

Vacuum Insulated Transfer Siphon

... for low-loss transfer of liquid helium



Vacuum Insulated Transfer Siphon



Bend protection and pressure valve

Super insulated and highly flexible



The liquid helium is withdrawn from a vessel using a siphon, which is available in various configurations:

- Angle siphon
- Siphon with flexible hose
- Siphon with rigid hose

Cryotherm siphons are made from super-insulated hoses and provided a permanent vacuum. These features guarantee the lowest transfer losses at all times.

Convincing advantages:

- Highly flexible hoses for easy handling and versatile applications
- Improved insulation using thin-walled tubes and spacers
- Low heat transfer through optimised super-insulation
- Easy handling
- High functionality
- Extendable filling and withdrawal tubes
- Bend protection for high mechanical utilisation
- Manufactured from robust stainless steel
- Outer jacket options (from pressure-resistant and robust to super-light and highly flexible)
- Individually customised products
- Valves and connections installed according to customer requirements

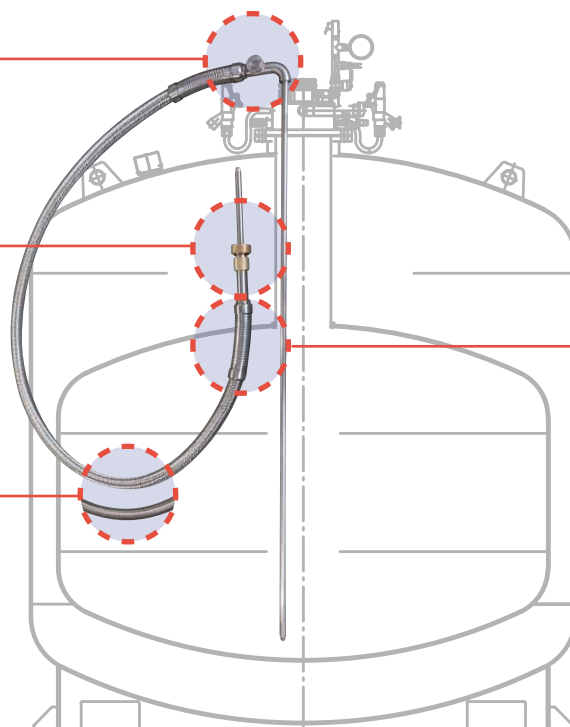
Vacuum seal-off and safety device

Plug-in coupling with integrated manual shut-off valve

- various models
- easy coupling
- easy opening and closing

Outer Jacket

- various types available



Bend protection

- optional
- robust

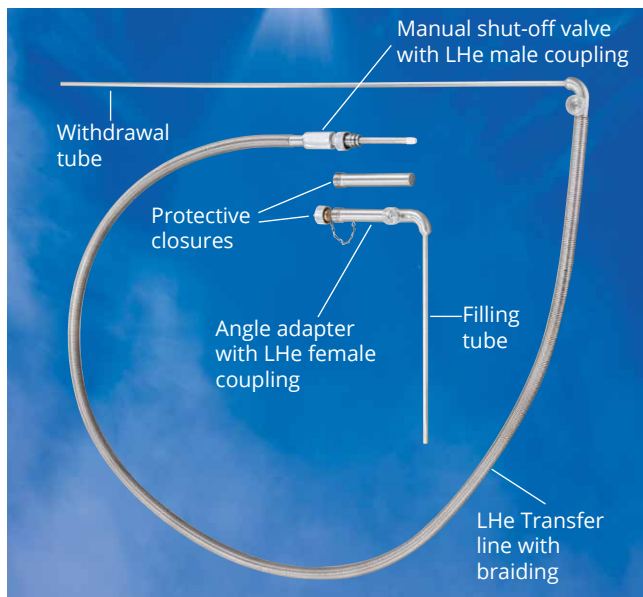


Permanently installed siphon in STRATOS® vessel with patented anti-oscillation device:

- Low evaporation rate
- No helium loss during siphon installation
- Ideal for room with low height
- Low wear of siphon due to vessel integration

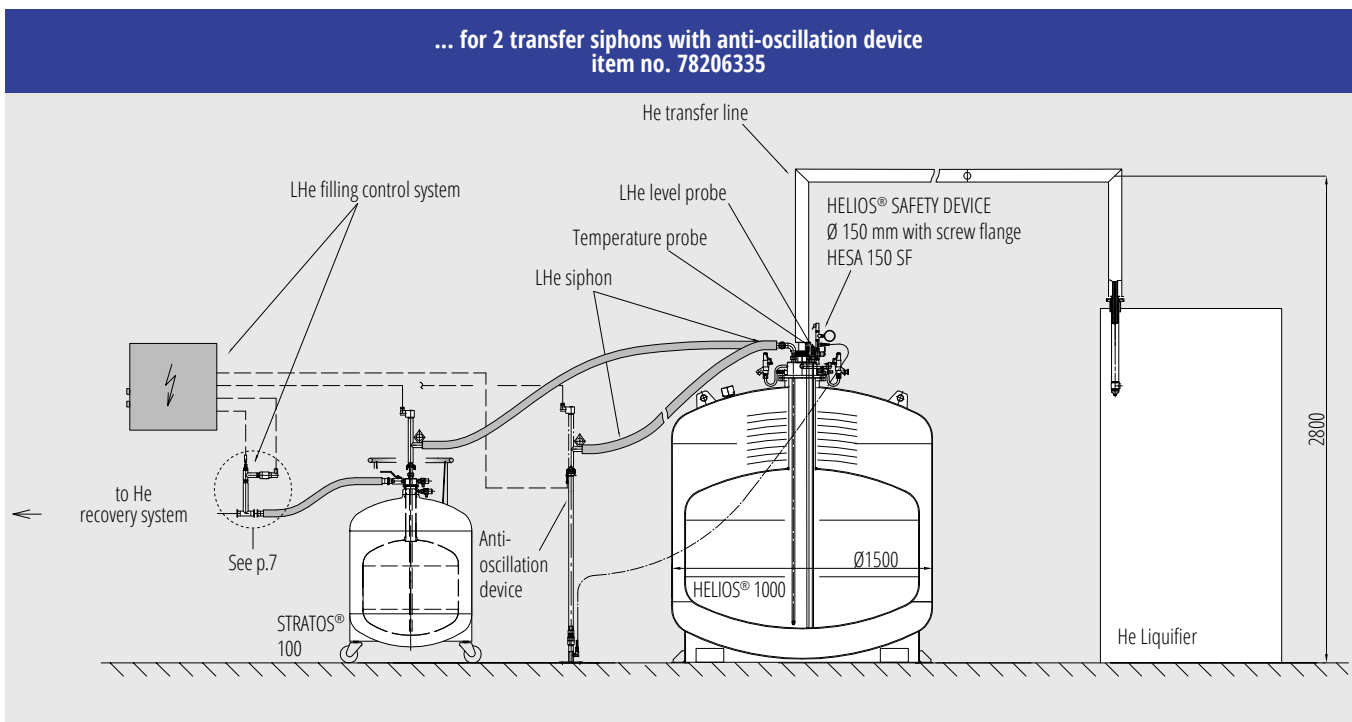
Options:

- **Manual shut-off valve DN9, O-ring sealed**
 - Short transfer times
 - Flexible use with add-on adapter set
 - Standard for STRATOS® vessels
 - Combined with anti-oscillation device
- **Manual shut-off valve DN5/DN7, bellows sealed**
 - Installed in the filling tube to save space
 - Low maintenance
 - Valve seat at the end of the filling tube (minimising the evaporation rate and contamination by air)
- **Solenoid valve DN4**
 - Electrically controllable
 - For automatic filling operations

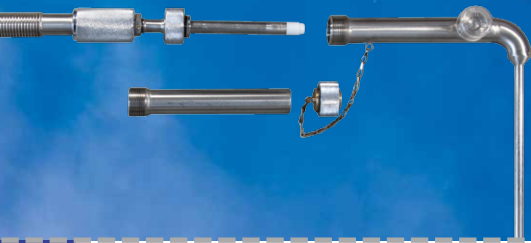


Example: LHe-siphon, 2-piece with coupling and extraction valve (model: super-light and highly flexible)

LHe transfer from storage vessels (HELIOS®) to transport vessels (STRATOS®)



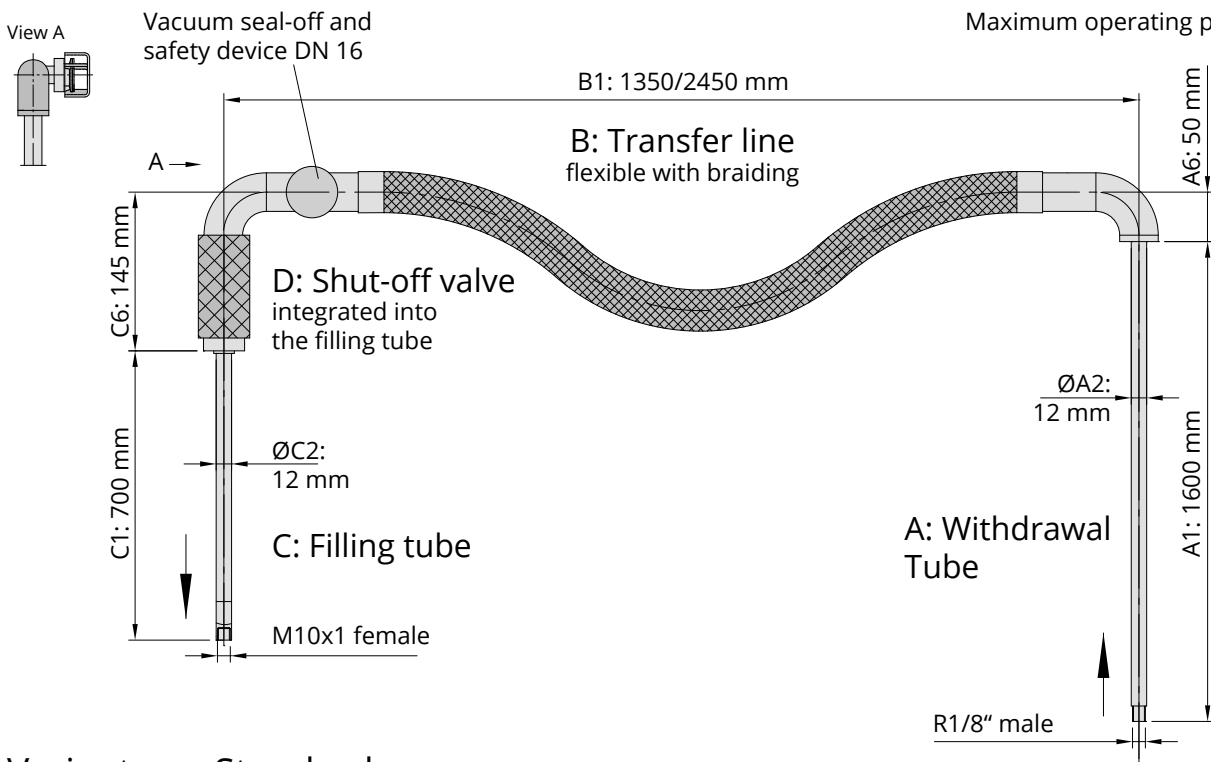
Models



... the appropriate siphon for every application

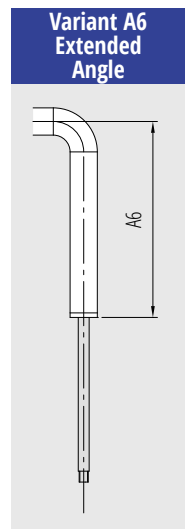
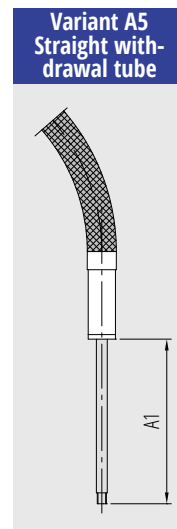
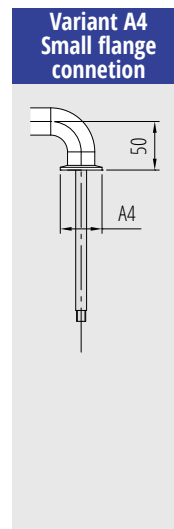
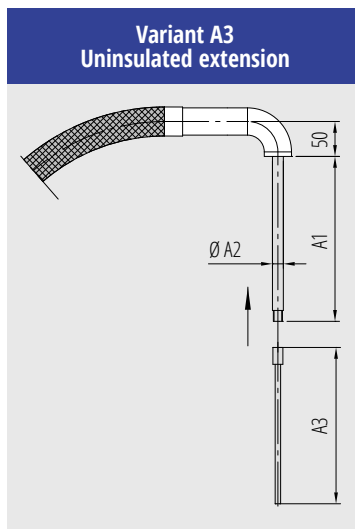
Standard Siphon VHF DN5

Maximum operating pressure: 2 bar



Variants on Standard

A	Withdrawal Tube	Standard
A1	Length A1 (mm)	1600
A2	Diameter A2 (mm)	12
A3	Extension A3 (mm)	-
A4	Small flange connection A4 DN	-
A5	Straight withdrawal tube	-
A6	Angle section length (mm)	-
A7	Without withdrawal tube (with variant B4)	-

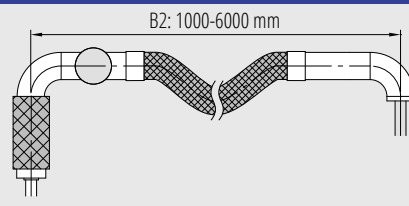




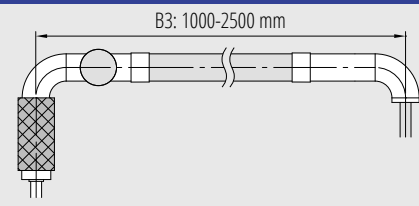
Easy withdrawal from helium vessels

B	Transfer line	Standard
B1	Length B (flexible) (mm)	1350/ 2450
B2	Special length (flexible) B=1000-6000 mm	-
B3	Length B=1000-2500 mm (rigid)	-
B4	Coupling	-

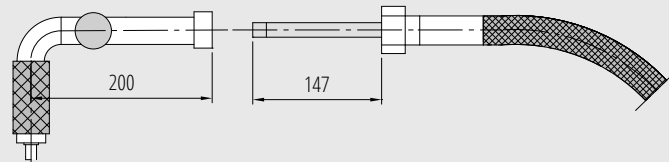
Variant B2: Special length (flexible)



Variant B3: Rigid intermediate piece

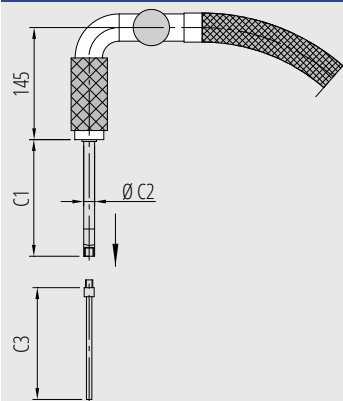


**Variant B4
LHe coupling**

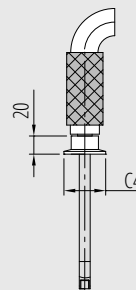


C	Filling tube	Standard
C1	Length C1 (mm)	700
C2	Diameter C2 (mm)	12
C3	Extension C3 (mm)	-
C4	Small flange connection C4 DN	-
C5	Straight filling tube	-
C6	Angle section length C6 (mm)	145
C7	Without filling tube (with variant B4)	-

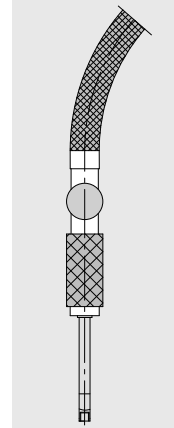
**Variants C1, C2,
C3: Uninsulated extension**



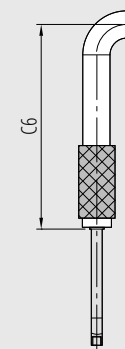
**Variant C4
Small flange
connection**



**Variant C5
Straight filling
tube**

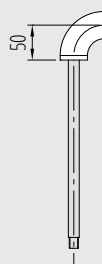


**Variant C6
Extended angle
section**

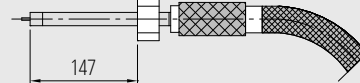


D	Integrated Valve in filling tube	Standard
D1	Without valve in filling tube	-
D2	Valve in male coupling	-
D3	Valve in female coupling	-
D4	Angle shaped solenoid valve	-

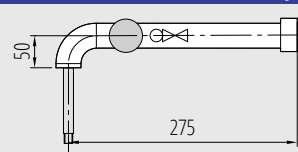
**Variant D1
Without valve in filling tube**



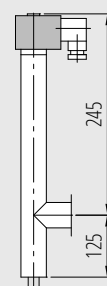
**Variant D2
Shut-off valve in male part**



**Variant D3
Shut-off valve in female part**



**Variant D4
Angle shaped solenoid
valve DN4**



Caution: valve combination can produce shut-off areas, which must be secured with a safety valve. Combination of variants D3 and D4 without a safety valve is possible.



... various applications

LHe filling system from a 40' LHe vessel into LHe transport vessels

3 m hose with plug-in coupling suitable for 1½ UNF vessel
Item No. 79420581

Optional: Adapter for 40' LHe vessel
Large coupling to small coupling
Item No. 78200346

Filling angle with integrated LHe shut-off valve and small flange connection
Item No. 79404403

Other available diameters

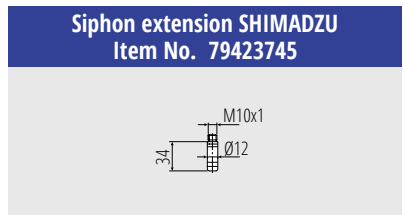
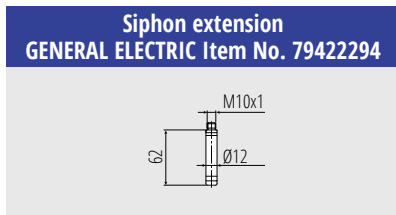
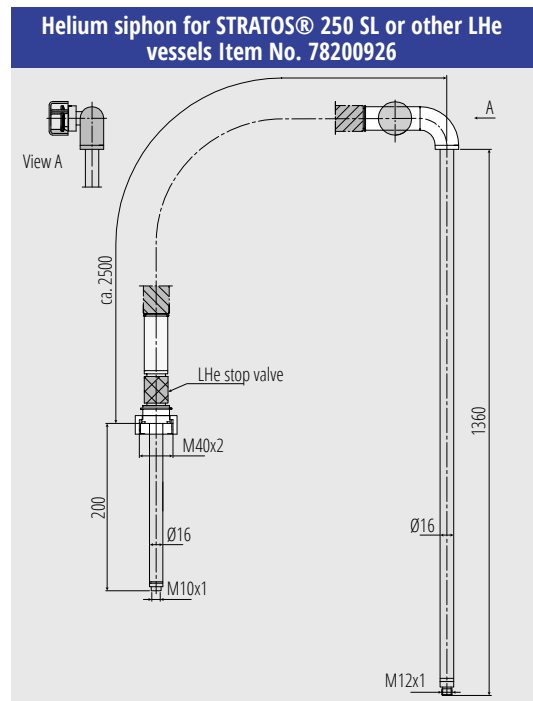
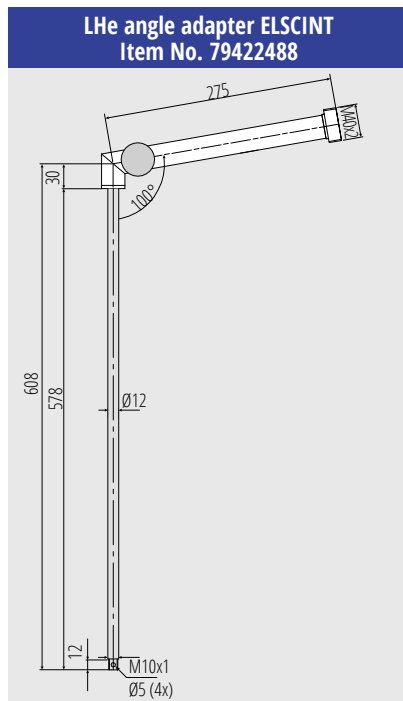
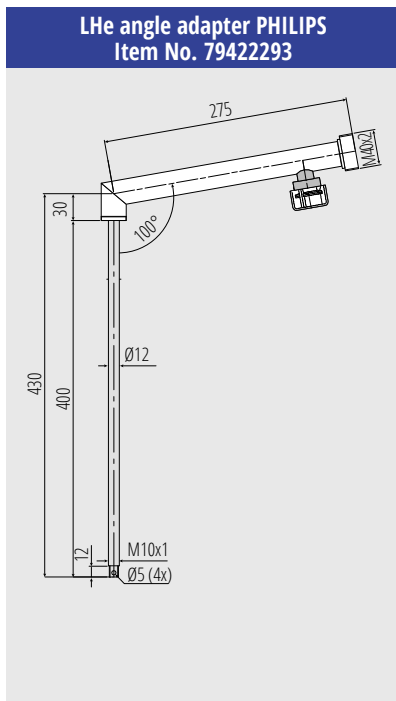
Valve DN4		Valve DN5		Valve DN7
9,6	10	12	12,7	16

O-Ring fitting D16 to KF25
Item No. 79402556

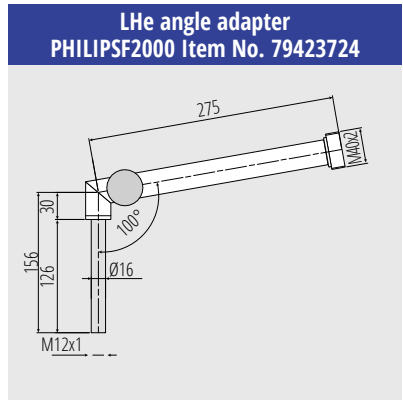
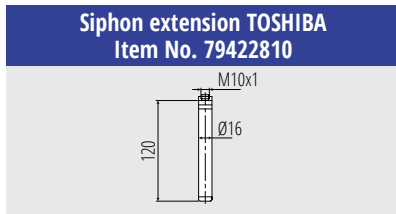
Centering ring and O-ring KF25
Item No. 0647981

Clamping ring KF25
Item No. 79405158

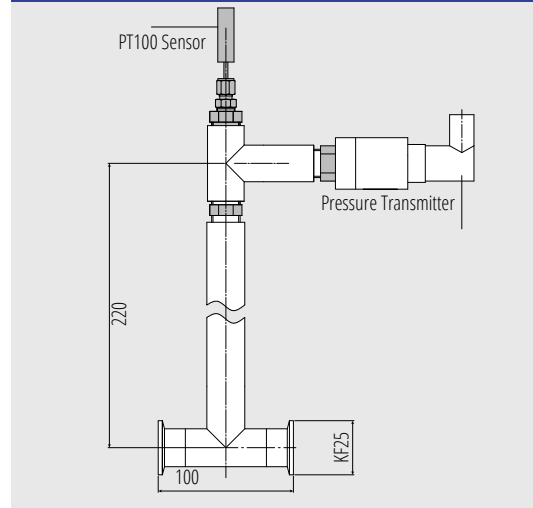
LHe transfer system from transport vessels (STRATOS®) to MR tomographs or cryostats



LHe transfer from storage vessel (HELIOS®) to transport vessel (STRATOS®)



P/T measuring unit for automatic filling shut-off for installation into He exhaust line





NITROGEN VESSELS

APOLLO® LIN-Supply Vessel (50 - 350 l) · JUNO® LIN-Supply Vessel (30 l)
SIRIUS® LIN-Supply Vessel (1,000 - 2,000 l) · SATURN® LIN-Transport Vessel (50 - 300 l)
MERKUR® LIN-Transport Tank (500 - 3,000 l) · STELLA®-Working Vessel (0.5 - 10,000 l) · LAB® Dewar Series (4 - 50 l)



BIOSAFE®-SYSTEMS / LIFE SCIENCE

BIOSAFE® MDB-Sample Storage System (Medical Product) (120-1,400 l) · BIOSAFE® SCB-Sample Storage System (120 -1,400 l)
BIOSAFE-CONTROL®B · CRYO-MESSENGER® Remote Monitoring System · BIOSAFE® X/S-Series · Vapor Shipper
STELLA®-Working Vessel (0.5 - 10,000 l) · Controlled Rate Freezers (3.3 -16 l)



BIOSAFE®-RACK SYSTEMS

Racks · Drawers and Cryoboxes for Vials · Canisters for Straws in Goblets · SBS-Boxes (Microtiter)
Cassettes for Freezing Bags



HELIUM VESSELS

HELIOS® LHe-Storage Vessel (100 -15,000 l)
STRATOS® LHe-Transport Vessel (100 -1,000 l) · LHe Siphon



OTHER VESSELS

HYDROS® LH₂ Transport Vessel (1,000-15,000 l) · STRATOS® Transport Vessel (100 -1,000 l)
APOLLO® Supply Vessel (50 - 350 l) · MERKUR® Transport Tank (500 - 3,000 l)



CRYO LINE SYSTEMS

Rigid Line Systems (DN 14 - 300) · Flexible Line Systems (DN 20 - 150) · Phase Separator Stations (50 - 200 l)
Gas Separator (5 l) · LHe Multiline



CONTROL AND MONITORING TECHNOLOGY FOR CRYOGENIC GASES

BIOSAFE-CONTROL®B · CRYO-MESSENGER® Remote Monitoring System · CRYO LC® Level Measurement and Control Device
LHe Level Measurement and Control Device · Capacitive Level Measurement · Oxygen-Deficiency Warning System



TRANSPORT COOLING FOR VEHICLES

CRYOGEN®-TRANS-SYSTEM



CUSTOMISING / TURNKEY SOLUTIONS / CRYO COOLER / COOLING BATHS

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