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**GERMAN TECHNOLOGY FOR ENERGY AND HVAC**

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# HEAT PUMP



Heating



Cooling



Hot water



  
**R290**

**A+++ / A+++**

## ***Climastar Series***

### *R290 COMMERCIAL HEAT PUMP*



# R290

## Natural Refrigerant

# A+++ / A+++

(35°C / 55°C)

# GWP=3

- **GWP=3**, R290 is an ideal alternative to hydrofluorocarbons (HFCs) .
- Comply with the regulatory requirements to reduce greenhouse gas emissions.
- This commercial heat pump maintains an **A+++** energy efficiency rating at both 35°C and 55°C, showcasing excellent performance consistency.





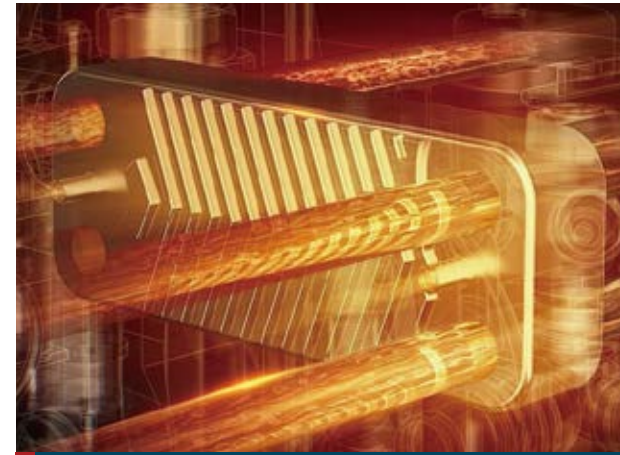
## Full DC Inverter Technology Precise Temperature Control

### DC Inverter Compressor

- Using the famous brand Mitsubishi's Inverter Compressor designed for R290 heat pump
- The integration of asymmetrical sliding vane slot and high-precision grinding technology improves efficiency while reducing noise.

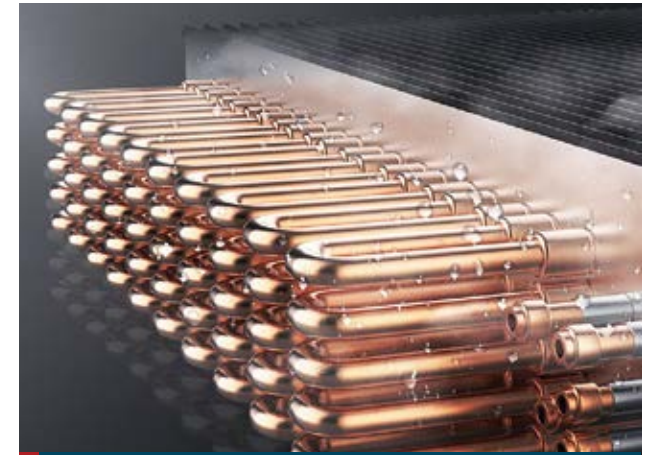


## Increased Heat Transfer Efficiency



### Water-side Plate heat exchanger

The system using a high-efficiency plate heat exchanger on the water side, can offer superior heat transfer performance compared to traditional shell and tube heat exchangers.



### Air-side Hydrophilic copper tubes and aluminum fins

The air-side heat exchanger uses high-efficiency hydrophilic copper tubes and aluminum fins. It is designed to optimize the refrigerant flow path, significantly improving heat exchange efficiency.

## Intelligent AI Defrosting



- This system utilizes AI defrost technology that dynamically adjusts the defrosting parameters based on the ambient temperature and operating status. It precisely initiates defrosting mode only when needed, avoiding unnecessary defrost cycles when there is no frost.

### Optimized Fan with DC Motor

- The DC inverter fan motor allows to steplessly adjust the fan speed based on the ambient temperature to optimize the unit's performance.
- Large size serrated streamlined fan blades improve aerodynamic efficiency while effectively reducing fan noise.





# Seven Noise Reduction Measures

Thickened Chassis

Gas Flow Buffer Technology

Fan Motor Speed Control Design

Large Size Fan Blades Design

Serrated Streamlined Blade Design

360° Surrounded Soundproof Compressor Chamber

Two-layer Damping Bases for Compressor

# Unique Drain Pan Design

- The drain pan features a slide-shaped drainage groove design, allowing for smoother water drainage and reducing residual water.
- A built-in heating strip prevents ice formation in the drain pan during low-temperature defrosting.

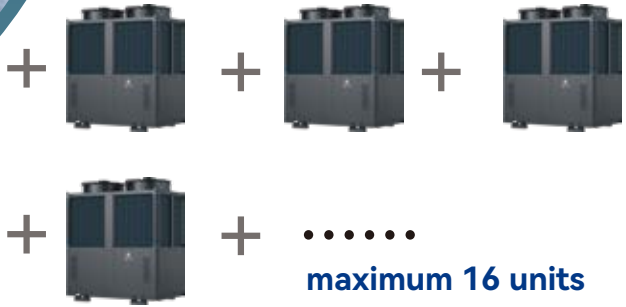


# 7-inch Touch Screen Controller



- Switch on and off
- WiFi setting
- Electricity statistics
- Three mode switching
- Temperature setting
- Timing setting
- Fault alarm
- User parameter setting
- Defrost mode setting
- Holiday mode setting

# Group Control



Maximum 16 units as one group to work together with one controller. Multiple such groups can be configured to meet large-scale heating and cooling needs.

# Multiple Safety Designs

- A separate cooling air duct for the drive board
- An Independent electrical box isolated from refrigerant piping
- Perforated base frame designed to avoid refrigerant gas accumulation



Product Lineup



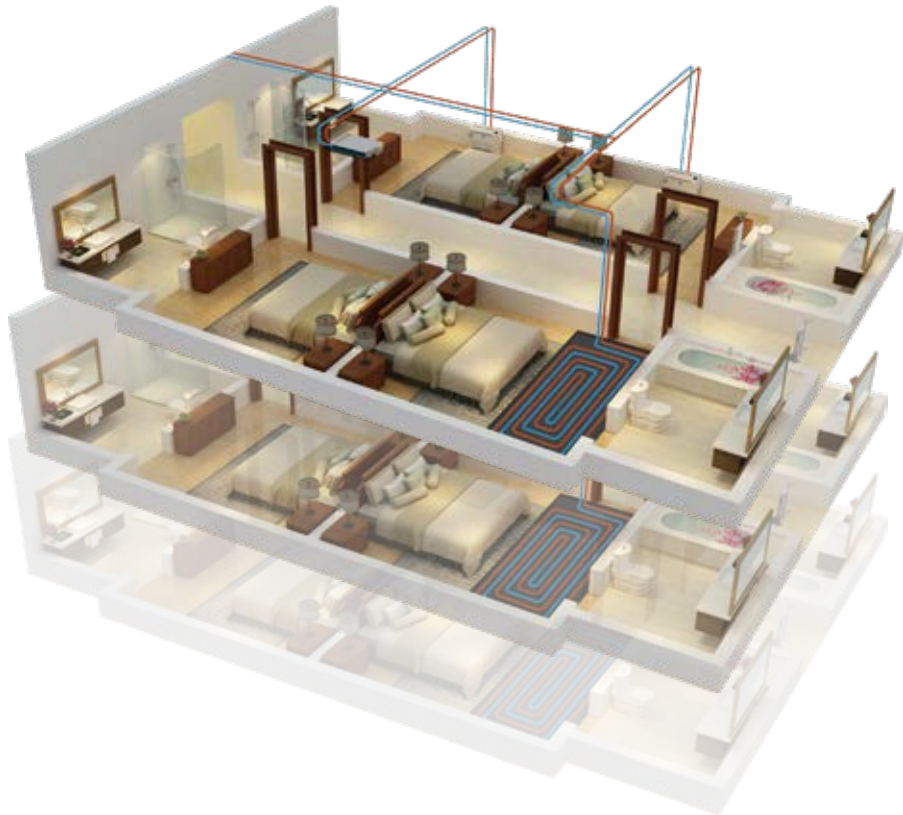
50 kW



100 kW

Commercial Heat Pump Application

Large-scale heating and cooling solution



Model: NE-F		500HCR5TINVM-USC		1000HCR5TINVM-USC	
Prated (Pdesignh@A-10°C/W35°C, average climate)		(kW)	34	69	
Prated (Pdesignh@A-10°C/W55°C, average climate)		(kW)	32	65	
SCOP (W35°C, average climate)		(W/W)	5.1	5.2	
SCOP (W55°C, average climate)		(W/W)	4.0	4.0	
ErP Level (W35°C, average climate)			A+++		
ErP Level (W55°C, average climate)			A+++		
[Space Heating] Ambient Temp. (DB/WB): 7°C/6°C, Water Temp. (Inlet/Outlet): 30°C/35°C.					
Heating Capacity		(kW)	13.62~50.00	27.24~104.00	
Power Input		(kW)	2.34~11.68	4.68~24.53	
Heating Current Input Range		(A)	3.95~19.72	7.90~41.62	
COP		(W/W)	5.82~4.28	5.82~4.24	
[Space Heating] Ambient Temp. (DB/WB): 7°C/6°C, Water Temp. (Inlet/Outlet): 50°C/55°C.					
Heating Capacity		(kW)	12.26~46.00	24.52~98.00	
Power Input		(kW)	2.99~15.43	5.98~33.11	
Heating Current Input Range		(A)	5.04~26.04	10.08~55.06	
COP		(W/W)	4.10~2.98	4.10~2.86	
[Space Cooling] Ambient Temp. (DB/WB): 35°C / -, Water Temp. (Inlet/Outlet): 12°C/7°C.					
Cooling Capacity		(kW)	7.60~35.00	15.20~80.00	
Power Input		(kW)	1.76~12.36	3.52~28.37	
Cooling Current Input Range		(A)	2.97~20.86	5.94~47.87	
EER		(W/W)	4.30~2.83	4.30~2.82	
[Water Heating] Ambient Temp. (DB/WB): 20°C / 15°C, Water Temp. (Inlet/Outlet): 15°C/55°C.					
Heating Capacity		(kW)	60.00	120.00	
Power Input		(kW)	13.04	26.25	
Heating Current Input Range		(A)	22.02	44.33	
COP		(W/W)	4.60	4.57	
Max. Power Input		(kW)	22.00	44.00	
Max. Running Current		(A)	37.20	74.70	
Max. Outlet Water Temperature		(°C)	75		
Operating Ambient Temperature		(°C)	-25~43		
Power Supply		(V/Ph/Hz)	380~415V/3N~/ 50Hz		
Display			7-inch Colored Touch Screen		
Refrigerant Type			R290		
Refrigerant Weight		(kg)	2.0×2	2.0×4	
Sound Pressure Level at 1m		(dB(A))	58	60	
Sound Power Level		(dB(A) )	75	77	
Rated Water Flow		(m³/h)	8.6	17.9	
Water Pressure Drop		(kPa)	25	28	
Water Pipe Connection			DN50	DN65	
Direction of Air Discharge			Top		
Fan/Motor Type			Axial/DC		
Fan Quantity		(PCS)	1	2	
Ingress Protection Rating			IPX4		
Electric Shock Protection Class			I		
Net Weight		(kg)	490	958	
Net Dimensions (L×W×H)		(mm)	1095×1315×2435	2190×1315×2435	

Notice:The above data is for reference only. The specs data is subject to actual product.