

## DEAP 4.2 INPUTS

Add New Item To Library

### Create Library Item

#### BASIC PROPERTIES

#### HEAT PUMP TEST DATA

Item Type \*

Heat Source

Item Name \*

S-Combi 6.0kW 200L

Keywords \*

Hitachi S-Combi

Manufacturer \*

Hitachi

Model \*

RAS-2.5WHVRP & RWD-2.5NRWE-200S

Heating Source Type \*

Heat Pumps

Heat Pump Type \*

Air to Water

Space Heating Standard \*

I.S. EN 14825

Water Heating Standard \*

I.S. EN 16147

Season Space Heating Efficiency,  $\eta_s$ [%] \*

127

Water Heating Efficiency,  $\eta_{wh}$  [%] \*

132

Temperature Control (Capacity Control) \*

Variable Outlet

Integrated Immersion

Flow Temperature  $\geq$ [60/65°C]

TOL \*

-10

WTOL \*

55

CANCEL

SAVE

## Create Library Item

### BASIC PROPERTIES

### HEAT PUMP TEST DATA

Heating System Test Data: I.S. EN14825

#### Test Condition Low (35°C)

	A(88%)	B(54%)	C(35%)	D(15%)	E*(100%)
	-7°C	2°C	7°C	12°C	TOL
Source	A-7	A2	A7	A12	A-10
Sink	W52	W42	W36	W30	W55
Heating Capacity (kW)	<u>5.10</u>	<u>3.10</u>	<u>3.00</u>	<u>3.05</u>	<u>5.30</u>
Coefficient of Performance (KW/KW)	<u>2.70</u>	<u>4.60</u>	<u>6.20</u>	<u>8.35</u>	<u>2.50</u>

#### Test Condition High (55°C) \*

	A(88%)	B(54%)	C(35%)	D(15%)	E*(100%)
	-7°C	2°C	7°C	12°C	TOL
Source	A-7	A2	A7	A12	A-10
Sink	W52	W42	W36	W30	W55
Heating Capacity (kW)	<u>4.42</u>	<u>2.69</u>	<u>2.43</u>	<u>2.80</u>	<u>3.90</u>
Coefficient of Performance (KW/KW)	<u>1.85</u>	<u>3.30</u>	<u>4.60</u>	<u>6.35</u>	<u>1.70</u>

Heating System Test Data: I.S. EN16147

Source of Data *	Coefficient of Performance (KW/KW)	Water Heating Efficiency, $\eta_{wh}$ [%]
Water Heating Efficiency		<u>132</u>
Reference Hot Water Temperature (°C) *	Capacity of Heat Pump (kW) *	
<u>54</u>	<u>5</u>	
Declared Load Profile *	Standby Heat Loss [kWh/day] *	Volume of DHW accounted for in test (Litres) *
<u>L</u>	<u>1.75</u>	<u>263</u>

CANCEL

SAVE

### Edit Primary Heat Source

Product Details		Survey Details	
Type	Heat Pumps	Heat % *	100
Heat Pump Type	Air to Water	Fuel Type	Electricity
Manufacturer	Hitachi	<input checked="" type="checkbox"/> Heats Water	
Model	RAS-2.5WHVRP & RWD-2.5NRWE-200S	Design Flow Temperature (°C) *	As Required
Seasonal Space Heating Efficiency, $\eta_s$	127	Daily Operation (h) *	24
<p>This is the Ecodesign Seasonal Space Heating Efficiency, <math>\eta_s</math>. When the survey is completed, the efficiency will be updated to reflect the performance of the heat pump in this dwelling.</p>		Backup Space Heater Fuel	Electricity
Eff. Adj. Factor	1	Back Up Space Heater Efficiency (%) *	100
<a href="#">VIEW DETAILS IN LIBRARY</a>		Backup Water Heater Fuel	Electricity
		Back Up Water Heater Efficiency (%) *	100



## Hot Water Tab

### Options & Storage

### Solar

### Heat Source



Options



Distribution Losses



Storage Losses



Is supplementary electric water heating used in summer



Is there a combi boiler



Storage



Is hot water storage indoors or in group heating scheme?

Storage Type

Integrated thermal store and gas-fired CPSU

Storage Volume (l)

200

Heat Pump Type of DHW \*

Integral Hot Water Storage



Is manufacturers declared loss available

Make and Model

Hitachi RWD-2.5NWRE-200S

Declared Loss (kWh/day)

1.75

Insulation Type

Factory Insulated

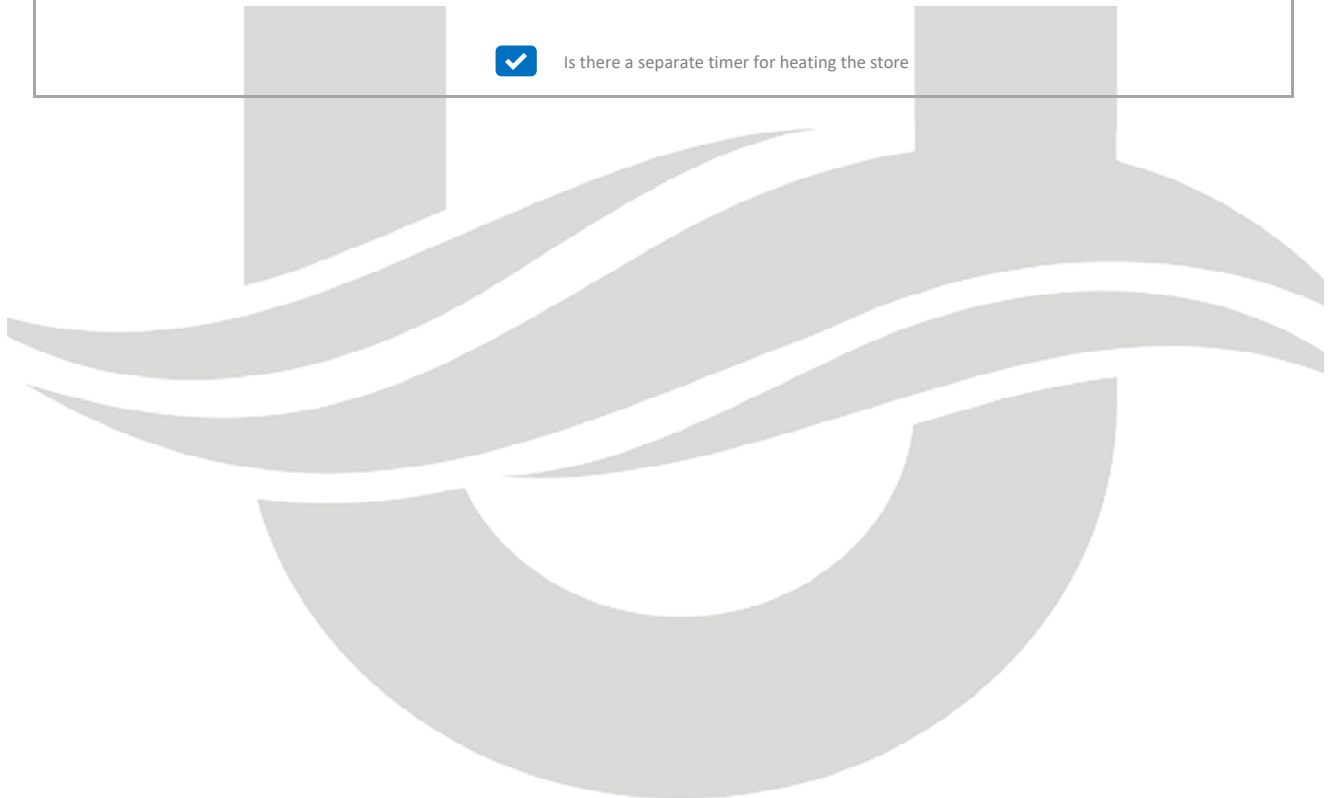
Insulation Thickness (mm)

Primary Circuit Loss Type

None



Is there a separate timer for heating the store



**Subject: Performance data for YUTAKI S COMBI: air to water heat pump with integrated tank.**

Hereby we confirm that the below values are HP Keymark certified and compliant with Ecodesign directive 2009/125/EC (813/2013) and Energy labelling directive 2010/30/EU (811/2013)

Heating & Cooling Performance

EN-14511:2018

HP				2.0 HP	2.5 HP	3.0 HP
Outdoor unit model				RAS-2WHVRP	RAS-2.5WHVRP	RAS-3WHVRP
Indoor unit model				RWD-2.0NRW(S) E-(200/260)S(-K)(-W)	RWD-2.5NRW(S) E-(200/260)S(-K)(-W)	RWD-3.0NRW(S) E-(200/260)S(-K)(-W)
OAT (DB/WB)	WIT / WOT	-	Unit	Heating operation		
7 / 6 °C	30 / 35 °C	CAP (Min./Nom./Max.)	kW	1.85 / 4.30 / 6.50	1.85 / 6.00 / 8.60	2.1 / 8.00 / 11.0
		COP (Nom.)	-	5.25	4.80	4.60
	47 / 55 °C	CAP (Nom./Max.)	kW	4.30 / 6.00	6.00 / 7.50	8.00 / 9.50
		COP (Nom.)	-	3.00	2.85	2.80
-7 / -8 °C	30 / 35 °C	CAP (Nom./Max.)	kW	4.50 / 5.30	5.30 / 6.20	5.80 / 7.50
		COP (Nom.)	-	2.8	2.70	2.70
	47 / 55 °C	CAP (Nom./Max.)	kW	4.00 / 4.20	4.70 / 5.00	5.00 / 5.50
		COP (Nom.)	-	2.00	1.80	1.75

OAT (DB/WB)	WIT / WOT	-	Unit	Cooling operation (Using cooling kit accessory)		
35 / -- °C	12 / 7 °C	CAP (Nom/Max)	kW	4.00 / 5.00	5.30 / 6.00	6.50 / 7.00
		EER (Nom.)	-	4.00	3.60	3.35
	23 / 18 °C	CAP (Nom/Max)	kW	5.50 / 6.40	6.30 / 7.70	7.00 / 9.00
		EER (Nom.)	-	5.40	5.30	5.00

**Johnson Controls-Hitachi Air Conditioning Spain, S.A.U.**

Ronda Shimizu 1, P. I. Can Torrella  
08233 Vacarisses, Barcelona (Spain)

EN-14825:2016

Model		HP	2.0 HP		2.5 HP		3.0 HP	
		Outdoor unit	RAS-2WHVRP		RAS-2.5WHVRP		RAS-3WHVRP	
		Indoor unit	RWD-2.0NRW(S)E-(200/260)S(-K)(-W)		RWD-2.5NRW(S)E-(200/260)S(-K)(-W)		RWD-3.0NRW(S)E-(200/260)S(-K)(-W)	
Water outlet temperature			35°C	55°C	35°C	55°C	35°C	55°C
Product description	Air to water heat pump	-	Yes					
	Heat pump combination heater	-	No					
	Low temperature heat pump	-	No					
	Complementary heater	-	Yes					
Design capacity (P <sub>DESIGN</sub> )		kW	4.0	4.0	6.0	5.0	7.0	6.0
Nominal energy efficiency (η <sub>g</sub> )		%	181(186)	133 (136)	177 (180)	127 (128)	177(179)	125 (127)
Nominal energy class		-	A+++	A++	A+++	A++	A+++	A++
Data for Packaged Fiche:								
Energy efficiency with OTC control (η <sub>g</sub> ) (*)		%	183(188)	135(138)	179 (182)	129(130)	179(181)	127 (129)
Energy class with OTC control		-	A+++	A++	A+++	A++	A+++	A++
Energy efficiency with thermostats/sensors (η <sub>g</sub> ) (*)		%	185(190)	137(140)	181 (184)	131(132)	181(183)	129 (131)
Energy class with thermostats		-	A+++	A++	A+++	A++	A+++	A++
Supplementary capacity (P <sub>SUP</sub> )		kW	0.0	0.9	0.25	1.1	0.6	1.5
Type of energy used		-	Electricity					
Declared capacity (P <sub>dh</sub> ) and coefficient of performance (COP <sub>d</sub> ) at partial load under the following outdoor temperatures:								
Outdoor temperature (T <sub>j</sub> ) = -7°C	P <sub>dh</sub>	kW	3.54	3.50	5.10	4.42	5.90	5.10
	COP <sub>d</sub>	-	3.20	2.13	2.70	1.85	2.65	1.84
Outdoor temperature (T <sub>j</sub> ) = +2°C	P <sub>dh</sub>	kW	2.35	2.10	3.10	2.69	3.59	3.10
	COP <sub>d</sub>	-	4.80	3.35	4.60	3.30	4.30	3.10
Outdoor temperature (T <sub>j</sub> ) = +7°C	P <sub>dh</sub>	kW	3.00	2.43	3.00	2.43	3.20	2.00
	COP <sub>d</sub>	-	6.20	5.15	6.20	4.60	7.00	4.65
Outdoor temperature (T <sub>j</sub> ) = +12°C	P <sub>dh</sub>	kW	3.05	2.80	3.05	2.80	3.50	2.20
	COP <sub>d</sub>	-	8.30	6.80	8.35	6.35	9.70	6.55
Outdoor temperature (T <sub>j</sub> ) = Bivalent temperature (T <sub>bv</sub> )	P <sub>dh</sub>	kW	3.54	3.50	5.10	4.42	5.90	5.10
	COP <sub>d</sub>	-	3.20	2.13	2.70	1.85	2.65	1.84
Outdoor temperature (T <sub>j</sub> ) = Limit operation temperature (TOL)	P <sub>dh</sub>	kW	4.00	3.10	5.30	3.90	6.40	5.00
	COP <sub>d</sub>	-	2.75	1.90	2.50	1.70	2.30	1.50
Bivalent temperature (T <sub>bv</sub> )		°C	-7	-7	-7	-7	-7	-7
Limit operation temperature (TOL)		°C	-10	-10	-10	-10	-10	-10
Water limit operation temperature (WTOL)		°C	55	55	55	55	55	55
Degradation coefficient (C <sub>dh</sub> )		-	0.9	0.9	0.9	0.9	0.9	0.9
Annual energy consumption (Q <sub>HE</sub> )		kW·h	1798 (1754)	2401 (2357)	2652 (2608)	3186 (3143)	3068 (3024)	3724 (3680)

**Johnson Controls-Hitachi Air Conditioning Spain, S.A.U.**

Ronda Shimizu 1, P. I. Can Torrella  
08233 Vacarisses, Barcelona (Spain)

Domestic Hot Water (DHW) Performance

EN-16147:2017

**RAS-(2-3)WHVRP + RWD-(2.0-3.0)NRW(S)E-(200/260)S(-K)(-W)**

	Symbol	Unit	RWD-2/2.5/3.0NRW(S)E-200S(-K)(-W)	RWD-2/2.5/3.0NRW(S)E-260S(-K)(-W)
Declared load profile	-	-	L	XL
Efficiency	$\eta_{wh}$	%	132	136
Energy Class	-	-	A+	A+
Coefficient of performance	$COP_{DHW}$	-	3.30	3.40
Heating up time	$t_h$	H:min	1:43	2.20
Standby power input	$P_{es}$	W	37	37
Reference hot water temperature	$\Theta_{WH}$	°C	54.0	54.0
Volume of DHW accounted for in test	$V_{40}$	L	263	350
Nominal tank volume	-	L	200	260
Net tank volume	-	L	190	250

Domestic Hot Water (DHW) Standing Heat Loss

**(NOT INCLUDED)** in HP Keymark certified, Ecodesign directive 2009/125/EC (813/2013) and Energy labelling directive 2010/30/EU (811/2013))

EN-12897:2017

	Symbol	Unit	RWD-2/2.5/3.0NRW(S)E-200S(-K)(-W)	RWD-2/2.5/3.0NRW(S)E-260S(-K)(-W)
Stand-by heat loss	-	kWh/day	1.75	1.85

Within the policy of continuous improvement of its products, Johnson Controls Hitachi Air Conditioning Spain reserves the right to make changes at any time without prior notification and without being compelled to introducing them into products subsequently sold. This document may therefore have been subject to amendments during the life of the product.

Date and signature of the official representative



Mr. Toni Badia – General Manager

28/08/2020

**Johnson Controls-Hitachi Air Conditioning Spain, S.A.U.**

Ronda Shimizu 1, P. I. Can Torrella  
08233 Vacarisses, Barcelona (Spain)