



FUJITSU

Notice regarding specifications

I.U. = Indoor Unit O.U. = Outdoor Unit Qu = Quiet * = Not decided yet

- Specifications and design are subject to change without notice for future improvement.
- For further details, check with our authorized dealers.
- Cooling and heating capacities are based on the following conditions:

Cooling	Indoor temp. : 27°C DB/19°C WB Outdoor temp.: 35°C DB/24°C WB	Heating	Indoor temp. : 20°C DB Outdoor temp.: 7°C DB/6°C WB
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- Performance tests are conducted in accordance with EN14511.
- Seasonal efficiency tests are conducted in accordance with EN14825.
- Sound power tests are conducted in accordance with EN12102.



Fujitsu General (Thailand) Co., Ltd.



ISO 9001 Certification number: 01 100 075229
ISO 14001 Certification number: 01 104 9245

Fujitsu General (Shanghai) Co., Ltd.



ISO 9001 Certification number: 01 100 79269
ISO 14001 Certification number: CNB312244-UK

Fujitsu General Central Air-conditioner (Wuxi) Co., Ltd.



ISO 9001 Certification number: 15917020073R5M
ISO 14001 Certification number: 15918E20021R5M

- The products and equipment listed in this catalog contain fluorinated greenhouse gases.
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- **Palair** is a trademark of Fujitsu General Limited worldwide.
- * is a trademark of Fujitsu General Limited.
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PRODUCT CATALOGUE 2022

AIR CONDITIONERS LINEUP

AIR CONDITIONERS LINEUP PRODUCT CATALOGUE 2022

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FUJITSU GENERAL LIMITED

FUJITSU GENERAL LIMITED

OUR MESSAGE

SOLUTIONS

SPLIT

MULTI-SPLIT

VRF

VENTILATION

CONTROL SYSTEM & OPTIONAL PARTS

AIR TO WATER

SUPPORT

The FUJITSU GENERAL Way

Our mission

Living together for our future

Through innovation and technology, we deliver a brighter future with peace of mind to our customers and societies around the world.

Our philosophy

Act spontaneously

We embrace new challenges by investing in ourselves for personal growth, and through continuous creativity with a spontaneous attitude.

Develop or team

We respect and value our people, and optimize their abilities through fostering culture and diversity, and utilizing a collaborative effort focused on communication.

Value integrity

To achieve our goals, we always act with integrity and shared ethics.

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PRODUCT LINEUP

SPLIT & MULTI-SPLIT

VRF

VENTILATION

CONTROL SYSTEM & OPTIONAL PARTS

AIR TO WATER

SUPPORT

- Sp-002 AIRSTAGE™ Support
- Sp-004 AIRSTAGE™/RAC Support Tool
- Sp-006 WATERSTAGE™ Support Tool
- Sp-008 Quick Service & Maintenance Service Tool
- Sp-010 Service Tool
- Web Monitoring Tool

OUR MESSAGE




for Sustainable



for Cleanliness



for Future

**Innovation &
Globalization**



for Comfort



for Control



for Design

We create comfortable lives for people around the world with "made-in-Japan quality" and innovative manufacturing.

-  History
-  Worldwide locations
-  Global business activities
-  Project references
-  Global development & Production bases
-  High-quality development & Production facilities



Sustainable

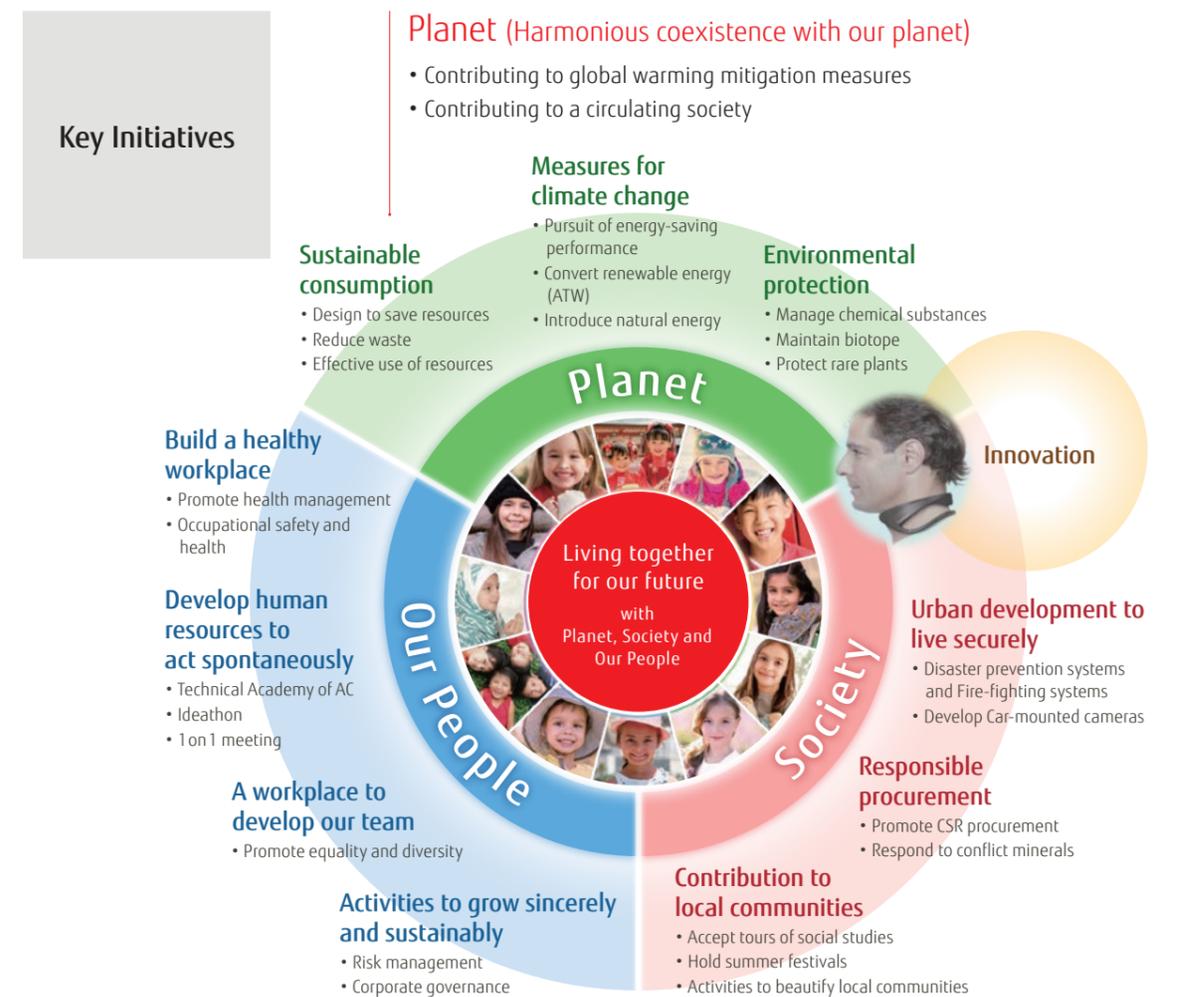


Sustainable management

We see the challenge of expanding our business by contributing to the realization of a sustainable society as a core element of our growth strategy, and we are working on "sustainable management," based on the three pillars of "harmonious coexistence with our planet," "social contribution," and "care for employees."

Basic policy on sustainable management

The sustainable development goals (SDGs) of the UN will drive business creation in the coming years. The key principle of the SDGs, "Leave no one behind," is synonymous with our own corporate philosophy of "Living together for our future." The promotion of sustainable management is carried out from a medium- to long-term perspective, with a promise to shape a sustainable society for the children and society of the future. We will pursue business growth by accelerating this transformation.



Our People (Care for employees)

- Strategic implementation of health and productivity management
- Creating flexible work styles under COVID-19
- Enhancing human resource development

Society (Social contribution)

Fostering innovation to address social issues (Providing a healthy, clean, and safe society and environment)



Cleanliness

Think about air quality

Fresh air is essential for comfortable air conditioning. Fujitsu General offers a wide range of air conditioning products with air purification functions, such as ventilation systems equipped with high-performance filters and heat exchangers.

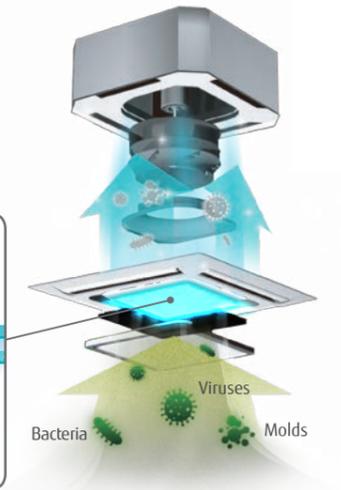
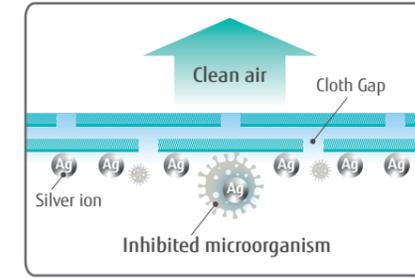


Collecting dust particles to clean the air



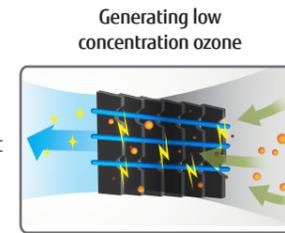
Silver Ion Filter

The Silver ion filter helps to keep indoor air free from viruses, bacteria and molds. Notice: Not a result of experiments in an actual use environment. Silver ion filter inhibits activity or growth of microorganism, but do not prevent infection.



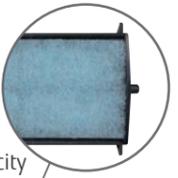
Plasma Air Clean

Air passing through the indoor unit is cleaned by a built-in electrostatic dust collector. Pollen, house dust and other tiny pollutants are collected and removed with static electricity.

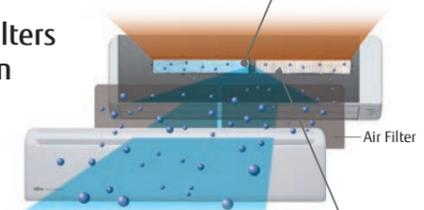


Apple-catechin Filter

The Apple-catechin filter uses static electricity to remove fine particles and dust from the air.



Different filters are used on each side



Ion Deodorization Filter

Deodorizes the air by decomposing absorbed odors using the oxidizing and odor-reducing effects of ions generated by ultra-fine particle ceramic.



Ventilation with adequate airflow with reduced temperature changes

Heat Exchange Ventilation

When a room is cooled or heated, the exhausted cooling or heating energy is recovered by heat exchange ventilation.



Adopts a high-efficiency counterflow heat exchange element

Air handling unit

The Air handling units connected to Fujitsu General's AIRSTAGE™ system are equipped with technology that provides high energy efficiency and superior comfort to meet the most stringent air conditioning requirements and installation conditions.





Future



The Green refrigerant

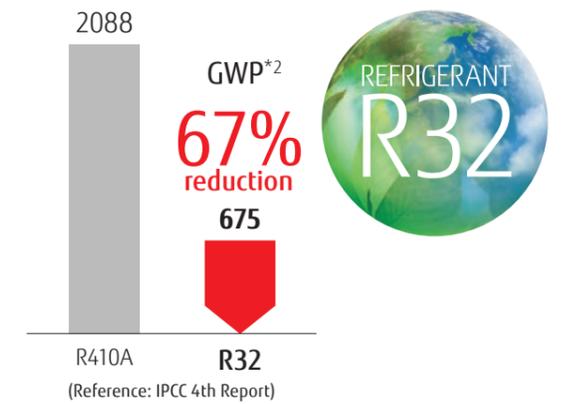
Throughout our research and development process, we are constantly striving to create products that we can be proud of in the future. The technologies we have cultivated through these efforts are incorporated into our environmentally friendly products, and are recognized in the European market, which has extremely strict environmental regulations.

R32 refrigerant with reduced global warming potential

- **Zero** Ozone Depletion Potential (ODP^{*1})
- High environmental properties
- High performance
- Economically efficient

^{*1} **ODP (Ozone Depleting Potential)**: a relative value that indicates the impact per unit weight of ozone-depleting substances released into the atmosphere when CFC-11 (trichlorofluoromethane, CCl3F) is fixed at 1.0

^{*2} **GWP (Global Warming Potential)**: a measurement that indicates how much other greenhouse gases are capable of warming the Earth based on carbon dioxide. This is the integrated value of radiant energy given to the Earth (i.e., the estimated impact on global warming) expressed as a ratio to CO2.



Our pioneering efforts to create a green future

Fujitsu General follows the EU Climate Action Plan 20/20/20 by 2020.

20% Less primary energy use

Fujitsu General's energy-efficient air conditioners are designed to consume less electricity, thus reducing primary energy usage.

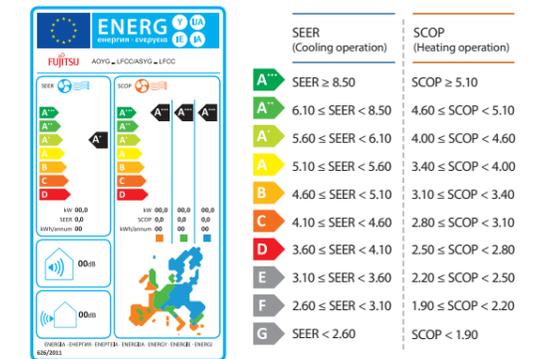
20% Less CO₂ emissions

Fujitsu General products closely follow the F-Gas regulation 517/2014/EU.

20% Coming from renewable energy

Fujitsu General is promoting air sourced heat pumps as renewable energy source heating systems

New energy labelling requirement 626/2011/EU
Our air conditioners have reached the "**Class A+++**" ranking, the highest energy efficiency level that is now shown on energy labels in Europe.



Less is more

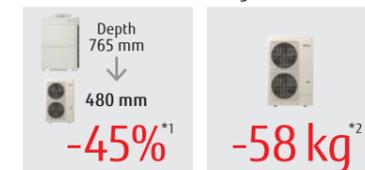
Space Noise Refrigerant

Less Space

Improved installation flexibility

Our class-leading compact outdoor units range from 8 to 18 HP, and their flexibility in installation does not detract from the appearance of the building.

Installation area **Weight (18 HP model)**

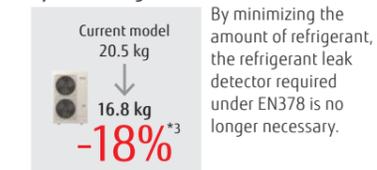


Less Refrigerant

Refrigerant saving design

The compact indoor unit, piping design, and optimization of heat exchanger volume significantly reduce the system refrigerant volume.

System refrigerant volume



VRF outdoor units

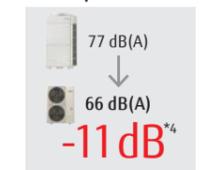


Less Noise

Class-leading low operating sound

The outdoor units in this series are designed to operate extremely quietly. They are an ideal choice for installation in densely populated areas.

Sound power level (8 HP model)



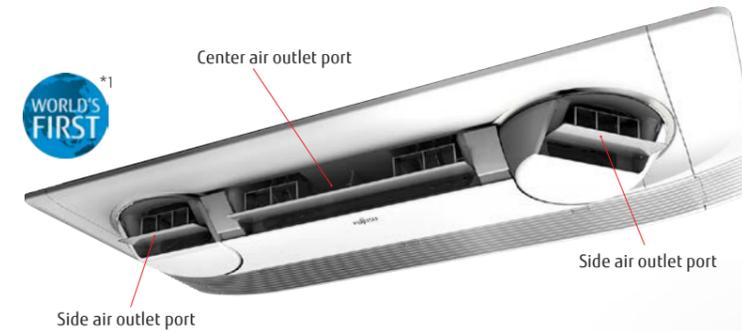
^{*1}: J-IV Series are compared with V Series 14/16/18 HP models. ^{*2}: J-IV Series 18 HP model is compared with V-IV Series 18 HP models. ^{*3}: E.g.) when 30 indoor units are connected to 1 system (Outdoor unit: 12 HP; Indoor unit: 1.1 kW × 30; Total pipe length: 277.5 m) • J-IV Series is compared with current Series. ^{*4}: J-IVL Series 8 HP model is compared with V Series 8 HP



Comfort

Comfortable airflow design

Pursuing the potential of air conditioners and true comfort, Fujitsu General has developed and commercialized numerous world-first technologies, and these concepts are reflected in the design of our products.



Cassette type One-way flow Series

Wide airflow range created by triangle design and large flap

A large flap with a wide range of movements, equipped with louvers arranged triangularly, sends air into every corner of the room.

Cassette type 3D flow Series

3 individually controlled air outlet ports

The Comfortable airflow setting enables the right and left air outlet ports as well as the wide center port to work together to provide a comfortable room environment.



Cassette type Circular flow Series

Unique circular flow design

This Series realizes a Circular Flow to blow a large airflow in a 360° direction by using a high-performance DC fan motor, turbo fan, and a unique seamless airflow louver design.



Wall-mounted type

Comfortable airflow control to prevent the body from being exposed to direct airflow

Hybrid Airflow, which combines air currents of different temperatures and velocities, creates a comfortable space.



*1, *2, *3, *4, *5

Comfort pursued through advanced technologies



Lambda heat exchanger^{*3}



Power diffuser^{*4}



Filter auto clean^{*5}



Dual-fans^{*2}



3 Air outlet ports^{*1}

The dual-fans equipped with the flagship "nocria X" model optimally control airflow. The unique form brings a comfortable airflow to every corner of the room. The power diffuser opens the lower flap of the main unit and blows warm air downward to heat the room from the floor, increasing heating efficiency. The lambda heat exchanger improves the operating efficiency, contributing to the compactness of the indoor

units. In addition, the automatic filter cleaning function that we have developed ensures ease of maintenance and operating efficiency. The "nocria X" airflow control system is also used in the cassette type, creating a comfortable space with three types of airflow. Fujitsu General's unique technology enables the system to create a comfortable space.

*1: Announced 2018. In room air conditioner for the home (Our company's investigation) *2: Announced 2012. In room air conditioner for the home (Our company's investigation) *3: Announced 1994. In room air conditioner for the home (Our company's investigation) *4: Announced 1991. In room air conditioner for the home (Our company's investigation) *5: Announced 2002. In the category of room air conditioners for the home (Our company's investigation).



Control

Operation from Anywhere

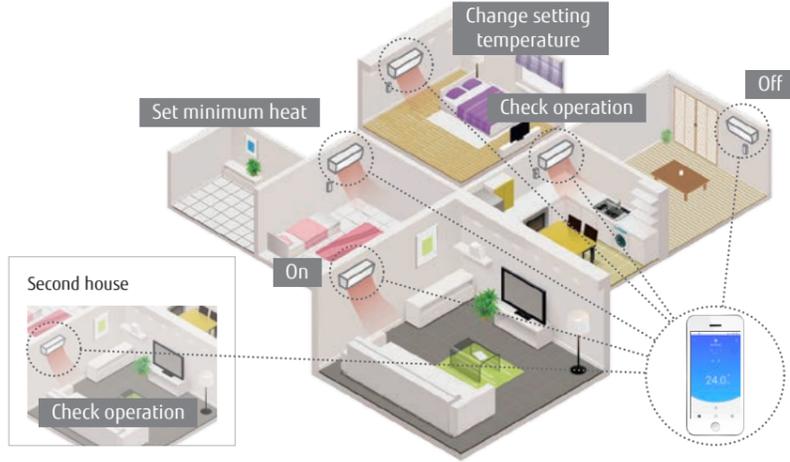
Using the Internet of Things (IoT), Fujitsu General is actively providing services that allow users to control their air conditioners from their smartphones. We are also expanding our open co-creation activities with external partners to deepen the development of new functions and services using IoT and artificial intelligence (AI) to develop safe and convenient air conditioners.



User-friendly screen display enables easy operation. With the WLAN adapter and the FGLair app, you can control the heating and cooling of your home anytime, anywhere.

Should you forget to turn off the system before you leave home, you don't have to worry.

"FGLair" is a software application that allows users to control Fujitsu General air conditioners from anywhere outside with a mobile device while out or on the move.



WLAN adapter

The dedicated WLAN adapter enables the air conditioner to be operated by smartphone or tablet PC from outside the home.

WLAN adapter (USB)

+
FGLair™
Download Free

Download on the App Store | Get it on Google play



Compact wired remote controller

- Large screen and simple display**
- Large screen, yet compact in size
 - Large, easy-to-read letters are used.
 - The controls are simple and easy to understand.



Central remote controller for VRF system

The central remote controller uses a touch panel screen to display multiple menus on the top screen. Just touch the menu you want to operate, and the necessary window will pop up, and allow intuitive operation.

Remote monitoring and operation
The central remote controller enables monitoring and control of a tenant's air conditioner anytime, anywhere.





Design



Create a Beautiful Space

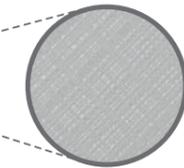
Fujitsu General offers a wide range of products for the European market, including models with unique textural designs, award-winning models that integrate with room interiors, and Cassette type models with different designs that match office spaces. We also have a lineup of models with elegant designs, such as the Ceiling type models with its beautiful curved surface.

KE Series

Wall-mounted type

KE Designer Series

We have designed this series exclusively for the European market. The exterior design harmonizes beautifully with any decor and adds comfortable elegance to the room. The light, elegant and three-dimensional expression achieved by the curved surface looks beautiful from any angle.



CMF: Color Material Finish

The texture of the front panel expresses the craftsmanship of Europe, and changes its expression with the changing light of the day.

Design award-winning products

Wall-mounted type, design Series



Light Elegant Design

New Ceiling type design

The light, elegant and three-dimensional expression achieved by the curved surface gives a sense of comfort and well-being.



Different Cassette type Designs



Compatible with grid ceiling systems
Compact cassette Series
for grid ceiling



Beautiful design from any angle
Cassette type Circular flow Series
White panel



For ambience with dimmed lighting
Cassette type Circular flow Series
Black panel



History

Yaou Shoten Ltd. established in 1936

Overseas air conditioning business since 1971

Starts air conditioning business in Japan in 1960

1971 Air conditioner exports to the Middle East.

1977 "Super Power, Super Quiet" Series released

1982 Window type 3 Super Series released



AL/AX Series

1985 Large wall-mounted type and multi-split air conditioner released.

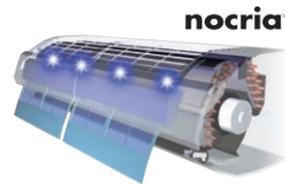
WORLD'S FIRST *1,*2 **1991** World's first air conditioner equipped with lambda heat exchanger

1994 World's first air conditioner with power diffuser

2001 AIRSTAGE™ Series released VRF air conditioners for large buildings



WORLD'S FIRST *3 **2002** Air conditioner with the world's first automatic self-cleaning filter system



2004 Standalone Compact VRF AIRSTAGE™ J Series released



2006 VRF Heat Pump type Maximum 42 HP AIRSTAGE™ V Series released



2009 VRF Heat Pump Modular type Maximum 48 HP AIRSTAGE™ V-II Series released



2009 Air to water system released

For Light commercial use

2011 High energy-saving type AIRSTAGE™ J-II Series released

2014 Compact & lightweight outdoor unit AIRSTAGE™ J-IIS equipped with a single fan for improved ease of installation

2016 Compact VRF AIRSTAGE™ J-III Series with advanced energy efficiency and easy installation released

2017-19 Compact VRF AIRSTAGE™ J-IIIIL Series for light commercial use released

2020 Compact & lightweight outdoor unit AIRSTAGE™ J-IVL, J-IV, J-IVS Series released



2019 New cassette style released
Cassette type 3D flow Series

For Commercial use

2012 Heat Recovery Modular type AIRSTAGE™ VR-II Series Maximum 48 HP released

2014-15 Heat Pump Modular type AIRSTAGE™ V-III Series Maximum 54 HP for large buildings released

2020 Heat Recovery type AIRSTAGE™ VR-IV Series Maximum 48 HP released



2020 AIRSTAGE™ Air handling unit released

For Residential use

2011 Hi-spec Design model LT Series & LU Series released

2017 Flagship Wall-mounted type "nocria X" released

2017-19 Added to this lineup recently are the environment-friendly R32 refrigerant models. (Split & Multi-split type)



For Light commercial use

AIRSTAGE
2021-22 New Indoor units released for easy installation.



For Commercial use

AIRSTAGE V-IV
Release of new products with energy-saving operation.



For Residential use

R32 Split & Multi-split New products released for easy installation.



1950 ~

1970 ~

2000 ~

2010 ~

2022 What's New

Manufacturing Company Establishment

1955 Head Office established in Kawasaki

1964 Electronic components factory in Ichinoseki



1977 Air conditioner manufacturing company in Hamamatsu (now Hamamatsu business office)

1991 Air conditioner manufacturing company in Thailand

1994 Air conditioner manufacturing company in Shanghai, China

1998 Air conditioner motor manufacturing company in Thailand

2006 VRF air conditioner manufacturing, sale, and service company in China

2007 Air Conditioner Technology Building becomes operational on the premises of the Kawasaki Headquarters. Air conditioner R&D Center in Kawasaki

2009 Compressor Factory begins operation in Thailand

2012 Joint venture in Thailand to manufacture compressors

2016 Commercial use air conditioner R&D Center in Thailand



2019 New building constructed at Kawasaki Head Office to strengthen development capabilities:

Base for creating new value by combining internal and external knowledge



2020 Building IoT-based manufacturing

Implementing a real-time IoT system to instantly visualize and analyze various information



Fujitsu General (Thailand) Co., Ltd. (Thailand) Factory-2



Fujitsu General (UK) Co., Ltd. (UK)



Fujitsu General (EURO) GmbH

Sales & service maintenance company established

1976 North America sales company

1977 Europe sales company (UK)

1978 Australia sales company and Europe sales company (Germany)

1980 Brazil sales company

1997 Asia sales company (Singapore)

1998 Middle East sales company (UAE) and New Zealand sales company

2000 Air conditioner manufacturing and sale technical partnership in India

2002 Taiwan sales company

2006 China sales company

2016 THE AIRSTAGE™ ON BROADWAY in New York



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*4: Announced 2018. In room air conditioner for the home (Our company's investigation) *5: Announced 2012. In room air conditioner for the home (Our company's investigation)



Worldwide locations

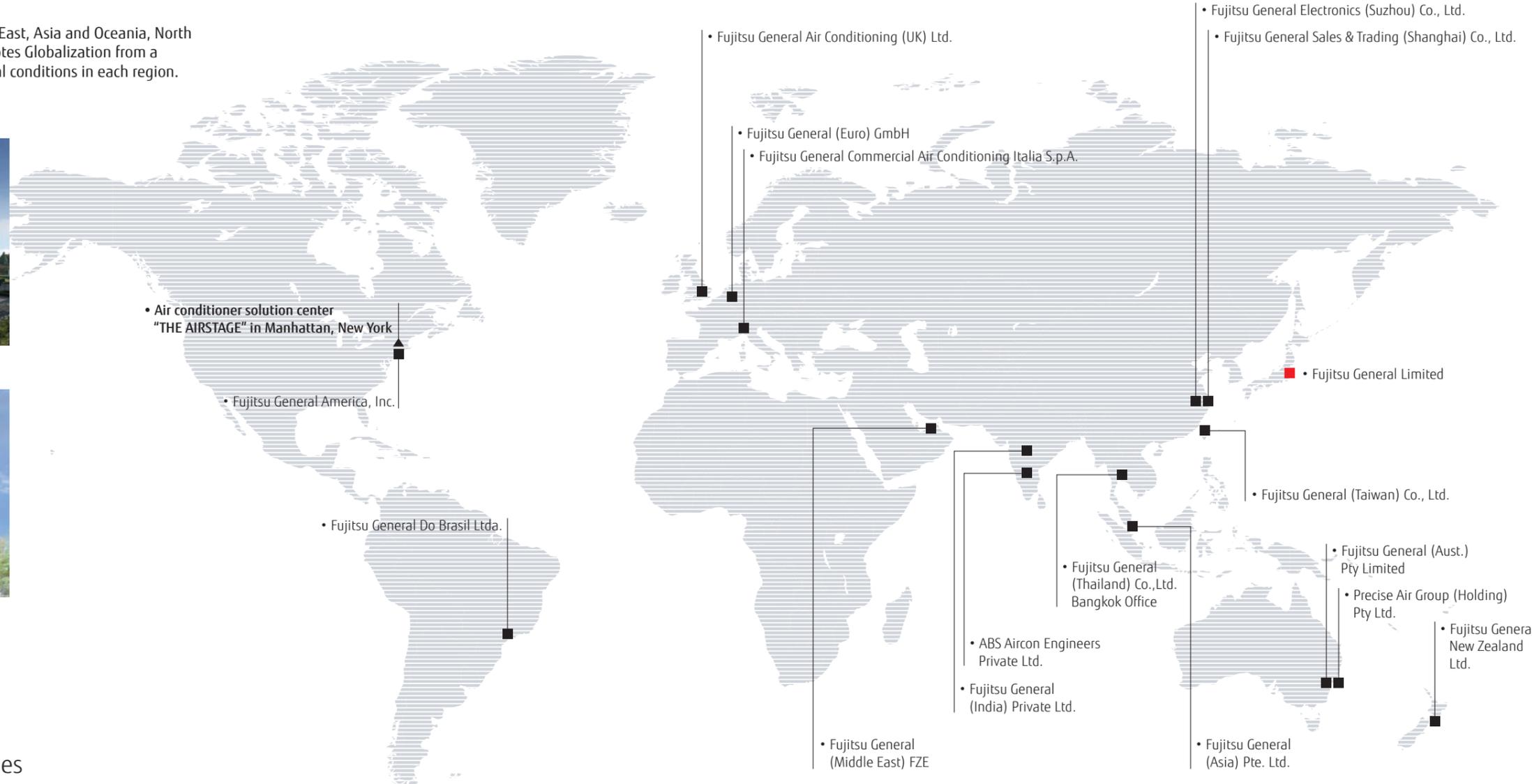
Under a system of five bases in Europe, the Middle East, Asia and Oceania, North and South America, and Japan, the company promotes Globalization from a worldwide perspective while emphasizing the actual conditions in each region.



JAPAN Head Office



Technology research building (Japan)



18 Overseas Sales Companies



Fujitsu General Sales & Trading (Shanghai) Co., Ltd.



Fujitsu General (Taiwan) Co., Ltd. (Taiwan)



Fujitsu General (Thailand) Co.,Ltd. Bangkok Office (Thailand)



Fujitsu General (Asia) PTE. Ltd. (Singapore)



Fujitsu General (EURO) GmbH (Germany)



Fujitsu General Air Conditioning (UK) Ltd. (U.K.)



Fujitsu General Commercial Air Conditioning Italia S.p.A. (Italy)



Fujitsu General (India) Private Ltd. (India)



Fujitsu General (Aust.) Pty Ltd. (Australia)



Precise Air Group (Holding) Pty Ltd. (Australia)



Fujitsu General New Zealand Ltd. (New Zealand)



Fujitsu General (Middle East) FZE (U.A.E.)



ABS Aircon Engineers Private Ltd. (India)



Fujitsu General Do Brasil Ltda. (Brasil)



Fujitsu General America, Inc. (U.S.A.)

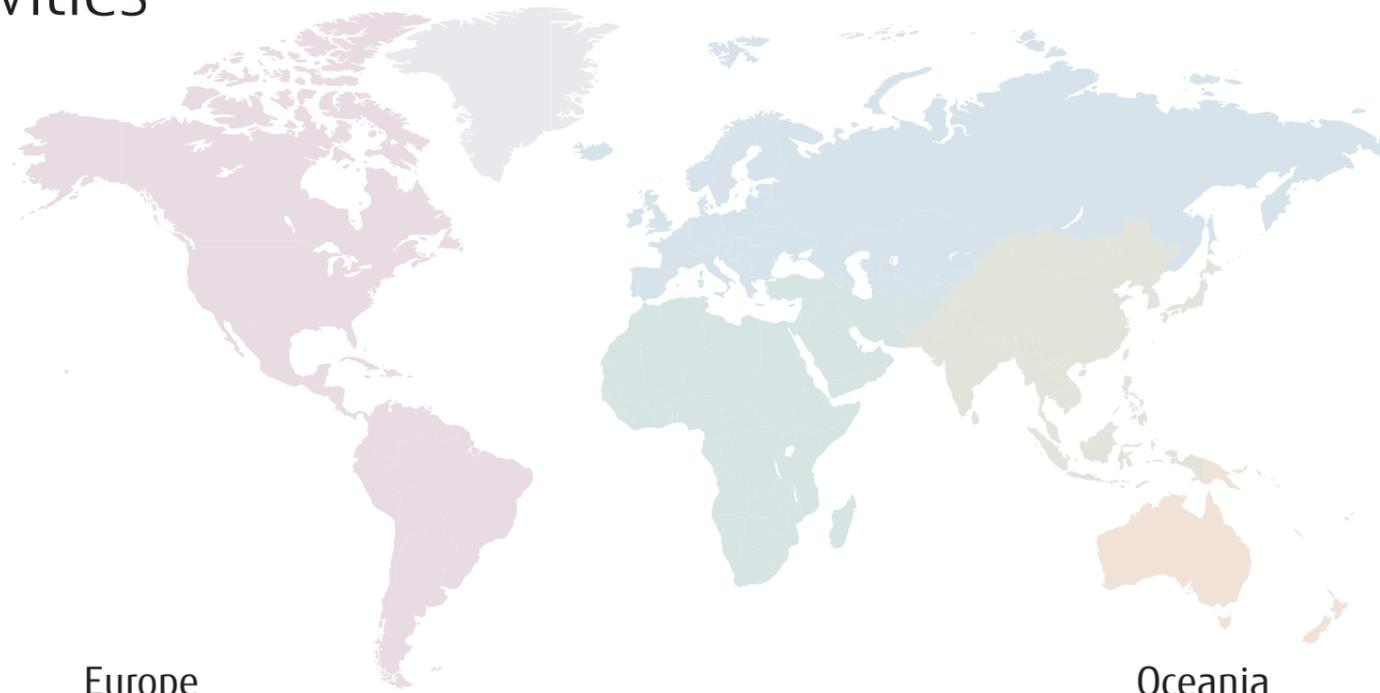


FUJITSU GENERAL SOLUTION CENTER "THE AIRSTAGE" (U.S.A.)



Global business activities

We have been recognized for our activities in advertising, human resource development and customer service, as well as for our community-based social contribution activities in each region, winning numerous awards and achieving a high level of customer satisfaction.



North and South Americas



AHR Expo



HVAC trade shows in Brazil



Distributor meeting



Call center

Middle East



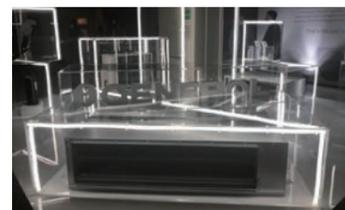
Exhibition



Dealer Convention in Kuwait



Technical seminar



New product seminar

Europe



HVAC trade show in European countries



Presentation & training



HVAC trade show in European countries



The ACR Show



Oceania



HVAC trade show in Australia



Volunteer in Australia



Service & Maintenance

Asia



New product presentation meeting



Dealer convention in Thailand



Training



Call center

International authoritative design awards



The NEWS Dealer Design Awards



Gold Award (Category: HVAC & PLUMBING) in Reader's Choice Awards



TOP OF MIND 2016 First prize in "MARCA DE EQUIPAMENTO DE AR-CONDICIONADO" category of "CLIMATIZACAO" division



Superbrands is the world's largest independent arbiter of branding.



The iF Product Design Award is given annually by iF International Forum Design GmbH for industrial products from around the world.



The Plus X Award is the world's largest innovation award for technology, sports and lifestyle.



reddot winner 2020

A product design competition that has been held since 1955. Products that win the award are given the "Red Dot" seal, a sign of international recognition of quality.



Voted by Australians as the 'Most Trusted Brand' - Air Conditioning Category 4 Years Running



China State Engineering Luban Prize



The Good Design Award is an award sponsored by the Japan Institute of Design Promotion, and is given once a year to items of outstanding design.



Project references

Introduced in over 50 countries worldwide

Highly popular for their excellent quality, energy efficiency, and ease of installation, Fujitsu General's products are installed in a wide range of buildings around the world, including high-rise office buildings, stores, hotels, public facilities, schools, hospitals, and residences.



2



1



3



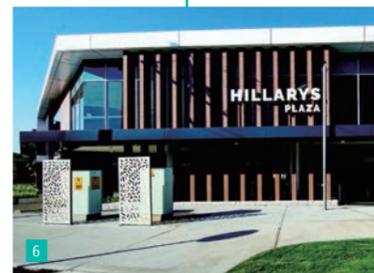
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5



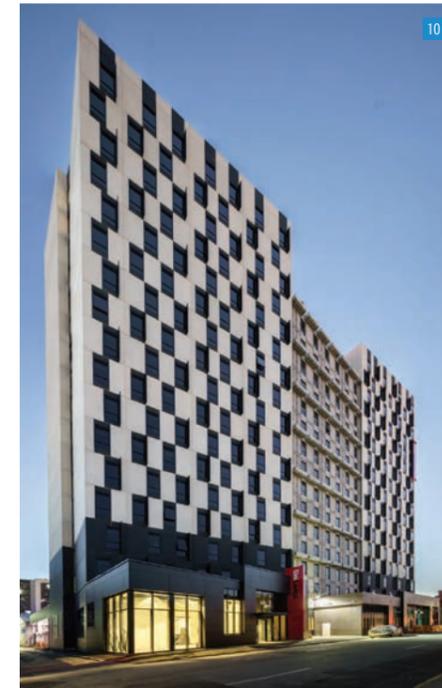
7



6

For Light commercial use

- 1 Bank in Europe
- 2 Museum in Europe
- 3 School in Asia
- 4 Hospital in Asia
- 5 School in the Middle East
- 6 Shop in Oceania
- 7 Public facility in the United States



10



9



11



13

For Commercial use

- 8 Hotel in Asia
- 9 Office in Asia
- 10 Apartment in Oceania
- 11 Apartment in Oceania
- 12 Public facility in Asia
- 13 Hotel in the Middle East



8

For Residential use

- 14 Residence in Oceania
- 15 Residence in the United States
- 16 Villa in the Middle East



14



15



16



Global development & Production bases

We have established R&D bases in five countries from Japan, Europe, Asia, China, and North America to pursue environmental properties and comfort according to the needs of each region.

- Head office
- R&D center
- Manufacturing companies



R&D center & Technology Research Building



R&D center in Fujitsu General (EURO) GmbH (Germany)



North America R&D Center (USA)



Fujitsu General Air Conditioning R&D (Thailand) Co., Ltd. (Thailand)



R&D center in Fujitsu General (Shanghai)



JAPAN Head office, R&D center and 60 m height difference testing tower (Japan)

Technology research building in Japan Head office



Constructing IoT-based manufacturing
We are implementing a real-time IoT-enabled system to immediately visualize and analyze various information such as facility operating status, assembly line production progress, and parts inventory and transportation status. This will further enhance the accuracy of production and shipping forecasts in the Head Office and factory management departments. The system will also help improve activities by employees at production sites, with the aim of improving the efficiency of the production process, the efficiency of parts distribution operations, and the utilization rates of the facilities.

Overseas manufacturing companies



Fujitsu General (Shanghai) Co., Ltd. (China)



F.G.L.S. Electric Co., Ltd. (China)



Fujitsu General Central Air-conditioner (Wuxi) Co., Ltd. (China)



Fujitsu General Electronics Ltd. (Japan)



Fujitsu General (Thailand) Co., Ltd. (Thailand) Factory-2



Fujitsu General (Thailand) Co., Ltd. (Thailand)



Fujitsu General Air Conditioning R&D (Thailand) Co., Ltd. (Thailand)



FGA (Thailand) Co., Ltd. (Thailand)



TCFG Compressor (Thailand) Co., Ltd. (Thailand)



High-quality development & Production facilities

Advanced Research Facilities and Equipment

Performance tests



Airflow measurement room
Measure the airflow of air conditioners, from compact room air conditioner models to variable refrigerant flow (VRF) systems.



Calorimeter
Measure the temperature, humidity, and airflow at the inlet and outlet of the air conditioner to evaluate its cooling and heating capacity.



Silent room
Measure the operating sounds of air conditioners on walls and ceilings with reduced sound reflection.

Fujitsu General is one of Japan's leading manufacturers with R&D centers in Japan. The research and development conducted in these facilities contributes to providing our customers with the highest quality and performance.

Reliability tests



Constant temperature room
Verify product performance in cooling and heating operations under various temperature and humidity conditions.



Practical test room
Check whether the performance of the air conditioner can be sustained under the conditions of the actual housing environment.



Shower test room
Check if the electrical box of the outdoor unit is protected from strong wind and rain, such as during a typhoon.

Transportation and Handling Tests



Compressibility test



Vibration test



Technology research building in Japan Head office

Testing laboratory

Fujitsu General EMC Laboratory Limited



60-m Height Difference testing tower

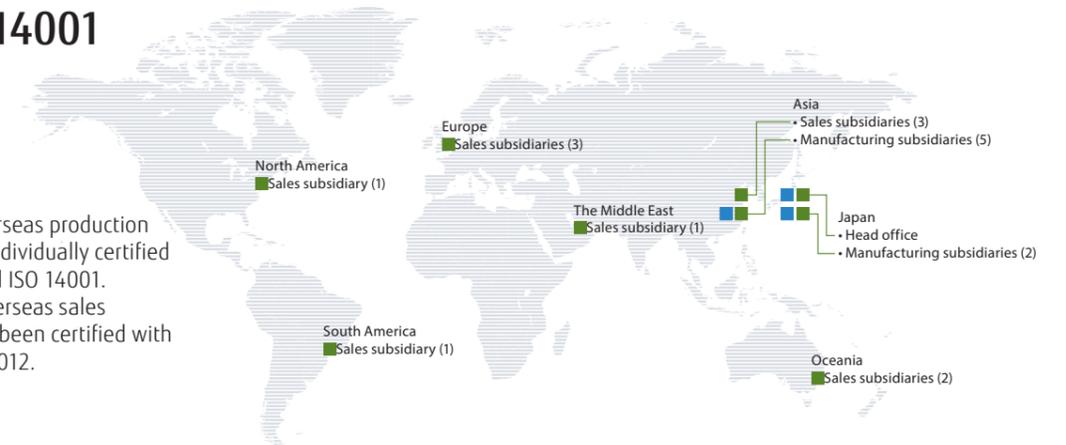
Tests oil circulation in a compressor for reliability.



Certification of ISO 9001 and ISO 14001

■ ISO 9001
■ ISO 14001
() Number of companies

The Group's 5 overseas production subsidiaries are individually certified with ISO 9001 and ISO 14001. The Group's 11 overseas sales subsidiaries have been certified with ISO 14001 since 2012.



Product Quality Assurance

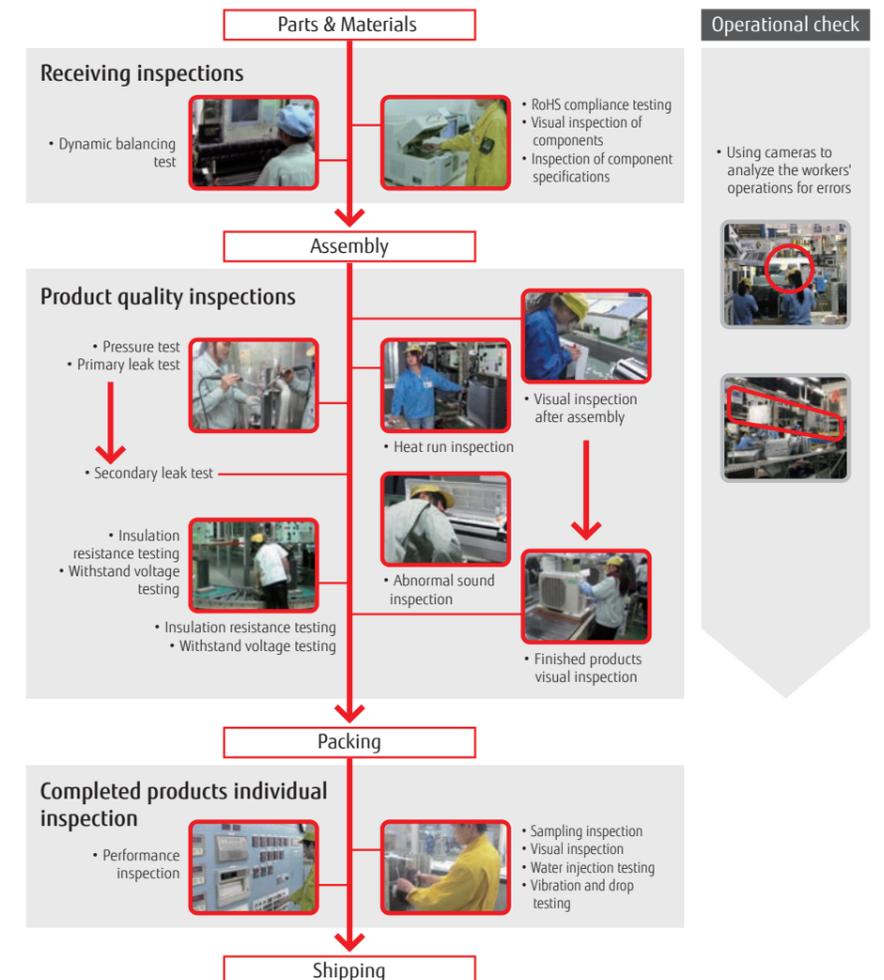
All Fujitsu General plants are ISO 9001 certified and operate under a unified quality control system. We deliver to customers all over the world high-quality products that have passed stringent quality inspections.

Receiving inspection

We require all our parts suppliers to submit test reports to ensure that all parts we receive from them meet our quality standards. Our in-house test department inspects incoming parts to ensure their compliance with RoHS as required by the EU. We also conduct 100% inspection of main parts to prevent defective parts from making it to assembly lines.

Quality inspection of products

We carry out stringent quality inspections in all production processes performed in our plants. To keep the quality of our products high, inspectors check their quality from start to finish on production lines.



2022 New Products



Split & Multi-split indoor unit
Wall-mounted type Standard Series
High-efficiency & Comfort

REFRIGERANT R32 SPLIT

Wall-mounted type

Designer Series, Standard Series, ECO Series

S-016-027

- 7-36 classes, 23 models
- High-efficiency
- New WLAN adapter (option)
- R32 refrigerant & low refrigerant volume
- Easy access to the flare pipe connection



KG Designer Series
High Spec & Design

KM Standard Series
High Efficiency & Large Room

KP ECO Series
Compact & Comfort

KE Designer Series
Cool Beauty Design

Duct type

High static pressure duct

S-040

- 45/54 classes, 2 models
- Link up with a variety of Central Control System (option)
- Easy installation
- Flexible Installation



REFRIGERANT R32 MULTI-SPLIT

2-unit to 5-unit Multi-split type

Indoor units

M-006, 022

Wall-mounted type
Designer Series, Standard Series

- 16 models
- Capacity range
from 7,000 to 24,000 BTU



KG Designer Series
High Spec & Design

KE Designer Series
Cool Beauty Design

KM Standard Series
High Efficiency & Large Room



AIRSTAGE V-IV

Outdoor Unit 8 - 48 HP model

V-046-051

- 34 models
- New intelligent refrigerant control
- Low noise operation
- Indoor unit capacity range from 1.1 kW to 28.0 kW classes
- Up to 64 indoor units can be connected



8, 10 HP

12, 14, 16 HP

AIRSTAGE Indoor unit

High static pressure duct type

Normal

V-074

- 2 models
- Static pressure mode selection
- Easy installation (Compact & Lightweight)
- Low noise



High Static Pressure Duct

Wall-mounted type

V-084

- 2 models
- Powerful & Comfort airflow
- 6-step fan speed control for quiet operation



Wall-mounted type

CONTROL SYSTEM

Wired remote controller

(with touch panel)

C-010

For tenants in small to midsize commercial premises

- Multi system control
- Refrigerant cycle monitor
- Touch screen LCD
- Built-in daily/weekly timer (ON/OFF, temperature, modes)
- Backlit screen for easy operation in the dark.



Central remote controller

C-028

For tenants in small to midsize commercial premises

- Monitoring room temperature of each room
- 50 Remote controller groups display
- Remote controller groups rename
- Added individual wind direction control
- Human sensor setting of Indoor unit
- Increased the number of accounts for remote management



AIRSTAGE mobile

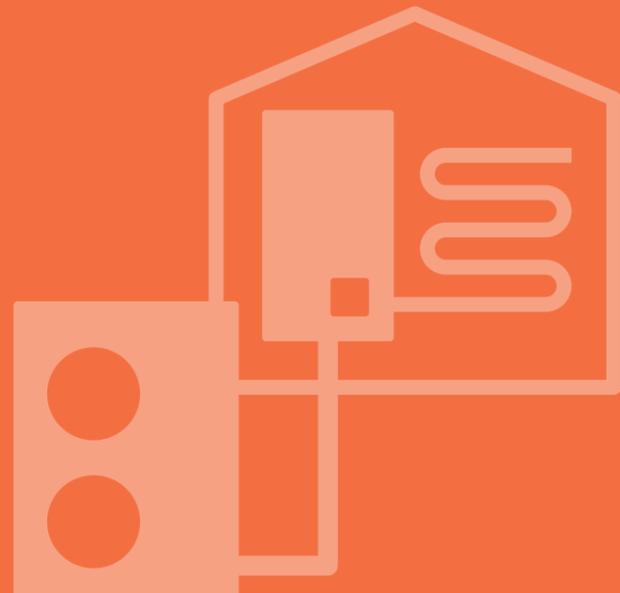
Future Release

- Operation from anywhere
- Multiple air conditioning management
- Group management



Residential AIR TO WATER

- W-002 WATERSTAGE™ Overview
- W-004 WATERSTAGE™ Lineup
- W-006 Benefits
- W-008 Home Heating & Domestic Hot Water Supply
- W-010 High-Efficiency Technology
- W-012 Split Type
 - Comfort Series
 - Super High Power Series
 - High Power Series
- W-018 Split DHW Integrated Type
 - Comfort Series
 - Super High Power Series
 - High Power Series
- W-024 Control Overview
- W-026 Comfort Control
- W-028 System Configuration
- W-030 Case Studies
- W-032 Simple installation
 - Easy Installation & Maintenance
- W-034 Installation Requirements
- W-036 AIR TO WATER Optional Parts



WATERSTAGE™

Innovative solutions for Home Heating

SPLIT TYPE/SPLIT DHW INTEGRATED TYPE

AIR TO WATER
Residential



FUJITSU GENERAL LIMITED

WATERSTAGE™ Overview

Solutions that meet a variety of needs

Water heated by WATERSTAGE™ using clean energy is delivered reliably and comfortably throughout the house, including the living room, bedrooms, bathrooms—even a swimming pool.



24 Models

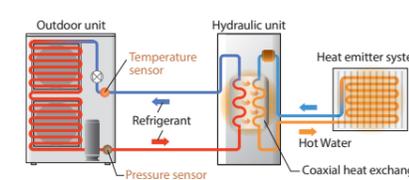
Fujitsu General WATERSTAGE™ heat pumps offer a variety of high-efficiency renewable central heating systems that absorb energy primarily from the air.



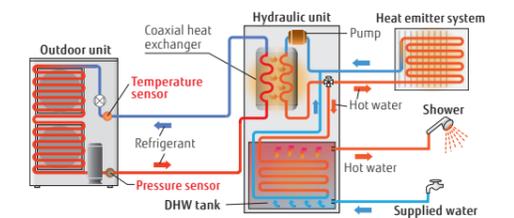
Optimized refrigerant cycle operation

Super High Power and High Power Series deliver high performance and efficiency with twin sensors and hot water heating technology.

Split Type

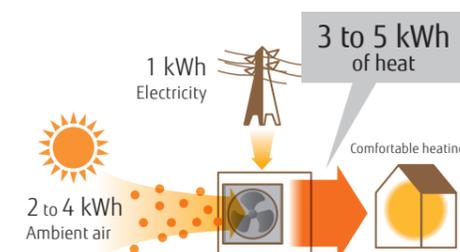


Split DHW Integrated Type



What is a heat pump?

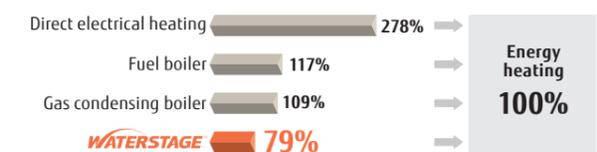
A heat pump extracts heat energy from the atmosphere. It requires only 1 kW of electricity to generate 3 to 5 kW of thermal energy.



Primary energy usage reduced substantially

Proportion of primary energy converted into heating energy is 100%

Primary Energy Consumption*



* The amount of electricity loss varies according to the power plant. Typical energy efficiency of a power plant: 36%

WATERSTAGE™ Lineup



Type	Split Type						Split DHW Integrated Type							
	Super High Power Series		High Power Series		Comfort Series		Super High Power Series		High Power Series		Comfort Series			
Hydraulic unit														
Outdoor unit														
Capacity range	16 kW	15/17 kW	11/14 kW	11/14/16 kW	5/6 kW	8 kW	10 kW	16 kW	15/17 kW	11/14 kW	11/14/16 kW	5/6 kW	8 kW	10 kW
System outline	<ul style="list-style-type: none"> Supplies 60°C hot water even when the outdoor temperature is -20°C. Supplies 55°C hot water even when the outdoor temperature is -22°C. Can be used with a variety of heating systems, including underfloor heating and radiators.* Heating and DHW supply in one system.* Equipped with additional electric heater for backup Up to two independent control circuits.* Cooling operation is possible.* Operating range is -25 to 35°C. 		<ul style="list-style-type: none"> Supplies 60°C hot water even when the outdoor temperature is -20°C. Can be used with a variety of heating systems, including underfloor heating and radiators.* Heating and DHW supply in one system.* Equipped with additional electric heater for backup Up to two independent control circuits.* Cascade connection is possible for up to three systems.* Cooling operation is possible.* Operating range is -25 to 35°C. 		<ul style="list-style-type: none"> Supplies 55°C hot water even when the outdoor temperature is -22°C. Heating and DHW supply in one system.* Equipped with additional electric heater for backup Up to two independent control circuits.* Cooling operation is possible.* Operating range is -20 to 35°C. Can be used with a variety of heating systems, including underfloor heating and radiators.* 		<ul style="list-style-type: none"> Supplies 60°C hot water even when the outdoor temperature is -20°C. Supplies 55°C hot water even when the outdoor temperature is -22°C. Can be used with a variety of heating systems, including underfloor heating and radiators.* Space saving heating and DHW supply in a single Hydraulic unit Equipped with additional electric heater for backup Up to two independent control circuits.* Cooling operation is possible.* Operating range is -25 to 35°C. 		<ul style="list-style-type: none"> Supplies 60°C hot water even when the outdoor temperature is -20°C. Can be used with a variety of heating systems, including underfloor heating and radiators.* Space saving heating and DHW supply in a single Hydraulic unit Equipped with additional electric heater for backup Up to two independent control circuits.* Cooling operation is possible.* Operating range is -25 to 35°C. 		<ul style="list-style-type: none"> Supplies 55°C hot water even when the outdoor temperature is -22°C. Heating and DHW supply in one system. Equipped with additional electric heater for backup Up to two independent control circuits.* Cooling operation is possible.* Operating range is -20 to 35°C. Can be used with a variety of heating systems, including underfloor heating and radiators.* 			
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		
Capacity	5 kW				WSYA050ML3 WOYA060KLT							WGYA050ML3 WOYA060KLT		
	6 kW				WSYA080ML3 WOYA060KLT							WGYA080ML3 WOYA060KLT		
	8 kW				WSYA080ML3 WOYA080KLT							WGYA080ML3 WOYA080KLT		
	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 WOYK170LJL					

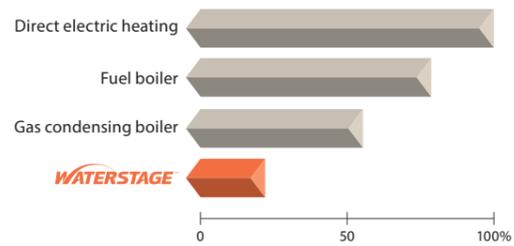
* Please refer to page W-036, W-037 for more optional parts information.

Benefits

Less
CO₂ Emissions

WATERSTAGE™ is an environmentally friendly system that emits substantially less carbon dioxide than conventional gas and hydrocarbon combustion systems.

Average annual CO₂ emissions



*Calculations based on energy efficiency data provided by the European Programme for Energy Efficiency in EU-27: 89% for fuel boilers; 93% for gas boiler

Clean
and Healthy

As a WATERSTAGE™ system does not use a burner to heat water, it does not produce NO_x or other harmful substances.



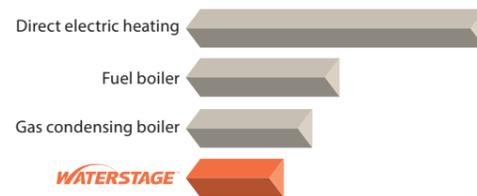
Environmentally friendly heating system



Low
Running Cost

High-efficiency heat pump technology keeps the running cost of a WATERSTAGE™ system.

Average annual running cost



*The running cost may vary depending on a system's installation, geographical location, and operating conditions.

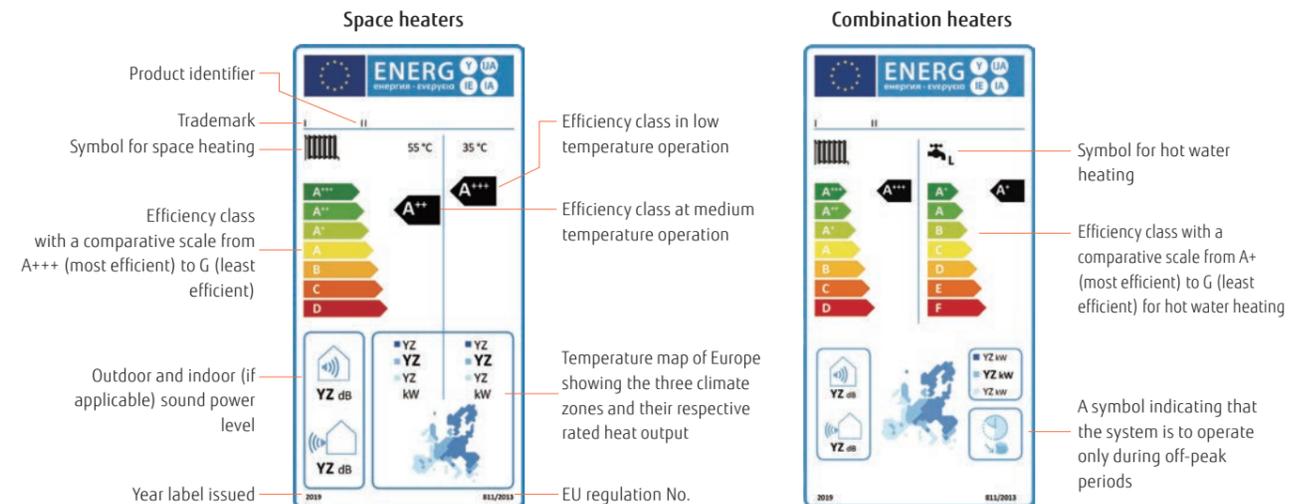
Easy
Installation and Maintenance

All components are built into a compact outdoor unit or a Hydraulic unit.



Well-designed Hydraulic unit
The sophisticated arrangement of Hydraulic units makes piping and maintenance work easy.

Energy Efficiency Standards Product labels



The Ecodesign Directive Lot 1 Regulation 813/2013

The Ecodesign directive defines a regulatory framework for improving the environmental performance of energy-related products (ErP) through design. Since September 26, 2015, the Ecodesign Directive has applied to space heaters, including heat pumps and fossil fuel fired boilers, combination heaters for space and hot water heating, water heaters, and water storage tanks.

All of these products must meet minimum requirements for energy efficiency*¹ and maximum sound power level. The minimum energy efficiency class were raised on September 26, 2017, and the maximum sound levels were lowered on September 26, 2018.

*1: Energy efficiency is expressed in terms of seasonal space heating efficiencies (η_s). The value is based upon the Seasonal Coefficient of Performance (SCOP).

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

Energy label is intended to enable consumers to make direct comparisons of energy use and product features. All labels should indicate the product identifier, efficiency class, sound power level, and heat output. Heat generators are rated A+++ to D. There are two different product labels. One for space heaters and one for combination heaters.

Seasonal space heating Energy efficiency class

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

EHPA Quality Label



Fujitsu General's WATERSTAGE™² has acquired the EHPA Quality Label³ through testing in accordance with the International Standards EN14511 and EN17025. The EHPA Quality Label³ is a label that shows the end-consumer a quality heat pump unit on the market.

*2: 3-phase High Power Series only
*3: Learn more about the validity of the mark at www.ehpa.org/quality/quality-label/

SG ready Label



SG ready is a label issued to heat pumps and their control technologies that meet the requirements set by BWV⁴, and technologies that conform to their standards can be integrated into a smart grid. SG ready labeled heat pumps receive signals from the power grid and PV systems with regard to energy and renewable energy sources such as wind, solar, and water. All of Fujitsu General's new heat pump series are SG ready compatible.

*4: BWP: Bundesverband Wärmepumpe e. V. (Federal German Heat Pump Association)

The CEN Heat Pump KEYMARK

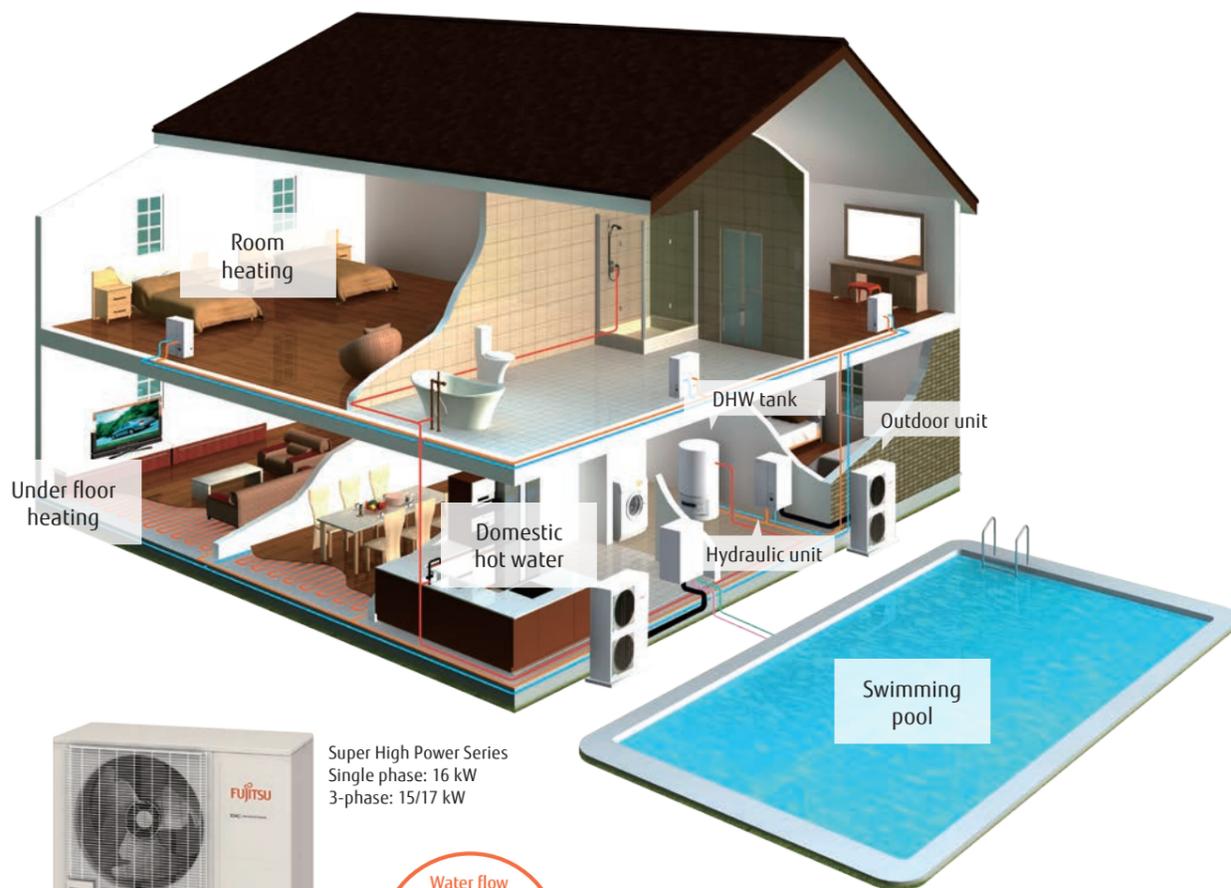


The Heat Pump KEYMARK is a full certificate supporting the quality of heat pumps in the European market. The Heat Pump KEYMARK is a voluntary, independent, European certification mark (ISO Type 5 Certification) for all heat pumps, combination heat pumps, and hot water heaters (as covered by Ecodesign, EU Regulation 813/2013 and 814/2013). Fujitsu General's WATERSTAGE™⁵ has acquired the KEYMARK certificate⁶.

*5: R32 refrigerant comfort model only
*6: Learn more about the validity of the mark at www.heatpumpkeymark.com/about/

Home Heating & Domestic Hot Water Supply

A wide range of products to suit regional characteristics, family structures, and usage patterns. We provide a variety of products to meet the needs of customers from the heating-centered High Power Series to the reasonably priced Compact Series.



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

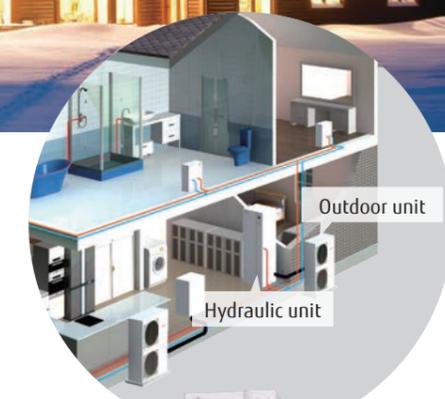
Water flow temperature
60°C

* When using the Swimming pool, other devices (Radiator, DHW tank etc.) cannot be connected in the same system. The Swimming pool hydraulic components will need be 3rd party supplied.

Floor heating and domestic hot water supply

Outdoor units and hydraulic indoor units can be installed flexibly and easily. Hydraulic units installed inside the house prevent the circulating water from freezing. More units can be cascaded together to provide a greater heating capacity with greater flexibility.¹

*1: High Power Series only



Adopting R32 refrigerant

R32 refrigerant is an environmentally friendly refrigerant with a significantly lower Global Warming Potential (GWP) than conventional refrigerants.

Stylish space saving solution with built-in DHW tank



Built-in DHW tank saves a great deal of space.

Existing boilers can be replaced easily. A higher heating capacity can be achieved with the flexibility to cascade more units.



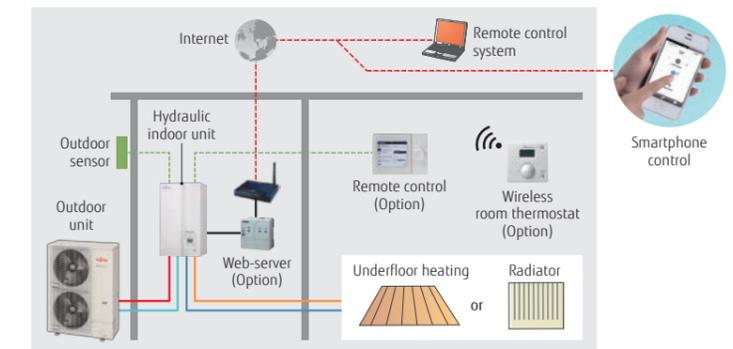
+ DHW tank

A DHW tank (optional) can be connected to supply hot water.

+ Boiler

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

* Please refer to page W-036, W-037 for more optional parts information.



Smart control

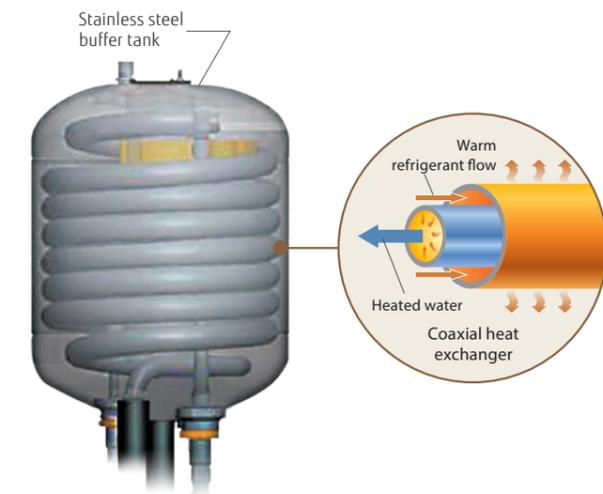
To meet the diverse needs of customers, we offer a variety of control options, such as individual control and remote control options.

High-Efficiency Technology

Twin-Rotary Compressor



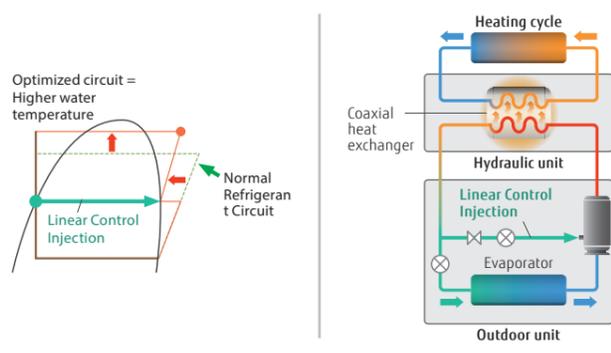
High-durability coaxial heat exchanger



For Outdoor unit

Twin-Rotary Compressor with Linear Control Injection Port

The compressor achieves a high condensing temperature without overheating the discharge gas temperature due to the Linear control injection process used during compression. This makes the condensing temperature higher than in a normal circuit. Higher water temperatures can be achieved by controlling the injection volume according to usage conditions.



For Hydraulic unit

Stainless steel buffer tank

Heat exchange amount is 25% higher than the previous model. Energy-saving performance has also been improved.

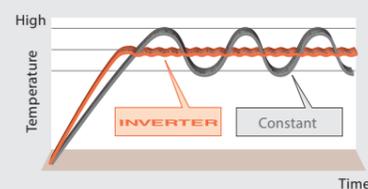
- Anti-corrosion protection
- No flow switch required
- Anti-freeze protection not required

Class A Pump

Energy-saving pump with the ability to adjust the flow rate and pressure to a constant level



DC inverter technology controls temperatures precisely.



Split Type

Comfort Series



High water flow temperature

The temperature of water flow is up to 55°C without a backup heater. Hot water supply temperature can be maintained even at -10°C outdoor temperature.

* If you want to raise the temperature of the water supply to above the maximum temperature, use a backup heater to supplement the primary heater.



High COP

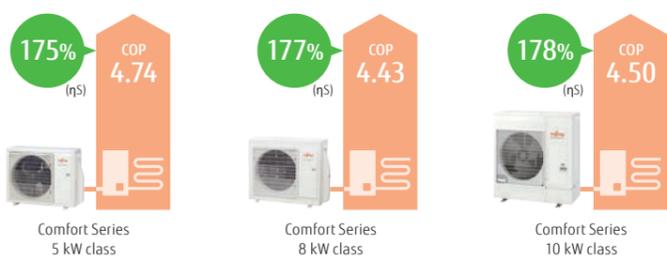
Heat pumps of WATERSTAGE™ ATW Systems work more efficiently and consume less energy than conventional heating systems.

Energy efficiency class **A+++***

*Temperature application: Heating temp. 35°C

Seasonal space heating energy efficiency (η_s)

Conditions: 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-efficiency DC twin-rotary compressor

DC Inverter
DC inverter provides smooth water temperature control.

Hydraulic unit:
WSYA050ML3/WSYA080ML3/
WSYA100ML3
Outdoor unit:
WOYA060KLT/WOYA080KLT/
WOYA100KLT



Specifications

Model Name	Hydraulic unit	WSYA050ML3	WSYA080ML3	WSYA080ML3	WSYA100ML3				
	Outdoor unit	WOYA060KLT	WOYA060KLT	WOYA080KLT	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				
Space heating characteristics**									
Temperature application	°C	55	35	55	35	55	35	55	35
Energy efficiency class		A++	A+++	A++	A+++	A++	A+++	A++	A+++
Rated heat output (P _{rated})	kW	5	5	6	7	8	9	8	9
Seasonal space heating energy efficiency (η _s)	%	125	175	125	175	128	177	130	178
Annual energy consumption	kWh	3,035	2,322	3,411	2,594	3,903	2,982	5,083	3,875
Sound power level*3	Hydraulic unit	40	-	40	-	40	-	40	-
	Outdoor unit	57	-	57	-	60	-	62	-
Hydraulic unit specifications									
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	13.2/30.0				
Buffer tank capacity	L	16	16	16	16				
Expansion vessel capacity	L	8	8	8	8				
Water flow temperature range	Max. °C	55	55	55	55				
Water pipe connection diameter	Flow/Return mm	Ø25.4/Ø25.4	Ø25.4/Ø25.4	Ø25.4/Ø25.4	Ø25.4/Ø25.4				
Backup heater	Capacity kW	3.0	3.0	3.0	3.0				
Outdoor unit specifications									
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)							
	Charge	kg	0.97	0.97	1.02	1.63			
Additional refrigerant charge		g/m	25	25	20				
	Diameter	Liquid mm	6.35	6.35	6.35	9.52			
Connection pipe	Length	m	3/30	3/30	3/30				
	Length (Pre-charge)	m	15	15	15				
	Height difference	Max. m	20	20	20				
Operating range	Heating	°C	-20 to 35	-20 to 35	-20 to 35				

*1: Heating capacity, input power, and COP are measured using the EN14511 standard. Actual usage environments, such as the operating modes of the heating equipment, room temperature, and controller settings, may cause differences in values between those listed in the catalog and the actual performance characteristics.

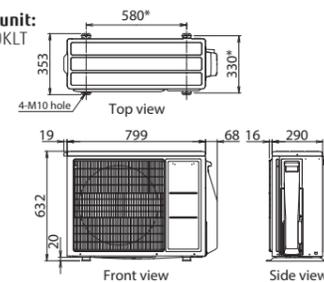
*2: Information about ErP can be downloaded from our website at www.fujitsu-general.com/global/support/downloads/search/

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

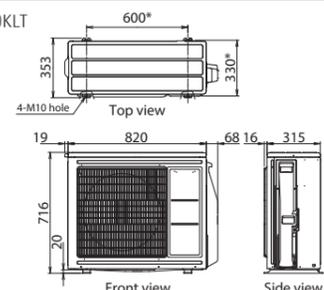
Dimensions

(Unit: mm)

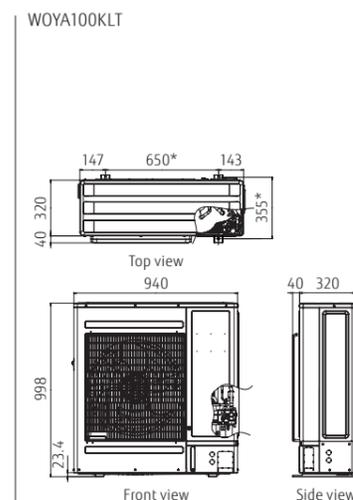
Outdoor unit:
WOYA060KLT



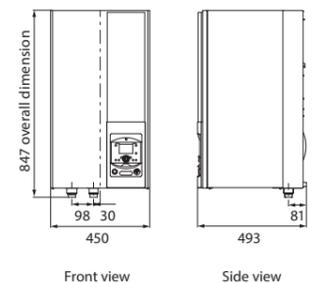
WOYA080KLT



WOYA100KLT



Hydraulic unit:
WSYA050ML3/WSYA080ML3/WSYA100ML3



*Pitch of bolts for installation

Split Type

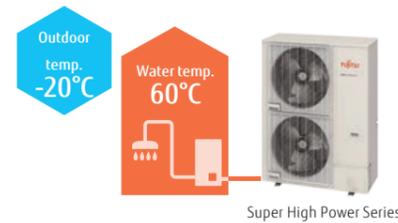
Super High Power Series



High water flow temperature

The temperature of water flow can be maintained at 60°C without using a backup heater, even when the outdoor temperature drops to -20°C. The system can supply 55°C water without a backup heater at an outdoor temperature of -22°C.

* If you want to raise the temperature of the water supply to above the maximum temperature, use a backup heater to supplement the primary heater.



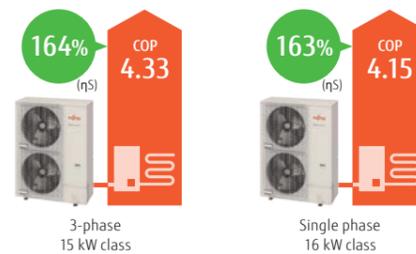
High COP

Heat pumps of WATERSTAGE™ ATW Systems work more efficiently and consume less energy than conventional heating systems.



Seasonal space heating energy efficiency (η_s)

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



Operating range extended to -25°C

Operating range improved down to -25°C outdoor temperature



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



Hydraulic unit
Single phase/
3-phase



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

Specifications

Model Name	Hydraulic unit	Outdoor unit	WSYG160DJ6 WOYG160LJL	WSYK170DJ9 WOYK150LJL	WSYK170DJ9 WOYK170LJL	
Capacity range			16	15	17	
7°C/35°C floor heating *1	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 *1	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 *1	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*2						
Temperature application	°C		55	35	55	35
Energy efficiency class			A++	A++	A++	A++
Rated heat output (P _{rated})	kW		14	16	16	17
Seasonal space heating energy efficiency (η _s)	%		125	163	130	164
Annual energy consumption	kWh		8,757	8,014	9,915	8,606
Sound power level	Hydraulic unit	dB(A)	45	45	45	45
	Outdoor unit		67	66	67	68
Hydraulic unit specifications						
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		22	
Expansion vessel capacity		L	10		10	
Water flow temperature range	Max.	°C	60		60	
Water pipe connection diameter	Flow/Return	mm	Ø25.4/Ø25.4		Ø25.4/Ø25.4	
Backup heater	Capacity	kW	6.0 (3.0 kW × 2 pcs.)		9.0 (3.0 kW × 3 pcs.)	
Outdoor unit specifications						
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)			
Additional refrigerant charge	Charge	kg	3.80		3.80	
		g/m	50		50	
Connection pipe	Diameter	Liquid	mm	Ø9.52		
		Gas		Ø15.88		
	Length	Min./Max.	m	5/30		
		Length (Pre-charge)	m	15		
Height difference	Max.	m	25/15 (Outdoor unit: Upper/Lower)			
Operating range	Heating	°C	-25 to 35		-25 to 35	

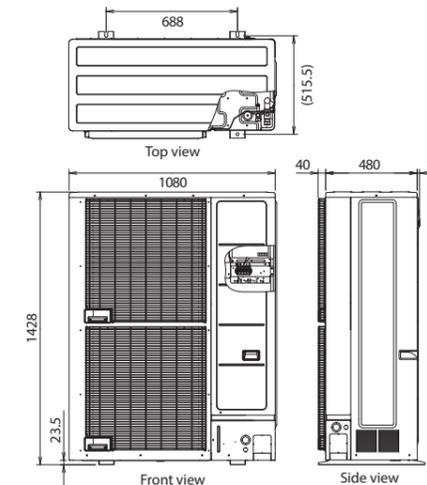
*1: Heating capacity, input power, and COP are measured using the EN14511 standard. Actual usage environments, such as the operating modes of the heating equipment, room temperature, and controller settings, may cause differences in values between those listed in the catalog and the actual performance characteristics.

*2: Information about ErP can be downloaded from our website at www.fujitsu-general.com/global/support/downloads/search/

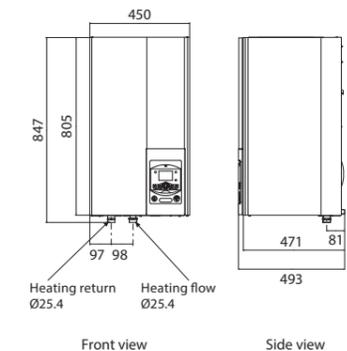
Dimensions

(Unit: mm)

Outdoor unit:
Single phase: WOYG160LJL
3-phase: WOYK150LJL/WOYK170LJL



Hydraulic unit:
Single phase: WSYG160DJ6
3-phase: WSYK170DJ9



Split Type High Power Series



High water flow temperature

The temperature of water flow can be maintained at 60°C without using a backup heater, even when the outdoor temperature drops to -20°C.

* If you want to raise the temperature of the water supply to above the maximum temperature, use a backup heater to supplement the primary heater.



High COP

Heat pumps of WATERSTAGE™ ATW Systems work more efficiently and consume less energy than conventional heating systems.

Energy efficiency class



*Temperature application: Heating temp. 35°C

Seasonal space heating energy efficiency (η_s)

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



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



Hydraulic unit
Single phase/
3-phase



Outdoor unit
Single phase
11/14 kW



Outdoor unit
3-phase
11/14/16 kW

Specifications

Model Name	Hydraulic unit		WSYG140DG6		WSYG140DG6		WSYK160DG9		WSYK160DG9		WSYK160DG9	
	Outdoor unit		WOYG112LHT	WOYG140LCTA	WOYG140LCTA	WOYG140LCTA	WOYK112LCTA	WOYK140LCTA	WOYK140LCTA	WOYK140LCTA	WOYK160LCTA	WOYK160LCTA
Capacity range			11	14	14	14	11	14	14	14	16	16
7°C/35°C floor heating *1	Heating capacity	kW	10.80	13.50	10.80	13.50	10.80	13.50	13.50	13.50	15.17	15.17
	Input power		2.54	3.23	2.51	3.20	2.51	3.20	3.20	3.70	3.70	3.70
	COP		4.25	4.18	4.30	4.22	4.30	4.22	4.10	4.10	4.10	4.10
2°C/35°C floor heating *1	Heating capacity	kW	10.77	12.00	10.77	12.00	10.77	13.00	13.00	13.50	13.50	13.50
	Input power		3.44	3.87	3.40	4.15	3.40	4.15	4.34	4.34	4.34	4.34
	COP		3.13	3.10	3.17	3.13	3.13	3.13	3.11	3.11	3.11	3.11
-7°C/35°C floor heating *1	Heating capacity	kW	10.38	11.54	10.38	11.54	10.38	12.20	12.20	13.50	13.50	13.50
	Input power		4.32	5.08	4.28	5.13	4.28	5.13	5.40	5.40	5.40	5.40
	COP		2.40	2.27	2.43	2.38	2.43	2.38	2.50	2.50	2.50	2.50

Space heating characteristics*2

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 _{rated})	kW	9	11	11	13	9	11	11	13	13	14
Seasonal space heating energy efficiency (η _s)	%	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 unit	dB(A)		46	46	46	46	46	46	46	46
	Outdoor unit	dB(A)		68	69	69	68	70	68	71	71

Hydraulic unit specifications

Power source	Single phase, ~230 V, 50 Hz				3-phase, ~400 V, 50 Hz					
Dimensions H × W × D	mm				800 × 450 × 457					
Weight (Net)	kg				42					
Water circulation	Min./Max.	L/min	19.5/39.0	24.4/48.7	19.5/39.0	24.4/48.7	27.4/54.8			
Buffer tank capacity	L				16					
Expansion vessel capacity	L				8					
Water flow temperature range	Max.	°C	60				60			
Water pipe connection diameter	Flow/Return	mm	Ø25.4/Ø25.4				Ø25.4/Ø25.4			
Backup heater	Capacity	kW	6.0 (3.0 kW × 2 pcs.)				9.0 (3.0 kW × 3 pcs.)			

Outdoor unit specifications

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	10.5			
Dimensions H × W × D	mm				1,290 × 900 × 330						
Weight (Net)	kg				92						
Refrigerant	Type (Global Warming Potential)	R410A (2,088)				99					
	Charge	kg	2.50				2.50				
Additional refrigerant charge		g/m	50				50				
	Diameter	Liquid	mm	Ø9.52				Ø15.88			
Connection pipe	Length	Min./Max.	m	5/20				5/20			
	Length (Pre-charge)		m	15				15			
	Height difference	Max.	m	15				15			
Operating range	Heating	°C	-25 to 35				-25 to 35				

*1: Heating capacity, input power, and COP are measured using the EN14511 standard. Actual usage environments, such as the operating modes of the heating equipment, room temperature, and controller settings, may cause differences in values between those listed in the catalog and the actual performance characteristics.

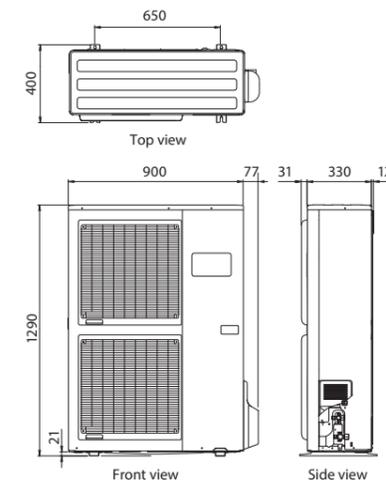
*2: Information about ErP can be downloaded from our website at www.fujitsu-general.com/global/support/downloads/search/

Dimensions

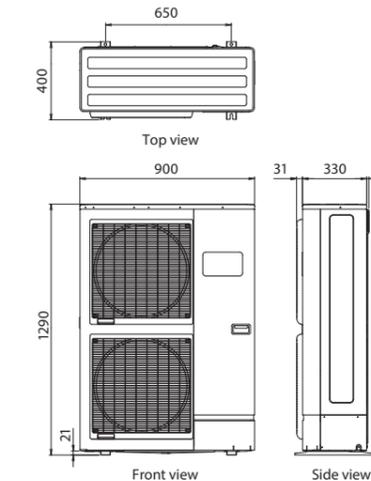
(Unit: mm)

Outdoor unit:

Single phase: WOYG112LHT/WOYG140LCTA

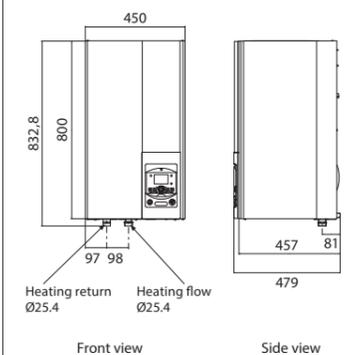


3-phase: WOYK112LCTA/WOYK140LCTA/WOYK160LCTA



Hydraulic unit:

Single phase: WSYG140DG6
3-phase: WSYK160DG9



Split DHW Integrated Type

Comfort Series



High water flow temperature

The temperature of water flow is up to 55°C without a backup heater. Hot water supply temperature can be maintained even at -10°C outdoor temperature.

* If you want to raise the temperature of the water supply to above the maximum temperature, use a backup heater to supplement the primary heater.



High COP

Heat pumps of WATERSTAGE™ ATW Systems work more efficiently and consume less energy than conventional heating systems.

Energy efficiency class



*Temperature application: Heating temp. 35°C

Seasonal space heating energy efficiency (η_s)

Conditions: 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-efficiency DC twin-rotary compressor

DC Inverter
DC inverter provides smooth water temperature control.

Hydraulic unit:
WGYA050ML3/WGYA080ML3/
WGYA100ML3
Outdoor unit:
WOYA060KLT/WOYA080KLT/
WOYA100KLT



Specifications

Model Name	Hydraulic unit	WGYA050ML3	WGYA080ML3	WGYA080ML3	WGYA100ML3
	Outdoor unit	WOYA060KLT	WOYA060KLT	WOYA080KLT	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
Space heating characteristics*2					
Temperature application	°C	55	35	55	35
Energy efficiency class		A++	A+++	A++	A+++
Rated heat output (P _{rated})	kW	5	5	6	7
Seasonal space heating energy efficiency (η _s)	%	125	175	125	177
Annual energy consumption	kWh	3,035	2,322	3,411	2,594
Sound power level*3	Hydraulic unit	40	-	40	-
	Outdoor unit	57	-	57	-
Domestic hot water characteristics*2					
Load profile		L	L	L	L
Energy efficiency class		A+	A+	A+	A+
Energy efficiency (η _{wh})	%	130	130	130	130
Annual electricity consumption	kWh	793	793	793	793
Hydraulic unit specifications					
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
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
Water flow temperature range	Max.	°C	55	55	55
Water pipe connection diameter	Flow/Return	mm	Ø25.4/Ø25.4	Ø25.4/Ø25.4	Ø25.4/Ø25.4
Hot water pipe connection diameter		mm	Ø19.05	Ø19.05	Ø19.05
Backup heater	Capacity	kW	3.0	3.0	3.0
Outdoor unit specifications					
Power source		Single phase, ~230 V, 50 Hz			
Current	Max.	A	13.0	13.0	18.0
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)
Charge	kg	0.97	0.97	1.02	1.63
Additional refrigerant charge	g/m	25	25	25	20
Connection pipe	Diameter	Liquid	6.35	6.35	6.35
	Gas	mm	12.70	12.70	15.88
	Length	Min./Max.	m	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: Heating capacity, input power, and COP are measured using the EN14511 standard. Actual usage environments, such as the operating modes of the heating equipment, room temperature, and controller settings, may cause differences in values between those listed in the catalog and the actual performance characteristics.

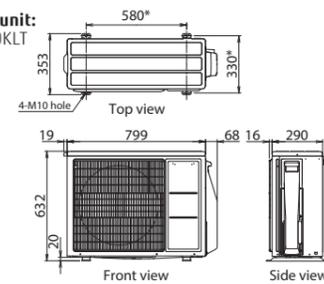
*2: Information about EIP can be downloaded from our website at www.fujitsu-general.com/global/support/downloads/search/

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

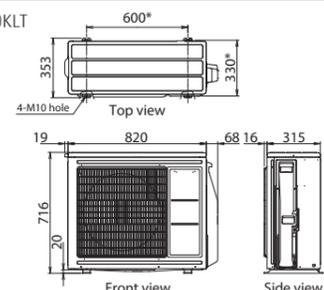
Dimensions

(Unit: mm)

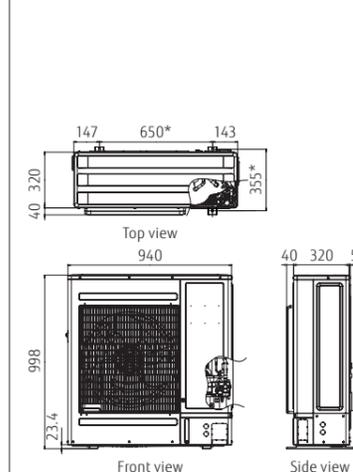
Outdoor unit:
WOYA060KLT



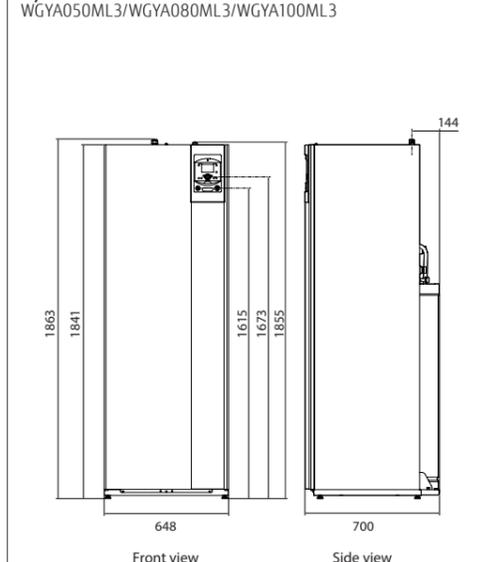
WOYA080KLT



WOYA100KLT



Hydraulic unit:
WGYA050ML3/WGYA080ML3/WGYA100ML3



*Pitch of bolts for installation

Split DHW Integrated Type

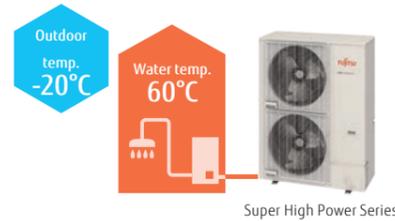
Super High Power Series



High water flow temperature

The temperature of water flow can be maintained at 60°C without using a backup heater, even when the outdoor temperature drops to -20°C. The system can supply 55°C water without a backup heater at an outdoor temperature of -22°C.

* If you want to raise the temperature of the water supply to above the maximum temperature, use a backup heater to supplement the primary heater.



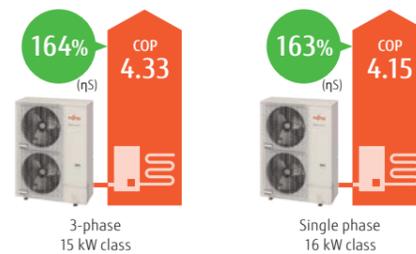
High COP

Heat pumps of WATERSTAGE™ ATW Systems work more efficiently and consume less energy than conventional heating systems.



Seasonal space heating energy efficiency (η_s)

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



Operating range extended to -25°C

Operating range improved down to -25°C outdoor temperature

Stylish space saving solution with **Built-in High-performance DHW tank 190 L**

- Coil heat exchanger optimizes DHW supply performance.
- Temperature rises quickly due to the large surface of the exchanger.

Hydraulic unit:
WGYG160DJ6 / [3-phase] WGYK170DJ9
Outdoor unit:
WOYG160LJL
[3-phase] WOYK150LJL/WOYK170LJL



Hydraulic unit
Single phase/
3-phase



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

Specifications

Model Name	Hydraulic unit	WGYG160DJ6	WGYK170DJ9	WGYG170DJ9			
Capacity range	Outdoor unit	WOYG160LJL	WOYK150LJL	WOYK170LJL			
7°C/35°C floor heating *1	Heating capacity	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 *1	Heating capacity	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*1	Heating capacity	14.50	13.20	15.00			
	Input power	5.27	4.55	5.32			
	COP	2.75	2.90	2.82			
Space heating characteristics*2							
Temperature application	°C	55	35	55	35	55	35
Energy efficiency class		A++	A++	A++	A++	A++	A++
Rated heat output (P _{rated})	kW	14	16	16	17	17	18
Seasonal space heating energy efficiency (η _s)	%	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 unit	45	45	45	45	45	45
	Outdoor unit	67	66	67	66	67	68
Domestic hot water characteristics*2							
Load profile							L
Energy efficiency class							A
Energy efficiency (η _{wh})	%						109
Annual electricity consumption	kWh						941
Hydraulic unit specifications							
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					
Water flow temperature range	Max. °C	60					
Water pipe connection diameter	Flow/Return mm	Ø25.4/Ø25.4					
Hot water pipe connection diameter	mm	Ø19.05					
Backup heater	Capacity kW	6.0 (3.0 kW × 2 pcs.)		9.0 (3.0 kW × 3 pcs.)			
Outdoor unit specifications							
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)			
	Charge	3.80		3.80			
Additional refrigerant charge		50		50			
		09.52		09.52			
Connection pipe	Diameter	Liquid	Ø15.88				
		Gas	Ø15.88				
	Length	Min./Max.	5/30				
	Length (Pre-charge)	m	15				
Height difference	Max.	25/15 (Outdoor unit: Upper/Lower)		25/15 (Outdoor unit: Upper/Lower)			
	Heating	°C -25 to 35		-25 to 35			

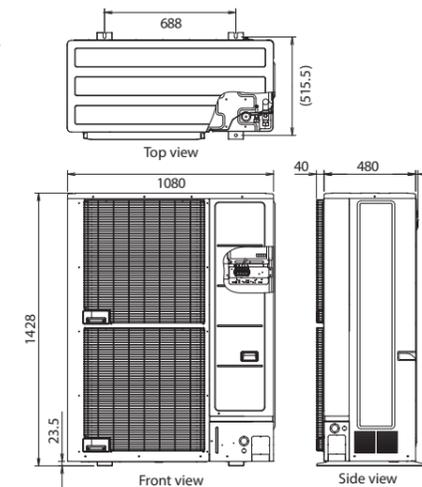
*1: Heating capacity, input power, and COP are measured using the EN14511 standard. Actual usage environments, such as the operating modes of the heating equipment, room temperature, and controller settings, may cause differences in values between those listed in the catalog and the actual performance characteristics.

*2: Information about ErP can be downloaded from our website at www.fujitsu-general.com/global/support/downloads/search/

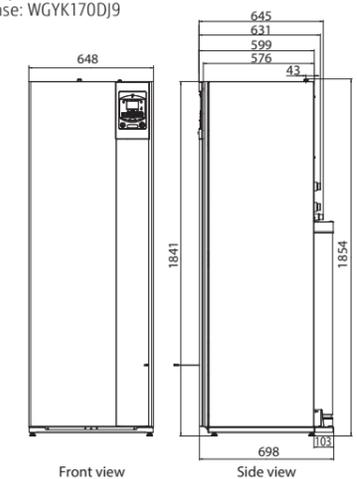
Dimensions

(Unit: mm)

Outdoor unit:
Single phase: WOYG160LJL
3-phase: WOYK150LJL/WOYK170LJL



Hydraulic unit:
Single phase: WGYG160DJ6
3-phase: WGYK170DJ9



Split DHW Integrated Type

High Power Series



High water flow temperature

The temperature of water flow can be maintained at 60°C without using a backup heater, even when the outdoor temperature drops to -20°C.

* If you want to raise the temperature of the water supply to above the maximum temperature, use a backup heater to supplement the primary heater.



High COP

Heat pumps of WATERSTAGE™ ATW Systems work more efficiently and consume less energy than conventional heating systems.



*Temperature application: Heating temp. 35°C

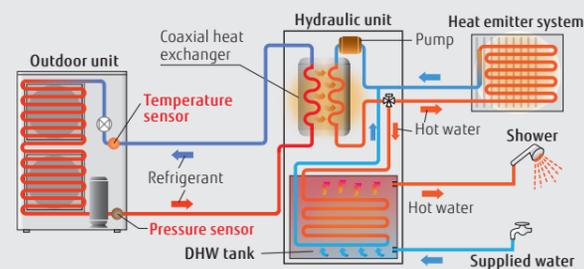
Seasonal space heating energy efficiency (η_s)

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



Optimized refrigerant cycle operation

The High Power Series deliver high performance and efficiency with twin sensors and hot water heating technology.



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



Hydraulic unit
Single phase/
3-phase



Outdoor unit
Single phase
11/14 kW



Outdoor unit
3-phase
11/14/16 kW

Specifications

Model Name	Hydraulic unit		WGYG140DG6		WGYK160DG9		WGYG140DG6		WGYK160DG9	
	Outdoor unit		WOYG112LHT	WOYG140LCTA	WOYK112LCTA	WOYK140LCTA	WOYK112LCTA	WOYK140LCTA	WOYK160DG9	WOYK160LCTA
Capacity range			11	14	11	14	11	14	16	
7°C/35°C floor heating *1	Heating capacity	kW	10.80	13.50	10.80	13.50	10.80	13.50	15.17	
	Input power		2.54	3.23	2.51	3.20	2.51	3.20	3.70	
	COP		4.25	4.18	4.30	4.22	4.30	4.22	4.10	
2°C/35°C floor heating *1	Heating capacity	kW	10.77	12.00	10.77	12.00	10.77	12.00	13.50	
	Input power		3.44	3.87	3.40	4.15	3.40	4.15	4.34	
	COP		3.13	3.10	3.17	3.13	3.17	3.13	3.11	
-7°C/35°C floor heating *1	Heating capacity	kW	10.38	11.54	10.38	12.20	10.38	12.20	13.50	
	Input power		4.32	5.08	4.28	5.13	4.28	5.13	5.40	
	COP		2.40	2.27	2.43	2.38	2.43	2.38	2.50	

Space heating characteristics*2

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 _{rated})	kW	9	11	11	13	9	11	11	13	13	14
Seasonal space heating energy efficiency (η _s)	%	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 unit										
	Outdoor unit	dB(A)	46	46	46	46	46	46	46	46	46
		68	68	69	69	69	68	70	68	71	71

Domestic hot water characteristics*2

Load profile		L
Energy efficiency class		A
Energy efficiency (η _{wh})	%	88
Annual electricity consumption	kWh	1166

Hydraulic unit specifications

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
DHW capacity	L	190	
Hot water heater capacity	kW	1.5	
Buffer tank capacity	L	16	
Expansion vessel capacity	L	12	
Water flow temperature range	Max. °C	60	
Water pipe connection diameter	Flow/Return mm	Ø25.4/Ø25.4	
Hot water pipe connection diameter	mm	Ø19.05	
Backup heater	Capacity kW	6.0 (3.0 kW × 2 pcs.)	9.0 (3.0 kW × 3 pcs.)

Outdoor unit specifications

Power source		Single phase, ~230 V, 50 Hz	3-phase, ~400 V, 50 Hz
Current	Max. A	22.0	25.0
Dimensions H × W × D	mm	1,290 × 900 × 330	
Weight (Net)	kg	92	99
Refrigerant	Type (Global Warming Potential)	R410A (2,088)	
	Charge	kg	2.50
Additional refrigerant charge		g/m	50
	Diameter	Liquid mm	Ø9.52
Connection pipe	Gas	mm	Ø15.88
	Length	Min./Max. m	5/20
	Length (Pre-charge)	m	15
	Height difference	Max. m	15
Operating range		°C	-25 to 35
	Heating		

*1: Heating capacity, input power, and COP are measured using the EN14511 standard. Actual usage environments, such as the operating modes of the heating equipment, room temperature, and controller settings, may cause differences in values between those listed in the catalog and the actual performance characteristics.

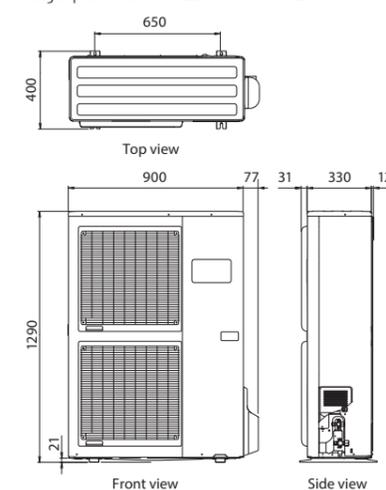
*2: Information about ErP can be downloaded from our website at www.fujitsu-general.com/global/support/downloads/search/

Dimensions

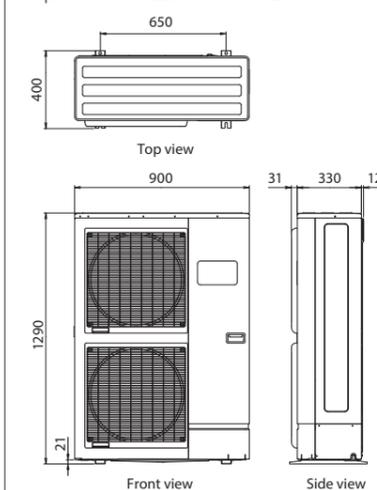
(Unit: mm)

Outdoor unit:

Single phase: WGYG112LHT/WOYG140LCTA

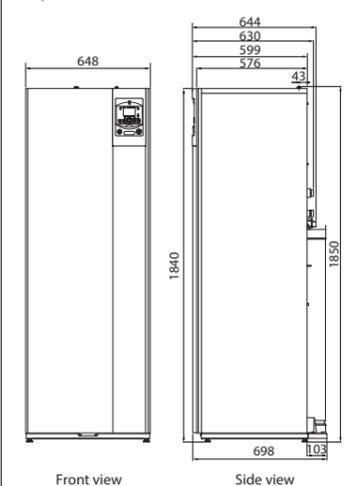


3-phase: WOYK112LCTA/WOYK140LCTA/WOYK160LCTA



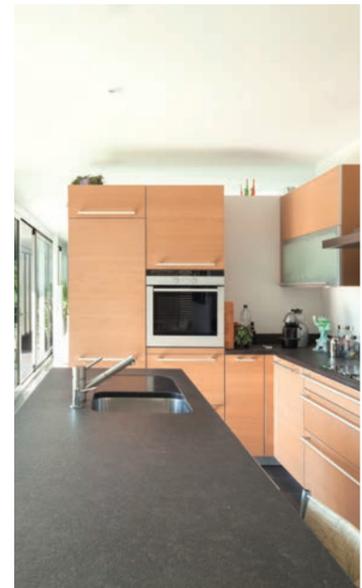
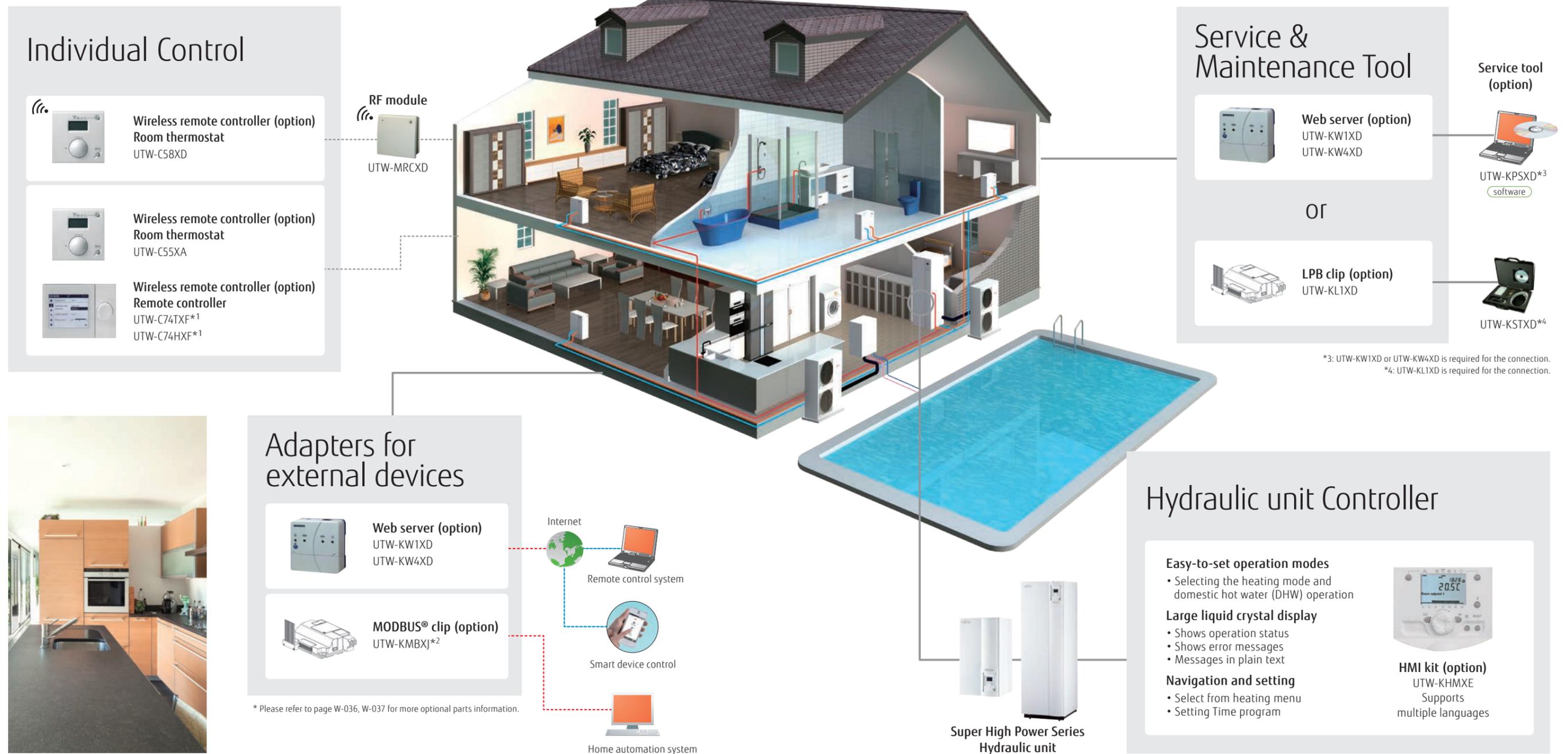
Hydraulic unit:

Single phase: WGYG140DG6
3-phase: WGYK160DG9



Control Overview

To meet the diverse needs of customers, we offer a variety of control options, such as individual control and remote control options.



Comfort Control

The high-grade heating controller automatically adjusts the flow temperature according to the climate conditions to maintain the room and domestic hot water temperatures at the desired levels.

Hydraulic unit Controller 4 Heating modes

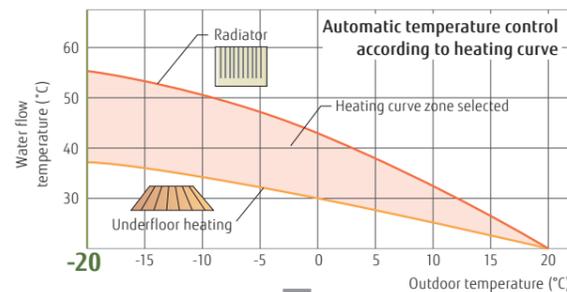
- 1. Automatic mode**
Enables automatic switching between Comfort mode and Reduce mode according to time program
- 2. Reduce mode**
Maintains water temperature at a lower level
- 3. Comfort mode**
Maintains water temperature at a comfortable level
- 4. Protection mode**
Activates frost protection in standby operation



Useful Features

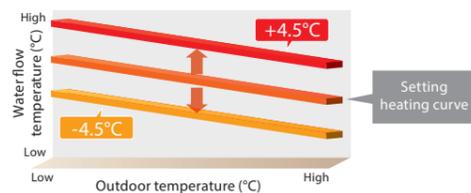
Automatic heating curve control

Automatic temperature regulation according to heating curve (depending on heating terminal and outdoor temperature)



The heating curve will shift to adjust the room temperature setting.

Can be fine-adjusted when it is too warm or too cold.



Quick recovery from defrosting

Maintains room temperature by boost start operation during defrosting.

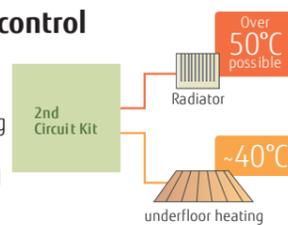
Auto changeover

When cooling mode is selected, the system automatically switches between cooling and heating modes depending on the outdoor temperature to serve as an all-season air conditioner.

2-zone independent control

2-zone independent control (For example, the individual control of 2 underfloor heating zones or the combination of 1 underfloor heating zone and 1 radiator zone)*1

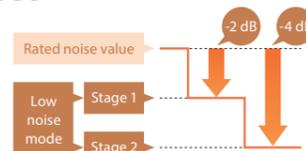
*1: Optional parts required



2-stage low-noise mode

The outdoor unit can be switched to quiet mode, depending on the installation environment.

*Effective only for High Power Series



Backup heater operation

Backup heater maintains a comfortable room temperature even when the outside temperature is low. The backup heater is intelligently controlled as a safety backup for very cold days and nights, and only operates when really needed.

Energy Saving

Time program

- The timer is easy to set.
- You can select the heating mode in conjunction with various times of the day.

Day-weekly timer

- Allows up to 3 settings per day.
- Allows individual settings for each day of the week.

Holiday timer

- Allows up to 8 settings.
- While you are away from home for an extended period during winter, the system prevents your room or house from freezing.

Peak cut Function*2

Sets the peak current value to reduce power consumption.

Mode	Ratio to reduce power consumption
1	100%
2	75%
3	50%
4	Almost 0%

* Please refer to page W-036, W-037 for more optional parts information.

Safety Features

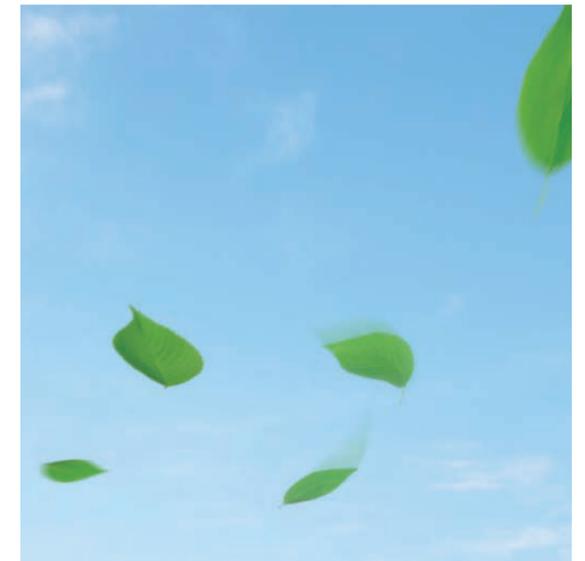
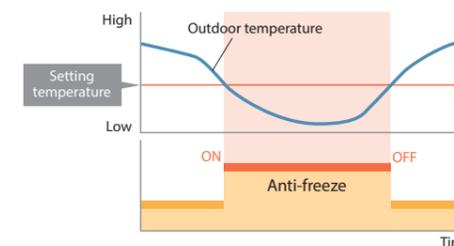
Anti-Legionella function

Prevents the growth of Legionella bacteria in the DHW tank to supply safe and clean hot water at all times.



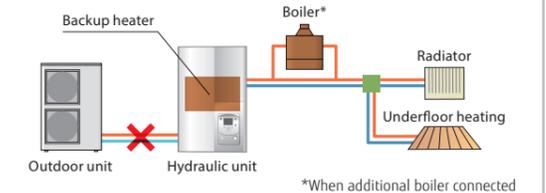
Anti-freeze function

When the outside temperature drops below a specified level, the compressor will self-activate and water will also be automatically circulated to prevent freezing.



Emergency operation

If an outdoor unit fails to operate, a built-in backup heater or an external boiler is activated to supply an uninterrupted supply of hot water to the house.



*When additional boiler connected

Error and Maintenance Alarm

Enables quick error-handling services and maintenance

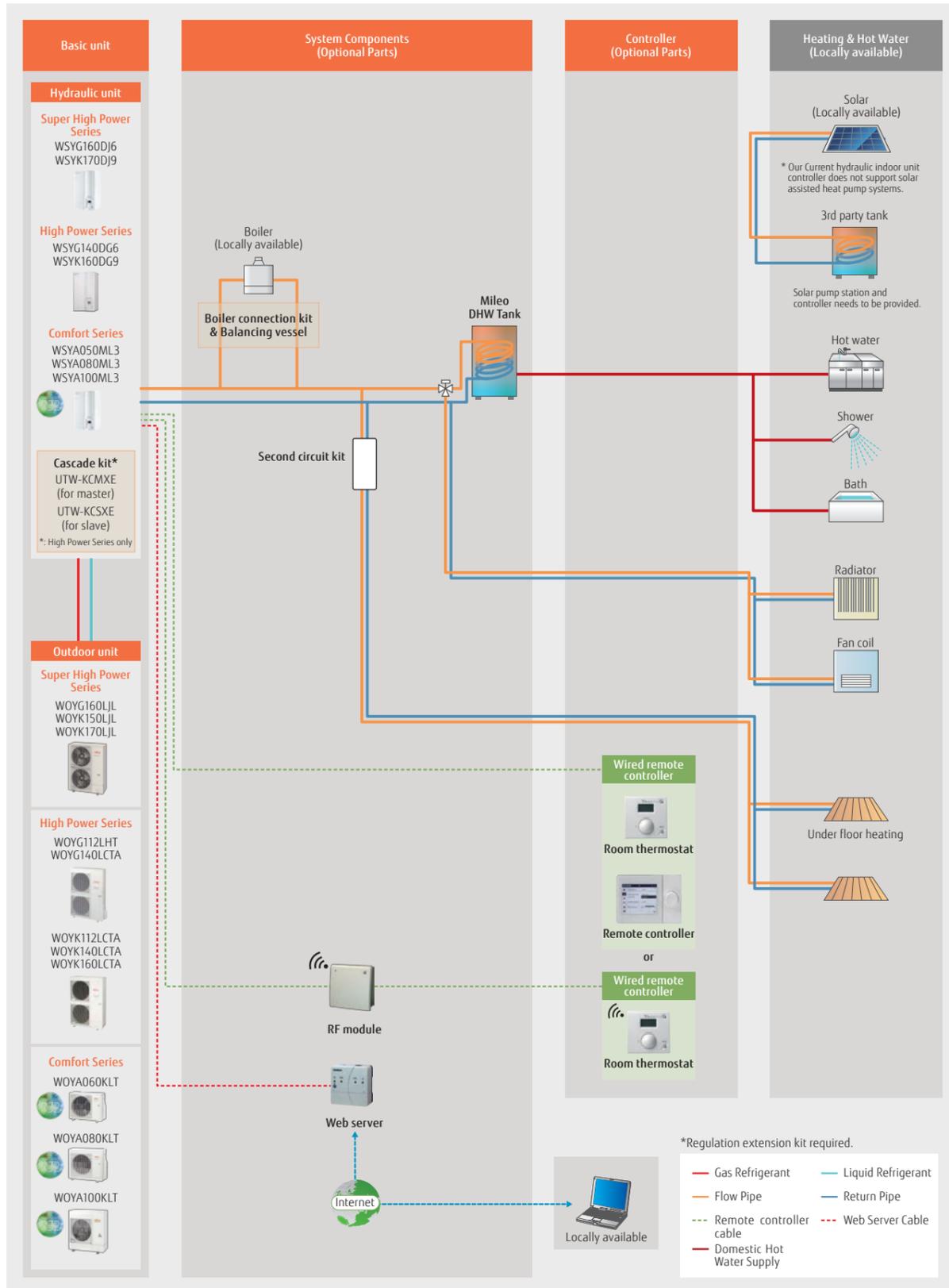


- Error history saves 10 errors in memory
- Display telephone number of service company

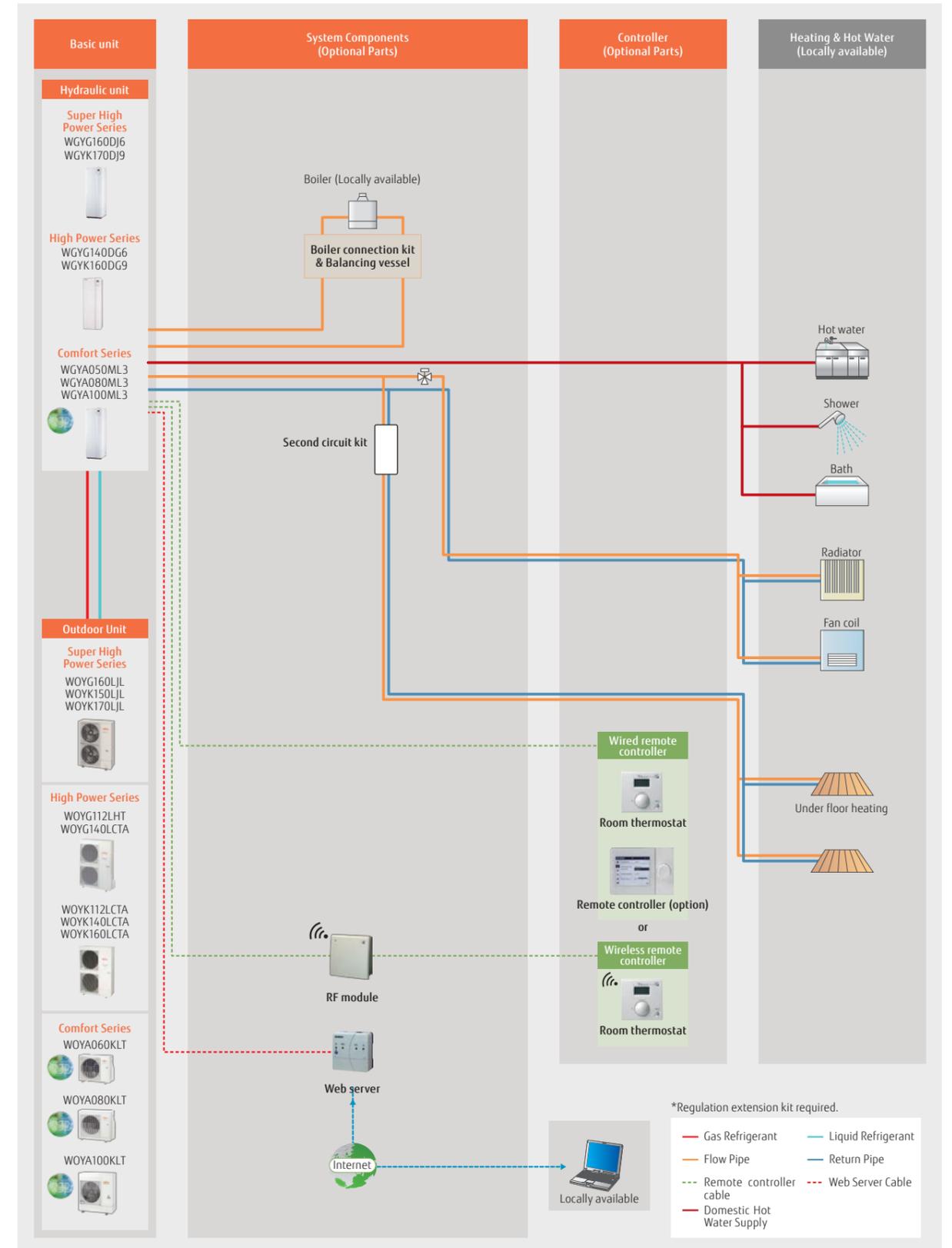


System Configuration

Split Type



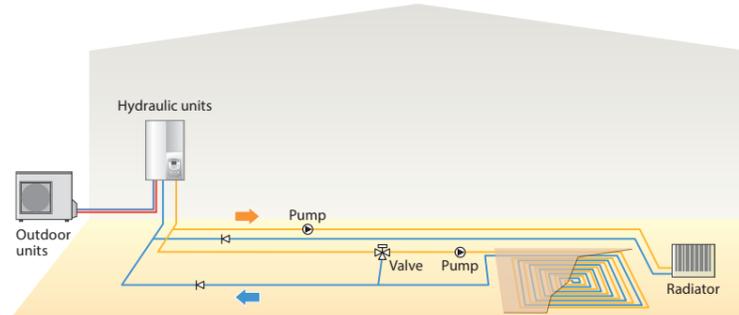
Split DHW Integrated Type



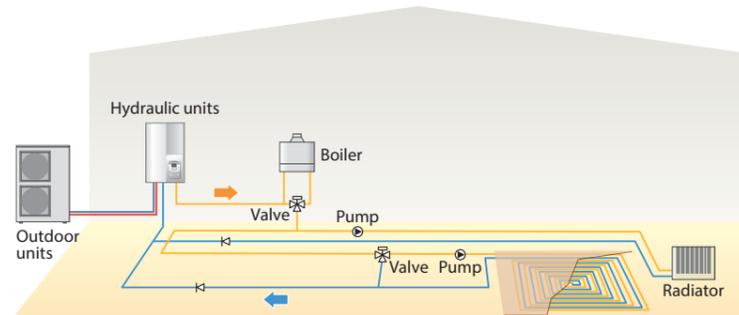
Case Studies

Split Type

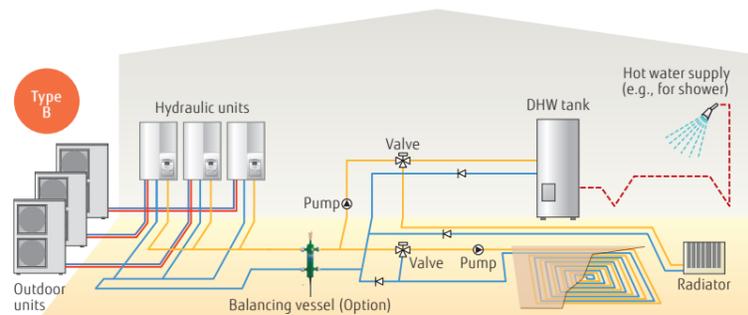
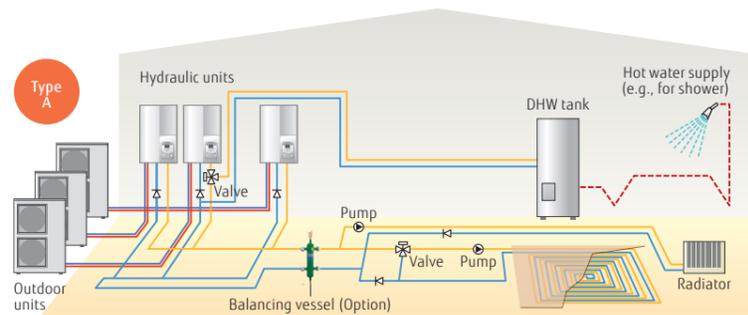
2-emitter simultaneous heating (Individual control)
Underfloor heating + Radiator



Boiler connected to heating (Boiler + Heating)



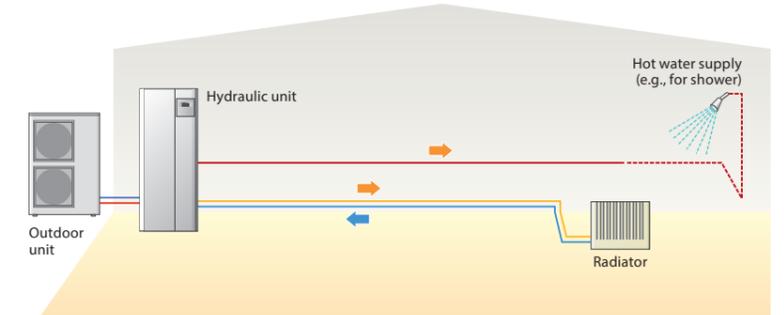
2-emitter simultaneous heating & domestic hot water supply (Cascade)



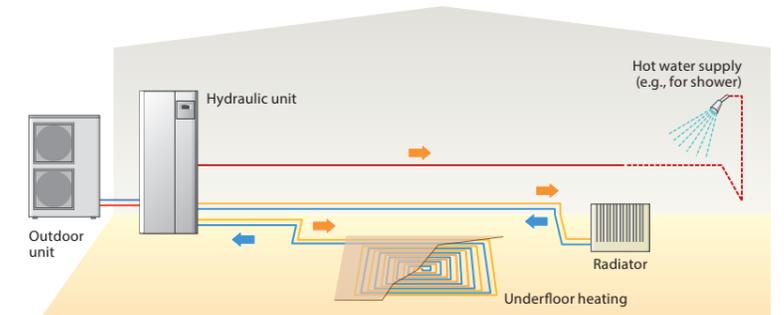
*The hydraulic layouts shown are mainly representation. Please check with local dealer for actual hydraulic connections.

Split DHW Integrated Type

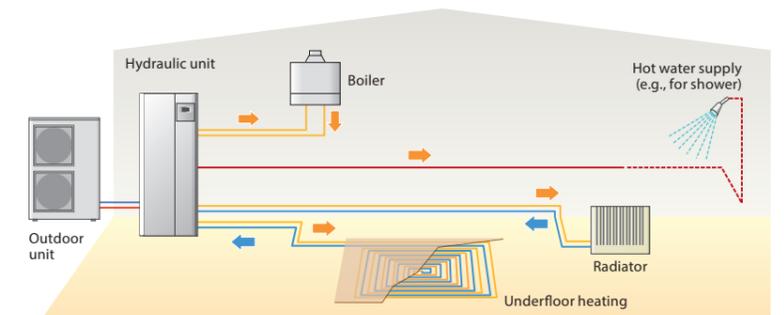
Single heating & domestic hot water supply
Radiator + domestic hot water supply



2-emitter simultaneous heating (Individual control) & domestic hot water supply
Radiator + domestic hot water supply



Boiler connected to heating (Boiler + Heating) and domestic hot water supply

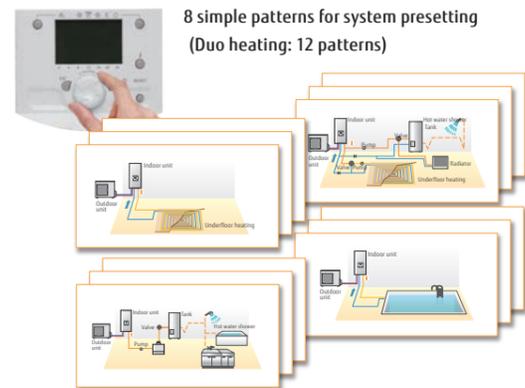


*The hydraulic layouts shown are mainly representation. Please check with local dealer for actual hydraulic connections.

Simple installation

Presetting configurations

A controller installed makes it easy to configure the system without having to set each component or unit individually.

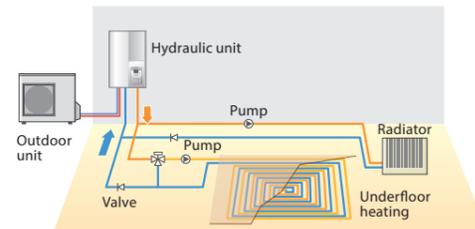


Configuration (Parameter 5700)	Installation type
Presetting 1	1 heating circuit
Presetting 2	2 heating circuits
Presetting 3	1 heating circuit with boiler backup
Presetting 4	2 heating circuits with boiler backup
Presetting 5	1/2 heating circuit with buffer control
Presetting 6	1/2 heating circuit with buffer control and boiler backup
Presetting 7	Cascade connection Primary
Presetting 8	Cascade connection A
Presetting 9	Cascade connection B/C

- DHW & solar control auto detection
- Pool heating and cooling option
- Cascade connection only available in High Power models.

Outdoor temperature simulation

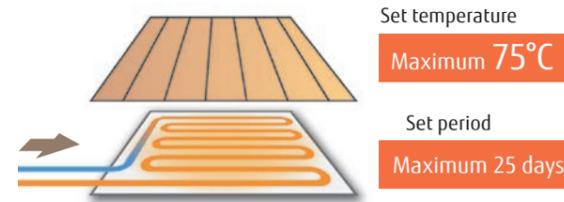
It verifies that each unit operates properly under the set conditions and expected outdoor air temperature when the system is actually assembled.



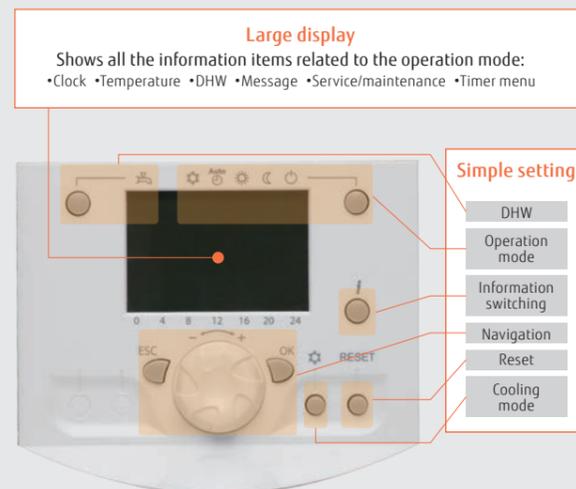
The outdoor temperatures can be simulated in the range of -50°C to +50°C.

Concrete floor drying

Allows the concrete surrounding the hot-water pipes to dry more quickly, shortening the construction period for underfloor heating installations.



Controller with a large liquid crystal display and buttons for easy function setting



Main operation flow and settings for installers and end users

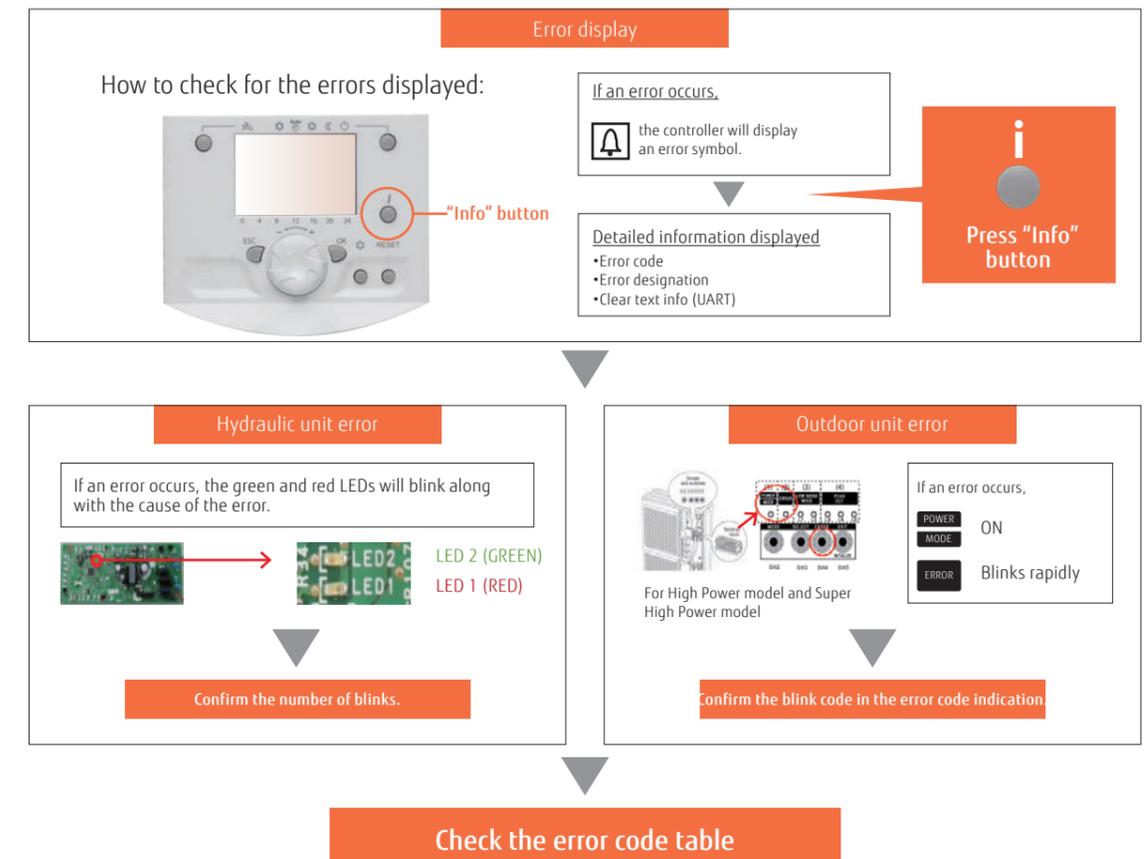
	Flow Chart	Example Item
Installers	1 Install Setting	Pump speed setting, Configuration, Heating curve setting, Heat pump shut off
	2 Option Setting	Cooling kit, DHW kit, Boiler kit, Swimming pool kit
	3 Convenient Function	Automatic heating curve setting, Underfloor controlled driving, Outdoor temperature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

Easy Installation & Maintenance

- All hydraulic safety and control components are built in with no additional selection required.
- Lifting bars for installation free of difficulty or risk
- Easy access for maintenance
- Refrigerant pump down operation

Maintenance Support

Diagnostics functions for troubleshooting

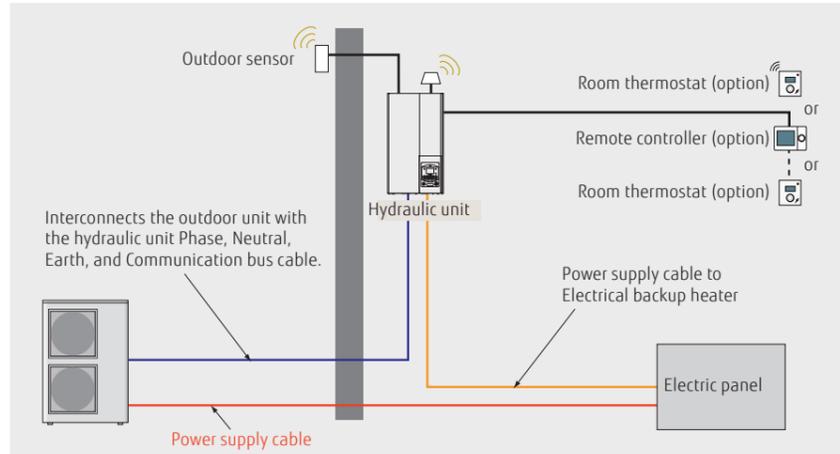
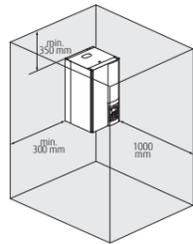


Installation requirements

Installation of equipment & electrical wiring

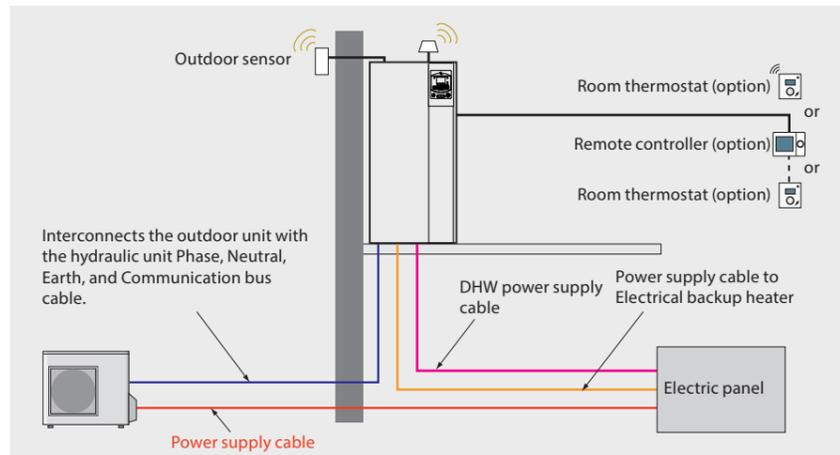
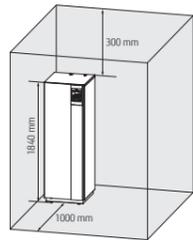
Split type Hydraulic unit

- The Hydraulic unit is hung on the wall.
- Weight ≤ 88 kg (including water)
- Space for maintenance needs to be taken into consideration.



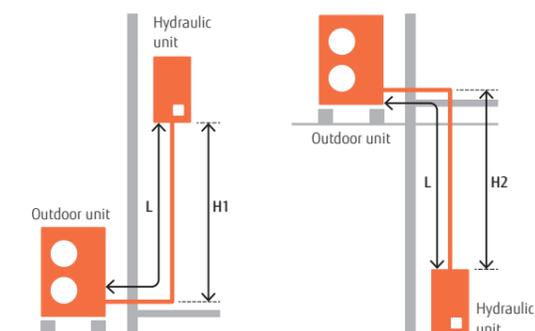
Split DHW Integrated Type Hydraulic Unit

- Floor standing
- Weight ≤ 393 kg (including water)
- Space for maintenance needs to be taken into consideration.

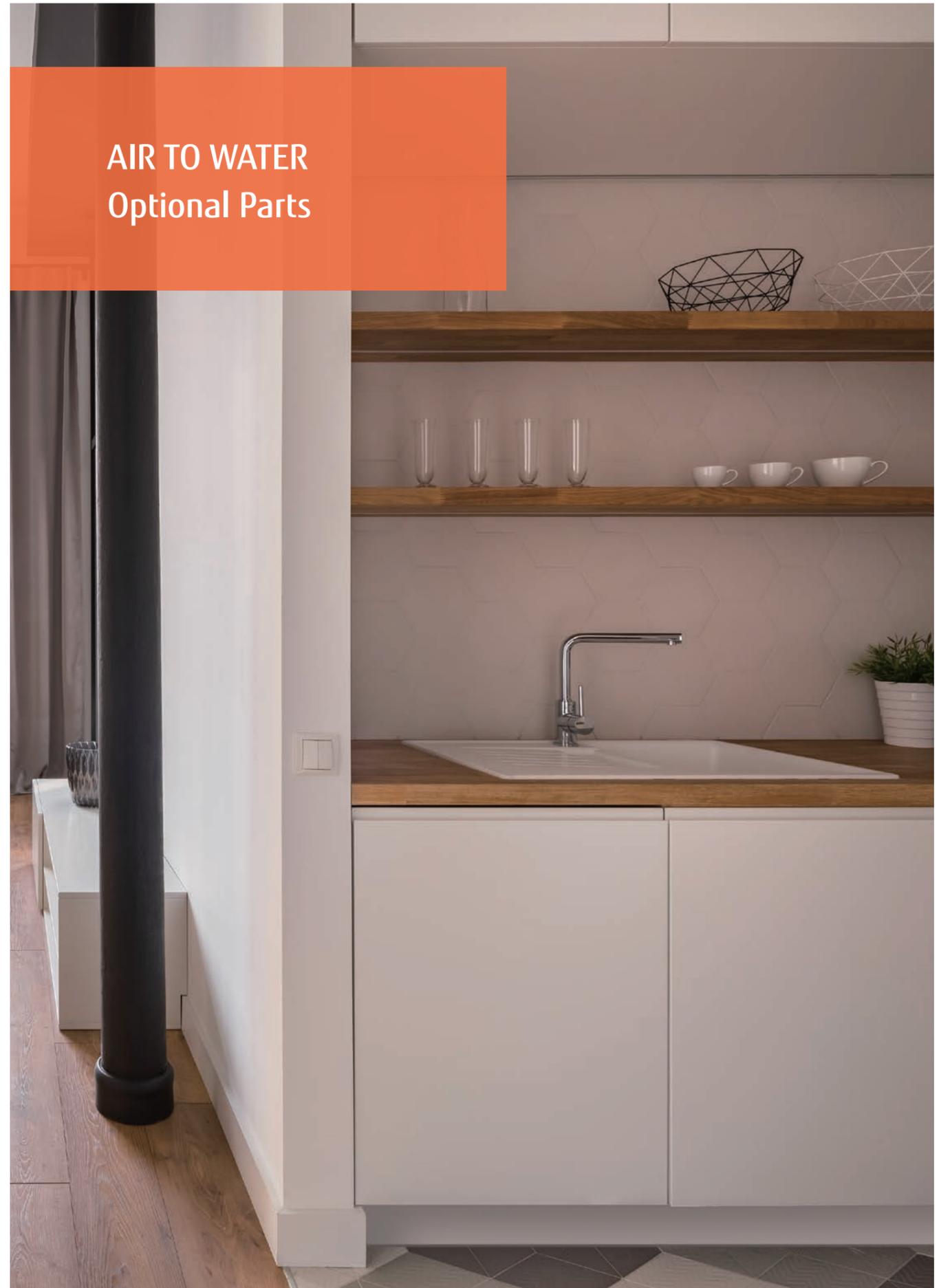


Piping and Wiring split type

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				
	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 Type										Split DHW Integrated Type												
		Super High Power			High Power				R32 Comfort			Super High Power			High Power				R32 Comfort					
		10	30		10	14	16	10	14	16	5	6	8	10	10	30		10	14	16	5	6	8	10
		16	15	17	11	14	11	14	16	5	6	8	10	16	15	17	11	14	11	14	16	5	6	8
Second circuit Kit	UTW-KZSXE	-	-	-	•	•	•	•	•	•	•	•	-	-	-	-	-	-	-	-	-	-	-	-
	UTW-KZDXE	-	-	-	-	-	-	-	-	-	-	-	-	-	•	•	•	•	•	•	•	•	•	•
	UTW-KZSXJ	•	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	UTW-KZDXJ	-	-	-	-	-	-	-	-	-	-	-	•	•	•	-	-	-	-	-	-	-	-	-
Boiler connection kit	UTW-KBSXD	-	-	-	•	•	•	•	•	•	•	•	-	-	-	-	-	-	-	-	-	-	-	
	UTW-KBDXD	-	-	-	-	-	-	-	-	-	-	-	-	-	•	•	•	•	•	•	•	•	•	
	UTW-KBSXJ	•	•	•	-	-	-	-	-	-	-	-	•	•	•	-	-	-	-	-	-	-	-	-
Balancing vessel	UTW-TEVXA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
DHW kit	UTW-KDWXD (External)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
DHW tank	200 Liters 300 Liters UTW-T20AXH UTW-T30AXH	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	200 Liters 300 Liters UTW-T20BXH UTW-T30BXH	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
DHW expansion kit	UTW-KDEXE	-	-	-	-	-	-	-	-	-	-	-	-	-	•	•	•	•	•	•	•	•	•	
	UTW-KDEXL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	•	•	•	•	
Circulating pump	UTW-PHFXG	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
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 Type										Split DHW Integrated Type												
		Super High Power			High Power				R32 Comfort			Super High Power			High Power				R32 Comfort					
		10	30		10	14	16	10	14	16	5	6	8	10	10	30		10	14	16	5	6	8	10
		16	15	17	11	14	11	14	16	5	6	8	10	16	15	17	11	14	11	14	16	5	6	8
Cascade slave kit (incl. LPB clip)	UTW-KCSXE	-	-	-	•	•	•	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
HMI kit	UTW-KHMXE*2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
Remote controller	Wired UTW-C74TXF*2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	Wireless 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	
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	
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	
External connect kit	UTY-XWZXZ2	-	-	-	•	•	•	•	•	-	-	-	-	-	-	-	-	-	-	•	•	•	•	
	UTY-XWZXZ3	•	•	•	-	-	-	-	-	-	-	-	-	-	•	•	•	•	-	-	-	-	•	
Electrical backup heater relay	UTW-KBHXL	-	-	-	-	-	-	-	-	•	•	•	•	-	-	-	-	-	-	•	•	•	•	

•: Available -: Not Available

*1: Split DHW integrated type supplies DHW without the DHW kit and DHW tank.
 *2: Includes 19 languages with no need to prepare an RC for Eastern Europe separately. C74TXF has a built-in room temperature sensor. C74HXF has a 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 Spare parts 9708302034 (Analogue interface PCB) and 109696 (connection wire) are required.