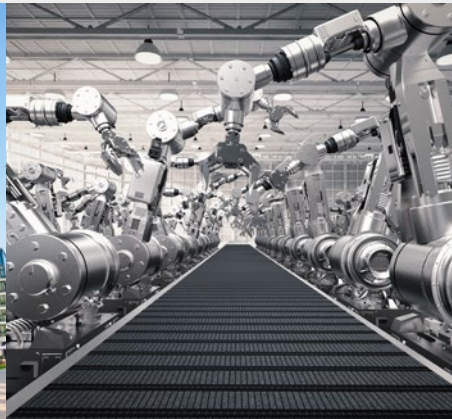


Air source chillers and reversible heat pumps for outdoor installation
From 50 to 110 kW.

R32
REFRIGERANT

MECH-iS-G07 MEHP-iS-G07



MECH-iS-G07 MEHP-iS-G07

Formidable. In every aspect.

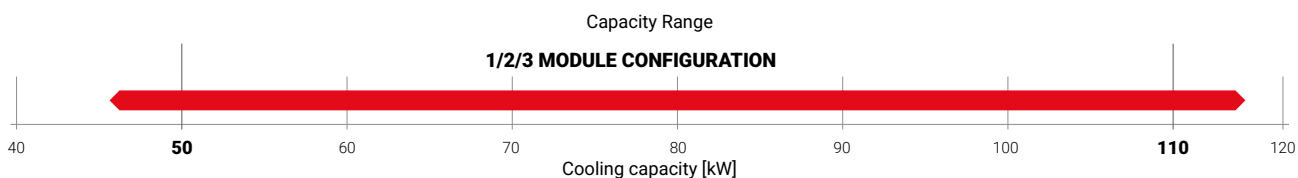


Air source chillers and reversible heat pumps with Mitsubishi Electric variable speed scroll compressors and R32 low GWP refrigerant. From 50 to 110 kW.

The MECH-iS-G07 and MEHP-iS-G07 are the new Mitsubishi Electric chiller and heat pump ranges designed with the utmost care in terms of quality and details. Dedicated to different applications, from comfort to industrial or IT cooling processes, MECH-iS-G07 and MEHP-iS-G07 achieve top-level energy efficiencies, in the most compact footprints in their category.

Extended range

The range comprises of 7 new sizes developed within 3 compact modules to fit any thermal load requirement up to 110kW.



Module 1
50 / 60 / 70 kW



Module 2
80 / 90 kW



Module 3
100 / 110 kW

Designed down to a fine art



Groundbreaking performance. Especially in partial load

The MECH-iS-G07 and MEHP-iS-G07 bring brilliant performance, particularly in partial load conditions, thus helping individuals and business reduce the energy bill of their HVAC system.

MECH-iS-G07	UP TO	EER: 3.3	SEER: 5.6	SEPR HT: 6.5	
MEHP-iS-G07	UP TO	COP: 3.4	SEER: 4.6	SCOP LT 4.6	SCOP MT: 3.5

EER – conditions: evap. 12/7°C, air 35°C – NET values [EN14511 – EN14825]
SEER – Regulation (EU) N.2281/2016
SEPR-HT – Regulation (EU) N.2281/2016

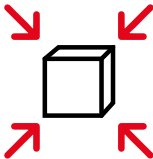
COP – conditions: cond. 40/45°C, air 7(6)°C – NET values [EN14511 – EN14825]
SCOP LT – Regulation (EU) N.813/2013
SCOP MT – Regulation (EU) N.813/2013



Supreme class quietness

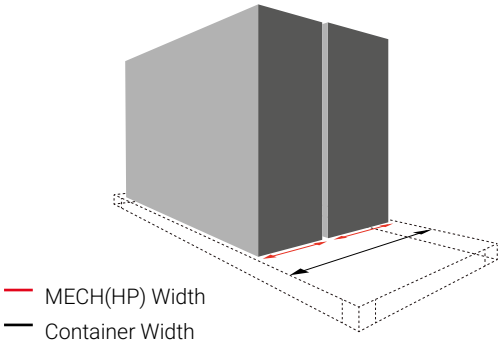
Best-in-class sound levels without additional accessories. MECH-iS-G07 and MEHP-iS-G07 units are equipped as standard with the acoustical enclosure for compressors and hydronic kits.

Down to
77 dB(A)

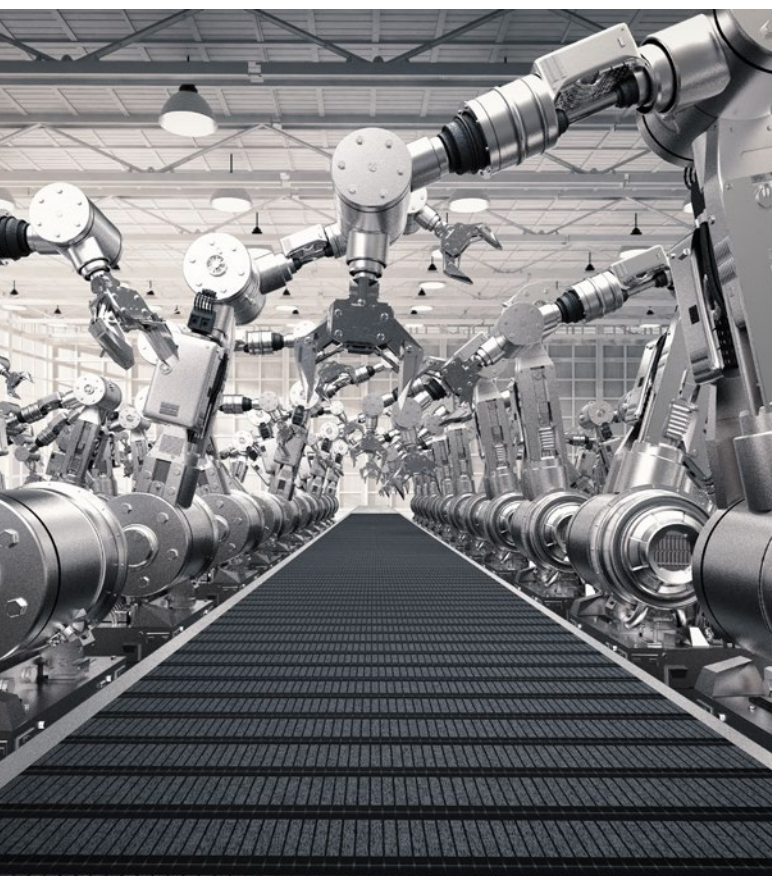


Best-in-class footprint

Extremely compact footprint, among the best in the category. The reduced width of the units is ideal for multi-unit transportation, optimizing the shipping spaces and shipment via container.



Huge Benefits for Every Kind of Application



Process Applications

- Large operating map down to -12°C of evaporator leaving water temperature and down to -20°C of outdoor air temperature
- Extremely high reliability components
- Fully accessible service points for an easier maintenance
- Refrigerant leak detection options available
- Several coil solutions including e-coated microchannel, Cu/Al, pre-painted fins, Blygold polual XT and hydrophilic treatments (for MEHP-iS-G07)



Comfort Applications

- Top-level performance at partial loads
- Extremely silent and compact unit
- Large operating map down to -20°C of outdoor air temperature; up to 65°C of hot water production in heat pump mode
- Plug & Play solution, thanks to integrated pumps kit + buffer tank
- Domestic Hot Water production (for MEHP-iS-G07)
- Optimized for heating mode (MEHP-iS-G07)



IT Cooling Applications

- MECH-iS-G07 combined with w-MEXT creates a complete Mitsubishi Electric System ideal for small and medium data centers
- High leaving water temperature up to 24°C
- LAN functions with up to 8 units
- HPC software for optimizing the entire chillers + CRAHs systems
- Wide option availability ideal for this kind of application (demand limit, external capacity cap, thermal energy meter)

Why R32?

MECH-iS-G07 and MEHP-iS-G07 with R32 refrigerant are 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 your 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 vs 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



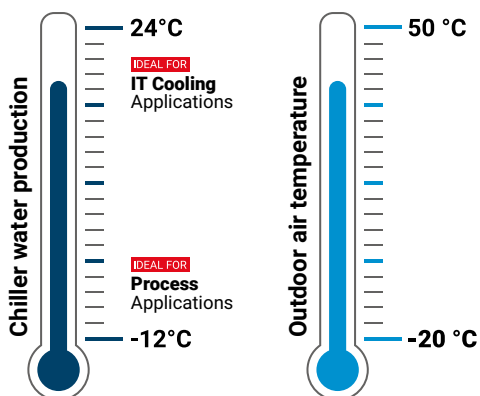
Reliability

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

Wide Operating Range

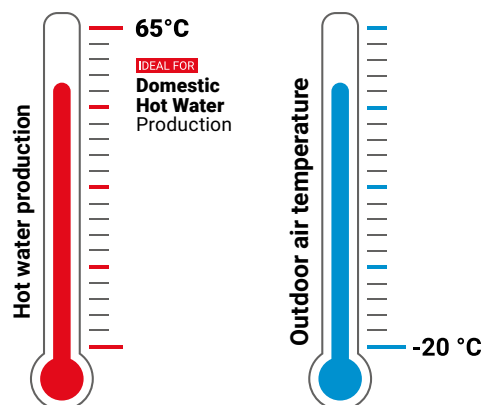
Going beyond ordinary limits of standard heat pumps and chillers, MECH-iS-G07 and MEHP-iS-G07 ranges achieve extreme water temperatures, making these units ideal for many uses from Comfort to Process and IT Cooling applications.

Matching Mission Critical Applications Requirements



MECH-iS-G07 can operate with outdoor temperatures up to +50°C and chilled water temperatures from -12°C to +24°C, significant values which make these units ideal for Process and IT Cooling applications.

One Unique Unit For Heating, Cooling and Producing Hot Water



MEHP-iS-G07 can produce, alone and without any auxiliary accessory, both medium temperature water for space heating and cooling, and hot water for domestic use up to 65°C. These key features make MEHP-iS-G07 an interesting alternative for classic gas or fuel oil heating systems.

- Use of renewables sources
- Considerable energy savings
- Green footprint

Technological Choices

Electrical Control Box

W3000+ control software, available with standard keyboard or touch screen, features proprietary settings, to perfectly manage each single product dynamic.



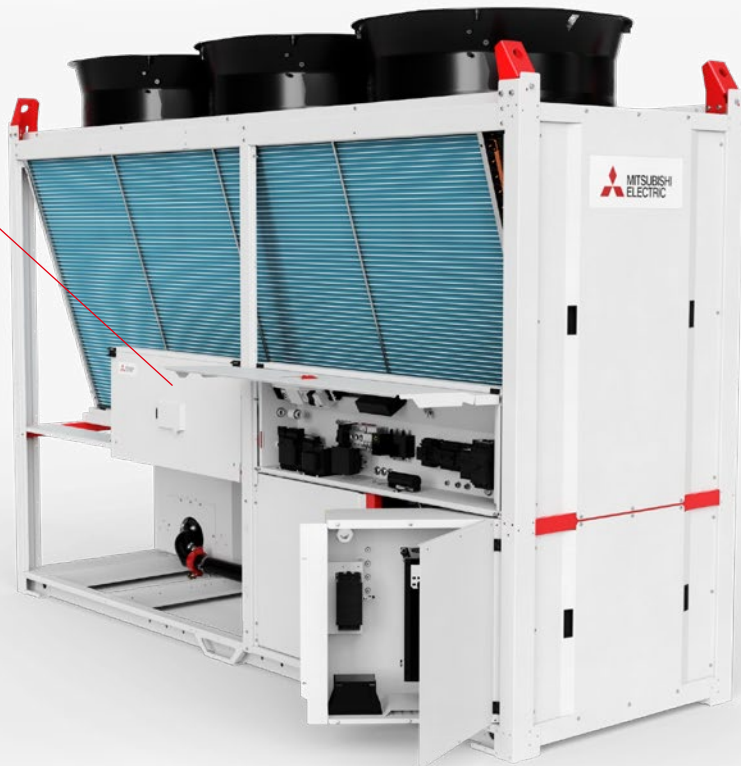
Compact keyboard (STD)



7 inch touch screen (opt.)



KIPLink (opt.) is built on a web-based architecture, enabling direct interaction with the unit through a browser-based interface



Complete Hydronic Kit Options

Factory-installed **several pumps** (with VPF options) and **buffer tank** (opt.)



Single-head
in-line pump



Twin-head
in-line pump



Complete Fan assembly
with high-efficiency EC fans as std

Source side heat exchanger

V-shape micro-channel coils for chillers and Cu/Al coils with hydrophilic treatment for heat pumps with several optional coil types and treatments available



Inverter scroll compressors
with acoustical enclosure as std

Compressors' drivers
EMI filters and DC reactors included



Mitsubishi Electric Quality

The MECH-iS-G07 and MEHP-iS-G07 ranges have been perfectly designed to achieve the highest quality standards, adopting the Japanese Poka-Yoke technique.

POKA-YOKE

The Zero Defects idea

Poka Yoke is a Japanese term that means "mistake-proofing" approach applied on the equipment manufacturing processes. This implies activities that help an equipment operator avoid (yokeru) mistakes (poka) and defects, and the selection of technological choices that make maintenance activities as easy as possible.

Group Control Systems

INTEGRATED SOLUTIONS

LAN Multi Manager



01 / Architecture

Exploits proprietary LAN technology to connect a group of chillers and heat pumps.

02 / Interfacing

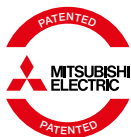
Completely integrated in the units.

03 / Applications

Comfort, Process and IT Cooling applications. Chillers and heat pumps.

04 / Function

Smart management of the group of units with dynamic master logic, stand-by management, load and resource management.



04 / Function

Smart Coordinated Defrost

Smart control logic for coordinating the non-simultaneous start of defrosting cycles of a group of heat pumps:

- Minimization of the energy required for defrost
- Increased system efficiency
- Increase of the maximum heat output of the system which can be constantly supplied
- Minimum impact on leaving water temperature

LAN FUNCTIONS

Thanks to LAN logics integrated into MECH-iS/MEHP-iS, it is possible to manage up to 8 units in a single group optimizing load distribution, alarm management, and units back-up/stand-by.

MASTER/ CLIENT

The function allows the control of a group of up to 4 units without additional hardware.

CENTRALISED SOLUTIONS

Group Manager C1
Data Center **Manager+**



01 / Architecture

Designed to be connected to every chiller, heat pump and polyvalent unit.

02 / Interfacing

Devoted cabinet with 10,1" touch screen display.

03 / Applications

- **Group Manager C1**
Comfort and Process applications.
- **Data Center Manager+**
IT Cooling applications.

04 / Function

Centralized control and monitoring of a group of units, alarm management and mailing service.

GROUP MANAGER C1 WITH WIZARD CONFIGURATION TOOL



The new wizard function based on a specific graphical section makes the GROUP MANAGER C1 a real plug&play control system. Automatically the units can be installed and add on field with self-recognition scanning process through RS485 serial protocol.

TO LEARN MORE ABOUT CENTRALISED SOLUTIONS

<https://www.melcohit.com/en/products?range=72,71,69,67>



IT Cooling Applications

System approach: Chillers + CRAHs

HPC

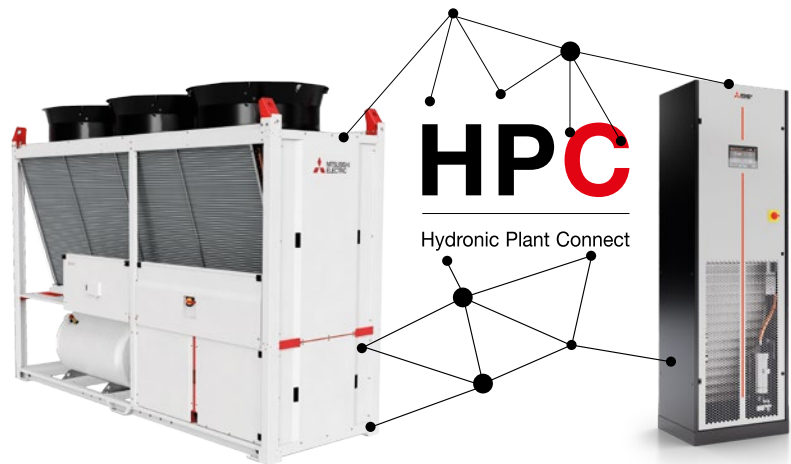
Hydronic Plant Connect

HPC

Up to 20 groups of CRAHs are connected to the group of chillers.

Proprietary LAN network for the optimization of the entire cooling system: CRAHs, chillers, FC availability, fans, pumps, and valves.

**A complete
Mitsubishi Electric
cooling package
dedicated to your high
efficiency data center**



TO LEARN MORE ABOUT HPC

<https://www.melcohit.com/en/stories/124/hpc>



Main Options

Energy Meter for BMS Energy Meter for W3000+

Acquires the electrical data and the power absorbed by the unit. Data is sent to the BMS or directly readable on the unit keyboard.

Thermal Energy Meter

Evaluates the cooling/heating capacity delivered by the unit.

External Capacity Cap

This option controls the maximum capacity output of the unit and it's ideal for full inverter or hybrid units.

Anti wind/snow kit

Air deflectors for windy and snowy conditions.

Hydronic Kits

Low or high head, fixed or variable speed, single or twin pumps and buffer tank all integrated in the unit.

Auxiliary Source and DHW Management

Functions for plants requiring the production of domestic hot water that will be stored in a storage tank (MEHP-iS-G07 only).

Multifunction Card

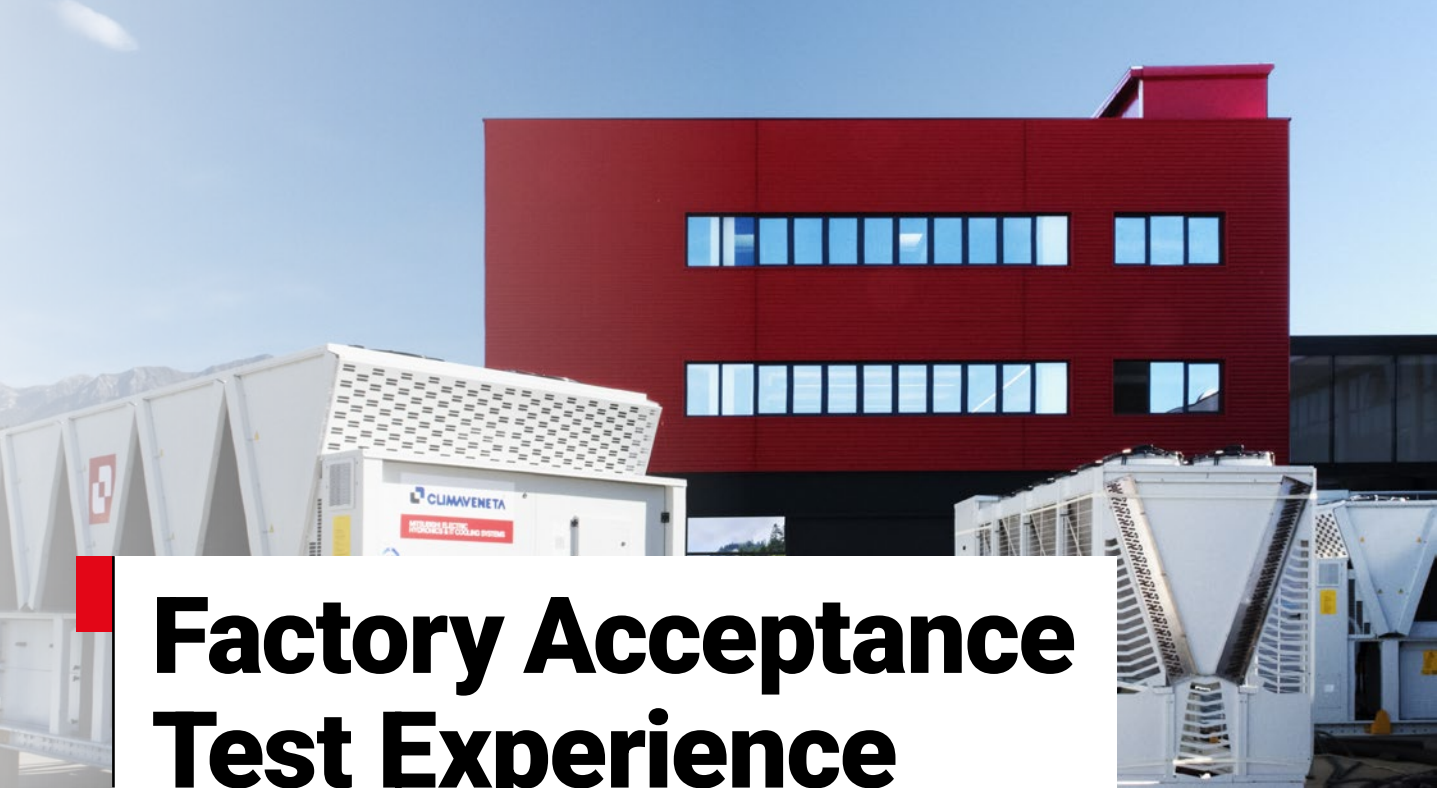
Night mode, hydraulic decoupler probe for pump activation and User Limit Control Function.

Refrigerant Leak Detection

Refrigerant leak detection system, factory fitted, to raise an alarm when a leak is detected.

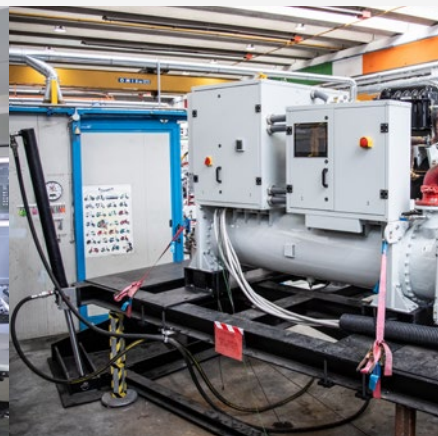
Smart Grid Ready Function

Enables the heat pump to change the operation pattern when the signal is received from the Smart Grid controller.



Factory Acceptance Test Experience

Test your heat pump before installation and make sure its performance is totally reliable.



Factory Acceptance Test

Factory Acceptance Test is available as additional service in order to test the unit under specific conditions.



Carried out within modern and sophisticated facilities, this service gives the customer the possibility to choose among different test options in order to:

- Verify unit operation under severe conditions
- Check performance, both at full and partial loads
- Test the unit with low outdoor air temperature operation
- Detect sound emissions
- Time the fast restart

**TO LEARN MORE ABOUT
FACTORY ACCEPTANCE TEST**

<https://www.youtube.com/watch?v=Cy2FXAfhvj8>



MITSUBISHI ELECTRIC HYDRONICS & IT COOLING SYSTEMS S.p.A.

Head Office:

Via Caduti di Cefalonia 1 - 36061 Bassano del Grappa (VI) - Italy

Tel (+39) 0424 509 500 - Fax (+39) 0424 509 509

www.melcohit.com