

Beverage Systems



Safe, reliable
and economical
alternative to high
pressure cylinders





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.

“Chart's vision is to be the global leader in the design, engineering and manufacturing of cryogenic process technologies and equipment for the Nexus of Clean™ – clean power, clean water, clean food and clean industrials, regardless of molecule.”

Jill Evanko, CEO and President of Chart Industries



Bulk CO₂ Carbonation

Developed from our MicroBulk program, Chart Bulk CO₂ Carbonation Systems offer a reliable, cost-effective and safe alternative to high pressure gas cylinders for beverage carbonation.

Range of sizes catering for all users, from local bars and restaurants to sports stadia and concert arenas.

Other applications include water treatment (pH balancing), greenhouse growing and botanical extraction, dry ice production, welding, lasers, medical and others.



The Carbo Series System

Carbo Series systems eliminate CO₂ run-outs allowing you to focus on customer sales rather than operations. A single Carbo Series bulk system meets all your carbon dioxide requirements and, unlike high pressure cylinders, Carbo Series vessels eliminate manual handling.

Constructed of stainless steel for food grade compatibility and long service life:

- 5 year vacuum warranty
- High vacuum Super Insulation
- Proprietary vacuum maintenance system ensures optimized long term performance
- Certified to meet NSF and EC 1935/2004 supporting growing global food safety standards within the beverage industry
- Instrument grade isolation valves rated for a 10 000 cycle life
- Telemetry ready, optional liquid level gauges
- 300 psig (20.68 bar) MAWP

How it Works

1. Liquid carbon dioxide is delivered to your facility

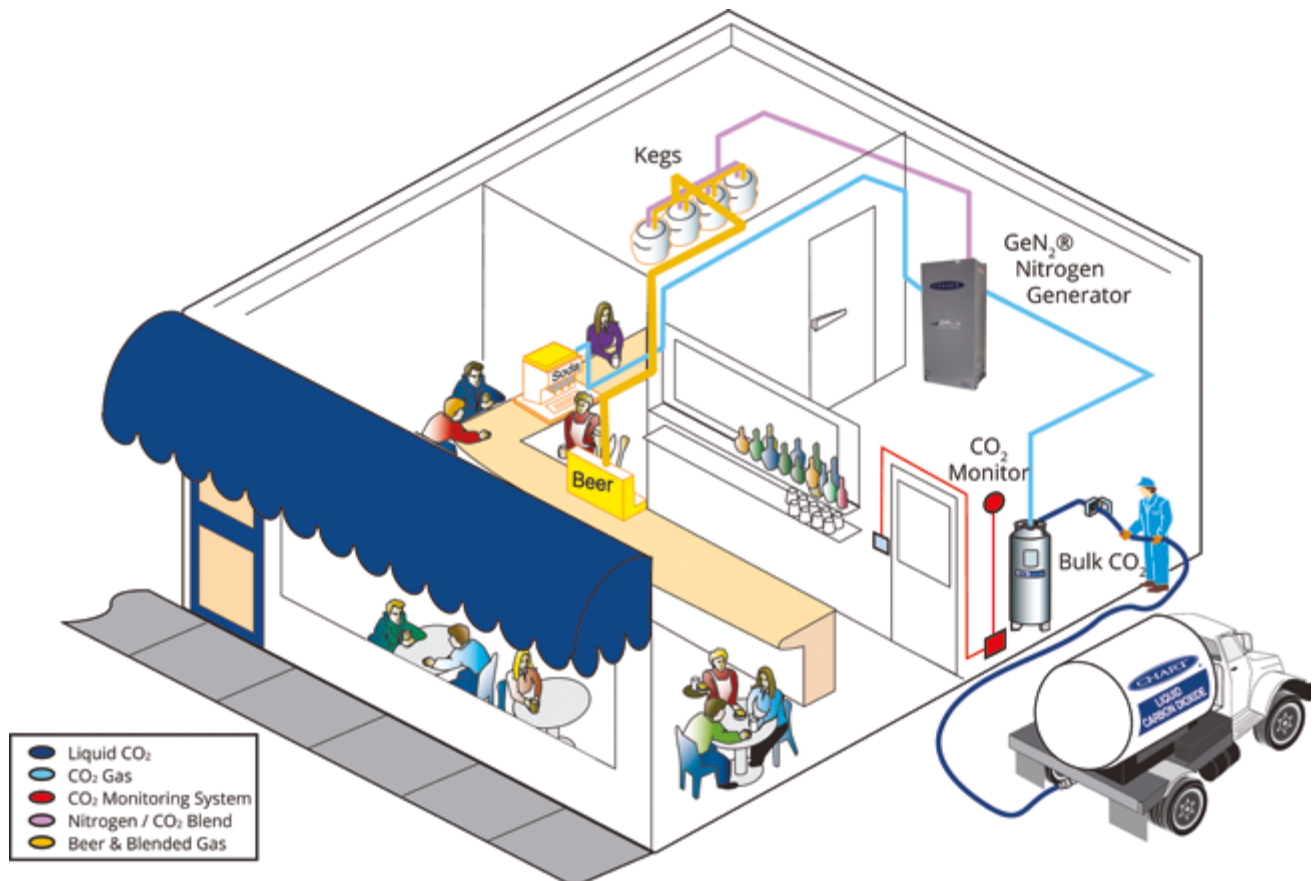
- Can be a scheduled delivery or automatically prompted through a telemetry system

2. Liquid carbon dioxide is dispensed securely through the outside wall to Chart's Carbo Series bulk tank

- Delivery is completely remote and requires no interaction from onsite staff
- Low noise means that deliveries can be effected during unsocial hours and in residential areas
- Bulk CO₂ tanks can be installed indoors or outside

3. Carbon dioxide gas is fed from the bulk tank to the drink dispenser providing a perfect beverage every time

4. A carbon dioxide monitoring system ensures a safe working environment





Nexus of Clean™ – Food and Beverage

At Chart we pride ourselves on continued innovation, the introduction of new products and technology and their seamless integration, enabling our customers to improve the efficiency and sustainability of their own products and processes.

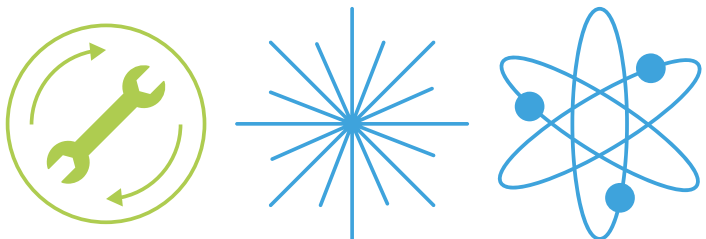


Carbon Capture and Utilization

Through subsidiary company Earthly Labs, Chart provides a full solution for the capture and utilization of CO₂ from smaller sources such as craft brewers and growing houses. As well as capturing carbon dioxide from manufacturing processes, the Earthly Labs technology purifies and recycles it for use as a valuable commodity, either returning it to the manufacturing process or as a saleable asset in the circular CO₂ economy.

Integrated Processes for the Brewing Industry

Carbon dioxide is fundamental to beer quality, consistency and the customer’s acceptance of the product. Treatment, control, dosing and recovery are vital aspects of the brewing process and why major brewers trust Chart’s integrated solutions.





Nitrogen Dosing

Chart's automated nitrogen dosing systems are used in the packaging of carbonated beverages and other products for preservation and pressurization. A precisely measured dose of liquid nitrogen is introduced into each container prior to sealing. The trapped nitrogen vaporizes creating pressure and adding rigidity to the container, which allows for a thinner container wall.

In operation a Chart customer documented a 9g reduction in PET bottle weight with Chart's MicroDose™ technology. Assuming a PET resin cost of €1/kg and a single production line running at 700 bottles/minute, the annual cost saving exceeds €3MM.

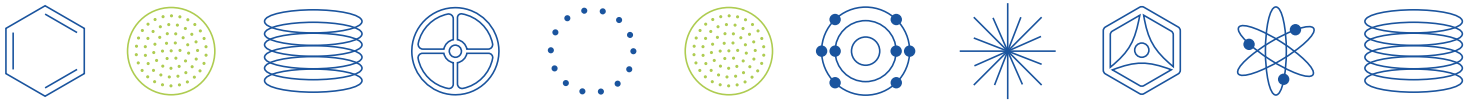


Water Treatment

ChartWater™ systems eliminate waste and improve efficiencies through optimizing water use and wastewater treatment and enabling water recycling and re-use. Modules integrate seamlessly with beverage operations

and treatments include high recovery reverse osmosis, odour control, backwash recycling, biological treatments, oxidation and pH control.





Carbon Dioxide Delivery Systems

Chart's fast filling, ADR and EN 13 530 compliant **Orca™ MicroBulk Delivery System** has been adapted specifically for filling the Carbo Series tanks. A stainless steel inner vessel is protected by a high quality vacuum with super insulation for minimal heat transfer. The insulation system eliminates just-in-time filling and provides colder CO₂ necessary for a single-hose, no loss fill to the storage vessel.

All Orca delivery systems are equipped with the Flowcom® flow meter system available with data options. The stainless steel meter section contains no moving parts for low maintenance, calibration stability and dry ice resistance and includes a lifetime warranty.

MiniBulk Distribution Systems (MBDS) and **swap-bodies** facilitate the distribution of carbon dioxide to mini-tank systems and are ideally suited to serve breweries and restaurants. Compact design means they can be fitted inside standard vans and small vehicles and able to reach locations inaccessible to larger vehicles.

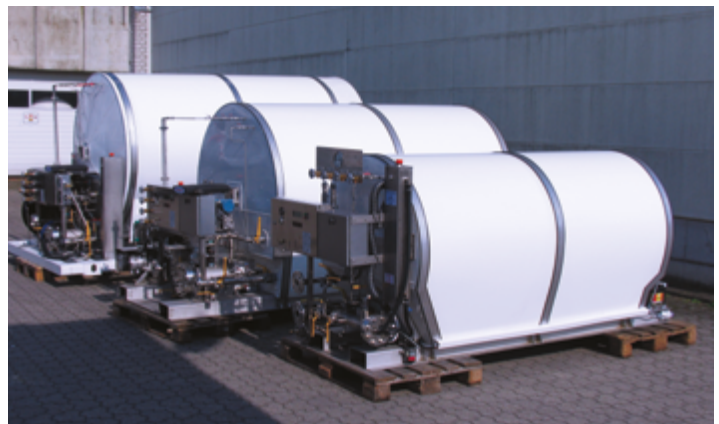
- Available in a range of capacities from 1000 to 3500 litres
- TPED approved
- Flowcom® flow metering system
- Integrated automatic pressure builder
- Low noise

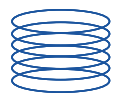
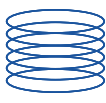


Delivery Unit DU1/22 CO₂

Delivery Unit is an affordable solution for new business start-ups, new installations, hot shot deliveries and remote operations. The system is mounted in a secure mobile pallet base with all interconnecting piping and controls easily accessible to the driver.

- Capacity: 995 litres
- Tare Weight: 910 kg
- Design Code: TPED, EN 1251
- All stainless steel construction and multi-layer insulation for superior thermal performance
- Saddles/frame for easy lift and installation





After-Sales & Service

Leveraging the skills and experience of the Chart family to provide a comprehensive aftermarket program with single source accountability.

Repairs & Refurbishment

Serving the complete range of cryogenic tanks including bulk tanks and liquid cylinders (MicroBulk), ISO containers, tank trailers and other mobile units, piping systems and valves.

- All repairs and refurbishments carried out in accordance with recognized international accreditations and fully warranted
- 'As new' condition includes full vacuum leak check with mass-spectrometer, pressure test, renewal of piping systems and valves and painting



Field Service

Your field service partner across Europe. Full range of services including calibrations, routine maintenance, shutdowns and turn-arounds, performance optimization, repairs and emergency response.

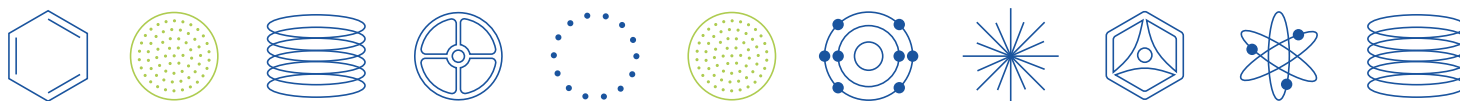
- Multiple service locations
- Core cryogenic expertise
- Supplemental specialist knowledge of subsidiary companies
- Single source contact and accountability
- Unrivalled experience
- Largest installed equipment database

Chart Parts EU

Spare and replacement parts inventory specifically for Chart equipment manufactured in Europe.

- Automated stock replenishment
- Consumption based invoicing
- Inventory requests can be modified at any time
- Most despatches made within 24 hours

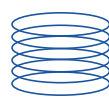
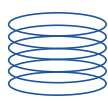
<https://eu.chartparts.com/>



Choose your Bulk CO₂ Carbo Series Tank

OUTLINE SPECIFICATIONS		Carbo-Mite® ①	Carbo-Mizer™ 450 ②	Carbo-Mizer™ 750	Carbo-Max™ 450 ③	Carbo-Max™ 600
Capacity						
Liquid (gross)	litres	103,7	197	337	204	226
Liquid (net)	litres	96,5	182	310	192	246
Performance						
CO ₂ Gas Delivery (continuous)	kg/hr	0,45	2,5	4,5	133,5	133,5
Evaporation Rate	kg/day	0,45	1,1	1,36	1,2	1,4
Peak Flow Rate	kg/hr	0,68	4,5	6,5	18,1	18,1
Dimensions						
Tank Diameter	cm	50,8	50,8	66	50,8	55,8
Height (with legs)	cm	101.6 (no legs)	162,6	187,6	181,3	193
Empty Weight	kg	71	124	195	124	146
Full Weight	kg	171	336	554	336	423
Construction						
Inner Vessel Material					Stainless Steel	
Outer Vessel Material					Stainless Steel	
Design Regulation					PED (EN13458)	





Carbo-Mite®

Carbo-Mite® is a bulk liquid CO₂ storage container designed for relatively small volume gas users (typical gas use >0.45 kg/day) seeking to replace 9/22.5 kg high pressure cylinders. The design and construction of Carbo-Mite provides all the benefits of bulk storage with no gas losses between refills up to 6 months apart.



DETAILED SPECIFICATIONS

Carbo-Mite®

Capacity

Liquid (gross)	litres	103,7
Liquid (net)	litres	96,5
Storage Capacity	kg @ 13,8 bar	100,2

Performance

CO ₂ Gas Delivery (continuous) *	kg/hr	0,45
Evaporation Rate △	kg/day	0,45
Peak Flow Rate ◆	kg/hr	0,68
Max Relief Valve Setting	bar	20,7

Dimensions

Tank Diameter	cm	50,8
Height (with legs)	cm	101,6 (no legs)
Empty Weight	kg	71
Full Weight	kg	171

Construction

Inner Vessel Material	barg	Stainless Steel
Outer Vessel Material		Stainless Steel
Design Regulation		PED (EN13458)
MAWP		20,7
Insulation Type		Super Insulation
Vaporizer Coil		N/A
Liquid Level Gauge ◆		Roto-Tel™/Diff. Press

Components

Relief Valve Setting	barg	20,7
Secondary Relief Valve Setting	barg	N/A
Sure-Fill™ RV Setting	barg	13,8
Gas Use Connection		1/4" 45° flare
Fill Line Connection		5/8" Male 45° Flare
Vent Connection		1/2" OD Tubing

- * Twelve consecutive hours at room temperature
- △ No loss in normal applications
- ◆ Four consecutive hours at room temperature
- ◆ Float gauge available on request

Note: All models and specifications are conditional and subject to change without prior notice.



Carbo-Mizer™

Carbo-Mizer™ provides flow rates that meet the demands of high volume customers such as: fast food, convenience stores, restaurants and bars.

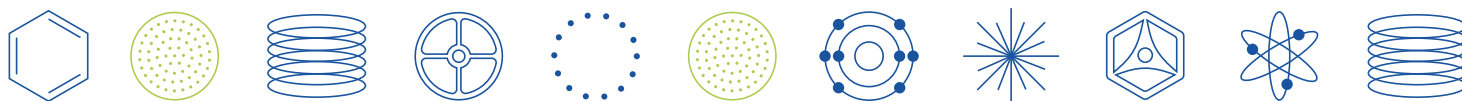
DETAILED SPECIFICATIONS		Carbo-Mizer™ 450	Carbo-Mizer™ 750
Capacity			
Liquid (gross)	litres	197	337
Liquid (net)	litres	182	310
Storage Capacity	kg @ 8,6 bar	216	359
Performance			
CO ₂ Gas Delivery (continuous) ✱	kg/hr	2,5	4,5
CO ₂ Gas Delivery (continuous) ★	Drinks/hr	277	500
Evaporation Rate △	kg/day	1,1	1,36
Peak Flow Rate ◆	kg/hr	4,5	6,5
Peak Flow Rate ★	Drinks/hr	500	722
Max Relief Valve Setting	bar	20,68	20,68
Dimensions			
Tank Diameter	cm	50,8	66
Height (with legs) ○	cm	162,6	187,6
Empty Weight	kg	124	195
Full Weight	kg	336	554
Construction			
Inner Vessel Material	barg	Stainless Steel	Stainless Steel
Outer Vessel Material		Stainless Steel	Stainless Steel
Design Regulation		PED (EN13458)	PED (EN13458)
MAWP		20,68	20,68
Insulation Type		Super Insulation	Super Insulation
Vaporizer Coil		N/A	Stainless Steel
Liquid Level Gauge ●		Differential Pressure	Differential Pressure
Components			
Relief Valve Setting	barg	20,68	20,68
Secondary Relief Valve Setting	barg	20,68	20,68
Sure-Fill™ RV Setting	barg	13,8	13,8
Gas Use Connection		1/4" 45' flare	1/4" 45' flare
Fill Line Connection		5/8" Male 45' Flare	5/8" Male 45' Flare
Vent Connection		1/2" OD Tubing	1/2" OD Tubing



- * Twelve consecutive hours at room temperature
- ★ Standard 0,5 litre soft drink
- △ No loss in normal operation
- ◆ Four consecutive hours at room temperature
- Subtract 15,2 cm for height without legs

- ◆ Float gauge available on request

Note: All models and specifications are conditional and subject to change without prior notice.



Carbo-Max™

Carbo-Max™ High Flow System is intended to meet the demands of very high volume customers including stadiums, brew pubs and entertainment complexes.

DETAILED SPECIFICATIONS		Carbo-Max™ 450	Carbo-Max™ 600
Capacity			
Liquid (gross)	litres	204	226
Liquid (net)	litres	192	246
Storage Capacity	kg @ 8,6 bar	212	277
Performance			
CO ₂ Gas Delivery (continuous) *	kg/hr	133,5	133,5
CO ₂ Gas Delivery (continuous) ★	Drinks/hr	1335	1335
Evaporation Rate △	kg/day	1,2	1,4
Peak Flow Rate ◆	kg/hr	18,1	18,1
Peak Flow Rate ★	Drinks/hr	3560	3560
Max Relief Valve Setting	bar	20,68	20,68
Dimensions			
Tank Diameter	cm	50,8	55,8
Height (with legs) ○	cm	181,3	193
Empty Weight	kg	124	146
Full Weight	kg	336	423
Construction			
Inner Vessel Material	barg	Stainless Steel	Stainless Steel
Outer Vessel Material		Stainless Steel	Stainless Steel
Design Regulation		PED (EN13458)	PED (EN13458)
MAWP		20,68	20,68
Insulation Type		Super Insulation	Super Insulation
Vaporizer Coil		N/A	Stainless Steel
Liquid Level Gauge ◆		Differential Pressure	Differential Pressure
Components			
Relief Valve Setting	barg	20,68	20,68
Secondary Relief Valve Setting	barg	20,68	20,68
Sure-Fill™ RV Setting	barg	13,8	13,8
Gas Use Connection		1/4" 45' flare	1/4" 45' flare
Fill Line Connection		5/8" Male 45' Flare	5/8" Male 45' Flare
Vent Connection		1/2" OD Tubing	1/2" OD Tubing



- * Twelve consecutive hours at room temperature
- ★ Standard 0,5 litre soft drink
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- ◆ Four consecutive hours at room temperature
- Subtract 15,2 cm for height without legs

- ◆ Float gauge available on request

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Please contact us

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Cooler By Design®

Your Service Partner Across Europe

- Multiple service locations
- Core cryogenic expertise
- Supplemental specialist knowledge of subsidiary companies
- Single source contact and accountability
- Unrivalled experience
- Largest installed equipment database

