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CUBE LT

COOLING SYSTEM

cooling system

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CUBE LT
cooling system

Designed and Built in North America

AN INNOVATION IN WINE COOLING

The Cube LT wine cellar cooling system stands as the pinnacle of compressor technology available today, meticulously engineered for under-counter glazed wine cellars where the cooling head is positioned above the wine bottles.

Leveraging a sophisticated water loop cooling method, it adeptly minimizes thermal fluctuations and avoid drying out of the air, safeguarding the integrity of the wine. This modular tri-component design offers unparalleled installation versatility, making it an ideal choice for both residential and commercial undertakings.

ELEGANT & SILENT

Elegantly designed, the CUBE°-RC unit stands out for its sleek and stylish appearance, available in various colors to blend seamlessly with any decor. Its aesthetic appeal eliminates the need for concealment within a ceiling drop, maximizing the glass surface for an unobstructed view.

The **"Split" unit design** permits placing the compressor up to 100 feet away from the wine cellar, achieving silent cooling within the cellar environment.

PRECISE & CONNECTED

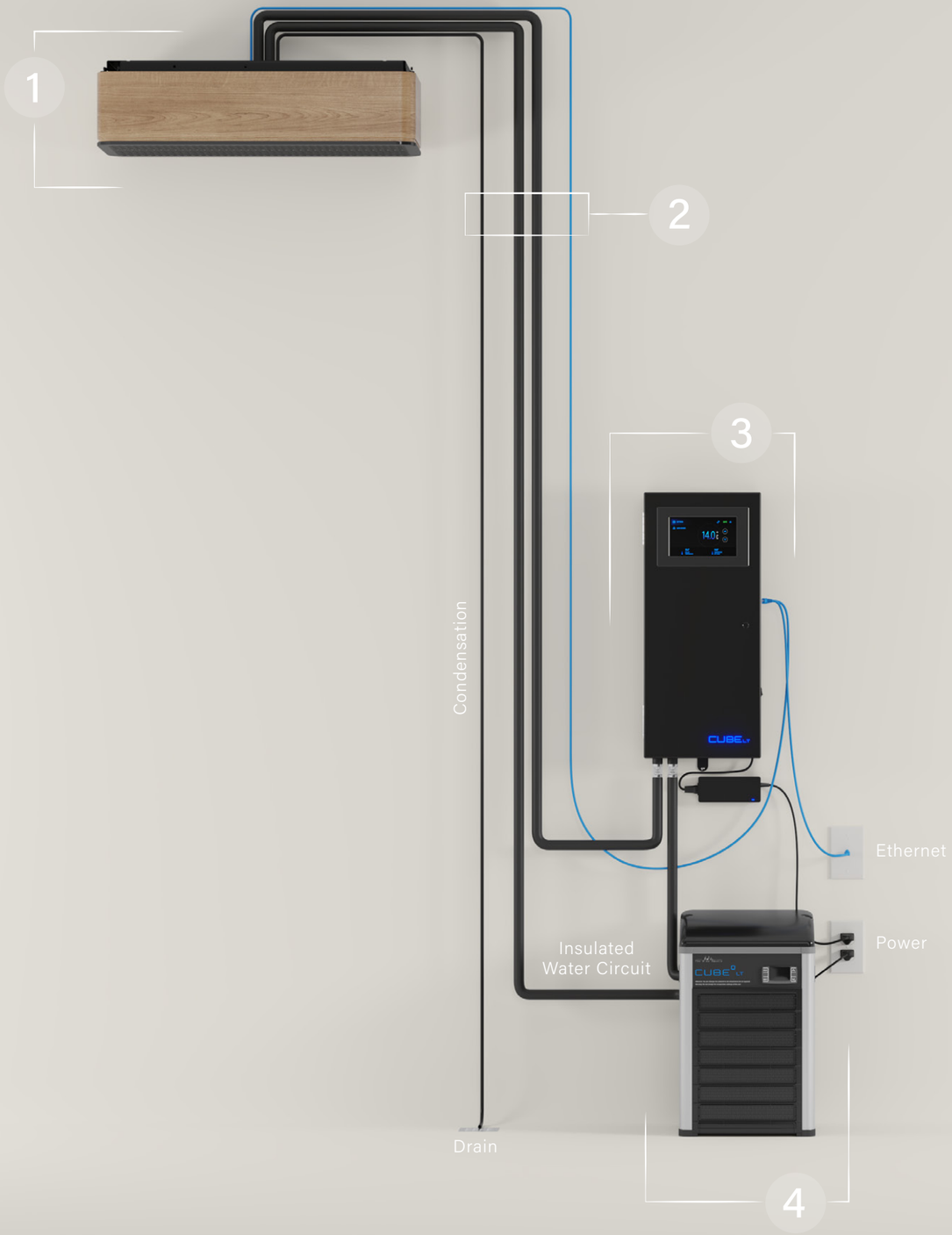
The wine cellar cooling units feature an **advanced closed-loop** air stream at 10°C (50°F), unlike traditional systems at -4°C (25°F). This innovation reduces air dryness and thermal shock to nearby bottles, enhancing wine preservation.

The CUBE°LT system offers **continuous connectivity**, enabling real-time monitoring of wine cellar conditions. It ensures informed status updates with email or SMS alerts if any issues occur with the system.

FLEXIBLE & ECOLOGIC

Installation is both flexible and straightforward, eliminating the need for a drain or power source within the wine cellar. Simply run three insulated 1/2" PEX tubes and an Ethernet cable to finalize the setup.

In the unlikely event of a leak, it's reassuring to know there are **no toxic refrigerant gases** in your walls that could jeopardize your health. Only a closed loop water flow connects the differents modules. The compressor unit employs self contained R290, a non-toxic refrigerant gas with zero Ozone Depletion Potential (ODP) and an exceptionally low Global Warming Potential (GWP).



THE

CUBE LT

COOLING SYSTEM COMPONENTS

1

COOLING RADIATOR

Located on the ceiling inside the wine cellar, the RC4LT extracts the heat using the water circuit, while also evacuating the condensation and relaying the temperature status to the control box.

2

WATER CIRCUIT & CABLE

Insulated PEX tubing and a Ethernet cable run through the walls, connecting the cooling radiator to the water chiller and the control box.

3

CONTROL BOX

Acting as the system's brain, the control box continuously monitors to ensure the wine cellar remains at the desired temperature.

4

WATER CHILLER

Installed beside the control box in a mechanical room or garage, the water chiller receives hot water and returns cold water to the cooling radiator.

COOLING RADIATOR

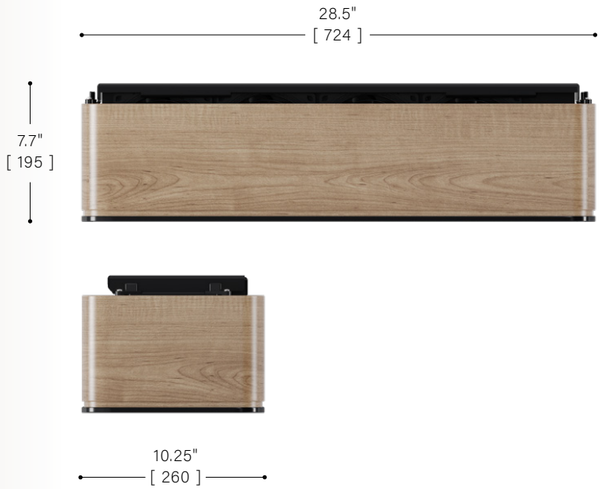
Wrapped in a refined wood casing, the cooling radiator, also known as RC4LT, stands as the only visible component in the wine cellar.

Positioned at the ceiling, the highest point, the unit efficiently removes warm air using silent fans, circulating it through a radiator connected to a water circuit constantly cooled by the water chiller. Depending on the size, layout, and efficiency of your cellar's insulation, one or more RC4LT units can be installed and operated simultaneously to maintain optimal conditions, creating an environment conducive to the proper aging of wine bottles.

Also equipped with a pump to remove condensation water, the installation is simplified as there is no need for a drain in the wine cellar.

SPECIFICATIONS

Power / communication	RJ45
Cooling power	400W
Drain connection	½" PEX
Intel / Outlet Connection	½" PEX
Minimum clearance	
Front	1.75"
Sides	1"
Back	1"
Under the device	8"

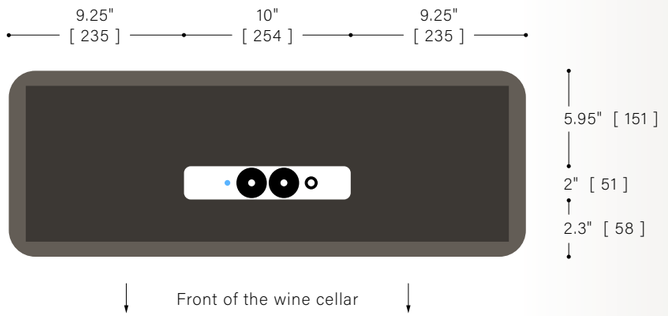


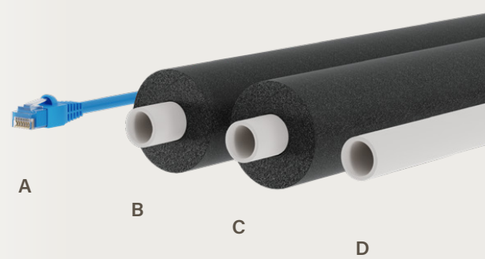
WATER CIRCUIT & CABLE

The CubeLT cooling system stands out by offering the possibility to place the noisy component, the water chiller, away from common living areas, whether in the garage or in a mechanical room.

To operate the cooling unit, four elements must pass through the ceiling and run through the walls:

- **A** An Ethernet cable connected to the control box.
- **B** An insulated PEX line inlet from the water chiller.
- **C** An insulated PEX line outlet leading to the control box.
- **D** A condensation water outlet draining into a drain.





To connect these elements, a hole must be made in the ceiling aligned with the RC4LT's opening.

CONTROL BOX

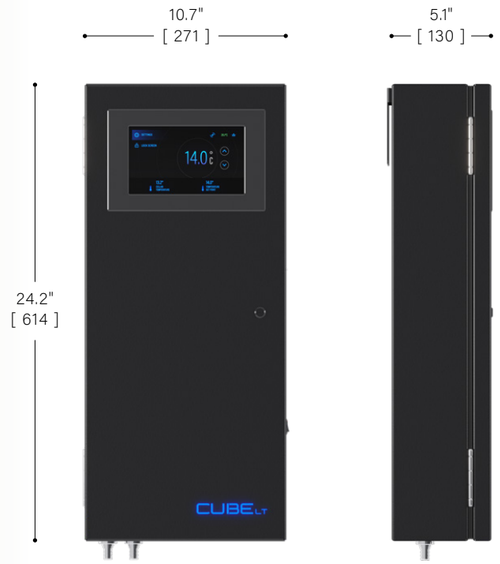
control box

The Control Box is the unit managing the entire high-end CubeLT cooling system. The conditions of the wine cellar can be set and adjusted by navigating on the high-resolution 7" screen or via a web portal.

It provides electrical power to the RC4LT while also transferring warm water from the RC4LT to the water chiller. Therefore, the Control Box must be installed close to the water chiller in a garage or mechanical room.

SPECIFICATIONS

Voltage	120V 60Hz
Amperage	0.75 A
Power	90W
Plug	NEMA 5-15P
Intel / Outlet	½" PEX
Maximum Water T°	48 °F (9 °C)
Minimum Water T°	32 °F (0 °C)
Flow Rate	20 L/min
Internet Connection	RJ45



WATER CHILLER

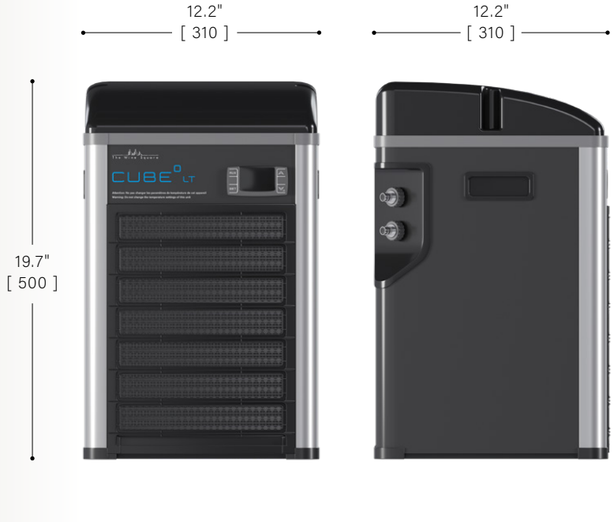
water chiller

The Water Chiller is responsible for efficiently cooling the water circuit. Italian designed, this compact, robust and eco-friendly unit uses R290 as refrigerant, a non-toxic gas with zero Ozone Depletion Potential (ODP) and very low Global Warning Potential (GWP).

Due to its higher sound level, similar to that of a dehumidifier, the unit should be installed near the Control Box in a mechanical room or garage. It is not recommended for use in an apartment or condo without a mechanical room.

SPECIFICATIONS

Voltage	120V 60Hz
Amperage	3.6 A
Power Consumption	330W
Cooling Power	400W
Plug	NEMA 5-15P
Intel / Outlet	½" PEX
Weight	47 lb (21.4 kg)
Minimum Water T°	41 °F (5 °C)
Refrigerant	R290
Min. Ambient Operating T°	50 °F (10 °C)
Max. Ambient Operating T°	100 °F (38 °C)
Certification	UL / CE



THE GUIDE LINES FOR INSULATION

The key to maintaining a stable environment inside the wine cellar is an efficient cooling system combined with high-quality insulation. Air infiltration resulting from poor insulation can put your wine bottle collection at risk by causing temperature fluctuations, excessive humidity, and the potential development of mold and undesirable odors.

It can also lead to the overuse of the cooling system, which may result in premature wear of the water chiller. To maintain proper aging condition, it is important to follow the guidelines.

PROPER INSULATION

GENERAL

Vapor barrier or moisture barrier on all surfaces
Airtight

WALLS

Minimun insulation of R15 or U0.06

FLOOR & CEILING

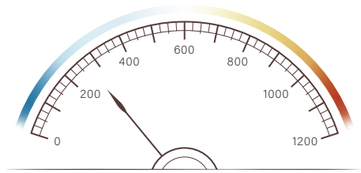
Minimun insulation of R7.5 or U0.13

GLASS

Minimun insulation of R4.5 or U0.22
with LOW-E protection

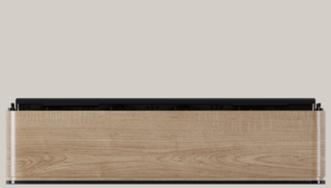
PROPER *insulation*

- ☑ Allows a regular cooling system that fits the size and the shape of wine cellar
- ☑ Ensures a stable environment with controlled humidity
- ☑ Prevents the overuse of the water chiller, also resulting in energy efficiency



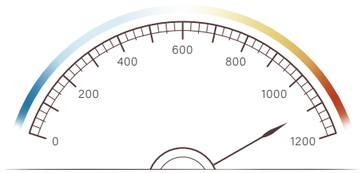
ENERGY CONSUMPTION

COOLING SYSTEM



POOR *insulation*

- ☒ Require a more coslty cooling system to compensate the energy loss
- ☒ Air infiltration and leaks create temperature fluctuations and condensation, which can lead to mold growth
- ☒ Overuse of the compressor results in higher energy consumption, while also reducing the life expectancy of the water chiller



ENERGY CONSUMPTION

COOLING SYSTEM