

Pump Package Sequencing

Pump packages are available in one of four configurations; single pump packages in constant or variable speed configurations or dual pump packages in constant or variable speed configurations..

MC-8000SX Single Pump Package Control

The MC-8000SX control sequence is a pump control sequence for a single pump.

Unit Operation

Unit operation is initiated when all points are in their run positions.

Toggle Switch: The toggle switch may be set in one of two positions for unit operation:

1. The unit's toggle switch is set for RUN operation. The unit shall run continuously.
2. The unit's toggle switch is set for AUTO operation. The AUTO switch is a control circuit hardwired to units served by the pump. If any unit on the control circuit calls for operation, the unit shall be indexed for operation.

Pump Enable: The pump enable is controlled at the unit's display terminal.

Pump Operation

When the unit is indexed for operation, the pump shall be energized and run continuously.

Drycooler Operation

When the pump is operating, the interlocked drycooler (if applicable) shall be energized and run continuously.

System Alarms

Flow Switch: A paddle-type flow switch closes to confirm water flow after the pump starts. If the switch doesn't close within a delay period (3 seconds, adjustable), the unit shall enunciate an alarm and lock out pump operation. Manual reset of the pump enable at the system's controller display shall be required.

MC-8000DX Dual Pump Package Control

The MC-8000DX control sequence is a pump control sequence for a dual pump package.

Unit Operation

Unit operation is initiated when all points are in their run positions.

Toggle Switch: The toggle switch may be set in one of two positions for unit operation:

1. The unit's toggle switch is set for RUN operation. The unit shall run continuously.
2. The unit's toggle switch is set for AUTO operation. The AUTO switch is a control circuit hardwired to units served by the pump. If any unit on the control circuit calls for operation, the unit shall be indexed for operation.

Pump Enable: The pump enable is controlled at the unit's display terminal.

Pump Operation

When the unit is indexed for operation, the pump shall be energized and run continuously. Pumps run in a lead/lag configuration and may be set to rotate operation.

Alarm Rotation: The lead pump will rotate based on unit alarm. Upon a flow switch failure, the lead pump shall rotate.

Push-Button Rotation: The lead pump may be rotated manually, by pressing the lead/lag rotate button in the electrical box.

Timed Rotation (Optional): The system may be set to rotate the lead pump on a weekly basis. Pump rotation is set based on day of the week and time of day.

Drycooler Operation

When the pump is operating, the interlocked drycooler (if applicable) shall be energized and run continuously.

System Alarms

Flow Switch: A paddle-type flow switch closes to confirm water flow after the pump starts. If the switch doesn't close within a delay period (3 seconds, adjustable), the unit shall enunciate an alarm and lock out pump operation at the controller. Manual reset of the pump enable at the system's controller display shall be required.

MC-8000SV Variable Speed Single Pump Package Control

The MC-8000SV control sequence for a single pump package. A wet-wet differential pressure sensor is utilized to maintain a system differential pressure via variable speed pump control.

Unit Operation

Unit operation is initiated when all points are in their run positions.

Toggle Switch: The toggle switch may be set in one of two positions for unit operation:

1. The unit's toggle switch is set for RUN operation. The unit shall run continuously.
2. The unit's toggle switch is set for AUTO operation. The AUTO switch is a control circuit hardwired to units served by the pump. If any unit on the control circuit calls for operation, the unit shall be indexed for operation.

Pump Enable: The pump enable is controlled at the unit's display terminal.

Pump Operation

When the unit is indexed for operation, the pump shall be energized and run continuously. The pump shall vary its speed to maintain the differential pressure set point based on a PID control loop.

Drycooler Operation

When the pump is operating, the interlocked drycooler (if applicable) shall be energized and run continuously.

System Alarms

Flow Switch: A paddle-type flow switch closes to confirm water flow after the pump starts. If the switch doesn't close within a delay period (3 seconds, adjustable), the unit shall enunciate an alarm and lock out pump operation. Manual reset of the pump enable at the system's controller display shall be required.

Variable Speed Drive Failure: If the variable speed drive fails on any of its internal safeties, the unit shall enunciate an alarm and lock out pump operation. Manual reset of the pump enable at the system's controller display shall be required.

Sensor Installation

The wet-wet differential pressure sensor must be installed between the supply and return mains in the most distant third of the hydronic system.

MC-8000DV Variable Speed Dual Pump Package Control

The MC-8000DV control sequence is a variable speed pump control sequence for a dual pump package.

Unit Operation

Unit operation is initiated when all points are in their run positions.

Toggle Switch: The toggle switch may be set in one of two positions for unit operation:

1. The unit's toggle switch is set for RUN operation. The unit shall run continuously.
2. The unit's toggle switch is set for AUTO operation. The AUTO switch is a control circuit hardwired to units served by the pump. If any unit on the control circuit calls for operation, the unit shall be indexed for operation.

Pump Enable: The pump enable is controlled at the unit's display terminal.

Pump Operation

When the unit is indexed for operation, the pump shall be energized and run continuously. The pump shall vary its speed to maintain the differential pressure set point based on a PID control loop. Pumps run in a lead/lag configuration and may be set to rotate operation.

Alarm Rotation: The lead pump will rotate based on unit alarm. Upon a flow switch failure, the lead pump shall rotate.

Push-Button Rotation: The lead pump may be rotated manually, by pressing the lead/lag rotate button in the electrical box.

Timed Rotation (Optional): The system may be set to rotate the lead pump on a weekly basis. Pump rotation is set based on day of the week and time of day.

Drycooler Operation

When the pump is operating, the interlocked drycooler (if applicable) shall be energized and run continuously.

System Alarms

Flow Switch: A paddle-type flow switch closes to confirm water flow after the pump starts. If the switch doesn't close within a delay period (3 seconds, adjustable), the unit shall enunciate an alarm and lock out pump operation at the controller. Manual reset of the pump enable at the system's controller display shall be required.

Variable Speed Drive Failure: If the variable speed drive fails on any of its internal safeties, the unit shall enunciate an alarm and lock out pump operation. Manual reset of the pump enable at the system's controller display shall be required.

Sensor Installation

The wet-wet differential pressure sensor must be installed between the supply and return mains in the most distant third of the hydronic system.