

Introducing the biggest Perma-Cyl® yet...



the Perma-Cyl® 3000.

For your customers who need a storage solution where a bulk tank just won't fit – the Perma-Cyl® 3000 is the answer.

- » Highest MicroBulk storage capacity: 3000 liters at 350 psig (24.1 barg)
- » Automatic fill shut-off with Orca® delivery system
- » Configured To Order for all services and applications
- » High thermal efficiency keeps liquid stored during periods of low intermittent use
- » Ergonomically mounted telemetry-ready Cyl-Tel® gauge and piping controls
- » Long life, low maintenance stainless steel outer construction and piping
- » Stainless steel pallet-style base standard
- » Can be shipped vertically or horizontally

Perma-Cyl® 3000



If it doesn't say Perma-Cyl®, it's not MicroBulk.

Chart USA
Chart Ferrox
Chart China

New Prague, MN
Decin, Czech Republic
Changzhou, PR China

www.chart-ind.com
www.chart-ferox.com
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Innovation. Experience. Performance.®

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 hassles, 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 3,000 liters (60.8 gal to 715 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



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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 HP 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	2000 L VHP Pallet Base	3000 L HP Pallet Base	
CAPACITY (Liters)																		
Gross	240	240	276	276	330	450	450	450	450	688	1,056	1,056	1,550	1,550	2,042	2,042	2,911	
Net	230	230	265	265	300	420	420	420	420	645	950	950	1,455	1,455	1,945	1,945	2,707	
CAPACITY (Gallons)																		
Gross	63.4	63.4	72.9	72.9	81.2	118.9	118.9	118.9	118.9	181.8	279.0	279.0	409.5	409.5	539.5	539.5	770	
Net	60.8	60.8	70.0	70.0	79.3	111.0	111.0	111.0	111.0	170.4	251.0	251.0	384.4	384.4	513.9	513.9	715	
MAWP																		
psig	230	350	230	350	300	350	250	350	500	350	350	500	350	500	350	500	350	
bar	15.9	24.1	15.9	24.1	20.7	24.1	17.2	24.1	34.5	24.1	24.1	34.5	24.1	34.5	24.1	34.5	24.1	
MAXIMUM PRE-SET OPERATING PRESSURE																		
psig	125	300	125	300	250	300	125	300	450	300	300	450	300	450	300	450	300	
bar	8.6	20.7	8.6	20.7	17.2	20.7	8.6	20.7	31.0	20.7	20.7	31.0	20.7	31.0	20.7	31.0	20.7	
DESIGN SPECIFICATIONS																		
	DOT	DOT	DOT	DOT	ASME	DOT	ASME	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	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	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	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	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	12,478	19,160	29,400	29,400	43,220	43,220	57,786	57,786	80,425	
Nm ³	172	163	183	183	234	306	328	328	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	N/A	8,200	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	N/A	232	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%	1.6%	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%	.62%	.62%	.62%	.62%	.62%	.62%	.62%	.62%	
CO ₂	.6%	.6%	N/A	N/A	.4%	.6%	.5%	.5%	.5%	.3%	.3%	.3%	.3%	.3%	.3%	.3%	.3%	
GAS DELIVERY RATE (LIN/LAR/LOX)																		
SCF/H	400	400	400	400	500	575	575	575	575	660	960	960	1,350	1,350	1,350	2,000 ⁽³⁾	1350	
Nm ³ /h	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	35.4	52.4	35.4	
GAS DELIVERY RATE (CO₂)																		
SCF/H	N/A	133	N/A	N/A	N/A	192	192	192	192	220	320	320	450	450	450	667	450	
Nm ³ /h	N/A	3.8	N/A	N/A	N/A	5.4	5.4	5.4	5.4	6.2	9.0	9.0	12.7	12.7	12.7	17.5	12.7	
DIMENSIONS																		
Diameter																		
in	26	26	26	26	26	30	30	30	30	42	42	42	48	48	48	48	59	
mm	660	660	660	660	660	762	762	762	762	1,067	1,067	1,067	1,219	1,219	1,219	1,219	1,499	
Height																		
in	61.8/62	61.8/62	64.6/64.8	64.6/64.8	68	68	68	68	68	60	81	81	91	91	117	117	117	
mm	1,570/1,575	1,570/1,575	1,641/1,646	1,641/1,646	1,727	1,727	1,727	1,727	1,727	1,524	2,058	2,058	2,311	2,311	2,970	2,970	2,970	
Tare Weight																		
lbs	300	340	340	340	450	688	605	688	812	1,065	1,750	2,250	3,080	3,350	3,860	3,860	4,500	
kg	136	154	154	154	204	312	274	312	368	483	794	1,020	1,395	1,518	1,751	1,751	2,045	

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.
 All dimensions are measured from the floor to the top of the handling ring. All of the plumbing components fit under the handling ring.

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 and New York City Approvals.

Your Local Representative



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