

## Designed for Transformer Dry-outs

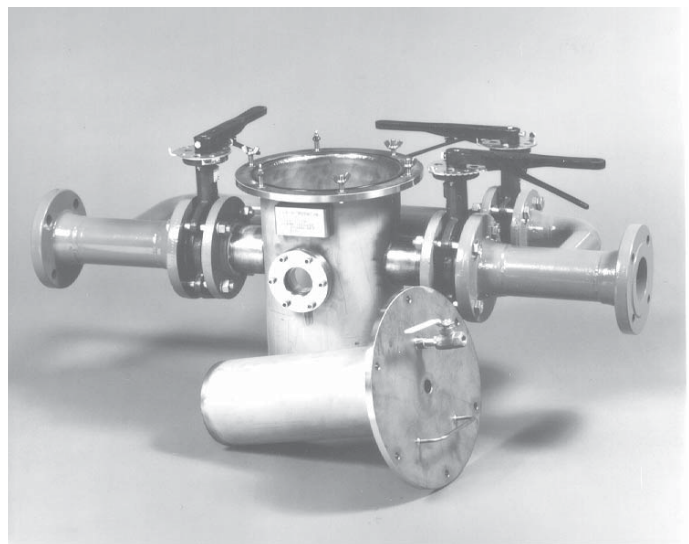
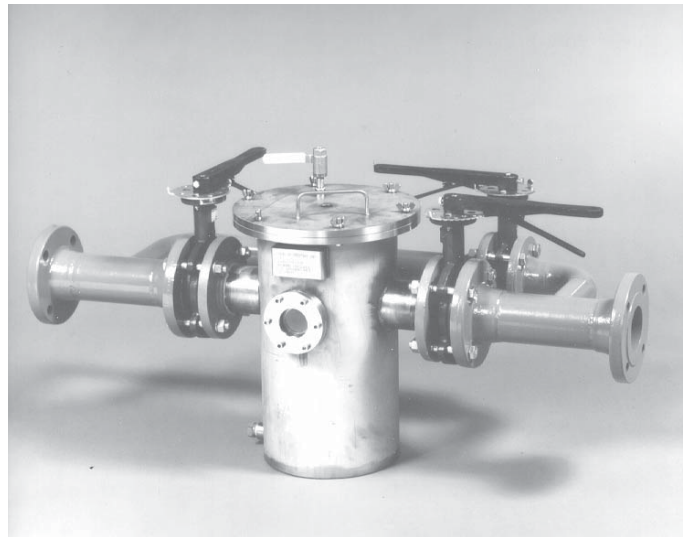
### DESCRIPTION

The measurement of water removal during a hot oil transformer dry-out is essential to evaluate the effectiveness and progress of the process. The LNT830 is a stand-alone device that causes moisture in the vacuum line to be trapped and accumulated for measurement. The unit can be installed anywhere between the transformer and the vacuum processing system. The secondary benefit in removing the moisture from the vacuum line is that it allows lower vacuum levels to be achieved and it keeps the vacuum pump oil dry.

The LNT830 has no moving parts so it is a completely reliable system for trapping water vapor. Cool down of the chamber is instantaneous when liquid nitrogen is added. There is no waiting for the temperature to drop as with refrigeration operated cold traps. A vacuum tight sight glass tells the operator when ice has formed and the unit requires thawing. A built-in bypass allows uninterrupted operation and servicing.

### FEATURES

- Low cost when compared to refrigeration-type cold traps
- 100% reliable operation, no moving parts
- Simple operation, just install and fill with liquid nitrogen
- Large 3 1/2 gallon ice capacity
- Bypass valve to prevent interruption of the drying process while de-frosting
- Large liquid nitrogen capacity - 1.75 gallons
- Standard 3" ASA companion flanges included
- OK up to 800 CFM



### WEIGHTS AND DIMENSIONS

Length: 45-5/8" flange to flange  
Height: 22-3/4" to top of valve  
Depth: 18"  
Bottom to pipe centerline: 12"  
Diameter of chamber top flange: 12"  
Weight: 300 pounds

# INSTALLATION AND OPERATING INSTRUCTIONS

## MODEL LNT830 LIQUID NITROGEN COLD TRAP

The following are brief installation and operation instructions for the model LNT830 Liquid Nitrogen Cold Trap.

### INSTALLATION

The Cold Trap is attached to the vacuum system using standard 3" ASA flanges. The Cold Trap should be installed in the vacuum line as close as possible to the "wet" equipment being evacuated. A 3" vacuum line should be used between the "wet" equipment being evacuated and the Cold Trap.

### OPERATION

1. Open all three Cold Trap valves, start the vacuum pump, and pull vacuum on the equipment and empty Cold Trap until a vacuum of approximately 20 Torr is achieved. Close the Cold Trap bypass valve.
2. Fill the Cold Trap thimble with liquid nitrogen through the **center hole** on the top cover. The thimble (the vessel inside the middle of the Cold Trap which contains the liquid nitrogen) should be completely filled.
3. Periodically top off the Cold Trap thimble with liquid nitrogen.
4. Monitor the inside of the Cold Trap for ice formation by shining a flashlight through the sight glass. When a significant amount of ice is seen, bypass the Cold Trap by opening the one valve in the bypass loop and closing the two valves directly in-line with the Cold Trap.
5. Vent the Cold Trap by opening the ball valve on the top of the Cold Trap.
6. Remove the wing nuts on the top cover and lift off the cover/thimble assembly.
7. Pour any liquid nitrogen from the thimble into a suitable container.
8. Defrost the thimble by allowing it to warm to ambient, or use a heat gun to speed the process.
9. After the ice has melted, dry off the thimble and reinstall it into the Cold Trap. Reinstall the wing nuts.
10. Close the ball valve vent on the top cover.
11. Valve the Cold Trap back in line by opening the two valves directly in-line with the Cold Trap and closing the one valve in the bypass loop.
12. Fill the Cold Trap thimble with liquid nitrogen through the **center hole** on the top cover.



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