

PERMA-CYL® 5500 HYDROGEN

HIGH CAPACITY MICROBULK STORAGE SYSTEM FOR LIQUID HYDROGEN

The innovative Perma-Cyl® 5500 Hydrogen MicroBulk Storage System is the latest addition to the Perma-Cyl product line of fast fill onsite MicroBulk storage vessels. Designed for hydrogen gas or liquid applications, the Perma-Cyl 5500 Hydrogen system operates at high pressures.

The Perma-Cyl 5500 Hydrogen system comes with many standard features including the fire safe gas-use line. Additionally, this model comes with a standard star-fin external pressure builder vaporizer rated at 4000 SCFH. This package optimizes the platform for high capacity/high flow applications.

The Perma-Cyl series is designed to store liquefied gas contents for long periods of time without venting, limiting product losses during periods with little or no use.

PRODUCT HIGHLIGHTS

The innovative Perma-Cyl 5500 Hydrogen

- All new inner support system for ultra-low NER
- Vacuum jacketed fill line piping to keep liquid at the highest quality as delivered
- 2" HQK female bayonet fill connection standard
- Can be filled via a bayonet connection from commercially available transport trailer
- 1" CVI female bayonet liquid withdrawal connection standard
- Vent stack assembly conforms to CGA G-5.5 industry standard

Easy to use instruments and controls

- Located at user height
- Dual safeties and rupture disc with diverter valve (standard)
- Isolation valves for regulator and liquid level gauge
- Vacuum thermocouple gauge (standard)

Long life, low maintenance

- All stainless steel bottle construction
- Heavy-duty stainless steel pallet base standard
- All stainless steel outer shell

Application ready

- On-board high efficiency pressure-builder vaporizer 50 feet supporting up to 10,000 SCFH gas supply with fast pressure recovery
- Service: Hydrogen

Easy economical installation

- Ships upright
- No crane required



SAFETY FEATURES

- Designed and built in compliance to meet or exceed industry standard codes CGA G-5.5, CGA H-3, CGA S1.3, NFPA 2, NFPA 50B
- Visual indicator when filling from a bulk transport
- Fire safe gas-use line
- Reclosing vacuum lift plate
- Provision to manage air condensates
- Self-supporting vent stacks

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Perma-Cyl 5500 Hydrogen Specifications

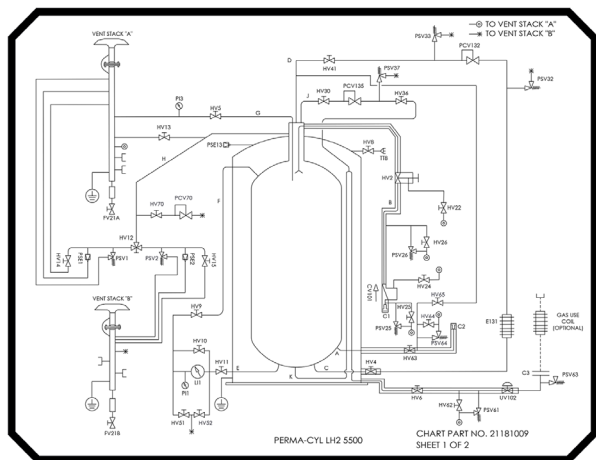
Capacity (Liters)		
Gross Volume	5148 liters	1360 gal
Net Volume	4770 liters	1260 gal
Gas Storage Capacity (@ 1 Atm & 68°F/20°C)*		
Hydrogen	140,400 scf	3,976 Nm ³
General Specifications		
MAWP	250 psig	17.2 barg
Operating Pressure / Relief Valve Settings		250 psig
Overall Height w/ Piping & Lab Base (w/o vent stack)	119 in	498 cm
Overall Height w/ Piping & Lab Base (w/ vent stack)	196 in	302 cm
Footprint w/ Lab Base	95x118 in	241x300 cm
Tank Diameter	80 in	203 cm
Tare Weight w/ Pallet Base	9800 lbs	4354 kg
Performance		
Normal Evap. Rate (% per day)**		
Hydrogen	2.0%	
Gas Supply Rate***	10,000 scfh	283 Nm ³ H
Construction		
Design & Manufacturing Code	ASME Sec. VIII Div. 1	
Outer Vessel - Shell	Stainless Steel	
Outer Vessel - Head & Plate	Stainless Steel	
PB Vaporizer	Stainless Steel	

Footnotes: Specifications subject to change without prior notice.

*Values are based on net capacity at 0 psig (0 barg).

**Values are based on gross volume.

***Performance dependent upon liquid saturation, ambient conditions and duty cycle.



C1	FILL CONNECTION
C2	LIQUID W/DRL CONNECTION
C3	GAS USE CONNECTION
CV101	FILL CHECK VALVE
E131	PRESSURE BUILD VAPORIZER
FV21A	VENT STACK A DRAIN VALVE
FV21B	VENT STACK B DRAIN VALVE
HV2	TOP FILL VALVE
HV4	PRESSURE BUILD ISO VALVE
HV5	FULL TRYCOCK VALVE
HV6	GAS USE VALVE
HV8	VAC GAUGE VALVE
HV9	VAPOR PHASE VALVE
HV10	LI1 EQUALIZER VALVE
HV11	LIQUID PHASE VALVE
HV12	SAFETY RELIEF DIVERTER VALVE
HV13	VAPOR VENT VALVE
HV14	SAFETY LINE BLEED VALVE
HV15	SAFETY LINE BLEED VALVE
HV22	TOP FILL PURGE VALVE
HV24	FILL CHECK VENT VALVE
HV25	FILL CONNECTION PURGE VALVE
HV26	FILL LINE PURGE VALVE
HV30	ECONOMIZER VALVE
HV36	ECONOMIZER ISO VALVE
HV41	PRESSURE BUILD OUTLET VALVE
HV51	VAPOR PHASE BLEED VALVE
HV52	LIQUID PHASE BLEED VALVE
HV62	GAS USE BLEED VALVE
HV63	LIQUID WITHDRAWAL VALVE
HV64	LIQUID W/DRL VENT VALVE
HV65	LIQUID W/DRL PURGE VALVE
HV70	VAPOR PRESSURE REGULATOR VALVE

LI1	LIQUID LEVEL GAUGE
PCV70	VAPOR PRESSURE REGULATOR
PCV132	PRESSURE BUILD REGULATOR
PCV135	ECONOMIZER REGULATOR
PI1	TANK PRESSURE GAUGE
PI3	FILL PRESSURE GAUGE
PSE1	RUPTURE DISC
PSE2	RUPTURE DISC
PSE13	VACUUM RELIEF
PSV1	PRESSURE RELIEF VALVE
PSV2	PRESSURE RELIEF VALVE
PSV25	FILL HOSE RELIEF VALVE
PSV26	FILL LINE RELIEF VALVE
PSV32	PRESSURE BUILD RELIEF VALVE
PSV33	PRESSURE BUILD RELIEF VALVE
PSV37	ECONOMIZER RELIEF VALVE
PSV61	GAS USE RELIEF VALVE
PSV63	LIQ FIRE RELIEF VALVE
PSV64	LIQ W/DRL RELIEF VALVE
TT8	VACUUM GAUGE
UV102	GAS USE AOV

PIPING	
A	LIQUID WITHDRAWAL
B	TOP FILL
C	PRESSURE BUILD INLET
D	PRESSURE BUILD OUTLET
E	LIQUID PHASE
F	VAPOR PHASE
G	FULL TRYCOCK
H	DUAL SAFETY RELIEF
J	ECONOMIZER
K	GAS USE

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