Air source reversible heat pumps for outdoor installation

From 7 to 40kW.

R32
REFRIGERANT

MEHP-iB-G07

MITSUBISHI ELECTRIC

MEHP-iB-G07

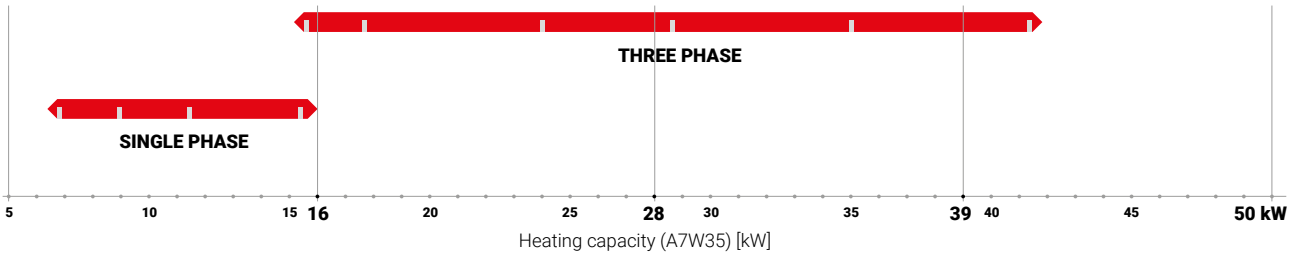
Packaged excellence.

Air source reversible heat pumps with Mitsubishi Electric variable speed scroll compressors and R32 low GWP refrigerant. From 7 to 40kW.

MEHP-iB-G07 is the new packaged heat pump that targets residential and light commercial needs of space heating, cooling and DHW production all year round. The packaged solution provides a very compact and plug&play unit, thanks to the integrated variable speed hydronic module. The full inverter technology (compressor, fan and water pump) is optimized for achieving very high efficiency in all working conditions.

Extended range

10 sizes, developed in optimized compact modules to cover capacity ranges from 7 to 40 kW. Single-phase models up to 15 kW, 3-phase models from 15 kW onwards.



MEHP-iB-G07 is the new Mitsubishi Electric heat pump range for cold / hot water and domestic hot water production, featuring variable speed (Inverter Driven) twin rotary and scroll compressors optimized for R32 refrigerant and high efficiency EC fans.
The unit is equipped with electronic expansion valve and integrated hydraulic module featuring a variable speed EC water pump as standard.
MEHP-iB-G07 adapts to the most diverse load conditions thanks to the accurate temperature control combined with the use of inverter technology, ensuring a high level of energy efficiency both at full and partial loads.

System efficiency

The unit is designed with a holistic HVAC system approach: all components are set in synergy according to a proprietary logic to maximise the efficiency of the unit.

High efficiency at partial loads

High values of seasonal efficiency thanks to the modulation of all the electric motors present in the units: compressors, fans and water pump. The unit provides the exact capacity in correspondence with the actual needs of the building: high efficiency translates into reduced energy consumption throughout the unit's working period.

Smart Grid Ready Function

MEHP-iB-G07 can work in synergy with modern smart grids, thanks to the embedded SG Ready function.

Plug & Play solution

The MEHP-iB-G07 are packaged monoblock heat pumps that are particularly easy to install. The hydraulic components are all contained inside the unit and the pipe connections are hydraulic, therefore it is not necessary to carry out the typical installation procedures of direct expansion air-conditioning systems (vacuum, refrigerant topping up, etc.).

Why R32?

MEHP-iB-G07 with R32 refrigerant is key in the company's path towards the creation of a greener future.

The reduced GWP level of this refrigerant gas tackles both direct and indirect global warming, offering customers a concrete forward-looking solution for their building and a concrete alternative to traditional refrigerants.

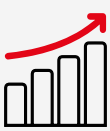
R32
REFRIGERANT

Low GWP
-66% GWP vs R410A

Safety Class A2L

Reduced Environmental Impact

- **ODP** - Ozone Depletion Potential
- One-third GWP compared to R410A
- F-Gas phasedown compliant



Performance & Envelope

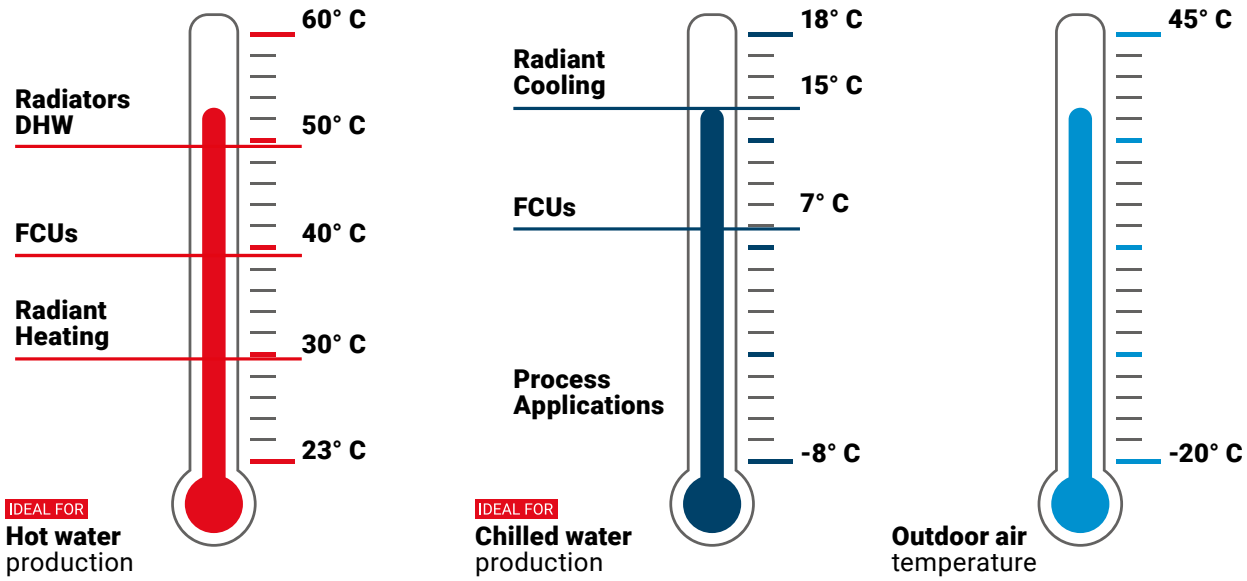
- Ideal for the next generation of equipment
- Requires less refrigerant volume per kW
- High refrigeration and thermal conductivity
- Low pressure drops
- Affordable and readily available

Reliability

- Easy to handle, reuse, and recycle
- Low toxicity, low flammability
- A single component refrigerant

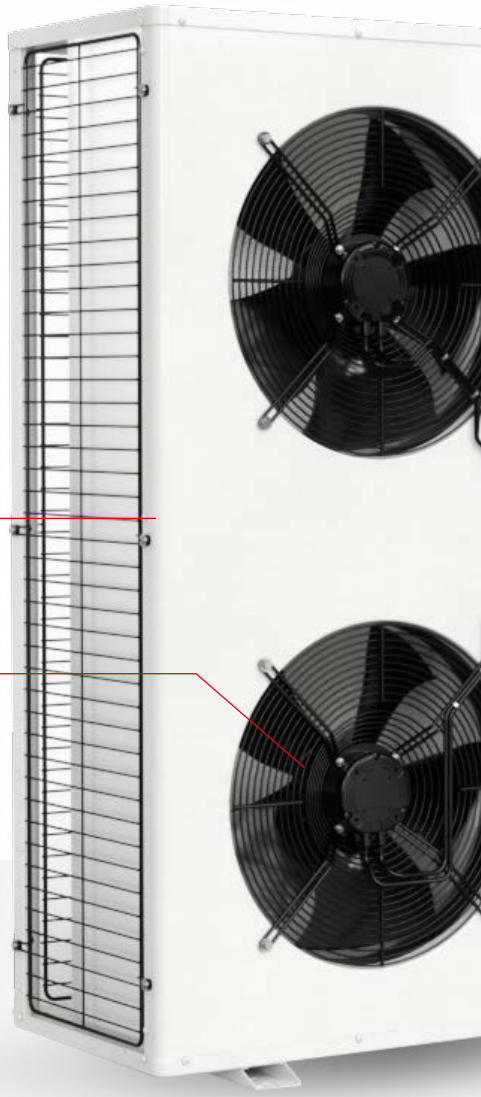
Operating Range

One unique unit for heating, cooling, and domestic hot water production



MEHP-iB-G07 can produce both medium water temperature for space heating and cooling, and hot water for domestic use up to 60°C, without any auxiliary accessories. This key feature makes MEHP-iB-G07 an interesting alternative for classic gas or fuel oil heating systems in residential and light commercial applications, thus pursuing the targets of decarbonization and heating electrification.

Technological Choices



Structure

Structure made of self-suppporting hot galvanized steel panels, painted white (RAL7035), with distinctive red stripes and black details (fan grids, handles).

EC fans

Axial fans with EC motors, with continuous regulation of the speed that optimizes the air flow granting low energy consumption and a higher level of efficiency.

W3000+ software

MEHP-iB-G07 uses proprietary W3000+ control software, that includes specifically developed control functions and algorithms that suit every application, from the residential (DHW management, zone management,...) to the commercial.

Domestic hot water

Production of domestic hot water guaranteed all year. The controller manages the production of domestic hot water through a 3-way valve to be installed externally to the unit.

Integration among different sources

Integrates different energy sources based on availability, performance and costs of their use, always favoring renewable sources.

The auxiliary sources are used to meet the building needs at low outdoor temperatures by integrating the heating capacity of the heat pump.

Source side heat exchanger

Coils are copper pipes and aluminum fins, sized to guarantee the best performance in all working conditions, also during defrost. Coil protection grid provided as a standard for all sizes.

Variable speed pump managment

MEHP-iB-G07 includes as a standard, state of the art on board pumps with

- EC motors
- VPF.E dynamic variable flow control logic

Refrigerant circuit

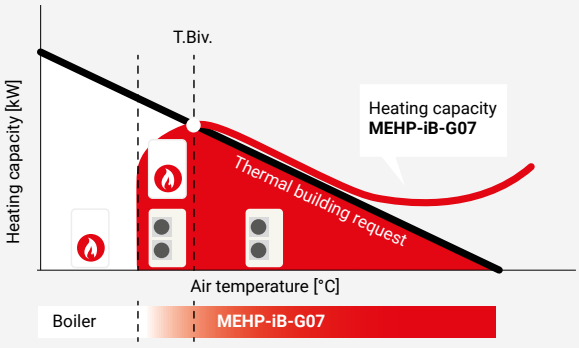
Electronic Expansion Valve controlled by a specific algorithm (DSH control) optimized for R32 refrigerant for enhancing the efficiency and reliability of the system.

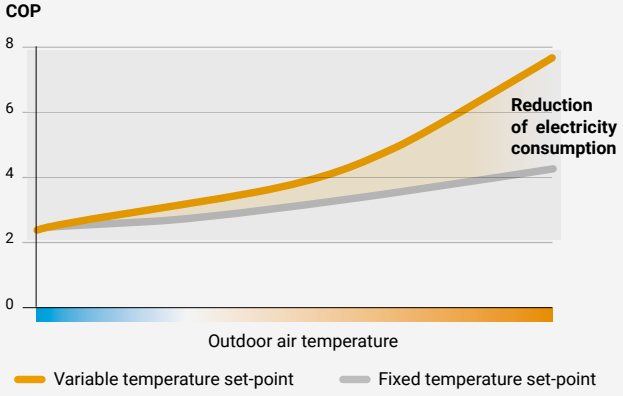
Compressors

High quality and highly reliable Mitsubishi Electric Compressors, optimized for R32 refrigerant, Inverter driven. Compressors are soundproofed and installed on rubber anti-vibration mounts. Twin rotary compressors up to size 11V, scroll compressors from size 15V on.

Reduced energy consumption

The dynamic control of the water supply temperature according to the outdoor air temperature greatly increases the comfort and energy efficiency of the system.





HMIs

Compact keyboard (std, on board)

Standard interface. It features a complete **LCD display** and ergonomic keys for viewing data and navigating the **multilevel menu**. The compact keyboard is protected by a metal covering and it is mounted on the unit.

Touchscreen room HMI (opt.)

Room interface, **touchscreen 4,3" display**, with the following functions:

- **Unit controller** (heat pump control)
- **Thermostat functions** through integrated air temperature and humidity probes

Connectivity Options

- **Several Communication Protocols**
  available via dedicated cards (Modbus, BACnet,...)

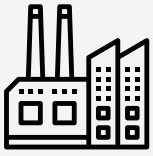
KIPlink

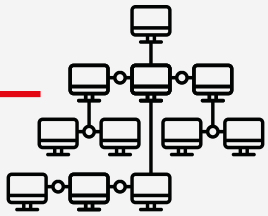
1 **Proximity smart WI-FI keyboard**
Available via MEHITS APP

KIP LINK
Keyboard In your Pocket

2 **Local monitoring LAN**
via TCP/IP

Ethernet





3 **Remote from anywhere**
Same as LOCAL via VPN

Customer VPN
Secure accessibility to LAN (cyber security in charge of customer)

Zone Management

Touch screen room HMI (optional) with air temperature probe and humidity probe for controlling ambient parameters. With this HMI unit parameters can also be controlled.
Thanks to the embedded zone management of MEHP-iB it is possible to control room temperature in two different zones.

Perfect combination with FCU ranges

MEHP-iB-G07 is perfectly compatible with Mitsubishi Electric Hydronics & IT Cooling Systems' hydronic terminals:

a/i-LIFE2 HP

a/i-CXW

a/i-LIFE3

i-LIFE2 Slim

i-MXW

R32
REFRIGERANT

INVERTER
SCROLL
EC AXIAL

MEHP-iB-G07 & MEHP-iS-G07: stronger together

Perfect combination between our two ranges beacuse of:

- **Complete range** from 7 to 110 kW
- **R32 refrigerant** (low GWP)
- Full **variable speed** technology (compressor, fan, pump)
- **MITSUBISHI ELECTRIC proprietary** components

MITSUBISHI ELECTRIC
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