

技术参数 Specifications

型号描述 Model Description	TR10/5.2-GB	TR21.5/3.0-GB	TR12/5.2-GB	TR26/3.0-GB	TR13.76/4.8-GB	TR14/5.2-GB	TR17/5.2-GB	TR35/3.0-GB
地盘型号 Chassis	Volvo FE280	Semi-Trailer	Volvo FE280	Semi-Trailer	DongFeng DFL1250A11	Volvo FE280	Volvo FE280	Semi-Trailer
容量 Capacity (Liter)	10,100	21,500	12,000	26,000	13,760	13,870	17,000	35,000
最大工作压力 MAWP(Mpa)	0.52	0.30	0.52	0.30	0.48	0.52	0.52	0.30
长度 Length(mm)	8,712	11,650	8,980	11,548	9,410	9,580	9,307	12,985
宽度 Width(mm)	2,495	2,495	2,495	2,495	2,500	2,495	2,500	2,490
高度 Height(mm)	3,125	3,420	3,275	3,590	3,370	3,275	3,495	3,670
整备质量 Tare Weight(Kg)	12,404	11,800	12,640	12,380	14,058	13,308	13,220	13,540
使用介质 Media	LAR	LAR	LOX	LOX	LIN	LIN	LIN	LIN

*注：以上数据仅供参考，实际结构及数据以实物为准。 * Varies with service

查特推出的全套Microbulk运输系统为稳定简易地满足各种不同的需求提供了解决方案。在Microbulk系统的基础上，Orca车提供对Perma-Cyl储罐或小型贮罐迅速、可靠和准确的现场输送。另外，Perma-Cyl系列提供品种多样的尺寸和管路选择，从而具有最灵活的室内室外安装条件。最后，创新的Cyl-Tel数字液位表准确地显示液体容量并为各种查特自动测量记录传导平台提供无缝连接。

Chart offers the complete MicroBulk delivery system as a Solution to reliably and effortlessly manage a diverse range of applications. At the foundation of the MicroBulk system, the ORCA truck offers fast, reliable and accurate onsite delivery to Perma-Cyl storage vessels or small bulk tanks. Next, the PERMA-CYL line offers the widest range of sizes and piping options and the greatest flexibility with accommodations for indoor and outdoor installations. Finally, the innovative CYL-TEL digital level gauge accurately monitors liquid contents and provides a seamless connection to a variety of Chart telemetry platforms

MICROBULK SOLUTIONS – Concept Illustration

■ 配送 Delivery

快速/可靠/准确
Fast / Reliable / Accurate



ORCA

■ 储存 Storage

永久性现场安装
Permanent on-site installation



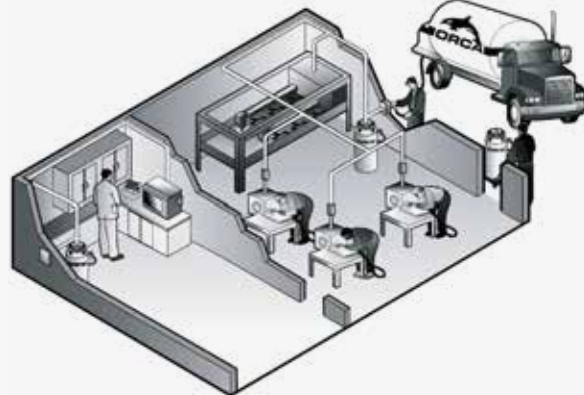
PERMA-CYL

■ 供液 Supply

实时监控液位
Monitors level for refill



ORANGE RESEARCH



PERMA-CYL® ON-SITE STORAGE SYSTEM-MICROBULK SOLUTIONS

Perma-Cyl系列产品是一个创新的Microbulk气体储存平台，专为工业、科学和医学领域更经济、更利于配送和更方便的用气而设计。特别当和ORCA罐车一起使用时，作用更为显著。Perma-Cyl是由查特经过多年技术检验的液化气瓶发展而来，比类似可运输气瓶更可靠，更高效，更经济。



作为首创，Perma-Cyl储存系统使用户能享受现场气体传输带来的便利。杜绝在更换钢瓶时产生的争论、浪费和人工费用。使用Perma-Cyl，无须更换气瓶，无残留气体损失，无操作气瓶引起的背部、手部或足部伤害，也不会丢失或损坏气瓶。

Perma-Cyl充装迅速，ORCA槽车进行标准充装时，不会中断用户操作。小型Perma-Cyl容器在通常条件下可在三分钟内完成充装，并且零损耗。大型Perma-Cyl也可较快速高效的充装完毕。此外，Perma-Cyl系列的充装完毕自动切断设计确保了每次充装的完整和安全。

Perma-Cyl专为高效用气而设计，并且能够比类似气瓶的液体保持时间更长，增压的速度更慢。其超群的绝热结构，使得一段时间内产品损耗极少或者没有损耗。

多数Perma-Cyl型号使用标准的Cyl-Tel仪表，Cyl-Tel仪表提供了各种测量单位，准确易读的数显读数。作为一个附加的特色，现在正逐步采用OR设计，Cyl-Tel仪表具备“遥感就绪”功能，并且可以连接在各种查特提供的遥感系统上。

下面是Perma-Cyl系列产品所带来的革命性改进：

首个为气瓶用户提供现场充装的解决方案：

- 快速充装能力
- 无损耗/低损耗充装
- 当和ORCA一起使用时，可自动切断充装
- 长久的产品保持时间
- 遥感就绪功能

The Perma-Cyl® series is an innovative MicroBulk gas storage platform that is designed to improve the economics, distribution and convenience of industrial, scientific and medical gases – especially when teamed with an Orca delivery tank. Evolved from proven technology used for many years in Chart liquid cylinders, Perma-Cyl units are reliable, efficient and more economical than comparable transportable cylinders.

For the first time, Perma-Cyl technology allows packaged gas distributors and users to enjoy the benefits of on-site gas delivery. Gone are the hassles, waste, and expense of full-for-empty gas cylinders. 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-Cyl units fill fast and without interrupting user operations when filled by an Orca delivery tank in typical applications. Small Perma-Cyl containers fill in three minutes with zero losses under normal conditions. Large Perma-Cyl units can be filled with comparable speed and efficiency. In addition, the Perma-Cyl series' fill shutoff device assures a complete and safe fill each time.



Innovation. Experience. Performance.®

查特 中国

Designed for a higher level of efficiency,Perma-Cyl cylinders can hold their gas contents longer and with lower pressure rise than other similar vessels.Their extraordinary thermal quality limits product losses during extended periods of little or no gas use.

Most Perma-Cyl models come standard with the Cyl-Tel® gauge. The Cyl-Tel gauge provides accurate easy-to-read digital contents readings in a variety of units of measure.As an added feature,Cyl-Tel gauges are “telemetry ready” and can be connected to a variety of telemetry systems offered by Chart.

Here is what makes the Perma-Cyl series revolutionary:

- The first fill-at-site solution for packaged or cylinder gas users
- Fast filling capable
- No-loss / low-loss filling
- Automatic fill shutoff when used with Orca system
- Extended holding times
- Telemetry ready

产品特点 Product Highlights

- 尺寸、压力和结构满足绝大多数需求
 - 容量从230升到5000升
 - 压力从1.6MPa到3.5MPa
- 压力从为激光辅助应用提供高压高流量模式
- 现场充装提供高纯度，长久持续时间，低压力上升，无运输损坏，更少的管理和操作等特点。
- 组合压力控制调节器带有微调功能的旋钮和螺丝
- 室内外的安装与操作
 - 当Perma-Cyl安装在室内，可采用查特专利的充装盒来实现自动充装切断并从建筑物外部远距离控制。
 - ORCA车在充装时自动切断功能（专利设计）
- Cyl-Tel仪表支持远距离警报和遥感交流。

查特技术和用户服务部门都配备有培训有素的专员，可专业高效地解答技术疑问，订购备用零件和赴用户所在地提供培训。

可根据用户的需求配置所有型号——选择贮罐尺寸，安全阀压力，工作压力，应用配置，气体服务和仪表选择。

- Sizes,pressures and configurations to meet most gas-user needs
 - 230 liters to 5000 liters
 - Pressures from 1.6 MPa to 3.5 MPa
- High-pressure high flow models for laser assist
- gases Filling on-site provides higher purity,longer holding times,lower pressure rise,no transport damage,less administration and handling
- Combination pressure control regulators with micrometer adjustment knob or screw
- Outdoor or indoor installation and operation
 - Patented automatic fill shutoff feature and optional fill box allow remote filling from outside the building or compound when a Perma-Cyl unit is installed indoors
 - Orca system automatically stops the fill process when Perma-Cyl unit is full
- Patented Cyl-Tel gauge can support remote alarms or telemetry communications

Chart well-trained persons out of engineering and customer service departments would offer professional technical solutions, order spare parts, as well as offer site training.

Tank model includes size, valve and working pressure, configuration, gas and gauge selection would be customized accordingly.

型号规格 Specifications

产品描述 Description	规格	230 Liter	230 Liter	450 liter	450 liter	1000 Liter	1000 Liter	1000 Liter	2000 Liter	2000 Liter	2000 Liter	3000 Liter	3000 Liter	3000 Liter	5000 Liter	5000 Liter	5000 Liter	
	压力等级	MP	HP	MP	HP	MP	HP	VHP	MP	HP	VHP	MP	HP	VHP	MP	HP	VHP	
	底部结构	平底 Plate Base	平底 Plate Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	叉车托盘 Pallet Base	
容量(升) Capacity(liters)	Gross	243	243	450	450	1,040	1,040	1,040	2,080	2,080	2,080	2,990	2,990	2,990	4,940	4,940	4,940	
	Net	225	225	420	420	956	956	956	1,930	1,930	1,930	2,751	2,751	2,751	4,540	4,540	4,540	
最大允许 工作压力 MAWP	psig	232	348	232	377	232	377	507	232	377	507	232	348	507	232	348	507	
	bar	16	24	16	26	16	26	35	16	26	35	16	24	35	16	24	35	
设计标准 Design Spec	GB150		GB150	GB150	GB150	应变强化 GB Cold Stretch										应变强化 GB Cold Stretch		
存储能力 Storage Capacity																		
液氮 Nitrogen	Nm3	145	145	271	271	618	618	618	1,248	1,248	1,248	1,778	1,778	1,778	2,933	2,933	2,933	
液氧 Oxygen	Nm3	180	180	335	335	763	763		1,541	1,541		2,196	2,196		3,632	3,632		
液氩 Argon	Nm3	176	176	328	328	747	747	747	1,508	1,508	1,508	2,149	2,149	2,149	3,564	3,564	3,564	
液态二氧化碳 CO2	Nm3		116		216		491	491		991	991		1412	1412		2,330	2,330	
热性能 Thermal Performance																		
日蒸发率(NER) (NER%/Day)	N ₂	1.8%	1.8%	1.8%	1.8%	0.8%	0.8%	0.8%	0.7%	0.7%	0.7%	0.6%	0.6%	0.6%	0.45%	0.45%	0.45%	
	O ₂ - Ar	1.12%	1.12%	1.12%	1.12%	0.53%	0.53%	0.53%	0.47%	0.47%	0.47%	0.4%	0.4%	0.4%	0.3%	0.3%	0.3%	
气体输送流量 Gas Delivery Rate	Nm3h	10	10	15	15	20	20	25	40	40	60	50	50	65	80	80	80	
产品直径 Diameter	mm	606	606	800	800	1,058	1,058	1,058	1,300	1,300	1,300	1504	1504	1504	1858	1858	1858	
毛重 Tare Weight	Kg	136	154	312	368	700	700	973	1,010	1,148	1,592	1400	1550	2211	2092	2337	2812	
高度 Height	mm	1,375	1,375	1,700	1,700	2,560	2,560	2,620	2,900	2,900	2,985	3,025	3,025	3,105	3,200	3,200	3,200	

Patents: 5,787,942 • 5,954,101 • 5,136,852 • 6,542,848 - Other Patents Pending

所有规格可能在无事先通知情况下进行更改。

- 容积为0 psig (0 bar)时的净容积 CO₂容器以 300psig (20.7 bar)时的净容积
- 数值以全容积计算

All specifications are subject to change without prior notice.
■ 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.
■ Values are based on gross capacity.
■ Optional 3,500 SCF/H (92 Nm³/h) model available.