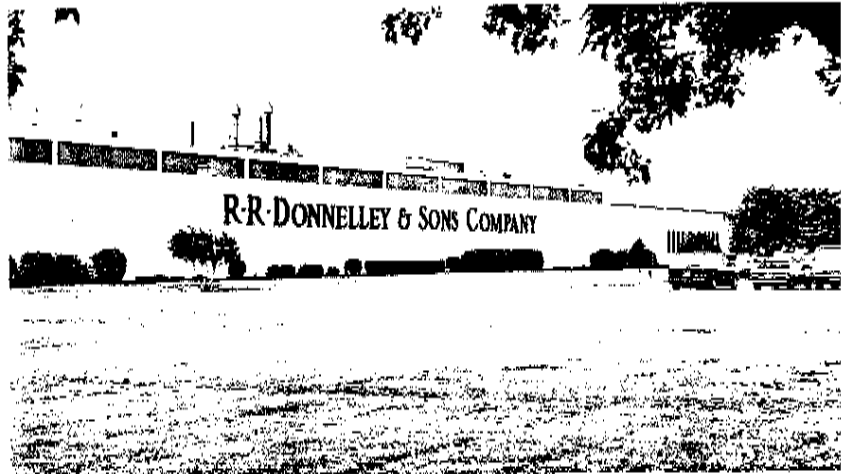
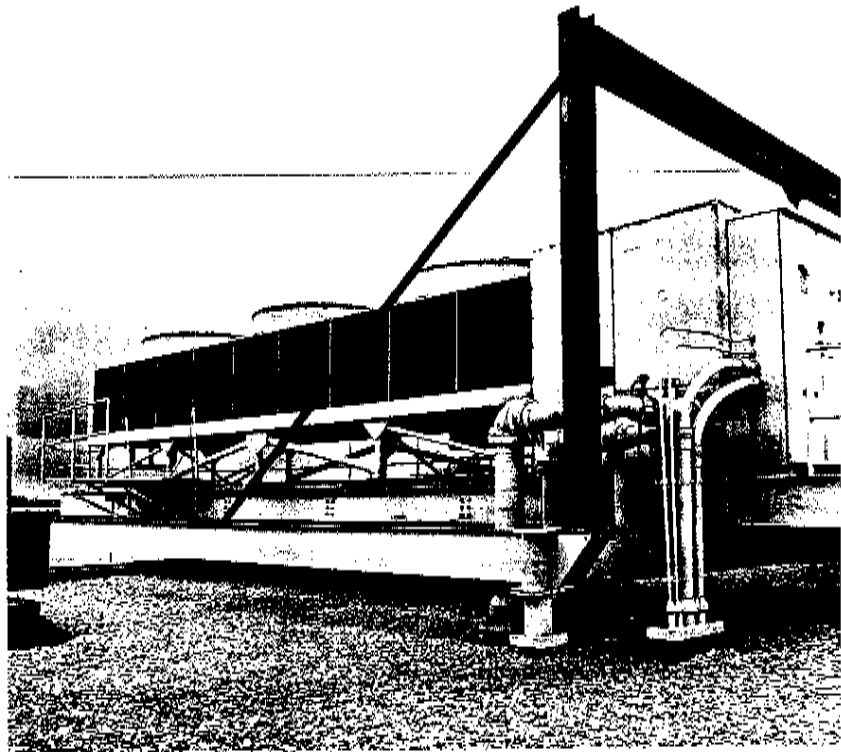


Retrofitting Centrifugal Chillers from R-12 to Forane 134a

*... and replacing mineral oil with
Planetel[®] ACD polyolester lubricant*

Customer	<i>R. R. Donnelley Dwight, Illinois plant</i>
Contractor	<i>Ruyle Mechanical Peoria, Illinois</i>
Wholesaler	<i>Berkheimer Supply Gary, Indiana</i>

R. R. Donnelley is one of the world's largest publishing companies. Their Dwight printing plant stretches over 408,593 sq. ft. The air-cooled centrifugal water chiller provides comfort cooling for the press areas. It is a 1975 system and had been scheduled for routine servicing, making it an ideal time for the retrofit. The retrofit occurred in the heat of Summer, so it was important that it be done quickly and efficiently. The contractor scheduled everything to the minute. The retrofit procedure took a total of eighteen hours to complete. The remarkable thing is that the system was put back into service without a hitch. The contractor reports it is performing even better than it did with R-12 and as a result, Donnelley is achieving significant savings in energy costs.



Refrigerant Required	<i>Forane 134a</i>
Lubricant	<i>Planetel ACD</i>
Unit	<i>10000 BTU/Hr</i>
Compressor	<i>10000 BTU/Hr</i>

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elf atochem
ATO

Refitting centrifugal chillers from R-12 to R-134a refrigerant

6. Replace components and evacuate system



- Replace filters (Use approved desiccant materials (XH-6, XH-9 Type))
- Replace any other components as required
- Evacuate to 1500 microns minimum

7. Charge with Forane 134a

- Charge system using pressure-temperature charts (not sightglass) to proper operating conditions (Approx. 90-91% of R-12 charge)
- Leak check system thoroughly



8. Adjust charge and control settings as needed

- Reset controls as necessary
- Note: Forane 134a operates approximately 2-5% lower suction pressure and 2-5% higher discharge pressure than R-12



9. Check operation of the system and re-label unit to reflect refrigerant and lubricant change

- Indicate new refrigerant and charge for the system to avoid cross contamination of refrigerant



For up-to-the-minute technical advice call 1-800-RETRO94.
If our guidelines differ from Original Equipment Manufacturer's (OEM) guidelines, follow OEM guidelines.

Follow this step-by-step guide to CFC 12 to the new F

1. Gather baseline data

- Check the system and components for compatibility with Forane 134a and Planetelf® ACD polyolester lubricants
- Check existing performance
- Record overall operating characteristics
- Use data to optimize Forane 134a system in step 8



2. Leak test system

- Forane 134a will leak in a similar fashion to R-12; repair all leaks prior to recharging system with Forane 134a



3. Replace Lubricant to start flushing of mineral oil



- Drain mineral oil from all accessible areas and replace with Planetelf ACD lubricant (polyolester)

4. Run system with new lubricant

- Operate system with new lubricant 24-48 hours with R-12 charge
- Test for mineral oil level; if less than 5% proceed to next step, if not repeat steps 3 and 4



5. Recover R-12 charge



- Use approved recovery device and procedure
- Recover Planetelf lubricant charge and dispose of properly