YORK®	YPC PARAFLOW™ ABSORPTION CHILLER	
STARTUP CHECKLIST	Supersedes 155.17-CL2 (509)	Form 155.17-CL2 (317)

STARTUP CHECKLIST

CUSTOMER: _____ JOB NAME: _____

ADDRESS: _____ LOCATION: _____

PHONE: _____ CUSTOMER ORDER NO: _____

JCI TEL NO: _____ JCI ORDER NO: _____ JCI CONTRACT NO: _____

CHILLER MODEL NO: _____ **UNIT SERIAL NO**: _____

The work (as checked below) is in process and will be completed by: _____ / _____ / _____
Month Day Year

The following work must be completed in accordance with installation instructions:

A. GENERAL

1. Review the *Installation Checklist (Form 155.17-CL1)* ..... ☐
2. Chiller is properly installed and leveled ..... ☐
3. Neoprene pads properly installed (if applicable) ..... ☐
4. Verify chiller is charged with solution, refrigerant, and alcohol ..... ☐
5. Mark all valves with ID tags ..... ☐
6. Verify solution and refrigerant pump rotation ..... ☐
7. Check all unit safety control devices:
   - Operation of chilled water flow, condenser, and Hot water and/or differential pressure ..... ☐
   - Low refrigerant cut-out calibration and operation ☐
   - High pressure cut-out calibration and operation .. ☐
   - High temperature cut-out calibration and operation ..... ☐
   - Low solution level cut-out operation (Direct-fired units only) ..... ☐
   - High stack temperature calibration and operation (Direct-fired units only) ..... ☐
   - Verify steam control valve operation, if applicable ..... ☐
   - Make sure valve corresponds with panel command; shut 4.0 mA and full open 20 mA signal ..... ☐
8. Flow rates of chilled, condenser, hot water, steam (any that apply) are balanced to specifications ..... ☐
9. Cooling tower is properly sized, filled tested, operational and capable of providing condenser water temperature as per unit specifications ..... ☐
10. Minimum tower water temperature control is provided ..... ☐

B. MICRO PANEL (Refer to Form 155.17-M2)

SYSTEM COMMISSIONING CHECKLIST

Use the following checklist during commissioning to assure all Setpoints have been programmed to the desired value and all calibrations have been performed. The programming of some of the Setpoints require a PROGRAM mode access.

An explanation of each setpoint or Calibration Procedure below is contained in the reference document listed in parenthesis adjacent to each item. If any of the Setpoints have to be changed, use the standard programming procedures in *Operation Manual (Form 155.17-O2)*. Thresholds, values and calibrations of items marked with an asterisk .*. have been determined and entered/set at the JCI Factory at the time of manufacture.

1. PROGRAM JUMPERS / SWITCHES (155.17-M2)

- Verify microboard program jumpers and program switches are configured appropriately ..... ☐
- Verify I/O expansion board program jumpers ..... ☐
- Verify all default settings with unit operations and control valve parameters ..... ☐
- Verify Jumper J51 has been removed ..... ☐

2. SYSTEM SETPOINTS (155.17-M2)

Record the following OPERATOR setpoints:

- Leaving Chilled Liquid Temp. Setpoint ..... ☐
- Leaving Hot Water Temp. Setpoint (if applicable) ... ☐
- Spray Solution Pump Delay ..... ☐
- Remote Reset Temp. Range ..... ☐
- Remote Leaving Chilled Water ..... ☐
- Remote Leaving Hot Water Setpoint (if applicable) ☐
- Pulldown Demand Setpoint ..... ☐

Record the following SERVICE setpoints:

Auto-Temp Control Reset Time ☐
Auto-Temp Control Delay (Cold Stack) (if applicable) ☐
Maximum Allowed Entering Condenser Water Temp Setpoint ☐
Maximum Allowed Unload Limit Setpoint ☐
Maximum Allowed Loading Setpoint ☐
Leaving Chilled Water Temp. Min. Allowed Setpoint ☐

Steam valve control:

Rate Limit ☐
Unload Factor ☐
Sample Factor ☐
DAC Divide Value ☐
Unload Pulse (Digital Valves) ☐
Min. Allowed Loading (Analog Valves) ☐

3. PROGRAMMABLES (155.17-M2)

Clock ☐
Daily Schedule ☐
Holiday ☐

4. PIPING

Evaporator and condenser water piping is complete ☐
Water piping is supported properly and there is NO strain on the waterboxes ☐
Water connections arranged to match design specifications ☐
Rupture disk piping is complete and meets all local building codes; NO strain on rupture disk flange ☐
Relief piping is complete and meets local building codes ☐
All appropriate flow devices are installed and operational ☐
All operating valves are open ☐
All thermometer and pressure gauges are installed in the supply and return connections where applicable ☐
Purge pump is mounted and properly connected ☐
Flow rates of chilled; condenser, hot water, steam are balanced to specifications ☐
Verify all operating valves are open and service valves to atmosphere are closed ☐
All pressure relief devices (including rupture disk) are vented or drained to a safe area ☐

5. WIRING

Verify customer supplied 3-phase unit disconnect switch ☐
Verify max dual element fuse amperage in panel is correct per *Installation Instructions (155.17-N1)* ☐
Wiring is complete per *Field Wiring Specifications (Form 155.17-W1 or 155.19-W1)* ☐
Confirm any field control wiring modifications are done per *Product Drawing (Form 155.17-PA1)* ☐

6. BURNER (DIRECT-FIRED UNITS ONLY)

Burner has been properly installed and leak checked ☐
Check and fine tune burner adjustments ☐
Ensure proper air/fuel mix, BTU rating, back draft pressure rating, excess air, stack temp, CO, CO2, and NOX valves and within burner specs ☐
Adjust and perform pilot turn down test ☐
Perform burner calibration procedure, setup Low and High fire limits ☐
All draft control equipment installed properly ☐

Record the following setpoints:

Full Fire Mode Setpoint ☐
Max. MBH Input ☐
Rate Count ☐
Rate Sense ☐

7. SYSTEM CHECKS

Leak check the chiller ☐

8. MECHANICAL

Verify all vacuum pump hoses and apparatus are installed (gas ballast valve, piping for bubble test) ☐
Add purge pump oil and check for proper belt tension ☐
Check purge pump rotation, tightness of hoses and capability of drawing a vacuum ☐
Check all unit valves (include spindle valves) ☐
Set throttling valves to typical valve settings ☐
Set all pump isolation valves to fully open ☐
Purge unit if necessary ☐
Check unit pump rotations ☐
Check fan blower rotation (if applicable) ☐

NOTE: This form must be filled out completely and emailed within 48 hours of commissioning to: BE-ChillerForms@jci.com

9. MISCELLANEOUS CHECKS

Run unit pumps and adjust throttle valves (if applicable) to maintain proper unit levels. Apply heat at this time. ☐

Operate unit at low fire (approx. 30%) ☐

Course adjust condensate back pressure valve (2-Stage Steam-Fired Units Only) ☐

Adjust throttle valves if necessary to maintain proper levels (if applicable) ☐

Increase heat input to unit and monitor bubble rate out of absorber section, solution/refrigerant levels, and pressure at condensate back pressure valve ☐

At full load, verify all customers flows thru machine ☐

At full load conditions; add or remove refrigerant to keep unit from spilling, if low on refrigerant, add to achieve a full evaporator pan ☐

Record amount of refrigerant charge ☐

At full load conditions; adjust unit throttle valves to achieve a HTG concentration of ≈ 5.0 to 5.5% higher than absorber concentration, and LTG to ≈ 3.0 to 3.5% higher than absorber concentration ☐

Record the valve (VS1) settings ☐

Record the valve (VS2) settings ☐

At full load conditions, trim solution charge and record solution charge ☐

Purge unit to the internal pressure. Purge until 30 bubbles per min or less rate is achieved ☐

Verify proper auto-purge operation ☐

Air Handling equipment is operational and there is required cooling or heating building load for start-up ☐

At full load conditions; record and maintain all unit conditions on *Unit Log (Form 155.17-MR1 or 155.19-LS1)* ☐

Verify proper dilution cycle at unit shutdown ☐

10. POST START-UP CHECKS

Verify proper auto-purge operation ☐

Provide solution sample for analysis (allow unit to operate for one week or more, if possible) ☐

Confirm unit baseline leak rate ☐

Train customer to perform operator responsibilities ☐

Train customer on proper purging processes and pump maintenance and care ☐

Customer sign off on unit ☐

Johnson Controls

P.O. Box 1592, York, Pennsylvania USA 17405-1592
800-861-1001
Subject to change without notice. Printed in USA

Form 155.17-CL2 (317)
Issue Date: March 24, 2017
Supersedes: 155.17-CL2 (509)