

HITACHI

TAKUMI SMART

Inverter Ductable ACs



Cooling & Heating



Born in Japan with a global presence

Since 1962, Hitachi has been helping to make life more harmonious for people around the world. Today, our long heritage of precise Japanese engineering ensures that no detail is overlooked in our quest to create Living Harmony.

The technology of the future with the expertise from the past.

Japanese technology, designed for India.

14 factories across the globe.

air made for you by air Xperts

At Hitachi, we understand the power of air and what it can do to elevate the environment of one's home and business. With our unparalleled Japanese heritage, we are constantly evolving and innovating to create cutting-edge products that make the best use of air and enable you to become the **air Xperts**.

Takumi Smart

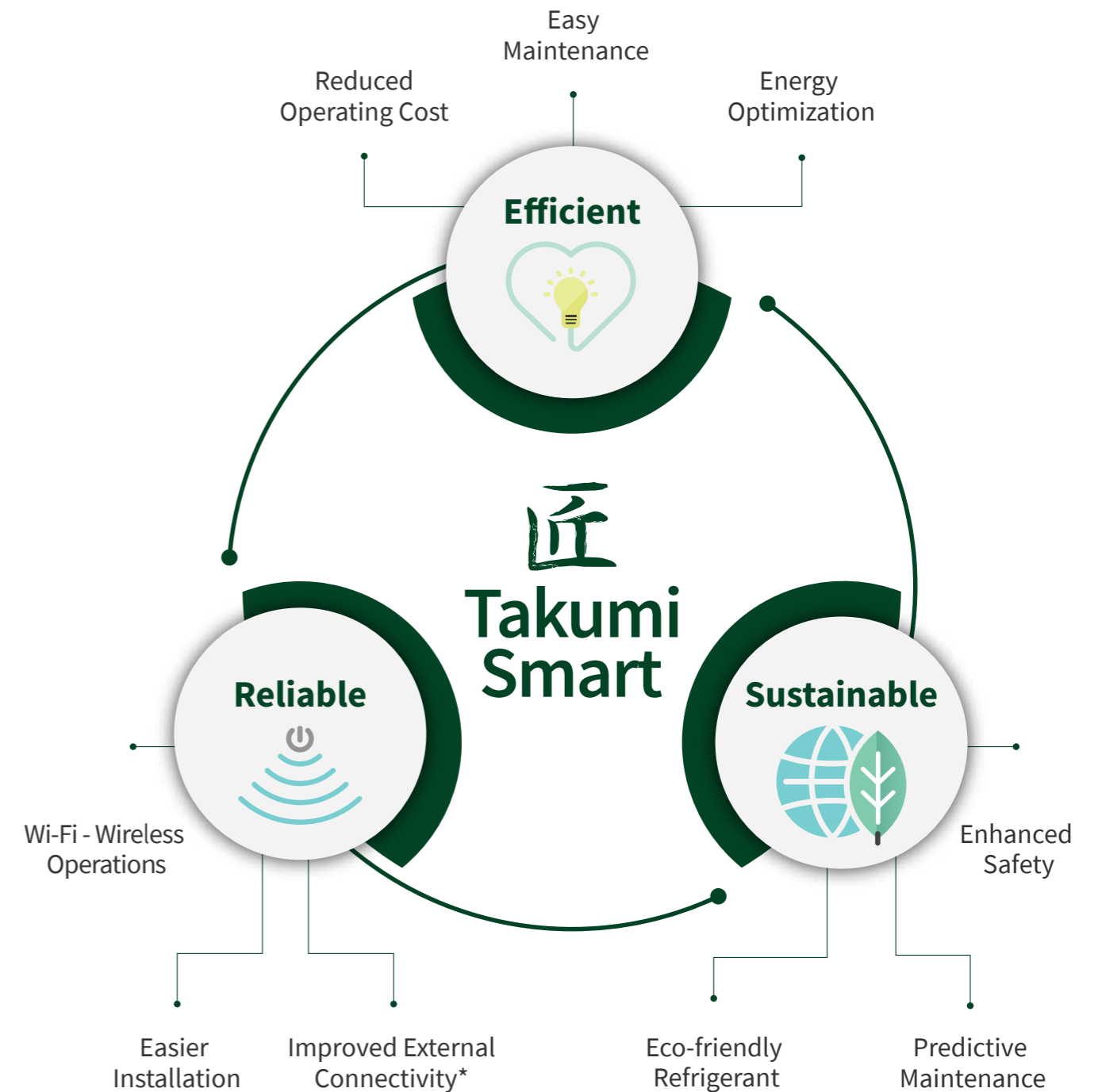
Efficient, Reliable & Sustainable

At Hitachi, we transform the spaces where people live, work, learn, and play. We work towards optimizing performance, safety, and comfort. Our broad portfolio of solutions delivers new experiences, solves problems, ensures impactful safety, and much more.

The use of green refrigerant and life-cycle products with improved performance ensures more energy optimization. Hitachi is driving towards its sustainability goals with wireless controlled environments that are energy-optimized and safer to collect new experiences.



*Product images are for illustration purpose only.



*The improved external connectivity is an optional feature that connects the Takumi Smart with VRF or BMS.



Create perfect indoor balance with Takumi

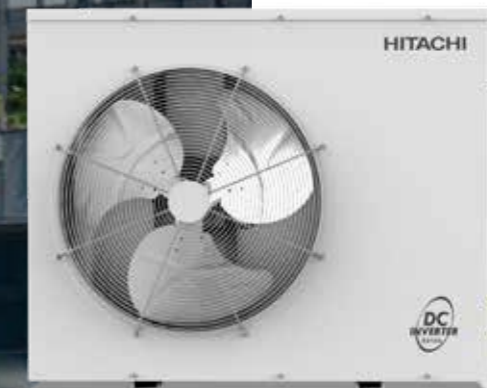
At Hitachi, we understand that everyone needs their own space. So, wherever you go, we have a solution to create and maintain a perfectly balanced interior environment in harmony with you.

Takumi means a professional series that is now smarter than before with its Wi-Fi-enabled machine and inverter scroll compressor to help you relax.

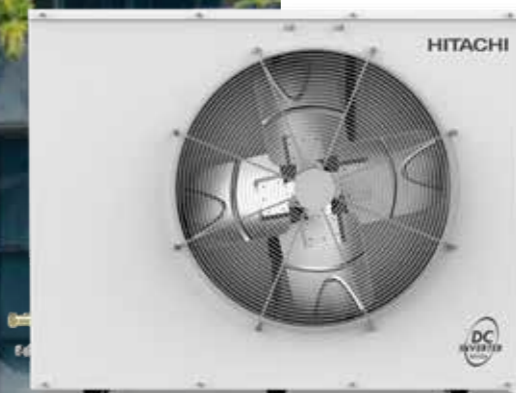
Takumi Smart

Efficient, Reliable & Sustainable

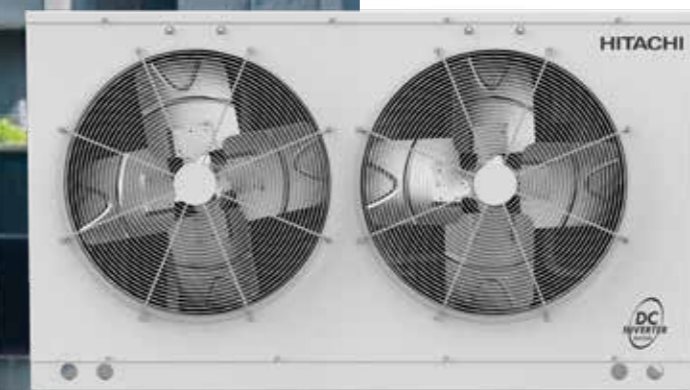
Outdoor Units



7 HP



11 HP

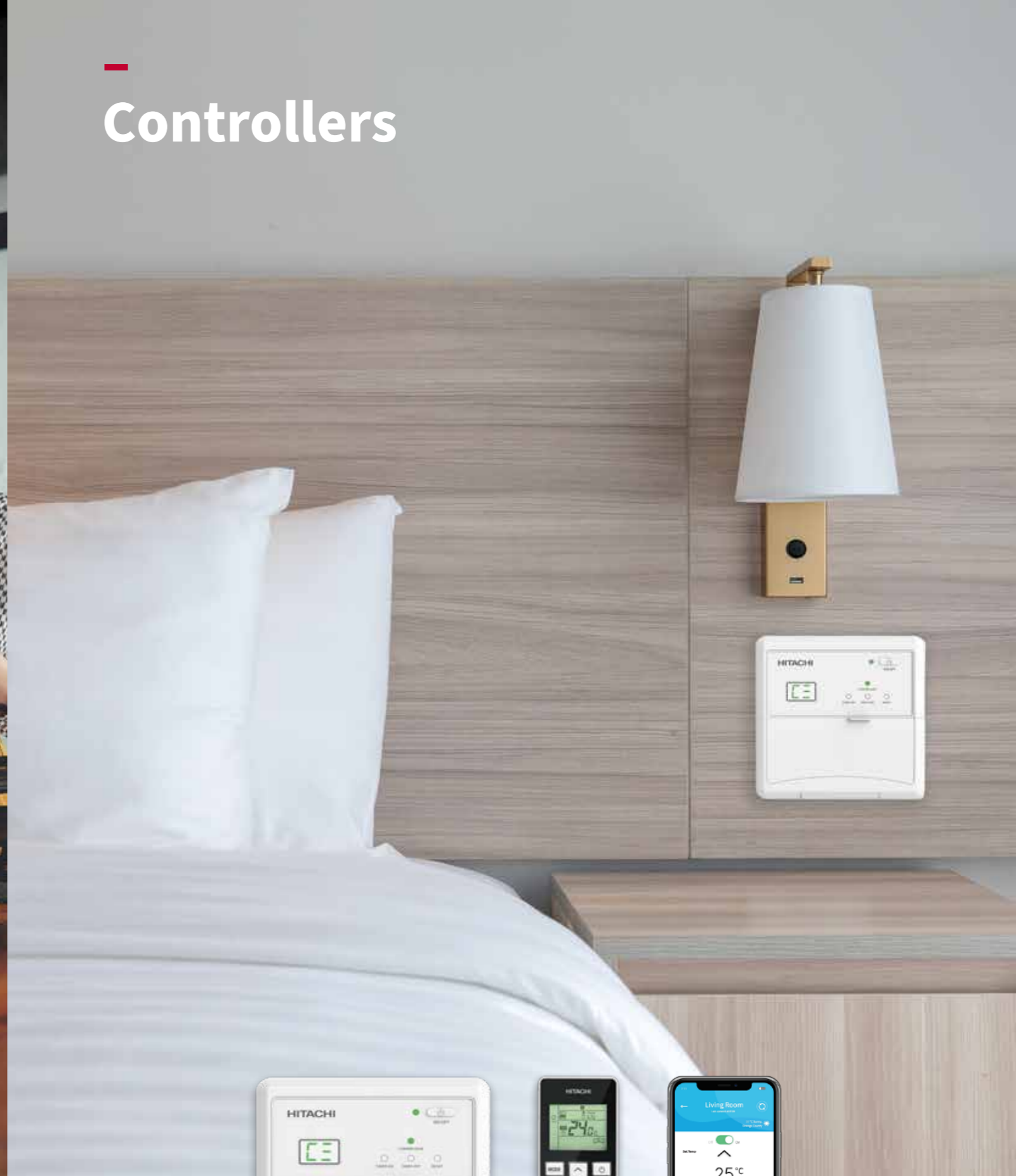


13 HP

Indoor Units



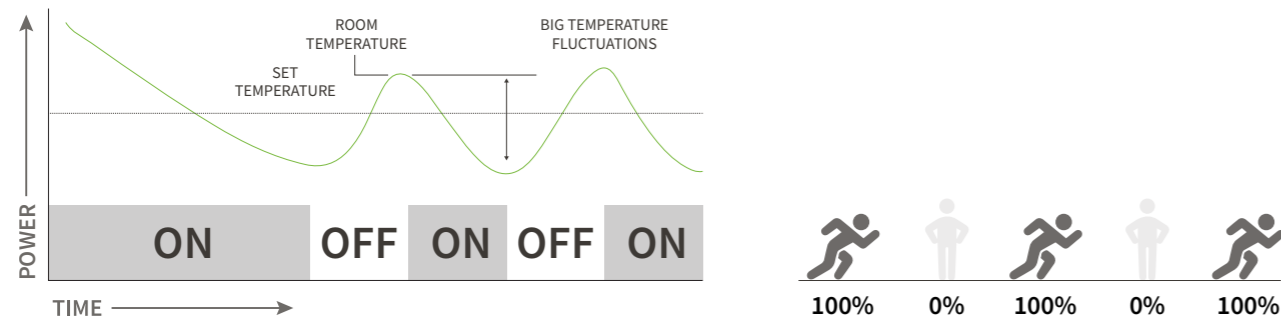
Controllers



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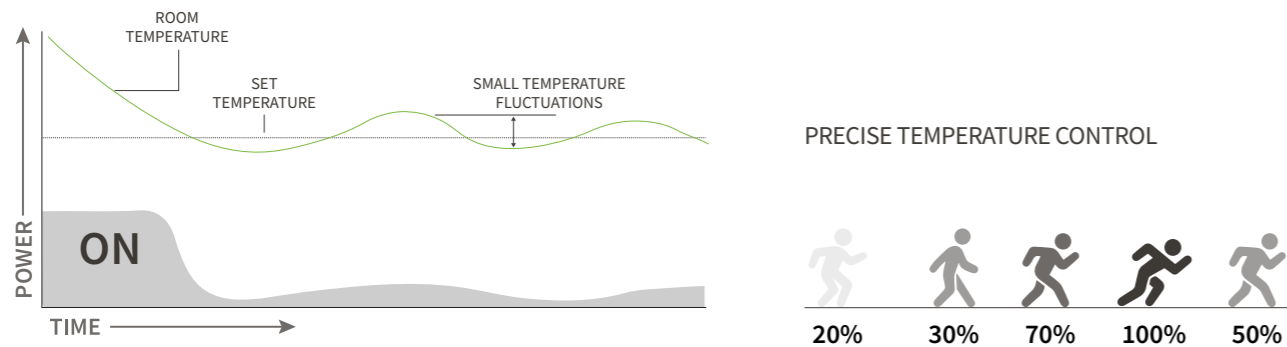
Why Inverter?

Fixed Speed



The fixed speed compressor is built with a single speed compressor motor that has a start/stop operation. This means that when the desired temperature has been reached, the compressor motor turns off automatically. It restarts when the temperature passes the set threshold. The sudden ON/OFF function of the compressor consumes more initial power and creates discomfort in the room. This also affects the compressor's life cycle.








Inverter



Inverter air conditioners use variable-speed compressor motor technology, and unlike the start/stop operation of fixed speed air conditioners, they are able to adjust the compressor speed in tune with temperature fluctuations. So, when an inverter air conditioner reaches the desired temperature, instead of switching off the compressor motor, it works in a low-power mode that keeps it running. By doing so, an inverter system can operate continuously with a minimal load while providing a constant temperature and increasing indoor comfort.

As the room load condition fluctuates due to building orientation, occupancy level, lighting load variation, and more. The inverter compressor will adjust such variations of load more efficiently by changing the rpm or speed. Therefore, it consumes less power than the fixed speed compressor.

Why Takumi Smart?

-  Wi-Fi enabled – **airCloud Go**
-  Wireless Remote Controller
-  Self-diagnosis
-  Fault History
-  H Link – Connectivity with Hitachi VRF
-  Building Management System
-  IDU-ODU Communication – RS 485
-  Efficient Design With Inverter Compressor



*Product images are for illustration purpose only.

Know more about Takumi Smart

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IAQ

Technology

Inverter Scroll Compressor



Inverter Scroll Compressor has been engineered to deliver optimum cooling efficiency throughout its entire range of operations. In real-life scenarios, there may be fluctuations in heat load due to changes in occupancy. In these instances, the inverter scroll compressor is able to adjust to the specific load demand, making it ideal for part load conditions. Additionally, it outperforms traditional fixed speed units when it comes to handling liquids.



Inverter Compressor Drive

A scroll compressor with its fully optimized inverter drive, a higher motor efficiency, and low starting current, offers higher energy savings compared to fixed speed compressors.

Benefits

- Higher motor efficiency with the use of permanent magnets motor
- Silent operation
- Higher part load efficiency compared to conventional fixed speed
- More reliability with a fully optimized inverter drive and motor design
- RS485 Communication
- Low starting current compared to conventional fixed speed



Refrigerant R410A



Refrigerant R410A is a great choice for those looking to reduce their carbon footprint and contribute to a greener environment. As an ozone-friendly gas, R410A does not contribute to the depletion of the ozone layer, making it a more eco-friendly option. Additionally, this refrigerant also reduces greenhouse gas emissions and contributes to a healthier planet.

Control

airCloud Go

Wifi enabled AC



Benefits

- Now, control or monitor your Takumi Smart unit from anywhere with a smartphone or any other Android or iOS device.
- With airCloud Go app, you can connect up to 20 units at different locations and operate them simultaneously.

airCloud Go

Mobile App*



Voice Command

Google Home & Amazon Alexa



Voice Controlled

Through Assistant



Smart-Fence

Connect your AC to your geolocation with the Smart-Fence feature and enjoy the effortless benefits of scheduling AC on/off before you arrive/after you leave your space.

Enabling Smart-Fence

1. Set your Smart-Fence perimeter from 500m to 10km around your house.
2. Select your preferred behavior as you leave or enter your Smart-Fence perimeter.
3. Enjoy smarter air, from anywhere. Smart-Fence activation notifications will be sent to your phone and other pre-defined users automatically.
4. Adjust the temperature or reset Smart-Fence any time from your airCloud Go app.



As you arrive home

Your air conditioner will automatically turn on, helping to create a comfortable and welcoming indoor climate.



As you leave home

Your air conditioner will stop automatically or switch to a more economical preset temperature to save your energy.



Plan to save energy

Save on your power bills.

Easily schedule when your air conditioner is on. Eliminate unnecessary power usage while you are away, then set your air conditioner to automatically turn on when you get back.



Controls made easy

Simplicity of an app

airCloud Go is a user-friendly interface that lets you create comfort directly from your smartphone.

*Hitachi recommends less than 20 air conditioners to be integrated in one mobile app.

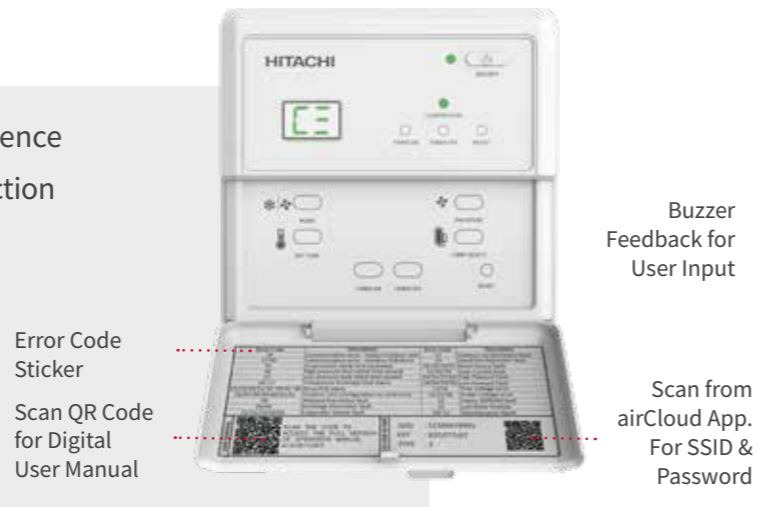
Download the airCloud Go app for free
Visit: hitachiaircon.com



Controller

Wired Remote - airCloud Go enabled

- Code display on screen for direct reference
- Mode, set temperature, fan speed selection
- Simple hourly On/Off Timer selection
- Unit, compressor, and Wifi status indication
- 7m wire length for WRC, max. wire length extendable up to 10m



Wireless Remote

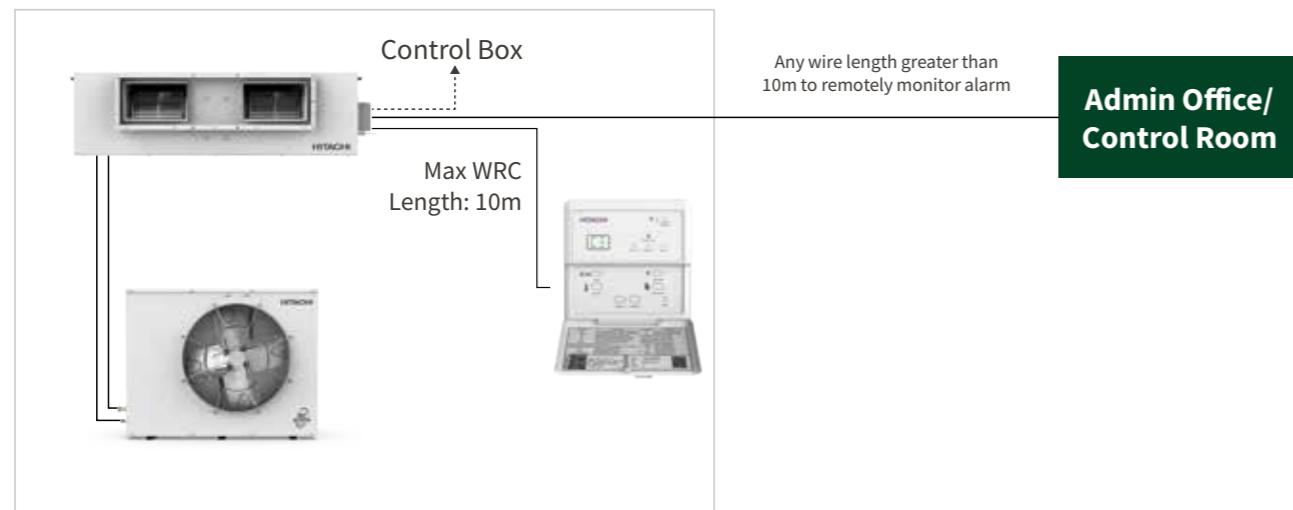
- Ease of access
- Backlit remote
- Access functions like AC switch ON/OFF, temperature increase/decrease, change mode, and fan speed change.



*The features shown above may vary from model to model. Please refer manual for further information.

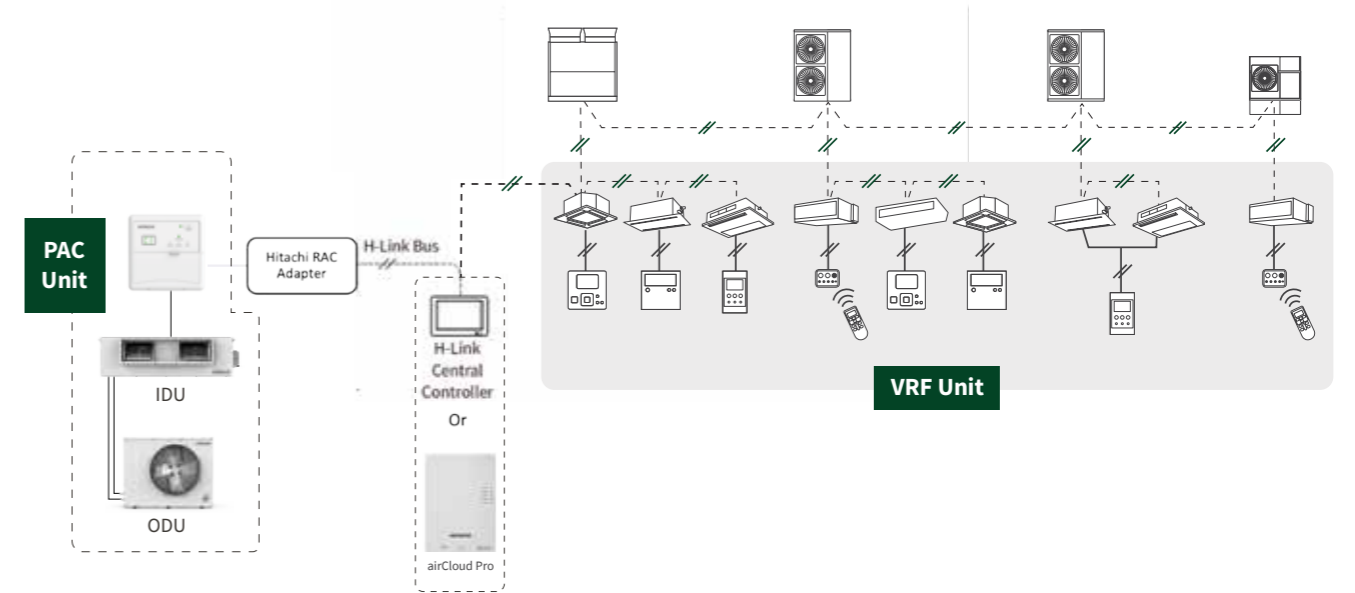
Alarm Status Communication

Provision available on indoor controller to communicate unit alarm status for remote monitoring.



Connect with VRF*!

In the new era of technology, connect your Takumi Smart to Hitachi's VRF system with H-Link. You can choose from our smart airCloud Pro WiFi-enabled controller or H-Link central controller to monitor, weekly schedule, lock, group control functions, and much more. Control and monitor the whole system together with much more convenience and a single controller.



*When connecting Takumi Smart units with Hitachi VRF units on the same H-Link bus, some features like Energy Cost Estimation, Eco Genius will not be available for users as these features are exclusively supported for Hitachi VRF units only and should not be used on Takumi Smart units.

*It is an optional feature, and the image is for illustration purposes only.

Indoor and Outdoor connectivity

The RS485 cable is used to ensure effective communication between indoor and outdoor units. The cable effectively delivers precise voltage signals between the units so that the machine can perform its functions effectively.

Benefits

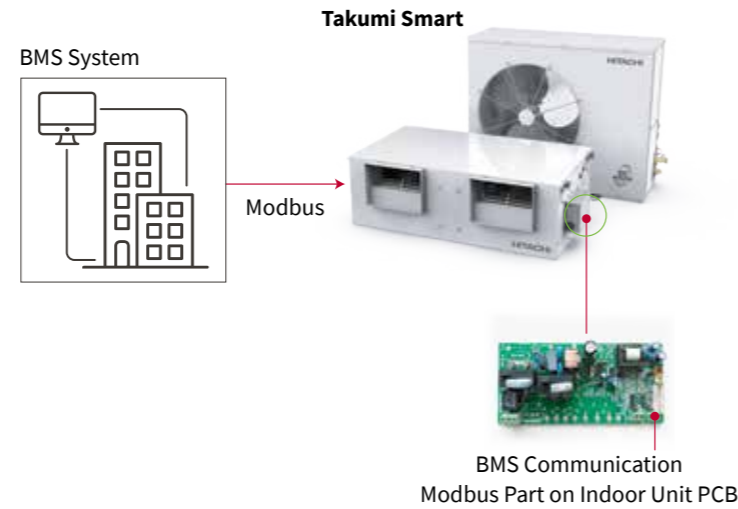
- Reduces risk of fire and electric shock
- Low maintenance cost
- Effective communication between IDU and ODU
- Low cable cost



Integration through Building Management System*

Benefits

- Enhanced connectivity
- Precise control



- 7 Control and 2 Monitoring Parameters
- Control & Monitor
 - ON/OFF
 - Set Temperature
 - Mode
 - Fan Speed
 - Timer ON/OFF
 - Set Temp. Lock
 - Emergency Shutdown

- Monitor
 - Room Temperature
 - System Error
- Modbus Communication
- Up to 99 Units can be Connected
- Lock Function

*It is an optional feature.
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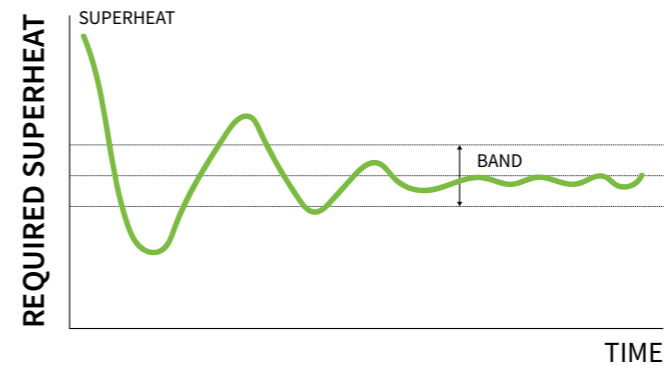


Reliability

Electronic Expansion Valve

How does the technology work:

As compared to a conventional thermal expansion valve, the electronic expansion valve maintains targeted superheat within 1 degree Celsius across the evaporator through minimum step control of 1 pulse throughout the air conditioner working envelope to prevent any compressor damage and make the unit run more efficiently.



Benefits

- Electronically operated expansion valve precisely controls superheat.
- Stable superheat prevents issues like flood back or inadequate cooling.
- It can quickly respond to changes in demand and maintain a stable working temperature.
- Offers higher energy efficiency with the precise set temperature control that matches the refrigerant flow to the actual load.



Accumulator

Benefits

- Units equipped with Accumulator for the long piping system have better safety and refrigerant handling.
- Works as a reservoir for refrigerant at the time of the system pump down.

How does the accumulator work:

The liquid refrigerant flooding back into the compressor due to the site conditions can damage the compressor and reduce its efficiency. The accumulator thus ensures only vaporized refrigerant is drawn into the compressor and protects it from potential damage. The accumulator prevents the liquid refrigerant from entering the compressor and provides the optimum viscosity of oil required in the compressor to avoid wear and tear.

*Accumulator is not available in 7 HP model.

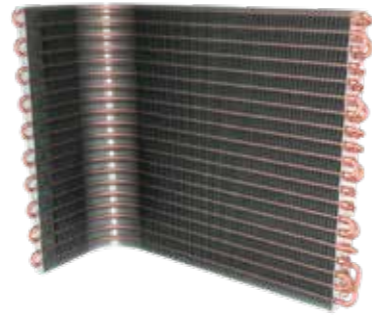
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Green Fin Heat Exchanger for Optimal Performance

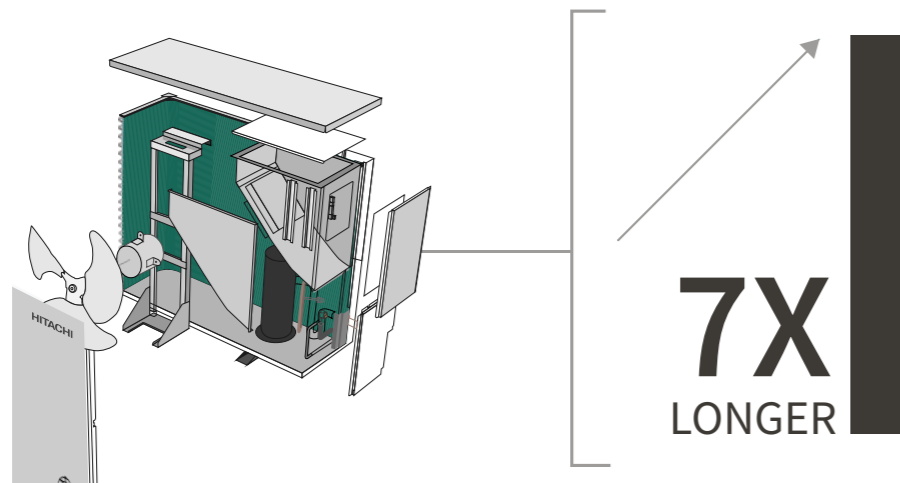
Benefits

- Longer unit life.
- Green fin has a 7 times higher salt spray-resistant capacity in comparison to bare fin.



How does it help:

The anti-corrosion green fin treatment of the heat exchanger increases corrosion-resistant property. It is especially effective in coastal and urban areas with more humidity and weather conditions that corrode the exposed heat exchanger faster.



*7X longer life expectancy (corrosion resistance capacity) as per JCH internal standard Salt Spray Tests for Bare & Pre coated fins.
**The images are for representation purposes only.



Oil Boost Up Cycle

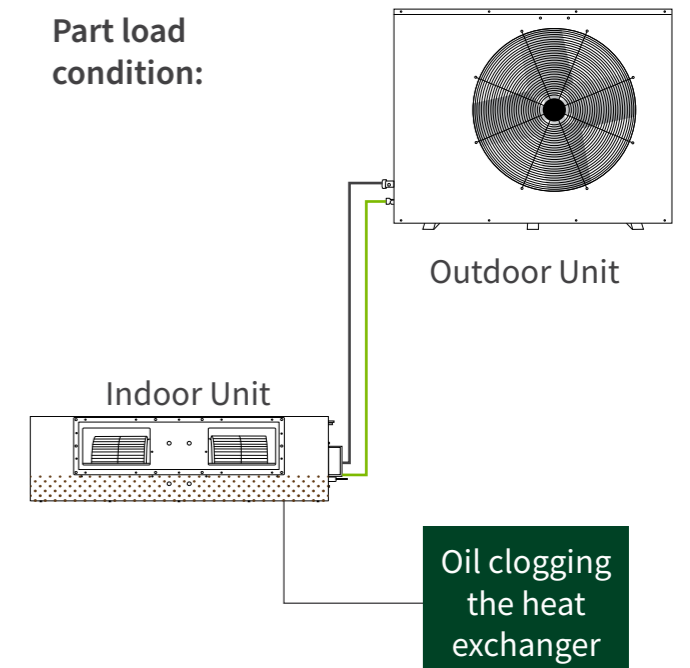
Benefits

- Higher compressor safety under low load conditions and long piping.
- Better lubrication mechanism of the compressor with a better lifecycle.


How does the technology work:

In the part load condition, the compressor runs at low frequency to offer better efficiency. At the lower frequency usually system has poor oil return process which leads to oil clogging in the IDU heat exchanger.

Part load condition:



Hitachi offers auto oil cycle management, that activates when the compressor runs at low speed. Under the low load conditions, oil boost up cycle activates to maintain the oil level in the compressor for better lubrication mechanism.

 Works up to 52°C Outdoor Ambient Temperature

*The images are for representation purposes only.



Safety

Higher Component Protection

Benefits

- Smooth and safe operation
- The increased life expectancy of the unit.
- The compressor always operates in a safe zone.
- Low power consumption



Safety Parameters

Under/Over Voltage Protection

In cases of voltage fluctuations beyond range, the voltage sensing module on the controller provides safety to the system by cutting off the operation of the compressor. The system will automatically restart when the voltage levels are back within the normal operating range.

Single Phase /Reverse Phase Protection

Single phasing can cause overheating and even damage the components, while reverse phasing can lead to improper directional rotation of the motors. With single-phase and reverse-phase protection, the reliability and safety of the system are ensured. The system will auto-restart once the fault is corrected or removed.

High/Low-Pressure Protection

High- and low-pressure protection systems provide real-time monitoring and early detection of abnormal pressure conditions. This proactive approach allows for swift corrective actions and minimizes downtime for the unit. The system will auto-restart once the fault is corrected or removed.

Overcurrent/Overload Protection

Overcurrent and overload protection safeguard equipment from excessive current flow. This protection reduces the risk of premature failure and the need for frequent replacements, thus ensuring the longevity of equipment.

Operational Safety

If the system goes into a continuous overload/overcurrent or high/low-pressure fault for more than 3 successive retrials, the system will get locked for inspection/troubleshooting.

Compressor Envelope Protection

Constantly checks the compressor suction and discharge pressure to keep the compressor working within its envelope range.

Freeze-Up Protection

Frozen coils not only compromise the efficiency of HVAC systems but also lead to wear and tear on equipment. Freeze-up protection safeguards the evaporator coil from freezing when it runs at lower evaporating temperature conditions and extends the equipment's lifespan.

Conventional Unit

Takumi Smart safety level of protection

Self-diagnosis

Benefits

- The wired remote is equipped with over 60 codes to facilitate easier maintenance.
- Extensive and focused alarm codes for self-diagnosis.
- 60+ alarm codes covering all functional and performance categories.
- Reduced troubleshooting time and unit downtime.
- It covers wide range of fault errors such as over/under voltage, compressor, discharge ambient thermistor, drive PCB failure and more. It makes it more convenient to identify the error with direct reference.



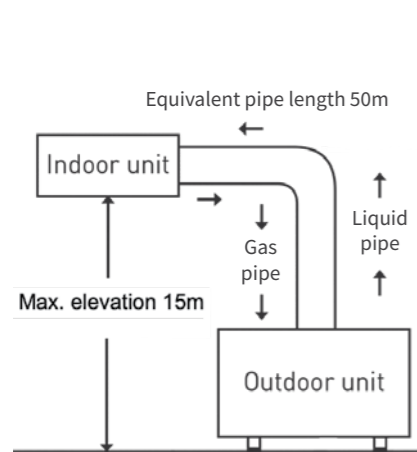
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Installation

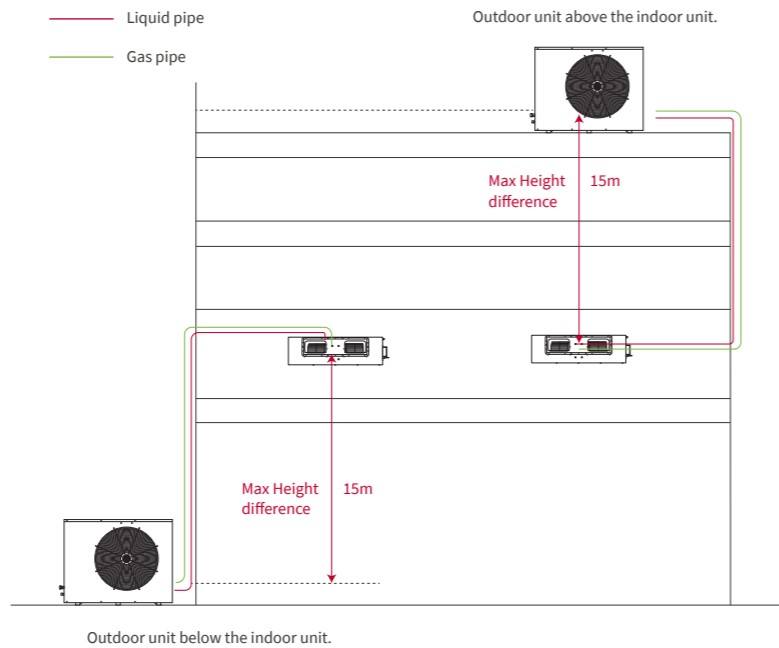
Flexibility

Benefits

- **Longer pipe length**
 - Gives freedom to designer/customer for installation.
 - High flexibility in installation configuration.
- **Ease of indoor & outdoor communication**
 - Lower installation cost for Indoor to Outdoor Unit cabling due to use of the RS-485 communication.
- **Lower starting current**
 - Soft start function ensures low inrush current and use of optimal MCB/MCCB ratings.



Suitable for med. size building/
complex facilities.



*The images are for representation purposes only.

Service Valve

Benefits

- Factory pre-charge refrigerant*
- Easier to pump down the refrigerant in an outdoor unit
- Easy to install



Retrofit system: Same valve size for 11 & 13 HP units.
Same-field piping & indoor ducting can be used for retrofitting.

*For standard pipe length 7m

IAQ

Drain Pump Assembly*

The Drain Pump accessory gets fitted in the Indoor Unit and helps remove the condensate water quickly and avoids spilling it over the false ceiling.

Benefits

- Immaculate interiors
- Odorless conditioned space
- Clean & healthy environment
- Improves working height

UV Lamp with Ventilation*

The UV lamp accessories consist of a UV lamp that emits 265 Nm of effective wavelength, which is germicidal in nature. With continuous operation, bacteria can be killed in hours' time.

Benefits

- Reduced health risks
- Good indoor air quality
- Germicidal UV lamp
- Prevents sick building syndrome

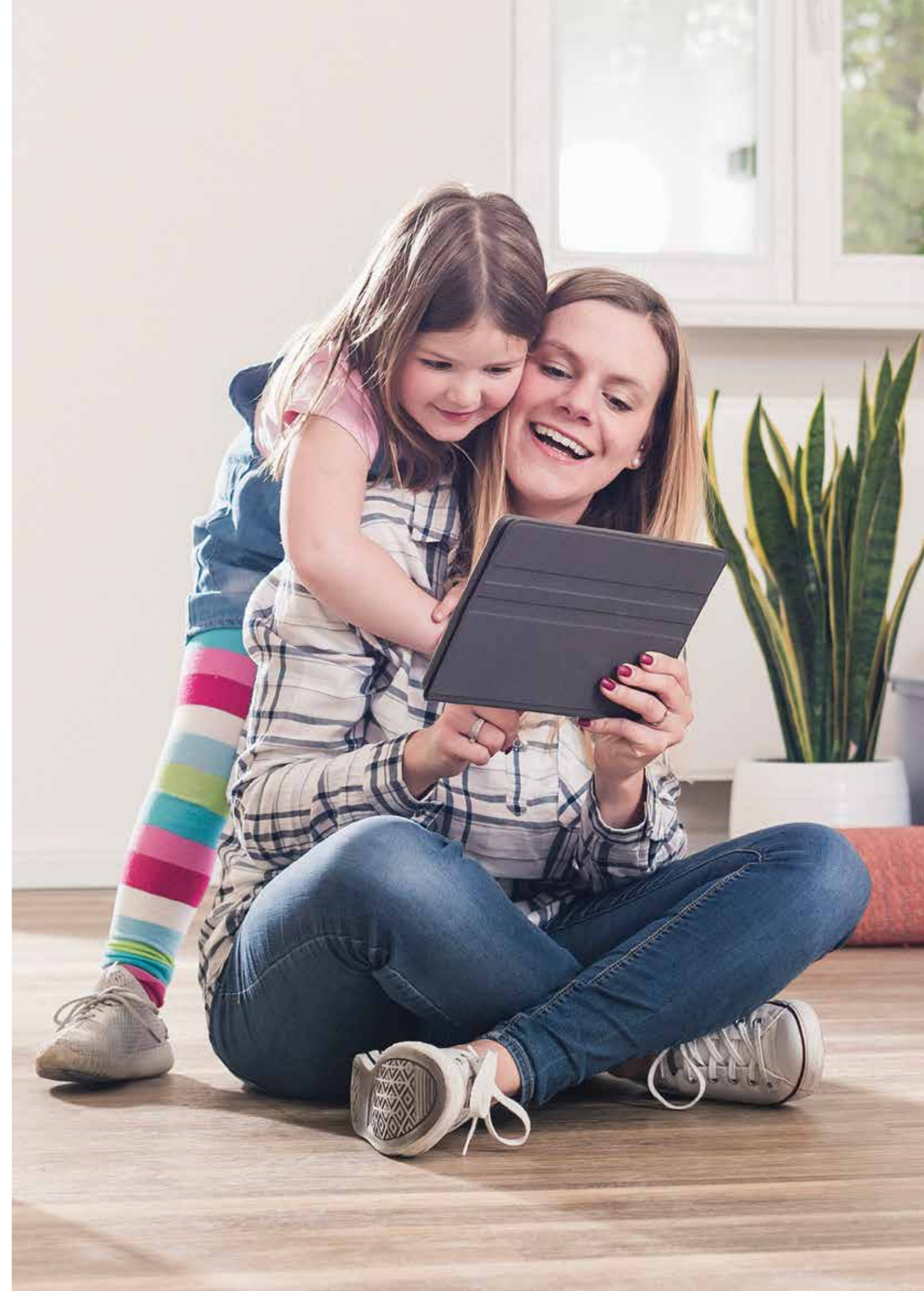
*The Drain Pump Assembly & UV Lamp with Ventilation are both optional features. The images are for representational purpose only.

Takumi Smart

Model	HP	7	11	13
Rated Cooling Capacity	BTU/Hr	64800	97200	120000
	Watts	18900	28500	35170
Compressor	Type	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter
No. of Compressors	Nos.	1	1	1
Rated Power Supply (Volts/ Hz/ Phase)	ODU	400/ 50/ 3	400/ 50/ 3	400/ 50/ 3
	IDU	230/ 50/ 1	230/ 50/ 1	230/ 50/ 1
Indoor Unit				
No. of IDUs	Nos.	1	1	1
No. of Blowers	Nos.	2	2	2
Fan Speed		2	2	2
Airflow	CFM	2200	3400	4000
	W (mm)	1190	1550	1550
IDU Dimension	H (mm)	385	440	440
	D (mm)	675	675	675
Net Weight	Kg	55	90	93
Outdoor Unit				
No. of ODUs	Nos.	1	1	1
No. of Fans	Nos.	1	1	2
	W (mm)	1100	1200	1570
ODU Dimension	H (mm)	905	940	900
	D (mm)	395	550	640
Net Weight	Kg	95	150	165
Suction Pipe	Inch	7/8"	9/8"	9/8"
Liquid Pipe	Inch	3/8"	5/8"	5/8"
Insulation Pipe	Inch	7/8" & 3/8"	9/8" & 5/8"	9/8" & 5/8"

*The above design and specifications may change without prior notice due to continuous product improvements.

** Performance is as per IS-8148 standard





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