

High efficiency
COP 5.5

CO₂ Heat Pump Air Heater

EcoSirocco

Industrial and commercial 120C° hot air supply

No combustion process in use

Air can be heated up to 120 C° in an instant without a flame

Chilled water is supplied simultaneously

Energy savings for process cooling or space cooling

Compact and light design

Easy and consolidated installation possible

Drying / Dehumidifying applications

- Plastics, Automobile, Chemical, Medical and other industries
- Dried vegetables, Seasoning powder and other food processing

Heating applications

- Laminator, Coater
- Gravure printing



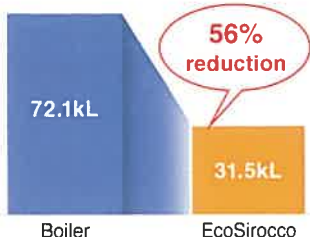
■ **Significant energy savings and CO₂ reduction unique to heat pump as the energy is almost entirely sourced from unutilized or recycled energy sources**

Printing process case study

*Conversion to Banker A Oil

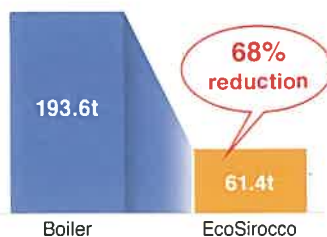
Energy reduction

Energy reduction 72.2kL/year



CO₂ emission reduction

CO₂ emission reduction 132.2t/year



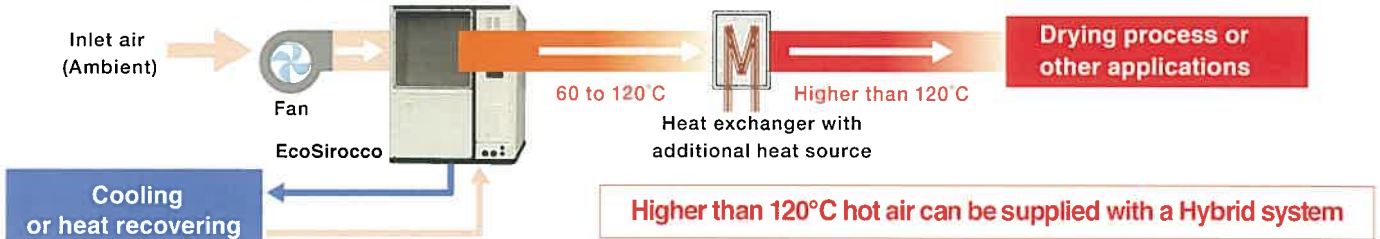
Conditions

Air inlet / outlet : 20°C / 80°C, Heat source inlet / outlet : 30°C / 25°C
 Heating capacity : 120.7kW, Power consumption : 27.8kW, COP heating : 4.34
 Annual operating hours : 5,000 h, Load factor : 90%, Boiler efficiency : 0.7
 CO₂ emission factor (CEF) : Electric power=0.491kg-CO₂/kWh,
 Banker A Oil=2.7kg-CO₂ /L

Application 1



Application 2



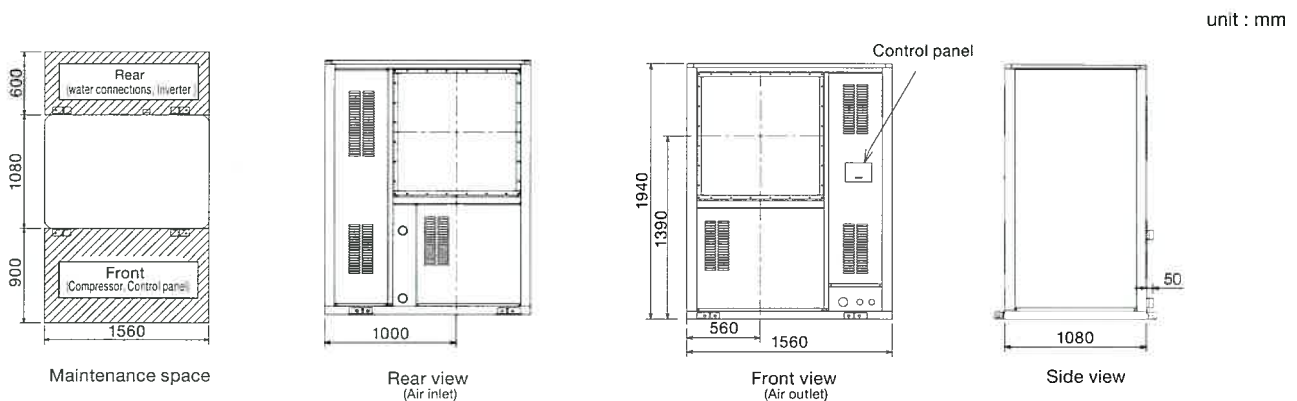
Specifications

Model		MUE-HAW-2HTCR			
Power		3-phase AC415V 50Hz / 60Hz			
Performance *	Hot air supply temp (°C)	60	80	100	120
	Heating capacity (kW)	120	123	107	89
	Cooling capacity (kW)	101	101	82	61
	Power consumpt (kW)	21.8	27.2	29.0	28.7
	C.O.P. heating	5.5	4.5	3.7	3.1
	C.O.P. cooling	4.6	3.7	2.8	2.1
	Hot air supply flow (Nm ³ /h)	8,470	5,770	3,690	2,460
	Heat source water flow (L/min)	290	289	234	175
Outer dimensions (mm)		W1,080×L1,560×H1,940			
Weight (kg)		1,750 (net), 1,760 (operating)			

Compressor	Motor (kW · P)	25×4P
	Driving method	Inverter
Refrigerant		R744(CO ₂)
Capacity control		Frequency control 30 to 65Hz by inverter
Operating range	Air supply temp (°C)	60 to 120
	Air supply flow (Nm ³ /h)	1,500 to 8,500
	Heat source inlet water temp (°C)	0 to 40
	Heat source outlet water temp (°C)	-5 to 35
	Heat source water flow (L/min)	100 to 300
	Heat source water pressure (MPaG)	Max.1.0
	Ambient temp (°C)	-10 to 43
Noise level (dBA)	60	

* Capacity at 20°C air inlet temperature, 50% RH, 30°C heat source inlet water temperature and 25°C water outlet temperature.

Drawings



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✦ Subject to change without notice.