



Be cold and calculating in using our benefits

Maximizing the quality and durability of
materials in cold chambers





Cold chambers are available in various sizes.

Minus temperatures are plus points for quality

Whether during manufacture, processing or later use – low temperatures decisively influence a material's quality and durability. This advantage can be realized efficiently and economically by cryogenic cold chambers whose interior temperature attains levels as low as $-180\text{ }^{\circ}\text{C}$. Typical applications for cold chambers include conversion of residual austenite after hardening as well as shrinkage applications and the testing of components, material samples and equipment.

Optimized use of cold nitrogen

All cryogenic cold chambers obtain their low temperature from liquid nitrogen at a temperature of $-196\text{ }^{\circ}\text{C}$. The nitrogen is sprayed via nozzles into the interior where it immediately vaporizes, thereby withdrawing heat energy from the chamber and the product requiring cooling. A special fan ensures an even distribution of cold.

The nitrogen supply is regulated by a programmable temperature controller which is user-friendly and reliable, its temperature adjustment function allowing fast attainment and retention of the desired temperature. This prevents energy losses while increasing cost efficiency.

The right solution for every requirement

Messer offers cryogenic chambers in a variety of designs which take account of the different types, sizes and consistencies of the products to be cooled.

Key common features on all models: cost efficiency, reliability, high-grade stainless steel housing and temperature-specific insulation.

Sector	Area	Application
Steel industry	Metal processing	Hardening, conversion of residual austenite, annealing, shrinkage
Research & development	Material tests	Temperature variation tests
Industry/ government agencies	Load and performance tests	Material tests at extremely low temperatures



Cold chamber with control panel



The chamber accommodates components and material samples.

Fast and reliable cooling in every situation

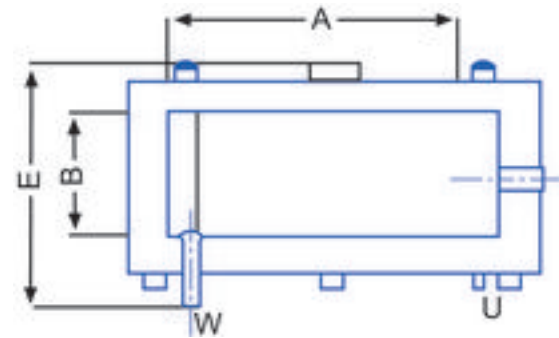
Messer's cold chambers set standards not only due to their cooling performance but also their operational reliability. When a chamber is opened, for instance, its supply of cooling medium is turned off automatically.

All cold chambers are delivered ready for connection in order to expedite installation at the desired location and make all benefits immediately available. The cold chambers can also be relocated easily and quickly.

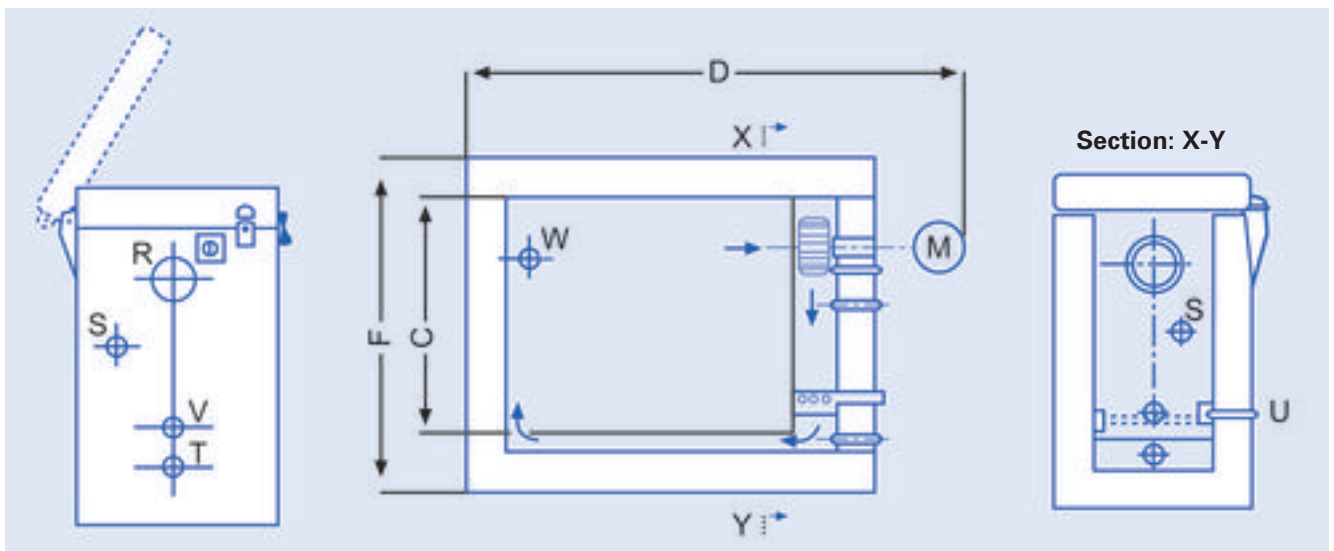
Your advantages at a glance:

- Versatile application
- Economical operation through a supply of liquid nitrogen
- High durability due to zero-wear construction
- Rapid attainment of the cooling temperature
- High temperature constancy
- Fast temperature changes possible
- Easy temperature control by means of a processor
- Easy installation
- High-grade construction and insulation
- High load-bearing capacity
- Demand-oriented dimensioning of nitrogen reservoirs

Type	A	B	C	D	E	F
80	500	400	400	1065	790	710
250	1000	500	500	1635	960	870
500	1400	600	600	2085	1060	980
1000	2000	700	700	2725	1170	1090
1500	2400	800	800	3175	1280	1200



Hinged side (lid not shown)
R = Circulation mechanism, U = Heating,
S = LN2 inlet nozzle, V = Overtemperature protection,
T = Temperature sensor, W = Exhaust gas





If you have enquiries or need advice from our application specialists, do not hesitate to get in touch with us.

Contact persons in your region are listed in the Internet at:

www.messergroup.com/de/Standorte

This brochure and many others can also be downloaded in PDF format via the Internet:
www.messergroup.com



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