

Things to Consider when Installing CO2 DX Refrigeration Systems

THE **AMS** GROUP™

COMPREHENSIVE AFTERMARKET SOLUTIONS

Rusty Walker
Hillphoenix Corporate Trainer



Agenda

- **Training**
- **Installation Process**
- **Startup**
- **Q & A**



Training

- **Attend a certified training course provided by the equipment manufacturer.**
- **The more Hands-On Training the Better Prepared the installer will be.**

Before

After



Installation

- **Benefits**

- Lower installation cost due to smaller diameter copper.
On stores that are larger than 20K sq ft we are seeing 6 to 10% savings for CO2 and stores smaller than 20K we are seeing neutral costs.
- Follows same piping practices as HFC DX systems
- Loop piping
- Electronic expansion valves eliminate the need for superheat setting
- Case controllers provide single point contact at the cases

Before

After



Installation

- **Considerations that differentiate CO2 DX installations**
 - Smaller diameter copper piping requires bracing every 4' instead of every 6 or 8'
 - Thicker insulation
 - High side piping from refrigeration system to condenser uses different materials. Options:
 - Stainless steel (must be welded by certified welder)
 - Black iron (must be welded by certified welder)
 - High Pressure Copper (new high pressure copper currently used in Europe. Follows same brazing process as type L copper)

Installation

- **CO2 Supply**

- Ensure that you have the correct grade CO2 (CL200 Coleman Grade)
- Following startup ensure you have access to CO2 either onsite or with local supplier





Startup

- If Black Pipe Steel is used on high side piping, make sure the internal piping is cleaned prior to evacuation and system charging
- Follow Green Chill system evacuation specifications
- Controls
 - Ensure that startup technicians have attended manufacturer certified training course
 - Familiarize yourself with case controllers and electronic expansion valve operation
 - Understand the operation of the Danfoss ICMTS high-pressure control valve and flash gas-by-pass valve



Q&A

