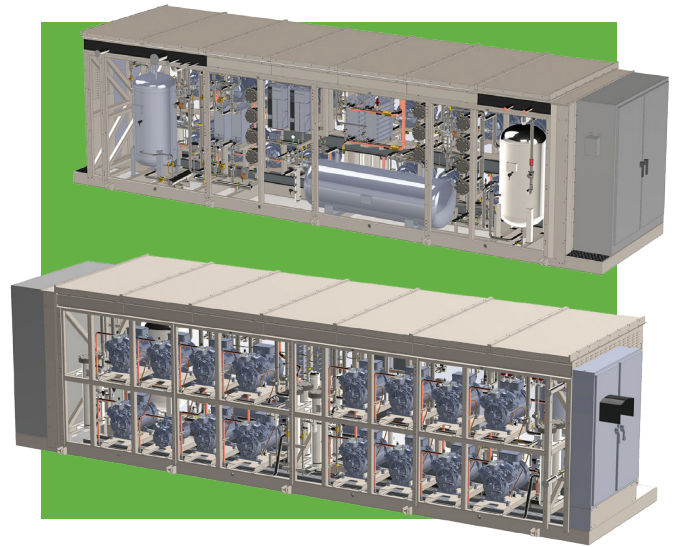




# TransCritical CO<sub>2</sub> Packaged System

A natural refrigerant-based refrigeration system that is safe, sustainable, and energy efficient in all climates.



## Design Features:

- High pressure design eliminates a need for back-up generator and synthetic condensing unit during off-cycle
- Transcritical booster and high stage semi-hermetic recip compressors
- Microprocessor-based control system with supervisory HMI and cloud-based IoT access
- High efficiency oil management system with multiple coalescing oil separators
- Industrial grade main receiver
- Industrial grade suction accumulator (with boil-out coil) and intercooler
- VFD drives on lead compressors
- CO<sub>2</sub> leak detection
- Two pipe hot gas defrost and heat recovery circuits
- Direct expansion CO<sub>2</sub> with motorized control
- Cooling capacities from 50 to 450 tons at -45 to 72F room temperatures

## Controls:



## Benefits:

### Contractor:

- Single point power connection
- Power distribution to gas cooler and evaporators
- Insulated vessels and cold piping
- Full access doors for commissioning, start-up and service
- Field piping only required to evaporators as all control and isolation valves are integrated into the Aquilon package
- Easy rig points

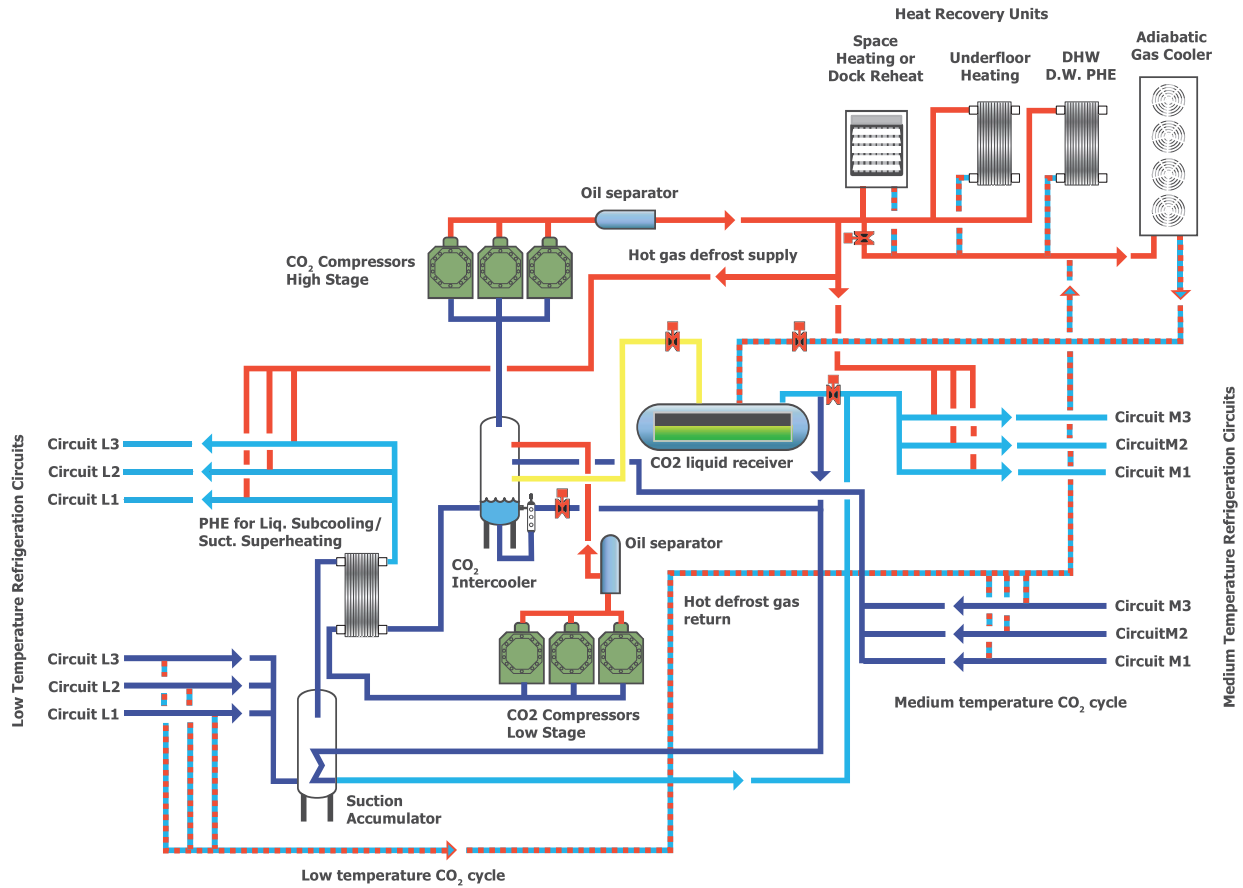
### End User:

- Regulatory cost and burden are significantly reduced
- Reduced energy cost by:
  - Operating at higher suction temperatures
  - Floating head pressure to 50F
  - Eliminating refrigerant and cooling water pump energy
  - Utilizing intelligent and efficient heat recovery
  - Eliminating parasitic loads associated with air purgers, oil pots, and chemical feed pumps
- Reduced cooling water usage of up to 90% based on climate zone
- Significant reduction in maintenance cost
  - No water treatment
  - No sewer cost
  - Semi-Hermetic compressors do not require inspections for shaft seal replacements
  - Direct drive ECM fans eliminate the need for belt drive maintenance
- Increase revenue generating square footage by eliminating engine room
- Environmentally friendly, future-proof, natural refrigerant that costs \$1/lb on average

The natural solution.



# System Diagram



## Technical Data: 2-Stage Intercooled System

Model	Compressors	HP	Dimensions (L x W x H)	Power (RLA/MCA/MOP)	Nominal Capacity (+22F SST)
AQU-I-150-L T	5 to 8	50	252 x 72 x 99	440/558/600	113
AQU-I-200-L T	9 to 12	50	252 x 72 x 99	660/825/900	170
AQU-I-250-L T	13 to 16	50	305 x 72 x 99	880/1093/1200	227
AQU-I-300-L T	17 to 20	50	360 x 78 x 99	1100/1361/1400	283

## Technical Data: Single Stage System

Model	Compressors	HP	Dimensions (L x W x H)	Power (RLA/MCA/MOP)	Nominal Capacity (+22F SST)
AQU-I-150-MT	3 to 4	50	180 x 36 x 84	314/377/500	147
AQU-I-300-MT	5 to 8	50	225 x 72 x 99	627/732/800	294
AQU-I-450-MT	9 to 12	50	269 x 72 x 99	941/1086/1200	441

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