

ΜΑΥΕΚΑΨΑ
MYCOM



HOT

Eco Cute

COLD

**FIRST CO₂ HEAT PUMP
COOL AND HEAT SIMULTANEOUSLY
EASILY HEATS UP WATER
UP TO +90°C (+194°F)**

Water Heat Source EcoCute

Maximum COPt 8.0
Environmental, Energy-Saving, Economical

Environmentally friendly

Eco Cute is a heat pump system that generates hot water by recovering heat energy from any waste heat source. It uses CO₂, a natural refrigerant, instead of chemical refrigerants normally used in other heat pumps. The Eco Cute contributes to the protection of the global environment. It is also clean & safe, there is not combustion used to produce heat which means there are no NO_x or CO₂ discharged into the atmosphere. The overall CO₂ emission is dramatically cut down.

Refrigerant	CO ₂	R134A	R407C	R410C
Ozone Layer Depletion Potential	0	0	0	0
Global Warming Potential	1	1,300	1,600	1,900

Eco Cute the leader in heat pumps!

Max COPt [8.0]

Highly efficient operation Eco Cute can produce a COP* of 8.0. This will continually save you energy compared to other heat pumps.

*COP (Coefficient of Performance) is a unit that compares the heat output divided by the consumption of the electricity. The larger the number, the more efficient the system would be. A typical COP for a commercial heat pump is between 3 and 4 units transferred per unit of electric energy supplied.

Mayekawa Eco Cute COP can be as high as 8.

Low operation cost

The Eco Cute can refrigerate chilled water and ice thermal storage at night, making the most of night time energy incentive programs. When compared with other combustion machines + air-cooled chiller systems, The Eco Cute running costs are 1/3 less.

The best of both worlds, Refrigerates and Heats at the same time

Eco Cute is best suited for medium to large scale facilities. It can efficiently produce high quality hot water for both the industrial and the commercial use. Eco Cute has the ability to maintain a water-supply up to 22,000L at 90 °C.

Preventing bacteria with continuously circulated heat

Eco Cute can operate with 65 °C inlet and 90 °C outlet making Eco Cute an effective tool in the prevention bacteria growth within the water. Stop problems like Legionella and other bacteria by easily maintaining 60 °C temp of storage water.

Matching your application

Allow us to suggest system that can help to cut down the running cost and the CO₂ emission, yet provide you with a high quality heating and cooling operation.

Highly powerful, but compact

While the hot water supply ability is 90kW and highly powerful, the dimensions are very compact which only requires 1.3m² as the installation space.

Tapping into the potential of your geothermal heat is possible!

Eco Cute generates 90 °C hot water from -5 °C / 23 °F (endothermic side) to -10 °C / 14 °F supply water. Geothermal application is possible.

Large range in feed-water pressure

The pressure of feed-water to Eco Cute is from 0.15MPa / 21.8Psi up to 0.49MPa / 69.6Psi.

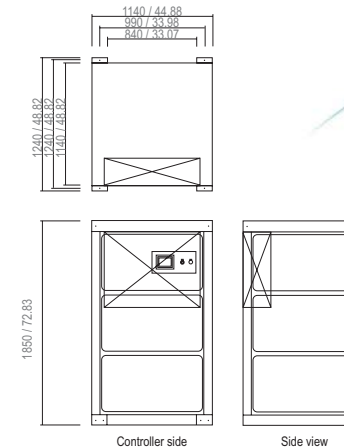
MYCOM-made CO₂ compressors

MYCOM's compressors are developed with the best of Mayekawa's knowledge and experience. Eco Cute is equipped with highly efficient reciprocating compressors that support high pressure found in CO₂.

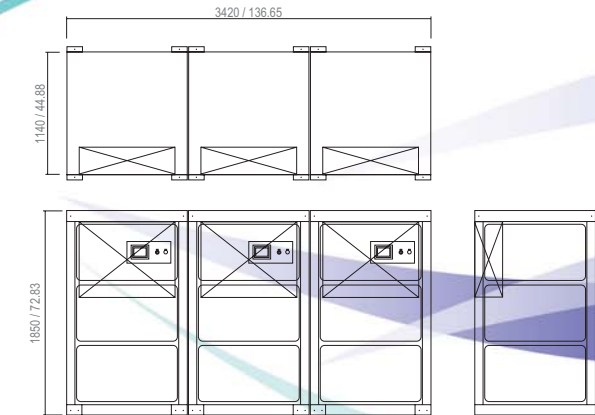


Eco Cute Outer Dimensions (mm / inch)

1 Eco Cute



3 Eco Cutes



Eco Cute Specifications

Type	PG Cooling	Water Cooling	Heat Recovery
Performance	HWW-2HTC		
Heating Capacity [kW] (feed water 17 °C/63 °F → 65 °C/149 °F)	44.0	75.0	93.0
Cooling Capacity [kW] (chilled water 12 °C/54 °F → 7 °C/45 °F) (brine -5 °C/23 °F → -9 °C/16 °F)	31.5	57.4	---
Heating Capacity [kW] (heat source water 22 °C/72 °F → 17 °C/63 °F)	---	---	75.2
Power Consumption [kW]	15.5	20.6	20.8
Power	3øAC200V 50Hz/60Hz		
Outer Dimensions (mm[inch])	W1,140 [44 7/8] x L1,140 [44 7/8] x H1,850 [72 7/8]		
Weight (kg [lbs])	1,000 [2205]		
Compressor	Semi Hermetic 2 Cylinder Reciprocating Compressor MAYEKAWA 2HT		
Model	25		
Motor Designated Output [kW]	25		
Connecting Port	Feeding Port and Supplying Port		
Diameter	Rc3/4 (20A)		
Brine	Rc2 (50A)		
Range of Use (°C [°F])	Feed water temperature at heating side: 5~65 [41~149] (when 90 [194] outlet) : 5~40 [41~104] (when 65 [149] outlet)		
Supplied water temperature	65 ~ 90 [149 ~ 194]		
Inlet temperature at cooling side	-5~+20 [23~68]	9~25 [48~77]	9~25 [48~77]
Outlet temperature at cooling side	-10~+20 [14~68]	5~20 [41~68]	5~20 [41~68]

Installation Examples

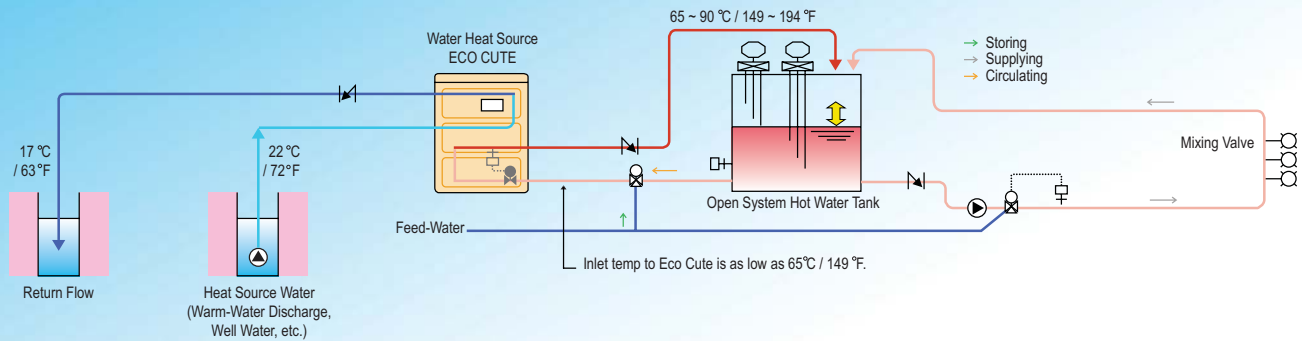


EcoCute

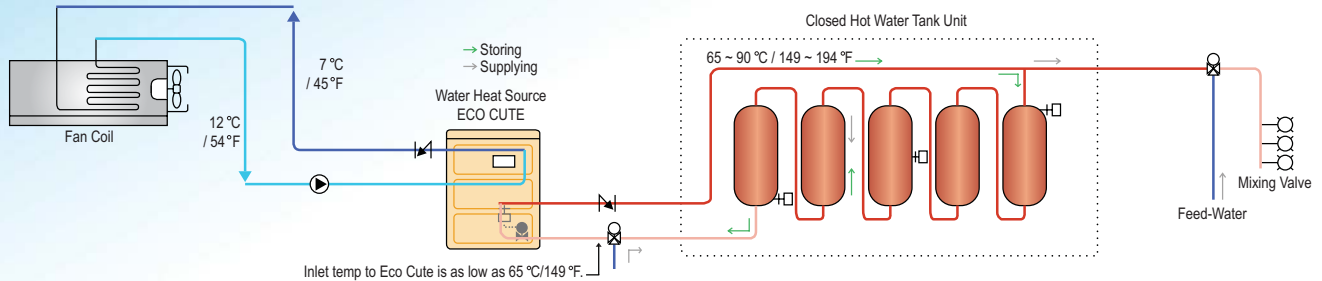
Water Heat Source

Examples of System Planning

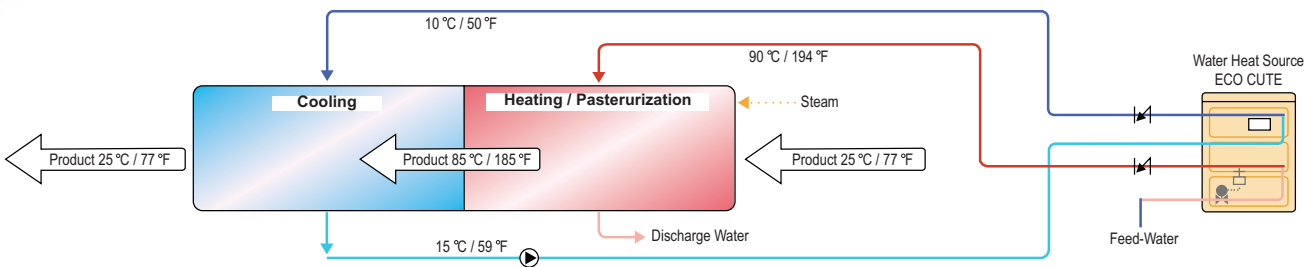
Heat Recovery Type



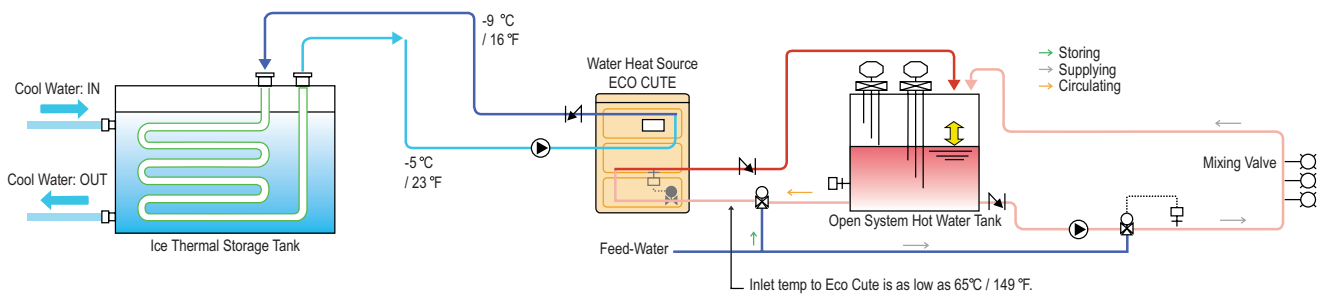
Water Cooled System / Air Conditioning + Hot Water Supply



Water Cooled System / Air Conditioning + Hot Water Supply, Pasteurization



Brine Cooled / Ice Thermal Storage + Hot Water Supply



Notes for Piping Work

- Install a pressure reducing valve and a check valve on the water supply pipe.
- Adjust the water supply pressure between 0.15 and 0.49MPa (21.8 and 69.6Psi).
- After installing Eco Cute, apply piping and heat insulation work for the area between Eco cute and the hot water tank.
- If there is a possible freezeup on the water supply pump in the winter, apply antifreeze.

Notes for Electrical Work

- Electrical work needs to be done by a certified electrician.
- Ground treatment is required.
- A leak breaker is required to be installed on the power supply.
- Follow the regulation for the sizes of leak breaker and lines. The line must be a dedicated line.
- The machinery on the tank side, the system control panel, and the type of cable will vary, depending on the specification of the hot water tank, the machinery on the tank side. Contact your local Mayekawa office for the specification.

*The information on this brochure is subject to change without notice.