

PERMA-CYL®

ON-SITE STORAGE SYSTEM - MICROBULK SOLUTIONS



The Perma-Cyl® MicroBulk 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-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, it can hold its gas contents longer with lower pressure rise than other similar-type vessels. The Perma-Cyl tank's extraordinary thermal quality limits product losses during extended periods of little or no gas use.

This innovative storage system incorporates a top fill float designed to allow single-hose filling without losses under normal conditions. It automatically shuts off the Orca™ MicroBulk Delivery System for a safe and reliable fill.

PRODUCT ADVANTAGES

- Sizes, pressures and configurations to meet most applications
- Capacities from 230 liters to 7000 liters (60.8 gal to 1840 gal)
- Supply pressures up to 450 psig
- 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
- WIKA liquid level gauge with connections for telemetry
- High-pressure, high flow models available for laser assist gas applications
- Outdoor or indoor installation and operation

PRODUCT OPTIONS

- Cyl-Tel® Digital Liquid Level Gauge
- Phase line isolation valves
- Bulk 1-1/2" CGA fill fitting on Perma-Cyl 1000 and larger
- Isolation valves for remote telemetry
- VJ valve available on Perma-Cyl 1000 and larger



PERMA-CYL®

ON-SITE STORAGE SYSTEM - MICROBULK SOLUTIONS

SPECIFICATIONS												
MODEL	230L HP, LCCM Sq/Rnd Base w/Casters	265L HP, LCCM Sq/Rnd Base w/Casters	450L HP Plate Base	450L VHP Plate Base	700L HP Plate Base	1000L ⁽⁸⁾ HP/VHP Pallet Base	1500L ⁽⁸⁾ HP/VHP Pallet Base	2000L ⁽⁸⁾ HP/VHP Pallet Base	3000L ⁽⁸⁾ HP/VHP Pallet Base	3000L ⁽⁷⁾ HP/VHP Horizontal Forklift Base	5500L ⁽⁷⁾ MP/VHP Pallet Base	7000L ⁽⁷⁾ VHP Pallet Base
CAPACITY (Liters)												
Gross	240	276	450	450	688	1,056	1,550	2,042	2,911	2,911	5,510/5,434	6,965
Net	230	265	420	420	645	950	1,455	1,945	2,707	2,707	5,262/5,110	6,662
CAPACITY (Gallons)												
Gross	63.4	72.9	118.9	118.9	181.8	279.0	409.5	539.5	770	770	1456/1435	1,840
Net	60.8	70.0	111.0	111.0	170.4	251.0	384.4	513.9	715	715	1390/1350	1,760
MAWP												
psig	350	350	350	500	350	350/500	350/500	350/500	350/500	350/500	250/500	500
barg	24.1	24.1	24.1	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	34.5
PRE-SET OPERATING PRESSURE												
psig	300	300	300	450	300	300/450	300/450	300/450	300/450	300/450	125/450	450
barg	20.7	20.7	20.7	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	31.0
DESIGN SPECIFICATIONS												
DOT/ASME	DOT	DOT	ASME	DOT/ASME	ASME	ASME	ASME	ASME	ASME	ASME	ASME	ASME
STORAGE CAPACITY (1)												
Nitrogen												
SCF	4,734	5,769	10332	7922/10332	15,860	24,350	35,790	47,847	66,592	66,592	128700/125000	163,800
Nm ³	134	152	272	271/272	449	689	1,013	1,257	1,750	1,750	3644/3540	4,306
Oxygen												
SCF	5,930	7,186	12760	11124/12760	19,600	30,070	44,220	59,089	82,239	82,239	159400/154900	202,500
Nm ³	168	189	336	315/336	554	850	1,250	1,553	2,161	2,161	4514/4386	5,323
Argon												
SCF	5,763	6,982	12478	10812/12478	19,160	29,400	43,220	57,786	80,425	80,425	156200/151700	197,900
Nm ³	163	183	328	306/328	542	832	1,223	1,519	2,115	2,115	4423/4296	5,202
THERMAL PERFORMANCE (2) (NER%/Day)												
N ₂	1.8%	2%	1.6%	1.9%/1.6%	1%	1%	1%	1%	1%	1%	.7%	.7%
O ₂ -Ar	1.12%	1.4%	1%	1.2%/1%	.62%	.62%	.62%	.62%	.62%	.62%	.43%	.43%
GAS DELIVERY RATE (LIN/LAR/LOX)												
SCFH	400	400	575	575	660	960	1,350	1350/3500 ⁽³⁾⁽⁴⁾	1350/3500 ⁽³⁾⁽⁴⁾	2,000	4,000 ⁽⁵⁾	4,000 ⁽⁶⁾
Nm ³ h	10.5	10.5	15.1	15.1	18.6	25.2	35.4	35.4/52.4	35.4/52.4	52.4	113	113
GAS DELIVERY RATE w/ Stand Alone Vaporizer (LIN/LAR/LOX)												
SCFH	N/A	N/A	1,150	1,150	1,320	1,920	2,700	2,700/5,000	2,700/5,000	2,000	5,000	5,000/10,000
Nm ³ h			30.2	30.2	34.7	50.5	71	71/141	71/141	52.4	141	141/282
DIMENSIONS												
Diameter												
in	26	26	30	30	42	42	48	48	58	58	80	98
mm	660	660	762	762	1,067	1,067	1,219	1,219	1,473	1,473	2,032	2,489
Height												
in	61.8/62	64.6/64.8	69	69	62.5	89	92/91	118.5/119.6	122/122.25	71	119	123
mm	1570/1575	1641/1646	1,753	1,753	1,588	2,260	2337/2311	3,010/3,037	3099/3105	1,803	3,023	3,125
Tare Weight												
lbs	340	430	688*	812*	1,250*	1840/2100**	2270/2575**	2695/3050**	3405/4390**	3800/4250**	6800/9100***	13,300***
kg	154	195	312	368	567	800/914	998/1134	1179/1338	1497/1928	1724/1928	3084/4128	6,033

All specifications are subject to change without prior notice.

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

2) Values are based on gross capacity.

3) Capable of supplying up to 3,500 SCFH for durations of 2-3 hours. For longer durations, we recommend a properly sized stand-alone process vaporizer.

4) Current vaporizers capable of supplying 2,000 SCFH continuous flow rate for 8-hour duty cycle at 70°F ambient temperature.

5) Optional 4,000 SCFH hang on vaporizer or 5,000 SCFH stand alone vaporizer.

6) Optional 4,000 SCFH hang on vaporizer, or 5,000 SCFH or 10,000 SCFH (for short periods of time) with stand alone vaporizer.

7) Perma-Cyl w/ FlexFill™ models

8) Offered in Perma-Cyl w/ FlexFill™ models

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) ** Weight includes pallet base.
*** Weight includes pallet base & 4,000 SCFH vaporizer.

All dimensions are measured from floor to top of the highest plumbing component.
See Perma-Max Literature for Specifications on CO₂ (PN 20890958 & 21176920)
See Perma-Cyl w/ FlexFill™ Literature for Specifications (PN 20602666)

Your Local Representative



Chart Inc.
U.S.: 1-800-400-4683
Worldwide: 1-952-758-4484
www.microbulk.com