

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-Cyl tanks, 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.

The Perma-Cyl is reliable, efficient, and more economical than comparable transportable cylinders. Designed for a higher level of thermal efficiency, they 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

Products featured are manufactured by Chart Inc.



Product Advantages

- Sizes, pressures and configurations to meet most applications
- Capacities from 230 liters to 3,000 liters (60.8 gal to 715 gal)
- Pressures from 235 psig to 500 psig (16.2 barg to 34.5 barg)
- 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

Specifications

DESCRIPTION	230L MP, LCCM Sq/Rnd Base w/Casters	230L HP, LCCM Sq/Rnd Base w/Casters	265L MP, LCCM Sq/Rnd Base w/Casters	265L HP, LCCM Sq/Rnd Base w/Casters	300L MP Plate Base	450L HP Plate Base	450L MP Plate Base	450L VHP Plate Base	700L HP Plate Base	1000L HP Plate Base	1000L VHP Plate Base	1500L HP Pallet Base	1500L VHP Pallet Base	2000L HP Pallet Base	2000L VHP Pallet Base	3000L HP Pallet Base	3000L VHP Pallet Base
CAPACITY (Liters)																	
Gross	240	240	276	276	330	450	450	450	688	1,056	1,056	1,550	1,550	2,042	2,042	2,911	2,911
Net	230	230	265	265	300	420	420	420	645	950	950	1,455	1,455	1,945	1,945	2,707	2,707
CAPACITY (Gallons)																	
Gross	63.4	63.4	72.9	72.9	81.2	118.9	118.9	118.9	181.8	279.0	279.0	409.5	409.5	539.5	539.5	770	770
Net	60.8	60.8	70.0	70.0	79.3	111.0	111.0	111.0	170.4	251.0	251.0	384.4	384.4	513.9	513.9	715	715
MAWP																	
psig	230	350	230	350	300	350	250	500	350	350	500	350	500	350	500	350	500
barg	15.9	24.1	15.9	24.1	20.7	24.1	17.2	34.5	24.1	24.1	34.5	24.1	34.5	24.1	34.5	24.1	34.5
MAXIMUM PRE-SET OPERATING PRESSURE																	
psig	125	300	125	300	250	300	125	450	300	300	450	300	450	300	450	300	450
barg	8.6	20.7	8.6	20.7	17.2	20.7	8.6	31.0	20.7	20.7	31.0	20.7	31.0	20.7	31.0	20.7	31.0
DESIGN SPECIFICATIONS																	
	DOT	DOT	DOT	DOT	ASME	DOT/ASME	ASME	DOT/ASME	ASME	ASME	ASME	ASME	ASME	ASME	ASME	ASME	ASME
STORAGE CAPACITY (1)																	
Nitrogen	SCF	5,024	4,734	5,769	5,769	7,380	8,875/10,332	10,332	7,922/10,332	15,860	24,350	24,350	35,790	35,790	47,847	47,847	66,592
	Nm ³	142	134	152	152	193	271/272	272	271/272	449	689	689	1,013	1,013	1,257	1,257	1,750
Oxygen	SCF	6,244	5,930	7,186	7,186	9,100	11,124/12,760	12,760	11,124/12,760	19,600	30,070	30,070	44,220	44,220	59,089	59,089	82,239
	Nm ³	177	168	189	189	184	315/336	336	315/336	554	850	850	1,250	1,250	1,553	1,553	2,161
Argon	SCF	6,073	5,763	6,982	6,982	8,850	10,812/12,478	12,478	10,812/12,478	19,160	29,400	29,400	43,200	43,200	57,786	57,786	80,425
	Nm ³	172	168	183	183	234	306/328	328	306/328	542	832	832	1,223	1,223	1,519	1,519	2,115
CO₂	SCF	N/A	4,500	N/A	N/A	N/A	8,312/8,200	N/A	8,312/8,200	12,608	19,960	19,960	29,340	29,340	38,048	38,048	52,954
	Nm ³	N/A	N/A	N/A	N/A	N/A	235/232	N/A	235/232	357	564	564	830	830	1,000	1,000	1,390
THERMAL PERFORMANCE (2) (NER%/day)																	
N ₂	1.8%	1.8%	2%	2%	1.2%	1.9%/1.6%	1.6%	1.9%/1.6%	1%	1%	1%	1%	1%	1%	1%	1%	1%
O ₂ -Ar	1.12%	1.12%	1.4%	1.4%	.74%	1.2%/1%	1%	1.2%/1%	.62%	.62%	.62%	.62%	.62%	.62%	.62%	.62%	.62%
CO ₂	.6%	.6%	N/A	N/A	.4	.6%/.5%	.5%	.6%/.5%	.3%	.3%	.3%	.3%	.3%	.3%	.3%	.3%	.3%
GAS DELIVERY RATE (LIN/LAR/LOX)																	
SCF/H	400	400	400	400	500	575	575	575	660	960	960	1,350	1,350	1,350	2000 ⁽³⁾	1,350	2000 ⁽³⁾
Nm ³ /h	10.5	10.5	10.5	10.5	14.1	15.1	15.1	15.1	18.6	25.2	25.2	35.4	35.4	35.4	52.4	35.4	52.4
GAS DELIVERY RATE (CO₂)																	
SCF/H	N/A	133	N/A	N/A	N/A	192	192	192	220	320	320	450	450	450	667	450	450
Nm ³ /h	N/A	3.8	N/A	N/A	N/A	5.4	5.4	5.4	6.2	9.0	9.0	12.7	12.7	12.7	17.5	12.7	12.7
DIMENSIONS																	
Diameter	in	26	26	26	26	26	30	30	42	42	42	48	48	48	48	59	59
	mm	660	660	660	660	660	762	762	1,067	1,067	1,067	1,219	1,219	1,219	1,219	1,499	1,499
Height	in	61.8/62	61.8/62	64.6/64.8	64.6/64.8	68	68	68	60	81	81	91	91	117	117	122	122.5
	mm	1,570/1,575	1,570/1,575	1,641/1,646	1,641/1,646	1,727	1,727	1,727	1,524	2,058	2,058	2,311	2,311	2,970	2,970	3,099	3,112
Tare Weight	lbs	300	340	340	340	450	688	605	812	1,250*	1,500*	1,750*	2,200*	2,500**	2,600**	3,300**	4,250**
	kg	136	154	154	154	204	312	274	368	567	680	794	998	1,134	1,179	1,497	1,928

All specifications are subject to change without prior notice.

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

1) Values are based on net capacity at 0 psig (0 barg) for ASME vessels.

DOT-Department of Transportation, 4L Code

CO₂ vessels are based on net capacity at 300 psig (20.7 barg). DOT vessels are per code.

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

2) Values are based on gross capacity.

Contact Factory for Canadian and New York City Approvals.

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

*Weights do not include lab base option. (base option: 265 lbs)

All dimensions are measured from the floor to the top of the handling ring.

**Weights include lab bases.

All of the plumbing components fit under the handling ring.



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Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113
USA

www.praxair.com
info@praxair.com

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P-10482

Telephone:
1-877-PRAXAIR (1-877-772-9247)
(610) 691-2474

Fax:
1-800-772-9985
(610) 758-9103