



QUOTED SERVICE REPORT

Service Request Number: 1-29274542300
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: 6501549099
Blanket Purchase Order:
Customer Authorization:
Customer Work Order:
Quoted Amount: \$13,434.58

Service Requested:
Remove samples of compressor oil and refrigerant for chemical analysis.
Refrigerant leak test chiller and document leaks found (repair "minor" leaks, if possible).
Transfer R-134A to storage tank for accurate weight of charge (Leaving 5psi on Chiller). Furnish and change compressor oil filters, and all driers.
Furnish and change gearbox oil filters and oil (*Gear/Motor Oil furnished by DuPont*).
Inspect gears and internal gearbox components. Disassemble motor coupling and check cold alignment. Repack motor coupling with grease and reassemble. Disassemble Compressor coupling. Check compressor axial thrust readings. Check compressor coupling cold alignment. Reassemble coupling. Vacuum out compressor motor. Brush clean all oil cooler tubes (Gear & Compressor). Transfer R-134A charge back into Chiller.

Service Provided:				
Date	Activity Number	Activity Status	Work Performed	By
02/19/2016	1-DG5B1KE	Completed	Ordered material for job. Shipped out oil sample.	Kevin Frazee
02/23/2016	1-DG5MHX9	Completed	Took Refrigerant Samples of both Chiller #7 and the central R-134A Storage Tank. Shipped out for analysis.	Kevin Frazee
02/24/2016	1-DG5MHXF	Completed	Began Refrigerant Leak Test on Chiller #7 as per Annual Maintenance Quote. Transferred R-134A Liquid Charge over to the central storage tank.	Kevin Frazee
02/25/2016	1-DG5MHY7	Completed	Continued Refrigerant Leak testing of Chiller #7. Noted all leaks found.	Kevin Frazee
02/26/2016	1-DG5MHXL	Completed	Continued Refrigerant Leak test of Chiller #7. Drain Compressor and Gear Oil Coolers for cleaning. Check internal tube bore and ordered necessary cleaning tools.	Kevin Frazee
02/29/2016	1-DG5MHY1	Completed	Replaced Main Refrigerant Liquid Filter-Driers, Oil Return Line Filter, and Compressor Oil Filters. Repaired leak on Evaporator 6" Sight Glass by tightening packing gland screws to 11Ft/Lb spec. Transferred R-134a Vapor charge left in Chiller to storage tank. 1,230lbs recovered with 5psig static remaining on Chiller. Disassembled Low Speed Coupling Guard and prepped for drive line inspection.	Kevin Frazee



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Date	Activity Number	Activity Status	Work Performed	By
03/01/2016	1-DG5MI01	Completed	Chiller Maintenance	Kevin Frazee
03/02/2016	1-EE25S7N	Completed	Chiller Maintenance	Kevin Frazee
03/03/2016	1-EG19K4Z	Completed	Chiller Maintenance	Kevin Frazee
03/04/2016	1-EG19K1Y	Completed	Chiller Maintenance	Kevin Frazee
03/07/2016	1-EH5V3MU	Completed	<p>Disassembled Low and High Speed Couplings. Check Alignment. Checked Compressor Thrust= 0.014" (Range= .013-.017). Checked thrust of GearBox Shafts. Gear Inspection Ok. Replaced Gearbox Oil. Regreased Low Speed Coupling. Assembled both Couplings and torqued appropriately. Cleaned Motor.</p> <p>Total R-134a Charge recovered into central storage tank (w/5psig remaining on Chiller)= 8,160lbs</p> <p>Design Charge= 8,970lbs</p> <p>Transferred Total Design Charge back into Chiller. Prepped for startup.</p> <p>Chiller Oil and Refrigerant Analysis Reports came back with all points in Normal range.</p> <p>Refrigerant Sample taken from Central Storage Tank was also Normal.</p>	Kevin Frazee
03/15/2016	1-EKJ1JTF	Completed	Delivered Paperwork to Chris Cooper.	Kevin Frazee
03/22/2016	1-EN4MK5I	Completed	Completed tasking per quote.	Kevin Frazee



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Date	Activity Number	Activity Status	Work Performed	By
03/31/2016	1-ERW2A63	In Progress	Startup and Inspection of Chiller #7 after Annual Maintenance and Repairs. Compressor Aux. Oil Pump was having trouble making the 25psid minimum on Pre-Lube. Checked operation of new PRV Acuator. PID Loops may require tuning at higher loads. Opened Oil Seperator back up to system and checked operation. Heaters were not operating. Checked wiring. Indicator lamps were shorted. Disconnected and isolated wiring. Will have DuPont Electricians check and replace fuses and will return to complete inspection.	Kevin Fraze

Materials Used:
Description
VALVE SOLENOID 3/4 NPTI / 025 18811 000
ELEM FLT / 026 11255 000
OIL, K, 5-GAL / 011 00533 000
R/S FLANGE KIT INCL M&F
DEGREASING SOLVENT EF (1
R/S FLANGE KIT INCL M&F
LOCTITE 515 GASKET ELIM
LACO SLIC-TITE PASTE 420
BRASS-FTG 1/4MPTX1/8FPT
SPORLAN ACTIVATED DRIER
IRP 3/8" CONDENSER TUBE
R/T BIG BLUE LEAK DETECT
SPORLAN 1/4" MXF FLARE S
NRP 1-GAL BLUE LEAK DETE

Refrigerant Tracking:									
Activity #	Action Taken	Type	Amount	Asset ID	Customer Tag	Serial Number	Model Number	Leak Location	Leak Rate
No Refrigerant Activity Recorded To Date									



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Report Date 12/28/2016
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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.