

# PERMA-CYL®

ON-SITE STORAGE SYSTEM - MICROBULK SOLUTIONS

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The Perma-Cyl® MicroBulk 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 tank 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™ MicroBulk Delivery System 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 truck
- Extended holding times
- Telemetry ready with Cyl-Tel® Liquid Level Gauge



## PRODUCT ADVANTAGES

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- Sizes, pressures and configurations to meet most applications
- Capacities from 230 liters to 5,500 liters (60.8 gal to 1350 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 tank is installed indoors
- Orca truck automatically safely stops the fill process when Perma-Cyl tank 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	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	3000L HP/VHP Pallet Base	3000L HP/VHP Horizontal Forklift Base	5500L MP/VHP Pallet Base	
<b>CAPACITY (Liters)</b>															
Gross	240	240	276	276	450	450	450	688	1,056	1,550	2,042	2,911	2,911	5510/5434	
Net	230	230	265	265	420	420	420	645	950	1,455	1,945	2,707	2,707	5262/5110	
<b>CAPACITY (Gallons)</b>															
Gross	63.4	63.4	72.9	72.9	118.9	118.9	118.9	181.8	279.0	409.5	539.5	770	770	1456/1435	
Net	60.8	60.8	70.0	70.0	111.0	111.0	111.0	170.4	251.0	384.4	513.9	715	715	1390/1350	
<b>MAWP</b>															
psig	230	350	230	350	350	250	500	350	350/500	350/500	350/500	350/500	350/500	250/500	
barg	15.9	24.1	15.9	24.1	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	17.2/34.5	
<b>PRE-SET OPERATING PRESSURE</b>															
psig	125	300	125	300	300	125	450	300	300/450	300/450	300/450	300/450	300/450	125/450	
barg	8.6	20.7	8.6	20.7	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	8.6/31.0	
<b>DESIGN SPECIFICATIONS</b>															
DOT/ASME	DOT	DOT	DOT	DOT	DOT/ASME	ASME	DOT/ASME	ASME	ASME	ASME	ASME	ASME	ASME	ASME	
<b>STORAGE CAPACITY (1)</b>															
<b>Nitrogen</b>															
SCF	5,024	4,734	5,769	5,769	8875/10332	10,332	7922/10332	15,860	24,350	35,790	47,847	66,592	66,592	128700/125000	
Nm <sup>3</sup>	142	134	152	152	271/272	272	271/272	449	689	1,013	1,257	1,750	1,750	3644/3540	
<b>Oxygen</b>															
SCF	6,244	5,930	7,186	7,186	11124/12760	12,760	11124/12760	19,600	30,070	44,220	59,089	82,239	82,239	159400/154900	
Nm <sup>3</sup>	177	168	189	189	315/336	336	315/336	554	850	1,250	1,553	2,161	2,161	4514/4386	
<b>Argon</b>															
SCF	6,073	5,763	6,982	6,982	10812/12478	12,478	10812/12478	19,160	29,400	43,220	57,786	80,425	80,425	156200/151700	
Nm <sup>3</sup>	172	163	183	183	306/328	328	306/328	542	832	1,223	1,519	2,115	2,115	4423/4296	
<b>CO<sub>2</sub></b>															
SCF	N/A	4,615	N/A	5,306	8312/8200	N/A	8312/8200	12,608	19,960	29,340	38,048	52,954	N/A	N/A	
Nm <sup>3</sup>	N/A	130.7	N/A	150.3	235/232	N/A	235/232	357	564	830	1,000	1,390	N/A	N/A	
Lbs	N/A	528	N/A	607	951/938	N/A	951/938	1,442	2,283	3,356	4,352	6,058	N/A	N/A	
<b>THERMAL PERFORMANCE (2) (NER%/Day)</b>															
N <sub>2</sub>	1.8%	1.8%	2%	2%	1.9%/1.6%	1.6%	1.9%/1.6%	1%	1%	1%	1%	1%	1%	.7%	
O <sub>2</sub> -Ar	1.12%	1.12%	1.4%	1.4%	1.2%/1%	1%	1.2%/1%	.62%	.62%	.62%	.62%	.62%	.62%	.43%	
CO <sub>2</sub>	N/A	.6%	N/A	.7%	.6%/1.5%	N/A	.6%/1.5%	.3%	.3%	.3%	.3%	.3%	N/A	N/A	
<b>GAS DELIVERY RATE (LIN/LAR/LOX)</b>															
SCFH	400	400	400	400	575	575	575	660	960	1,350	1350/2000 <sup>(3)</sup>	1350/2000 <sup>(3)</sup>	2,000	3500/5000 <sup>(4)</sup>	
Nm <sup>3</sup> /h	10.5	10.5	10.5	10.5	15.1	15.1	15.1	18.6	25.2	35.4	35.4/52.4	35.4/52.4	52.4	99/141	
<b>GAS DELIVERY RATE (CO<sub>2</sub>)</b>															
SCFH	N/A	133	N/A	133	192	N/A	192	220	320	450	450/667 <sup>(3)</sup>	450/667 <sup>(3)</sup>	N/A	N/A	
Nm <sup>3</sup> /h	N/A	3.8	N/A	3.8	5.4	N/A	5.4	6.2	9.0	12.7	12.7/17.5	12.7/17.5	N/A	N/A	
Lbs/H	N/A	22	N/A	22	22	N/A	22	25	36	51	51/76	51/76	N/A	N/A	
<b>DIMENSIONS</b>															
<b>Diameter</b>															
in	26	26	26	26	30	30	30	42	42	48	48	58	58	80	
mm	660	660	660	660	762	762	762	1,067	1,067	1,219	1,219	1,473	1,473	2,032	
<b>Height</b>															
in	61.8/62	61.8/62	64.6/64.8	64.6/64.8	69	69	69	62.5	82	92/91	118.5/119.6	122/122.25	71	119	
mm	1570/1575	1570/1575	1641/1646	1641/1646	1,753	1,753	1,753	1,588	2,083	2337/2311	3,010/3,037	3099/3105	1,803	3,023	
<b>Tare Weight</b>															
lbs	300	340	340	340	688*	605*	812*	1,250*	1500/1750*	2200/2500**	2600/3860**	3300/4500**	3800/4250**	6800/9100**	
kg	136	154	154	154	312	274	368	567	680/794	998/1134	1179/1751	1497/2045	1724/1928	3084/4128	

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 SCFH (92 Nm<sup>3</sup>/h) flow kit available.  
 4) Optional 3,500 SCFH hang on vaporizer or 5,000 SCFH stand alone vaporizer.

Patents: 5,954,101 • 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. (265 lbs) \*\* Weights include lab bases.  
 All dimensions are measured from the floor to the top of the highest plumbing component.

## Your Local Representative



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