

Auguste Cryogenics Medical Family – Aluminum Dewars

1 H Hydrogen

3 Li Lithium 4 Be Beryllium

11 Na Sodium 12 Mg Magnesium

19 K Potassium 20 Ca Calcium 21 Sc Scandium 22 Ti Titanium 23 V Vanadium 24 Cr Chromium 25 Mn Manganese 26 Fe Iron 27 Co Cobalt 28 Ni Nickel 29 Cu Copper 30 Zn Zinc 31 Ga Gallium 32 Ge Germanium 33 As Arsenic 34 Se Selenium 35 Br Bromine 36 Kr Krypton

37 Rb Rubidium 38 Sr Strontium 39 Y Yttrium 40 Zr Zirconium 41 Nb Niobium 42 Mo Molybdenum 43 Tc Technetium 44 Ru Ruthenium 45 Rh Rhodium 46 Pd Palladium 47 Ag Silver 48 Cd Cadmium 49 In Indium 50 Sn Tin 51 Sb Antimony 52 Te Tellurium 53 I Iodine 54 Xe Xenon

5 Cs Cesium 56 Ba Barium 57-71 Lanthanides** 72 Hf Hafnium 73 Ta Tantalum 74 W Tungsten 75 Re Rhenium 76 Os Osmium 77 Ir Iridium 78 Pt Platinum 79 Au Gold 80 Hg Mercury 81 Tl Thallium 82 Pb Lead 83 Bi Bismuth 84 Po Polonium 85 At Astatine

88 Ra Radium 89-103 Actinides** 104 Rf Rutherfordium 105 Db Dubnium 106 Sg Seaborgium 107 Bh Bohrium 108 Hs Hassium 109 Mt Meitnerium 110 Ds Darmstadtium 111 Rg Roentgenium 112 Cn Copernicium 113 Nh Nihonium 114 Fl Flerovium 115 Mc Moscovium 116 Lv Livermorium

57 La Lanthanum 58 Ce Cerium 59 Pr Praseodymium 60 Nd Neodymium 61 Pm Promethium 62 Sm Samarium 63 Eu Europium 64 Gd Gadolinium 65 Tb Terbium 66 Dy Dysprosium 67 Ho Holmium 68 Er Erbium 69 Tm Thulium 70 Yb Ytterbium 71 Lu Lutetium

89 Ac Actinium 90 Th Thorium 91 Pa Protactinium 92 U Uranium 93 Np Neptunium 94 Pu Plutonium 95 Am Americium 96 Cm Curium 97 Bk Berkelium 98 Cf Californium 99 Es Einsteinium 100 Fm Fermium 101 Md Mendelevium 102 No Nobelium 103 Lr Lawrencium

Auguste Cryogenics

Auguste Cryogenics Medical Family Aluminum Dewars for liquid nitrogen storage



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<https://augustecryogenics.com/products/acmf-dewars/>

AC Medical Family – Aluminum Dewars



Continuity. Reliability. Quality. We are **Auguste Cryogenics**.

Auguste Cryogenics presents their AC Medical Family product line of double-walled, insulated aluminum dewars.

The vessels in the AC Medical Family Aluminum Dewars product line have been engineered for maximum holding times and low nitrogen consumption.

Static holding times range from 3 weeks to greater than 12 weeks depending on the design specifics. These light weight dewars are protected with the Auguste Cryogenics GOLD standard vacuum integrity and multilayer Super Insulation technology.

Auguste Cryogenics offers a complete system for your cryo-preservation requirements. Best in class microbulk and liquid cylinder storage solutions can be integrated into a complete nitrogen supply network.

Depending on the application and temperature requirements the biological material can be stored in the liquid phase or in the vapour phase of the vessel's reservoir.

The products in the Auguste Cryogenics Medical Family are particularly characterized by:

- High portability thanks to their low weight and compact dimensions.
- Long holding times, resulting in high economic efficiency.
- Large capacity of samples in straws, vials and/or freezer bags.
- Design and quality according to Auguste Cryogenics' standards.

The vacuum-insulated, double-walled aluminum containers of the Medical Family are therefore ideally suited for use in medical institutes, biological laboratories, institutes for artificial insemination and pharmaceutical facilities as well as various industrial applications such as food processing or cryo-tempering.

The "T" designation denotes special ruggedized version of the dewars. While all vessels in the AC Medical Family Aluminum Dewars product line are movable, only the dewars below 20 l capacity and the T-labeled versions of 20 liters and more capacity are reinforced to withstand regular transport. These dewars and of course all vessels in the Dry Shipper line are appropriately ADR labeled ex works.

Please note that generally, the transport of filled containers on public roads and railways is only permitted according to the requirements of the current GGVSEB/ADR/RID.

Most vessels of the Auguste Cryogenics Medical Family can be designated as Class IIa MDD medical products compliant with the European Unions Medical Device Directive 93/42/EEC Appendix IX.

Since the containers are open to the atmosphere, they are NOT pressure tanks according to the Pressure Equipment Directive 97/23 EG.

The AC Medical Family Aluminum Dewars are not intended for applications with patient contact and may only be operated and serviced by trained personnel.

Note: The values given in this document for evaporation rates and static holding times are nominal values, determined without a storage system and under exactly defined conditions. Depending on the operating conditions and the storage system used, the actual values may deviate in daily use.



Building the **GOLD standard** of service and quality in cryogenic storage equipment.

AC Medical Family - Aluminum Dewars with canisters

Model	LN2 Capacity (l)	Empty weight (kg)	Outer diameter (mm)	Overall height (mm)	Neck opening (mm)	Static evaporation rate (l/day)	Static holding time (days)	Number of canisters	Canister diameter (mm)	Canister height available	
										120 mm	276 mm
AC L10	10.0	6.1	300	552	50	0.12	86	6	38	X	
AC L13	13.0	6.3	310	627	50	0.12	109	6	38	X	X
AC L15	16.0	8.5	394	591	50	0.12	134	6	38	X	
AC L2 (1)	2.0	2.8	223	407	30	0.07	28	3	19	X	
AC L2 (2)	2.0	2.6	204	425	35	0.08	24	3	25	X	
AC L20	20.0	9.5	394	675	50	0.12	168	6	38	X	X
AC L20T	20.0	10.2	394	677	50	0.2	101	6	38	X	X
AC L25	25.0	10.7	384	700	50	0.14	175	6	38	X	X
AC L3	3.0	3.1	223	438	50	0.12	26	6	38	X	
AC L30	31.5	12.9	462	717	50	0.12	254	6	38	X	X
AC L30T	31.5	13.0	462	717	50	0.2	159	6	38	X	X
AC L35	35.5	14.2	462	755	50	0.12	286	6	38	X	X
AC L35T	35.5	14.9	462	757	50	0.2	179	6	38	X	X
AC L50T	50.0	16.7	462	825	50	0.24	209	6	38	X	X
AC L6	6.0	4.8	300	496	50	0.12	52	6	38	X	
AC XL10	10.0	6.2	300	562	80	0.21	48	6	63	X	
AC XL15	15.0	8.6	394	593	80	0.21	71	6	63	X	
AC XL20	20.0	9.6	394	678	80	0.21	95	6	63	X	X
AC XL25	25.0	10.8	394	720	80	0.21	119	6	63	X	X
AC XL30	31.5	13.0	462	717	80	0.21	147	6	63	X	X
AC XL30T	31.5	13.0	462	717	80	0.3	106	6	63	X	X
AC XL35	35.5	14.5	462	763	80	0.22	159	6	63	X	X
AC XL35T	35.5	15.2	462	763	80	0.3	119	6	63	X	X
AC XL50T	50.0	17.0	462	830	80	0.34	147	6	63	X	X
AC XL+10	10.0	6.2	300	623	91	0.23	44	6	63	X	
AC XL+10T	10.0	6.2	300	623	91	0.32	31	6	63	X	
AC XL+11-S (10)	11.0	7.3	384	420	90	0,52	21	10	45	(110 mm)	
AC XL+11-S (6)	11.0	7.3	384	420	90	0,52	21	6	66	(110 mm)	
AC XL+15	15.0	8.6	394	593	91	0.23	65	6	70	X	
AC XL+20	20.0	9.6	394	678	91	0.23	86	6	70	X	X

In the course of continuous product improvement and development, we reserve the right to change the specifications at any time without prior notice.

Model	LN2 Capacity (l)	Empty weight (kg)	Outer diameter (mm)	Overall height (mm)	Neck opening (mm)	Static evaporation rate (l/day)	Static holding time (days)	Number of canisters	Canister diameter (mm)	Canister height available	
										120 mm	276 mm
AC XL+20T	20.0	9.6	394	678	91	0.33	61	6	70	X	X
AC XL+30	31.5	13.0	462	717	91	0.23	136	6	70	X	X
AC XL+30T	31.5	13.5	462	717	91	0.33	96	6	70	X	X
AC XL+35	35.0	15.5	462	758	91	0.23	152	6	70	X	X
AC XL+35T	35.0	16.0	462	758	91	0.33	108	6	70	X	X
AC 2XL47	47.0	18.2	508	770	127	0.36	130	6	104	X	X
AC 2XL47 (10)	47.0	18.2	508	770	127	0.36	130	10	72	X	X
AC 2XL50T	50.0	16.0	462	830	125	0.36	145	6	97	X	X
AC 2XL+35 (10)	35.5	14.6	462	748	127	0.37	97	10	71	X	X

L | XL | XL + | 2XL | 2XL+ series

for the cryogenic storage of samples in stainless steel canisters

The aluminum vessels of the L | XL | XL+ | 2XL | 2XL+ -series from the Auguste Cryogenics Medical Family differ in the neck opening diameter. They are cryogenic freezer containers for long-term storage of biogenic sample material in liquid nitrogen - with many possible applications in laboratories and technology.

The vessels in this series are equipped with stainless steel canisters available in two lengths for high capacity storage of tissue fragments in sterilized straws.



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AC Medical Family – Aluminum Dewars with racks

Model	LN2 capacity (l)	Empty weight (kg)	Outer diameter (mm)	Overall height (mm)	Neck opening (mm)	Static evaporation rate (l/day)	Static holding time (days)	Number of racks	Dimensions of vial racks (mm)	Dimensions of vial boxes (mm)	Levels per vial rack	Vials 1.2/1.8/2.0 ml	50 ml blood bag racks (multi)	Levels per 50 ml blood bags (multi)	Boxes per level 50 ml (multi)	50 ml blood bags (multi)	25 ml blood bag racks (multi)	Levels per 25 ml blood bags (multi)	Boxes per level 25 ml (multi)	25 ml blood bags (multi)
AC 2XL10-B	10.0	6.3	300	623	125	0.43	23	1	82x84	76x76	4	100								
AC 2XL25-B	25.0	9.7	394	700	125	0.37	67	6	82x84	76x76	5	125								
AC 2XL30-B	31.5	13.0	462	717	125	0.35	90	6	82x84	76x76	4	600					6	2	4	42
AC 2XL35-B	35.5	14.6	462	758	125	0.36	97	6	82x84	76x76	5	750					6	2	4	42
AC 2XL47-B	47.0	18.2	508	770	127	0.36	130	6	105x100	98 mm round	5	1110								
AC 2XL50T-B	50.0	17.3	462	830	125	0.45	110	6	82x84	76x76		900								
AC 3XL65-B	65.0	38.3	681	729	216	0.89	73	6	142x144	134x134	4	2400	6	2	8	96	6	2	10	120
AC 3XL95-B	95.0	41.3	681	774	216	0.97	98	6	142x144	134x134	5	3000	6	2	8	96	6	2	10	120
AC 3XL115-B	115.0	42.3	681	846	216	0.94	122	6	142x144	134x134	6	3600	6	3		144	6	3	10	180
AC 3XL145-B	145.0	48.9	681	973	216	0.96	151	6	142x144	134x134	8	4800	6	4	8	192	6	4	10	240
AC 3XL175-B	175.0	53.8	681	1078	216	0.95	184	6	142x144	134x134	10	6000	6	5	8	240	6	5	10	300
AC 3XL175-B50	175.0	53.8	681	1078	216	0.95	184	6	142x139	131x131			6	3	14	252				

2XL-B | 3XL-B series

for the cryogenic storage of samples in stainless steel racks

The aluminum vessels of the 2XL-B | 3XL-B series from the Auguste Cryogenics Medical Family have still bigger neck tube diameters to provide easy access to the inventory system.

The vessels in this series offer capacities between 10 and 175 liters. They are equipped with stainless steel racks, in which large quantities of samples can be stored in vials and/or specimen bags.



In the course of continuous product improvement and development, we reserve the right to change the specifications at any time without prior notice.

Building the **GOLD standard** of service and quality in cryogenic storage equipment.

AC Medical Family - Aluminum Dewars for LIN storage and distribution

Model	LN2 capacity (l)	Empty weight (kg)	Outer diameter (mm)	Overall height (mm)	Neck opening (mm)	Static evapo-ration rate (l/day)	Static holding time (days)
AC LIN3	3.0	3.1	223	435	50	0.12	26
AC LIN6	6.0	4.8	300	482	50	0.12	86
AC LIN10	10.0	6.1	300	545	50	0.12	86
AC LIN12T	12.0	6.3	310	605	50	0.12	93
AC LIN13	13.0	6.3	310	627	50	0.12	109
AC LIN20	20.0	9.5	394	673	50	0.12	168
AC LIN20T	20.0	10.9	394	673	50	0.20	101
AC LIN25	25.0	10.7	394	705	50	0.14	175
AC LIN30	30.0	12.9	462	705	50	0.12	254
AC LIN30T	30.0	13.1	462	705	50	0.20	185
AC LIN35	35.0	14.2	462	749	50	0.12	286
AC LIN35T	35.0	14.2	462	749	50	0.20	210
AC LIN50T	50.0	17.2	462	810	50	0.22	213
AC LIN60T	60.0	20.0	462	950	50	0.24	225
AC LIN100T*	100.0	37.0	508	1025	50	0.35	232

* Despite reinforcement and „T“ designation, the LIN100T container cannot be recommended for regular transport, especially on/in vehicles. In particular the loads occurring in a filled container are considerable due to the substantial weight of the contents.

LIN series

for the storage and distribution of liquid nitrogen

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 100 liters are transportable and easy to handle - for the convenient distribution of small amounts of cryogenic liquid nitrogen in laboratories and industry.



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Optionally available:

The AC Liquid Withdrawal Device

The vessels of the Auguste Cryogenics Medical Family LIN Series can optionally be equipped with the **AC Liquid Withdrawal Device (LWD)**. The LWD allows for the easy withdrawal of liquid nitrogen under pressure from the AC Medical Family LIN containers. The device is attached directly to the dewar flange.

Flow rates of up to 4 liters per minute are possible at a working pressure of up to 0.5 bar. The liquid can be withdrawn directly from LWD spout assembly or with a standard cryogenic hose that is connected to the liquid valve.

The dewar can be filled while the LWD is installed. With this filling method, the liquid is filled into the dewar by means of a slight overpressure through the LWD, whereby the pressure in the dewar can be kept sufficient for subsequent liquid withdrawal by choking at the vent valve.

For more information on the AC Liquid Withdrawal Device please contact us.



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AC Medical Family – Aluminum Dry Shipper Dewars

Model	LN2 capacity (l)	Empty weight (kg)	Outer diameter (mm)	Overall height (mm)	Neck opening (mm)	Static evaporation rate (l/day)	Static holding time (days)	Effective Shelf Life	Number of canisters	Canister diameter (mm)	Canister height available		Number of racks	Dimensions of vial racks (mm)	Dimensions of vial boxes (mm)	Levels per vial rack	Vials 1.2/1.8/2.0 ml	25 ml blood bag racks (multi)	Levels per 25 ml blood bags (multi)	Boxes per level 25 ml (multi)	25 ml blood bags (multi)	50 ml blood bag racks (multi)	Levels per 50 ml blood bags (multi)	Boxes per level 50 ml (multi)	50 ml blood bags (multi)
											120 mm	276 mm													
AC DS10-B	3.4	6.7	300	623	125	0.43	23	10					1	82x84	76x76	4	100	1	1	3	3	1	1	3	3
AC DS10	3.4	6.7	300	623	125	0.43	23	8	1	97	X	X													
AC DS12	4.2	7.5	300	630	80	0,21	35	25	1	70	X	X													
AC DS15-B	6.5	8.5	393	580	216	0.84	18	4					1	142x144	134x134	3	300	1	1	15	15	11	3	15	15
AC DS25-B	9.0	15.0	394	716	216	0.89	29	10					1	142x144	134x134	5	500	1	3	15	45	1	2	15	30
AC DS3	1.3	3.2	223	435/502	50	0.17	20	8	1	38	X	X													
AC DS6	2.9	4.9	300	495	80	0.21	37	14	1	63	X														
AC DS8	3.2	6.2	300	513	80	0.23	35	22	1	63	X														

DS Dry Shipper series

for the safe transport of material in cryogenic nitrogen

The aluminum containers of the DS series from the Auguste Cryogenics Medical Family are cryogenic freezer containers specially designed for the transport of biogenic material in liquid nitrogen. 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.

The containers of the DS series can easily be transported on all routes, even by plane.



Optionally available:

Auguste Cryogenics DS series Dryshipper Cases

The lightweight dryshipper cases for the Auguste Cryogenics DS series offer extra protection and easy handling. The cases are designed and produced to the highest standards. The edges and corners are equipped with extra-sturdy aluminum profiles to protect the valuable contents even in rough conditions.

Securely transport the Auguste Cryogenics DS series aluminum containers by road, rail, ship or even plane with Auguste Cryogenics DS Dryshipper Cases.



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Building the **GOLD standard** of service and quality in cryogenic storage equipment.

AC Medical Family – Aluminum Dewars

The AC Medical Family Aluminum Dewars line of products is an integral part of the Auguste Cryogenics product portfolio.

Auguste Cryogenics is an internationally renowned manufacturer of tanks and containers for cryogenic, liquefied gases. We have over 50 years of experience designing and manufacturing these products. With our manufacturing facility in Košice, Slovakia and sales and distribution center in Husum, Germany, Auguste Cryogenics has continuously shaped the European cryogenics industry for decades and continues the tradition of practices and intellectual property with which the company was built. At the same time, we take pride in investing in our employees and in innovative solutions for tomorrow.

Auguste Cryogenics products are characterized by their high technical standard and their reliability. Our portfolio includes:

- Vertical and horizontal bulk tanks from 2,000 to 250,000 liters capacity for use in industry (LIN, LOX, LAR, LCO₂, LN₂O) and in the energy sector (LNG, LH₂).
- Stationary and transportable microbulk tanks from 750 to 5,000 liters capacity.
- Liquid cylinders with capacities from 70 to 240 liters in low, mid and high pressure variants.
- Stainless steel freezers for the safe and economical long-term storage of large sample quantities.
- Aluminum Dewars from 2 to 175 liters capacity for storage and safe transport of sample material in liquid nitrogen.
- Specially engineered vessels for a large variety of purposes, designed and built to the needs and demands of our clients.

We can provide you with a solution for every aspect of your cryogenic liquefied gas storage application - please do not hesitate to contact the specialists in our sales teams.



Auguste Cryogenics Slovakia s.r.o.

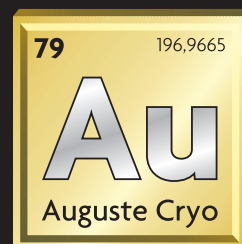
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