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

Cylinder unit

EHST20C/EHPT20X

**Hydro box
(Reversible)**

ERSC

Hydro box

EHSC/EHPX

ecodan
Renewable Heating Technology

OUTDOOR UNIT

Split type

SHW230   SW100/120   SW75   SW40/50

Packaged type

HW112/140   W85   W50

126

Unique technology of ecodan
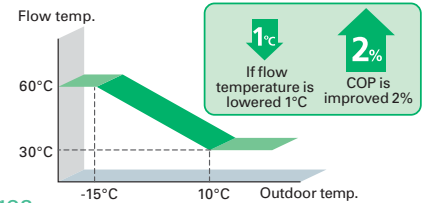
Auto Adaptation

ecodan – Maximize energy savings while keeping comfort at all times

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

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

■ Heat curve setting (Example)

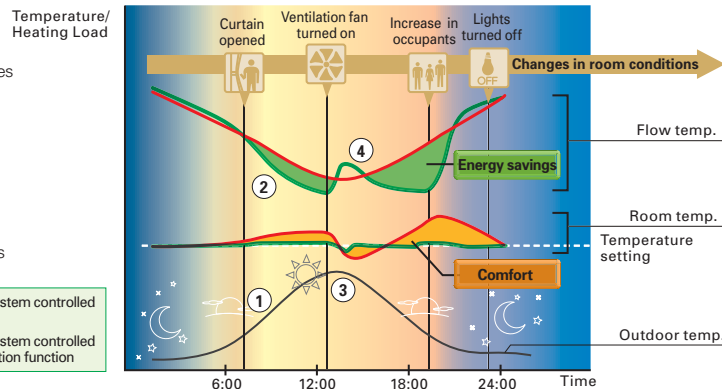Settings can be performed using an SD card.

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

Our more evolutionary 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.
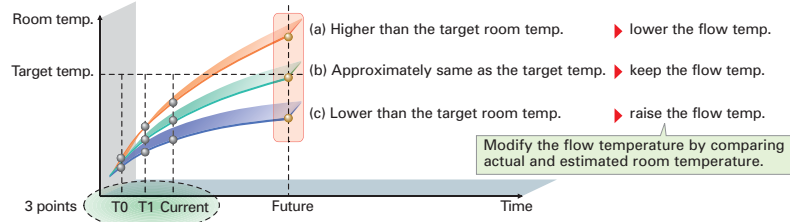
■ Two Controls simulation on a day

1 Room temperature slightly increases

2 Flow temperature decreases

3 Room temperature decreases

4 Flow temperature slightly increases

— The flow temperature through the system controlled via conventional heat curve
— The flow temperature through the system controlled via Mitsubishi Electric's Auto Adaptation function
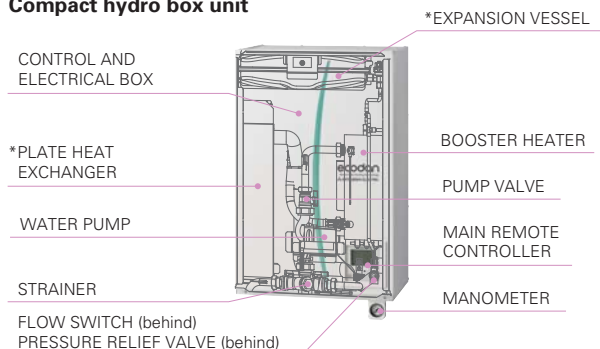
■ Future room temperature estimation

(a) Higher than the target room temp. ▶ lower the flow temp.
(b) Approximately same as the target temp. ▶ keep the flow temp.
(c) Lower than the target room temp. ▶ raise the flow temp.

Modify the flow temperature by comparing actual and estimated room temperature.
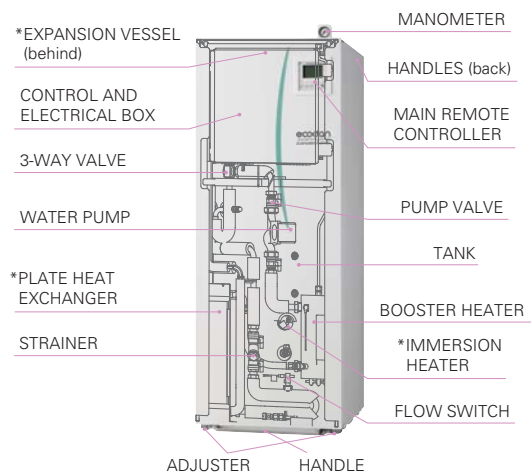
All-in-one & compact

Small overall size contributes to easy transportation, installation and maintenance

• Simplified: All key functional components are incorporated into the unit.
• Easy servicing: Relevant parts are located at the front of the unit to access easily.
• Easy to transport and install using the attached handle both at front and at back (cylinder unit) and also back plate (hydro box unit).
• Easy to open the packaging without using knife.

Compact hydro box unit

CONTROL AND ELECTRICAL BOX
*EXPANSION VESSEL
*PLATE HEAT EXCHANGER
WATER PUMP
STRAINER
FLOW SWITCH (behind)
PRESSURE RELIEF VALVE (behind)
BOOSTER HEATER
PUMP VALVE
MAIN REMOTE CONTROLLER
MANOMETER

Compact cylinder unit

*EXPANSION VESSEL (behind)
CONTROL AND ELECTRICAL BOX
3-WAY VALVE
WATER PUMP
*PLATE HEAT EXCHANGER
STRAINER
ADJUSTER   HANDLE
MANOMETER
HANDLES (back)
MAIN REMOTE CONTROLLER
PUMP VALVE
TANK
BOOSTER HEATER
*IMMERSION HEATER
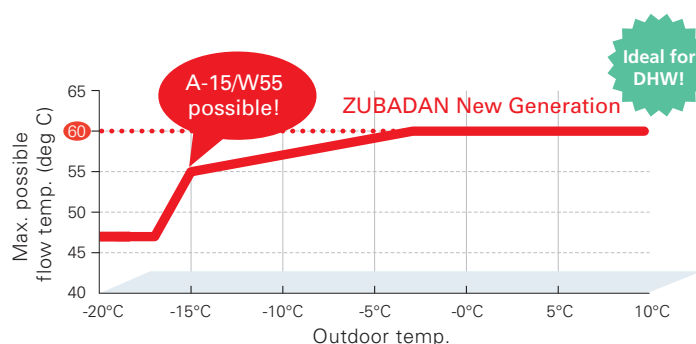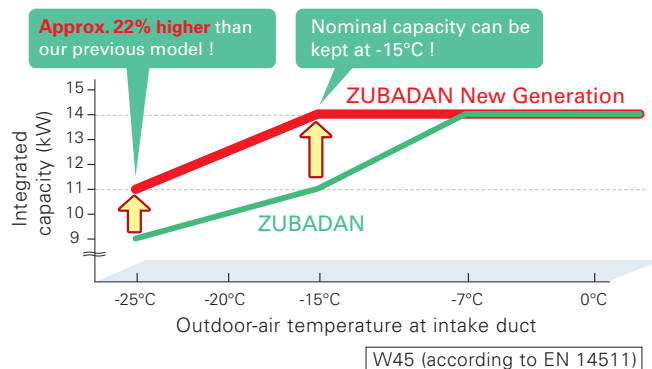FLOW SWITCH

*Depending on model

Designed for Optimal Heating

ZUBADAN New Generation (Split type)

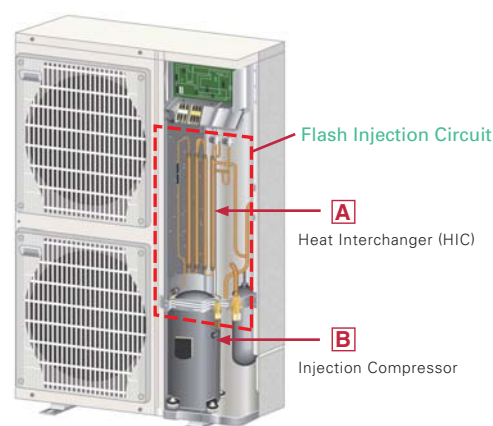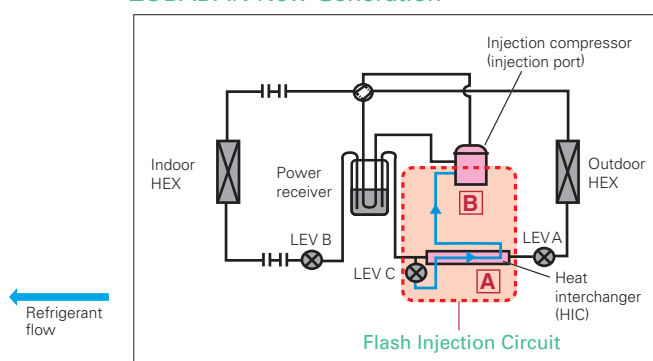### Improved heating performance more efficiently

ZUBADAN is equipped with a unique "Flash Injection Circuit" that enables the system to provide powerful heating in cold regions during the winter months. And more evolved "ZUBADAN New Generation" incorporates a new compressor that is more efficient, further improving heating performance when outdoor temperatures is low. The rated heating capacity can now be maintained at -15°C even including defrost, making it possible to supply comfortable heating in ever more severe environments.

Approx. 22% higher than our previous model !

Nominal capacity can be kept at -15°C !

ZUBADAN New Generation

ZUBADAN

Integrated capacity (kW): 15, 14, 13, 12, 11, 10, 9

Outdoor-air temperature at intake duct: -25°C, -20°C, -15°C, -7°C, 0°C

W45 (according to EN 14511)

A-15/W55 possible!

Ideal for DHW!

ZUBADAN New Generation

Max. possible flow temp. (deg C): 65, 60, 55, 50, 45, 40

Outdoor temp.: -20°C, -15°C, -10°C, -5°C, -0°C, 5°C, 10°C

Mitsubishi Electric's Flash Injection Technology
The Key to High Heating Performance at Low Outdoor Temperatures

■ Flash Injection Circuit

ZUBADAN New Generation

Injection compressor (injection port)

Indoor HEX

Power receiver

Outdoor HEX

LEV B

B

LEV A

LEV C

A

Heat interchanger (HIC)

Refrigerant flow

Flash Injection Circuit

Flash Injection Circuit

A — Heat Interchanger (HIC)

B — Injection Compressor

The Flash Injection Circuit is an original technology developed by Mitsubishi Electric. 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 enough flow rate of refrigerant for heating when outdoor temperatures are very low.

In the ZUBADAN New Generation, the Flash Injection Circuit is more powerful by improving the heat interchanger to increase the heat-exchange-efficiency and incorporating new injection compressor to increase the compression-efficiency.

These two improvements of ZUBADAN New Generation ensure reliable, efficient heating operation when outdoor temperatures are very low.

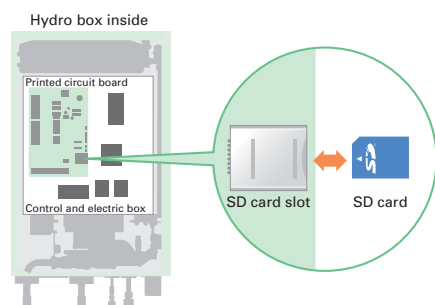# SD* CARD

NEW

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

The ecodan evolution continues! For easier settings and for data loggings

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. 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 a installation field, a remarkable reduction in set-up time has been achieved. Thus, it is ideal way for busy installers.

*SD card fanction is only used by installer.

Hydro box inside

Printed circuit board

SD card slot   SD card

Control and electric box

Settings can be performed easily and logging operation data in SD card can be confirmed via personal computer.
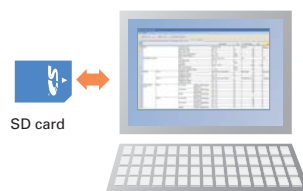
SD card

Items that can be preset

Simply copying the preset data to SD card, same settings are complete in multiple units easily.

- Initial settings (time display, contact number, etc)
- Heating settings
  - Auto Adaptation
  - Heat curve
  - Two different temperatures zones
- Interlocked boiler operation settings
- Holiday mode settings
- Schedule timer settings
- Domestic hot water settings
- Legionella prevention settings

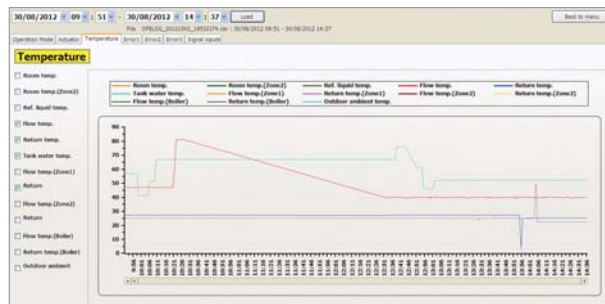All items that are set by the main controller can be set via a personal computer.

Data that can be stored

Operation data up to a month long can be stored on a SD card (2GB).

- Operation time
- Defrost time
- Actual temperature
  - Room
  - Flow temperature
  - Return temperature
  - Domestic hot water temperature
  - Outdoor temperature
- Error record
- Input signal   etc.

Remote controller

Stylish, easy-to-read bright LCD with ergonomically designed intuitive interface

Main controller

- Large screen and backlight for excellent visibility, even in dark environment
- Multilanguage support (11 languages)
- Can be removed from main unit and installed in remote location (up to 500m)
- Wide range of convenient functions in response to user demand
  Functions settings
    - Weekly timer -Holiday mode -Legionella prevention -Error codes and data for serving
    NEW - Two zone control -Boiler interlock -Floor drying up
- Quick reading of operation data (7.5 times faster than previous model)

Main 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
- Up to 8 controllers allowed (can be set for zone 1 or 2 individually)

PAR-WR51R-E (optional)
Receiver

PAR-WT50R-E (optional)
Wireless remote controller

Two zone control **NEW**

Simultaneously making two different temperature zones assures more comfortable, highly convenient heating

ecodan makes it possible to set two temperatures which are used in two different types heat emitters in a system. The system allows adjustment of temperatures when different room temperatures are required, such as a temperature of 40°C for the living room radiator and temperature of 30°C for floor heating. Additionally, the scheduling for each zone can be set separately by main controller.

■ Two temperature zones

Hydro box
Mixing control
Pump
Mixing valve
Flow switch
40°C
Radiator
FTC*
30°C
Mixing tank
Pump
Flow switch
Underfloor heating
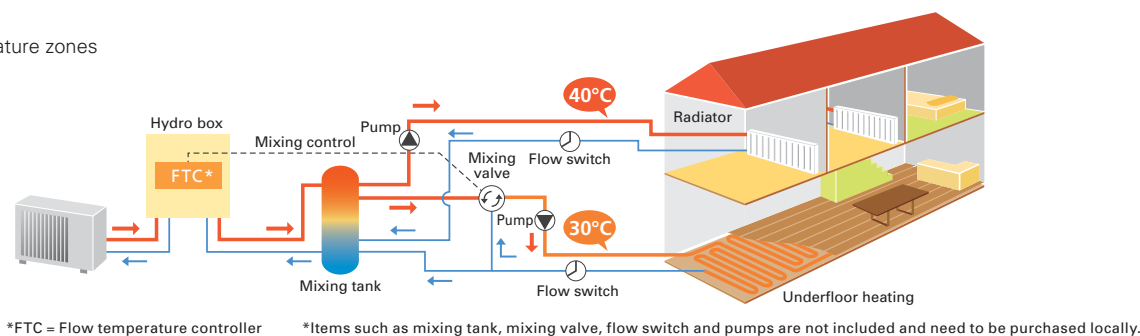
*FTC = Flow temperature controller   *Items such as mixing tank, mixing valve, flow switch and pumps are not included and need to be purchased locally.

Intelligent boiler interlock **NEW**

No need to replace existing boiler!
Automatic switchover enables even more efficient operation

The flexibility of ecodan's intelligent control allows the system to be combined with boiler currently in use. Additionally, this control can judge which heating source (ecodan, or boiler) to be operated according to situations (outdoor temperature, running cost, CO_2 emission level etc.). Customers using a boiler can receive the energy-saving performance of ecodan.

Intelligent system combining a boiler with ecodan

■ Two temperature zones
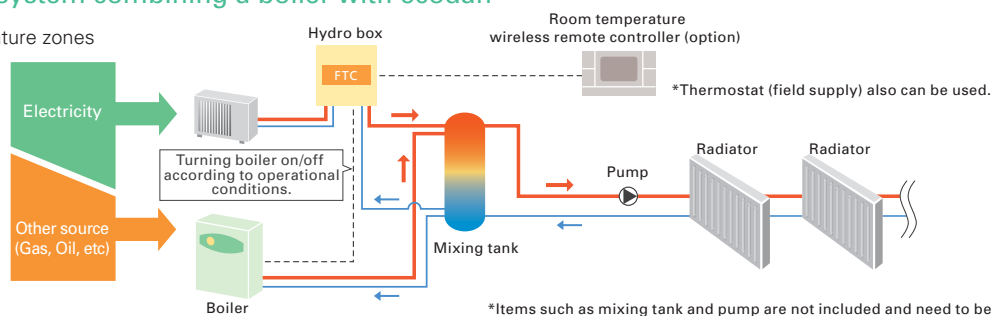
Hydro box
Room temperature wireless remote controller (option)
FTC
*Thermostat (field supply) also can be used.
Electricity
Turning boiler on/off according to operational conditions.
Pump
Radiator   Radiator
Other source (Gas, Oil, etc)
Mixing tank
Boiler
*Items such as mixing tank and pump are not included and need to be purchased locally.

Multiple unit control **NEW**

Connect up to 6 units
Automatic control of multiple units to supply bigger capacity

A maximum of 6 ecodan units* can be configured according to the required 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 works to balance the running hours without depending on the operation of any one specific unit.

If one of the units malfunctions when using Multiple Unit Control, another unit can be automatically operated for back-up, thereby preventing system operation from stopping completely.

*Only same models (same capacity) are available.

■ Multiple unit control

COP ratio (%)
1 unit   2 units   3 units   4 units   5 units   6 units
100
Always high efficient operation!
ON/OFF control
Inefficient operation at low capacity.
Multiple unit control
One large unit control
Total Capacity

14kW + 14kW + 14kW + 14kW + 14kW + 14kW

FTC slave
Multiple unit control
FTC master
Main RC
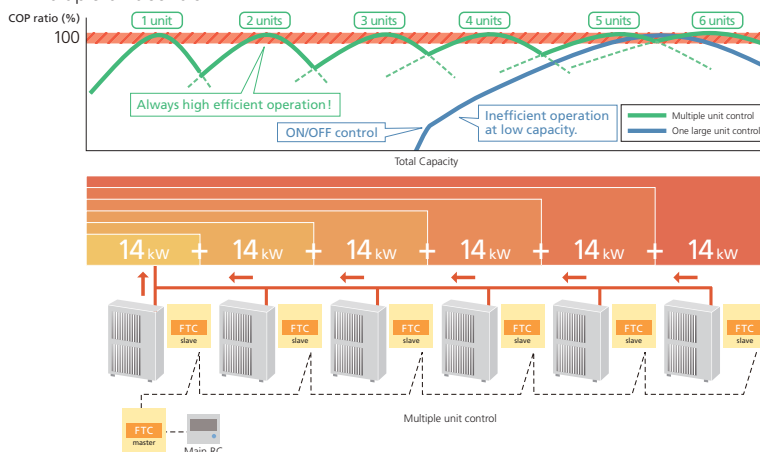
Split type specifications

Indoor unit

<Cylinder unit>

Model name				EHST20C-VM6HB	EHST20C-YM9HB	EHST20C-TM9HB	EHST20C-VM2B	EHST20C-VM6B	EHST20C-YM9B	EHST20C-VM6EB	EHST20C-YM9EB	EHST20C-VM6SB
	Type			Heating only								
	Immersion heater			×	×	×	-	-	-	-	-	-
	Expansion vessel			×	×	×	×	×	×	-	-	×
	Solar circuit			-	-	-	-	-	-	-	-	×
Dimensions	H×W×D		mm	1600×595×680								
Product weight (empty)			kg	128	128	128	125	127	127	122	122	128
Type of installation			-	Floor standing								
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	230/Single/50	400/Three/50	230/Single/50	400/Three/50	230/Single/50
		Capacity	kW	6 (2/4/6)	9 (3/6/9)	9 (3/6/9)	2	6 (2/4/6)	9 (3/6/9)	6 (2/4/6)	9 (3/6/9)	6 (2/4/6)
		Current	A	26	13	23	9	26	13	26	13	26
		Breaker	A	32	16	30	16	32	16	32	16	32
	Immersion heater	Power supply (V / Phase / Hz)		230/Single/50	230/Single/50	230/Single/50	-	-	-	-	-	-
		Capacity	kW	3	3	3	-	-	-	-	-	-
		Current	A	13	13	13	-	-	-	-	-	-
		Breaker	A	16	16	16	-	-	-	-	-	-
Domestic hot water tank	Volume (net)		L	200								
	Material		-	Stainless steel								
Operating ambient condition*			°C	0~35								
Target temperature range	Heating	Room temperature	°C	10~30								
		Flow temperature	°C	25~60								
	DHW		°C	40~60								
	Legionella prevention		°C	Max 70								
Sound level (SPL)			dB (A)	28								

*The environment must be frost-free.

<Hydro box>

Model name				EHSC-VM2B	EHSC-VM6B	EHSC-YM9B	EHSC-TM9B	EHSC-VM6EB	EHSC-YM9EB	ERSC-VM2B
	Type			Heating only						Heating and Cooling
	Expansion vessel			×	×	×	×	-	-	×
Dimensions	H×W×D		mm	800×530×360						860×530×360
Product weight (empty)			kg	51	53	53	53	49	49	54
Type of installation			-	Wall mounted						
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	230/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)	6 (2/4/6)	9 (3/6/9)	2
		Current	A	9	26	13	23	26	13	9
		Breaker	A	16	32	16	32	32	16	16
Domestic hot water tank	Volume (net)		L	-						
	Material		-	-						
Operating ambient condition*1			°C	0~35	0~35	0~35	0~35	0~35	0~35	0~35*2
Target temperature range	Heating/ Cooling	Room temperature	Heating °C	10~30						
			Cooling °C	-	-	-	-	-	-	N/A
		Flow temperature	Heating °C	25~60						
			Cooling °C	-	-	-	-	-	-	5~25
	DHW		°C	40~60						
	Legionella prevention		°C	Max 70						
Sound level (SPL)			dB(A)	28						

*1 The environment must be frost-free.
*2 Low outdoor temperature cooling is not allowed (minimum 10°C).

Outdoor unit

Model name			PUHZ-SW40VHA (-BS)	PUHZ-SW50VHA (-BS)	PUHZ-SW75VHA (-BS)	PUHZ-SW100V/YHA(-BS)	PUHZ-SW120V/YHA(-BS)	PUHZ-SHW80VHA	PUHZ-SHW112V/YHA	PUHZ-SHW140YHA	PUHZ-SHW230YKA*1*2
Dimensions	H×W×D	mm	600×800×300	600×800×300	943×950×330	1350×950×330	1350×950×330	1350×950×330	1350×950×330	1350×950×330	1338×1050×330
Product weight		kg	42	42	75	118/130	118/130	120	120/134	134	148
Power supply (V / Phase / Hz)			VHA : 230/Single/50　　YHA : 400/Three/50								
Heating (A7/W35)	Capacity	kW	4.10	6.00	8.00	11.20	16.00	8.00	11.20	14.00	23.00
	COP		4.80	4.42	4.40	4.45	4.10	4.65	4.46	4.22	3.65
	Power input	kW	0.854	1.357	1.819	2.517	3.903	1.721	2.512	3.318	6.310
Heating (A2/W35)	Capacity	kW	4.00	5.00	7.50	10.00	12.00	8.00	11.20	14.00	23.00
	COP		3.24	2.97	3.40	3.32	3.24	3.55	3.34	2.96	2.37
	Power input	kW	1.235	1.684	2.206	3.009	3.704	2.254	3.354	4.730	9.690
Sound level (SPL)	Heating	dB (A)	45	46	51	54	54	51	52	52	59
Sound level (PWL)	Heating	dB (A)	62	63	69	70	72	69	70	70	76

Note: based on EN 14511 (Circulation pump input is not included.).
　　　It may differ according to the system configuration.

*1 PUHZ-SHW230YKA can not be connected to ecodan indoor unit.
*2 The performance data is obtained when plate heat exchanger (ACH 70-40)×2 are connected.

Optional parts

\<Indoor unit\>

Parts name	Model name	Specification	Cylinder unit									Hydro box						
			EHST20C-VM6HB	EHST20C-YM9HB	EHST20C-TM9HB	EHST20C-VM2B	EHST20C-VM6B	EHST20C-YM9B	EHST20C-VM6EB	EHST20C-YM9EB	EHST20C-VM6SB	EHSC-VM2B	EHSC-VM6B	EHSC-YM9B	EHSC-TM9B	EHSC-VM6EB	EHSC-YM9EB	ERSC-VM2B
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.	-	-	-	-	-	-	-	-	-	×	×	×	×	×	×	×
	PAC-TH011HT-E	For boiler (flow and return temp.)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Immersion heater	PAC-IH03V-E	1Ph 3kW	-	-	-	×	×	×	×	×	×	-	-	-	-	-	-	-
Joint pipe	PAC-SH30RJ-E	For PUHZ-SW40/50VHA (-BS) ø9.52→ ø6.35	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
	PAC-SH50RJ-E	For PUHZ-SW40/50VHA (-BS) ø15.88→ ø12.70	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Wi-Fi INTERFACE	PAC-WF010-E		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×

\<Outdoor unit\>

Parts name	Model name	Power inverter					ZUBADAN			
		PUHZ-SW40VHA(-BS)	PUHZ-SW50VHA(-BS)	PUHZ-SW75VHA(-BS)	PUHZ-SW100V/YHA(-BS)	PUHZ-SW120V/YHA(-BS)	PUHZ-SHW80VHA	PUHZ-SHW112V/YHA	PUHZ-SHW140YHA	PUHZ-SHW230YKA*1
Connector for drain hose heater signal output	PAC-SE60RA-E	×	×	×	×	×	×	×	×	×
Air discharge guide	PAC-SG58SG-E	×	×	-	-	-	-	-	-	-
	PAC-SG59SG-E	-	-	×	×	×	×	×	×	-
	PAC-SG96SG-E	-	-	-	-	-	-	-	-	×
Air protection guide	PAC-SG56AG-E	×	×	-	-	-	-	-	-	-
	PAC-SH63AG-E	-	-	×	×	×	×	×	×	-
	PAC-SH95AG-E	-	-	-	-	-	-	-	-	×
Drain socket	PAC-SG61DS-E	-	-	×	×	×	-	-	-	-
	PAC-SH71DS-E	×	×	-	-	-	-	-	-	-
Centralised drain pan	PAC-SG63DP-E	×	×	-	-	-	-	-	-	-
	PAC-SG64DP-E	-	-	×	×	×	-	-	-	-
Control/Service tool	PAC-SK52ST	×	×	×	×	×	×	×	×	×

*1 PUHZ-SHW230YKA can not be connected to ecodan indoor unit.

\<Interface/Flow temperature controller\>

Parts name	Model name	Description	Power inverter					ZUBADAN			
			PUHZ-SW40VHA(-BS)	PUHZ-SW50VHA(-BS)	PUHZ-SW75VHA(-BS)	PUHZ-SW100V/YHA(-BS)	PUHZ-SW120V/YHA(-BS)	PUHZ-SHW80VHA	PUHZ-SHW112V/YHA	PUHZ-SHW140YHA	PUHZ-SHW230YKA
Capacity step control interface	PAC-IF010-E*1	10 PC boards w/o case	×*2	×*2	×*2	×*2	×*2	×*2	×*2	×*2	×*2
	PAC-IF011B-E	1 PC board w/ case	×	×	×	×	×	×	×	×	×
Flow temperature controllers	PAC-IF020-E*1	10 PC boards w/o case	×*2	×*2	×*2	×*2	×*2	×*2	×*2	×*2	×*2
	PAC-IF021B-E	1 PC board w/ case	×	×	×	×	×	×	×	×	×
	PAC-IF032B-E	1 PC board w/ case	×	×	×	×	×	×	×	×	×
System controllers	PAC-IF051B-E	1 PC board w/ case	×	×	×	×	×	×	×	×	×
	PAC-SIF051B-E	1 PC board w/ case	×	×	×	×	×	×	×	×	×
Thermistors	PAC-TH011-E		×	×	×	×	×	×	×	×	×

*1 PAC-IF010-E and PAC-IF020-E are only for manufacturer's preloading.
*2 PAC-TH011-E is required.

Contents

Parts name	Model name	Contents	Q'ty
Air discharge guide	PAC-SG58SG-E	Air discharge guide	1
		Support (For the upper and lower sides)	2
		Support (For right and left)	2
		Attachment screw (5×10)	4
		Attachment screw (4×10)	8
		Spacer	4
Air discharge guide	PAC-SG59SG-E	Air discharge guide	1
		Attachment screw (5×35)	4
		Spacer	4
	PAC-SG96SG-E	Air discharge guide	1
		Support	1
		Screw (5×15)	12
		Washer	12
		Spring washer	12
Air protection guide	PAC-SG56AG-E	Front plate	1
		Side plate	2
		Side plate	2
		Connecting plate	2
		Mounting screw (4×10)	14
		Mounting screw (4×12)	4
		Washer (for screw 4×12)	4
	PAC-SH63AG-E	Air guide	1
		Mounting screw (5×15)	4
		Washer	4
		Spring washer	4
	PAC-SH95AG-E	Air guide	1
		Mounting screw (5×15)	6
		Washer	6
		Spring washer	6
Drain socket	PAC-SG61DS-E	Drain socket	1
		Drain cap (ø33)	5
		Heat insulator	2
		Band	8
	PAC-SH71DS-E	Drain socket	1
		Drain cap (ø33/ø12)	7
		Heat insulator	2
		Band	8

Parts name	Model name	Contents	Q'ty
Centralised drain pan	PAC-SG63DP-E	Centralised drain pan	1
	PAC-SG64DP-E	Centralised drain pan	1
Control/Service tool	PAC-SK52ST	Control/Service Tool	1
Capacity step control interface	PAC-IF010-E	PC board	10*1
	PAC-IF011B-E	PC board	1
		Case	1
		Thermistor	2
Flow temperature controllers	PAC-IF020-E	PC board	10*1
	PAC-IF021B-E	PC board	1
		Case	1
		Thermistor	2
		Remote controller	1
		Remote controller cable (5m)	1
	PAC-IF032B-E	PC board	1
		Case	1
		Thermistor	3
		Remote controller	1
		Remote controller cable (5m)	1
System controllers	PAC-IF051B-E	PC board	1
		Case	1
		Thermistor	2
		Remote controller	1
		Remote controller cable (10m)	1
		SD memory card	1
	PAC-SIF051B-E	PC board	1
		Case	1
		Thermistor	2
		Remote controller cable (10m)	1
		SD memory card	1
Thermistors	PAC-TH011-E	Thermistor for buffer and zone (flow and return temp.)	20*2
	PAC-TH011HT-E	Thermistor for tank temp.	20*2
	PAC-TH011TK-E	Thermistor for boiler (flow and return temp.)	10*3

*1 One carton contains 10 PC boards.
*2 Two thermistors per package: 10 packages per carton
*3 One thermistor per package: 10 packages per carton

Packaged type specifications

Indoor unit

\<Cylinder unit\>

Model name				EHPT20X-VM2HB	EHPT20X-VM6HB	EHPT20X-YM9HB	EHPT20X-TM9HB	EHPT20X-VM6B	EHPT20X-YM9B
	Type			Heating only					
	Immersion heater			×	×	×	×	-	-
	Expansion vessel			×	×	×	×	×	×
Dimensions	H×W×D		mm	1600×595×680					
Product weight (empty)			kg	113	115	115	115	114	114
Type of installation			-	Floor standing					
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	230/Three/50	230/Single/50	400/Three/50
		Capacity	kW	2	6 (2/4/6)	9 (3/6/9)	9 (3/6/9)	6 (2/4/6)	9 (3/6/9)
		Current	A	9	26	13	23	26	13
		Breaker	A	16	32	16	30	32	16
	Immersion heater	Power supply (V / Phase / Hz)		230/Single/50	230/Single/50	230/Single/50	230/Single/50	-	-
		Capacity	kW	3	3	3	3	-	-
		Current	A	13	13	13	13	-	-
		Breaker	A	16	16	16	16	-	-
Domestic hot water tank	Volume (net)		L	200					
	Material		-	Stainless steel					
Operating ambient condition*			°C	0~35					
Target temperature range	Heating	Room temperature	°C	10~30					
		Flow temperature	°C	25~60					
	DHW		°C	40~60					
	Legionella prevention		°C	Max 70					
Sound level (SPL)			dB (A)	28					

*The environment must be frost-free.

\<Hydro box\>

Model name				EHPX-VM2B	EHPX-VM6B	EHPX-YM9B
	Type			Heating only		
	Expansion vessel			×	×	×
Dimensions	H×W×D		mm	800×530×360		
Product weight (empty)			kg	39	41	41
Type of installation			-	Wall mounted		
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	A	16	32	16
Domestic hot water tank	Volume (net)		L	-		
	Material		-	-		
Operating ambient condition*			°C	0~35		
Target temperature range	Heating	Room temperature	°C	10~30		
		Flow temperature	°C	25~60		
	DHW		°C	-		
	Legionella prevention		°C	-		
Sound level (SPL)			dB (A)	28		

*The environment must be frost-free.

Outdoor unit

Model name				PUHZ-W50VHA (-BS)	PUHZ-W85VHA2 (-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
Product weight			kg	64	79	148	134	148
Power supply (V / Phase / Hz)				VHA : 230/Single/50 YHA : 400/Three/50				
Heating (A7/W35)	Capacity		kW	5.00	9.00	11.20	14.00	14.00
	COP			4.10	4.18	4.42	4.25	4.25
	Power input		kW	1.220	2.153	2.533	3.294	3.294
Heating (A2/W35)	Capacity		kW	5.00	8.50	11.20	14.00	14.00
	COP			3.13	3.17	3.11	3.11	3.11
	Power input		kW	1.597	2.681	3.601	4.501	4.501
Sound level (SPL)	Heating		dB (A)	46	48	53	53	53
Sound level (PWL)	Heating		dB (A)	61	66	67	67	67

Note: based on EN 14511 (Circulation pump input is included.).
It may differ according to the system configuration.

Optional parts

\<Indoor unit\>

Parts name	Model name	Specification	Cylinder unit						Hydro box		
			EHPT20X-VM2HB	EHPT20X-VM6HB	EHPT20X-YM9HB	EHPT20X-TM9HB	EHPT20X-VM6B	EHPT20X-YM9B	EHPX-VM2B	EHPX-VM6B	EHPX-YM9B
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.	-	-	-	-	-	-	×	×	×
	PAC-TH011HT-E	For boiler (flow and return temp.)	×	×	×	×	×	×	×	×	×
Immersion heater	PAC-IH03V-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-W50VHA(-BS)	PUHZ-W85VHA2(-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	×	×	-	-	-

\<Interface/Flow temperature control\>

Parts name	Model name	Description	Power inverter		ZUBADAN		
			PUHZ-W50VHA(-BS)	PUHZ-W85VHA2(-BS)	PUHZ-HW112YHA2(-BS)	PUHZ-HW140VHA2(-BS)	PUHZ-HW140YHA2(-BS)
Capacity step control interface	PAC-IF010-E*1	10 PC boards w/o case	×*2	×*2	×*2	×*2	×*2
	PAC-IF011B-E	1 PC board w/ case	×	×	×	×	×
Flow temperature controllers	PAC-IF020-E*1	10 PC boards w/o case	×*2	×*2	×*2	×*2	×*2
	PAC-IF021B-E	1 PC board w/ case	×	×	×	×	×
	PAC-IF032B-E	1 PC board w/ case	×	×	×	×	×
System controllers	PAC-IF051B-E	1 PC board w/ case	×	×	×	×	×
	PAC-SIF051B-E	1 PC board w/ case	×	×	×	×	×
Thermistors	PAC-TH011-E		×	×	×	×	×

*1 PAC-IF010-E and PAC-IF020-E are only for manufacturer's preloading.
*2 PAC-TH011-E is required.

Contents

Parts name	Model name	Contents	Q'ty
Air discharge guide	PAC-SG59SG-E	Air discharge guide	1
		Attachment screw (5×35)	4
		Spacer	4
Air protection guide	PAC-SH63AG-E	Air guide	1
		Mounting screw (5×15)	4
		Washer	4
		Spring washer	4
Drain socket	PAC-SG61DS-E	Drain socket	1
		Drain cap (ø33)	5
		Heat insulator	2
		Band	8
Centralised drain pan	PAC-SG64DP-E	Centralised drain pan	1
Capacity step control interface	PAC-IF010-E	PC board	10*1
	PAC-IF011B-E	PC board	1
		Case	1
		Thermistor	2
Flow temperature controllers	PAC-IF020-E	PC board	10*1
	PAC-IF021B-E	PC board	1
		Case	1
		Thermistor	2
		Remote controller	1
		Remote controller cable (5m)	1
	PAC-IF032B-E	PC board	1
		Case	1
		Thermistor	3
		Remote controller	1
		Remote controller cable (5m)	1

Parts name	Model name	Contents	Q'ty
System controllers	PAC-IF051B-E	PC board	1
		Case	1
		Thermistor	2
		Remote controller	1
		Remote controller cable (10m)	1
		SD memory card	1
	PAC-SIF051B-E	PC board	1
		Case	1
		Thermistor	2
		Remote controller cable (10m)	1
		SD memory card	1
Thermistors	PAC-TH011-E	Thermistor for buffer and zone (flow and return temp.)	20*2
	PAC-TH011HT-E	Thermistor for tank temp.	20*2
	PAC-TH011TK-E	Thermistor for boiler (flow and return temp.)	10*3

*1 One carton contains 10 PC boards.
*2 Two thermistors per package: 10 packages per carton
*3 One thermistor per package: 10 packages per carton