

PERMA-CYL® 5000 MAXX LH₂

HIGH CAPACITY MICROBULK STORAGE SYSTEM FOR LIQUID HYDROGEN PED COMPLIANT MODEL

The innovative Perma-Cyl® 5000 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 5000 Hydrogen system operates at high pressures.

The Perma-Cyl 5000 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 100 Nm³/h. 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 5000 Hydrogen

- All new inner support system for ultra-low NER
- Vacuum jacketed fill line piping to keep liquid at the highest quality as delivered
- Dual-hose top fill and vapor balance line
- Vent stack assembly conforms to 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 as standard
- All stainless steel outer shell

Application ready

- On-board high efficiency pressure-builder vaporizer supporting up to 100 Nm³/h gas supply with fast pressure recovery
- Service: Hydrogen

Easy economical installation

- Easy to install - "plug and play" system
- No crane required
- Occupies less space than conventional systems



Informational image only, actual product may vary

PRODUCT OPTIONS

- Analog liquid level gauge
- Isolation valves for remote telemetry
- 100 Nm³/h mounted vaporizer*
- 130 Nm³/h free standing Thermax® vaporizer*

* Process vaporizers do not come as standard.. Customer must specify either the 100 Nm³/h hang on style, the 130 Nm³/h stand alone, or the vaporizer can be supplied by the customer.

SAFETY FEATURES

- Designed and built in compliance with, or to exceed, standard industry codes
- 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



Cooler By Design.®

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Perma-Cyl 5000 Hydrogen Specifications

Capacity (Liters)	
Gross Volume	4900 liters
Net Volume	4655 liters
Gas Storage Capacity (@ 1 Atm & 68°F/20°C)*	
Hydrogen	3430 Nm ³
General Specifications	
MAWP	18 bar
Operating Pressure / Relief Valve Settings	18 bar
Overall Height w/ Piping & Lab Base (w/ vent stack)	515 cm
Overall Height w/ Piping & Lab Base (w/ vent stack)	315 cm
Footprint w/ Lab Base	250x300 cm
Tank Diameter	190 cm
Tare Weight w/ Pallet Base & 4000 SCFH Vap.	4354 kg
Performance	
Normal Evap. Rate (% per day)**	
Hydrogen	1.5%
Gas Supply Rate (Onboard Vap.)***	100Nm ³ H
Construction	
Design & Manufacturing Code	EN13458; PED
Outer Vessel - Shell	Stainless Steel
Outer Vessel - Head & Plate	Stainless Steel
Vaporizer (Onboard)	Aluminum

Footnotes: Specifications subject to change without prior notice.

*Values are based on net capacity at 0 barg.

**Values are based on gross volume.

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

NOMENCLATURE	
C1	FILL CONNECTION
C2	VAPOR RETURN CONNECTION
C3	GAS/LIQUID USE CONNECTION
CV101	EIS FILL CHECK
E131	PB VAPORIZER
FV21A	VENT DRAIN
FV21B	VENT DRAIN
HV2	TOP FILL
HV4	PB ISOLATION
HV5	VALVE FULL TRYCOCK
HV6	LIQUID USE
HV8	VALVE VAC GA
HV9	GAS LEVEL
HV10	EQUAL LEVEL
HV11	LIQUID LEVEL
HV12	RELIEF DIVERTER
HV13	VAPOR VENT
HV14	VENT RELIEF
HV15	VENT RELIEF
HV22A	VENT TOP FILL
HV24A	FILL CHECK VENT
HV25A	PURGE FILL HOSE
HV26A	PURGE LIQ FILL
HV30	ECON VALVE
HV36	ECON ISOLATE
HV41	PB VAPOR
HV51	VENT GA LOW
HV52	VENT GA HI
HV62	LIQ VENT
HV63	VAPOR RETURN
LI1	LIQ LEVEL
PCV132	REG PRESS BUILD
PCV135	REG ECON LINE
PI1	TANK PRESS
P13	GAUGE FILL EIS
PSE1	RUPTURE DISC EIS
PSE2	RUPTURE DISC EIS
PSE13	VAC RELIEF
PSV1	TANK SAFETY EIS
PSV2	TANK SAFETY EIS
PSV25	SAFETY FILL LINE EIS
PSV26A	EIS SAFETY LIQ FILL
PSV32	RELIEF PB LIQ
PSV33	SAFETY PB VAPOR
PSV37	SAFETY ECON
PSV61	SAFETY LIQ USE
PSV63	SAFETY LIQ FIRE
TT8A	VAC GA
UV102	VALVE LIQ FIRE EIS

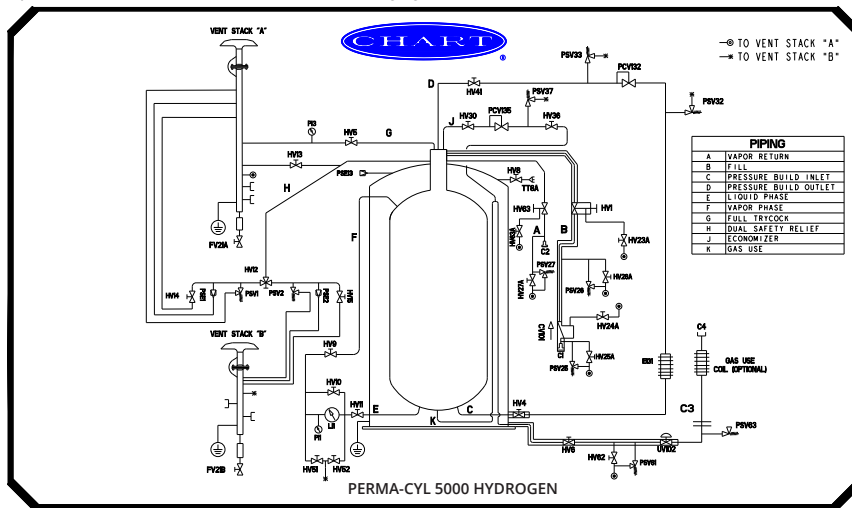


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