

HITACHI

airH₂O Yutaki S80 & S80 Combi

High Temperature Split Air-to-Water Heat Pump



Cooling & Heating



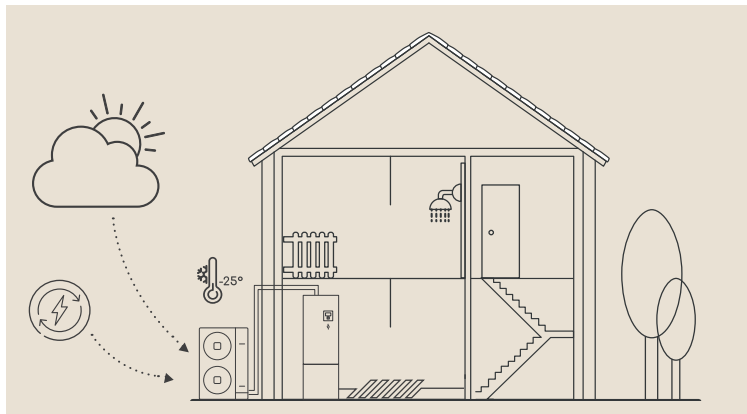


INDEX

-
- 04 High temperature split air-to-water heat pump
 - 04 Yutaki S80 / S80 Combi line-up
 - 05 Features & benefits
 - 05 Accessories
 - 08 Controls
 - 09 CSNET Home App
 - 10 Technical data
-

High temperature split air-to-water heat pump

An ideal solution for renovation and old boiler replacement



High temperature heat pump

Yutaki S80 is a split air-to-water heat pump for **space heating & sanitary hot water up to 80°C**, (even with outdoor temperatures as low as -20°C), the hottest water temperature in the residential heating market using renewable energy.



Smart cascade cycle: automatically adjusts the heat pump's operation according to heating needs.



Old boilers replacement: an ideal solution for renovation housing with an increased demand for high water supply temperatures as well as for new buildings.

YUTAKI S80 & YUTAKI S80 COMBI LINE-UP

SMART CASCADE

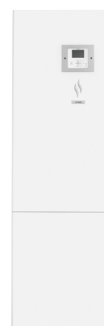
technology: two refrigerant cycles for a maximized efficiency

CONSTANT POWER

allows to maintain optimal heating operation of the unit down to -15°C



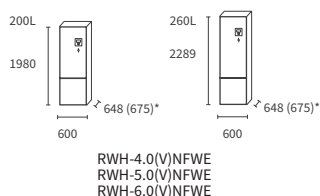
CONSTANT POWER -15°C



Model	kW	11	14	16
1 phase		●	●	●
3 phase		●	●	●

DIMENSIONS

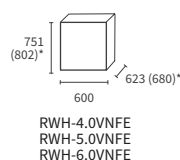
Yutaki S80 Combi (with an integrated tank)



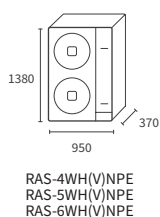
DHW tanks



Yutaki S80



Outdoor unit



*with connections



Features & benefits

Two-stage compression technology

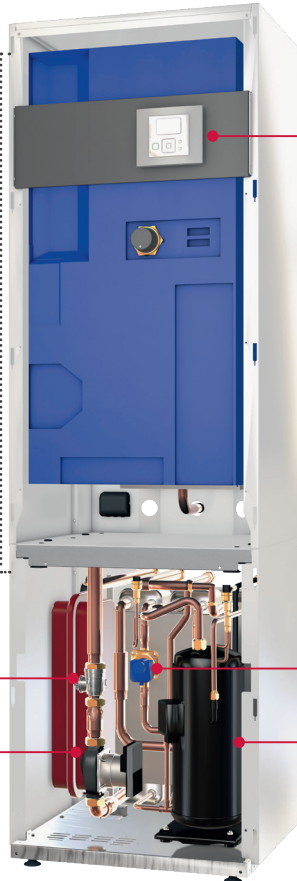
YUTAKI S80 COMBI WITH AN INTEGRATED TANK

Integrated stainless steel DHW tank available in **200L** or **260L**

The stainless steel filter, mounted in the DHW cylinder, limits the formation of bacteria even when the water stays longer in the tank (when you are on vacation).

Ball valve with a filter

High efficiency pump (complying with the ErP code)



LCD controller (PC-ARFH1E)

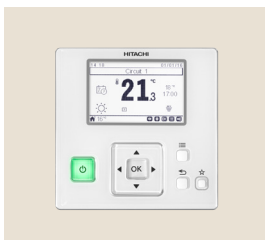
The main LCD controller is provided as embedded device with the Yutaki S80 Combi model (built-in the DHWS tank) or as accessory for Yutaki S80 units without DHW tank.

1st stage compression is in the ODU : **R410A**, while the 2nd stage compression is in the hydraulic module: **R134A**

Solenoid valves

Crankcase heater

ACCESSORIES



Wired room thermostat or main controller
PC-ARFH1E



Intelligent wireless room thermostat
ATW-RTU-07



CSNET Home gateway
ATW-IOT-01



KNX gateway
ATW-KNX-02



Modbus gateway
ATW-MBS-02



DHW Tanks
DHWT-200/300S-3.0H2E



Unit controller cover
ATW-FCP-01



Electric water heater
WEH-6E

Features & benefits

MAXIMIZED EFFICIENCY DUE TO SMART CASCADE & CONSTANT POWER

The extra innovation of Yutaki S80 lies in the **smart cascade technology**: the heat pump has two compressors, working in a smart cascade system, with two refrigerant cycles (**R410A** and **R134A**). The **smart cascade circuit** allows the unit to automatically set its operating parameters as required by heating.

Smart cascade circle

If the heating demand is lower (water temperature up to 53°C), the unit uses only **R410A refrigerant**, while if the demand is increased (water temperature up to 80°C), the second refrigerant circuit **R134A** is activated. Thus, it helps to maximize seasonal efficiency and guarantee comfort all year round.



Space heating & DHW operation even at down to -25°C ambient temperature

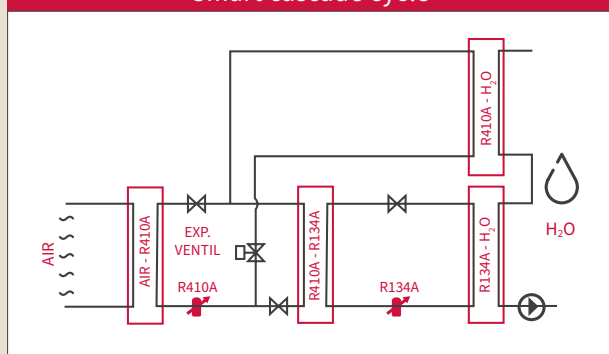
Constant power

Your heat pump heats up your home, over one or multiple floors. Down to outside temperatures of -15°C, it provides **constant heating power** while continuing to produce water at 65°C in your radiators, with no need for heater elements.

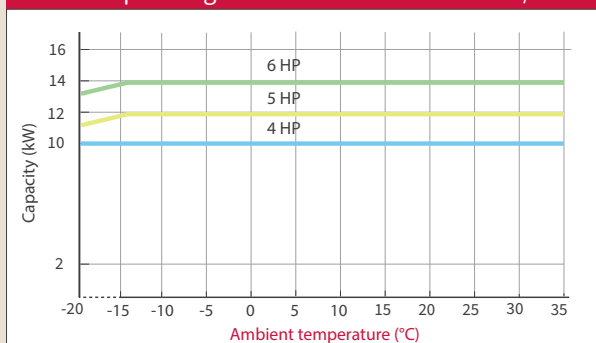
CONSTANT
POWER
-15°C

No capacity drop by low ambient temperature

Smart cascade cycle



Constant power guaranteed down to A-15°C/W65°C



MODULAR SYSTEM TO ADAPT TO ALL CUSTOMER NEEDS

Yutaki S80 is available in two versions to suit different requirements: Standard and Combi version.

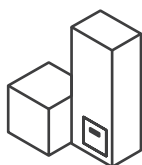
Standard version:

- Stand-alone unit with connections on the top of the unit
- A stainless steel DHW tank can be connected as an accessory (placed on top of the indoor unit or besides it)

Hydraulic module



Hydraulic module + HITACHI DHW tank



Combi version:

- Space heating & domestic hot water in a very small footprint
- Connections on the back of the unit
- A stainless steel DHW tank integrated in the unit (200L or 260L)

Hydraulic module + integrated HITACHI DHW tank



The side-mounted unit has all the connections on the top to make installation as easy as possible.

Features & benefits

RENEWABLE ENERGY SOLUTION FOR HEATING & DHW



Energy efficiency and cost savings

- Yutaki S80 heat pumps provide space heating and sanitary hot water by converting outside heat energy into household warmth (1kW of electricity = 5kW of heating energy)*
- Energy efficiency class up to A+++



High level of comfort all year round

- Efficient performance in cold climates: can supply up to 80°C leaving hot water even at -25°C outside temperature
- Maximized seasonal efficiency achieved thanks to smart cascade (2 refrigerant cycles) & constant power technologies



Easy installation & maintenance

- Different configurations and installations possible due to the modularity and compactness of the heat pump units
- Perfect for boiler replacement: compatible with the existing piping, radiators, fan coils etc



Smart control and peace of mind

- User-friendly and intuitive main LCD controller / thermostat
- Remote control & maintenance of your Yutaki units from a smartphone, a tablet or a laptop with CSNET Home App for end-users and CSNET Home PRO App for technical specialists



HP Keymark certified range

- Unique European certification
- Highest level of quality and performances guaranteed



*Compared to traditional boilers, it reduces electricity bills by up to 60% and CO2 emissions by 50%.



Controls

Yutaki main controller (PC-ARFH1E)



Yutaki S80 can be easily controlled and set up from its main **LCD controller (PC-ARFH1E)**, which is embedded in the Yutaki S80 Combi model (built-in the DHWS tank) and provided as an accessory for Yutaki S80 units without DHW tank.



- **Easy configuration** thanks to the Wizard installation
- **Built-in main controller** or a **wired room thermostat**, directly installed in the controlled area
- **Standard functions**: temperature setting control, ECO mode, weekly timer
- **Advanced functions** from the Installer menu: water pump speed setting, current water flow reading, input / output smart functions etc

SMART AND QUICK SETUP THANKS TO INSTALLATION WIZARD

From this controller, all the operation of the heating system can be configured and adjusted. During commissioning, the **Configuration Wizard** ensures a quick and efficient setup of the system, by asking simple questions to understand how your installation is designed.



Number of circuits



DHW tank installation

A manual configuration is also possible, all the parameters remain available in the system configuration menu.

ADVANCED PARAMETERS FOR INSTALLERS

The installer menu offers some optional functions and advanced parameters to fine tune the Yutaki unit and match requirements of various installations.

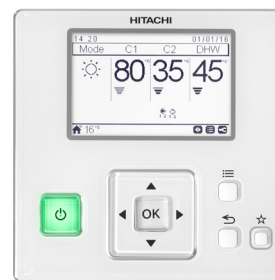
Smart actions and Smart Grid Ready functions can be selected and activated from the controller, allowing advanced interlock control of your Yutaki system in relation with smart grids or photovoltaic systems.

PC-ARFH1E controller for Yutaki heat pumps is also a great maintenance tool, with a specific menu gathering key functions dedicated to service engineers:

- Commissioning menu with all the functions to start up the system
- Alarm history menu, listing all the alarm occurrences



Commissioning menu



Installer view

CSNET Home

Control your room comfort with your smartphone

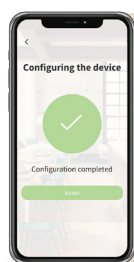
CSNET Home is a new IoT solution designed to ensure the best experience of remote control of Yutaki S80 heat pumps for both end-users, technical specialists and installers.

This system includes a new Wi-Fi gateway (ATW-IOT-01), and a new application for a smartphone, a laptop or a tablet.



The new Wi-Fi gateway (ATW-IOT-01) is connected to the Yutaki unit via H-Link wire and can be directly connected to the house Wi-Fi, without any additional network adapter.

CSNET HOME APP FOR END-USERS



Simple configuration

- Create your user account in a few clicks and enjoy intuitive, easy pairing procedure and configuration of your Wi-Fi gateway, using a QR code and Bluetooth with the help of the new improved Wizard.



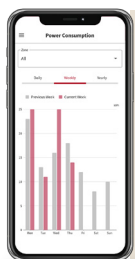
Increased comfort

- Control your Hitachi air-to-water heat pumps remotely in real time via CSNET Home App from your smartphone, tablet or laptop, monitor your space heating zones and set up your weekly timer.



Shared control

- Share and keep control, invite additional users to your installation, manage remote access to your system for maintenance: all is easily done from CSNET Home App.



Energy & cost savings

- Track power consumption of your Yutaki units (per operation mode or get a total consumption overview) and adjust the settings of your heat pump to optimize energy consumption and reduce costs.

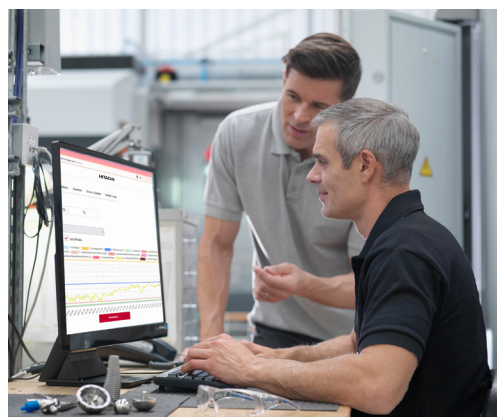
REMOTE CONTROL & MAINTENANCE WITH CSNET HOME PRO

CSNET Home PRO enables service people and technicians to monitor system operations, carry out maintenance and remotely set up parameters such as water control settings.

REMOTE SUPERVISION

Make the difference by providing an effective support to your customers with remote supervision of all the installations you are in charge of

Download for free:



Technical data

Yutaki S80

Model		R410A + R134A			
		YUTAKI S80 11kW	YUTAKI S80 14kW	YUTAKI S80 16kW	
Heating performances					
Min./nom./max. heating capacity (A7/W35)	kW	11,0 / 15,2	14,0 / 16,7	16,0 / 17,8	
Nom./max. heating capacity (A-7/W35)	kW	9,7 / 10,6	11,5 / 12,2	12,1 / 13,0	
Nom./max. heating capacity (A-7/W45)	kW	11,0 / 12,5	14,0 / 14,5	16,0 / 16,0	
Nom./max. heating capacity (A-7/W55)	kW	11,0 / 12,5	14,0 / 14,5	16,0 / 16,0	
Nom. power input (A7/W35)	kW	2,20	2,97	3,50	
COP (A7/W35) according to EN14511	-	5,00	4,71	4,57	
SCOP average climate 35°C / 55°C according to EN14825	-	4,75 / 3,63	4,43 / 3,35	3,88 / 3,23	
Seasonal heating energy efficiency ηs (35°C) 1~/3~	%	187 / 183	174 / 171	152 / 150	
Seasonal heating energy efficiency ηs (55°C) 1~/3~	%	142 / 140	131 / 129	126 / 125	
Energy class 35°C / 55°C	-	A+++ / A++		A++ / A++	
Water outlet temperature range (heating mode)	°C	20 / 80°C			
Max. water temperature outlet in thermodynamic mode only	°C	80°C down to -20°C outside			
HYDRAULIC MODULES		RWH-4(V)NFE	RWH-5(V)NFE	RWH-6(V)NFE	
Net weight	kg	135 / 137	139 / 146	139 / 146	
Dimensions (H x W x D)	mm		751 x 600 x 623		
Sound power	dB(A)	57	57	58	
Remote control	-	Not included			
Hydraulic data					
Expansion vessel	L	12			
Water flow (min./nom./max.)	m³/h	1,00 / 1,89 / 2,80	1,10 / 2,41 / 3,20	1,20 / 2,75 / 3,20	
Shutdown valves (male/male valves supplied)	inches	1" 1/4			
Min. installation water volume	L	40	50	50	
Refrigerant data (second cascade circuit)					
Refrigerant charge / Additional refrig. charge needed	kg	1,9 kg for 15m			
Refrigerant	-	R134A			
Compressor	-	SCROLL			
Electrical data					
Power supply	-	230V / 1Ph / 50Hz or 400V / 3Ph / 50Hz			
1~ 230V	Max. current with electric heater + tank heater	A	24	28	31
	Cable width (mm²) / max. length (m) ⁽¹⁾	-	3 x 6		
1~ 400V	Max. current with electric heater + tank heater	A	10	10	10
	Cable width (mm²) / max. length (m) ⁽¹⁾	-	5 x 2,5		
OUTDOOR UNITS		RAS-4WH(V)NPE	RAS-5WH(V)NPE	RAS-6WH(V)NPE	
Sound pressure level at 1m / sound power level in Heating mode	dB(A)	49 / 61	50 / 63	50 / 64	
Air flow rate	m³/h	4800	5400	6000	
Dimensions (H x W x D)	mm	1380 x 950 x 370			
Net weight	kg	103			
Operating ranges in Heating / DHW	°C	-25~-25 / -25~-+35			
Refrigerant data					
Piping diameter (Liquid - Gas)	inches	3/8" 5/8"			
Min./max. piping length	m	5 - 75/20			
Refrigerant charge / Additional refrig. charge needed	kg/g/m	3.3 (for up to 15 m) / 60	3.4 (for up to 15 m) / 60		
Refrigerant		R410A			
Compressor		SCROLL			
Electrical data					
Power supply		230V / 1Ph / 50Hz or 400V / 3Ph / 50Hz			
1~ 230V	Max. current	A	30.5		
	Cable width (mm²) / max. length (m) ⁽¹⁾	-	3 x 6/30		
3~ 400V	Max. current	A	14	16	
	Cable width (mm²) / max. length (m) ⁽¹⁾	-	5 x 2.5/16	5 x 2.5/16	
Transmitting cables (protected)	mm²	2 x 0.75			

(1) Data given for reference purposes only. Compliant with the applicable electrical standards. (V) = mono.

Yutaki S80 Combi

Model		R410A + R134A					
		YUTAKI S80 COMBI 11kW		YUTAKI S80 COMBI 14kW		YUTAKI S80 COMBI 16kW	
Heating performances							
Min./nom./max. heating capacity (A7/W35)	kW	11,0 / 15,2		14,0 / 16,7		16,0 / 17,8	
Nom./max. heating capacity (A-7/W35)	kW	9,7 / 10,6		11,5 / 12,2		12,1 / 13,0	
Nom./max. heating capacity (A-7/W55)	kW	11,0 / 12,5		14,0 / 14,5		16,0 / 16,0	
Nom. power input (A7/W35)	kW	2,20		2,97		3,50	
COP (A7/W35) according to EN14511	-	5,00		4,71		4,57	
SCOP average climate 35°C / 55°C according to EN14825	-	4,75 / 3,63		4,43 / 3,35		3,88 / 3,23	
Seasonal heating energy efficiency ηs (35°C) 1~/3~	%	187 / 183		174 / 171		152 / 150	
Seasonal heating energy efficiency ηs (55°C) 1~/3~	%	142 / 140		131 / 129		126 / 125	
Energy class 35°C / 55°C	-	A+++ / A++				A++ / A++	
Water outlet temperature range (heating mode)	°C	20 / 80°C					
Max. water temperature outlet in thermodynamic mode only	°C	80°C down to -20°C outside					
DHW performances							
Seasonal energy efficiency ηwh (L cycle)	%	130 / 134					
Energy class	-	A+					
Temperature range of water outlet (DHW mode)	°C	30 / 75°C					
HYDRAULIC MODULES + DHW TANK		RWH-4.0(V)NFEWE + DWHS(200/260) S-2.7H2E		RWH-5.0(V)NFEWE + DWHS(200/260) S-2.7H2E		RWH-6.0(V)NFEWE + DWHS(200/260) S-2.7H2E	
Net weight of the Single/Three-Phase hydraulic module	kg	135/137		139/146		139/146	
Net weight of the DHW tank (200L/260L)	kg	62/81					
Dimensions (H x W x D) with 200L / 260L integrated DHW tank	mm	1980 x 600 x 648/2289 x 600 x 648					
Sound power	dB(A)	57		58			
DHW tank volume / material	L	200 or 260 L/stainless steel					
Remote control	-	Included					
Hydraulic data							
Expansion vessel	L	12					
Water flow (min./nom./max.)	m³/h	1,00 / 1,89 / 2,50		1,10 / 2,41 / 3,20		1,20 / 2,75 / 3,20	
Shutdown valves (male/male valves supplied)	inches	1"1/4 female					
Connections for DHW	inches	3/4" male					
Min. installation water volume	L	40		50		50	
Refrigerant data (second cascade circuit)							
Refrigerant charge / Additional refig. charge needed	kg	1,9 kg for 15m					
Refrigerant	-	R134A					
Compressor	-	SCROLL					
Electrical data							
Power supply		-	230V / 1Ph / 50Hz or 400V / 3Ph / 50Hz				
1~ 230V	Max. current with electric heater + tank heater	A	24	28		31	
	Cable width (mm²) / max. length (m) ⁽¹⁾	-	3 x 6 / 30				
	Max. current with electric heater + tank heater	A	10				
1~ 400V	Cable width (mm²) / max. length (m) ⁽¹⁾	-	5 x 2,5 / 16				
OUTDOOR UNITS		RAS-4WH(V)NPE		RAS-5WH(V)NPE		RAS-6WH(V)NPE	
Sound pressure level at 1m / sound power level in Heating mode	dB(A)	49 / 61		50 / 63		50 / 64	
Air flow rate	m³/h	4800		5400		6000	
Dimensions (H x W x D)	mm	1380 x 950 x 370					
Net weight	kg	103					
Operating ranges in Heating / DHW	°C	-25~+25 // -25~+35					
Refrigerant data							
Piping diameter (Liquid - Gas)	inches	3/8" 5/8"					
Min./max. piping length	m	5 - 75/20					
Refrigerant charge / Additional refig. charge needed	kg/g/m	3.3 (for up to 15 m) / 60		3.4 (for up to 15 m) / 60			
Refrigerant		R410A					
Compressor		SCROLL					
Electrical data							
Power supply		-	230V / 1Ph / 50Hz or 400V / 3Ph / 50Hz				
1~ 230V	Max. current	A	30.5				
	Cable width (mm²) / max. length (m) ⁽¹⁾	-	3 x 6/30				
3~ 400V	Max. current	A	14		16		
	Cable width (mm²) / max. length (m) ⁽¹⁾	-	5 x 2.5/16		5 x 2.5/16		
Transmitting cables (protected)		mm²	2 x 0.75				

(1) Data given for reference purposes only. Compliant with the applicable electrical standards. (V) = mono.



Notes

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