

FUJITSU

# ***WATERSTAGE™***

INNOVATIVE SOLUTION OF DOMESTIC HEATING

*Air to Water*



# **WATERSTAGE™** is an **Economical** and **Clean** hot water heating system by **Heat Pump**

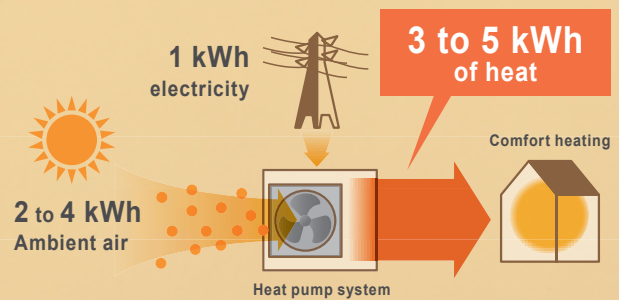


**WATERSTAGE™** is an efficient hot water heating system which uses heat pump technology nurtured over many years by Fujitsu General to produce domestic hot water by using the unlimited aero thermal heat source.

A wide range of hot water heating systems, from floor heating to radiator heating, hot water supply, and swimming pool, is available to meet living needs.

## WHAT'S A HEAT PUMP ?

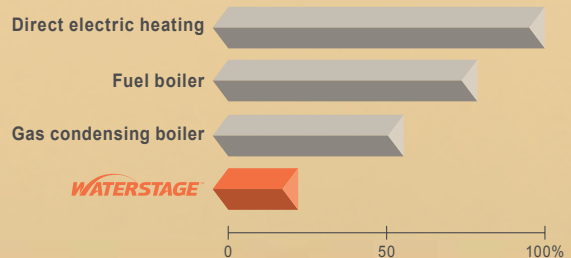
Absorbing the free energy from atmosphere. Heat pump system requires only 1kW of electricity to generate 3 to 5 kW thermal energy.



## LESS CO<sub>2</sub> EMISSIONS

This environmentally-friendly system substantially reduces CO<sub>2</sub> emissions compared to conventional kerosene, gas, and other fuel combustion heating systems.

### Average annual CO<sub>2</sub> emissions

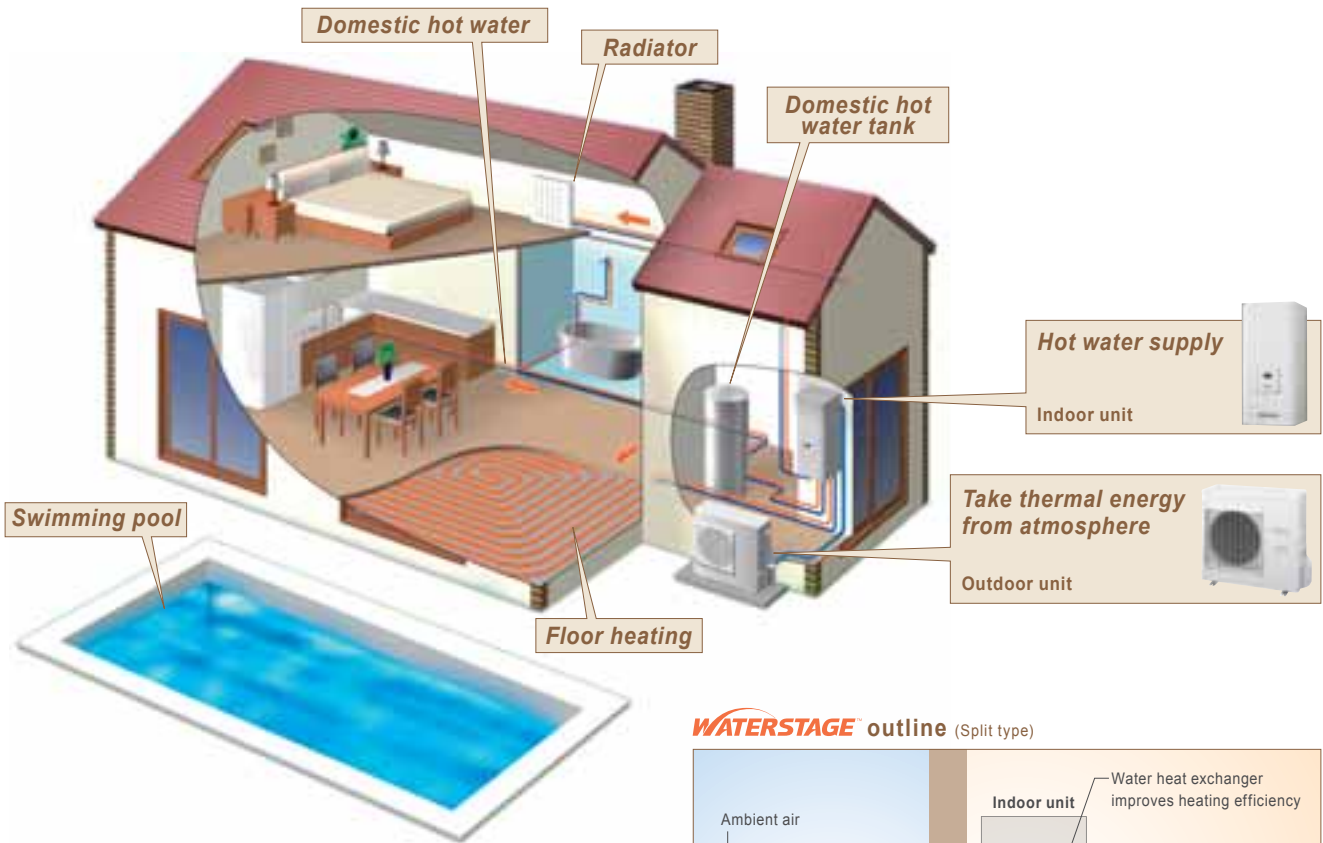


\*Calculations based on data provided by European Program-2001\* for EU27 Fuel boiler efficiency: 89%, Gas boiler efficiency: 93%

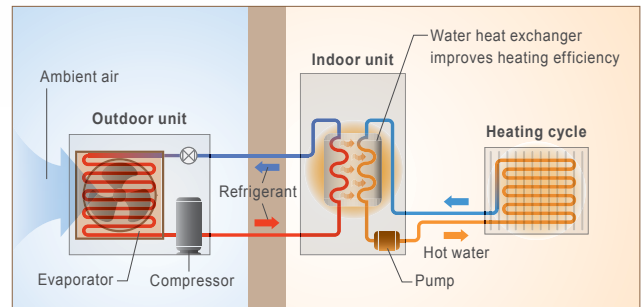


FLOOR HEATING

# Complete Solution meets various needs



**WATERSTAGE** outline (Split type)



## Wide Comfort by WATERSTAGE

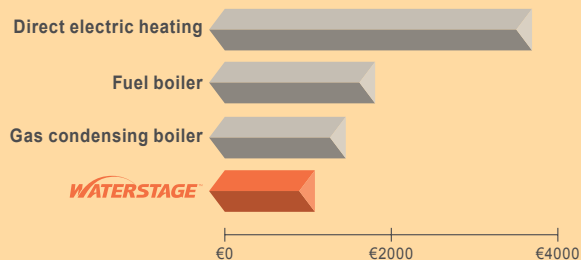
The clean energy produced by **WATERSTAGE** reliably delivers "comfort" to diverse spaces in the home up to the living room, bedrooms, bath and swimming pool.

## Advantages of WATERSTAGE

### LOW RUNNING COST

Running cost is low and economical by high efficiency heat pump technology.

#### Average annual running cost



\*The values of above graph are calculated in Europe and the graph is illustrative only. The values may vary depending on installation, location, and operating conditions.

### CLEAN AND HEALTHY

Since burners are unnecessary, NOx and other harmful substances and foul odors are not generated.

### LOW NOISE

Inverter control realizes quiet operation friendly to the usage environment.

### LONG LIFE AND EASY MAINTENANCE

There is no accumulation of soot, etc. by combustion, and maintenance effort is significantly reduced.



# Satisfying both of *High Power* and *High COP* realizes m

**NEW model**

## High Power model

**11kW 14kW 16kW**

High Power model realizes powerful heating capacity and high water temperature at cold winter, suitable for cold region.

3 Phase power supply  
Outdoor units



WOYK112LAT  
WOYK140LAT  
WOYK160LAT

Indoor unit



WSYK160DA9

## Comfort model

**5kW 6kW 8kW 10kW 13kW 16kW**

Abundant line-up meets a wide range of needs.

Outdoor units



AOYA18LALL  
AOYA24LALL



AOYA30LBTL



AOYA45LBTL  
AOY54LJBYL

Indoor units



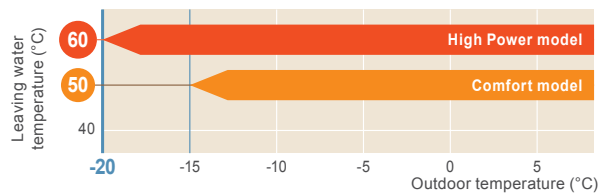
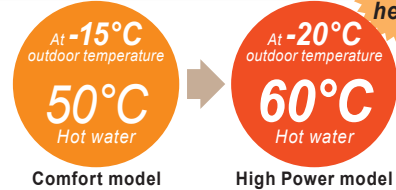
WSYA050DA  
WSYA065DA  
WSYA080DA  
WSYA095DA  
WSYA128DA  
WSYA155DA

## Powerful Heating

High power models realize high leaving water temperature and high heating capacity even at low ambient temperature by newly developed "Linear Control Injection Technology". It is possible to provide high water temperature and warm rooms immediately in cold region during winter.

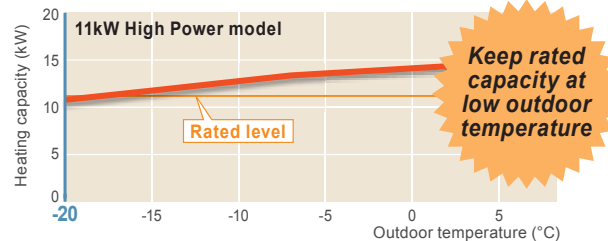
### HIGH LEAVING WATER TEMPERATURE

High leaving water temperature of 60°C keeps to -20°C of outdoor temperature without using backup heater.

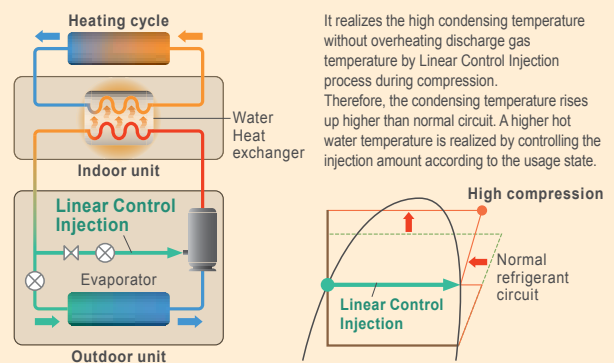
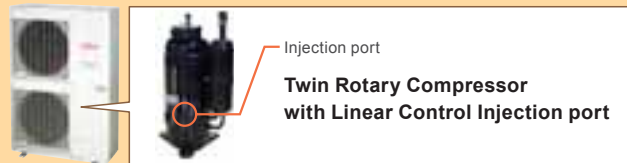


### HIGH HEATING CAPACITY (High Power model)

Keeping the high heating capacity at even low outdoor temperature.



### FUJITSU GENERAL's advanced Linear Control Injection Technology (High Power model)



# High Efficiency

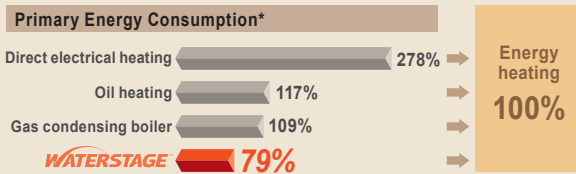
Energy efficiency is improved by the linear Control Injection Technology and the optimization of refrigerant cycle control. High power model realizes high performance and high efficiency by adopting twin sensors and control technology corresponding to hot water heating.

## HIGH COP



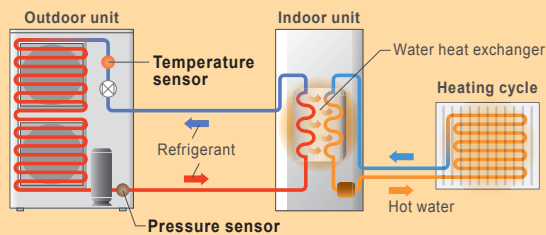
\*The data refer to 16kW type Condition : Outdoor Temp. 7°C Heating Temp. 35°C.

## Proportion of primary energy into heating energy of 100%

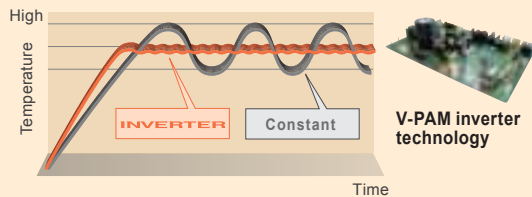


\*Electricity loss is different due to power plant. Efficiency of power plant : 36%

## Optimization of refrigerant cycle operation (High Power model)

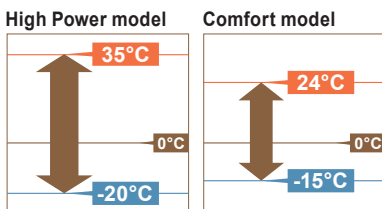


## Accurate temperature control by DC inverter technology



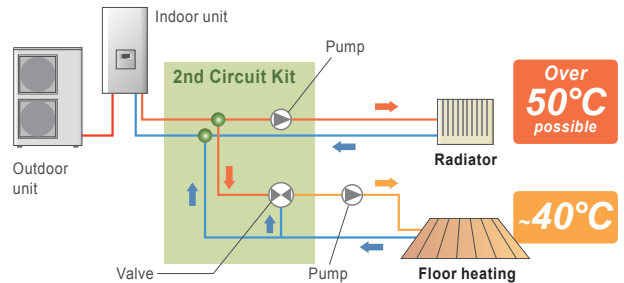
# Wide Operation Range

Improvement operation range depending on the optimization of refrigerant cycle control



# Intelligent Control

## 2 ZONE INDIVIDUAL CONTROL\* (Split type only)



## AND MORE

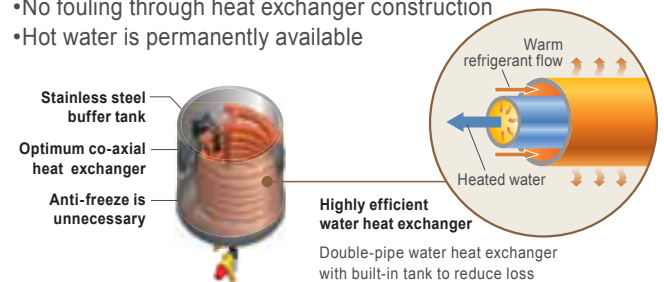
- Automatic temperature regulation in accordance with heating curve. (Depends on terminal and outdoor temperature)
- Cooling operation is possible\*
- Anti-Legionella function
- Additional electric heater control for backup
- 2 stage Low noise mode\* (High Power model only)
- Peak cut function\* (High Power model only)

\*Optional parts are required.

# High Reliability

## HIGH CLEAN AND DURABILITY

- Corrosion protected
- No fouling through heat exchanger construction
- Hot water is permanently available

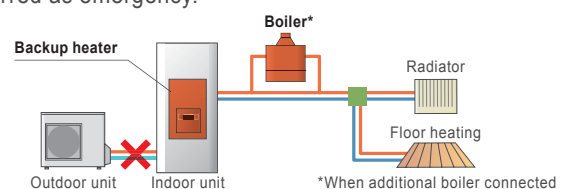


## EASY INSTALLATION & MAINTENANCE

- All hydraulic components built in no additional selection for water flow required
- Lifting bars for an installation without any difficulty or risk
- Easy access for maintenance operations
- Pump down operation (High Power model only)

## EMERGENCY OPERATION

System can be continuously supplied hot water by built in back up heater or boiler operation, even if an error is occurred as emergency.



# All-in-One type with *Easy Access* for Installation and M

**NEW model**

## Compact model

**8kW 10kW**

*Comfort and energy saving realized by world's top class compact design*



WPYA080LA  
WPYA100LA



Control box  
UTW-SCBYA

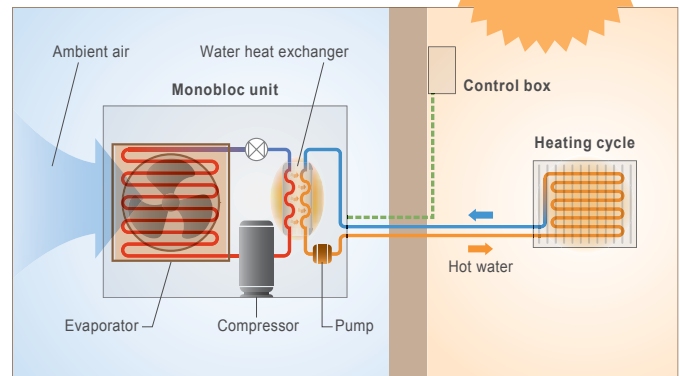
## All-in-One Model

Compact design which built in all hydraulic components and the heat pump unit make refrigerant piping work unnecessary. Easy installation and maintenance are realized.



**Easy  
installation &  
maintenance!**

**WATERSTAGE** outline (Monobloc type)



## High Efficiency Technology

### DC INVERTER

Smooth water temperature control realized by DC inverter control.



### HIGH EFFICIENT PLATE WATER HEAT EXCHANGER

Very compact size achieved by a thin high-efficiency heat exchanger



### DC FAN MOTOR

High performance, high efficiency small DC fan motor mounted.



### DC TWIN ROTARY COMPRESSOR

High efficient DC twin rotary compressor corresponding to low outdoor temperature



# Compact & High Performance

## HIGH COP

High COP is realized by using a DC twin rotary compressor, inverter technology, and high efficient water heat exchanger.

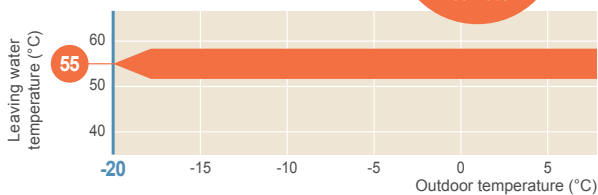


\*Condition : Outdoor Temp. 7°C Heating Temp. 35°C.

## HIGH LEAVING WATER TEMPERATURE

High leaving water temperature of 55°C keeps to -20°C of outdoor temperature without heater.

**No backup heater**  
At -20°C outdoor temperature  
**55°C Hot water**

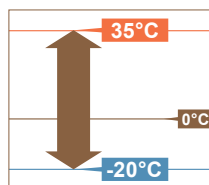


## COMPACT & LIGHT WEIGHT DESIGN



## Wide Operation Range

Possible to operate heating under -20°C of outdoor temperature



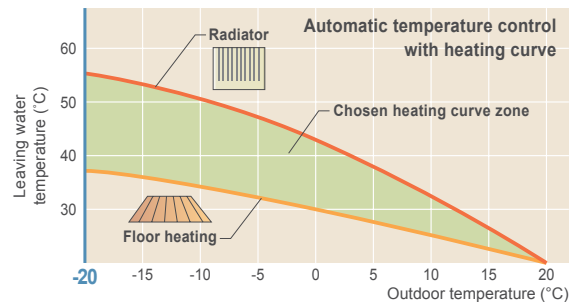
# Intelligent Control

WIRED REMOTE CONTROLLER (CONTROL BOX) IS ADOPTED STANDARD.



## AUTOMATIC HEATING CURVE CONTROL

Automatic temperature regulation in accordance with heating curve (Depends on heating terminal and outdoor temperature)



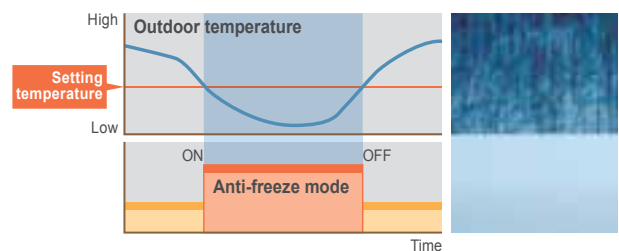
## AND MORE

- Cooling operation is possible\*
  - Anti-Legionella function
  - Possible to docking the boiler and electric heater for backup
- \*Optional parts are required.

## High Reliability

### ANTI-FREEZE FUNCTION

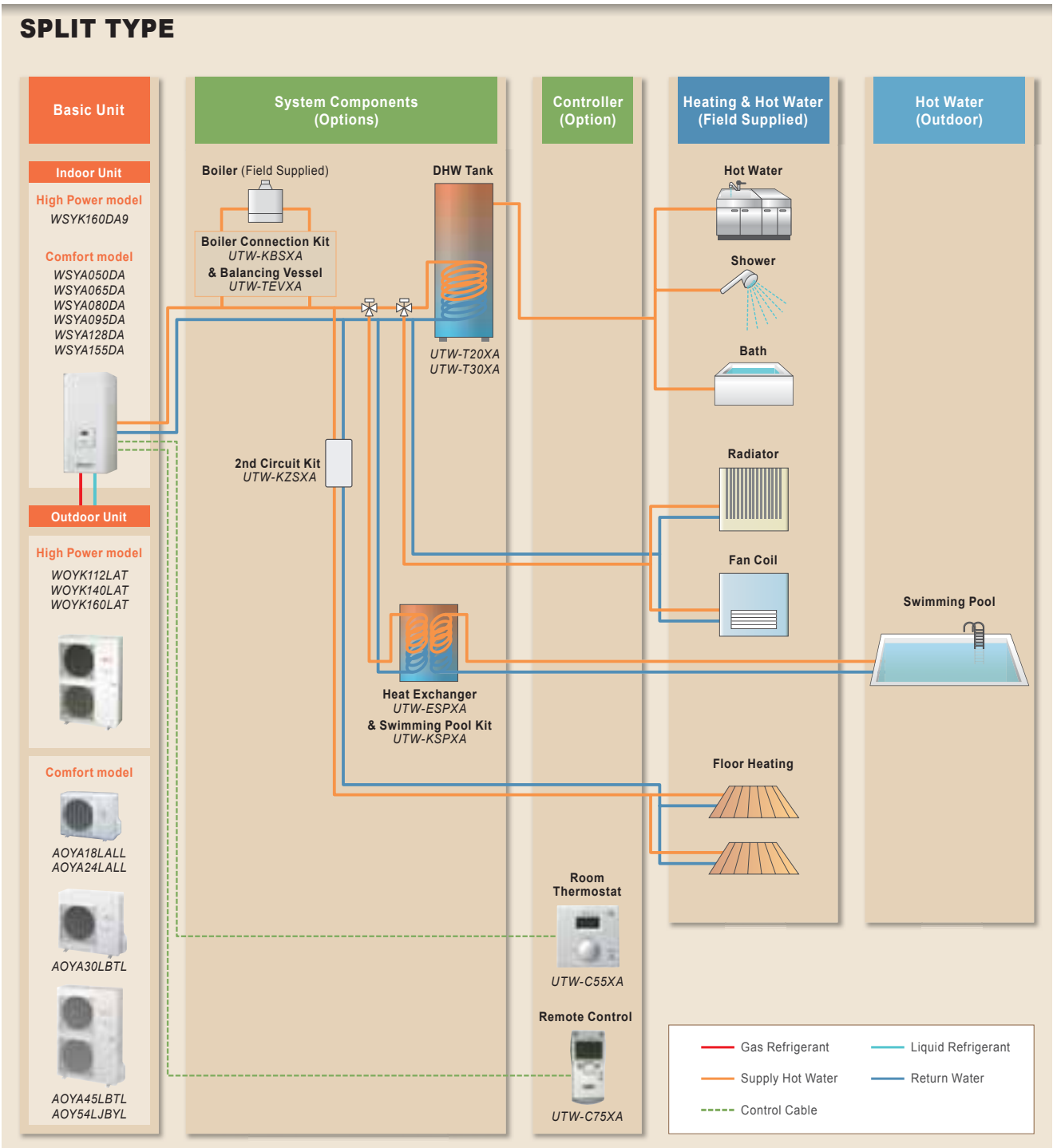
Water circulation and compressor can be automatically performed at low outdoor temperature. Freezing of circulated water can be prevented.



## EASY INSTALLATION & MAINTENANCE

- No installation of refrigerant circuit connections.
- Closed type enables decrease in the supply frequency of circulating water.
- Easy access for maintenance operations

## Total solution provides comfort to all over the home



### OPTIONAL PARTS

**2nd Circuit Kit**  
\*Split type only



UTW-KZSXA

**Boiler Connection Kit**



UTW-KBSXA

**Balancing Vessel**



UTW-TEVXA

**DHW Kit**



UTW-KDWXA

**DHW Tank 200L**



UTW-T20XA

**DHW Tank 300L**



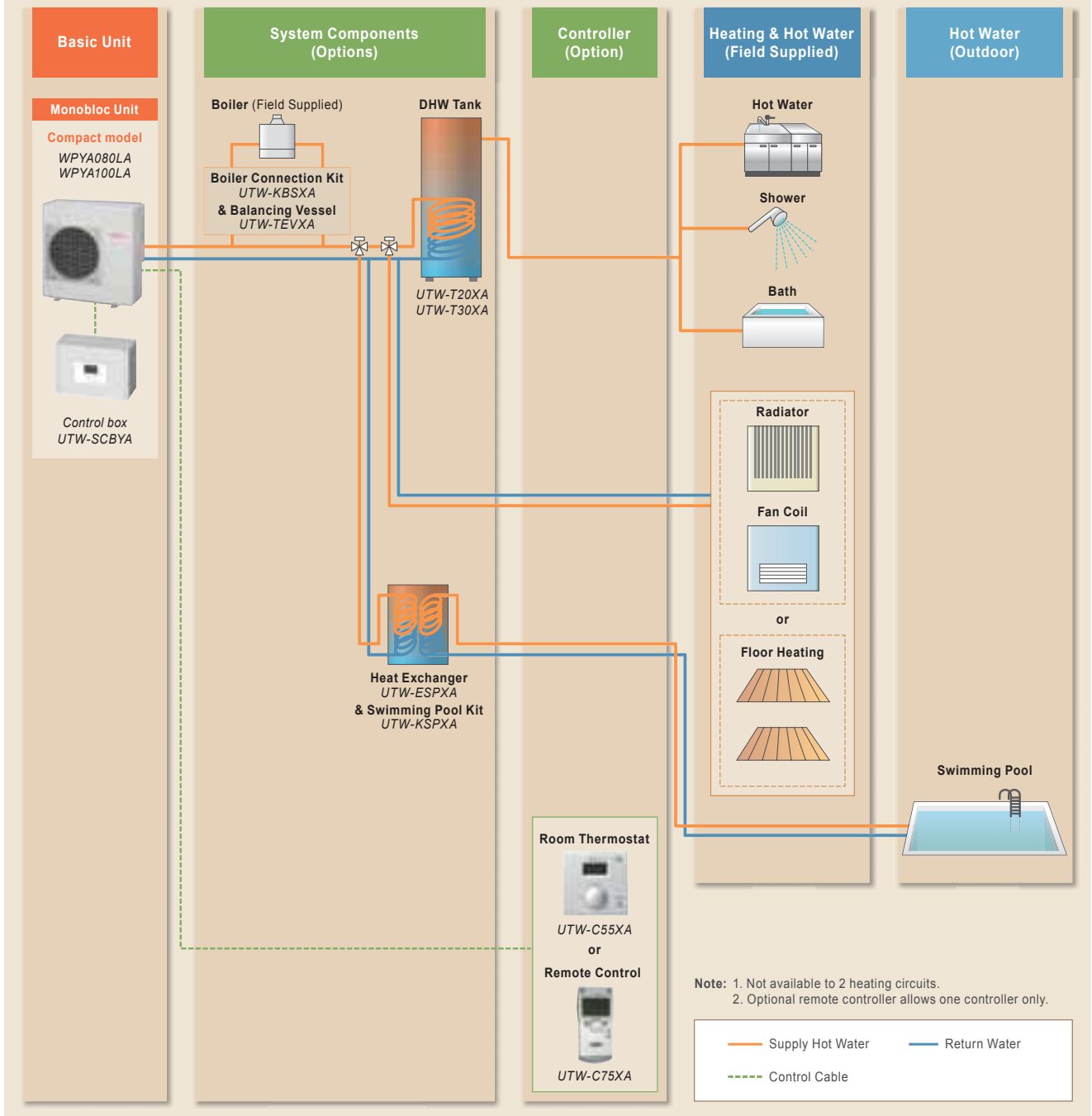
UTW-T30XA

**High Flow Rate Circulating Pump Kit**



UTW-PHFXA

# MONOBLOC TYPE



## Swimming Pool Kit



UTW-KSPXA

## Heat Exchanger for swimming pool



UTW-ESPXA

## Cooling Kit



UTW-KCLXA

## Cooling Kit (High flow rate)



UTW-KCHXA

## Remote Control



UTW-C75XA

## Room Thermostat



UTW-C55XA

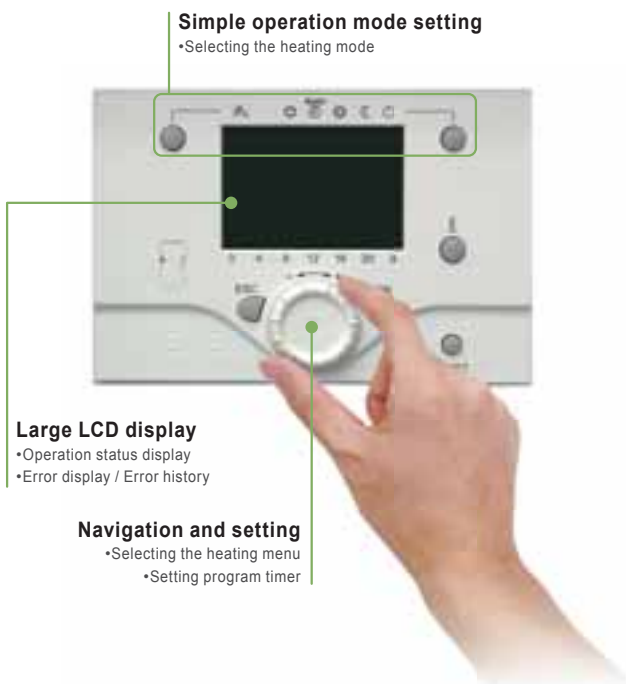
## External Connect Kit



UTY-XWZXZ2

# Smart & Comfort Control

The outdoor temperature is detected by sensor and the heating water temperature is controlled automatically. The setting of room temperature and operation mode can be easily set. A wide range of control from heating to hot water supply and swimming pool is possible by combining with abundant optional parts.



**Simple operation mode setting**  
•Selecting the heating mode

**Large LCD display**  
•Operation status display  
•Error display / Error history

**Navigation and setting**  
•Selecting the heating menu  
•Setting program timer

# Convenience

## PROGRAMMED OPERATION

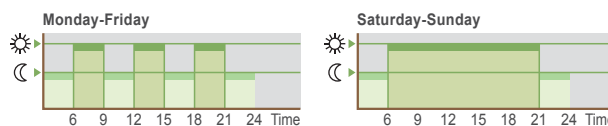
- The setting of programmed operation can be easily set.
- Changing the heating mode linked with time is possible.

### Heating mode

- Auto Automatic mode**  
Comfort/Reduce mode switching automatically according to outdoor temperature
- Comfort mode**  
Constant comfort temperature
- Reduce mode**  
Constant reduce temperature
- Protection mode**  
Stand-by mode with anti-frost protection

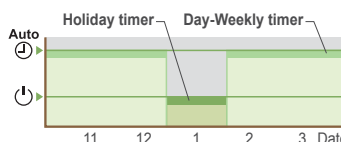
### Day-Weekly timer setting

- The day-weekly timer can be set up for up to 3 times per day.
- Allows separate settings for each day of the week.



### Holiday timer setting

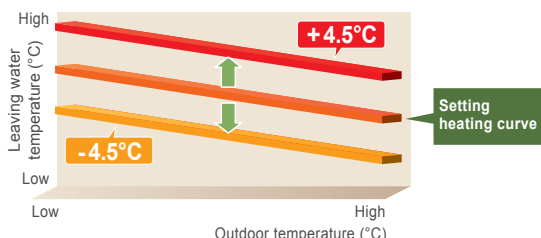
- The holiday timer can be set up for up to 8 periods
- If you are absent for a long time in the winter, freezing of room can be prevented.



# Comfort

## FLEXIBLE HEATING CIRCUIT

Automatic hot water temperature control matched to the application can be set. In addition, set temperature coefficient offset can be adjusted easily high or low side matched to the usage conditions.



## ANTI-LEGIONELLA FUNCTION

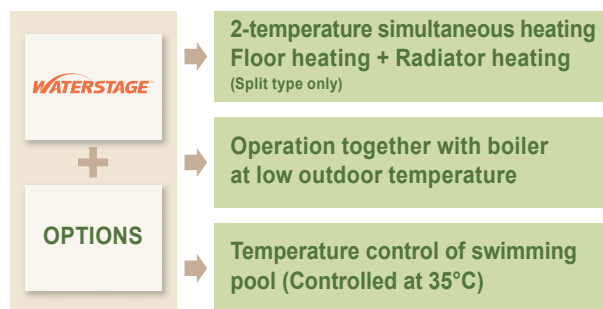
The growth of Legionella in DHW tank is suppressed and safe and clean hot water is supplied at all times.



# Extendibility

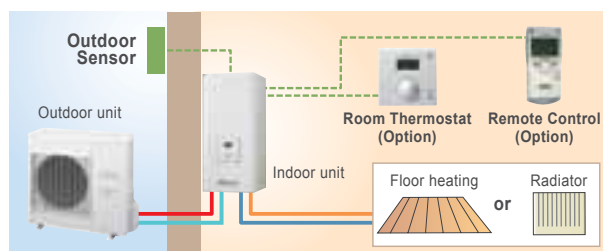
## DIVERSE OPERATION CONTROL

Meets diverse needs by combining with optional parts.



## REMOTE CONTROL-EXTENSION

Optional remote controller allows controls of hot water depending on indoor temperature.



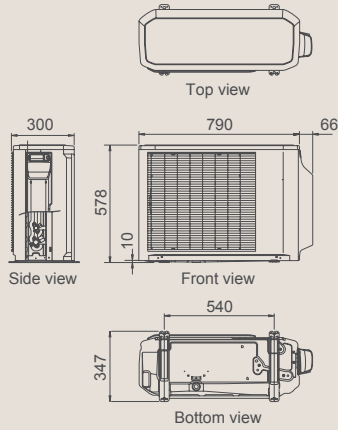
(Split type)

## SPLIT TYPE

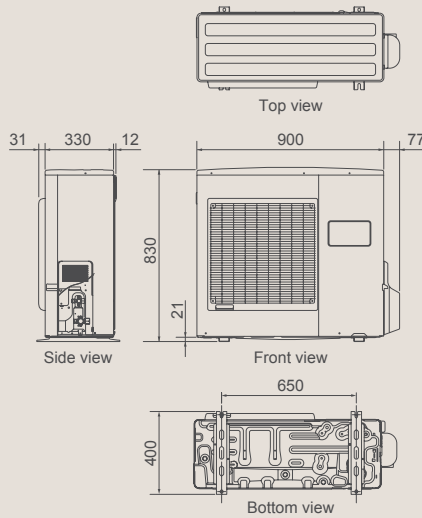
Unit : mm

### Outdoor Units Comfort model

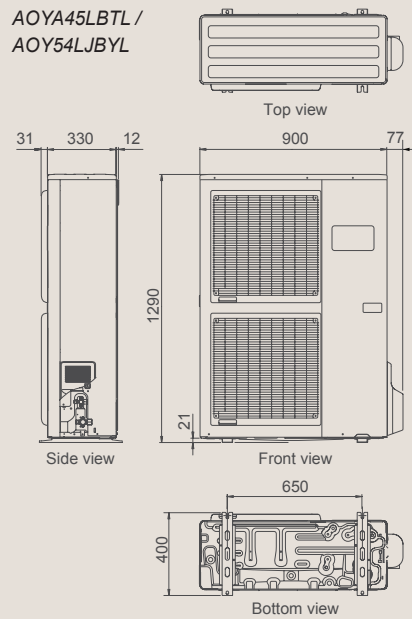
AOYA18LALL / AOYA24LALL



AOYA30LBTL

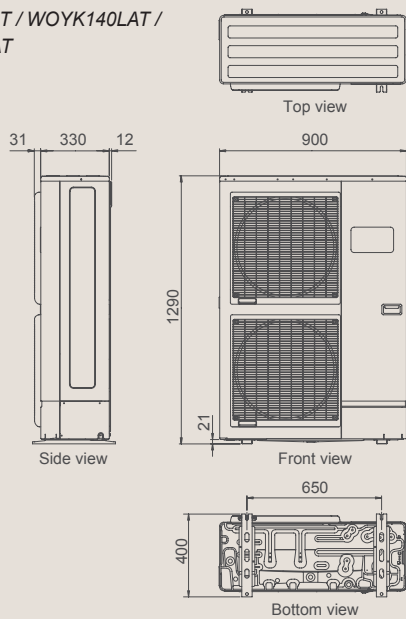


AOYA45LBTL / AOY54LJBYL



### Outdoor Units High Power model

WOYK112LAT / WOYK140LAT / WOYK160LAT

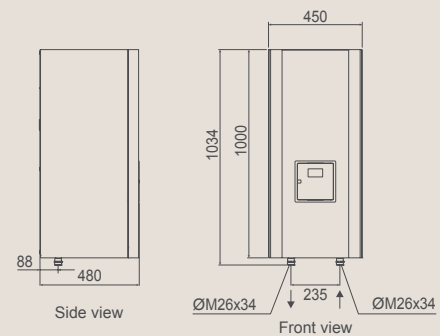


### Indoor Units High Power model

WSYK160DA9

### Indoor Units Comfort model

WSYA050DA / WSYA065DA / WSYA080DA / WSYA095DA / WSYA128DA / WSYA155DA

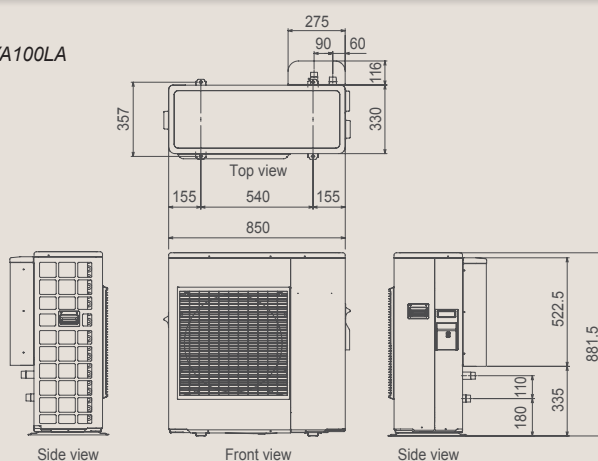


## MONOBLOC TYPE

Unit : mm

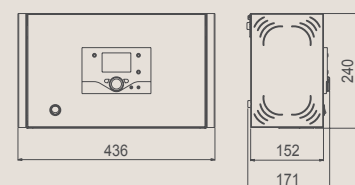
### Compact model

WPYA080LA / WPYA100LA








### Control Box

UTW-SCBYA



# SPECIFICATIONS

Type			Split system								
Series name			High Power series			Comfort series					
											
Capacity range (kW)			11	14	16	5	6	8	10	13	16
+7°C / +35°C floor heating	Heating capacity	kW	11.20	14.00	16.00	4.60	6.50	8.00	10.30	13.70	16.20
	Input power		2.51	3.22	3.72	1.07	1.63	2.00	2.58	3.42	4.15
	COP		4.46	4.35	4.30	4.30	4.00	4.00	4.00	4.00	3.90
+2°C / +35°C floor heating	Heating capacity	kW	11.20	14.00	15.10	4.31	5.59	6.39	8.69	12.31	13.94
	Input power		3.45	4.40	4.87	1.36	2.05	2.34	3.21	3.87	4.77
	COP		3.25	3.18	3.10	3.16	2.73	2.73	2.71	3.18	2.92
-7°C / +35°C floor heating	Heating capacity	kW	11.20	14.00	15.00	4.80	5.60	7.00	8.10	11.55	12.40
	Input power		3.92	5.15	5.55	1.77	2.24	2.54	3.52	4.37	4.77
	COP		2.86	2.72	2.70	2.70	2.50	2.75	2.30	2.64	2.60
+7°C / +45°C radiators	Heating capacity	kW	10.50	13.10	15.10	4.17	5.40	6.20	8.30	9.70	13.30
	Input power		2.90	3.70	4.42	1.23	1.61	1.88	2.51	2.98	4.20
	COP		3.62	3.54	3.42	3.38	3.35	3.30	3.30	3.26	3.17
-7°C / +45°C radiators	Heating capacity	kW	10.50	13.10	14.50	4.05	5.10	5.90	7.00	9.20	11.00
	Input power		4.16	5.39	6.38	1.78	2.32	2.62	3.33	4.30	5.37
	COP		2.52	2.43	2.27	2.28	2.20	2.25	2.10	2.14	2.05
Backup heater	Capacity	kW×pcs.	9.0(3.0×3 pcs.)	9.0(3.0×3 pcs.)	9.0(3.0×3 pcs.)	3.0(1.5×2 pcs.)	3.0(1.5×2 pcs.)	3.0(1.5×2 pcs.)	6.0(3.0×2 pcs.)	6.0(3.0×2 pcs.)	6.0(3.0×2 pcs.)
Indoor unit Model name			WSYK160DA9			WSYA050DA	WSYA065DA	WSYA080DA	WSYA095DA	WSYA128DA	WSYA155DA
Power source			3Ø 400V, 50Hz			1Ø 230V, 50Hz					
Water circulation	Rated	L/min	32.1	40.1	45.9	14.3	18.6	22.9	27.2	36.7	44.4
	Mini / Max		25.0 / 50.0	25.0 / 50.0	25.0 / 50.0	9.0 / 18.3	10.0 / 23.3	14.3 / 28.3	16.7 / 35.0	25.0 / 50.0	25.0 / 50.0
Dimensions H×W×D			1034 × 450 × 480			1034×450×480					
Weight (Net)			53			52.5					
Buffer tank capacity			25			25					
Expansion vessel capacity			8			8					
Leaving water temperature range			8 ~ 60			8 ~ 50					
Water pipe connection diameter			Ø25.4 / Ø25.4			Ø25.4 / Ø25.4					
Outdoor unit Model name			WOYK112LAT	WOYK140LAT	WOYK160LAT	AOYA18LALL		AOYA24LALL	AOYA30LBTL	AOYA45LBTL	AOY54LJBYL
Power source			3Ø 400V, 50Hz			1Ø 230V, 50Hz					
Current	Rated	A	3.60	4.80	5.50	5.16	7.25	8.27	10.40	13.70	17.10
	Max		8.50	9.50	10.50	10.80	11.22	16.00	19.00	24.50	
Noise level (Sound pressure)			53 <sup>*1</sup>	55 <sup>*1</sup>	56 <sup>*1</sup>	39 <sup>*2</sup>	40 <sup>*2</sup>	55 <sup>*1</sup>	55 <sup>*1</sup>	55.5 <sup>*1</sup>	
Dimensions H×W×D			1290 × 900 × 330			578 × 790 × 300	578×790×315	830×900×330	1290×900×330	1290×900×330	1290×900×330
Weight (Net)			99			40	44	64	98	105	
Refrigerant			R410A			R410A					
Refrigerant amount			2.50			1.25	1.70	2.20	3.35	3.40	
Additional refrigerant charge amount			50			20	20	40	50	40	
Connection pipe	Diameter	Liquid	Ø9.52			Ø6.35		Ø6.35		Ø9.52	
		Gas	Ø15.88			Ø12.70		Ø15.88		Ø15.88	
	Length	Mini / Max	5 / 20			5 / 15		5 / 15		5 / 20	
		Length (chargeless)	Max			15		15		20	
		Height difference	Max			15		15		20	
Operation range			Heating			-20 ~ 35					

Type			Monobloc system	
Series name			Compact series	
				
Capacity range (kW)			8	10
+7°C / +35°C floor heating	Heating capacity	kW	8.00	10.00
	Input power		1.78	2.30
	COP		4.50	4.35
+2°C / +35°C floor heating	Heating capacity	kW	7.40	8.10
	Input power		2.73	3.00
	COP		2.71	2.70
-7°C / +35°C floor heating	Heating capacity	kW	7.10	8.00
	Input power		2.93	3.32
	COP		2.42	2.41
+7°C / +45°C radiators	Heating capacity	kW	7.80	9.80
	Input power		2.23	2.88
	COP		3.50	3.40
-7°C / +45°C radiators	Heating capacity	kW	6.50	7.00
	Input power		2.98	3.31
	COP		2.18	2.11
Monobloc unit Model name			WPYA080LA	WPYA100LA
Power source			1Ø 230V, 50Hz	
Water circulation	Rated	L/min	22.9	28.7
	Mini / Max		10.0 / 30.0	10.0 / 30.0
Current			Rated	
Noise level (Sound pressure)			51 <sup>*1</sup>	
Dimensions H×W×D			881.5 × 850 × 330	
Weight (Net)			82	
Expansion vessel capacity			8	
Water pipe connection diameter			Ø25.4 / Ø25.4	
Refrigerant			R410A	
Refrigerant amount			1.5	
Leaving water temperature range			8 ~ 55	
Operation range			Heating	
			-20 ~ 35	

- \*1. Sound pressure level measured at distance of 1m from the device and at a height of 1.5m above ground in free field  
 \*2. Sound pressure level measured at distance of 5m from the device and at a height of 1.5m above ground in free field



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 Fujitsu General (Thailand) Co., Ltd.

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 \*The colors may be different from the actual colors because this catalog is printed matter.  
 \*Specifications and design subject to change without notice for further improvement.  
 Please check with your dealer

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