

OPERATOR'S CARD

P/N 237 435A

Temperature Control System

Safety

These safety symbols alert you to safety hazards and conditions that may result in personal injury, death, or property and equipment damage. Become familiar with them.



WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.



WARNING: Relieve air and fluid pressures before servicing this equipment.



WARNING: Make sure that all system components are grounded to a true earth ground. Ungrounded components can cause electrical sparking, fire or explosion.

To use the equipment safely,

- follow the instructions in this operator's card
- obtain and read the Material Safety Data Sheets for all materials used.

Introduction

This operator's card contains only the information necessary for daily operation and maintenance.

See Figure 1. The temperature control system controls the temperature of inside can coating from 27–43 °C (80–110 °F) with incoming coating temperatures between 15.6–54 °C (60–130 °F).

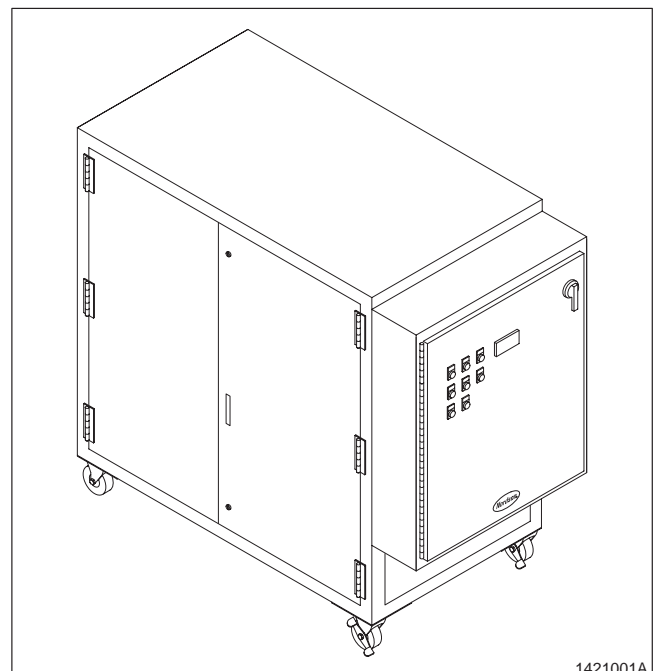
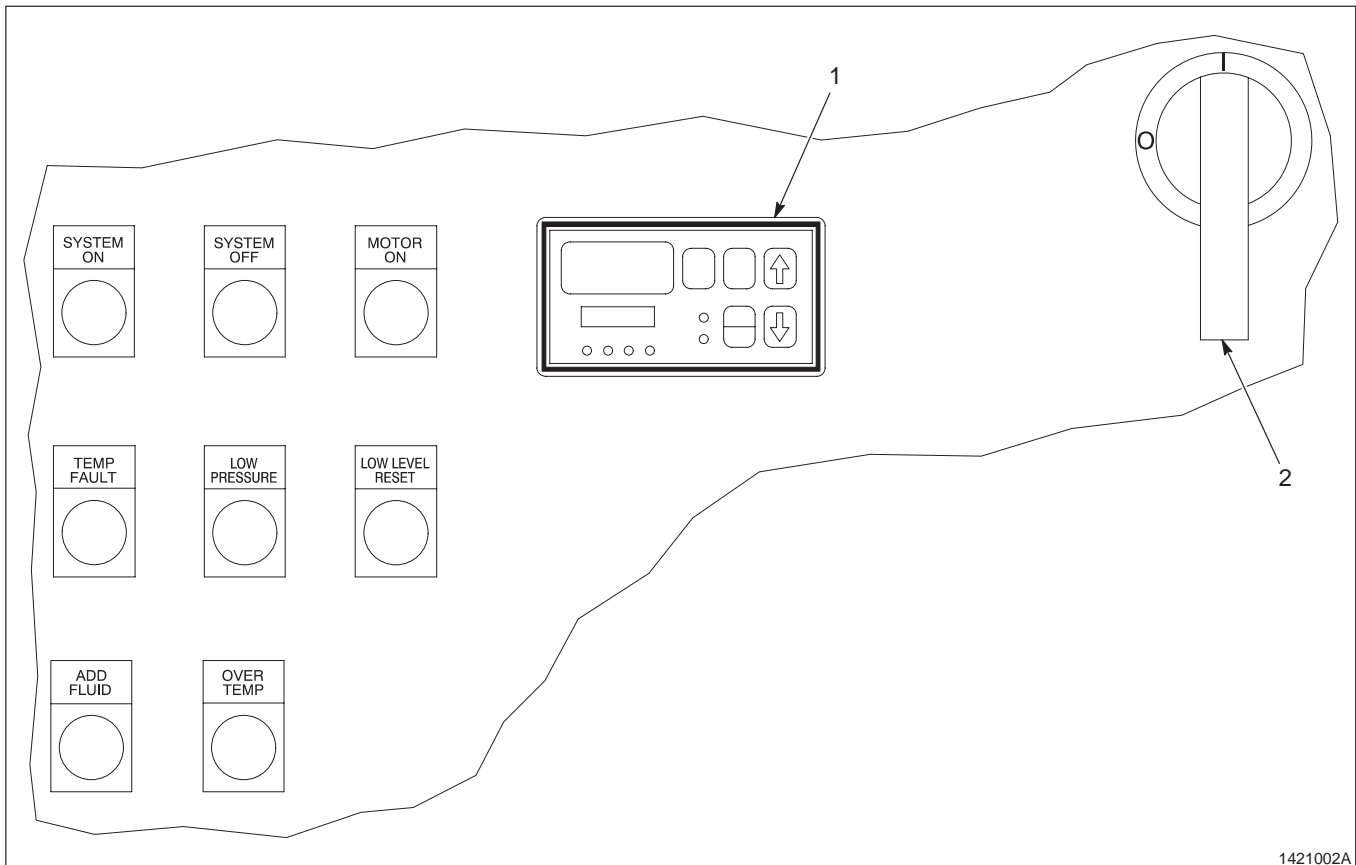


Fig. 1 Temperature control system

Front Panel Controls

See Figure 2. The buttons on the front panel control the system components and act as fault indicators.



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Fig. 2 Control panel

1. Temperature controller
2. Disconnect

SYSTEM ON — Green Illuminated push button. Starts the motor/pump, enables the temperature controller.

SYSTEM OFF — Red push button. Stops the motor/pump, disables the temperature controller.

MOTOR ON — White indicator light. Indicates that power is supplied to the motor.

TEMP FAULT — Yellow indicator light. Indicates that temperature is out of range set in the temperature controller.

LOW PRESSURE — Yellow indicator light. Indicates that the heat transfer fluid circulation pump pressure has fallen below pre-set limit of 1.4 bar (approximately 20 psi) (Fig. 3). Stops motor/pump, disables temperature controller.

LOW LEVEL RESET — Yellow illuminated push button. When illuminated, the tank is low on fluid. Stops motor/pump, disables temperature controller. Add fluid to proper level. When the button is pushed, the low level circuit is reset and light is extinguished. The system can now be restarted.

ADD FLUID — Yellow indicator light (flashing). When illuminated, fluid level in the tank is too low. Fill tank to the full level.

OVER TEMP — Yellow indicator light. When illuminated, the temperature in the tank is above the temperature set on the limit controller. Removes power to the heaters. The motor and pump remain running to ensure circulation. To reset, push the reset button on the limit controller inside the electrical enclosure.

TEMPERATURE CONTROLLER — Displays set point (desired) temperature and process (actual) temperature.

Startup/Shutdown

Follow these procedures to initiate Startup/Shutdown.

Startup

1. Open the cabinet doors and check for signs of leakage.
2. Check the fluid level in tank (make sure level is between full and add). If level is below add and no leaks are found, add water to the tank to the full level mark.
3. See Figure 3. Check the coating ball valve positions on the side panel. Set to normal operating position.
4. Make sure the coating pump is running and that the coating material is circulating through the Temperature Control System.
5. Check the chilled water ball valve positions (see Figure 4 (2)). Set to normal operating position.
6. Check the empty ball valve positions (see Figure 4 (1)). Set to normal operating position.
7. See Figure 2. Set the main disconnect to the on position (the handle should be down).
8. Push the LOW LEVEL RESET button to reset.

NOTE: Refer to the Watlow manuals for complete operation of the temperature controller and the limit controller.

9. Set the desired temperature on the temperature controller. To increase the temperature, push the up arrow. To decrease the temperature, push the down arrow.
10. Push the SYSTEM ON button.
11. Monitor the process readout on the temperature controller to see that the process temperature is the same as the set point temperature.

The system will now begin to control the coating temperature.

NOTE: If the system has been turned off for an extended period of time, it may take as long as an hour before the coating temperature is under control at the desired temperature.

Shutdown

1. See Figure 2. Push the SYSTEM OFF button.
2. See Figure 2. Turn the main disconnect to the off position. The handle is horizontal in the off position.
3. Open the main cabinet and check for any sign of leaks.

Startup/Shutdown (contd.)

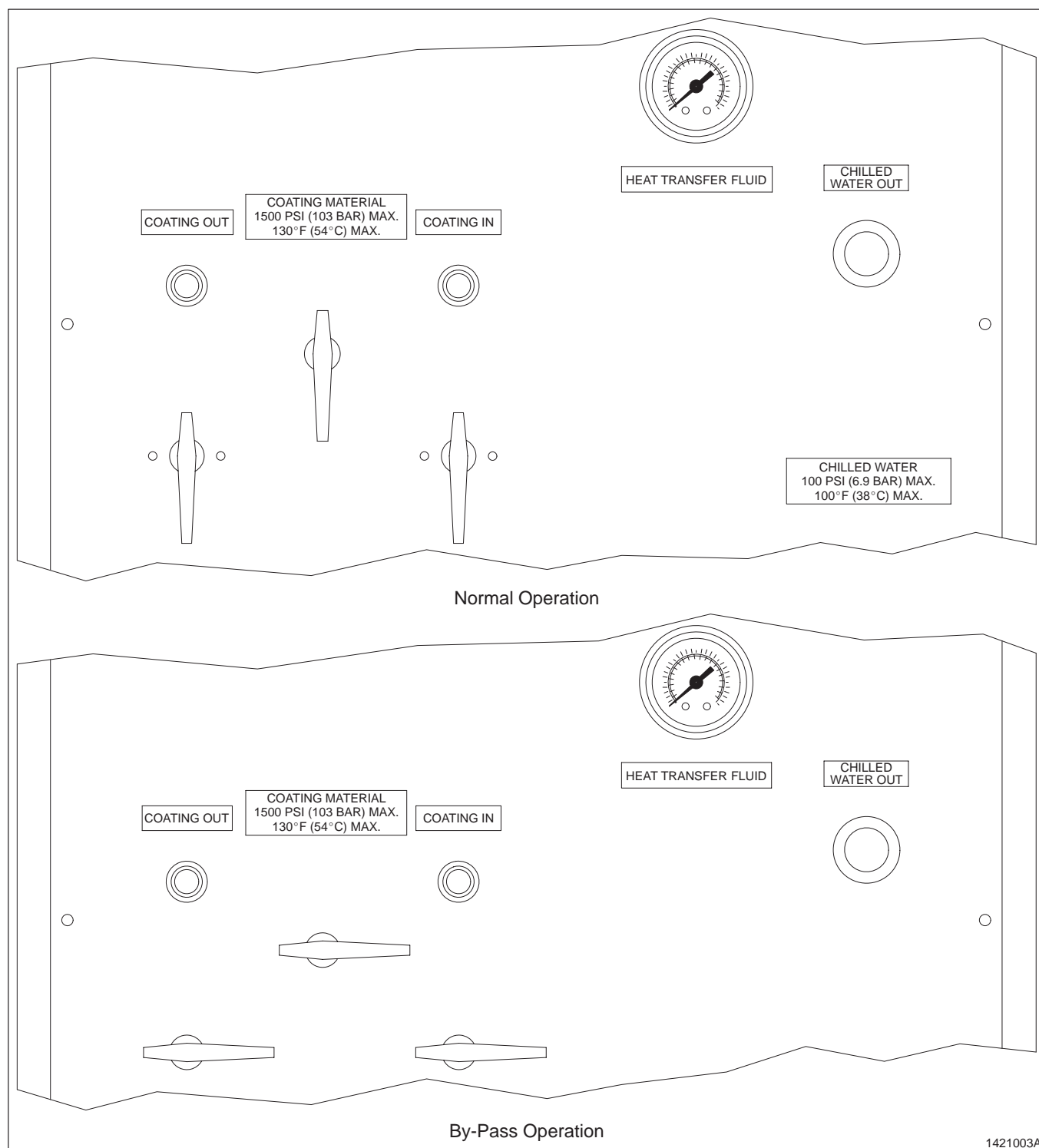


Fig. 3 Side panel, coating ball valve positions

Startup/Shutdown *(contd.)*

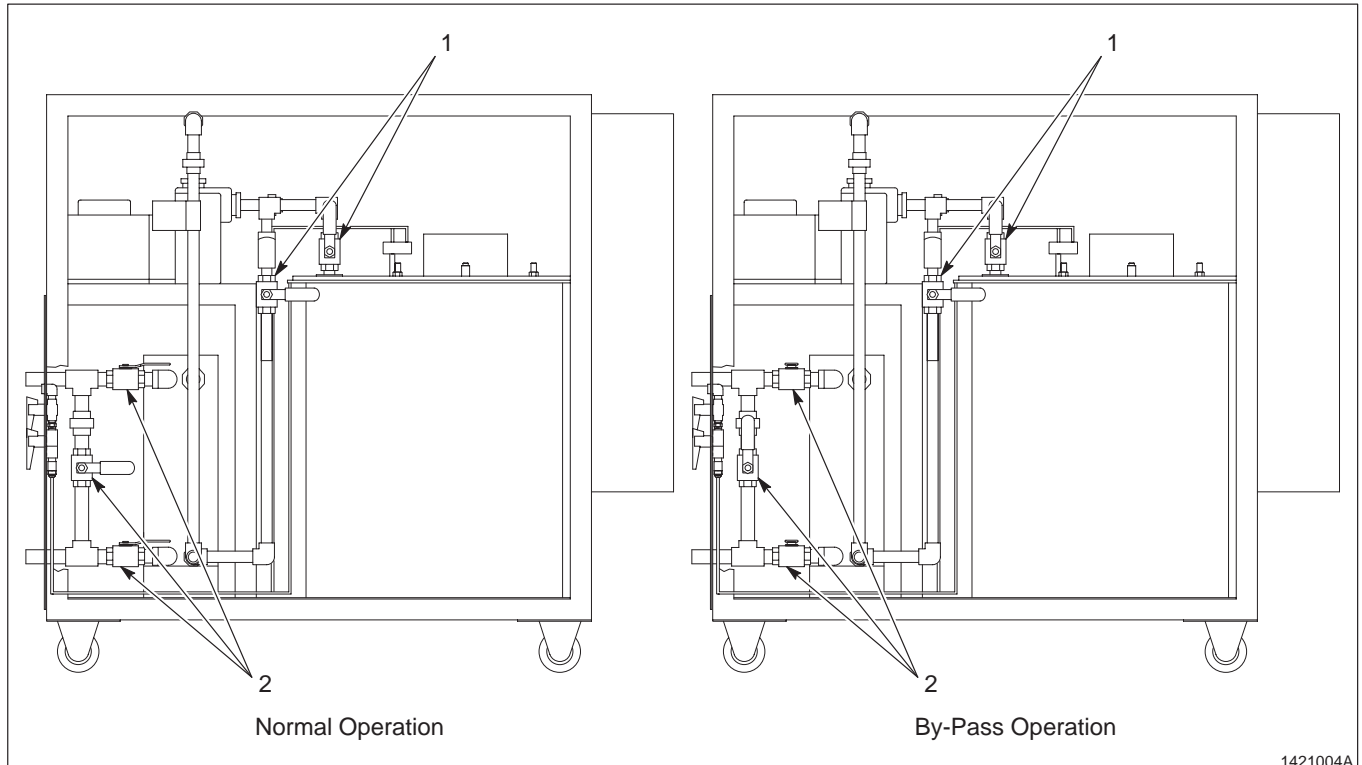


Fig. 4 Main cabinet, chilled water ball valve and empty ball valve positions

1. Empty ball valves
2. Chilled water ball valves

Daily Maintenance

Follow these procedures daily.

1. Visually inspect the pressure gauge and the fluid levels daily.
2. If the fluid level is low, add water.
3. Monitor readout on the temperature controller.
4. Check the position of the ball valves for the desired operating position, normal or bypass. See Figures 3 and 4.

Troubleshooting

Call your Nordson Representative if any problems occur.

Specifications

Maintain temperature of waterborne paint at the outlet of the temperature conditioner at a set point of between 27 °C and 43 °C (80 and 110 °F \pm 2 °F).

Inlet paint temperature: 15.6–54 °C
(60–130 °F)

Inlet paint operating pressure: 103.4 bar
(1500 psi max)

Inlet paint flow rate: 2 gpm
($\frac{3}{8}$ in. NPT (F) x 2)

Outlet paint temperature: 27–43 °C
(80–110 °F)

All paint wetted parts: 300 series stainless steel

Paint viscosity: 40–50 cps at 77 °F
(16 sec, Ford #4 cup)

Chilled water required: 50,000 BTU/hr, 10 °C
(50 °F), 25 gpm
(1 in. NPT (M) x 2)

Electrical: 480 Vac 3 phase 40 amps

Size: 60 in. long, 30 in. wide,
54 in. high

Weight: Approximately 1500 lb
installed

Heat Transfer Fluid: 50% water, 50% propylene glycol