



°CRYOSOLUTIONS



Deep freeze technology –  
reliable and safe.

## Product brochure

**Benefit from the customised solutions  
of Swiss specialists on storage and transport  
at ultra-low temperatures.**

## Table of contents

05 About us

---

06 Isothermal LN<sub>2</sub>-dry storage of CBS

---

10 Product groups Dewar of CBS

---

12 Ultra-low temperature units of Stirling

---

14 Freezer and ultra-low temperature units of KW

---

16 Refrigerators and combi appliances of KW

---

18 Controlled freezing & thawing

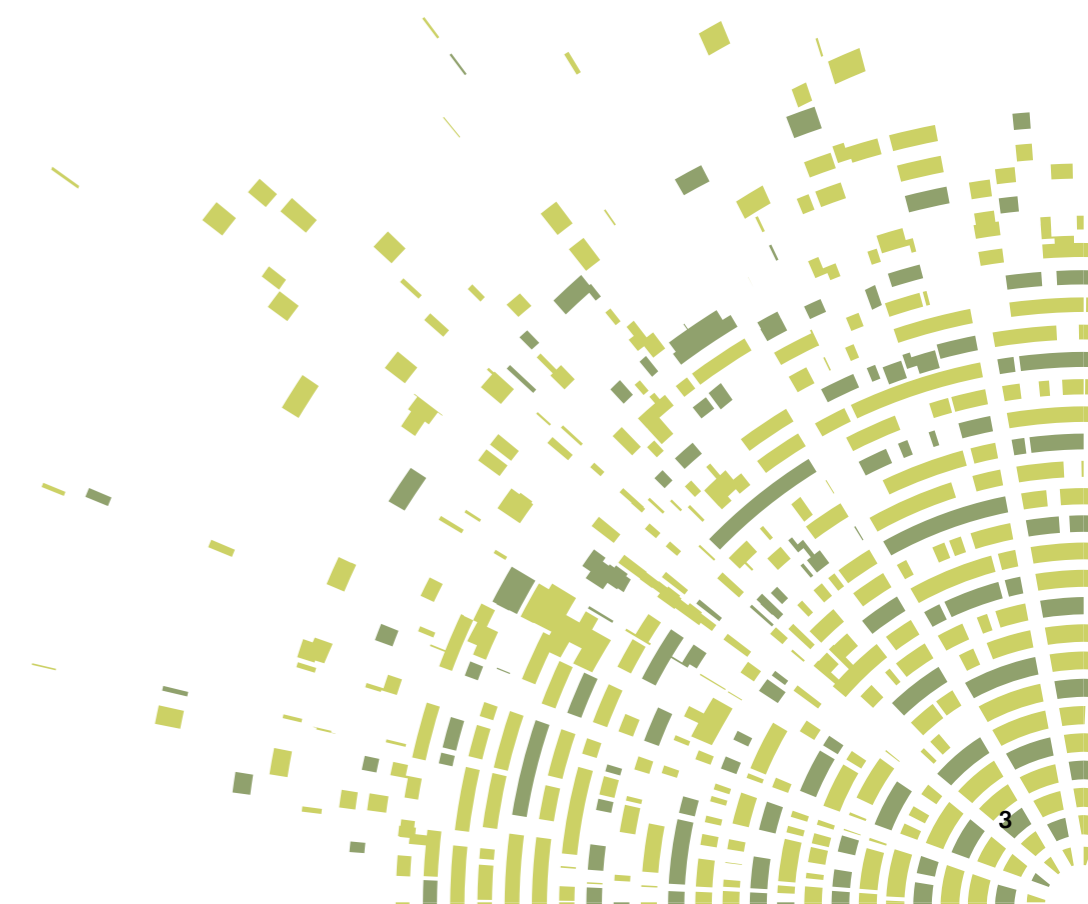
---

20 Accessories

---

22 Occupational safety

---





## From consultations to service contracts – your one stop shop

CryoSolutions is your expert partner for temporary and long-term storage and transport of medical and biochemical samples and materials.

Cryogenic systems and equipment for storage at ultra-low temperatures are used in many sectors and areas: from basic research to medical laboratories and industry. Each application has different requirements for infrastructure and processes. The tailor-made solutions from CryoSolutions, the Swiss specialist in the field of storage and transport at ultra-low temperatures, are tailored to your needs and ensure optimal workflows.

Safety, service and customer focus are our top priorities. As a trading partner of leading manufacturers, we always offer you the latest technology on the market. Here, you receive only the highest quality and the most reliable products. Benefit from individual consultations and outstanding service before, during and after the acquisition of new infrastructure. We will be happy to advise you on product choice, backup concepts and for cost savings in energy and liquid nitrogen consumption.

## Commissioning and qualification of cryogenic equipment

Cryogenic storage equipment and ultra-low-temperature freezers need to run without a hitch. Whether you've just purchased new equipment, moved, or need an equipment audit, we ensure that your operations run safely.

Your infrastructure should function perfectly, be optimally adjusted and have the longest possible service life? We take care of that for you. We make sure that your equipment is installed professionally installed and running at the optimum operating parameters in order to avoid malfunctions and unnecessary costs and to ensure continuous operation. By training personnel after commissioning we ensure optimal handling of the equipment. After commissioning, preventive maintenance as well as a compe-

tent breakdown service ensure the longevity of the selected products.

In order to correctly document the successful commissioning of your equipment, e.g. on the basis of GMP guidelines, we also offer qualifications for our devices (IQ, OQ, PQ). These can be carried out exactly according to the manufacturer's protocol or tailored to your needs.

## The cryostorage units from CBS revolutionise dry storage

CBS Cryogenic Solutions' patented LN<sub>2</sub> isothermal dry storage vessels revolutionize cryogenic storage. The system is the first actual milestone in the history of cryogenics since the development of the first vacuum flasks by James Dewar more than 100 years ago and has many advantages.

With CBS Cryogenic Solutions' dry storage container, biological samples can be stored from -180 °C to -196 °C, without samples or users coming into direct contact with liquid nitrogen. The device uses the same vacuum vessel as conventional cryogenic storage devices, but instead of storing the liquid nitrogen in the tank, it features a dry storage system with a patented liquid nitrogen jacket.

### Advantages of isothermal dry storage:

- No cross contamination (mycoplasma), as samples do not come into contact with liquid nitrogen
- Quick, easy and safe operations without coming into contact with the liquid nitrogen
- Safe processing of your samples in cold gas phase
- Clear visibility throughout the storage room down to the floor
- 100% usage of the dry-phase storage capacity for up to 46,500 vials
- Unparalleled temperature stability with opened lid, also for an extended time
- Best temperature uniformity even without storage contents / racks
- Automatic filling and monitoring system with Modbus remote control
- Coordination of liquid nitrogen filling of several units possible to reduce LN<sub>2</sub> transfer losses
- «Manual Filling»: Even if the device has a malfunction, it can be manually filled with liquid nitrogen to ensure correct storage of the samples

### Full medical certification

CBS' Isothermal cryogenic storage systems are ISO 13485 certified and in compliance with the European Medical Device Directive 93 / 42 / EEC, Class IIA devices, for the storage of blood, body fluids or tissue for the purpose of potentially administering or introducing them at a later juncture into the human body.

### Practical storage systems

CBS' dry storage containers can be used with conventional racks with or without a carousel storage system for the storage of vials, straws and blood bags. The units offer a wide lid opening with easy access to all racks and blood bag cassettes or small openings in the practical carousel system.

### IVF system for the storage of straws

In reproductive medicine, valuable samples are usually stored in straws. For these temperature-sensitive applications, CBS offers a rotatable IVF system for storage as well as for processing with the processing with the lid open at a constant temperature of temperature of -190 °C



CBS V-5000ABC Isothermal Cryostorage Unit with Carousel Storage System



Special system for the storage of IVF material in the CBS V1500AB unit



Storage Chamber

Vacuum Space

Patented liquid nitrogen jacket  
(storage room does not contain liquid nitrogen)

The dry containers of the Isothermal range keep the level of liquid nitrogen in the jacket of the unit constant by means of a pressure sensor that continuously retrieves the gravitational weight of the liquid nitrogen. If the liquid nitrogen level drops below the setpoint, the monitoring system activates the filling solenoid valve. The solenoid valve stops the supply of LN<sub>2</sub> as soon as the upper setpoint is reached.

## 2301 SmartTouch Controller

The controller functions extremely reliably and was specially developed for the increased safety requirements for sample storage. It has a visual and an acoustic alarm as well as a port for a remote alarm (also functional in the event of a power failure). The controller fills the unit fully automatically and informs the user at all times about the temperature and status of the container.

- Large touchscreen, through which all device settings as well as the alarm history and lid openings can be read off
- Modbus capable
- Programmable alarm that emits a warning if the lid is left open for a specific time



## CBS V Series



	V-1500AB	V-3000AB	V-5000AB	V-3000ABEH	V-5000ABEH
<b>LN<sub>2</sub> capacity (l)</b>					
<b>Storage volume</b>	30	70	93	89	140
<b>Maximum storage capacity</b>					
<b>Vials (2 ml)</b>	9,100	22,100	40,300	25,500	46,500
<b>Blood bags (50 ml)</b>	434	1,120	1,936	1,280	2,208
<b>Mass (mm)</b>					
<b>Length (external)</b>	1,006	1,278	1,450	1,278	1,450
<b>Width (external)</b>	676	955	1,372	955	1,372
<b>Height (external)</b>	1,212	1,250	1,430	1,463	1,552
<b>Usable diameter (internal)</b>	533	787	1,016	787	1,016
<b>Usable height (internal)</b>	761	771	756	863	864
<b>Height with opened lid</b>	1,966	2,278	2,578	2,492	2,700

## CBS V-Series Carousel

The innovative storage system with a small opening and a carousel that rotates inside ensures exceptional temperature stability and thus increases the safety of sensitive samples to a maximum. The carousel is rotated with a single handle over the user-friendly cover and positions the desired samples ready for access at the front of the cryostorage unit.

- Individually equipable rotating carousel
- Easy access to rack position thanks to ratchet system
- Reduced evaporation rate thanks to small operation opening
- Carousel models are ideal for laboratories and buildings with low ceiling heights
- The square-shaped lip opening is ideal for square-shaped racks



	V-3000AB-C	V-5000AB-C	V-3000ABEH-C	V-5000ABEH-C
<b>LN<sub>2</sub> capacity (l)</b>				
<b>Storage volume</b>	70	93	89	140
<b>Maximum storage capacity</b>				
<b>Vials (2 ml)</b>	16,800	36,400	21,000	42,000
<b>Blood bags (50 ml)</b>	792	1,638	1,056	1,872
<b>Mass (mm)</b>				
<b>Length (external)</b>	1,260	1,445	1,260	1,445
<b>Width (external)</b>	970	1,191	970	1,191
<b>Height (external)</b>	1,293	1,476	1,582	1,603
<b>Usable diameter (internal)</b>	737	965	737	965
<b>Usable height (internal)</b>	686	737	914	864

## Vessels for long-term cryogenic storage and for the transport of nitrogen and cryonically stored samples

CBS Cryogenic Solutions' Dewar product range for the storage or transportation of liquid nitrogen or cryonically stored samples meets all requirements for safety and manageability. The containers are available in various sizes and designs.

### Long-term storage



#### CBS Dewars Classic Series

Classic Series liquid nitrogen containers for the storage of samples. The low nitrogen consumption, the small space required and the optimal utilization of the capacity with 1.2 and 2 ml vials make this series the most economical of its kind. The dewars are equipped with racks and a removable lid and are characterized by their easy handling during storage and retrieval of the samples as well as their low weight. They are available in various designs.

- 4 to 6 racks / 5 to 10 boxes per rack
- 2,000 to 6,000 vials
- Capacity LN<sub>2</sub>: 61 to 165 liters
- Operating days per filling: 38 to 104



#### CBS Dewars XC Series

The Cryosystem XC Series is designed for the LN<sub>2</sub> storage of straws and 2 ml vials. The low nitrogen consumption, the low space requirement and the optimal utilization with canisters make this series the most economical of its kind. The durable and lightweight material makes the containers particularly durable and easy to use. Depending on the model, the dewars can be equipped with up to 9 canisters and the XC47 / 11 model can be equipped with up to 6 racks.

### Transport of nitrogen

#### CBS Dewars LAB series – for the transport of liquid nitrogen

The LAB Series transport containers are made of particularly high-performance insulation as well as an extremely lightweight aluminum construction. This makes them the most efficient containers for nitrogen transport. The static evaporation rate is correspondingly low and the shape of the containers and the handles make handling easy. The LAB Series dewars can additionally be equipped with a withdrawal tap.

- Low consumption of liquid nitrogen
- Six sizes from 4 liters to 50 liters capacity
- Light weight aluminum construction
- Up to 128 days of storage



### Transport of cryonically stored samples

#### CBS Vapor Shipper - for the transport of cryonically stored material

The Vapor Shipper containers are made of durable, lightweight aluminum and are therefore particularly user-friendly. The low weight also has a positive impact on the transport costs. Vapor Shippers are equipped with a water-repellent material that absorbs the liquid nitrogen, ensuring dry, leak-free transport of your samples. A particularly robust closure minimizes the loss of nitrogen.

- Durable, tamper-resistant lid construction
- Advanced chemical vacuum retention system
- Lightweight aluminum design reduces transportation costs
- Hydrophobic liquid nitrogen absorption system
- High-strength neck tube reduces loss of liquid nitrogen



## For all applications and every need

Stirling Ultracold is one of the world's leading manufacturers of innovative ultra-low temperature technology such as ultra-low temperature (ULT) freezers for secure biobanks or the safe storage of individual samples, as well as ultra-low freezing boxes for the transport of medical and biological samples and materials. Stirling Ultracold ultra-low temperature freezers use a free-piston Stirling engine for highly efficient cooling from  $-20^{\circ}\text{C}$  up  $-86^{\circ}\text{C}$ .

### Ultra-low freezing box Stirling Ultracold ULT25NEW – one of a kind

Mobile ultra-low temperature box with 25 liters capacity for 1800 vials or up to 8400 vaccine doses. Thanks to Stirling technology, it is possible for the first time to produce a portable ultra-low freezer box for temperatures down to  $-86^{\circ}\text{C}$  for the transport of samples, which also provides a constant cooling capacity at the 12 Volt connection in the vehicle.

- Temperature range from  $-20^{\circ}\text{C}$  to  $-86^{\circ}\text{C}$  freely selectable
- Stable temperatures thanks to Stirling engine
- Full cooling capacity at an ambient temperature of up to  $40^{\circ}\text{C}$
- Suitable for transportation and shipping, even by air freight
- 25 liters usable volume for 1800 vials or up to 8400 vaccine doses
- For 12 Volt connection in the car and 230 Volt socket
- Low energy consumption and low waste heat
- 100% natural refrigerant and no use of oil
- Sustainable production and packing



### Stirling Ultracold SU105UE freezer, compact and efficient



Two Stirling Ultracold SU105UE stacked

The whisper-quiet under-table model with a volume of 105 liters for 72 standard 2" boxes works with a free piston Stirling engine instead of the usual compressor or cascade cooling system, and is therefore particularly wear-resistant and low-maintenance.

- Temperature range from  $-20^{\circ}\text{C}$  to  $-86^{\circ}\text{C}$  freely selectable
- Unparalleled temperature stability and thus highest sample reliability
- Low-wear free-piston Stirling engine with 7-year warranty
- Very quiet and efficient cooling even at ambient temperatures up to  $35^{\circ}\text{C}$
- Lowest energy consumption and thus also lowest waste heat
- Minimal maintenance costs, no cleaning of filter pads or regular defrosting necessary
- 100% natural refrigerants and no use of oil
- Sustainable production and packaging

## Stirling Ultracold SU780XLE ULT freezer has been crowned world champion multiple times

The innovative technology provides up to 70% energy savings in electricity and waste heat. The freezer with 780 liters of storage volume on less than one square meter of floor space is extremely space-saving. Only natural refrigerants and no oil are used. Now that's sustainable technology!



- Temperature range from  $-20^{\circ}\text{C}$  to  $-86^{\circ}\text{C}$  freely selectable
- Best temperature stability and thus highest sample safety
- Full cooling capacity up to  $35^{\circ}\text{C}$  ambient temperature
- Highest storage capacity per square meter of floor space
- Low door overhang saves space when door is opened
- Certified for clean rooms
- Greatest energy savings in electricity and waste heat
- Low-wear free-piston Stirling engine
- Minimal maintenance
- Lowest total cost of ownership
- 7-year material warranty on the cooling system
- 100% natural refrigerants and no use of oil
- Sustainable production and packaging



	ULT25NEU	SU105UE	SU780XLE
Storage volume	25 liters	105 liters	780 liters
Storage capacity	18 standard 2" boxes	72 standard 2" boxes	600 standard 2" boxes, opt. 700 units
Cooling system	Free piston Stirling engine	Free piston Stirling engine	Free piston Stirling engine
Temperature range	$-20^{\circ}\text{C}$ to $-86^{\circ}\text{C}$	$-20^{\circ}\text{C}$ to $-86^{\circ}\text{C}$	$-20^{\circ}\text{C}$ to $-86^{\circ}\text{C}$
Energy consumption at $-80^{\circ}\text{C}$	2.8 kWh/day	< 4 kWh/day	< 7 kWh/day
Maximum power consumption	280 Watt	300 Watt	1200 Watt
Volume	< 45 dB(A)	< 48 dB(A)	< 48 dB(A)
Heat output	403 BTU/h	563 BTU/h	981 BTU/h
Refrigerant	Natural, ethane	Natural, ethane	Natural, ethane
Cooling capacity	4 h cooling time from $25^{\circ}\text{C}$ to $-80^{\circ}\text{C}$	9 h cooling time from $25^{\circ}\text{C}$ to $-80^{\circ}\text{C}$	6.5 h cooling time from $25^{\circ}\text{C}$ to $-80^{\circ}\text{C}$
Heating profile	70 min from $-80^{\circ}\text{C}$ to $-40^{\circ}\text{C}$	5.2 h from $-80^{\circ}\text{C}$ to $-40^{\circ}\text{C}$	6.5 h from $-80^{\circ}\text{C}$ to $-40^{\circ}\text{C}$
Dimensions inside (H x D x W, mm)	332 x 221 x 340	533 x 432 x 457	1,542 x 705 x 740
Dimensions outside (H x D x W, mm)	693 x 350 x 460	864 x 711 x 686	1,994 x 870 x 915
Weight (kg)	21	100	307
Certification	CE, cTÜVus	CE	cULus, CE and Energy Star

## A wide product range thanks to experience and innovation

KW Apparecchi Scientifici has been producing ultra-low temperature freezers since 1961 and is synonymous with technological innovation. They have great experience in the scientific equipment segment. KW is a leader in the design and production of equipment with controlled temperature down to  $-90^{\circ}\text{C}$  and is characterized by high reliability and a wide range of products.

### Product overview

- **Ultra-low freezers** with temperature range from  $-40^{\circ}\text{C}$  to  $-86^{\circ}\text{C}$ , storage volume from 86 to 809 liters
- **Ultra-low chest freezers** with temperature range from  $-40^{\circ}\text{C}$  to  $-86^{\circ}\text{C}$ , storage volume from 110 to 801 liters
- **Freezers** with temperature range from  $-20^{\circ}\text{C}$  to  $-45^{\circ}\text{C}$ , storage volume from 86 to 809 liters
- **Chest freezers** with temperature range from  $-20^{\circ}\text{C}$  to  $-45^{\circ}\text{C}$ , storage volume from 110 to 801 liters
- **Freezers** with temperature range from  $-10^{\circ}\text{C}$  to  $-30^{\circ}\text{C}$ , storage volume from 127 to 600 liters
- **Refrigerators** with temperature range from  $0^{\circ}\text{C}$  to  $15^{\circ}\text{C}$ , storage volume from 150 to 1,315 liters
- **Combination freezers and refrigerators**
- **Plasma blast freezer**  $-80^{\circ}\text{C}$  for 6 to 48 plasma bags

### Product options

- **Ultra Slim:** saves floor space thanks to highly efficient vacuum insulation panels
- **Biobank:** highest cooling capacity and fail-safe thanks to dual cooling system
- **Double external door:** two separate storage rooms in the same unit for controlled access by different users
- **Variable control of cooling power:** increases temperature stability and reduces power consumption
- **Certification of the devices** according to the «Medical Device Class IIa» standard for approval for the storage of blood and other human components
- **CO<sub>2</sub> or LN<sub>2</sub> backup system:** ensures a low and constant storage temperature during a power failure or a technical defect
- **Electric door lock:** digital access control to the storage room by means of PIN, badge or fingerprint

### Product selection

KW's freezers are characterized by highly insulated walls (average thickness 140mm). Internal cabinet and shelves are made of AISI 304 stainless steel, the internal doors are equipped with a triple seal made out of silicone rubber. Ergonomic handles and a key lock ensure practical and safe access. Thanks to cloud data storage and access via smartphone, the devices can be remotely surveilled at any time.



**Ultra-low freezer**  
**K66S HPL IN with biobank**

- Net storage volume: 809 liters
- Capacity: 24 racks / 600 cryoboxes / 60,000 vials
- Temperature range: from  $-40^{\circ}\text{C}$  to  $-86^{\circ}\text{C}$
- Control system: Digital microprocessor controller with 7" touchscreen display, access via security password
- Dual cooling system: independent two-stage cascade system (4 hermetic and low-noise compressors and 2 evaporators) and air condenser, alternating operation with automatic control



**Ultra-low chest freezer**  
**K5578 PL ADV IN**

- Advantage of the chest: the temperature remains very stable even when the door is opened
- Net storage volume: 801 liters
- Capacity: 48 racks / 576 cryoboxes / 57,600 vials
- Temperature range: from  $-40^{\circ}\text{C}$  to  $-86^{\circ}\text{C}$
- Control system: Dual LED display, simultaneous display of the monitoring probe and the setpoint / microprocessor control
- Cooling system: Completely sealed circuit with hermetic compressors in cascade connection



**Freezer**  
**K4066 HPLL 2D**

- Net storage volume: 809 liters
- Capacity: 24 racks / 480 cryoboxes / 48,000 vials
- Temperature range: from  $-20^{\circ}\text{C}$  to  $-45^{\circ}\text{C}$
- Control system: Digital microprocessor control, 7" touchscreen display, access via a security password
- Cooling system: Completely sealed circuit with hermetic compressor
- Option: Double external doors with individual access





**Refrigerator  
HAEMO 1500V**

- Net storage volume: 1,315 liters
- Capacity: 616 plasma bags (450 ml), 14 drawers
- Temperature range: from 0°C to 15°C
- Control system: Digital microprocessor control with 7" touchscreen display
- Cooling system: Hermetic compressor with air condensation, fan ensures excellent temperature uniformity internally
- LED interior lighting



**Refrigerator/ Freezer combination  
KRFS 2515VC**

- Net storage volume refrigerator: 235 liters
- Net storage volume of the freezer: 140 liters
- Refrigerator temperature range: from 0°C to 15°C
- Freezer temperature range: from -10°C to -30°C
- Control system: Digital microprocessor control with 7" touchscreen display
- Cooling system: 2 independent hermetic compressors with air condensation, fan ensures excellent temperature uniformity internally
- LED interior lighting



## Safety and consistency during freezing and thawing for high quality samples

In the processes of freezing and thawing, consistency is a very important factor to maintain the quality of samples, cells, blood and other materials. Too quick, too slow or irregular freezing or thawing can destroy the cell structure and render the material unusable. CryoSolutions offers you equipment for safe processes. Standard programs and freely definable programs ensure reproducibility and scalability of the process.

### Controlled thawing

#### BioLife ThawSTAR®

The automated system replaces manual water baths, which are not standardized and carry the risk of over-thawing and contamination. It adapts the advanced algorithm to ensure consistent and scalable thawing of cells.

- Identical and reproduceable results
- Eliminates the risk of contamination
- Simple application minimizes operating errors
- Small space requirement
- Individually programmable
- Complete documentation possible thanks to the IOPQ package



#### ThawSTAR® for Vials

The thawing system replaces non-standardized manual methods through controlled thawing of vials according to a predefined temperature profile and can be used early in the R&D phase and can be extended to commercial production and the point-of-care area.

#### ThawSTAR® for cryobags

Anhydrous thawing system designed for consistent thawing of large-volume cryogenic pouches at the beginning of the R&D phase and scaled up for large-volume commercial production.



### Controlled freezing

#### CBS IntelliRate i67C

The Controlled Rate Freezer with 67 liter chamber volume allows controlled freezing of your biological samples using liquid nitrogen. Ideal for use with blood bags, vials and straws. With 40% more capacity than any other CRF table model, the IntelliRate i67C not only increases production levels, it also achieves more process consistency and greater time savings.



- Chamber volume of 67 liters
- Temperature range from 50 °C to -180 °C
- Freezing rate from 0.01 °C to 99.9 °C per minute
- Large touch screen
- No limits in programming / 6 preset programs
- Programmed temperature stability from 1 second to 99 hours possible
- Graphic display of the freezing process
- Results can be read out and analyzed after the freezing process
- Complies with 21 CFR Part 11 FDA compliance for recording of electronic data

#### CBS CRF2101

The Controlled Rate Freezer with 28 liters chamber volume allows controlled freezing of your biological samples using liquid nitrogen. Ideal for use with blood bags, vials and straws.

- Chamber volume of 28 liters
- Temperature range from 50 °C to -180 °C
- Freezing rate from 0.01 °C to 99.9 °C per minute
- Laptop with Windows operating system
- No limits in programming / 6 preset programs
- Programmed temperature stability from 1 second to 99 hours possible
- Graphic display of the freezing process
- Results can be read out and analyzed after the freezing process
- Complies with 21 CFR Part 11 FDA compliance for recording of electronic data



## Storage systems, temperature monitoring and accessories

As a trading partner of leading manufacturers worldwide in the field of ultra-low temperature technology and cryogenics, we offer you not only the latest technology, but also everything needed for storage and safety.

### Supply container for liquid nitrogen



Auguste Cryogenics' low-pressure supply vessels for cryogenic liquified gases guarantee easy storage of liquid nitrogen.

Auguste Cryogenics' supply containers are very robustly manufactured and equipped with smooth-running wheels. All supply containers are equipped with vacuum super insulation for lowest possible losses of liquid nitrogen. At the same time, connection to most cryogenic storage equipment is possible.

- Ideal for the transport and storage of liquid gas
- High stability due to central center of gravity
- All valves and displays are user-friendly and easy to read
- Pressure build-up system for large gas withdrawals or continuous operation
- Remote liquid discharge valve reduces ice formation
- Designed for easy and quick liquid withdrawal
- Compliant with the European Pressure Equipment Directive 2014 / 68

### Monitoring of the laboratory equipment

Easy to use and durable wireless data loggers by SenseAnywhere for autonomous monitoring of temperature, humidity, equipment alarm and motion.

The system for monitoring laboratory equipment such as incubators, freezers or cryo-storage devices provides additional safety for valuable samples and materials. Temperature and humidity, as well as the alarm output from the laboratory device, can be recorded. If the defined limits are exceeded, the system immediately alerts the user by email, SMS or voice call. With a recording interval of every 5 minutes, a battery life of up to 10 years is possible. This makes the maintenance-free system one of the safest and most cost-efficient of its kind.

- Real-time monitoring of temperature, humidity, device alarm, motion
- Immediate alerting via SMS, email or voice call
- Wireless data logger with redundant data security
- Clear visualization and easy export of measured data
- Small, lightweight, maintenance-free and installed in no time – no software required!
- Cloud platform for remote access with individual user profiles
- IQ/OQ and 21 CFR Part 11 certification for highest demands



### Safe handling thanks to the Cryo-Lift

Thanks to the Cryo-Lift, you lift your Cryo-Racks with ease - safely, quickly and cleanly! No more heavy lifting of racks, a much smaller risk of cold burns - providing maximum safety for users. Leave the racks in the cold while you take the samples.



Handling racks in an open liquid nitrogen tank can be dangerous for the user. Cryo-Lift creates a new safety standard. The racks can be lifted and operated without exerting force, protecting the back and neck. The lift also provides better protection against contact with liquid nitrogen and cold burns. Every user knows how important it is to keep samples frozen. Time and temperature are critical when it comes to accessing samples. Cryo-Lift ensures the lowest possible exposure of samples to warm ambient air. Thanks to Cryo-Lift, the racks do not need to be completely put to the warmth. Access to the boxes is quick and safe.

- Better cell viability
- Higher safety when handling liquid nitrogen
- No physical effort necessary - load capacity of up to 25 kg
- Thanks XY movement, complete usage of space is possible
- Maintenance-free operation with a durable battery

### Racks, boxes and cassettes for storage

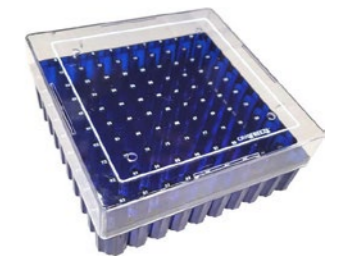
Whether you are looking for a single cryobox, a rack or even a complete equipment assembly, for both cryogenic storage as well as ultra-low temperature freezers: we offer a wide range of storage systems in different shapes, sizes and capacities for every application. Custom-made applications are also possible. Contact us so that we can figure out the optimal equipment configuration for you.



Blood bag cassette with frame and drawers rack



Custom-made rack for slide boxes with highest stability



Polycarbonate cryobox with numbered grid for 100 vials

## Accessories for safety in the workplace

Are you safe? Working with hazardous materials such as liquid nitrogen and at very low temperatures increases the risk of occupational accidents. Occupational safety is therefore of great importance in medical and biological laboratories, hospitals and in the industry. We at CryoSolutions offer personal protective equipment against cryogenic temperatures.

### Personal protective equipment

#### Tempshield Cryo-Gloves®

Ensure safe handling of cryogenic liquified gases such as liquid nitrogen, oxygen, helium, or natural gas as well as dry ice. Proven and reliable product quality for more than 30 years with CE marking.

- **Cryo Gloves®** for laboratory use, in water-resistant or standard version. Available in wrist, forearm, elbow and shoulder lengths.
- **Cryo Industrial Gloves®**, robust waterproof cold-protection gloves for the cryogenic industrial workplace. Available in wrist, forearm and elbow lengths.
- **Protective Aprons** Cryo Apron and Cryo Industrial Apron
- **Face shield** with holder and visor
- **Warning sign** «Wear gloves», 30 cm diameter
- **Warning sign** «Wear face protection», 30 cm diameter



### Mobile oxygen alarm

#### Single GasClip O<sub>2</sub>

Provides preventive protection when handling liquid nitrogen by continuously detecting the ambient air. If the alarm values are exceeded or undershot, the Single GasClip O<sub>2</sub> triggers a visual, audible and vibration alarm. Simple and safe!



- Completely maintenance-free (no sensor change, no battery change, no calibration necessary)
- One single button with multifunction
- Operationally safe: cannot be deactivated
- Guaranteed 24 months continuous operating time after activation
- Programmable display: Real-time concentration or remaining life
- Visual, audible and mechanical alarm
- Disposable device with battery operation
- Solvent resistant signal color rubber protective housing with stainless steel crocodile clip on the back side
- Dimensions: 28x50x81 mm (DxWxH)



