

MECH-iS-G07 / MEHP-iS-G07


Air source chillers and reversible heat pumps
for outdoor installation (50-220kW)

**MECH-iS
MEHP-iS**

The **MECH-iS-G07** and **MEHP-iS-G07** are the new Mitsubishi Electric chiller and heat pump ranges manufactured to the highest standard quality and features.

Suitable for a range of different applications, from comfort to industrial and even IT cooling processes.

Key Features & Benefits:

- Hot Water up to 65°C
- Cold water down to -12°C
- Best-in-class for low noise levels
- Compact design and modular expansion
- New Smart Coordinated Defrost 

R32



ies.mitsubishielectric.co.uk

Designed down to a fine art

The **MECH-iS-G07** and **MEHP-iS-G07** achieve top-level energy efficiencies, in the most compact footprints in their category.

The range comprises of 7 new sizes developed within 3 compact modules to fit any thermal load requirement up to 110kW, **extendable up to 220kW** through an optional twin module configuration.



High Efficiency



Compact Design



Twin module configuration

Groundbreaking performance

MECH-iS-G07 and MEHP-iS-G07 bring brilliant performance, particularly in partial load conditions, helping individuals and businesses reduce the energy bills.

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

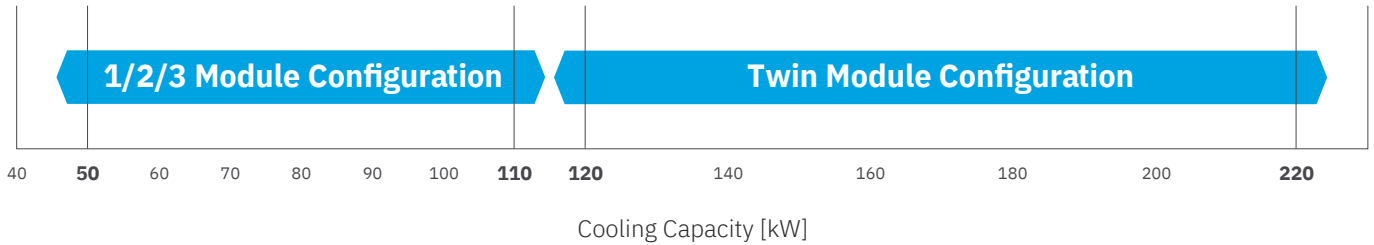
Reduced sound levels

Best-in-class sound levels without additional accessories.

MECH-iS-G07 and MEHP-iS-G07 units are fitted with **acoustic enclosures** for compressors and hydronic kits **as standard**.



Configuration



Chassis Size 1

50 / 60 / 70 kW



Chassis Size 2

80 / 90 kW



Chassis Size 3

100 / 110 kW



Twin Module Combination

(Optional)

The twin module kit for easy on-site installation consists of:

- Structural connection for positioning and safety
- Software connection through Multi Manager controls
- Inter-connecting, pipe matching hydraulic kit



Benefits for every application

Comfort

- Hot water up to 65°C available for MEHP-iS-G07, with an operating range as low as -20°C ambient
- Exceptional performance at part load operating conditions
- Quiet and compact unit
- Plug & Play solution: options for factory fitted pumps and buffer vessel
- MEHP-iS-G07 specifically designed to be optimised for heating mode



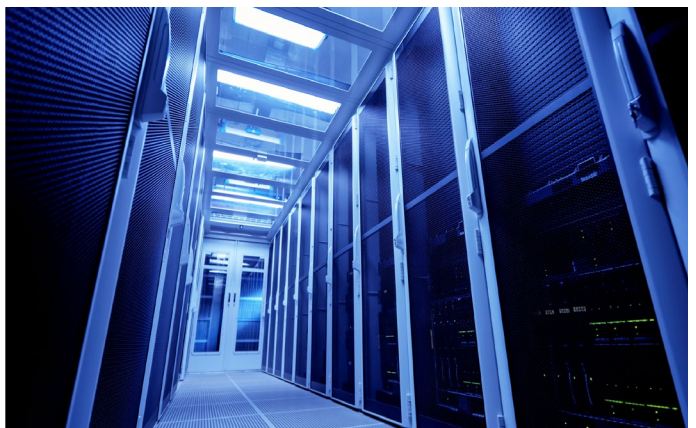
Process

- MECH-iS-G07 is capable of -12°C water supply for a range of process applications
- Wide ambient operating temperatures from -20°C to +50°C
- Multiple coil coating options available to suit wide range of operating environments
- Dependable design and components
- Easily accessible service points for faster maintenance
- Refrigerant leak detection options available



IT Cooling

- Combine the MECH-iS-G07 with our w-MEXT range for a complete Mitsubishi Electric system, ideal for small and medium sized data centres
- Use our **HPC** software to optimise the entire system by controlling both the MECH-iS-G07 and the w-MEXT together
- Operate more efficiently with supply water temperatures available up to 24°C
- Connect 8 units together for advanced network controls
- Enhance the MECH-iS-G07 further with options such as External Capacity Cap, KIPLink Controls and Energy Meter



Lower GWP refrigerant

R32

R32 is a highly efficient refrigerant that is easy to recycle and offers a lower Global Warming Potential (GWP) than R410A.

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 robust alternative to traditional refrigerants.



Lower GWP

-66% GWP vs R410A



Safety
Class A2L

Reduced environmental impact



- Zero Ozone Depletion Potential (ODP)
- One-third lower GWP value than R410A
- F-Gas phasedown compliant
- Lower equivalent refrigerant volumes

Future proof performance



- Ideal for the next generation of equipment
- 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

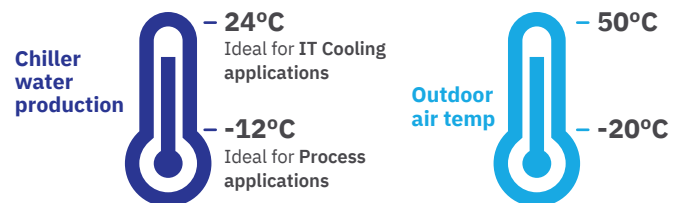
Wide operating range

Exceeding the 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.

Cooling, Heating or Hot Water from one unit



MEHP-iS-G07 can produce, without any auxiliary accessory, medium-grade and hot water up to 65°C. This makes MEHP-iS-G07 a perfect solution to replace fossil fuel heating.



MECH-iS-G07 can operate with ambient temperatures up to 50°C and chilled water temperatures ranging from -12°C to +24°C, making it ideal for both for Process and IT Cooling applications.

Designed for quality

Controls

W3000+ control software, available with standard keyboard or touch screen, features proprietary settings, to perfectly manage your equipment.

Compact keyboard (Standard)



7 inch touch screen (Optional)



KIPLink (Optional)

Full access by simply scanning the QR code.



Robust Electronics

EMI filters and DC reactors included as standard.

Complete Fan Assembly

High-efficiency EC fans as standard.

Heat Exchanger

V-shape micro-channel coils for chillers and Cu/Al coils for heat pumps. Several treatment options available.

Hydrophilic Coating

Source side heat exchanger treatment that allows water droplets to flow off the surface (MEHP-iS-G07 only).

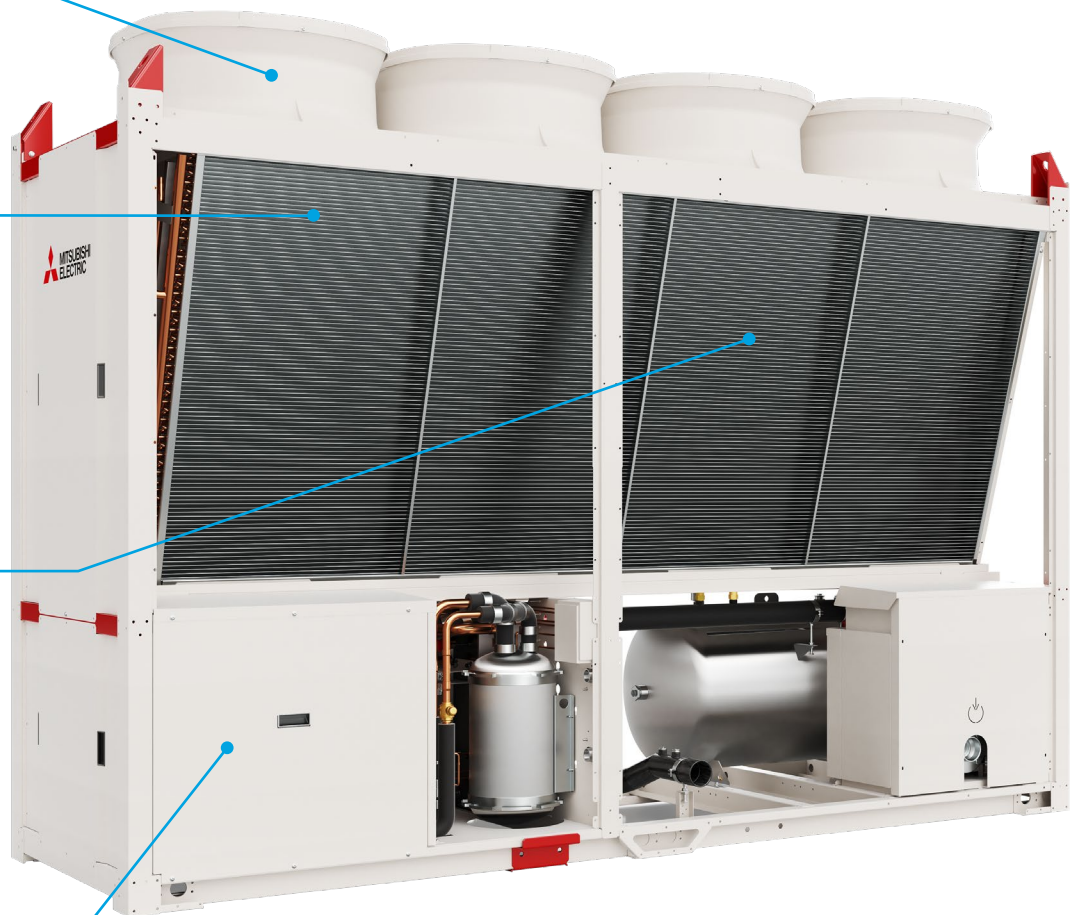
Inverter Scroll Compressors

Acoustic enclosure as standard.

Hydronic Kits

(Optional)

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



Single-head in-line pump



Twin-head in-line pump

Mitsubishi Electric Quality

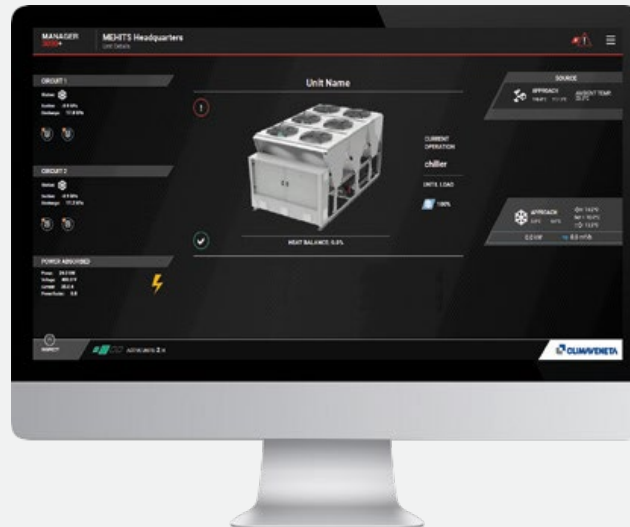
The MECH-iS-G07 and MEHP-iS-G07 have been designed and manufactured to the highest quality standards.



Control Systems

Integrated Solutions

LAN Multi Manager



01 / Architecture

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

03 / Applications

Comfort, Process and IT Cooling.

02 / Interfacing

Completely integrated in the units.

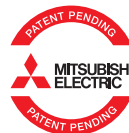
04 / Functions

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

Smart Coordinated Defrost

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

- Minimises the energy required for defrost
- Increase of the maximum heat output of the system during defrost
- Increased system efficiency
- Minimum impact on leaving water temperature



LAN Functions

The (optional) integrated LAN controller makes it possible to optimise load distribution, alarm management and units back-up or stand-by, for up to 8 units in a single group (8 x MECH-iS-G07 or 4 x MEHP-iS-G07).

To increase the size of your Heat Pump group, use a non-integrated controller, such as the Manager 3000+, to allow up to 8 x MEHP-iS-G07 together.

Options

Energy Meter for BMS Energy Meter for W3000+

Track your electrical power consumption with data is sent to the BMS or directly readable on the unit keyboard.

Refrigerant Leak Detection

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

External Capacity Cap

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

Hydronic Kits

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

Modular Installation Kit

Two modules of the same size can be connected through a dedicated kit:

- Structural connection for position and safety
- Software connection through LAN Multi Manager Controller
- Inter-connecting, pipe matching hydraulic kit

Specifications

MECH-IS-G07		0051	0061	0071	0082	0092	0102	0112
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
COOLING CAPACITY ^{*1}	kW	50.09	60.11	70.14	80.14	90.23	100.2	110.2
TOTAL POWER INPUT ^{*1}	kW	15.16	19.13	26.89	26.24	32.57	31.43	37.90
EER ^{*1}	kW/kW	3.296	3.147	2.606	3.057	2.767	3.191	2.908
COOLING ONLY (EN14511 VALUE)								
COOLING CAPACITY	kW	50.00	60.00	70.00	80.00	90.00	100.0	110.0
EER ^{*1,4}	kW/kW	3.280	3.110	2.580	3.020	2.740	3.150	2.870
COOLING WITH PARTIAL RECOVERY								
COOLING CAPACITY ^{*5}	kW	51.97	62.36	72.77	83.15	93.61	104.0	114.3
TOTAL POWER INPUT ^{*5}	kW	14.66	18.50	25.99	25.37	31.48	30.39	36.64
DESUPERHEATER HEATING CAPACITY ^{*5}	kW	12.68	16.19	23.11	22.16	27.82	26.37	32.15
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN COOLING								
WATER FLOW ^{*1}	l/s	2.395	2.874	3.3354	3.833	4.315	4.792	5.270
PRESSURE DROP AT THE HEAT EXCHANGER ^{*1}	kPa	15.6	22.5	30.6	23.6	29.9	28.3	34.2
PARTIAL RECOVERY USER SIDE IN REFRIGERATION								
WATER FLOW ^{*1}	l/s	0.612	0.781	1.116	1.070	1.343	1.273	1.552
PRESSURE DROP AT THE HEAT EXCHANGER ^{*1}	kPa	8.57	14.0	28.5	12.9	20.4	12.9	19.1
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
16°C/10°C								
COOLING CAPACITY ^{*2}	kW	54.69	65.32	75.82	87.60	98.20	109.4	120.1
TOTAL POWER INPUT ^{*2}	kW	15.47	19.61	27.69	26.82	33.41	32.06	38.73
EER ^{*2}	kW/kW	3.529	3.332	2.736	3.269	2.940	3.408	3.103
23°C/15°C								
COOLING CAPACITY ^{*3}	kW	62.37	73.93	85.00	100.1	111.5	124.7	136.4
TOTAL POWER INPUT ^{*3}	kW	15.86	20.25	28.85	27.55	34.52	32.81	39.78
EER ^{*3}	kW/kW	3.925	3.640	2.941	3.640	3.232	3.802	3.427
EXCHANGERS								
16°C/10°C								
WATER FLOW ^{*2}	l/s	2.181	2.605	3.024	3.494	3.917	4.362	4.788
PRESSURE DROP AT THE HEAT EXCHANGER ^{*1}	kPa	12.9	18.5	24.9	19.6	24.7	23.4	28.2
23°C/15°C								
WATER FLOW ^{*3}	l/s	1.868	2.215	2.546	2.999	3.339	3.735	4.086
PRESSURE DROP AT THE HEAT EXCHANGER ^{*1}	kPa	9.50	13.3	17.6	14.5	17.9	17.2	20.6
REFRIGERANT CIRCUIT								
COMPRESSORS NR.	No.	1	1	1	2	2	2	2
NO. CIRCUITS	No.	1	1	1	1	1	1	1
REGULATION								
MIN. CAPACITY STEP	%	Stepless	Stepless	Stepless	Stepless	Stepless	Stepless	Stepless
REFRIGERANT		R27	R32	R32	R32	R32	R32	R32
THEORETICAL REFRIGERANT CHARGE	kg	8.00	8.00	8.00	11.00	11.00	13.00	13.00
OIL CHARGE	kg	3.50	3.50	3.50	7.00	7.00	7.00	7.00
RC (ASHRAE) ^{*6}	kg/kW	0.16	0.13	0.12	0.14	0.12	0.13	0.12
FANS								
QUANTITY	No.	2	2	2	3	3	4	4
AIR FLOW	m ³ /s	6.86	7.01	7.01	9.84	9.84	12.97	12.97
TOTAL FANS POWER INPUT	kW	0.96	1.00	1.00	1.41	1.41	1.88	1.88
NOISE LEVEL								
TOTAL SOUND PRESSURE ^{*7}	dB(A)	45	46	48	48	49	50	50
TOTAL SOUND POWER LEVEL IN COOLING ^{*8,9}	dB(A)	77	78	80	80	81	82	82
SIZE AND WEIGHT								
A ^{*10}	mm	2085	2085	2085	2600	2600	3225	3225
B ^{*10}	mm	1100	1100	1100	1100	1100	1100	1100
H ^{*10}	mm	2400	2400	2400	2400	2400	2400	2400
OPERATING WEIGHT ^{*10}	kg	630	630	630	830	830	940	940

■ Eurovent Certified Data

- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
- Plant (side) cooling exchanger water (in/out) 16°C/10°C; Source (side) heat exchanger air (in) 35°C.
- Plant (side) cooling exchanger water (in/out) 23°C/15°C; Source (side) heat exchanger air (in) 35°C.
- Values in compliance with EN14511
- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C; Plant (side) heat exchanger recovery water (in/out) 40°C/45°C.
- Rated in accordance with AHRI Standard 550/590
- Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
- Sound power on the basis of measurements taken in compliance with ISO 9614.
- Sound power level in cooling, outdoors.
- Unit in standard configuration, without optional accessories.
- Not available.

MEHP-iS-G07		0051	0061	0071	0082	0092	0102	0112
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
COOLING CAPACITY ^{*1}	kW	48.10	53.11	60.09	68.39	74.18	85.99	93.98
TOTAL POWER INPUT ^{*1}	kW	17.00	19.95	25.48	24.91	30.10	31.86	37.61
EER ^{*1}	kW/kW	2.829	2.668	2.357	2.747	2.465	2.696	2.500
COOLING ONLY (EN14511 VALUE)								
COOLING CAPACITY ^{*1*2}	kW	48.00	53.00	60.00	68.30	74.10	85.90	93.80
EER ^{*1*2}	kW/kW	3.810	2.640	2.340	2.730	2.450	2.680	2.480
HEATING ONLY (GROSS VALUE)								
TOTAL HEATING CAPACITY ^{*3}	kW	49.92	59.86	69.87	79.89	89.85	100.1	110.1
TOTAL POWER INPUT ^{*3}	kW	14.39	17.65	21.98	23.95	28.53	29.65	34.19
COP ^{*3}	kW/kW	3.465	3.403	3.177	3.343	3.151	3.382	3.216
HEATING ONLY (EN14511 VALUE)								
TOTAL HEATING CAPACITY ^{*3*2}	kW	50.00	60.00	70.00	80.00	90.00	100.3	110.3
COP ^{*3*2}	kW/kW	3.465	3.380	3.150	3.320	3.120	3.350	3.180
COOLING WITH PARTIAL RECOVERY								
COOLING CAPACITY ^{*4}	kW	49.90	55.10	62.34	70.95	76.96	89.22	97.50
TOTAL POWER INPUT ^{*4}	kW	16.44	19.28	24.62	24.09	29.10	30.81	36.36
DESUPERHEATER HEATING CAPACITY ^{*4}	kW	14.39	17.02	21.96	20.98	25.61	26.76	31.89
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN COOLING								
WATER FLOW ^{*1}	l/s	2.300	2.540	2.874	3.270	3.547	4.112	4.494
PRESSURE DROP AT THE HEAT EXCHANGER ^{*1}	kPa	14.4	17.6	22.5	17.2	20.2	20.8	24.9
HEAT EXCHANGER USER SIDE IN HEATING								
WATER FLOW ^{*3}	l/s	2.410	2.889	3.373	3.856	4.337	4.832	5.311
PRESSURE DROP AT THE HEAT EXCHANGER ^{*3}	kPa	15.8	22.7	31.0	23.9	30.2	28.7	34.7
PARTIAL RECOVERY USER SIDE IN REFRIGERATION								
WATER FLOW ^{*4}	l/s	0.695	0.822	1.060	1.012	1.236	1.292	1.539
PRESSURE DROP AT THE HEAT EXCHANGER ^{*4}	kPa	11.1	15.5	25.7	11.6	17.3	13.3	18.8
REFRIGERANT CIRCUIT								
COMPRESSORS NR.	No.	1	1	1	2	2	2	2
NO. CIRCUITS	No.	1	1	1	1	1	1	1
REGULATION		Stepless	Stepless	Stepless	Stepless	Stepless	Stepless	Stepless
MIN. CAPACITY STEP	%	27	27	27	22	22	20	20
REFRIGERANT		R32	R32	R32	R32	R32	R32	R32
THEORETICAL REFRIGERANT CHARGE	kg	12.0	12.0	12.00	18.00	18.00	25.0	25.0
OIL CHARGE	kg	3.50	3.50	3.50	7.00	7.00	7.00	7.00
RC (ASHRAE) ^{*5}	kg/kW	0.25	0.23	0.20	0.27	0.24	0.29	0.27
FANS								
QUANTITY	No.	2	2	2	3	3	3	4
AIR FLOW	m ³ /s	5.89	5.89	5.89	8.89	8.89	11.77	11.77
TOTAL FANS POWER INPUT	kW	0.88	0.88	0.88	1.41	1.41	1.88	1.88
NOISE LEVEL								
TOTAL SOUND PRESSURE ^{*6}	dB(A)	59	60	62	62	63	63	63
TOTAL SOUND POWER LEVEL IN COOLING ^{*7*8}	dB(A)	77	78	80	80	81	82	82
TOTAL SOUND POWER LEVEL IN HEATING ^{*7*9}	dB(A)	77	78	80	80	81	82	82
SIZE AND WEIGHT								
A ^{*10}	mm	2085	2085	2085	2600	2600	3225	3225
B ^{*10}	mm	1100	1100	1100	1100	1100	1100	1100
H ^{*10}	mm	2400	2400	2400	2400	2400	2400	2400
OPERATING WEIGHT ^{*10}	kg	710	710	710	960	960	1085	1085

■ Eurovent Certified Data

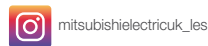
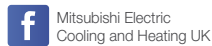
1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C. 2. Values in compliance with EN14511. 3. Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C; Plant (side) heat exchanger recovery water (in/out) 40°C/45°C. 5. Rated in accordance with AHRI Standard 550/590
6. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level. 7. Sound power on the basis of measurements taken in compliance with ISO 9614.
8. Sound power level in cooling, outdoors. 9. Sound power level in heating, outdoors. 10. Unit in standard configuration, without optional accessories. - Not available.

Heat Pump & Chillers

Product Information



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Note: Refer to 'Installation Manual' and 'Instruction Book' for further 'Technical Information'. The fuse rating is for guidance only and please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP:2088), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R1234ze (GWP:7) or R1234yf (GWP:4). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

Effective as of September 2022

