



ParaFlowTM Chiller/Heater

Factory Test Report

Keesler

York Order : 98-161,455-01
Model: YPC-ST-14SC-C-S-C
Serial Number: GNGM603430
Tested On: 12/8/98

York International Corporation, York, PA
Applied Systems Performance Test

JOB NAME: Keesler
YORK ORDER: 98-161,455-01
UNIT MODEL: YPC-ST-14SC-C-S-C
SERIAL NUMBER: GNMG603430

Date: 12/08/1998
Time: 08:37

<u>OPERATING CONDITIONS:</u>	<u>Test Design</u>	<u>Test Actual (1)</u>
<u>Evaporator:</u>		
Capacity (TR)	200.0	200.8
Flow (GPM)	479.0	484.6
Entering Temp (degF)	54.00	54.08
Leaving Temp (degF)	44.00	44.15
Range (degF)	10.00	9.93
Pressure Drop (psid)	7.7	7.9
Liquid Type	WATER	WATER
Pass Arrangement	3	
<u>Absorber/Condenser:</u>		
Flow (GPM)	893.6	900.4
Entering Temp (degF)	83.00	82.78
Leaving Temp (degF)	93.00	92.90
Range (degF)	10.00	10.12
Pressure Drop (psid)	4.8	5.1
Liquid Type	WATER	WATER
Pass Arrangement	1/1	
<u>ENERGY INPUT:</u>		
<u>Steam:</u>		
Temperature (degF)	338.0	332.1
Pressure (psig)	100.0	101.0
Flow (lb/hr) (2)	1996.3	1976.9
Condensate temperature (degF)	180.0	158.6
Condensate pressure (psig)	15.0	15.0
Calculated Energy In (MBH) (2)	2081.5	2097.1
Voltage	460/3/60	472.0 472.0 472.0
Current	15.8	14.5 14.7 14.5
Power (KW)	7.4	5.2

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<u>OPERATING CONDITIONS:</u>	<u>Test Design</u>	<u>Test Actual(1)</u>
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Unit Temperatures and Pressures:

1st Stage Generator Temperature In (degF)	*****	216.0
1st Stage Generator Temperature Out (degF)	267.9	275.9
1st Stage Generator Pressure (mmHg)	361.3	403.7
2nd Stage Generator Temperature In (degF)	*****	160.6
2nd Stage Generator Temperature Out (degF)	168.1	171.1
Absorber Solution Temperature Out (degF)	96.3	90.4
Refrigerant Temperature (degF)	*****	49.7

Solution Concentrations:

Solution from Absorber	54.5	55.9
Solution from 1st Stage	59.9	60.9
Solution from 2nd Stage	58.0	58.4

PERFORMANCE RESULTS:

Actual Capacity x 100% = 100.4
Design Capacity

Actual MBH/Ton x 100% = 100.3
Design MBH/Ton

Heat Balance = $\frac{(Q_{\text{evap}} + Q_{\text{input}} - Q_{\text{cond}})}{Q_{\text{cond}}} \times 100\%$ = -.7
Closure

Barometric Pressure: 14.59
Ambient Temperature: 67.6

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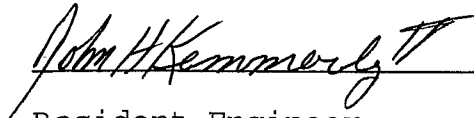
Date: 12/08/1998
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NOTES:

- (1) Test result tolerances based on ARI 560-92.
- (2) Heating Input as tested without insulation is specified heat input times 1.04

COMMENTS:

DATA REVIEWED AND VERIFIED:

 12/8/98
Resident Engineer


Customer Representative

York International Corporation, York, PA
Applied Systems Performance Test

Level 2 Startup Information

<u>JOB NAME:</u>	Keesler	Date: 12/08/1998
<u>YORK ORDER:</u>	98-161,455-01	Time: 08:37
<u>UNIT MODEL:</u>	YPC-ST-14SC-C-S-C	
<u>SERIAL NUMBER:</u>	GNGM603430	

	Test
<u>CYCLE CONDITIONS - COOLING:</u>	<u>Actual</u>
First Stage Generator:	
Pressure (mmHg)	403.7
Solution Leaving Temp (degF)	275.9
Second Stage Generator:	
Solution Entering Temp (degF)	160.6
Solution Leaving Temp (degF)	171.1
Absorber:	
Solution Concentration (%)	55.9
Solution Leaving Temp (degF)	90.4

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Applied Systems Performance Test

Level 2 Startup Information

JOB NAME: Keesler
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UNIT MODEL: YPC-ST-14SC-C-S-C
SERIAL NUMBER: GNGM603430

Date: 12/08/1998

Time: 08:37

CHARGING QUANTITIES:

	LiBr Solution at 55%		Refrigerant		Alcohol
Charged for testing	<u>3037</u> lb		<u>195</u> gal		<u>14</u> gal
Removed for Shipping (1)	<u>—</u> lb		<u>—</u> gal		---
Add for start up (1)	<u>—</u> lb		<u>—</u> gal		---

Note: (1) LiBr and refrigerant charge shipped as _____
barrels of solution with an average LiBr
concentration of _____ % + _____ barrels of
refrigerant. Some alcohol will be in the solution
and refrigerant which was removed for shipping.

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VALVE SETTING CHART

<i>Valve</i>	<i>Description</i>	<i>Final Settings</i>
VS1	Solution Flow Out of 1st Stage Generator	2 Turns Open
VS2	Solution Flow Into 2nd Stage Generator	2 Turns Open
VR3	Refrigerant Spray Supply Flow	Fully Open
VR8	Refrigerant Blowdown	Fully Closed
VR9	Refrigerant Pump Isolation (Suction)	Fully Open
VR10	Refrigerant Pump Isolation (Discharge)	Fully Open
VR11	Refrigerant Sample (Discharge)	Fully Closed
VS12	Main Solution Pump Isolation (Suction)	Fully Open
VS13	Main Solution Pump Isolation (Discharge)	Fully Open
VS17	Solution Sample (2nd Stage Out)	Fully Closed
VS18	Solution Sample (1st Stage Out)	Fully Closed
VS19	Solution Sample (LTHX Weak In)	Fully Closed
VS22	Strong Solution Pump Isolation (Suction)	Fully Open
VS23	Strong Solution Pump Isolation (Discharge)	Fully Open
VS25	Solution Sample (Strong Spray Pump)	Fully Closed
VR40	Pressure Gauge Isolation #1	Fully Open
VA	Refrigerant To Condenser	Fully Open
VB	Solution Isolation Between LTHX and HTHX	Fully Open
VD1	Steam Drain Discharge	9/16 Turn Open
VP2	Purge Tank	Fully Closed
VP3	Purge Condenser	Fully Closed
VP4	Purge Absorber	Fully Closed
VP7	Purge Solution Tank	Fully Closed
VP10	Pressure Isolation Valve	Fully Open
VP19	Auto Purge	Automatic
VP20	Auto Purge	Automatic

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PROGRAMMED SETTINGS

- 1) Leaving chilled water temperature 42 - 77°F 44
- 2) Maximum steam valve opening 50 - 100% 100
- 3) Condenser entering water temperature limit 75 - 95°F 83
- 4) Models 19GL thru 22G ONLY:
Time delay between start of 2nd spray pumps N/A

SIGHT GLASSES

Absorber Shell	Evaporator	Refrigerant Tank	1st Stage Generator	2nd Stage Generator
