



## QUOTED SERVICE REPORT

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**Service Request Number:** 1-48814192110

**Status:** Completed

**Requestor:** Raul Cozza

JOHNSON CONTROLS SALISBURY WILMINGTON CB - 0N28

812 First State Blvd  
Wilmington, DE 19804-3573  
(866) 589-9275

**Service Site:**

DUPONT EXPERIMENTAL STATION  
DUPONT EXPERIMENTAL  
Rt 141 Lancaster Pike  
Wilmington, DE 19880-0000

**Bill To:**

E I DUPONT DENEMOURS CO  
1325779  
Attn Accounts Payable Department  
Po Box 80040  
Wilmington, DE 19880-0040

**Purchase Order:** 6501730675

**Blanket Purchase Order:**

**Customer Authorization:**

**Customer Work Order:**

**Quoted Amount:** \$5,882.59

**Service Requested:**

6501730675

CHILLER #7 LEAK REPAIR

REPAIR REFRIGERANT LEAKS FOUND ON 04/17/17:

- [1] Refrig. Sample Valve, Bottom of Evaporator
  - [2] 1/2" Pipe Thread in Compressor Discharge Line for Transducer
  - [3] Threaded Well in Compressor Discharge Line for RTD
  - [4] Drain Valves on Bottom of Comp. Volutes
  - [5] 1/4" Threaded 45L for Balance Piston Transducer
- Assist DuPont Instrumentation Technician with Removal of Transducers for Calibration  
Pressurize Chiller with Nitrogen and verify Leak Free  
Evacuate Chiller & Perform Vacuum Hold Test

\*\*Chiller Re-Charge is covered under JCI Quote#: 1-LP24C0S\*\*

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Lynn Dolphin

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Service Provided:				
Date	Activity Number	Activity Status	Work Performed	By
04/21/2017	1-MFAPJTK	Completed	<p>CHILLER #7 LEAK REPAIR &amp; EVACUATION DUPONT PO#: 6501730675 JCI QUOTE#: 1-MEBUOY7</p> <ul style="list-style-type: none"> <li>Assisted DuPont Instrumentation Technician.</li> <li>Removed of all Non-Isolatable Refrigerant Pressure Transducers and handed over to DuPont for Calibration.</li> </ul>	Kevin Frazee
04/24/2017	1-MG79IA5	Completed	<ul style="list-style-type: none"> <li>Broke Chiller's Recovery Vacuum w/ Site supplied Nitrogen, up to Atmospheric Pressure, making Chiller available to open.</li> <li>REPAIRED REFRIGERANT LEAK SOURCES [1], [2], &amp; [5]               <ul style="list-style-type: none"> <li>[1] Removed Refrigerant Sample (on Bottom of Evap). Replaced w/ New Valve &amp; Appropriate Sealant.</li> <li>[2] Removed 1/2" Threaded Piping in Compressor Disch. Line for Transducer. Replaced w/ New Piping &amp; Appropriate Sealant.</li> <li>[5] Removed 1/4" Threaded Piping &amp; Fittings for Balance Piston Transducer. Cleaned Threads, Applied Appropriate Sealant, &amp; Reassembled.</li> </ul> </li> </ul>	Kevin Frazee
05/02/2017	1-MPM4M2R	Completed	<ul style="list-style-type: none"> <li>Retrieved all Ashcroft Pressure Transducers from DuPont Instrumentation Technician after Calibration of each was Checked and Recorded.</li> <li>Re-Installed all Non-Isolatable Transducers w/ Appropriate Thread Sealant, Re-Wired, &amp; Verified received signals on Main Panel.</li> </ul>	Kevin Frazee

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Service Provided:				
Date	Activity Number	Activity Status	Work Performed	By
05/03/2017	1-MQCNQQ1	Completed	<ul style="list-style-type: none"> <li>• Added R-134a Trace Gas from the Central Recovery Tank to the Chiller, up to 5 PSIG Static.</li> <li>• Increased Chiller Pressure to 100 PSIG with Site supplied Nitrogen.</li> <li>• Performed another Complete Leak Test of Chiller w/ Electronic Leak Detector &amp; Soap Bubbles.</li> <li>- All Repairs were Verified LEAK-FREE.</li> </ul> <p>ADDITIONAL LEAKS DISCOVERED &amp; REPAIR DURING 2ND TEST:</p> <p>[6] Intercooler High Side Float Adjustment Stem Packing. - Stroked Adjustment IN &amp; OUT, Cleaned Stem, &amp; Tightened Packing until LEAK-FREE.</p> <p>[7] Interstage FISHER Actuated Valve Steam (only while Rotating). - Loosened Packing, Cleaned Stem, Throttled Valve Back &amp; Forth, Evenly Tightened Packing until LEAK-FREE.</p> <p>[8] Bottom Oil Sump Sight Glass on Compressor. - Evenly Tightened Gasket Bolts until LEAK-FREE.</p>	Kevin Frazee
05/04/2017	1-MQQBTRR	Completed	<ul style="list-style-type: none"> <li>• Safely Released Nitrogen Pressure from Entire Chiller, once all Repairs and Serviced Components were Verified LEAK-FREE.</li> <li>• Delivered and Set up YORK Portable Vacuum Pump. Connected to Chiller's Liquid Line w/ 1" Flexible Hose. Routed Discharge of Pump through an Oil Demister, then Hoses to Outside.</li> <li>• Installed New Oil and Verified Performance of the Vacuum Pump.</li> <li>• Opened Pump up to Chiller and Began Evacuation of Chiller.</li> <li>• Let Pump Run Over-Night</li> </ul>	Kevin Frazee

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Service Provided:				
Date	Activity Number	Activity Status	Work Performed	By
05/12/2017	1-MGDX4B5	Completed	<ul style="list-style-type: none"> <li>• REPAIRED REFRIGERANT LEAK SOURCES [3] &amp; [4]</li> <li>- [3] Removed Compressor Discharge RTD and Threaded Well. Cleaned Threads of Well, Applied Appropriate Sealant, &amp; Reassembled.</li> <li>- [4] Removed all 3 Volute Drain Valves on the Bottom of the Compressor. Installed New Piping, Valves, &amp; Plugs w/ Appropriate Thread Sealant. Repaired Insulation &amp; Painted Valves. Cleaned up Oil which had accumulated underneath the Compressor, due to leaks.</li> </ul>	Kevin Frazee
05/30/2017	1-MRKW0FC	Completed	<ul style="list-style-type: none"> <li>• Valved off Vacuum Pump from Chiller.</li> <li>• Checked the depth of Chiller Vacuum with Digital Gauge: 160 Microns</li> <li>• Performed Vacuum Hold Test for 8hrs</li> <li>• Final Calculated Rise: 11 Microns / Hr (Very Good)</li> <li>• Disconnected Vacuum Pump From Chiller.</li> <li>• Gradually brought Chiller out of the Vacuum, up to 3 PSIG with 240 LBS of it's R-134A Recovered Charge.</li> <li>• An EPA Refrigerant Conservation Services Report will be Completed in Full Detail and Provided to DuPont.</li> <li>***Chiller Re-Charge will be Performed &amp; Covered under JCI Quote#: 1-LP24C0S / SR#: 1-48130592782 / PO#: 6501729020***</li> </ul>	Kevin Frazee
05/30/2017	1-NADYHK7	Completed	<ul style="list-style-type: none"> <li>• Tasking Records &amp; Documentation</li> </ul>	Kevin Frazee

Materials Used:
<b>Description</b>
Rust Preventative Spray Paint, Black, 15oz
HI-Pressure Nickel-Plated Steel Glass Sight without Reflector, 2 NPT Male, 2-1/2" Hex Size

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Materials Used:
<b>Description</b>
High-Pressure on/Off Valve with Lockable Lever Handle, Steel Body, 1/4 NPT Fem
High-Pressure Compact 316 SS on/Off Valve with Lockable T-Handle, 1/4 NPT Female
316 Stainless Steel Threaded Pipe Fitting Low-Pressure, Bushing Adapter, 1/2 Male X 1/4 Female

Refrigerant Tracking:											
Activity #	Action Taken	Type	Amount	Asset ID	Customer Tag	Serial Number	Model Number	Circuit ID	Circuit Tag	Leak Location	Leak Rate

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### Service Order Warranty Terms and Conditions

#### **PARTS WARRANTY:**

Johnson Controls, Inc. (JCI) warrants that original equipment, parts or components manufactured or labeled by JCI shall be free from defects in material and workmanship under normal usage and proper installation and maintenance for a period of one (1) year from the date of shipment. Equipment, parts or components not manufactured or labeled by JCI shall carry a warranty from defects in material and workmanship under normal usage and proper installation and maintenance for a period of ninety (90) days from the date of shipment. Notwithstanding the foregoing, in the event JCI is reasonably able to identify a warranty for a period longer than the ninety (90) days applicable to equipment, parts or components not manufactured or labeled by JCI, it will assign all assignable rights under such warranty to Customer and reasonably cooperate in the enforcement of any warranty claim. Recertified or replacement parts installed on equipment and still under the original equipment manufacturer's warranty are covered for ninety (90) days or the remainder of the original equipment manufacturer warranty period, whichever is longer. For large tonnage chillers, JCI will warrant under normal usage and proper installation and maintenance for a period of one (1) year from the date of shipment: screw compressors, motors, control panels and components, VFD's and components and Liquid Cooled Solid State Starters and components. For small tonnage chillers, JCI will warrant under normal usage and proper installation and maintenance for a period of one (1) year from the date of shipment: scroll compressors, condenser coils, control panels and components, screw compressors (DXS and Mustang), and fan motors. In the event of a valid warranty claim, the Customer's remedy shall, at JCI's sole discretion and subject to the exclusions herein, be limited to repair or replacement of the subject equipment, part or component conditioned upon the return to JCI of any defective equipment, part or component. This Parts Warranty does not cover any shipping, handling or transportation charges or any associated labor costs.

#### **LABOR WARRANTY:**

Johnson Controls, Inc. (JCI) warrants its workmanship or that of its agents in relation to installation of materials for a period of ninety (90) days from date of installation or with respect to service work for a period of ninety (90) days from the date of service. Customer acknowledges that re-performance shall be its exclusive and only remedy with regards to any services provided by JCI. Customer shall bear all labor costs associated with the repair or replacement of failed material that is outside the scope of this express labor warranty. All warranty labor shall be executed during JCI normal business hours.

These warranties do not extend to any equipment which has been repaired by others, abused, altered, or misused in any way, or which has not been properly and reasonably maintained.

THESE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THOSE OF MERCHANTABILITY AND FITNESS FOR A SPECIFIC PURPOSE. UNDER NO CIRCUMSTANCES SHALL JCI BE LIABLE FOR ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES ARISING FROM OR RELATING TO ANY DEFECT IN MATERIAL OR WORKMANSHIP OF EQUIPMENT OR THE PERFORMANCE OF SERVICES.

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