AIR TO WATER

ECODAN

"ECODAN" can heat rooms and supply domestic hot water, realising greater comfort and energy saving.

"ECODAN" – Economic, eco conscious next generation heating system

Both energy-saving and safe for the environment, the Mitsubishi Electric ECODAN incorporates a highly efficient heat pump system that captures "the heat in the air", a renewable energy resource. Equipped with advanced inverter control, meticulous temperature control assures comfortable heating, and its space-saving "All-in-one" indoor unit is easy to install. These energy-saving, high comfort and simple installation characteristics have drawn the ECODAN heating system into the spotlight centre stage.

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

INDOOR UNIT

Hydro box, cylinder unit

Reversible hydro box, Reversible cylinder unit

OUTDOOR UNIT

Packaged type	Small capacity (Under 5kW)*	Medium capacity (7.5kW–14kW)*	Large capacity (≧16kW)*
ZUBADAN		 PUHZ-HW112/140	
POWER INVERTER	 PUHZ-W50	 PUHZ-W85  NEW PUHZ-W112	

Split type	Small capacity (Under 5kW)*	Medium capacity (7.5kW–14kW)*	Large capacity*
ZUBADAN New Generation		 PUHZ-SHW80/112/140	 PUHZ-SHW230
POWER INVERTER	 PUHZ-SW50	 PUHZ-SW75  PUHZ-SW100/120	 NEW PUHZ-SW160/200
Eco Inverter	 NEW SUHZ-SW45		
Mr.SLIM+		 PUHZ-FRP71	

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

New eco-design directive

What is the ErP Directive?

The Ecodesign 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 come into effect as of September 26, 2015.

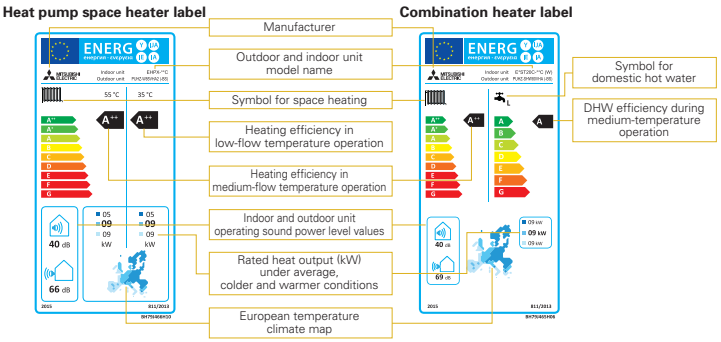
New energy label and measurements

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 G. In the case of domestic hot water, it is from A to G.
A package label is also required if the ECODAN heat pump is installed with a controller and/or a solar system or additional heater. All ECODAN units* are already rated as A^{++} for heating at both 55°C and 35°C and A for domestic hot water, which are the highest efficiency ranks.

*Except for our ATA/ATW hybrid system Mr. SLIM+

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 hydro box, and the combination heater label is used for ECODAN systems with a cylinder unit.



These labels are delivered with all ECODAN outdoor units.

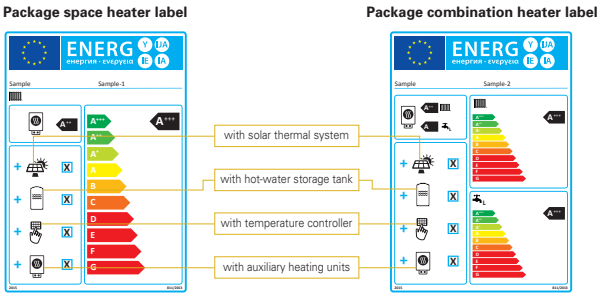
What is the package label?

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.

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.



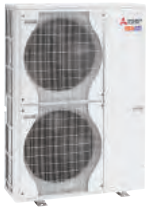
Customised package labels including ECODAN heat pumps and FTC5 controller can be created on the Mitsubishi Electric website.

Designed for Optimal Heating

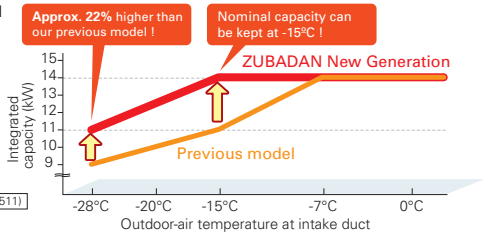
ZUBADAN New Generation (Split type)

Reliable performance in low-temperature outdoor air

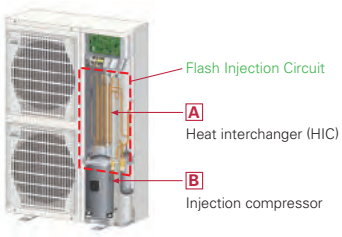
ZUBADAN New Generation provides powerful heating in cold regions where most heat pumps cannot perform very well. Its rated heating capacity is maintained even in outdoor temperatures as low as –15°C, even when flow temperature needs to be higher. That means it can be trusted to provide comfortable heating during severe winter months.

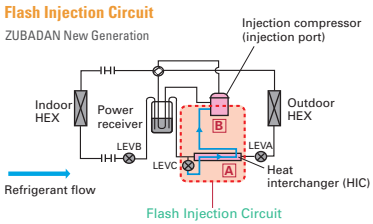


● Benefits ZUBADAN New Generation
Example:
PUHZ-SHW140YHA



Mitsubishi Electric's Flash Injection Technology
The key to high heating performance at low outdoor temperatures





The Flash Injection Circuit is an original technology. A heat exchange process at point A (heat interchanger) transforms liquid refrigerant into a two-phase, gas-liquid state and then compresses the gas-liquid refrigerant at point B (injection compressor). This circuit secures a sufficient flow rate of refrigerant for heating when outdoor temperatures are very low. Thanks to improving the heat interchanger and introducing a new injection compressor, the Flash Injection Circuit is now more powerful.

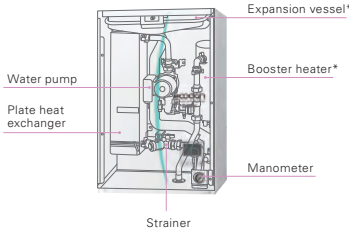
Indoor units

New all-in-one compact indoor unit

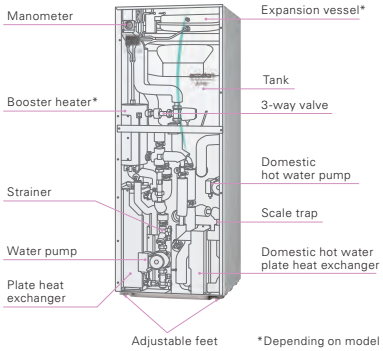
Easy to install and low maintenance

- All-in-one: Key functional components are incorporated
- Compact cylinder unit: Just 1600mm in height
- Compact hydro box: Only 600×600mm 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)

Hydro box (Split type)



Cylinder unit (Split type)



*Depending on model

Larger capacity system NEW

Outdoor units

PUHZ-SW160/200YKA
SHW230YKA2

Indoor units

EHSE-YM9EC, EHSE-MEC, ERSE-YM9EC, ERSE-MEC

Our 8–10HP ECODAN heat pumps, only available with a hydro box connection, are suitable for large houses and small businesses where a high heating load is necessary. Our latest generation of 8–10HP Power Inverter outdoor units can now reach 60°C maximum flow temperature instead of 53°C previously. The new 8–10HP hydro box is available in both heating only and reversible and can be connected to a customised capacity domestic hot water tank.

High-performance for domestic hot water re-charge NEW

External plate heat exchanger – more energy savings using ECODAN's unique and innovative technologies

Save energy in domestic hot water operations

Thanks to an external plate heat exchanger, ECODAN offers much higher domestic hot water efficiency. Compared to our previous model, domestic hot water recharge efficiency is improved by approximately 17%*1, thereby reducing operating costs.

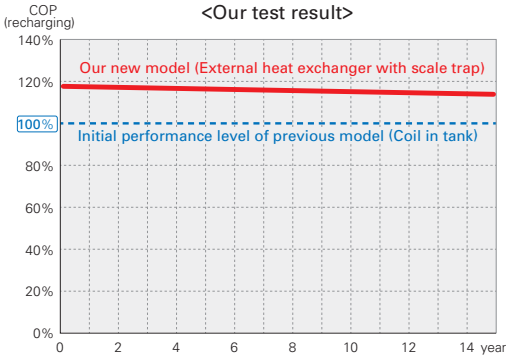
Avoid performance loss due to scale

A scale trap is incorporated after the plate heat exchanger to capture calcium scale particles, thus maintaining the high performance of the external plate heat exchanger. (Just a 3% reduction during 15 years*2).

Lighter weight

Compared to our previous model, the cylinder unit is up to 15kg lighter*.
This is thanks to the coil incorporated in the tank which has been removed and replaced by a much lighter plate heat exchanger.

*Comparison between EHST20C-VM2C and EHST20C-VM2B.



<*1, *2> Usage condition Tank temperature: 10 degree to 60 degree
Heating up time: 1 hour per 1 day
Supersaturation of $CaCO_3$: 50
*15 years accelerated testing

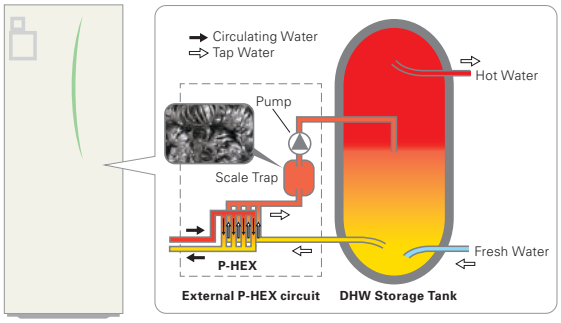
Optimised stratification for better comfort

Thanks to the L-shaped inlet pipe from the plate heat exchanger, stratification is well maintained after re-charge.
You do not need to worry about running out of hot water the same as with a conventional coil in tank.
Supply water temperature can be kept high until all the hot water in the tank has been used.

The secret behind our external plate heat exchanger system

Thanks to the unique plate heat exchanger and scale trap technology, a more efficient performance is achieved. In conventional systems, there is a risk of calcium scale building up on the heat-exchange plate if it is exposed to tap water directly. Therefore, it is difficult to use plate-based heat exchangers to heat tap water. To resolve this problem, ECODAN is equipped with a "scale trap" that catches homogeneous calcium nuclei in the tap water before it has a chance to grow into large scales, thereby inhibiting build-up in the external heat exchanger. ECODAN can use a plate heat exchanger to heat tap water, resulting in much higher domestic hot water performance.

Notice: In the case of the special conditions such as very hard tap water, please consult with a specialist before installation.



Unique technology of ECODAN

Settings can be performed using an SD card.

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

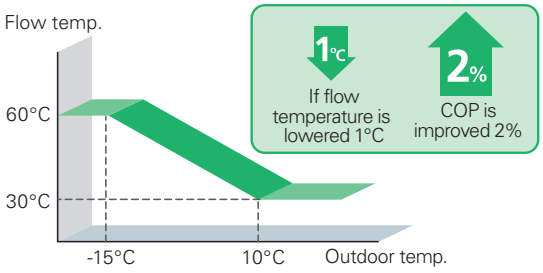
Auto Adaptation

Maximize energy savings while retaining comfort at all times

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.

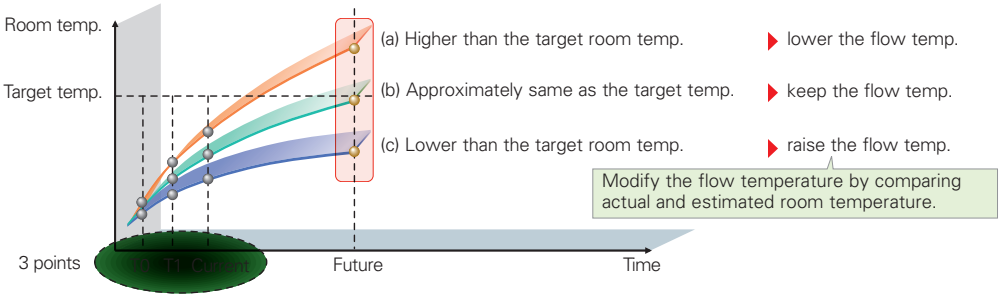
■ Heat curve setting (Example)



Mitsubishi Electric's Auto Adaptation function automatically tracks changes in the actual room temperature and outdoor temperature and adjusts the flow temperature accordingly.

Aiming to realise further comfort and energy savings, Mitsubishi Electric is proud to introduce a revolutionary new controller. Our advanced 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.

■ Future room temperature estimation



Two-zone control (for heating/cooling) NEW

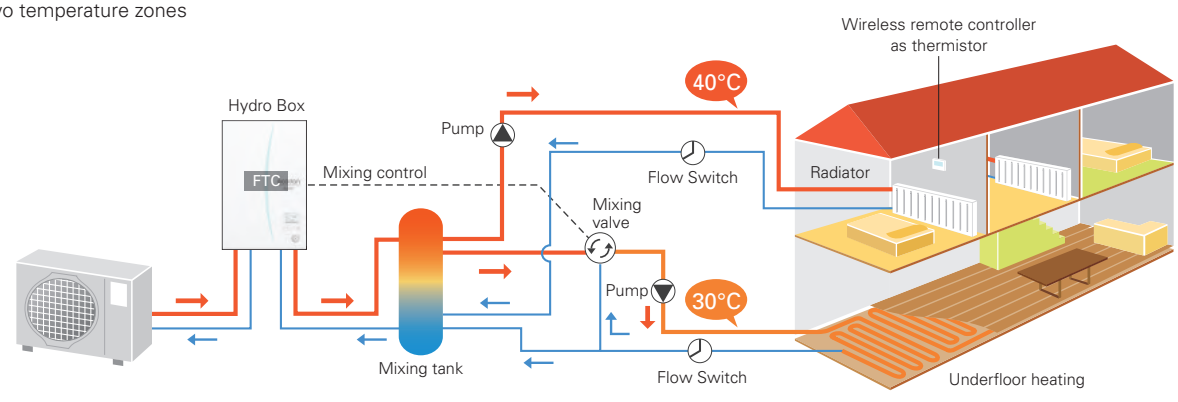
Settings can be performed using an SD card.

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

Simultaneously control two different zones

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.
Another feature of this model is that two-zone cooling control is now possible. Using these functions it is easy to maintain the most comfortable temperature in each room and to save energy too.

■ Two temperature zones



*Items such as mixing tank, mixing valve flow switch 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

Settings can be performed using an SD card.

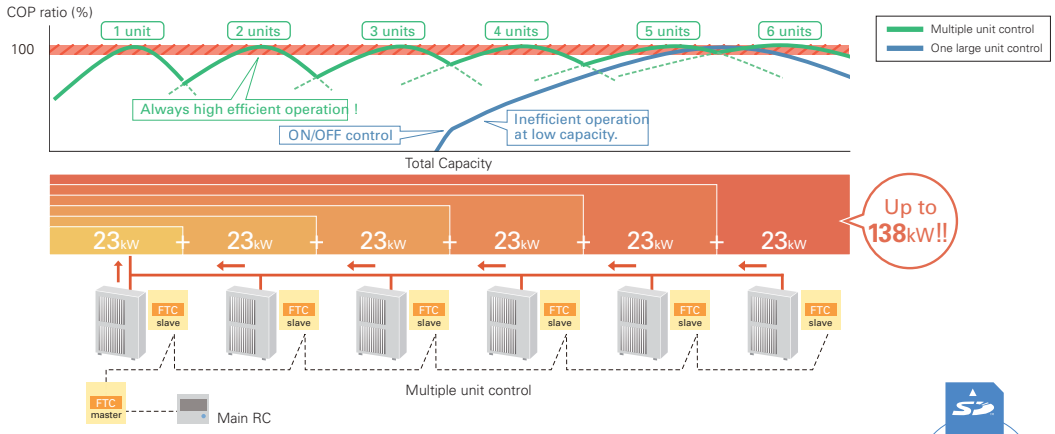
*SD logo is a trademark of SD-3C, LLC

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



Intelligent boiler interlock

An existing boiler can be used for extra heating capacity in an efficient way

Settings can be performed using an SD card.

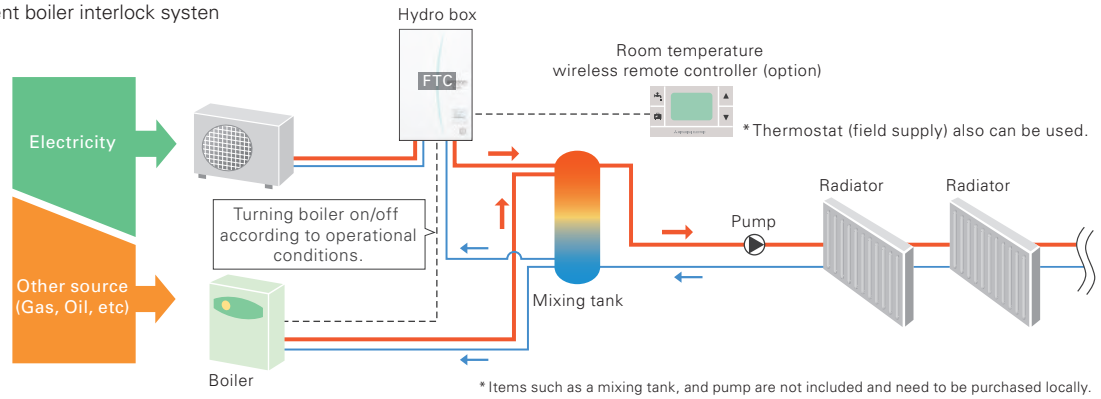
*SD logo is a trademark of SD-3C, LLC

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 check below "Heat source switchover".

Intelligent system combining a boiler with ECODAN

■ Intelligent boiler interlock systen



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.

Remote controllers

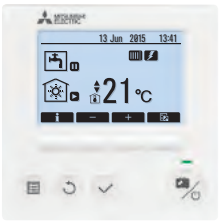
Smart user-friendly controller with stylish design

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

- NEW – Energy monitoring
- NEW – Two-zone control (cooling and heating)
- NEW – Two separate schedules
- NEW – 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

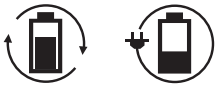
Settings can be performed using an SD card.

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

Energy monitoring NEW

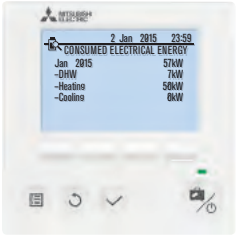
View electricity consumption and heat output on the remote controller

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



Heating capacity produced

Electric energy used



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.

*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.

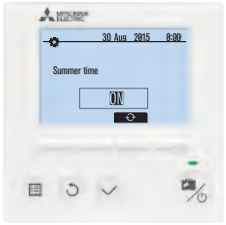
Summer time setting NEW

Easy adjustment for summer time

Settings can be performed using an SD card.

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

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.



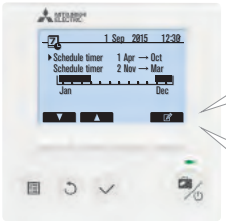
Two separate schedules NEW

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**

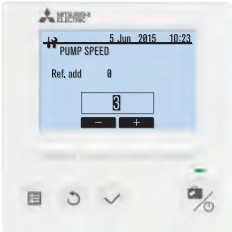
Schedule 2 Summer time
Domestic hot water **any time**

Easy commissioning

Pump for primary water circuit* speed setting possible using ECODAN's main remote controller

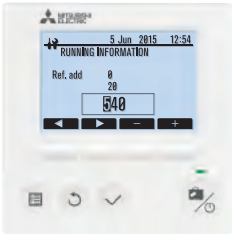
Even when the system is running, pump output can be set to one of five different settings using the main remote controller.
The person commissioning the system can adjust this speed much more easily.

*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

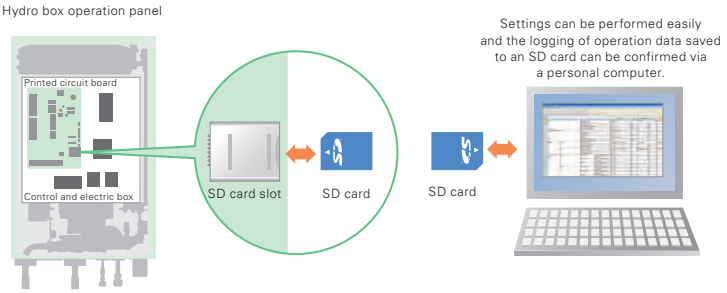
For easier settings and data logging

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.



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 (2GB).

- 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.

Split type specifications

Indoor unit

<Cylinder unit>

Model name				EHST20C-VM2C	EHST20C-VM6C	EHST20C-YM9C	EHST20C-TM9C	EHST20C-VM2EC	EHST20C-VM6EC	EHST20C-YM9EC	EHST20C-MEC	EHST20D-VM2C	EHST20D-YM9C	EHST20D-VM2EC	EHST20D-MHC	EHST20D-MEC	EHST20C-MHCW*2	EHST20D-MHCW*2
		Type		Heating only														
		Immersion heater		–	–	–	–	–	–	–	–	–	–	–	×	–	×	×
		Expansion vessel		×	×	×	×	–	–	–	–	×	×	–	×	–	×	×
		Booster heater		×	×	×	×	×	×	×	–	×	×	×	–	–	–	–
Dimensions		H×W×D	mm	1600×595×680														
Weight (empty)			kg	110	111	112	112	104	105	106	103	103	105	97	103	96	110	103
Power supply (V/Phase/Hz)				230/Single/50														
Heater	Booster heater	Power supply (V/Phase/Hz)		230/Single/50		400/Three/50	230/Three/50	230/Single/50		400/Three/50	–	230/Single/50	400/Three/50	230/Single/50	–			
		Capacity	kW	2	6 (2/4/6)	9 (3/6/9)	9 (3/6/9)	2	6 (2/4/6)	9 (3/6/9)	–	2	9 (3/6/9)	2	–			
		Current	A	9	26	13	23	9	26	13	–	9	13	9	–			
		Breaker size	A	16	32	16	32	16	32	16	–	16	16	16	–			
	Immersion heater	Power supply (V/Phase/Hz)		–											230/Single/50	–	230/Single/50	
		Capacity	kW	–											3	–	3	
		Current	A	–											13	–	13	
		Breaker size	A	–											16	–	16	
Domestic hot water tank		Volume / Material	L / –	200 / Stainless steel														
Guaranteed operating range*1		Ambient	°C	0~35*1														
		Outdoor Heating	°C	See outdoor unit spec table														
		Outdoor Cooling	°C	–														
Target temperature range		Heating Room temperature	°C	10~30														
		Heating Flow temperature	°C	25~60														
		Cooling Room temperature	°C	–														
		Cooling Flow temperature	°C	–														
		DHW	°C	40~60														
		Legionella prevention	°C	60~70														
Sound pressure level (SPL)			dB (A)	28														

*1 The environment must be frost-free *2 UK model

<Hydro box>

Model name				EHSD-MEC	EHSD-MC	EHSD-VM2C	EHSD-YM9C	EHSC-MEC	EHSC-VM2C	EHSC-VM2EC	EHSC-VM6C	EHSC-VM6EC	EHSC-YM9C	EHSC-YM9EC	EHSC-TM9C	EHSE-MEC	EHSE-YM9EC
		Type		Heating only													
		Immersion heater		–	–	–	–	–	–	–	–	–	–	–	–	–	–
		Expansion vessel		–	×	×	×	–	×	–	×	–	×	–	×	–	–
		Booster heater		–	–	×	×	–	×	×	×	×	×	×	×	–	×
Dimensions		H×W×D	mm	800×530×360												950×600×360	
Weight (empty)			kg	38	43	44	45	42	48	43	49	44	49	44	49	60	62
Power supply (V/Phase/Hz)				230/Single/50													
Heater	Booster heater	Power supply (V/Phase/Hz)		–	–	230/Single/50	400/Three/50	–	230/Single/50				400/Three/50		230/Three/50	–	400/Three/50
		Capacity	kW	–	–	2	9 (3/6/9)	–	2	2	6 (2/4/6)	6 (2/4/6)	9 (3/6/9)	9 (3/6/9)	9 (3/6/9)	–	9 (3/6/9)
		Current	A	–	–	9	13	–	9	9	26	26	13	13	23	–	13
		Breaker size	A	–	–	16	16	–	16	16	32	32	16	16	32	–	16
Guaranteed operating range*1		Ambient	°C	0~35*1													
		Outdoor Heating	°C	See outdoor unit spec table													
		Outdoor Cooling	°C	–													
Target temperature range		Heating Room temperature	°C	10~30													
		Heating Flow temperature	°C	25~60													
		Cooling Room temperature	°C	–													
		Cooling Flow temperature	°C	–													
Sound pressure level (SPL)			dB (A)	28												30	

*1 The environment must be frost-free

<Reversible cylinder unit>

Model name				ERST20D-VM2C	ERST20D-MEC	ERST20C-VM2C	ERST20C-MEC
		Type		Heating and cooling			
		Immersion heater		–	–	–	–
		Expansion vessel		×	–	×	–
		Booster heater		×	–	×	–
Dimensions		H×W×D	mm	1600×595×680			
Weight (empty)			kg	103	96	110	103
Power supply (V/Phase/Hz)				230/Single/50			
Heater	Booster heater	Power supply (V/Phase/Hz)		230/Single/50	–	230/Single/50	–
		Capacity	kW	2	–	2	–
		Current	A	9	–	9	–
		Breaker size	A	16	–	16	–
	Immersion heater	Power supply (V/Phase/Hz)		–	–	–	–
		Capacity	kW	–	–	–	–
		Current	A	–	–	–	–
		Breaker size	A	–	–	–	–
Domestic hot water tank		Volume / Material	L / –	200 / Stainless steel			
Guaranteed operating range*1		Ambient	°C	0~35*1			
		Outdoor Heating	°C	See outdoor unit spec table			
		Outdoor Cooling	°C	See outdoor unit spec table (minimum 10°C*2)			
Target temperature range		Heating Room temperature	°C	10~30			
		Heating Flow temperature	°C	25~60			
		Cooling Room temperature	°C	–			
		Cooling Flow temperature	°C	5~25			
		DHW	°C	40~60			
		Legionella prevention	°C	60~70			
Sound pressure level (SPL)			dB (A)	28			

*1 The 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.

<Reversible hydro box>

Model name				ERSD-VM2C	ERSC-MEC	ERSC-VM2C	ERSE-MEC	ERSE-YM9EC
		Type		Heating and cooling				
		Immersion heater		–	–	–	–	–
		Expansion vessel		×	–	×	–	–
		Booster heater		×	–	×	–	×
Dimensions		H×W×D	mm	800×530×360			950×600×360	
Weight (empty)			kg	45	43	49	61	63
Power supply (V/Phase/Hz)				230/Single/50				
Heater	Booster heater	Power supply (V/Phase/Hz)		230/Single/50	–	230/Single/50	–	400/Three/50
		Capacity	kW	2	–	2	–	9 (3/6/9)
		Current	A	9	–	9	–	13
		Breaker size	A	16	–	16	–	16
Guaranteed operating range*1		Ambient	°C	0~35*1				
		Outdoor Heating	°C	See outdoor unit spec table				
		Outdoor Cooling	°C	See outdoor unit spec table (minimum 10°C*2)				
Target temperature range		Heating Room temperature	°C	10~30				
		Heating Flow temperature	°C	25~60				
		Cooling Room temperature	°C	–				
		Cooling Flow temperature	°C	5~25				
Sound pressure level (SPL)			dB (A)	28			30	

*1 The 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.

Outdoor unit

Model name				SUHZ-SW45VA (H)*1	PUHZ-SW50VKA (-BS)	PUHZ-SW75VHA (-BS)	PUHZ-SW100V/YHA (-BS)	PUHZ-SW120V/YHA (-BS)	PUHZ-SW160YKA (-BS)	PUHZ-SW200YKA (-BS)	PUHZ-SHW80VHA	PUHZ-SHW112V/YHA	PUHZ-SHW140YHA	PUHZ-SHW230YKA2
Dimensions	H×W×D		mm	880×840×330	630×809×300	943×950×330	1350×950×330	1350×950×330	1338×1050×330	1338×1050×330	1350×950×330	1350×950×330	1350×950×330	1338×1050×330
Product weight (empty)			kg	54	43	75	118/130	118/130	136	136	120	120/134	134	149
Power supply (V / Phase / Hz)				VHA : 230/Single/50 YHA, YKA : 400/Three/50										
Heating (A7/W35)	Capacity		kW	4.50	5.50	8.00	11.20	16.00	22.00	25.00	8.00	11.20	14.00	23.00
	COP			5.06	4.42	4.40	4.45	4.10	4.20	4.00	4.65	4.46	4.22	3.65
	Power input		kW	0.889	1.244	1.818	2.517	3.902	5.238	6.250	1.720	2.511	3.318	6.301
Heating (A2/W35)	Capacity		kW	3.50	5.00	7.50	10.00	12.00	16.00	20.00	8.00	11.20	14.00	23.00
	COP			3.40/3.04	2.97	3.40	3.32	3.24	3.11	2.80	3.55	3.34	2.96	2.37
	Power input		kW	1.029/1.151	1.684	2.206	3.009	3.704	5.145	7.143	2.254	3.353	4.730	9.705
Cooling (A35/W7)	Capacity		kW	4.00	4.50	6.60	9.10	12.50	16.00	20.00	7.10	10.00	12.50	20.00
	EER			2.73	2.76	2.82	2.75	2.32	2.76	2.25	3.31	2.83	2.17	2.22
	Power input		kW	1.465	1.630	2.340	3.309	5.388	5.797	8.889	2.145	3.534	5.760	9.009
Cooling (A35/W18)	Capacity		kW	3.80	5.00	7.10	10.00	14.00	18.00	22.00	7.10	10.00	12.50	20.00
	EER			4.28	4.60	4.43	4.35	4.08	4.56	4.10	4.52	4.74	4.26	3.55
	Power input		kW	0.888	1.087	1.603	2.299	3.431	3.947	5.366	1.571	2.110	2.934	5.634
Sound pressure level (SPL)	Heating		dB (A)	52	46	51	54	54	62	62	51	52	52	59
Sound power level (PWL)	Heating		dB (A)	61	63	68	70	72	78	78	69	70	70	75
Operating current (max)			A	12.0	13.0	17.0	29.5/13.0	29.5/13.0	19.0	21.0	29.5	35.0/13.0	13.0	26.0
Breaker size			A	20	16	25	32/16	32/16	25	32	32	40/16	16	32
Piping	Diameter	Liquid/Gas	mm	6.35/12.7	6.35/12.7	9.52/15.88	9.52/15.88	9.52/15.88	9.52/25.4	12.7/25.4	9.52/15.88	9.52/15.88	9.52/15.88	12.7/25.4
	Max. length	Out-In	m	30	40	40	75	75	80	80	75	75	75	80
	Max. height	Out-In	m	30	30	30	30	30	30	30	30	30	30	30
Guaranteed operating range	Heating		°C	−15 to +24	−15 to +21	−20 to +21	−20 to +21	−20 to +21	−20 to +21	−20 to +21	−28 to +21	−28 to +21	−28 to +21	−25 to +21
	DHW		°C	−15 to +35	−15 to +35	−20 to +35	−20 to +35	−20 to +35	−20 to +35	−20 to +35	−28 to +35	−28 to +35	−28 to +35	−25 to +35
	Cooling*2		°C	−10 to +46	−15 to +46	−15 to +46	−15 to +46	−15 to +46	−15 to +46	−15 to +46	−15 to +46	−15 to +46	−15 to +46	−15 to +46

Note: based on EN 14511 (Input to circulation pump is not included.) It may differ according to the system configuration.
*1 SUHZ-SW45VAH incorporates base heater.
*2 Optional air protection guide is required where ambient temperature is lower than −5°C.

Optional parts

<Indoor unit>

Parts name	Model name	Specification	Cylinder unit															Hydro box	
			EHST20C-VM2C	EHST20C-VM6C	EHST20C-YM9C	EHST20C-TM9C	EHST20C-VM2EC	EHST20C-VM6EC	EHST20C-YM9EC	EHST20C-MEC	EHST20D-VM2C	EHST20D-YM9C	EHST20D-VM2EC	EHST20D-MEC	EHST20D-MHC	EHST20C-MHCW	EHST20D-MHCW	ERST models	E*SD or E*SC models	E*SE models
Wirelss remote controller	PAR-WT50R-E		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Wirelss receiver	PAR-WR51R-E		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Thermistors	PAC-SE41TS-E	For room temp.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
	PAC-TH011-E	For buffer and zone (flow and return temp.)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
	PAC-TH011TK-E	For tank temp. (5m)	×	×	×	×	×	–	–	–	–	–	–	–	–	–	–	×	×	×
	PAC-TH011TKL-E	For tank temp. (30m)	×	×	×	×	×	–	–	–	–	–	–	–	–	–	–	×	×	×
	PAC-TH011HT-E	For boiler (flow and return temp.)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Immersion heater	PAC-I03V2-E	1Ph 3kW	×	×	×	×	×	×	×	×	×	×	×	×	–	–	–	×	–	–
EHPT accessories for UK	PAC-WK01UK-E		–	–	–	–	–	–	–	–	–	–	–	–	–	×	×	–	–	–
Joint pipe	PAC-SG73RJ-E	For PUHZ-SW200YKA/ SHW230YKA2 (-BS) ø9.52→ø12.7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	×
Wi-Fi interface	PAC-WF010-E		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Drain pan stand	PAC-DP01-E	D665mm H270mm W595mm N/W: 14.5kg	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	×*1	–	–

*1 PAC-DP01-E is necessary when you use ERST units. If you use ERST units without this parts, drain will be flowed from the base of units, in cooling mode.

<Outdoor unit>

Parts name	Model name	Eco Inverter	Power Inverter						ZUBADAN			
		SUHZ-SW45VA (H)	PUHZ-SW50VKA (-BS)	PUHZ-SW75VHA (-BS)	PUHZ-SW100V/YHA (-BS)	PUHZ-SW120V/YHA (-BS)	PUHZ-SW160YKA (-BS)	PUHZ-SW200YKA (-BS)	PUHZ-SHW80VHA	PUHZ-SHW112V/YHA	PUHZ-SHW140YHA	PUHZ-SHW230YKA2
Connector for drain hose heater signal output	PAC-SE60RA-E	–	–	×	×	×	×	×	×	×	×	×
	PAC-SE61RA-E	–	×	–	–	–	–	–	–	–	–	–
Air discharge guide	MAC-886SG-E	×	–	–	–	–	–	–	–	–	–	–
	PAC-SJ07SG-E	–	×	–	–	–	–	–	–	–	–	–
	PAC-SG59SG-E	–	–	×	×	×	–	–	×	×	×	–
	PAC-SG96SG-E	–	–	–	–	–	×	×	–	–	–	×
Air protection guide	PAC-SJ06AG-E	–	×	–	–	–	–	–	–	–	–	–
	PAC-SH63AG-E	–	–	×	×	×	–	–	×	×	×	–
	PAC-SH95AG-E	–	–	–	–	–	×	×	–	–	–	×
Drain socket	PAC-SG61DS-E	–	–	×	×	×	×	×	–	–	–	–
	PAC-SJ08DS-E	–	×	–	–	–	–	–	–	–	–	–
Centralised drain pan	PAC-SG63DP-E	–	×	–	–	–	–	–	–	–	–	–
	PAC-SG64DP-E	–	–	×	×	×	–	–	–	–	–	–
	PAC-SH97DP-E	–	–	–	–	–	×	×	–	–	–	–
Control/Service tool	PAC-SK52ST	–	×	×	×	×	×	×	×	×	×	×

Packaged type specifications

Indoor unit

<Cylinder unit>

Model name				EHPT20X-VM2C	EHPT20X-VM6C	EHPT20X-YM9C	EHPT20X-TM9C	EHPT20X-MHCW*2
		Type		Heating only				
		Immersion heater		–	–	–	–	×
		Expansion vessel		×	×	×	×	×
		Booster heater		×	×	×	×	–
Dimensions		H×W×D	mm	1600×595×680				
Weight (empty)			kg	98	99	100	100	98
Power supply (V/Phase/Hz)				230/Single/50				
Heater	Booster heater	Power supply (V/Phase/Hz)		230/Single/50		400/Three/50	230/Three/50	–
		Capacity	kW	2	6 (2/4/6)	9 (3/6/9)	9 (3/6/9)	–
		Current	A	9	26	13	23	–
		Breaker size	A	16	32	16	32	–
	Immersion heater	Power supply (V/Phase/Hz)		–	–	–	–	230/Single/50
		Capacity	kW	–	–	–	–	3
		Current	A	–	–	–	–	13
		Breaker size	A	–	–	–	–	16
Domestic hot water tank	Volume / Material		L / –	200 / Stainless steel				
Guaranteed operating range*1	Ambient		°C	0~35*1				
	Outdoor		°C	See outdoor spec table				
Target temperature range	Heating	Room temperature	°C	10~30				
		Flow temperature	°C	25~60				
	DHW		°C	40~60				
	Legionella prevention		°C	60~70				
Sound pressure level (SPL)			dB (A)	28				

*1 The environment must be frost-free *2 UK model

<Hydro box>

Model name				EHPX-VM2C	EHPX-VM6C	EHPX-YM9C
		Type		Heating only		
		Immersion heater		–	–	–
		Expansion vessel		×	×	×
		Booster heater		×	×	×
Dimensions		H×W×D	mm	800×530×360		
Weight (empty)			kg	37	38	38
Power supply (V/Phase/Hz)				230/Single/50		
Heater	Booster heater	Power supply (V/Phase/Hz)		230/Single/50	230/Single/50	400/Three/50
		Capacity	kW	2	6 (2/4/6)	9 (3/6/9)
		Current	A	9	26	13
		Breaker size	A	16	32	16
Guaranteed operating range*1	Ambient		°C	0~35*1		
	Outdoor		°C	See outdoor spec table		
Target temperature range	Heating	Room temperature	°C	10~30		
		Flow temperature	°C	25~60		
Sound pressure level (SPL)			dB (A)	28		

*1 The environment must be frost-free

Outdoor unit

Model name			PUHZ-W50VHA2 (-BS)	PUHZ-W85VHA2 (-BS)	PUHZ-W112VHA (-BS)	PUHZ-HW112YHA2 (-BS)	PUHZ-HW140VHA2 (-BS)	PUHZ-HW140YHA2 (-BS)
Dimensions	H×W×D	mm	740×950×330	943×950×330	1350×1020×330	1350×1020×330	1350×1020×330	1350×1020×330
Product weight (empty)		kg	64	79	133	148	134	148
Power supply (V / Phase / Hz)			230/Single/50	230/Single/50	230/Single/50	400/Three/50	230/Single/50	400/Three/50
Heating (A7/W35)	Capacity	kW	5.00	9.00	11.20	11.20	14.00	14.00
	COP		4.50	4.18	4.47	4.42	4.25	4.25
	Power input	kW	1.111	2.153	2.506	2.534	3.294	3.294
Heating (A2/W35)	Capacity	kW	5.00	8.50	11.20	11.20	14.00	14.00
	COP		3.50	3.17	3.34	3.11	3.11	3.11
	Power input	kW	1.429	2.681	3.353	3.601	4.502	4.502
Sound pressure level (SPL)	Heating	dB (A)	46	48	53	53	53	53
Sound power level (PWL)	Heating	dB (A)	61	66	69	67	67	67
Operating current (max)		A	13.0	23.0	29.5	13.0	35.0	13.0
Breaker size		A	16	25	32	16	40	16
Guaranteed operating range	Heating	°C	–15 to +21	–20 to +21	–20 to +21	–25 to +21	–25 to +21	–25 to +21
	DHW	°C	–15 to +35	–20 to +35	–20 to +35	–25 to +35	–25 to +35	–25 to +35
	Cooling*1	°C	–15 to +46	–15 to +46	–15 to +46	–15 to +46	–15 to +46	–15 to +46

Note: based on EN 14511 (Input to circulation pump is included.) It may differ according to the system configuration.
*1 Optional air protection guide is required where ambient temperature is lower than –5°C.

Optional parts

<Indoor unit>

Parts name	Model name	Specification	Cylinder unit					Hydro box		
			EHPT20X-VM2C	EHPT20X-VM6C	EHPT20X-YM9C	EHPT20X-TM9C	EHPT20X-MHCW	EHPX-VM2C	EHPX-VM6C	EHPX-YM9C
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-TH011TK-E	For tank temp.	×	×	×	×	×	×	×	×
	PAC-TH011TKL-E	For tank temp. (longer)	×	×	×	×	×	×	×	×
	PAC-TH011HT-E	For boiler (flow and return temp.)	×	×	×	×	×	×	×	×
Immersion heater	PAC-I03V2-E	1Ph 3kW	×	×	×	×	–	–	–	–
EHPT accessories for UK	PAC-WK01UK-E		–	–	–	–	×	–	–	–
Wi-Fi interface	PAC-WF010-E		×	×	×	×	×	×	×	×

<Outdoor unit>

Parts name	Model name	Power Inverter			ZUBADAN		
		PUHZ-W50VHA2(-BS)	PUHZ-W85VHA2(-BS)	PUHZ-W112VHA (-BS)	PUHZ-HW112YHA2(-BS)	PUHZ-HW140VHA2(-BS)	PUHZ-HW140YHA2(-BS)
Connector for drain hose heater signal output	PAC-SE60RA-E	×	×	×	×	×	×
Air discharge guide	PAC-SG59SG-E	×	×	×	×	×	×
Air protection guide	PAC-SH63AG-E	×	×	×	×	×	×
Drain socket	PAC-SG61DS-E	×	×	×	–	–	–
Centralised drain pan	PAC-SG64DP-E	×	×	–	–	–	–
Control/Service tool	PAC-SK52ST	–	–	–	–	–	–

Interface/Flow temperature controller

Parts name	Model name	Description
Capacity step control interface	PAC-IF011B-E	1 PC Board w/ Case
Flow temperature controllers	PAC-IF032B-E	1 PC Board w/ Case
System controllers	PAC-IF061B-E	1 PC Board w/ Case
	PAC-IF062B-E	1 PC Board w/ Case
	PAC-SIF051B-E	1 PC Board w/ Case

Note: SUHZ CANNOT be connected to these IFs.

Combination table

Type	Model name	Package type						Split type		
		Power Inverter			ZUBADAN			Eco Inverter	Power Inverter	
		PUHZ-W50VHA2	PUHZ-W85VHA2	PUHZ-W112VHA	PUHZ-HW112YHA2	PUHZ-HW140VHA2	PUHZ-HW140YHA2	SUHZ-SW45VA(H)	PUHZ-SW50VKA	PUHZ-SW75VHA
Cylinder unit	EHST20C-VM2C									●
	EHST20C-VM6C									●
	EHST20C-YM9C									●
	EHST20C-TM9C									●
	EHST20C-VM2EC									●
	EHST20C-VM6EC									●
	EHST20C-YM9EC									●
	EHST20C-MEC									●
	EHST20C-MHCW									●
	EHST20D-VM2C							●	●	
	EHST20D-MEC							●	●	
	EHST20D-MHC							●	●	
	EHST20D-MHCW							●	●	
	EHST20D-VM2EC							●	●	
	EHST20D-YM9C							●	●	
	ERST20C-MEC									●
	ERST20C-VM2C									●
	ERST20D-MEC							●	●	
	ERST20D-VM2C							●	●	
	EHPT20X-VM2C	●	●	●	●	●	●			
	EHPT20X-VM6C	●	●	●	●	●	●			
	EHPT20X-YM9C	●	●	●	●	●	●			
	EHPT20X-TM9C	●	●	●	●	●	●			
	EHPT20X-MHCW	●	●	●	●	●	●			
Hydro box	EHSC-VM2C									●
	EHSC-VM2EC									●
	EHSC-VM6C									●
	EHSC-VM6EC									●
	EHSC-YM9C									●
	EHSC-YM9EC									●
	EHSC-TM9C									●
	EHSC-MEC									●
	EHSD-VM2C							●	●	
	EHSD-YM9C							●	●	
	EHSD-MEC							●	●	
	EHSD-MC							●	●	
	ERSC-VM2C									●
	ERSC-MEC									●
	ERSD-VM2C							●	●	
	EHPX-VM2C	●	●	●	●	●	●			
	EHPX-VM6C	●	●	●	●	●	●			
	EHPX-YM9C	●	●	●	●	●	●			
	EHSE-YM9EC									
	EHSE-MEC									
	ERSE-YM9EC									
	ERSE-MEC									

Split type												
Power Inverter							Mr. SLIM+	ZUBADAN				
	PUHZ-SW100VHA	PUHZ-SW100YHA	PUHZ-SW120VHA	PUHZ-SW120YHA	PUHZ-SW160YKA	PUHZ-SW200YKA	PUHZ-FRP71VHA	PUHZ-SHW80VHA	PUHZ-SHW112VHA	PUHZ-SHW112YHA	PUHZ-SHW140YHA	PUHZ-SHW230YKA2
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●				●	●	●	●	
	●	●	●	●				●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●			●	●	●	●	●	
	●	●	●	●				●	●	●	●	
	●	●	●	●				●	●	●	●	
					●	●						●
					●	●						●
					●	●						●
					●	●						●

●: Combination is available. Blank: Combination is NOT available.

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, 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+ utilizes a duct system that enables the air conditioning or heating of multiple rooms, and other indoor unit type systems that is possible to fit various applications.

ECODAN for Air-to-Water

✓Domestic hot water supply
✓Heating for multiple rooms

Various operations

Mr. SLIM / Air to Air (Air Cooling)

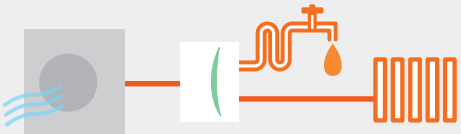
Air-to-Air cooling using Air-to-Air indoor unit

Mr. SLIM / Air to Air (Air Heating)

Air-to-Air heating using Air-to-Air indoor unit

ECODAN / Air to Water (Hot-water heating + DHW)

Air-to-Water operation using Air-to-Water indoor unit



Mr. SLIM + ECODAN / Air to Air (Air Cooling) + DHW

Heat recovery using both Air-to-Air and Air-to-Water indoor units

Specifications

Indoor unit					PLA-ZRP71BA	PKA-RP71KAL	PCA-RP71KA	PCA-RP71HA	PSA-RP71KA	PEAD-RP71JAQ	PEAD-RP71JALQ
Outdoor unit					PUHZ-FRP71VHA	PUHZ-FRP71VHA	PUHZ-FRP71VHA	PUHZ-FRP71VHA	PUHZ-FRP71VHA	PUHZ-FRP71VHA	PUHZ-FRP71VHA
Refrigerant					R410A						
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	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	3.3-8.1
		Total input	Rated	kW	1.85	1.88	1.90	2.26	1.97	2.10	2.08
		EER			3.84	3.78	3.74	3.14	3.60	3.38	3.41
		Design load		kW	7.1	7.1	7.1	7.1	7.1	7.1	7.1
		Annual electricity consumption *1		kWh/a	382	393	387	462	408	459	441
		SEER *3			6.5	6.3	6.4	5.4	6.1	5.4	5.6
			Energy-efficiency class		A^{++}	A^{++}	A^{++}	A	A^{++}	A	A^{+}
	Heating (average season)	Capacity	Rated	kW	8.0	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	3.5-10.2
		Total input	Rated	kW	2.05	2.26	2.26	2.42	2.28	2.09	2.09
		COP			3.90	3.54	3.54	3.14	3.33	3.83	3.83
		Design load		kW	4.7	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)	4.7 (–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)	4.7 (–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)	3.5 (–20°C)	3.7 (–20°C)	3.7 (–20°C)
		Back-up heating capacity		kW	0	0	0	0	0	0	0
		Annual electricity consumption *1		kWh/a	1,510	1,569	1,555	1,787	1,709	1,799	1,799
		SCOP *3			4.4	4.2	4.2	3.7	3.9	3.8	3.8
			Energy-efficiency class		A^{+}	A^{+}	A^{+}	A	A	A	A
Air-to-Water (ATW)	Nominal flow rate (for heating)			L/min	22.90						
	Heating *4	A7W35	Capacity	kW	8.00						
			Input	kW	1.96						
			COP		4.08						
		A2W35	Capacity	kW	7.50						
			Input	kW	2.65						
			COP		2.83						
	Heat recovery (ATA cooling & ATW) *5	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	7.1+8.0
			Input	kW	1.90	1.93	1.95	2.31	2.02	2.15	2.13
			COP		7.95	7.82	7.74	6.54	7.48	7.02	7.09
		W55	Capacity (ATA cooling + ATW)	kW	7.1+9.0	7.1+9.0	7.1+9.0	6.4+9.0	7.1+9.0	7.1+9.0	7.1+9.0
			Input	kW	2.97	3.00	3.02	3.25	3.09	3.22	3.20
			COP		5.42	5.37	5.33	4.74	5.21	5.00	5.03
	ATW indoor unit				Cylinder unit or Hydro box (see previous page)						
Outdoor unit	Dimensions	HxWxD		mm	943-950-330 (+30)						
	Weight			kg	73	73	73	73	73	73	73
	Air volume	Cooling		m³/min	55	55	55	55	55	55	55
		Heating		m³/min	55	55	55	55	55	55	55
	Sound pressure level (SPL)	Cooling		dB(A)	47	47	47	47	47	47	47
		Heat recovery		dB(A)	47	47	47	47	47	47	47
		ATA Heating		dB(A)	48	48	48	48	48	48	48
		ATW Heating		dB(A)	48	48	48	48	48	48	48
	Sound power level (PWL)	Cooling		dB(A)	67	67	67	67	67	67	67
		Heat recovery		dB(A)	67	67	67	67	67	67	67
		ATA Heating		dB(A)	68	68	68	68	68	68	68
		ATW Heating		dB(A)	68	68	68	68	68	68	68
	Operating current (max)			A	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	Breaker size			A	25	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	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	20
Guaranteed operating range (outdoor)		Cooling *2		°C	-15~+46	-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	-20~+21
		ATW		°C	-20~+35	-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	+7~+46

*1 Energy consumption based on standard test results. Actual energy consumption will depend on how the appliance is used and where it is located.
*2 Optional air protection guide is required where ambient temperature is lower than –5°C.
*3 SEER/SCOP values are measured based on EN14825.
*4 Air-to-Water values are measured based on EN14511 (Circulation pump input is not included.).
*5 Conditions for Air-to-Air cooling: Indoor 27°C (dry bulb) /19°C (wet bulb); Outdoor 35°C (dry bulb).

MELCloud (WiFi interface) for ECODAN NEW

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 PAC-WF010-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 measuring hardware is required.

All A++ line-up!!

*except for ATA & ATW hybrid system, Mr. SLIM+

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	Sound power level L_{WA} indoor	Sound power level L_{WA} 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	Sound power level L_{WA} indoor	Sound power level L_{WA} outdoor
				kW	%	%	dB	dB			kW	%	%	dB	dB
SUHZ-SW45VA	EHST20D-****	A++	A	4.6	126	109	40	61	A++	A	5.0	170	109	40	61
	ERST20D-****	A++	A	4.6	128	109	40	61	A++	A	5.0	174	109	40	61
	EHSD-****	A++	–	4.6	126	–	40	61	A++	–	5.0	170	–	40	61
	ERSD-****	A++	–	4.6	128	–	40	61	A++	–	5.0	174	–	40	61
PUHZ-SW50VKA (-BS)	EHST20D-****	A++	A	4.3	125	98	40	63	A++	A	4.5	163	98	40	63
	ERST20D-****	A++	A	4.3	128	98	40	63	A++	A	4.5	167	98	40	63
	EHSD-****	A++	–	4.3	125	–	40	63	A++	–	4.5	163	–	40	63
	ERSD-****	A++	–	4.3	128	–	40	63	A++	–	4.5	167	–	40	63
PUHZ-SW75VHA (-BS)	EHST20C-****	A++	A	7.1	127	103	40	68	A++	A	7.2	165	103	40	68
	ERST20C-****	A++	A	7.1	129	103	40	68	A++	A	7.2	167	103	40	68
	EHSC-****	A++	–	7.1	127	–	40	68	A++	–	7.2	165	–	40	68
	ERSC-****	A++	–	7.1	129	–	40	68	A++	–	7.2	167	–	40	68
PUHZ-SW100VHA/YHA (-BS)	EHST20C-****	A++	A	10.0	125	103	40	70	A++	A	10.4	164	103	40	70
	ERST20C-****	A++	A	10.0	127	103	40	70	A++	A	10.4	166	103	40	70
	EHSC-****	A++	–	10.0	125	–	40	70	A++	–	10.4	164	–	40	70
	ERSC-****	A++	–	10.0	127	–	40	70	A++	–	10.4	166	–	40	70
PUHZ-SW120VHA/YHA (-BS)	EHST20C-****	A++	A	12.0	125	99	40	72	A++	A	12.9	162	99	40	72
	ERST20C-****	A++	A	12.0	127	99	40	72	A++	A	12.9	164	99	40	72
	EHSC-****	A++	–	12.0	125	–	40	72	A++	–	12.9	162	–	40	72
	ERSC-****	A++	–	12.0	127	–	40	72	A++	–	12.9	164	–	40	72
PUHZ-SW160YKA (-BS)	EHSE-****	A++	–	13.5	125	–	45	78	A++	–	15.3	161	–	45	78
	ERSE-****	A++	–	13.5	126	–	45	78	A++	–	15.3	163	–	45	78
PUHZ-SW200YKA (-BS)	EHSE-****	A++	–	15.5	128	–	45	78	A++	–	17.3	162	–	45	78
	ERSE-****	A++	–	15.5	129	–	45	78	A++	–	17.3	164	–	45	78
PUHZ-SHW80VHA (-BS)	EHST20C-****	A++	A	9.0	131	103	40	69	A++	A	9.6	171	103	40	69
	ERST20C-****	A++	A	9.0	133	103	40	69	A++	A	9.6	174	103	40	69
	EHSC-****	A++	–	9.0	131	–	40	69	A++	–	9.6	171	–	40	69
	ERSC-****	A++	–	9.0	133	–	40	69	A++	–	9.6	174	–	40	69
PUHZ-SHW112VHA/YHA (-BS)	EHST20C-****	A++	A	12.7	128	103	40	70	A++	A	13.9	167	103	40	70
	ERST20C-****	A++	A	12.7	130	103	40	70	A++	A	13.9	169	103	40	70
	EHSC-****	A++	–	12.7	128	–	40	70	A++	–	13.9	167	–	40	70
	ERSC-****	A++	–	12.7	130	–	40	70	A++	–	13.9	169	–	40	70
PUHZ-SHW140YHA (-BS)	EHST20C-****	A++	A	15.8	127	103	40	70	A++	A	17.0	164	103	40	70
	ERST20C-****	A++	A	15.8	128	103	40	70	A++	A	17.0	165	103	40	70
	EHSC-****	A++	–	15.8	127	–	40	70	A++	–	17.0	164	–	40	70
	ERSC-****	A++	–	15.8	128	–	40	70	A++	–	17.0	165	–	40	70
PUHZ-SHW230YKA2	EHSE-****	A++	–	23.0	127	–	45	75	A++	–	25.0	164	–	45	75
	ERSE-****	A++	–	23.0	128	–	45	75	A++	–	25.0	165	–	45	75
PUHZ-W50VHA2 (-BS)	EHPT20X-****	A++	A	5.0	127	99	40	61	A++	A	5.0	162	99	40	61
	EHPX-****	A++	–	5.0	127	–	40	61	A++	–	5.0	162	–	40	61
PUHZ-W85VHA2 (-BS)	EHPT20X-****	A++	A	8.5	128	97	40	66	A++	A	8.5	162	97	40	66
	EHPX-****	A++	–	8.5	128	–	40	66	A++	–	8.5	162	–	40	66
PUHZ-W112VHA (-BS)	EHPT20X-****	A++	A	10.0	125	100	40	67	A++	A	10.0	164	100	40	67
	EHPX-****	A++	–	10.0	125	–	40	67	A++	–	10.0	164	–	40	67
PUHZ-HW112YHA2 (-BS)	EHPT20X-****	A++	A	12.7	126	100	40	67	A++	A	12.7	155	100	40	67
	EHPX-****	A++	–	12.7	126	–	40	67	A++	–	12.7	155	–	40	67
PUHZ-HW140VHA2/YHA2 (-BS)	EHPT20X-****	A++	A	15.8	126	96	40	67	A++	A	15.8	157	96	40	67
	EHPX-****	A++	–	15.8	126	–	40	67	A++	–	15.8	157	–	40	67
PUHZ-FRP71VHA ATA & ATW hybrid system, Mr. SLIM+	EHST20C-****	A+	A	7.5	123	98	40	68	A++	A	7.5	163	98	40	68
	EHSC-****	A+	–	7.5	123	–	40	68	A++	–	7.5	163	–	40	68

✻ Based on COMMISSION DELEGATED REGULATION (EU) No 811/2013, average climate conditions