

technical data



Altherma

R-410A

EKHWS(U)

1 Features

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2 Specifications

2-1 TECHNICAL SPECIFICATIONS			EKHWS150A 3V3	EKHWS200A 3V3	EKHWS300A 3V3	EKHWS200A 3Z2	EKHWS300A 3Z2	EKHWSU150 A3V3	EKHWSU200 A3V3	EKHWSU300 A3V3		
Casing	Colour		Neutral white									
	Material		Epoxy-coated mild steel									
Dimensions	Packing	Height	mm	950	1,200	1,650	1,200	1,650	1,040	1,280	1,735	
		Width	mm	600	600	600	600	600	600	600	600	
		Depth	mm	600	600	600	600	600	600	600	600	
	Unit	Height	mm	900	1,150	1,600	1,150	1,600	1,015	1,265	1,715	
		Width	mm	580	580	580	580	580	580	580	580	
		Depth	mm	580	580	580	580	580	580	580	580	
Weight	Unit		kg	37	45	59	45	59	38	46	60	
	Packed Unit		kg	40	49	64	49	64	41	50	65	
Packing	Material		EPS									
			Carton									
	Weight		kg	3	4	5	4	5	3	4	5	
Main components	Tank	Water volume	l	150	200	300	200	300	150	200	285	
		Material		Stainless steel (DIN 1.4521)								
		Max. temperature	°C	85	85	85	85	85	85	85	85	
		Max. water pressure	bar	10	10	10	10	10	10	10	10	
Tank	Insulation	Material		Polyurethane foam								
		Min. thickness	mm	40	40	40	40	40	40	40	40	
Main components	Heat exchanger	Quantity		1	1	1	1	1	1	1		
		Material		Duplex steel LDX 2101								
	Booster heater	Quantity		1	1	1	1	1	1	1	1	
		Capacity	kW	3	3	3	3	3	3	3	3	
Temperature sensor	Cable length		m	12	12	12	12	12	12	12		
Piping connections	Water inlet H/E Diameter		inch	3/4" FBSP								
	Water outlet H/E Diameter		inch	3/4" FBSP								
	Cold water in Diameter		inch	3/4" FBSP								
	Hot water out Diameter		inch	3/4" FBSP								

2-2 ELECTRICAL SPECIFICATIONS			EKHWS150A 3V3	EKHWS200A 3V3	EKHWS300A 3V3	EKHWS200A 3Z2	EKHWS300A 3Z2	EKHWSU150 A3V3	EKHWSU200 A3V3	EKHWSU300 A3V3	
Unit	Power Supply	Phase		1~	1~	1~	2~	2~	1~	1~	1~
		Frequency	Hz	50	50	50	50	50	50	50	50
		Voltage	V	230	230	230	400	400	230	230	230
	Nominal running current		A	13	13	13	7.5	7.5	13	13	13
	Fuse	Size	A	20	20	20	20	20	20	20	20
		Phase			1~	1~	1~	2~	2~	1~	1~

3 Capacity tables

3 - 1 Heating capacity tables

The ALTHERMA by Daikin heat-pump in combination with the optional domestic hot water tank provide hot water for household usage. The below mentioned data allow a proper selection of the domestic hot water tank size for maximum comfort and efficiency.

(1) Sanitary hot water volume:

The volume of hot water available for domestic sanitary usage depends on the physical volume of the sanitary tank, on the sanitary water setpoint temperature and on the temperature spreading in the tank. Therefore we define the equivalent hot water volume (EHVV).

Definition:

EHVV = the volume of hot water available for domestic sanitary usage at a temperature of 40°C. 40°C is considered a comfortable sanitary hot water temperature.

Tank	Setpoint temp. (°C)	EHVV (l)	Usage pattern		
			Modest	Medium	High
150L	55	110	-	-	-
	65	150	+	-	-
	75	175	++	+	-
200L	55	160	+	-	-
	65	200	++	+	-
	75	240	++	++	-
300L	55	295	++	++	-
	65	385	++	++	+
	75	435	++	++	++

Grade ++ Excessive availability of sanitary hot water.
 + Sufficient availability of sanitary hot water.
 - Temporary shortage of sanitary hot water can occur.

Usage pattern **Modest** Daily demand up to 220 l -> typical 2-persons usage pattern.
Medium Daily demand up to 325 l -> typical 3 to 4 persons usage pattern.
High Daily demand up to 550 l -> 4 to 6 persons usage pattern.

(2) Heat-up time:

Definition:

Heat-up time The time required to reheat the domestic hot water tank to 55°C after tapping a certain volume of hot water at 40°C. note: changing the field settings (see installation manual) can influence the heat-up time.

Tank	Setpoint temp. (°C)	Heat-up time for 150 L (bath)	Heat-up time for 50 L (shower)
		<min>	<min>
150L	55	60	45
200L	55	60	40
300L	55	50	30

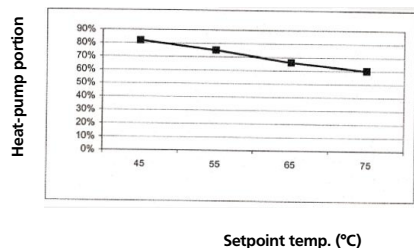
Conditions for testing: Ta = 7°CDB / 6°CWB, Troom = 20°C, Tstart = 10°C, outdoor unit type: ERYQ007

(3) Efficiency of sanitary hot water production:

In the ALTHERMA by Daikin system both the heat-pump and the electric booster heater supply the energy to produce sanitary hot water. The higher the portion of energy supplied by the heat-pump, the more energy efficient the system is. Lowering the setpoint temperature increases the portion of energy supplied by the heat-pump and thus the efficiency of the system.

Definition:

Heat-pump portion Percentage of energy supplied by the heat-pump in the total energy need for sanitary hot water.



Conditions: Real life condition
 Outdoor temperature 7°CDB / 6°CWB
 Room temperature 20°CDB
 Outdoor unit type ERYQ007
 Tank type 200l
 Field settings Default field settings (see installation manual).
 Simulation of a daily usage based upon 'medium' usage pattern.

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

EKHWS

① Water mains in female 3/4" BSP
 ② Water mains out female 3/4" BSP
 ③ Thermistor connection
 ④ Flow (from EKHB(H/X)*) female 3/4" BSP
 ⑤ Return (to EKHB(H/X)*) female 3/4" BSP
 ⑥ Switchbox
 ⑦ Thermal protector
 ⑧ Anode
 ⑨ Cable entry power, booster heater and thermal protection cable
 ⑩ Re-circulation connection female 3/4" BSP
 ⑪ Cable entry from EKHB(H/X)* (see EKSOLHWAV1)
 ⑫ Cable entry (to EKSOLHWAV1)
 ⑬ Thermistor connection (See EKSOLHWAV1)

Required service space around the tank

3TW57834-1

EKHWSU

Water connections

- ① Water IN (cold) 22MM
- ② Water OUT (hot) 3/4" female BSP
- ③ Flow from EKHB(H/X)* 3/4" female BSP
- ④ Return to EKHB(H/X)* 3/4" female BSP
- ⑤ Temperature relief valve 15MM
- ⑥ Thermistor connection
- ⑦ Thermistor connection (see EKSOLHWAV1) 1/2" female BSP
- ⑧ Re-circulation hole 3/4" female BSP

Water connections kit

- ⑨ Pressure reducing valve 22MM-22MM
- ⑩ Expansion relief valve 22MM-22MM
- ⑪ T-piece (to tundish) 15MM-15MM-1/2" female BSP
- ⑫ Tundish 22MM-15MM
- ⑬ T-piece (to expansion vessel) 22MM-22MM-22MM
- ⑭ Adapter (expansion vessel) 22MM-3/4" female BSP
- ⑮ Expansion vessel female BSP
- ⑯ Drain valve 22MM-3/4" hale BSP
- ⑰ Solenoid valve 3/4" female BSP-3/4" hale BSP

Other

- ⑱ Switchbox
- ⑲ Thermal protector 1+Thermostat
- ⑳ Cable entry power, booster heater, thermal protector
- ㉑ Cable entry power solenoid valve
- ㉒ Cable entry solenoid valve
- ㉓ Blind stop + 2 plastic screw-on closing caps for pressure reducing valve
- ㉔ Thermal protector 2+Thermostat
- ㉕ Cable entry (to EKSOLHWAV1)
- ㉖ Cable entry from EKHB(H/X)* (see EKSOLHWAV1)

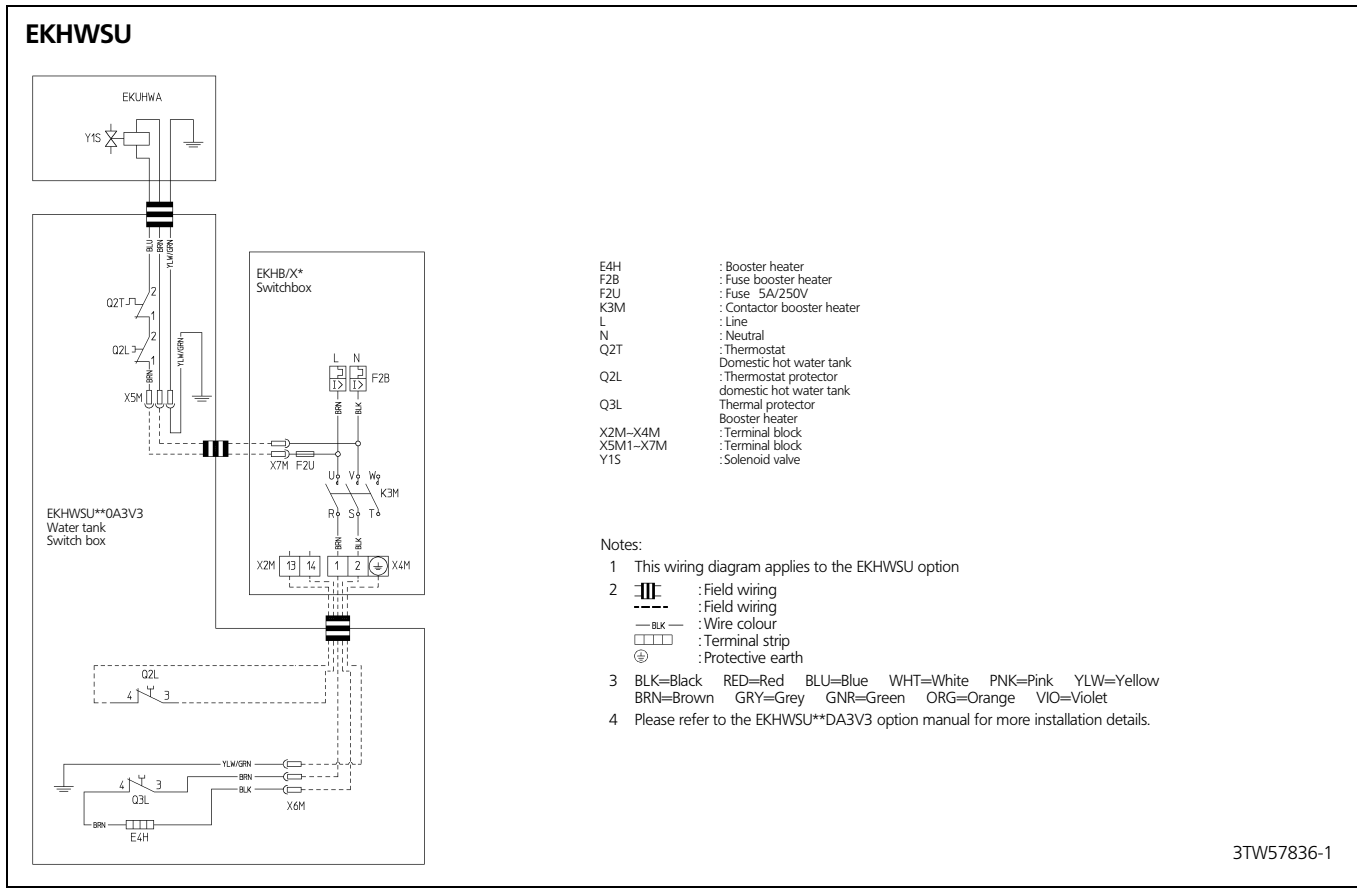
Required service space

Model	H1	H2	H3	H4
EKHWSU150A3V3	900	1015	255	130
EKHWSU200A3V3	1150	1265	410	200
EKHWSU300A3V3	1600	1715	410	200

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6 Wiring diagram

6 - 1 Wiring diagram



6 Wiring diagram

6 - 1 Wiring diagram

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