



ET SERIES

ENGINEERED CRYOGENIC STORAGE TANKS





Innovation. Experience. Performance.®

About Chart

Our focus is cryogenics. Chart is a recognized global brand for the design and manufacture of highly engineered cryogenic equipment used from the beginning to the end in the liquid gas supply chain.

We express our brand promise through our tagline

Innovation – We are passionate about what we do and dedicated to continuous, innovative development.

Experience – Customers rely on our knowledge because we are experts in our field.

Performance – We fulfil expectations. We respect our customers and are committed to meeting their needs.

Chart Vacuum Technology®

Providing the best insulation system to protect your valuable gases from harsh ambient conditions results in lower pressure rise and lower losses, yielding better gas utilization. Chart Vacuum Technology® is at the core of why Chart is recognized around the world as the premier supplier of cryogenic equipment.



Chart's production plants are fully audited and compliant with Quality System ISO 9001:2008 and Environmental System ISO 14001:2005





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ET Series - Engineered Cryogenic Storage Tanks

Custom engineered according to storage capacity and application. Available in vertical and horizontal orientation.

Designed for long-term storage of liquefied gases, including:

- Air gases; nitrogen, oxygen and argon
- Carbon dioxide
- Hydrocarbons; natural gas (LNG) ethane and ethylene

Chart ET Series Engineered Cryogenic Storage Tanks combine the highest levels of quality, safety and engineering expertise.

Application-focused cryogenic vessels designed to provide high levels of performance and lowest operational cost. Engineering, manufacturing and process control are managed in-house to ensure maximum quality and efficiency.

Technical Features:

- Designed according to Directive 97/23/EC
- European standards in accordance with EN13458 and conforming to directive 2014/68/EU or ASME standards
- Vacuum-perlite insulation minimizes inventory losses
- Storage capacity up to **1.225.000** litres
- Maximum allowable working pressure up to 24 bar

Application-focused cryogenic vessels designed to provide high levels of performance and lowest operational cost.





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Storage Tanks – Components

Inner Vessel

Stainless steel for cryogenic temperatures with optimized design for lighter weight (Fine grained carbon steel for CO₂).

Outer Jacket

A combined skirt and lifting lug system designed for safe transport, easy lifting and low cost erection.

Insulation

A proven high quality vacuum-perlite system with molecular sieve adsorption.

Piping

Stainless steel piping for reliability and long life, ergonomically arranged workplace, flow diagram and gauges at eye level, easily accessible valves and safety relief valve outlets directed away from the operating area.

Pressure Control

An easily adjustable multifunction regulator serves as pressure regulator, economiser and thermal relief valve.

Instrumentation

High quality pressure gauge and differential pressure contents gauge are standard with optional switches, transmitter and/or telemetry unit.

Vaporizers & others

Options include - external PBU vaporizers, ambient or steam heated vaporizers, vacuum insulated pipelines and other cryogenic components to create a complete installation (station or terminal by application request).





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Storage Tanks - Description

Safety

Tanks are equipped with dual relief valves with a variety of options, including additional relief valves and/or rupture discs.

Cleanliness

Tanks and their components are cleaned and certified for oxygen service .

Outer Finish

Choice of two durable corrosion resistant white paints, including a new low VOC paint or a standard 2-stage epoxy-polyurethane paint.

Transport

Rugged internal supports facilitate safe and simple transportation by road, rail and sea, direct from factory to job site.

Chart

Provides a complete solution, including engineering, manufacturing, delivery and installation.





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Basic Dimensions of ETs produced by Chart Ferox

Approximate Volume	[m ³]	89	98	108	123	140	154
Outer Diameter	[mm]	3000			3200	3500	
Approximate Height	[m]	19.68	21.54	23.34	23.70	22.10	24.00
Approximate Weight MAWP 11 (9) bar	[kg]	32060	34820	37570	45800	53500	57100
Approximate Weight MAWP 17 bar	[kg]	38700	42100	45400	49200	57000	61100

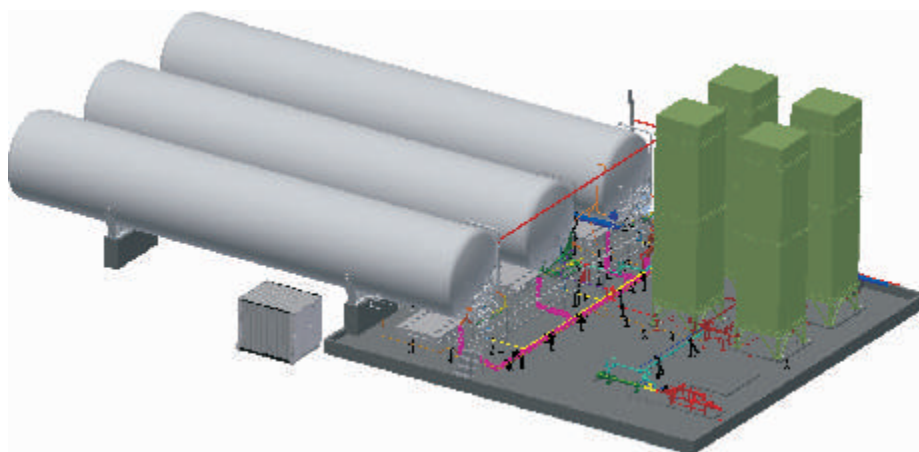
Approximate Volume	[m ³]	169	186	202	235	257	279
Outer Diameter	[mm]	3900			4300		
Approximate Height	[m]	22.10	24.10	26.10	24.20	26.20	28.20
Approximate Weight MAWP 8 (6) bar	[kg]	60500	64700	69700	80500	86400	92500
Approximate Weight MAWP 13 bar	[kg]	66300	71300	76800	86300	92800	98900

Approximate Volume	[m ³]	301	335	363	392	420	450
Outer Diameter	[mm]	4300	4800				
Approximate Height	[m]	30.20	26.50	28.50	30.50	32.50	34.50
Approximate Weight MAWP 6 bar	[kg]	98500	108800	115800	122300	128500	128500
Approximate Weight MAWP 13 bar	[kg]	105600	112700	120100	128100	135500	142800

Approximate Volume	[m ³]	500	683	1000	1225
Outer Diameter	[mm]	5000	5600	5800	6000
Approximate Length	[m]	34.6	36.60	50.00	55.00
Approximate Weight MAWP 8 bar	[kg]	136100	163500	220000	255000

Notes:

- All ET Series cryogenic storage tanks, up to and including ET 500, are available in vertical and horizontal orientation
- ET 683, ET 1000 and ET 1225 are only available in horizontal orientation
- ET 1225 is for LNG service only





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Total Cryogenic Storage System Solutions

Chart's ET Series storage tanks can be combined with other in-house engineered components for a complete tailored storage solution providing the desired gas at the point of use according to individual customer application, storage capacity and flow gas withdrawal demand requirements. The complete specification for the storage and regasification terminal is customer driven but, typical elements include storage tanks, vaporizers, piping, manifolds and control systems.

Applications include:

- Peak shaving plants providing natural gas for use during high demand periods
- Energy sources providing natural gas for industrial consumption
- Medical, research and educational facilities
- Food and beverage processing
- Breweries
- Aerospace





Contact us



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