

**Elf Atochem**

# Refrigeration Case History **Forane® 408A**

## **Genuardi Supermarket Retrofits From R-502 to Forane® 408A**



**Customer:** Genuardi Supermarket Philadelphia, PA

**Contractor:** Genuardi Supermarket Staff

**Refrigerant Required:** 600 lbs. of Forane® 408A (FX-10)

**Compressors:** Reciprocating semi-hermetic compressors

**Equipment:** Low temperature rack systems

**Applications:** Walk in food storage boxes and display cases

### **Saves thousands of dollars in refrigerant and equipment costs.**

A Genuardi Supermarket in Philadelphia has retrofitted a large low temperature system from CFC 502 to HCFC Forane 408A. The system's semi-hermetic compressors took approximately 600 lbs. of Forane 408A to do the switchover.

No system modification or component replacement was required as part of the retrofit process. In fact, the work was done without removing the product from the freezer cabinets. Forane 408A is compatible with mineral oil, alkylbenzene, and polyolester lubricants, which simplifies the retrofit process.

In making the decision to retrofit, the supermarket had three important considerations in mind.

- They wanted to avoid the rising costs and possible scarcity of R-502.
- They wanted to extend the life of the existing equipment, rather than be burdened with the high cost of new equipment.
- They wanted to meet environmental requirements now, as a responsible citizen, rather than in the future.

The retrofit itself was uncomplicated. Normal maintenance procedures were used, and the job was done without hassle.

- The entire system was pumped down to reclaim the CFC.
- The core driers were all changed.

According to the customer, the units are performing efficiently with no problems.

Forane 408A is UL, SNAP and EPA approved.

Retrofitting existing equipment with HCFC refrigerants like Forane 408A makes sense, both economically and environmentally, while zero ozone depletion HFC's are recommended for new equipment installations.

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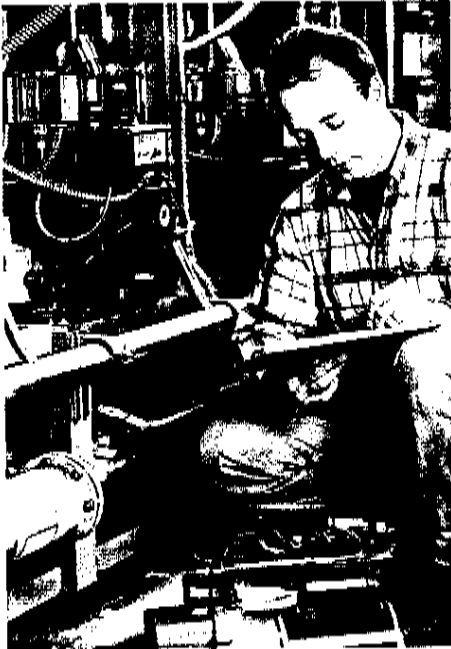
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# Follow this step-by-step guide to retrofitting

## 1

### Gather system baseline data with R-502

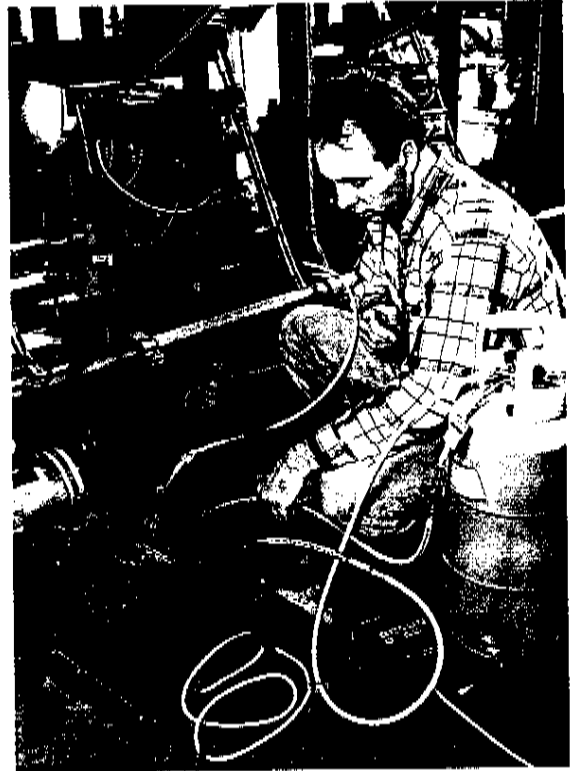
- Check existing performance.
- Record overall operating characteristics.
- Use data to optimize Forane 408A(FX-10) system in Step 8.



## 3

### Recover R-502 from system

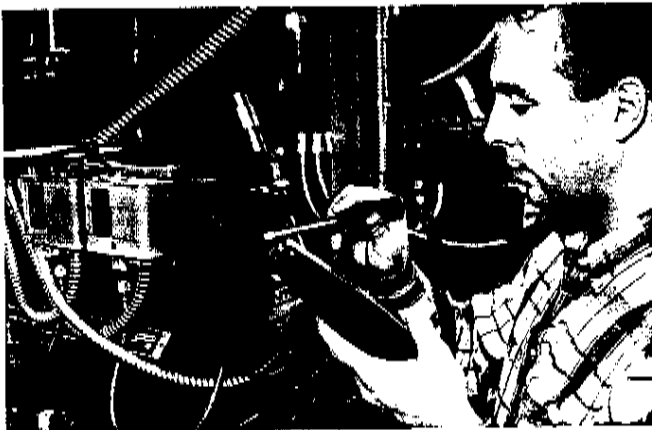
- Use approved recovery device and procedure.



## 2

### Leak test system

- Thoroughly leak test the system; repair all leaks prior to recharging system with Forane 408A.



## 4

### Replace system components (if required)

- Change filters (if necessary).
- Replace any other components as required.
- Repair leaks as required.
- Check OEM oil requirements.

# R-502 system to new Forane® 408A (FX-10)

## 5 Evacuate system

- Evacuate to 500 microns minimum.
- Evacuate from both high and low sides.



## 7 Adjust charge and control settings as needed

- Reset controls as necessary.
- Suction pressures normally operate slightly lower (1 - 2%) than R-502.
- Discharge pressures normally operate 2 - 3% higher than R-502 systems.



## 6 Charge with Forane 408A (FX-10)

- Charge as a liquid; charging as a vapor will alter composition.
- Charge system using pressure/temperature charts to proper operating conditions (approx. 80 - 90% of R-502 charge).
- Note: Charge by weight only, preferably with an electronic scale. Other charging mechanisms will charge inaccurately.



## 8 Check operation of the system and re-label unit to reflect refrigerant (and lubricant, if necessary) change

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



For up-to-the-minute technical advice call 1-800-RETRO95.

If our guidelines differ from Original Equipment Manufacturer's (OEM) guidelines, follow OEM guidelines. Consult OEM product specific retrofit requirements for any and all pressure relief modifications or requirements.