

**FUJITSU**



***WATERSTAGE***<sup>TM</sup>  
INNOVATIVE SOLUTION OF DOMESTIC HEATING

SPLIT TYPE

SPLIT DHW INTEGRATED TYPE

MONOBLOC TYPE



**FUJITSU GENERAL LIMITED**

# ***WATERSTAGE™***

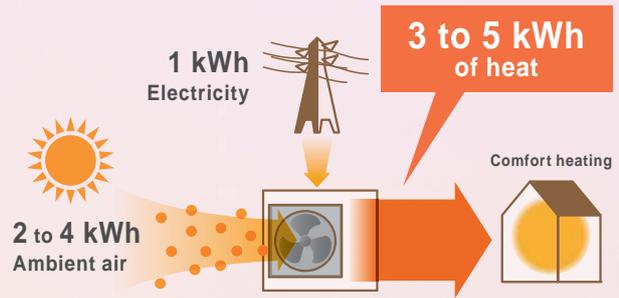
Fujitsu General ***WATERSTAGE™*** realizes considerable energy saving operations by the Heat pump heating system using the ambient air energy



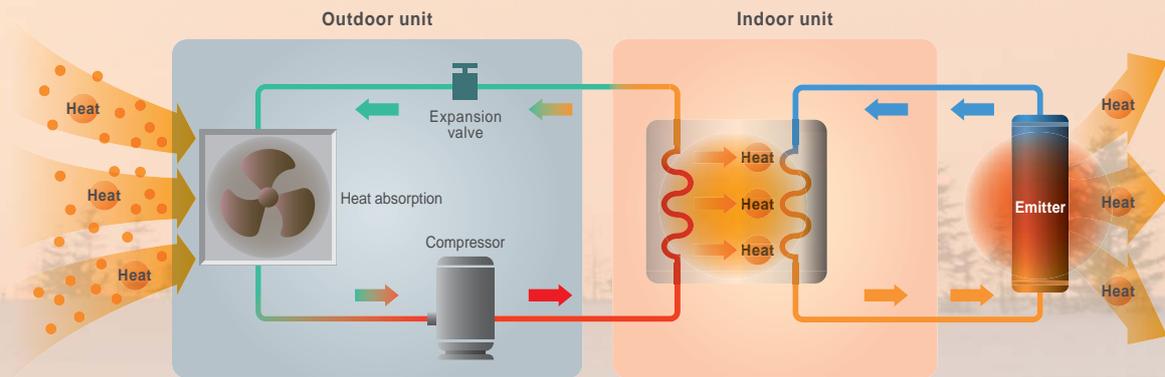
## Environmentally friendly water heating system applying heat pump technology that collects heat from the outdoor air

### WHAT'S A HEAT PUMP ?

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

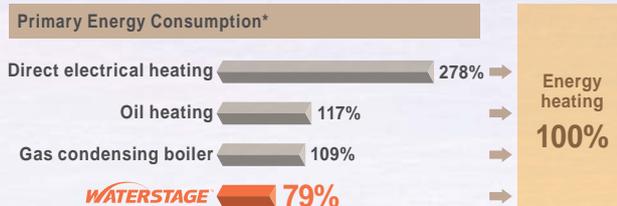


### Heat Pump system framework



**PRIMARY ENERGY USAGE  
REDUCED DRASTICALLY !**

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



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

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



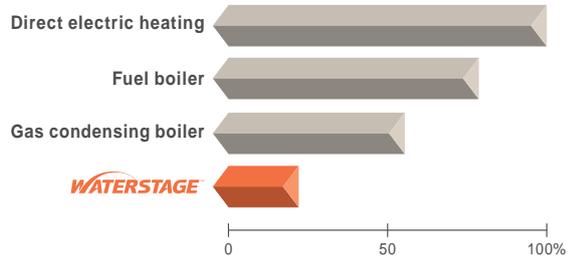
# Advantages of **WATERSTAGE™**

## 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.

Advantages

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



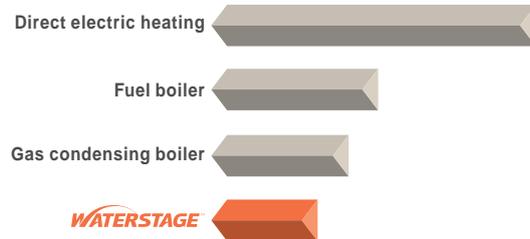
\*Calculations based on data provided by European Program-2001` for EU27 Fuel boiler efficiency: 89%, Gas boiler efficiency: 93%

## LOW RUNNING COST

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

Advantages

### Average annual running cost



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

## CLEAN AND HEALTHY

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

Advantages



Environmentally friendly heating system



## EASY INSTALLATION AND MAINTENANCE

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



Advantages

### Well structured Hydraulic unit.

Sophisticated arrangement of hydraulic units, allows easy piping and maintenance

No chimney sweep

No pollution

Low maintenance cost

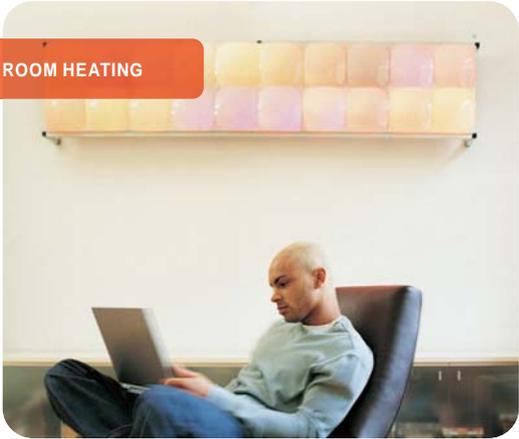
# Complete Solution meets various needs

## Wide Comfort

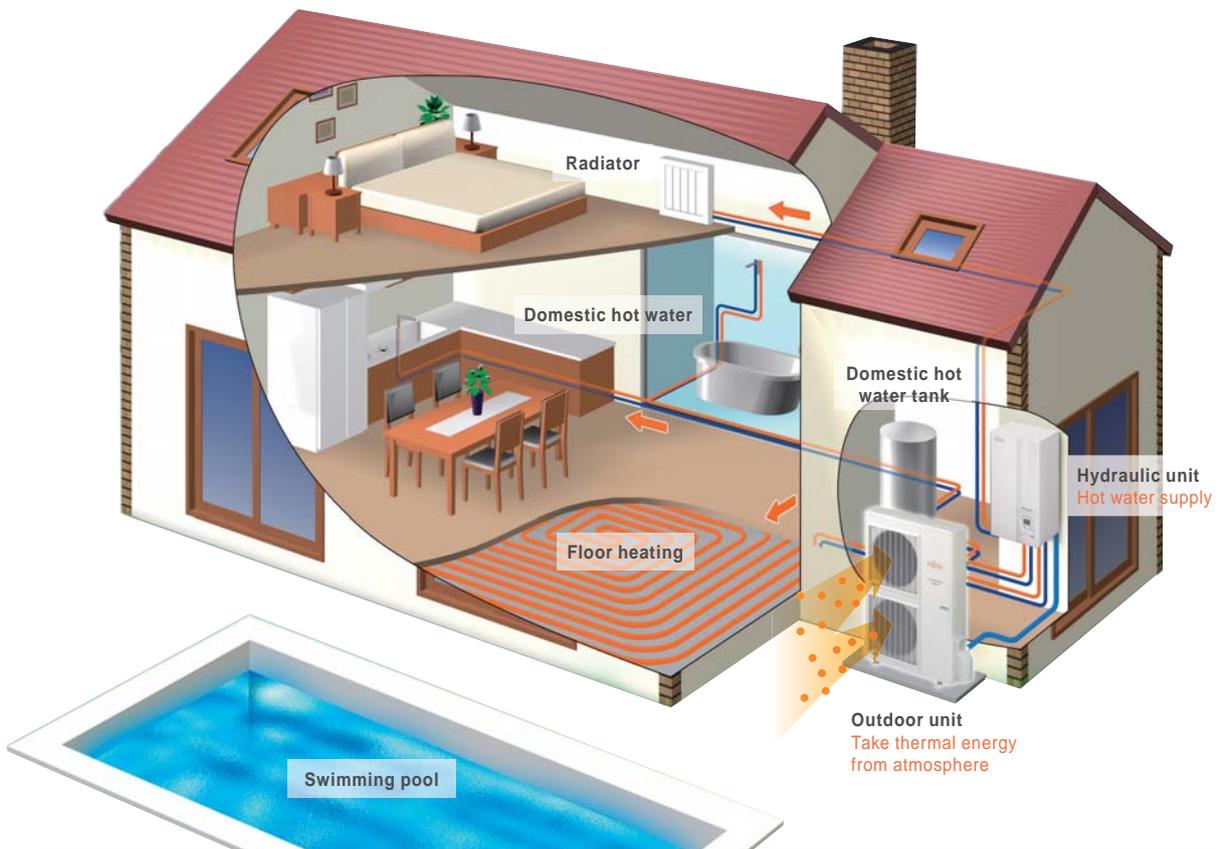
The clean energy produced by **WATERSTAGE** reliably delivers "comfort" to all spaces in the home up to the living room, bedrooms, bath and swimming pool.

FLOOR HEATING

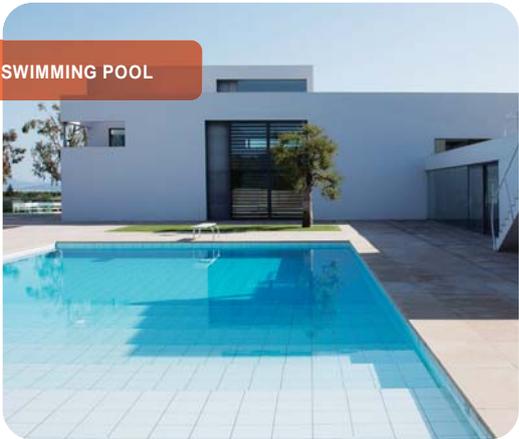
ROOM HEATING



COOLING



SWIMMING POOL



DOMESTIC HOT WATER



# Product lineup for various needs

Type	SPLIT TYPE			
	High power series		Comfort series	
Series	<p>Usable outdoor temperature: <b>-25°C</b></p> <p>Hydraulic unit </p> <hr/> <p>Outdoor unit </p> <p>Capacity range : 11 / 14 kW    11 / 14 / 16 kW</p>		<p>Usable outdoor temperature: <b>-20°C</b></p> <p>Hydraulic unit </p> <hr/> <p>Outdoor unit </p> <p>Capacity range : 5 / 6 / 8 kW    10 kW</p>	
Features	<ul style="list-style-type: none"> <li>• 60°C hot water supply even at -20°C outdoor temperature</li> <li>• Powerful heating capacity supplied even at low outdoor temperature</li> <li>• Different heating system can be used. Like floor heating, radiators and others*</li> <li>• Heating and DHW in one system.*</li> <li>• Outdoor low noise function*</li> <li>• Energy saving peak cut function*</li> <li>• Additional electric heater for backup provided</li> <li>• Up to two independent control circuits.*</li> </ul> 		<ul style="list-style-type: none"> <li>• 55°C hot water supply even at -7°C outdoor temperature</li> <li>• Floor heating and radiators can be used together.</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> </ul>	
Power source	1Ø 230V / 50Hz	3Ø 400V / 50Hz	1Ø 230V / 50Hz	
Capacity range	5 kW		<input checked="" type="checkbox"/>	
	6 kW		<input checked="" type="checkbox"/>	
	8 kW		<input checked="" type="checkbox"/>	
	10 kW		<input checked="" type="checkbox"/>	
	11 kW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	14 kW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	16 kW		<input checked="" type="checkbox"/>	

SPLIT DHW INTEGRATED TYPE		MONOBLOC TYPE			
High power series		Comfort series			
<p>Usable outdoor temperature: <b>-25°C</b></p> <p>Hydraulic unit </p> <p>Outdoor unit </p> <p>Capacity range : 11 / 14 kW    11 / 14 / 16 kW</p>		<p>Usable outdoor temperature: <b>-20°C</b></p> <p>Hydraulic unit </p> <p>Outdoor unit </p> <p>Capacity range : 5 / 6 / 8 kW    10 kW</p>		<p>Usable outdoor temperature: <b>-20°C</b></p> <p>Control box  Hydraulic unit  <b>NEW</b></p> <p>Monobloc unit  <b>NEW</b></p> <p>Capacity range : 5 kW    8 / 10 kW</p>	
<ul style="list-style-type: none"> <li>• 60°C hot water supply even at -20°C outdoor temperature</li> <li>• Powerful heating capacity supplied even at low outdoor temperature</li> <li>• Different heating system can be used. Like floor heating, radiators and others*</li> <li>• Heating and DHW space saving in one hydraulic unit.</li> <li>• Outdoor low noise function*</li> <li>• Energy saving peak cut function*</li> <li>• Additional electric heater for backup provided</li> <li>• Up to two independent control circuits*</li> </ul>		<ul style="list-style-type: none"> <li>• 55°C hot water supply even at -7°C outdoor temperature</li> <li>• Floor heating and radiators can be used together.</li> <li>• Heating and DHW space saving in one hydraulic unit.</li> <li>• Additional electric heater for backup provided</li> <li>• Up to two independent control circuits*</li> </ul>		<ul style="list-style-type: none"> <li>• 55°C hot water supply even at -20°C outdoor temperature</li> <li>• Heating and DHW in one system*</li> <li>• Antifreeze function</li> <li>• Additional base heater (option) can be connected to prevent from freezing.</li> </ul>	
<p>1Ø 230V / 50Hz    3Ø 400V / 50Hz</p>		<p>1Ø 230V / 50Hz    1Ø 230V / 50Hz</p>			
		■			
		■			
		■			
		■			
■					
■					
		■			

\*Optional parts are required.

# High Power series

<p>Single Phase power supply</p> <p>11kW 14kW</p> <p>Hydraulic unit WSYG140DC6</p>  <p>Outdoor unit WOYG112LCT WOYG140LCT</p>	<p>3 Phase power supply</p> <p>11kW 14kW 16kW</p> <p>Hydraulic unit WSYK160DC9</p>  <p>Outdoor unit WOYK112LCT WOYK140LCT WOYK160LCT</p>
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\*

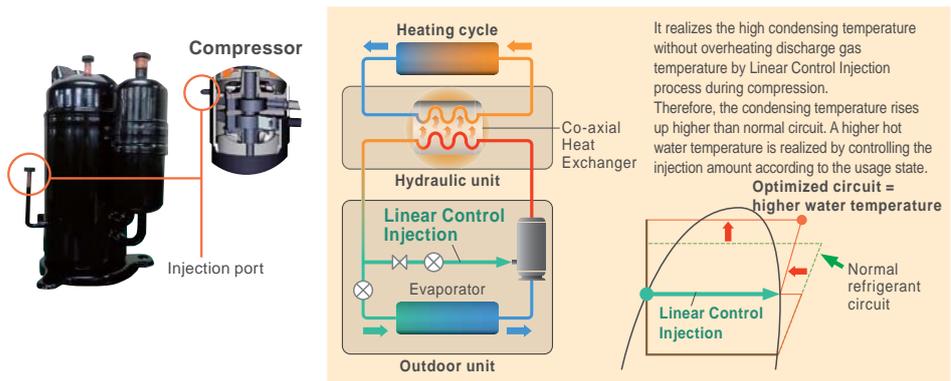


\*:Check the validity of label at [www.ehpa.org/QL](http://www.ehpa.org/QL)

## High Power & High Efficiency Outdoor unit technology

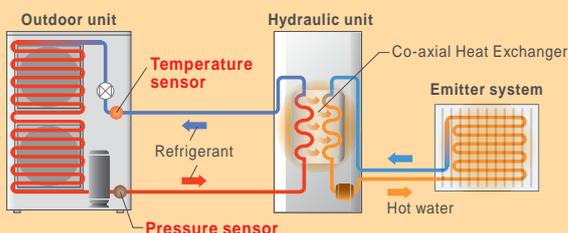


### TWIN ROTARY COMPRESSOR with Linear Control Injection port

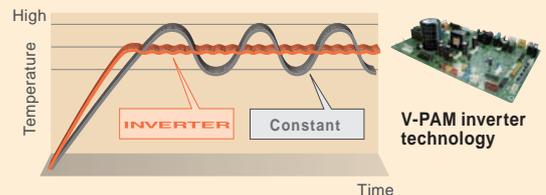


### Optimization of refrigerant cycle operation

High power model realizes high performance and high efficiency by adopting twin sensors and control technology corresponding to hot water heating.



### Accurate temperature control by DC inverter technology

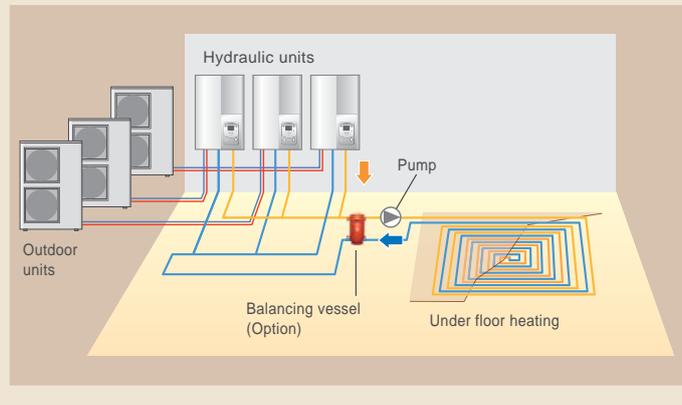


High power models realizes high heating capacity and high efficiency by newly developed "Linear Control Injection Technology" and "Co-axial Heat Exchanger".

These properties are the key for a reliable heating operation throughout the whole year—even in a strong winter.

### Cascade connection

Large capacities can be realized by combining up to three systems into one control circuit.



## Renewed Hydraulic unit design

The redesigned coaxial compact heat exchanger and the new High efficiency pump lead to excellent energy values.



Co-axial Heat Exchanger



HIGH EFFICIENCY CLASS A PUMP



• Adopting High efficiency pump

Energy saving pump with constant volume or pressure adjustment function.

New designed Hydraulic unit allows significant space saving.

Height  
**20%**  
reduction



New model



Previous model

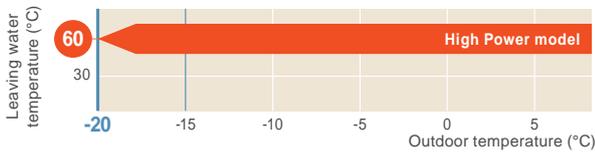
# High Power series

## 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 in cold regions.

### HIGH LEAVING WATER TEMPERATURE No backup heater\*

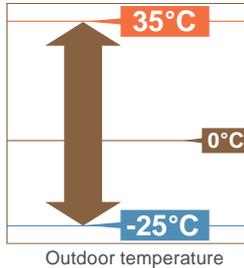
High leaving water temperature 60°C kept down to -20°C outdoor temperature without using backup heater.



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

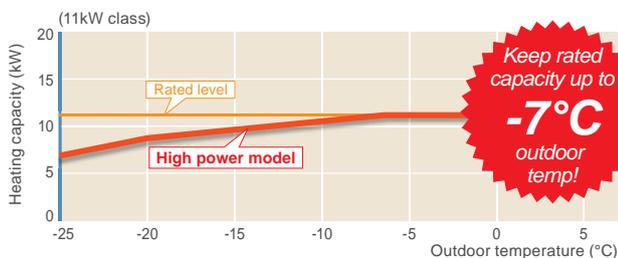
### EXTENDED OPERATION RANGE DOWN TO -25°C

Improved operation range down to -25°C outdoor temperature



### STRONG & POWERFUL HEATING CAPACITY

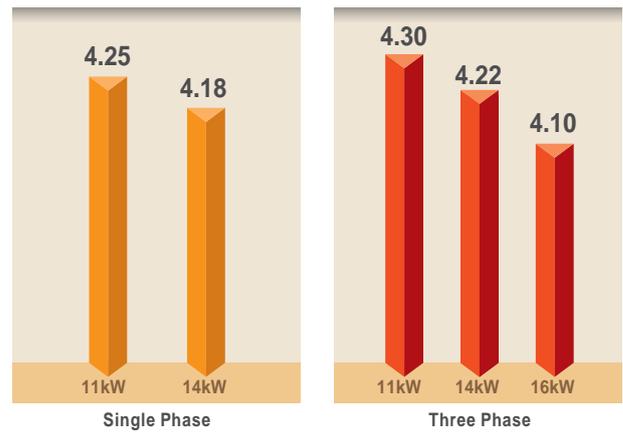
Keeping the rated heating capacity up to -7°C outdoor temperature



## High Efficiency

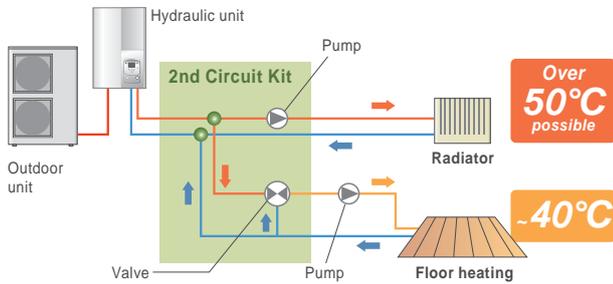
Energy efficiency is improved by the linear Control Injection Technology and the optimization of refrigerant cycle control. High power model realizes high performance and high efficiency by adopting twin sensors and control technology corresponding to hot water heating.

### HIGH COP



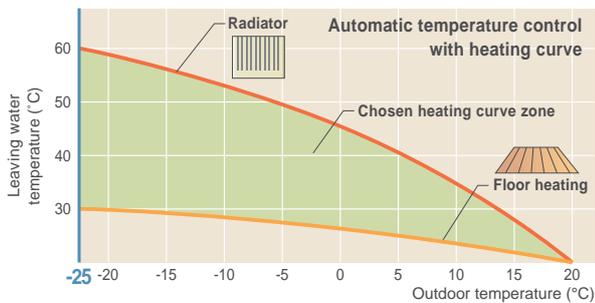
# Intelligent Control

## 2 ZONE INDIVIDUAL CONTROL\*



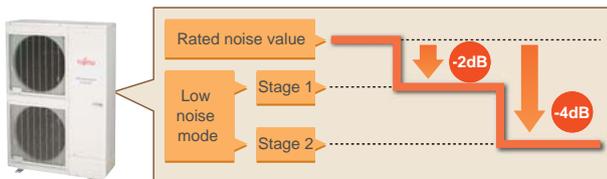
## AUTOMATIC HEATING CURVE CONTROL

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



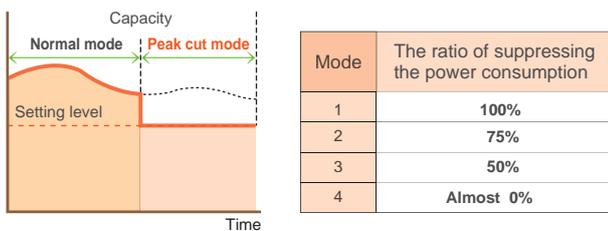
## 2 STAGE LOW NOISE MODE\*

Outdoor unit can be switched to silent mode, depending on the installation environment.



## PEAK CUT FUNCTION\*

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



## AND MORE

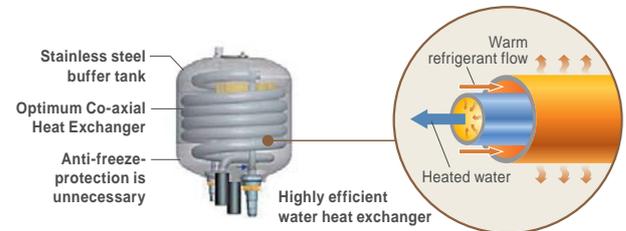
- Cooling operation is possible\*
- Anti-Legionella function
- Additional electric heater control for backup
- Cascade connection is possible.
- Web server can be connected.\*

\*Optional parts are required.

# High Reliability

## HIGH DURABILITY

- Corrosion protected
- No flow switch and no filter necessary

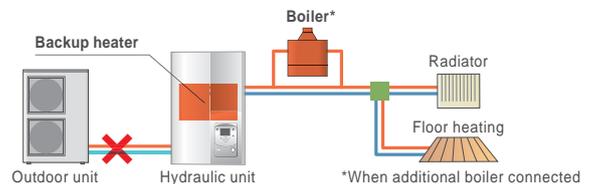


## EASY INSTALLATION & MAINTENANCE

- 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

## EMERGENCY OPERATION

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



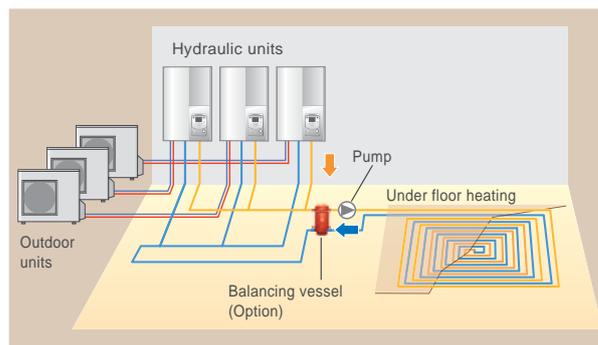
# Comfort series

<p>5kW 6kW 8kW</p> <p><b>Hydraulic unit</b> WSYA050DD6 WSYA100DD6</p> 	<p>10kW</p> <p><b>Hydraulic unit</b> WSYA100DD6</p> 
 <p><b>Outdoor unit</b> WOYA060LDC WOYA080LDC</p>	 <p><b>Outdoor unit</b> WOYA100LDT</p>

For Comfort series, optimized flow temperature control is realized by DC inverter technology.

### Cascade connection (10kW model)

Large capacities can be realized by combining up to three systems into one control circuit.



## High Efficiency Technology

### DC FAN MOTOR

High performance, high efficiency small DC fan motor mounted.



### HIGH EFFICIENT CO-AXIAL HEAT EXCHANGER

Double-pipe water heat exchanger with built-in tank



### DC TWIN ROTARY COMPRESSOR

High efficient DC twin rotary compressor



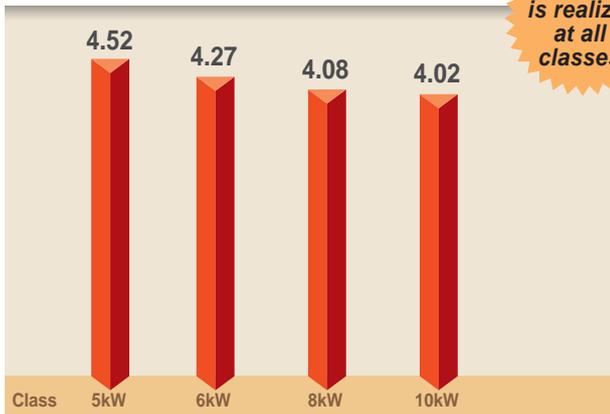
### DC INVERTER

Smooth water temperature control realized by DC inverter control.



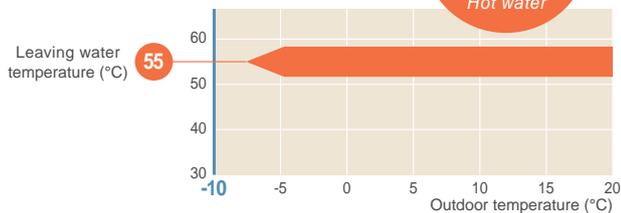
# High Efficiency & Comfort

## HIGH COP



## HIGH LEAVING WATER TEMPERATURE

Maximum leaving water temperature is 55°C without backup heater. Hot water supply temperature can be maintained even at -7°C outdoor temperature.

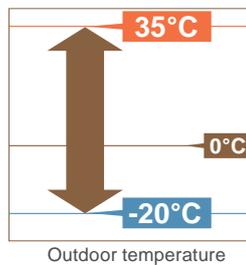


\* If you want to raise the hot water supply temperature, backup heater can be used for the auxiliary operation.

## WIDE OPERATION RANGE

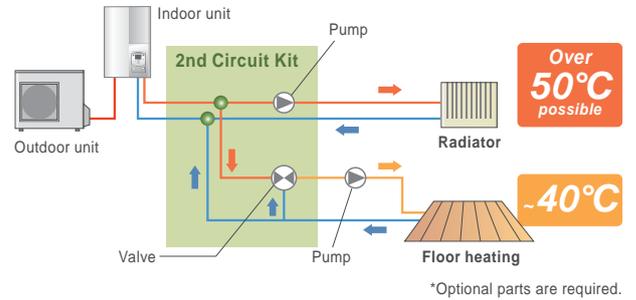
Improved operation range down to -20°C outdoor temperature

Down to  
**-20°C**  
Outdoor temperature



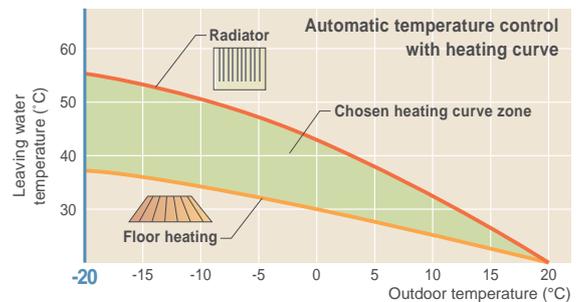
# Intelligent Control

## 2 ZONE INDIVIDUAL CONTROL\*



## AUTOMATIC HEATING CURVE CONTROL

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



## AND MORE

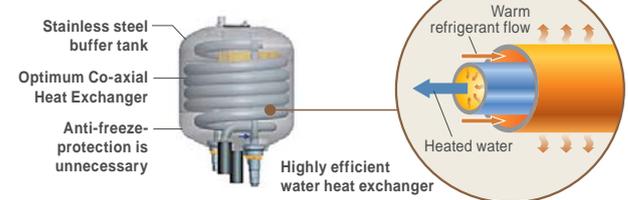
- Cooling operation is possible.\*
- Anti-Legionella function
- Possible to docking the boiler (Field supplied)

\*Optional parts are required.

# High Reliability

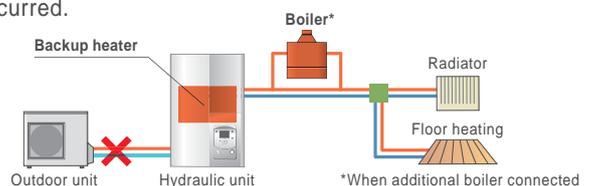
## HIGH DURABILITY

- Corrosion protected
- No flow switch and no filter necessary



## EMERGENCY OPERATION

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

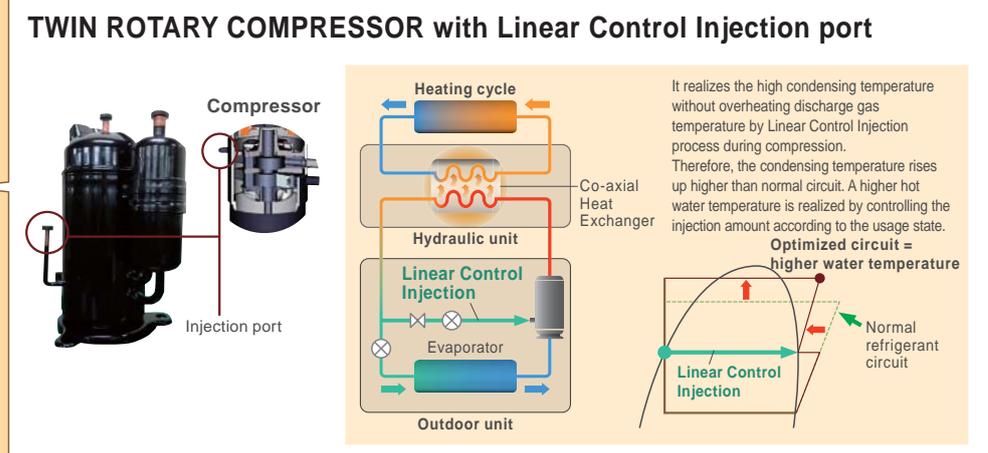


# High Power series



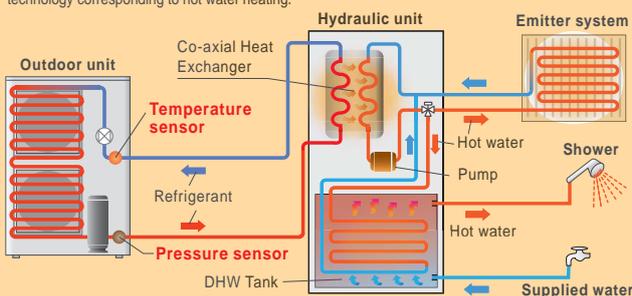
Split DHW integrated type realizes significant space saving because of the integrated DHW tank. Quick hot water supply is possible due to built-in high performance DHW tank. Heating and domestic hot water supply can be selected inside the intelligent controller. High Power models realize very efficient large heating capacities by newly developed "Linear Control Injection Technology" and "Co-axial heat Exchanger".

## High Power & High Efficiency Outdoor unit technology

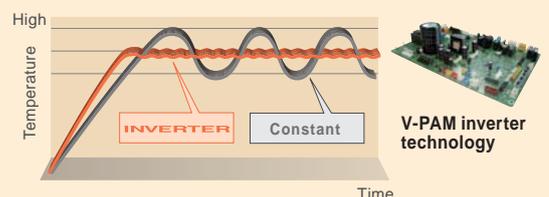


### Optimization of refrigerant cycle operation

High power model realizes high performance and high efficiency by adopting twin sensors and control technology corresponding to hot water heating.



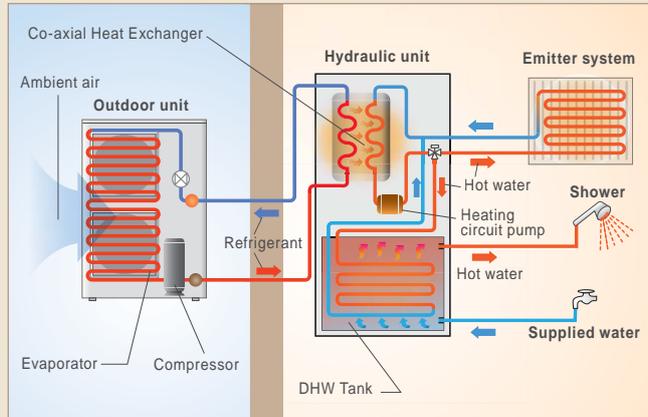
### Accurate temperature control by DC inverter technology



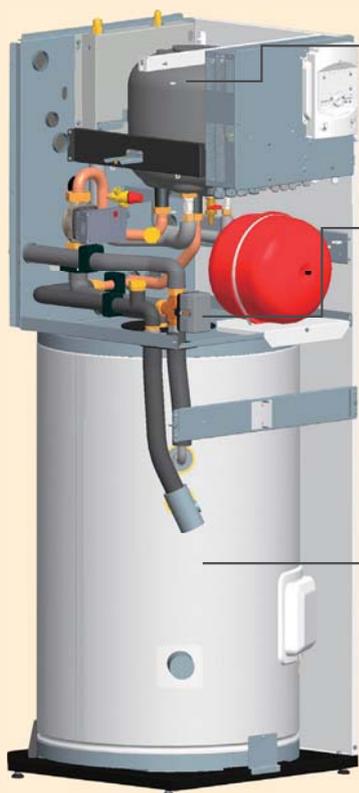


**WATERSTAGE™**

**DHW INTEGRATED type outline**



# Compact Hydraulic unit design with DHW Tank



**HIGH EFFICIENT CO-AXIAL HEAT EXCHANGER**



Co-axial Heat Exchanger

**HIGH EFFICIENCY CLASS A PUMP**



**Rank A**

Energy saving pump with constant volume or pressure adjustment function.

**HIGH PERFORMANCE DHW TANK 190L**



- DHW Production with coil heat exchanger to optimise the DHW performance
- Quick temperature rise due to a big exchanger surface

Stylish space saving solution with built-in DHW tank



Hydraulic unit



DHW Tank 190L



Installation space area about **50%** reduction

# High Power series

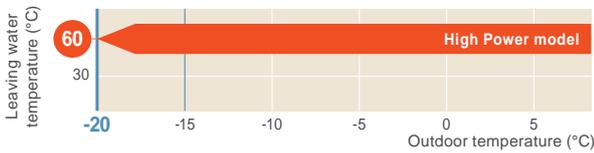
## Powerful Heating

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 in cold regions.

### HIGH LEAVING WATER TEMPERATURE

No backup heater\*

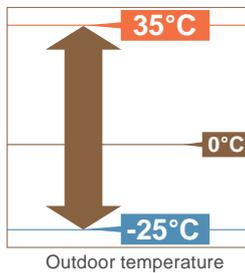
High leaving water temperature 60°C kept down to -20°C outdoor temperature without using backup heater.



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

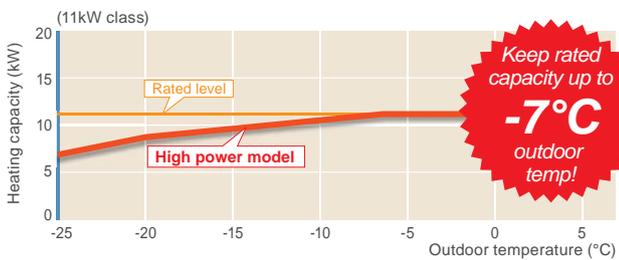
### EXTENDED OPERATION RANGE DOWN TO -25°C

Improved operation range down to -25°C outdoor temperature



### STRONG & POWERFUL HEATING CAPACITY

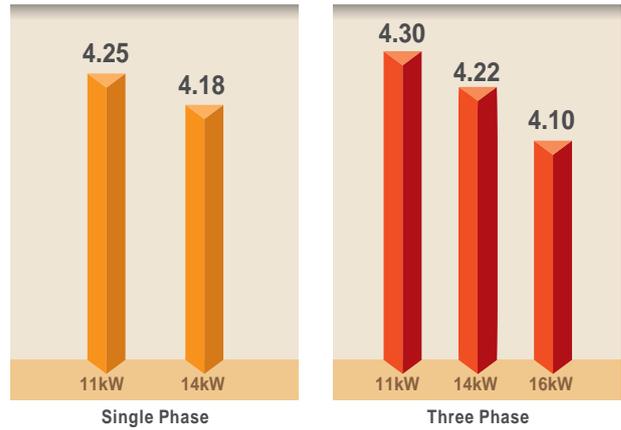
Keeping the rated heating capacity up to -7°C outdoor temperature



## High Efficiency

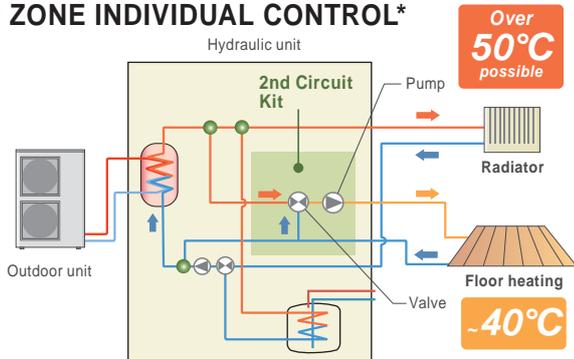
Energy efficiency is improved by the linear Control Injection Technology and the optimization of refrigerant cycle control. High power model realizes high performance and high efficiency by adopting twin sensors and control technology corresponding to hot water heating.

### HIGH COP



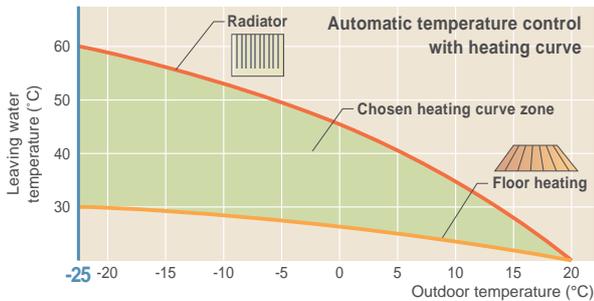
# Intelligent Control

## 2 ZONE INDIVIDUAL CONTROL\*



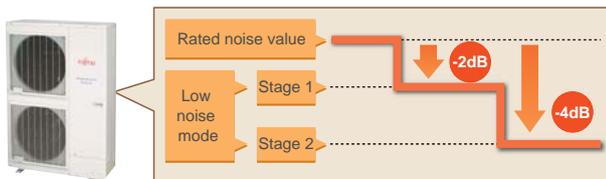
## AUTOMATIC HEATING CURVE CONTROL

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



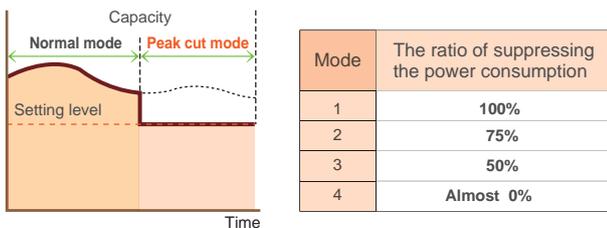
## 2 STAGE LOW NOISE MODE\*

Outdoor unit can be switched to silent mode, depending on the installation environment.



## PEAK CUT FUNCTION\*

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



## AND MORE

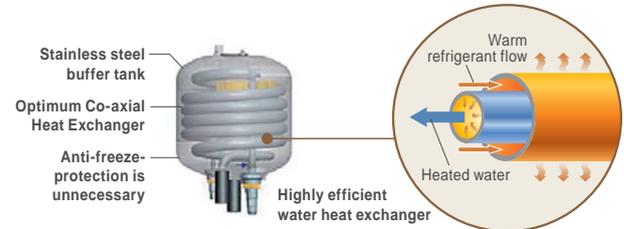
- Cooling operation is possible\*
- Anti-Legionella function
- Additional electric heater control for backup
- Web server can be connected.\*

\*Optional parts are required.

# High Reliability

## HIGH DURABILITY

- Corrosion protected
- No flow switch and no filter necessary

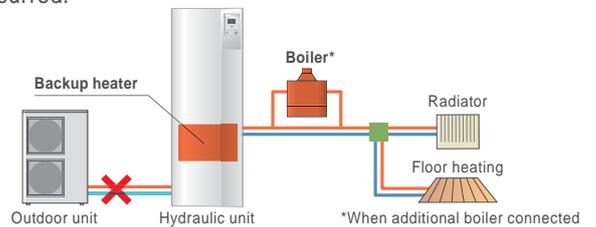


## EASY INSTALLATION & MAINTENANCE

- All hydraulic safety & controlling components built in, no additional selection required
- Easy access for maintenance operations
- Refrigerant pump down operation

## EMERGENCY OPERATION

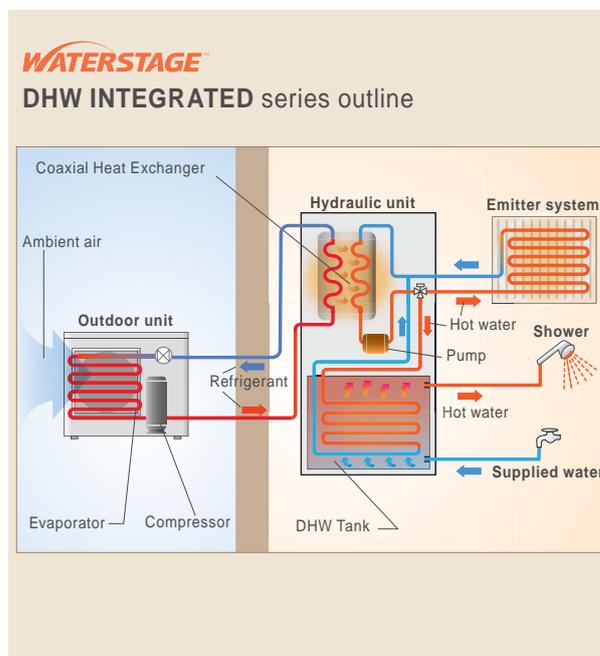
System can continuously supply hot water by built in back up heater or boiler, as emergency, even if an error is occurred.



# Comfort series

<p>5kW   6kW   8kW</p> <p><b>Hydraulic unit</b> WGYA050DD6 WGYA100DD6</p> 	<p>10kW</p> <p><b>Hydraulic unit</b> WGYA100DD6</p> 
 <p><b>Outdoor unit</b> WOYA060LDC WOYA080LDC</p>	 <p><b>Outdoor unit</b> WOYA100LDT</p>

For Comfort series, optimized flow temperature control is realized by DC inverter technology.



## High Efficiency 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.



### HIGH EFFICIENT CO-AXIAL HEAT EXCHANGER



### HIGH EFFICIENCY CLASS A PUMP



Energy saving pump with constant volume or pressure adjustment function.

### HIGH PERFORMANCE DHW TANK 190L



High heat-insulated structure minimizes the heat loss.

# High Efficiency & Comfort

## HIGH COP

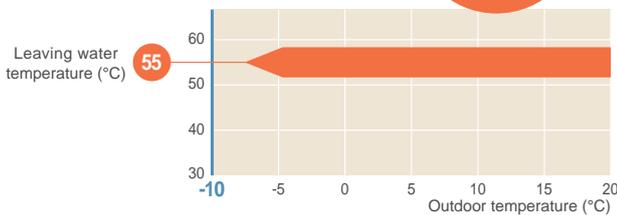


High COP is realized at all classes!

## HIGH LEAVING WATER TEMPERATURE

Maximum leaving water temperature is 55° C without backup heater. Hot water supply temperature can be maintained even at -7°C outdoor temperature.

No backup heater\*  
At -7°C outdoor temperature  
**55°C** Hot water

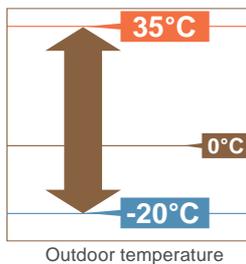


\* If you want to raise the hot water supply temperature, backup heater can be used for the auxiliary operation.

## WIDE OPERATION RANGE

Improved operation range down to -20°C outdoor temperature

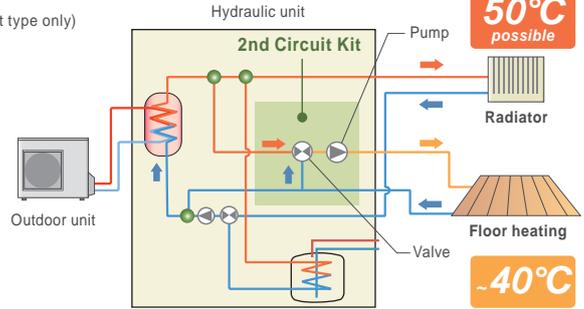
Down to **-20°C** Outdoor temperature



# Intelligent Control

## 2 ZONE INDIVIDUAL CONTROL\*

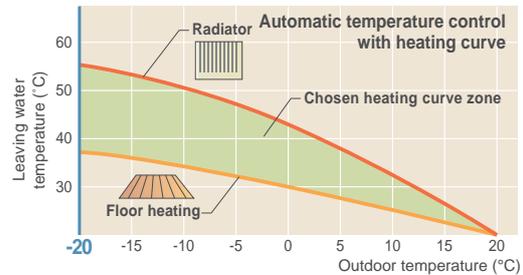
(Split type only)



\*Optional parts are required.

## AUTOMATIC HEATING CURVE CONTROL

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



## AND MORE

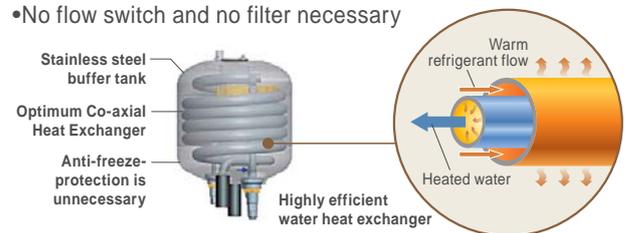
- Cooling operation is possible.\*
- Anti-Legionella function
- Possible to docking the boiler (Field supplied)

\*Optional parts are required.

# High Reliability

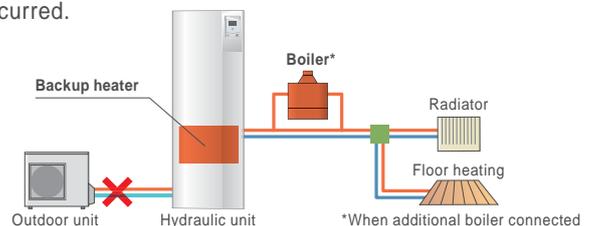
## HIGH DURABILITY

- Corrosion protected
- No flow switch and no filter necessary



## EMERGENCY OPERATION

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



# Compact series

5kW <b>NEW</b>	8kW <b>NEW</b>	10kW
<b>NEW</b> Hydraulic unit WSYP100DF6 or Control box UTW-SCBYA	<b>NEW</b> Hydraulic unit WSYP100DF6 or Control box UTW-SCBYA	
 WPYA050LE	 WPYA080LE	 WPYA100LE

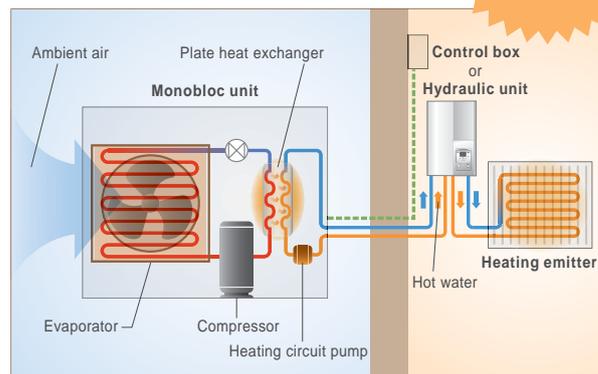
## All-in-One Model

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



**Easy installation & maintenance!**

**WATERSTAGE** outline (Monobloc type)



## High Efficiency Technology

### DC INVERTER

Smooth water temperature control realized by DC inverter control.



### DC FAN MOTOR

High performance, high efficiency small DC fan motor mounted.



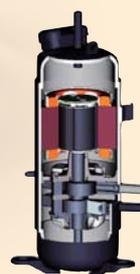
### HIGH EFFICIENT PLATE HEAT EXCHANGER

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



### DC TWIN ROTARY COMPRESSOR

High efficient DC twin rotary compressor



# Compact & High Performance

## HIGH COP

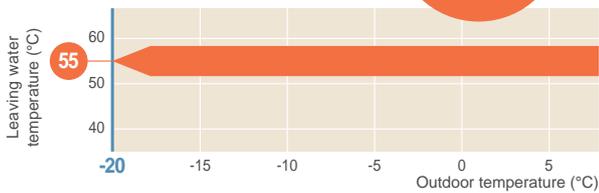
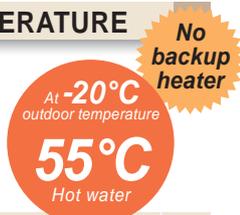
High COP is realized by using a DC twin rotary compressor, inverter technology, and high efficient water heat exchanger.



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

## HIGH LEAVING WATER TEMPERATURE

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



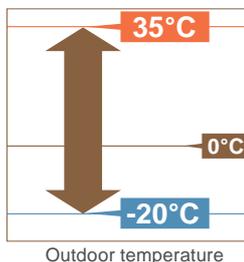
## COMPACT & LIGHT WEIGHT DESIGN

5kW model



## WIDE OPERATION RANGE

Improved operation range down to -20°C outdoor temperature



# Intelligent Control

## CONTROL BOX OR HYDRAULIC UNIT CAN BE CONNECTED



## FEATURES OF THE HYDRAULIC UNIT

- The compact Indoor unit provides two electrical back up heater, each with 3kW capacity
- 12 L expansion vessel included
- No waste of space. DHW Kit installation inside the hydraulic unit possible.
- New generation controller. Connection by Modbus protocol possible.
- Unit ready prepared for installing a heat meter.



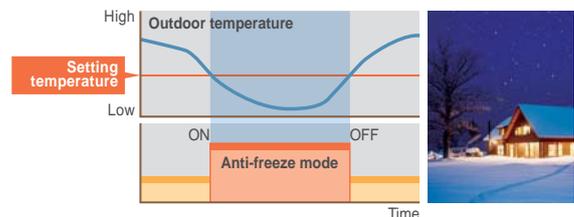
## AND MORE

- Cooling operation is possible.
- Anti-Legionella function
- Possible to docking the boiler (Field supplied)
- Modbus device connectable port available (only for Hydraulic unit)

# 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.
- Easy access for maintenance operations

## AND MORE

- Additional base heater (option) can be connected to prevent from freezing.

# Smart & Comfort Control

The heating water temperature is controlled automatically depending on outdoor temperature. The place for the sensor can be chosen freely.

The room temperature and operation mode can be easily set. Options appear automatically by "plug & play".



**Large LCD display**  
 • Operation status display  
 • Error display  
 • plain text



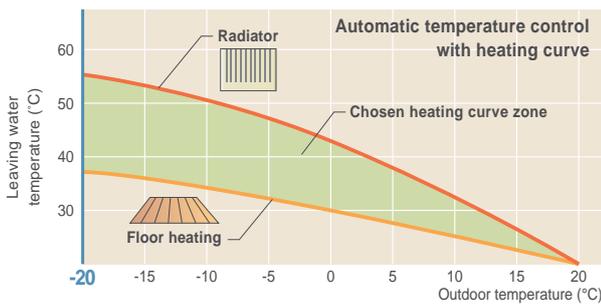
**Simple operation mode setting**  
 • Selecting the heating mode and Domestic hot water operation

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

## Comfort Control

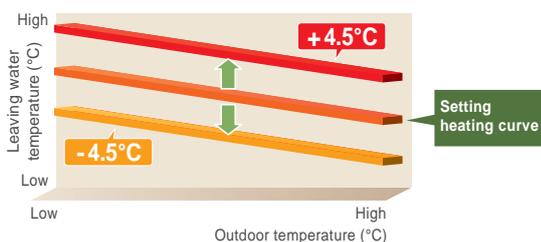
### Automatic heating curve operation

Automatic heating curve control based on outdoor temp and setting room temperature.



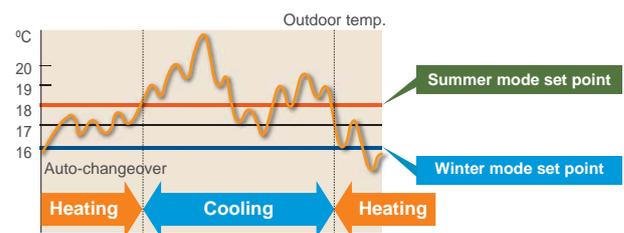
### Heating curve off-set Adjust setting room temp.

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



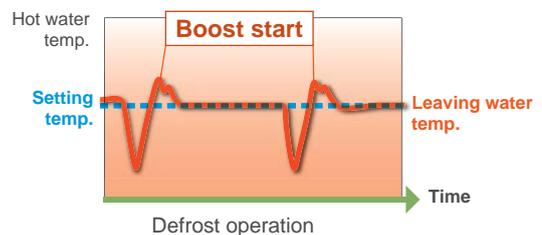
### Auto-changeover

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.



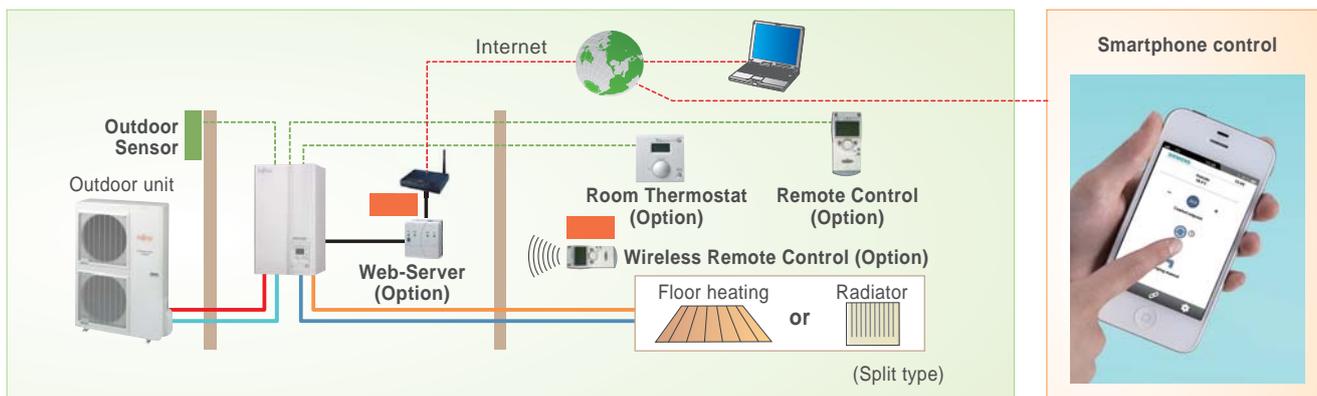
### Quick recovery from defrost operation

Maintaining the room temperature during defrost operation by boost start operation



# REMOTE CONTROL - EXTENSION

Various remote controls are available on your hand. Remote control is also available via Web. All kinds of life styles are supported.



## Energy Saving

### Programmable timer

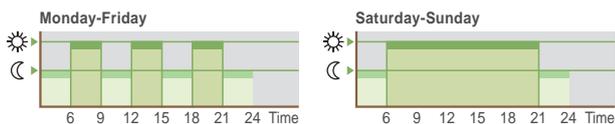
- The setting of timer operation can easily be adjusted.
- Changing the heating mode linked with time is possible.

### Heating mode

- Auto**  
④ **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

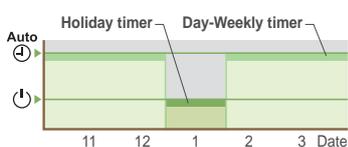
### Day-Weekly timer setting

- 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

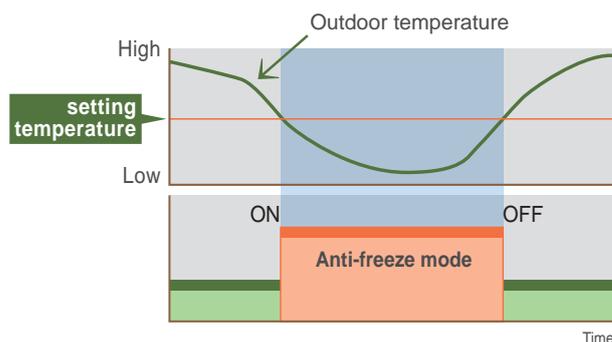
- The holiday timer can be set up for up to 8 periods
- If you are absent for a long time in the winter, freezing of room can be prevented.



## Safety Function

### Anti-freeze function

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



### Anti-legionella function

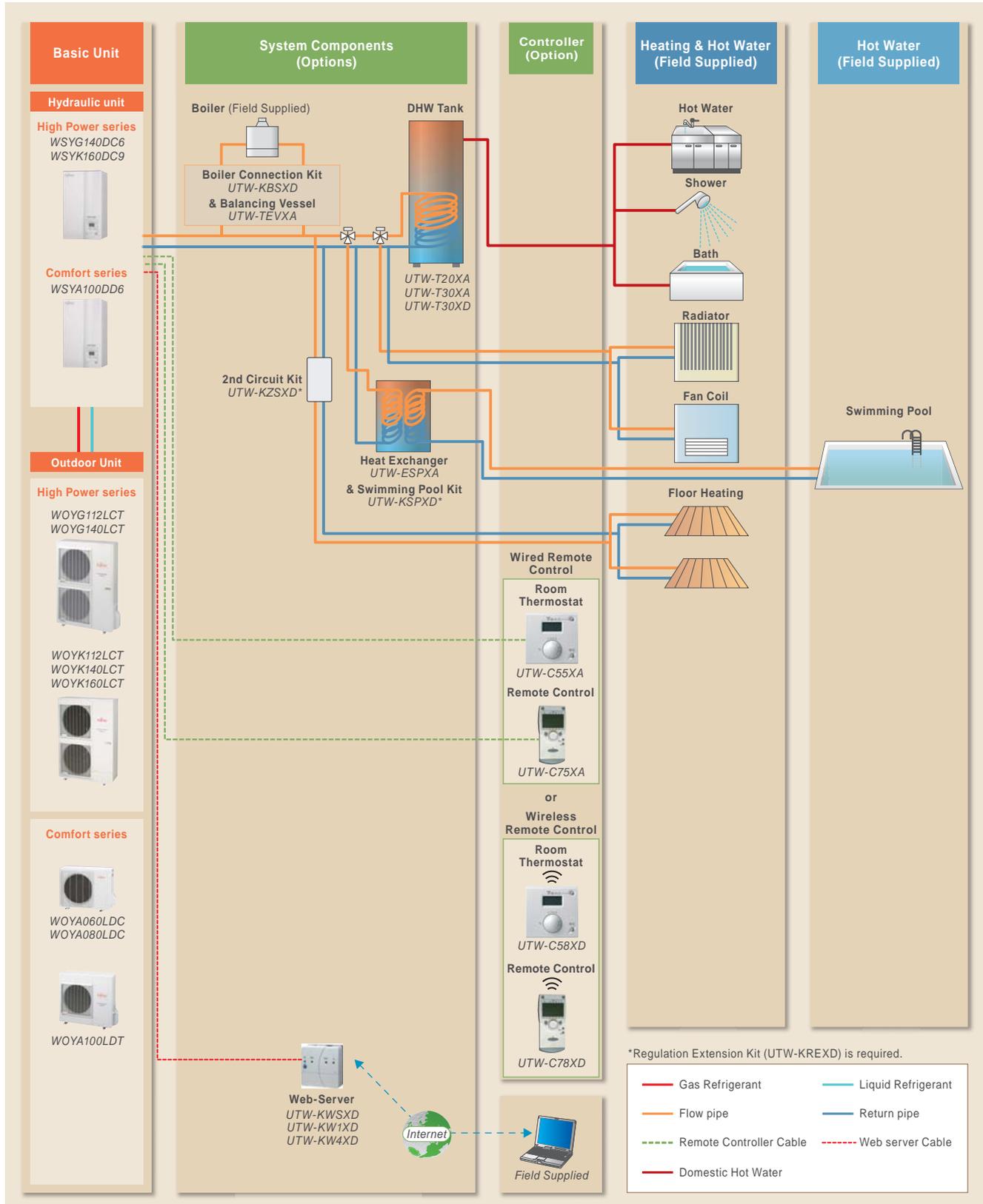
The growth of Legionella in DHW tank is suppressed and safe and clean hot water is supplied at all times.



# Total solution concept for comfort inside your home

SPLIT TYPE

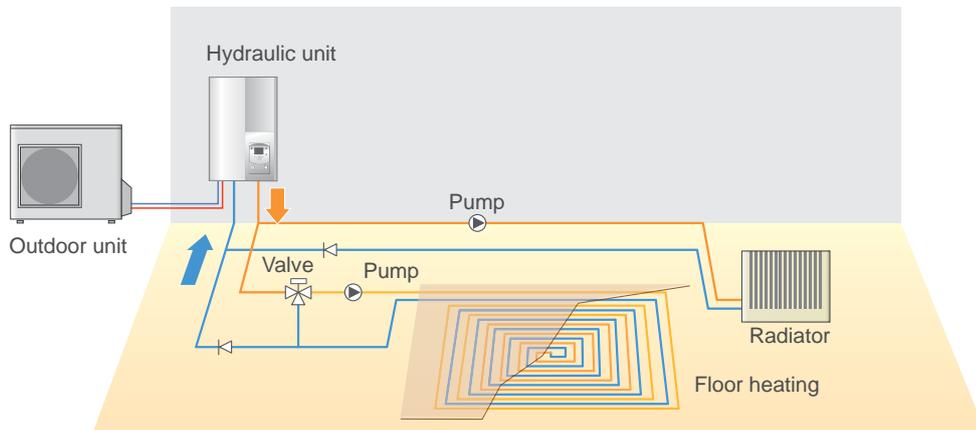
## System configuration



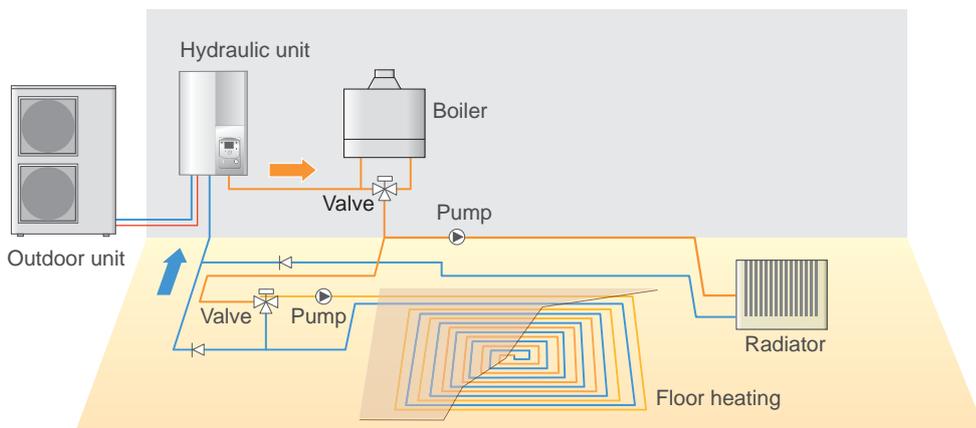
# Split Case studies

## 2 emitter simultaneous heating (Individual control)

Floor heating + Radiator

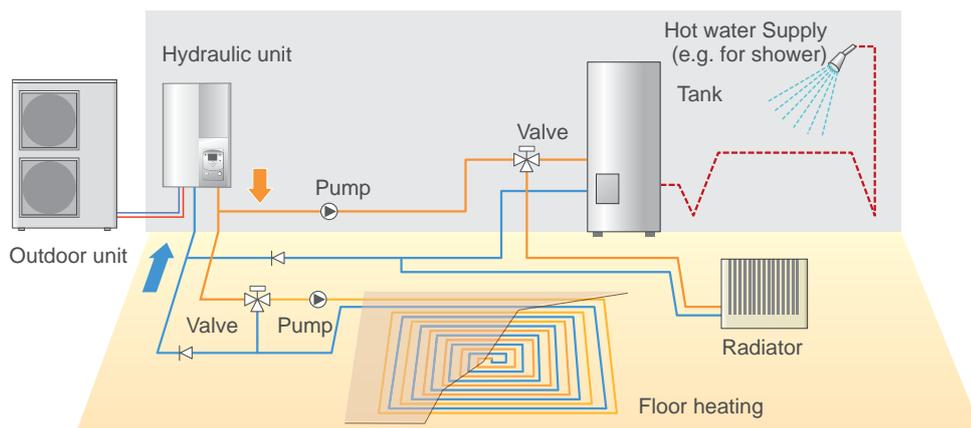


## Boiler connected to heating (Boiler + Heating)



## 3 types of heat distribution

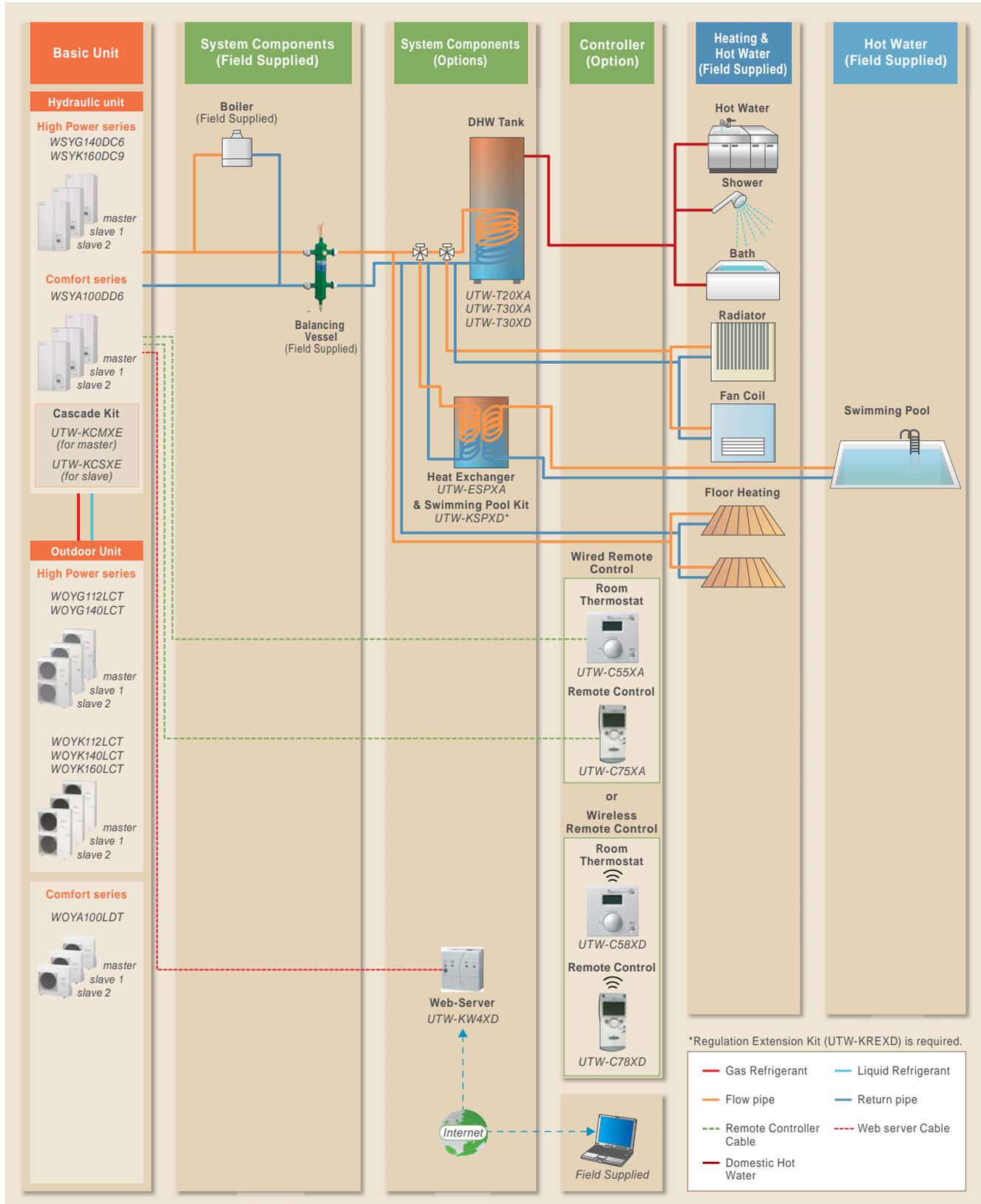
Floor heating + Radiator + Domestic Hot Water



# Total solution concept for comfort inside your home

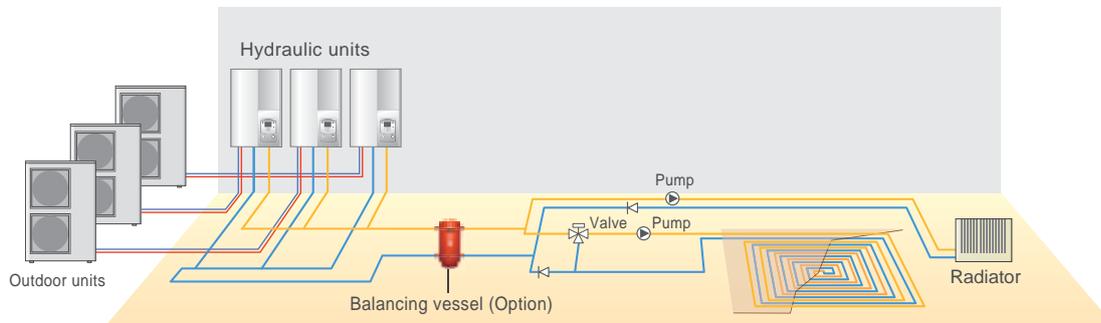
SPLIT TYPE

## Cascade System configuration

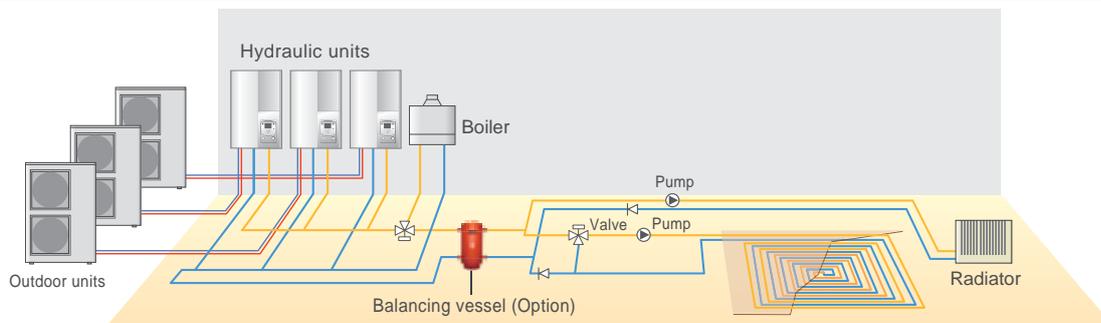


# Split Cascade System Case studies

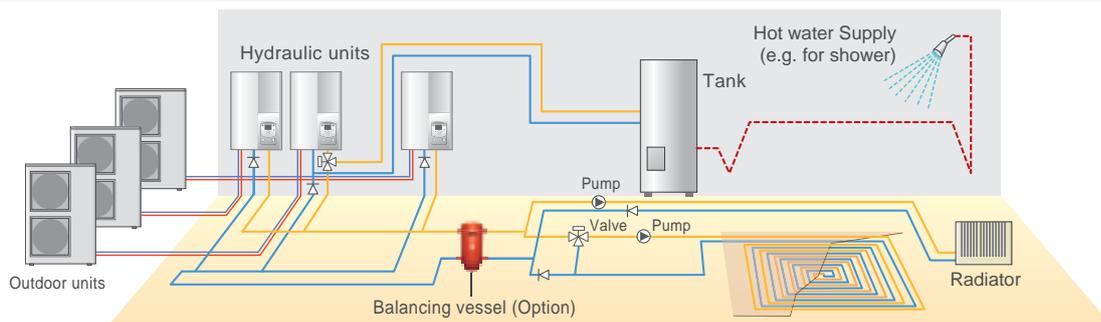
## 2 emitter simultaneous heating (Individual control)



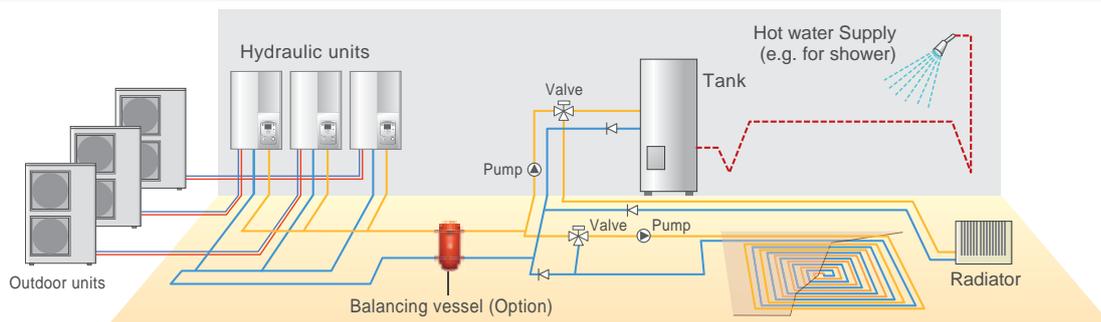
## Boiler connected to heating (Boiler + Heating)



## 2 emitter simultaneous heating & Domestic Hot Water (type A)



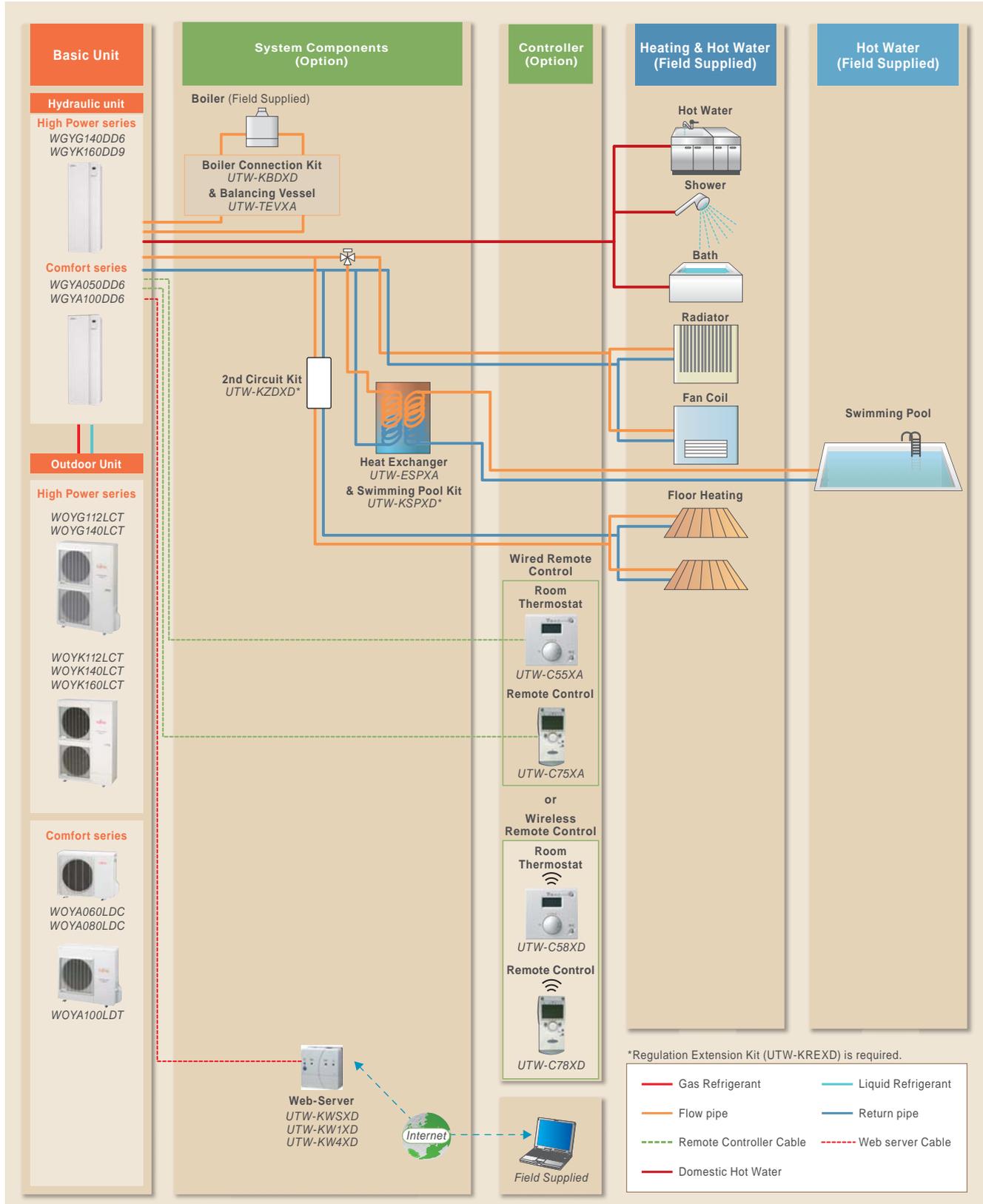
## 2 emitter simultaneous heating & Domestic Hot Water (type B)



# Total solution concept for comfort inside your home

SPLIT DHW INTEGRATED TYPE

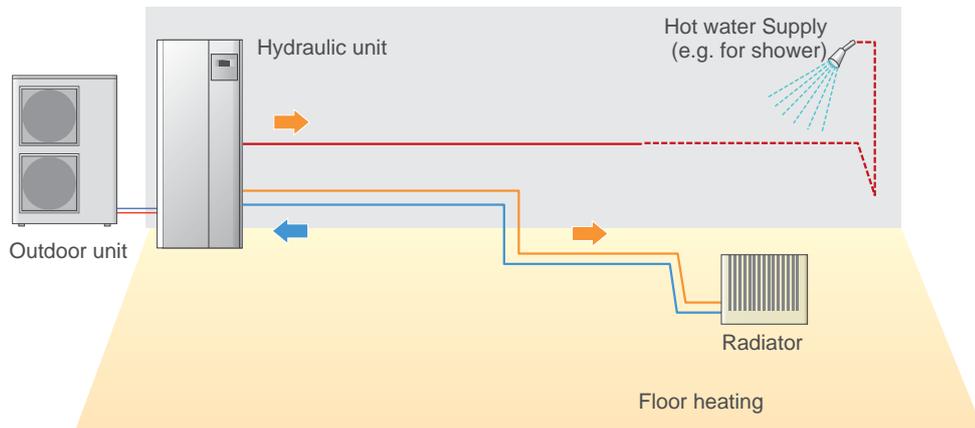
## System configuration



# Split DHW integrated Case studies

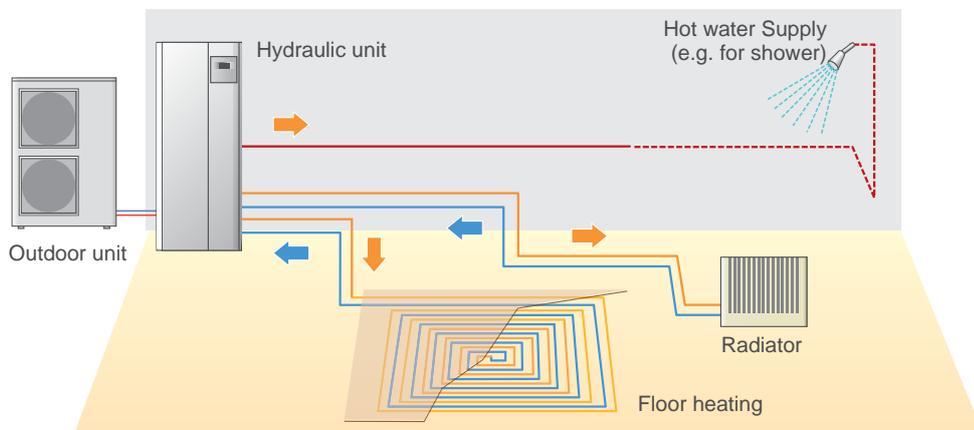
## Single heating & Domestic Hot Water

Radiator + Domestic Hot Water

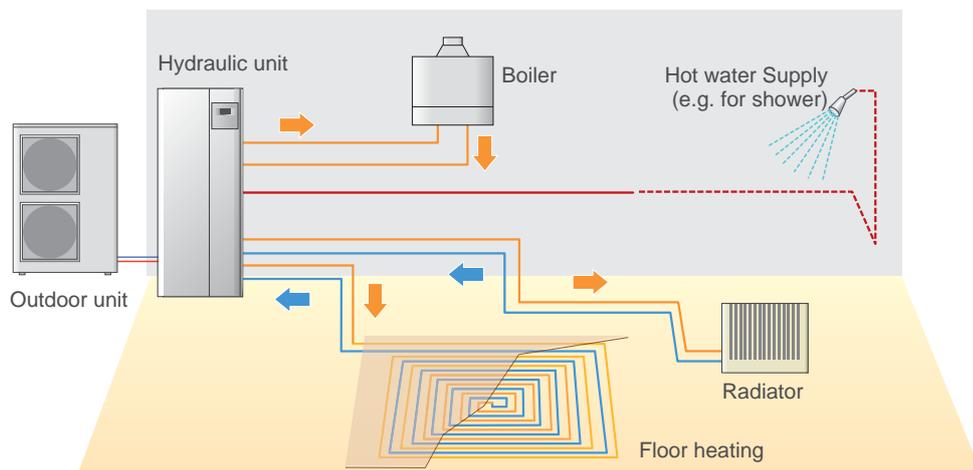


## 2 emitter simultaneous heating (Individual control) & Domestic Hot Water

Floor heating + Radiator + Domestic Hot Water



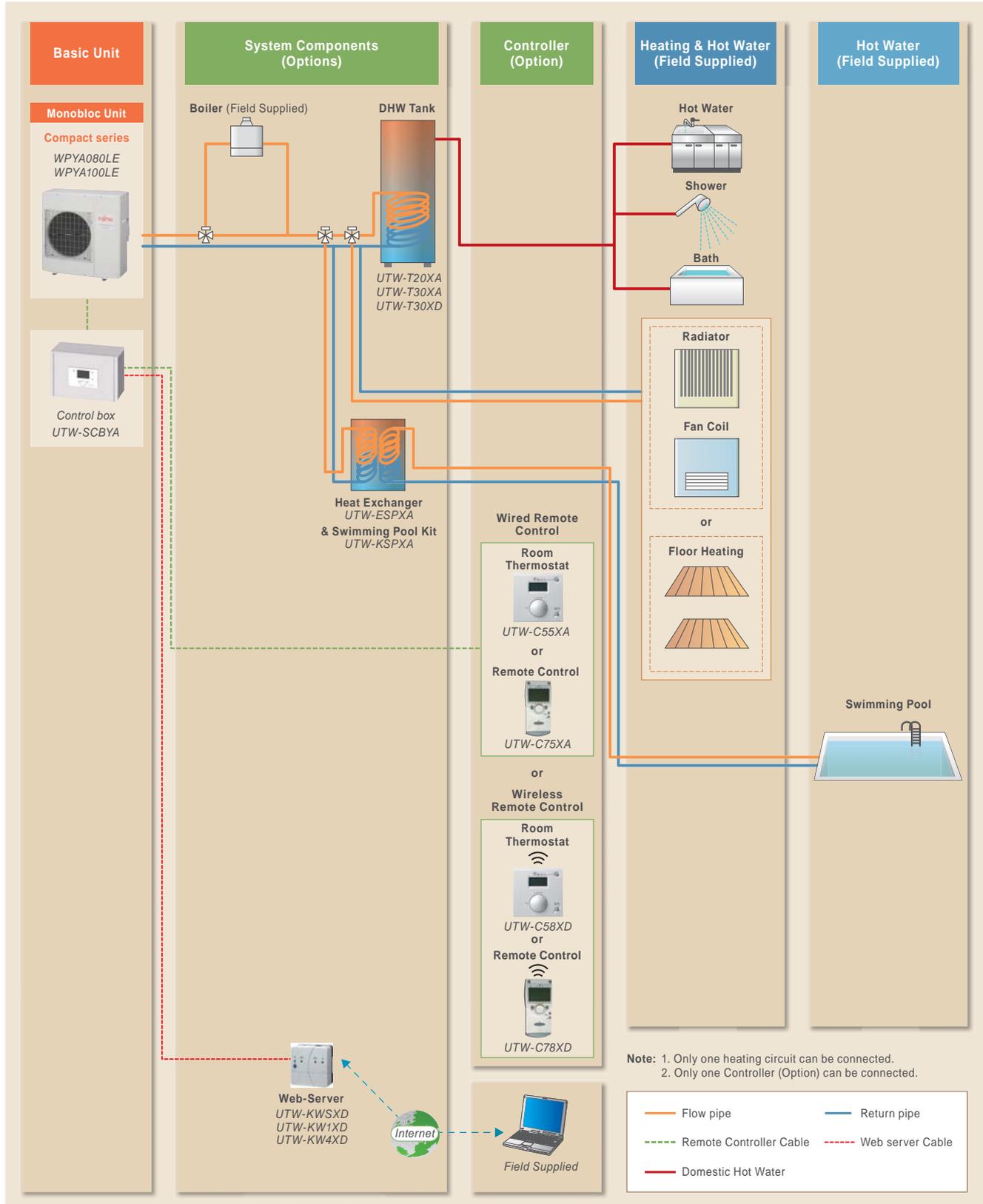
## Boiler connected to heating (Boiler + Heating) & Domestic Hot Water



# Total solution concept for comfort inside your home

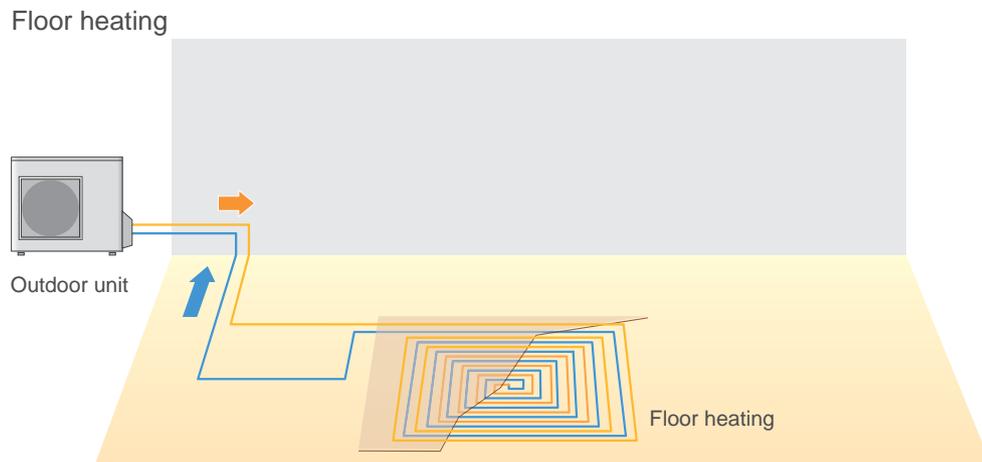
MONOBLOC TYPE

## System configuration

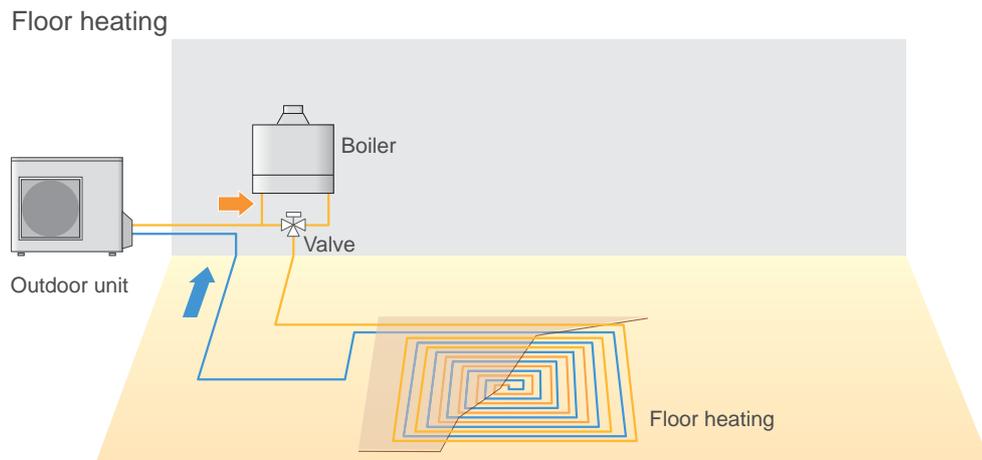


# Monobloc Case studies

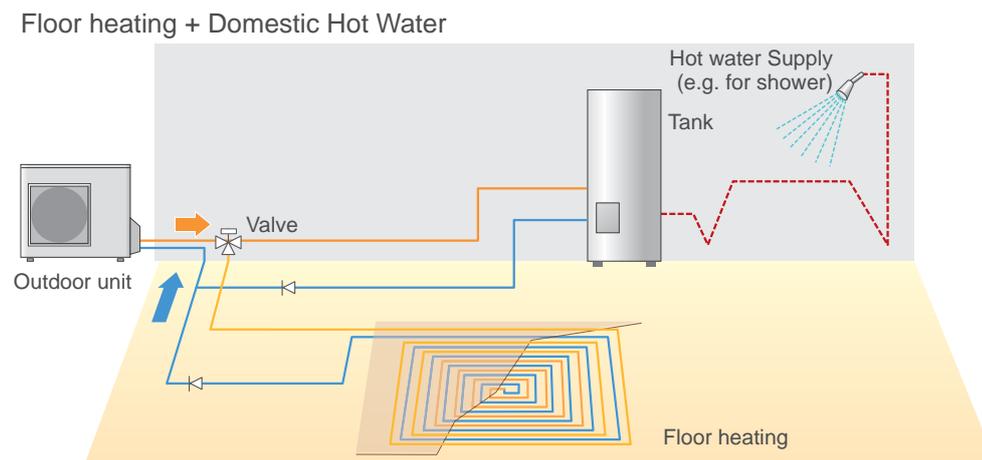
## Single heating system



## Boiler connected to heating (Boiler + Heating)



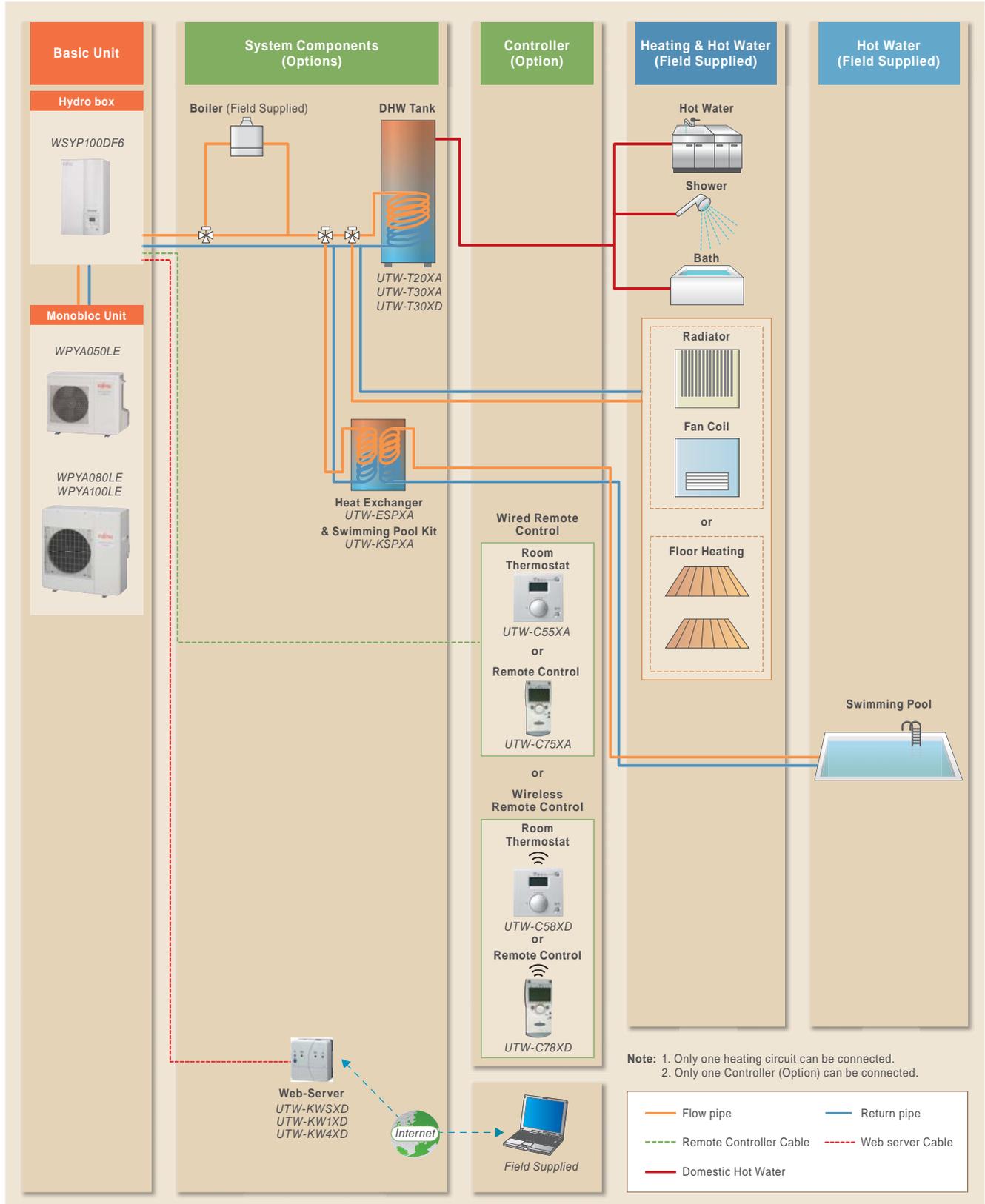
## 2 types of heat distribution



# Total solution concept for comfort inside your home

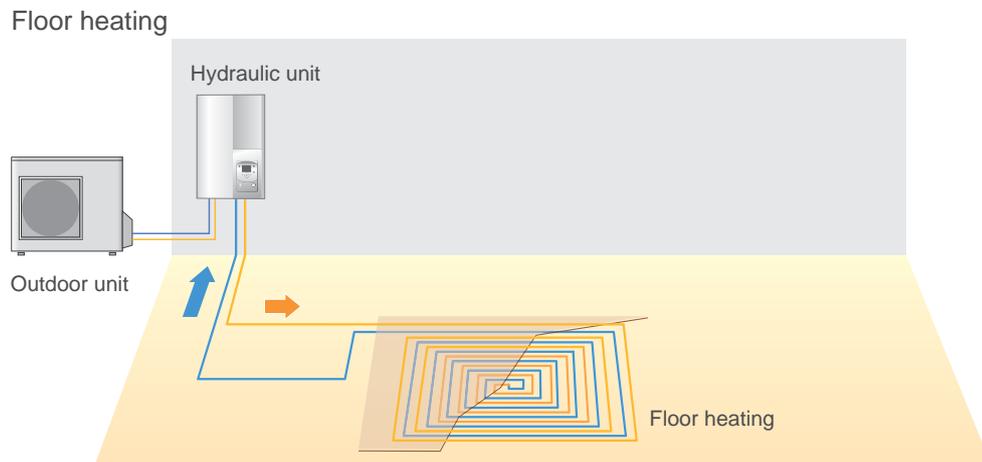
MONOBLOC TYPE WITH HYDRAULIC UNIT

## System configuration

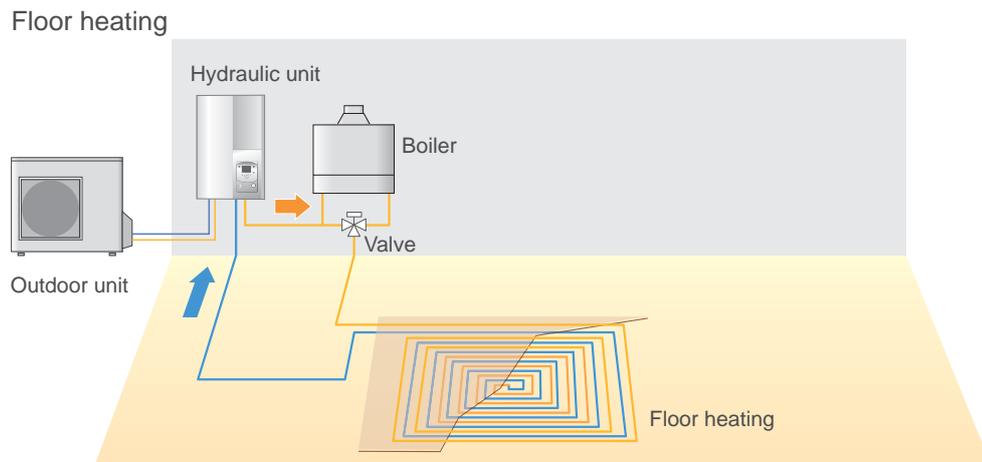


# Monobloc with hydraulic unit Case studies

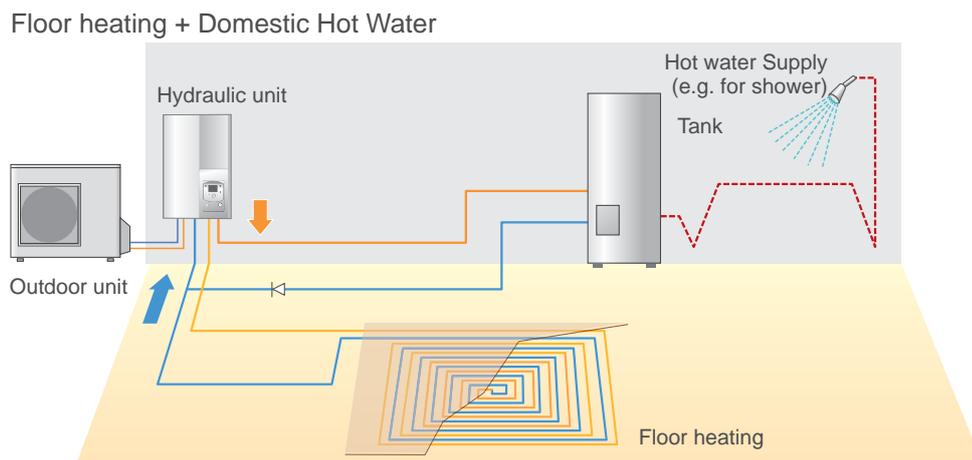
## Single heating system



## Boiler connected to heating (Boiler + Heating)



## 2 types of heat distribution



# Optional Parts Compatibility

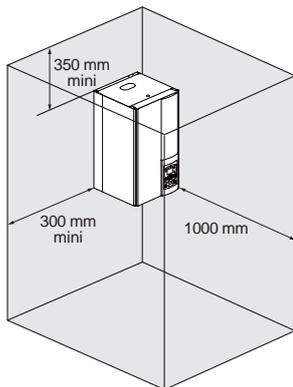
Product Name	Model Name	Split								Monobloc			Split DHW integrated type								
		High Power					Comfort			Compact			High Power					Comfort			
		1Ø		3Ø			1Ø			1Ø			1Ø		3Ø			1Ø			
		11	14	11	14	16	5	6	8	10	5	8	10	11	14	11	14	16	5	6	8
2nd Circuit Kit	 UTW-KZSXE	●	●	●	●	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—
	 UTW-KZDXE	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	●
Boiler Connection kit	 UTW-KBSXD	●	●	●	●	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—
	 UTW-KBDXD	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	●
Balancing vessel	 UTW-TEVXA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
DHW kit	 UTW-KDWXF (Internal)	—	—	—	—	—	—	—	—	●*6	●*6	●*6	—	—	—	—	—	—	—	—	—
	 UTW-KDWXA (External)	—	—	—	—	—	—	—	—	●*8	●*8	●*8	—*1	—*1	—*1	—*1	—*1	—*1	—*1	—*1	—*1
	 UTW-KDWXD (External)	●	●	●	●	●	●	●	●	—	—	—	—*1	—*1	—*1	—*1	—*1	—*1	—*1	—*1	—*1
DHW Expansion Vessel kit	 UTW-KDEXE	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	●
DHW tank	200 Liter  UTW-T20XA	●	●	●	●	●	●	●	●	●	●	●	—*1	—*1	—*1	—*1	—*1	—*1	—*1	—*1	—*1
	300 Liter  UTW-T30XA	●	●	●	●	●	●	●	●	●	●	●	—*1	—*1	—*1	—*1	—*1	—*1	—*1	—*1	—*1
	300 Liter  UTW-T30XD	●	●	●	●	●	●	●	●	●	●	●	—*1	—*1	—*1	—*1	—*1	—*1	—*1	—*1	—*1
Circulating pump	 UTW-PHFXD	●	●	●	●	●	—	—	—	—	—	—	●	●	●	●	●	—	—	—	—
Swimming Pool kit	 UTW-KSPXA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	 UTW-KSPXD	●	●	●	●	●	●	●	●	●	●*6	●*6	●*6	●	●	●	●	●	●	●	●
Heat Exchanger for swimming pool kit	 UTW-ESPXA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Cooling kit	 UTW-KCLXD	●	●	●	●	●	●	●	●	—*2	—*2	—*2	●	●	●	●	●	●	●	●	●
Regulation Extension Kit	 UTW-KREXD	●	●	●	●	●	●	●	●	●*6	●*6	●*6	●	●	●	●	●	●	●	●	●
Solar Regulation Kit	 UTW-KSRXE	●	●	●	●	●	●	●	●	●*6	●*6	●*6	—	—	—	—	—	—	—	—	—
Mode Exchange Kit	 UTW-KMEXE	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Low Noise Kit	 UTW-KLNXE	●	●	●	●	●	—	—	—	—	—	—	●	●	●	●	●	—	—	—	—
HMI Kit	 UTW-KHMXE <sup>5</sup>	●	●	●	●	●	●	●	●	●*6	●*6	●*6	●	●	●	●	●	●	●	●	●
Drain Pan	 UTW-KDPXA	—	—	—	—	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—

Product Name	Model Name	Split								Monobloc			Split DHW integrated type									
		High Power					Comfort			Compact			High Power					Comfort				
		1Ø		3Ø			1Ø			1Ø			1Ø		3Ø			1Ø				
		11	14	11	14	16	5	6	8	10	5	8	10	11	14	11	14	16	5	6	8	10
Remote Controller	Wired 	UTW-C75XA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		UTW-C75XA-E <sup>*5</sup>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Wireless 	UTW-C78XD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		UTW-C78XD-E <sup>*5</sup>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Room Thermostat	Wired 	UTW-C55XA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Wireless 	UTW-C58XD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Outdoor Sensor Transmitter		UTW-MOSXD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
RF Modules	for X60-Port 	UTW-M60XD	●	●	●	●	●	●	●	●	● <sup>*7</sup>	● <sup>*7</sup>	● <sup>*7</sup>	●	●	●	●	●	●	●	●	
	for BSB-Port 	UTW-MRCXD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Web server		UTW-KWSXD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		UTW-KW1XD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		UTW-KW4XD	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Cascade Master Kit (incl. LPB Clip)		UTW-KCMXE	●	●	●	●	●	—	—	—	●	—	—	—	—	—	—	—	—	—		
Cascade Slave Kit (incl. LPB Clip)		UTW-KCSXE	●	●	●	●	●	—	—	—	●	—	—	—	—	—	—	—	—	—		
LPB Clip		UTW-KL1XD	●	●	●	●	●	●	●	●	● <sup>*6</sup>	● <sup>*6</sup>	● <sup>*6</sup>	●	●	●	●	●	●	●	●	
Modbus Clip		UTW-KMBXE	—	—	—	—	—	—	—	—	● <sup>*6</sup>	● <sup>*6</sup>	● <sup>*6</sup>	—	—	—	—	—	—	—		
Base Heater		UTW-HAMXE	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—		
	<b>NEW</b> 	UTW-HAMXF	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—		
Service Tool (incl. OCI700 adaptor)		UTW-KSTXD	● <sup>*3</sup>	● <sup>*3</sup>	● <sup>*3</sup>	● <sup>*3</sup>	● <sup>*3</sup>	● <sup>*3</sup>	● <sup>*3</sup>	● <sup>*3</sup>												
Service Tool Software		UTW-KPSXD	● <sup>*4</sup>	● <sup>*4</sup>	● <sup>*4</sup>	● <sup>*4</sup>	● <sup>*4</sup>	● <sup>*4</sup>	● <sup>*4</sup>	● <sup>*4</sup>												
External connect kit		UTY-XWZXZ2	●	●	●	●	●	—	—	—	—	—	—	●	●	●	●	—	—	—		

\*1: DHW operation is possible without DHW Kit and DHW Tank. ● : Available — : Not Available  
\*2: Cooling operation is possible without cooling kit  
\*3: UTW-KL1XD is required for the connection.  
\*4: UTW-KW1XD or UTW-KW4XD is required for the connection.  
\*5: Eastern European Language(English, Czech Republic, Slovakia, Poland, Turkey, Hungary, Russia, Slovenia, Greece, Serbia)  
\*6: Only connectable to Hydraulic Unit WSYP100DF6  
\*7: Not in combination with Modbus Clip UTW-KMBXE  
\*8: Only connectable to Control Box UTW-SCBYA  
\*9: UTW-KL1XD is required when connecting to new Hydraulic Unit WSYP100DF6.

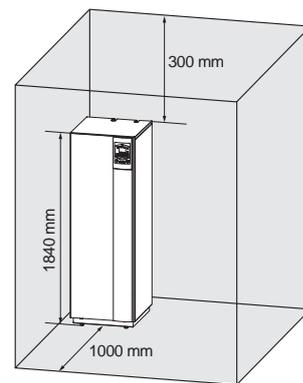
## SPLIT TYPE INSTALLATION LIMITATION

### Split Type Hydraulic unit



- Hydraulic unit is to be hang on the wall
- Weight < 60kg (including water)
- Distances for maintenance should be respected

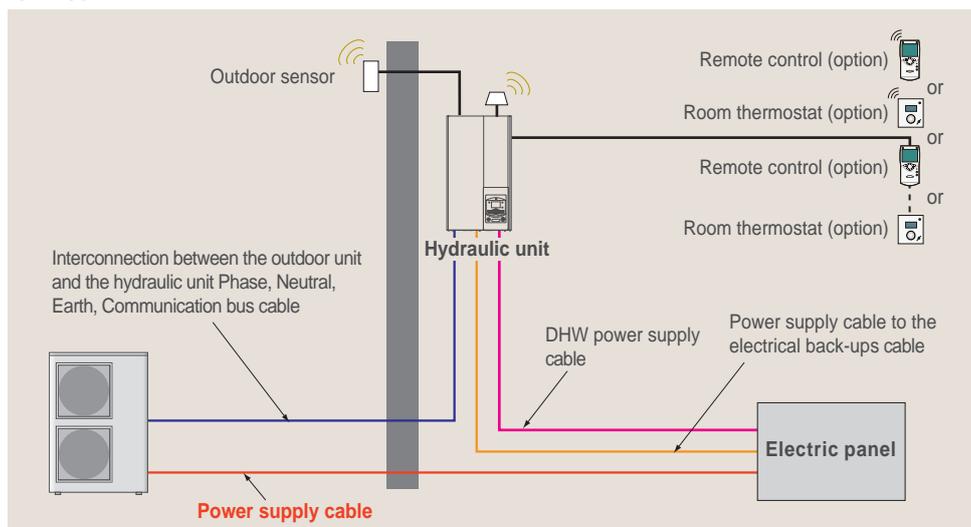
### Split DHW integrated Type Hydraulic unit



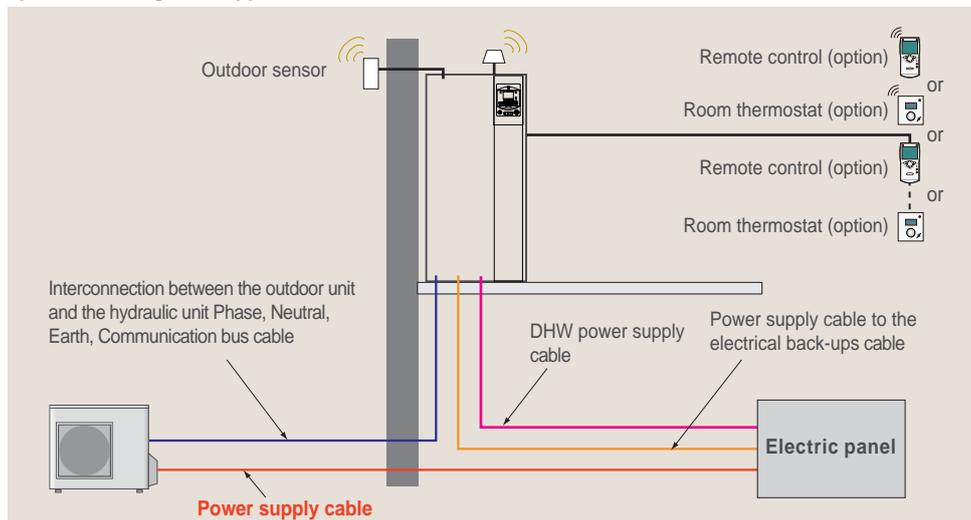
- Floor stand
- Weight:366kg (including water)
- Distances for maintenance should be respected.

## Electrical Wiring

### Split Type



### Split DHW integrated Type



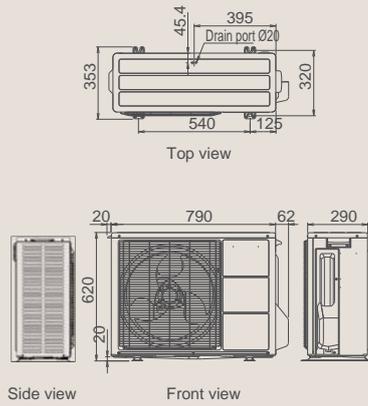


## SPLIT TYPE

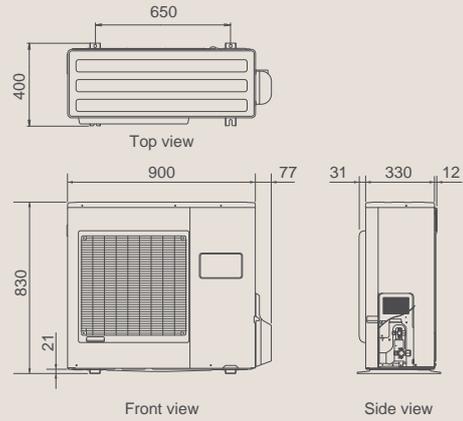
Unit : mm

### Outdoor Units Comfort series

WOYA060LDC / WOYA080LDC

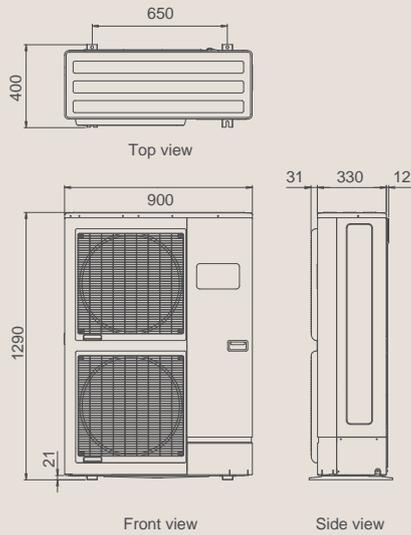


WOYA100LDT



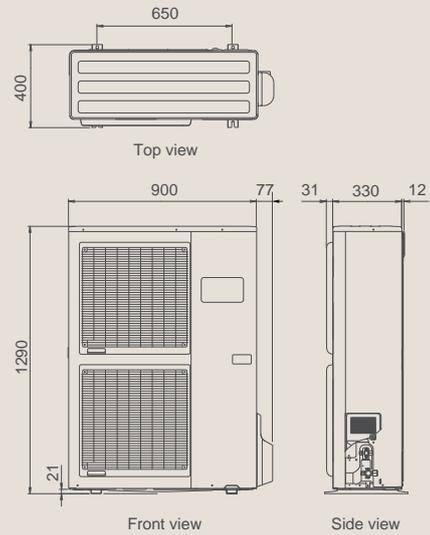
### Outdoor Units High Power series

WOYK112LCT / WOYK140LCT / WOYK160LCT



### Outdoor Units High Power series

WOYG112LCT / WOYG140LCT

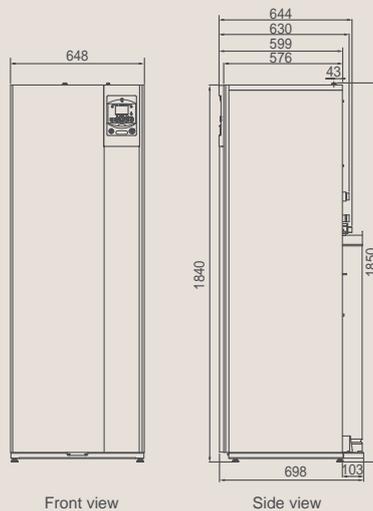


### Hydraulic units Split DHW integrated type High Power series

WGYG140DD6 / WGYK160DD9

### Hydraulic units Split DHW integrated type Comfort series

WGYA050DD6 / WGYA100DD6

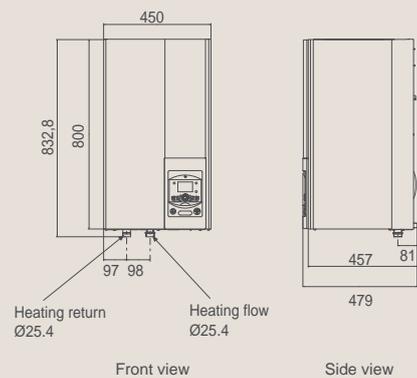


### Hydraulic units Split type High Power series

WSYG140DC6 / WSYK160DC9

### Hydraulic units Split type Comfort series

WSYA050DD6 / WSYA100DD6

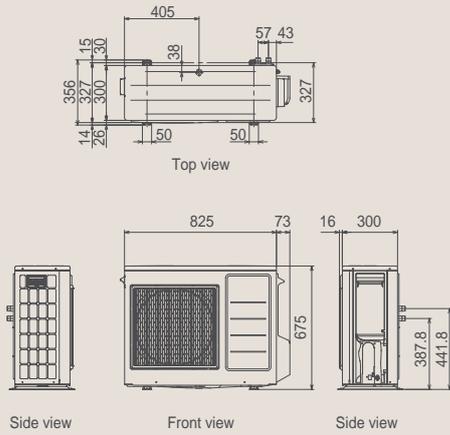


# MONOBLOC TYPE

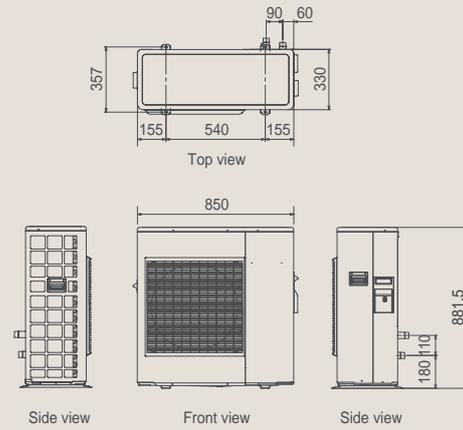
Unit : mm

## Compact series

WPYA050LE

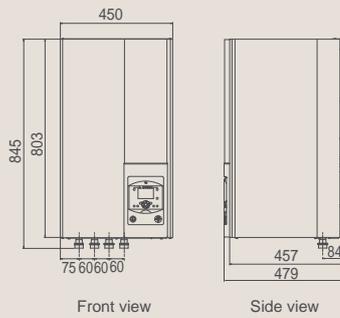


WPYA080LE / WPYA100LE



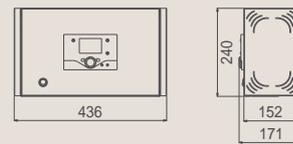
## Hydraulic unit

WSYP100DF6



## Control Box

UTW-SCBYA



# SPECIFICATIONS

Type				Split type								
Series name				High Power series				Comfort series				
												
Capacity range (kW)				11	14	11	14	16	5	6	8	10
+7°C / +35°C floor heating *1	Heating capacity	kW	10.80	13.50	10.80	13.50	15.17	4.50	6.00	7.50	10.00	
	Input power		2.54	3.23	2.51	3.20	3.70	0.996	1.41	1.84	2.49	
	COP		4.25	4.18	4.30	4.22	4.10	4.52	4.27	4.08	4.02	
+2°C / +35°C floor heating *1	Heating capacity	kW	10.77	12.00	10.77	13.00	13.50	4.50	4.95	5.65	7.70	
	Input power		3.44	3.87	3.40	4.15	4.34	1.39	1.53	1.78	2.47	
	COP		3.13	3.10	3.17	3.13	3.11	3.24	3.24	3.17	3.12	
-7°C / +35°C floor heating *1	Heating capacity	kW	10.80	12.00	10.80	13.00	13.50	4.10	4.60	5.70	7.40	
	Input power		4.32	5.08	4.28	5.18	5.40	1.47	1.74	2.23	2.97	
	COP		2.50	2.36	2.52	2.51	2.50	2.79	2.64	2.56	2.49	
+7°C / +45°C radiators *1	Heating capacity	kW	9.23	11.54	10.10	12.60	13.00	4.50	5.10	6.20	8.27	
	Input power		2.84	3.72	3.01	3.81	4.00	1.30	1.50	1.87	2.53	
	COP		3.25	3.10	3.35	3.30	3.25	3.46	3.40	3.31	3.27	
-7°C / +45°C radiators *1	Heating capacity	kW	9.16	11.45	10.02	12.50	13.00	4.10	4.45	5.05	7.40	
	Input power		4.58	5.92	4.63	6.00	6.37	1.86	2.04	2.47	3.70	
	COP		2.00	1.93	2.16	2.08	2.04	2.20	2.18	2.04	2.00	
Backup heater	Capacity	kWxpcs.	6.0(3.0x2 pcs.)	6.0(3.0x2 pcs.)	9.0(3.0 x 3pcs.)	9.0(3.0 x 3pcs.)	9.0(3.0 x 3pcs.)	6.0(3.0x2 pcs.)	6.0(3.0x2 pcs.)	6.0(3.0x2 pcs.)	6.0(3.0x2 pcs.)	
Hydraulic unit	Model name	WSYG140DC6		WSYK160DC9			WSYA050DD6	WSYA100DD6				
Power source			1Ø 230V, 50Hz		3Ø 400V, 50Hz			1Ø 230V, 50Hz				
Water circulation	Rated	L / min	31.2	39.0	31.2	39.0	43.8	13.00	17.33	21.66	28.88	
	Min / Max		25.0 / 50.0						8.1/16.2	10.8/21.7	13.5/27.1	18.1/36.1
Dimensions HxWxD			800 x 450 x 457				800 x 450 x 457					
Weight (Net)			42				42					
Buffer tank capacity			16				16					
Expansion vessel capacity			8				8					
Leaving water temperature range			8 to 60				8 to 55					
Water pipe connection diameter	Flow / Return	mm	Ø25.4 / Ø25.4				Ø25.4 / Ø25.4					
Outdoor unit	Model name	WOYG112LCT		WOYG140LCT	WOYK112LCT	WOYK140LCT	WOYK160LCT	WOYA060LDC	WOYA080LDC	WOYA100LDT		
Power source			1Ø 230V, 50Hz		3Ø 400V, 50Hz			1Ø 230V, 50Hz				
Current	Rated	A	11.4	14.2	3.7	4.8	5.5	4.5	6.3	8.1	10.9	
	Max		22.0	25.0	8.5	9.5	10.5	11.0	12.5	17.5	18.5	
Noise level (Sound pressure)			55 <sup>12</sup>	56 <sup>12</sup>	53 <sup>12</sup>	55 <sup>12</sup>	56 <sup>12</sup>	48 <sup>12</sup>	51 <sup>12</sup>	56 <sup>12</sup>	55 <sup>12</sup>	
Dimensions HxWxD			1290 x 900 x 330				620 x 790 x 290				830x900x330	
Weight (Net)			92		99			41		42		60
Refrigerant			R410A				R410A					
Refrigerant amount			2.50				1.10		1.40		1.80	
Additional refrigerant charge amount			50				20		20		40	
Connection pipe	Diameter	Liquid	Ø9.52				Ø6.35				Ø9.52	
		Gas	Ø15.88				Ø12.70				Ø15.88	
	Length	Min / Max	5 / 20				5 / 20					
		Length (chargeless)	Max	15				7.5				
Height difference	Max	15				15						
Operation range	Heating	°C	-25 to 35				-20 to 35					

\*1. The values of heating capacity/power input/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 and these values.

\*2. Sound pressure level measured at distance of 1 m from the device.

Type			Split DHW integrated type									
Series name			High Power series					Comfort series				
												
Capacity range (kW)			11	14	11	14	16	5	6	8	10	
+7°C / +35°C floor heating *1	Heating capacity	kW	10.80	13.50	10.80	13.50	15.17	4.50	6.00	7.50	10.00	
	Input power		2.54	3.23	2.51	3.20	3.70	0.996	1.41	1.84	2.49	
	COP		4.25	4.18	4.30	4.22	4.10	4.52	4.27	4.08	4.02	
+2°C / +35°C floor heating *1	Heating capacity	kW	10.77	12.00	10.77	13.00	13.50	4.50	4.95	5.65	7.70	
	Input power		3.44	3.87	3.40	4.15	4.34	1.39	1.53	1.78	2.47	
	COP		3.13	3.10	3.17	3.13	3.11	3.24	3.24	3.17	3.12	
-7°C / +35°C floor heating *1	Heating capacity	kW	10.80	12.00	10.80	13.00	13.50	4.10	4.60	5.70	7.40	
	Input power		4.32	5.08	4.28	5.18	5.40	1.47	1.74	2.23	2.97	
	COP		2.50	2.36	2.52	2.51	2.50	2.79	2.64	2.56	2.49	
+7°C / +45°C radiators *1	Heating capacity	kW	9.23	11.54	10.10	12.60	13.00	4.50	5.10	6.20	8.27	
	Input power		2.84	3.72	3.01	3.81	4.00	1.30	1.50	1.87	2.53	
	COP		3.25	3.10	3.35	3.30	3.25	3.46	3.40	3.31	3.27	
-7°C / +45°C radiators *1	Heating capacity	kW	9.16	11.45	10.02	12.50	13.00	4.10	4.45	5.05	7.40	
	Input power		4.58	5.92	4.63	6.00	6.37	1.86	2.04	2.47	3.70	
	COP		2.00	1.93	2.16	2.08	2.04	2.20	2.18	2.04	2.00	
Backup heater	Capacity	kWxpcs.	6.0(3.0x2pcs.)	6.0(3.0x2pcs.)	9.0(3.0 x 3pcs.)	9.0(3.0 x 3pcs.)	9.0(3.0 x 3pcs.)	6.0(3.0x2pcs.)	6.0(3.0x2pcs.)	6.0(3.0x2pcs.)	6.0(3.0x2pcs.)	
Hydraulic unit	Model name	WYG140DD6		WYK160DD9			WYA050DD6	WYA100DD6				
Power source			1Ø 230V, 50Hz		3Ø 400V, 50Hz			1Ø 230V, 50Hz				
Water circulation	Rated	L / min	31.2	39.0	31.2	39.0	43.8	13.00	17.33	21.66	28.88	
	Min / Max		25.0 / 50.0					8.1/16.2	10.8/21.7	13.5/27.1	18.1/36.1	
Dimensions HxWxD	mm		1840 x 648 x 698					1840 x 648 x 698				
Weight (Net)	kg		152					152				
DHW capacity	L		190					190				
Hot water heater capacity	kW		1.5					1.5				
Buffer tank capacity	L		16					16				
Expansion vessel capacity	L		12					12				
Leaving water temperature range	°C		8 to 60					8 to 55				
Water pipe connection diameter	Flow / Return	mm	Ø25.4 / Ø25.4					Ø25.4 / Ø25.4				
Hot water pipe diameter	mm		(Inlet/Outlet) Ø19.05					(Inlet/Outlet) Ø19.05				
Outdoor unit	Model name	WYG112LCT	WYG140LCT	WYK112LCT	WYK140LCT	WYK160LCT	WYA060LDC	WYA080LDC	WYA100LDT			
Power source			1Ø 230V, 50Hz		3Ø 400V, 50Hz			1Ø 230V, 50Hz				
Current	Rated	A	11.4	14.2	3.7	4.8	5.5	4.5	6.3	8.1	10.9	
	Max		22.0	25.0	8.5	9.5	10.5	11.0	12.5	17.5	18.5	
Noise level (Sound pressure)	dB(A)		55 <sup>*2</sup>	56 <sup>*2</sup>	53 <sup>*2</sup>	55 <sup>*2</sup>	56 <sup>*2</sup>	48 <sup>*2</sup>	51 <sup>*2</sup>	56 <sup>*2</sup>	55 <sup>*2</sup>	
Dimensions HxWxD	mm		1290 x 900 x 330					620 x 790 x 290				
Weight (Net)	kg		92		99			41		42		60
Refrigerant			R410A					R410A				
Refrigerant amount	kg		2.50					1.10		1.40		1.80
Additional refrigerant charge amount	g/m		50					20		20		40
Connection pipe	Diameter	Liquid	mm					Ø9.52		Ø6.35		Ø9.52
		Gas	mm					Ø15.88				
	Length	Min / Max	m					5 / 20				
		Length (chargeless)	Max	m					15			
Height difference	Max	m					15					
Operation range	Heating	°C	-25 to 35					-20 to 35				

\*1. The values of heating capacity/power input/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 and these values.  
\*2. Sound pressure level measured at distance of 1 m from the device.

# SPECIFICATIONS

Type			Monobloc type					
Series name			Compact series			with hydraulic unit		
								
Capacity range (kW)			5	8	10	5	8	10
+7°C / +35°C floor heating *1	Heating capacity	kW	5.00	8.00	10.00	5.00	8.00	10.00
	Input power		1.19	1.78	2.30	1.19	1.78	2.30
	COP		4.20	4.50	4.35	4.20	4.50	4.35
+2°C / +35°C floor heating *1	Heating capacity	kW	3.86	7.40	8.10	3.86	7.40	8.10
	Input power		1.20	2.73	3.00	1.20	2.73	3.00
	COP		3.22	2.71	2.70	3.22	2.71	2.70
-7°C / +35°C floor heating *1	Heating capacity	kW	3.55	7.10	8.00	3.55	7.10	8.00
	Input power		1.38	2.93	3.32	1.38	2.93	3.32
	COP		2.57	2.42	2.41	2.57	2.42	2.41
+7°C / +45°C radiators *1	Heating capacity	kW	4.40	7.80	9.80	4.40	7.80	9.80
	Input power		1.42	2.23	2.88	1.42	2.23	2.88
	COP		3.10	3.50	3.40	3.10	3.50	3.40
-7°C / +45°C radiators *1	Heating capacity	kW	3.50	6.50	7.00	3.50	6.50	7.00
	Input power		1.69	2.98	3.31	1.69	2.98	3.31
	COP		2.07	2.18	2.11	2.07	2.18	2.11
Hydraulic unit Model name			-			WSYP100DF6		
Power source			-			1Ø 230V, 50Hz		
Dimensions H×W×D			mm			800 × 450 × 457		
Weight (Net)			kg			42		
Buffer tank capacity			L			22		
Expansion vessel capacity			L			12		
Water pipe connection diameter			Flow / Return			mm		
						Ø25.4 / Ø25.4		
Monobloc unit Model name			WPYA050LE	WPYA080LE	WPYA100LE	WPYA050LE	WPYA080LE	WPYA100LE
Power source			1Ø 230V, 50Hz			1Ø 230V, 50Hz		
Water circulation	Rated	L/min	14.4	22.9	28.7	14.5	22.9	28.7
	Min / Max		5.0 / 20.0	10.0 / 30.0	10.0 / 30.0	5.0 / 20.0	10.0 / 30.0	10.0 / 30.0
Current	Rated	A	5.2	8.30	10.20	5.2	8.30	10.20
Noise level (Sound pressure)		dB(A)	48*2	51*2	51*2	48*2	51*2	51*2
Dimensions H×W×D		mm	675 × 825 × 300	881.5 × 850 × 330		675 × 825 × 300	881.5 × 850 × 330	
Weight (Net)		kg	50	74		50	74	
Water pipe connection diameter		mm	Ø19.05 / Ø19.05	Ø25.4 / Ø25.4		Ø19.05 / Ø19.05	Ø25.4 / Ø25.4	
Refrigerant			R410A			R410A		
Refrigerant amount		kg	1.05	1.5		1.05	1.5	
Leaving water temperature range		°C	8 to 55			8 to 55		
Operation range	Heating	°C	-20 to 35			-20 to 35		

\*1. The values of heating capacity/power input/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 and these values.

\*2. Sound pressure level measured at distance of 1m from the device.

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