



Bulk CO₂ & Syrup Systems

McDonald's® Equipment

Ensuring bulk CO₂ & Coca-Cola® syrup supply capabilities.
Every day - All day.



McDonald's Bulk CO₂ and Syrup Systems

The Chart Bulk program includes the bulk CO₂ system and the bulk syrup system for Coca-Cola® Classic. Both systems are permanently installed inside the restaurant and become an integral part of the beverage system. The tanks are refilled from outside the restaurant without entering the stores or interrupting operations. The McDonald's bulk CO₂ and bulk syrup program is a convenient and safe way to improve profits, safety and quality in a restaurant operation.

Improve Operations

- Eliminates carrying, storing and rotating 9 tons of CO₂ cylinders and 25 tons of Coca-Cola® syrup annually.
- Improves crew productivity.
- Maximizes floor space in the restaurant. A single Carbo-Max® 750 Bulk CO₂ System can replace 39 cylinders (20 lb) or 15 cylinders (50 lb). A single bulk tank of Coca-Cola® syrup replaces 15 BIB or 15 figals.
- Eliminates running out of CO₂ and syrup during peak rush periods.
- Increases the ability to provide CO₂ to all your CO₂ gas requirements.

Increases Yields

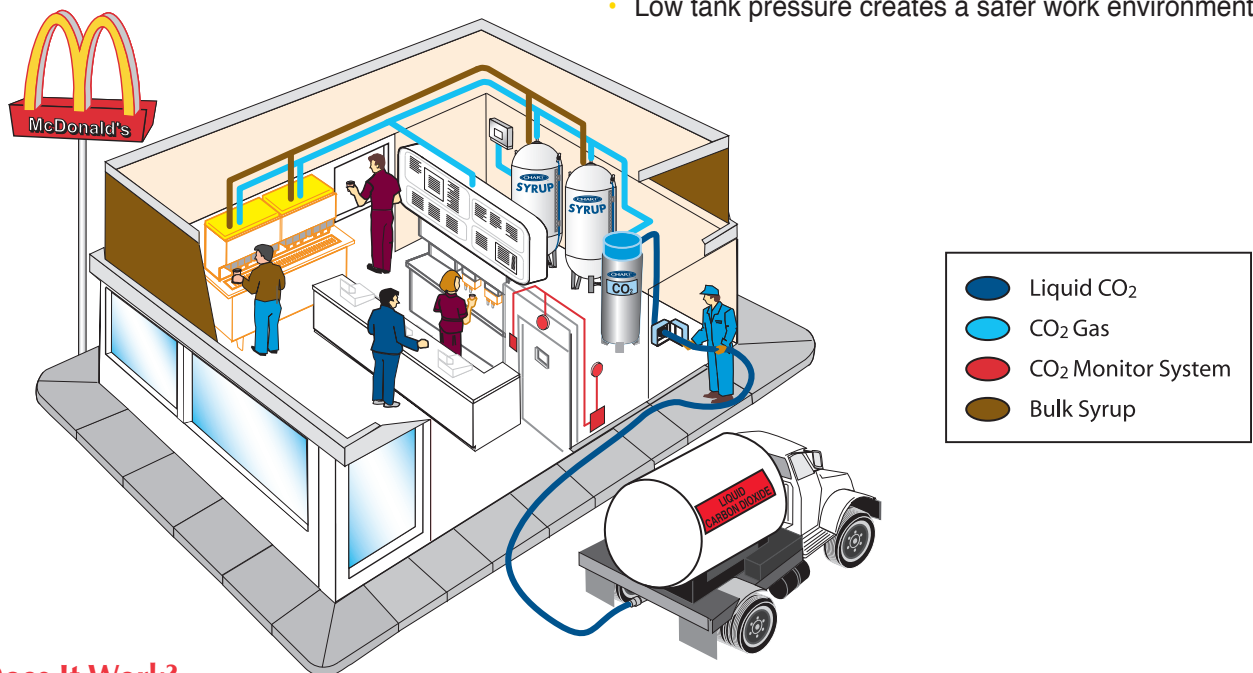
- The average yield improvement with bulk CO₂ is 5% to 15%. A high pressure cylinder is never really empty – it is still 3% full when the pressure falls below the usable point for the beverage system.
- Eliminates CO₂ leaks caused by frequent cylinder changes.
- Reduces your Coca-Cola® syrup cost over BIB or figals with the Coca-Cola® bulk system.
- Eliminates replacing BIB or figals that were not completely empty prior to lunch rush.
- Eliminates purging of air from the beverage system when a figal or BIB runs empty.

Improve Quality & Service

- Uninterrupted supply of CO₂ and syrup from an automatic bulk system assures consistent beverage carbonation and produces a high quality drink.
- Improves customer satisfaction.

Improves Safety

- Eliminates the handling of heavy tanks, minimizing store damage and personal injury.
- Low tank pressure creates a safer work environment.



How Does It Work?

The Chart Bulk CO₂ tank stores carbon dioxide as a cold liquid, which requires less space and lower, safer pressure. When the store needs CO₂, the Chart Bulk CO₂ tank converts the liquid to gas and supplies CO₂ gas to the carbonator, BIB pumps, bulk syrup or wherever needed.

The Convenient, Economical and Safe Alternative to High Pressure and Figal Cylinders



Chart Bulk CO₂

A bulk CO₂ system is a single storage vessel that provides a continuous supply of CO₂ to the beverage machine, replacing numerous high-pressure cylinders. The bulk CO₂ tank is located conveniently inside the restaurant. An average delivery time is 15 minutes, requires no crew time, and never interrupts store operations. The CO₂ delivery truck connects the hose to a fill box located outside the restaurant, and fills the bulk tank without entering the store.

Chart Bulk Syrup for Coca-Cola®

The Chart Bulk Syrup consists of two or more bulk syrup tanks permanently installed inside the restaurant. Each tank holds 80 gallons of Coca-Cola® syrup and replaces bag-in-a-box and other syrup packages. Syrup is withdrawn from one syrup tank at a time and fed to the beverage machine upon demand. When one tank is completely empty, the system switches to the next full tank. The empty tank is automatically sanitized by the Clean-In-Place (CIP) panel system and ready for its next delivery of Coca-Cola®. Filling the syrup tank from the truck takes less than ten minutes and is part of the store's regular delivery service.

Chart Bulk Syrup systems are NSF (National Sanitation Foundation) listed under Standard Number 18.

SPECIFICATIONS

| | Carbo-Max® 1000 | Carbo-Max® 750 | Carbo-Max® 450 | Bulk Syrup |
|---|------------------------------|------------------------------|------------------------------|--------------------|
| Capacity | | | | |
| CO ₂ Storage Capacity | 1000 lb / 453.6 kg | 789 lb / 357.9 kg | 477 lb / 216.4 kg | 80 gal / 303 L |
| Tank Capacity equals: | | | | |
| Cylinders of 20 lb / 10 kg | 50 Cylinders | 39 Cylinders | 23 Cylinders | 15 BIB |
| Cylinders of 50 lb / 23 kg | 20 Cylinders | 15 Cylinders | 9 Cylinders | 15 Figals |
| Dimensions | | | | |
| Tank Diameter | 30 in / 76.2 cm | 26 in / 66 cm | 20 in / 50.8 cm | 22 in / 56 cm |
| Overall Height | * 72.5 in / 184.2 cm | 73.875 in / 187.6 cm | 71.875 in / 162.6 cm | 66 in / 168 cm |
| Empty Weight (Approx) | 788 lb / 357.4 kg | 430 lb / 195 kg | 273 lb / 123.8 kg | 110 lb / 50 kg |
| Performance | | | | |
| Peak Drinks per hour** | 2916 | 2333 | 1150 | |
| Peak CO ₂ Flow Rate per hour | 50 lb/hr / 22.7 kg/hr | 40 lb/hr / 18.1 kg/hr | 30 lb/hr / 13.6 kg/hr | |
| Continuous CO ₂ Flow Rate per hour | 30 lb/hr / 13.6 kg/hr | 15 lb/hr / 6.8 kg/hr | 15 lb/hr / 6.8 kg/hr | |
| Design Criteria | | | | |
| Pressure Vessel Code*** | ASME | ASME | ASME | ASME NSF-STD 18 |
| Maximum Allowed Working Pressure | 300 psig / 20.7 barg | 300 psig / 20.7 barg | 300 psig / 20.7 barg | 87 psig / 6.0 barg |
| Normal Operation Pressure | 100-200 psig / 6.9-13.8 barg | 100-200 psig / 6.9-13.8 barg | 100-200 psig / 6.9-13.8 barg | 60 psig / 4.1 barg |
| Construction | | | | |
| Inner and Outer Vessels | Stainless Steel | Stainless Steel | Stainless Steel | Stainless Steel |
| Components | | | | |
| ASME Relief Valve | 300 psig / 20.7 barg | 300 psig / 20.7 barg | 300 psig / 20.7 barg | 87 psig / 6.0 barg |
| Secondary Relief Valve | 450 psig / 31.0 barg | 450 psig / 31.0 barg | 450 psig / 31.0 barg | |

* Add 6 in. for stainless steel leg base

** Peak drinks are based on calculations established in the "McDonald's Beverage Workbook Equipment Section" and a 14 day CO₂ delivery cycle.

*** The specifications shown for the McDonald's bulk CO₂ tanks are based on the ASME Boiler and Pressure Vessel Design Code, Section VIII, Division 1. Most countries require compliance by law with one or more pressure vessel codes. Chart manufactures bulk CO₂ vessels which comply with many of the most widely recognized codes.



McDonald's has installed over 15,000 bulk CO₂ and bulk syrup systems, providing significant improvements to McDonald's operations around the world. The Chart Bulk CO₂ System and the Chart Bulk Syrup System for Coca-Cola® are convenient and safe ways to improve profits, safety and quality in McDonald's restaurants. Chart provides special systems for international operations.

Chart Inc. - Bulk CO₂ and Syrup Systems
Tel: U.S.A. 800-247-4446; Worldwide (952) 243-8800
Web: www.chartbeverage.com

