



# EPA Refrigerant Conservation Services Report



Customer: DuPont Experimental Station

Date: 02/16/2017

Location: E315 Powerhouse

<b>Equipment Type:</b>	
Industrial Process / Com. Refrigeration	
Commercial - Over 50 lbs Refrigerant	<input checked="" type="checkbox"/>
Commercial-Under 50 lbs Refrigerant	

Equipment ID: CHILLER #8

## Refrigerant Leak Verification Test - 01/23/2017

Source of Leak: COMPRESSOR DISCHARGE FLANGE (SMALL)

Corrective Action: Tightened & Torqued Flange Bolts. Leak Ceased (01/30/2017)

Source of Leak: REFRIG. ANGLE VALVE & 3/8" PIPING (TOP OF CONDENSER) (MEDIUM)

Corrective Action: Replaced with New valve, Elbow, Pipe & Loctite 554 Refrig. Thread Sealant (01/30/2017)

Source of Leak: RUPTURE DISK FLANGE GASKET (MEDIUM)

Corrective Action: Replaced with 3-way valve, Set of 2 New Rupture Disks, & Interconnecting Piping (02/03/2017)

Source of Leak: COMPRESSOR SHAFT SEAL (MEDIUM) (4.92ml/hr Running Oil Leak Rate)

Corrective Action: Installed New Shaft Seal Components (Collar, Seal, Springs, O-Rings) (02/01/2017)

Initial Leak Verification Test :  Pass  Failed

Was Leak Repaired?  Yes  No  Owner Declined Repair

Verification Test Method: Electronic Detector & Soap Bubbles (120psig Nitrogen Pressure w/R-134a Trace)

## Refrigerant Usage Recovered Refrigerant Re-Charged to Chiller - 02/08/2017

Refrigerant Type: (Circle One) R-11 R-12 R-22 R-123 R-134a R-407c R-410a Other: \_\_\_\_\_

Refrigerant Lbs. Used: 150 LBS Factory Charge or Approximate Charge: 3,250 LBS

Refrigerant Supplied By:  Customer  JCI  Other, Explain \_\_\_\_\_

## Refrigerant Recovery 01/24/2017 (Technician Certification Cards on File at JCI Local Office)

Recovery Unit Model# YORK RTU-10 Serial # 61795205-91012424 Mfg. Date Before 11/15/93 Yes / No

Refrigerant Type: (Circle One) R-11 R-12 R-22 R-123 R-134a R-407c R-410a Other: \_\_\_\_\_

Refrigerant Re-Charged to Sys.?  Yes  No - 02/08/2017 Refrigerant Lbs. Recovered: 2,920 LBS

Refrigerant Not Re-Charged, Explanation: \_\_\_\_\_

## Refrigerant Leak Rate Formula for Units Greater Than 50 Lbs

( 150 lbs. Refrig. Added / 3120 lbs. in Full Charge ) x ( 365 / 246\* # of Days Since Refrig. Added ) x 100

Refrigerant Leak Rate Percent: 1.13%  Minimal refrigerant leaks were found.

Leak Rate found in excess of  15%  35% annual charge which exceeds legal EPA leak rates.

## 30-Day Refrigerant Follow-up Verification Test

Date Test Performed: 02/16/2017  Pass  Failed

Comments: verified w/ Electronic Detector & Soap Bubbles (Chiller Pressure @ 60psig). After charge installed.

Additional Comments: Refrigerant was added on June 6th, 2016 (246 days previous to Re-Charge on Feb. 8th, 2017). The Total Charge in the Chiller at that time was 3,120lbs. Current Charge in Chiller (as of Feb. 8th, 2017) is 3,070lbs. This is 180lbs below design. Chiller performance is currently Normal despite this deficit.

Technician Signature: [Signature]

Customer Signature: \_\_\_\_\_