

# PERMA-CYL®

ON-SITE STORAGE SYSTEM - MICROBULK SOLUTIONS

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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

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- 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

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- 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



Innovation. Experience. Performance.®

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## SPECIFICATIONS

MODEL	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/VHP Plate Base	1500L HP/VHP Pallet Base	2000L HP/VHP Pallet Base	3000 L HP/VHP Pallet Base	3000 L HP/VHP Horizontal Forklift Base
<b>CAPACITY (Liters)</b>														
Gross	240	240	276	276	330	450	450	450	688	1,056	1,550	2,042	2,911	2,911
Net	230	230	265	265	300	420	420	420	645	950	1,455	1,945	2,707	2,707
<b>CAPACITY (Gallons)</b>														
Gross	63.4	63.4	72.9	72.9	81.2	118.9	118.9	118.9	181.8	279.0	409.5	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	384.4	513.9	715	715
<b>MAWP</b>														
psig	230	350	230	350	300	350	250	500	350	350/500	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	24.1/34.5
<b>MAXIMUM PRE-SET OPERATING PRESSURE</b>														
psig	125	300	125	300	250	300	125	450	300	300/450	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	20.7/31.0
<b>DESIGN SPECIFICATIONS</b>														
	DOT	DOT	DOT	DOT	ASME	DOT/ASME	ASME	DOT/ASME	ASME	ASME	ASME	ASME	ASME	ASME
<b>STORAGE CAPACITY (1)</b>														
<b>Nitrogen</b>														
SCF	5,024	4,734	5,769	5,769	7,380	8875/10332	10,332	7922/10332	15,860	24,350	35,790	47,847	66,592	66,592
Nm <sup>3</sup>	142	134	152	152	193	271/272	272	271/272	449	689	1,013	1,257	1,750	1,750
<b>Oxygen</b>														
SCF	6,244	5,930	7,186	7,186	9,100	11124/12760	12,760	11124/12760	19,600	30,070	44,220	59,089	82,239	82,239
Nm <sup>3</sup>	177	168	189	189	184	315/336	336	315/336	554	850	1,250	1,553	2,161	2,161
<b>Argon</b>														
SCF	6,073	5,763	6,982	6,982	8,850	10812/12478	12,478	10812/12478	19,160	29,400	43,220	57,786	80,425	80,425
Nm <sup>3</sup>	172	163	183	183	234	306/328	328	306/328	542	832	1,223	1,519	2,115	2,115
<b>CO<sub>2</sub></b>														
SCF	N/A	4,500	N/A	N/A	N/A	8312/8200	N/A	8312/8200	12,608	19,960	29,340	38,048	52,954	N/A
Nm <sup>3</sup>	N/A	N/A	N/A	N/A	N/A	235/232	N/A	235/232	357	564	830	1,000	1,390	N/A
<b>THERMAL PERFORMANCE (2) (NER%/Day)</b>														
N <sub>2</sub>	1.8%	1.8%	2%	2%	1.2%	1.9%/1.6%	1.6%	1.9%/1.6%	1%	1%	1%	1%	1%	1%
O <sub>2</sub> -Ar	1.12%	1.12%	1.4%	1.4%	.74%	1.2%/1%	1%	1.2%/1%	.62%	.62%	.62%	.62%	.62%	.62%
CO <sub>2</sub>	.6%	.6%	N/A	N/A	.4%	.6%/5%	.5%	.6%/5%	.3%	.3%	.3%	.3%	.3%	.3%
<b>GAS DELIVERY RATE (LIN/LAR/LOX)</b>														
SCF/H	400	400	400	400	500	575	575	575	660	960	1,350	1350/2000 <sup>(3)</sup>	1350/2000 <sup>(3)</sup>	2,000
Nm <sup>3</sup> /h	10.5	10.5	10.5	10.5	14.1	15.1	15.1	15.1	18.6	25.2	35.4	35.4/52.4	35.4/52.4	52.4
<b>GAS DELIVERY RATE (CO<sub>2</sub>)</b>														
SCF/H	N/A	133	N/A	N/A	N/A	192	192	192	220	320	450	450/667	450/667	N/A
Nm <sup>3</sup> /h	N/A	3.8	N/A	N/A	N/A	5.4	5.4	5.4	6.2	9.0	12.7	12.7/17.5	12.7/17.5	N/A
<b>DIMENSIONS</b>														
<b>Diameter</b>														
in	26	26	26	26	26	30	30	30	42	42	48	48	59	59
mm	660	660	660	660	660	762	762	762	1,067	1,067	1,219	1,219	1,499	1,499
<b>Height</b>														
in	61.8/62	61.8/62	64.6/64.8	64.6/64.8	67	69	69	69	62.5	82	92/91	118.5/119.5	122/122.5	71
mm	1570/1575	1570/1575	1641/1646	1641/1646	1,702	1,753	1,753	1,753	1,588	2,083	2337/2311	3,010/3,035	3099/3112	1,803
<b>Tare Weight</b>														
lbs	300	340	340	340	450*	688*	605*	812*	1,250*	1500/1750*	2200/2500**	2600/2950**	3300/4250**	3800/4250**
kg	136	154	154	154	204	312	274	368	567	680/794	998/1134	1179/1338	1497/1928	1724/1928

All specifications are subject to change without prior notice.

1) Values are based on net capacity at 0 psig (0 barg) for ASME vessels. CO<sub>2</sub> vessels are based on net capacity at 300 psig (20.7 barg). DOT vessels are per code.

2) Values are based on gross capacity.

3) Optional 3,500 SCF/H (92 Nm<sup>3</sup>/h) flow kit available.

All dimensions are measured from the floor to the top of the highest plumbing component.

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  
Contact Factory for Canadian Approvals.

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

\*\* Weights include lab bases.

## Your Local Representative



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