versatile product line that has a flow range of 100 – 750 gpm, and up to 100 psi boost.

## SyncroFlo Variable Frequency Drive (VFD) Control Panel Technical Data

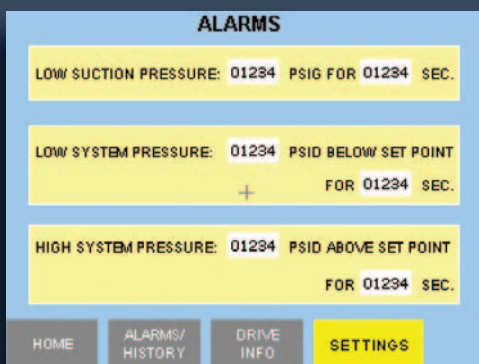
- Touchscreen Accessible Elapsed Time Meter(s), Power, Current, System Pressure, Flow Rate, Speed, PID and Timer Setpoints
- Password Protected Touch Screen to Prevent any Undesired Field Modifications
- RS-485 Communications to Drive (VFD) Network
- VFD Status Screen Including Frequency, Current, Power, and KW Hours
- Pump Status Screen with Run Time, Starts, Alarm Conditions and Fault-Log with Time Stamps
- Programmable Maintenance Reminders
- Data Written to Removable Compact Flash Memory Card with Time and Date Stamp for Preventive Maintenance, Alarm Logging, Remote Troubleshooting and VFD Data
- UL 508 Panel
- HMI Bypass Circuit: Sound an Alarm Horn in the Event of HMI Failure
- VFD Mounted in the Enclosure up to 30hp
- IP10 Touch Safe Circuitry
- Standard Includes Sequencing Flow, Pressure, VFD Speed, Maxistore 2, and Power
- Power Restore / Fill Mode Sequence
- Startup Instruction Screens for Easy Setup
- Fan Cooled Cabinet with Thermostat Control
- Optional BACnet® / LonWorks® Integration via Modbus® Communication Output from PLC
- Optional Upgrades to Larger Displays with Extended Graphics



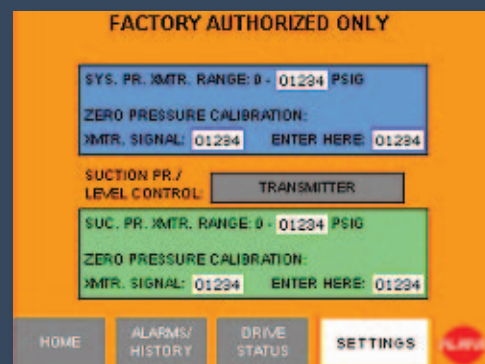
**System Status**



**Pump Sequencing**



**Alarms**



**Factory Authorized Only**

## ***System Specifications***

|                                 | Gold                                                                                             | Silver                                                               | Bronze                                                               | Lite                                                                            |
|---------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------|
| VFD                             | Mitsubishi 700 Series                                                                            | Mitsubishi 700 Series                                                | Mitsubishi 700 Series                                                | Mitsubishi 700 Series                                                           |
| PLC                             | Mitsubishi PLC with BACnet/ LonWorks/ Modbus Connectivity                                        | Mitsubishi PLC                                                       | Mitsubishi PLC                                                       | Mitsubishi Alpha Smart Relay                                                    |
| PLC-VFD Connection              | Full digital with all variables passed                                                           | Full digital with all variables passed                               | Full digital with all variables passed                               | Analog; Speed transmitted; VFD fault returned                                   |
| Operator Interface              | 6" Color Touchscreen with Compact Flash Data Port                                                | 6" Color Touchscreen with Compact Flash Data Port                    | 6" Monochrome Touchscreen Compact Flash Data Port                    | Integrated with Mitsubishi Alpha                                                |
| Standard Sequencing Methods     | Pressure; Power; VFD Speed; "MaxiStore 2"; Time Clock                                            | Pressure; Power; VFD Speed; "MaxiStore 2"; Time Clock                | Pressure; Power; VFD Speed; "MaxiStore 2"; Time Clock                | Pressure; VFD Speed; "MaxiStore 2"                                              |
| Optional Sequencing             | Flow                                                                                             | Flow                                                                 | Flow                                                                 | Flow                                                                            |
| Redundancy Options              | Automatic VFD Bypass with PRV or Relief Valve Control or Standby Pump with VFD (4 max total)     | Standby Pump with VFD (3 max total)                                  | Standby Pump with VFD (3 max total)                                  | Standby Pump with VFD (2 max total)                                             |
| Electrical Protection           | Single TDD disconnect, individual MSP's internal, control power circuit breakers, IP10 Touchsafe | Individual TDD MSP's, control power circuit breakers, IP10 Touchsafe | Individual TDD MSP's, control power circuit breakers, IP10 Touchsafe | Individual TDD MSP's, control power circuit breakers, IP10 Touchsafe            |
| VFD Protection                  | NEMA 12 / UL 1449 / Lightning                                                                    | NEMA 1                                                               | NEMA 1                                                               | NEMA 1                                                                          |
| Pump                            | All stainless – NSF 61 approval                                                                  | CIBF; Threaded or flanged connections depending on size              | CIBF; Threaded or flanged connections depending on size              | CIBF; Threaded or flanged connections depending on size                         |
| Piping                          | Stainless steel piping with stainless steel flanges                                              | Flanged connections with all stainless steel wetted parts            | Flanged connections with all stainless steel wetted parts            | Grooved connections with all stainless steel wetted parts. Flange kit available |
| Instrumentation Tubing          | Stainless Steel                                                                                  | Nylon or copper                                                      | Nylon                                                                | Nylon                                                                           |
| Piping Configurations           | Vertical; Horizontal; Custom Dimensions available                                                | Vertical; Horizontal; Custom Dimensions available                    | Vertical; Horizontal; Custom Dimensions available                    | Vertical; Custom Dimensions available                                           |
| Operation, Maintenance, Service | PDF; Service Intervals in PLC; Startup Instructions in PLC                                       | PDF; Service Intervals in PLC; Startup Instructions in PLC           | PDF; Service Intervals in PLC; Startup Instructions in PLC           | PDF                                                                             |
| Submittals                      | PDF; 3D and 2D CAD available                                                                     | PDF; 3D and 2D CAD available                                         | PDF; 3D and 2D CAD available                                         | PDF; 3D and 2D CAD available                                                    |
| SCCR* Amp Rating                | 65K                                                                                              | 65K                                                                  | 65K                                                                  | 65K                                                                             |

\* SCCR - Short Circuit Control Rating

BACnet is a registered trademark of American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

LonWorks is a registered trademark of Echelon Corporation.

Modbus is a registered trademark of Schneider Electric.



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