BUILDING A SUSTAINABLE ENERGY FUTURE

Standard LNG Liquefaction
Where Green is the new Blue
Chart’s small-scale liquefaction systems enable our customers to bring LNG to the market faster and minimize execution risks.

C50N — 50K gallons per day (80 tons per day) liquefaction capacity  
C100N — 100K gallons per day (165 tons per day) liquefaction capacity  
C250N — 250K gallons per day (400 tons per day) liquefaction capacity

- Complete modular plant solutions
- Basic plant design includes pre-treatment for pipeline quality gas
- Choice of liquefaction technology – typically Reverse Brayton Nitrogen Cycle but Single Mixed Refrigerant (SMR) is available where desired (C50MR, C100MR, C250MR).
- Electric or gas turbine drivers
- Principal equipment, including brazed aluminum heat exchangers, cold box, air coolers, cryogenic storage tanks, vaporization, vacuum jacketed pipe and load out skids is engineered and built in-house
- If required, plants can incorporate ‘bolt on’ modules to handle additional gas pre-treatment, including nitrogen rejection, natural gas liquids (NGL) recovery and removal of benzene, toluene, xylene, mercury, H2S and mercaptans
Concept to Reality
Project specific C50N LNG plant with 50K gal/day capacity. Pre-treatment, liquefaction system.

Engineering, Procurement, Fabrication
A Chart standard LNG plant is a package solution comprising process technology, detailed mechanical design, Chart manufactured proprietary equipment and other specialized capital equipment.

- Standardized ‘off the shelf’ plant designs
- Truck transportable modules
- Maximized shop fabrication, minimized field construction
- Proven technology, minimal (re) engineering, low risk
- Simple plant operation
- Reduced maintenance downtime
- Flexibility to add storage capacity by incorporating additional modules
- Complete project lifecycle support

*Chart uses design, drawing and calculation templates than can be quickly optimized for project specific requirements such as gas compositions, local ambient conditions and other owner stipulated requirements.*
Execution Improvement

Standard plant concept significantly reduces overall project schedule for earlier revenue recognition.

**Typical custom build plant schedule**

1. **FEED**
2. **Bid Prep & Award**
3. **Engineering & Design**
4. **Build and ship**
5. **Install**

**Chart standard plant schedule**

1. **FEED**
2. **Bid Prep & Award**
3. **Engineering, build and ship**
4. **Install**

All inter-connecting piping is shop built and supplied with flanged connections to eliminate on-site cutting, welding, NDE and pressure testing requirements.

**Advancements in process and equipment efficiency**

By optimizing the Reverse Brayton Cycle process technology with Chart’s Standard Plant design while working with our key equipment suppliers, Chart small-scale liquefiers deliver greater efficiencies, lower cost and reduced schedule, particularly where pipeline gas is used as the feedstock.

- Greater operational flexibility
- Wide turndown range with proportional power savings
- Ability to process a wide range of feed gas compositions
- Standard off the shelf rotating equipment
- Smaller footprint

While still retaining the benefits of nitrogen cycle plants – proven, simple to operate, low risk, no on-site storage and mixing of liquid hydrocarbons.
As part of our total scope Chart also engineers and builds the skids for LNG loading into trucks, ISO containers, railcars and ships.

Chart’s standard, modular small-scale LNG plants provide customers with a cost efficient, safe alternative to diesel and other distillate fuels.

Chart Vacuum Technology® is at the core of why Chart is recognized around the world as the premier supplier of cryogenic equipment. Our total scope incorporates in-house engineered and built vacuum jacketed pipework vaporizers and other equipment essential for the storage and transfer of liquid gases.
Engineered for Efficiency – Built to Last