

# Auto Adaptation

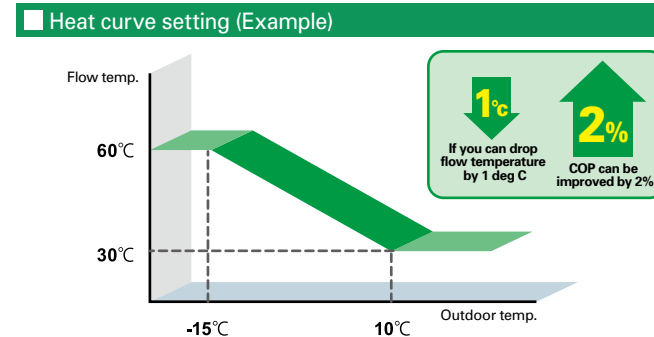
Ecodan – Maximize energy saving while keeping comfort at all times.

No need for complicated settings or adjustments

Aiming to realise further comfort and energy savings, Mitsubishi Electric is proud to introduce a new revolutionary system control. This is based on data indicating that a 1 °C drop in the flow temperature improves the coefficient of performance (COP) of the air-to-water (ATW) system by 2%. In simple terms, this means that comfort and energy savings are dramatically affected by controlling the flow temperature in the system.

In conventional system control, the flow temperature is determined based on the preset Heat curve depending on the actual outdoor temperature. However, this requires a complicated setting involving adjustments to achieve the optimal heat curve according to the heating load of each individual residence.

Compounding the issue, the heat load requirement, temperature and building interior conditions change continuously due to factors such as sunlight, lighting, use of electric appliances, opening/closing of windows and the number of room occupants. Trying to adjust and achieve the optimal flow temperature in response to changes such as these variables is difficult.



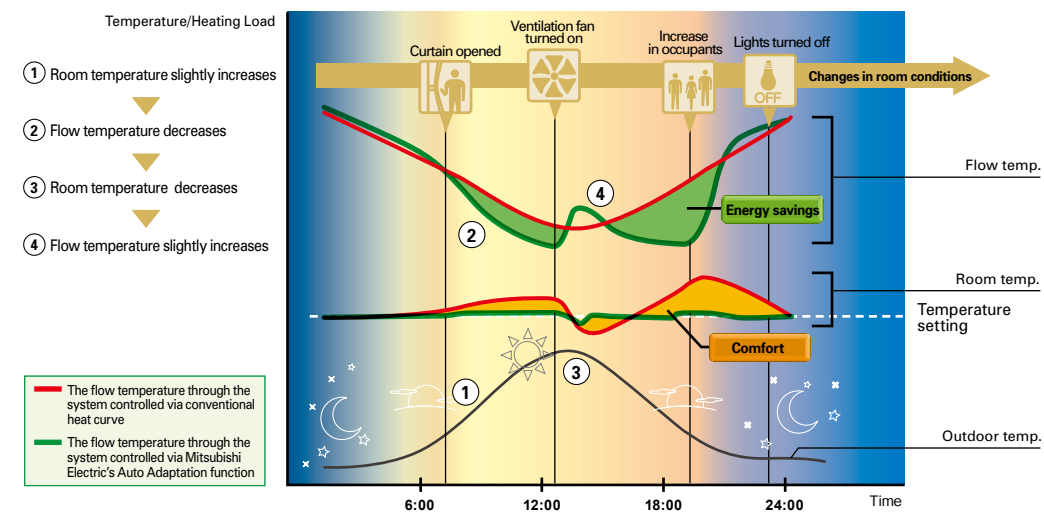
## Mitsubishi Electric's Auto Adaptation function automatically tracks changes in the heating load and adjusts the flow temperature accordingly.

Our newly introduced Auto Adaptation function measures the room temperature and outside temperature, then calculates the required heating capacity for the room. Simply stated, the flow temperature is automatically controlled according to the required heating capacity, while optimal room temperature is maintained at all times, ensuring the appropriate heating capacity and preventing wasted energy.

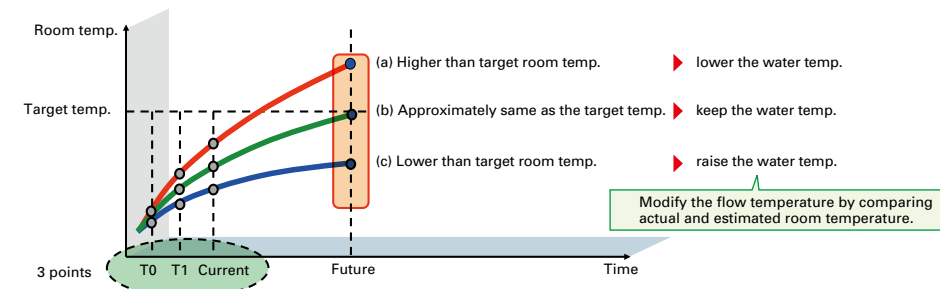
Furthermore, by estimating future changes in room temperature, the system works to prevent unnecessary increases in the flow temperature. Accordingly, room temperature can be kept stable, enhance energy-saving and optimum room comfort can be achieved simultaneously.

Auto Adaptation function maximizes both comfort and energy savings without the need for complicated settings.

### Two Controls simulation on a day



### Future Room temperature. estimation



## Specifications

### Indoor unit

| Model name                    | EHST20C-VM6HA                      | EHST20C-VM9HA                      | Cylinder unit                      |                                    |                                    |                                    | Hydro box                          |                                    |
|-------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
|                               |                                    |                                    | EHST20C-VM6A                       | EHST20C-VM9A                       | EHST20C-VM6SA                      | EHSC-VM6A                          | EHSC-VM9A                          |                                    |
| Heat exchanger                | X                                  | X                                  | X                                  | X                                  | X                                  | X                                  | X                                  | X                                  |
| Domestic hotwater tank        | X                                  | X                                  | X                                  | X                                  | X                                  | X                                  | X                                  | X                                  |
| Booster heater                | X                                  | X                                  | X                                  | X                                  | X                                  | X                                  | X                                  | X                                  |
| Immersion heater              | X                                  | X                                  | X                                  | X                                  | X                                  | X                                  | X                                  | X                                  |
| Solar circuit                 | -                                  | -                                  | -                                  | -                                  | X                                  | -                                  | -                                  | -                                  |
| Dimensions (H x W x D)        | mm 1600-595-680                    | mm 1600-595-680                    | mm 1600-595-680                    | mm 1600-595-680                    | mm 1600-595-680                    | mm 800-530-360                     | mm 800-530-360                     | mm 800-530-360                     |
| Casing RAL code               | - RAL 9001                         | - RAL 9001                         | - RAL 9001                         | - RAL 9001                         | - RAL 9001                         | - RAL 9001                         | - RAL 9001                         | - RAL 9001                         |
| Material                      | - Pre-coated metal                 | - Pre-coated metal                 | - Pre-coated metal                 | - Pre-coated metal                 | - Pre-coated metal                 | - Pre-coated metal                 | - Pre-coated metal                 | - Pre-coated metal                 |
| Product weight (empty)        | kg 131                             | kg 131                             | kg 130                             | kg 130                             | kg 131                             | kg 54                              | kg 54                              | kg 54                              |
| Type of Installation          | - Floor standing                   | - Floor standing                   | - Floor standing                   | - Floor standing                   | - Floor standing                   | - Wall mounted                     | - Wall mounted                     | - Wall mounted                     |
| Power supply (V / Phase / Hz) | 230 / Single / 50                  | 230 / Single / 50                  | 230 / Single / 50                  | 230 / Single / 50                  | 230 / Single / 50                  | 230 / Single / 50                  | 230 / Single / 50                  | 230 / Single / 50                  |
| Heater                        | Booster heater                     | Immersion heater                   | Booster heater                     | Immersion heater                   | Booster heater                     | Immersion heater                   | Booster heater                     | Immersion heater                   |
| Capacity                      | kW 6 (2/4/6)                       | kW 9 (3/6/9)                       | kW 6 (2/4/6)                       | kW 9 (3/6/9)                       | kW 6 (2/4/6)                       | kW 6 (2/4/6)                       | kW 9 (3/6/9)                       | kW 9 (3/6/9)                       |
| Current                       | A 26                               | A 32                               | A 26                               | A 32                               | A 26                               | A 26                               | A 32                               | A 32                               |
| Breaker                       | A 32                               | A 32                               | A 32                               | A 32                               | A 32                               | A 32                               | A 32                               | A 32                               |
| Capacity                      | kW 3                               | kW 3                               | kW 3                               | kW 3                               | kW 3                               | kW 3                               | kW 3                               | kW 3                               |
| Current                       | A 13                               | A 13                               | A 13                               | A 13                               | A 13                               | A 13                               | A 13                               | A 13                               |
| Breaker                       | A 16                               | A 16                               | A 16                               | A 16                               | A 16                               | A 16                               | A 16                               | A 16                               |
| Heat exchanger                | Primary circuit water              | Domestic hot water                 | Primary circuit water              | Domestic hot water                 | Primary circuit water              | Domestic hot water                 | Primary circuit water              | Domestic hot water                 |
| Coil Surface area             | m <sup>2</sup> 11*2                | m <sup>2</sup> 11*2                | m <sup>2</sup> 11*2                | m <sup>2</sup> 11*2                | m <sup>2</sup> 11*2                | m <sup>2</sup> 14*14 (Solar)       | m <sup>2</sup> 14*14 (Solar)       | m <sup>2</sup> 14*14 (Solar)       |
| Coil Length                   | m 14*2                             | m 14*2                             | m 14*2                             | m 14*2                             | m 14*2                             | m 6.8*2                            | m 6.8*2                            | m 6.8*2                            |
| Coil Capacity                 | L 6.8*2                            | L 6.8*2                            | L 6.8*2                            | L 6.8*2                            | L 6.8*2                            | L 6.8*2                            | L 6.8*2                            | L 6.8*2                            |
| Coil Material                 | - Stainless steel                  | - Stainless steel                  | - Stainless steel                  | - Stainless steel                  | - Stainless steel                  | - Stainless steel                  | - Stainless steel                  | - Stainless steel                  |
| Domestic hot water tank       | Volume                             | L 200                              | L 200                              | L 200                              | L 200                              | L 200                              | L 200                              | L 200                              |
| Material                      | - Duplex stainless steel (EN10088) | - Duplex stainless steel (EN10088) | - Duplex stainless steel (EN10088) | - Duplex stainless steel (EN10088) | - Duplex stainless steel (EN10088) | - Duplex stainless steel (EN10088) | - Duplex stainless steel (EN10088) | - Duplex stainless steel (EN10088) |
| Operating ambient condition * | °C 0-35                            | °C 0-35                            | °C 0-35                            | °C 0-35                            | °C 0-35                            | °C 0-35                            | °C 0-35                            | °C 0-35                            |
| Operating range               | Heating                            | Room temperature                   | °C 10-30                           | °C 10-30                           | °C 10-30                           | °C 10-30                           | °C 10-30                           | °C 10-30                           |
| Flow temperature              | °C 25-60                           | °C 25-60                           | °C 25-60                           | °C 25-60                           | °C 25-60                           | °C 25-60                           | °C 25-60                           | °C 25-60                           |
| DHW                           | °C 40-60                           | °C 40-60                           | °C 40-60                           | °C 40-60                           | °C 40-60                           | °C 40-60                           | °C 40-60                           | °C 40-60                           |
| Legionella prevention         | °C Max 70                          | °C Max 70                          | °C Max 70                          | °C Max 70                          | °C Max 70                          | °C Max 70                          | °C Max 70                          | °C Max 70                          |
| Sound level (SPL)             | dB(A) 28                           | dB(A) 28                           | dB(A) 28                           | dB(A) 28                           | dB(A) 28                           | dB(A) 28                           | dB(A) 28                           | dB(A) 28                           |

### Connectable outdoor unit

| Model Name (PUHZ) | RP35VHA4         | RP50VHA4 | RP60VHA4 | RP71VHA4 | RP100VYKA | RP125VYKA | RP140VYKA | HRP71VHA2 | HRP100VYHA2 | HRP125VHA2 |
|-------------------|------------------|----------|----------|----------|-----------|-----------|-----------|-----------|-------------|------------|
| Heating (A7/W35)  | Capacity kW 4.10 | 6.00     | 7.90     | 8.90     | 11.20     | 14.00     | 16.00     | 8.00      | 11.20       | 14.00      |
| COP               | 4.14             | 3.73     | 4.29     | 4.21     | 4.31      | 4.24      | 4.10      | 4.40      | 4.26        | 4.22       |
| Power input       | kW 0.99          | 1.61     | 1.63     | 1.90     | 2.60      | 3.30      | 3.90      | 1.82      | 2.63        | 3.20       |
| Heating (A2/W35)  | Capacity kW 4.10 | 5.00     | 6.80     | 7.50     | 10.50     | 11.50     | 11.80     | 8.00      | 11.20       | 14.00      |
| COP               | 2.93             | 2.50     | 2.94     | 2.92     | 2.90      | 2.70      | 2.78      | 3.24      | 3.02        | 2.70       |
| Power input       | kW 1.40          | 2.00     | 2.31     | 2.57     | 3.62      | 4.26      | 4.24      | 2.47      | 3.71        | 5.19       |
| Noise level (SPL) | dB 46            | 46       | 48       | 48       | 51        | 52        | 52        | 52        | 52          | 52         |
| Dimensions        | Height mm 600    | 600      | 643      | 643      | 1338      | 1338      | 1338      | 1350      | 1350        | 1350       |
| Width mm          | 800              | 800      | 950      | 950      | 1050      | 1050      | 1050      | 850       | 850         | 850        |
| Depth mm          | 300*23           | 300*23   | 330*30   | 330*30   | 330*30    | 330*30    | 330*30    | 330*30    | 330*30      | 330*30     |

Note: Based on EN14511. It may differ according to the system configuration.

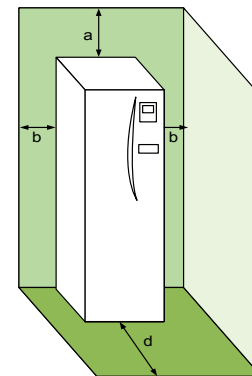
## Optional parts

| Parts name                 | Model name   | Specification | Cylinder unit |               |              |              |               | Hydro box |           |   |
|----------------------------|--------------|---------------|---------------|---------------|--------------|--------------|---------------|-----------|-----------|---|
|                            |              |               | EHST20C-VM6HA | EHST20C-VM9HA | EHST20C-VM6A | EHST20C-VM9A | EHST20C-VM6SA | EHSC-VM6A | EHSC-VM9A |   |
| IMMERSION HEATER           | PAC-IH03V-E  | 1Ph 3kW       | -             | -             | X            | X            | X             | X         | -         | - |
| WIRELESS REMOTE CONTROLLER | PAR-WT40R-E  |               | X             | X             | X            | X            | X             | X         | X         | X |
| WIRELESS RECEIVER          | PAR-WR41R-E  |               | X             | X             | X            | X            | X             | X         | X         | X |
| REMOTE SENSOR              | PAC-SE41TS-E |               | X             | X             | X            | X            | X             | X         | X         | X |
| JOINT PIPE                 | PAC-SH50RJ-E | φ15.88—φ12.7  | X             | X             | X            | X            | X             | X         | X         | X |
| JOINT PIPE                 | PAC-SH30RJ-E | φ9.52—φ6.35   | X             | X             | X            | X            | X             | X         | X         | X |

## Service access diagrams

### Cylinder unit

| Parameter                | Dimension(mm) |
|--------------------------|---------------|
| a                        | 300           |
| b                        | 150           |
| c (distance behind unit) | 10            |
| d                        | 500           |

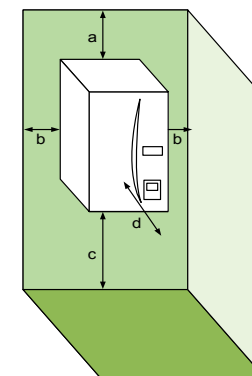


Sufficient space MUST be left for the provision of discharge pipework as detailed in national local building regulations.

The cylinder unit must be located indoors and in a frost-free environment, for example in a utility room, to minimise heat loss from stored water.

### Hydro box

| Parameter | Dimension(mm) |
|-----------|---------------|
| a         | 200           |
| b         | 150           |
| c         | 500           |
| d         | 500           |

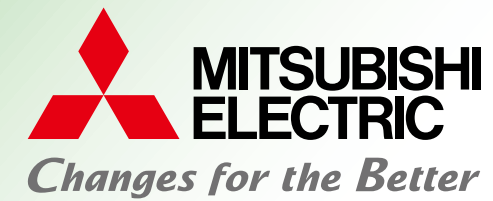


Sufficient space MUST be left for the provision of discharge pipework as detailed in national local building regulations.

The hydro box must be located indoors, for example in a frost free utility room.

## MITSUBISHI ELECTRIC CORPORATION

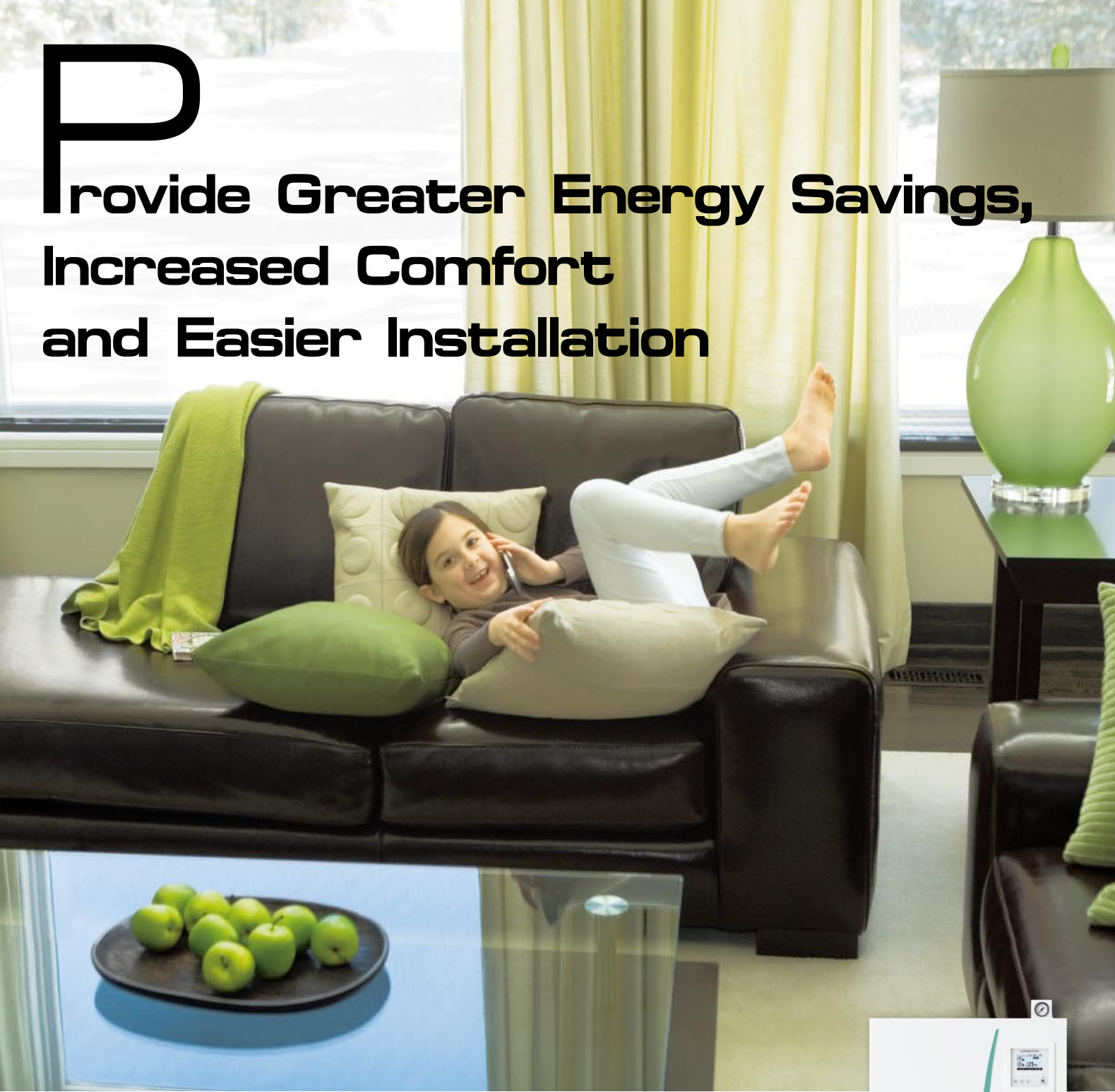
HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN  
<http://Global.MitsubishiElectric.com>



## Air-to-water Heat Pump Systems

for a greener tomorrow





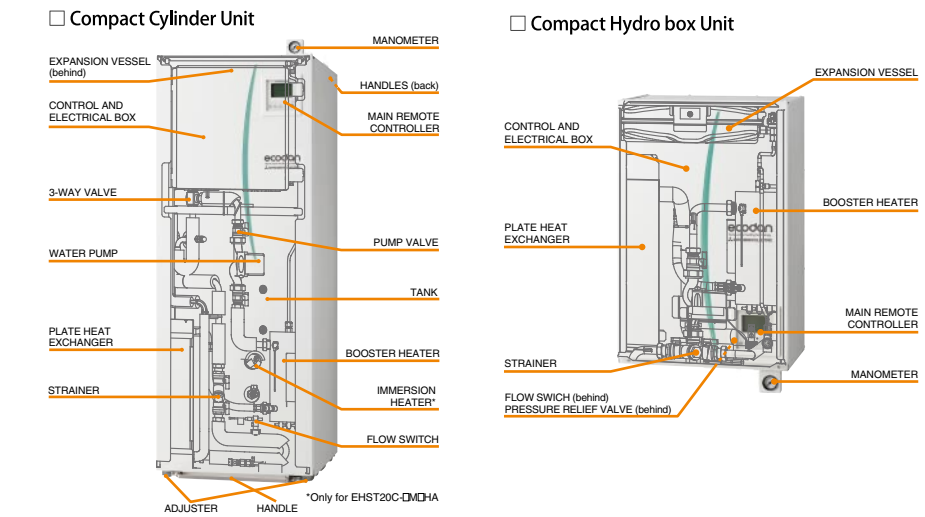
**Provide Greater Energy Savings,  
Increased Comfort  
and Easier Installation**

**User-friendly Operation  
Fast, Simple Installation**

## All-in-one & Compact

**Small overall size contributes to easy transportation, installation and maintenance**

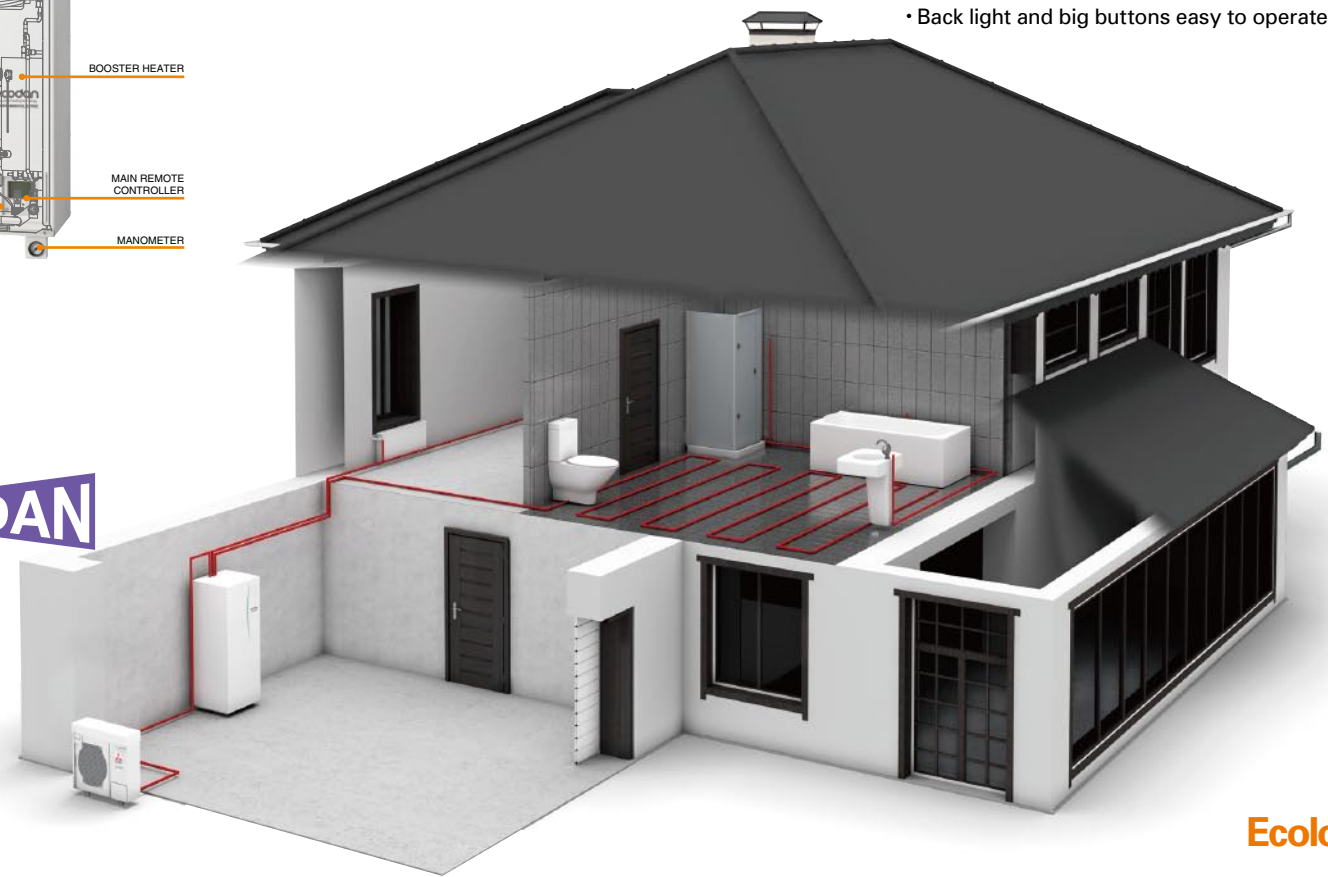
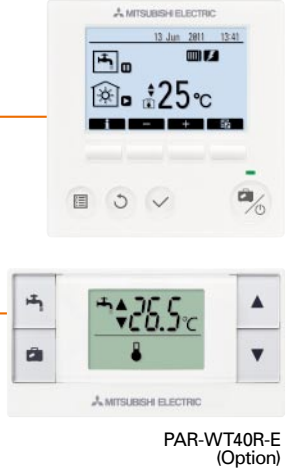
- Simplified: All key functional components are incorporated into the unit.
- Easy servicing: Relevant parts located at the front of the unit
- Compact Cylinder Unit Design: 595x1,600x680mm (WxHxD)  
Installation is possible in low-ceiling basements and within the standard size for home appliances. Only 0.405 m<sup>3</sup> required.
- Compact Hydro box Unit Design: 530x800x360mm (WxHxD)
- Easy to transport and install using the attached handle (Cylinder unit) and a back plate (Hydro box unit)



## Remote Controller

**Attractive, easy-to-read advanced LCD and trouble-free interface**

- User-friendly, intuitive operation through simple layout of buttons and easy to understand icons.
- Pure white design matches virtually any interior.
- ★ Main remote controller
  - Large screen and back light for excellent visibility, even when it is dark
  - Eleven languages supported
  - Can be removed from the main unit and installed in remote location (up to 500m)
  - Wide range of convenient functions in response to user demand
  - Weekly timer - Holiday mode - Legionella prevention - Error code and data for servicing
- ★ Wireless remote controller (optional)
  - Built-in room temperature sensor; easy to place in the best position to detect room temperature
  - Wiring work eliminated - Simple design, easy to operate
  - Remote control from any room without the need to choose an installation location
  - Back light and big buttons easy to operate



**A simple, modern design  
that naturally blends into surroundings.  
A pure white body that compliments all colours.**



## Hi-Power ZUBADAN

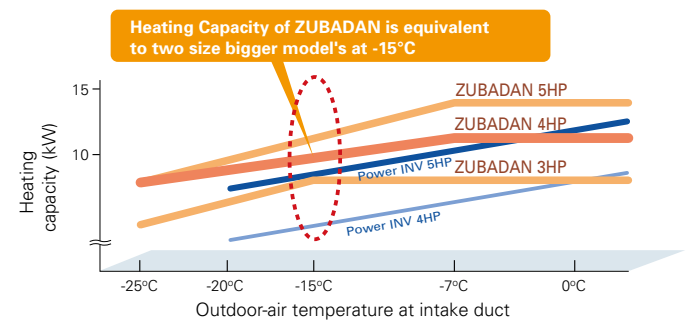
**Even at the very low ambient temperature, our ZUBADAN can provide powerful heating.**

- Our unique flash injection circuit enables the nominal capacity to be maintained to -7°C.
- The guaranteed operating range of the heating mode is extended to -25°C.

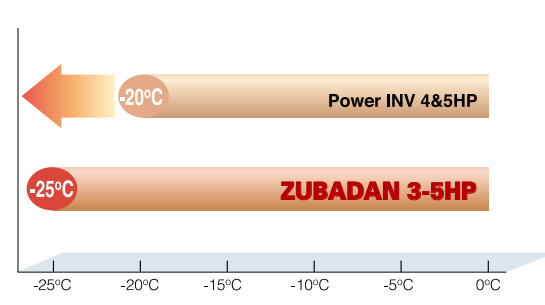
**ecodan**  
Renewable Heating Technology



### Flash Injection Circuit



### Guaranteed heating operation range extended to -25°C (outdoor temperature)



**Ecological and Economical. Ecodan is the Logical Choice.  
Next-generation hot water supply system.**

### The secret behind our impressive heat pump efficiency is capturing the heat that is already in the air.

