POWERGATE 'H'
HVAC BYPASS CONTROLLER
PRODUCT OVERVIEW

- 'Slimline' design
- Bypass configuration
- Built-in BACnet® MS/TP communications

PowerGate 'H' Series HVAC Controllers offer the simplicity and functionality of an HVAC bypass controller and the high specification, performance and reliability of the Mitsubishi Electric FR-F800 VFD. The 'Slimline' enclosure is ideal for mounting in areas where space is limited. PowerGate 'H' is fully compatible with earlier generations of Mitsubishi Electric controllers and offers significant product advantages that allow it to meet the requirements of the most demanding applications.

KEY BENEFITS:

- 3 contactor bypass available in 230 V, 480 V, and 575 V in 'Slimline' and standard configurations 1 hp through 250 hp
- NEMA 1 enclosure, 65 kA SCCR as standard
- Plenum rated
- Basic or standard bypass control
- Electronic or simple changeover versions

- Dual independent PID control loops
- Real-time clock feature and alphanumeric keypad display (standard model only)
- Touch screen interface for ease of use (enhanced model only)
- Built-in BACnet® MS/TP communications
- Bi-directional coasting motor restart (anti-windmill) capability
- Broken belt / load abnormality detection
- Anti-jam system to clear clogged pumps
- Upload / download parameters using simple memory stick
- Compatible with IPM motors (auto-tuning)
- Motor flux control system saves energy and reduces motor heat and mechanical noise
- Connects directly to FR-Configurator2 commissioning software

Touch Screen Interface (Enhanced Model Only)
The enhanced model includes a touch screen interface that improves system connectivity, simplifies system startups, and provides advanced functionality with the ability to set, store, and backup VFD parameters without connecting to a PC. Also included are several preconfigured screens that provide batch monitoring and machine diagnosis, as well as improved predictive maintenance to reduce downtime.

Real-Time Clock Feature (Standard Model Only)
Using the FR-LU08 alphanumeric display, real-time clock capability allows the time-stamping of trip messages as well as time-based operation using the internal PLC of the drive.

3 Contactor Bypass System
PowerGate H uses a 3rd bypass contactor to ensure that the drive is completely disconnected from the circuit when used in bypass mode, making it simple to remove the drive for service.

65kA Short Circuit Rating
Controllers use coordinated contactors to ensure that they can safely be installed in areas served by large supply transformers (drives have a 100kA withstand rating).

Dual Independent PID Control Loops
The second PID loop means that the motor speed can be controlled to maintain pressure or temperature while the position of a damper vane or valve is adjusted.
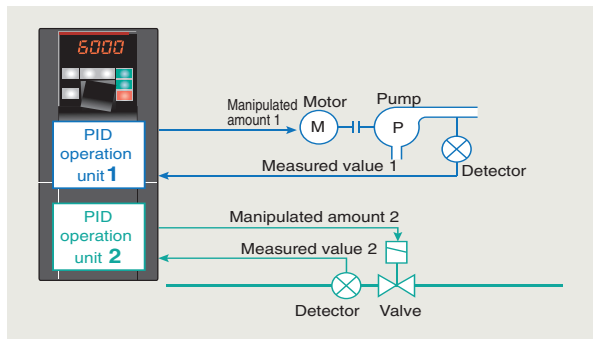
## Anti-Windmill Feature (Coasting Motor Restart)
The drive will detect a motor already spinning in either direction on start-up, and ensure a smooth start-up every time.

Plenum Rating
Plenum rating ensures that the controller can be used in HVAC plenums without risks caused by toxic smoke.

Broken Belt Detection (Load Memory System)
The new 'load memory' system detects any sudden changes in load, such as a broken belt or a clogged pump.
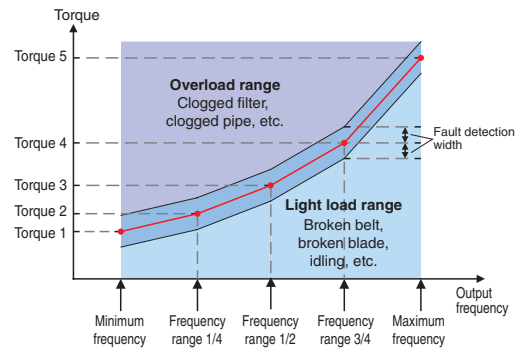
IPM Motor Compatibility
PowerGate H can be used either with conventional induction motors or with the latest generation of IPM (Internal Permanent Magnet) motors. A dedicated set-up routine ensures quick and simple commissioning.
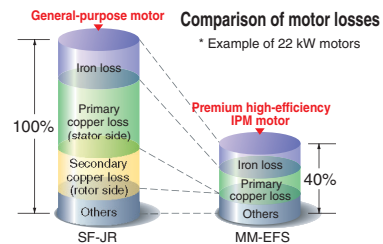
Motor Flux Control System
Motor load is intelligently monitored by the drive and output voltage is adjusted to match, improving efficiency and reducing motor heat and mechanical noise.

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