ASCENT
CHILLERS

ASCENT CHILLERS

Ultra-Low Temperature Chillers & Temperature Control Systems

MORE INFO

LACO TECHNOLOGIES

ASCENT

ULTRA-LOW TEMPERATURE (ULT) CHILLERS & TEMPERATURE CONTROL SYSTEMS

Ascent ULT Chillers deliver precise temperature control, high capacity, and reliability for demanding applications.

INTRODUCTION

Ascent ULT Chiller Systems offer precise temperature control, with cooling down to -70° C and optional heating up to 150° C. Designed for applications like aerospace simulation, cannabis extraction, environmental testing, and semiconductor manufacturing. Ascent ULT Chiller models include the 500 series, 1000 series, 2000 series, and 5000 series, each with increased cooling capacity.

KEY FEATURES

Broad Temperature Range
Cooling Capacity: -70° C (-94° F)
Optional Heating Capacity: 150° C (302° F)

Large Fluid Reservoir
Stainless Steel fluid reservoirs from 19 to 91 liters depending on model

Copeland Compressors
Forefront of HVACR applications
Years of compressor expertise

Comprehensive Warranty
1 year parts & labor warranty to assist with any defects

Wireless Control Connection
Connect to controller software via WiFi connection or Ethernet cable

Higher Capacity at Lower Temperatures

Ascent ULT Chillers are specifically designed to deliver superior capacity at ultra-low temperatures, providing the extra power needed for demanding applications. This enhanced performance ensures reliable operation in extreme conditions, making them the ideal choice for industries like aerospace, pharmaceuticals, and environmental testing.

Reliable and Easy to Maintain

Ascent ULT Chillers ensure consistent performance across a variety of applications. With accessible components and step-by-step guidance from our engineering team, maintenance is straightforward. Optional preventative maintenance plans and in-house expert support further enhance long-term reliability.

INDUSTRIES & APPLICATIONS

Aerospace & Defense

- Thermal cycling for environmental simulation
- Thermal cycling for temperature stress testing

Automotive

- Extreme climate conditions stress testing
- Plastics softening temperature testing

Botanical Extraction

- Ethanol and Hydrocarbon Cooling Solutions for CBD and THC Extraction
- Extract plant chemicals and oils for medicine, cosmetics, and supplement

Semiconductor

- Etching baths & wet chemistry
- Thermal cycling function testing

Freeze Drying

- Freeze drying heat sensitive drugs
- Food and nutrient preservation
- Storage and preservation for R&D samples

Biotech

- Steam cleaning/sterilization of equipment
- Preserve clean room conditions

Food & Beverage

- Optimize moisture removal in food dehydration
- Simulate extreme temperatures to evaluate performance and shelf life

Chemicals

- Control high-energy reactions
- Controlled freezing & thawing
- External cooling for laboratory equipment

CUSTOM OPTIONS

LACO provides custom options to meet the unique demands of any industry or application. Our team collaborates with you to design reliable, high-performance systems, offering features such as:

- Heating Circuit
- Water-Cooled Condenser
- Pass Through Systems
- Extended Ambient Package for Cold Climates

	500 SERIES	1000 SERIES	2000 SERIES	5000 SERIES
WEIGHT	386 kg	522 kg	612 kg	891 kg
DIMENSIONS (L x W x H)	91 x 79 x 198 cm	91 x 135 x 165 cm	91 x 178 x 191 cm	91 x 213 x 183 cm
WORKING TEMPERATURE RANGE	-70° C to 150° C (with optional heater)			
TEMPERATURE STABILITY	±2° C			
COOLING CAPACITY @ 21° C AMBIENT	-70° C - 750 W -60° C - 1,575 W -40° C - 1,750 W 0° C - 1,750 W	-70° C - 1,500 W -60° C - 2,900 W -40° C - 3,200 W 0° C - 3,200 W	-70° C - 3,500 W -60° C - 6,500 W -40° C - 7,200 W 0° C - 7,200 W	-70° C - 8,500 W -60° C - 15,000 W -40° C - 20,000 W 0° C - 20,000 W
HEATER CAPACITY	1,500 W	3,500 W	7,000 W	20,000 W
PUMP PERFORMANCE	4.5 GPM @ 50 PSI	4.5 GPM @ 50 PSI	7 GPM @ 65 PSI	17.9 GPM @ 99 PSI
UI CONTROLS	Electronic Programmed Temperature Controller with Constant (Set point & Process)			
UI ADDITIONAL FEATURES	Fluid Level Indicator			
REFRIGERATION CIRCUIT COMPRESSOR	Copeland Scroll			Copeland Discus
HEAT EXCHANGER	Stainless Steel Brazed Plate Heat Exchangers			
REFRIGERANTS	R404a/R508b			
REFRIGERATION CIRCUIT ADDITIONAL FEATURES	Access Ports, Service Valves, Filter Drier, Sight Glass, Liquid Receiver, Thermostatic Expansion			
REFRIGERATION CIRCUIT MAX HEAT REJECTION	5,700 W	9,200 W	11,300 W	11,700 W
FLUID CIRCUIT PUMP	Continuous Duty, 0.75 kW Vortex Pump		Continuous Duty, 2.2 kW Vortex Pump	Continuous Duty, 3.75 kW Vortex Pump
FLUID CIRCUIT INLET/OUTLET	3/4" NPT			1 1/4" NPT
FLUID CIRCUIT RESERVOIR	19 L Stainless Steel		38 L Stainless Steel	91 L Stainless Steel
FLUID CIRCUIT ADDITIONAL FEATURES	Inline Strainer, Inlet and Outlet Temperature Sensors, Pump Discharge Pressure Transducer, N2 Blanket for Moisture Prevention			
FRAME MATERIAL	Galvanized Steel			
ENCLOSURE MATERIAL	Powder Coated Steel Enclosure with Easy Access Panels			
WARRANTY	1 Year Standard Warranty			
UL/CSA CERTIFIED (FULL ASSEMBLY)	ETL 3170655, UL STD 61010-2-011, CAN/CSA STD, C22.2 No. 61010-2-011			
MANUFACTURING	Manufactured in the U.S.A.			
AVAILABLE VOLTAGES	208-240VAC / 3P / 60Hz 208-240VAC / 1P / 60Hz	208-240VAC / 3P / 60Hz 208-240VAC / 1P / 60Hz 480VAC / 3P / 60Hz	480VAC / 3P / 60Hz 208-240VAC / 3P / 60Hz	480VAC / 3P / 60Hz
	50Hz and other voltages available on request			
MAX AMPS (FLA)	25 Amps		40 Amps | 60 Amps	80 Amps
RECOMMENDED BREAKER/ SERVICE (MCA)	30 Amps		40 Amps | 60 Amps	80 Amps

Heat Transfer Fluid Options (sold Separately): NOVEC 7500, Syltherm, Paratherm LR, Paratherm CR, Fragoltherm, and more.