

Heat Pumps

MEHP-iS-G09

Air to water reversible heat pump for
Comfort and Process applications.
From 50 to 150kW, single unit
Up to 600kW with modular approach.



MEHP-iS-G09

R290 inside, compact

outside, always efficient

Air to water reversible heat pump designed for high efficiency and versatility across a wide capacity range from 50 to 150 kW, using R290 natural refrigerant. The unit integrates inverter driven scroll compressors, a brazed plate heat exchanger, hydrophilic coil, and EC fans to ensure optimal performance in all operating conditions.

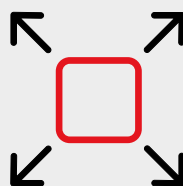


The MEHP-iS-G09 range introduces a new approach to comfort heat pump design, combining the adoption of the natural refrigerant R290 with advanced performance control and refined design, delivering a future-ready solution for comfort applications.



Propane natural refrigerant

The MEHP-iS-G09 uses R290, a natural refrigerant with very low global warming potential, supporting environmentally responsible comfort solutions aligned with European decarbonisation goals.



Wide operating map

The wide operating map allows the MEHP-iS-G09 to operate reliably across almost all comfort application conditions, including hot water production up to 72°C, ensuring high flexibility at system level.



Constant Heating Capacity

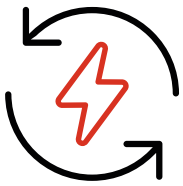
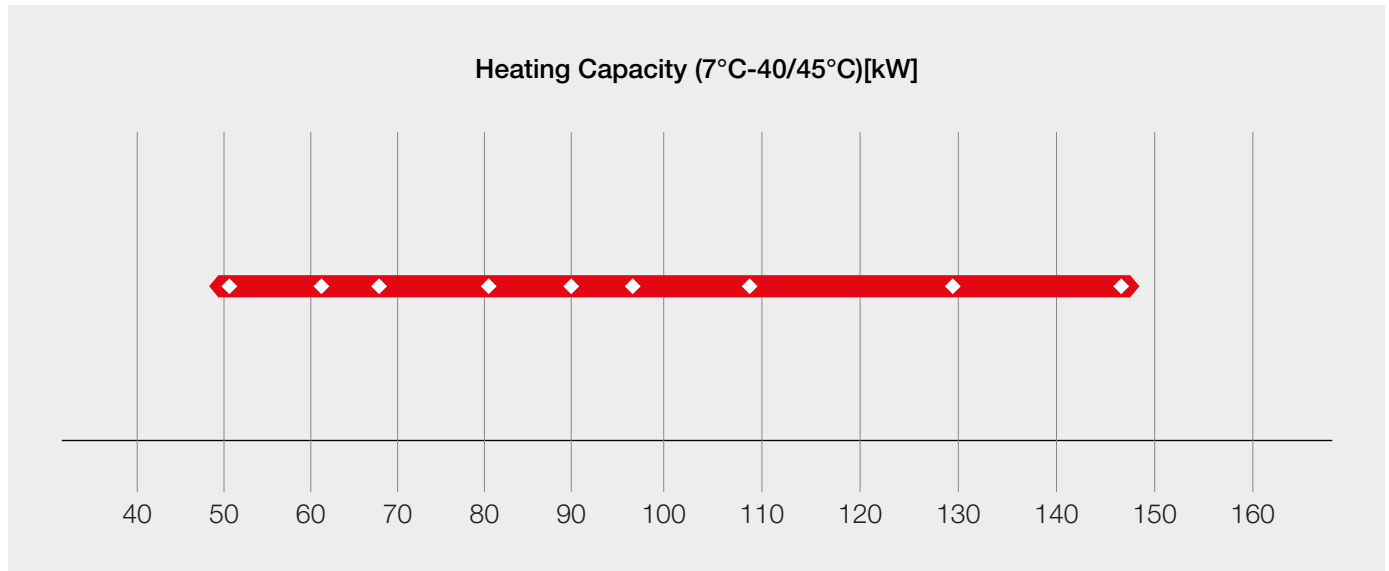
The Constant Heating Capacity function allows the MEHP-iS-G09 to maintain nominal heating output even as outdoor air temperature decreases, ensuring stable and reliable comfort delivery during colder conditions.



High temperature operation

Extended operating range, with leaving water temperatures up to 72°C, makes the unit ideal for demanding heating and retrofit applications.

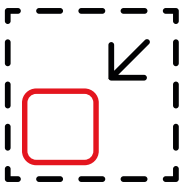
The Range



High Seasonal Efficiency

Thanks to top level efficiency at partial load, MEHP-iS-G09 is the perfect solution for enjoying comfort and saving energy.

- SCOP LT up to 4,43
- SCOP MT up to 3,53



Reduced Footprint

The unit design allow to save space in installation thanks to the reduced footprint.



Best in class sound level

Engineered with low-noise components, the range delivers full performance while blending seamlessly into any environment.

Conceived for outdoor installation, the range is available in nine sizes, organized into four compact modules that simplify selection and installation. A single configuration supports both comfort and process applications, offering a flexible and reliable solution for different system requirements.

■ 0051 - 0061 - 0071



■ 0082 - 0092



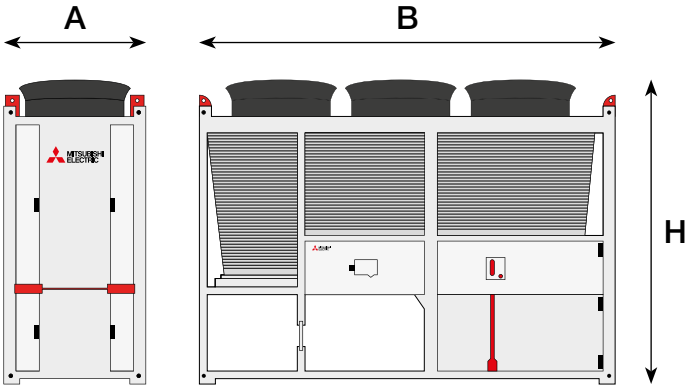
■ 0102 - 0112



■ 0132 - 0152



CHASSIS	SIZE	FANS	A (mm)	B (mm)	H (mm)
1	0051	2	1.100	2.085	2.400
	0061	2	1.100	2.085	2.400
	0071	2	1.100	2.085	2.400
2	0082	2	1.100	2.600	2.400
	0092	2	1.100	2.600	2.400
3	0102	3	1.100	3.225	2.400
	0112	3	1.100	3.225	2.400
4	0132	4	1.100	4.200	2.400
	0152	4	1.100	4.200	2.400



Zero Impact



The use of R290 refrigerant positions the range as a concrete response to the European transition towards decarbonised heating, supporting compliance with current and future regulations while enabling designers and end users to reduce the environmental impact of comfort applications through a natural low GWP solution.



Reliability



Performance
& Envelope



Reduced
Environmental Impact

R290
Refrigerant

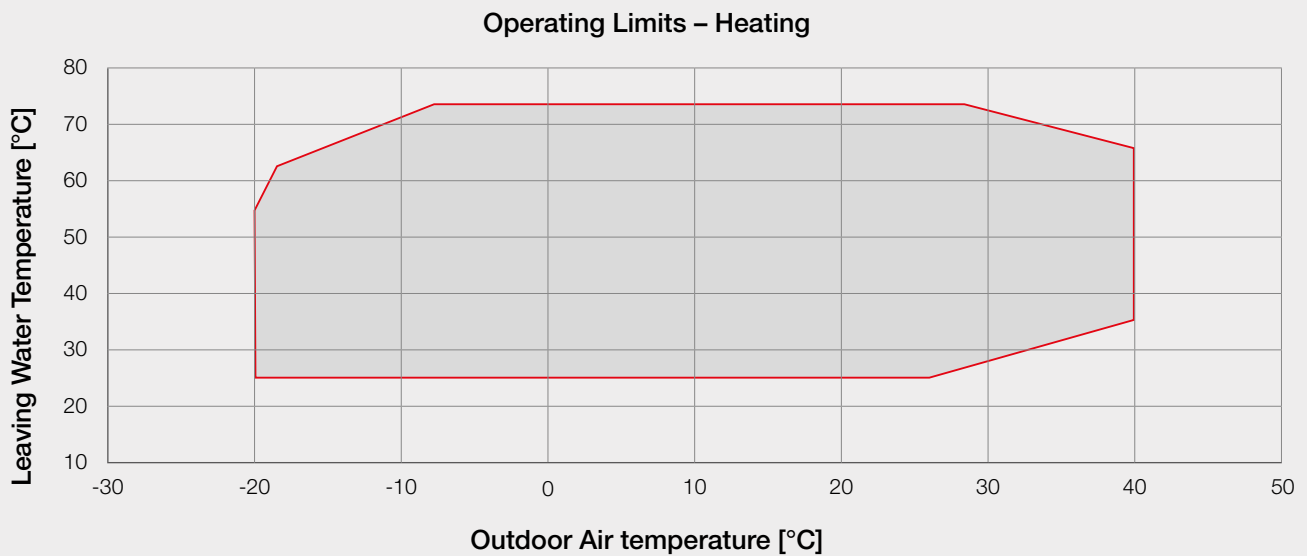
Low GWP



	GWP	VS other refrigerant
R290	3	
R32	675	-99,6%
R410A	2088	-99,9%

Hot Water Production Up to 72°C

The wide operating map allows the MEHP-iS-G09 to operate reliably across almost all comfort application conditions, including hot water production up to 72°C, ensuring high flexibility at system level.



Hot water production up to 72°C (at OAT=-7°C), with 55°C water at -20°C



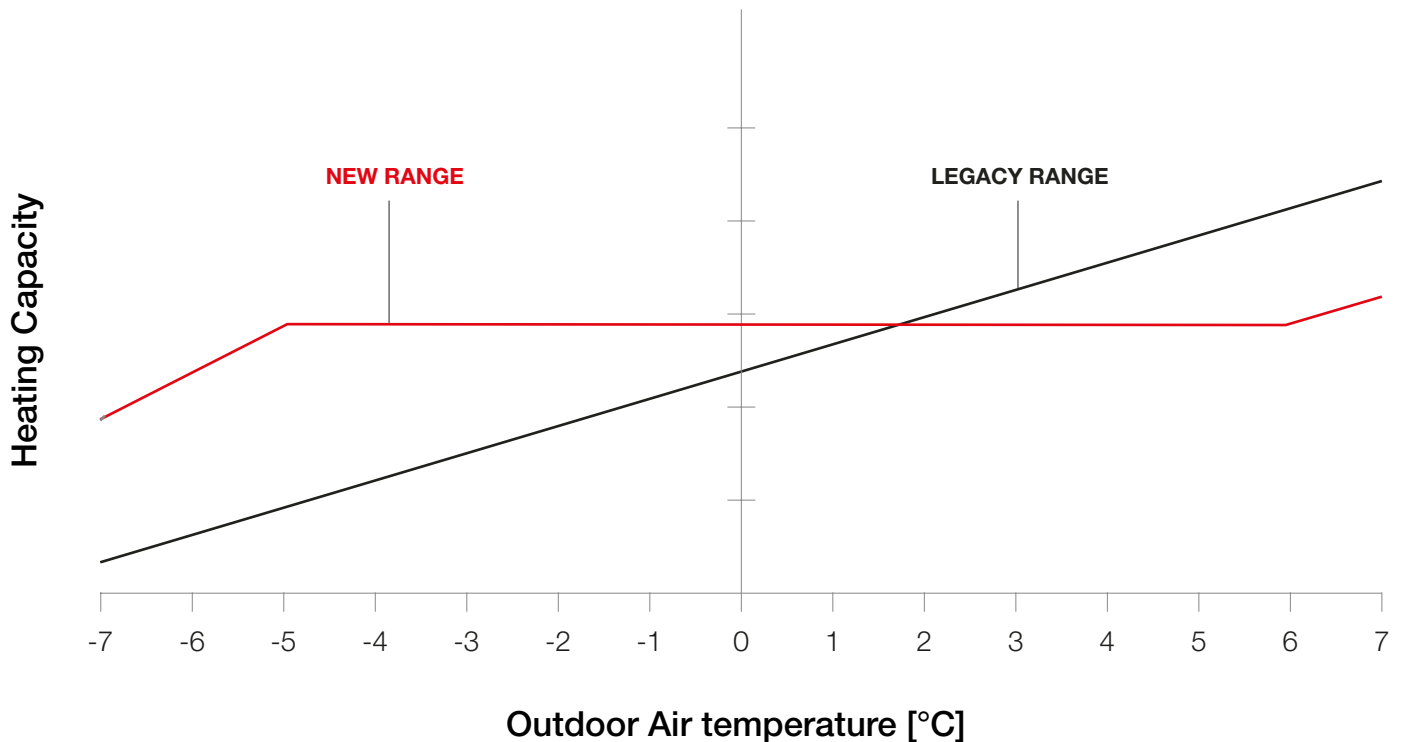
Energy Monitoring capabilities are also embedded within the W3000+ platform, allowing energy data, efficiencies and electrical power consumption to be visualised and stored, supporting performance evaluation and energy awareness at system level.

W3000+ Control Platform

**Embedded functions,
always available, no
additional price!**

Key innovations of the range include advanced control functions developed to optimise heating performance.

The Constant Heating Capacity function allows heating output to remain stable as outdoor air temperature decreases, while the Boost function provides additional heating capacity at positive temperatures when required.

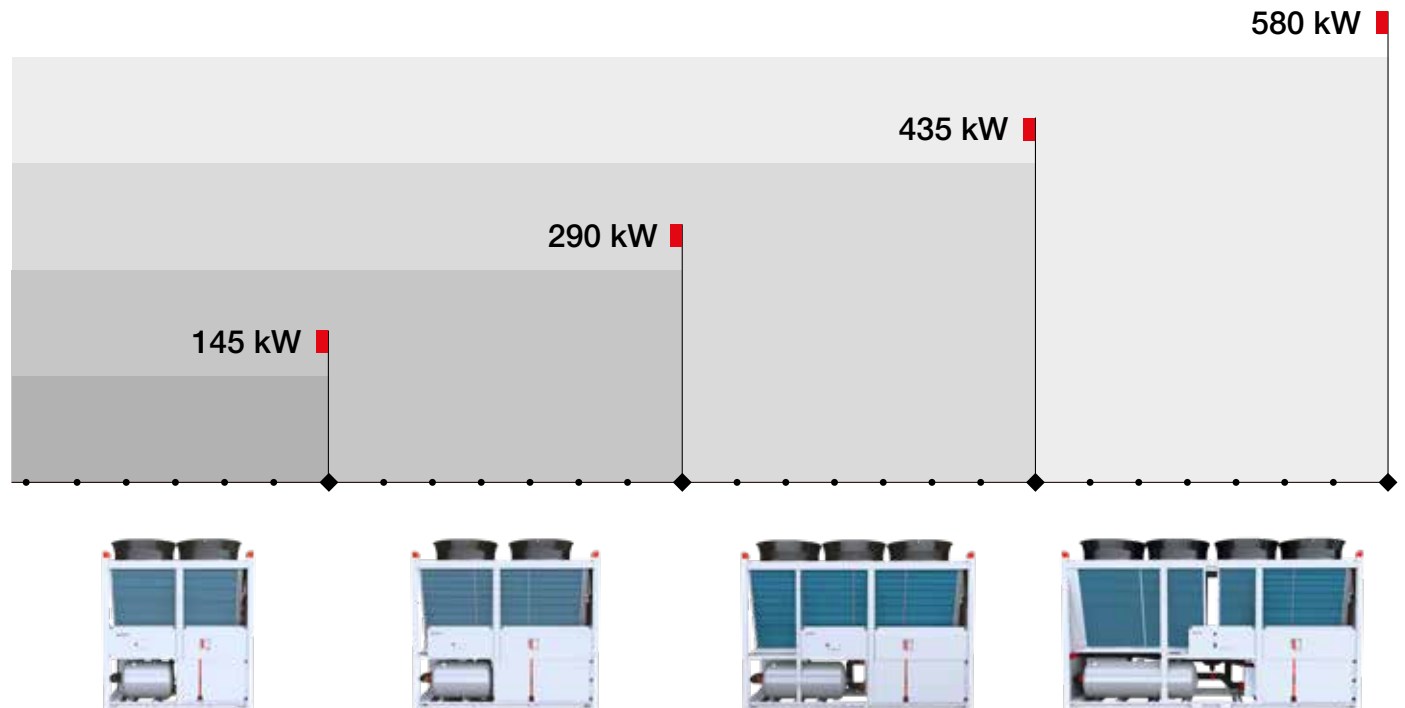


■ Constant Heating Capacity

■ Standard Heat Pump

System integration

MEHP-iS-G09 can be seamlessly integrated into multi-unit systems thanks to the Master-Client functionality, allowing the management of up to four units and reaching a total installed capacity of approximately 600 kW.



Coming soon

Additional multi unit control solutions will soon be available:

- **NEW SEQUENCER**, for managing up to 8 units and smart coordinated defrost function
- **H.EYE** supervisor for combined heat pump and fancoil system management, further expanding the product into a complete system solution.

Coming soon

MEHP-iS-G09 MODULAR VERSION will be soon released.

Specific hydraulic layout

Connection kit specifically designed for granting plug&play installation of several units in parallel

Controlled by **NEW SEQUENCER**



Technological Choices

Fans

The MEHP-iS-G09 is equipped with high efficiency EC fans, selected to ensure high efficiency with simplified control, eliminating the need for external inverters.

Air heat exchanger

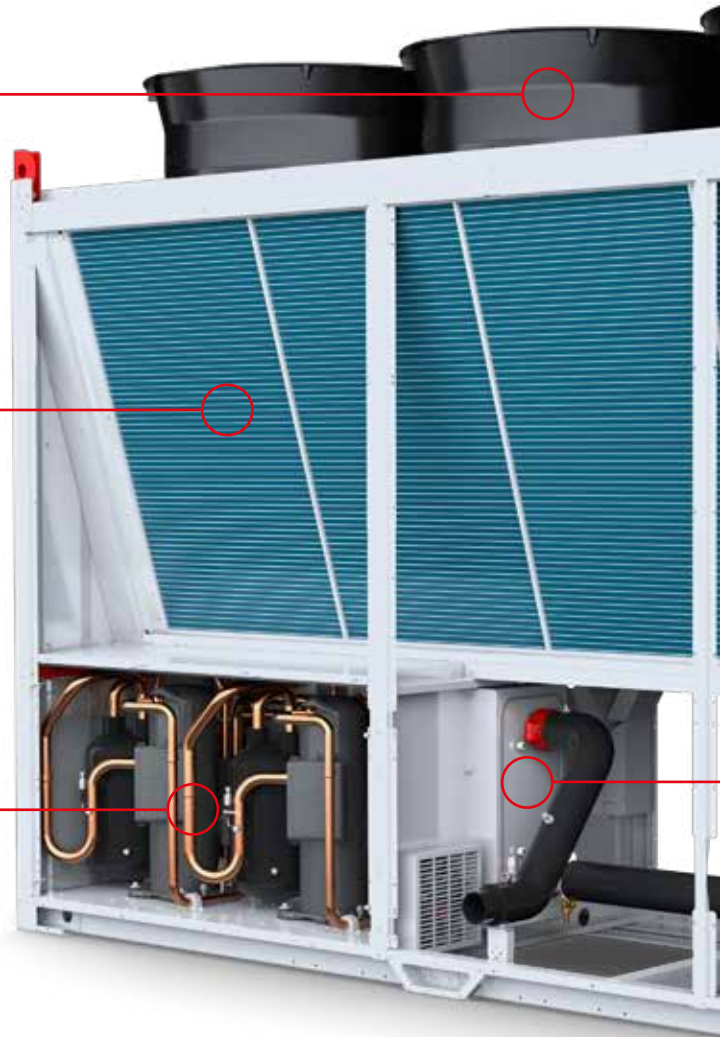
The air heat exchanger of the new R290 reversible heat pump is based on a copper aluminium coil with hydrophilic treatment supplied as standard, supported by a heated drain pan for improved operation in cold climates.

Compressors

The MEHP-iS-G09 integrates inverter driven scroll compressors, specifically optimised for the use of R290 refrigerant, supporting stable and efficient operation across the full operating range.

Hydraulic group (Pumps+Tank)

Integrated pumps and tank enable a plug and play solution, with all components housed within the unit frame and no impact on footprint. Different tank sizes and inverter driven pumps (LH and HH) ensure adaptability to system requirements.





Water heat exchanger

In the MEHP-iS-G09, heat exchange on the water side is performed by an insulated plate heat exchanger combined with antifreeze protection, ensuring reliable performance and operational safety in comfort applications.



Engineered for superior heating performance

The refrigerant circuit is designed with inverter driven scroll compressors, available as single circuit with one compressor (50 to 70 kW) or dual circuit with two compressors (80 to 150 kW), ensuring flexibility and reliability across the range. The fully enclosed circuit further enhances safety and operational stability.

All components are optimized for heating performance, with exchangers and refrigerant layout specifically designed to maximize efficiency in heating mode. The insulated plate heat exchanger and water piping are equipped with electric heaters and integrated flow switch, ensuring safe operation and protection against freezing.

The advanced Constant Heating Capacity control algorithm maintains stable heating output even as outdoor air temperature decreases, supporting consistent comfort and system performance. A complete set of safety devices, developed in compliance with applicable standards and stringent Mitsubishi Electric guidelines, guarantees a high level of operational safety.

R290 Refrigerant and Safety Measures

Although propane is a natural refrigerant with a very low environmental impact, its flammability requires specific precautions that must be addressed from the earliest stages of the product lifecycle, starting from manufacturing processes.

- Unit is designed in compliance with EN 378.
- Two leak detectors, with automatic disconnection of the power supply of the unit in case of detected leak.
- Warning lights on the electrical panel.
- Ventilation system: dilution fan and extraction fan connected to the leak detectors.
- All components of the safety circuit are ATEX.
- Refrigerant circuit is completely sealed, every component is welded.
- No safety valves (meaning, no additional ducting activities on field!).
- Pressure relief valve on water piping.
- Air separator in water piping: it will be mandatory for installation (available as a supplied loose accessory).

R290

Refrigerant



To ensure safe handling of R290 charged units, our plants have been upgraded to manage propane throughout all production phases. These upgrades include adapted production lines, end of line testing carried out in dedicated test cabins with specific operator clothing and controlled access procedures, as well as finished product storage in dedicated areas.

This production approach is reflected in the way safety is implemented at unit level. R290 management is based on a comprehensive set of embedded devices and safety features specifically intended to meet the requirements associated with A3 refrigerants.

Compliance with applicable regulations is combined with Mitsubishi Electric design practices focused on safety, reliability and consistency in applied HVAC solutions.



Designed for Comfort and Process



The unit delivers hot water up to 72°C, making it suitable for both new installations and retrofit projects. High efficiency is maintained at both full and partial load, supporting optimized energy performance throughout the year.

Particular attention has been paid to acoustic comfort, with low sound power levels that allow installation even in noise sensitive environments. A wide range of available options ensures a high level of configurability, enabling the unit to meet different system requirements with flexibility.



Designed to support process requirements, the unit delivers hot water up to 72°C and chilled water down to -8°C, ensuring reliable temperature control across a wide range of operating conditions.

Many Options for Many Solutions

■ Hydraulic group (pumps + tank)

Integrated pumps and tank enable a plug and play solution, with all components housed within the unit frame and no impact on footprint. Different tank sizes and inverter driven pumps (LH and HH) ensure adaptability to system requirements.

■ Dhw & auxiliary sources management

The unit supports domestic hot water production through dedicated control logics and valves. Additional logics allow activation of auxiliary heating sources when required, increasing system flexibility.

■ Connectivity

Wide range of BMS communication protocols for easy integration into building management systems, combined with KIPLink for local and remote monitoring.

■ Anti corrosion options

Multiple coil protection treatments available to ensure long term reliability in aggressive or coastal environments.

■ Fan static pressure

Specific fan control settings allow external static pressure up to 110 Pa, expanding installation possibilities.

■ Anti wind/snow barriers

Solutions designed to improve operation in very cold or windy climates.

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