

## Residential AIR TO WATER

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**WATERSTAGE™**  
Innovative Solution of Domestic Heating  
SPLIT TYPE / SPLIT DHW INTEGRATED TYPE

AIR TO WATER  
Residential



FUJITSU GENERAL LIMITED

# WATERSTAGE™ Overview

## Complete Solution meets various needs

The clean energy produced by WATERSTAGE™ reliably delivers “comfort” to all spaces in the home up to the living room, bedrooms, bathroom, and swimming pool.



## 27 Models

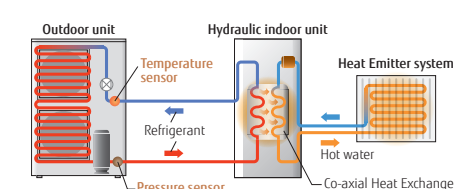
Fujitsu General WATERSTAGE™ Heat Pumps are very efficient, regenerative and varied central heating systems, which absorb the energy mainly from the air.



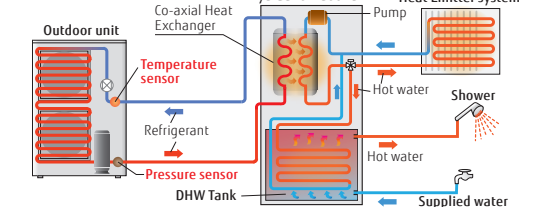
### Optimization of refrigerant cycle operation

Super High Power and High Power model achieves high performance and efficiency by adopting twin sensors and control technology corresponding to hot water heating.

### Split type

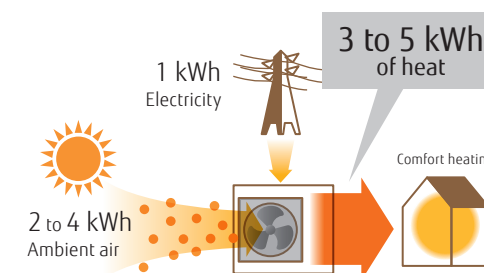


### Split DHW Integrated type



## What's a Heat Pump ?

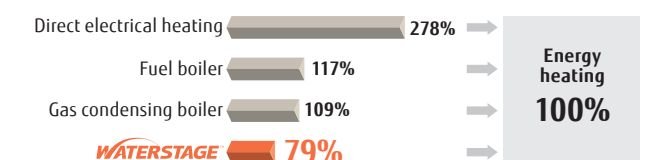
Absorbing free energy from the atmosphere. Heat Pump system requires only 1 kW of electricity to generate 3 to 5 kW thermal energy.



## Primary Energy Usage Reduced Drastically!

Proportion of primary energy into heating energy of 100%

### Primary Energy Consumption\*





































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



WATERSTAGE™ Lineup



Type	Super High Power Series		Split type High Power Series		Comfort Series		Super High Power Series		Split DHW Integrated type High Power Series		Comfort Series		Monobloc Type		
Hydraulic indoor unit															
Outdoor unit			 		  				 		  		 		
Capacity range	15/16/17 kW		11/14 kW    11/14/16 kW		5/6 kW    8 kW    10 kW		15/16/17 kW		11/14 kW    11/14/16 kW		5/6 kW    8 kW    10 kW		5/6 kW    8 kW		
System outline	<ul style="list-style-type: none"><li>• 60°C hot water supply even at -20°C outdoor temperature</li><li>• 55°C hot water supply even at -22°C outdoor temperature</li><li>• Different heating system can be used. Like underfloor heating, radiators and others.*</li><li>• Heating and DHW in one system.*</li><li>• Additional electric heater for backup provided.</li><li>• Up to two independent control circuits.*</li><li>• Cooling operation is possible.*</li><li>• Operating range is -25 to 35 °C.</li></ul>		<ul style="list-style-type: none"><li>• 60°C hot water supply even at -20°C outdoor temperature</li><li>• Different heating system can be used. Like underfloor heating, radiators and others.*</li><li>• Heating and DHW in one system.*</li><li>• Additional electric heater for backup provided.</li><li>• Up to two independent control circuits.*</li><li>• Cascade connection up to three systems.*</li><li>• Cooling operation is possible.*</li><li>• Operating range is -25 to 35 °C.</li></ul>		<ul style="list-style-type: none"><li>• 55°C hot water supply even at -10°C outdoor temperature</li><li>• Heating and DHW in one system.*</li><li>• Additional electric heater for backup provided.</li><li>• Up to two independent control circuits.*</li><li>• Cooling operation is possible.*</li><li>• Operating range is -20 to 35 °C.</li><li>• Different heating system can be used. Like underfloor heating, radiators and others.</li></ul>		<ul style="list-style-type: none"><li>• 60°C hot water supply even at -20°C outdoor temperature</li><li>• 55°C hot water supply even at -22°C outdoor temperature</li><li>• Different heating system can be used. Like underfloor heating, radiators and others.*</li><li>• Heating and DHW space saving in one hydraulic indoor unit.</li><li>• Additional electric heater for backup provided.</li><li>• Up to two independent control circuits.*</li><li>• Cooling operation is possible.*</li><li>• Operating range is -25 to 35 °C.</li></ul>		<ul style="list-style-type: none"><li>• 60°C hot water supply even at -20°C outdoor temperature</li><li>• Different heating system can be used. Like underfloor heating, radiators and others.*</li><li>• Heating and DHW space saving in one hydraulic indoor unit.</li><li>• Additional electric heater for backup provided.</li><li>• Up to two independent control circuits.*</li><li>• Cooling operation is possible.*</li><li>• Operating range is -25 to 35 °C.</li></ul>		<ul style="list-style-type: none"><li>• 55°C hot water supply even at -10°C outdoor temperature</li><li>• Heating and DHW in one system.</li><li>• Additional electric heater for backup provided.</li><li>• Up to two independent control circuits.*</li><li>• Cooling operation is possible.*</li><li>• Operating range is -20 to 35 °C.</li><li>• Different heating system can be used. Like underfloor heating, radiators and others.</li></ul>		<ul style="list-style-type: none"><li>• 55°C hot water supply even at -10°C outdoor temperature</li><li>• Cooling operation is possible.</li><li>• Operating range is -10 to 46°C in cooling, -20 to 35°C in heating.</li></ul>		
Power source	Single Phase, 230 V/50 Hz	3 Phase, 400 V/50 Hz	Single Phase, 230 V/50 Hz	3 Phase, 400 V/50 Hz	Single Phase, 230 V/50 Hz		Single Phase, 230 V/50 Hz	3 Phase, 400 V/50 Hz	Single Phase, 230 V/50 Hz	3 Phase, 400 V/50 Hz	Single Phase, 230 V/50 Hz		Single Phase, 230 V/50 Hz		
Capacity	5 kW				WSYA050ML3 WOYA060KLT 						WGYA050ML3 WOYA060KLT 		CPYA050LLW		
	6 kW				WSYA080ML3 WOYA060KLT 						WGYA080ML3 WOYA060KLT 		CPYA060LLW		
	8 kW				WSYA080ML3 WOYA080KLT 						WGYA080ML3 WOYA080KLT 		CPYA080LLW		
	10 kW				WSYA100ML3 WOYA100KLT 						WGYA100ML3 WOYA100KLT 				
	11 kW			WSYG140DG6 WOYG112LHT	WSYK160DG9 WOYK112LCTA 					WGYG140DG6 WOYG112LHT	WGYK160DG9 WOYK112LCTA 				
	14 kW			WSYG140DG6 WOYG140LCTA	WSYK160DG9 WOYK140LCTA 					WGYG140DG6 WOYG140LCTA	WGYK160DG9 WOYK140LCTA 				
	15 kW		WSYK170DJ9 WOYK150LJL						WGYK170DJ9 WOYK150LJL						
	16 kW	WSYG160DJ6 WOYG160LJL			WSYK160DG9 WOYK160LCTA 			WGYG160DJ6 WOYG160LJL			WGYK160DG9 WOYK160LCTA 				
	17 kW		WSYK170DJ9 WOYK170LJL						WGYK170DJ9 WOYK170LJ						

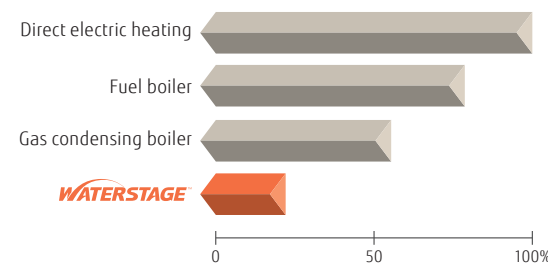
\*Optional parts are required.

# Benefits

## Less CO<sub>2</sub> Emissions

This environmentally-friendly system substantially reduces CO<sub>2</sub> emissions compared to conventional gas and hydro carbons combustion.

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



\*Calculations based on data provided by European Program-2001<sup>1</sup> for EU 27  
Fuel boiler efficiency: 89%, Gas boiler efficiency: 93%

## Clean and Healthy

Since burners are unnecessary, NO<sub>x</sub> and other harmful substances are not generated.

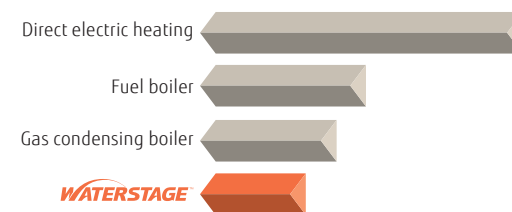


Environmentally friendly  
heating system

## Low Running Cost

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

### Average annual running cost



\*The values may vary depending on installation, location, and operating conditions.

## Easy Installation and Maintenance

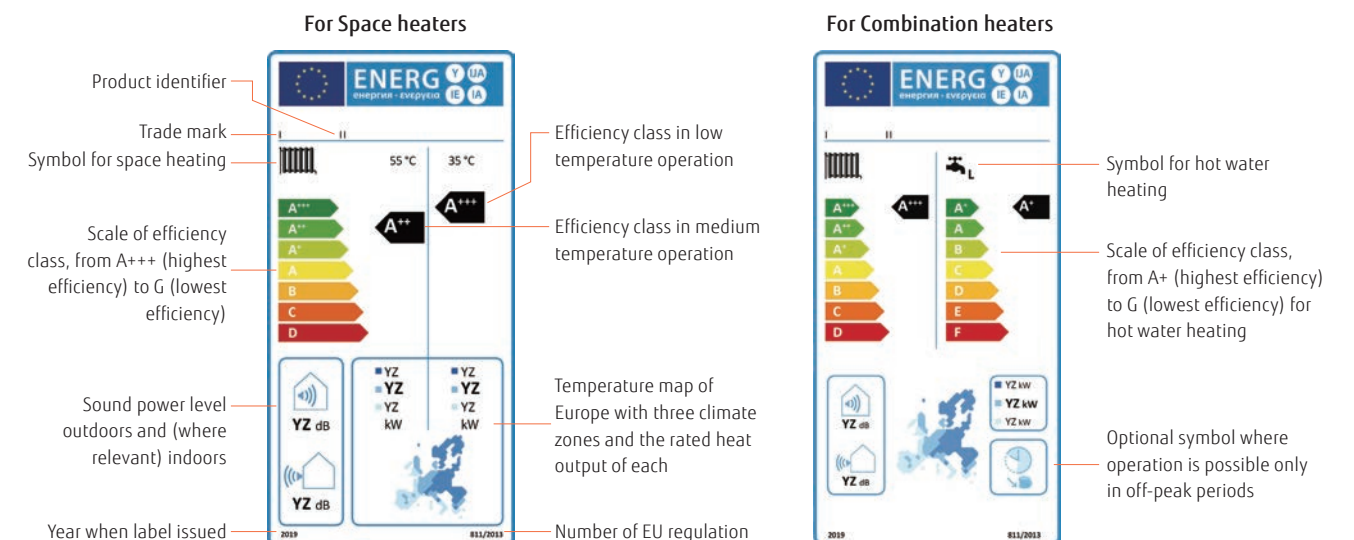
All components are built into compact outdoor unit or hydraulic indoor unit.



### Well structured Hydraulic indoor unit.

Sophisticated arrangement of hydraulic units, allows easy piping and maintenance

## Energy Efficiency standard Product labels



### The Ecodesign Directive Lot 1 Regulation 813/2013

New Ecodesign directive defines a regulatory framework for improving the environmental performance of energy-related products (ErP) through design.

From 26 September 2015, the Ecodesign Directive will apply to space heaters (including heat pumps and fossil fuel boilers), combination heaters (for both space and water heating), water heaters and water storage tanks.

All these products will have to meet minimum requirements for energy efficiency<sup>\*1</sup> and maximum sound power levels. The minimum energy efficiency level will be raised from 26 September 2017 and maximum sound power level will be lowered on 26 September 2018.

\*1: Energy efficiency is represented by seasonal space heating efficiency (η<sub>s</sub>). This value is based upon the seasonal coefficient of performance (SCOP).

### The Energy Labelling Directive (EU) No. 811/213

The energy label aims to help consumers make direct comparisons of energy use, as well as product specific features. On all labels, product identifier, efficiency class, sound power levels and heat output must be displayed. For heat generators, the scale runs from A+++ to D. There are two different product labels for space heaters and combination heaters.

### Seasonal space heating Energy efficiency class

Except low temp HP 55°C	Low temp HP 35°C
A+++ η <sub>s</sub> ≥ 150	η <sub>s</sub> ≥ 175
A++ 125 ≤ η <sub>s</sub> < 150	150 ≤ η <sub>s</sub> < 175
A+ 98 ≤ η <sub>s</sub> < 125	123 ≤ η <sub>s</sub> < 150
A 90 ≤ η <sub>s</sub> < 98	115 ≤ η <sub>s</sub> < 123
B 82 ≤ η <sub>s</sub> < 90	107 ≤ η <sub>s</sub> < 115
C 75 ≤ η <sub>s</sub> < 82	100 ≤ η <sub>s</sub> < 107
D 36 ≤ η <sub>s</sub> < 75	61 ≤ η <sub>s</sub> < 100
E 34 ≤ η <sub>s</sub> < 36	59 ≤ η <sub>s</sub> < 61
F 30 ≤ η <sub>s</sub> < 34	55 ≤ η <sub>s</sub> < 59
G η <sub>s</sub> < 30	η <sub>s</sub> < 55

### EHPA Quality Label



Fujitsu General's WATERSTAGE<sup>\*2</sup> have obtained the EHPA Quality Label<sup>\*3</sup> by tests according to the international Standards EN14511 and EN17025. The EHPA Quality Label<sup>\*3</sup> is a label that shows

the end-consumer a quality heat pump unit on the market.

\*2: Only High Power 3 phase

\*3: Check the validity of label at [www.ehpa.org/quality/quality-label/](http://www.ehpa.org/quality/quality-label/)

### SG-Ready Label



SG-Ready is a defined standard by BWP<sup>\*4</sup>, which makes it possible that the device can be integrated into a smart grid. Heat pumps, which are equipped with the SG-Ready Label, can receive signals from the power grid (and e.g. also from PV systems) about the available (unused renewable) energy (from wind, sun & water). Fujitsu General provides the SG-Ready compatibility to all new Heat Pumps Series.

\*4: BWP = the Federal German Heat Pump Association

### The CEN Heat Pump KEYMARK



The Heat Pump KEYMARK is a full certificate supporting the quality of heat pumps in the European market. The Heat Pump KEYMARK is a voluntary, independent, European certification mark (ISO type 5 certification) for all heat pumps, combination heat pumps and hot water heaters (as covered by Ecodesign, EU Regulation 813/2013 and 814/2013). Fujitsu General's WATERSTAGE<sup>\*5</sup> have obtained the KEYMARK<sup>\*6</sup>.

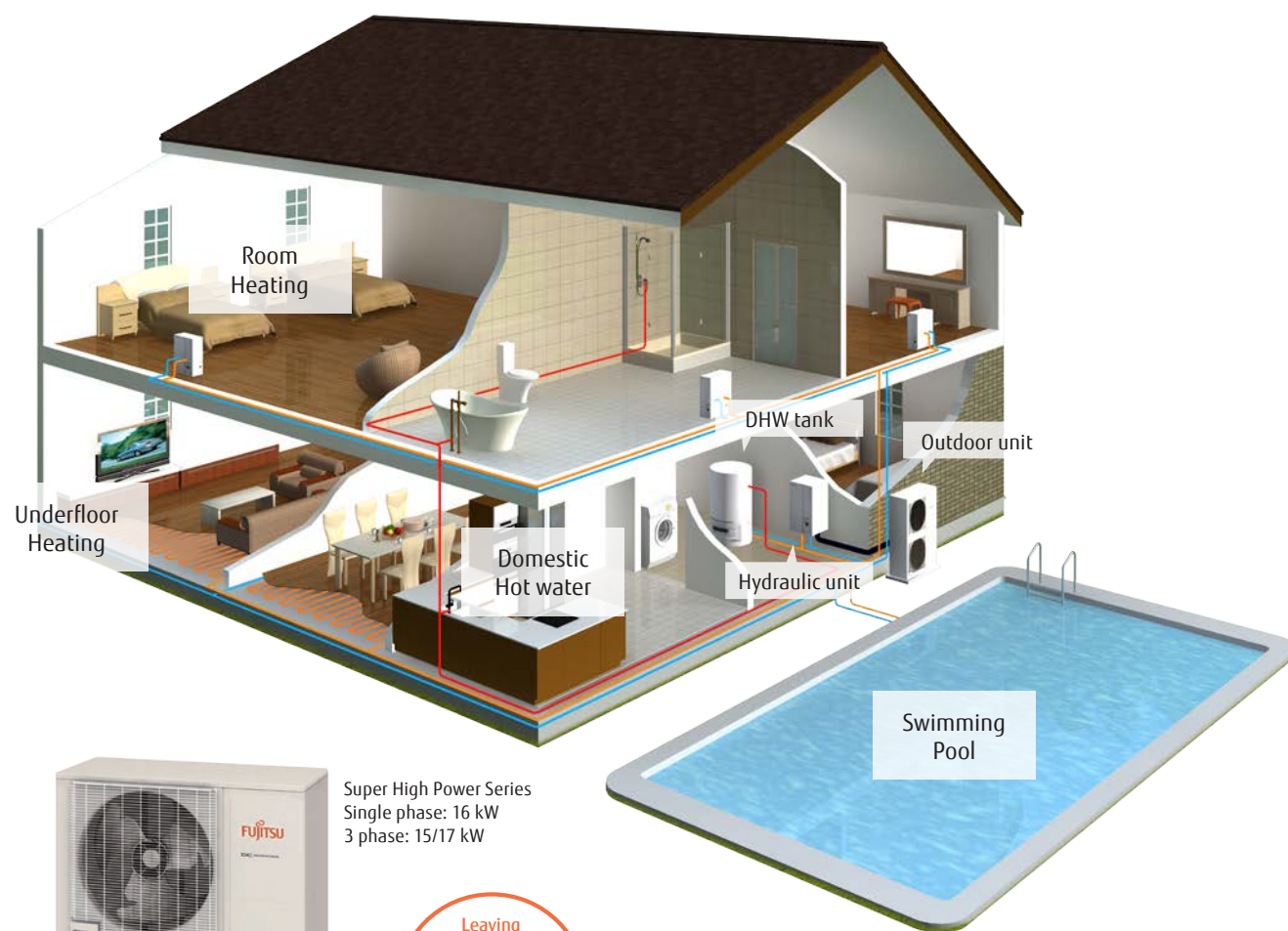
\*5: Only R32 comfort model

\*6: Check the validity of mark at [www.heatpumpkeymark.com/about/](http://www.heatpumpkeymark.com/about/)



# Home Heating & Domestic Hot Water

Wide range lineup suited for regional characteristics, family structure, and application. We provide various products to meet your needs from High Power via heating-centered series to reasonably-priced compact series.



Super High Power Series  
Single phase: 16 kW  
3 phase: 15/17 kW

Leaving  
water temperature  
**60°C**

## High leaving water temperature

High leaving water temperature 60°C maintained even at -20°C outdoor temperature without using backup heater.

## For Room heating & domestic hot water

Outdoor unit and hydraulic indoor unit can be installed freely, so installation is easy. Since hydraulic indoor unit is installed inside a house, freezing of circulated water can be prevented. A larger heating capacity can be performed flexibly by using more units in cascade connection.\*1

\*1: For High Power only



NEW



## Adopting new refrigerant R32

R32 refrigerant is highly environmentally friendly for the reduction of the global warming potential than other refrigerant currently available on the market.



300 Liter

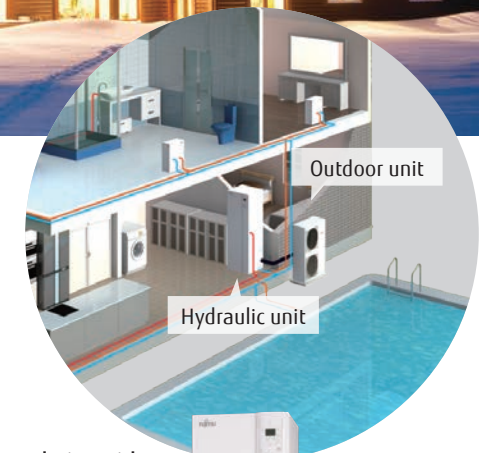
## + DHW Tank

DHW tank (option) can be used to supply hot water by connecting it to the system.

## + Boiler

By combining existing boiler, powerful heating can be achieved even at low outdoor temperature.

\*Optional parts necessary

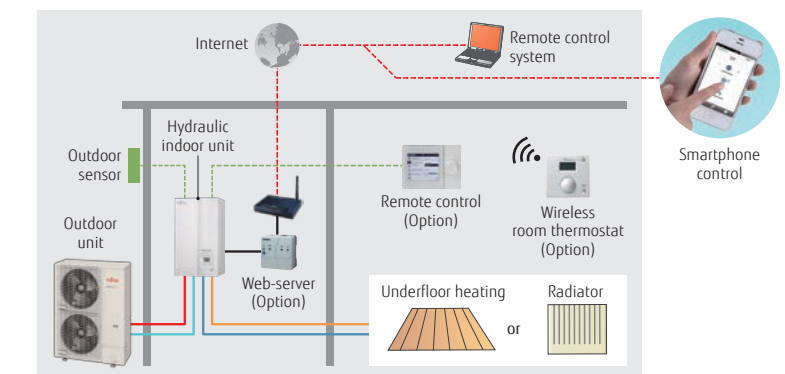


Stylish space saving solution with  
built-in DHW tank



## Space is saved drastically due to built-in DHW tank.

Existing boiler can be replaced easily. Higher heating capacities can be achieved as there is the flexibility to use more units in a cascade type connection.



## Smart control

User's needs are supported by offering a variety of controls, such as individual control and remote control options.

# High Efficiency Technology

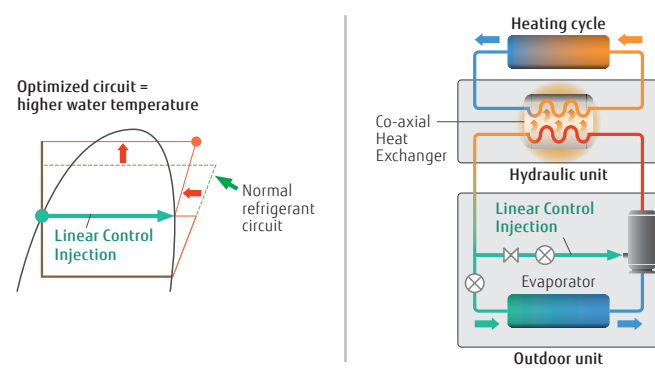
## Twin Rotary Compressor



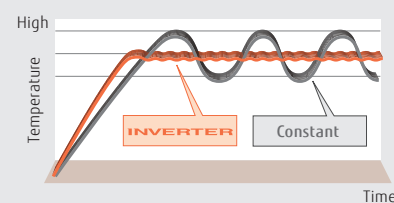
### For Outdoor Unit

#### Twin Rotary Compressor with Linear Control Injection Port

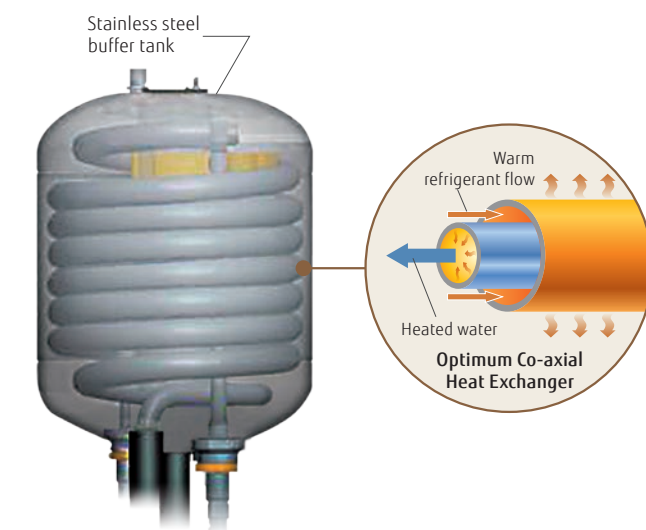
The compressor achieves high condensing temperature without overheating the discharge gas temperature by Linear Control Injection process during compression. Therefore, the condensing temperature rises up higher than normal circuit. A higher hot water temperature is achieved by controlling the injection amount according to the usage state.



#### Accurate temperature control by DC inverter technology



## High Durability Co-axial Heat Exchanger



### For Hydraulic Indoor Unit

#### Stainless steel buffer tank

Heat exchange amount is 25% higher than previous model. Energy saving performance is improved.

- Corrosion protected
- No flow switch necessary
- Anti-freeze-protection is unnecessary

#### Class A Pump

Energy saving pump with constant volume or pressure adjustment function.





## Split Type

### Comfort Series



## High Leaving Water Temperature

Maximum leaving water temperature is 55°C without backup heater. Hot supply temperature can be maintained even at -10°C outdoor temperature.

\* If you want to raise the hot water supply temperature, backup heater can be used for the auxiliary operation.



## High COP

Waterstage Air to water heat pumps work much more efficiently and save energy compared to traditional heating systems.

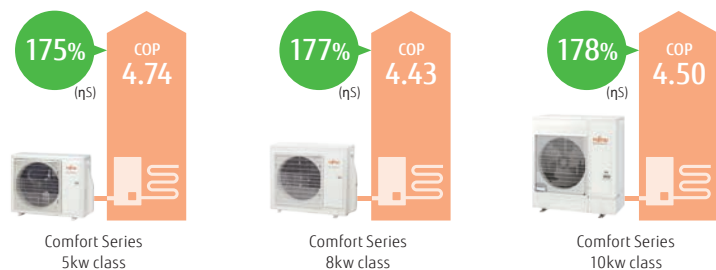
Energy efficiency class



\*Temperature application : Heating Temp. 35°C.

### Seasonal space heating energy efficiency ( $\eta_s$ )

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



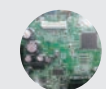
## Outdoor unit technology



**DC Fan Motor**  
High performance, high efficiency small DC fan motor mounted.



**DC Twin Rotary Compressor**  
High efficient DC twin rotary compressor



**DC Inverter**  
Smooth water temperature control realized by DC inverter control.

Hydraulic indoor unit:  
WSYA050ML3 / WSYA080ML3 /

**NEW** WSYA100ML3

Outdoor unit:  
WOYA060KLT / Woya080KLT /

**NEW** Woya100KLT



## Specifications

Model Name	Hydraulic indoor unit	WSYA050ML3	WSYA080ML3	WSYA080ML3	WSYA100ML3
Capacity range	Outdoor unit	WOYA060KLT	WOYA060KLT	WOYA080KLT	WOYA100KLT
7°C/35°C floor heating *1	Heating capacity	4.50	5.50	7.50	9.50
	Input power	0.949	1.18	1.69	2.11
	COP	4.74	4.65	4.43	4.50
2°C/35°C floor heating *1	Heating capacity	4.50	5.30	6.30	9.30
	Input power	1.33	1.65	1.96	3.08
	COP	3.39	3.22	3.21	3.02
-7°C/35°C floor heating *1	Heating capacity	4.40	5.00	5.70	8.90
	Input power	1.59	1.90	2.13	3.36
	COP	2.76	2.63	2.68	2.65
<b>Space heating characteristics*2</b>					
Temperature application	°C	55	35	55	35
Energy efficiency class		A++	A+++	A++	A+++
Rated heat output (P <sub>rated</sub> )	kW	5	5	6	7
Seasonal space heating energy efficiency ( $\eta_s$ )	%	125	175	125	175
Annual energy consumption	kWh	3,035	2,322	3,411	2,594
Sound power level*3	Hydraulic indoor unit	40	-	40	-
	Outdoor unit	57	-	57	-
<b>Hydraulic indoor unit Specification</b>					
Power source		Single phase 230 V 50 Hz			
Dimensions H×W×D	mm	847 × 450 × 493	847 × 450 × 493	847 × 450 × 493	847 × 450 × 493
Weight (Net)	kg	47	47	47	47
Water circulation	Min./Max.	L/min	7.6/22.0	8.5/22.0	10.0/22.0
Buffer tank capacity	L	16	16	16	16
Expansion vessel capacity	L	8	8	8	8
Leaving water temperature range	Max.	°C	55	55	55
Water pipe connection diameter	Flow/Return	mm	Ø 25.4/Ø 25.4	Ø 25.4/Ø 25.4	Ø 25.4/Ø 25.4
Backup heater	Capacity	kW	3.0	3.0	3.0
<b>Outdoor unit specification</b>					
Power source		Single phase 230 V 50 Hz			
Current	Max.	A	13.0	13.0	19.0
Dimensions H × W × D	mm	632 × 799 × 290	632 × 799 × 290	716 × 820 × 315	998 × 940 × 320
Weight (Net)	kg	39	39	42	62
Refrigerant	Type (Global Warming Potential)	R32(675)			
	Charge	kg	0.97	0.97	1.02
Additional refrigerant charge amount	g/m	25	25	25	20
Connection pipe	Diameter	Liquid	6.35	6.35	6.35
		Gas	12.70	12.70	12.70
	Length	Min./Max.	3/30	3/30	3/30
	Length (Pre-charge)	m	15	15	15
Height difference	Max.	m	20	20	20
	Heating	°C	-20 to 35	-20 to 35	-20 to 35

\*1:The values of heating capacity/input power/COP are based on measurement of EN14511 standard. Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined values and these values.

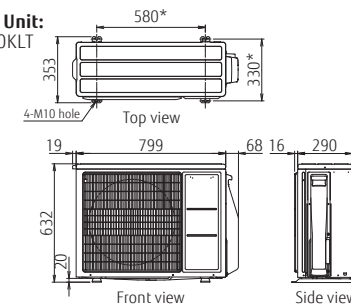
\*2:All information of ErP can be available for download from [www.fujitsu-general.com/global/support/downloads/search/](http://www.fujitsu-general.com/global/support/downloads/search/)

\*3:The values of sound power level are based on measurement of EN12102 standard under conditions of EN14825 standard.

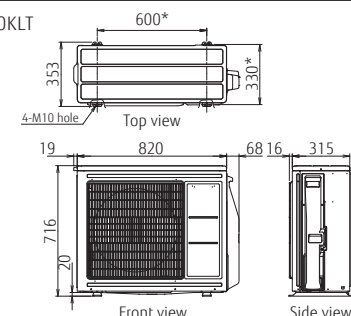
## Dimensions

(Unit:mm)

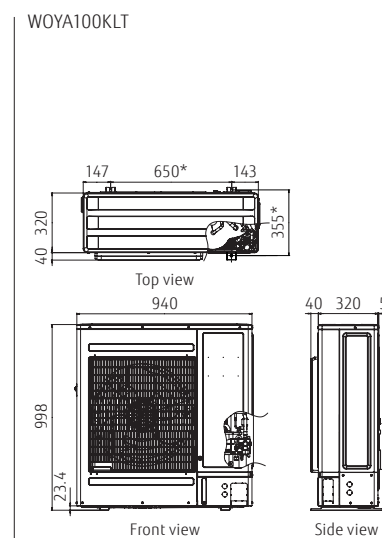
Outdoor Unit:  
WOYA060KLT



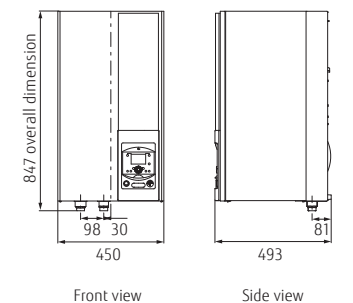
WOYA080KLT



WOYA100KLT



Hydraulic Indoor Unit:  
WSYA050ML3/WSYA080ML3/WSYA100ML3



\*Pitch of bolts for installation

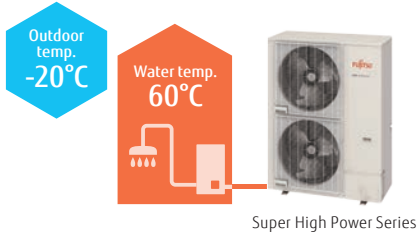
Split Type  
Super High Power Series



High Leaving Water Temperature

High leaving water temperature of 60°C is kept even when outdoor temperature is down to -20°C without using backup heaters. And it's possible to supply 55°C at -22°C outdoor temperature without backup heater.

\* If you want to raise the hot water supply temperature, backup heater can be used for the auxiliary operation.



High COP

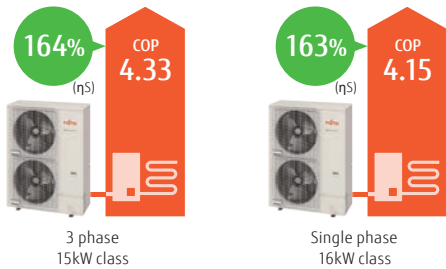
Waterstage Air to water heat pumps work much more efficiently and save energy compared to traditional heating systems.

Energy efficiency class



Seasonal space heating energy efficiency ( $\eta_s$ )

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



Extended Operating Range down to -25°C

Improved operating range down to -25°C outdoor temperature



Hydraulic indoor unit:  
WSYG160DJ6 / [3 phase] WSYK170DJ9  
Outdoor unit:  
WOYG160LJL  
[3 phase] WOYK150LJL / WOYK170LJL



Hydraulic indoor unit  
Single phase/  
3 phase



Outdoor unit  
Single phase 16kW  
3 phase 15/17kW

Specifications

Model Name	Hydrylic indoor unit		WSYG160DJ6		WSYK170DJ9		WSYK170DJ9		
Capacity range	Outdoor unit		WOYG160LJL		WOYK150LJL		WOYK170LJL		
7°C/35°C floor heating * <sup>1</sup>	Heating capacity	kW	16		15		17		
	Input power		16.00		15.00		17.00		
	COP		3.86		3.46		4.10		
			4.15		4.33		4.15		
2°C/35°C floor heating * <sup>1</sup>	Heating capacity	kW	13.30		13.20		13.50		
	Input power		4.25		4.06		4.27		
	COP		3.13		3.25		3.16		
			14.50		13.20		15.00		
-7°C/35°C floor heating* <sup>1</sup>	Heating capacity	kW	14.50		13.20		15.00		
	Input power		5.27		4.55		5.32		
	COP		2.75		2.90		2.82		
Space heating characteristics* <sup>2</sup>									
Temperature application		°C	55	35	55	35	55	35	
Energy efficiency class			A++	A++	A++	A++	A++	A++	
Rated heat output(P <sub>rated</sub> )		kW	14	16	16	17	17	18	
Seasonal space heating energy efficiency(η <sub>s</sub> )		%	125	163	130	164	130	161	
Annual energy consumption		kWh	8,757	8,014	9,915	8,606	10,232	9,059	
Sound power level	Hydraulic indoor unit	dB(A)	45	45	45	45	45	45	
	Outdoor unit		67	66	67	66	67	68	
Hydraulic indoor unit Specification									
Power source			Single phase, 230 V 50 Hz			3 phase, 400 V 50 Hz			
Dimensions H×W×D		mm	805 × 450 × 471			805 × 450 × 471			
Weight (Net)		kg	52.5			52.5			
Water circulation		Min./Max.	L/min		26.4/57.8		24.0/54.2		
Buffer tank capacity		L	22				27.3/61.4		
Expansion vessel capacity		L	10				22		
Leaving water temperature range		Max.	°C		60		10		
Water pipe connection diameter		mm	Ø 25.4/Ø 25.4			Ø 25.4/Ø 25.4			
Backup heater		Capacity	kW			6.0(3.0kW×2pcs.)			
Outdoor unit specification									
Power source			Single phase, 230 V 50 Hz			3 phase, 400 V 50 Hz			
Current		Max.	A		28.0		14.0		
Dimensions H × W × D		mm	1,428 × 1,080 × 480			1,428 × 1,080 × 480		1,428 × 1,080 × 480	
Weight (Net)		kg	137			138		138	
Refrigerant		Type (Global Warming Potential)	R410A (2,088)						
		Charge	kg		3.80		3.80		
Additional refrigerant charge amount			g/m		50		50		
Connection pipe	Diameter	Liquid	mm		Ø 9.52		Ø 9.52		
		Gas			Ø 15.88		Ø 15.88		
	Length	Min./Max.	m		5/30		5/30		
	Length(Pre-charge)		m		15		15		
	Height difference	Max.	m		25/15 (Outdoor unit:Upper/Lower)				
Operating range		Heating	°C		-25 to 35		-25 to 35		

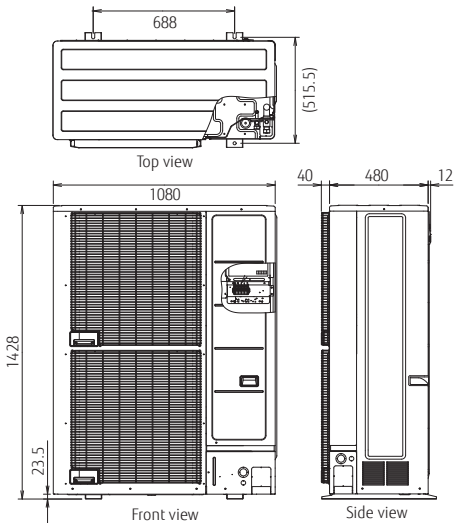
\*1:The values of heating capacity/input power/COP are based on measurement of EN14511 standard. Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined values and these values.

\*2:All information of ErP can be available for downloaded from [www.fujitsu-general.com/global/support/downloads/search/](http://www.fujitsu-general.com/global/support/downloads/search/)

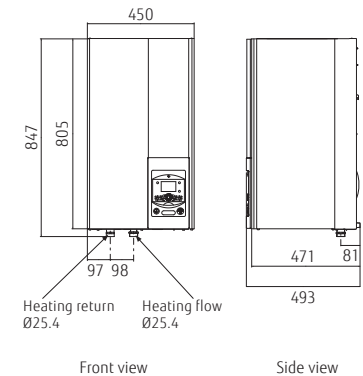
Dimensions

(Unit:mm)

Outdoor Unit:  
Single phase: WOYG160LJL  
3 phase: WOYK150LJL/WOYK170LJL



Hydraulic Indoor Unit:  
Single phase : WSYG160DJ6  
3 phase: WSYK170DJ9





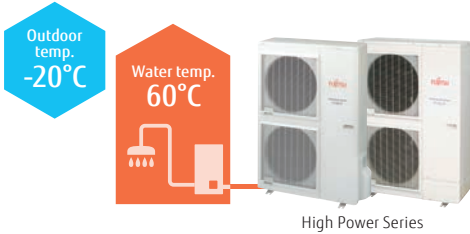
Split Type  
High Power Series



High Leaving Water Temperature

High leaving water temperature of 60°C is kept even when outdoor temperature is down to -20°C without using backup heaters.

\* If you want to raise the hot water supply temperature, backup heater can be used for the auxiliary operation.



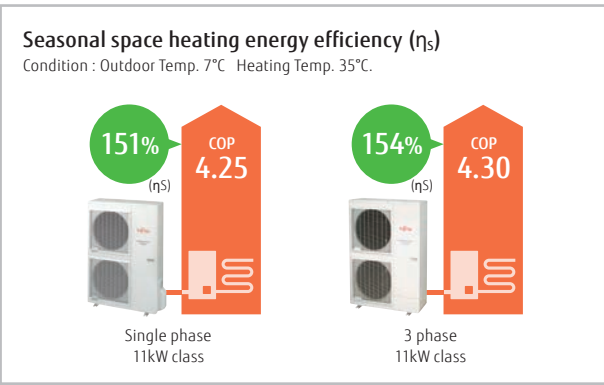
High COP

Waterstage Air to water heat pumps work much more efficiently and save energy compared to traditional heating systems.

Energy efficiency class



\*Temperature application : Heating Temp. 35°C.



Hydraulic indoor unit:  
WSYG140DG6 / [3 phase] WSYK160DG9  
Outdoor unit:  
WOYG112LHT / WOYG140LCTA  
[3 phase] WOYK112LCTA / WOYK140LCTA /  
WOYK160LCTA



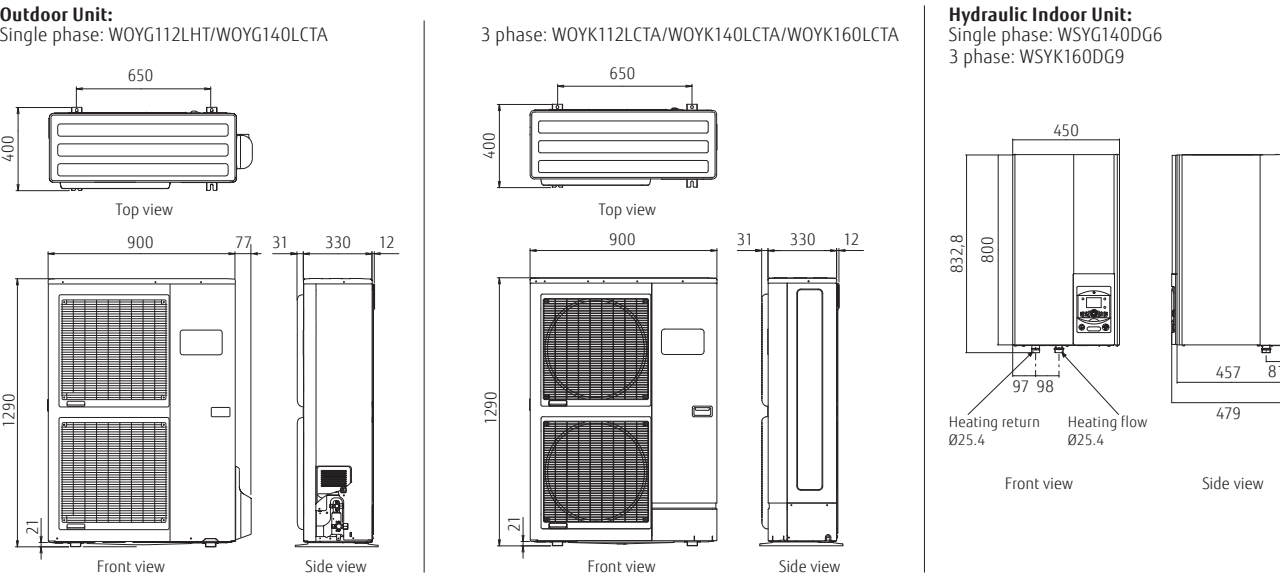
Specifications

Model Name	Hydrylic indoor unit		WSYG140DG6		WSYG140DG6		WSYK160DG9		WSYK160DG9		WSYK160DG9			
Capacity range	Outdoor unit		WOYG112LHT		WOYG140LCTA		WOYK112LCTA		WOYK140LCTA		WOYK160LCTA			
7℃/35℃ floor heating * <sup>1</sup>	Heating capacity	kW	11		14		11		14		16			
	Input power		10.80		13.50		10.80		13.50		15.17			
	COP		2.54		3.23		2.51		3.20		3.70			
2℃/35℃ floor heating * <sup>1</sup>	Heating capacity	kW	4.25		4.18		4.30		4.22		4.10			
	Input power		10.77		12.00		10.77		13.00		13.50			
	COP		3.44		3.87		3.40		4.15		4.34			
-7℃/35℃ floor heating* <sup>1</sup>	Heating capacity	kW	3.13		3.10		3.17		3.13		3.11			
	Input power		10.38		11.54		10.38		12.20		13.50			
	COP		4.32		5.08		4.28		5.13		5.40			
Space heating characteristics* <sup>2</sup>														
Temperature application		℃	55	35	55	35	55	35	55	35	55	35		
Energy efficiency class			A+	A++	A+	A+	A+	A++	A+	A++	A+	A+		
Rated heat output(P <sub>rated</sub> )		kW	9	11	11	13	9	11	11	13	13	14		
Seasonal space heating energy efficiency(η <sub>s</sub> )		%	112	151	113	148	112	154	117	150	117	149		
Annual energy consumption		kWh	6,704	6,062	8,041	6,824	6,669	5,930	7,803	6,738	9,062	7,408		
Sound power level	Hydraulic indoor unit	dB(A)	46		46		46		46		46			
	Outdoor unit		68		69		69		68		71			
Hydraulic indoor unit Specification														
Power source			Single phase, 230 V 50 Hz				3 phase, 400 V 50 Hz							
Dimensions H×W×D			mm	800 × 450 × 457				800 × 450 × 457						
Weight (Net)			kg	42				42						
Water circulation			Min./Max.	L/min	19.5/39.0		24.4/48.7		19.5/39.0		24.4/48.7			
Buffer tank capacity			L	16				16						
Expansion vessel capacity			L	8				8						
Leaving water temperature range			Max.	℃	60				60					
Water pipe connection diameter			mm	Flow/Return ø 25.4/ø 25.4				ø 25.4/ø 25.4						
Backup heater			Capacity	kW	6.0(3.0kW×2pcs.)				9.0(3.0kW×3pcs.)					
Outdoor unit specification														
Power source			Single phase, 230 V 50 Hz				3 phase, 400 V 50 Hz							
Current			Max.	A	22.0		25.0		9.0		10.5			
Dimensions H × W × D			mm	1,290 × 900 × 330				9.5						
Weight (Net)			kg	92				99						
Refrigerant			Type (Global Warming Potential)	R410A (2,088)										
Additional refrigerant charge amount			Charge	kg	2.50									
			g/m	50										
Connection pipe	Diameter	Liquid	mm	ø 9.52										
		Gas		ø 15.88										
	Length	Min./Max.	m	5/20										
	Length(Pre-charge)		m	15										
Operating range	Height difference	Max.	m	15										
		Heating	℃	-25 to 35										

\*1:The values of heating capacity/input power/COP are based on measurement of EN14511 standard. Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined values and these values.  
\*2:All information of ErP can be available for downloaded from [www.fujitsu-general.com/global/support/downloads/search/](http://www.fujitsu-general.com/global/support/downloads/search/)

Dimensions

(Unit:mm)



# Split DHW Integrated Type

Comfort Series



## High Leaving Water Temperature

Maximum leaving water temperature is 55°C without backup heater. Hot water supply temperature can be maintained even at -10°C outdoor temperature.

\* If you want to raise the hot water supply temperature, backup heater can be used for the auxiliary operation.



## High COP

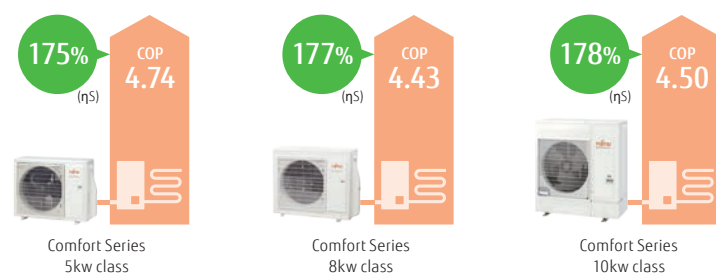
Waterstage Air to water heat pumps work much more efficiently and save energy compared to traditional heating systems.

Energy efficiency class

\*Temperature application : Heating Temp. 35°C.

### Seasonal space heating energy efficiency ( $\eta_s$ )

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



## Outdoor unit technology



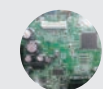
### DC Fan Motor

High performance, high efficiency small DC fan motor mounted.



### DC Twin Rotary Compressor

High efficient DC twin rotary compressor



### DC Inverter

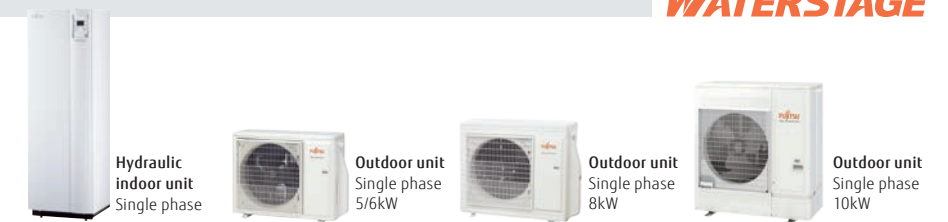
Smooth water temperature control realized by DC inverter control.

Hydraulic indoor unit:  
WGYA050ML3 / WGYA080ML3 /

**NEW** WGYA100ML3

Outdoor unit:  
WOYA060KLT / Woya080KLT /

**NEW** Woya100KLT



## Specifications

Model Name	Hydraulic indoor unit Outdoor unit	WGYA050ML3 WOYA060KLT	WGYA080ML3 WOYA080KLT	WGYA080ML3 WOYA080KLT	WGYA100ML3 WOYA100KLT
Capacity range		5	6	8	10
7°C/35°C floor heating *1	Heating capacity	4.50	5.50	7.50	9.50
	Input power	0.949	1.18	1.69	2.11
	COP	4.74	4.65	4.43	4.50
2°C/35°C floor heating *1	Heating capacity	4.50	5.30	6.30	9.30
	Input power	1.33	1.65	1.96	3.08
	COP	3.39	3.22	3.21	3.02
-7°C/35°C floor heating*1	Heating capacity	4.40	5.00	5.70	8.90
	Input power	1.59	1.90	2.13	3.36
	COP	2.76	2.63	2.68	2.65
<b>Space heating characteristics**</b>					
Temperature application	°C	55	35	55	35
Energy efficiency class		A++	A+++	A++	A+++
Rated heat output(P <sub>rated</sub> )	kW	5	5	6	8
Seasonal space heating energy efficiency(η <sub>s</sub> )	%	125	175	128	177
Annual energy consumption	kWh	3,035	2,322	3,411	2,594
Sound power level*3	Hydraulic indoor unit	40	-	40	-
	Outdoor unit	57	-	60	-
<b>Domestic hot water characteristics**</b>					
Load profile		L	L	L	L
Energy efficiency class		A+	A+	A+	A+
Energy efficiency(η <sub>wh</sub> )	%	130	130	130	130
Annual electricity consumption	kWh	793	793	793	793
<b>Hydraulic indoor unit Specification</b>					
Power source		Single phase 230 V 50 Hz			
Dimensions H×W×D	mm	1,863 × 648 × 700	1,863 × 648 × 700	1,863 × 648 × 700	1,863 × 648 × 700
Weight (Net)	kg	145	145	145	145
Water circulation	Min./Max. L/min	7.6/22.0	8.5/22.0	10.0/22.0	13.2/30.0
DHW capacity	L	190	190	190	190
Hot water heater capacity	kW	1.5	1.5	1.5	1.5
Buffer tank capacity	L	16	16	16	16
Expansion vessel capacity	L	8	8	8	8
Leaving water temperature range	Max. °C	55	55	55	55
Water pipe connection diameter	Flow/Return mm	Ø 25.4/Ø 25.4	Ø 25.4/Ø 25.4	Ø 25.4/Ø 25.4	Ø 25.4/Ø 25.4
Hot water pipe connection diameter	mm	Ø 19.05	Ø 19.05	Ø 19.05	Ø 19.05
Backup heater	Capacity kW	3.0	3.0	3.0	3.0
<b>Outdoor unit specification</b>					
Power source		Single phase 230 V 50 Hz			
Current	Max. A	13.0	13.0	18.0	19.0
Dimensions H × W × D	mm	632 × 799 × 290	632 × 799 × 290	716 × 820 × 315	998 × 940 × 320
Weight (Net)	kg	39	39	42	62
Refrigerant	Type (Global Warming Potential)	R32(675)	R32(675)	R32(675)	R32(675)
	Charge	0.97	0.97	1.02	1.63
Additional refrigerant charge amount		g/m	25	25	20
	Liquid	mm	6.35	6.35	9.52
Connection pipe	Diameter	mm	12.70	12.70	15.88
	Length	m	3/30	3/30	3/30
	Length(Pre-charge)	m	15	15	20
	Height difference	Max. m	20	20	20
Operating range	Heating	°C	-20 to 35	-20 to 35	-20 to 35

\*1:The values of heating capacity/input power/COP are based on measurement of EN14511 standard. Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined values and these values.

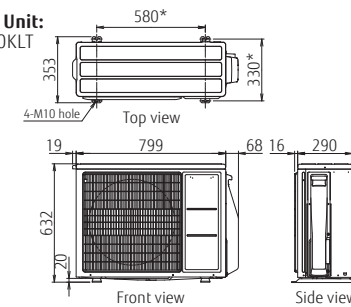
\*2:All information of ErP can be available for downloaded from [www.fujitsu-general.com/global/support/downloads/search/](http://www.fujitsu-general.com/global/support/downloads/search/)

\*3:The values of sound power level are based on mesurement of EN12102 standard under conditions of EN14825 standard.

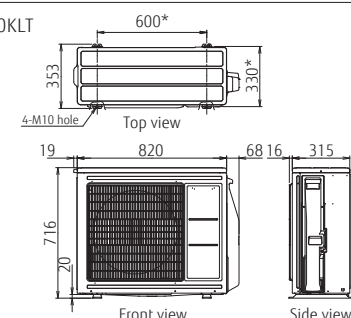
## Dimensions

(Unit:mm)

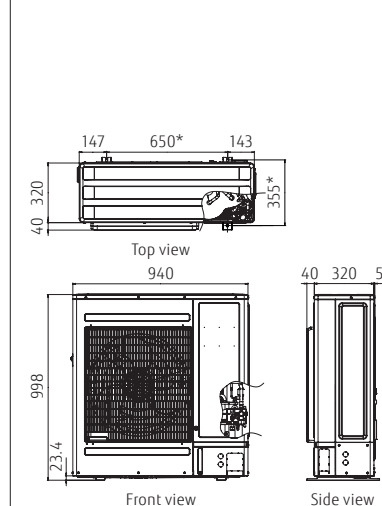
Outdoor Unit:  
WOYA060KLT



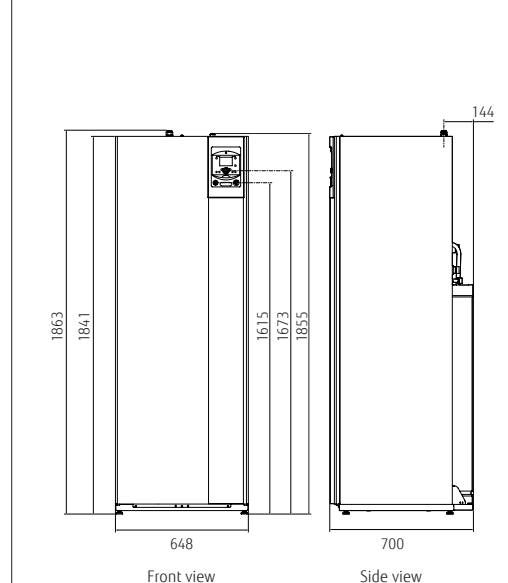
WOYA080KLT



WOYA100KLT



Hydraulic Indoor Unit:  
WGYA050ML3/WGYA080ML3/WGYA100ML3



\*Pitch of bolts for installation



Split DHW  
Integrated Type

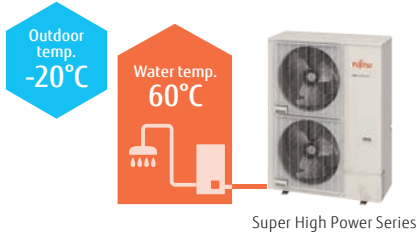
Super High Power Series



High Leaving Water Temperature

High leaving water temperature of 60°C is kept even when outdoor temperature is down to -20°C without using backup heaters. And it's possible to supply 55°C at -22°C outdoor temperature without backup heater.

\* If you want to raise the hot water supply temperature, backup heater can be used for the auxiliary operation.



High COP

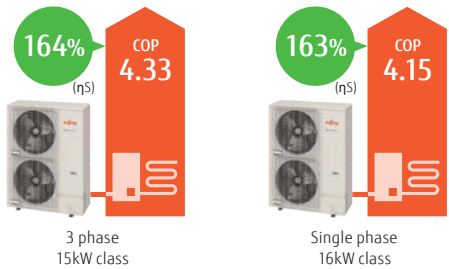
Waterstage Air to water heat pumps work much more efficiently and save energy compared to traditional heating systems.

Energy efficiency  
class



Seasonal space heating energy efficiency (η<sub>s</sub>)

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



Extended Operating Range down to -25°C

Improved operating range down to -25°C outdoor temperature



Hydraulic indoor unit:

WGYG160DJ6 / [3 phase] WGYK170DJ9

Outdoor unit:

WOYG160LJL

[3 phase] WOYK150LJL / WOYK170LJL



Hydraulic indoor unit  
Single phase/  
3 phase



Outdoor unit  
Single phase 16kW  
3 phase 15/17kW

Specifications

Model Name		Hydulic indoor unit		WGYG160DJ6		WGYK170DJ9		WGYK170DJ9		
Capacity range		Outdoor unit		WOYG160LJL		WOYK150LJL		WOYK170LJL		
				16		15		17		
7°C/35°C floor heating * <sup>1</sup>	Heating capacity	kW	16.00		15.00		17.00			
	Input power		3.86		3.46		4.10			
	COP		4.15		4.33		4.15			
2°C/35°C floor heating * <sup>1</sup>	Heating capacity	kW	13.30		13.20		13.50			
	Input power		4.25		4.06		4.27			
	COP		3.13		3.25		3.16			
-7°C/35°C floor heating* <sup>1</sup>	Heating capacity	kW	14.50		13.20		15.00			
	Input power		5.27		4.55		5.32			
	COP		2.75		2.90		2.82			
Space heating characteristics* <sup>2</sup>										
Temperature application		°C	55	35	55	35	55	35		
Energy efficiency class			A++	A++	A++	A++	A++	A++		
Rated heat output(P <sub>rated</sub> )		kW	14	16	16	17	17	18		
Seasonal space heating energy efficiency(η <sub>s</sub> )		%	125	163	130	164	130	161		
Annual energy consumption		kWh	8,757	8,014	9,915	8,606	10,232	9,059		
Sound power level	Hydraulic indoor unit	dB(A)	45	45	45	45	45	45		
	Outdoor unit		67	66	67	66	67	68		
Domestic hot water characteristics* <sup>2</sup>										
Load profile			L							
Energy efficiency class			A							
Energy efficiency(η <sub>wh</sub> )		%	109							
Annual electricity consumption		kWh	941							
Hydraulic indoor unit Specification										
Power source			Single phase, 230 V 50 Hz			3 phase, 400 V 50 Hz				
Dimensions H×W×D		mm	1,841 × 648 × 698							
Weight (Net)		kg	166							
Water circulation		Min./Max.	L/min	26.4/57.8			24.0/54.2		27.3/61.4	
DHW capacity			L	190						
Hot water heater capacity		kW	1.5							
Buffer tank capacity			L	22						
Expansion vessel capacity			L	12						
Leaving water temperature range		Max.	°C	60						
Water pipe connection diameter		Flow/Return	mm	Ø 25.4/Ø 25.4						
Hot water pipe connection diameter			mm	Ø 19.05						
Backup heater		Capacity	kW	6.0(3.0kW×2pcs.)			9.0(3.0kW×3pcs.)			
Outdoor unit specification										
Power source			Single phase, 230 V 50 Hz			3 phase, 400 V 50 Hz				
Current		Max.	A	28.0			14.0			
Dimensions H × W × D			mm	1,428 × 1,080 × 480			1,428 × 1,080 × 480			
Weight (Net)			kg	137			138			
Refrigerant		Type (Global Warming Potential)		R410A (2,088)			R410A (2,088)			
Additional refrigerant charge amount		Charge	kg	3.80			3.80			
			g/m	50			50			
Connection pipe	Diameter	Liquid	mm	Ø 9.52			Ø 9.52			
		Gas	mm	Ø 15.88			Ø 15.88			
	Length	Min./Max.	m	5/30			5/30			
	Length(Pre-charge)		m	15			15			
	Height difference	Max.	m	25/15 (Outdoor unit:Upper/Lower)			25/15 (Outdoor unit:Upper/Lower)			
Operating range		Heating	°C	-25 to 35			-25 to 35			

\*1: The values of heating capacity/input power/COP are based on measurement of EN14511 standard. Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined values and these values.

\*2: All information of ErP can be available for downloaded from [www.fujitsu-general.com/global/support/downloads/search/](http://www.fujitsu-general.com/global/support/downloads/search/)

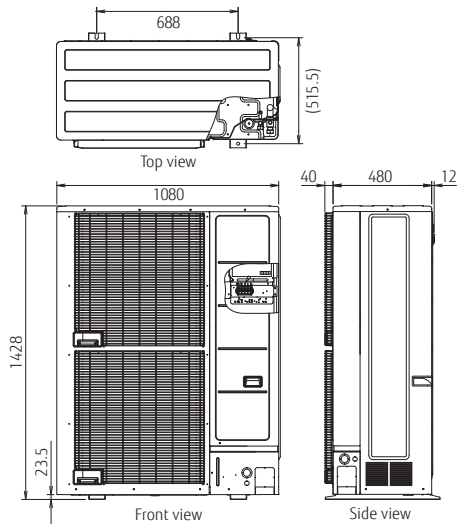
Dimensions

(Unit:mm)

Outdoor Unit:

Single phase: WOYG160LJL

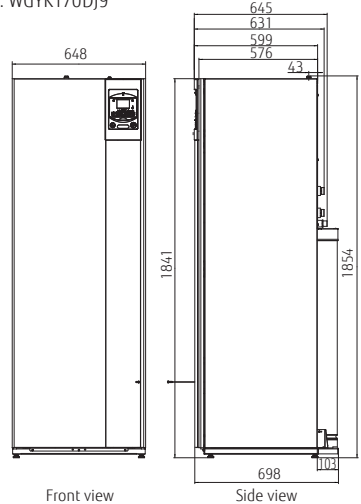
3 phase: WOYK150LJL / WOYK170LJL



Hydraulic Indoor Unit:

Single phase: WGYG160DJ6

3 phase: WGYK170DJ9



Split DHW  
Integrated Type

High Power Series



High Leaving Water Temperature

High leaving water temperature of 60°C is kept even when outdoor temperature is down to -20°C without using backup heaters.

\* If you want to raise the hot water supply temperature, backup heater can be used for the auxiliary operation.



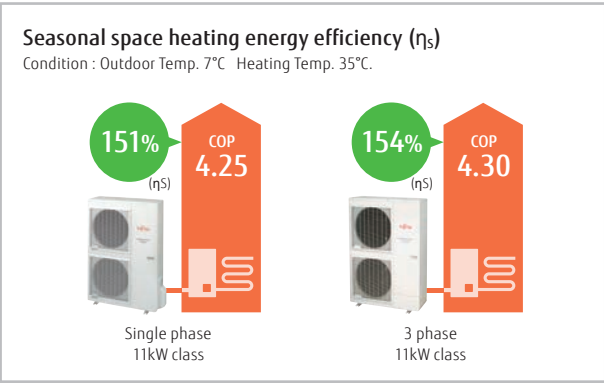
High COP

Waterstage Air to water heat pumps work much more efficiently and save energy compared to traditional heating systems.

Energy efficiency  
class

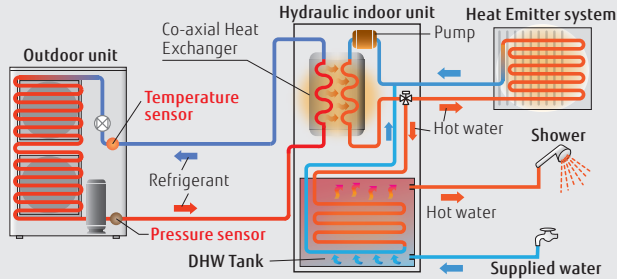


\*Temperature application : Heating Temp. 35°C.



Optimization of refrigerant cycle operation

High Power model achieves a high performance and efficiency by adopting twin sensors and control technology corresponding to hot water heating.



Hydraulic indoor unit:  
WGYG140DG6 / [3 phase] WGYK160DG9  
Outdoor unit:  
WOYG112LHT / WOYG140LCTA  
[3 phase] WOYK112LCTA / WOYK140LCTA /  
WOYK160LCTA



Hydraulic indoor unit  
Single phase/  
3 phase



Outdoor unit  
Single phase  
11/14 kW



Outdoor unit  
3 phase  
11/14/16 kW

Specifications

Model Name		Hydrylic indoor unit		WGYG140DG6		WGYG140DG6		WGYK160DG9		WGYK160DG9		WGYK160DG9		
		Outdoor unit		WOYG112LHT		WOYG140LCTA		WOYK112LCTA		WOYK140LCTA		WOYK160LCTA		
Capacity range				11		14		11		14		16		
7°C/35°C floor heating * <sup>1</sup>	Heating capacity	kW	10.80		13.50		10.80		13.50		15.17			
	Input power		2.54		3.23		2.51		3.20		3.70			
	COP		4.25		4.18		4.30		4.22		4.10			
2°C/35°C floor heating * <sup>1</sup>	Heating capacity	kW	10.77		12.00		10.77		13.00		13.50			
	Input power		3.44		3.87		3.40		4.15		4.34			
	COP		3.13		3.10		3.17		3.13		3.11			
-7°C/35°C floor heating* <sup>1</sup>	Heating capacity	kW	10.38		11.54		10.38		12.20		13.50			
	Input power		4.32		5.08		4.28		5.13		5.40			
	COP		2.40		2.27		2.43		2.38		2.50			
Space heating characteristics* <sup>2</sup>														
Temperature application			°C	55	35	55	35	55	35	55	35	55	35	
Energy efficiency class				A+	A++	A+	A+	A+	A++	A+	A++	A+	A+	
Rated heat output(P <sub>rated</sub> )			kW	9	11	11	13	9	11	11	13	13	14	
Seasonal space heating energy efficiency(η <sub>s</sub> )			%	112	151	113	148	112	154	117	150	117	149	
Annual energy consumption			kWh	6,704	6,062	8,041	6,824	6,669	5,930	7,803	6,738	9,062	7,408	
Sound power level	Hydraulic indoor unit	dB(A)	46		46		46		46		46		46	
	Outdoor unit		68		69		69		68		70		68	
Domestic hot water characteristics* <sup>2</sup>														
Load profile			L											
Energy efficiency class			A											
Energy efficiency(η <sub>wh</sub> )			%	88										
Annual electricity consumption			kWh	1166										
Hydraulic indoor unit Specification														
Power source			Single phase 230 V 50 Hz					3 phase, 400 V 50 Hz						
Dimensions H×W×D			mm	1,840 × 648 × 698										
Weight (Net)			kg	152										
Water circulation			Min./Max.	L/min	19.5/39.0		24.4/28.7		19.5/39.0		24.4/48.7		27.4/54.8	
DHW capacity			L	190										
Hot water heater capacity			kW	1.5										
Buffer tank capacity			L	16										
Expansion vessel capacity			L	12										
Leaving water temperature range			Max.	°C	60									
Water pipe connection diameter			Flow/Return	mm	Ø 25.4/Ø 25.4									
Hot water pipe connection diameter			mm	Ø 19.05										
Backup heater			Capacity	kW	6.0(3.0kW×2pcs.)					9.0(3.0kW×3pcs.)				
Outdoor unit specification														
Power source			Single phase 230 V 50 Hz					3 phase, 400 V 50 Hz						
Current			Max.	A	22.0		25.0		9.0		9.5		10.5	
Dimensions H × W × D			mm	1,290 × 900 × 330										
Weight (Net)			kg	92					99					
Refrigerant			Type (Global Warming Potential)	R410A (2,088)										
Additional refrigerant charge amount			Charge	kg	2.50									
Connection pipe	Diameter	Liquid	mm	Ø 9.52										
		Gas	mm	Ø 15.88										
	Length	Min./Max.	m	5/20										
	Length(Pre-charge)		m	15										
	Height difference	Max.	m	15										
Operating range			Heating	°C	-25 to 35									

\*1:The values of heating capacity/input power/COP are based on measurement of EN14511 standard. Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined values and these values.

\*2:All information of ErP can be available for downloaded from [www.fujitsu-general.com/global/support/downloads/search/](http://www.fujitsu-general.com/global/support/downloads/search/)

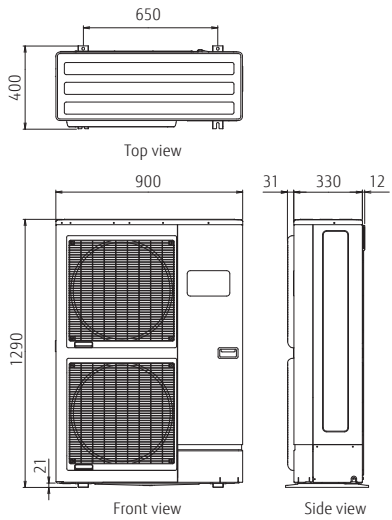
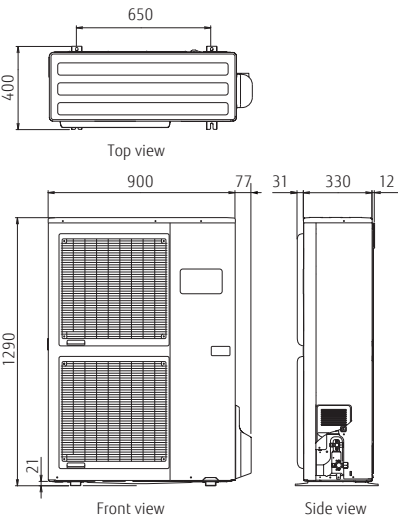
Dimensions

(Unit:mm)

Outdoor Unit:

Single phase: WOYG112LHT/WOYG140LCTA

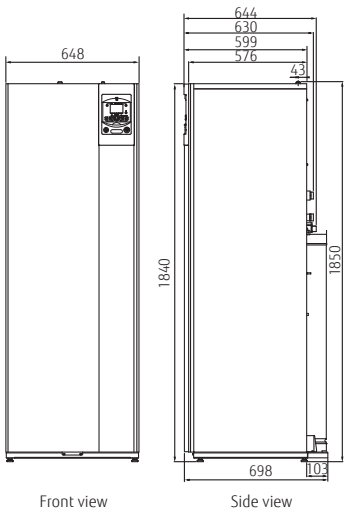
3 phase: WOYK112LCTA/WOYK140LCTA/WOYK160LCTA



Hydraulic Indoor Unit:

Single phase: WGYG140DG6

3 phase: WGYK160DG9



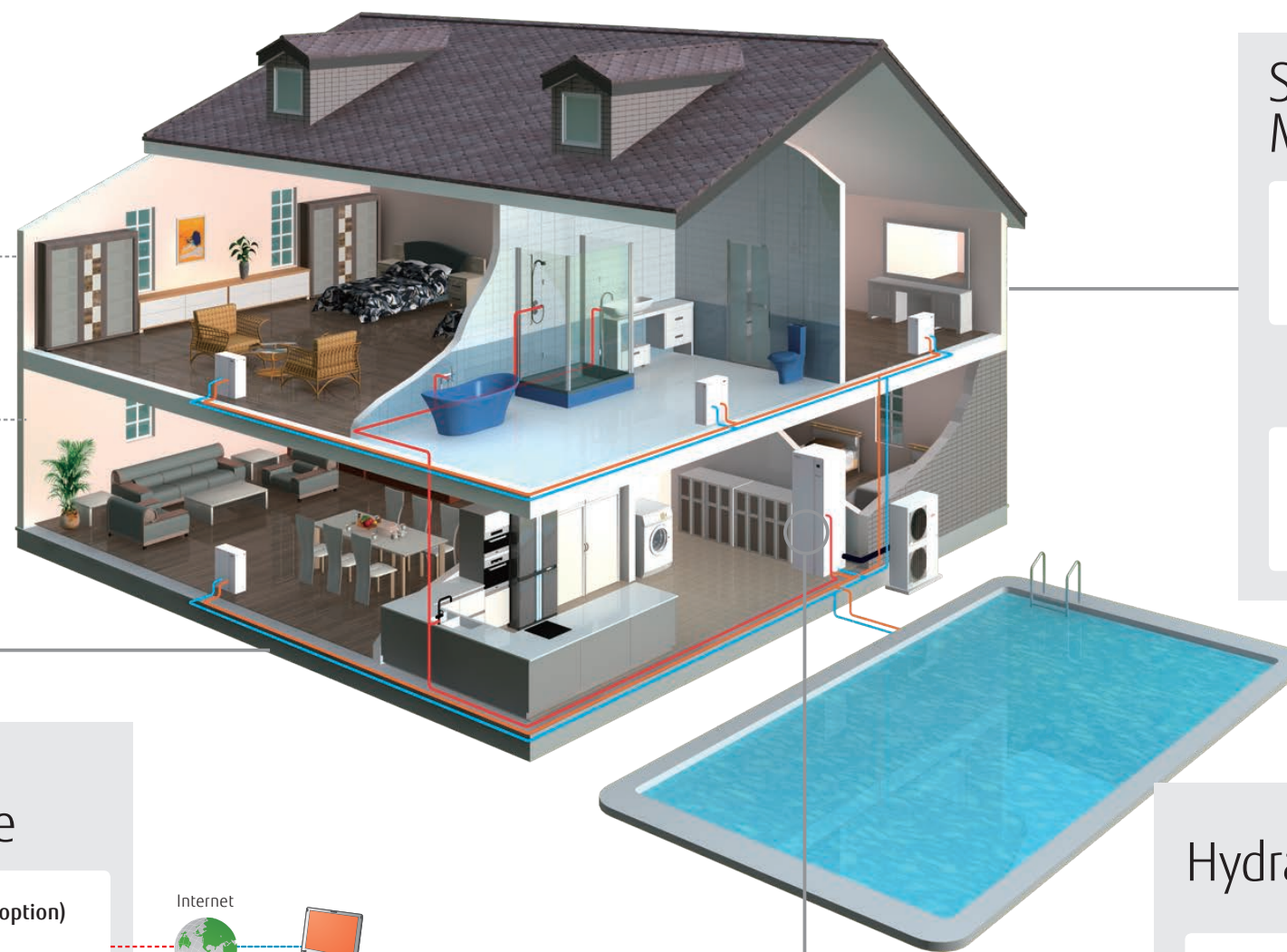
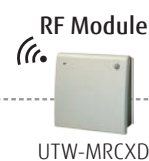
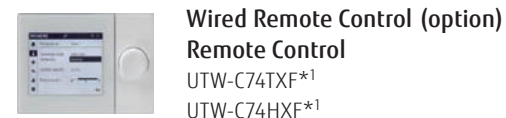


# Control Overview

User's needs are supported by offering a variety of controls, such as individual control and remote control options.



## Individual Control



## Service & Maintenance Tool



OR

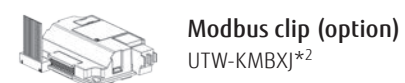


Service Tool  
(option)

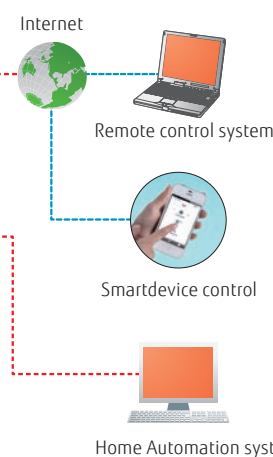


\*3: UTW-KW1XD or UTW-KW4XD is required for the connection.  
\*4: UTW-KL1XD is required for the connection.

## Adaptor for external device



\*2: Additional optional parts necessary.



## Hydraulic Indoor Unit Controller

### Simple operation mode setting

- Selecting the heating mode and Domestic hot water operation

### Large LCD display

- Operation status display
- Error display
- plain text

### Navigation and setting

- Selecting the heating menu
- Setting program timer



HMI Kit (option)  
UTW-KHMXE  
Corresponding to multi languages



# Comfort Control

The high grade heating controller adjusts the flow temperature automatically depending on the weather conditions, so that the room ambient temperature and the domestic hot water temperature are maintained at the desired levels.

## Hydraulic Indoor Unit Controller

### 4 Heating mode

#### 1. Automatic mode

Comfort/Reduce mode switching automatically according to time program

#### 2. Reduce mode

Constant reduce temperature

#### 3. Comfort mode

Constant comfort temperature

#### 4. Protection mode

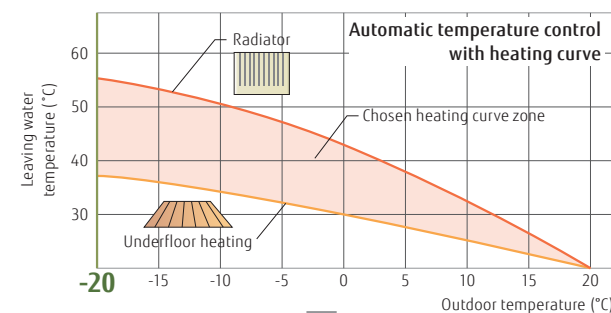
Stand-by mode with anti-frost protection



## Useful Function

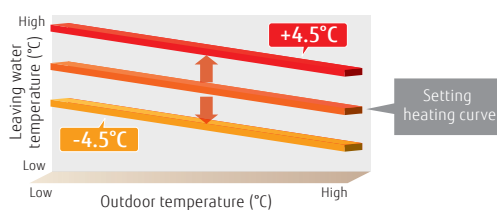
### Automatic heating curve control

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



Heating curve off-set: Adjust setting room temp.

This can be fine adjusted when too warm or too cold.



### Quick recovery from defrost operation

Maintains the room temperature during defrost operation by boost start operation.

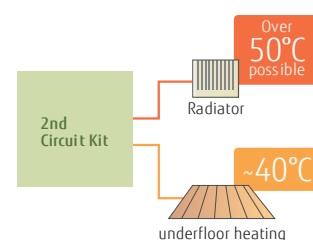
### Auto-changeover

If the cooling operation function is set, the system can automatically switch to cooling or heating, depending on the outdoor temperature to provide all-season comfortable air conditioning.

### 2 Zone individual control

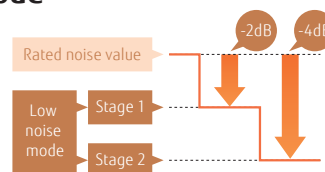
2 Zone individual control (2 underfloor heating zones or underfloor heating + radiator zone, etc.)<sup>\*1</sup>

<sup>\*1</sup>: Optional parts are required.



### 2 Stage low noise mode

Outdoor unit can be switched to silent mode, depending on the installation environment.  
<sup>\*Valid only for High Power</sup>



### Backup heater operation

Backup heater can operate at low outdoor temperature so that comfortable status can be maintained. The backup heater is controlled intelligently just as a security backup for very cold days/nights and only activated when really necessary.

## Energy Saving

### Programmable timer

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

#### 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.

### Peak Cut Function<sup>\*2</sup>

This function performs operation by setting a peak current value and reducing the power consumption.

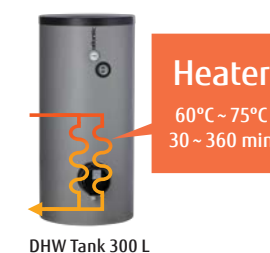
<sup>\*2</sup>: Optional parts are required.

Mode	The ratio of suppressing the power consumption
1	100%
2	75%
3	50%
4	Almost 0%

## Safety Function

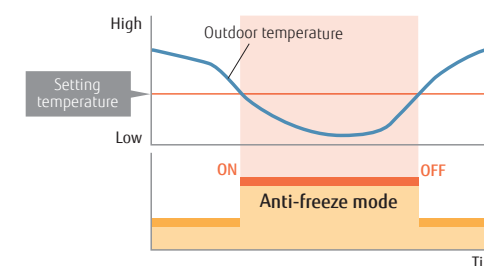
### Anti-legionella function

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



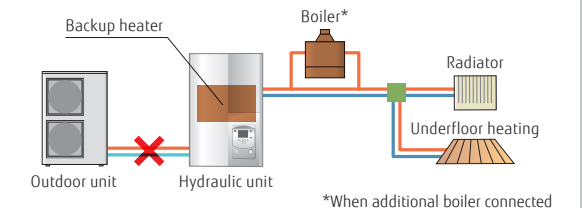
### Anti-freeze function

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



### Emergency operation

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



<sup>\*When additional boiler connected</sup>

### Error/Maintenance alarm

Quick error handling service and maintenance are possible by this function.



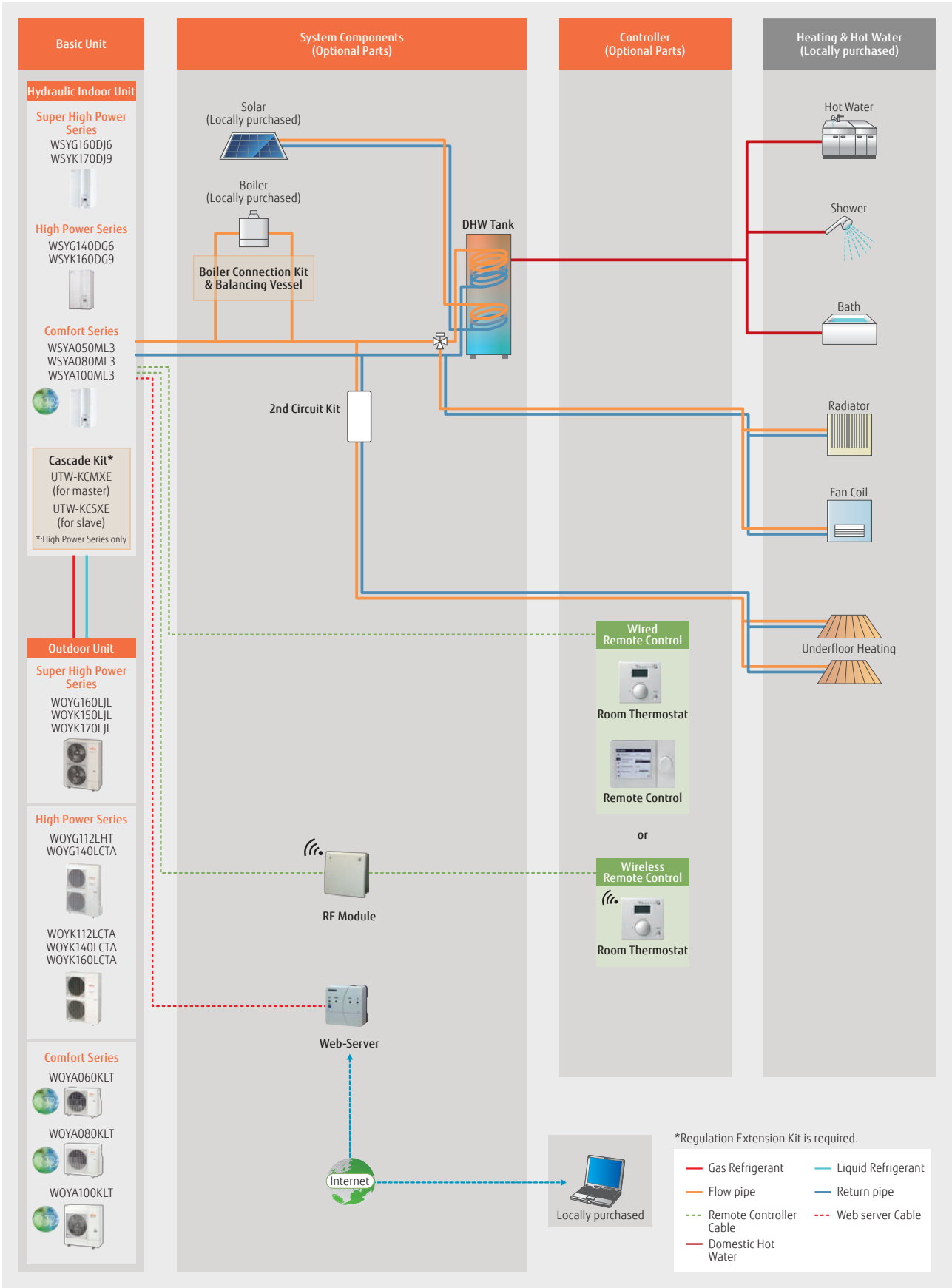
- Error history saves 10 errors in memory
- Display telephone No. of service company



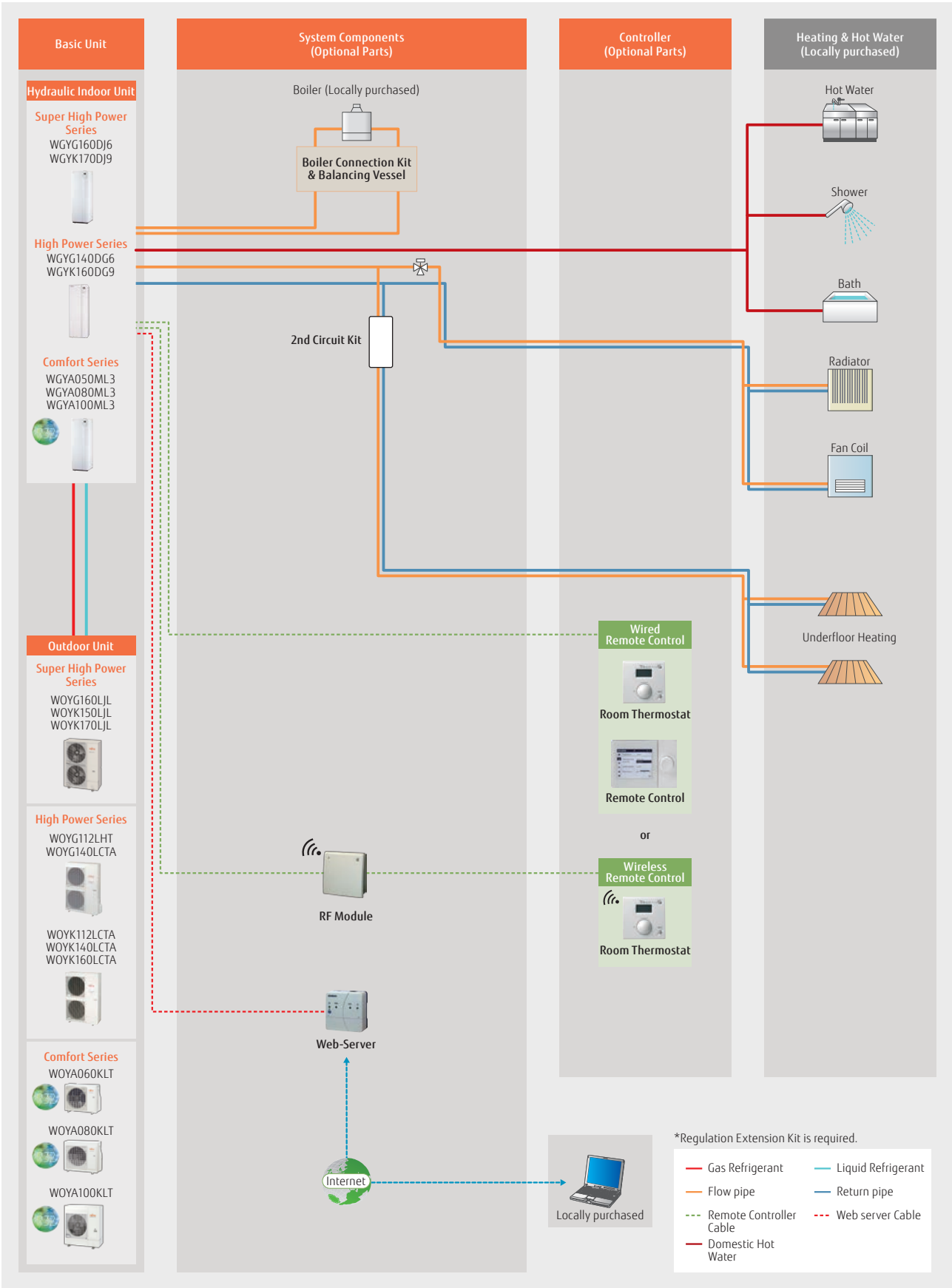


# System Configuration

## Split Type



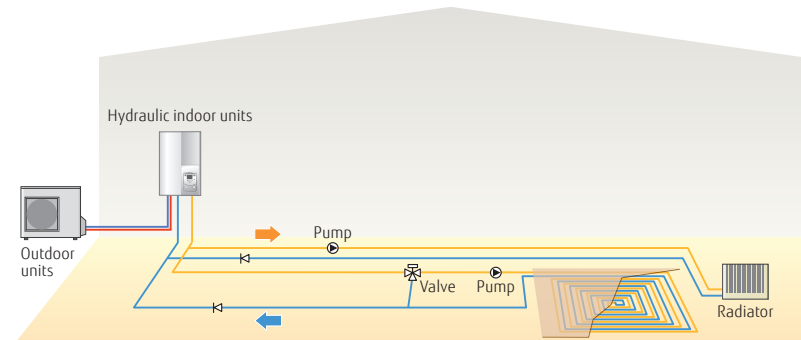
## Split DHW Integrated Type



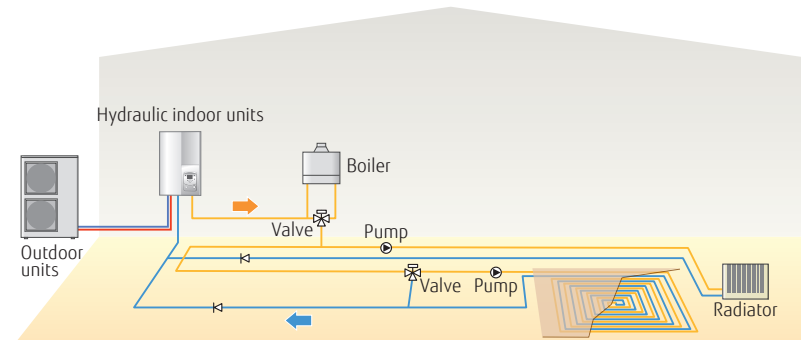
# Case Studies

## Split Type

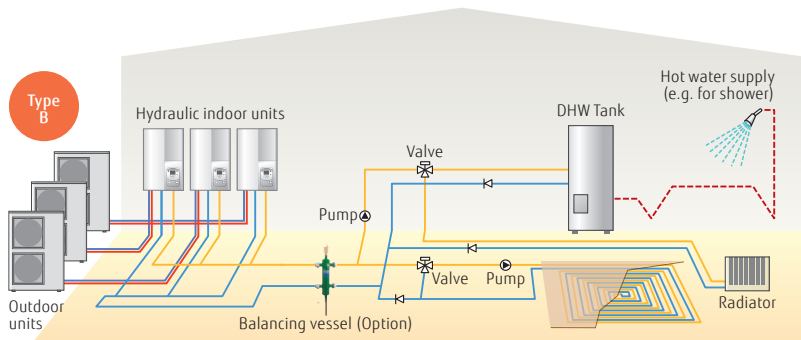
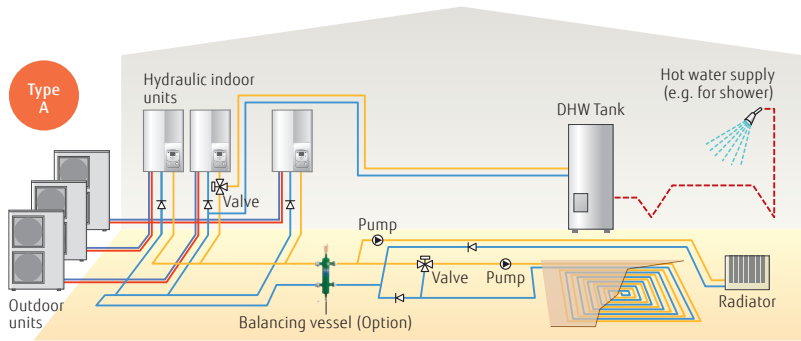
2 emitter simultaneous heating  
(Individual control)  
Underfloor heating + Radiator



Boiler connected to heating  
(Boiler + Heating)

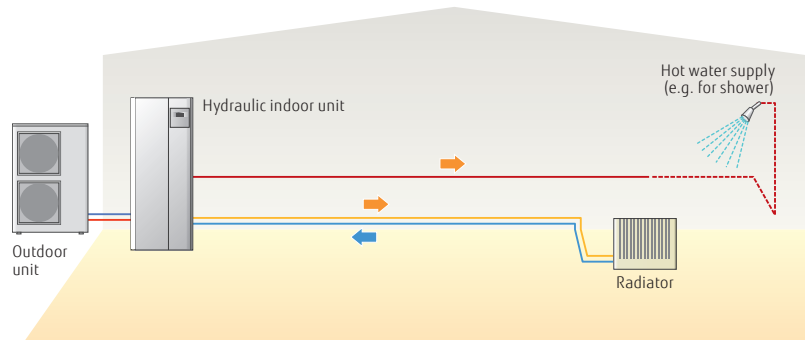


2 emitter simultaneous heating &  
Domestic Hot Water (Cascade)

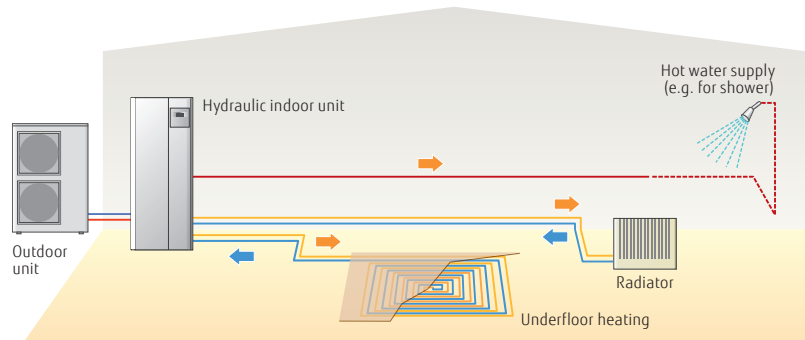


## Split DHW Integrated Type

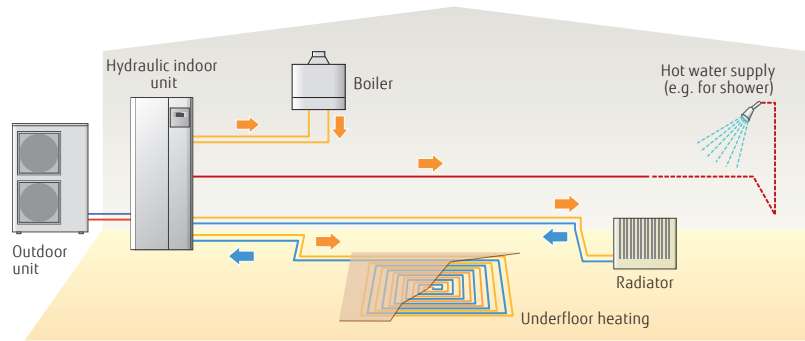
Single heating & Domestic Hot Water  
Radiator + Domestic Hot Water



2 emitter simultaneous heating  
(Individual control) & Domestic Hot Water  
Radiator + Domestic Hot Water



Boiler connected to heating (Boiler + Heating)  
& Domestic Hot Water

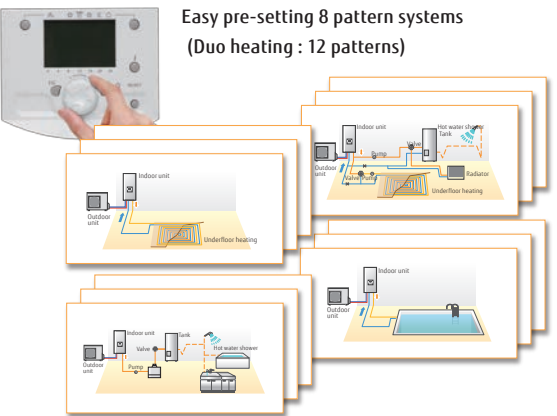




# Simplified installation

## Pre-setting configurations

When installed, the controller makes it simple to set system settings without having to individually set the system's components and units.

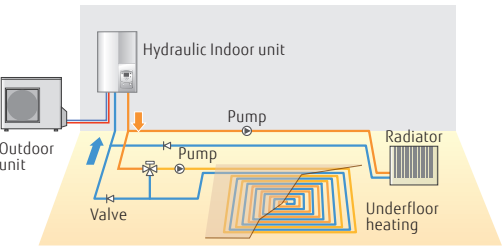


Configuration (Parameter 5700)	Type of installation
Pre setting 1	1 heating circuit
Pre setting 2	2 heating circuit
Pre setting 3	1 heating circuit & boiler backup
Pre setting 4	2 heating circuit & boiler backup
Pre setting 5	1/2 heating circuit & buffer control
Pre setting 6	1/2 heating circuit & buffer control & boiler backup
Pre setting 7	cascade connection Master
Pre setting 8	cascade connection A
Pre setting 9	cascade connection B/C

- DHW & solar control auto detection
- pool heating & cooling optional

## Outdoor temperature simulation

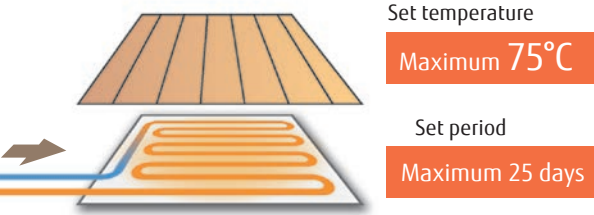
It can be checked whether each unit operates correctly under the set conditions and expected outdoor temperatures when the system is actually assembled.



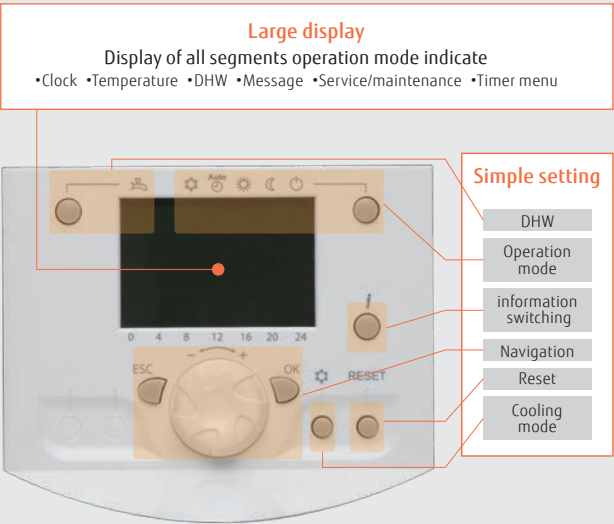
Outdoor temperatures in the range from -50°C to +50°C can be simulated.

## Concrete Floor drying

When underfloor heating is installed, it can be used to dry the concrete surrounding the hot water piping more quickly to shorten the construction period.



## Controller features a large LCD display and buttons to make setting functions easy



### Main operation flow and setting contents for installers and end users

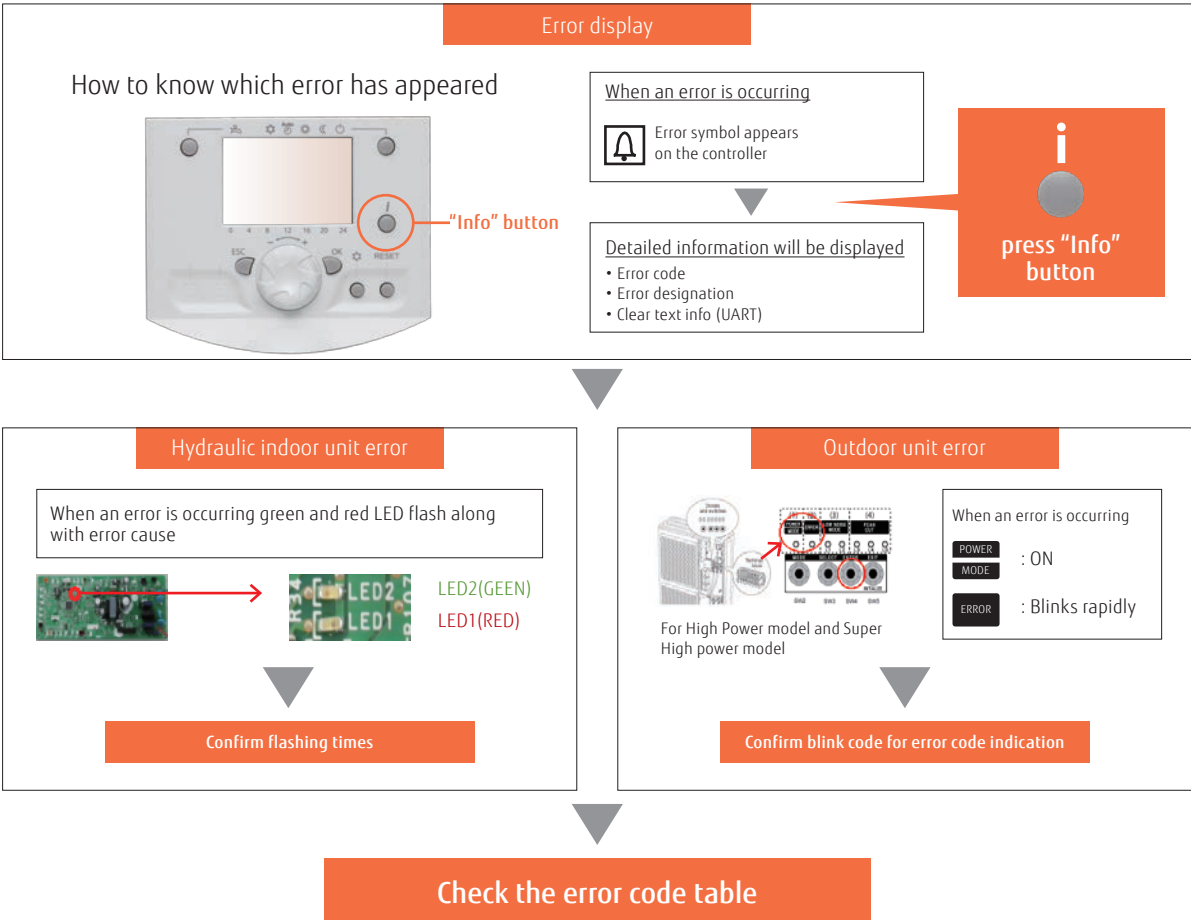
	Flow Chart	Example Item
Installers	1 Install Setting	Pump speed setting, Configuration, Heating curve setting, Heat pump shut off
	2 Option Setting	Cooling kit, DHW kit, Boiler kit, Swimming pool kit
	3 Convenient Function	Automatic Heating curve setting, Underfloor controlled driving, Outdoor temperature adjustment, Maintenance period setting
	4 workout Setting	Outdoor temperature simulator
	5 Confirmation	Operation conform (Heating cooling, DHW, option,)
End users	6 User Setting	Date and time, time program, Operation temperature setting

# Easy Installation & Maintenance

- All hydraulic safety & controlling components built in, no additional selection required
- Lifting bars for an installation without any difficulty or risk
- Easy access for maintenance operations
- Refrigerant pump down operation

## Maintenance Support

### Diagnostics function for trouble shooting

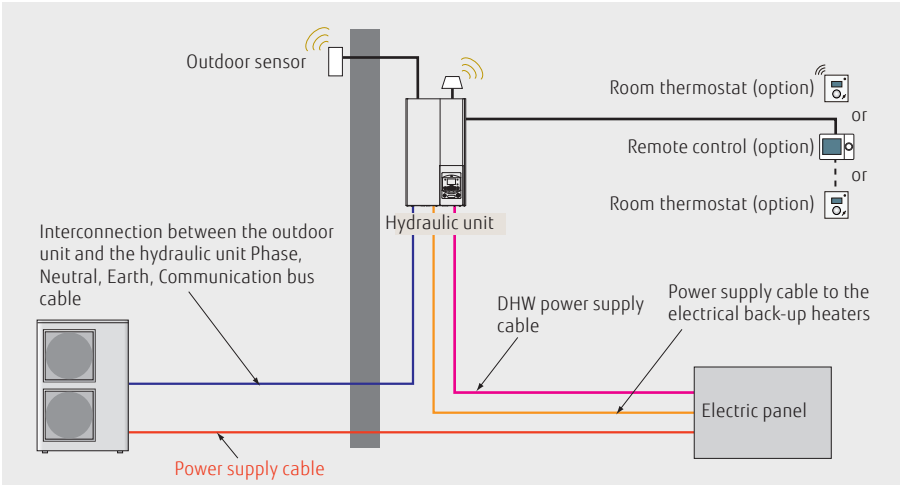
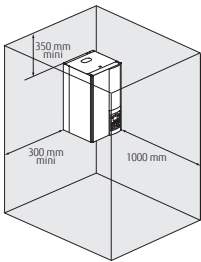


# Installation Limitations

## Equipment Installation & Electrical Wiring

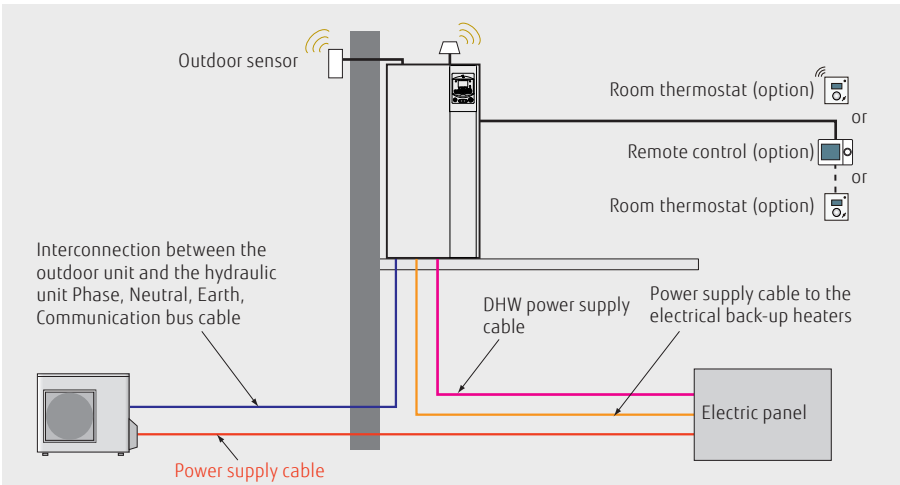
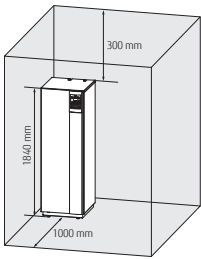
### Split type Hydraulic indoor unit

- Hydraulic indoor unit is to be hanged on the wall
- Weight ≤ 88 kg (including water)
- Space for maintenance should be respected



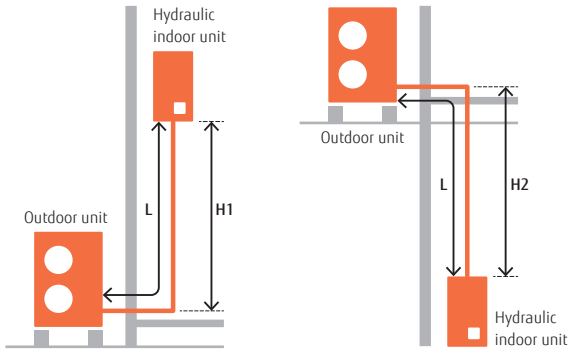
### Split DHW integrated type Hydraulic indoor unit

- Floor standing
- Weight ≤ 393 kg (including water)
- Space for maintenance should be respected.



## Piping and Wiring split type

Series	Capacity range (kW)	Pipe diameter (Liquid/Gas) (mm)	H1 (m)	H2 (m)	L (m)
R32 Comfort	5	6.35/12.70	+20	-20	3-30
	6				
	8	9.52/15.88			
	10				
High power	11	9.52/15.88	+15	-15	5-20
	14				
	16				
Super High power	15	9.52/15.88	+15	-25	5-30
	16				
	17				


















## AIR TO WATER Optional Parts





Optional Parts

Product Name		Model Name	Split												Split DHW integrated type															
			Super High Power			High Power				R32 Comfort					Super High Power			High Power					R32 Comfort							
			10			30			10		30		10					10		30		10			30		10			
			16	15	17	11	14	11	14	16	5	6	8	10	16	15	17	11	14	11	14	16	5	6	8	10				
2nd Circuit Kit		UTW-KZSXE	—	—	—	●	●	●	●	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—				
		UTW-KZDXE	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	●					
		UTW-KZSXJ	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
		UTW-KZDXJ	—	—	—	—	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—	—	—					
Boiler Connection Kit		UTW-KBSXD	—	—	—	●	●	●	●	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—					
		UTW-KBDXD	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	●					
	DUO 	UTW-KBSXJ	●	●	●	—	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—	—	—					
Balancing Vessel		UTW-TEVXA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
DHW Kit		UTW-KDWXD (External)	●	●	●	●	●	●	●	●	●	●	●	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1					
DHW Tank	200 Liter 300 Liter 	UTW-T20AXH UTW-T30AXH	●	●	●	●	●	●	●	●	●	●	●	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1					
	200 Liter 300 Liter 	UTW-T20BXH UTW-T30BXH	●	●	●	●	●	●	●	●	●	●	●	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1	__*1					
DHW expansion kit		UTW-KDEXE	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●	●	●	●	—	—	—	—						
		UTW-KDEXL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●						
Circulating Pump		UTW-PHFXG	●	●	●	●	●	●	●	—	—	—	—	●	●	●	●	●	●	●	—	—	—	—						
Swimming Pool Kit		UTW-KSPXD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
Cooling Kit		UTW-KCLXD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	—	—	—	—						
		UTW-KCLXL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●						
Regulation Extension Kit		UTW-KREXD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
Drain Pan		UTW-KDPXB	—	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	—	●	●	●	●						
Cascade Master Kit (incl. LPB Clip)		UTW-KCMXE	—	—	—	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						

Product Name	Model Name	Split												Split DHW integrated type											
		Super High Power			High Power						R32 Comfort			Super High Power			High Power						R32 Comfort		
		10		30	10		30		10		10		30	10		30		10							
		16	15	17	11	14	11	14	16	5	6	8	10	16	15	17	11	14	11	14	16	5	6	8	10
Cascade Slave Kit (incl. LPB Clip)		UTW-KCSXE	—	—	—	●	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
HMI Kit		UTW-KHMXE*2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Remote Controller	Wired 	UTW-C74TXF*2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		UTW-C74HXF*2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Room Thermostat	Wired 	UTW-C55XA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Wireless 	UTW-C58XD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Outdoor Sensor Transmitter		UTW-MOSXD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
RF Modules for BSB-Port		UTW-MRCXD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Web Server		UTW-KW1XD UTW-KW4XD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
LPB Clip		UTW-KL1XD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MODBUS Clip		UTW-KMBXJ	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5	●*5
Service Tool (incl. OCI700 Adapter)		UTW-KSTXD	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3	●*3
Service Tool Software		UTW-KPSXD	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4	●*4
External Connect Kit		UTY-XWZXZ2	—	—	—	●	●	●	●	●	—	—	—	—	—	—	—	●	●	●	●	●	—	—	—
		UTY-XWZXZ3	●	●	●	—	—	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—	—
Electrical back-up heater relay		UTW-KBHXL	—	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	—	—	●	●	●	●

● : Available — : Not Available

\*1: DHW operation is possible without DHW Kit and DHW Tank.

\*2: 19 Languages included, no separate Eastern European RC necessary. C74TXF: Built in Room Temperature sensor C74HXF: Built in Room temperature and Humidity sensor

\*3: UTW-KL1XD is required for the connection.

\*4: UTW-KW1XD or UTW-KW4XD is required for the connection.

\*5: Additional optional parts necessary.

# New Monobloc Overview

## ECO Design

The EUROPEAN UNION Regulations designed to precisely determine the Minimum Energy Efficiency Standards for Electric related Products ErP.

### Mandatory compliance for the following standards:

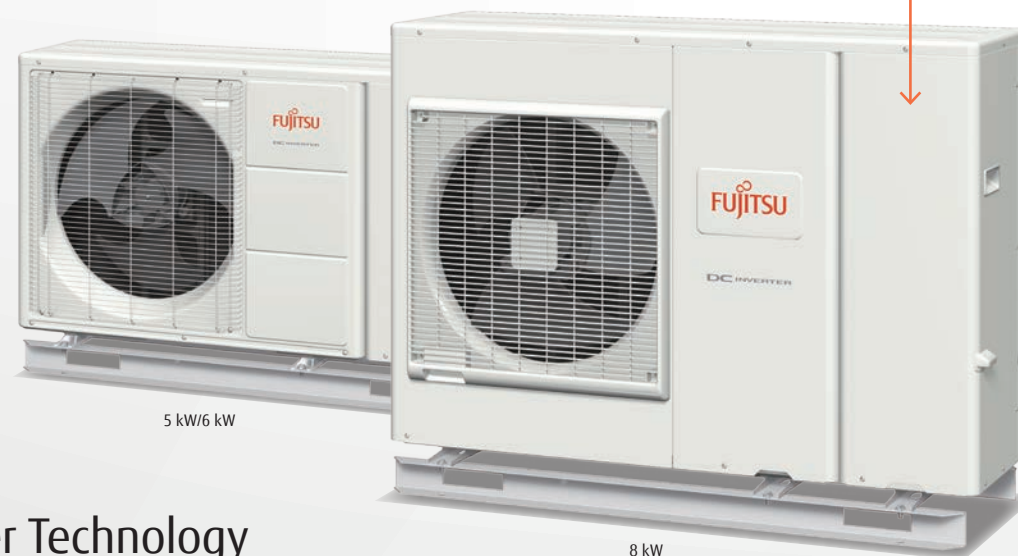
- Main components: fans, pumps, motors.
- Complete units: Heat Pumps.

### Different regulations and standards:

Heat pump units. Regulation. 813/2013.  
Units are compliant with ErP Regulation by exceeding the minimum standards of seasonal energy efficiency in heating, SCOP

## All-in-One Model

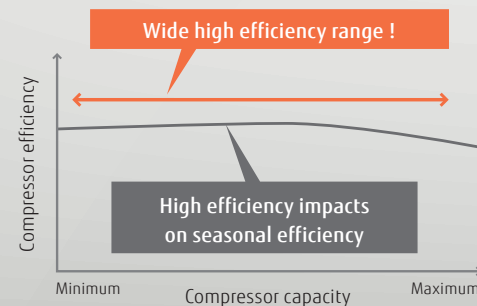
Compact designed heat pump. Refrigerant pipe work is unnecessary. Only hydraulic connecting work is to be done. Circulation pump, safety valve and air vent valve are included. Easy installation and maintenance is feasible.



## All DC Inverter Technology

### DC twin rotary compressor

The high efficiency DC inverter type "2-cylinder rotary compressor" is used for our product ranges. It has achieved higher energy efficiency compared with similar compressors by optimizing the structure inside the compressor.



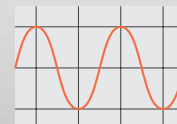
### DC fan motor

DC fan motor produces high power, wide operation range, and high efficiency.



### Sine-wave DC inverter control

High efficiency operation is realized by using a sine wave DC inverter control.



## Easy Setting & Maintenance

### On Board Controller With Led Display

Controller with included Display mounted on the door of unit's electric box. Connectable to BMS through Modbus RTU protocol over RS485 serial interface.

- 3 levels of access: user - service - manufacturer
- 4 push buttons and digit - icons visualization

### Functions

- Unit status graphical visualization: heating / cooling / DHW / stand-by / alarm / defrost / economy
- Main Input / Output visualization (°C and %)
- Active alarms (code)
- History of the last 20 alarms (code, starting date and time)
- Alarms manual reset
- Set-point change, climatic curves
- Unit mode change: heating / cooling
- Hybrid plant management
- ON-OFF unit's key

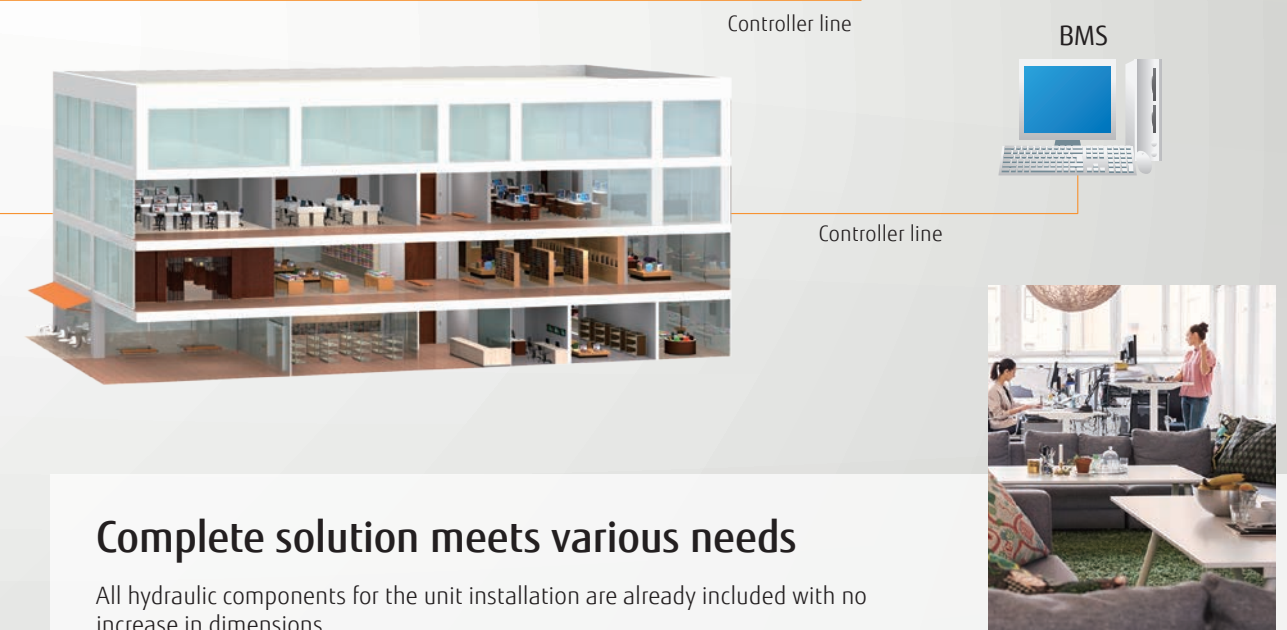


## Wired Remote Controller (Option)

Remote electronic control with LCD display and integrated room temperature sensor.

### Functions

- Unit status graphical visualization: heating / cooling / DHW / stand-by / alarm
- Clock (date and time) visualization
- Temperature and room set-point visualization
- Room temperature set-point modification
- Active alarms (code)
- Time slots scheduling

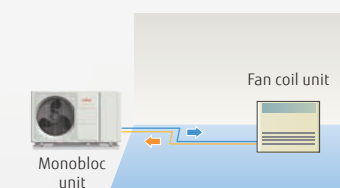


## Complete solution meets various needs

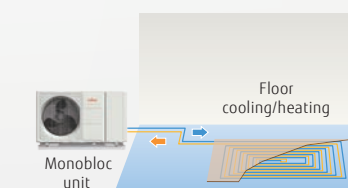
All hydraulic components for the unit installation are already included with no increase in dimensions.

### System example

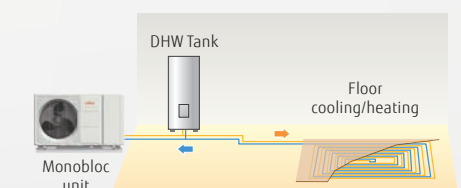
#### Fan coil unit



#### Floor Cooling/heating



#### Heating+DHW





NEW

# Monobloc Type



## High energy saving

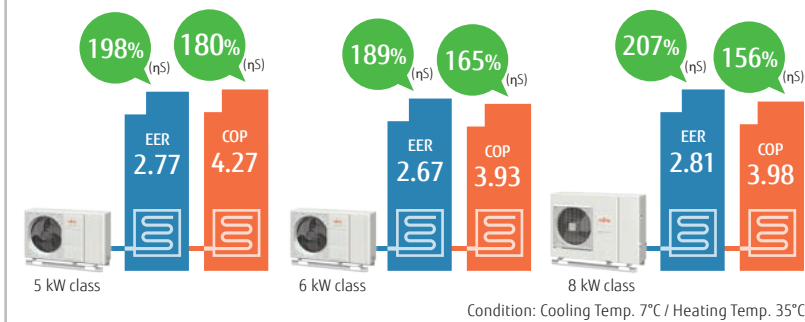
High Seasonal efficiency is realized by using a DC twin rotary compressor, inverter technology, and high efficient water heat exchanger.

Energy efficiency class



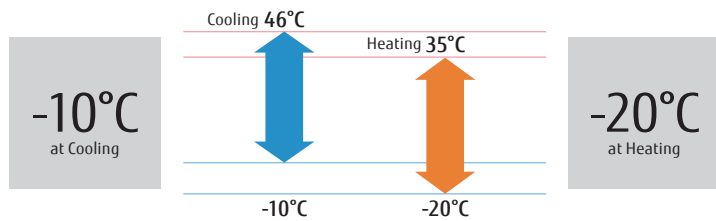
\*5 kW class, Temperature application: Heating Temp. 35°C.

Seasonal space energy efficiency ( $\eta_s$ )



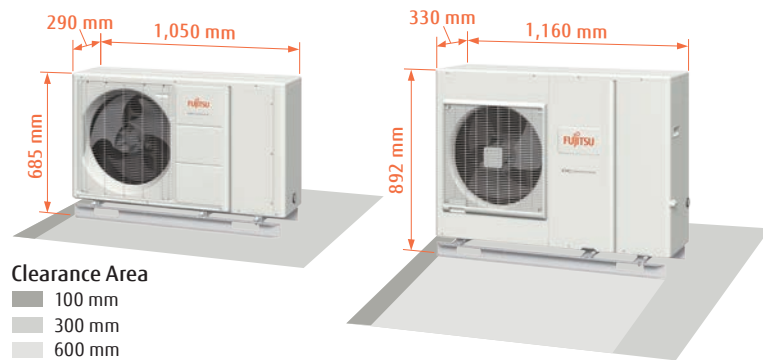
## Supports a wide range of temperatures

Cooling operation is possible down to -10°C.

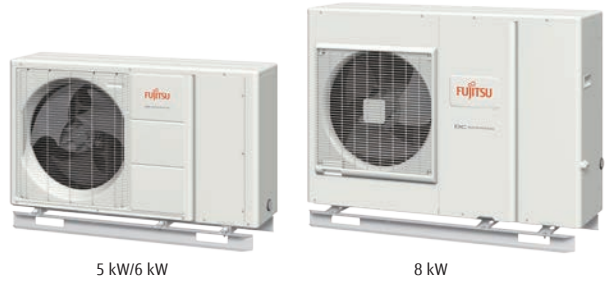


## Compact Chassis size

It can be easily carried and installed in narrow spaces.



Model : CPYA050LLW/CPYA060LLW/CPYA080LLW



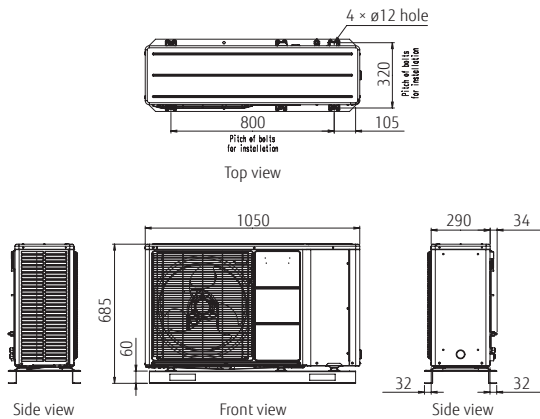
## Specifications

Model Name						CPYA050LLW	CPYA060LLW	CPYA080LLW
Capacity range						5 kW	6 kW	8 kW
Performance	Cooling	Rated	A35/W7	Capacity	kW	4.71	5.52	8.36
				EER	—	2.77	2.67	2.81
			A35/W18	Capacity	kW	5.00	6.03	8.09
		ErP		EER	—	4.00	3.82	4.41
				SEER	—	5.02	4.79	5.25
				Etas	—	198	189	207
	Heating	Rated	A7/W35	Capacity	kW	6.11	7.03	9.78
				COP	—	4.27	3.93	3.98
			A7/W55	Capacity	kW	5.20	6.05	8.38
		ErP		COP	—	2.52	2.43	2.44
			35 degree	P rated	—	4	5	6
				Energy efficiency class	—	A+++	A++	A++
					Etas	%	180	165
			55 degree	P rated	—	4	4	5
				Energy efficiency class	—	A++	A+	A+
					Etas	%	125	119
Operating range	Cooling	Outlet water temperature (min/max)			6/22			
		Ambient air temperature (min/max)			-10/46			
	Heating	Outlet water temperature (min/max)			20/55 (Ambient air temp. -10°C)			
		Ambient air temperature (min/max)			43 (Ambient air temp. -20°C)			
					-20 / 35			
Power source		—			1 phase 230 V 50 Hz			
Current		Max			A	14	19	20
Sound level	A35 / W7	Sound Power	dB(A)	68	68	69		
	A7 / W55			64	69	69		
Dimension	Height / Width / Depth			mm	685/1,050/290		892/1,160/330	
	Gross Height / Width / Depth				875/1,131/398		1,075/1,258/437	
Weight	Net / Gross			kg	70 / 80		92 / 104	
Refrigerant	Type / Charge				R410A / 1.00	R410A / 1.20	R410A / 1.70	
Fuse Capacity	—			A	20	25	25	

## Dimensions

(Unit : mm)

Outdoor Unit: CPYA050LLW/CPYA060LLW



Outdoor Unit: CPYA080LLW

