CryoManagement.
Products and services for cryobanks and biobanks

SOL
SOLGROUP

SOLGROUP
a breath of life

CRYOMANAGEMENT
Products and services for cryobanks and biobanks

TABLE OF CONTENTS

SAMPLES TRANSPORTATION IN VAPOUR PHASE NITROGEN

Samples transportation in vapor phase nitrogen

PRESSURIZED PORTABLE TANKS FOR LIQUID NITROGEN STORAGE

Pressurized T-PED portable tanks for liquid nitrogen storage and distribution

NON PRESSURIZED PORTABLE TANKS FOR LIQUID NITROGEN STORAGE

Cryogenic dewars for liquid nitrogen transportation and storage

PROGRAMMABLE RATE FREEZERS

CRYOSURGERY DEVICES

ACCESSORIES

DESIGN, CONSTRUCTION AND MANAGEMENT OF CRYOBANKS AND BIOBANKS

New technologies of cells and tissues preservation in liquid or vapour phase nitrogen, at -196°C, are a warranty for the vitality of the biological samples, which value is often priceless.
SOL Group, an Italian company, is a European leader in the supply of liquid nitrogen and medical gases, dedicates its CryoManagement service to the design, realization and management of turnkey cryobanks and biobanks, according to the international standards.
CryoManagement comply all the activities regarding the handling, transportation and long term storage of any biological material.

Our services have been implemented in over 200 of cryobanks and biobanks distributed in the european territory, most of which accredited to JACIE, FACT-NETCORD, UNI 11827_09 2021 and UNI CEI EN ISO 20287 international standards.
The medical device certification of the equipments, nitrogen pipeline and supervision system, ensures the preservation of biological samples and the safety of the professionals involved in the process.
SOL provides a team for the direct management of all the storage and traceability processes, operating upon request directly at the customer's site.
Moreover, **SOL** has a highly qualified staff to perform maintenance and validation activities of the single components of the structure, ensuring the achievement of the highest standards quality.
The service can include the use of SOL off-site biobanks for the management of Disaster Recovery Plan, according to the CE regulations, with cryobiological containers, mechanical freezers and rate freezers always available as backup units.

Principles of quality and safety applied to Cryobanks and Biobanks

SOL is the official distributor for leading world manufacturers of all the devices of cryobanks and biobanks.

Supply, installation and maintenance of cryobiological vessels.
Supply of custom-made racks.
Supply and start up of rate and mechanical freezers.

Operative staff for the management of your biobank.
SOL could provide you services of one or more qualified SOL could provide a 24/7 service of one or more qualified personnel for managing each biobanking process manage all the banking process and traceability procedures for biological samples, to manage validation and maintenance operations and to perform training and preinspection audits.
SOL can provide you draft and validation of IQ, OQ and PQ protocols and implementation of Standard Operating Procedures for all processes and activities.

CRYOMANAGEMENT
Design and realization of Biobanks and Cryobanks

- **Design of cryobanks and biobanks**
  The **SOL** team are directly involved in the design, creation and management of cryobanks and biobanks in internal or external and mobile solutions.

- **Cryobiology Services**
  The sister company Cryolab is involved in the management of dedicated services for biological samples:
  - Short-, medium- and long-term contract biorepository storage;
  - Disaster Recovery plans dedicated to the emergency transfer of critical equipment;
  - transport under different temperature conditions.

- **Advanced technology for cryopreservation**
  SOL structures can be configured to the client's specific requirements.
  The solutions proposed range from a standard version right through to systems employing the very latest technology. Everything is designed to provide the highest standards of security for biological samples and the safety for operators working in the cryopreservation process.

- **Supervisory and control systems certified as Medical Devices**
  Real-time monitoring and alarms transmission of all critical parameters from devices or environments to enhance samples and operator's safety.

- **Real time monitoring**
  You can monitor your biobank remotely from your workplace or at home by linking up to a **SOL** secure web site, with username and password dedicated.

- **LIM softwares for sample traceability**
  Web-based software platform certified according to GAMP (5) and ecGMP. Different server locations as an insurance for a safe data management.

- **Safety systems for the end users**
  double-speed ventilation plants, fixed/portable O_2/CO_2 detectors, personal protective equipments, videosurveillance and badge readers.

- **Cryogenic lines certified Medical Device**
  Cryogenic lines certified Medical Device for liquid nitrogen storage in vapour or liquid phase at -196°C.

SUPERVISORY AND CONTROL PLANTS
CSC Cryobank Smart Control

The Cryobank Smart Control (CSC) system is a Class IIa Medical Device certified system designed to monitor and manage operations within a cryobank.
The CSC features software that displays the status of the entire cryobank and its components in real time, detecting possible anomalies and sending alarms automatically, guaranteeing the safety of samples and operators.

CSC is able to manage:
- temperature and level of the cryobiological containers
- environmental parameters of the cryobiology room cryobank;
- the automatic filling of the cryogenic pipeline;
- the automatic activation of the ventilation system;
- the operator's access to the cryobank by badge readers.

OUTSOURCING REPOSITORIES OF BIOLOGICAL SAMPLES
CRYOLAB We care your samples

Cryolab is a company highly specialized in the management of all phases of the life cycle of biological samples and drugs, guaranteeing the highest standards of quality and safety required by international regulations.

Cryolab acts on multiple hubs equipped with highly innovative facilities and personnel qualified to the operational management of the processes of storage, traceability of transport of biological samples, monitored 24/7/365 through a fully automated system.

Cryolab holds UNI ISO 21973:2021 certification for the transport of cells for therapeutic use and Ministry of Health clearance for its services

Our services:

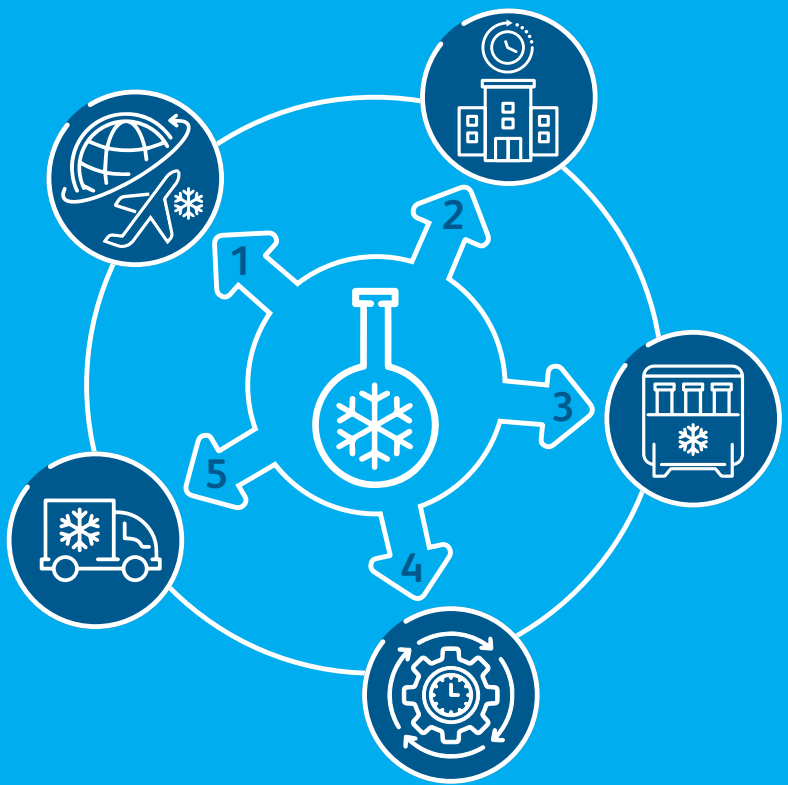
1 **BIOSHIPPING**
Temperature-controlled transportation services (+2/+10°C, - 40°C, -80°C in dry ice, -150/-196°C in nitrogen) all over the world

2 **CRYORECOVERY**
Repository of biological samples in different facilities (short, medium or long term)

3 Mobile Cryobanks

4 Disaster recovery plan services, according to 2004/23/CE and ISO/DIS 20387 regulations

5 Emergency transportation services



How:

1. Dedicated instruments and medical device equipments
2. Control and validation of the processes
3. 24/7 monitoring of each storage facility
4. Full traceability of the samples with LIMS
5. Temperature monitoring
6. Excellent training of the staff and continous educations
7. Internal audits
8. Transportation with dedicated operator and temperature report

SECURFILL SERIES
for the automatic filling of cryobiological containers and pressurized tanks

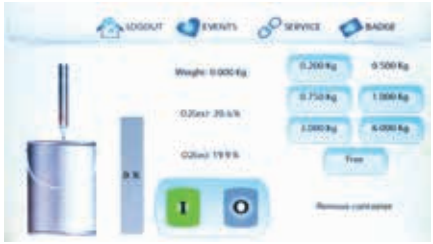
SecurFill EVO
this version can be connected to the external liquid nitrogen tank for an easy filling of pressurized vessels and dewars with biological samples.

SecurFill LAB
allows the automatic filling of dewars for biological samples and open dewars, from an external liquid nitrogen tank.

SecurFill is an innovative CE-marked system, developed by the **SOL Group** in Italy and covered by patent, for automatic filling of liquid nitrogen containers in absolute environmental safety, offering the possibility of:

- avoiding the manual filling of the dewars, dangerous in terms of frostbites and due to the considerable weight of the dewars;
- quantifying and distributing the nitrogen drawn by each user.

The **SecurFill** filling system is made of stainless steel and can be installed outdoor or indoor.
The 7" touchscreen control panel is positioned at an ergonomic height and allows selecting the desired quantity of liquid nitrogen, which is then automatically transferred into a negative pressure chamber.



Screen for the selection of the desired quantities of the product.

SecurFill 6.0

this version is ideal for the liquid nitrogen pouring from pressurized tanks to open dewar.

SecurFill PLUS

SecurFill MAXI

The SecurFill PLUS

this version allows the simultaneous filling of nitrogen/samples storage dewars and open dewars, from an internal pressurized dewar.

SecurFill MAXI

this version can be connected to the external liquid nitrogen tank for an easy filling of dewars with biological samples and bigger pressurized vessels compared to SecurFIll EVO.

The system is equipped with:

- a device for recognition of operator badges ensuring total control of the quantities drawn by the users;
- ambient oxygen detectors and aspirators for air exchange thus preventing the risk of under-oxygenation when the doors are opened after the container has been filled;
- internal scales to measure the quantity injected into the container, recording consumption and any system failures;
- temperature sensors for the automatic detections of the stop filling of the dewar;
- pressure sensors to control the liquid nitrogen distibution.

LIM SOFTWARES

CryoManagement

The **CryoManagement** software is a web application that **allows the full traceability management of biological samples within biobanks and is made in conformity to GAMP (5) regulations.**

The software stores and keeps all informations and events related to the samples, making possible their historical reconstruction, ensuring a full data traceability, such as:

- traceability of all events connected with the life of the single sample;
- patient registry, according to the sensitive data and privacy requirements;
- data visibility only for authorized users by the owner of the sample;
- management of the sample location inside the dewars;
- information and data sensitive management through controlled access groups;
- management and recording of sample events, samples storage conditions and users acess to the dewars;
- system search through selective filters;
- ability to manage also old samples stored when there was no computerized archive;
- possibility of data exchange with other management software already in use;
- management of the storage map and warehouse inventory (to be used for the initial inventory of the tubes without barcode);
- stats and management reports: all events are accessible for 5 years in SOL central database and then stored on safe backup media;
- possibility of connection to SOL supervision software, displaying dewar temperature and levels monitoring and related alarms;
- compliance with FACT- NETCORD and JACIE international standards, that prescribe the record of operating parameters every 4 hours.

BioManagement

The **BioManagement Software** allows the complete management of biological samples in In Vitro Fertilization (IVF) Centers and it is made according to the European Community Good Manufacturing Practices.
The application is set-up with activities related to the patient's treatment management in IVF Centers.
The software provides help to the doctors, in choosing the desired protocol, automating the drug delivery process with the daily posology calculation.
The system allows also a customized extraprotocol management, in order to permit an optimal management of the resources and drugs, thus generating the therapeutic plan.
The software enables creation of printable reports with the medical history of the single patient/couple, from the first examination up to the insemination.

Specific activities can be configured for reference techniques, such as:

- diagnostic route;
- first level investigations;
- intrauterine insemination (IUI);
- management of protocols for ovulation induction;
- ultrasound monitoring of the ovulation;
- semen preparation;
- second level techniques - FIVET / ICSI;
- oocyte retrieval management;
- fertilization control;
- cryopreservation: the system supports possible oocytes/ spermatozoa and embryo freezing procedures, providing an effective tool to ensure the traceability of each individual oocyte/spermatozoa;
- Embryo Transfer: the system gives the interventional report, through an automatic calculation of the embryo-quality indicators;
- third level - MESA/TESE;
- heterologous fertilization;
- therapeutic route;
- post-terapy controls;
- pregnancy monitoring;
- possible pathological events.

CellManagement

The **CellManagement Software** ensures the management of the entire lifecycle of extensive and minimal manipulated cells and tissues according to ecGMP requirements, as for example peripheral blood cells, BMSC, CB MSCs.
Each activity can be divided in 3 steps:

- production;
- environmental control;
- quality control;

And for each step is it possible to manage non conformities, the sampling and the warehouse materials.
The product traceability is built in 3 levels: batch, sub-batch and fraction.
The software can also manage the cryopreservation is GAMP validated and can be used both on Cell-Factory PCs and tablets.

LABS SERIES
Storage in vapour phase nitrogen at - 190°C

High efficiency - very low LN_2 consumption
- LN_2 storage in either liquid or vapor phase
- Near LN_2 temperatures maintained at top of inventory storage system for overall sample viability

Single pivot point aluminum turntable design - smooth rotation and ergonomic use
- Eliminates any mechanical component maintenance
- Full height, segmented and labeled turntable provides easy inventory storage access and management
- Convenient access to measure LN_2 level

Hinged lid and stainless steel table top - easy operation with a convenient working surface
- The lid includes locking capabilities and activates an automatic defog for quick viewing of inventory storage
- The table top provides a working surface and provides protection to electrical and plumbing components

Enhanced and intuitive controller technology:
- Discrete thermistor level measurement and thermocouple temperature resolution within 0.1°C
- Capabilities for data collection, event scheduling and enhanced security settings
- Second access point for monitoring temperature

Ideal for CAR-T cell storage

LARGE capacity

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
with EU Medical Device Regulation 2017/745 (MDR)

MODEL	20K	38K	40K	80K	94K
STORAGE CAPACITY					
Number 100/81 Cell Racks	14	26	30	58	60
Number Shelves / Rack	13	13	13	13	15
Number 25 Cell Racks	4	12	8	12	8
Number Shelves / Rack	13	13	13	13	15
Number 2 ml cryotubes	19500	37700	41600	79300	93000
PERFORMANCES					
Liquid nitrogen capacity (l)	371	623	698	1269	1595
Vapor nitrogen capacity (l)	36	73	80	137	300
DIMENSIONS					
External Operating Height (Top of Step to Lid Opening)	42	44	42	42	40
Step Height (in)	11	11.5	11/16.3	11/17	11/22
Height (in) Floor to Opening	53	56	53	53	62
Usable Height - Internal (in)	30	30	30	30	35.3
Outside Diameter	34	42	45	59.5	59.5
Internal diameter (in)	29.5	38	40.5	55	55
Neck diameter (in)	13	18	18	24.5	24.5
Empty weight (Lbs)	650	930	920	1550	1700
Full weight (Lbs)	1311	2040	2164	3811	4542
BLOOD BAGS CAPACITYE					
Bag 25 ml (7 Level Rack)	1624	2688	3108	5999	6856
Bag 50 ml (7 Level Rack)	924	1582	1876	3381	3864
Bag 250 ml (5 Level Rack)	500	900	990	1920	2304
Bag 500 ml (5 Level Rack)	420	690	830	1610	1932

ACCESSORIES see page 62

HE SERIES
Storage in vapour phase nitrogen at - 190°C

MVE-HE Series is manufactured to be compliant to the most critical needs of storage in vapor phase. With this solution, an high efficiency dewar is used as an heat pump, generating thermal exchange which maintains the dewar's average temperature as the lowest as possible

HE Series manufacturing quality is a warranty for setting a temperature under the lid (the hottest point of the dewar) at -190°C.
Such performances are achieved with the application of a reduced diameter lid, which mantains anyway an excellent access to the biological samples with a revolving platform system.

optional step

Your right choice for Transfusion Centers, Haematology Departments and Cord Blood Banks

All models are fully equipped with gas bypass, back-up battery and Medical Device Certification, according to 93/42/CEE Directive

LARGE capacity

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
Medical Device

MODEL	MVE 815P 190 AF-GB MVE 815P 190F-GB-BB-MDD	MVE 818P 190 AF-GB MVE 818P 190F-GB-BB-MDD	MVE 819P 190 AF-GB MVE 819P 190F-GB-BB-MDD	MVE 1536P 190 AF-GB MVE 1536P 190F-GB-BB-MDD	MVE 1539P 190 AF-GB MVE 1539P 190F-GB-BB-MDD	MVE 1539R 190 AF-GB MVE 1539R 190F-GB-BB-MDD
STORAGE CAPACITY						
2 ml cryotubes (internal thread screw cap)	15600	18200	19500	36400	39200	39000
RACK NUMBER						
100 cryotubes plastic cryoboxes (2 ml)	12	12	12	24	16	26
25 cryotubes plastic cryoboxes (2 ml)	4	4	4	16	16	16
Levels for single rack	12	14	15	13	14	13
PERFORMANCES						
Liquid nitrogen capacity (l)	370	420	463	756	797	756
Liquid nitrogen capacity (l) (under vapor platform)	52	55	55	133	133	133
DIMENSIONS						
Neck diameter (mm)	317	317	317	445	445	445
Useful internal height (mm)	673	781	877	732	782	745
Internal diameter (mm)	731	731	731	978	978	983
Overall height (mm)	1448	1556	1651	1556	1608	1393
Door Width Requirement	813	813	813	1067	1067	1066
Empty weight (Kg)	215	225	234	313	327	313
Full weight (Kg)	514	530	608	924	971	924
BLOOD BAGS CAPACITY						
Bags 25 ml (791 OS/U)	1224	1632	1836	2905	3320	2786
Bags 50 ml (4R9951)	768	896	1024	1488	1736	1446
Bags 250 ml (4R9953)	416	416	520	812	812	768
Bags 500 ml (4R9955)	304	304	380	608	608	576
Bags 200 ml (DF 200)	236	236	295	496	496	496

ACCESSORIES see page 62

AF = Full Auto; GB = Gas Bypass; BB = Battery Backup; MDD = Medical Devices

HE SERIES
Storage in vapour phase nitrogen at - 190°C

LARGE capacity

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
Medical Device

MODEL	MVE 1542R 190 AF-GB	MVE 1879P 190 AF-GB	MVE 1881R 190 AF-GB	MVE 1892P 190 AF-GB	MVE 1894R 190 AF-GB
STORAGE CAPACITY	**MVE 1542R 190F-GB-BB-MDD**	**MVE 1879P 190F-GB-BB-MDD**	**MVE 1881R 190F-GB-BB-MDD**	**MVE 1892P 190F-GB-BB-MDD**	**MVE 1894R 190F-GB-BB-MDD**
2 ml cryotubes (internal thread screw cap)	42000	79950	81900	92250	94500
RACK NUMBER					
100 cryotubes plastic cryoboxes (2 ml)	26	54	60	54	60
25 cryotubes plastic cryoboxes (2 ml)	16	30	12	30	12
Levels for single rack	14	13	13	15	15
PERFORMANCES					
Liquid nitrogen capacity (l)	797	1540	1521	1736	1731
Liquid nitrogen capacity (l) (under vapor platform)	133	290	305	282	300
DIMENSIONS					
Neck diameter (mm)	445	635	635	635	635
Useful internal height (mm)	782	749	742	876	868
Internal diameter (mm)	983	1422	1391	1391	1391
Overall height (mm)	1608	1732	1732	1860	1860
Door Width Requirement	1067	1524	1524	1524	1524
Empty weight (Kg)	327	781	781	781	781
Full weight (Kg)	971	2191	2191	2211	2211
BLOOD BAGS CAPACITY					
Bags 25 ml (791 OS/U)	3184	5866	5628	6704	6432
Bags 50 ml (4R9951)	1687	2952	2940	3936	3920
Bags 250 ml (4R9953)	768	1584	1608	1980	2010
Bags 500 ml (4R9955)	576	1104	1240	1380	1550
Bags 200 ml (DF 200)	488	960	984	1200	1230

AF = Full Auto; GB = Gas Bypass; BB = Battery Backup; MDD = Medical Devices

ACCESSORIES see page 62

BIOSAFE SERIES
Storage in vapour phase nitrogen at - 190°C

LARGE capacity

The Biosafe Series is manufactured with the goal of obtaining the best performances in terms of storage in vapour phase nitrogen. The internal temperature is kept uniform between -196°C to -150°C near the lid.

Biosafe Series is optimized for a maximum in capacity at a minimum in dimensions. Such performances are achieved with the application of a reduced diameter lid, which mantains anyway an excellent access to the biological samples with a revolving platform system.

Cryotherm®

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
Medical Device

MODEL	Biosafe 120	Biosafe 220	Biosafe 420	Biosafe 820
PERFORMANCES				
Geometric capacity (l)	150	251	420	888
Geometric capacity under platform (l)	21	35	57	140
DIMENSIONS				
Useful height (mm)	625	625	625	970
Overall height (mm)	1140	1180	1190	1800
External diameter (mm)	560	710	900	1150
Internal diameter (mm)	514	664	854	1091
Empty weight (Kg)	100	175	225	600
STORAGE CAPACITY				
2 ml cryotubes max. (storage system to be defined)	7000	13000	23100	51200
Racks number	7 big	12 + 4	20 + 8	32 big
Levels number	10	10	10	16

EVOLUTION SERIES
Storage in vapour phase nitrogen at - 190°C

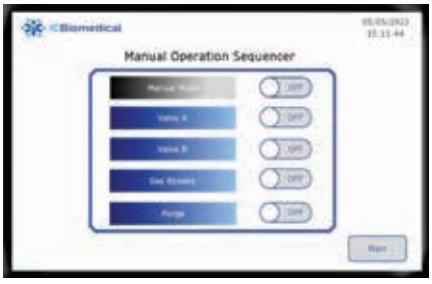
ICBiomedical

IC Biomedical's EVOLUTION high-capacity freezers deliver new features that keep pace with today's evolving biorepository requirements.

Evolution's fully redundant level management, combined with new leak-free plumbing for nitrogen supply and level measurement, creates a uniquely robust operational platform at the lowest storage temperature in the industry.

Freezer Features

- Space-efficient with enhanced user ergonomics, racks are easier to place, find and remove
- Improved level and temperature management with completely redesigned liquid delivery
- Fail-safe level measurement with dual, fully redundant, control channels
- Interior LED lighting
- Automatic defogging fan maximize sample visibility when working with the freezer
- Hinged lid for easy access
- Manufactured in our medical-grade, ISO 13485-certified facility



Control features

Control Features Control systems are a fundamental building block of freezer functionality and the facilitation of compliance. The control unit has been designed to provide a simple, intuitive interface with an extremely robust, redundant control platform featuring state-of-the-art connectivity and simple user interaction.

- Dual, redundant level sensing guards against level control issues
- Large, touchscreen user panel
- Industry-proven PLC controller providing robust control platform
- Web server and API supports BMS and Network connection
- User management and audit-trail functions

Temperature and level control

Industry-leading level management, interior lighting and automatic fog removal facilitate precise, reliable user interaction and ultimate sample protection

- Discrete RTD Level Control
- Differential Pressure Level Control
- Temperature Measurement - RTD
- Cloud or Network Data Platform (field upgrade)
- Audit Trail / User Activity (Optional)

LARGE capacity

Features

- Aggregated and displayed data management for freezer performance and operation
- User data and activity recording
- Composite audit trail Integration into available or authored inventory management systems
- Logistics management, remote operation, connection to 3rd-party logistics operations
- Notification of adverse events, alarm states, etc.
- Online access to status with app-based UI

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
with EU Medical Device Regulation 2017/745 (MDR)

MODEL	313-P	314-P	414-P	414-R	415-P	415-R	614-P	614-R	615-P	615-R
STORAGE CAPACITY										
Number of 1.2 and 2 ml vials	18200	19500	39200	42000	42000	45000	92050	89600	98625	96000
Number of large racks	12	12	24	26	24	26	56	60	56	60
Number of mini racks	4	4	16	16	16	16	39	16	39	16
Number of levels per rack	14	15	14	14	15	15	14	14	15	15
Number of vertical racks	40	40	74	76	76	74	168	-	168	-
Number of 1.2 and 2 ml vials	20000	24000	38000	37000	45600	44400	84000	-	100800	-
PERFORMANCES										
Liquid nitrogen capacity (l)	51	51	102	102	102	102	271	271	271	271
Internal total capacity (l)	689	806	978	978	1139	1139	1667	1667	1900	1900
DIMENSIONS										
Internal diameter (mm)	760	760	1012	1012	1012	1012	1470	1470	1470	1470
External diameter (mm)	814	814	1068	1068	1068	1068	1524	1524	1524	1524
Overall height (mm)	1437	1602	1419	1419	1574	1574	1469	1469	1625	1625
Usable height (mm)	785	936	788	788	947	947	800	800	958	958
Weight empty (kg)	209.6	232.2	307	307	334.5	334.5	576.6	576.6	615.9	615.9
Weight full without ICS (kg)	250.8	273.3	389.1	389.1	416.6	416.6	795.6	795.6	834.9	834.9
Neck opening (mm)	300	300	426	426	426	426	622	622	622	622
BLOOD BAGS CAPACITY										
Bags 25 ml	-	1836	3320	3184	-	-	-	-	6704	6432
Bags 50 ml	-	1024	1736	1687	-	-	-	-	3936	3920
Bags 250 m	-	520	812	768	-	-	-	-	1980	2010
Bags 500 ml	-	380	608	576	-	-	-	-	1380	1550

ACCESSORIES see page 62

K SERIES
Samples storage in liquid phase nitrogen at -196°C

ICBiomedical

IC Biomedical's K Series cryogenic systems offer reliable and efficient liquid nitrogen storage and easy access to stored product .

Featuring the safety of electronic controllers that monitor and manage liquid level, temperature, and a full array of alarms, the **K Series** freezers provide solutions to either liquid or vapor phase storage requirements.

Features

- Suitable for vapor* or liquid storage
- Intuitive touch controls
- Stainless Steel vacuum vessel
- Modular design
- Durable powder coated cabinet
- Caster mounted
- Superior vacuum performance
- Optional step for 38K
- Various blood bag sizes and capacity details are available upon request

**When using a 10K for vapor phase storage, we recommend using aluminum storage racks.*

LARGE capacity

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
with EU Medical Device Regulation 2017/745 (MDR)

MODEL	3K	10K	24K	38K
STORAGE CAPACITY				
Number of 2 ml cryotubes	3024	10400	24050	38350
Number of 100/81 Cell Racks	-	7	17	28
Number of 25 Cell Racks	-	4	6	6
Number of levels	-	13	13	13
Box Size (mm)	171 X 175	127 X 127	127 X 127	76 X 76
Shape	triangle	square	square	square
Vials per box	56	100	100	25
0.50cc straws, 10 per goblet, 2-13mm goblets per can, two tier turn-table inventory control system	-	44000	59400	114000
PERFORMANCES				
Liquid nitrogen capacity (l)	48	165	365	590
Static evaporation rate (l/day)	2.5	5.0	7.0	8.0
Static holding (days)	19	33	52	74
Working duration (days)	12	-	-	-
DIMENSIONS				
Neck diameter (mm)	356	533	787	991
Overall height (mm)	754	111.8	111.8	1245
Overall dimensions (mm)	391	587 X 775	864 X 965	1067
Internal height (mm)	488	737	737	737
Internal diameter (mm)	356	533	787	991
Weight Empty (kg)	19.1	111	184	256
Weight Full (kg)	56.7	243	474	733

(1) Evaporation rate and static holding time are nominal. Actual rate may be affected by the nature of the contents, atmospheric conditions, container history, and manufacturing tolerances.
(2) Work time is an arbitrary, reference-only value to estimate container performance under the actual operating conditions.

ACCESSORIES see page 62

REVOLUTION SERIES
Samples storage in liquid phase nitrogen at -190°C

ICBiomedical

Elevate your biorepository operation to a new level of secure inventory management and regulatory compliance

By reviewing every aspect of the storage process and the systemic interaction of the freezer with production or process environments, we have created the **Revolution high-capacity storage system** as a fit-forpurpose solution for both current and anticipated compliance frameworks.

Features

- Space-efficient with enhanced user ergonomics, racks are easier to place, find and remove
- Improved level and temperature management with completely redesigned liquid delivery
- Fail-safe level measurement
- Interior LED lighting and automatic defogging fan maximize sample visibility when working with the freezerupon request
- Temperature management system compensates for temperature rises during operational use
- Optional motor drive for carousel facilitates individual access controls - quadrants can be limited to access with permissions linked to user
- Auto locking lid with password/ biometric/ card access

Control features

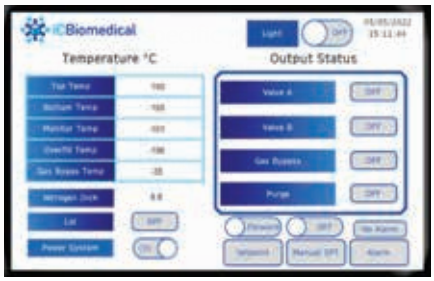
Control systems are a fundamental building block of freezer functionality and the facilitation of compliance. The control unit has been designed to provide a simple, intuitive interface with an extremely robust, redundant control platform featuring state-of-the-art connectivity and simple user interaction.

- Dual, redundant level sensing guards against level control issues
- Large, touchscreen user panel - Industrial PLC controller providing robust control platform
- Level or temperature-based control as standard
- Web server and API supports BMS and Network connection
- User management and audit-trail functions

Access Control

Limiting, and more importantly, recording access to the sample space is a key requirement. The Revolution freezer offers multiple access levels and full audit trail options:

- Solenoid-based lid locking mechanism requires password or biometric access
- Optional motor control of sample tray provides ability to restrict user



Sample Access and User Management

- User management allows for creation of unlimited user profiles with individual permissions
- Full audit trail records all actions undertaken by a signed-in individual, including time and date stamps
- Available inventory management software allows for onboard freezer inventory lists and sample location
- Inventory management can be networked to server application for creation of multi-freezer pick lists and sample searches

LARGE capacity

Temperature Management

- Radiant temperature management utilizes internal directed nozzles to manage internal sample chamber temperature below set point during both static storage and sample storage and retrieval actions
- Revolution can be used as a temperature setpoint unit with no liquid nitrogen reservoir, operating at any temperature between -20° and -150°C with setpoint accuracy determined by the user.

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
with EU Medical Device Regulation 2017/745 (MDR)

MODEL	313-P	314-P	414-P	414-R	415-P	415-R	614-P	614-R	615-P	615-R
STORAGE CAPACITY										
Number of 1.2 and 2 ml vials	18200	19500	39200	42000	42000	45000	92050	89600	98625	96000
Number of large racks	12	12	24	26	24	26	56	60	56	60
Number of mini racks	4	4	16	16	16	16	39	16	39	16
Number of levels per rack	14	15	14	14	15	15	14	14	15	15
Number of vertical racks	40	40	74	76	76	74	168	-	168	-
Number of 1.2 and 2 ml vials	20000	24000	38000	37000	45600	44400	84000	-	100800	-
PERFORMANCES										
Liquid nitrogen capacity (l)	51	51	102	102	102	102	271	271	271	271
Internal total capacity (l)	689	806	978	978	1139	1139	1667	1667	1900	1900
DIMENSIONS										
Internal diameter (mm)	760	760	1012	1012	1012	1012	1470	1470	1470	1470
External diameter (mm)	814	814	1068	1068	1068	1068	1524	1524	1524	1524
Overall height (mm)	1437	1602	1419	1419	1574	1574	1469	1469	1625	1625
Usable height (mm)	785	936	788	788	947	947	800	800	958	958
Weight empty (kg)	209.6	232.2	307	307	334.5	334.5	576.6	576.6	615.9	615.9
Weight full without ICS (kg)	250.8	273.3	389.1	389.1	416.6	416.6	795.6	795.6	834.9	834.9
Neck opening (mm)	300	300	426	426	426	426	622	622	622	622
BLOOD BAGS CAPACITY										
Bags 25 ml	-	1836	3320	3184	-	-	-	-	6704	6432
Bags 50 ml	-	1024	1736	1687	-	-	-	-	3936	3920
Bags 250 m	-	520	812	768	-	-	-	-	1980	2010
Bags 500 ml	-	380	608	576	-	-	-	-	1380	1550

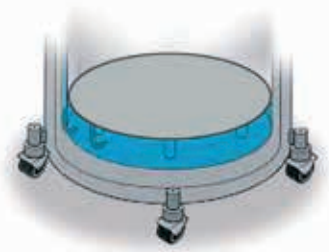
ACCESSORIES see page 62

MVE SERIES
Samples storage in liquid phase nitrogen at -196°C

MVE Series is manufactured with the intent of allowing excellent thermal performances in case of liquid nitrogen, in vapor phase storage or in mixed ones.

Those devices undergo a continuous research, thus obtaining excellent performances in terms of thermic insulation. All dewars, wide neck included, ensure the temperature retention under the lid (the hottest point into the dewar) under -150°C. The lid is equipped with joints, to keep the position when opened, and predisposition for lockers.
All the dewars are equipped with wheels and lateral handles to ease the transportation.

Vapor platform for vapor phase storage (optional)



The electric systems provided are use only for:
- controlling the nitrogen supply;
- monitoring the relevant parameters.

Your right choice for Transfusion Centers, Haematology Departments, Cord Blood Banks and IVF Clinics

All models are fully equipped with gas bypass, back-up battery and Medical Device Certification, according to 93/42/CEE Directive

LARGE capacity

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
Medical Device

MODEL	MVE 205 AF-GB	MVE 510 AF-GB	MVE 616 AF-GB	MVE 1426 AF-GB	MVE 1839 AF-GB
STORAGE CAPACITY	**MVE 205 AF-GB-BB-MDD**	**MVE 510 AF-GB-BB-MDD**	**MVE 616 AF-GB-BB-MDD**	**MVE 1426 AF-GB-BB-MDD**	**MVE 1839 AF-GB-BB-MDD**
Number of 2 ml cryotubes (internal thread screw cap)	5200	10400	16900	26650	39000
RACK NUMBER					
100 cryotubes cryoboxes (2ml)	4	7	12	18	28
25 cryotubes cryoboxes (2ml)	-	4	4	10	8
Levels for single rack	13	13	13	13	13
PERFORMANCES					
Liquid nitrogen capacity (l)	95	166	240	388	673
DIMENSIONS					
Neck diameter (mm)	406	527	638	806	1002
Useful internal height (mm)	735	762	749	745	854
Internal diameter (mm)	406	527	638	806	1002
Overall height (mm)	1176	1185	1161	1188	1372
Door requirements	601x577	778x754	852x878	1017x1056	1187x1242
Empty weight (Kg)	88	127	145	222	341
Full weight (Kg)	166	262	339	536	885
BLOOD BAGS CAPACITY					
Bags 25 ml (791 OS/U)	539	882	1372	2226	3968
Bags 50 ml (4R9951)	228	420	612	924	1856
Bags 250 ml (4R9953)	128	224	336	512	1010
Bags 500 ml (4R9955)	96	160	248	424	770

ACCESSORIES see page 62

AF = Full Auto; GB = Gas Bypass; BB = Battery Backup; MDD = Medical Devices

BIOSAFE SERIES
Samples storage in liquid phase nitrogen at -196°C

The Biosafe Series is manufactured with the goal of obtaining the best performances in terms of storage in liquid nitrogen. The internal temperature is kept uniform between -196°C to -190°C near the lid.

Biosafe Series is optimized for a maximum in capacity at a minimum in dimensions. The large thermodynamically optimized and vacuum insulated lid in an attractive design allows access to the materials stored in a second.

Loading of samples is facilitated via the wide neck opening in the freely accessible storage space.
Its robust construction of polished, corrosion-free stainless steel ensures a long service life and a very low evaporation rate. Further security is provided by a combined evacuation and safety valve. All dewars are equipped with ergonomic lifting/ swivel mechanism for the lid, lockable lid, and handles.

Your right choice for
Transfusion Centers,
Haematology Departments,
Cord Blood Banks and
IVF Clinics

LARGE capacity

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
Medical Device

MODEL	Biosafe 500	Biosafe 800	Biosafe 1800	Biosafe 2400
PERFORMANCES				
Geometric capacity (l)	490	960	1800	2400
Geometric capacity under platform (l)	50	117	290	830
DIMENSIONS				
Useful height (mm)	800	800	915	915
Overall height (mm)	1314	1800	2100	2100
External diameter (mm)	890	1058	1500	1650
Internal diameter (mm)	795	966	1346	1500
Empty weight (Kg)	320	570	1200	1300
STORAGE CAPACITY				
2 ml cryotubes max. (storage system to be defined)	28280	43120	91200	120000
Racks number	18 + 2	26 + 12	52 + 24	68 + 28
Levels number	14	14	16	16

LS SERIES*
Samples storage in liquid phase nitrogen at -196°C

MEDIUM capacity

For liquid- or vapor storage in convenient box type racks.

WARRANTY
2 years
on mechanical components
3 years
on vacuum loss

COMPLIANT
Medical Device

- Convenient Storage Systems
  - rack index location ring and internal location fixture, computer compatible box storage for simple inventory management:
  - Number of Racks: 6
  - Number of Shelves / Rack: 5
  - 2 ml Vial Capacity: 750 - 6,000
- In vapor-phase storage, temperature at the top of racks is -190°C
- High strength aluminum body and magneformed necktube design
- Superior vacuum performance with super insulation provides maximum holding times
- Lockable lids

Security - Accessory low-level alarm and CS100 controller are available on LS4800 and LS6000 with remote connection capability

ICBiomedical

MODEL	LS750	LS2000	LS3000	LS4800	LS6000
STORAGE CAPACITY					
Number of 2 ml cryotubes	750	2000	3000	4800	6000
PERFORMANCES					
Liquid nitrogen capacity (l)	35	75	81	130	165
Static hold time (days)	130	70	106	130	165
Evaporation Rate (l/day)	0.27	0.76	0.76	1.00	1.00
DIMENSIONS					
Neck diameter (mm)	119.4	215.9	215.9	215.9	215.9
Overall diameter (mm)	457.2	558.8	683.3	683.3	683.3
Height (mm)	685.8	717.5	731.5	891.5	990.6
Empty weight (Kg)	17.7	26.3	31.8	40.8	54.9
Full weight (Kg)	45.9	86.2	97.2	141.7	186

ACCESSORIES see page 62

CRYOSYSTEM SERIES
Samples storage in liquid phase nitrogen at -196°C

MEDIUM capacity

The Cryosytem Series has been designed with the aim of storing up to 6000 cryotubes 2 ml in liquid nitrogen.

The continous research on materials and deviced ensured low nitrogen consumption in medium capacity dewars, in order to meet the different needs of professionals. All the dewars are equipped with wheels and lateral handles to ease the transportation.

Main features
- Narrow neck;
- Low static evaporation rate;
- Light aluminum structure;
- Easy access to biological samples;
- Predisposition for locker;
- Roller base for easy handling.

WARRANTY
2 years
on mechanical components
3 years
on vacuum loss

COMPLIANT
Medical Device

MODEL	CRYOSYSTEM 750	CRYOSYSTEM 2000	CRYOSYSTEM 4000	CRYOSYSTEM 6000
STORAGE CAPACITY				
Racks number	6	4	4	6
100 tubes cryoboxes (2ml)	-	2000	4000	6000
25 tubes cryoboxes (2ml)	750	-	-	-
Boxes for single rack	5	5	10	10
PERFORMANCES				
Liquid nitrogen capacity (l)	47.4	61	121	175
Static evaporation rate (l/day)	0.39	0.85	0.99	0.99
Working duration (days)	76	38	70	104
DIMENSIONS				
Neck diameter (mm)	127	216	216	216
Overall height (mm)	673	692	965	963
External diameter (mm)	508	559	559	673
Empty weight (Kg)	19	26.3	36.7	46.7
Full weight (Kg)	57	82.5	136	193

ACCESSORIES see page 62

AC SERIES
Samples storage in liquid phase nitrogen at -196°C

The aluminum vessels of the Auguste Cryogenics Medical Family are dewars for long-term storage of biological samples in liquid nitrogen with many possible applications in laboratories, hospitals, IVF Clinics and industry.

The vessels in this series can be equipped with stainless steel canisters, stainless steel racks for vials boxes and blood bags.

MODEL	AC XL+35-L	AC 2XL+35-L(10)	AC 2XL47-L	AC 2XL47(10)
STORAGE CAPACITY				
Number of canisters	6	10	6	10
Number of racks	-	-	-	-
Number of straws 0.5 cc	4026	6250	10704	8200
Number of 1.2 and 2 ml vials (5/cane)	-	-	-	-
PERFORMANCES				
Liquid nitrogen capacity (l)	35	35.5	47	47
Static evaporation rate (l/day)	0.23	0.37	0.36	0.365
Working duration (days)	152	97	130	130
DIMENSIONS				
Neck diameter (mm)	91	127	127	127
Overall height (mm)	758	748	770	770
External diameter (mm)	462	462	508	508
Canister diameter (mm)	7	71	104	72
Canister height (mm)	276	276	276	276
Rack dimensions (mm)	-	-	-	-
Cryobox dimensions (mm)				
Empty weight (Kg)	16	15	18	18
Full weight (Kg)	51	50	65	65

SMALL/MEDIUM capacity

The main features are:

- high portability thanks to their low weight and compact dimensions
- long holding times, resulting in high economic efficiency
- large capacity of straws/vials and/or freezer bags)
- design and quality according to Auguste Cryogenics' standards

The dewars are equipped with a vacuum-insulated, aluminum double-wall.

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
Medical Device

AC 2XL35-B	AC 2XL47-B	AC 3XL65-B	AC 3XL115-B	AC 3XL175-B
-	-	-	-	-
6 with 5 lev.	6 with 5 lev.	6 with 4 lev.	6 with 8 lev.	6 with 10 lev.
-	-	-	-	-
750	1110	2400	3600	6000
35	47	60	120	175
0.36	0.36	0.89	0.94	0.95
97	130	73	122	184
125	127	216	216	216
758	770	729	846	1078
462	508	681	681	681
-	-	-	-	-
-	-	-	-	-
82x84	105x100	142x142	142x144	142x144
76x76	98 (round)	134x134	134x134	134x134
15	18	38	42	54
50	65	98	162	229

HC SERIES*
Samples storage in liquid phase nitrogen at -196°C

SMALL capacity

For long-term storage of large quantities at cryogenic temperatures.

- Rugged ribbed high-strength aluminum body, magneformed necktube design, and more durable paint
- Numbered index ring and tapered internal canister locator
- Superior vacuum performance with super insulation for maximum holding times
- Lockable lid

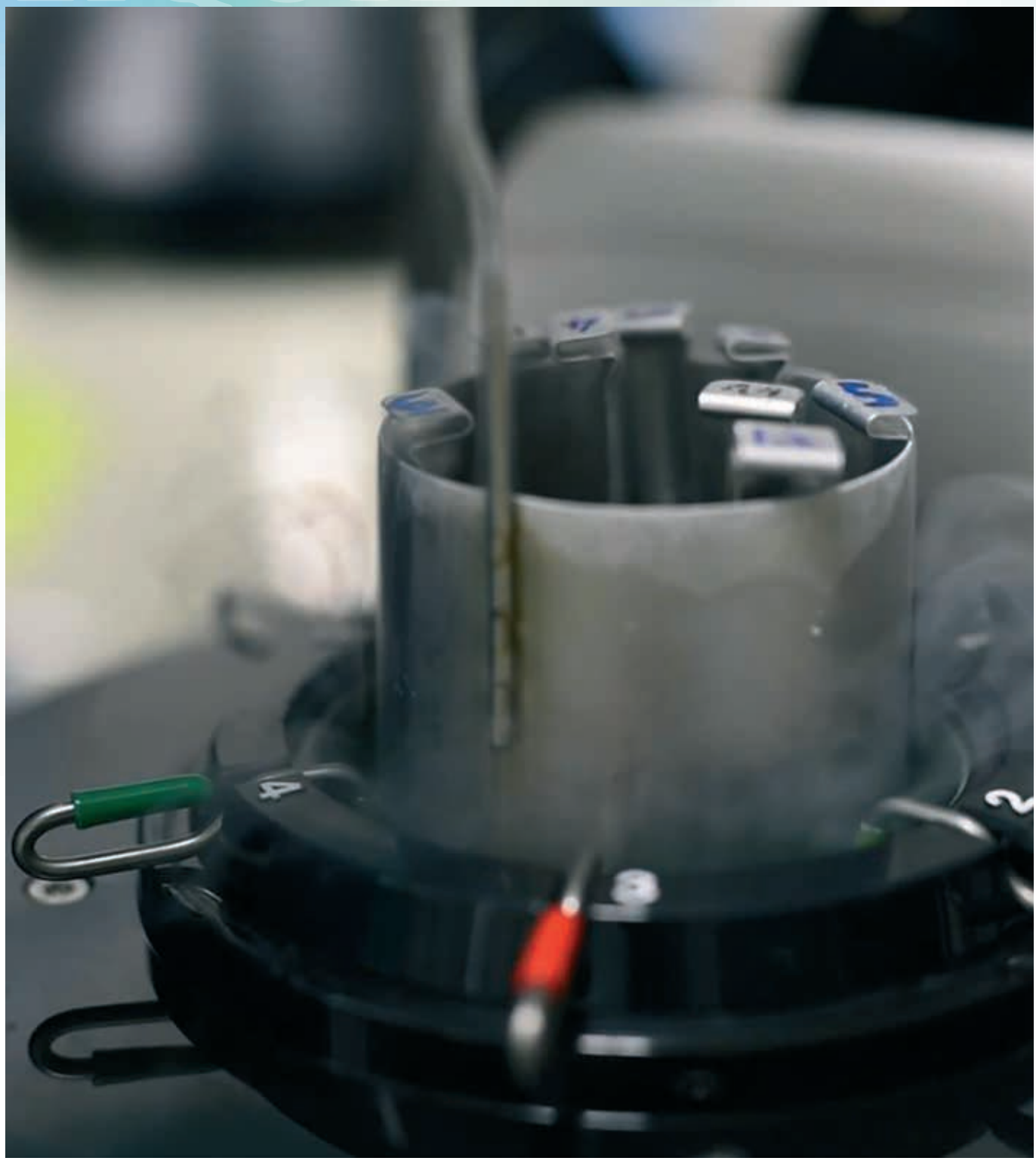
WARRANTY
2 years
on mechanical components
3 years
on vacuum loss

COMPLIANT
Medical Device

ICBiomedical

MODEL	12HCL	20HC	34HC	38HC	38VHC
STORAGE CAPACITY					
Number of canisters	6	6	6	10	6
Canister dimensions (mm)	70x279.4	70x279.4	70x279.4	69.9x279.4	104.9x279.4
Number of 0.5 cc straws - Bulk (1 level)	2940	-	-	-	-
Number of 0.25 cc straws - Bulk (1 level)	6060	-	-	-	-
Number of 1.2 and 2.0 ml vials	-	-	-	-	-
Number of 1.2 ml and 2.0 ml vials (5/cane)	-	570	570	950	1260
Number of 1.2 ml and 2.0 ml vials (6/cane)	-	684	684	1140	1512
Number of 0.5 cc straws (10/cane)	-	1920	1920	3200	4500
Number of 0.5 cc straws Bulk (2 levels)	-	4800	4800	8000	-
Number of 0.5 cc straws (28/cane)	-	5376	5376	8960	12600
Number of 0.25 cc straws - Bulk (2 levels) in goblets	-	10740	10740	17200	-
PERFORMANCES					
Liquid nitrogen capacity (l)	12	20	34	38	38
Static hold time (days)	60	87	200	120	120
Working time days (liquid)	-	-	-	75	-
Evaporation rate (l/day)	0.2	0.23	0.17	0.31	0.31
DIMENSIONS					
Neck diameter (mm)	91.4	91.4	91.4	127	127
Overall diameter (mm)	396.2	396.2	477.5	477.5	477.5
Height (mm)	482.6	615.9	66.8	680.7	680.7
Empty weight (Kg)	9.8	12	16	17.3	17.3
Full weight (Kg)	19.5	28.1	43.5	48	47.5

ACCESSORIES see page 62



XC SERIES
Samples storage in liquid phase nitrogen at -196°C

The MVE XC Series has been designed in order to ensure a high storage capacity and a low nitrogen consumption, with lightweight dewars easy to handle.

The dewars of the **MVE XC Series**, realized to broadly integrate durability and capacity requirements, are the best choice for the storage of a considerable number of samples.

MODEL	XC 20 SIGNATURE	XC 22/5	XC 32/8	XC 33/22
STORAGE CAPACITY				
Number of canisters	6	6	9	6
Number of straws 0.5 cc	879	3666	3960	1764
Number of 1.2 and 2 ml vials (5/cane)	210	810	855	360
PERFORMANCES				
Liquid nitrogen capacity (l)	20.5	22.4	32	33.4
Static evaporation rate (l/day)	0.090	0.35	0.35	0.14
Working duration (days)	140	40	57	154
DIMENSIONS				
Neck diameter (mm)	55.4	97	97	70
Overall height (mm)	660	559	660	660
External diameter (mm)	368	368	464	464
Canister diameter (mm)	41.9	79	56	56
Canister height (mm)	279/127	279	279	279
Empty weight (Kg)	10	11.8	15.4	15.4
Full weight (Kg)	26.5	30	43.5	42.5

ACCESSORIES see page 62

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
Medical Device

MVE Biological Solutions

XC 34/18	XC 47/11/6	XC 47/11/10	XC 47/11/6 SQ
6	6	10	6 rectangular racks
3000	6216	5000	-
630	1320	1050	750 vials in 25 pcs box
34.8	47.4	47.4	47.4
0.18	0.39	0.39	0.39
123	76	76	76
89	127	127	127
675	673	673	673
464	508	508	508
71	102	71	102
279	279	279	279
15.4	16.4	16.4	16.4
43.5	54.6	54.6	54.6

ACCESSORIES see page 62

SC SERIES
Samples storage in liquid phase nitrogen at -196°C

SMALL capacity

The MVE SC Series has been designed in order to ensure a small storage capacity with long storage duration and a low nitrogen consumption, with lightweight dewars easy to handle.

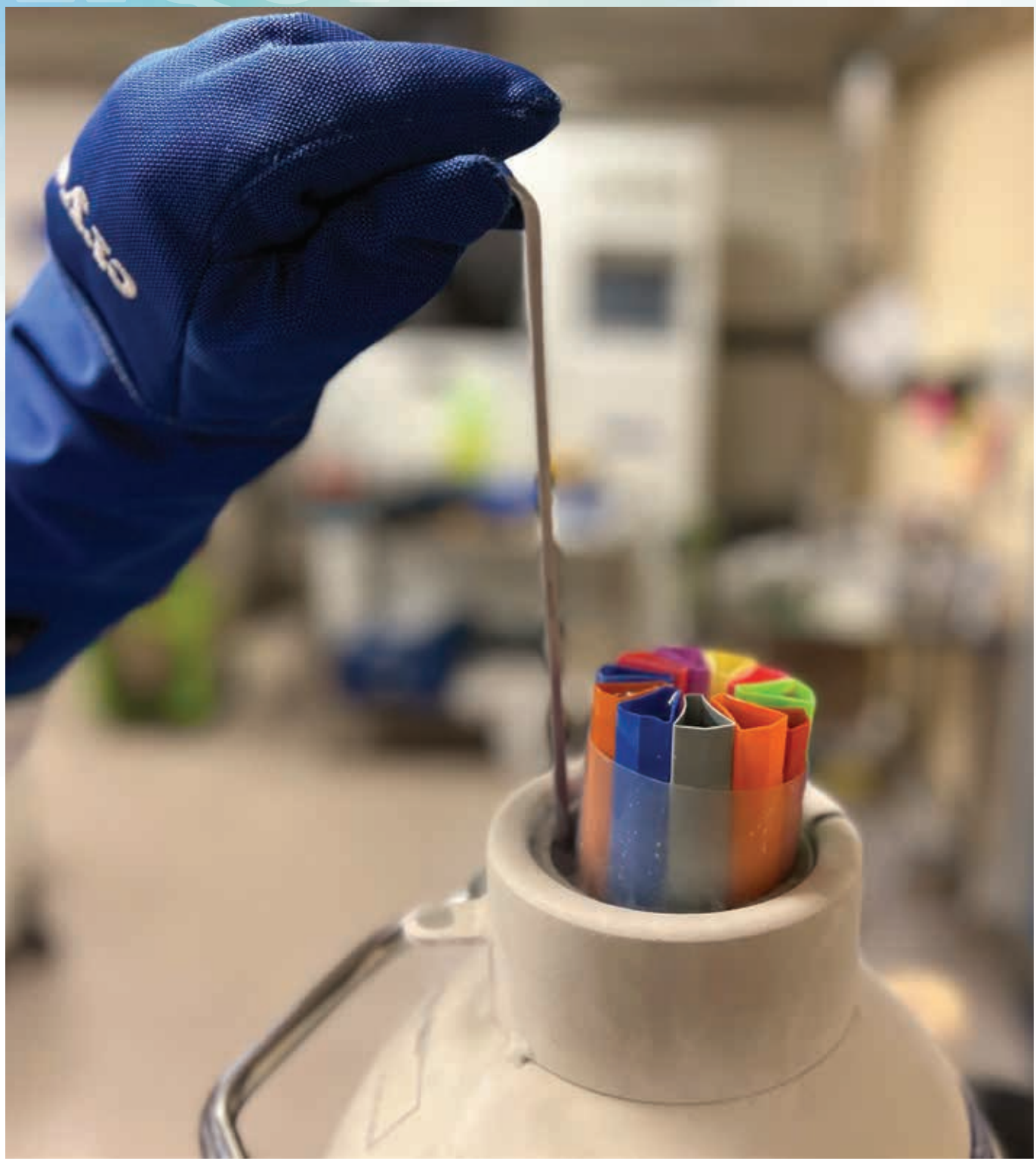
The dewars of the **MVE SC Series**, realized to broadly integrate durability and capacity requirements, are the best choice for the storage of samples in cryovials and straws.

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
Medical Device

MODEL	SC 3/3	SC 11/7	SC 20/20 SIGNATURE	SC 35/24
STORAGE CAPACITY				
Number of canisters	6	6	6	6
Number of straws 0.5 cc	440	879	879	1320
Number of 1.2 and 2 ml vials (5/cane)	-	210	210	2640
PERFORMANCES				
Liquid nitrogen capacity (l)	3.6	11	20.5	11
Static evaporation rate (l/day)	0.13	0.16	0.09	0.15
Working duration (days)	17	43	150	45
DIMENSIONS				
Neck diameter (mm)	55.4	55.4	55.4	55.4
Overall height (mm)	406	549	660	549
External diameter (mm)	222	260	368	260
Canister diameter (mm)	41.9	41.9	41.9	42.9
Canister height (mm)	127	279	279	279
Empty weight (Kg)	3.6	7.7	10.2	7.7
Full weight (Kg)	65	16.6	26.7	16.6

ACCESSORIES see page 62



CRYOLOGGER CONTROL PANELS SERIES

The CryoLogger control panel, produced in Italy by SOL, is the ideal solution for the remote control (wireless mode) or local control (cable mode) of laboratory equipments, for example small and big dewars (temperatures and levels recording), freezers, mechanical refrigerators and incubators.
The control panel can be mounted on any dewar, for the real time monitoring of temperatures and nitrogen levels.

The system is equipped with a dual port and offers the possibility to monitor devices via PT1000 probes. The device is equipped with serial RS232 and RS485 ports to allow the interface with supervisory plants and monitoring softwares.
Within the cryobiology applications, each **CryoLogger** monitors temperatures and level of up to 10 dewars and is used with the setting of visual and acoustic alarm thresholds.

The values of physical quantities detected by the system are acquired basing on the sampling frequency and vary from two seconds to an hour with a maximum capacity registration of 250,000 records: making a record every minute, the module is able to collect data for a continuous period up to 6 months.

A LCD screen with low power consumption displays measured values and information such as the the type of power supply used, the state of charge of the battery and the signal available for the transfer of data to a central server.
The front buttons make it simple the use and programming activities.

The alarm signals, when a telephone dialer is on board, are transmitted via phone calls or SMS to on call operators, in order to act immediately in case of emergency.

CX SERIES
Samples transportation in vapor phase nitrogen at -150°C

For the safe transport of biological samples in a vapor phase.

- Advanced Concept Adsorbent that enables faster charging
- Complies with IATA regulations for open cryogenic receptacles
- Rugged construction and superior vacuum performance with super insulation for maximum holding times
- Lockable lid

ICBiomedical

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
Medical Device

MODEL	CX100	CXR100	CXR500
STORAGE CAPACITY			
Number of 1.2 ml and 2.0 ml vials (5/cane)	85	85	500
Number of 1.2 ml and 2.0 ml vials (6/cane)	102	102	500
Number of 0.25 cc straws (28/cane)	784	784	1736
Number of 0.25 cc straws - Bulk (2 levels) in goblets	1640	1640	7160
Number of 1/2 straws (10/cane)	280	280	1240
Number of 0.5 cc straws - Bulk (2 levels) in goblets	800	800	3200
Number of canister	1	1	-
PERFORMANCES			
Liquid nitrogen capacity (l)	3.7	3.7	6.4
Static hold time (days)	18	16	11
Evaporation rate (l/day)	0.2	0.23	0.64
DIMENSIONS			
Neck diameter (mm)	69.9	90.9	216
Overall diameter (mm)	222.3	233.7	393.7
Height (mm)	472.4	492.7	683.3
Empty weight (Kg)	4.53	5.3	13.6
Full weight (Kg)	7.5	8.3	18.8

ACCESSORIES see page 62

VAPOR SHIPPER SERIES
Samples transportation in vapor phase nitrogen at -150°C

MVE Biological Solutions

IATA

All the Vapor Shipper dewars can be also be shipped via flight, according to IATA and EN3373 regulations, if provided with a shipping carton (triple packaging).

MODEL	SC 2 / 1 V	SC 4 / 2 V	SC 4 / 3 V	DOBLE 20
STORAGE CAPACITY				
Number of canisters	1	1	1	6
Number of straws 0.5 cc	88	44	210	660
Number of straws 0.5 cc (10/cane)				
Number of straws 0.5 cc (1 level bulk)				
Number of straws 0.25 cc	182	938	452	1320
Number of straws 0.25 cc (1 level bulk)				
Number of 1.2 and 2 ml vials (5/cane)	-	95	40	
Number of 1.2 and 2 ml vials (6/cane)	-	102	48	
Number of blood bags	-	-	-	-
PERFORMANCES				
Liquid nitrogen capacity (l)	1.5	3.6	4.3	4.2
Static evaporation rate (l/day)	0.19	0.26	0.2	0.1
Working duration (days)	8	13	21	21
DIMENSIONS				
Neck diameter (mm)	35	70	51	55
Overall height (mm)	343	468	492	647
External diameter (mm)	184	222	222	368
Canister diameter (mm)	31	67	46	42
Canister height (mm)	127	278	279	279
Empty weight (Kg)	2.7	4.5	5.2	10.4
Full weight (Kg)	4	7.7	8.7	25.4

ACCESSORIES see page 62

MVE Vapor Shippers are designed for the safe transportation of biological samples at cryogenic (-150˚C or colder) temperatures.

Manufactured with lightweight aluminum, they heve a hydrophobic compound which absorbs the liquid nitrogen to ensure spillfree shipping. The employed materials ensure a longlasting quality. A protective shipping carton is available for all models, in order to ensure a safe handling of the biological samples, according to the current regulations concerning biological samples transportation.
A data logger is available for all models (except the SC2/1V), ensuring the real-time traceability of the temperature inside the dewar.
The system is equipped with alarms to notify emergency situations.

A temperature probe (PT1000) fixed on the lid, controls the temperature in the hottest point of the dewar.

The samples can be carried with the insurance that the temperature is constantly monitored and that the LED display shows possible variations.

WARRANTY
2 years
on mechanical components
3 years
on vacuum loss

COMPLIANT
Medical Device

DOBLE 22	CRYO SHIPPER	CRYO SHIPPER XC	CT 50	CT 250	CRYO SHIPPER 2000
6	1	1*	1 rack	1 rack	1 rack (4 box/rack)
4380					
	-	-	-	-	-
	-	-	-	-	-
9840					
	-	-	-	-	-
	-	-	-	-	-
	500	966	-	-	-
-	10	10	2 from 25 ml	2 from 250 ml	-
5.5	8.5	10	5	8	65
0.35	0.85	0.7	0.5	0.8	0.79
18	10	14	10	10	15
97	216	216	97	165	216
559	546	584	380	502	692
368	369	381	368	406	559
79	-	-	-	-	-
279	-	-	-	-	-
15.8	11.8	15	8	11	43.1
30.8	17.7	22	12	17.5	83.9

** ordered separately*

ACCESSORIES see page 62

DS SERIES
Samples transportation in vapor phase nitrogen at -150°C

The aluminum containers of the DS series specifically designed for the biological sample transportation of biogenic material.

The special material inside the container absorbs the liquid nitrogen and allows safe transport without the risk of spilling, while the valuable material remains safely cooled at the lowest possible temperature.

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
Medical Device

The main technical features are:
- high portability thanks to the low weight and compact dimensions
- long holding times
- large capacity of straws
- ADR approved: transportable on public roads and railways and even by plane

IATA

All the Vapor Shipper dewars can be also be shipped via flight, according to IATA and EN3373 regulations, if provided with a shipping carton (triple packaging).

- Optionally available: Dryshipper Cases for extra protection and easy handling.

Auguste Cryogenics

MODEL	AC DS3-S	AC DS6-S	AC DS10-S	AC D12-L	AC DS10-B	AC DS15-B	AC DS25-B
STORAGE CAPACITY							
Number canister/rack	1	1	1	1	1	1	1
Number of straws 0.5 cc	132	374	854	671			
Number of 1.2 and 2 ml vials	-	-	-	-	100	300	500
Number of blood bags 25 ml	-	-	-	-	3	15	45
Number of blood bags 50 ml					3	15	30
PERFORMANCES							
Liquid nitrogen capacity	1.3	2.9	3.4	4.2	3.4	6.5	9
Static evaporation rate (day %)	0.17	0.21	0.43	0.33	0.43	0.84	0.89
Working duration (days)	20	37	23	25	23	18	29
DIMENSIONS							
Neck diameter (mm)	50	80	125	80	125	216	216
Overall height (mm)	435	495	623	630	623	580	716
External diameter (mm)	223	300	300	300	300	393	394
Canister diameter (mm)	38	63	97	71	-	-	-
Canister height (mm)	120	120	276	276	-	-	-
Rack dimensions (mm)	-	-	-	-	82x84	142x144	142x144
Cryoboxes dimensions (mm)	-	-	-	-	76x76	134x134	134x134
Empty weight (kg)	3	5	7	8	7	9	15
Full weight (kg)	6	11	17	20	11	16	24

LD SERIES
Pressurized T-PED portable tanks for liquid nitrogen storage and distribution

For safe storage and dispensing of small amounts of liquid nitrogen.

- Rugged ribbed high-strength aluminum body, magneformed necktube design, and more durable paint
- Advanced insulation materials assure high thermal efficiency

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

ICBiomedical

LIQUID WITHDRAWAL DEVICE

The Liquid Withdrawal Device (LWD) provides convenient pressure transfers of liquid nitrogen from LD25, LD35 and LD50 Dewars. The device clamps directly to the special neck flange that is found under the plastic trim collar around the neck of these containers. Flow rates up to 8 liters per minutes are possible at operating pressures up to 7.25 psig (0.5 bar/50 kPa).

MODEL	4LD	5LD	10LD	25LD	CLASSIC-25	LD35	LD50
PERFORMANCES							
Liquid nitrogen capacity (l)	4	5	10	25	25	35	50
Static hold time (days)	10	6	45	109	119	152	122
Evaporation rate (l/day)	0.40	0.77	0.22	0.23	0.21	0.29	0.49
DIMENSIONS							
Neck diameter (mm)	30.5	142.2	50.8	63.5	50.8	63.5	63.5
Overall diameter (mm)	193	193	289.6	396.2	393.7	477.5	477.5
Height (mm)	432	444.5	597	655.3	581.6	668	823
Empty weight (Kg)	3.0	3.1	6.6	10,5	8.6	15.9	17.6
Full weight (Kg)	6.2	7.2	14.7	30.7	28.8	44.2	57.9

CRIOLAB SERIES
Pressurized T-PED portable tanks for liquid nitrogen storage and distribution

Criolab Series dewars are insulated stainless steel devices with a vacuum cavity made for transportation, storage and supply of cryogenic fluids with low pressure.

All the dewars are provided with a roller base, in order to enable an easy transportation.
All dewars are designed in order to ensure a very high grade of thermal insulation. Fill and supply accessories are very easy to use, liquid valve has got a long stem to avoid ice formation.
All tanks are equipped with a pressure regulator, a relief valve, filling, withdrawal, floating level indicator and venting valves.

HVM MANUFACTURING & SERVICE

EXTENDED WARRANTY
5 years
on vacuum loss

COMPLIANT
to European Directive 2010/35/UE T-PED and ADR

MODEL	CRIOLAB 60	CRIOLAB 120	CRIOLAB 160	CRIOLAB 180	CRIOLAB 200	CRIOLAB 220
PERFORMANCES						
Liquid nitrogen capacity:						
gross (l)	66.5	124.6	164.4	184.8	204.2	223.6
net (l)	64.2	121.1	161.1	182.1	200.1	219.1
Static evaporation rate (day %)	3.6	1.7	1.6	1.5	1.5	1.4
DIMENSIONS						
Overall height (mm)	897	1206	1412	1515	1618	1721
External diameter (mm)	550	550	550	550	550	550
Empty weight (Kg)	69	85	96	101	108	113
Full weight (Kg)	120	182	225	247	268	289
Base type	round	round	round	round	round	round
Safety valve setting	1-4 bar	1-4 bar	1-4 bar	1-4 bar	1-4 bar	1-4 bar

CRIOMINI and **CRIOLOGY** SERIES

Pressurized T-PED portable tanks for liquid nitrogen storage and distribution

HVM MANUFACTURING & SERVICE

EXTENDED WARRANTY
5 years
on vacuum loss

COMPLIANT
to European Directive
2010/35/UE T-PED
and ADR

MODEL	**CRIOMINI 8 10**	**CRIOMINI 8 30**	**CRIOLOGY 220**	**CRIOLOGY 240**	**CRIOLOGY 260**	**CRIOLOGY 280**	**CRIOLOGY 300**
PERFORMANCES							
Liquid nitrogen capacity:							
gross (l)	11.3	32	221	241	261	281	301
net (l)	11	31.4	216.6	236.2	255.8	275.4	295
Static evaporation rate (day %)	1.2	1.2	1.8	1.7	1.6	1.5	1.5
DIMENSIONS							
Overall height (mm)	595	925	1340	1400	1460	1520	1580
External diameter (mm)	350	350	700	700	700	700	700
Empty weight (Kg)	25	34	147	152	156	161	165
Full weight (Kg)	34	59	322	343	363	383	404
Base type	round	round	round	round	round	round	round
Safety valve setting	1-8 bar	1-8 bar	1-4 bar	1-4 bar	1-4 bar	1-4 bar	1-4 bar

APOLLO SERIES
Pressurized T-PED portable tanks for liquid nitrogen storage and distribution

The dewars are vacuum insulated stainless steel devices designed for transportation, storage and supply of cryogenic fluids with low pressure.

All dewars are equipped with smooth-running sturdy castors in order to ease the transportation, and a robust transport frame.
All vessels are manufactured in order to have a long term vaacum protection, optimised super insulation and corrosion resistance. Fill and supply accessories are very easy to use, liquid valve has got a long stem to avoid ice formation.
All the tanks are equipped with an integrated safety device at the vessel neck, vacuum seal-off and safety device, pressure and level indicator, EK siphon with exhaust overflow valve, integrated pressure build-up, decanting hose with phase separator and transport plug.

EXTENDED WARRANTY
5 years
on vacuum loss

COMPLIANT
to European Directive 2010/35/UE T-PED and ADR

MODEL	APOLLO 50	APOLLO 100	APOLLO 150	APOLLO 200	APOLLO 350
PERFORMANCES					
Geometrical capacity (l)	49.5	99.2	149.5	198.5	348
Static evaporation rate (day %)	2	1.2	1	0.6	0.5
DIMENSIONS					
Overall height (mm)	80	114	146	117	165
External diameter (mm)	50	50	50	70	70
Neck diameter	50	50	50	50	50
Empty weight (Kg)	44	62	79	100	160
Full weight (Kg)	85	145	204	266	450

AC LINE SERIES
Pressurized T-PED portable tanks for liquid nitrogen storage and distribution

The AC Line Series consists in transportable pressure vessels with an inner and outer surface made of top grade stainless steel with super insulation, protected by high integrity vacuum. All cylinders comply with the European Directive 2010/35/EU for transportable pressure equipment (TPED).

These cylinders are transportable units available with or without a built-in pressure building coil and wheels. All units feature quick and easy liquid withdrawal and there is also an integrated economizer circuit that helps reduce and control overflow gas consumption.

WARRANTY
2 years
on mechanical components
5 years
on vacuum loss

COMPLIANT
to European Directive 2010/35/UE T-PED and ADR

MODEL	AC 70PB	AC 120 PB	AC 180 PB	AC 240 PB
PERFORMANCES				
Liquid nitrogen capacity				
Gross (l)	73	126	186	252
Net (l)	70	120	180	240
Static evaporation rate (day %)	3.5	2.4	1.3	1.4
DIMENSIONS				
Overall height (mm)	1080	1430	1350	1535
External diameter (mm)	508	508	660	660
Empty weight (kg)	73	126	186	252
Full weight (kg)	129	292	282	340
Base type	round	round	round	round
Safety valve setting	1-4 bar	1-4 bar	1-4 bar	1-4 bar

LAB SERIES
Cryogenic dewars for liquid nitrogen transportation and storage

Ideal for laboratory applications

The dewars of the LAB Series are so called thanks to the widespread use of those devices in laboratories and clinics all over the world.

This Series is specifically designed to ensure an efficient storage and transportation of liquid nitrogen. The accessories included are: pouring spouts, manual discharge devices, rigid or swivel dippers to ease the nitrogen spilling.

WARRANTY
5 years
on vacuum loss

COMPLIANT
Medical Device

MODEL	LAB 4	LAB 5	LAB 10	LAB 20	LAB 30	LAB 50
PERFORMANCES						
Liquid nitrogen capacity	4	5	10	21	32	50
Static evaporation rate (day %)	0.19	0.15	0.18	0.18	0.22	0.49
DIMENSIONS						
Neck opening (mm)	35.5	56	56	56	64	64
Overall height (mm)	426	462	546	622	610	775
External diameter (mm)	185	222	260	368	432	432
Internal diameter (mm)	139	165	210	289	356	356
Empty weight (Kg)	2.7	4	5.4	9	11.4	14
Full weight (Kg)	6	8	14	25	37.2	54.4

ACCESSORIES see page 62

AC LIN SERIES
Cryogenic dewars for liquid nitrogen transportation and storage

The vessels of the LIN Series from the Auguste Cryogenics Medical Family are special containers for the transport and distribution of liquid nitrogen.

The containers with volumes between 3 and 50 liters are transportable and easy to handle - for the convenient distribution of small amounts of cryogenic liquid nitrogen.

The containers are particularly characterized by:

- high portability thanks to their low weight and compact dimensions
- long holding times, resulting in high economic efficiency
- complete range of products
- dispenser for an easy nitrogen refilling of smaller dewars

WARRANTY
5 years
on vacuum loss

COMPLIANT
Medical Device

MODEL	AC LIN 6	AC LIN 10	AC LIN 12	AC LIN 20/20T	AC LIN 30/30T	AC LIN 35	AC LIN 50
PERFORMANCES							
Liquid nitrogen capacity	6	10	12	20	30	35	50
Static evaporation rate (day %)	0.12	0.12	0.12	0.12	0.12	0.12	0.22
DIMENSIONS							
Neck opening (mm)	50	50	50	50	50	50	50
Overall height (mm)	482	545	627	675	705	765	810
External diameter (mm)	300	300	310	394	462	462	462
Empty weight (Kg)	5	6	6	11	13	14	17
Full weight (Kg)	11	16	18	40	48	50	67

OPEN DEWAR SERIES
Cryogenic dewars for liquid nitrogen transportation and storage

Ideal for laboratory applications

The dewars of the OPEN DEWAR Series are stainless steel containers provided with wide neck, specifically designed for an easy and safe transportation and storage of liquid nitrogen.

All devices are manufactured with a vacuum cavity insulation in order to increase the long term thermal performances.

WARRANTY
1 year
on vacuum loss

MODEL	0,5	1	1W	2	3	6
PERFORMANCES						
Liquid nitrogen capacity	0.5	1	1	2	3	6
DIMENSIONS						
Internal diameter (mm)	65	85	100	100	185	185
External diameter (mm)	87	107	122	122	200	200
Internal height (mm)	180	206	157	285	160	270
External height (mm)	204	232	177	313	190	300

STELLA SERIES
Cryogenic dewars for liquid nitrogen transportation and storage

Ideal for small applications in laboratories and research centres

The dewars of the STELLA Series are stainless steel Open Dewars with wide neck, specifically designed for an easy and safe transportation and storage of liquid nitrogen.

WARRANTY
1 years
on vacuum loss

The STELLA line has a flat bottom, stable and edge-protected and also available with blind flange and lid.

Design in different sizes and variants
- STELLA® for open work in the laboratory
- STELLA® with cover for work in research and industry

Cryotherm®

MODEL	STELLA® 65/180	STELLA® 85/205	STELLA® 100/285	STELLA® 185/270	STELLA® D 250/450	STELLA® D 300/750	STELLA® D 400/500
PERFORMANCES							
Liquid nitrogen capacity (l)	0.6	1.16	2.23	7.25	22.1	53	62.8
DIMENSIONS							
Inner diameter (mm)	65	85	100	185	250	300	400
Outer diameter (mm)	87	107	122	200	3005	355	455
Inner height (mm)	180	206	285	270	450	750	500
Outer height	203	231	312	300	570	870	620
Weight when empty (kg)	0.5	0.8	1	2	12	25	30
Weight when fully loaded (kg)	1	2	3	7	27	65	72
Handle	-	-	-	-	series	series	series
Lid	optional	optional	optional	optional	series	series	series

KRYO SERIES
Rate freezing your biological samples

KRYO 370

The **Kryo Series** is designed for the users that requires an ergonomic, easy to use device that can be employed for routine freezing activities.
Each device has all the features of a high performance -180°C freezer, ensuring the integrity of the samples before the transfer inside a dewar.
The flexibility of those systems is ideal for complex freezing protocols in association with the most advanced cryopreservation techniques.
The rate freezers are specifically manufactured to store biological samples in blood bags, cryotubes and straws. They are compliant to the European Medical Device Directive.

MODEL	KRYO 370
Capacity (l)	1.7
INTERNAL DIMENSIONS	
Height (mm)	200
Diameter (mm)	150
EXTERNAL DIMENSIONS	
Height (mm)	420
Width (mm)	300
Depth (mm)	520
STORAGE CAPACITY	
0,25 straws	60
0,5 straws	45
2 ml cryotubes	30
PERFORMANCES	
Operating temperature (°C)	from +40 to -180
Freezing speed	from -0.01 to -50
Thawing speed	from +0.01 to +10

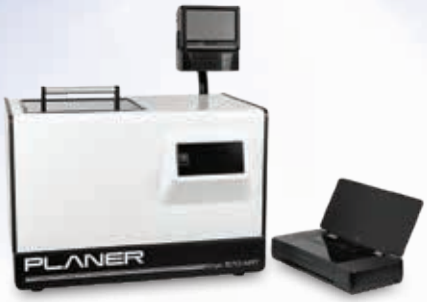
ACCESSORIES see page 62

WARRANTY
1 years
on mechanical components

COMPLIANT
to 93/42/EEC
Medical Device Directive

KRYO 750-30 Front loading

KRYO 570 e 570 ART



Software for the complete control of freezing processes

The **DeltaT software** is designed for the creation of custom-made procedures for the freezer, necessary to grafically monitor the temperatures of the sample and of the probes inside the chamber. Moreover, it is possible to see the graphs of the freezing process over time, to store informations for the complete traceability of the freezing operations, to export temperature data and assign names to the samples that must be freezed or thawed.

MODEL	KRYO 750-30 front loading	KRYO 570 e 570 ART
INTERNAL DIMENSIONS		
Capacity (l)	29	16
Height (mm)	260	350
Width (mm)	465	230
Depth (mm)	250	230
EXTERNAL DIMENSIONS		
Height (mm)	550	515
Width (mm)	790	500
Depth (mm)	480	670
STORAGE CAPACITY		
0,25 straws	1216	2904 in cane / 456 in rack
0,5 straws	1216	968 in cane / 456 in rack
2 ml cryotubes	726	784
Blood bags 25 ml	96	22
Blood bags 50 ml	40	22
Blood bags 250 ml	20	11
Blood bags 500 ml	20	11
PERFORMANCES		
Operating temperature (°C)	from +100 to -160	from +30 to -180
Freezing speed	from -0.01 to -10	from -0.01 to -50
Thawing speed	from +0.01 to +10	from +0.01 to +10

ACCESSORIES see page 62

CRYO-PRO
CRY-AC

Cryosurgery is nowadays considered as one of the best treatments for various pathologies (such as warts, actinic keratoses, lentigo simplex, condylomata acuminata, molluscum contagiosum, fibroids pendulums, basal cell carcinomas) due to the simplicity of use, high therapeutic efficacy and the low cost.

The liquid nitrogen used for those treatments is able to freeze the tissue immediately, through a spray or contact treatment. The efficacy is ensured by the cryogenic temperatures of the nitrogen.

Cryosurgery is one of the best treatments for various pathologies such as warts, actinic keratoses, lentigo simplex, condylomata acuminata, molluscum contagiosum, fibroids pendulums, basal cell carcinomas.

COMPLIANT
with EU Medical Device Regulation 2017/745 (MDR)

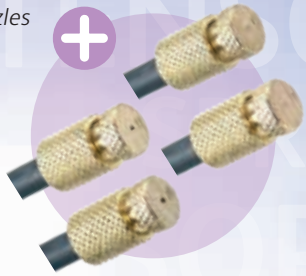
The **CryoPro** devices are available in two sizes:

- **Maxi:**
  with a 500 ml capacity
  (20 - 24 hrs. static holding time)
- **Mini:**
  with a 350 ml capacity
  (12 - 14 hrs. static holding time)

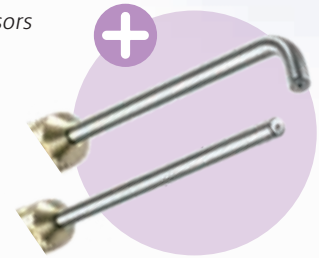
Available accessories:

- spray nozzles (A, B, C, D);
- linear extensor;
- bended extensor;
- microprobes (diameter 1,2,3 and 6 mm).

Spray nozzles



Extensors



MODEL	CRYO-PRO MAXI	CRYO-PRO MINI	CRY-AC MAXI	CRY-AC MINI
PERFORMANCES				
Liquid nitrogen capacity (l)	500 ml (500 cc)	350 ml (350 cc)	500 ml (500 cc)	350 ml (350 cc)
Static stability time (h)	20 - 24	10 - 12	20 - 24	10 - 12

SPRAY NOZZLES

PERSONAL PROTECTION EQUIPMENTS

CRYO GLOVES, WRIST
CRYO GLOVES, MIDARM
CRYO GLOVES, ELBOW
CRYO GLOVES, SHOULDER

Made of synthetic composite, waterproof and resistant to very low temperatures, are ideal to handle liquid nitrogen.
Performances according to IFTH MRO19 test (immersion in liquid nitrogen) and EN420, EN388, EN511 regulations.

CRYOGENIC APRONS

It protects the body against low temperature atmospheres and liquid nitrogen drops. Made of thermal high cotton 5349 silicone, insulated and waterproof protection for the legs and the chest and internal Porelle® film. Equipped with adjustable straps and belt, easy to unhook.
Compliance to IFTH MRO19 test (immersion in liquid nitrogen).

GAITERS

PVC-made with rapid withdrawal, length = 25 cm, to slip over your common shoes.

Performances according to IFTH tests (EN4674-2, EN5981, EN 5470-1, EN 511, ISO4675/7854).

FACE VISORS

Made of polycarbonate, perfectly transparent and splinterproof, with protective shield for the face and adjustable mounting strap.

Visors have ergonomics half shells made of hypoallergenic material, headband with sweatband, adjustable upper end by step, adjusting the circumference rack, tilting of 90°, polycarbonate injected 2 mm, optical class 1.

GLASSES FOR CRYOGENIC PROTECTION

Category III PPEs, CE EN 166 marked is a mask for protection against liquid nitrogen drops.

Comfortable, ergonomic shape for a 360°C vision. Indirect ventilation with panoramic field of vision, comparable to the glasses vision and with a wide belt, fully adjustable, with a lens with high optical quality class 1, maximum UV protection, anti-fog and scratchproof.

The use of PPEs is essential for the correct use of equipments and devices involving the use of liquid or vapour nitrogen. SOL supplies a range of PPEs to the highest European safety standards.

CRYOKIT

Suitcase for counter or cabinet, with customizable logo containing:
N°1 pair of cryogenic gloves;
N°1 cryogenic visor;
N°1 cryogenic apron;
N°1 pair of gaiters.
Ideal to preserve the PPEs used in the laboratory activities and for cryogenic liquid spilling, and to keep them efficient and away from sunlight and dust.

PORTABLE OXYGEN DETECTORS

The portable detector of the concentration of O_2 in air is the optimal solution for the protection of the end user in cryogenic environments.
Very small and light, is applied in the pocket and on the belt, ensuring a high level of protection and provides 3 programmable alarm thresholds for the gas, with a acoustic signal activated when those values are exceeded.
The three alarm levels can be distinguished for the emission of different frequencies, while two extremely bright LEDs indicate the presence of a gas alarm. The internal data logger can store up to 200 events.

"MAN DOWN" DETECTORS

Safety devices dedicated to people working in cryobanks, developed to alert first aid in case of emergency.

BREATHING APPARATUS

Emergency breathing apparatus with compressed air, with constant flow, specifically studied for the escape from confined places in case of emergency.
It is automatically activated when the carrying bag is opened and the provision can not be interrupted until the exhaustion of the air available in the cylinder; the pressure reducer is equipped with a gauge and acoustic alarm signal of low power, which comes into action when the cylinder has been a residual pressure of 50 bar. The entire system is easily transportable thanks to a shoulder strap made of fireproof material.
The device is CE approved for conformity to the technical specification EN 1146 and Directive IMO / MED Completed with a polyethylene container with very high resistance to application by counter or wall, suitable for containment of the respirator.

TRACEABILITY DEVICES

CRYOBOXES AND CRYOTUBES

Cryoboxes with linear barcode for 25, 81 or 100 places

- **25 cryotubes plastic cryoboxes**
  Boxes with 25 positions for 1,2 ml and 2 ml cryotubes.
- **81 cryotubes plastic cryoboxes**
  Boxes with 81 positions for 1,2 ml and 2 ml cryotubes.
- **100 cryotubes plastic cryoboxes**
  Boxes with 100 positions for 1,2 ml and 2 ml cryotubes.
- **Cryogenic tubes of 2 ml and 5 ml with internal and external screw-cap**
  Pre - printed with mono and bidimensional barcodes or Datamatrix technology.

Thermal printers, labels and barcode readers

Thermal transfer printers are used to create clear and durable labels, certified by the manufacturer for the use on blood bags, cryotubes and straws in contact with liquid or vapour phase nitrogen.

A software is included for a complete management, which allows full customization of labels according to the technical specifications laid down by the ISBT 128 standard.

PROTECTION

EQ

LITY

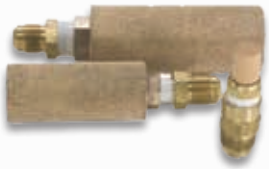
ACCESSORIES FOR DEWARS

ROLLER BASES
Unit with 4 or 5 anti-capsizing wheels for dewar movimentation.

RIGID/SWIVEL DIPPERS
Dippers for transferring of small liquid nitrogen volumes.

DEVICES FOR MANUAL FILLING
Pouring device for manual filling of dewars.

DISPENSER DEVICES
Pressure device for liquid nitrogen supply to dewars.



PHASE SEPARATORS
Accessories for flexible hoses to ease liquid nitrogen erogation.

RACKS FOR 1,2 AND 2 ML CRYOTUBES
Racks for cryoboxes.

5 LEVELS RACK
Racks for cryoboxes.

CANISTERS
Canister for straws and vials.

CRYO-BLOCKS
Accessory for vapour shippers.

VAPOUR INSERT
Accessory for vapour shippers.

11 BLOOD BAGS RACKS
Bood bags rack for rate freezers.
Capacity 11 blood bags.

20 BLOOD BAGS RACKS
Bood bags rack for rate freezers.
Capacity 20 blood bags.

VIAL BASKET FOR 196 CRYOYUBES
Cryotubes rack for rate freezers.
Capacity 196 cryotubes.

38 STRAWS HOLDER RACK
Straws rack for rate freezers.
Capacity 38 straws.

CANE HOLDER BASKET
Cane rack for rate freezers.

HEART VALVE RACK
Rack for rate freezer.

CANES FOR CRYOTUBES
Aluminium storage canes for cryotubes with different capacities.

FLEXIBLE HOSES
Hose for liquid nitrogen supply to dewars.

SPARE LIDS
Internal lid for transportation dewars.

SHIPPING CARTONS
External container for transportation dewars. Ideal for shipments.

MEASURING STICKS
Flexible sticks, ideal to measure the liquid nitrogen level in dewars.
Available in 2 sizes.

CRYOLOGGER
Control panel able to perform a real-time traceability of the temperatures and levels of the dewars. Equipped with an USB interface and for data management and export with a PC.

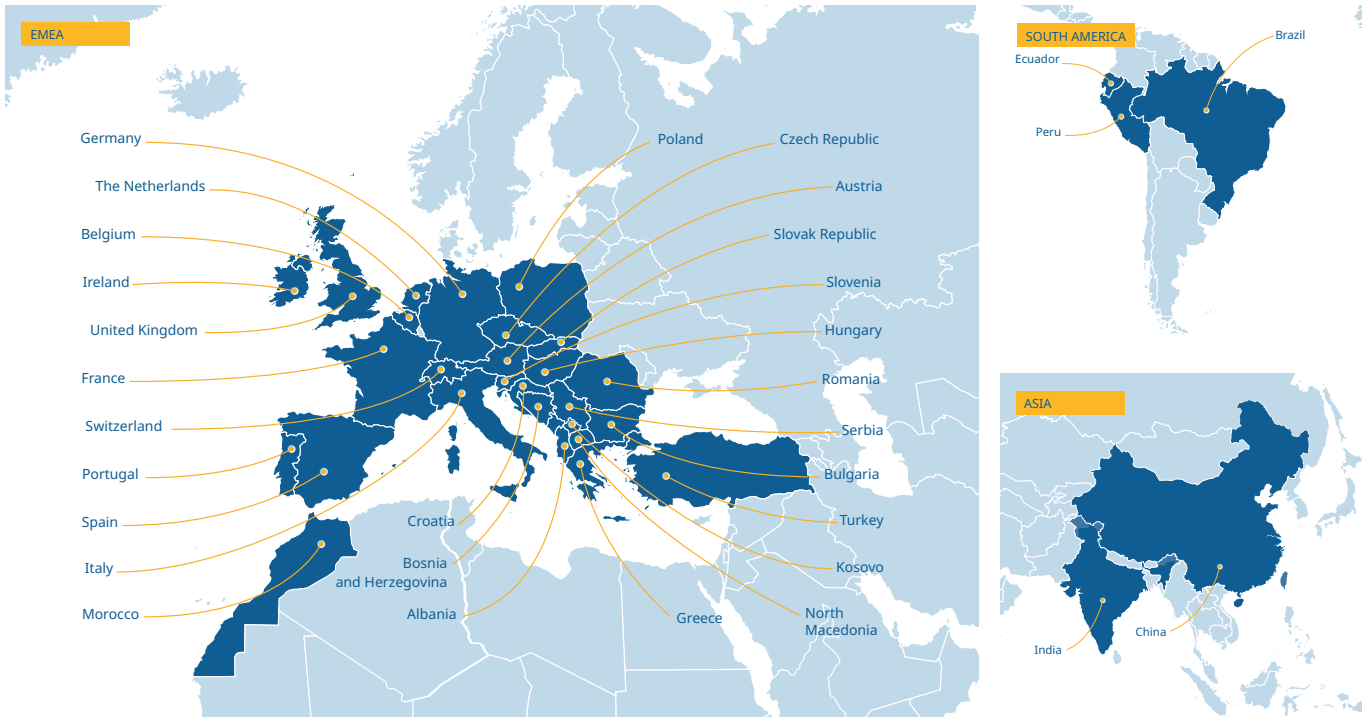
For details see page 40.

Established in 1927 in Italy, **SOL Group** is active in the production, applied research and sale of technical, pure and medical gases and home care service, in cryobiology and in biotechnology and the production of renewable energy.

Present today in 32 Countries with 7,291 employees, serving over 50,000 industrial customers, 500 major medical customers and over 750,000 patients.

Its knowledge and strength gained over decades of experience give to SOL Group the opportunity to offer highly qualified and customized solutions and services.

THE SOL GROUP IN THE WORLD



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