



Daikin Altherma high  
temperature split  
Technical Data  
ETBH16E6V7 /  
ETBH16E9W7 /  
ETBX16E6V7 /  
ETBX16E9W7





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## ETBH16E6V7 / ETBH16E9W7 / ETBX16E6V7 / ETBX16E9W7

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# 1 Features

## ETBH16E6V7, ETBH16E9W7, ETBX16E6V7, ETBX16E9W7

### Wall mounted reversible air to water heat pump

1

- › Inclusion of all hydraulic components means no third party components are required
- › Compact dimensions allows for small installation space, as almost no side clearances are required.
- › The unit's sleek design blends in with other household appliances.
- › Combine with a stainless steel tank or ECH2O thermal store.
- › Quick configuration in 9 steps in a high resolution colour interface wizard



Onecta app  
(optional)

## 2 Specifications

Technical specifications				ETBH16E6V7	
Heater capacity	Step 1		kW	2	
	Step 2		kW	2 or 4	
Power input	Nom.		kW	0.21	
Casing	Colour			White + Black	
	Material			Resin, sheet metal	
Dimensions	Unit	Height	mm	840	
		Width	mm	440	
		Depth	mm	390	
	Packed unit	Height	mm	450	
		Width	mm	650	
		Depth	mm	1,016	
Weight	Unit		kg	38.0	
	Packed unit		kg	42	
Packing	Material			Carton / PP (Straps) / EPS	
	Weight		kg	4	
Pump	Type			Grundfos UPMXL GEO 25-125 130 PWM	
	Nr of speeds			PWM	
	Power input		W	179	
Water side Heat exchanger	Water	Min.	l/min	20.0 (1)	
Expansion vessel	Volume		l	10	
	Max. water pressure		bar	3	
	Pre pressure		bar	1	
Water filter	Diameter perforations		mm	0.8	
	Material			Stainless steel / Plastic	
General	Supplier/	Name or trademark		Daikin Europe N.V.	
	Manu- facturer details	Name and address		Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium	
Water circuit	Piping connections diameter		inch	G 1" (female)	
	Piping material			Cu	
	Internal piping diameter		inch	1-1/4"	
	Piping		inch	1"	
	Safety valve		bar	3	
	Manometer			Digital	
	Drain valve / fill valve			No	
	Shut off valve			Yes	
	flowswitch			Yes	
	Air purge valve			Yes	
Water circuit	Total water volume		l	2.2 (2)	
	Minimum water volume in the system for cooling		l	20 (3)	
	Minimum water volume in the system for heating		l	20 (3)	
Sound power level	Nom.		dB(A)	44.0 (4)	
Sound pressure level	Nom.		dB(A)	30.0 (5)	
Operation range	Heating	Ambient	Min.	°C	0 (6)
			Max.	°C	0 (6)
		Water side	Min.	°C	0 (6)
			Max.	°C	0 (6)
	Indoor installation	Ambient	Min.	°CDB	5
			Max.	°CDB	35 (7)
	Cooling	Ambient	Min.	°CDB	0 (6)
			Max.	°CDB	0 (6)
		Water side	Min.	°C	0 (6)
			Max.	°C	0 (6)
Domestic hot water side	Min.	°C	0 (6)		
	Max.	°C	0 (6)		
Safety devices	Item	01		Thermal cut out	
Electrical specifications				ETBH16E6V7	
Power supply	Name			See note 9	
	Voltage range	Min.	%	-10	
		Max.	%	10	
IP class	IP			IP X0B	

## 2 Specifications

2

Electrical specifications				ETBH16E6V7	
Electric heater	Power supply	Name		6V3	
		Phase		1~ / 3~	
		Frequency	Hz	50	
		Voltage	V	230	
	Current	Maximum running current	A	26.0	
		Zmax List	Ω	0.22	
		Minimum Ssc value		Equipment complying with EN/IEC 61000-3-12	
	Recommended fuses	A	20.000 (8)		
	Wiring connections	Communication cable	Quantity		3
			Remark		2.5 mm <sup>2</sup>
Electric meter		Quantity		2	
		Remark		Minimum 0.75 mm <sup>2</sup> (5VDC pulse detection)	
Preferential kWh rate power supply		Quantity		Power: 2	
		Remark		Power 6.3A (Select diameter and type according to national and local regulations)	
Domestic hot water pump		Quantity		2	
		Remark		Minimum 0.75 mm <sup>2</sup> (2A inrush, 1A continuous)	
For power supply back-up heater		Quantity		Prewired	
For connection with R6T		Quantity		2	
		Remark		Minimum 0.75 mm <sup>2</sup>	
For connection with A3P		Quantity		Depends on thermostat type, cf. installation manual	
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup>	
For connection with M2S		Quantity		2	
	Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup>		
For connection with optional	Quantity		4		
	Remark		100 mA, minimum 0.75 mm <sup>2</sup>		

(1) Operation area is extended to lower flow rates only in case the unit operates with heat pump only. (Not in startup, no BUH operation, no defrost operation). |

(2) Including piping + back-up heater; excluding expansion vessel |

(3) Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required. |

(4) Measured with a pressure drop of 10 kPa in the heating system at an operating condition of leaving water 47-55°C in a room with an ambient of 20°C. DB/WB 7°C/6°. |

(5) Value measured in an anechoic room at 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is measured with a pressure drop of 10 kPa in the heating system at an operation |

(6) Refer to operation range of the unit. |

(7) Depends on operation mode, refer to installation manual. |

(8) 4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |

(9) Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply.

Technical specifications				ETBH16E9W7
Heater capacity	Step 1	kW		3
	Step 2	kW		max. 6 kW
Power input	Nom.	kW		0.21
Casing	Colour			White + Black
	Material			Resin, sheet metal
Dimensions	Unit	Height	mm	840
		Width	mm	440
		Depth	mm	390
	Packed unit	Height	mm	450
		Width	mm	650
		Depth	mm	1,016
Weight	Unit	kg		38.0
	Packed unit	kg		42
Packing	Material			Carton / PP (Straps) / EPS
	Weight	kg		4
Pump	Type			Grundfos UPMXL GEO 25-125 130 PWM
	Nr of speeds			PWM
	Power input	W		179
Water side Heat exchanger	Water flow rate	Min.	l/min	20.0 (1)
Expansion vessel	Volume	l		10
	Max. water pressure	bar		3
	Pre pressure	bar		1
Water filter	Diameter perforations	mm		0.8
	Material			Stainless steel / Plastic

## 2 Specifications

Technical specifications				ETBH16E9W7	
General	Supplier/	Name or trademark		Daikin Europe N.V.	
	Manu- facturer details	Name and address		Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium	
Water circuit	Piping connections diameter	inch		G 1" (female)	
	Piping material			Cu	
	Internal piping diameter	inch		1-1/4"	
	Piping	inch		1"	
	Safety valve	bar		3	
	Manometer			Digital	
	Drain valve / fill valve			No	
	Shut off valve			Yes	
	flowswitch			Yes	
Air purge valve			Yes		
Water circuit	Total water volume	l		2.2 (2)	
	Minimum water volume in the system for cooling	l		20 (3)	
	Minimum water volume in the system for heating	l		20 (3)	
Sound power level	Nom.	dBA		44.0 (4)	
Sound pressure level	Nom.	dBA		30.0 (5)	
Operation range	Heating	Ambient	Min.	°C	0 (6)
			Max.	°C	0 (6)
	Water side	Ambient	Min.	°C	0 (6)
			Max.	°C	0 (6)
	Indoor installation	Ambient	Min.	°CDB	5
			Max.	°CDB	35 (7)
	Cooling	Ambient	Min.	°CDB	0 (6)
			Max.	°CDB	0 (6)
	Water side	Ambient	Min.	°C	0 (6)
			Max.	°C	0 (6)
Domestic hot water	Water side	Min.	°C	0 (6)	
		Max.	°C	0 (6)	
Safety devices	Item	01		Thermal cut out	

Electrical specifications				ETBH16E9W7		
Power supply	Name			See note 9		
	Voltage range	Min.	%	-10		
		Max.	%	10		
IP class	IP			IP X0B		
Electric heater	Power supply	Name			9W	
		Phase			3~	
		Frequency			50	
		Voltage			400	
	Current	Maximum running current			13.0	
	Recommended fuses			20.000 (8)		

## 2 Specifications

2

Electrical specifications			ETBH16E9W7
Wiring connections	Communication cable	Quantity	3
		Remark	2.5 mm <sup>2</sup>
Electric meter		Quantity	2
		Remark	Minimum 0.75 mm <sup>2</sup> (5VDC pulse detection)
Preferential kWh rate power supply		Quantity	Power: 2
		Remark	Power 6.3A (Select diameter and type according to national and local regulations)
Domestic hot water pump		Quantity	2
		Remark	Minimum 0.75 mm <sup>2</sup> (2A inrush, 1A continuous)
For power supply back-up heater		Quantity	Prewired
		Remark	
For connection with R6T		Quantity	2
		Remark	Minimum 0.75 mm <sup>2</sup>
For connection with A3P		Quantity	Depends on thermostat type, cf. installation manual
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup>
For connection with M2S		Quantity	2
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup>
For connection with optional		Quantity	4
		Remark	100 mA, minimum 0.75 mm <sup>2</sup>

(1) Operation area is extended to lower flow rates only in case the unit operates with heat pump only. (Not in startup, no BUH operation, no defrost operation). |

(2) Including piping + back-up heater; excluding expansion vessel |

(3) Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required. |

(4) Measured with a pressure drop of 10 kPa in the heating system at an operating condition of leaving water 47-55°C in a room with an ambient of 20°C. DB/WB 7°C/6°. |

(5) Value measured in an anechoic room at 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is measured with a pressure drop of 10 kPa in the heating system at an operatin |

(6) Refer to operation range of the unit. |

(7) Depends on operation mode, refer to installation manual. |

(8) 4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |

(9) Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply.

Technical specifications				ETBX16E6V7
Heater capacity	Step 1		kW	2
	Step 2		kW	2 or 4
Power input	Nom.		kW	0.21
Casing	Colour			White + Black
	Material			Resin, sheet metal
Dimensions	Unit	Height	mm	840
		Width	mm	440
		Depth	mm	390
	Packed unit	Height	mm	450
		Width	mm	650
		Depth	mm	1,016
Weight	Unit		kg	38.0
	Packed unit		kg	42
Packing	Material			Carton / PP (Straps) / EPS
	Weight		kg	4
Pump	Type			Grundfos UPMXL GEO 25-125 130 PWM
	Nr of speeds			PWM
	Power input		W	179
Water side Heat exchanger	Water flow rate	Min.	l/min	20.0 (1)
	Expansion vessel	Volume	l	10
Water filter	Diameter perforations	Max. water pressure	bar	3
		Pre pressure	bar	1
		Material		Stainless steel / Plastic
General	Supplier/	Name or trademark		Daikin Europe N.V.
	Manu- facturer details	Name and address		Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium



## 2 Specifications

Technical specifications				ETBX16E6V7	
Water circuit	Piping connections diameter		inch	G 1" (female)	
	Piping material			Cu	
	Internal piping diameter		inch	1-1/4"	
	Piping		inch	1"	
	Safety valve		bar	3	
	Manometer			Digital	
	Drain valve / fill valve			No	
	Shut off valve			Yes	
	flowswitch			Yes	
Air purge valve			Yes		
Water circuit	Total water volume		l	2.2 (2)	
	Minimum water volume in the system for cooling		l	20 (3)	
	Minimum water volume in the system for heating		l	20 (3)	
Sound power level	Nom.		dB(A)	44.0 (4)	
Sound pressure level	Nom.		dB(A)	30.0 (5)	
Operation range	Heating	Ambient	Min.	°C	0 (6)
			Max.	°C	0 (6)
		Water side	Min.	°C	0 (6)
			Max.	°C	0 (6)
	Indoor installation	Ambient	Min.	°CDB	5
			Max.	°CDB	35 (7)
	Cooling	Ambient	Min.	°CDB	0 (6)
			Max.	°CDB	0 (6)
		Water side	Min.	°C	0 (6)
			Max.	°C	0 (6)
		Domestic hot water side	Min.	°C	0 (6)
Max.	°C	0 (6)			
Safety devices	Item	01		Thermal cut out	

Electrical specifications				ETBX16E6V7		
Power supply	Name			See note 9		
	Voltage range	Min.	%	-10		
		Max.	%	10		
IP class	IP			IP X0B		
Electric heater	Power supply	Name		6V3		
		Phase		1~ / 3~		
		Frequency		Hz	50	
		Voltage		V	230	
	Current	Maximum running current		A	26.0	
		Zmax	List	Ω	0.22	
		Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12	
Recommended fuses		A	20.000 (8)			

## 2 Specifications

2

Electrical specifications			ETBX16E6V7
Wiring connections	Communication cable	Quantity	3
		Remark	2.5 mm <sup>2</sup>
Electric meter		Quantity	2
		Remark	Minimum 0.75 mm <sup>2</sup> (5VDC pulse detection)
Preferential kWh rate power supply		Quantity	Power: 2
		Remark	Power 6.3A (Select diameter and type according to national and local regulations)
Domestic hot water pump		Quantity	2
		Remark	Minimum 0.75 mm <sup>2</sup> (2A inrush, 1A continuous)
For power supply back-up heater		Quantity	Prewired
		Remark	
For connection with R6T		Quantity	2
		Remark	Minimum 0.75 mm <sup>2</sup>
For connection with A3P		Quantity	Depends on thermostat type, cf. installation manual
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup>
For connection with M2S		Quantity	2
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup>
For connection with optional		Quantity	4
		Remark	100 mA, minimum 0.75 mm <sup>2</sup>

(1) Operation area is extended to lower flow rates only in case the unit operates with heat pump only. (Not in startup, no BUH operation, no defrost operation). |

(2) Including piping + back-up heater; excluding expansion vessel |

(3) Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required. |

(4) Measured with a pressure drop of 10 kPa in the heating system at an operating condition of leaving water 47-55°C in a room with an ambient of 20°C. DB/WB 7°C/6°. |

(5) Value measured in an anechoic room at 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is measured with a pressure drop of 10 kPa in the heating system at an operation |

(6) Refer to operation range of the unit. |

(7) Depends on operation mode, refer to installation manual. |

(8) 4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |

(9) Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply.

Technical specifications			ETBX16E9W7	
Heater capacity	Step 1	kW	3	
	Step 2	kW	max. 6 kW	
Power input	Nom.	kW	0.21	
Casing	Colour		White + Black	
	Material		Resin, sheet metal	
Dimensions	Unit	Height	mm	840
		Width	mm	440
		Depth	mm	390
	Packed unit	Height	mm	450
		Width	mm	650
		Depth	mm	1,016
Weight	Unit	kg	38.0	
	Packed unit	kg	42	
Packing	Material		Carton / PP (Straps) / EPS	
	Weight	kg	4	
Pump	Type		Grundfos UPMXL GEO 25-125 130 PWM	
	Nr of speeds		PWM	
	Power input	W	179	
Water side Heat exchanger	Water flow rate	Min.	l/min	20.0 (1)
	Expansion vessel	Volume	l	10
Max. water pressure		bar	3	
Pre pressure		bar	1	
Water filter	Diameter perforations	mm	0.8	
	Material		Stainless steel / Plastic	
General	Supplier/ Manufacturer details	Name or trademark	Daikin Europe N.V.	
		Name and address	Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium	

## 2 Specifications

Technical specifications				ETBX16E9W7		
Water circuit	Piping connections diameter		inch	G 1" (female)		
	Piping material			Cu		
	Internal piping diameter		inch	1-1/4"		
	Piping		inch	1"		
	Safety valve		bar	3		
	Manometer			Digital		
	Drain valve / fill valve			No		
	Shut off valve			Yes		
	flowswitch			Yes		
	Air purge valve			Yes		
Water circuit	Total water volume		l	2.2 (2)		
	Minimum water volume in the system for cooling		l	20 (3)		
	Minimum water volume in the system for heating		l	20 (3)		
Sound power level	Nom.		dB(A)	44.0 (4)		
Sound pressure level	Nom.		dB(A)	30.0 (5)		
Operation range	Heating	Ambient	Min.	°C	0 (6)	
			Max.	°C	0 (6)	
		Water side	Min.	°C	0 (6)	
			Max.	°C	0 (6)	
	Indoor installation	Ambient	Min.	°CDB	5	
			Max.	°CDB	35 (7)	
	Cooling	Ambient	Min.	°CDB	0 (6)	
			Max.	°CDB	0 (6)	
		Water side	Min.	°C	0 (6)	
			Max.	°C	0 (6)	
		Domestic hot water	Water side	Min.	°C	0 (6)
				Max.	°C	0 (6)
Safety devices	Item	01	Thermal cut out			

Electrical specifications				ETBX16E9W7		
Power supply	Name		See note 9			
	Voltage range	Min.	%	-10		
		Max.	%	10		
IP class	IP		IP X0B			
Electric heater	Power supply	Name		9W		
		Phase		3~		
		Frequency		Hz		
	Voltage		V			
	Current		Maximum running current		A	
	Recommended fuses		A		20.000 (8)	
Wiring connections	Communication cable	Quantity		3		
		Remark		2.5 mm <sup>2</sup>		
	Electric meter	Quantity		2		
		Remark		Minimum 0.75 mm <sup>2</sup> (5VDC pulse detection)		
	Preferential kWh rate power supply	Quantity		Power: 2		
		Remark		Power 6.3A (Select diameter and type according to national and local regulations)		
	Domestic hot water pump	Quantity		2		
		Remark		Minimum 0.75 mm <sup>2</sup> (2A inrush, 1A continuous)		
	For power supply back-up heater	Quantity		Prewired		
		Remark				
	For connection with R6T	Quantity		2		
		Remark		Minimum 0.75 mm <sup>2</sup>		
For connection with A3P	Quantity		Depends on thermostat type, cf. installation manual			
	Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup>			
For connection with M2S	Quantity		2			
	Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm <sup>2</sup>			
For connection with optional	Quantity		4			
	Remark		100 mA, minimum 0.75 mm <sup>2</sup>			

## 2 Specifications

- (1) Operation area is extended to lower flow rates only in case the unit operates with heat pump only. (Not in startup, no BUH operation, no defrost operation). |
- (2) Including piping + back-up heater; excluding expansion vessel |
- (3) Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required. |
- (4) Measured with a pressure drop of 10 kPa in the heating system at an operating condition of leaving water 47-55°C in a room with an ambient of 20°C. DB/WB 7°C/6°. |
- (5) Value measured in an anechoic room at 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is measured with a pressure drop of 10 kPa in the heating system at an operatin |
- (6) Refer to operation range of the unit. |
- (7) Depends on operation mode, refer to installation manual. |
- (8) 4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |
- (9) Above mentioned power supply of the hydrobox is for the backup heater only. The switch box and the pump of the hydrobox are supplied via the outdoor unit. The optional domestic hot water tank has a separate power supply.

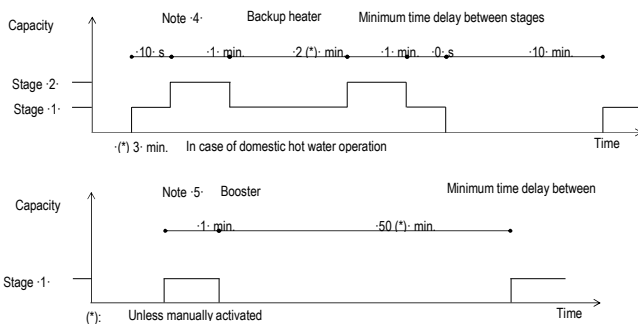
# 3 Electrical data

## 3 - 1 Electrical Data

ETBH16E6V7  
 ETBH16E9W7  
 ETBX16E6V7  
 ETBX16E9W7

Electrical specifications of the backup heaters and booster heaters

Backup heater	Type	6V				9W						
	Capacity setting	[kW]	2 - 4	2 - 6	2-4 (in case of emergency: 2)	6	3 - 6	3 - 9	3 - 6 (in case of			
	Capacity stage -1-	kW	2	2	2	2	1	2	2	2		
	Capacity stage -2-	kW	2	2	2	2	6	3	3	3		
		kW	4	6	4	6	-	6	9	6	9	
Minimum time delay between stages												
Note -4-												
Booster heater (optional)(-KHW*-models)	Power supply (1)	Phase	1~				3~					
		Frequency	50				50					
		Voltage	230 +10%				400 +10%					
	Current	Nominal running current	A	17,4	26,1	17,4	26,1	15	8,7	13	8,7	13
		Zmax (backup heater) (2)	Complex	0,22				-				
	Minimum Ssc value	kVA	(3)				-					
Capacity setting												
Capacity stage -1-												
Minimum time delay between stages												
Note -5-												
Nominal running current		+EK*V3	13									
Booster heater		+EK*Z2	-				75					
Zmax	Booster heater	(2)	Complex				-					
Nominal running current	Backup heater +-	Booster heater	Backup heater +- EK*V3	30,4 (17,4+13)	39,1 (26,1+13)	30,4 (17,4+13)	39,1 (26,1+13)	28 (15 + 13)	21,7 (8,7+13)	26 (13+13)	21,7 (8,7+13)	26 (13+13)
			Backup heater +- EK*Z2					22,5 (15 + 7,5)	16,2 (8,7+7,5)	20,5 (13+7,5)	16,2 (8,7+7,5)	20,5 (13+7,5)
Minimum Ssc value	Backup heater +-	Booster heater +- EK*V3	kVA				(3)					
		Booster heater +- EK*Z2	kVA				-					
Notes												
(1)	The above-mentioned power supply of the hydrobox is for the backup heater only.											
(2)	The optional domestic hot water tank has a separate power supply. In accordance with EN/IEC 61000-3-11, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys ≤ Zmax.											
(3)	The equipment complies with EN/IEC 61000-3-12.											
EN/IEC 61000-3-11	European/International Technical Standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated current ≤ 75 A.											
EN/IEC 61000-3-12	European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16 A and ≤ 75 A per phase.											
Zsys	System impedance											



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### 3 Electrical data

#### 3 - 1 Electrical Data

3

ETBH16E6V7 / ETBH16E9W7 / ETBX16E6V7 / ETBX16E9W7  
 ETVH16E6V7 / ETVH16UE6V7 /  
 ETVH16E9W7 / ETVX16E6V7 /  
 ETVX16E9W7 / ETVZ16E6V7 /  
 ETVZ16E9W7

\* Electrical meter specification

Pulse meter type/voltage-free contact for 5 V DC detection by PCB.

- Possible number of pulses
  - 0.1· pulse/kWh
  - 1· pulse/kWh
  - 10· pulse/kWh
  - 100· pulse/kWh
  - 1000· pulse/kWh
- Pulse duration
  - minimum On time: ·40ms·
  - Minimum OFF time: ·100ms·
- Measurement type (depending on installation)
  - Single-phase AC meter
  - Three-phase AC meter
    - Balanced loads
    - Unbalanced loads

\* Electrical meter installation guideline

- It is the responsibility of the installer to cover the complete power consumption with electrical meters (combination of estimation and metering is not allowed).

- Required number of electrical meters

Outdoor unit type		EPRA(14/16/18)(D/E)A*					
Indoor unit type		ETB(H/X)16(D/E)A*			ETV(H/X/Z)16S*(D/E)A*		
	Backup heater type	6V		9W	6V		9W
	Backup heater power supply	1~ 230V	3~ 230V	3~ 400V	1~ 230V	3~ 230V	3~ 400V
	Backup heater configuration	2 / 4 / 6 kW	6 kW	3 / 6 / 9 kW	2 / 4 / 6 kW	6 kW	3 / 6 / 9 kW
<b>Normal kWh rate power supply</b>							
Electrical meter type	1~	1	-	-	1	-	-
	3~ balanced	-	-	-	-	-	-
	3~ unbalanced	-	1	1	-	1	1
<b>Preferential kWh rate power supply</b>							
Electrical meter type	1~	2	1	1	2	1	1
	3~ balanced	-	-	-	-	-	-
	3~ unbalanced	-	1	1	-	1	1

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# 4 Combination table

## 4 - 1 Combination Table

### ETBH16E6V7 / ETBH16E9W7 / ETBX16E6V7 / ETBX16E9W7

**Kit availability for indoor units**

Reference	Description	ETB*16EF*7	
		6V	9W
ETBH*7	Heating only indoor unit	6V	9W
ETBX*7	Reversible indoor unit	6V	9W
EKR1HBAA	Digital I/O PCB	*(1) (2)	o
EKR1HA7A	Demand PCB	*(3)	o
BRC1HDA*	HCI (Human Comfort Interface)	o	o
EKPCAB4	PC cable	*(4)	o
EKHWS150D3V3	Domestic hot water tank -150 l 1-230 V-	o	o
EKHWS180D3V3	Domestic hot water tank -180 l 1-230 V-	o	o
EKHWS200D3V3	Domestic hot water tank -200 l 1-230 V-	o	o
EKHWS250D3V3	Domestic hot water tank -250 l 1-230 V-	o	o
EKHWS300D3V3	Domestic hot water tank -300 l 1-230 V-	o	o
EKHWSU150D3V3	Domestic hot water tank -150 l 1-230 V-	o	o
EKHWSU180D3V3	Domestic hot water tank -180 l 1-230 V-	o	o
EKHWSU200D3V3	Domestic hot water tank -200 l 1-230 V-	o	o
EKHWSU250D3V3	Domestic hot water tank -250 l 1-230 V-	o	o
EKHWSU300D3V3	Domestic hot water tank -300 l 1-230 V-	o	o
EKHWP500B	Domestic hot water tank with solar connection	*(9)(10)	o
EKHWP500PB	Domestic hot water tank with solar connection	*(9)(10)	o
EKHWP300B	Domestic hot water tank with solar connection	*(9)(10)	o
EKHWP300PB	Domestic hot water tank with solar connection	*(9)(10)	o
EKHYPART	Third-party tank connection kit for thermistor pocket	o	o
EKMIKPOA	Mixing kit - PCB only	o	o
EKMIKPHA	Mixing kit - PCB with hydraulics	o	o
EKMIKHMA	Hydraulics - mixed pump group	*(13)	o
EKMIKHUA	Hydraulics - unmixed pump group	*(13)	o
EKMIKBVA	Balancing vessel	o	o
EKMIKDIA	Distributor for balancing vessel	*(14)	o
KRCS01-1	Remote indoor sensor	*(5)	o
EKRSCA1	Remote sensor for outdoor	*(5)	o
EKCC8-W	Universal centralised user interface	o	o
DCOM-LT/IO	DCOM gateway	o	o
DCOM-LT/MB	DCOM gateway	o	o
BRP069A71	WLAN module	*(12)	o
ESAE04A01*	Daikin Residential Controller	o	o
EKRELSG	Relay for Smart Grid	o	o
EKHBCONV	Conversion kit: heating only to reversible.	o	o
AFVALVE1	Freeze protection valve	o	o
FWXV10-15-20ATV3*	Heat pump convector	*(6)	o
FWXT10-15-20ATV3*	Heat pump convector	*(6)	o
FWXM10-15-20ATV3*	Heat pump convector	*(6)	o
EKVKHPC	Heat pump convector valve kit	*(6)	o
EKRRTWA	Wired room thermostat	o	o
EKRTRB	Wireless room thermostat	o	o
EKRTE5T	External sensor room thermostat	*(7)	o
EKMVFHTA1V3	Multi-zoning base unit 230 V	*(11)	o
EKMCTRD11V3	Digital thermostat 230 V	*(11)	o
EKMCTRAN1V3	Analogue thermostat 230 V	*(11)	o
EKWCATR1V3	Actuator 230 V	*(11)	o

**Factory-mounted equipment for -ETB(H/X)16EF\*7-**

Description	ETB(H/X)16EF*7	
	6V (8)	9W (8)
Heating only model -ETBH*7-	6V (8)	9W (8)
Reversible model -ETBX*7-	6V (8)	9W (8)
Backup heater -2.4-6kW 1N-230 V-	o	-
Backup heater -2.4-6kW 3-230 V-	o	-
Backup heater -3.6-9kW 3N-400 V-	-	o

**Outdoor combination table for -ETB(H/X)16EF\*7-**

Description	EPRAT4DA(V3/W1)7	EPRAT6DA(V3/W1)7	EPRAT8DA(V3/W1)7
ETBH16EF*7 Heating only	o	o	o
ETBX16EF*7 Reversible	o	o	o

**Kit availability for outdoor units**

Reference	Description	EPRAT4DA(V3/W1)7	EPRAT6DA(V3/W1)7	EPRAT8DA(V3/W1)7
EKMST1	Mounting stand	o	o	o
EKMST2	Mounting stand	o	o	o

**Kit availability for domestic hot water tanks**

Reference	Description	EKHWP*			
		500B	500PB	300B	300PB
EKHWP*	Domestic hot water tank with solar connection	o	o	o	o
EKSRPS4A	Solar pump station	o	o	o	o
EKEPRHLT3HX	Dedicated connection kit available.	o	o	o	o
EKEPRHLT5H	Heating only indoor unit	o	o	o	o
EKEPRHLT5X	Only for reversible models	o	o	o	o

**Notes**

- (1) PCB that provides additional output connections:
  - (a) Control external heat source (bivalent operation).
  - (b) Output remote ON/OFF signal space heating/cooling
  - (c) Remote alarm output
- (2) Additional relays to allow bivalent control in combination with an external room thermostat are field-supplied.
- (3) PCB to receive up to 4 digital inputs for power limitation
- (4) Data cable for connection with PC.
- (5) Only 1 remote sensor can be connected: indoor OR outdoor sensor.
- (6) The valve kit is mandatory if a heat pump convector is installed on a reversible model (not mandatory for heating only models).
- (7) -EKRTETS- can only be used in combination with -EKTRTB-
- (8) The backup heater capacity depends on a user interface setting.
- (9) Solar pump station
- (10) Dedicated connection kit available: -EKEP\*.
- (11) Multi-zoning wired controls
- (12) The WLAN cartridge is supplied in the accessory bag of the unit and is meant to be plugged into the SD card slot on the MMI-2. In case of bad signal reception, the WLAN cartridge can be removed and replaced by the WLAN module.
- (13) Only possible in combination with -EKMIKPOA-
- (14) Only possible in combination with -EKMIKBVA- and -EKMIKPHA- or -EKMIKHUA-

**Remark**

Other combinations than mentioned in this combination table are prohibited.

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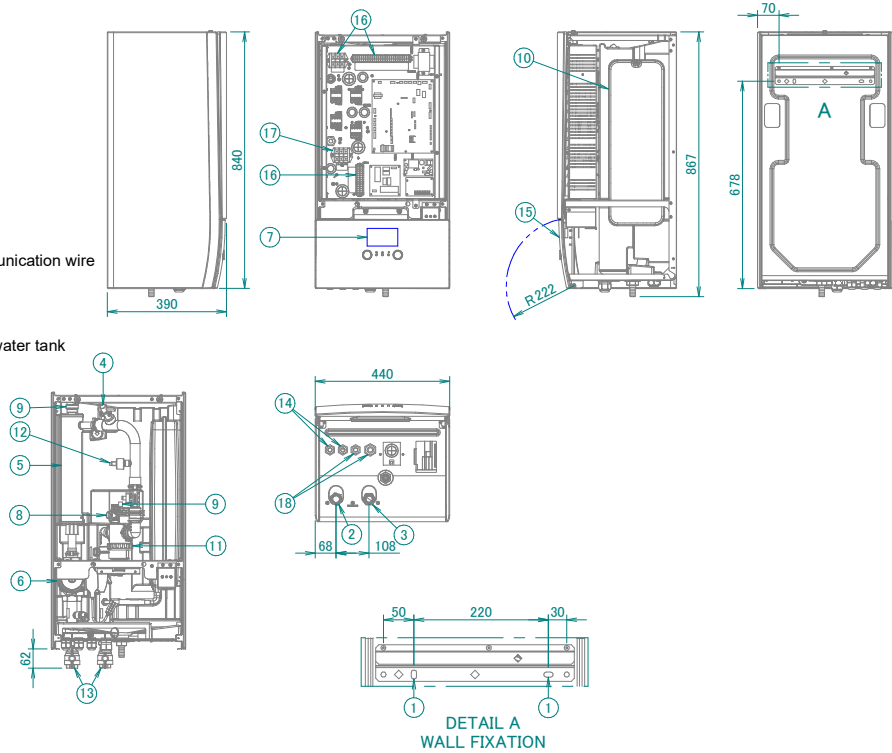
# 5 Dimensional drawings

## 5 - 1 Dimensional Drawings

5

ETBH16E6V7 / ETBH16E9W7 / ETBX16E6V7 / ETBX16E9W7

- ① Holes (Ø8.5) for wall fixation
- ② Water out connection (1" F BSP)
- ③ Water in connection (1" F BSP)
- ④ Flow switch
- ⑤ Backup heater
- ⑥ Pump
- ⑦ User interface
- ⑧ Safety valve Pressure
- ⑨ Air purge
- ⑩ Expansion vessel
- ⑪ Magnetic filter / dirt separator
- ⑫ Space heating water pressure sensor
- ⑬ Shut-off valves
- ⑭ Wire entrance of the power supply / communication wire
- ⑮ Service door
- ⑯ Switch box terminals
- ⑰ Switch box terminals for the domestic hot water tank (option)
- ⑱ Options



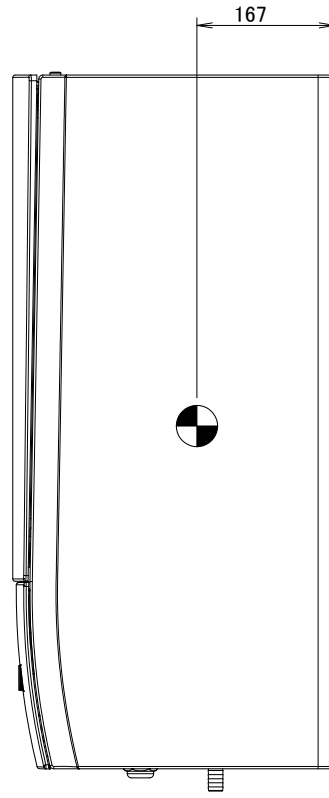
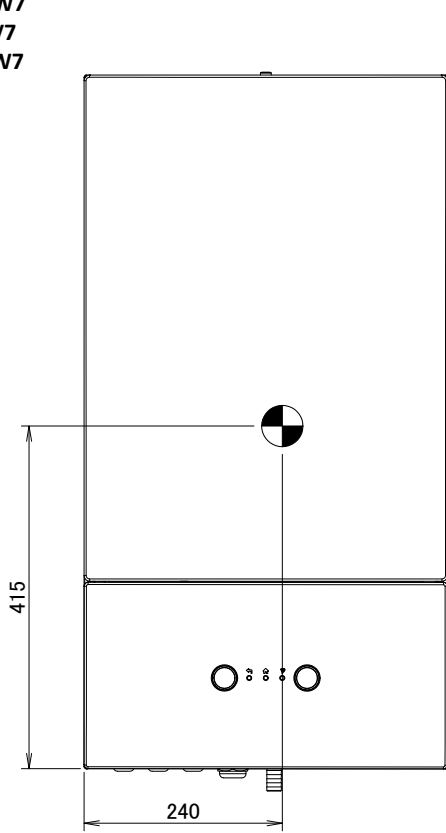
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# 6 Centre of gravity

6 - 1 Centre of Gravity

ETBH16E6V7  
ETBH16E9W7  
ETBX16E6V7  
ETBX16E9W7



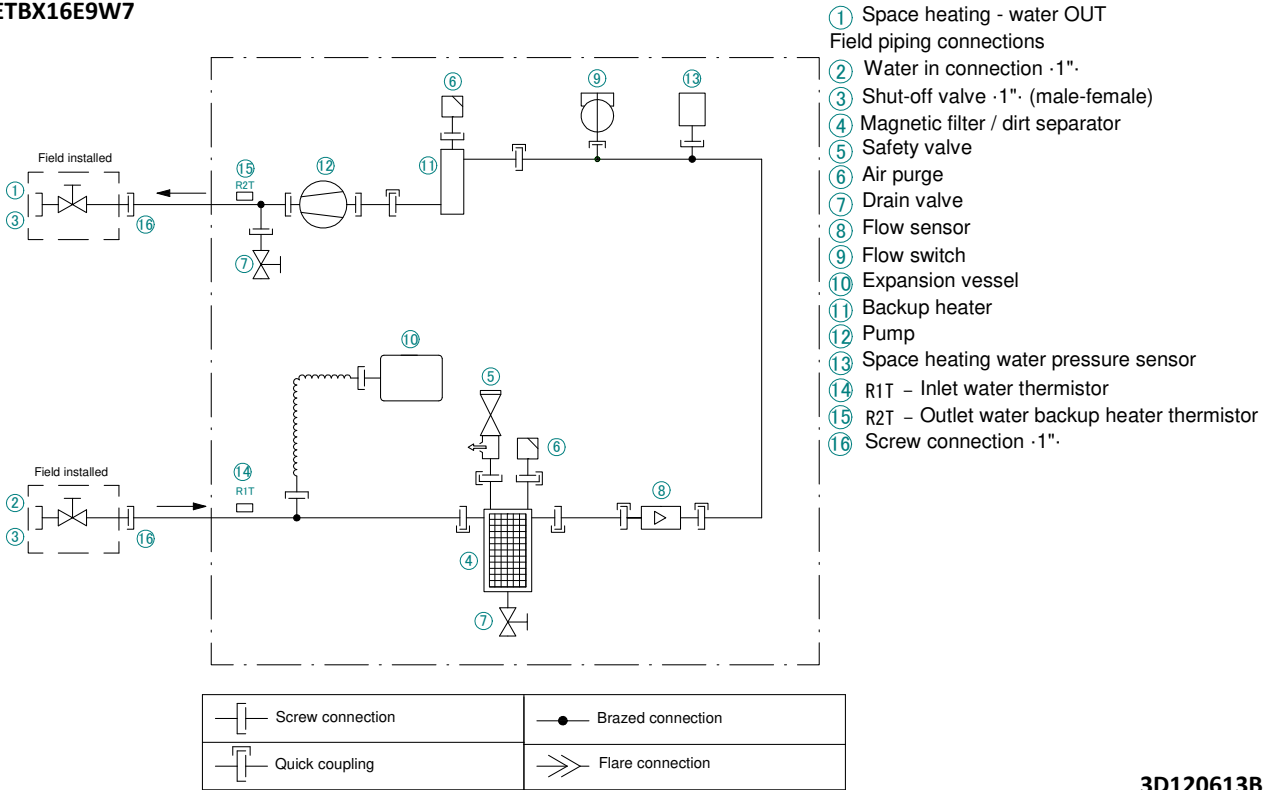
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# 7 Piping diagrams

## 7 - 1 Piping Diagrams

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ETBH16E6V7  
 ETBH16E9W7  
 ETBX16E6V7  
 ETBX16E9W7



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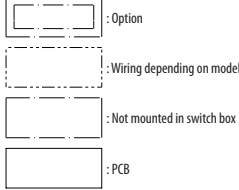
# 8 Wiring diagrams

## 8 - 1 Notes & Legend

### ETBH16E6V7 / ETBH16E9W7 / ETBX16E6V7 / ETBX16E9W7

#### NOTES to go through before starting the unit

- X1M : Main terminal
- X2M : Field wiring terminal for AC
- X5M : Field wiring terminal for DC
- X6M : BUH Power supply terminal
- X7M, X8M : BSH Power supply terminal
- X10M : Smartgrid terminal
- : Earth wiring
- : Field supply
- ① : Several wiring possibilities

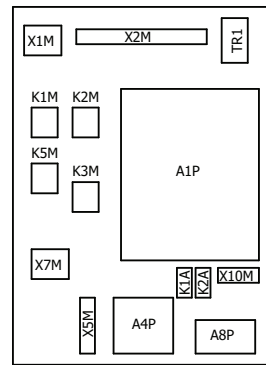


#### NOTES

1. Connection point of the power supply for the BUH/BSH should be foreseen outside the unit.

- Backup heater power supply
  - 6T1 (3~, 230V, 6kW)
  - 6V3 (1N~, 230V, 6kW)
  - 6WN/9WN (3N~, 400V, 6/9kW)
- User installed options:
  - Remote user interface
  - Ext. indoor thermistor
  - Ext. outdoor thermistor
  - Digital I/O PCB
  - Demand PCB
  - Safety thermostat
  - Smartgrid
  - WLAN adapter module
  - WLAN cartridge
  - Bizeone mixing kit
  - Domestic hot water tank
- Main LWT:
  - ON/OFF thermostat (wired)
  - ON/OFF thermostat (wireless)
  - Ext. thermistor
  - Heat pump convactor
- Add LWT:
  - ON/OFF thermostat (wired)
  - ON/OFF thermostat (wireless)
  - Ext. thermistor
  - Heat pump convactor

#### POSITION IN SWITCH BOX



#### LEGEND

Part n°	Description
A1P	main PCB
A2P	* ON/OFF thermostat (PC=power circuit)
A3P	* heat pump convactor
A4P	* digital I/O PCB
A8P	* demand PCB
A9P	status indicator
A11P	MMI main PCB
A14P	* user interface PCB
A15P	* receiver PCB (wireless ON/OFF thermostat)
A20P	* WLAN module
A30P	* bizeone mixing kit PCB
B2L	flow sensor
B1PW	water pressure sensor
BSK (A3P)	solar pump station relay
CN* (A4P)	* connector
DS1 (A8P)	* dipswitch
E1H	backup heater element (1 kW)
E2H	backup heater element (2 kW)
E4H	* booster heater (3 kW)
E*P (A9P)	indication LED
F1B	# overcurrent fuse backup heater
F2B	# overcurrent fuse booster heater
F1T	thermal fuse backup heater
F1U, F2U (A4P)	* fuse 5 A 250 V for digital I/O PCB
FU1 (A1P)	fuse T 5 A 250 V for PCB
K1A, K2A	* high voltage smartgrid relay
K1M, K2M	contactor backup heater
K3M	contactor booster heater
K5M	safety contactor BUH
K*R (A1P-A4P)	relay on PCB
M1P	main supply pump
M2P	# domestic hot water pump
M2S	# 2 way valve for cooling mode
M3S	* 3 way valve for floorheating/domestic hot water

Part n°	Description
P1M	MMI display
PC (A15P)	* power circuit
PHCI (A4P)	* optocoupler input circuit
Q1L	thermal protector backup heater
Q2L	* thermal protector booster heater
Q4L	# safety thermostat
Q*DI	# earth leakage circuit breaker
R1H (A2P)	* humidity sensor
R1T (A1P)	inlet water thermistor
R1T (A2P)	* ambient sensor ON/OFF thermostat
R1T (A14P)	* ambient sensor user interface
R2T (A1P)	outlet backup heater thermistor
R2T (A2P)	* external sensor (floor or ambient)
R5T	* domestic hot water thermistor
R6T	* external indoor or outdoor ambient thermistor
S1L	flow switch
S1S	# preferential kWh rate PS contact
S2S	# electrical meter pulse input 1
S3S	# electrical meter pulse input 2
S4S	# smart grid feed-in
S6S-S9S	* digital power limitation inputs
S10S-S11S	# low voltage smartgrid contact
SS1 (A4P)	* selector switch
SW1~2 (A11P)	turn buttons
SW3~5 (A11P)	push button
TR1	power supply transformer
X6M	# BUH power supply terminal strip
X6M	* BSH power supply connector
X7M, X8M	BSH power supply terminal strip
X10M	* smartgrid power supply terminal strip
X*, X*A, J*	connector
X*H*, X*Y	terminal strip

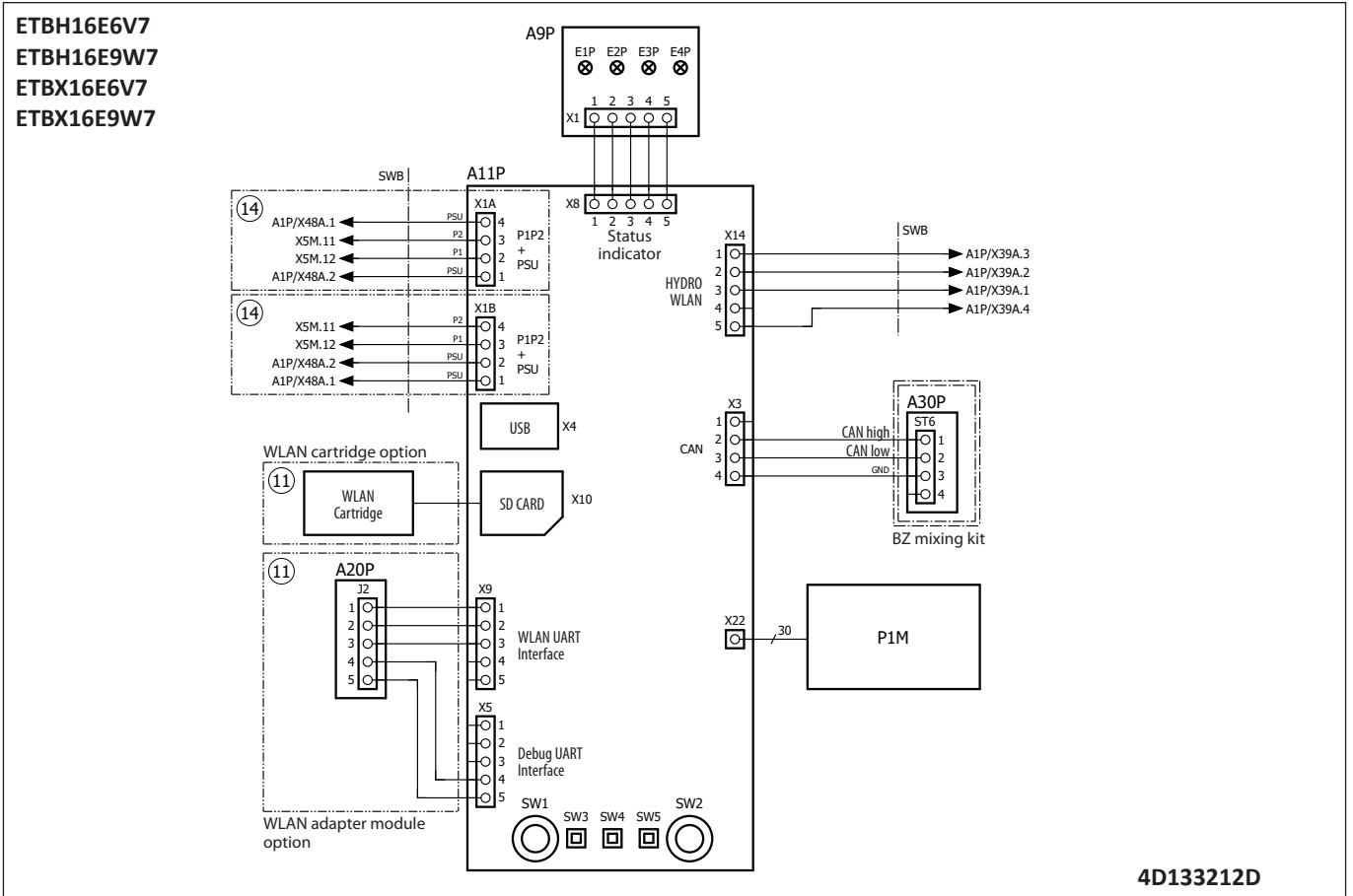
\* : optional # : field supply

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# 8 Wiring diagrams

## 8 - 2 Control Circuit

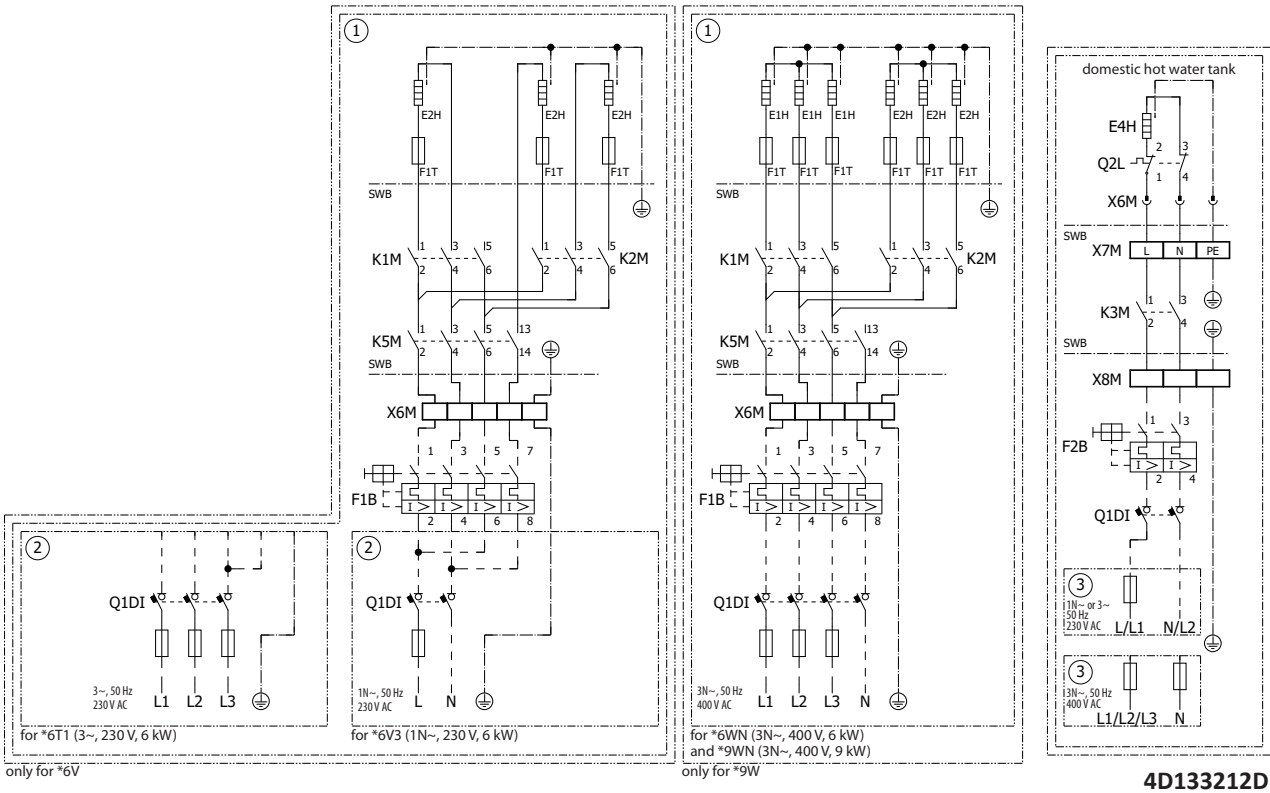


# 8 Wiring diagrams

## 8 - 3 Power Supply, Back-up Heater

8

ETBH16E6V7 / ETBH16E9W7 / ETBX16E6V7 / ETBX16E9W7



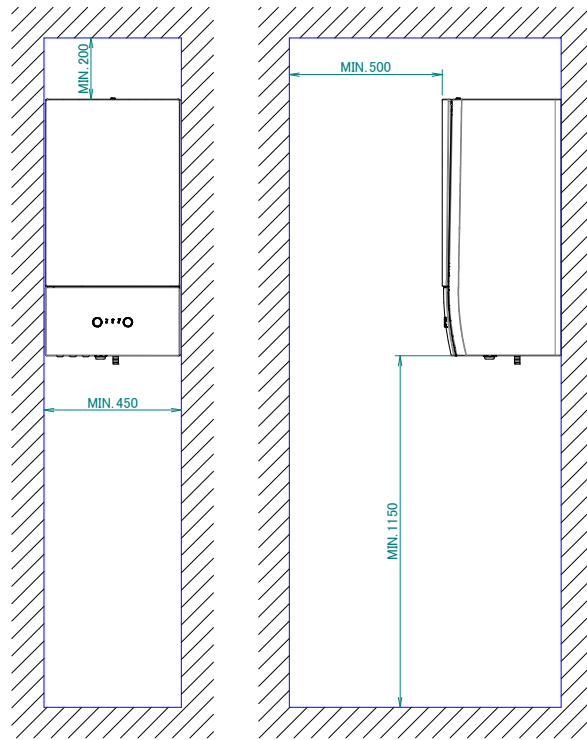


# 10 Installation

## 10 - 1 Installation Method

10

ETBH16E6V7  
ETBH16E9W7  
ETBX16E6V7  
ETBX16E9W7

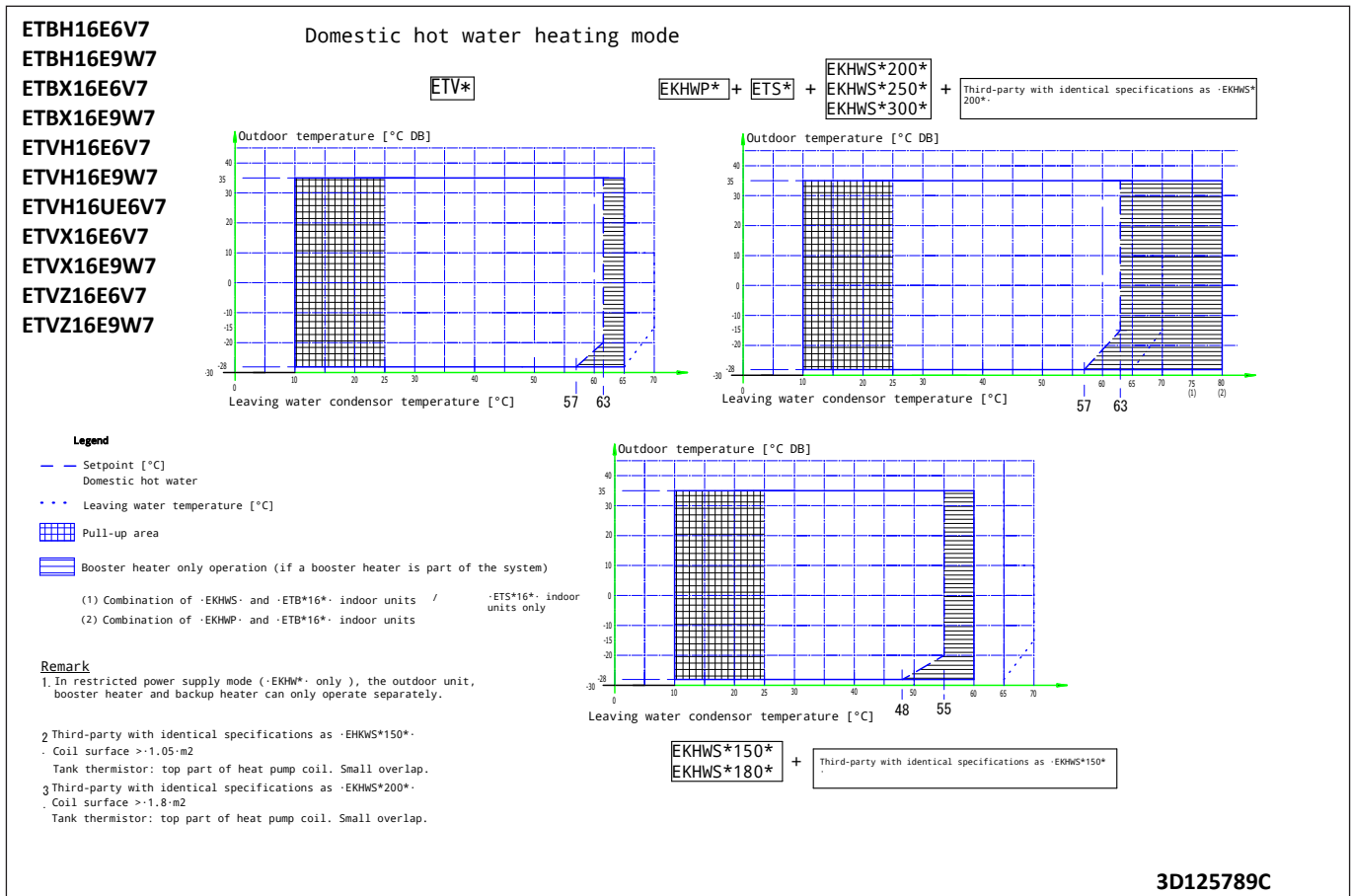
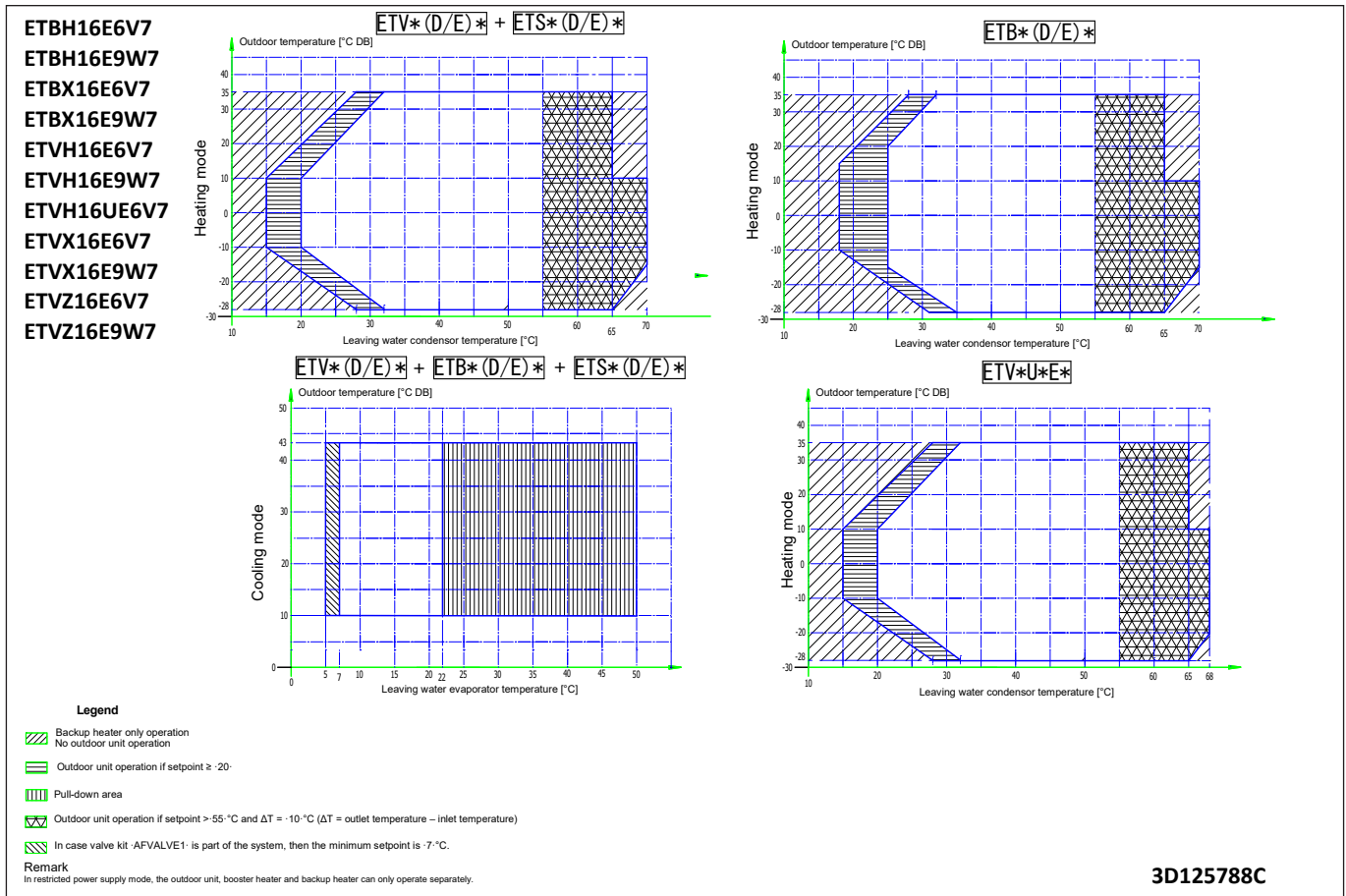


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# 11 Operation range

## 11 - 1 Operation Range

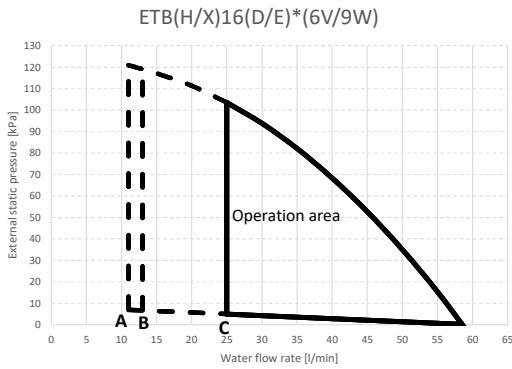


# 12 Hydraulic performance

## 12 - 1 Static Pressure Drop Unit

12

ETBH16E6V7 / ETBH16E9W7 / ETBX16E6V7 / ETBX16E9W7



- A Minimum water flow rate during normal operation
- B Minimum water flow rate during backup heater operation
- C Minimum water flow rate during defrost operation

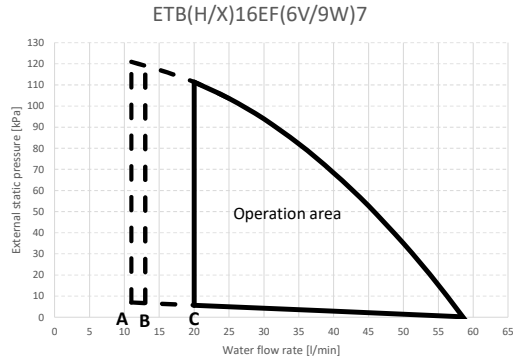
Operation area is extended to lower flow rates only in case the unit operates with heat pump only.  
See dashed lines

**Notes**

1. Selecting a flow outside the operating area can damage the unit or cause the unit to malfunction.

See also the minimum and maximum allowed water flow range in the technical specifications.

2. Water quality must be according to EU directive 98/83 EC.



- A Minimum water flow rate during normal operation
- B Minimum water flow rate during backup heater operation
- C Minimum water flow rate during defrost operation

Operation area is extended to lower flow rates only in case the unit operates with heat pump only.  
See dashed lines

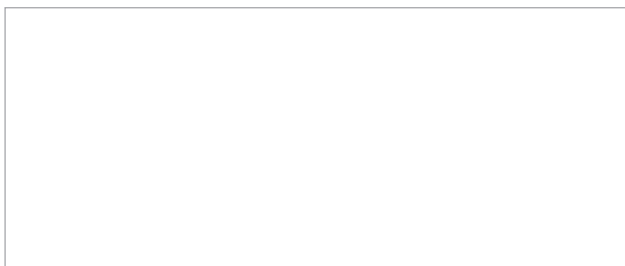
**Notes**

1. Selecting a flow outside the operating area can damage the unit or cause the unit to malfunction.

See also the minimum and maximum allowed water flow range in the technical specifications.

2. Water quality must be according to EU directive 98/83 EC.

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