YORK®	YLAA	
Installation Checklist	Supersedes 150.72-CL1 (222)	Form 150.72-CL1 (1023)

Customer: _____ Job name: _____

Address: _____ Location: _____

Phone: _____ Customer order number: _____

Johnson Controls telephone number: _____ Johnson Controls order number: _____ Johnson Controls contract number: _____

Chiller model number: _____ **Unit serial number**: _____

VSD software version: _____ **Controls software version**: _____

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

Complete the following checks in accordance with the relevant installation instructions:

Pre-startup

Unit checks: no power

Turn off the customer power to the unit and complete the following checks:

1. Ensure that chiller is installed in an outdoor location and that all safety and service clearances are met ☐
2. Inspect the unit for shipping or installation damage ☐
3. Ensure that all piping has been completed ☐
4. Visually check for refrigerant piping leaks ☐
5. If available, open the suction line ball valve, discharge line ball valve, and liquid line valve for each system ☐
6. At shutdown, check that the oil level is between the bottom and middle of the oil equalizing sight glass ☐
7. Check the water pumps:
   a. Check and adjust the water pump flow rate and pressure drop across the cooler. Refer to *150.72-ICOM6, Section 8: Technical Data, Operating Limitations* ☐
   b. Ensure the flow switch is in place, wired correctly, and operational ☐
   c. Ensure the chilled water pumps are operational ☐
   d. Ensure the water system is filled with water ☐
   e. Ensure all air is purged from the water system ☐

   Note: Purge any air found in the water system before starting up the chiller. Excessive flow may cause catastrophic damage to the heat exchanger.
8. Check that the control panel is free of foreign material, for example, wires and metal chips ☐
9. Check that all power is wired to the chiller and meets the following NEC and local codes.
   a. High voltage ☐
   b. Low voltage ☐
   c. Check the tightness of the power wiring inside the power panel on both sides of the motor contactors and overloads ☐
   d. Check that the BAS control is wired correctly and operational ☐
10. Check the fuses in the main and control circuits to ensure they are the correct size, and verify that the overload setting corresponds with RLA and FLA values in electrical tables ☐
11. Ensure that the 120 VAC, or 110 VAC for 50 Hz units, control power to TB1 has 15 A minimum capacity ☐
12. Check that all water temperature sensors are inserted completely into their respective wells and are coated with heat conductive compound ☐
13. Check that the evaporator TXV bulbs are strapped onto the suction lines at four or eight o'clock positions or suction temperature sensors if EEVs are installed ☐
14. Check that all sides of the unit have the appropriate amount of space for air ventilation. Refer to *150.72-ICOM6, Section 4: Installation* ☐
15. Check that the cabinet edge clears the insulation of the cable at the power entry to avoid slicing the cable ☐

Compressor heater

Power on 24 hours before starting up

Apply 120 VAC and verify its value between terminals 5 and 2 of XTBC2. The voltage should be 120 VAC (110 VAC for 50 Hz units) plus or minus 10% ☐

Note: Power must be applied 24 hours before start-up. Each heater should draw approximately 0.5 A to 1 A.

Startup

Panel checks: power on, both unit switches off

1. Apply three-phase power and verify the value. Ensure voltage imbalance is no more than 2% of the average voltage ..... ☐
2. Apply 120 VAC, 110 VAC for 50 Hz units, and verify the value on the terminal block in the power panel. Make the measurement between Terminals 5 and 2 of XTBC2. Ensure the voltage is 120 VAC ± 10% .... ☐
3. Program and verify the cooling setpoints, program setpoints, and unit options. Record the values in *Table 1*..... ☐
4. Place the unit into service mode and cycle each condenser fan to ensure correct rotation ..... ☐

If the chiller is equipped with VSD fans, the cycling condenser fan can not be used to confirm phase sequence. Use a phase checker or temporarily bypass the VSD before starting a compressor.

5. Turn system 2 **OFF** and leave system 1 running. Refer to *150.72-ICOM6, Section 6: Operations*, *Unit Keys* for more information on system switches..... ☐
6. Connect a manifold gauge to system 1 suction and discharge service valves ..... ☐
7. Turn the unit switch in the control panel **ON** ..... ☐

   Note: The chilled liquid setpoint may need to be temporarily lowered to ensure all compressors cycle on.

   As each compressor cycles on, ensure that the discharge pressure rises and the suction pressure decreases. If this does not occur, the compressor being tested is operating in the reverse direction and must be corrected.
8. Verify that compressor rotation is correct and then turn the unit switch **OFF** ..... ☐

   Note: This unit uses scroll compressors, which can only operate in one direction. Failure to observe this leads to compressor failure.
9. Turn system 1 **OFF** and system 2 **ON** (two system units only). Refer to *150.72-ICOM6, Section 6: Operations*, *Unit Keys* for more information..... ☐
10. Turn the unit switch in the control panel **ON** ..... ☐

    Note: The chilled liquid setpoint may need to be temporarily lowered to ensure all compressors cycle on.

    As each compressor cycles on, ensure that the discharge pressure rises and the suction pressure decreases. If this does not occur, the compressor being tested is operating in the reverse direction and must be corrected.
11. Ensure that you enable the data logging feature..... ☐
12. Verify that compressor rotation is correct and then turn the unit switch **OFF** ..... ☐

Table 1: Setpoints entry list

Unit options	
Display language	
System 1 switch	
System 2 switch	
Chilled liquid	
Ambient control*	
Local/remote mode	
Control mode	
Display units	
Lead/lag control*	
Fan control*	
Manual override	
Power fail restart	
Soft start**	
Unit type**	
Refrigerant type**	
Flash card update	
Remote temperature reset	
External evaporator pump	
YORK hydro kit pump	
Pump selection	
Data log to flashcard enabled	
Expansion valve type**	
Cooling setpoints	
Cooling setpoint	
Range	
EMS-PWM maximum setpoint	
Program setpoints	
Discharge pressure cutout	
Suction pressure cutout	
Low ambient tempertaure cutout	
Leaving liquid tempertaure cutout	
Anti-recycle time	
Fan control ON pressure	
Fan differential OFF pressure	
Total number of compressors	
Number of fans/system*	
Unit/system voltage*	
Remote unit ID	

*Not on all models, **Viewable only

Checking the superheat and subcooling

Calculate the subcooling temperature of each system by recording the temperature of the liquid line at the outlet of the condenser and subtracting it from the liquid line saturation temperature at the liquid stop valve. The liquid line saturation temperature is converted from a temperature-pressure chart.

Example:

Liquid line pressure =	
325 psig converted to temp.	101°F
minus liquid line temp.	- 83°F
Subcooling =	18°F

Adjust the subcooling to 18°F (10°C) at design conditions.

1. Record the liquid line pressure and its saturated temperature, liquid line temperature, and subcooling below..... ☐

	SYS. 1	SYS. 2	
Liquid line pressure =	_____	_____	psig
Saturated temp. =	_____	_____	°F
Liquid line temp. =	_____	_____	°F
Subcooling =	_____	_____	°F

After verifying the subcooling, check the suction superheat. Only check the superheat after establishing steady state operation of the chiller, the leaving water temperature has reached the required leaving water temperature, and the unit is running in a fully loaded condition. The correct superheat setting for a system is 10°F to 15°F (5.56°C to 8.33°C) 18 in. (46 cm) from the heat exchanger.

Set the superheat for no less than 10°F with only a single compressor running on a circuit. The superheat is the difference between the actual temperature of the returned refrigerant gas in the suction line entering the compressor and the temperature corresponding to the suction pressure as shown in a standard pressure-temperature chart.

Example:

Suction temp. =	46°F
minus suction press.	
105 psig converted to temp.	- 34°F
Superheat =	12°F

When adjusting the expansion valve, TXV only, turn the adjusting screw no more than one turn at a time, allowing sufficient time, approximately 15 min, between adjustments for the system and the thermal expansion valve to respond and stabilize.

Ensure that superheat is set at a minimum of 10°F (5.56°C) with a single compressor running on each circuit.

2. Record the suction temperature, suction pressure, saturation temperature, and superheat of each system below:..... ☐

	SYS. 1	SYS. 2	
Suction temp. =	_____	_____	°F
Suction pressure =	_____	_____	psig
Saturation temp. =	_____	_____	°F
Superheat =	_____	_____	°F

Checking for leaks

Leak check compressors, fittings, and piping to ensure no leaks. ..... ☐

If the unit is functioning correctly during the initial operating period, with no safeties tripped and the compressors cycle to control water temperature to the setpoint, the chiller is ready for operation.

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