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ArticMaster TEST REPORT – 8.37 TR (25500 kcal/hr)

Location : Coimbatore

Introduction

Articmaster is a device to increase the efficiency of refrigeration systems. The operating principle seems to Create a vortex that leads to a low pressure area that can give 2-3°C extra subcooling when ambient temperature is lower than refrigerant temperature, Create turbulence that removes oil coating from pipelines and promote subcooling when ambient is less than refrigerant (condenser) temperature and use the let down pressure and turbulence that distributes refrigerant & oil evenly in the evaporator for better heat transfer.

Description of Testing:

The ArticMaster was added to a existing 8.37 TR ducted package unit with a thermal expansion valve and a scroll Compressor. All tests were performed in the field before and after installation of the Articmaster with calibrated instrumentation.

Test Results:

The 8.37 TR (25500 kcal/hr) air-cooled system was tested with and without the ArticMaster. At 32°C ambient temperature, the COP improved 20.5%, discharge pressure dropped 12.5 %, watts decreased by 23 %, and BTUH increased by 20 %.

S.No	Time	Ambient Temp(°C)		Suction Pr (psi)		Discharge Pr (psi)		Power Consumption (kWh)	
		Before	After	Before	After	Before	After	Before	After
1	11:00	30.6	31.2	57.0	50.0	265.0	240.0	6.0	4.5
2	12:00	31.1	32.2	52.0	49.0	255.0	230.0	6.5	4.0
3	13:00	31.0	33.2	53.0	49.0	260.0	230.0	5.0	4.0
4	14:00	31.6	29.2	58.0	49.0	270.0	230.0	6.5	5.0
5	15:00	29.6	28.4	52.0	50.0	260.0	235.0	7.0	4.5
6	16:00	30.0	29.1	50.0	50.0	260.0	235.0	6.0	4.5

Test Conclusions:

- Older systems benefit from a decrease in oil film thickness in system piping.
- Increased cooling capacity should shorten operating cycle.
- Reduction in head pressure would normally extend compressor life.
- Decrease in watts and improved COP should result in operating cost savings

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