

DCE HT



Ideal as a back or replacement of gas boilers.

HIGH TEMPERATURE AIR TO WATER HEAT PUMP FOR HEATING APPLICATIONS

The DCT HT is a highly efficient air-to-water heat pump designed for high-temperature applications. It delivers **hot water up to 80°C (176°F)** and provides reliable heating performance for industrial, commercial, and residential systems.



Monobolic design
(no refrigeration connections
to be made)



2 Copeland®
compressors



Powered by R513A refrigerant, the heat pump ensures optimal environmental performance and energy savings. It is ideal for use in high-demand hot water applications like hotels, hospitals, schools, and large residential buildings.

FEATURES & BENEFITS:

- **Safe and Reliable:** The electric circuit is separated from the water circuit, reducing risks such as electric shock and overheating. The advanced design ensures safety in both commercial and residential installations.
- **Highly Efficient & Energy Saving:** Heat pump water heaters extract significant amounts of heat from ambient air and can provide the same amount of hot water as traditional electric heaters, but with a fraction of the energy consumption. They use only one-quarter of the electricity compared to electric heaters, making them a highly energy-efficient solution.
- **Environmentally Friendly:** Using R513A refrigerant, the DCT HT significantly reduces environmental impact. It is designed to function alongside solar power for additional efficiency.
- **Year-Round Hot Water:** The heat pump functions in both warm and cold climates, providing consistent hot water supply regardless of weather conditions.
- **Durability:** The high-quality components, including compressors and corrosion-resistant casings, offer a longer lifecycle, ensuring years of reliable service.
- **Wide Application:** Suitable for various uses, including hotels, schools, factories, and other high-demand environments.



DCE HT AIR/WATER – TECHNICAL DATA

Model	DCE HT 73
Power Supply	480V/3 ph/60Hz
Heating Capacity	73.8 kW (251.8 MBH)
Input Power	17.93 kW
BTU/h	251,700
Rated Current	37.5 A x3
Fan Motor	1345 W x2
Fan Motor Quantity	2 pcs
Fan Speed	895 rpm
Hot Water Production	1575 L/h (6.9 GPM)
Water Flow	80 (176°F)
Refrigerant	R513A
Water Pressure Drop	68 Kpa (9.9 psi)
Weight	850 Kg (1874 lbs)
Noise	65 dB(A)
Waterproof Class	IPX4
Electric Shock Grade	1
Dimension	2263 x 1103 x 2168 mm (7.4x3.6x7.1 ft)
Compressor	Copeland

CAPACITY (MBH)

Ambient Temp (°F)	86°F Water Return	95°F Water Return	104°F Water Return	122°F Water Return	167°F Water Return
14	168	152	136	128	124
23	192	176	164	152	144
0°C (32°F)	212	200	184	172	164
5°C (41°F)	232	216	204	188	180
50	251	236	220	204	192
59	280	260	240	224	208
68	299	280	260	240	224

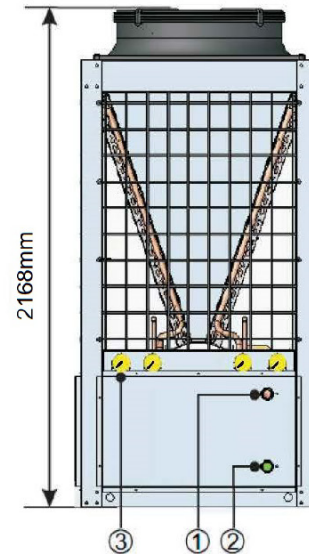
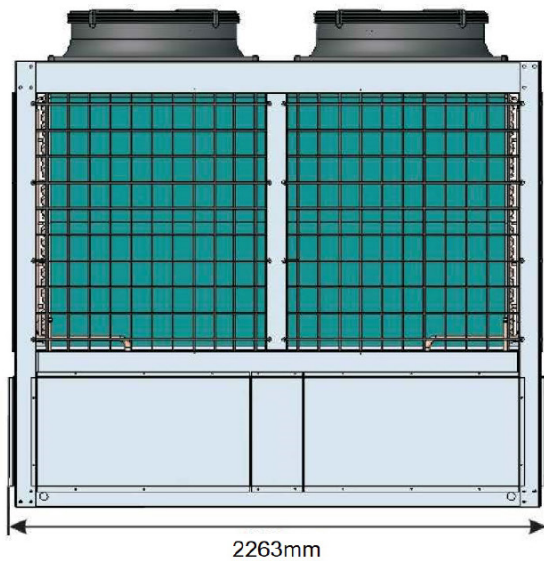
The data contained in this informational brochure may be subject to updates or modifications based upon any product improvements or revisions.

COP (COEFFICIENT OF PERFORMANCE)

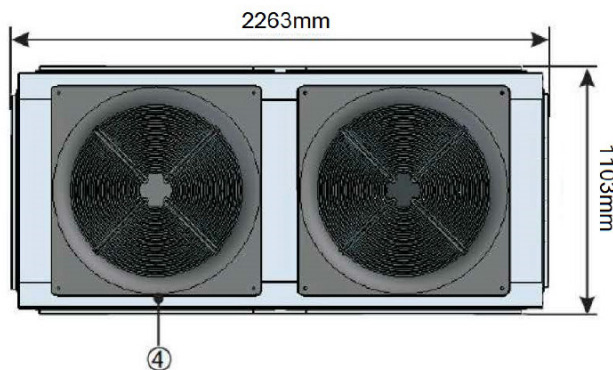
Ambient Temp (°F)	86°F Water Return	95°F Water Return	104°F Water Return	122°F Water Return	167°F Water Return
14	2.8	2.5	2.3	2.1	1.8
23	3.1	2.8	2.5	2.3	2.0
0°C (32°F)	3.4	3.1	2.8	2.5	2.2
5°C (41°F)	3.8	3.4	3.0	2.8	2.4
50	4.2	3.7	3.3	3.0	2.6
59	4.6	4.1	3.7	3.3	2.9
68	5.0	4.5	4.0	3.6	3.2

The data contained in this informational brochure may be subject to updates or modifications based upon any product improvements or revisions.

DIMENSIONS AND WATER CONNECTION



1. Water Outlet
2. Water Inlet
3. Pressure Gauge
4. Fan and Motor



Outlet hot water =
water to the building / facility / house etc.
Inlet water =
water from building / facility / house etc.

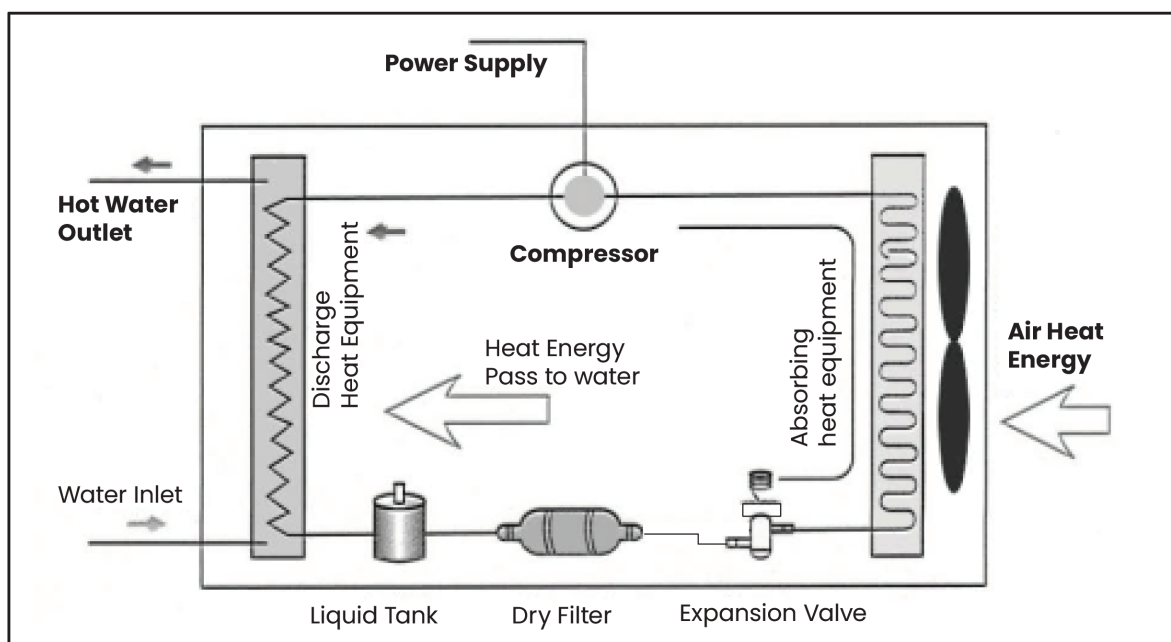


WORKING PRINCIPLE

The DCT HT W heat pump operates using the thermodynamic principle of transferring heat from the air to water. Here's how it works:

1. **Heat Absorption:** The heat pump absorbs low-temperature heat from the surrounding air through the evaporator. The refrigerant inside the evaporator absorbs this heat, causing it to evaporate and transform from a low-pressure liquid to a low-pressure gas.
2. **Compression:** The low-pressure gas is then drawn into the compressor, where it is compressed to a high-pressure, high-temperature gas. This compression process increases the heat energy of the gas.
3. **Heat Transfer:** The high-temperature, high-pressure gas moves to the water condenser, where it releases heat as it condenses back into a liquid. This heat is transferred to the water circulating through the condenser, heating the water to the desired temperature.
4. **Cycle Repeats:** The liquid refrigerant then passes through an expansion valve, where it cools and depressurizes before entering the evaporator again, allowing the cycle to continue.

This efficient process allows the DCT HT heat pump to produce hot water while consuming minimal electricity, making it a cost-effective and environmentally friendly solution for high-temperature heating needs.



DCT_MM1071US-EN_V01