

# technical data

EKHWS-B

Altherma

# Altherma

**R-410A**

# Altherma

In all of us,  
a green heart



Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.



Het ISO14001 assures an effective environmental management system in order to help protect human health and the environment from potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment.



Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.

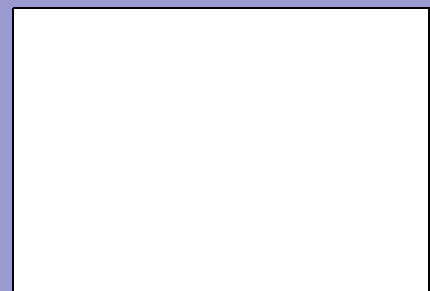


Daikin units comply with the European regulations that guarantee the safety of the product.



Daikin Europe N.V. participates in the Eurovent Certification Programme for Air Conditioners (AC), Liquid Chilling Packages (LCP) and Fan Coil Units (FC); the certified data of certified models are listed in the Eurovent Directory.

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# TABLE OF CONTENTS

## EKHWS-B

1	Features .....	1
2	Specifications .....	2
	Technical Specifications .....	2
	Electrical Specifications .....	2
3	Capacity tables .....	3
	Cooling capacity tables .....	3
4	Dimensional drawing & centre of gravity .....	4
	Dimensional drawing .....	4
5	Piping diagram .....	5

# 1 Features

1



## 2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKHWS150B 3V3	EKHWS200B 3V3	EKHWS300B 3V3	EKHWS200B 3Z2	EKHWS300B 3Z2	EKHWSU150 B3V3	EKHWSU200 B3V3	EKHWSU300 B3V3	
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	42	51	66	51	66	43	52	67	
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	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	
	3-Way Valve	Coefficient of flow (kV)	m	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
		Inlet	inch	Rp1								
Outlet		inch	2xRp1									
Temperature sensor	Cable length		m	12	12	12	12	12	12	12	12	
Piping connections	Water inlet H/E Diameter		inch	G 3/4 (female)								
	Water outlet H/E Diameter		inch	G 3/4 (female)								
	Cold water in Diameter		inch	G 3/4 (female)								
	Hot water out Diameter		inch	G 3/4 (female)								
	Recirculation connection		inch	G 3/4 (female)								

2-2 ELECTRICAL SPECIFICATIONS				EKHWS150B 3V3	EKHWS200B 3V3	EKHWS300B 3V3	EKHWS200B 3Z2	EKHWS300B 3Z2	EKHWSU150 B3V3	EKHWSU200 B3V3	EKHWSU300 B3V3
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~	1~

### 3 Capacity tables

#### 3 - 1 Cooling 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) Domestic hot water volume:**

The volume of hot water available for domestic usage depends on the physical volume of the tank, on the domestic 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 usage at a temperature of 40°C. 40°C is considered a comfortable domestic 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 domestic hot water.  
 + Sufficient availability of domestic hot water.  
 - Temporary shortage of domestic 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) <min>	Heat-up time for 50 L (shower) <min>
150L	55	60	45
200L	55	60	40
300L	55	50	30

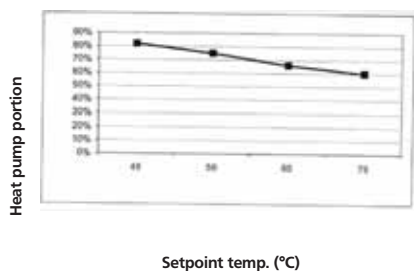
Conditions for testing: Ta = 7°CDB / 6°CWB, Troom = 20°C, Tstart = 10°C, outdoor unit type: ERHQ008

**(3) Efficiency of domestic hot water production:**

In the ALTHERMA by Daikin system both the heat pump and the electric booster heater supply the energy to produce domestic 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:**

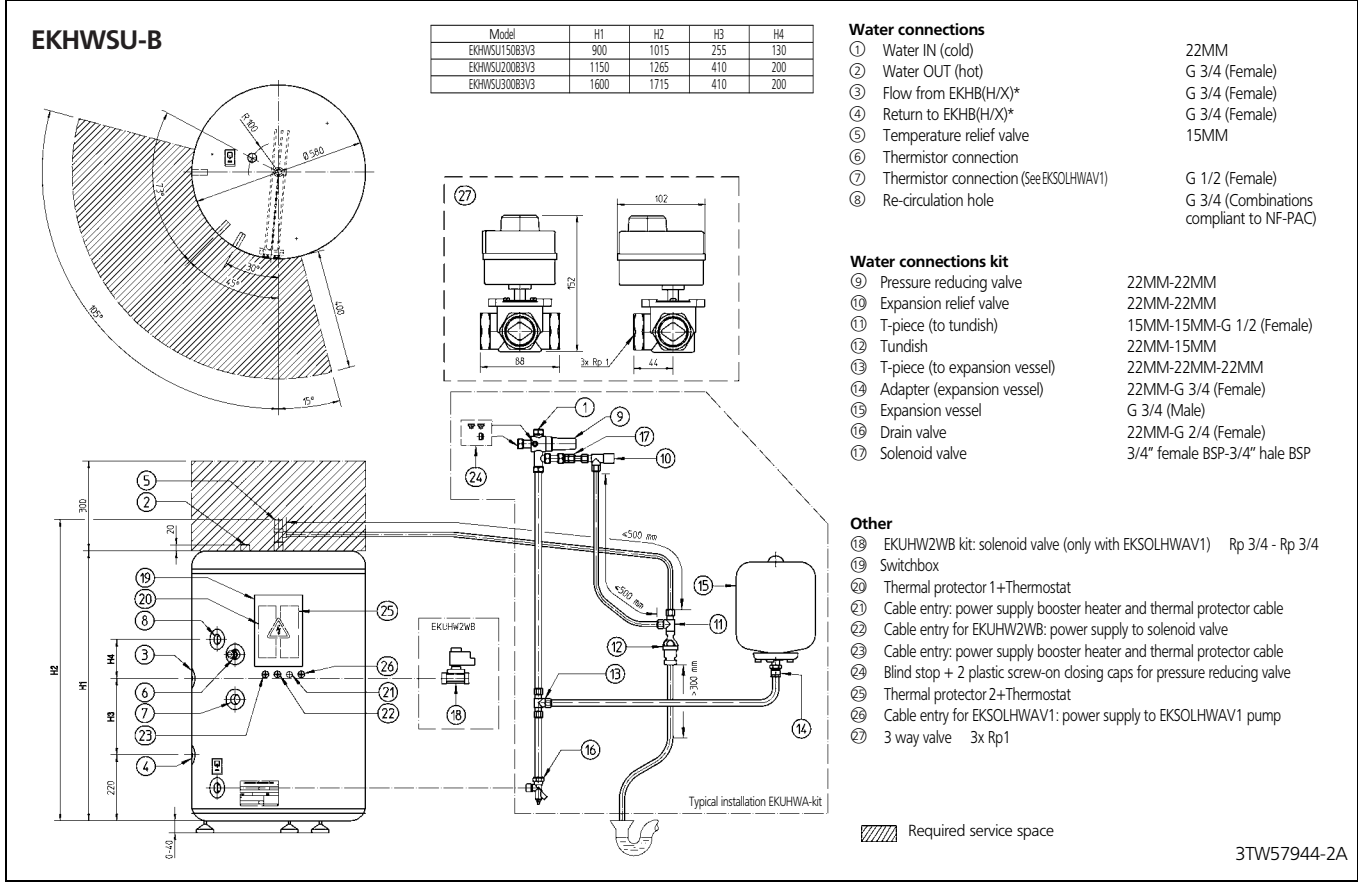
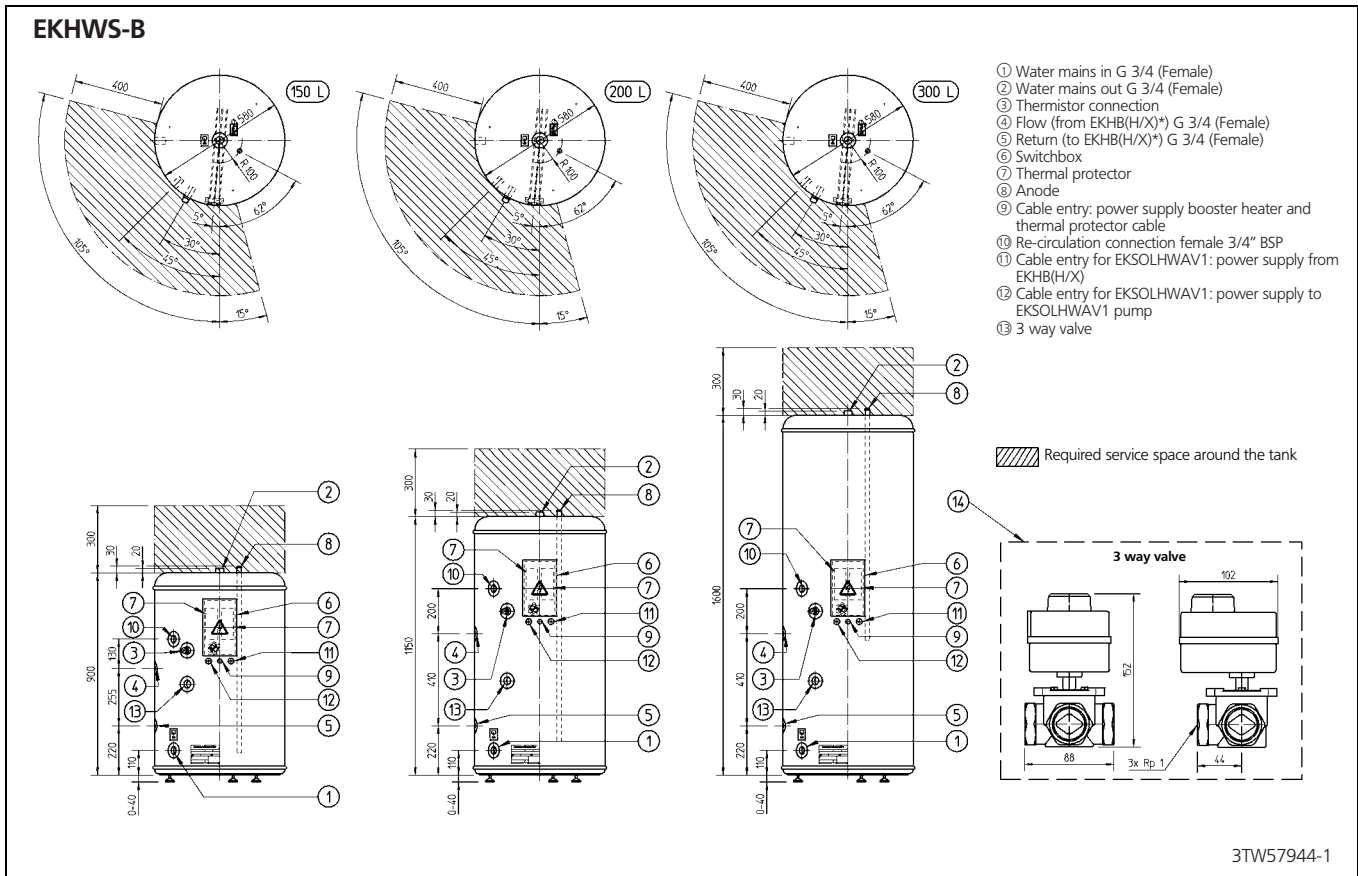
Heat pump portion Percentage of energy supplied by the heat pump in the total energy need for domestic hot water.



Conditions: Real life condition  
 Outdoor temperature 7°CDB / 6°CWB  
 Room temperature 20°CDB  
 Outdoor unit type ERHQ008  
 Tank type 200l  
 Field settings Default field settings (see installation manual).

# 4 Dimensional drawing & centre of gravity

## 4 - 1 Dimensional drawing





# 5 Piping diagram

5

