



MILLENNIUM ROTARY SCREW LIQUID CHILLERS

SERVICE BULLETIN

Supersedes: Nothing

Form 160.47-01.1 (SB6) (298)

File With 160.47-01.1

Subject: Screw Chiller (125-675TR) Microcomputer Control Center -
Eprom Version S.01F.17

On/about February 1998, the subject chillers will be shipped with eprom version S.01F.17 (P/N 031-01102-002). It contains the following enhancements that revise Operations Manual 160.47-01.1:

SEAL OIL PRESSURE

Beginning on/about February 1998, new Screw chillers are equipped with a Seal Oil Pressure transducer and associated piping enhancements. These chillers will be equipped with this eprom version. Since this eprom version can be used in previous vintage chillers that are not equipped with this feature, a qualified Service Technician must "enable" this feature following instructions in Service Manual 160.47-M2. If this eprom version is used in chillers not equipped with this feature, it must be "disabled". If enabled, the following messages can be displayed:

"SEAL OIL PRESSURE = XXX.X PSIG"

This message is displayed as one of the scrolled messages of the DISPLAY DATA key. Value displayed is the output of the Seal Oil Pressure transducer.

"SEAL OIL DIFFERENTIAL PRESSURE = XXX.X PSID"

This message is displayed as one of the scrolled messages of the OIL/FILTER PRESSURE key. Value displayed is a result of subtracting the Evaporator Pressure from the Seal Oil Pressure. As with the other transducers, the output of the Seal Oil Pressure transducer is Auto-zeroed with the Evaporator transducer during the first 15 seconds of "Start Sequence Initiated". The result of this Auto-zeroing affects the displayed differential value as explained in Service Manual 160.47-M2.

"DAY-TIME-LOW SEAL OIL PRESSURE"

Safety shutdown message displayed if the Seal Oil Differential Pressure decreases to < 20.0 PSID for 2 continuous seconds after the chiller has been running for > 3 minutes.

STANDBY CHILLER FREEZE PROTECTION

In multiple chiller applications, it may be possible for the chilled liquid (water or brine) from an operating chiller to flow through the evaporator of a standby chiller. This presents a possible freeze threat to the standby chiller. To minimize this freeze potential, the Program can now cycle the condenser pump based on the Evaporator Saturation Temperature while the chiller is shutdown. If this temperature indicates a freeze potential exists, an alarm message is displayed and alarm contacts close to provide a remote indication of the condition.

Details of the connection points for the Condenser pump control and alarm output are contained in Service Manual 160.47-M2. Connections should not be made by anyone other than a qualified Service Technician.

The Program controls the condenser pump as follows: The pump is started coincident with compressor start. It runs as long as the compressor is running. At chiller shutdown, the pump runs until the Evaporator Saturation temperature increases to > 45 degrees F, whereupon the pump is turned off. While the chiller is shutdown, the Program continues to monitor the Evaporator Saturation temperature. If it decreases to < 35 degrees F, the pump is turned on and runs until the temperature increases to > 45 degrees F. If the chiller has been shutdown for > 10 minutes, and the temperature decreases to < 32 degrees F, "FREEZE THREAT FROM OPERATING CHILLER" is displayed and the alarm output is activated. When the temperature then increases to > 35 degrees F, the warning message and alarm output clear.



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