AIR TO WATER

ecodan
Renewable Heating Technology

SELECTION
Choose the series that best matches the building layout.

Excellent ecodan's heating performance, even at low outdoor temperature!

R32

INDOOR UNIT

Hydrobox, Cylinder unit

OUTDOOR UNIT

Packaged type	Small capacity (Under 5kW)*	Medium capacity (6kW–14kW)*
ZUBADAN New Generation		 PUZ-HWM140
POWER INVERTER	 PUZ-WM50	 PUZ-WM60/85/112
Split type	Small capacity (Under 5kW)*	Medium capacity (6kW–14kW)*
ZUBADAN New Generation		 PUD-SHWM60/80/100/120/140
POWER INVERTER		PUD-SWM60/80/100/120
Eco Inverter	 SUZ-SWM40/60	 SUZ-SWM80

*Rated capacity is at conditions A2W35. (according to EN14511)

R410A

INDOOR UNIT

Hydrobox, Cylinder unit

OUTDOOR UNIT

Split type	Medium capacity (7.5kW–14kW)*		Large capacity (≧16kW)*
ZUBADAN New Generation	 PUHZ-SHW80/112	 PUHZ-SHW140	 PUHZ-SHW230
POWER INVERTER	 PUHZ-SW75/100	 PUHZ-SW120	 PUHZ-SW160/200

*Rated capacity is at conditions A2W35. (according to EN14511)

Other ATW-related system	Mr.SLIM+	PUMY + ecodan	ecodan geodan
	R410A  PUHZ-FRP71	R410A  PUMY-P112/125/140	R32  EHGT17D-YM9ED

New Eco-design Directive

What is the ErP Directive?

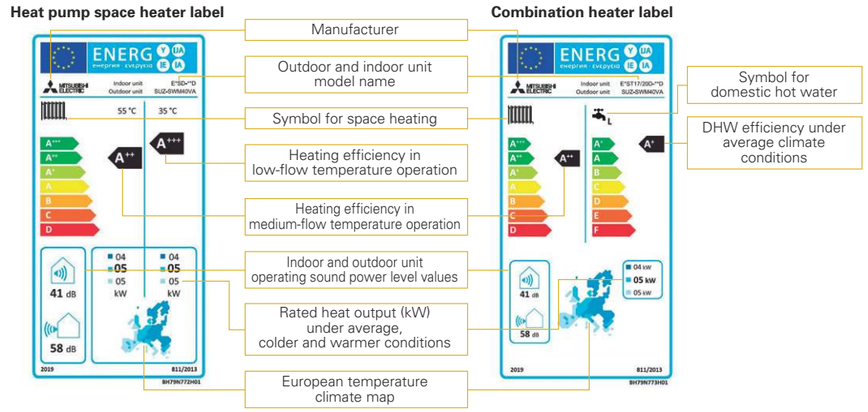
The Eco-design Directive for Energy-related Products (ErP Directive) established a framework to set mandatory standards for ErPs sold in the European Union (EU). The ErP Directive introduces new energy efficiency ratings across various product categories. It affects how products such as computers, vacuum cleaners, boilers and even windows are classified in terms of environmental performance. Labelling regulations that apply to our ATW heat pumps came into effect from September 26, 2015, and then revised from September 26, 2019.

New energy label and measurements

Under directive 2009/125/EC, ATW heat pumps of up to 70kW are required to show their heating efficiency on the energy label. The purpose of the energy label is to inform customers about the energy efficiency of a heating unit. The efficiency for space heating is ranked from A^{+++} to D (from September 2019). In the case of domestic hot water, it is from A^{+} to F (from September 2019).

Product label

This label is for individual heating units, such as an ecodan heat pump. Typically, the space heater label is used for ecodan systems with a hydrobox, and the combination heater label is used for ecodan systems with a cylinder unit.



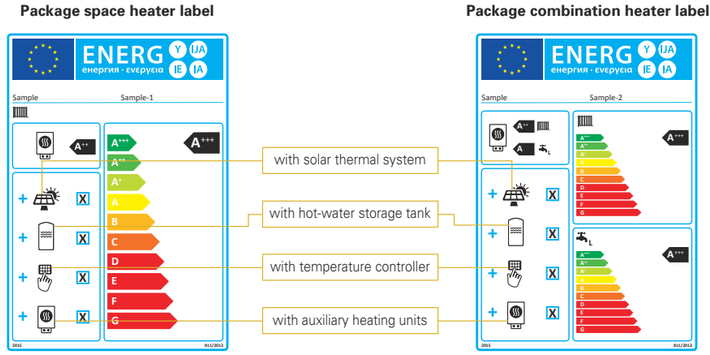
These labels are delivered with all ecodan outdoor units.

What is the package label?

A heating system can use several energy-related products, such as a controller or solar thermal system. Therefore, a label showing the efficiency of the total heating system is required. The category range is defined from A^{+++} to G.
Creating the package label is the responsibility of the installers and distributors. A useful tool on the Mitsubishi Electric website is available to easily create the labels for ecodan products and controllers.
http://erp.mitsubishielectric.eu/erp/options

Package label

This label is for heating systems that use several energy-related products, such as a controller or a solar thermal system.



Customised package labels including ecodan heat pumps and the FTC6 controller can be created on the Mitsubishi Electric website.

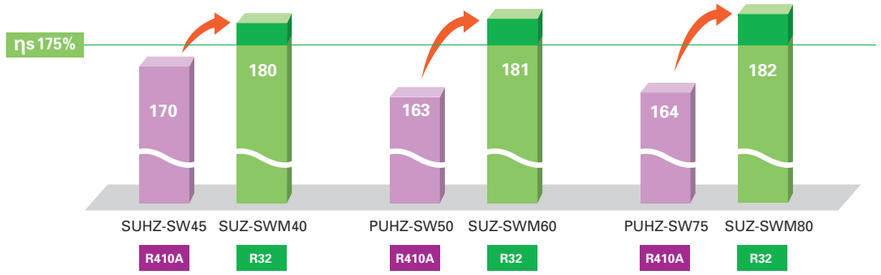
New R32 Eco Inverter Line-up

Energy Efficient and Environmentally Friendly Heating

- Wide variety of product line with R32 refrigerant
- More energy efficient than conventional eco inverter models

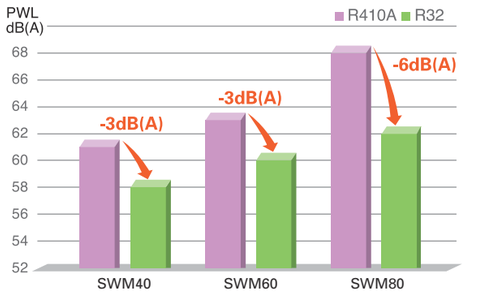
High Performance

All models have achieved the "RANK A^{+++}" for SCOP at low temperature.



Low Noise

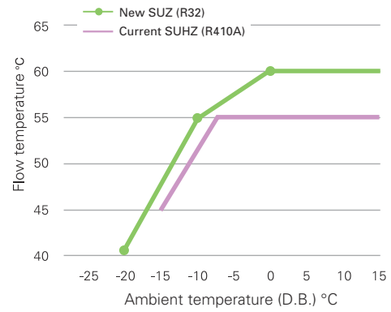
Compared with conventional outdoor unit, New R32 eco inverter achieved lower noise level, assuring the flexibility of installation in dense residential areas.



*Compared SUZ-SWM40/60/80VA with SUHZ-SW45VA/PUHZ-SW50VKA/PUHZ-SW75VHA
*Rated condition (According to EN12102)

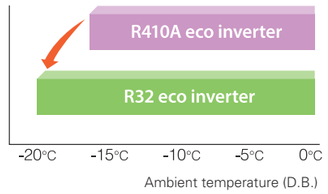
60°C Flow Temperature

Along with its increased lower operating range the New R32 range is capable of delivering a higher flow rate of 60°C, 5°C higher than the conventional model.



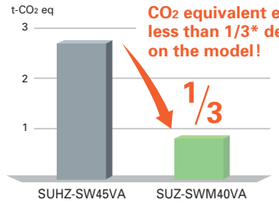
Guaranteed Operating Range Expansion

Guaranteed heating operating range is extended to –20°C.



Reducing Refrigerant Amount

<R410A vs R32> CO_2 equivalent emission



Model name	SUHZ-SW45VA	SUZ-SWM40VA
Refrigerant amount	1.3kg	1.2kg
GWP	2088 (R410A)	675 (R32)
t-CO_2 eq	2.714	0.810

*Source: IPCC 4th Assessment Report, global warming potential (GWP) 100-year value. Comparison of 2088 (R410A) and 675 (R32).

Dedicated Heat Pump for Residence

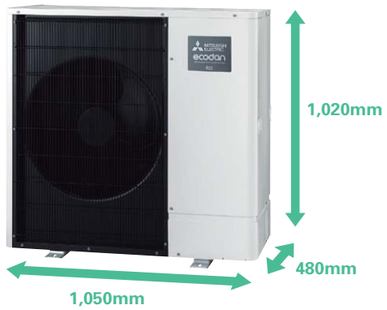
Stylish and Compact

The Stylish Design and Compact Size Harmonises Residential Application

- Simple and elegant design by rounding left and right corners of the unit.
- Concealing the fan by matching the panel and the grille in dark colour.
- Unified shape and safety by setting the fan whole backwards and matching the grille on the same level of the front panel.
- Wider lineup with environmental-friendly R32 refrigerant.

GOOD DESIGN AWARD 2017

reddot award 2018 winner

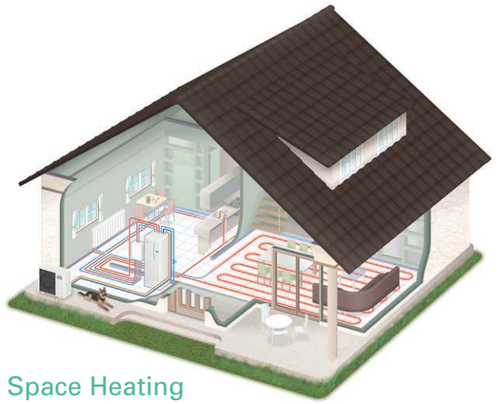


High Performance

New Compressor

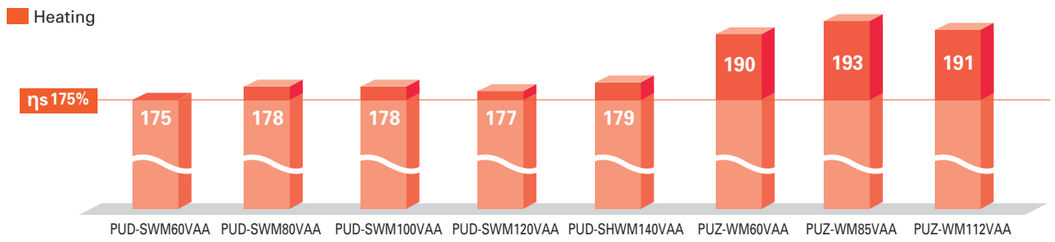
- Compact
- High performance
- Flash injection*

*ZUBADAN (SHWM) only



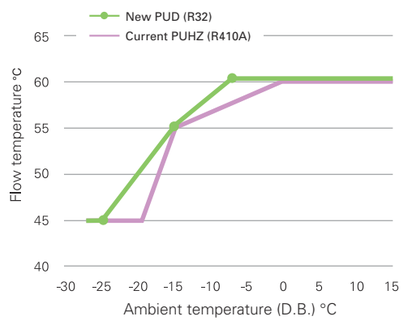
ErP Lot 1 Compliant with Highest Seasonal Space Heating Energy Efficiency Class A+++

All models have achieved the "RANK A^{+++}" for SCOP at low temperature.



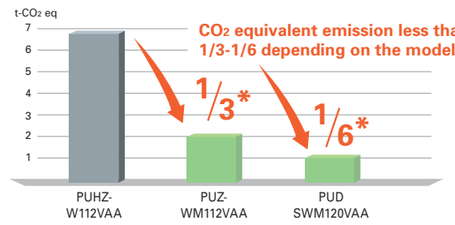
60°C Flow Temperature at Low Ambient Temperature

60°C max flow temprature can be maintained up to Ambient –7°C.
(For PUD-S(H)WM models)



Reducing Refrigerant Amount

<R410A vs R32> CO_2 equivalent emission



Model name	PUHZ-W112VAA	PUZ-WM112VAA	PUD-SWM120VAA
Refrigerant amount	3.3kg	3.0kg	1.6kg
GWP	2088 (R410A)	675 (R32)	675 (R32)
t-CO_2 eq	6.890	2.025	1.080

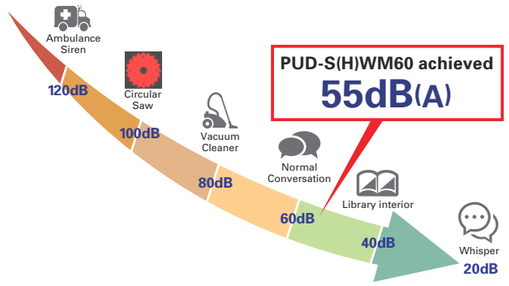
*Source: IPCC 4th Assessment Report, global warming potential (GWP) 100-year value.
Comparison of 2088(R410A) and 675 (R32).

Compact with Silence

Noise Reduction-10dB(A)

Mitsubishi Electric heat pumps are designed to give you highly efficient and eco-friendly heating with 10dB(A) less in PWL.
Compared with conventional models.

*Rated condition (According to EN12102)



Enclosing Noise

Shutting Out Noise from Compressor

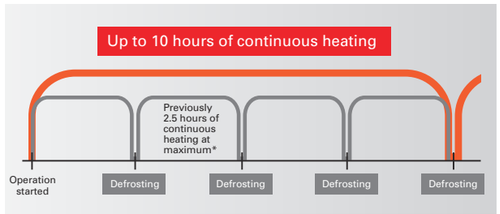
- The structure of double enclosing

Primary: enclosing a compressor (the structure is patented.)
Secondary: enclosing machine room.

New Control for Eco-friendly Heating

Defrost Improvement

Conventional models often switch to defrost operation even when there is not much frost on outdoor units. By detecting frost more precisely, it is possible to prevent frequent on/off for defrosting and to give you more comfort.



*Comparison between prior PUHZ-SHW·AA model and new PUD-S(H)WM·AA model.
Maximum number of operational hours at our Company's laboratory (external temperature –15ºC).
Hours of continuous operation may differ depending on external temperature conditions.

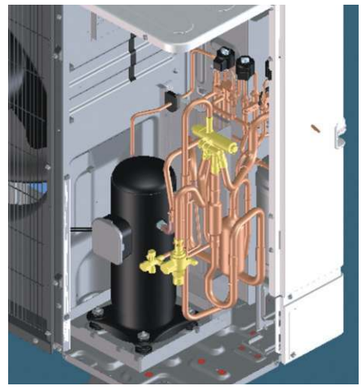
Blowing Air

To Reduce Fan Noise

- Optimising fan position
- Optimising bell mouth shape
- Bigger fan diameter

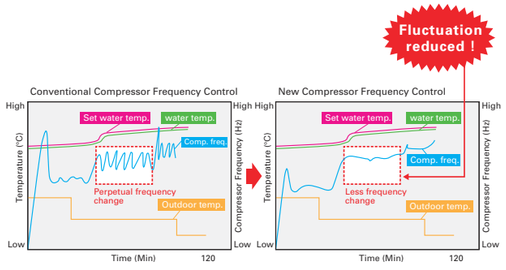
Avoiding Vibration and Resonance

- Dedicated soft rubber mount for the compressor to avoid vibration.
- Optimising piping structure to avoid vibration and resonance.



New Compressor Frequency Control

By reducing frequency changes (from 17 to 4 times per hour), hunting is prevented. Reducing fluctuation improves efficiency and prolongs compressor life.

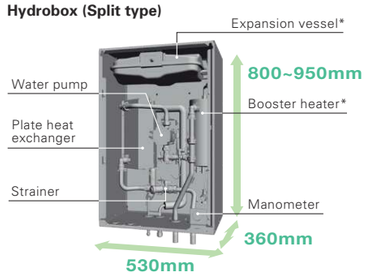


D generation Indoor Unit

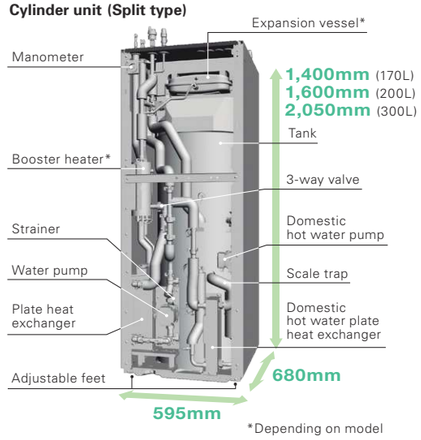
All-in-one Compact Indoor Unit

- All-in-one: Key functional components are incorporated
- Compact cylinder unit: 1,400~2,050mm in height
- Compact hydrobox: Only 530×360mm footprint
- Easy installation: Factory fitted pressure relief valve
- Easy service: Relevant parts are located at the front of the unit for easy maintenance
- Easy transport: Handles attached on front and back (cylinder unit)

Hydrobox (Split type)



Cylinder unit (Split type)



*Depending on model

Line-up

ecodan's line-up has many types of indoor units to satisfy diverse customers' needs, requests and local regulations.
It includes various capacity units, with/without booster heater, with/without an expansion vessel, etc.
In addition, a reversible hydrobox and a reversible cylinder unit are available.

Hydrobox **Cylinder unit**

Available options

– Packaged or Split type
– With/without booster heater
– With/without expansion vessel
– Cylinder unit has an integrated 170L/200L/300L stainless steel tank
– Hydro box is control ready for domestic hot water with a stand-alone tank (locally supplied)

Reversible Models

(for heating/cooling)

Perfect Comfort in Winter and Summer Time, Thanks to Our Reversible Models.

Reversible models are now available for both hydrobox and cylinder units (Both for split type and cylinder unit for packaged type).
The new reversible cylinder is now able to produce cold water for cooling use and can alternatively produce domestic hot water in summer time.

Reversible hydrobox **Reversible cylinder unit**

Easy Installation and Low Maintenance

Simple Piping Arrangement

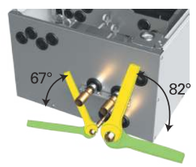
All water piping is aligned at the rear side of the unit for easy connection and neat finish.

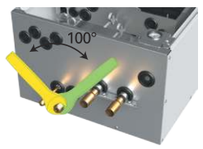
Built-in Drain Pan for Reversible Cylinder Models

Reversible models now include a built-in space saving drain pan and the drain socket is positioned at the back of the unit. With use of the adjuster bolt, the outlet height can be higher than 50mm, allowing 5m drainage.

Hydrobox Piping Arrangement Improvement

Through structural innovation related to the space around the pipes, the area where the spanner can be moved has been increased, thus improving pipe work and enabling it to be completed smoothly.





Minimum Additional Water Required

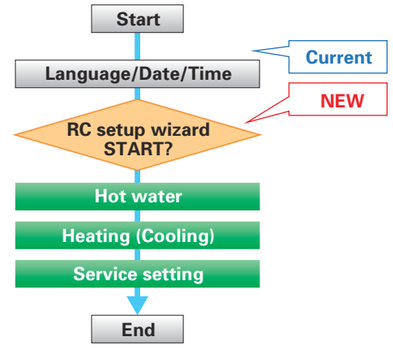
In average/warmer conditions, minimum additional water is required for outdoor unit. If there is enough water amount inside water pipe, radiator, or underfloor heating no buffer tank is required.
*Refer to the indoor unit installation manual for specific outdoor unit models.

Easy Adjustment

Adjust bolt capable of 50mm expansion for easy installation on uneven surfaces.

Initial Setting Wizard

In addition to language, date and time, you can set up hot water and heating/cooling operation, pump speed, flow rate range initial setting much simpler than previous models.



Operation Data Monitoring

Time, operation mode, flow/return/tank temperature, can be displayed on main remote controller.

Sample display of monitoring setting

26 Feb 2019 10:00				
	THW1	THW2	THW5	Flow
10:00	41°C	38°C	54°C	20L
9:55	38°C	38°C	54°C	20L
9:50	48°C	48°C	54°C	20L
9:45	60°C	56°C	54°C	15L
9:40	59°C	55°C	52°C	15L
i	◀	▶		(1/5)

2 Zone Kit

- You can select from 3 types of pump operations, 1. Fixed speed mode, 2. Fixed pressure mode, 3. Energy saving mode, depending on your preference.

- All-in-one kit: Key functional components are incorporated in 2 zone kit.
- Easy installation: G1 screw type flexi-piping to avoid brazing.
- Compact size: Just to fit on the top of cylinder unit, also wall mountable.

High Performance

Improved Efficiency

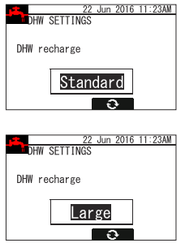
With additional thermistor (THW5A), ηwh [%] rating is improved by more than 40% compared to previous C generation 200L models allowing 170L and 200L to achieve A+, the highest possible domestic hot water efficiency rank.

Excellent DHW efficiency

	170L	200L	300L
	ηwh [%]	ηwh [%]	ηwh [%]
Conventional	–	96~104	–
New	120~148	135~159	118~128
Load Profile	L	L	XL
DHW Rank	A+	A+	A/A+

Thermistor Position of Cylinder

The thermistor position is now selectable allowing the unit to accommodate for different water demands in order to maximise the efficiency of the unit for any size of household or application.
Using two thermistors equipped with all sizes of tanks, you can now select the DHW recharge amount from two options (Standard/Large). It helps accomodate for different water demands in order to maximise the efficiency of the unit for any size of household or application. This mode can be selected from main remote controller.



Unique Technology of ecodan

Auto Adaptation

Maximise Energy Savings While Retaining Comfort at All Times

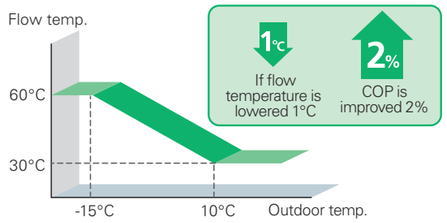
Settings can be performed using an SD card.

*SD logo is a trademark of SD-3C, LLC

Regarding the relation of flow temperature and unit performance, a 1°C drop in the flow temperature improves the coefficient of performance (COP) of the ATW system by 2%. This means that energy savings are dramatically affected by controlling the flow temperature in the system.

In a conventional system controller, the flow temperature is determined based on the pre-set heat curve depending on the actual outdoor temperature. However, this requires a complicated setting to achieve the optimal heat curve.

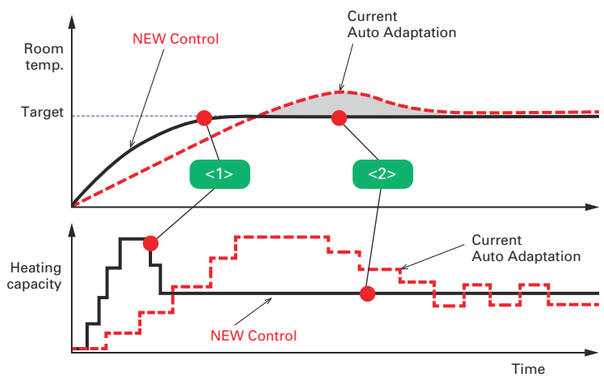
■ Heat curve setting (Example)



Auto Adaptation Improvement

Mitsubishi Electric's Auto Adaptation Function Automatically Tracks Changes in the Actual Room Temperature and Outdoor Temperature and Adjusts the Flow Temperatures Accordingly.

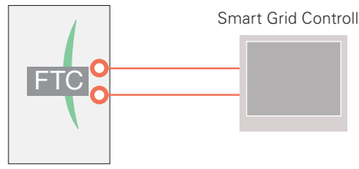
Aiming to realise further comfort and energy savings, Mitsubishi Electric has already introduced a revolutionary new controller. Auto Adaptation function measures the room temperature and outdoor temperature, and then calculates the required heating capacity for the room. Simply stated, the flow temperature 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 energy from being wasted.
Furthermore, by estimating future changes in room temperature, the system works to prevent unnecessary increases and decreases in the flow temperature. Accordingly, Auto Adaptation maximises both comfort and energy savings without the need for complicated settings.
For Mitsubishi Electric ecodan, by introducing improved control logic, we acheived faster heating and more energy saving.



<1> Fast heating with improved accuracy in learning building heat load
<2> Energy saving by avoiding over heating and capacity fluctuation with better control response, i.e. control interval and resolution

Smart Grid Ready Function

In recent years renewable energy generation has become popular. However, this rapid growing causes the problem of supply and demand gap of electricity. The aim of "SG Ready" is to make the electricity demand response more flexible by creating a uniform interface for the smart grid integration of heat pumps. Air-to-Water units need to be able to change the operation pattern when the signal is received from the Smart Grid Controller.
New ecodan Cylinder, Hydrobox and FTC have been modified to communicate with Smart Grid Controller. The communication protocol is based on "SG Ready" label regulation. (Version 1.1; gültig ab 01.01.2013)



Pattern	Input 1	Input 2	Operation
1	OFF	OFF	Normal operation
2	ON	OFF	Switch ON recommendation
3	OFF	ON	Switch OFF command
4	ON	ON	Switch ON command

SG

Pattern 1: Normal operation
When there is no signal from the Smart Grid Controller, DHW and Heating operate according to user settings.

Pattern 2: Switch ON recommendation
When set to the "Switch ON" recommendation, the target temperature of DHW is increased a specified amount and the heating "Thermo ON" condition range is extended.

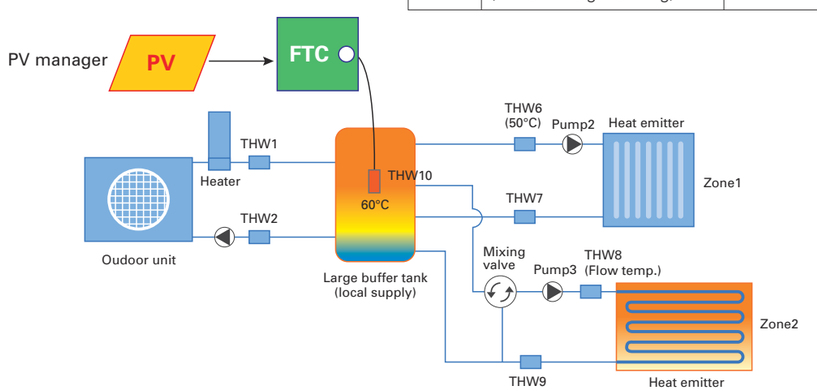
Pattern 3: Switch OFF command
When the "Switch OFF" command is received, both DHW and Heating are turned off.

Pattern 4: Switch ON command
When the "Switch ON" command is received, the target temperature of DHW is increased to the maximum target temperature and Heating continues.

Improved Smart Grid Ready

SG ready icon on main remote controller indicates that SG ready is active and its setting can be easily operated with main remote controller. Improved SG ready function enables you to choose the target temperature in unit of 1°C. Also, when PV manager is interlocked with ecodan and ecodan receivers its signal, heat is stored as much as possible while heat pump and/or electric heater running.
Heat storage in large buffer tank will be made available for zone2 as well when peak cut signal is on. As long as a mixing valve keeps its control, zone2 flow temperature is maintained.

Pattern	Operation	R/C indication
1	Normal operation	——
2	Switch ON recommendation	SG
3	Switch OFF command	
4	Switch ON command (while PV is generating)	



Intelligent Hybrid Control (boiler interlock)

An Existing Boiler Can Be Used for Extra Heating Capacity in an Efficient Way

Settings can be performed using an SD card.

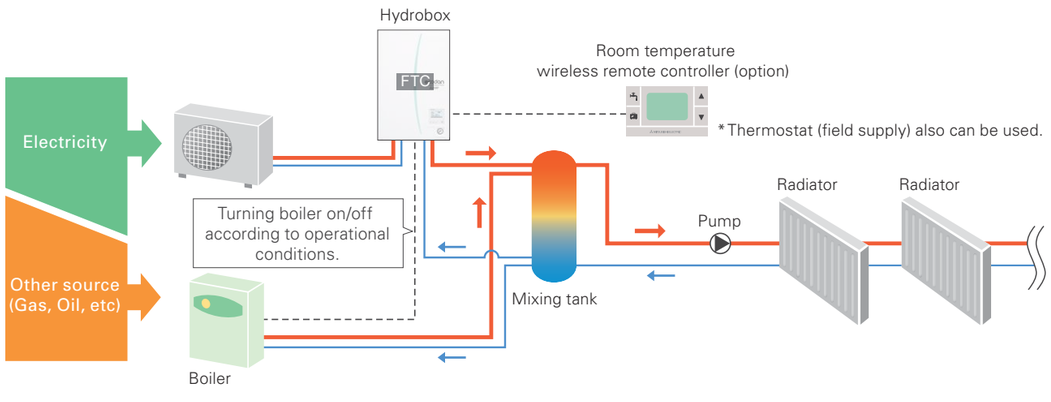
*SD logo is a trademark of SD-3C, LLC

The flexibility of ecodan's intelligent control allows the system to be combined with the boiler currently in use. Additionally, this control can judge which heating source to use either ecodan or the existing boiler, based on various conditions*.
In the event of one heating unit not working due to some unforeseen problem, the other heating system can be used as a back-up, thereby preventing the heating system operation from stopping completely.

*Please see below "Heat source switchover".

Intelligent system combining a boiler with ecodan

■ Intelligent boiler interlock system



* Items such as a mixing tank, and pump are not included and need to be purchased locally.

Heat source switchover - Choose appropriate system based on needs

4 types of heat source switchover logic

① Switchover based on actual outdoor temperature
- Heat source switchover occurs when the outdoor temperature drops below a pre-set temperature.

② Switchover based on running cost
- Heat source switchover occurs by judging optimal operation based on running cost.
  *Pre-registration of the energy price of electricity, and gas or oil per 1kWh is necessary.

③ Switchover based on CO_2 emission level
- Heat source switchover occurs to minimise CO_2 emission.
  *Pre-registration of CO_2 emission amount from electricity and gas or oil is necessary.

④ Switchover can also be activated via external input
- For example, the peak cut signal from electric power company.

2 Zone Control (for heating/cooling)

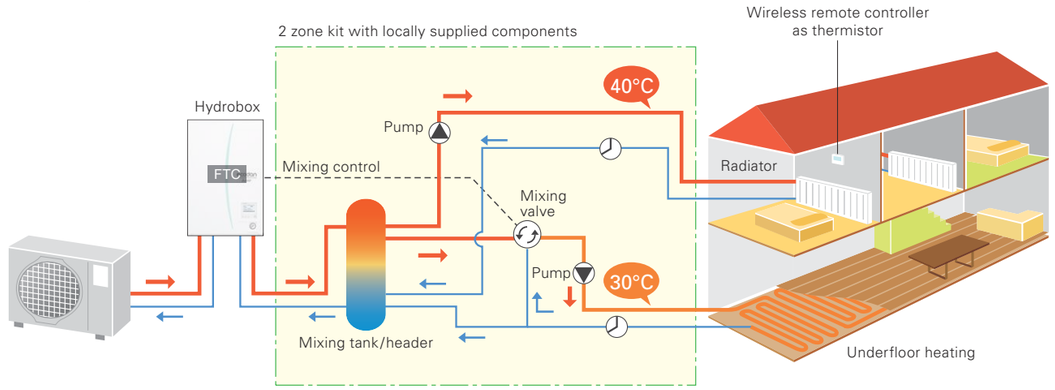
Improved Simultaneous Control of Two Different Zones

Settings can be performed using an SD card.

*SD logo is a trademark of SD-3C, LLC

Using ecodan, it is possible to control two different flow temperatures, thereby managing two different heating load requirements. The system can adjust and maintain two flow temperatures when different temperatures are required for different rooms; for example, controlling a flow temperature of 40°C for the bedroom radiators and another flow temperature of 30°C for the living room floor heating.
Moreover, mixing valve control is advanced for improving zone 2 comfort by using heat storage in buffer tank. Also, new controller monitors the temperature inside buffer tank and prioritizes using the heat inside the tank to avoid frequent on/off operation when using 2 zone control.

■ Two temperature zones



*Items such as a mixing tank, mixing valve and pumps are not included and need to be purchased locally.

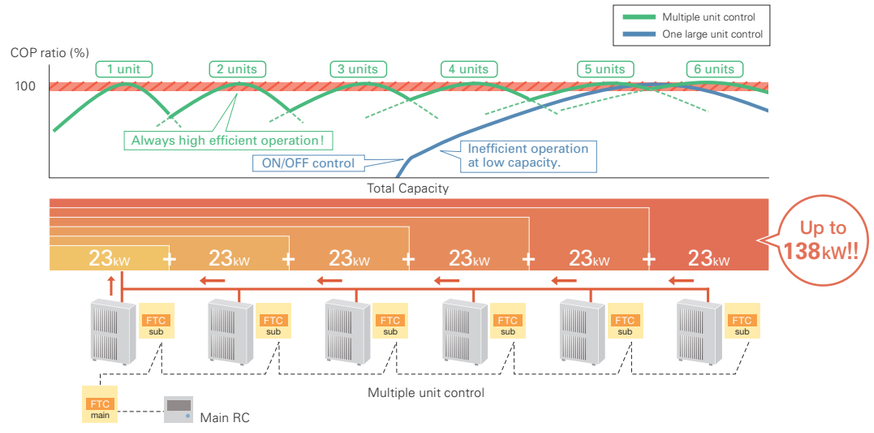
Multiple Unit Control

Connect up to 6 Units – Automatic Control of Multiple Units for Bigger Capacity and Better Efficiency

A maximum of 6 units* can be configured according to the heating/cooling load of the building. The most efficient number of operating units is determined automatically based on heating/cooling load. This enables ecodan to provide optimal room temperature control, and thus superior comfort for room occupants. Also incorporated is a rotation function that enables each unit to run for an equal time period.
If one of the units malfunctions when using the Multiple Unit Control, another unit can be automatically operated for back-up, thereby preventing the system operation from stopping completely.

*Only same models (same capacity) can be used.

■ Multiple unit control



Remote Controllers

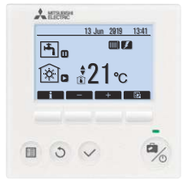
Smart User-friendly Controller with Stylish Design

Main remote controller

- Large screen and backlight for excellent visibility, even in dark environment
- Multi-language support (supports 15 languages)
- Can be removed from main unit and installed in a remote location (up to 500m)
- Quick reading of operation data (7.5 times faster than previous model)
- Wide range of convenient functions in response to user demand

Function settings

– Energy monitoring
– Two-zone control (cooling and heating)
– Two separate schedules
– Summer time setting
– Built-in room temperature sensors
– Hybrid control (boiler interlock)
– Floor drying mode
– Weekly timer
– Holiday mode
– Legionella prevention
– Error codes



Main controller

PAR-WR51R-E (Option)
Receiver

PAR-WT50R-E (Option)
Wireless remote controller

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 that is easy to operate
- Remote control from any room without needing to choose an installation location
- Backlight and big buttons that are easy to operate
- Domestic hot water boost and cancellation
- Simplified holiday mode

Settings can be performed using an SD card.

Energy Monitoring

View Electricity Consumption and Heat Output on the Remote Controller

*SD logo is a trademark of SD-3C, LLC

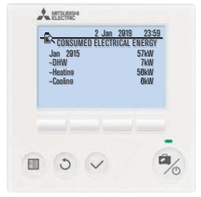
Every end user can now easily check the energy data of the ecodan heat pump.

Other features

– Daily, monthly and yearly data are stored and can be displayed using the main remote controller.
– External power meter and heat meter can be connected for accurate measurement.
– SD card is also available for storing data.

Heating capacity produced

Electric energy used

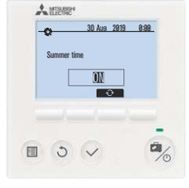


*Using pre-set values on the main remote controller, estimated energy consumption/output can be shown without external power and a heat meter.
Depending on operating condition and system configuration, there is some possibility to show different data from the reality.
*This function is available depending on the version of the outdoor unit model.

Summer Time Setting

Easy Adjustment for Summer Time

Just switch the summer time mode 'on' using the main remote controller and the clock in the main remote controller is adjusted to summer time hours.
This function can release the end user from clock setting tasks.



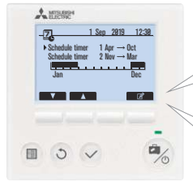
Two Separate Schedules

Pre-setting Two Different Schedules for Winter and Summer Seasons

Settings can be performed using an SD card.

*SD logo is a trademark of SD-3C, LLC

Two different schedule settings are available for use via the main remote controller.
These schedules can be pre-set and changed depending on the season. For example, from November to March, space heating and domestic hot water are used; however, during warm months such as from April to October, only domestic hot water is used.



<Example>

Schedule 1 Winter time
Space heating **daytime**
Domestic hot water **early morning**

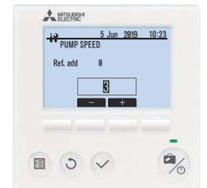
Schedule 2 Summer time
Domestic hot water **any time**

Easy Commissioning

Pump for Primary Water Circuit* Speed Setting Possible Using ecodan's Main Remote Controller

Even when the system is running, pump output can be set to one of five different settings using the main remote controller.
The person commissioning the system can adjust this speed much more easily.

*Speed setting of pump for domestic hot water is not available through the main remote controller when the system is running.



Flow sensor newly incorporated

The flow sensor is key for monitoring energy output and can also be used to detect flow error as well.
– Flow rate can be checked on the main remote controller.
– Flow rate can also be shown as graphs using the SD card tool.

Run indoor unit* without outdoor unit

During installation or situations such as an outdoor unit malfunction, the indoor unit can be operated using a heater.
While using this mode, flow and tank temperature are selectable.
Fixing and maintenance of the outdoor unit can be done without stopping heating and domestic hot water operation*.

*Models with electric heater only.
*When the indoor unit operation stops, please check all settings after the outdoor unit is connected.

SD* Card

For Easier Settings and Data Logging

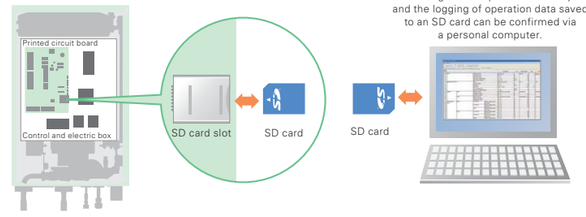
Settings can be performed using an SD card.

*SD logo is a trademark of SD-3C, LLC

The initial setting for ecodan is now simpler than ever before. The special software enables the required initial settings to be saved to an SD card using a personal computer. The system set-up is as easy as moving the SD card from the computer to the SD card slot in the indoor unit. Compared to the previous procedure of inputting settings using the main controller at the installation site, a remarkable reduction in set-up time has been achieved. Thus, it is ideal for busy installers.

*SD card function is only used at the time of installation.

Hydrobox operation panel



Items that can be pre-set

Simply copying pre-set data to an SD card, the same settings can input into another unit using the SD card.

- Initial settings (time display, contact number, etc.)
- Heating settings
  – Auto adaptation
  – Heat curve
  – Two different temperature zones (heating and cooling)
- Interlocked boiler operation settings
- Holiday mode settings
- Schedule timer settings (two separate schedules)
- Domestic hot water settings
- Legionella prevention settings

All items that are set by the main controller can be set via a personal computer.

Data that can be stored

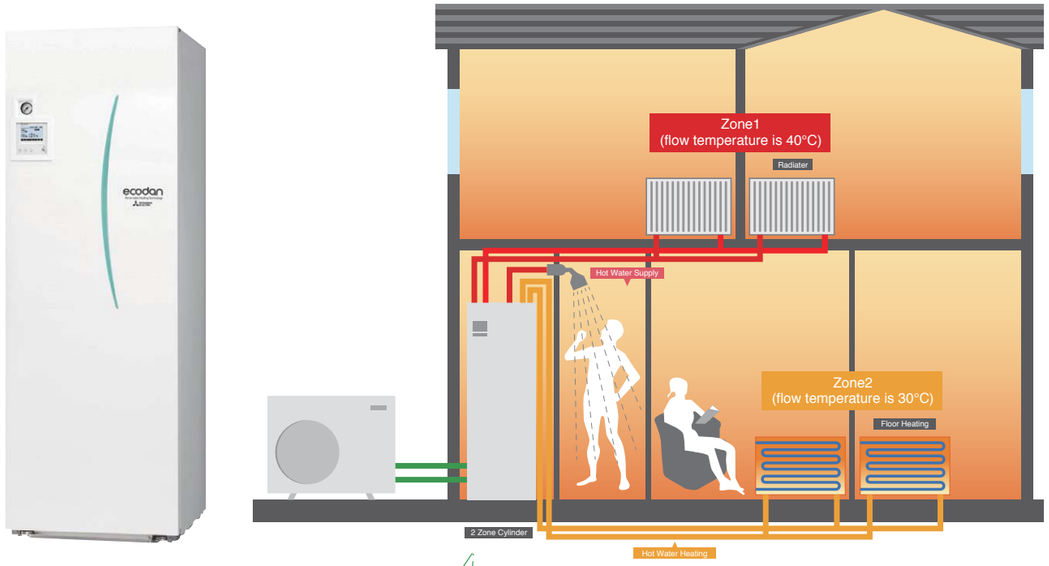
Operation data up to a month long can be stored on a single SD card

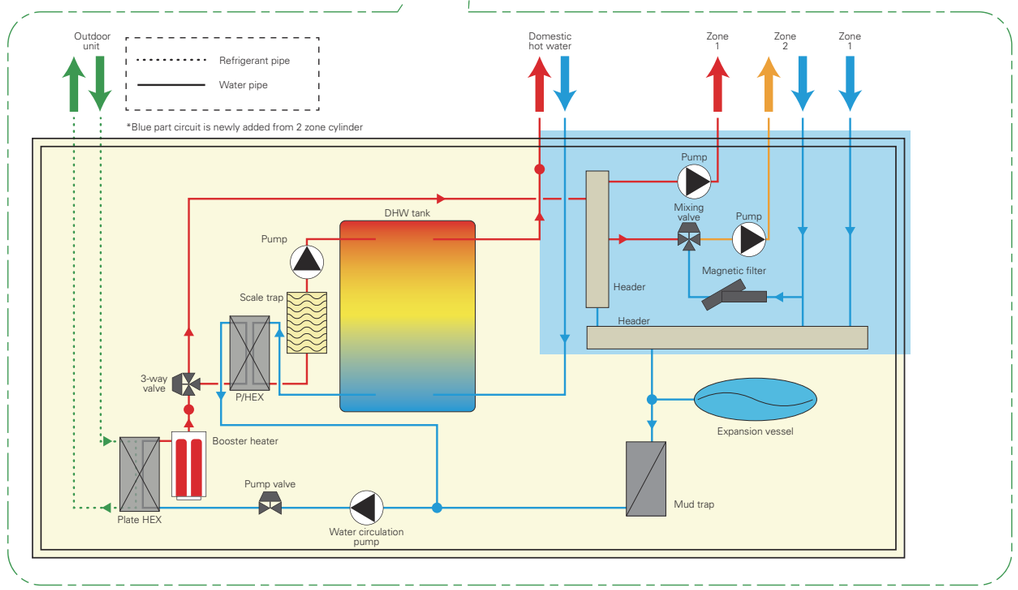
- Consumed electrical energy
- Delivered energy
- Flow rate
- Operation time
- Defrost time
- Actual temperature
  – Room temperature
  – Flow temperature
  – Return temperature
  – Domestic hot water temperature
  – Outdoor temperature
- Error record
- Input signal
- Etc.

2 Zone Cylinder

Excellent Performance with Mitsubishi Electric First 2 zone cylinder

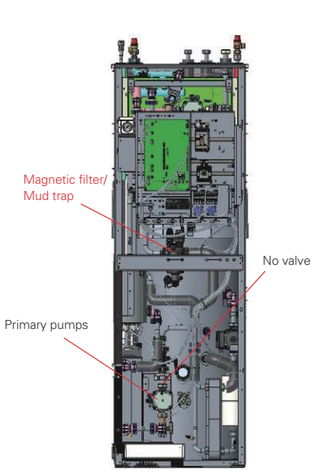
2 zone cylinder control 1/2 zones water temperature. Also, magnetic filter and mud trap are newly added instead of strainer. Thanks to built-in magnetic filter and mud trap, installer work/time can be reduced.

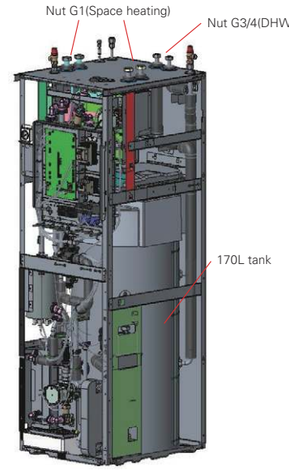




Components

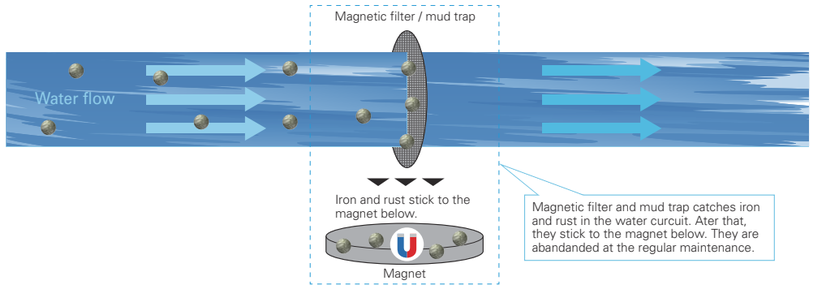
The figure below is component of 2 zone cylinder. Magnetic filter/mud trap are newly added.





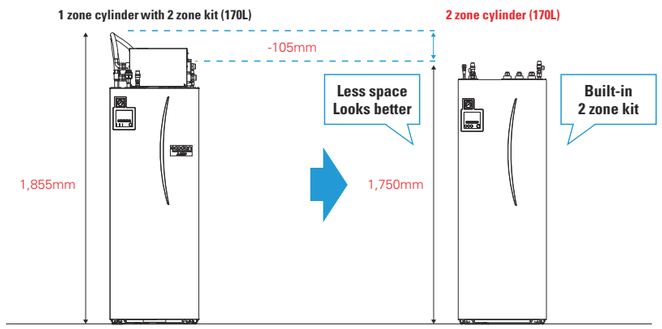
Clean circuit water

Magnetic filter and mud trap are newly added instead of strainer. Thanks to them, keep the water in the circuit clean and prevent deterioration of mixing valve.



Easy installation & transportation

At only 1750mm, 2 zone cylinder is the class-leading compact unit on the market, making the ideal solution for rooms and basements with a low ceiling height.

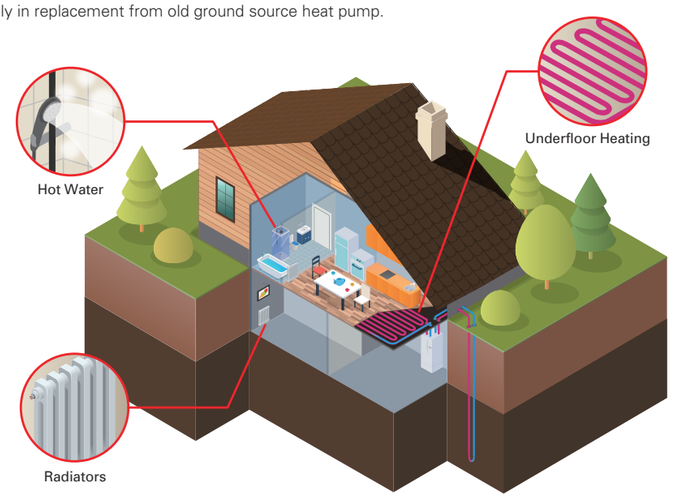


Dimension (H*W*D)	1,855*595*680	➡	1,750*595*680

ecodan geodan

Excellent Performance with Mitsubishi Electric First Residential Ground Source Heat Pump

Ground source heat pump works best especially in replacement from old ground source heat pump.



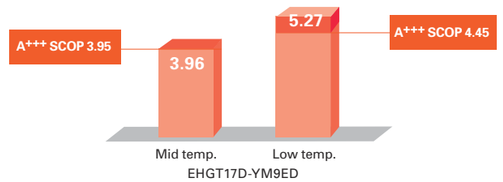
Performance / Function

High Performance

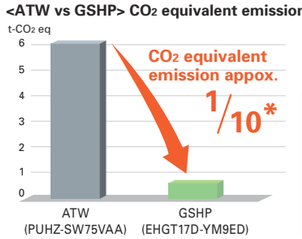
ErP Lot 1 Compliant with highest seasonal space heating energy efficiency class A+++.

Low GWP refrigerant R32 contributes the reduction of CO_2 emission compared with conventional R410A refrigerant.

A+++ Class Energy Efficiency



<ATW vs GSHP> CO_2 equivalent emission

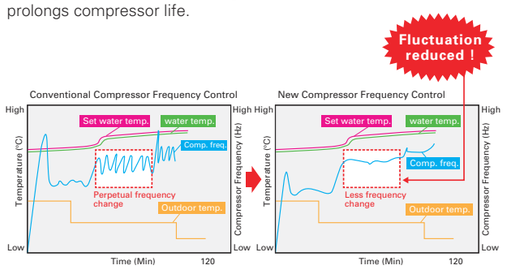


Model name	PUHZ-SW75VAA	EHGT17D-YM9ED
Refrigerant amount	3.0kg	0.9kg
GWP	2088 (R410A)	675 (R32)
t-CO_2 eq	6.264	0.608

*Source: IPCC 4th Assessment Report, global warming potential (GWP) 100-year value. Comparison of 2088(R410A) and 675 (R32).

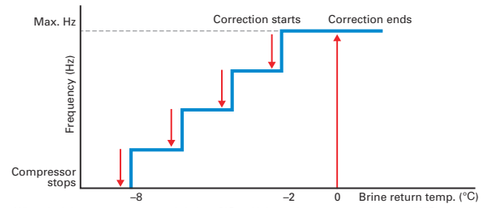
New Compressor Frequency Control

By reducing frequency changes (from 17 to 4 times per hour), hunting is prevented. Reducing fluctuation improves efficiency and prolongs compressor life.



Borehole Protection Control

When the unit detects low underground temperature, it automatically reduces the capacity by decreasing heat source collection in order to protect the borehole.

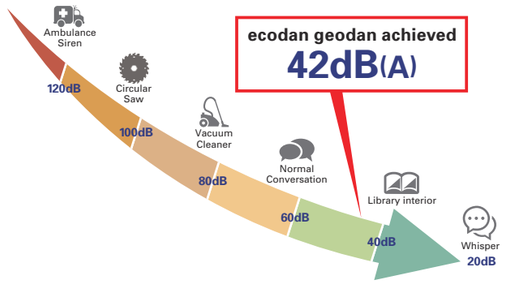


When the brine return temperature is below -8°C and brine outlet temperature is below -12°C, the unit operates only by booster heater. The correction tempeature can be changed by dip SW.

Comfort with Silence

Mitsubishi Electric heat pumps are designed to give you highly efficient and eco-friendly heating with the lowest possible noise level. ecodan geodan achieved industry-leading low noise, 42dB(A)*.

*B0W35 Rated condition



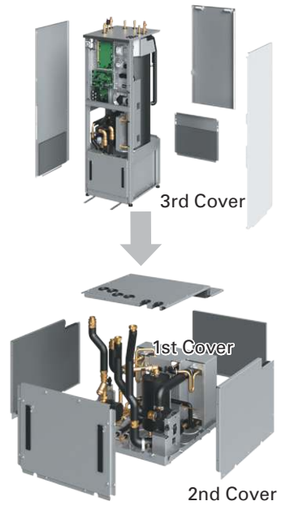
Silencing Noise

The triple covering structure of the compressor unit greatly reduces sound level through noise absorption.

1st Cover
Compressor sound insulation box
(with noise absorbing felt and damper)

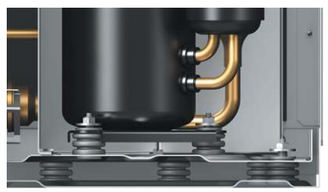
2nd Cover
Module Box
(with noise absorbing felt)

3rd Cover
Outside panel
(with noise absorbing felt)



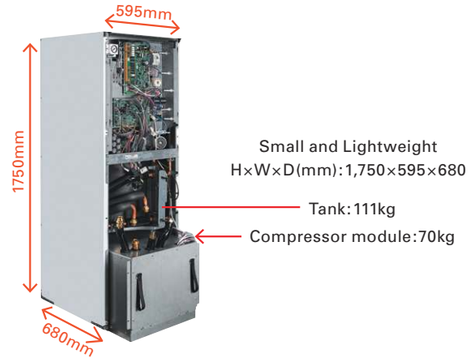
Avoiding Vibration Noise

Rubber mounted stabilizer plate cushions the vibration noise of the compressor



Easy Installation & Transportation

At only 1750mm, ecodan geodan is the class-leading compact unit on the market, making it the ideal solution for rooms and basements with a low ceiling height.



Easy Transportation

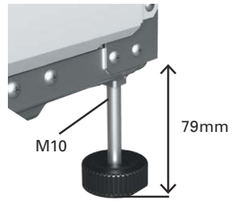
Compressor module can be removed for easier installation and transportation. Once removed, the tank can be transported horizontally.

Flexible Piping Work

Pipings on top are placed in a Zig-Zag shape. This enables easier installation without interrupting each piping work, especially in case of replacement.

Easy Adjustment

Adjust bolt capable of 50mm expansion for easy installation even on uneven surfaces.



Mr.SLIM+

A Smart Air Conditioning and Hot Water Supply System Conceived from Eco-conscious Ideas

Mr. SLIM+ has a heat recovery function, which uses waste heat from air conditioners to heat water. Thanks to heat recovery, the Mr. SLIM+ model can achieve a COP of 7.0*, resulting in intelligent systems with amazing efficiency.

*Conditions for air-to-air cooling: Indoor 27°C (dry bulb), 19°C (wet bulb); Outdoor 35°C (dry bulb)

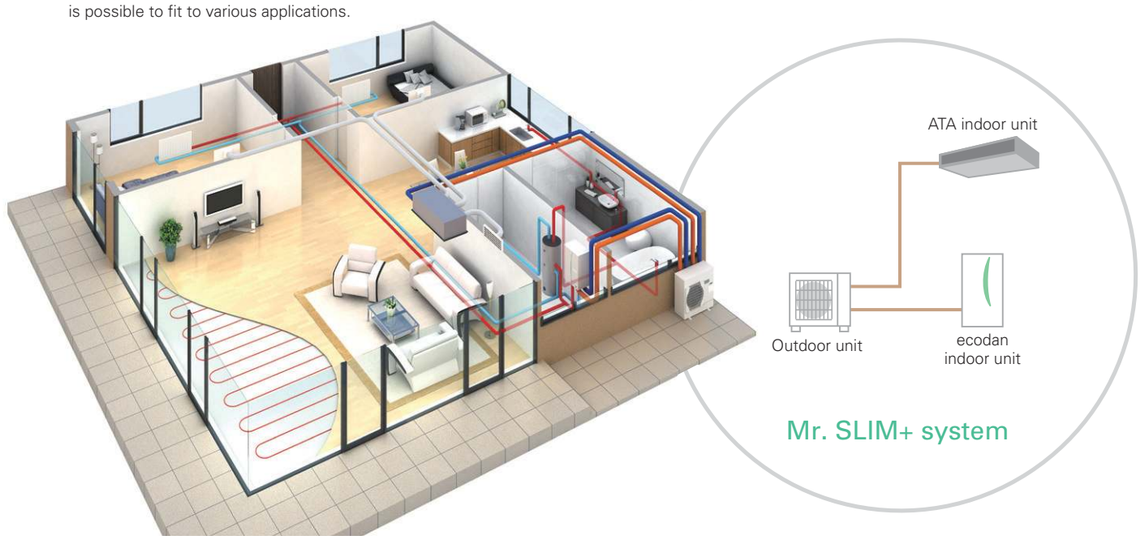
1 Unit, 2 Roles – Total Comfort Year-round

Air Conditioning and Hot Water Supply Matching the Needs of Each Room

All-in-one outdoor unit (air conditioning, domestic hot water supply and hot water heating)

Mr. SLIM for Air-to-Air
Mr. SLIM+ utilises a duct system that enables the air conditioning or heating of multiple rooms, and other indoor unit type systems that it is possible to fit to various applications.

ecodan for Air-to-Water
✓Domestic hot water (DHW) supply
✓Heating for multiple rooms

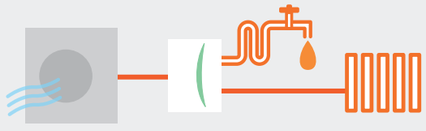


Various Operations

Mr. SLIM / ATA (Air Cooling)
Cooling using ATA indoor unit

Mr. SLIM / ATA (Air Heating)
Heating using ATA indoor unit

ecodan / ATW (Hot water heating + DHW)
Heating and DHW using ATW indoor unit



Mr. SLIM + ecodan / ATA (Air Cooling) + DHW
Heat recovery using both ATA and ATW indoor units

Specifications

Indoor unit					PLA-ZM71EA2	PKA-M71KA(L)2	PCA-M71KA2	PSA-M71KA	PEAD-M71JA2	PEAD-M71JAL2
Outdoor unit					PUHZ-FRP71VHA2	PUHZ-FRP71VHA2	PUHZ-FRP71VHA2	PUHZ-FRP71VHA2	PUHZ-FRP71VHA2	PUHZ-FRP71VHA2
Refrigerant					R410A*1					
Power supply	Outdoor (V / Phase / Hz)				230 / Single / 50					
Air-to-Air (ATA)	Cooling	Capacity	Rated	kW	7.1	7.1	7.1	7.1	7.1	7.1
			Min-Max	kW	3.3-8.1	3.3-8.1	3.3-8.1	3.3-8.1	3.3-8.1	3.3-8.1
		Total input	Rated	kW	1.88	1.93	1.93	2.15	2.15	2.09
		EER			3.77	3.67	3.67	3.30	3.3	3.4
		Design load		kW	7.1	7.1	7.1	7.1	7.1	7.1
		Annual electricity consumption *2		kWh/a	376	386	384	409	446	423
		SEER *4			6.6	6.4	6.4	6.0	5.5	5.8
			Energy-efficiency class		A^{++}	A^{++}	A^{++}	A^{+}	A	A^{+}
	Heating (average season)	Capacity	Rated	kW	8.0	8.0	8.0	8.0	8.0	8.0
			Min-Max	kW	3.5-10.2	3.5-10.2	3.5-10.2	3.5-10.2	3.5-10.2	3.5-10.2
		Total input	Rated	kW	2.11	2.29	2.29	2.42	2.14	2.14
		COP			3.80	3.50	3.50	3.30	3.74	3.74
		Design load		kW	4.7	4.7	4.7	4.7	4.9	4.9
		Declared capacity	at reference design temperature	kW	4.7 (–10°C)	4.7 (–10°C)	4.7 (–10°C)	4.7 (–10°C)	4.9 (–10°C)	4.9 (–10°C)
			at bivalent temperature	kW	4.7 (–10°C)	4.7 (–10°C)	4.7 (–10°C)	4.7 (–10°C)	4.9 (–10°C)	4.9 (–10°C)
			at operation limit temperature	kW	3.5 (–20°C)	3.5 (–20°C)	3.5 (–20°C)	3.5 (–20°C)	3.7 (–20°C)	3.7 (–20°C)
		Back-up heating capacity		kW	0	0	0	0	0	0
		Annual electricity consumption *2		kWh/a	1,509	1,564	1,556	1,699	1,741	1,741
		SCOP *4			4.3	4.2	4.2	3.8	3.9	3.9
			Energy-efficiency class		A^{+}	A^{+}	A^{+}	A	A	A
Air-to-Water (ATW)	Nominal flow rate (for heating)			L/min	22.90					
	Heating *5	A7W35	Capacity	kW	8.00	8.00	8.00	8.00	8.00	8.00
			Input	kW	1.98	1.98	1.98	1.98	1.98	1.98
			COP		4.05	4.05	4.05	4.05	4.05	4.05
		A2W35	Capacity	kW	7.50	7.50	7.50	7.50	7.50	7.50
			Input	kW	2.67	2.67	2.67	2.67	2.67	2.67
			COP		2.81	2.81	2.81	2.81	2.81	2.81
	Heat recovery (ATA cooling & ATW) *6	W45	Capacity (ATA cooling + ATW)	kW	7.1+8.0	7.1+8.0	7.1+8.0	7.1+8.0	7.1+8.0	7.1+8.0
			Input	kW	1.90	1.93	1.95	2.02	2.20	2.18
			COP		7.95	7.82	7.74	7.48	6.86	6.92
		W55	Capacity (ATA cooling + ATW)	kW	7.1+9.0	7.1+9.0	7.1+9.0	7.1+9.0	7.1+9.0	7.1+9.0
			Input	kW	2.97	3.00	3.02	3.09	3.27	3.25
			COP		5.42	5.37	5.33	5.21	4.92	4.95
	ATW indoor unit				Cylinder unit or Hydrobox (see previous page)					
Outdoor unit	Dimensions	HxWxD		mm	943-950-330 (+30)					
	Weight			kg	73	73	73	73	73	73
	Air volume		Cooling	m^3/min	50	50	50	50	50	50
			Heating	m^3/min	50	50	50	50	50	50
	Sound pressure level (SPL)		Cooling	dB(A)	47	47	47	47	47	47
			Heat recovery	dB(A)	47	47	47	47	47	47
			ATA Heating	dB(A)	49	49	49	49	49	49
			ATW Heating	dB(A)	49	49	49	49	49	49
	Sound power level (PWL)		Cooling	dB(A)	67	67	67	67	67	67
			Heat recovery	dB(A)	67	67	67	67	67	67
			ATA Heating	dB(A)	68	68	68	68	68	68
			ATW Heating	dB(A)	68	68	68	68	68	68
	Operating current (max)			A	19.0	19.0	19.0	19.0	19.0	19.0
	Breaker size			A	25	25	25	25	25	25
Ext.piping	Diameter		Liquid/Gas	mm	9.52/15.88	9.52/15.88	9.52/15.88	9.52/15.88	9.52/15.88	9.52/15.88
	Max. length		Out-In	m	30 (for ATA) + 30 (for ATW)					
	Max. height		Out-In	m	20	20	20	20	20	20
Guaranteed operating range (outdoor)			Cooling *3	°C	–15~+46	–15~+46	–15~+46	–15~+46	–15~+46	–15~+46
			Heating	°C	–20~+21	–20~+21	–20~+21	–20~+21	–20~+21	–20~+21
			ATW	°C	–20~+35	–20~+35	–20~+35	–20~+35	–20~+35	–20~+35
			Heat recovery	°C	+7~+46	+7~+46	+7~+46	+7~+46	+7~+46	+7~+46

*1 Refrigerant leakage contributes to climate change. Refrigerant with lower global warming potential (GWP) would contribute less to global warming than a refrigerant with higher GWP, if leaked to the atmosphere. This appliance contains a refrigerant fluid with a GWP equal to 1975. This means that if 1 kg of this refrigerant fluid would be leaked to the atmosphere, the impact on global warming would be 1975 times higher than 1 kg of CO_2, over a period of 100 years. Never try to interfere with the refrigerant circuit yourself or disassemble the product yourself and always ask a professional. The GWP of R410A is 2088 in the IPCC 4th Assessment Report.
*2 Energy consumption based on standard test results. Actual energy consumption will depend on how the appliance is used and where it is located.
*3 Optional air protection guide is required where ambient temperature is lower than –5°C.
*4 SEER/SCOP values are measured based on EN14825.
*5 Air-to-Water values are measured based on EN14511 (Circulation pump input is not included.).
*6 Conditions for Air-to-Air cooling: Indoor 27°C (dry bulb) /19°C (wet bulb); Outdoor 35°C (dry bulb).

PUMY+ecodan

Air-to-Air and Air-to-Water Hybrid Multi Split System

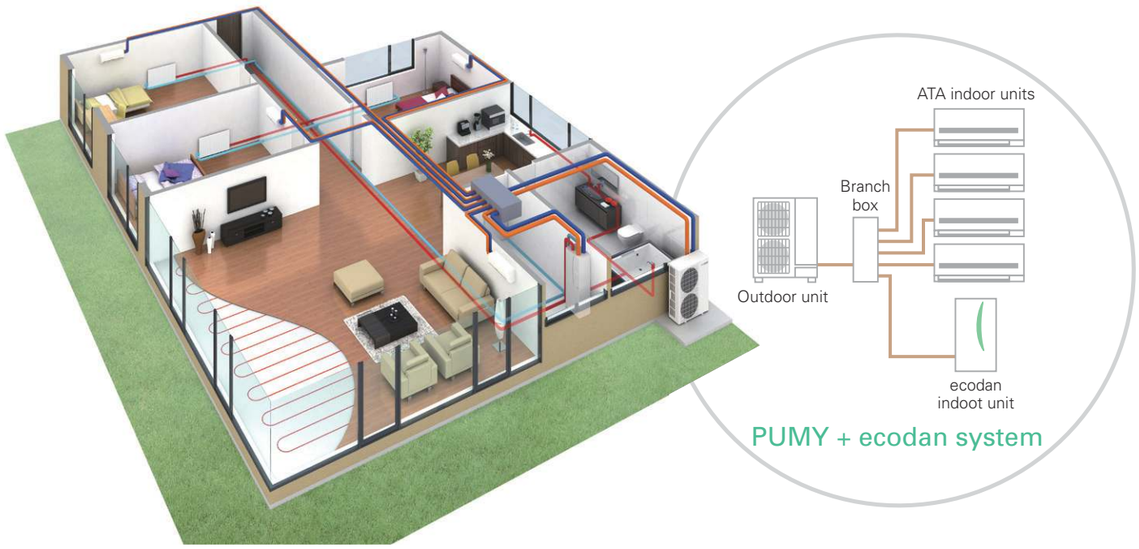
1 Unit, 2 Roles – Total Comfort Year-round

Air Conditioning and Hot Water Supply Matching the Needs of Each Room

All-in-one outdoor unit (air conditioning, domestic hot water supply and hot water heating)

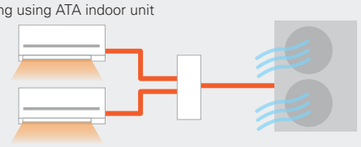
PUMY for Air-to-Air
PUMY utilises various indoor units, enabling the air conditioning or heating of multiple rooms, and controls each unit individually.

ecodan for Air-to-Water
✓Domestic hot water (DHW) supply
✓Heating for multiple rooms

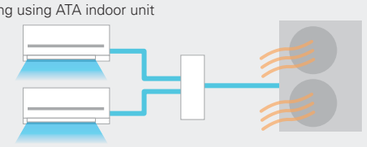


Main Operation Patterns

ATA (Air Heating)
Heating using ATA indoor unit



ATA (Air Cooling)
Cooling using ATA indoor unit



ATW (Hot water heating)
Heating using ATW indoor unit

ATW (DHW)
DHW using ATW indoor unit

Optional Operation Patterns* (simultaneous)

ATA (Air Heating) & ATW (Hot water heating)

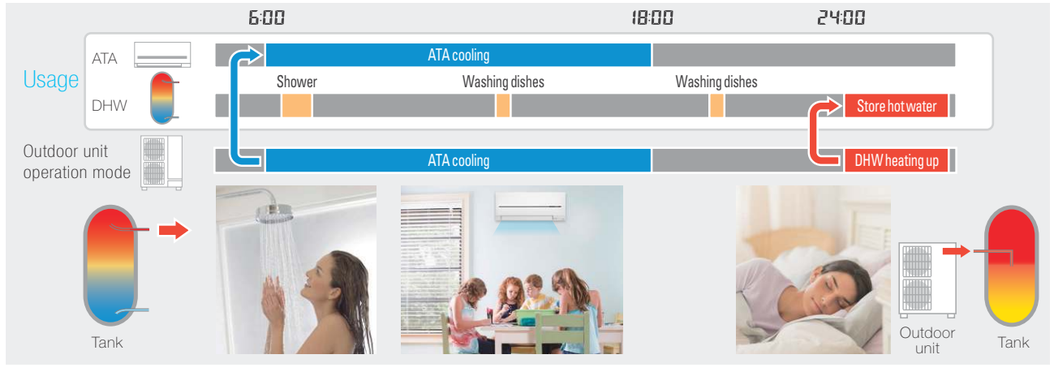
ATA (Air Heating) & ATW (DHW)

*When using optional simultaneous operation, there are some restrictions, such as connectable indoor units, operation range and DHW flow temp.

Usage Pattern All-in-one System Solution

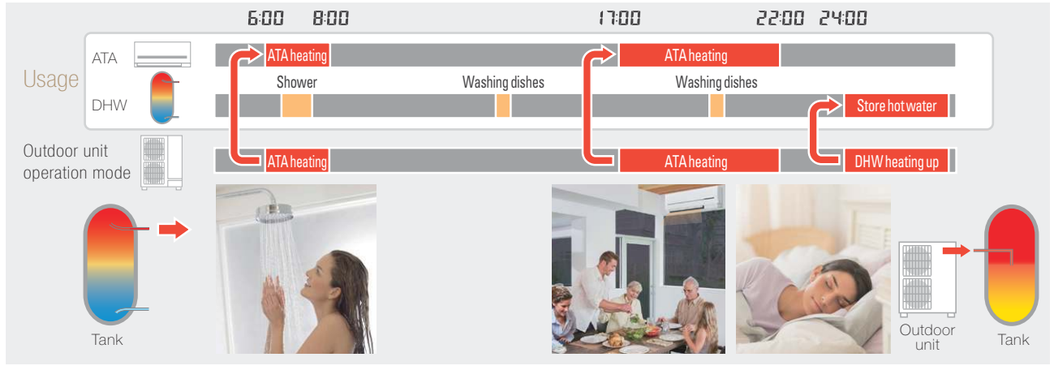
Summer 2-in-1 Operation

In summer ATA cooling and DHW are utilised. Keep your room comfortable with ATA cooling during high temperature daytime. Heat pump operates to heat up water stored in the DHW tank when ATA is not operated. The hot water can be utilised for shower and washing dishes during daytime.



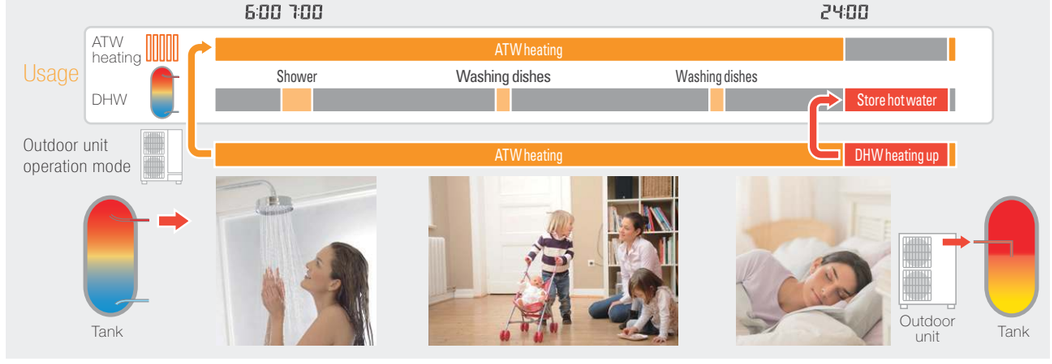
Spring & Autumn 2-in-1 Operation

In spring and autumn, ATA heating and DHW are utilised. ATA heating can warm up each room quickly during the low temperature morning and evening. Heat pump operates to heat up water stored in the DHW tank when ATA is not operated. The hot water can be utilised for shower and washing dishes during daytime.



Winter ecodan

In winter ATW heating and DHW are utilised. ATW heating warms home all the day in severe cold weather. ATW heating stops temporarily only when the heat pump operates to heat up water stored in the DHW tank.



PUMY+ecodan

Model name						PUMY-P112VKM5(-BS)	PUMY-P125VKM5(-BS)	PUMY-P140VKM5(-BS)	PUMY-P112YKM(E)4(-BS)	PUMY-P125YKM(E)4(-BS)	PUMY-P140YKM(E)4(-BS)
Power supply						1-phase 220 - 230 - 240V, 50Hz			3-phase 380 - 400 - 415V, 50Hz		
Air-to-Air (ATA)	Cooling (nominal)*1	Capacity			kW	12.5	14.0	15.5	12.5	14.0	15.5
		Power input			kW	2.79	3.46	4.52	2.79	3.46	4.52
		EER				4.48	4.05	3.43	4.48	4.05	3.43
	Temp. range of cooling	Indoor temp.			W.B.	15 - 24°C					
		Outdoor temp.*2			D.B.	–5 - 52°C					
	Heating (nominal)*1	Capacity			kW	14.0	16.0	18.0	14.0	16.0	18.0
		Power input			kW	3.04	3.74	4.47	3.04	3.74	4.47
		COP				4.61	4.28	4.03	4.61	4.28	4.03
	Temp. range of heating	Indoor temp.			W.B.	15 - 27°C					
		Outdoor temp.			D.B.	–20 - 15°C					
Air-to-Water (ATW)	Nominal flow rate (for heating)				L/min	35.8					
	Heating*3	A7W35	Capacity		kW	12.5					
			Power input		kW	3.06					
			COP			4.08					
		A2W35	Capacity		kW	10.0					
			Power input		kW	3.50					
			COP			2.86					
	Guaranteed operating range	ATW	Heating		D.B.	–20 - +21°C					
			DHW		D.B.	–20 - +35°C					
		ATA + ATW	ATA heating + DHW		D.B.	7 - +21°C					
			ATA heating + ATW heating *4		D.B.	–10 - +21°C					
	Maximum Outlet water temp.				°C	55					
Outdoor unit	Indoor unit connectable	ATA only	Total capacity			50 to 130% of outdoor unit capacity					
			Model/ Quantity	Branch box system		15-100/8	15-100/8	15-100/8	15-100/8	15-100/8	15-100/8
				Mixed system*12		15-140*5/10	15-140*5/10*6	15-140*5/10*6	15-140*5/10	15-140*5/10*6	15-140*5/10*6
		ATA + ATW individual operation	Total capacity			ATA : Max 130% of outdoor unit capacity + ATW (EHST20C or EHSC) *7					
			Model/Quantity (including ATW)	Branch box system		15-100/8	15-100/8	15-100/8	15-100/8	15-100/8	15-100/8
				Mixed system*12		15-140*5/10	15-140*5/10*6	15-140*5/10*6	15-140*5/10	15-140*5/10*6	15-140*5/10*6
		ATA + ATW simultaneous operation	Total capacity			Max 100% of outdoor unit capacity : ATA + ATW (EHST20C or EHSC) *7					
			Model/Quantity	ATA*12		15/1*8	15-25/2*9	15-42*11/3*10	15/1*8	15-25/2*9	15-42*11/3*10
				ATW		ATW (EHST20C or EHSC) / 1					
	Sound pressure level (measured in anechoic room)				dB<A>	49 / 51	50 / 52	51 / 53	49 / 51	50 / 52	51 / 53
	Sound power level (measured in anechoic room)				dB<A>	69 / 71	70 / 72	71 / 73	69 / 71	70 / 72	71 / 73
	Refrigerant piping diameter			Liquid pipe	mm	9.52 flare					
				Gas pipe	mm	15.88 flare					
	Fan	Type × Quantity				Propeller fan × 2					
		Airflow rate			m³/min	110					
					L/s	1,883					
					cfm	3,884					
		Motor output			kW	0.074 + 0.074					
	Compressor	Type × Quantity				Scroll hermetic compressor × 1					
		Starting method				Inverter					
		Motor output			kW	2.9	3.5	3.9	2.9	3.5	3.9
	External dimensions (H × W × D)				mm	1,338 × 1,050 × 330 (+40)					
	Weight				kg	122			YKM: 125 / YKME: 136		

*1

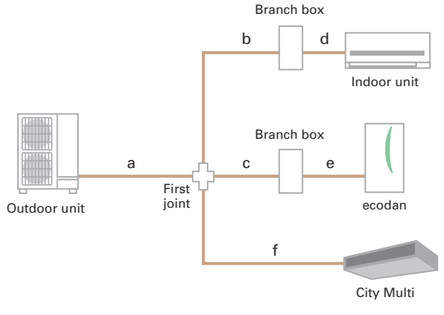
	Indoor	Outdoor	Piping length	Level difference
Cooling	27°C DB / 19°C WB	35°C DB	7.5m	0m
Heating	20°C DB	7°C DB / 6°C WB	7.5m	0m

*2 10 to 52°C D.B.: When connecting PKFY-P15/20/25VBM, PFFY-P20/25/32VKM, PFFY-P20/25/32VLE(R)M, PEFY-P∗VMA3 or M, S and P series indoor unit.
*3 In the case of ATW single connection. Input to circulation pump is not included.
*4 In the case of simultaneous operation of ATA heating and ATW heating, target flow temperature range is restricted to 45-55°C and when the ambient temp is under 7°C, the flow temp is lowered.
*5 Up to P100 when connecting via branch box.
*6 Up to 11 units when connecting via 2 branch boxes.
*7 Only one ecodan unit can be connected.
*8 Exceptionally, one MSZ-SF15VA or MSZ-AP15VF can be connected.
*9 Exceptionally, two MSZ-SF15VA or MSZ-AP15VF can be connected.
*10 Exceptionally, three MSZ-SF15VA or MSZ-AP15VF can be connected.
*11 In the case of City Multi connection, maxmum is P32.
*12 PKFY and PFFY series are not connectable.

Piping specifications

Total piping length	m	150*	a+b+c+d+e+f
Farthest piping length	m	80	a+b+d or a+c+e
		85	a+f
Total piping length betwen outdoor unit and branch box	m	55	a+b+c
Total piping length between branch boxes and indoor units	m	95	d+e
Farthest piping length from the first joint	m	30	b or c or f
Farthest piping length after branch box	m	25	d or e
Height difference (Outdoor upside / Outdoor downside)	m	50 / 40	

*When an ecodan is connected, the maximum piping length is 150m.



PUMY+ecodan Compatibility Table

ATW branch box connection compatibility table

Series	Type	Model name	Compatibility
ATW	Cylinder unit	EHST20C-VM2/6D	●
		EHST20C-YM9D	●
		EHST20C-TM9D	●
		EHST20C-YM9ED	●

Type	Model name	Compatibility
Hydrobox	EHSC-VM2/6D	●
	EHSC-YM9D	●
	EHSC-TM9D	●
	EHSC-YM9ED	●

Type	Model name	Compatibility
Branch box	PAC-MK53BC	●
	PAC-MK33BC	●
	PAC-MK53BCB	●
	PAC-MK33BCB	●

Connectable indoor unit capacity

For individual operation ATA+ATW (no simultaneous operation) ATA: Max 130% of outdoor unit capacity + ATW (EHST20C or EHSC)

Outdoor capacity 12.5kW	
ATW indoor unit (Cylinder or Hydrobox) 11.2kW	Connectable ATA indoor unit total capacity: Max.16.2kW (130%)

Outdoor capacity 14.0kW	
ATW indoor unit (Cylinder or Hydrobox) 11.2kW	Connectable ATA indoor unit total capacity: Max.18.2kW (130%)

Outdoor capacity 15.5kW	
ATW indoor unit (Cylinder or Hydrobox) 11.2kW	Connectable ATA indoor unit total capacity: Max.20.2kW (130%)

For simultaneous operation of ATA+ATW Max 100% of outdoor unit capacity: ATA + ATW (EHST20C or EHSC)

Outdoor capacity 12.5kW	
ATW indoor unit (Cylinder or Hydrobox) 11.2kW	ATA capacity Max. 1.3kW

*Exceptionally, one MSZ-SF15VA or MSZ-AP15VF can be connected.

Outdoor capacity 14.0kW	
ATW indoor unit (Cylinder or Hydrobox) 11.2kW	ATA capacity Max. 2.8kW

*Exceptionally, two units of MSZ-SF15VA or MSZ-AP15VF can be connected.

Outdoor capacity 15.5kW	
ATW indoor unit (Cylinder or Hydrobox) 11.2kW	ATA capacity Max. 4.3kW

*Exceptionally, three units of MSZ-SF15VA or MSZ-AP15VF can be connected.

Split Type Specifications

Indoor unit

<Cylinder unit (Heating only)>

Model name				Small capacity											
				EHST17D-VM2D	EHST17D-YM9D	EHST20D-MED	EHST20D-VM2D	EHST20D-VM6D	EHST20D-YM9D	EHST20D-YM9ED	EHST20D-TM9D	EHST30D-MED	EHST30D-VM6ED	EHST30D-YM9ED	EHST30D-TM9ED
	Type			Heating only											
	Expansion vessel			✓	✓	–	✓	✓	✓	–	✓	–	–	–	–
	Booster heater (2/6/9 kW)			✓	✓	–	✓	✓	✓	✓	✓	–	✓	✓	✓
Dimensions	HxWxD		mm	1400x595x680	1600x595x680							2050x595x680			
Weight (empty)			kg	93	96	93	99	100	102	96	102	113	115	117	117
Control Board Power supply (Phase / V / Hz)				~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz
Heater	Booster heater	Power supply (Phase / V / Hz)		~ /N,230V, 50Hz	3 ~ ,400V, 50Hz	–	~ /N,230V, 50Hz	~ /N,230V, 50Hz	3 ~ ,400V, 50Hz	3 ~ ,400V, 50Hz	3 ~ ,230V, 50Hz	–	~ /N,230V, 50Hz	3 ~ ,400V, 50Hz	3 ~ ,230V, 50Hz
		Capacity	kW	2	3+6	–	2	2+4	3+6	3+6	3+6	–	2+4	3+6	3+6
		Current	A	9	13	–	9	26	13	13	23	–	26	13	23
		Breaker size	A	16	16	–	16	32	16	16	32	–	32	16	32
Domestic hot water tank	Volume / Material		L / -	170 / Stainless steel (Net)	200 / Stainless steel (Net)							300 / Stainless steel (Net)			
Guranteed operating range *1	Ambient		°C	0 - 35 (≦80%RH)											
	Outdoor	Heating	°C	See outdoor unit spec table											
		Cooling	°C	–											
Target temperature range	Heating	Room temperature	°C	10 - 30											
		Flow temperature	°C	20 - 60											
	Coolimg	Room temperature	°C	–											
		Flow temperature	°C	–											
DHW tank performance	Max. hot water temperature		°C	70	70	*2	70					*2	70		
	Water heater energy efficiency class			A+								A - A+			
Sound power level (PWL)			dB (A)	41											

*1 The indoor environment must be frost-free
*2 For the model without booster heater and immersion heater, the maximum allowable hot water temperature is 3℃ lower than maximum outlet water of outdoor unit.
For the maximum outlet water of outdoor unit, refer to outdoor unit data book.

<Cylinder unit (Heating only)>

Model name				Medium capacity									
				EHST20C-MED	EHST20C-VM2D	EHST20C-VM6D	EHST20C-YM9D	EHST20C-YM9ED	EHST20C-TM9D	EHST30C-MED	EHST30C-VM6ED	EHST30C-YM9ED	EHST30C-TM9ED
	Type			Heating only									
	Expansion vessel			–	✓	✓	✓	–	✓	–	–	–	–
	Booster heater (2/6/9 kW)			–	✓	✓	✓	✓	✓	–	✓	✓	✓
Dimensions	HxWxD		mm	1600x595x680						2050x595x680			
Weight (empty)			kg	103	110	110	112	107	112	120	122	124	124
Control Board Power supply (Phase / V / Hz)				~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz
Heater	Booster heater	Power supply (Phase / V / Hz)		–	~ /N,230V, 50Hz	~ /N,230V, 50Hz	3 ~ ,400V, 50Hz	3 ~ ,400V, 50Hz	3 ~ ,400V, 50Hz	–	~ /N,230V, 50Hz	3 ~ ,400V, 50Hz	3 ~ ,230V, 50Hz
		Capacity	kW	–	2	2+4	3+6	3+6	3+6	–	2+4	3+6	3+6
		Current	A	–	9	26	13	13	23	–	26	13	23
		Breaker size	A	–	16	32	16	16	32	–	32	16	32
Domestic hot water tank	Volume / Material		L / -	200 / Stainless steel (Net)						300 / Stainless steel (Net)			
Guranteed operating range *1	Ambient		°C	0 - 35 (≦80%RH)									
	Outdoor	Heating	°C	See outdoor unit spec table									
		Cooling	°C	–									
Target temperature range	Heating	Room temperature	°C	10 - 30									
		Flow temperature	°C	20 - 60									
	Coolimg	Room temperature	°C	–									
		Flow temperature	°C	–									
DHW tank performance	Max. hot water temperature		°C	*2	70					*2	70		
	Water heater energy efficiency class			A+						A			
Sound power level (PWL)			dB (A)	40									

*1 The indoor environment must be frost-free
*2 For the model without booster heater and immersion heater, the maximum allowable hot water temperature is 3℃ lower than maximum outlet water of outdoor unit.
For the maximum outlet water of outdoor unit, refer to outdoor unit data book.

<Hydrobox (Heating only)>

Model name				Small capacity						Medium capacity						Large capacity	
				EHSD-MED	EHSD-VM2D	EHSD-VM6D	EHSD-YM9D	EHSD-YM9ED	EHSD-TM9D	EHSC-MED	EHSC-VM2D	EHSC-VM6D	EHSC-YM9D	EHSC-YM9ED	EHSC-TM9D	EHSE-MED	EHSE-YM9ED
	Type			Heating only													
	Expansion vessel			–	✓	✓	✓	–	✓	–	✓	✓	✓	–	✓	–	–
	Booster heater (2/6/9 kW)			–	✓	✓	✓	✓	✓	–	✓	✓	✓	✓	✓	–	✓
Dimensions	HxWxD		mm	800x530x360												950x600x360	
Weight (empty)			kg	36	43	44	44	40	44	40	47	48	48	43	48	61	63
Control Board Power supply (Phase / V / Hz)				~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz	~ /N,230V, 50Hz
Heater	Booster heater	Power supply (V / Phase / Hz)		–	~ /N,230V, 50Hz	~ /N,230V, 50Hz	3 ~ ,400V, 50Hz	3 ~ ,400V, 50Hz	3 ~ ,230V, 50Hz	–	~ /N,230V, 50Hz	~ /N,230V, 50Hz	3 ~ ,400V, 50Hz	3 ~ ,400V, 50Hz	3 ~ ,230V, 50Hz	–	3 ~ ,400V, 50Hz
		Capacity	kW	–	2	2+4	3+6	3+6	3+6	–	2	2+4	3+6	3+6	3+6	–	3+6
		Current	A	–	9	26	13	13	23	–	9	26	13	13	23	–	13
		Breaker size	A	–	16	32	16	16	32	–	16	32	16	16	32	–	16
Guranteed operating range *1	Ambient		L / -	0 - 35 (≦80%RH)													
	Outdoor	Heating	°C	See outdoor unit spec table													
		Cooling	°C	–													
Target temperature range	Heating	Room temperature	°C	10 - 30													
		Flow temperature	°C	20 - 60													
	Coolimg	Room temperature	°C	–													
		Flow temperature	°C	–													
Sound power level (PWL)			dB (A)	41						40						45	

*1 The indoor environment must be frost-free.

Split Type Specifications

Indoor unit

NEW NEW NEW

<Cylinder unit (Reversible)>

Model name				Small capacity											
				ERST17D-VM2D	ERST17D-VM2BD	ERST17D-VM6D	ERST17D-VM6BD	ERST17D-YM9BD	ERST20D-VM2D	ERST20D-VM6D	ERST20D-YM9D	ERST30D-VM2ED	ERST30D-VM6ED	ERST30D-YM9ED	
	Type			Heating and Cooling											
	Expansion vessel			✓	✓	✓	✓	✓	✓	✓	✓				
	Booster heater (2/6/9 kW)			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Dimensions	HxWxD		mm	1400x595x680	1750x595x680	1400x595x680	1750x595x680	1750x595x680	1600x595x680	1600x595x680	1600x595x680	2050x595x680	2050x595x680	12050x595x680	
Weight (empty)			kg	94	116	94	116	118	100	100	102	115	116	117	
Control Board Power supply (Phase / V / Hz)				~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	
Heater	Booster heater	Power supply (V / Phase / Hz)		~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	3 ~, 400V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	3 ~, 400V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	3 ~, 400V, 50Hz	
		Capacity	kW	2	2	2+4	2	3+6	2	2+4	3+6	2	2+4	3+6	
		Current	A	9	9	26	9	13	9	26	13	9	26	13	
		Breaker size	A	16	16	32	16	16	16	32	16	16	32	16	
Domestic hot water tank	Volume / Material		L / -	170 / Stainless steel (Net)	170 / Stainless steel (Net)	170 / Stainless steel (Net)	170 / Stainless steel (Net)	170 / Stainless steel (Net)	200 / Stainless steel (Net)	200 / Stainless steel (Net)	200 / Stainless steel (Net)	300 / Stainless steel (Net)	300 / Stainless steel (Net)	300 / Stainless steel (Net)	
Guranteed operating range *1	Ambient		°C	0 - 35 (≦ 80%RH)											
	Outdoor	Heating	°C	See outdoor unit spec table											
		Cooling	°C	See outdoor unit spec table *2											
Target temperature range	Heating	Room temperature	°C	10 - 30											
		Flow temperature	°C	20 - 60											
	Coolimg	Room temperature	°C	–					A - A+						
		Flow temperature	°C	5 - 25											
DHW tank performance	Max. hot water temperature		°C	70											
	Water heater energy efficiency class			A+											
Sound power level (PWL)			dB (A)	41											

*1 The indoor environment must be frost-free.
*2 During cooling operation at low outdoor temperature (10℃ or lower), frozen water may cause damage on plate heat exchanger.

<Cylinder unit (Reversible)>

Model name				Medium capacity					
				ERST20C-VM2D	ERST20C-VM6D	ERST20C-YM9D	ERST30C-VM2ED	ERST30C-VM6ED	ERST30C-YM9ED
	Type			Heating and Cooling					
	Expansion vessel			✓	✓	✓			
	Booster heater (2/6/9 kW)			✓	✓	✓	✓	✓	✓
Dimensions	HxWxD		mm	1600x595x680	1600x595x680	1600x595x680	2050x595x680	2050x595x680	2050x595x680
Weight (empty)			kg	110	111	112	122	122	124
Control Board Power supply (Phase / V / Hz)				~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz
Heater	Booster heater	Power supply (V / Phase / Hz)		~/N, 230V, 50Hz	~/N, 230V, 50Hz	3 ~, 400V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	3 ~, 400V, 50Hz
		Capacity	kW	2	2+4	3+6	2	2+4	3+6
		Current	A	9	26	13	9	26	13
		Breaker size	A	16	32	16	16	32	16
Domestic hot water tank	Volume / Material		L / -	200 / Stainless steel (Net)	200 / Stainless steel (Net)	200 / Stainless steel (Net)	300 / Stainless steel (Net)	300 / Stainless steel (Net)	300 / Stainless steel (Net)
Guranteed operating range *1	Ambient		°C	0 - 35 (≦80%RH)					
	Outdoor	Heating	°C	See outdoor unit spec table					
		Cooling	°C	See outdoor unit spec table *2					
Target temperature range	Heating	Room temperature	°C	10 - 30					
		Flow temperature	°C	20 - 60					
	Coolimg	Room temperature	°C	–					
		Flow temperature	°C	A+	5 - 25		A		
DHW tank performance	Max. hot water temperature		°C	70					
	Water heater energy efficiency class								
Sound power level (PWL)			dB (A)	40					

*1 The indoor environment must be frost-free.
*2 During cooling operation at low outdoor temperature (10℃ or lower), frozen water may cause damage on plate heat exchanger.

<Hydrobox (Reversible)>

Model name				Small capacity				Medium capacity				Large capacity	
				ERSD-MED	ERSD-VM2D	ERSD-VM6D	ERSD-YM9D	ERSC-MED	ERSC-VM2D	ERSC-VM6D	ERSC-YM9D	ERSE-MED	ERSE-YM9ED
	Type			Heating and Cooling									
	Expansion vessel			–	✓	✓	✓	–	✓	✓	✓	–	–
	Booster heater (2/6/9 kW)			–	✓	✓	✓	–	✓	✓	✓	–	✓
Dimensions	HxWxD		mm	800x530x360								950x600x360	
Weight (empty)			kg	38	44	43	44	41	48	48	48	62	64
Control Board Power supply (Phase / V / Hz)				~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz
Heater	Booster heater	Power supply (V / Phase / Hz)		–	~/N, 230V, 50Hz	~/N, 230V, 50Hz	3 ~, 400V, 50Hz	–	~/N, 230V, 50Hz	~/N, 230V, 50Hz	3 ~, 400V, 50Hz	–	3 ~, 400V, 50Hz
		Capacity	kW	–	2	2+4	3+6	–	2	2+4	3+6	–	3+6
		Current	A	–	9	26	13	–	9	26	13	–	13
		Breaker size	A	–	16	32	16	–	16	32	16	–	16
Guranteed operating range *1	Ambient		°C	0 - 35 (≦80%RH)									
	Outdoor	Heating	°C	See outdoor unit spec table									
		Cooling	°C	See outdoor unit spec table *2									
Target temperature range	Heating	Room temperature	°C	10 - 30									
		Flow temperature	°C	20 - 60									
	Coolimg	Room temperature	°C	–									
		Flow temperature	°C	5 - 25									
Sound power level (PWL)			dB (A)	41				40		40	40	45	

*1 The indoor environment must be frost-free
*2 If you use our system in cooling mode at the low ambient temperature (10℃ or below), there are some risks of plate heat exchanger breaking by frozen water.

R32

Split Type Specifications

Outdoor unit

Model name				Eco Inverter		
				SUZ-SWM40VA	SUZ-SWM60VA	SUZ-SWM80VA
Refrigerant				R32*1		
Dimensions		HxWxD	mm	880×840×330	880×840×330	880×840×330
Weight			kg	54	54	54
Power supply (V / Phase / Hz)				230 / 1-ph / 50	230 / 1-ph / 50	230 / 1-ph / 50
Heating	A7W35*2	Nominal	kW	4.0	6.0	7.5
		COP		5.20	4.86	4.70
	A2W35*2	Nominal	kW	4.0	5.0	6.5
		COP		3.90	3.33	3.40
Average climate water outlet 35°C*3		Class		A+++	A+++	A+++
		ηs		180	181	182
Average climate water outlet 55°C*3		Class		A++	A++	A++
		ηs		129	130	131
DHW 200L(L) Load Profile (Average climate)*4		Class		A+	A+	A+
		ηwh		159	148	148
Max outlet water temperature (°C)				60	60	60
Cooling	A35W7*2	Nominal	kW	4.5	5.0	5.4
		EER		3.29	3.03	3.00
	A35W18*2	Nominal	kW	5.6	6.0	6.3
		EER		4.97	4.88	4.80
PWL (Heating)*5			dB(A)	58	60	62
Max operating current			A	13.9	13.9	13.9
Breaker size			A	16	16	16
Piping	Diameter	Liquid/Gas	mm	6.35 / 12.7	6.35 / 12.7	6.35 / 12.7
	Length	Out-In	m	5-30	5-30	5-30
	Height	Out-In	m	Max 30	Max 30	Max 30
Guaranteed Operating Range	Heating		°C	–20°C~24°C	–20°C~24°C	–20°C~24°C
	DHW		°C	–20°C~35°C	–20°C~35°C	–20°C~35°C
	Cooling		°C	10°C~46°C	10°C~46°C	10°C~46°C

Outdoor unit

Model name				Power Inverter, Heating only				ZUBADAN, Heating only				
				PUD-SWM60VAA	PUD-SWM80V/YAA	PUD-SWM100V/YAA	PUD-SWM120V/YAA	PUD-SHWM60VAA	PUD-SHWM80V/YAA	PUD-SHWM100V/YAA	PUD-SHWM120V/YAA	PUD-SHWM140V/YAA
Refrigerant				R32*1								
Dimensions		HxWxD	mm	1020×1050×480	1020×1050×480	1020×1050×480	1020×1050×480	1020×1050×480	1020×1050×480	1020×1050×480	1020×1050×480	1020×1050×480
Weight			kg	101	101/114	105/118	105/118	102	102/115	108/121	108/121	110/122
Power supply (V / Phase / Hz)				VAA: 230 / 1-ph / 50, YAA: 400 / 3-ph / 50								
Heating	A7W35*2	Nominal	kW	5.0	6.0	8.0	10.0	5.0	6.0	8.0	10.0	12.0
		COP		4.76	4.76	5.00	4.70	4.99	5.03	5.00	4.80	4.70
	A2W35*2	Nominal	kW	6.0	8.0	10.0	12.0	6.0	8.0	10.0	12.0	14.0
		COP		3.60	3.55	3.30	3.24	3.80	3.75	3.45	3.30	3.05
Average climate water outlet 35°C*3		Class		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
		ηs		175	178/176	178/177	177/176	178	181/179	180/178	179/177	179/177
Average climate water outlet 55°C*3		Class		A++	A++	A++	A++	A++	A++	A++	A++	A++
		ηs		130	131/130	131/130	129/128	134	135/134	136/135	135/134	134/134
DHW 200L(L)/300L(XL) Load Profile (Average climate)*4		Class		A+ / A	A+ / A	A+ / A	A+ / A	A+ / A	A+ / A	A+ / A	A+ / A	A+ / A
		ηwh		148/121	148/121	148/121	148/121	148/121	148/121	148/121	148/121	145/121
Max outlet water temperature (°C)				60	60	60	60	60	60	60	60	60
PWL (Heating)*5			dB(A)	55	56	59	60	55	56	59	60	62
Max operating current			A	16.5	22/8	26/10	28/12	16.5	22/8	26/10	28/12	35/12
Breaker size			A	20	25/16	30/16	32/16	20	25/16	30/16	32/16	40/16
Piping	Diameter	Liquid/Gas	mm	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7
	Length	Out-In	m	2 - 30	2 - 30	2 - 30	2 - 30	2 - 30	2 - 30	2 - 30	2 - 30	2 - 25
	Height	Out-In	m	Max. 30	Max. 30	Max. 30	Max. 30	Max. 30	Max. 30	Max. 30	Max. 30	Max. 25
Guaranteed Operating Range	Heating		°C	–25°C~24°C	–25°C~24°C	–25°C~24°C	–25°C~24°C	–28°C~24°C	–28°C~24°C	–28°C~24°C	–28°C~24°C	–28°C~24°C
	DHW		°C	–25°C~35°C	–25°C~35°C	–25°C~35°C	–25°C~35°C	–28°C~35°C	–28°C~35°C	–28°C~35°C	–28°C~35°C	–28°C~35°C

*1 Refrigerant leakage contribute to climate change. Refrigerant with lower global warming potential (GWP) would contribute less to global warming than a refrigerant with higher GWP, if leaked to the atomosphere. This appliance contains a refrigerant fluid with a GWP equal to 550. This means that if 1 kg of this refrigerant fluid would be leaked to the atmosphere, the impact on global warming would be 550 times higher than 1 kg of CO_2, over a period of 100 years. Never try to interfere with the refrigerant circuit yourself or disassemble the product yourself and always ask a professional. The GWP of R32 is 675 in the IPCC 4th Assessment Report.
*2 Air-to-Water values are measured based on EN14511 (Circulation pump input is not included.).
*3 ηs values are measured based on EN14825. *4 ηwh values are measured based on EN16147. *5 Sound power levels are measured based on EN12102.

R32

Split type	Small capacity (Under 5kW)*	Medium capacity (6.0kW–14kW)*
ZUBADAN New Generation		 PUD-SHWM60/80/100/120/140
POWER INVERTER		 PUD-SWM60/80/100/120
Eco Inverter	 SUZ-SWM40/60	 SUZ-SWM80

*Rated capacity is at conditions A2W35. (according to EN14511)

R410A

Split Type Specifications

Outdoor unit

Model name				Power Inverter				
				PUHZ-SW75V/YAA(-BS)	PUHZ-SW100V/YAA(-BS)	PUHZ-SW120V/YHA(-BS)	PUHZ-SW160YKA(-BS)	PUHZ-SW200YKA(-BS)
Refrigerant				R410A*1				
Dimensions		HxWxD	mm	1020×1050×480	1020×1050×480	1350×950×330	1338×1050×330	1338×1050×330
Weight			kg	92/104	114/126	118/130	136	136
Power supply (V / Phase / Hz)				VAA, VHA: 230 / 1-ph / 50, YAA, YHA, YKA: 400 / 3-ph / 50				
Heating	A7W35*2	Nominal	kW	8.0	11.2	16.0	22.0	25.0
		COP		4.40	4.46	4.10	4.20	4.00
	A2W35*2	Nominal	kW	7.5	10.0	12.0	16.0	20.0
		COP		3.40	3.32	3.24	3.11	2.80
Average climate water outlet 35°C*3		Class		A++	A++	A++	A++	A++
		ηs		162/160	167/165	162/162	161	163
Average climate water outlet 55°C*3		Class		A++	A++	A++	A++	A++
		ηs		129/128	130/129	125/125	125	127
DHW 200L(L)/300L(XL) Load Profile (Average climate)*4		Class		A+ / A	A+ / A	A+ / A	–	–
		ηwh		145/120	145/120	138/118	–	–
Max outlet water temperature (°C)				60	60	60	–	–
Cooling	A35W7*2	Nominal	kW	7.1	10.0	12.5	16.0	20.0
		EER		2.70	2.83	2.32	2.76	2.25
	A35W18*2	Nominal	kW	7.1	10.0	14.0	18.0	22.0
		EER		4.43	4.47	4.08	4.56	4.1
PWL (Heating)*5			dB(A)	58	60	72	78	78
Max operating current			A	22.0/11.5	28.0/12.0	29.5/13.0	19.0	21.0
Breaker size			A	25/16	32/16	32/16	25	32
Piping	Diameter	Liquid/Gas	mm	9.52/15.88	9.52/15.88	9.52/15.88	9.52/25.4	12.7/25.4
	Length	Out-In	m	40	75	75	80	80
	Height	Out-In	m	10	10	30	30	30
Guaranteed Operating Range	Heating		°C	–20°C~21°C	–20°C~21°C	–20°C~21°C	–20°C~21°C	–20°C~21°C
	DHW		°C	–20°C~35°C	–20°C~35°C	–20°C~35°C	–20°C~35°C	–20°C~35°C
	Cooling		°C	–15°C~46°C	–15°C~46°C	–15°C~46°C	–15°C~46°C	–15°C~46°C

Model name				ZUBADAN			
				PUHZ-SHW80V/YAA(-BS)	PUHZ-SHW112V/YAA(-BS)	PUHZ SHW140YHA(-BS)	PUHZ-SHW230YKA2
Refrigerant				R410A*1			
Dimensions		HxWxD	mm	1020×1050×480	1020×1050×480	1350×950×330	1338×1050×330
Weight			kg	116/128	116/128	134	143
Power supply (V / Phase / Hz)				VAA, VHA: 230 / 1-ph / 50, YAA, YHA, YKA: 400 / 3-ph / 50			
Heating	A7W35*2	Nominal	kW	8.0	11.2	14.0	23.0
		COP		4.65	4.40	4.22	3.65
	A2W35*2	Nominal	kW	8.0	11.2	14.0	23.0
		COP		3.55	3.22	2.96	2.37
Average climate water outlet 35°C*3		Class		A++	A++	A++	A++
		ηs		169/167	171/169	163	164
Average climate water outlet 55°C*3		Class		A++	A++	A++	A++
		ηs		133/132	135/135	127	127
DHW 200L(L)/300L(XL) Load Profile (Average climate)*4		Class		A+ / A	A+ / A	A+ / A	–
		ηwh		145/120	145/120	138/118	–
Max outlet water temperature (°C)				60	60	60	60
Cooling	A35W7*2	Nominal	kW	7.1	10.0	12.5	20.0
		EER		3.31	2.83	2.17	2.22
	A35W18*2	Nominal	kW	7.1	10	12.5	20.0
		EER		4.52	4.74	4.26	3.55
PWL (Heating)*5			dB(A)	59	60	70	75
Max operating current			A	22/13	28/13	13	20
Breaker size			A	25/16	32/16	16	25
Piping	Diameter	Liquid/Gas	mm	9.52/15.88	9.52/15.88	9.52/15.88	12.7/25.4
	Length	Out-In	m	75	75	75	80
	Height	Out-In	m	30	30	30	30
Guaranteed Operating Range	Heating		°C	–28°C~21°C	–28°C~21°C	–28°C~21°C	–25°C~21°C
	DHW		°C	–28°C~35°C	–28°C~35°C	–28°C~35°C	–25°C~35°C
	Cooling		°C	–15°C~46°C	–15°C~46°C	–15°C~46°C	–15°C~46°C

*1 Refrigerant leakage contribute to climate change. Refrigerant with lower global warming potential (GWP) would contribute less to global warming than a refrigerant with higher GWP, if leaked to the atomosphere. This appliance contains a refrigerant fluid with a GWP equal to 550. This means that if 1 kg of this refrigerant fluid would be leaked to the atmosphere, the impact on global warming would be 550 times higher than 1 kg of CO_2, over a period of 100 years. Never try to interfere with the refrigerant circuit yourself or disassemble the product yourself and always ask a professional. The GWP of R410A is 2088 in the IPCC 4th Assessment Report.
*2 Air-to-Water values are measured based on EN14511 (Circulation pump input is not included.).
*3 ηs values are measured based on EN14825. *4 ηwh values are measured based on EN16147. *5 Sound power levels are measured based on EN12102.

R410A

Split type	Medium capacity (7.5kW–14kW)	Large capacity (≧16kW)
ZUBADAN New Generation	 PUHZ-SHW80/112AA  PUHZ-SHW140	 PUHZ-SHW230
POWER INVERTER	 PUHZ-SW75/100AA  PUHZ-SW120	 PUHZ-SW160/200

R32

Packaged Type Specifications

Indoor unit

<Cylinder unit (Heating only)>

Model name					EHPT17X-VM2D	EHPT17X-VM6D	EHPT17X-YM9D	EHPT20X-MED	EHPT20X-VM6D	EHPT20X-YM9D	EHPT20X-YM9ED	EHPT20X-TM9D	EHPT20X-MHEDW	EHPT30X-MED	EHPT30X-YM9ED
		Type			Heating only										
		Immersion heater			–	–	–	–	–	–	–	–	✓	–	–
		Expansion vessel			✓	✓	✓	–	✓	✓	–	✓	–	–	–
		Booster heater			✓	✓	✓	–	✓	✓	✓	✓	–	–	✓
Dimensions		H×W×D		mm	1400×595–680			1600×595×680						2050×595×680	
Weight (empty)				kg	86	87	89	87	94	96	90	96	94	106	110
Control board power supply (Phase / V / Hz)					~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz	~/N, 230V, 50Hz
Heater	Booster heater*2	Power supply (Phase / V / Hz)			~/N, 230V, 50Hz	~/N, 230V, 50Hz	3~, 400V, 50Hz	–	~/N, 230V, 50Hz	3~, 400V, 50Hz	3~, 400V, 50Hz	3~, 230V, 50Hz	–	–	3~, 400V, 50Hz
		Capacity		kW	2	2+4	3+6	–	2+4	3+6	3+6	3+6	–	–	3+6
		Current		A	9	26	13	–	26	13	13	23	–	–	13
		Breaker size		A	16	32	16	–	32	16	16	32	–	–	16
	Immersion heater	Power supply (Phase / V / Hz)			–	–	–	–	–	–	–	–	~/N, 230V, 50Hz	–	–
		Capacity		kW	–	–	–	–	–	–	–	–	3	–	–
		Current		A	–	–	–	–	–	–	–	–	13	–	–
		Breaker size		A	–	–	–	–	–	–	–	–	16	–	–
Domestic hot water tank		Volume / Material		L / –	170 / Stainless steel (Net)			200 / Stainless steel (Net)						300 / Stainless steel (Net)	
Guaranteed operating range*1		Ambient		°C	0 - 35 (≦80%RH)										
	Outdoor	Heating		°C	See outdoor unit spec table										
		Cooling		°C	–										
Target temperature range	Heating	Room temperature		°C	10~30										
		Flow temperature		°C	20~60										
	Cooling	Room temperature		°C	–										
		Flow temperature		°C	–										
DHW tank performance		Max. hot water temperature		°C	70			*3	70					*3	70
		Water heater emergy efficiency class			A+										
Sound power level (PWL)				dB (A)	40										

*1 The indoor environment must be frost-free.
*2 Do not fit immersion heaters without thermal cut-out. Use only Mitsubishi Electric service parts as a direct replacement.
*3 For the model without booster heater and immersion heater, the maximum allowable hot water temperature is 3°C lower than maximum outlet water of outdoor unit.
For the maximum outlet water of outdoor unit, refer to outdoor unit data book.

<Cylinder unit (Reversible)>

Model name					ERPT17X-VM2D	ERPT20X-MD	ERPT20X-VM2D	ERPT20X-VM6D	ERPT30X-VM2ED	ERPT30X-VM6ED
		Type			Heating and cooling					
		Immersion heater			–	–	–	–	–	–
		Expansion vessel			✓	✓	✓	✓	–	–
		Booster heater			✓	–	✓	✓	✓	✓
Dimensions		H×W×D		mm	1400×595×680	1600×595×680			2050×595×680	
Weight (empty)				kg	86	93	94	95	107	108
Control board power supply (Phase / V / Hz)					~/N, 230V, 50Hz					
Heater	Booster heater	Power supply (Phase / V / Hz)			~/N, 230V, 50Hz	–	~/N, 230V, 50Hz			
		Capacity		kW	2	–	2	2+4	2	2+4
		Current		A	9	–	9	26	9	26
		Breaker size		A	16	–	16	32	16	32
	Immersion heater*2	Power supply (Phase / V / Hz)			–	–	–	–	–	–
		Capacity		kW	–	–	–	–	–	–
		Current		A	–	–	–	–	–	–
		Breaker size		A	–	–	–	–	–	–
Domestic hot water tank		Volume / Material		L / –	170 / Stainless steel (Net)	200 / Stainless steel (Net)			300 / Stainless steel (Net)	
Guaranteed operating range*1		Ambient		°C	0 - 35 (≦80%RH)					
	Outdoor	Heating		°C	See outdoor unit spec table					
		Cooling		°C	See outdoor unit spec table*4					
Target temperature range	Heating	Room temperature		°C	10~30					
		Flow temperature		°C	20~60					
	Cooling	Room temperature		°C	–					
		Flow temperature		°C	5~25					
DHW tank performance		Max. hot water temperature		°C	70	*3	70			
		Water heater emergy efficiency class			A+			A		
Sound power level (PWL)				dB (A)	40					

*1 The indoor environment must be frost-free.
*2 Do not fit immersion heaters without thermal cut-out. Use only Mitsubishi Electric service parts as a direct replacement.
*3 For the model without booster heater and immersion heater, the maximum allowable hot water temperature is 3°C lower than maximum outlet water of outdoor unit.
For the maximum outlet water of outdoor unit, refer to outdoor unit data book.
*4 During cooling operation at low outdoor temperature (10°C or lower), frozen water may cause damage on plate heat exchanger.

R32

Packaged Type Specifications

<Hydrobox (Heating only)>

Model name					EHPX-MED	EHPX-VM2D	EHPX-VM6D	EHPX-YM9D	EHPX-YM9ED
		Type			Heating only				
		Immersion heater			–	–	–	–	–
		Expansion vessel			–	✓	✓	✓	–
		Booster heater			–	✓	✓	✓	✓
Dimensions		H×W×D		mm	800×530×360				
Weight (empty)				kg	25	32	33	33	28
Control board power supply (Phase / V / Hz)					~/N, 230V, 50Hz				
Heater	Booster heater	Power supply (Phase / V / Hz)			–	~/N, 230V, 50Hz		3~, 400V, 50Hz	
		Capacity		kW	–	2	2+4	3+6	3+6
		Current		A	–	9	26	13	13
		Breaker size		A	–	16	32	16	16
Guaranteed operating range*1		Ambient		°C	0~35 (≦80%RH)				
	Outdoor	Heating		°C	See outdoor unit spec table				
		Cooling		°C	–				
Target temperature range	Heating	Room temperature		°C	10~30				
		Flow temperature		°C	20~60				
	Cooling	Room temperature		°C	–				
		Flow temperature		°C	–				
Sound power level (PWL)				dB (A)	40				

*1 The indoor environment must be frost-free.

<Hydrobox (Reversible)>

Model name					ERPX-MD	ERPX-VM2D	ERPX-VM6D	ERPX-YM9D
		Type			Heating and cooling			
		Immersion heater			–	–	–	–
		Expansion vessel			✓	✓	✓	✓
		Booster heater			–	✓	✓	✓
Dimensions		H×W×D		mm	800×530×360			
Weight (empty)				kg	30	33	34	35
Control board power supply (Phase / V / Hz)					~/N, 230V, 50Hz			
Heater	Booster heater	Power supply (Phase / V / Hz)			–	~/N, 230V, 50Hz		3~, 400V, 50Hz
		Capacity		kW	–	2	2+4	3+6
		Current		A	–	9	26	13
		Breaker size		A	–	16	32	16
Guaranteed operating range*1		Ambient		°C	0~35 (≦80%RH)			
	Outdoor	Heating		°C	See outdoor unit spec table			
		Cooling		°C	See outdoor unit spec table *2			
Target temperature range	Heating	Room temperature		°C	10~30			
		Flow temperature		°C	20~60			
	Cooling	Room temperature		°C	–			
		Flow temperature		°C	–			
Sound power level (PWL)				dB (A)	40			

*1 The indoor environment must be frost-free.
*2 If you use our system in cooling mode at the low ambient temperature (10°C or below), there are some risks of plate heat exchanger breaking by frozen water.

R32

Packaged type	Small capacity (Under 5kW)*	Medium capacity (6.0kW–14kW)*
ZUBADAN New Generation		 PUZ-HWM140

*Rated capacity is at conditions A2W35. (according to EN14511)

Packaged type	Small capacity (Under 5kW)*	Medium capacity (6.0kW–11.2kW)*	
POWER INVERTER	 PUZ-WM50	 PUHZ-WM60/85/112	

*Rated capacity is at conditions A2W35. (according to EN14511)

Outdoor unit

Model name					PUZ-WM50VHA	PUZ-WM60VAA	PUZ-WM85V/YAA	PUZ-WM112V/YAA	PUZ-HWM140V/YHA
Refrigerant					R32*1				
Dimensions		H×W×D		mm	943×950×330	1020×1050×480	1020×1050×480	1020×1050×480	1350×1020×330
Weight				kg	71	98	98/111	119/132	132/143
Power supply (V / Phase / Hz)					VHA • VAA: 230 / 1-ph / 50, YHA • YAA: 400 / 3-ph / 50				
Heating	A7W35*2	Nominal		kW	5.0	6.0	8.5	11.2	14.0
		COP			5.00	5.06	4.80	4.70	4.46
	A2W35*2	Nominal		kW	5.0	6.0	8.5	11.2	14.0
		COP			3.70	3.75	3.51	3.44	3.15
Average climate water outlet 35°C*3		Class			A+++	A+++	A+++	A+++	A+++
		η_{s}			183	190	193/190	191/189	176/175
Average climate water outlet 55°C*3		Class			A++	A++	A++	A++	A++
		η_{s}			129	142	139/138	134/133	132/131
DHW 200L(L) Load Profile (Average climate)*4		Class			A+	A+	A+	A+	A+
		η_{wh}			135	145	145	148	130
Max outlet water temperature (°C)					60	60	60	60	60
Cooling	A35W7*2	Nominal		kW	4.5	6.0	7.5	10.0	11.9
		EER			3.40	3.30	3.15	3.30	3.00
	A35W18*2	Nominal		kW	4.5	6.0	7.5	10.0	11.1
		EER			5.00	4.45	4.90	4.90	4.10
PWL (Heating)*5				dB(A)	61	58	58	60	67
Max operating current				A	13.0	13.0	22.0/11.5	28.0/13.0	35.0/13.0
Breaker size				A	16	16	25/16	32/16	40/16
Piping	Diameter	Liquid/Gas		mm	–	–	–	–	–
	Length	Out-In		m	–	–	–	–	–
	Height	Out-In		m	–	–	–	–	–
Guaranteed Operating Range	Heating			°C	–20°C~21°C	–20°C~21°C	–20°C~21°C	–25°C~21°C	–28°C~21°C
	DHW			°C	–20°C~35°C	–20°C~35°C	–20°C~35°C	–25°C~35°C	–28°C~35°C
	Cooling			°C	10°C~46°C	10°C~46°C	10°C~46°C	10°C~46°C	10°C~46°C

*1 Refrigerant leakage contribute to climate change. Refrigerant with lower global warming potential (GWP) would contribute less to global warming than a refrigerant with higher GWP, if leaked to the atomosphere. This appliance contains a refrigerant fluid with a GWP equal to 550. This means that if 1 kg of this refrigerant fluid would be leaked to the atmosphere, the impact on global warming would be 550 times higher than 1 kg of CO_2, over a period of 100 years. Never try to interfere with the refrigerant circuit yourself or disassemble the product yourself and always ask a professional. The GWP of R32 is 675 in the IPCC 4th Assessment Report.
*2 Air-to-Water values are measured based on EN14511 (Circulation pump input is not included.).
*3 ηs values are measured based on EN14825.
*4 ηwh values are measured based on EN16147.
*5 Sound power levels are measured based on EN12102.

Optional Parts

Split type

<Indoor unit>

Parts name	Model name	Cylinder	Hydrobox	Remarks
Wireless remote controller	PAR-WT50R-E	✓	✓	
Wireless receiver	PAR-WR51R-E	✓	✓	
Thermistors	PAC-SE41TS-E	✓	✓	For room temp.
	PAC-TH011-E	✓	✓	For buffer and zone (flow and return temp.)
	PAC-TH011TK2-E	–	✓	For tank temp. (5m)
	PAC-TH011TKL2-E	–	✓	For tank temp. (30m)
	PAC-TH012HT-E	✓	✓	For boiler and buffer (5m)
	PAC-TH012HTL-E	✓	✓	For boiler and buffer (30m)
Immersion heater	PAC-IH01V2-E	✓	–	1Ph 1kW
	PAC-IH03V2-E	✓	–	1Ph 3kW
Joint pipe	PAC-SG72RJ-E	✓	✓	For PUHZ-SW75 ø6.35 → ø9.52
	PAC-SG73RJ-E	–	✓	For PUHZ-SW200YKA/SHW230YKA2 ø9.52 → ø12.7
	PAC-SG74RJ-E	✓	✓	For PUHZ-SW75 ø12.7 → ø15.88
	PAC-SH30RJ-E	✓	✓	For PUHZ-SW75AA ø9.52 → 6.35
	PAC-SH50RJ-E	✓	✓	For PUHZ-SW75AA ø15.88 → 12.7
Wi-Fi interface	MAC-567IF-E	✓	✓	
2 Zone kit	PAC-TZ02-E	✓	✓	
Expansion vessel	PAC-EVP12-E1	✓	–	12L

<Outdoor unit>

Parts name	Model name	R32 (Eco Inverter)			R32 Heating only (Power Inverter)				R32 Heating only (ZUBADAN)				
		SUZ-SWM40VA	SUZ-SWM60VA	SUZ-SWM80VA	PUD-SWM60VAA	PUD-SWM80V/YAA	PUD-SWM100V/YAA	PUD-SWM120V/YAA	PUD-SHWM60VAA	PUD-SHWM80V/YAA	PUD-SHWM100V/YAA	PUD-SHWM120V/YAA	PUD-SHWM140V/YAA
Connector for drain hose heater signal output	PAC-SE60RA-E	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓
Air discharge guide	MAC-886SG-E	✓	✓	✓	–	–	–	–	–	–	–	–	–
	PAC-SG59SG-E	–	–	–	–	–	–	–	–	–	–	–	–
	PAC-SH96SG-E*1	–	–	–	✓*1	✓*1	✓*1	✓*1	✓*1	✓*1	✓*1	✓*1	✓*1
Air protection guide	PAC-SH63AG-E	–	–	–	–	–	–	–	–	–	–	–	–
	PAC-SH95AG-E*1	–	–	–	✓*1	✓*1	✓*1	✓*1	✓*1	✓*1	✓*1	✓*1	✓*1
Attachement	PAC-SJ82AT-E	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓
Drain socket*2	PAC-SG61DS-E	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓
Centralized drain pan*2	PAC-SG64DP-E	–	–	–	–	–	–	–	–	–	–	–	–
	PAC-SH97DP-E	–	–	–	–	–	–	–	–	–	–	–	–
	PAC-SJ83DP-E	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓
Base heater	MAC-642BH-U1	✓	✓	✓	–	–	–	–	–	–	–	–	–
Control/Service tool	PAC-SK52ST	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓

*1 Attachment (PAC-SJ82AT-E) is necessary for the Air guide
*2 Cannot be used for cold climate.

Parts name	Model name	R410A (Power Inverter)					R410A (ZUBADAN)			
		PUHZ-SW75V/YAA	PUHZ-SW100V/YAA	PUHZ-SW120V/YHA	PUHZ-SW160YKA	PUHZ-SW200YKA	PUHZ-SHW80V/YAA	PUHZ-SHW112V/YAA	PUHZ-SHW140YHA	PUHZ-SHW230YKA2
Connector for drain hose heater signal output	PAC-SE60RA-E	✓	✓	✓	✓	✓	✓	✓	✓	✓
Air discharge guide	MAC-886SG-E	–	–	–	–	–	–	–	–	–
	PAC-SG59SG-E	–	–	✓	–	–	–	–	✓	–
	PAC-SH96SG-E	✓	✓	✓	✓	✓	✓	✓	–	✓
Air protection guide	PAC-SH63AG-E	–	–	✓	–	–	–	–	✓	–
	PAC-SH95AG-E	✓	✓	–	✓	✓	✓	✓	–	✓
Attachement	PAC-SJ82AT-E	✓	✓	–	–	–	✓	✓	–	✓
Drain socket*2	PAC-SG61DS-E	✓	✓	✓	✓	✓	✓	✓	–	–
Centralized drain pan*2	PAC-SG64DP-E	–	–	✓	–	–	–	–	–	–
	PAC-SH97DP-E	–	–	–	✓	✓	–	–	–	–
	PAC-SJ83DP-E	✓	✓	–	–	–	✓	✓	–	–
Base heater	MAC-642BH-U1	–	–	–	–	–	–	–	–	–
Control/Service tool	PAC-SK52ST	✓	✓	✓	✓	✓	✓	✓	✓	✓

*1 Attachment (PAC-SJ82AT-E) is necessary for the Air guide
*2 Cannot be used for cold climate.

Interface/Flow Temperature Controller

Split type

Parts name	Model name	Description
Capacity step control interface	PAC-IF011B-E	1 PC board w/ Case
Flow temperature controller	PAC-IF032B-E	1 PC board w/ Case
	PAC-IF033B-E	1 PC board w/ Case
	PAC-IF033PCB-E	10 PC board w/o case
System Controllers	PAC-IF071B-E	1 PC board w/ Case
Pressure sensor	PAC-PS01-E	For SUZ-SWM40/60/80VA
Flow sensor	PAC-FS01-E	
Thermistor	PAC-TH011-E	

Optional Parts

Packaged type

<Indoor unit>

Parts name	Model name	Cylinder	Hydrobox	Remarks
Wireless remote controller	PAR-WT50R-E	✓	✓	
Wireless receiver	PAR-WR51R-E	✓	✓	
Thermistors	PAC-SE41TS-E	✓	✓	For room temp.
	PAC-TH011-E	✓	✓	For buffer and zone (flow and return temp.)
	PAC-TH011TK2-E	–	✓	For tank temp. (5m)
	PAC-TH011TKL2-E	–	✓	For tank temp. (30m)
	PAC-TH012HT-E	✓	✓	For boiler and buffer (5m)
	PAC-TH012HTL-E	✓	✓	For boiler and buffer (30m)
Immersion heater	PAC-IH01V2-E	✓ (Except EHPT20X-MHEDW)	–	1Ph 1kW
	PAC-IH03V2-E	✓ (Except EHPT20X-MHEDW)	–	1Ph 3kW
EHPT accessories for UK	PAC-WK02UK-E	✓	–	
Wi-Fi interface	MAC-567IF-E	✓	✓	
2 Zone kit	PAC-TZ02-E	✓	✓	
Expansion vessel	PAC-EVP12-E1	✓	–	12L

<Outdoor unit>

Parts name	Model name	R32 (Power Inverter)				
		PUZ-WM50VHA	PUZ-WM60VAA	PUZ-WM85V/YAA	PUZ-WM112V/YAA	PUZ-HWM140V/YHA
Connector for drain hose heater signal output	PAC-SE60RA-E	✓	✓	✓	✓	✓
Air discharge guide	PAC-SG59SG-E	✓	–	–	–	✓
	PAC-SH96SG-E	–	✓*	✓*	✓*	–
Air protection guide	PAC-SH63AG-E	✓	–	–	–	✓
	PAC-SH95AG-E	–	✓*	✓*	✓*	–
Attachement	PAC-SJ82AT-E	–	✓	✓	✓	–
Drain socket	PAC-SG61DS-E	✓	✓	✓	✓	–
Centralized drain pan	PAC-SG64DP-E	✓	–	–	–	–
	PAC-SJ83DP-E	–	✓	✓	✓	–

*Attachment (PAC-SJ82AT-E) is necessary for the Air Guide.

Interface/Flow Temperature Controller

Packaged type

Parts name	Model name	Description
Flow temperature controller	PAC-IF033B-E	1 PC board w/ Case
	PAC-IF033PCB-E	10 PC board w/o case
System Controllers	PAC-IF072B-E	
Flow sensor	PAC-FS01-E	
Thermistor	PAC-TH011-E	

R32

Ground Source Heat Pump Specifications

Specification with 38% propylene glycol

Model name				EHGT17D-YM9ED
Heating Capacity (Min-Max)				2.5-10.0kW
Heat Output B0/W35 (Rated)				5.0kW
COP B0/W35				4.58
SCOP (Average Climate)	Low Temp			5.27
	Rank			A+++
	ηs*2			203%
	Mid Temp			3.96
	Rank			A+++
	ηs*2			150%
L Load Profile (Average Climate)*3	ηwh			134%
	Rank			A+
Sound Power Level (Rated)*4				42dB(A)
Refrigerant /Amount				R32*1/0.9kg
GWP				608
Dimensions (HxWxD)				1,750mm×595mm×680mm
DHW Tank				170L (Net)
Weight				Unit 181kg
Electrical data		Heat pump	Power supply	3ph/400V/50Hz
			Max current	8A
			Breaker	16A
		Booster heater	Power supply	3ph/400V/50Hz
			Capacity	3kW+6kW
			Current	13A
			Breaker	16A
Connections	Water	Primary circuit		ø28mm
		DHW circuit		ø22mm
	Brine	Brine circuit		ø28mm
Operating range	Heating	Room temperature		10~30°C
		Flow temperature		20~60°C
	DHW			40~60°C
	Legionella prevention			60~70°C
Guaranteed operating range		Ambient		0~35°C
				≦80%RH
		Water outlet temperature		20~60°C
		Brine inlet temperature		-8~30°C
		Min. brine outlet temperature		-12°C
Flow rate range		Primary circuit	Max.	27.7L/min
			Min.	7.1L/min
		Brine circuit	Max.	27.7L/min
			Min.	7.1L/min
Heat source fluid type				29 WT% Bioethanol
				38 WT% Propylene glycol
				25 WT% Ethylene glycol

*1 Refrigerant leakage contribute to climate change. Refrigerant with lower global warming potential (GWP) would contribute less to global warming than a refrigerant with higher GWP, if leaked to the atomosphere. This appliance contains a refrigerant fluid with a GWP equal to 550. This means that if 1 kg of this refrigerant fluid would be leaked to the atmosphere, the impact on global warming would be 550 times higher than 1 kg of CO_2, over a period of 100 years. Never try to interfere with the refrigerant circuit yourself or disassemble the product yourself and always ask a professional. The GWP of R32 is 675 in the IPCC 4th Assessment Report.
*2 ηs values are measured based on EN14825. *3 ηwh values are measured based on EN16147. *4 Sound power levels are measured based on EN12102.

D Generation

Combination Table

Split Indoor/outdoor unit

Split indoor/outdoor unit combination		R32													R410A									ATA/ATW Hybrid system			
		Power inverter						ZUBADAN							Power inverter			ZUBADAN					Mr. SLIM+	PUMY		
		SUZ-SWM40VA	SUZ-SWM60VA	SUZ-SWM80VA	PUD-SWM60VAA	PUD-SWM80V/YAA	PUD-SWM100V/YAA	PUD-SWM120V/YAA	PUD-SHWM60VAA	PUD-SHWM80V/YAA	PUD-SHWM100V/YAA	PUD-SHWM120V/YAA	PUD-SHWM140V/YAA	PUHZ-SW75V/YAA	PUHZ-SW100V/YAA	PUHZ-SW120V/YHA	PUHZ-SW160YKA	PUHZ-SW200YKA	PUHZ-SHW80V/YAA	PUHZ-SHW112V/YAA	PUHZ-SHW140YHA	PUHZ-SHW230YKA2	PUHZ-FRP71VHA2	PUMY-P112/KM5/YKM(E)4	PUMY-P125VKM5/YKM(E)4	PUMY-P140/KM5/YKM(E)4
Heating only Cylinder	EHST17D-VM2D	●	●	●	●	●			●	●				●												
	EHST17D-YM9D	●	●	●	●	●			●	●				●												
	EHST20D-MED	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHST20D-VM2D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHST20D-VM6D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHST20D-YM9D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHST20D-YM9ED	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHST20D-TM9D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHST30D-MED	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHST30D-VM6ED	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHST30D-YM9ED	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHST30D-TM9ED	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHST20C-MED														●	●			●	●	●		●			
	EHST20C-VM2D														●	●			●	●	●		●	●	●	●
	EHST20C-VM6D														●	●			●	●	●		●	●	●	●
	EHST20C-YM9D														●	●			●	●	●		●	●	●	●
	EHST20C-YM9ED														●	●			●	●	●		●	●	●	●
	EHST20C-TM9D														●	●			●	●	●		●	●	●	●
	EHST30C-MED														●	●			●	●	●					
	EHST30C-VM6ED														●	●			●	●	●					
	EHST30C-YM9ED														●	●			●	●	●					
	EHST30C-TM9ED														●	●			●	●	●					
Reversible Cylinder	ERST17D-VM2D	●	●	●	●	●			●	●				●												
	ERST17D-VM2BD	●	●	●	●	●			●	●				●												
	ERST17D-VM6D	●	●	●	●	●			●	●				●												
	ERST17D-VM6BD	●	●	●	●	●			●	●				●												
	ERST17D-YM9BD	●	●	●	●	●			●	●				●												
	ERST20D-VM2D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	ERST20D-VM6D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	ERST20D-YM9D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	ERST30D-VM2ED	●	●	●	●	●	●	●	●	●	●	●	●	●												
	ERST30D-VM6ED	●	●	●	●	●	●	●	●	●	●	●	●	●												
	ERST30D-YM9ED	●	●	●	●	●	●	●	●	●	●	●	●	●												
	ERST20C-VM2D														●	●			●	●	●					
	ERST20C-VM6D														●	●			●	●	●					
	ERST20C-YM9D														●	●			●	●	●					
	ERST30C-VM2ED														●	●			●	●	●					
	ERST30C-VM6ED														●	●			●	●	●					
	ERST30C-YM9ED														●	●			●	●	●					
Heating only Hydrobox	EHSD-MED	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHSD-VM2D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHSD-VM6D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHSD-YM9D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHSD-YM9ED	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHSD-TM9D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	EHSC-MED														●	●			●	●	●		●			
	EHSC-VM2D														●	●			●	●	●		●	●	●	●
	EHSC-VM6D														●	●			●	●	●		●	●	●	●
	EHSC-YM9D														●	●			●	●	●		●	●	●	●
	EHSC-YM9ED														●	●			●	●	●		●	●	●	●
	EHSC-TM9D														●	●			●	●	●		●	●	●	●
	EHSE-MED																●	●				●				
	EHSE-YM9ED																●	●				●				
Reversible Hydrobox	ERSD-MED	●	●	●	●	●	●	●	●	●	●	●	●	●												
	ERSD-VM2D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	ERSD-VM6D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	ERSD-YM9D	●	●	●	●	●	●	●	●	●	●	●	●	●												
	ERSC-MED														●	●			●	●	●					
	ERSC-VM2D														●	●			●	●	●					
	ERSC-VM6D														●	●			●	●	●					
	ERSC-YM9D														●	●			●	●	●					
	ERSE-MED																●	●				●				
	ERSE-YM9ED																●	●				●				

Packaged indoor/outdoor unit

Packaged indoor/outdoor unit combination		R32				
		Power inverter				ZUBADAN
		PUZ-WM50VHA	PUZ-WM60VAA	PUZ-WM85V/YAA	PUZ-WM112V/YAA	PUZ-HWM140V/YHA
Heating only Cylinder	EHPT17X-VM2D	●	●	●		
	EHPT17X-VM6D	●	●	●		
	EHPT17X-YM9D	●	●	●		
	EHPT20X-MED	●	●	●	●	●
	EHPT20X-VM6D	●	●	●	●	●
	EHPT20X-YM9D	●	●	●	●	●
	EHPT20X-YM9ED	●	●	●	●	●
	EHPT20X-TM9D	●	●	●	●	●
	EHPT20X-MHEDW	●	●	●	●	●
	EHPT30X-MED			●	●	●
	EHPT30X-YM9ED			●	●	●
Reversible Cylinder	ERPT17X-VM2D	●	●	●		
	ERPT20X-VM2D	●	●	●	●	●
	ERPT20X-MD	●	●	●	●	●
	ERPT20X-VM6D	●	●	●	●	●
	ERPT30X-VM2ED			●	●	●
	ERPT30X-VM6ED			●	●	●
Heating only Hydrobox	EHPX-VM2D	●	●	●	●	●
	EHPX-VM6D	●	●	●	●	●
	EHPX-YM9D	●	●	●	●	●
	EHPX-MED	●	●	●	●	●
	EHPX-YM9ED	●	●	●	●	●
Reversible Hydrobox	ERPX-MD	●	●	●	●	●
	ERPX-VM2D	●	●	●	●	●
	ERPX-VM6D	●	●	●	●	●
	ERPX-YM9D	●	●	●	●	●

MELCloud (Wi-Fi Interface) for ecodan

MELCloud for Fast, Easy Remote Control and Monitoring of Your ecodan

MELCloud is a new Cloud-based solution for controlling ecodan either locally or remotely by computer, tablet or smartphone via the Internet. Setting up and remotely operating your ecodan heating system via MELCloud is simple and straight forward. All you need is wireless computer connectivity in your home or the building where the ecodan is installed and an Internet connection on your mobile or fixed terminal. To set up the system, the router and the ecodan WiFi interface must be paired, and this is done simply and quickly using the WPS button found on all mainstream routers.
You can control and check ecodan via MELCloud from virtually anywhere an Internet connection is available.
That means, thanks to MELCloud, you can use ecodan much more easily and conveniently.

✻ MELCloud uses the MAC-567IF-E interface

Key Control and Monitoring Features

1. **Turn system on/off**
2. **See status of each of your heating zones & adjust set points**
3. **See the status of your hot water cylinder & boost remotely**
4. **Live weather feed from ecodan location**

   Holiday mode - Set system parameters while away
   Schedule timer - Set 7 day weekly schedule
   Frost protection - Set system to run at minimum temperature
   Error status
5. **Check energy usage report*** *Additional metering hardware is required.

All A^{++} or Above!!

Outdoor unit	Indoor unit	For medium-temperature application										For low-temperature application									
		Seasonal space heating energy efficiency class	Seasonal space heating energy efficiency class	Rated heat output under average climate conditions	Seasonal space heating energy efficiency under average climate conditions	Water heating energy efficiency under average climate conditions	Rated heat output under warmer climate condition	Seasonal space heating energy efficiency under warmer climate condition	Warmer heating energy efficiency under warmer climate conditions	Sound power level LWA indoor	Sound power level LWA outdoor	Seasonal space heating energy efficiency class	Water heating energy efficiency class	Rated heat output under average climate conditions	Seasonal space heating energy efficiency under average climate conditions	Water heating energy efficiency under average climate conditions	Rated heat output under warmer climate condition	Seasonal space heating energy efficiency under warmer climate condition	Warmer heating energy efficiency under warmer climate conditions	Sound power level LWA indoor	Sound power level LWA outdoor
				kW	%	%	kW	%	%	dB	dB			kW	%	%	kW	%	%	dB	dB
SUZ-SWM40VA	EHST17D-***D	A++	A+	4.6	129	148	4.6	155	167	41	58	A+++	A+	5.1	180	148	5.1	216	167	41	58
	ERST17D-***D	A++	A+	4.6	132	148	4.6	160	167	41	58	A+++	A+	5.1	187	148	5.1	225	167	41	58
	EHST20D-***D	A++	A+	4.6	129	159	4.6	155	173	41	58	A+++	A+	5.1	180	159	5.1	216	173	41	58
	ERST20D-***D	A++	A+	4.6	132	159	4.6	160	173	41	58	A+++	A+	5.1	187	159	5.1	225	173	41	58
	EHST30D-***D	A++	A+	4.6	129	128	4.6	155	149	41	58	A+++	A+	5.1	180	128	5.1	216	149	41	58
	ERST30D-***D	A++	A+	4.6	132	128	4.6	160	149	41	58	A+++	A+	5.1	187	128	5.1	225	149	41	58
	EHSD-***D	A++	–	4.6	129	–	4.6	155	–	41	58	A+++	–	5.1	180	–	5.1	216	–	41	58
	ERSD-***D	A++	–	4.6	132	–	4.6	160	–	41	58	A+++	–	5.1	187	–	5.1	225	–	41	58
SUZ-SWM60VA	EHST17D-***D	A++	A+	6.0	130	144	6.0	138	167	41	60	A+++	A+	6.6	181	144	6.6	192	167	41	60
	ERST17D-***D	A++	A+	6.0	133	144	6.0	142	167	41	60	A+++	A+	6.6	187	144	6.6	198	167	41	60
	EHST20D-***D	A++	A+	6.0	130	148	6.0	138	173	41	60	A+++	A+	6.6	181	148	6.6	192	173	41	60
	ERST20D-***D	A++	A+	6.0	133	148	6.0	142	173	41	60	A+++	A+	6.6	187	148	6.6	198	173	41	60
	EHST30D-***D	A++	A+	6.0	130	128	6.0	138	164	41	60	A+++	A+	6.6	181	128	6.6	192	164	41	60
	ERST30D-***D	A++	A+	6.0	133	128	6.0	142	164	41	60	A+++	A+	6.6	187	128	6.6	198	164	41	60
	EHSD-***D	A++	–	6.0	130	–	6.0	138	–	41	60	A+++	–	6.6	181	–	6.6	192	–	41	60
	ERSD-***D	A++	–	6.0	133	–	6.0	142	–	41	60	A+++	–	6.6	187	–	6.6	198	–	41	60
SUZ-SWM80VA	EHST17D-***D	A++	A+	7.1	131	144	7.1	135	167	41	62	A+++	A+	7.1	182	144	7.1	186	167	41	62
	ERST17D-***D	A++	A+	7.1	133	144	7.1	138	167	41	62	A+++	A+	7.1	187	144	7.1	191	167	41	62
	EHST20D-***D	A++	A+	7.1	131	148	7.1	135	173	41	62	A+++	A+	7.1	182	148	7.1	186	173	41	62
	ERST20D-***D	A++	A+	7.1	133	148	7.1	138	173	41	62	A+++	A+	7.1	187	148	7.1	191	173	41	62
	EHST30D-***D	A++	A+	7.1	131	128	7.1	135	164	41	62	A+++	A+	7.1	182	128	7.1	186	164	41	62
	ERST30D-***D	A++	A+	7.1	133	128	7.1	138	164	41	62	A+++	A+	7.1	187	128	7.1	191	164	41	62
	EHSD-***D	A++	–	7.1	131	–	7.1	135	–	41	62	A+++	–	7.1	182	–	7.1	186	–	41	62
	ERSD-***D	A++	–	7.1	133	–	7.1	138	–	41	62	A+++	–	7.1	187	–	7.1	191	–	41	62
PUD-SWM80V/YAA(-BS)	E*ST17D-***D	A++	A+	8.0	131/130	136	8.0	161/159	154	41	56	A+++	A+	8.0	178/176	136	8.0	218/215	154	41	56
	E*ST20D-***D	A++	A+	8.0	131/130	148	8.0	161/159	162	41	56	A+++	A+	8.0	178/176	148	8.0	218/215	162	41	56
	E*ST30D-***D	A++	A	8.0	131/130	121	8.0	161/159	145	41	56	A+++	A	8.0	178/176	121	8.0	218/215	145	41	56
	E*SD-***D	A++	–	8.0	131/130	–	8.0	161/159	–	41	56	A+++	–	8.0	178/176	–	8.0	218/215	–	41	56
PUD-SWM100V/YAA(-BS)	E*ST20D-***D	A++	A+	10.0	131/130	148	10.0	152/151	162	41	59	A+++	A+	10.0	178/177	148	10.0	221/218	162	41	59
	E*ST30D-***D	A++	A	10.0	131/130	121	10.0	152/151	145	41	59	A+++	A	10.0	178/177	121	10.0	221/218	145	41	59
	E*SD-***D	A++	–	10.0	131/130	–	10.0	152/151	–	41	59	A+++	–	10.0	178/177	–	10.0	221/218	–	41	59
PUD-SWM120V/YAA(-BS)	E*ST20D-***D	A++	A+	12.0	129/128	148	12.0	150/149	162	41	60	A+++	A+	12.0	177/176	148	12.0	217/215	162	41	60
	E*ST30D-***D	A++	A	12.0	129/128	121	12.0	150/149	145	41	60	A+++	A	12.0	177/176	121	12.0	217/215	145	41	60
	E*SD-***D	A++	–	12.0	129/128	–	12.0	150/149	–	41	60	A+++	–	12.0	177/176	–	12.0	217/215	–	41	60
PUD-SHWM80V/YAA(-BS)	E*ST17D-***D	A++	A+	8.0	135/134	136	8.0	166/164	154	41	56	A+++	A+	8.0	181/179	136	8.0	225/222	154	41	56
	E*ST20D-***D	A++	A+	8.0	135/134	148	8.0	166/164	162	41	56	A+++	A+	8.0	181/179	148	8.0	225/222	162	41	56
	E*ST30D-***D	A++	A	8.0	135/134	121	8.0	166/164	145	41	56	A+++	A	8.0	181/179	121	8.0	225/222	145	41	56
	E*SD-***D	A++	–	8.0	135/134	–	8.0	166/164	–	41	56	A+++	–	8.0	181/179	–	8.0	225/222	–	41	56

Note: E**T17/20*-***D use “Load profile L”
E**T30*-***D use “Load profile XL”

Outdoor unit	Indoor unit	For medium-temperature application										For low-temperature application									
		Seasonal space heating energy efficiency class	Water heating energy efficiency class	Rated heat output under average climate conditions	Seasonal space heating energy efficiency under average climate conditions	Water heating energy efficiency under average climate conditions	Rated heat output under warmer climate condition	Seasonal space heating energy efficiency under warmer climate condition	Warmer heating energy efficiency under warmer climate conditions	Sound power level LWA indoor	Sound power level LWA outdoor	Seasonal space heating energy efficiency class	Water heating energy efficiency class	Rated heat output under average climate conditions	Seasonal space heating energy efficiency under average climate conditions	Water heating energy efficiency under average climate conditions	Rated heat output under warmer climate condition	Seasonal space heating energy efficiency under warmer climate condition	Warmer heating energy efficiency under warmer climate conditions	Sound power level LWA indoor	Sound power level LWA outdoor
				kW	%	%	kW	%	%	dB	dB			kW	%	%	kW	%	%	dB	dB
PUD-SHWM100V/YAA(-BS)	E*ST20D-***D	A++	A+	10.0	136/135	148	10.0	163/161	162	41	59	A+++	A+	10.0	180/178	148	10.0	235/232	162	41	59
	E*ST30D-***D	A++	A	10.0	136/135	121	10.0	163/161	145	41	59	A+++	A	10.0	180/178	121	10.0	235/232	145	41	59
	E*SD-***D	A++	–	10.0	136/135	–	10.0	163/161	–	41	59	A+++	–	10.0	180/178	–	10.0	235/232	–	41	59
PUD-SHWM120V/YAA(-BS)	E*ST20D-***D	A++	A+	12.0	135/134	148	12.0	159/158	162	41	60	A+++	A+	12.0	179/177	148	12.0	231/229	162	41	60
	E*ST30D-***D	A++	A	12.0	135/134	121	12.0	159/158	145	41	60	A+++	A	12.0	179/177	121	12.0	231/229	145	41	60
	E*SD-***D	A++	–	12.0	135/134	–	12.0	159/158	–	41	60	A+++	–	12.0	179/177	–	12.0	231/229	–	41	60
PUD-SHWM140V/YAA(-BS)	E*ST20D-***D	A++	A+	14.0	134/134	145	14.0	161/139	161	41	62	A+++	A+	14.0	179/177	145	14.0	224/223	161	41	62
	E*ST30D-***D	A++	A	14.0	134/134	121	14.0	161/139	139	41	62	A+++	A	14.0	179/177	121	14.0	224/223	139	41	62
	E*SD-***D	A++	–	14.0	134/134	–	14.0	161/139	–	41	62	A+++	–	14.0	179/177	–	14.0	224/223	–	41	62
PUHZ-SW75V/YAA(-BS)	EHST17D-***D	A++	A+	7.1	129/128	136	7.1	155/153	141	41	58	A++	A+	7.2	162/160	136	7.1	219/215	141	41	58
	ERST17D-***D	A++	A+	7.1	132/132	136	7.1	158	141	41	58	A++	A+	7.2	166/165	136	7.1	226/225	141	41	58
	EHST20D-***D	A++	A+	7.1	129/128	145	7.1	155/153	161	41	58	A++	A+	7.2	162/160	145	7.1	219/215	161	41	58
	ERST20D-***D	A++	A+	7.1	132/132	145	7.1	158	161	41	58	A++	A+	7.2	166/165	145	7.1	226/225	161	41	58
	EHST30D-***D	A++	A	7.1	129/128	120	7.1	155/153	127	41	58	A++	A	7.2	162/160	120	7.1	219/215	127	41	58
	ERST30D-***D	A++	A	7.1	132/132	120	7.1	158	127	41	58	A++	A	7.2	166/165	120	7.1	226/225	127	41	58
	EHSD-***D	A++	–	7.1	129/128	–	7.1	155/153	–	41	58	A++	–	7.2	162/160	–	7.1	219/215	–	41	58
	ERSD-***D	A++	–	7.1	132/132	–	7.1	158	–	41	58	A++	–	7.2	166/165	–	7.1	226/225	–	41	58
PUHZ-SW100V/YAA(-BS)	EHST20C-***D	A++	A+	10.0	130/129	145	10.0	180/178	161	40	60	A++	A+	10.6	167/165	145	10.6	255/251	161	40	60
	ERST20C-***D	A++	A+	10.0	132/132	145	10.0	183	161	40	60	A++	A+	10.6	170/169	145	10.6	261/260	161	40	60
	EHST30C-***D	A++	A	10.0	130/129	120	10.0	180/178	127	40	60	A++	A	10.6	167/165	120	10.6	255/251	127	40	60
	ERST30C-***D	A++	A	10.0	132/132	120	10.0	183	127	40	60	A++	A	10.6	170/169	120	10.6	261/260	127	40	60
	EHSC-***D	A++	–	10.0	130/129	–	10.0	180/178	–	40	60	A++	–	10.6	167/165	–	10.6	255/251	–	40	60
	ERSC-***D	A++	–	10.0	132/132	–	10.0	183	–	40	60	A++	–	10.6	170/169	–	10.6	261/260	–	40	60
PUHZ-SW120V/YHA(-BS)	EHST20C-***D	A++	A+	12.1	125/125	138	12.1	157	160	40	72	A++	A+	12.9	162/162	138	12.9	222	160	40	72
	ERST20C-***D	A++	A+	12.1	127/127	138	12.1	159	160	40	72	A++	A+	12.9	164/164	138	12.9	226	160	40	72
	EHST30C-***D	A++	A	12.1	125/125	118	12.1	157	126	40	72	A++	A	12.9	162/162	118	12.9	222	126	40	72
	ERST30C-***D	A++	A	12.1	127/127	118	12.1	159	126	40	72	A++	A	12.9	164/164	118	12.9	226	126	40	72
	EHSC-***D	A++	–	12.1	125/125	–	12.1	157	–	40	72	A++	–	12.9	162/162	–	12.9	222	–	40	72
	ERSC-***D	A++	–	12.1	127/127	–	12.1	159	–	40	72	A++	–	12.9	164/164	–	12.9	226	–	40	72
PUHZ-SW160YKA(-BS)	EHSE-***D	A++	–	13.5	125	–	13.5	151	–	45	78	A++	–	15.3	151	–	15.3	212	–	45	78
	ERSE-***D	A++	–	13.5	126	–	13.5	152	–	45	78	A++	–	15.3	152	–	15.3	215	–	45	78
PUHZ-SW200YKA(-BS)	EHSE-***D	A++	–	15.5	127	–	15.5	147	–	45	78	A++	–	17.3	147	–	17.3	209	–	45	78
	ERSE-***D	A++	–	15.5	129	–	15.5	148	–	45	78	A++	–	17.3	148	–	17.3	211	–	45	78
PUHZ-SHW80V/YAA(-BS)	EHST20C-***D	A++	A+	9.0	133/132	145	9.0	157/155	161	40	59	A++	A+	9.6	169/167	145	9.6	217/213	161	40	59
	ERST20C-***D	A++	A+	9.0	135/134	145	9.0	160/159	161	40	59	A++	A+	9.6	172/172	145	9.6	222/221	161	40	59
	EHST30C-***D	A++	A	9.0	133/132	120	9.0	157/155	127	40	59	A++	A	9.6	169/167	120	9.6	217/213	127	40	59
	ERST30C-***D	A++	A	9.0	135/134	120	9.0	160/159	127	40	59	A++	A	9.6	172/172	120	9.6	222/221	127	40	59
	EHSC-***D	A++	–	9.0	133/132	–	9.0	157/155	–	40	59	A++	–	9.6	169/167	–	9.6	217/213	–	40	59
	ERSC-***D	A++	–	9.0	135/134	–	9.0	160/159	–	40	59	A++	–	9.6	172/172	–	9.6	222/221	–	40	59
PUHZ-SHW112V/YAA(-BS)	EHST20C-***D	A++	A+	12.7	135/135	145	11.0	158/157	161	40	60	A++	A+	13.9	171/169	145	11.0	219/216	161	40	60
	ERST20C-***D	A++	A+	12.7	137/137	145	11.0	161	161	40	60	A++	A+	13.9	173/173	145	11.0	223	161	40	60
	EHST30C-***D	A++	A	12.7	135/135	120	11.0	158/157	127	40	60	A++	A	13.9	171/169	120	11.0	219/216	127	40	60
	ERST30C-***D	A++	A	12.7	137/137	120	11.0	161	127	40	60	A++	A	13.9	173/173	120	11.0	223	127	40	60
	EHSC-***D	A++	–	12.7	135/135	–	11.0	158/157	–	40	60	A++	–	13.9	171/169	–	11.0	219/216	–	40	60
	ERSC-***D	A++	–	12.7	137/137	–	11.0	161	–	40	60	A++	–	13.9	173/173	–	11.0	223	–	40	60

All A^{++} or Above!!

		For medium-temperature application										For low-temperature application									
Outdoor unit	Indoor unit	Seasonal space heating energy efficiency class	Water heating energy efficiency class	Rated heat output under average climate conditions	Seasonal space heating energy efficiency under average climate conditions	Water heating energy efficiency under average climate conditions	Rated heat output under warmer climate condition	Seasonal space heating energy efficiency under warmer climate condition	Warmer heating energy efficiency under warmer climate conditions	Sound power level LWA indoor	Sound power level LWA outdoor	Seasonal space heating energy efficiency class	Water heating energy efficiency class	Rated heat output under average climate conditions	Seasonal space heating energy efficiency under average climate conditions	Water heating energy efficiency under average climate conditions	Rated heat output under warmer climate condition	Seasonal space heating energy efficiency under warmer climate condition	Warmer heating energy efficiency under warmer climate conditions	Sound power level LWA indoor	Sound power level LWA outdoor
				kW	%	%	kW	%	%	dB	dB			kW	%	%	kW	%	%	dB	dB
PUHZ-SHW140YHA	EHST20C-***D	A++	A+	15.8	127	138	14.0	153	160	40	70	A++	A+	17.0	163	138	15.5	209	160	40	70
	ERST20C-***D	A++	A+	15.8	128	138	14.0	154	160	40	70	A++	A+	17.0	165	138	15.5	211	160	40	70
	EHST30C-***D	A++	A	15.8	127	118	14.0	153	126	40	70	A++	A	17.0	163	118	15.5	209	126	40	70
	ERST30C-***D	A++	A	15.8	128	118	14.0	154	126	40	70	A++	A	17.0	165	118	15.5	211	126	40	70
	EHSC-***D	A++	–	15.8	127	–	14.0	153	–	40	70	A++	–	17.0	163	–	15.5	209	–	40	70
	ERSC-***D	A++	–	15.8	128	–	14.0	154	–	40	70	A++	–	17.0	165	–	15.5	211	–	40	70
PUHZ-SHW230YKA2	EHSE-***D	A++	–	23.0	127	–	22.8	149	–	45	75	A++	–	25.0	164	–	23.0	199	–	45	75
	ERSE-***D	A++	–	23.0	128	–	22.8	150	–	45	75	A++	–	25.0	165	–	23.0	202	–	45	75
PUZ-WM50VHA(-BS)	EHPT17X-***D(W)	A++	A+	5.0	129	120	5.0	157	135	40	61	A+++	A+	5.0	183	120	5.0	226	135	40	61
	ERPT17X-***D(W)	A++	A+	5.0	133	120	5.0	162	135	40	61	A+++	A+	5.0	190	120	5.0	237	135	40	61
	EHPT20X-***D(W)	A++	A+	5.0	129	135	5.0	157	154	40	61	A+++	A+	5.0	183	135	5.0	226	154	40	61
	ERPT20X-***D(W)	A++	A+	5.0	133	135	5.0	162	154	40	61	A+++	A+	5.0	190	135	5.0	237	154	40	61
	EHPX-***D	A++	–	5.0	129	–	5.0	157	–	40	61	A+++	–	5.0	183	–	5.0	226	–	40	61
	ERPX-***D	A++	–	5.0	133	–	5.0	162	–	40	61	A+++	–	5.0	190	–	5.0	237	–	40	61
PUZ-WM85V/YAA(-BS)	EHPT17X-***D(W)	A++	A+	8.5	139/138	120	8.5	156/155	135	40	58	A+++	A+	8.5	193/190	120	8.5	227/224	135	40	58
	ERPT17X-***D(W)	A++	A+	8.5	141/141	120	8.5	159	135	40	58	A+++	A+	8.5	197/197	120	8.5	234	135	40	58
	EHPT20X-***D(W)	A++	A+	8.5	139/138	145	8.5	156/155	161	40	58	A+++	A+	8.5	193/190	145	8.5	227/224	161	40	58
	ERPT20X-***D(W)	A++	A+	8.5	141/141	145	8.5	159	161	40	58	A+++	A+	8.5	197/197	145	8.5	234	161	40	58
	EHPT30X-***D(W)	A++	A	8.5	139/138	120	8.5	156/155	135	40	58	A+++	A	8.5	193/190	120	8.5	227/224	135	40	58
	ERPT30X-***D(W)	A++	A	8.5	141/141	120	8.5	159	135	40	58	A+++	A	8.5	197/197	120	8.5	234	135	40	58
	EHPX-***D	A++	–	8.5	139/138	–	8.5	156/155	–	40	58	A+++	–	8.5	193/190	–	8.5	227/224	–	40	58
	ERPX-***D	A++	–	8.5	141/141	–	8.5	159	–	40	58	A+++	–	8.5	197/197	–	8.5	234	–	40	58
PUZ-WM112V/YAA(-BS)	EHPT20X-***D(W)	A++	A+	10.0	134/133	148	10.0	152/150	161	40	60	A+++	A+	10.0	191/189	148	10.0	215/213	161	40	60
	ERPT20X-***D(W)	A++	A+	10.0	136/136	148	10.0	154	161	40	60	A+++	A+	10.0	195/195	148	10.0	220	161	40	60
	EHPT30X-***D(W)	A++	A	10.0	134/133	120	10.0	152/150	135	40	60	A+++	A	10.0	191/189	120	10.0	215/213	135	40	60
	ERPT30X-***D(W)	A++	A	10.0	136/136	120	10.0	154	135	40	60	A+++	A	10.0	195/195	120	10.0	220	135	40	60
	EHPX-***D	A++	–	10.0	134/133	–	10.0	152/150	–	40	60	A+++	–	10.0	191/189	–	10.0	215/213	–	40	60
	ERPX-***D	A++	–	10.0	136/136	–	10.0	154	–	40	60	A+++	–	10.0	195/195	–	10.0	220	–	40	60
PUZ-HWM140V/YHA(-BS)	EHPT20X-***D(W)	A++	A+	14.0	132/131	130	14.0	160/159	152	40	67	A+++	A+	14.0	176/175	130	14.0	227/225	152	40	67
	ERPT20X-***D(W)	A++	A+	14.0	133/133	130	14.0	162	152	40	67	A+++	A+	14.0	178/177	130	14.0	232/231	152	40	67
	EHPT30X-***D(W)	A++	A	14.0	132/131	118	14.0	160/159	125	40	67	A+++	A	14.0	176/175	118	14.0	227/225	125	40	67
	ERPT30X-***D(W)	A++	A	14.0	133/133	118	14.0	162	125	40	67	A+++	A	14.0	178/177	118	14.0	232/231	125	40	67
	EHPX-***D	A++	–	14.0	132/131	–	14.0	160/159	–	40	67	A+++	–	14.0	176/175	–	14.0	227/225	–	40	67
	ERPX-***D	A++	–	14.0	133/133	–	14.0	162	–	40	67	A+++	–	14.0	178/177	–	14.0	232/231	–	40	67
PUHZ-FRP71VHA2	EHST20C-***D	A+	A+	7.5	121	138	7.5	150	156	40	68	A++	A+	7.5	163	138	7.5	226	156	40	68
	EHSC-***D	A+	–	7.5	121	–	7.5	150	–	40	68	A++	–	7.5	163	–	7.5	226	–	40	68
PUMY-P112VKM5/YKM(E)4(-BS)	EHST20C-***D	A+	A	11.2	121/121	106	10.0	139	119	40	69	A++	A	11.2	168/168	106	11.2	207	119	40	69
	EHSC-***D	A+	–	11.2	121/121	–	10.0	139	–	40	69	A++	–	11.2	168/168	–	11.2	207	–	40	69
PUMY-P125VKM5/YKM(E)4(-BS)	EHST20C-***D	A+	A	11.2	121/121	106	10.0	139	119	40	69	A++	A	11.2	168/168	106	11.2	207	119	40	69
	EHSC-***D	A+	–	11.2	121/121	–	10.0	139	–	40	69	A++	–	11.2	168/168	–	11.2	207	–	40	69
PUMY-P140VKM5/YKM(E)4(-BS)	EHST20C-***D	A+	A	11.2	121/121	106	10.0	139	119	40	69	A++	A	11.2	168/168	106	11.2	207	119	40	69
	EHSC-***D	A+	–	11.2	121/121	–	10.0	139	–	40	69	A++	–	11.2	168/168	–	11.2	207	–	40	69