

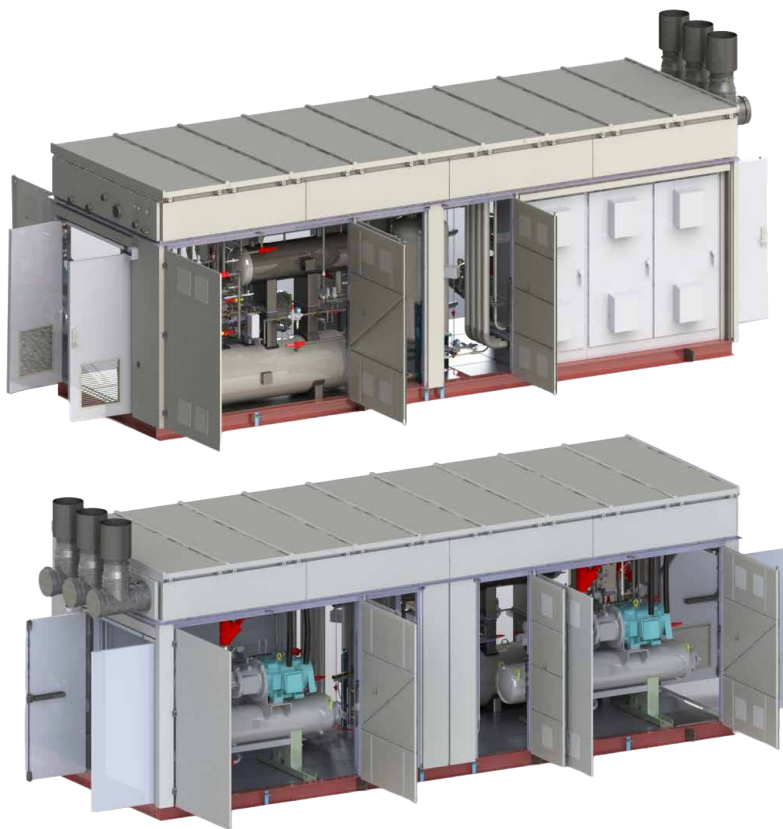


Pure Cold Low-Charge Ammonia System Ideal for sensitive refrigeration applications

Pure Cold

The Pure Cold Low-Charge Ammonia System is designed for the rigors of industrial refrigeration applications. It is prefabricated and delivered assembled, meaning less on-site construction, easier and quicker installation and reduced labor costs.

The unit's low ammonia charge means lower PSM* costs than standard systems, reduced insurance costs and a safer working environment for employees and products. Suitable for many applications, it's ideal in industrial facilities where refrigeration is a priority. The ammonia system is adopted for cooling food and other products because of its capacity and durability.



Controls



Features

- Industrial-grade FRICK RXF direct-drive screw compressor packages with auto Vi
- Capable of accommodating air-cooled, adiabatic or evaporative condensers installed external to the package
- Master control panel internal to the package to allow user-friendly working conditions
- PLC-based control system with supervisory HMI and secure cloud-based IoT access
- Control system and sensors designed for remote performance monitoring and diagnostics
- Sound-attenuated enclosure with built-in ventilation and ammonia leak detection
- Corrosion-resistant aluminum enclosure panels and aluminum diamond-plate floor
- Center aisle to allow complete access to all serviceable components
- Large access doors to allow ample room for ease of service
- Direct expansion ammonia refrigerant feed with motorized control
- Cooling capacities ranging from 46 to 230 tons at -20°F to 50°F room temperatures

*Process management safety rules set by the US Occupational Safety and Health Administration (OSHA)

Benefits

Contractor

- Standard package sizes from 46 to 230 tons for freezer, dock and cooler loads
- Design flexibility
- Place field-mounted condenser at grade level or elevated above the Pure Cold ammonia package
- Pipe from the Pure Cold unit installed on the dock roof to ceiling-hung evaporators
- Pipe to penthouse evaporators installed on the freezer or dock roofs
- Package-mounted, electrical power and control panel factory-wired with terminals for field wiring to the condenser (as required) and communications to evaporator control panels
- Separate emergency exhaust power panel allows for separate power connection for emergency backup to meet local codes
- Enclosure equipped with full access doors for easy commissioning, maintenance and service
- Optional evaporator control valves, isolation valves, evaporator control panels and instrumentation for field installation
- Individual remote evaporator control panels to be field-mounted, powered and wired, with communications to master panel via field bus
- Factory-installed insulation of the cold piping and vessels

End user

- Reduced regulatory burden with low-charge ammonia solution
- Lower operating cost
- Optional VFD on lead compressor, economized system to compressor side ports
- EC modulating fan capacity on evaporators and condensers
- Potential to eliminate condenser water treatment and sewer costs
- Low installation cost
- Plug-and-play design
- Package-mounted and wired electrical power and control panels
- Maintenance friendly
- Fully serviceable industrial compressors and components
- Package design layout for easy service access
- Increase revenue-generating square footage by eliminating engine room
- Environmentally friendly, future-proof, natural refrigerant
- Compliant with IIAR Ammonia Refrigeration Management – Low Charge (ARM-LC)

Standard package includes

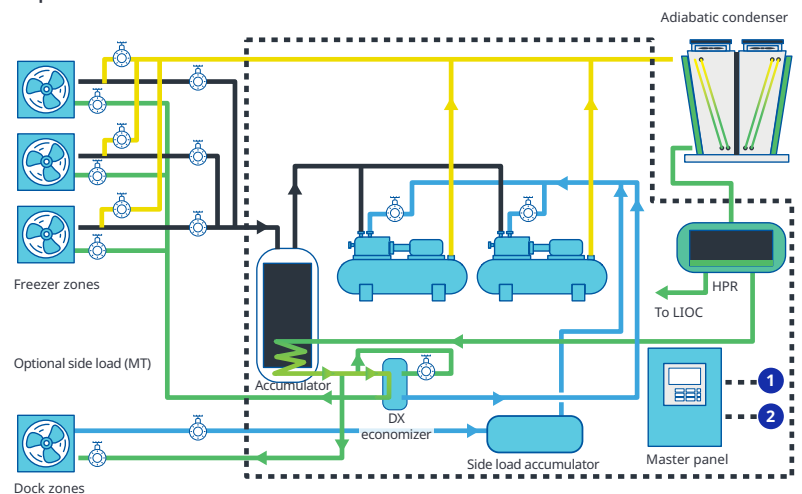
- Parallel FRICK screw compressor packages with direct-driven ODP motors
- Motorized liquid injection oil cooling
- Flexible design suitable for either ground level or elevated, field-mounted condenser
- Sound-attenuated enclosure
- High-pressure receiver
- Direct expansion economizer for liquid subcooling
- High-efficiency oil management system
- Some components shipped loose for field mounting
- NEMA 4 solid state starters for compressor motors in 460V or 575V
- Ammonia detection horn and strobe
- Emergency/temperature-controlled exhaust fan
- PLC-based control system with Color Graphic Touchscreen HMI

Options

- Optional evaporator valve stations
- Optional VFD on the lead compressor

System diagram

Low-temperature direct expansion package design represented with DX economizer and side load



- 1 Communicate with other Pure Cold Systems
- 2 Communicate with remote HMI

Technical data: medium temperature

Pure Cold model	Refrigerant feed type	Pure Cold total capacity* (TR)	Total compressor BHP	Number of active compressors	Motor HP per compressor	Refrigerant charge** (lb)	Overall dimensions (L x W x H) (in.)	Dry weight (lb)
PCO-48-MT-DX	DX	102.2	136	2	50-125	< 500	374x120x156	45,014
PCO-60-MT-DX	DX	135.8	158.6	2	75-125	< 500	374x120x156	45,589
PCO-78-MT-DX	DX	172.6	197.4	2	75-150	< 500	374x120x156	46,164
PCO-100-MT-DX	DX	231	267.4	2	100-200	< 500	374x120x156	Consult factory

* Capacity based on 23°F SST and 95°F SCT

** Subject to condenser operating charge and piping distance to the remote evaporators

Technical data: low temperature

Pure Cold model	Refrigerant feed type	Pure Cold total capacity* (TR)	Total compressor BHP	Number of active compressors	Motor HP per compressor	Refrigerant charge** (lb)	Overall dimensions (L x W x H) (in.)	Dry weight (lb)
PCO-60-LT-DX	DX	45.4	123.4	2	50-100	< 500	374x120x156	46,995
PCO-78-LT-DX	DX	57.6	153.6	2	75-125	< 500	374x120x156	47,750
PCO-100-LT-DX	DX	77.2	204.6	2	100-200	< 500	374x120x156	48,145
PCO-116-LT-DX	DX	85.6	225	2	100-200	< 500	374x120x156	53,598
PCO-136-LT-DX	DX	102.8	267	2	100-250	< 500	374x120x156	54,389
PCO-170-LT-DX	DX	129.6	334.8	2	125-300	< 500	Consult factory	Consult factory
PCO-202-LT-DX	DX	156.4	411	2	150-350	< 500	Consult factory	Consult factory

* Capacity based on -22°F SST and 95°F SCT with DX liquid subcooling

** Subject to condenser operating charge and piping distance to the remote evaporators

For more information please visit www.mmccarnot.com or www.linkedin.com/showcase/johnson-controls-industrial-refrigeration-heating-solutions

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