

DEAP 4.2 INPUTS

Add New Item To Library

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BASIC PROPERTIES

HEAT PUMP TEST DATA

Item Type *

Heat Source

Item Name *

S-Combi 7.5kW 200L

Keywords *

Hitachi S-Combi

Manufacturer *

Hitachi

Model *

RAS-3.0WHVRP & RWD-3.0NRWE-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, η_s [%] *

125

Water Heating Efficiency, η_{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>5.90</u>	<u>3.59</u>	<u>3.20</u>	<u>3.50</u>	<u>6.40</u>
Coefficient of Performance (KW/KW)	<u>2.65</u>	<u>4.30</u>	<u>7.00</u>	<u>9.70</u>	<u>2.30</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>5.10</u>	<u>3.10</u>	<u>2.00</u>	<u>2.20</u>	<u>5.00</u>
Coefficient of Performance (KW/KW)	<u>1.84</u>	<u>3.10</u>	<u>4.65</u>	<u>6.55</u>	<u>1.50</u>

 Heating System Test Data: I.S. EN16147

Source of Data *	Coefficient of Performance (KW/KW)	Water Heating Efficiency, η_{wh} [%]
Water Heating Efficiency		<u>132</u>
Reference Hot Water Temperature (°C) *		Capacity of Heat Pump (kW) *
<u>54</u>		<u>6</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-3.0WHVRP & RWD-3.0NRWE-200S	Design Flow Temperature (°C) *	As Required
Seasonal Space Heating Efficiency, ηs	125	Daily Operation (h) *	24
<p>This is the Ecodesign Seasonal Space Heating Efficiency, ηs. 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
VIEW DETAILS IN LIBRARY		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-3.ONRWE-200S **Declared Loss (kWh/day)** 1.75

Insulation Type

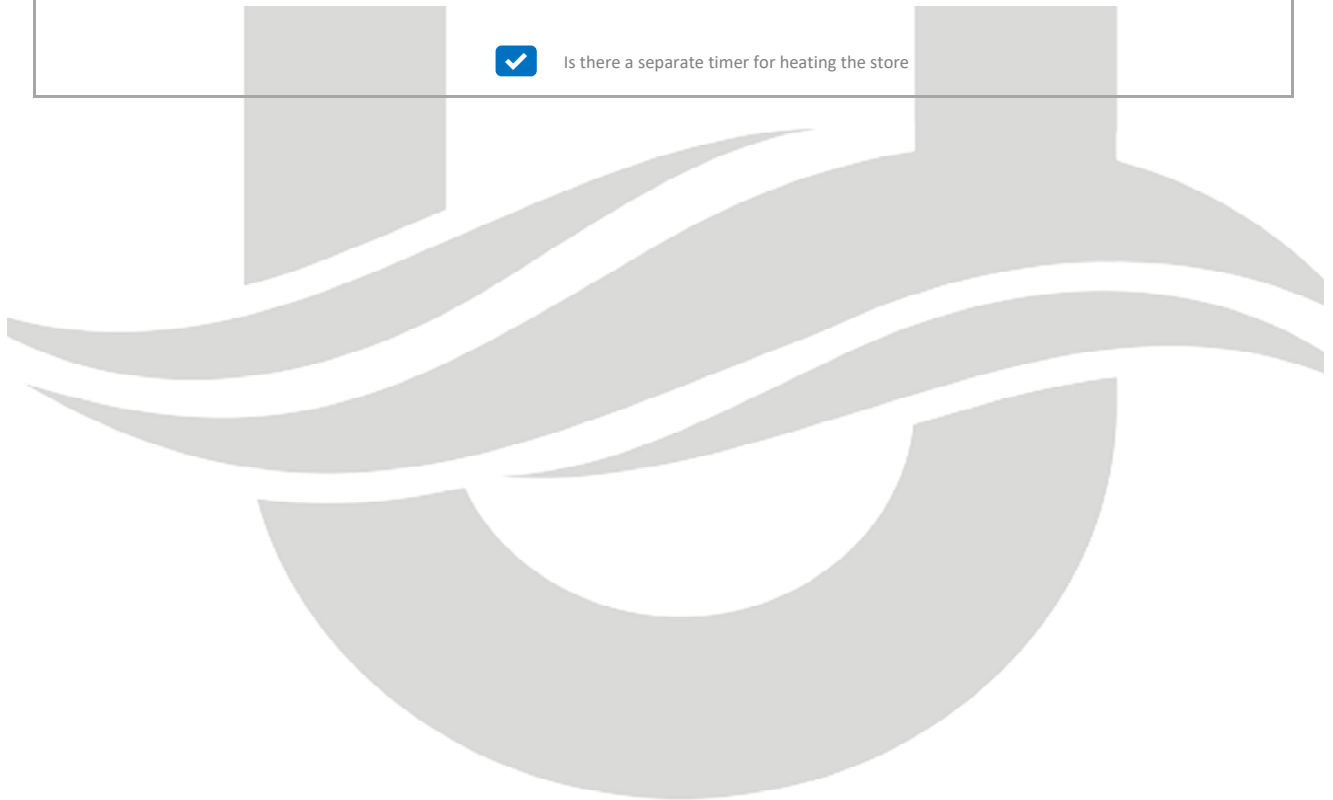
Factory Insulated

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_{DESIGN})		kW	4.0	4.0	6.0	5.0	7.0	6.0
Nominal energy efficiency (η_g)		%	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_g) (*)		%	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_g) (*)		%	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_{SUP})		kW	0.0	0.9	0.25	1.1	0.6	1.5
Type of energy used		-	Electricity					
Declared capacity (Pdh) and coefficient of performance (COP _d) at partial load under the following outdoor temperatures:								
Outdoor temperature (Tj) = -7°C	Pdh	kW	3.54	3.50	5.10	4.42	5.90	5.10
	COP _d	-	3.20	2.13	2.70	1.85	2.65	1.84
Outdoor temperature (Tj) = +2°C	Pdh	kW	2.35	2.10	3.10	2.69	3.59	3.10
	COP _d	-	4.80	3.35	4.60	3.30	4.30	3.10
Outdoor temperature (Tj) = +7°C	Pdh	kW	3.00	2.43	3.00	2.43	3.20	2.00
	COP _d	-	6.20	5.15	6.20	4.60	7.00	4.65
Outdoor temperature (Tj) = +12°C	Pdh	kW	3.05	2.80	3.05	2.80	3.50	2.20
	COP _d	-	8.30	6.80	8.35	6.35	9.70	6.55
Outdoor temperature (Tj) = Bivalent temperature (T _{bv})	Pdh	kW	3.54	3.50	5.10	4.42	5.90	5.10
	COP _d	-	3.20	2.13	2.70	1.85	2.65	1.84
Outdoor temperature (Tj) = Limit operation temperature (TOL)	Pdh	kW	4.00	3.10	5.30	3.90	6.40	5.00
	COP _d	-	2.75	1.90	2.50	1.70	2.30	1.50
Bivalent temperature (T _{bv})		°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 (Cdh)		-	0.9	0.9	0.9	0.9	0.9	0.9
Annual energy consumption (Q _{HE})		kW·h	1798 (1754)	2401 (2357)	2652 (2608)	3186 (3143)	3068 (3024)	3724 (3680)

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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	η_{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	Θ_{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

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Date and signature of the official representative



Mr. Toni Badia – General Manager

28/08/2020

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

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