

# MECH-iF-G05

## High Performance Air Cooled Chiller

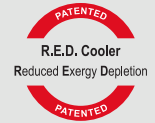
Mitsubishi Electric's **MECH-iF-G05** is our new flagship in high performance chillers, thanks to its proprietary Variable Speed Drive (VSD) single screw compressor. The new MS Compressor has been developed using Mitsubishi Electric's 35 years of experience in single screw compressors specifically for this chiller. It is also assembled with our patented Reduced Exergy Depletion (RED) Cooler, which maximises the energy saving potential of sub-cooling, unlocking a new level of efficiency to make the MECH-iF-G05 chiller best-in-class.

The MECH-iF-G05 is available as three different configurations for noise performance, with a wide operating range from -10°C to +18°C evaporator leaving water temperatures (ELWT) and with the option to have hydronic pumps inbuilt. The MECH-iF-G05 can also be fitted with options including fast restart, energy and thermal meters, BEMS cards and Copper/Aluminium heat exchangers.

# R513A

### Key Features & Benefits:

- Best-in-class seasonal efficiency in a compact footprint
- A new single screw compressor, designed by Mitsubishi Electric specifically for the MECH-iF-G05
- Electromagnetic Interference (EMI) filters supplied as standard
- 3 different configurations for noise performance available
- Wide operating envelope down to -20°C ambient\*
- Available options include; inbuilt hydronic pumps, thermal and energy meters, Smart LAN functions and many more
- V-Shaped microchannel heat exchangers with patented Reduced Exergy Depletion (R.E.D.) Cooler



\*Additional low temperature options may be required.



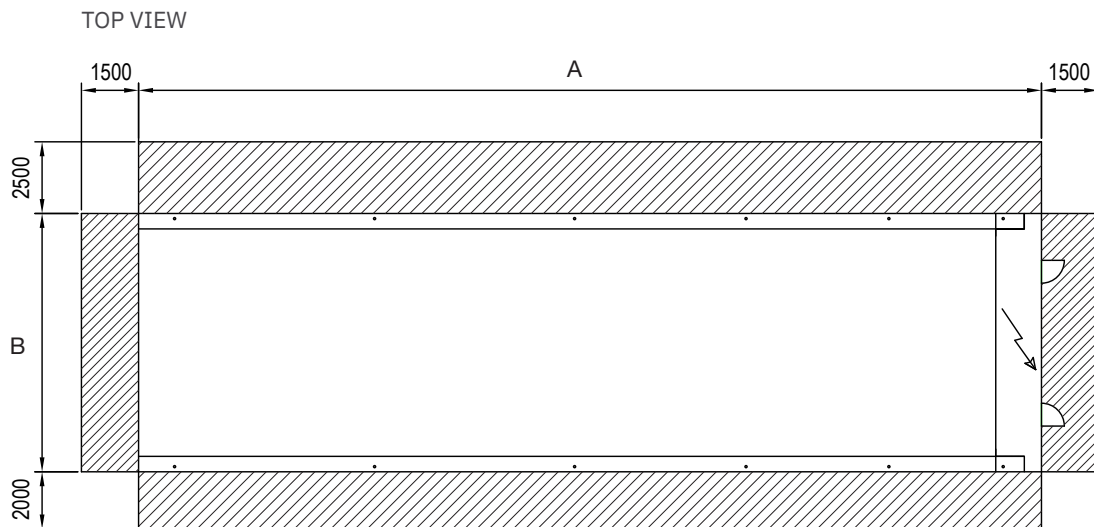
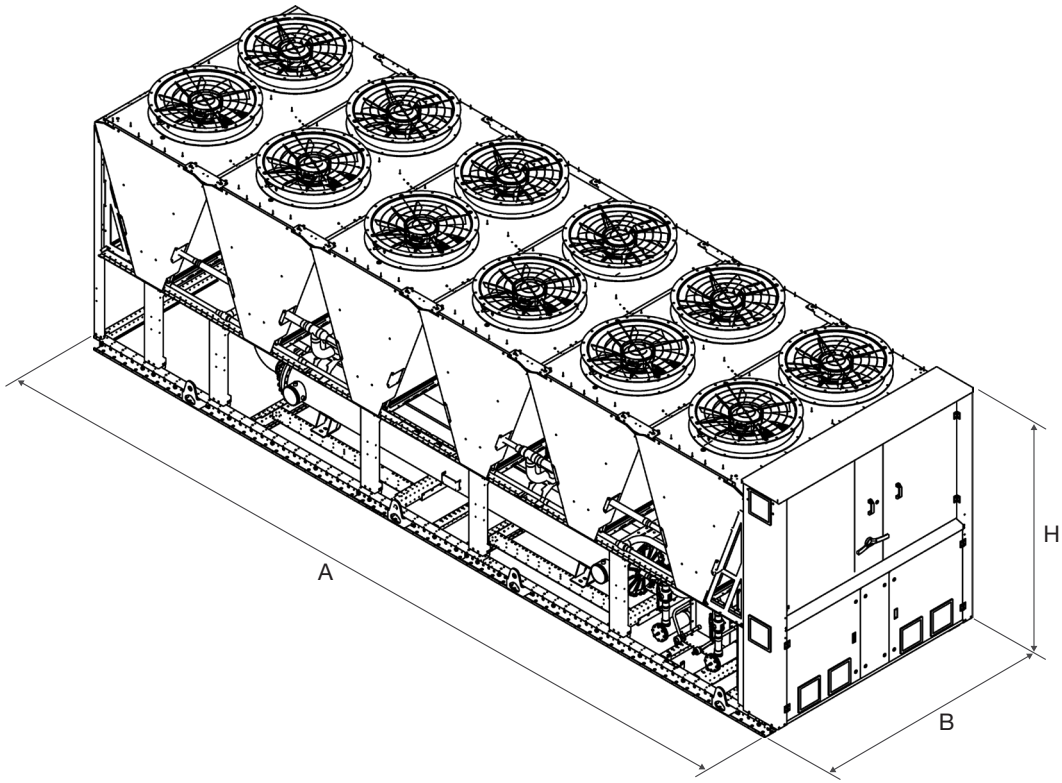
# Specifications

| MECH-iF-G05                                     |            |         | 0411     | 0802     | 0902     | 0411     | 0802     | 0902     | 0411     | 0802     | 0902     |
|---|------------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| VERSION   |            |         | -        | -        | -        | -NR      | -NR      | -NR      | -SL      | -SL      | -SL      |
| <b>PERFORMANCE - COOLING ONLY</b>               |            |         |          |          |          |          |          |          |          |          |          |
| <b>GROSS VALUE<sup>1</sup></b>                  |            |         |          |          |          |          |          |          |          |          |          |
| TOTAL COOLING CAPACITY                          | kW         |         | 414.4    | 814.7    | 921.1    | 411.0    | 807.0    | 913.0    | 407.1    | 799.6    | 903.7    |
| TOTAL POWER INPUT                               | kW         |         | 133.7    | 249.6    | 289.6    | 134.5    | 251.0    | 291.1    | 135.6    | 252.8    | 293.1    |
| EER   | kW/kW      |         | 3.10     | 3.26     | 3.18     | 3.06     | 3.22     | 3.14     | 3.00     | 3.16     | 3.08     |
| <b>EN14511 VALUES<sup>1,2</sup></b>             |            |         |          |          |          |          |          |          |          |          |          |
| TOTAL COOLING CAPACITY                          | kW         |         | 413.9    | 814.1    | 920.4    | 410.6    | 806.3    | 912.4    | 406.6    | 799.0    | 903.1    |
| EER   | kW/kW      |         | 3.06     | 3.22     | 3.15     | 3.01     | 3.17     | 3.10     | 2.96     | 3.12     | 3.05     |
| <b>SEASONAL PERFORMANCE<sup>3</sup></b>         |            |         |          |          |          |          |          |          |          |          |          |
| P <sub>PRATED,C</sub>                           | kW         |         | 413.9    | 814.1    | 920.4    | 410.6    | 806.3    | 912.4    | 406.6    | 799.0    | 903.1    |
| SEER  |            |         | 5.34     | 5.62     | 5.73     | 5.33     | 5.61     | 5.73     | 5.32     | 5.62     | 5.73     |
| PERFORMANCE $\eta_s$                            | %          |         | 210      | 222      | 226      | 210      | 222      | 226      | 210      | 222      | 226      |
| <b>HEAT EXCHANGER IN COOLING<sup>1</sup></b>    |            |         |          |          |          |          |          |          |          |          |          |
| WATER FLOW                                      | User Side  | l/s     | 19.8     | 39.0     | 44.1     | 19.7     | 38.6     | 43.7     | 19.5     | 38.2     | 43.2     |
| PRESSURE DROP <sup>2</sup>                      | User Side  | kPa     | 54.1     | 50.9     | 40.7     | 53.3     | 50       | 40.1     | 52.5     | 49.3     | 39.4     |
| <b>ELECTRICAL DATA</b>                          |            |         |          |          |          |          |          |          |          |          |          |
| 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 | 400/3/50 | 400/3/50 |
| F.L.A. <sup>4</sup>                             | Total      | A       | 269      | 533      | 554      | 269      | 533      | 554      | 269      | 533      | 554      |
| <b>EXCHANGERS</b>                               |            |         |          |          |          |          |          |          |          |          |          |
| MINIMUM WATER FLOW                              | Evaporator | l/s     | 6.1      | 14.5     | 18.1     | 6.1      | 14.5     | 18.1     | 6.1      | 14.5     | 18.1     |
| MINIMUM WATER CONTENT                           | Plant      | l       | 2000     | 2800     | 3200     | 2000     | 2800     | 3200     | 2000     | 2800     | 3200     |
| <b>FANS</b>                                     |            |         |          |          |          |          |          |          |          |          |          |
| QUANTITY  |            | No.     | 6        | 12       | 14       | 6        | 12       | 14       | 6        | 12       | 14       |
| AIRFLOW   |            | m/s     | 32.4     | 64.8     | 75.6     | 29.4     | 58.8     | 68.6     | 27.8     | 55.6     | 64.8     |
| <b>REFRIGERANT CIRCUIT</b>                      |            |         |          |          |          |          |          |          |          |          |          |
| COMPRESSORS                                     |            | No.     | 1        | 2        | 2        | 1        | 2        | 2        | 1        | 2        | 2        |
| CIRCUITS  |            | No.     | 1        | 2        | 2        | 1        | 2        | 2        | 1        | 2        | 2        |
| REFRIGERANT                                     |            |         | R513A    | R513A    | R513A    | R513A    | R513A    | R513A    | R513A    | R513A    | R513A    |
| REFRIGERANT CHARGE <sup>5</sup>                 |            | kg      | 89       | 170      | 199      | 89       | 170      | 199      | 89       | 170      | 199      |
| <b>NOISE LEVELS</b>                             |            |         |          |          |          |          |          |          |          |          |          |
| TOTAL SOUND PRESSURE <sup>6</sup>               |            | dB(A)   | 64       | 65       | 70       | 61       | 62       | 68       | 57       | 58       | 64       |
| TOTAL SOUND POWER LEVEL IN COOLING <sup>7</sup> |            | dB(A)   | 96       | 98       | 103      | 93       | 95       | 101      | 89       | 91       | 97       |
| <b>SIZE AND WEIGHT<sup>8</sup></b>              |            |         |          |          |          |          |          |          |          |          |          |
| WIDTH (A)                                       |            | mm      | 4150     | 7900     | 9150     | 4150     | 7900     | 9150     | 4150     | 7900     | 9150     |
| DEPTH (B)                                       |            | mm      | 2260     | 2260     | 2260     | 2260     | 2260     | 2260     | 2260     | 2260     | 2260     |
| HEIGHT (H)                                      |            | mm      | 2500     | 2500     | 2500     | 2500     | 2500     | 2500     | 2500     | 2500     | 2500     |
| OPERATING WEIGHT                                |            | kg      | 4350     | 8150     | 8610     | 4350     | 8150     | 8610     | 4350     | 8150     | 8610     |

## Notes:

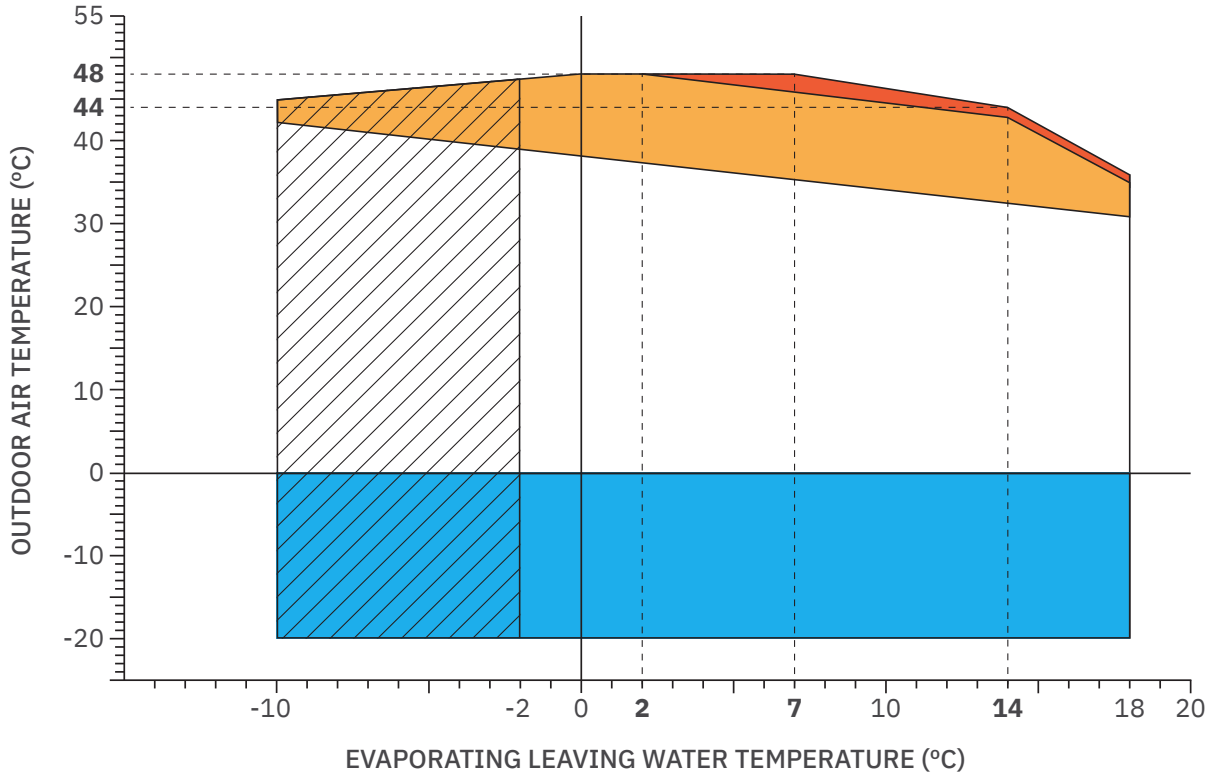
1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Parameter calculated according to [Regulation (EU) N. 2016/2281].
4. Data valid for standard units without any additional options and only indicative. Safety values to be considered when cabling the unit for power supply and line-protection. Refer to Databook.
5. Theoretical - refer to serial plate for actual charge volumes.
6. 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.
7. Sound power on the basis of measurement taken in compliance with ISO 9614. Sound power level in cooling, outdoors.
8. Unit in standard configuration, without optional accessories.





■ Eurovent Certified Data

**MECH-iF-G05 DIMENSIONS**

**Note:** All dimensions are in millimetres.

**MECH-iF-G05 OPERATING ENVELOPES**



-  All versions at part load
-  Low noise version (-SL) not at full load
-  Options required for low evaporator leaving water temperature
-  Antifreeze option(s) required

**Note:** For specific limits of each model, please consult your local sales representative.



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Note: 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), R290 (GWP:3), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R454C (GWP:148), 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 March 2024

