

PERMA-CYL®

ON-SITE STORAGE SYSTEM - MICROBULK SOLUTIONS

The Perma-Cyl® storage system allows users to enjoy the benefits of on-site gas delivery. Gone are the hassels, waste, and expense of full-for-empty gas cylinders. Using Perma-Cyls, there are no cylinders to change, no residual gas losses, no back, hand or foot injuries from handling cylinders, and no lost or damaged cylinders.

Perma-Cyls are reliable, efficient, and more economical than comparable transportable cylinders. Designed for a higher level of thermal efficiency, Perma-Cyls can hold their gas contents longer with lower pressure rise than other similar vessels. Their extraordinary thermal quality limits product losses during extended periods of little gas use.

The innovative Perma-Cyl storage system incorporates a top fill float designed to allow single-hose filling without losses. It automatically shuts off the ORCA delivery unit for a safe and reliable fill.

PRODUCT BENEFITS

- The first fill-at-site solution for packaged or cylinder gas users
- Fast filling capable
- Single hose no-loss/low-loss filling
- Automatic fill shutoff when used with ORCA
- Extended holding times
- Telemetry ready with Cyl-Tel® gauge



PRODUCT ADVANTAGES

- Sizes, pressures and configurations to meet most applications
- Capacities from 230 liters to 2,000 liters (60.8 gal to 528.3 gal)
- Pressures from 235 psi to 500 psi (16.2 bar to 34.5 bar)
- Patented automatic fill shut-off feature with optional fill box allows for remote filling from outside the building or compound when a Perma-Cyl is installed indoors
- ORCA automatically safely stops the fill process when Perma-Cyl is full
- Patented Cyl-Tel gauge supports remote alarms or telemetry communications
- High-pressure high flow models for laser assist applications
- Combination pressure control regulators with micrometer adjustment knob or screw
- Outdoor or indoor installation and operation



Innovation. Experience. Performance.®

PERMA-CYL®

ON-SITE STORAGE SYSTEM - MICROBULK SOLUTIONS

SPECIFICATIONS

DESCRIPTION	230L C MP,LCCM Sq Base w/Casters	230L C MP,LCCM Rnd Base w/Casters	230L C HP,LCCM Sq Base w/Casters	230L C HP,LCCM Rnd Base w/Casters	265L MP Sq Base w/Casters	300L MP Plate Base	450L HP Plate Base	450L MP Plate Base	450L HP Plate Base	450L VHP Plate Base	700L HP Plate Base	1000L HP Plate Base	1000L VHP Plate Base	1500L HP Plate Base	1500L VHP Pallet Base	2000L VHP Pallet Base
CAPACITY (Liters)																
Gross	240	240	240	240	276	330	450	450	450	450	688	1,056	1,056	1,550	1,550	2,042
Net	230	230	230	230	265	300	420	420	420	420	645	950	950	1,455	1,455	1,945
MAWP																
psig	235	235	350	350	235	300	350	250	350	500	350	350	500	350	500	500
bar	16.2	16.2	24.1	24.1	16.2	20.7	24.1	17.2	24.1	34.5	24.1	24.1	34.5	24.1	34.5	34.5
MAXIMUM PRE-SET OPERATING PRESSURE																
psig	125	125	300	300	125	250	300	125	300	450	300	300	450	300	450	450
bar	8.6	8.6	20.7	20.7	8.6	17.2	20.7	8.6	20.7	31.0	20.7	20.7	31.0	20.7	31.0	31.0
DESIGN SPECIFICATIONS																
	DOT	DOT	DOT	DOT	DOT	ASME	DOT	ASME	ASME	ASME	ASME	ASME	ASME	ASME	ASME	ASME
STORAGE CAPACITY (1)																
Nitrogen																
SCF	5,024	5,024	4,734	4,734	5,769	7,380	8,875	10,332	10,332	10,332	15,860	24,350	24,350	35,790	35,790	47,847
Nm ³	142	142	134	134	152	193	271	272	272	272	449	689	689	1,013	1,013	1,257
Oxygen																
SCF	6,244	6,244	5,930	5,930	7,186	9,100	11,124	12,760	12,760	12,760	19,600	30,070	30,070	44,220	44,220	59,089
Nm ³	177	177	168	168	189	184	315	336	336	336	554	850	850	1,250	1,250	1,553
Argon																
SCF	6,073	6,073	5,763	5,763	6,982	8,850	10,812	12,478	12,478	12,478	19,160	29,400	29,400	43,220	43,220	57,786
Nm ³	172	172	163	163	183	234	306	328	328	328	542	832	832	1,223	1,223	1,519
CO₂																
SCF	N/A	N/A	4,500	4,500	N/A	N/A	8,312	N/A	8,200	8,200	12,608	19,960	19,960	29,340	29,340	38,048
Nm ³	N/A	N/A	118	118	N/A	N/A	235	N/A	232	232	357	564	564	830	830	1,000
THERMAL PERFORMANCE (2) (NER%/Day)																
N ₂	1.8%	1.8%	1.8%	1.8%	2%	1.2%	1.9%	1.6%	1.6%	1.6%	1%	1%	1%	1%	1%	1%
O ₂ -Ar	1.12%	1.12%	1.12%	1.12%	1.4%	.74%	1.2%	1%	1%	1%	.62%	.62%	.62%	.62%	.62%	.62%
CO ₂	.6%	.6%	.6%	.6%	N/A	.4%	.6%	.5%	.5%	.5%	.3%	.3%	.3%	.3%	.3%	.3%
GAS DELIVERY RATE (LIN/LAR/LOX)																
SCF/H	400	400	400	400	400	500	575	575	575	575	660	960	960	1,350	1,350	2,000 ⁽³⁾
Nm ³ /h	10.5	10.5	10.5	10.5	10.5	14.1	15.1	15.1	15.1	15.1	18.6	25.2	25.2	35.4	35.4	52.4
GAS DELIVERY RATE (CO₂)																
SCF/H	N/A	N/A	133	133	N/A	N/A	192	192	192	192	220	320	320	450	450	667
Nm ³ /h	N/A	N/A	3.8	3.8	N/A	N/A	5.4	5.4	5.4	5.4	6.2	9.0	9.0	12.7	12.7	17.5
DIMENSIONS																
Diameter																
in	26	26	26	26	26	26	30	30	30	30	42	42	42	48	48	48
mm	660	660	660	660	660	660	762	762	762	762	1,067	1,067	1,067	1,219	1,219	1,219
Height																
in	54.8	52.9	54.8	52.9	62	68	68	68	68	68	60	81	81	91	91	117
mm	1,392	1,344	1,392	1,344	1,575	1,727	1,727	1,727	1,727	1,727	1,524	2,058	2,058	2,311	2,311	2,970
Tare Weight																
lbs	300	300	340	340	340	450	688	605	688	812	1,065	1,750	2,080	2,692	3,200	3,860
kg	136	136	154	154	154	204	312	274	312	368	483	794	945	1,221	1,451	1,751

All specifications are subject to change without prior notice.

1) Values are based on net capacity at 0 psig (0 bar) for ASME vessels. CO₂ vessels are based on net capacity at 300 psi (20.7 bar). DOT vessels are per code.

2) Values are based on gross capacity.

3) Optional 3,500 SCF/H (92 Nm³/h) model available.

Patents: 5,787,942 • 5,954,101 • 5,136,852 • 6,542,848 - Other Patents Pending

DOT- Department of Transportation, 4L Code

ASME- American Society of Mechanical Engineers, Section VIII, Division 1

Specifications subject to change without notice.

Your Local Representative



Innovation. Experience. Performance.™

Chart Industries, Inc.

U.S.: 1-800-400-4683

Worldwide: 1-952-758-4484

www.chart-ind.com

Copyright © 2006 Chart Industries

PN 11000938