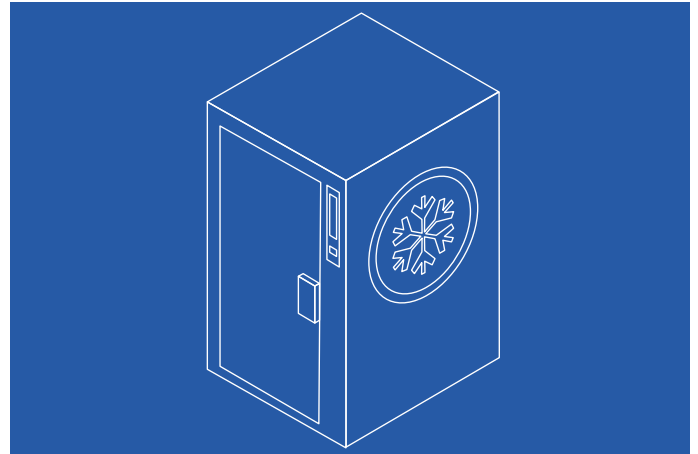


CRYO CHAMBER

- Homogeneous consistency
- Reliability and traceability
- Safety
- Industry compliance



The Concept

Sub-zero quenching is a metal-strengthening process particularly adapted to the manufacturing of machine parts, such as injection pumps, gears and transmission components.

Through this process, residual austenite transforms into martensite, allowing you to harden your metal pieces according to technical specifications while consolidating the dimensional stability of each component.

CRYO CHAMBER ensures accurate temperature monitoring of +/- 1°C during cryogenic treatment, and is designed to fit specific nozzle-injection systems. The temperature profile is adjusted and stored at your convenience.

Following cryogenic treatment, your load is then warmed up as needed, ranging from room temperature to as high as 300°C.

Applicable Industries

CRYOCHAMBER is used to harden metal parts in various industries, such as:

- Aeronautic
- Automotive
- Tooling

Special Features

A turnkey solution, **CRYO CHAMBER** includes standard-design equipment as well as fluid installation at point of use:

- Nitrogen storage
- Gas and thermally insulated liquid lines
- Stainless steel chambers, ranging from 300 to 1,400 liters internal volume
- Consistent temperature atmosphere ensured by
 - Controlled nitrogen injections at multiple locations
 - Two high-speed turbines
- Precise control of temperature during cooling and heating phase
 - Adjustable atmosphere cooling rate
 - Heating rate to ambient temperature
 - Tempering treatment up to 500°C (optional)
- Remote monitoring system
- Safety management system: door detection, overpressure exhaust, air venting before opening and anoxia detection system
- Other options: slash door, loading rolls, heating capacity, data acquisition and transfer solutions

You can also benefit from training in gas handling and safety.

With **CRYO CHAMBER**, you benefit from:

- A single device for temperature treatment from -160°C to +300°C
- Optimized nitrogen consumption thanks to a highly insulated stainless steel chamber
- Easy heat treatment cycle programming
- Integrated safety procedures
- Telemetry for remote monitoring of gas storage and reporting

Model Range

CRYO CHAMBER is available in three models:

CRYO CHAMBER CK 800 YH

CRYO CHAMBER CK 23 MYH

CRYO CHAMBER CK 30 MYH

Each one can be customized to your specific needs.

Technical Data

Description	Unit	CK 800 YH	CK 23 MYH	CK 30 MYH
Overall dimensions (w x d x h)	mm	1800 x 2200 x 1800	2200 x 2600 x 2150	2200 x 2600 x 2500
Inside dimensions (W x d x h)	mm	800 x 1200 x 800	1200 x 1600 x 1200	1200 x 1600 x 1600
Total volume	Liters	800	2300	3000
Useful volume	Liters	720	2070	2700
Weight of empty cell	Kg	1230	1600	2500
Maximum loading rate (parts + basket)	Kg	500	1000	1400
Temperature range	°C	-150 /300	-150 /300	-150 /300°C
Temperature uniformity	°C	+/-3	+/-3	+/-3
Medium ramp rate 30°C to -140°C	°C/min	3	3	3
Medium ramp rate -140 °C to 30 °C	°C/min	5	5	5
Max electrical power consumption	Kw	25	48	73

Related Offer

CRYO CHAMBER is a part of our **Nexelia for Cryogenic Treatment** solution, which is designed and tailored to meet your specific needs. This comprehensive offer combines the best of Air Liquide's gases, application technologies and expert support. As with all solutions under the **Nexelia** label, we work closely with you to pre-define a concrete set of results, and we commit to delivering them.

Contact us

Air Liquide Standard Application Equipment - France
 Phone : +33 139 07 62 55
 E-mail : application.equipment@airliquide.com

www.airliquide.com

