YORK®
BY JOHNSON CONTROLS

Service Information

File In/With: N/A	SI0270
	New 1112
Equipment Affected: YMC² Chillers	

HOW TO DRAIN, FILL AND VENT THE RAPTYR VSD COOLANT LOOP

GENERAL

This service information letter provides detailed steps required to drain, fill and vent the cooling loop for the Raptyr 744 VSD. All of these steps are to be followed completely to prevent the introduction of air into this system. There are individual components of this system that by their design may contribute to air entrainment and can cause the VSD to overheat some specific piping components that are not thermally protected.

VSD COOLING SYSTEM COMPONENTS

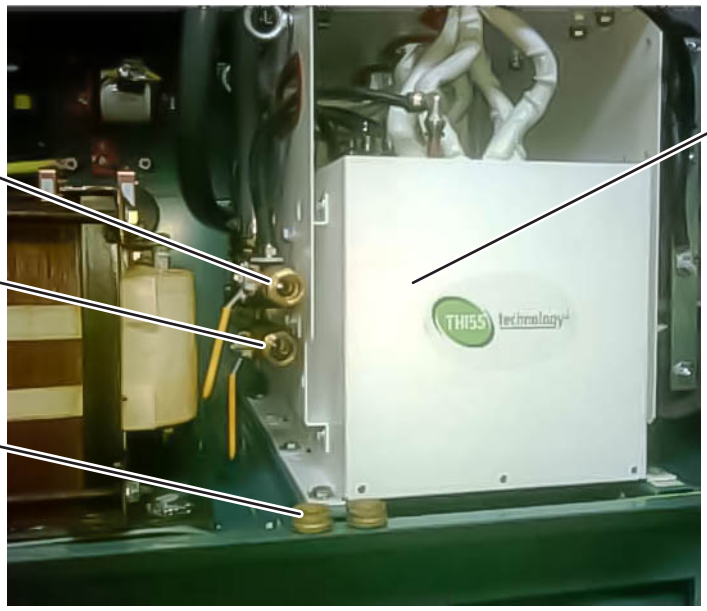

FIGURE 1 - INSIDE OF VSD CABINET

Work on this equipment should only be done by properly trained personnel who are qualified to work on this type of equipment. Failure to comply with this requirement could expose the worker, the equipment and the building and its inhabitants to the risk of injury or property damage.

The instructions on this service bulletin are written assuming the individual who will perform this work is a fully trained HVAC & R journeyman or equivalent, certified in refrigerant handling and recovery techniques, and knowledgeable with regard to electrical lock out/tag out procedures. The individual performing this work should be aware of and comply with all Johnson Controls, national, state and local safety and environmental regulations while carrying out this work. Before attempting to work on any equipment, the individual should be thoroughly familiar with the equipment by reading and understanding the associated service literature applicable to the equipment. If you do not have this literature, you may obtain it by contacting a Johnson Controls Service Office.

Should there be any question concerning any aspect of the tasks outlined in this bulletin, please consult a Johnson Controls Service Office prior to attempting the work. Please be aware that this information may be time sensitive and that Johnson Controls reserves the right to revise this information at any time. Be certain you are working with the latest information.

Product Technical Support

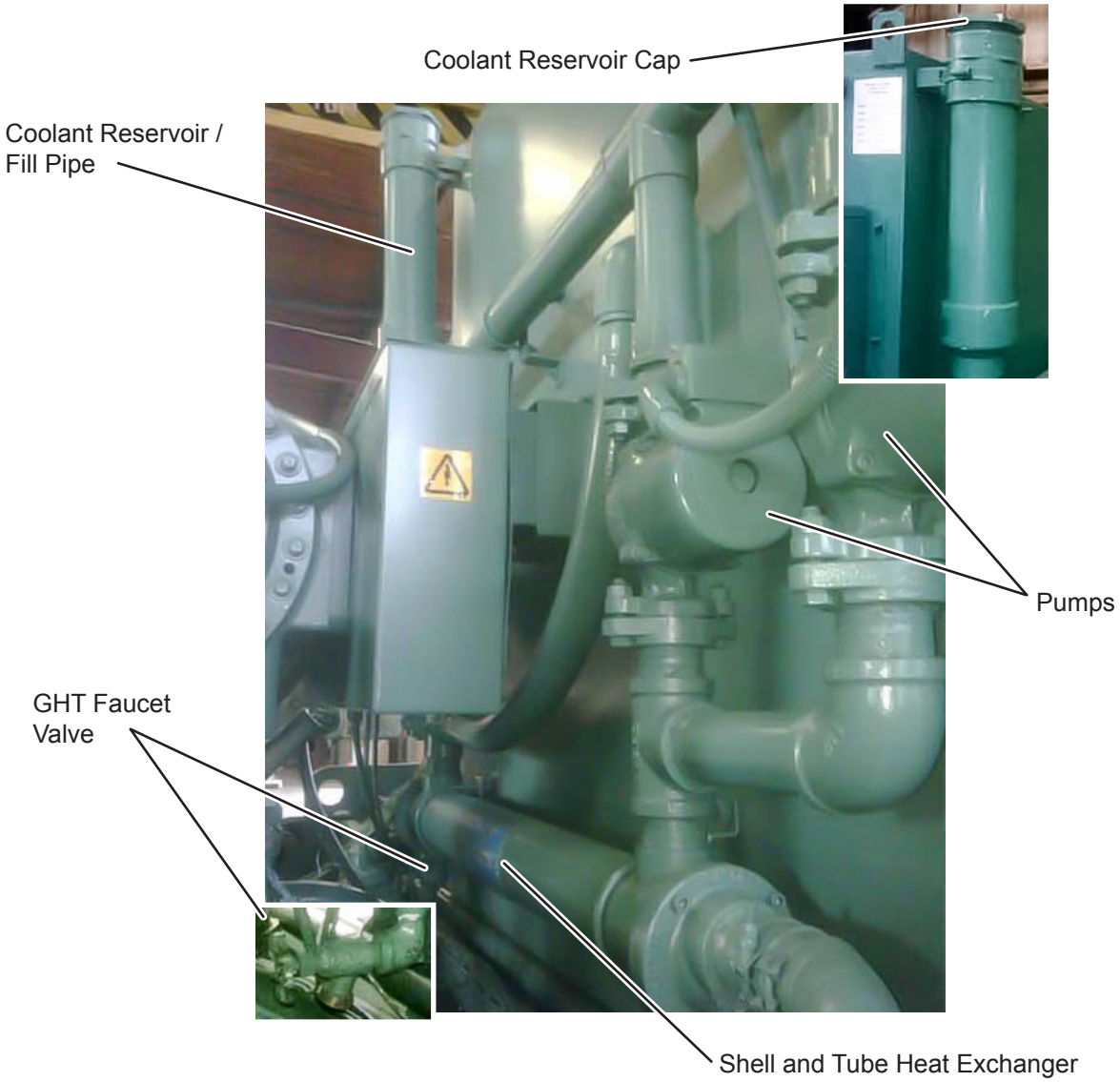

FIGURE 2 - BACK OF VSD

DRAINING THE SYSTEM

NOTE

All fluids drained containing Propylene Glycol or Inhibited Water should be collected and disposed of properly according to facility procedures.

If two hoses are available, the heat exchanger and the output filter can be drained at the same time.

1. Remove coolant reservoir cap.
2. Attach drain hose to GHT faucet valve on the bottom of the shell and tube heat exchanger.
3. Ensure supply manifold valve(s) are open.
4. Open the heat exchanger valve to allow coolant to drain. Once coolant stops flowing close the valve, and remove drain hose.

5. Attach drain hose to the top fitting of the output inductor inside the VSD cabinet.
6. Open top valve of the output inductor to allow coolant to drain. Once coolant stops flowing close the valve, and remove drain hose.
7. Attach drain hose to the bottom fitting of the output inductor.
8. Open bottom valve of the output inductor to allow coolant to drain.
9. Install coolant reservoir cap to prevent too much air leaking out.
10. Apply 5 PSI compressed air in the top fitting on the output inductor to blow residual liquid out of the output inductor.

    Warning – Do NOT exceed the 5 PSI rating. Damage to the cooling system my result.

    Once coolant stops flowing turn off the air supply, close the valve, and remove drain hose.
11. Attach drain hose to the valve on the bottom of the shell and tube heat exchanger.
12. Open heat exchanger drain valve, repeat step #9 to allow remaining coolant to drain from the shell and tube heat exchanger.
13. Close all valves and replace all caps. System is now drained.

COOLANT FILL PROCEDURE

Warning - Coolants may foam up when cycled through the system or when the pumps are shut off and the coolants tend to rise. Do not fill reservoir to top while unit is running or it may overflow when pumps are shut off.

1. Confirm that the heat exchanger drain valve and both of the output inductor drain valves are closed.
2. Open supply manifold valve(s).
3. Remove the cap from the coolant reservoir.
4. Connect a low volume pump to the bottom fitting on the output inductor.
5. Use the low volume pump to fill the coolant loop. Open the valve for the bottom fitting on the output inductor. Slowly, fill the cooling system until coolant is within 1 inch from the top of the coolant reservoir.
6. Close the valve for the bottom fitting on the output inductor, and remove the low volume pump. Wipe up any inhibitor that may have dripped.
7. Apply power to the chiller.
8. Start pumps using the OptiView panel.

    Press: Home > VSD > VSD Details > Manual Cooling > Enable.
9. Allow pumps to run for 15 seconds.
10. Disable the pumps.

    Press: Home > VSD > VSD Details > Manual Cooling > Disable.
11. Check the fill pipe and add more inhibitor if needed to bring the level back to the within 1 inch from the top.
12. Start the pumps and run for 5 minutes.
13. Disable the pumps and check the fill pipe. Add more inhibitor if needed to bring the level back to the within 1 inch from the top.

14. Close the supply manifold valve(s).
15. Start the pumps and run for 5 minutes.
16. Disable the pumps and check the fill pipe. Add more inhibitor if needed to bring the level back to the within 1 inch from the top.
17. Open the supply manifold valve(s).
18. Start the pumps and run for 10 minutes.
19. Disable the pumps and check the fill pipe. Add more inhibitor if needed to bring the level back to the within 1 inch from the top.
20. Close the supply manifold valve(s).
21. Start the pumps and run for 10 minutes.
22. Disable the pumps and check the fill pipe. Add more inhibitor if needed to bring the level back to the within 1 inch from the top.
23. Open the supply manifold valve(s).
24. Start the pumps and run for 15 minutes.
25. Disable the pumps and check the fill pipe. Add more inhibitor if needed to bring the level back to the within 1 inch from the top.
26. Close the supply manifold valve(s).
27. Start the pumps and run for 15 minutes.
28. Disable the pumps and check the fill pipe. Add more inhibitor if needed to bring the level back to the within 1 inch from the top.
29. Open the supply manifold valve(s).
30. Start the pumps and run for 20 minutes.
31. Disable the pumps.
32. Check the fill pipe for inhibited water level. Add more inhibitor if needed to bring the level back to the within 1 inch from the top.
33. Check the fill pipe again for inhibitor level at 1 hour and 24 hours of operation. Add more inhibitor if needed to bring the level back to the within 1 inch from the top.

PART NUMBERS

Inhibited Water (Pink)

1 gal = 013-02987-000
55 gal = 013-03346-000

Propylene Glycol (Yellow)

5 gal = 013-03344-000
55 gal = 013-03345-000