

Low Charge Ammonia Chiller

Ammonia which is produced by biological processes and naturally decomposes is an efficient and trusted refrigerant. It is also a natural refrigerant without the threat of global warming, having a GWP (Global Warming Potential) rating of 0 or depleting the ozone, having a ODP(Ozone Depletion Potential) rating of 0. Add to those benefits is that it is cost-efficient because narrow-diameter piping may be used and more energy efficient (3-10% more efficient than CFC's) which results in lower operating costs.



The low-charge Ammonia Chillers from Budzar Industries use are based on more than 40 years of engineering, designing and manufacturing experience in the process heat transfer industry. Low Charge Ammonia Chillers, manufactured with industrial quality components are selected to give our chillers a long service life, deliver reliability, accuracy and dependability using a natural refrigerant and are safe for the environment. Even the slightest leaks are quickly and easily detected due to the offending odor. However, it needs to be noted that steps must be taken to prevent liquid ammonia from getting into a sewage system or seeping into the ground.

Benefits of a Low Charge Ammonia Chiller

- Environmentally Safe
- Leaks are quickly detected
- Highly efficient even in large systems
- Cost effective – ammonia, exists here on earth and is less expensive because it is manufactured in huge quantities.
- Ammonia systems are more tolerant of moisture contamination
- Ammonia is the most efficient of typically used refrigerants

Features of a Low Charge Ammonia Chiller

- Floating head pressure control
- Floating suction pressure control
- Close evaporator temperature approach
- Efficient compressor loading philosophy
- PLC Control
- Integrated gas detection
- Automatic oil recovery
- Low charge -less than 2lb/TR

Options for a Low Charge Ammonia Chiller

- Air-Cooled or Water-Cooled Condensers
- Reciprocating, screw or long-coupled compressors
- Direct expansion, flooded, plate & frame, or shell & tube designs
- Indoor, Outdoor or Explosion Proof

- Temperatures to -50°F

Budzar Industries has the expertise to design, engineer and manufacture a Low Charge Ammonia Chiller to meet your exact specifications and requirements. We can provide compact ammonia chillers from 30 to 200 tons, and large central chiller applications up to 700 tons.

Propane Chillers

Propane seems to be the ideal solution to phasing out of greenhouse gases because of its properties. As a natural occurring substance, Propane can be used for air-conditioning systems, commercial refrigeration or various industrial processes with high temperature ranges. Propane is non-corrosive and as a natural refrigerant Propane has a very low GWP (Global Warming Potential) rating and an ODP(Ozone Depletion Potential) rating of zero. Therefore, there is no threat to the ozone or global warming.



Propane Chillers from Budzar Industries are available in both Air-Cooled and Water-Cooled models and features semi-hermetic reciprocating compressors, stainless steel plate heat exchanger and galvanized steel frame.

Other features included:

- Condenser with Copper pipes and aluminum fins
- Filter dryer
- Solenoid Valve
- Gas detector alarm
- Electronic Expansion Valve
- Cooling Capacities starting at 5 ton
- Reciprocating or Screw Design Compressor

The Propane Chillers from Budzar Industries use are based on more than 40 years of engineering, designing and manufacturing experience in the process heat transfer industry.

Benefits of Propane Chillers

- Environmentally Safe, Non-Toxic
- Highly efficient even in large systems
- Cost effective – propane, exists here on earth and is less expensive because it is manufactured in huge quantities.
- Propane is non-corrosive

Budzar Industries has the expertise to design, engineer and manufacture of propane chillers to meet your exact specifications and requirements. We can provide compact ammonia chillers from 5 tons to 200 tons, and large central chiller applications up to 700 tons.

Ammonia Carbon Dioxide Chillers

Facilities around the world are facing more and more stringent regulations in regards to safety and the environment. To meet these standards and maintain the quality of mid-range temperature control, the utilization of ammonia and carbon dioxide (NH_3/CO_2) in chillers is leading the way.



Budzar Industries has developed a Chiller by combining Ammonia (NH_3) as the primary refrigerant and liquid Carbon Dioxide (CO_2) as the secondary refrigerant. This Ammonia-Carbon Dioxide Chiller is intended for facilities that require cold storage or combined freezer and cold storage. Using the combination reduces the ammonia charge by up to 90% as compared to ammonia only systems. Carbon Dioxide is non-flammable, non-toxic and has an Ozone Depletion Potential (ODP)=0, and has a Global Warming Potential (GWP)=1.

Benefits of Ammonia(NH_3) Carbon Dioxide (CO_2) Chillers

- Environmentally Safe; ammonia exists here on earth and CO_2 is already in the atmosphere
- Leaks are quickly detected and will not damage products
- Highly efficient even in large systems
- Ammonia systems are more tolerant of moisture contamination
- CO_2 is non-toxic and non-flammable
- Lower operating costs – A CO_2/NH_3 cascade system uses less energy per ton of refrigeration when compared to other refrigeration systems at full load, but the difference can be even better at part load, especially when operating at evaporating temperatures of -35°F to -60°F
- Lower capital costs using CO_2 instead of ammonia for lower temperatures results in smaller pipes, smaller pumps, less insulation, and less installation labor when compared to two-stage ammonia systems
- Reduced compliance costs – in many cases, CO_2/NH_3 cascade systems can be designed with an ammonia charge below 10,000 pounds, giving owners the opportunity to reduce the costs associated with PSM and RMP compliance.

The Ammonia-Carbon Dioxide Chillers from Budzar Industries use are based on more than 40 years of engineering, designing and manufacturing experience in the process heat transfer industry. Ammonia-Carbon Dioxide chillers, manufactured with industrial quality components are selected to give our chillers a long service life, deliver reliability, accuracy and dependability using a natural refrigerant and are safe for the environment. As with all ammonia chillers, steps must be taken to prevent liquid ammonia from getting into a sewage system or seeping into the ground.

Features of Ammonia-Carbon Dioxide Chillers

- Floating head pressure control
- Floating suction pressure control
- Close evaporator temperature approach
- Efficient compressor loading philosophy
- PLC Control
- Integrated gas detection
- Automatic oil recovery
- Low charge -less than 2lb/TR

Carbon Dioxide Chillers

From an environmental viewpoint, Carbon Dioxide Chillers (CO₂) are incredibly attractive. Carbon Dioxide is naturally occurring and abundant in the atmosphere. Add to that it is a very good heat transfer coefficient, is relatively insensitive to pressure losses and has very low viscosity.



Budzar Industries has developed a Carbon Dioxide Chiller liquid Carbon Dioxide (CO₂) as the secondary refrigerant. This Ammonia-Carbon Dioxide Chiller is intended for facilities that require cold storage or combined freezer and cold storage. Using the combination reduces the ammonia charge by up to 90% as compared to ammonia only systems. Carbon Dioxide is non-flammable, non-toxic and has an Ozone Depletion Potential (ODP)=0, and has a Global Warming Potential (GWP)=1.

Benefits of Carbon Dioxide (CO₂) Chillers

- Environmentally Safe; ammonia exists here on earth and CO₂ is already in the atmosphere
- Significantly higher volumetric cooling capacities
- Leaks will not damage products
- Highly efficient even in large systems
- CO₂ is non-toxic and non-flammable

The Carbon Dioxide Chillers from Budzar Industries use are based on more than 40 years of engineering, designing and manufacturing experience in the process heat transfer industry. Carbon Dioxide chillers, manufactured with industrial quality components are selected to give our chillers a long service life, deliver reliability, accuracy and dependability using a natural refrigerant and are safe for the environment.

Features of Carbon Dioxide Chillers

- Floating head pressure control
- Floating suction pressure control
- Close evaporator temperature approach
- Efficient compressor loading philosophy
- PLC Control
- Low charge -less than 2lb/TR

Ammonia Chillers, Propane Chillers, CO2 Chillers & NH₃/CO₂ Chillers

Environmental concerns have forced the resurgence of utilizing natural refrigerants in chillers. Originally used in the 20th century, natural refrigerants such as R-717 ammonia, R-290 propane and R-744 CO₂ (carbon dioxide) are returning as the refrigerant of choice in Chillers. Some of the benefits of Natural Refrigerant Chillers are:

- Highly energy efficient
- Low GWP (Global Warming Potential) and (ODP) Ozone Depletion Potential
- Cost effective and readily available

As Specialists in Process Fluid Heat Transfer Systems, Budzar Industries has taken the refrigerants of old and transformed them with third millennium engineering, innovative designing and world class manufacturing and has a new line of Natural Refrigerant Chillers.