

# WATER COOLED A/C AND REFRIGERATION DIAGNOSTIC LOG SHEET

COMPONENT	DESIGN	DESIGN	ACTUAL
<b><u>EVAPORATOR</u></b>			
1. ENTERING AIR TEMPERATURE			
2. LEAVING AIR TEMPERATURE			
3. DELTA T (LINE 1 TEMP MINUS LINE 2 TEMP)			
4. SUCTION PRESSURE			
5. EVAP. SATURATION TEMPERATURE (LINE 4, SAT. TEMP.)			
6. SUCTION TEMPERATURE			
7. SUPERHEAT (LINE 6 MINUS LINE 5)			
8. ENTERING AIR APPROACH TEMPERATURE (LINE 3 MINUS LINE 6)			
<b><u>CONDENSER</u></b>			
9. WATER PRESSURE DROP ACROSS CONDENSER			
10. ENTERING CONDENSER WATER TEMPERATURE			
11. LEAVING CONDENSER WATER TEMPERATURE			
12. DELTA TEMPERATURE (LINE 11 TEMP MINUS LINE 10 TEMP)			
13. COMPRESSOR DISCHARGE PRESSURE			
14. COMPRESSOR DISCHARGE TEMPERATURE			
15. COND. SATURATION TEMPERATURE (LINE 13, SAT. TEMP.)			
16. APPROACH TEMPERATURE (LINE 15 MINUS LINE 11)			
17. DISCHARGE SUPERHEAT (LINE 14 TEMP MINUS LINE 15 TEMP)			
18. LIQUID LINE TEMPERATURE			
19. SUBCOOLING (LINE 15 TEMP MINUS LINE 18 TEMP)			
20. CONDENSER G.P.M.			
<b><u>COMPRESSOR</u></b>			
21. COMPRESSOR MOTOR CURRENT			
22. OIL PRESSURE (PSIG)			
23. OIL TEMPERATURE ENTERING OIL COOLER			
24. OIL TEMPERATURE LEAVING COOLER			
25. OUTDOOR DRY BULB AIR TEMPERATURE			
26. OUTDOOR WET BULB AIR TEMPERATURE			

**NOTES:**

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- TO CONVERT FT H<sub>2</sub>O TO PSIG, MULTIPLY FT. X .434 OR ÷ BY 2.31
- TO CONVERT PSIG TO FT H<sub>2</sub>O, MULTIPLY PSIG. X 2.31 OR ÷ .434
- NEED TO ADD A NOTE FOR CALCULATING EVAP AND COND GPM USING THE DELTA T EQUATION
- ALSO NEED TO MAKE A NOTE FOR TEACHING HOW TO USE THE PRESSURE DROP AND A FLOW CURVE TO CHECK THE GPM. NEED TO COMPARE EVERYTHING TO THE SUBMITTAL.
- NEED TO THOW SOME DESIGN INFO ON THE SECOND PAGE TO HELP THEMGO THROUGH IT.
- APPROACH VALUES HELP YOU DETERMINE IF GOOD HEAT TRANSFER IS TAKING PLACE