

SYSTEMS

PCS

PARALLEL COMPRESSOR SYSTEMS



TYLER

Parallel Compressor Systems

Parallel compressor systems creatively maximize your profitability with energy efficiency, flexibility, ease of installation and maintenance.



Vertical Front Access



Vertical Rear Access

ATTAIN MAXIMUM ENERGY EFFICIENCY WITH BALANCED COMPRESSOR SYSTEMS.



Horizontal Rear Access

FLEXIBILITY

Tyler custom engineers and manufactures every parallel system to meet your requirements. Available options include; reciprocating compressors, hermetic screw compressors, hermetic scroll compressors and more. Other options include; remote piping headers, remote defrost panels for electric defrost systems, loop piping, heat reclaim, mechanical sub-cooling and much more. For energy efficiency, Tyler offers four design strategies; Nature's Cooling (NC-1), Free Ambient Sub-Cooling (NC-2), Mechanical Sub-Cooling (NC-3) and Tyler's patented refrigerant control system, ENVIROGUARDSM.

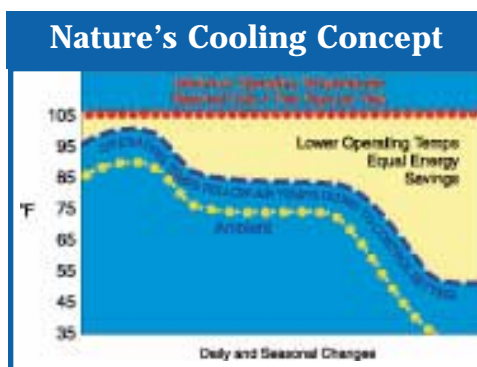
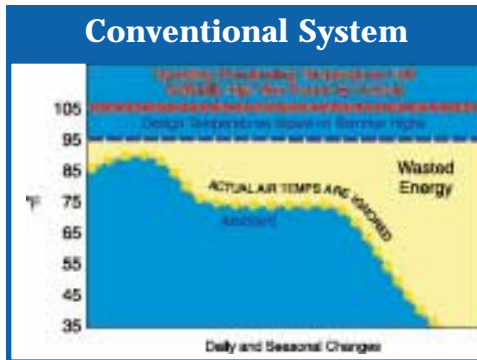
NATURE'S COOLING (NC-1)

"Mother Nature" can provide up to 20% of your annual refrigeration needs, free of charge. Using Free NC-1, the operating temperature of a Tyler system falls as the outside temperature drops. The system becomes more efficient as each 10°F decrease in outside temperature increases cooling capacity by 6% and reduces power consumption by 8%.

After some research and communication with expansion valve suppliers, it was determined that the valves

would work at lower pressures across them as long as the liquid refrigerant supply to them was pure liquid and not a mixture of liquid and vapor. Vapor could occur if the line pressure drops were too great or if the liquid line

was allowed to pick up too much heat before it reached the valve. Both conditions will allow the liquid to do some pre-expansion causing a liquid/vapor mixture to occur. Tyler prevents this by proper liquid line sizing and line installation to prevent heat pickup.



Tyler uses two methods of sub-cooling refrigerant that can save even more. When the refrigerant is sub-cooled, less refrigerant provides the same amount of cooling. This saves additional energy and money.



FREE AMBIENT SUB-COOLING (NC-2)

NC-2 sub-cooling can save an additional 15% on your energy bills, when used with Nature's Cooling and solid state control, depending on your location. NC-2 lets "Mother Nature" cool the refrigerant in addition to the compressors. Special piping allows the cool refrigerant to bypass the warm receiver, so it retains all the NC-1 the outside temperature allows.

MECHANICAL SUB-COOLING (NC-3)

NC-3 reduces energy usage in warm environments by "supercharging" the refrigerant. In high-average-temperature areas like Los Angeles, Miami and Phoenix, NC-3's separate high efficiency compressor manages the system's cooling load by keeping the refrigerant at 50°F or lower. NC-3 can add up to an additional 12% savings in warmer climates.

ENVIROGUARD™ & ENVIROGUARD II™
Refrigerant Control Systems

Enviroguard is Tyler's patented, environmentally friendly refrigerant control system for parallel compressor racks that saves refrigerant and energy while keeping food looking fresher longer. *Enviroguard* reduces the initial refrigerant charge by as much as 45% and reduces refrigerant loss over the life of the system. *Enviroguard* lowers your operating costs by as much as 25% depending on your geographical area and improves product integrity by reducing pull-down time after defrost up to 30%. See *Enviroguard* brochure for further details.

Parallel Compressor Systems Features and Options

Vertical Piping Connection

Stubs: Allows rack to be narrowed and requires less machine room space and makes installation and service of control valves easier.

Oil Reservoir: Assures adequate oil supply under varying conditions.

Rack Lifting Eyes: Makes installation easier.

Electronic Controls: Serves to control compressor operation in an accurate, logical sequence.

Liquid Sight Glass: Shows indication of moisture in the system and the liquid quality.

Oil Strainer: Filters oil system.

Copper Suction Manifold: Serves as an accumulator to prevent liquid floodback and balance oil return. Copper will not rust like steel, therefore making it more durable.

Replaceable Core Liquid

Filter Drier: Serves to filter moisture and impurities from the refrigerant.

High Efficiency Oil Separator:

Slows the flow to separate oil and refrigerant and keeps oil available for compressor lubrication.

Liquid Receiver: Allows adequate storage capacity available for remote condenser operation.

Vibration Isolation Pads: Reduces vibration transmission.



Options: Phase Protection • Run Hour Meter • Cycle Counters • Natural or Mechanical Sub-Cooling • EPR Controls • Isolated Liquid and Suction Lines • Crankcase Heater • Heat Reclaim Hardware • Spring Vibration Isolators • NEMA Rated Contractors • Defrost Controls • 4-Year Extended Compressor Warranties • Alarm Systems for High Head Pressure, Low Oil Pressure, Low Liquid Level, Electrical Overload, High/Low Suction, Phase Loss • Companion Compressor on Receiver • Weatherizer Outdoor Housing

Liquid Level Indicator: Helps installer properly charge the system with refrigerant.

U.L. Label: The Underwriters Laboratory label means that the equipment meets very strict guidelines for safety.

Individual Station Indicators and Toggle Switch: Tells whether each station is in refrigeration or defrost and can manually isolate each system.

Compressor Run Lights and Toggle Switches: Tells when compressor is running and allows manual shut off.

Control Panel: It is located near the front of the rack to make access easier. The internal wiring is neat and organized to make servicing easier.

Oil Floats per Compressor: Serves to control oil levels in each compressor for proper lubrication.

Adjustable Head Pressure Controls: (*not standard on Enviroguard*) Allows the system to operate during low ambient conditions.

Liquid Shut Off Valve: Allows isolation of the drier for servicing.

Oil Failure Controls: Stops the compressor during a loss of oil pressure to prevent compressor damage.

Tyler's applications engineering department is ready to provide you with a complete analysis and proposal for a parallel system, including a computerized report with operating cost savings based on your specific situation and geographical location.

Tyler's Computerized Selection Program is designed to help you make the best selection of refrigeration equipment. Data on display cases, coolers, compressors, climactic design

data, store particulars and energy rates are entered and a computer printout can show if requested:

- Optimum compressor sizing, electrical and piping.
- Remote condenser sizing.
- Heating, ventilation and air conditioning sizing.
- Walk-in cooler coil selection.



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