Daikin Altherma high temperature split Technical Data

ETVH16E6V / ETVH16E9W / ETVX16E6V / ETVX16E9W

ETVH16S18EA6V
ETVH16S23EA6V
ETVH16S18EA9W
ETVH16S23EA9W
ETVX16S18EA6V
ETVX16S23EA6V
ETVX16S18EA9W
ETVX16S23EA9W

EEDEN21

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1 Features

1 - 1 ETVH16E9W, ETVX16E6V, ETVX16E9W, ETVH16E6V

Floor standing air to water heat pump for heating, cooling and hot water

- Integrated indoor unit: all-in-one floor standing unit including the domestic hot water tank
- Inclusion of all hydraulic components means no third party components are required
- The unit's sleek design blends in with other household appliances.
- Bi-zone allows temperature monitoring for 2 zones. Connect underfloor heating to radiators to optimise efficiency
- Quick configuration in 9 steps in a high resolution colour interface wizard

Daikin Residential Controller

2 Specifications

1 - 1 ETVH16E9W, ETVX16E6V, ETVX16E9W, ETVH16E6V

Technical specifications					ETVH16S18E6V	ETVH16S23E6V
Heater capacity	Step 1			kW	2	
	Step 2			kW	2 or 4	
Power input	Nom.			kW	0.21	
Casing	Material				Precoated sheet metal	
Dimensions	Unit	Height		mm	1,650	1,850
		Width		mm	595	
		Depth		mm	625	
	Packed unit	Height		mm	1,820	2,020
		Width		mm	720	
		Depth		mm	740	
Weight	Unit			kg	109	118
	Packed unit			kg	126	135
Packing	Material				Wood / Carton / PE wrapping foil / Metal	
	Weight			kg	16	
Pump	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	
Tank	Name				Stainless steel domestic hot water tank 180 l	Stainless steel domestic hot water tank 230 L
	Water volume			l	180	230
	Material				Stainless steel (EN 1.4521)	
	Maximum water temperature			°C	70.0	
	Maximum water pressure			bar	10	
	Insulation	Material			Polyurethane foam	
		Heat loss		kWh/24h	1.2 (2)	1.4 (2)
	Corrosion protection				Pickling	
	Energy efficiency class				B	
General	Supplier/Manufacturer details	Name or trademark			Daikin Europe N.V.	
		Name and address			Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium	
3-way valve	Coefficient of flow (kV)	Space heating		m^3/h	8	
		Domestic hot water tank		m^3/h	10	
Water circuit	Piping connections diameter			inch	G 1" (female)	
	Piping material				Cu	
	Internal piping diameter			inch	1-1/4"	
Water circuit	Piping			inch	1"	
	Safety valve			bar	3	
	Manometer				Digital	
	Drain valve / fill valve				No	
	Shut off valve				Yes	
	flowswitch				Yes	
	Air purge valve				Yes	
	Total water volume			l	2.5 (3)	
	Minimum water volume in the system for cooling			l	20 (4)	
	Minimum water volume in the system for heating			l	20 (4)	
Water circuit - Domestic hot water side	Piping material				Stainless steel	
	Piping connections	Cold water in / Hot water out		inch	G 3/4" FEMALE	
		Recirculation connection		inch	G 3/4" FEMALE	
Sound power level	Nom.			dBA	44.0 (5)	
Sound pressure level	Nom.			dBA	30.0 (6)	
Operation range	Heating	Ambient	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
		Water side	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
	Indoor installation	Ambient	Min.	°CDB	5	
			Max.	°CDB	35 (8)	
	Cooling	Ambient	Min.	°CDB	0 (7)	
			Max.	°CDB	0 (7)	
		Water side	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
	Domestic hot water	Water side	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
Safety devices	Item	01			Thermal cut out	

2 Specifications

1 - 1 ETVH16E9W, ETVX16E6V, ETVX16E9W, ETVH16E6V

Electrical specifications				ETVH16S18E6V	ETVH16S23E6V
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 (10)	
Wiring connections	Communication cable	Quantity		3	
		Remark		2.5 mm²	
	Electric meter	Quantity		2	
		Remark		Minimum 0.75 mm² (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 mm² (2A inrush, 1A continuous)	
	For power supply back-up heater	Quantity		Prewired	
	For connection with R6T	Quantity		2	
		Remark		Minimum 0.75 mm²	
	For connection with A3P	Quantity		Depends on thermostat type, cf. installation manual	
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm²	
	For connection with M2S	Quantity		2	
		Remark		Voltage: 230V / Max. current: 100mA / Min. 0.75mm²	
	For connection with optional FWXV* (demand	Quantity		4	
		Remark		100 mA, minimum 0.75 mm²	

(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)Based on a dT of 45 K |
(3)Including piping + back-up heater; excluding expansion vessel |
(4)Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required. |
(5)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°. |
(6)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 |
(7)Refer to operation range of the unit. |
(8)Depends on operation mode, refer to installation manual. |
(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.
(10)4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |

Technical specifications				ETVH16S18E9W	ETVH16S23E9W
Heater capacity	Step 1		kW	3	
	Step 2		kW	max. 6 kW	
Power input	Nom.		kW	0.21	
Casing	Material			Precoated sheet metal	
Dimensions	Unit	Height	mm	1,650	1,850
		Width	mm	595	
		Depth	mm	625	
	Packed unit	Height	mm	1,820	2,020
		Width	mm	720	
		Depth	mm	740	
Weight	Unit		kg	109	118
	Packed unit		kg	126	135
Packing	Material			Wood / Carton / PE wrapping foil / Metal	
	Weight		kg	16	
Pump	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	

2 Specifications

1 - 1 ETVH16E9W, ETVX16E6V, ETVX16E9W, ETVH16E6V

Technical specifications					ETVH16S18E9W	ETVH16S23E9W
Tank	Name				Stainless steel domestic hot water tank 180 l	Stainless steel domestic hot water tank 230 L
	Water volume			l	180	230
	Material				Stainless steel (EN 1.4521)	
	Maximum water temperature			°C	70.0	
	Maximum water pressure			bar	10	
	Insulation	Material			Polyurethane foam	
		Heat loss		kWh/24h	1.2 (2)	1.4 (2)
	Corrosion protection				Pickling	
	Energy efficiency class				B	
General	Supplier/Manufacturer details	Name or trademark			Daikin Europe N.V.	
		Name and address			Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium	
3-way valve	Coefficient of flow (kV)	Space heating		m^3/h	8	
		Domestic hot water tank		m^3/h	10	
Water circuit	Piping connections diameter			inch	G 1" (female)	
	Piping material				Cu	
	Internal piping diameter			inch	1-1/4"	
Water circuit	Piping			inch	1"	
	Safety valve			bar	3	
	Manometer				Digital	
	Drain valve / fill valve				No	
	Shut off valve				Yes	
	flowswitch				Yes	
	Air purge valve				Yes	
	Total water volume			l	2.5 (3)	
	Minimum water volume in the system for cooling			l	20 (4)	
	Minimum water volume in the system for heating			l	20 (4)	
Water circuit - Domestic hot water side	Piping material				Stainless steel	
	Piping connections	Cold water in / Hot water out		inch	G 3/4" FEMALE	
		Recirculation connection		inch	G 3/4" FEMALE	
Sound power level	Nom.			dBA	44.0 (5)	
Sound pressure level	Nom.			dBA	30.0 (6)	
Operation range	Heating	Ambient	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
		Water side	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
	Indoor installation	Ambient	Min.	°CDB	5	
			Max.	°CDB	35 (8)	
	Cooling	Ambient	Min.	°CDB	0 (7)	
			Max.	°CDB	0 (7)	
		Water side	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
	Domestic hot water	Water side	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
Safety devices	Item	01			Thermal cut out	

Electrical specifications				ETVH16S18E9W	ETVH16S23E9W
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	50	
		Voltage	V	400	
	Current	Maximum running current	A	13.0	
	Recommended fuses		A	20.000 (10)	

2 Specifications

1 - 1 ETVH16E9W, ETVX16E6V, ETVX16E9W, ETVH16E6V

Electrical specifications			ETVH16S18E9W	ETVH16S23E9W
Wiring connections	Communication cable	Quantity	3	
		Remark	2.5 mm²	
	Electric meter	Quantity	2	
		Remark	Minimum 0.75 mm² (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 mm² (2A inrush, 1A continuous)	
	For power supply back-up heater	Quantity	Prewired	
	For connection with R6T	Quantity	2	
		Remark	Minimum 0.75 mm²	
	For connection with A3P	Quantity	Depends on thermostat type, cf. installation manual	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm²	
	For connection with M2S	Quantity	2	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm²	
	For connection with optional FWXV[4] (demand	Quantity	4	
		Remark	100 mA, minimum 0.75 mm²	

(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)Based on a dT of 45 K |
(3)Including piping + back-up heater; excluding expansion vessel |
(4)Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required. |
(5)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°. |
(6)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 |
(7)Refer to operation range of the unit. |
(8)Depends on operation mode, refer to installation manual. |
(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.
(10)4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |

Technical specifications				ETVX16S18E6V	ETVX16S23E6V
Heater capacity	Step 1		kW	2	
	Step 2		kW	2 or 4	
Power input	Nom.		kW	0.21	
Casing	Material			Precoated sheet metal	
Dimensions	Unit	Height	mm	1,650	1,850
		Width	mm	595	
		Depth	mm	625	
	Packed unit	Height	mm	1,820	2,020
		Width	mm	720	
		Depth	mm	740	
Weight	Unit		kg	109	118
	Packed unit		kg	126	135
Packing	Material			Wood / Carton / PE wrapping foil / Metal	
	Weight		kg	16	
Pump	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	
Tank	Name			Stainless steel domestic hot water tank 180 l	Stainless steel domestic hot water tank 230 L
	Water volume		l	180	230
	Material			Stainless steel (EN 1.4521)	
	Maximum water temperature		°C	70.0	
	Maximum water pressure		bar	10	
	Insulation	Material		Polyurethane foam	
		Heat loss	kWh/24h	1.2 (2)	1.4 (2)
	Corrosion protection			Pickling	
	Energy efficiency class			B	
General	Supplier/Manufacturer details	Name or trademark		Daikin Europe N.V.	
		Name and address		Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium	
3-way valve	Coefficient of flow (kV)	Space heating	m^3/h	8	
		Domestic hot water tank	m^3/h	10	

2 Specifications

1 - 1 ETVH16E9W, ETVX16E6V, ETVX16E9W, ETVH16E6V

Technical specifications					ETVX16S18E6V	ETVX16S23E6V
Water circuit	Piping connections diameter			inch	G 1" (female)	
	Piping material				Cu	
	Internal piping diameter			inch	1-1/4"	
Water circuit	Piping			inch	1"	
	Safety valve			bar	3	
	Manometer				Digital	
	Drain valve / fill valve				No	
	Shut off valve				Yes	
	flowswitch				Yes	
	Air purge valve				Yes	
	Total water volume			l	2.5 (3)	
	Minimum water volume in the system for cooling			l	20 (4)	
	Minimum water volume in the system for heating			l	20 (4)	
Water circuit - Domestic hot water side	Piping material				Stainless steel	
	Piping connections	Cold water in / Hot water out		inch	G 3/4" FEMALE	
		Recirculation connection		inch	G 3/4" FEMALE	
Sound power level	Nom.			dBA	44.0 (5)	
Sound pressure level	Nom.			dBA	30.0 (6)	
Operation range	Heating	Ambient	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
		Water side	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
	Indoor installation	Ambient	Min.	°CDB	5	
			Max.	°CDB	35 (8)	
	Cooling	Ambient	Min.	°CDB	0 (7)	
			Max.	°CDB	0 (7)	
		Water side	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
	Domestic hot water	Water side	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
Safety devices	Item	01			Thermal cut out	

Electrical specifications					ETVX16S18E6V	ETVX16S23E6V
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 (10)	

2 Specifications

1 - 1 ETVH16E9W, ETVX16E6V, ETVX16E9W, ETVH16E6V

Electrical specifications			ETVX16S18E6V	ETVX16S23E6V
Wiring connections	Communication cable	Quantity	3	
		Remark	2.5 mm²	
	Electric meter	Quantity	2	
		Remark	Minimum 0.75 mm² (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 mm² (2A inrush, 1A continuous)	
	For power supply back-up heater	Quantity	Prewired	
	For connection with R6T	Quantity	2	
		Remark	Minimum 0.75 mm²	
	For connection with A3P	Quantity	Depends on thermostat type, cf. installation manual	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm²	
	For connection with M2S	Quantity	2	
		Remark	Voltage: 230V / Max. current: 100mA / Min. 0.75mm²	
	For connection with optional FWXV* (demand	Quantity	4	
		Remark	100 mA, minimum 0.75 mm²	

(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)Based on a dT of 45 K |
(3)Including piping + back-up heater; excluding expansion vessel |
(4)Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required. |
(5)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°. |
(6)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 |
(7)Refer to operation range of the unit. |
(8)Depends on operation mode, refer to installation manual. |
(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.
(10)4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |

Technical specifications				ETVX16S18E9W	ETVX16S23E9W
Heater capacity	Step 1		kW	3	
	Step 2		kW	max. 6 kW	
Power input	Nom.		kW	0.21	
Casing	Material			Precoated sheet metal	
Dimensions	Unit	Height	mm	1,650	1,850
		Width	mm	595	
		Depth	mm	625	
	Packed unit	Height	mm	1,820	2,020
		Width	mm	720	
		Depth	mm	740	
Weight	Unit		kg	109	118
	Packed unit		kg	126	135
Packing	Material			Wood / Carton / PE wrapping foil / Metal	
	Weight		kg	16	
Pump	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	
Tank	Name			Stainless steel domestic hot water tank 180 l	Stainless steel domestic hot water tank 230 L
	Water volume		l	180	230
	Material			Stainless steel (EN 1.4521)	
	Maximum water temperature		°C	70.0	
	Maximum water pressure		bar	10	
	Insulation	Material		Polyurethane foam	
		Heat loss	kWh/24h	1.2 (2)	1.4 (2)
	Corrosion protection			Pickling	
	Energy efficiency class			B	
General	Supplier/Manufacturer details	Name or trademark		Daikin Europe N.V.	
		Name and address		Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium	
3-way valve	Coefficient of flow (kV)	Space heating	m³/h	8	
		Domestic hot water tank	m³/h	10	

2 Specifications

1 - 1 ETVH16E9W, ETVX16E6V, ETVX16E9W, ETVH16E6V

Technical specifications					ETVX16S18E9W	ETVX16S23E9W
Water circuit	Piping connections diameter			inch	G 1" (female)	
	Piping material				Cu	
	Internal piping diameter			inch	1-1/4"	
Water circuit	Piping			inch	1"	
	Safety valve			bar	3	
	Manometer				Digital	
	Drain valve / fill valve				No	
	Shut off valve				Yes	
	flowswitch				Yes	
	Air purge valve				Yes	
	Total water volume			l	2.5 (3)	
	Minimum water volume in the system for cooling			l	20 (4)	
	Minimum water volume in the system for heating			l	20 (4)	
Water circuit - Domestic hot water side	Piping material				Stainless steel	
	Piping connections	Cold water in / Hot water out		inch	G 3/4" FEMALE	
		Recirculation connection		inch	G 3/4" FEMALE	
Sound power level	Nom.			dBA	44.0 (5)	
Sound pressure level	Nom.			dBA	30.0 (6)	
Operation range	Heating	Ambient	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
		Water side	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
	Indoor installation	Ambient	Min.	°CDB	5	
			Max.	°CDB	35 (8)	
	Cooling	Ambient	Min.	°CDB	0 (7)	
			Max.	°CDB	0 (7)	
		Water side	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
	Domestic hot water	Water side	Min.	°C	0 (7)	
			Max.	°C	0 (7)	
Safety devices	Item	01			Thermal cut out	

Electrical specifications					ETVX16S18E9W	ETVX16S23E9W
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	50	
		Voltage		V	400	
	Current	Maximum running current		A	13.0	
	Recommended fuses			A	20.000 (10)	
Wiring connections	Communication cable	Quantity			3	
		Remark			2.5 mm²	
	Electric meter	Quantity			2	
		Remark			Minimum 0.75 mm² (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 mm² (2A inrush, 1A continuous)	
	For power supply back-up heater	Quantity			Prewired	
	For connection with R6T	Quantity			2	
		Remark			Minimum 0.75 mm²	
	For connection with A3P	Quantity			Depends on thermostat type, cf. installation manual	
		Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm²	
	For connection with M2S	Quantity			2	
		Remark			Voltage: 230V / Max. current: 100mA / Min. 0.75mm²	
	For connection with optional FWXV* (demand	Quantity			4	
		Remark			100 mA, minimum 0.75 mm²	

2 Specifications

1 - 1 ETVH16E9W, ETVX16E6V, ETVX16E9W, ETVH16E6V

(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)Based on a dT of 45 K |
(3)Including piping + back-up heater; excluding expansion vessel |
(4)Excluding the water in the unit. This minimum water volume is sufficient for most applications. During critical processes extra water may be required. |
(5)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°. |
(6)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 |
(7)Refer to operation range of the unit. |
(8)Depends on operation mode, refer to installation manual. |
(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.
(10)4 pole 20 A curve 400V tripping class C (refer to wiring diagram) |

3 Electrical data

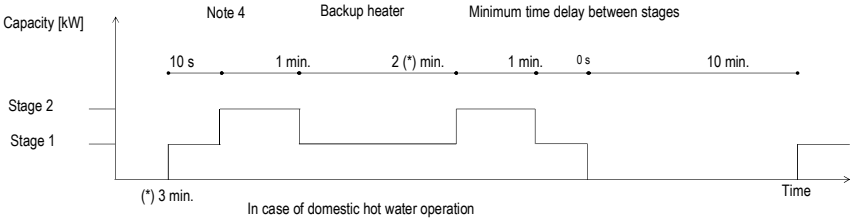
3 - 1 Electrical Data

ETVH12E6V / ETVH16E6V / ETVH12UE6V / ETVH16UE6V / ETVH12E9W / ETVH16E9W
ETVX12E6V / ETVX16E6V / ETVX12E9W / ETVX16E9W
ETVZ12E6V / ETVZ16E6V / ETVZ12E9W / ETVZ16E9W

Electrical specifications

				6V						9W			
Backup heater	Capacity setting		[kW]	2 - 4	2 - 6	4 - 6	2-4 (in case of emergency: 2-6)		6	3 - 6	3 - 9	3 - 6 (in case of emergency: 3 - 9)	
	Capacity stage			2	2	2	2	2	1	2	2	2	2
	Capacity stage 1		kW	2	2	2	2	2	6	3	3	3	3
	Capacity stage 2		kW	4	6	4	4	6	-	6	9	6	9
	Minimum time delay between stages			Note 4						Note 4			
	Power supply (1)	Phase		1~					3~	3~			
		Frequency	Hz	50						50			
		Voltage	V	230 +-10%						400 +-10%			
	Current	Nominal running current	A	17,4	26,1	26,1	17,4	26,1	15	8,7	13	8,7	13
		Zmax (backup heater)(2)	Ω							-			
			Complex	-						-			
		Minimum Ssc value	kVA		(3)			(3)		-			

Notes		
	(1)	The above-mentioned power supply of the hydrobox is for the backup heater only. Booster heater power supply
	(2)	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



4D121000A

3 Electrical data

3 - 1 Electrical Data

ETBH16E6V / ETBH16E9W / ETBX16E6V / ETBX16E9W
ETVH16E6V / ETVH16UE6V / ETVH16E9W
ETVX16E6V / ETVX16E9W
ETVZ16E6V / ETVZ16E9W

* 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
  - Three-phase AC meter
    - 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
		Normal kWh rate power supply					
Electrical meter type	1~	1	-	-	1	-	-
	3~ balanced	-	-	-	-	-	-
	3~ unbalanced	-	1	1	-	1	1
		Preferential kWh rate power supply					
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

ETVH16E6V / ETVH16UE6V / ETVH16E9W
ETVX16E6V / ETVX16E9W
ETVZ16E6V / ETVZ16E9W

Factory-mounted equipment for ·ETV(H/X/Z)16S*EA)*·

Description	ETV(H/X/Z)16S*EA*			
Heating only model ·ETVH*·	18 - 6V (9)	18 - 9W (9)	23 - 6V (9)	23 - 9W (9)
Reversible model ·ETVX*·	18 - 6V (9)	18 - 9W (9)	23 - 6V (9)	23 - 9W (9)
(Integrated Bizone)	18 - 6V (9)	18 - 9W (9)	23 - 6V (9)	23 - 9W (9)
Heating only indoor unit for the UK	18 - 6V (9)		23 - 6V (9)	
Backup heater ·2-4-6kW 1N~230 V·	o	-	o	-
Backup heater ·2-4-6kW 3~230 V·	o	-	o	-
Backup heater ·3-6-9kW 3N~400 V·	-	o	-	o
Domestic hot water tank ·180L·	o	o	-	-
Domestic hot water tank ·230L·	-	-	o	o

Outdoor combination table for ·ETV(H/X/Z)16S(U)(18/23)EA*·

		EPRA14DA(V3/W1)	EPRA16DA(V3/W1)	EPRA18DA(V3/W1)
ETVH16S(18/23)EA)*	Heating only indoor unit	o	o	o
ETVX16S(18/23)EA)*	Reversible indoor unit	o	o	o
ETVZ16S(18/23)EA)*	(Integrated Bizone)	o	o	o
ETVH16SU(18/23)EA*	Heating only indoor unit for the UK	o	o	o

Kit availability

Reference	Description		ETV*16S*EA*				ETVH16SU*EA*	
ETVH*	Heating only indoor unit		18 - 6V	18 - 9W	23 - 6V	23 - 9W		
ETVX*	Reversible indoor unit		18 - 6V	18 - 9W	23 - 6V	23 - 9W		
ETVZ*	(Integrated Bizone)		18 - 6V	18 - 9W	23 - 6V	23 - 9W		
ETVH*U*	Heating only indoor unit for the UK						18 - 6V	23 - 6V
EKRP1HBAA	Digital I/O PCB	*(1) (2)	o	o	o	o	o	o
EKRP1AHTA	Demand PCB	*(3)	o	o	o	o	o	o
EKPCCAB4	PC cable	*(4)	o	o	o	o	o	o
KRCS01-1	Remote indoor sensor	*(5)	o	o	o	o	o	o
EKRSCA1	Remote sensor for outdoor	*(5)	o	o	o	o	o	o
EKCC8-W	Universal centralised user interface		o	o	o	o	o	o
DCOM-LT/IO	DCOM gateway		o	o	o	o	o	o
DCOM-LT/MB	DCOM gateway		o	o	o	o	o	o
EKHVCONV4	Conversion kit: heating only to reversible.		o	o	o	o	o	o
EKUHWG3D	·G3· kit						o (6)	o (6)
BRP069A71	WLAN module	*(7)	o	o	o	o	o	o
BRC1HHDA*	HCI (Human Comfort Interface)		o	o	o	o	o	o
ESAE04A01*	Daikin Residential Controller		o	o	o	o	o	o
EKRELSG	Relay for Smart Grid		o	o	o	o	o	o
AFVALVE1	Freeze protection valve		o	o	o	o	o	o
FWXV10-15-20ATV3*	Heat pump convector	*(8)	o	o	o	o	o	o
FWXT10-15-20ATV3*	Heat pump convector	*(8)	o	o	o	o	o	o
FWXM10-15-20ATV3*	Heat pump convector	*(8)	o	o	o	o	o	o
EKVKHPC	Heat pump convector valve kit	*(8)	o	o	o	o	o	o
EKRTWA	Wired room thermostat		o	o	o	o	o	o
EKRTR1	Wireless room thermostat		o	o	o	o	o	o
EKRTETS	External sensor room thermostat	*(10)	o	o	o	o	o	o
EKWUFHTA1V3	Multi-zoning base unit 230 V	*(11)	o	o	o	o	o	o
EKWCTRDI1V3	Digital thermostat 230 V	*(11)	o	o	o	o	o	o
EKWCTRAN1V3	Analogue thermostat 230 V	*(11)	o	o	o	o	o	o
EKWCVATR1V3	Actuator 230 V	*(11)	o	o	o	o	o	o
HYDRA*	Hydrofast connection kit for field piping		o	o	o	o	o	o
HBKIT*	Easy floor standing installation kit		o	o	o	o	o	o
HBKIT2Z	Easy floor standing bizone extension kit	*(14)(15)	o	o	o	o		
HBACC00*	Easy floor standing installation side piping extension kit	*(14)	o	o	o	o	o	o

Reference	Description		ETVH*	ETVX*
	Only applicable for ·ETVH* & ETVX*· models			
EKMIKPOA	Mixing kit - PCB only		o	o
EKMIKPHA	Mixing kit - PCB with hydraulics		o	o
EKMIKHMA	Hydraulics - mixed pump group	*(12)	o	o
EKMIKHUA	Hydraulics - unmixed pump group	*(12)	o	o
EKMIKBVA	Balancing vessel		o	o
EKMIKDIA	Distributor for balancing vessel	*(13)	o	o

Kit availability for outdoor units

Reference	Description	EPRA14DA(V3/W1)	EPRA16DA(V3/W1)	EPRA18DA(V3/W1)
EKMST1	Mounting stand	o	o	o
EKMST2	Mounting stand	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) This kit is mandatory for the UK models.
(7) 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.
(8) The valve kit is mandatory if a heat pump convector is installed on a reversible model (not mandatory for heating only models).
(9) The backup heater capacity depends on a user interface setting.
(10) ·EKRTETS· can only be used in combination with ·EKRTR1·
(11) Multi-zoning wired controls
(12) Only possible in combination with ·EKMIKPOA·
(13) Only possible in combination with ·EKMIKBVA· and ·EKMIKPHA· or ·EKMIKHUA·
(14) Only possible in combination with ·HBKIT*·
(15) Only possible in combination with ·ETVZ*·

Remark
Other combinations than mentioned in this combination table are prohibited.

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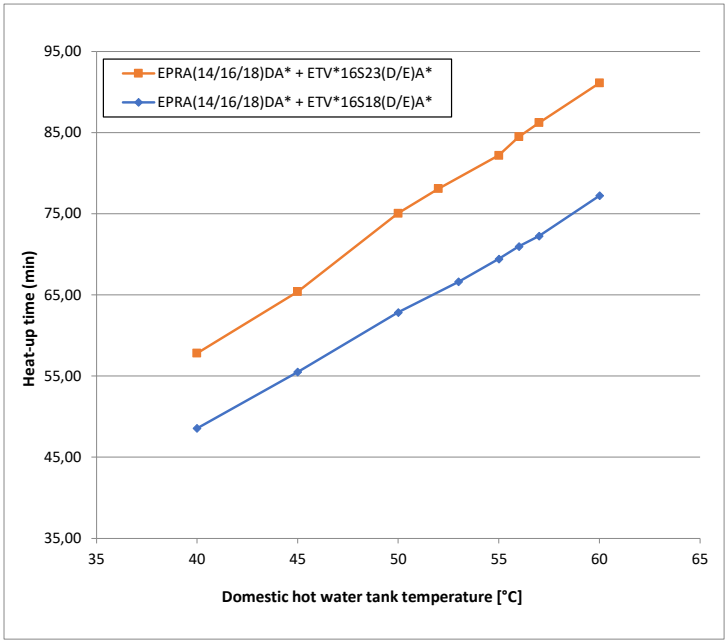
5 Capacity tables

5 - 1 Domestic Hot Water performance

ETVH16E6V
ETVH16UE6V
ETVH16E9W
ETVX16E6V
ETVX16E9W
ETVZ16E6V
ETVZ16E9W

Heat-up times



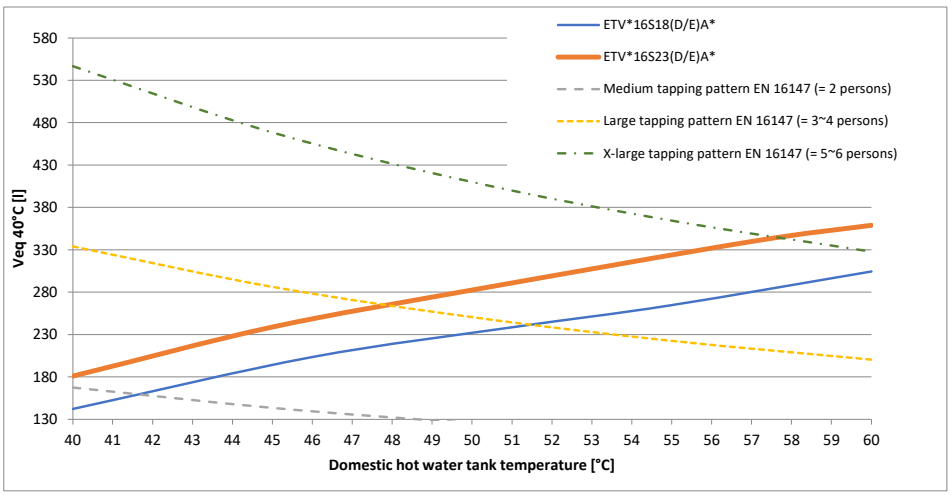
Model name	Heat-up time domestic hot water tank until 45°C
EPRA(14/16/18)DA* + ETV*16S18(D/E)A*	·55· min.
EPRA(14/16/18)DA* + ETV*16S23(D/E)A*	·65· min.

Notes

1. Time the indoor unit (**heat pump only operation**) requires to heat up the domestic hot water tank from 10°C to the indicated temperature.
   See the operation range for maximum domestic hot water tank temperature during heat pump only operation.

Selection guide for the domestic hot water tank volume (1)

Veq 40°C = the amount of water with a temperature of 40°C that can be tapped when the domestic hot water tank is heated to a certain temperature, and the temperature of the cold inlet water is 10°C.



If a higher daily Veq 40°C is required, then additional heat-up cycles are required within 24 hours.
See the operation manual for more information.

Notes

(1) According to EN16147.

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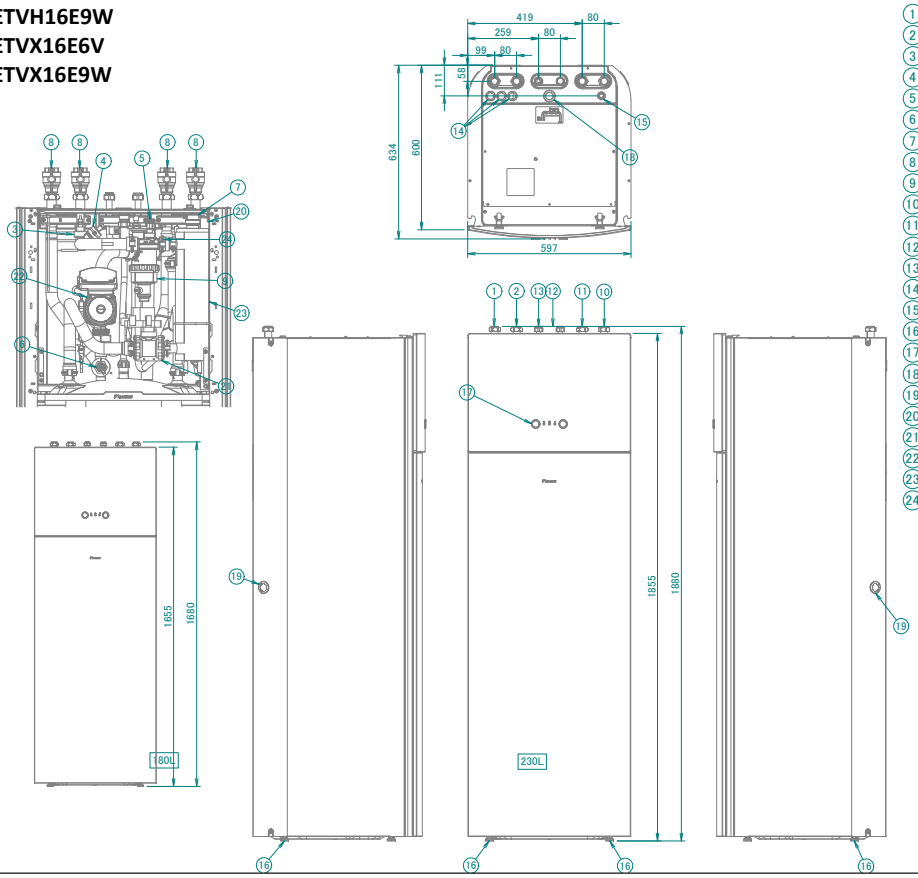
6 Dimensional drawings

6 - 1 Dimensional Drawings

ETVH16E6V
ETVH16E9W
ETVX16E6V
ETVX16E9W



To outdoor unit

1. Water out connection ·1"·
2. Water in connection ·1"·
3. Flow switch
4. Space heating water pressure sensor
5. Safety valve
6. Drain valve water circuit
7. Air purge
8. Shut-off valve
9. Magnetic filter / dirt separator
10. Water in connection ·1" F BSP·
11. Water out connection ·1" F BSP·
12. Domestic hot water: cold water in ·3/4" F BSP·
13. Domestic hot water: hot water out ·3/4" F BSP·
14. High voltage wiring intake ·Ø 24mm·
15. Low voltage wiring intake ·Ø 15mm·
16. Levelling feet
17. User interface
18. Recirculation connection ·G 3/4"· (female)
19. Drain outlet (unit + safety valve)
20. Expansion vessel
21. 3-way valve
22. Pump
23. Backup heater
24. Flow sensor

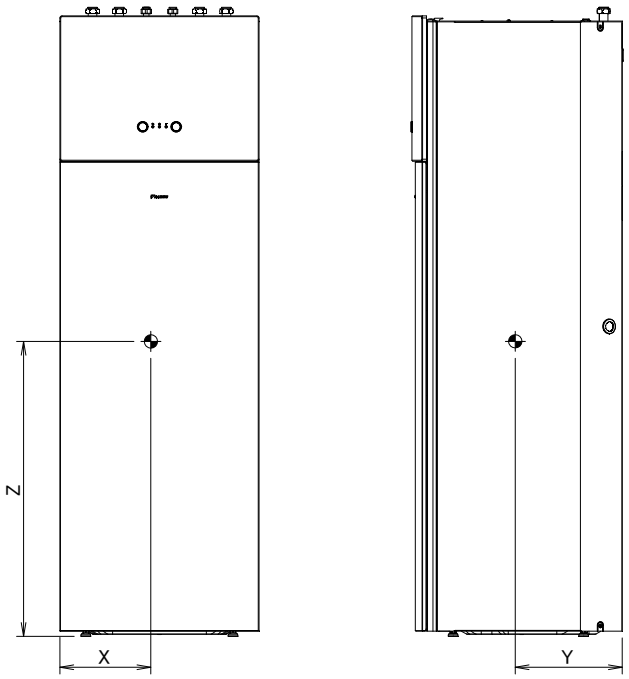
Screws used in this unit:

3D121002B

7 Centre of gravity

7 - 1 Centre of Gravity

ETVH12E6V / ETVH16E6V / ETVH12UE6V / ETVH16UE6V / ETVH12E9W / ETVH16E9W
ETVX12E6V / ETVX16E6V / ETVX12E9W / ETVX16E9W
ETVZ12E6V / ETVZ16E6V / ETVZ12E9W / ETVZ16E9W



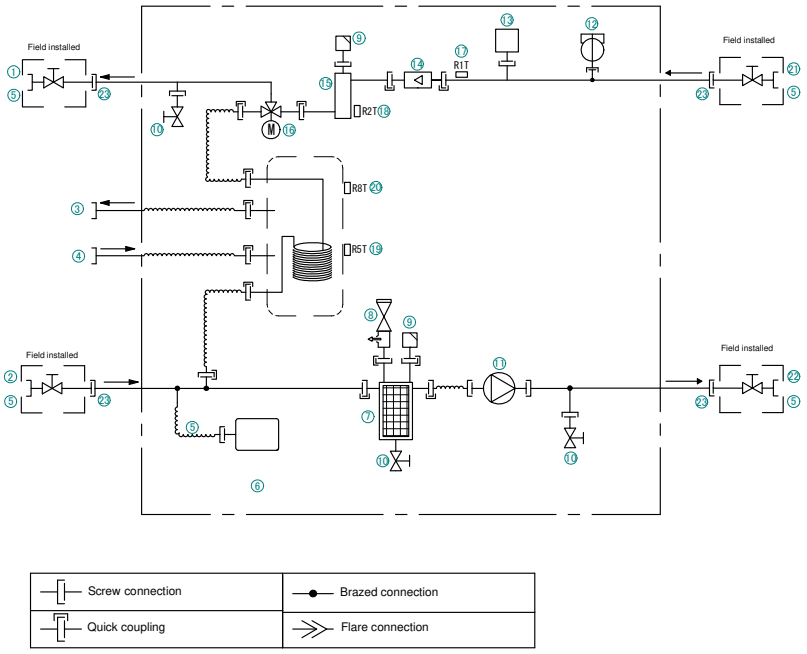
MODEL	X	Y	Z
EAV(H/X)16S18*	327	329	890
EAV(H/X)16S23*	327	329	1015
EAVZ16S18*	311	315	903
EAVZ16S23*	311	315	1028
ETV(H/X)16S18*	327	329	890
ETV(H/X)16S23*	327	329	1015
ETVZ16S18*	311	315	903
ETVZ16S23*	311	315	1028
ETV(H/X)12S18*	327	329	890
ETV(H/X)12S23*	327	329	1015
ETVZ12S18*	311	315	903
ETVZ12S18*	311	315	1028
ETVH12SU18*	327	329	890
ETVH12SU23*	327	329	1015
ETVH16SU18*	327	329	890
ETVH16SU23*	327	329	1015

3D121014D

8 Piping diagrams

8 - 1 Piping Diagrams

ETVH12E6V / ETVH16E6V / ETVH12UE6V / ETVH16UE6V / ETVH12E9W / ETVH16E9W
ETVX12E6V / ETVX16E6V / ETVX12E9W / ETVX16E9W



① Space heating - water OUT
② Space heating - water IN
③ Domestic hot water: hot water out ·3/4"·
④ Domestic hot water: cold water in ·3/4"·
⑤ Shut-off valve ·1"· (male-female)
⑥ Expansion vessel
⑦ Magnetic filter / dirt separator
⑧ Safety valve
⑨ Air purge
⑩ Drain valve
⑪ Pump
⑫ Flow switch
⑬ Space heating water pressure sensor
⑭ Flow sensor
⑮ Backup heater
⑯ 3-way valve (space heating/domestic hot water)
⑰ R1T – Inlet water thermistor
⑱ R2T – Outlet water backup heater thermistor
⑲ R5T – Tank thermistor
⑳ R8T – Tank thermistor

Field piping connections

㉑ Water in connection ·1"·
㉒ Water out connection ·1"·
㉓ Screw connection ·1"·

3D120611B

9 Wiring diagrams

9 - 1 Notes & Legend

ETVH16E6V / ETVH16UE6V / ETVH16E9W / ETVX16E6V / ETVX16E9W

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
X10M : Smartgrid terminal
: Earth wiring
: Field supply
① : Several wiring possibilities
: Option
: Not mounted in switch box
: Wiring depending on model
: PCB

Note 1 : Connection point of the power supply for the BUH should be foreseen outside the unit.

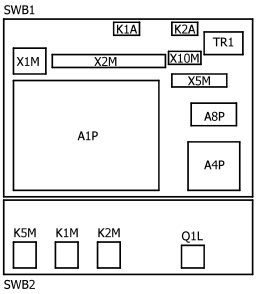
Backup heater power supply
- ☐ 6T1 (3~, 230V, 6kW)
- ☐ 6V3 (1N~, 230V, 6kW)
- ☐ 6WN/9WN (3N~, 400V, 6/9kW)

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
- ☐ Bizone mixing kit

Main LWT:
- ☐ On/OFF thermostat (wired)
- ☐ On/OFF thermostat (wireless)
  - ☐ Ext. thermistor
- ☐ Heat pump convector

Add LWT:
- ☐ On/OFF thermostat (wired)
- ☐ On/OFF thermostat (wireless)
  - ☐ Ext. thermistor
- ☐ Heat pump convector

POSITION IN SWITCH BOX



LEGEND

Translation can be found in the installation manual.

* : optional
\# : field supply

Part n°		Description
A1P		main PCB
A2P	*	On/OFF thermostat (PC=power circuit)
A3P	*	heat pump convector
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	*	Bizone mixing kit PCB
B2L		flow sensor
B1PW		water pressure sensor
CN* (A4P)	*	connector
DS1 (A8P)	*	dipswitch
E1H		backup heater element (1 kW)
E2H		backup heater element (2 kW)
E*P (A9P)		indication LED
F1B	#	overcurrent fuse backup 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
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
P1M		MMI display
PC (A15P)	*	power circuit
PHC1 (A4P)	*	optocoupler input circuit
Q1L		thermal protector backup 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, R8T		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	#	smartgrid 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
X10M	*	smartgrid power supply terminal strip
X*, X*A, J*, X*H*, X*Y		connector
X*M		terminal strip

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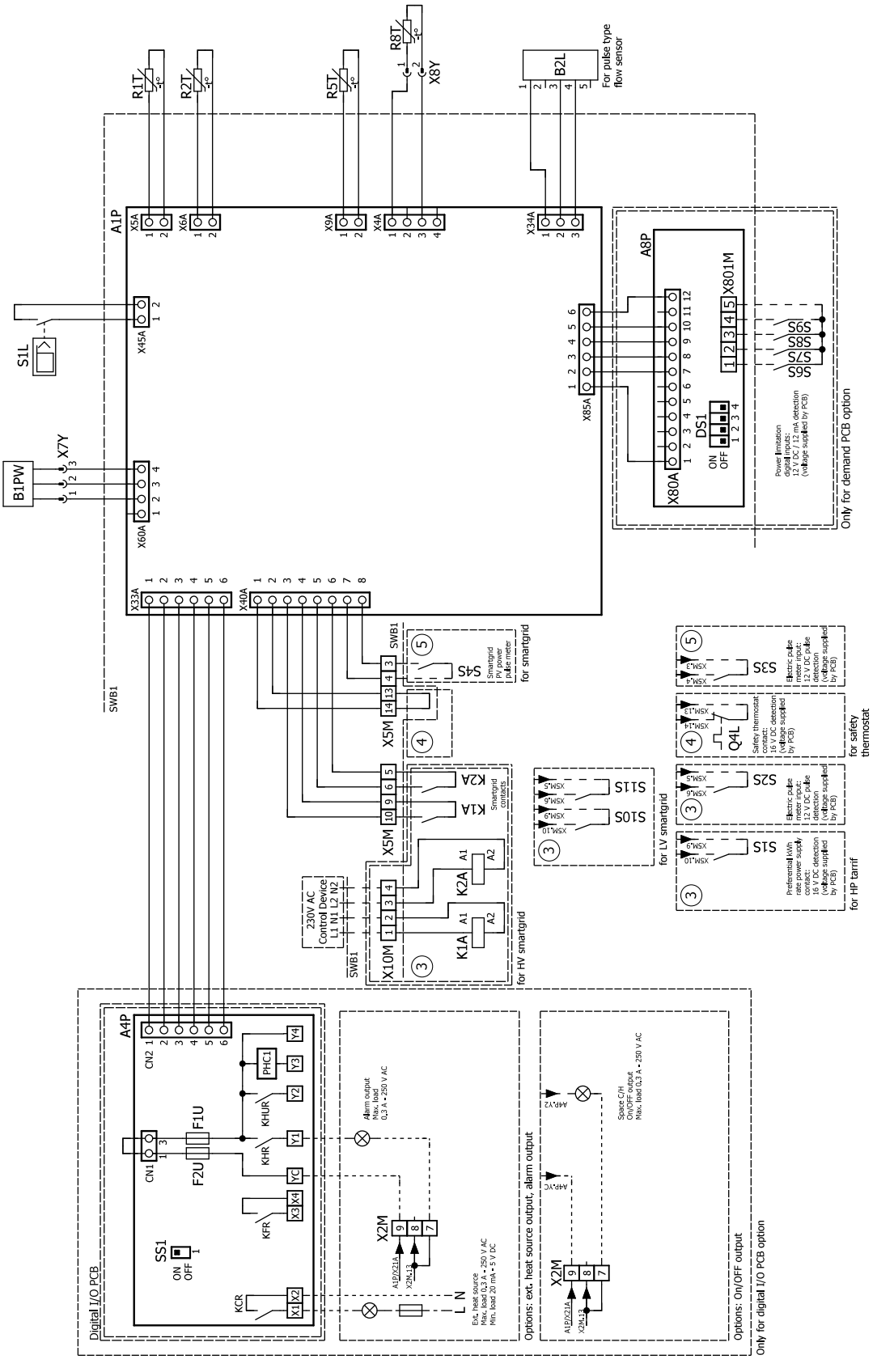
9 Wiring diagrams

9 - 2 Control Circuit

ETVH16E6V
ETVH16UE6V
ETVH16E9W
ETVX16E6V
ETVX16E9W



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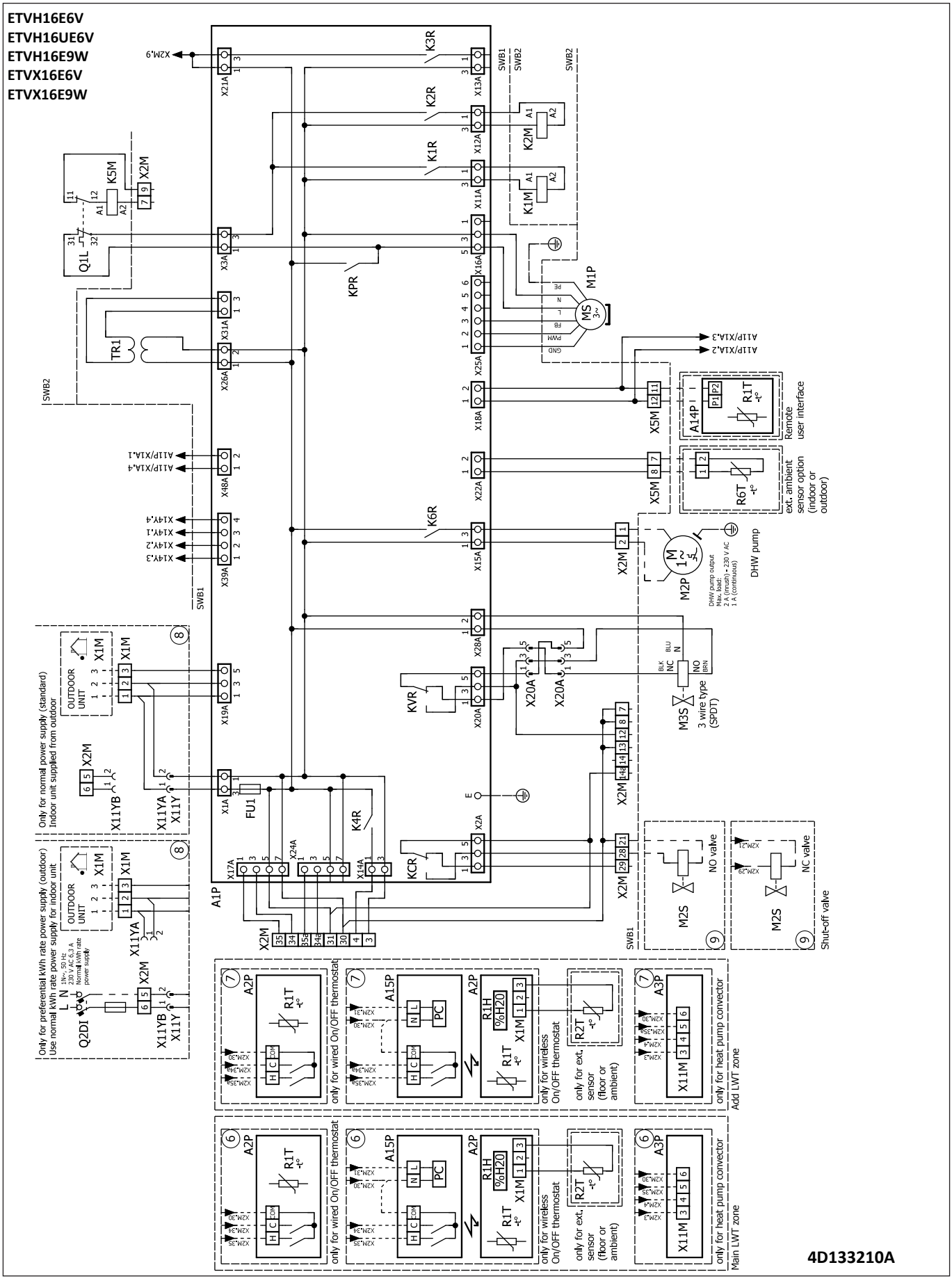
9 Wiring diagrams

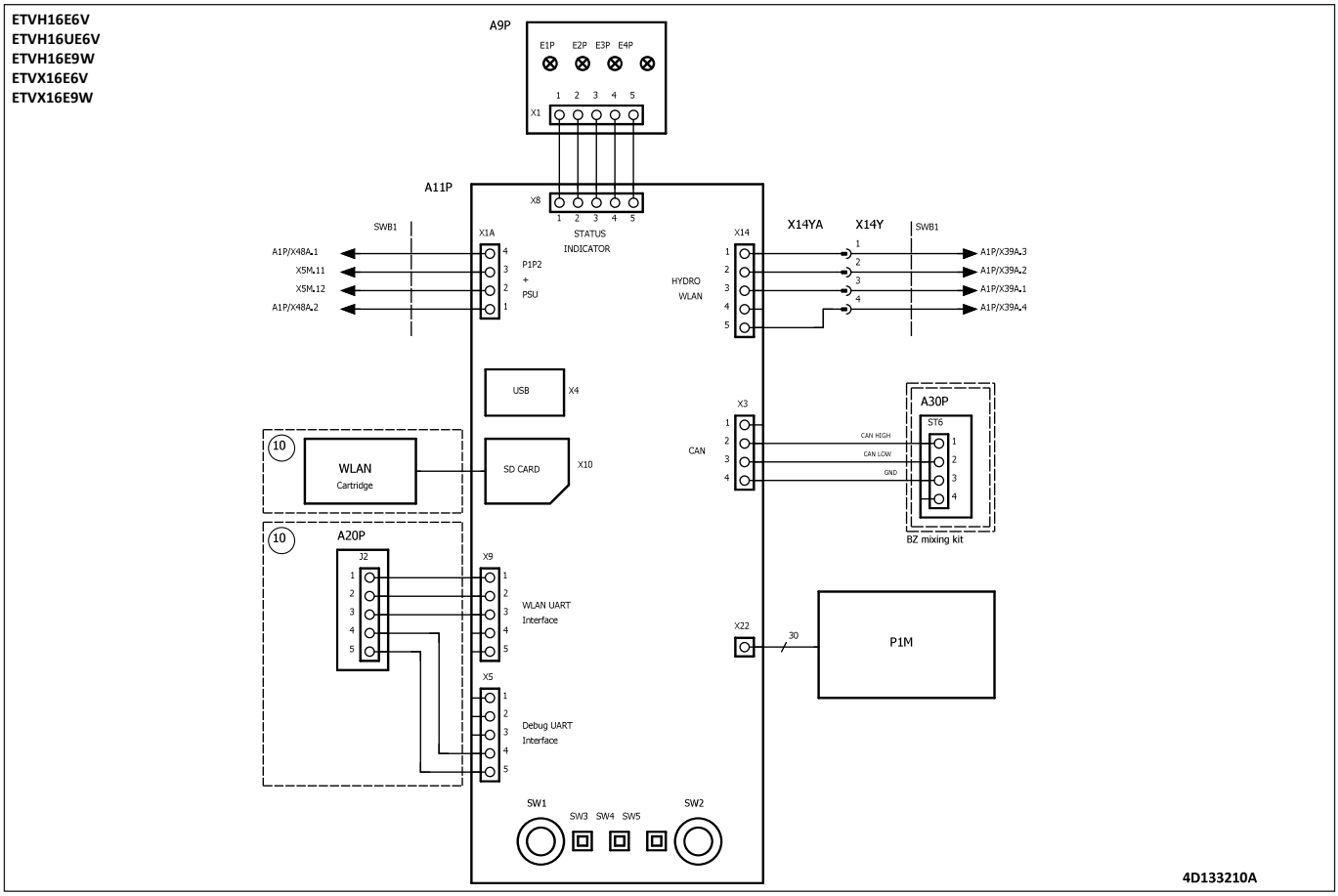
9 - 2 Control Circuit



9 Wiring diagrams

9 - 2 Control Circuit

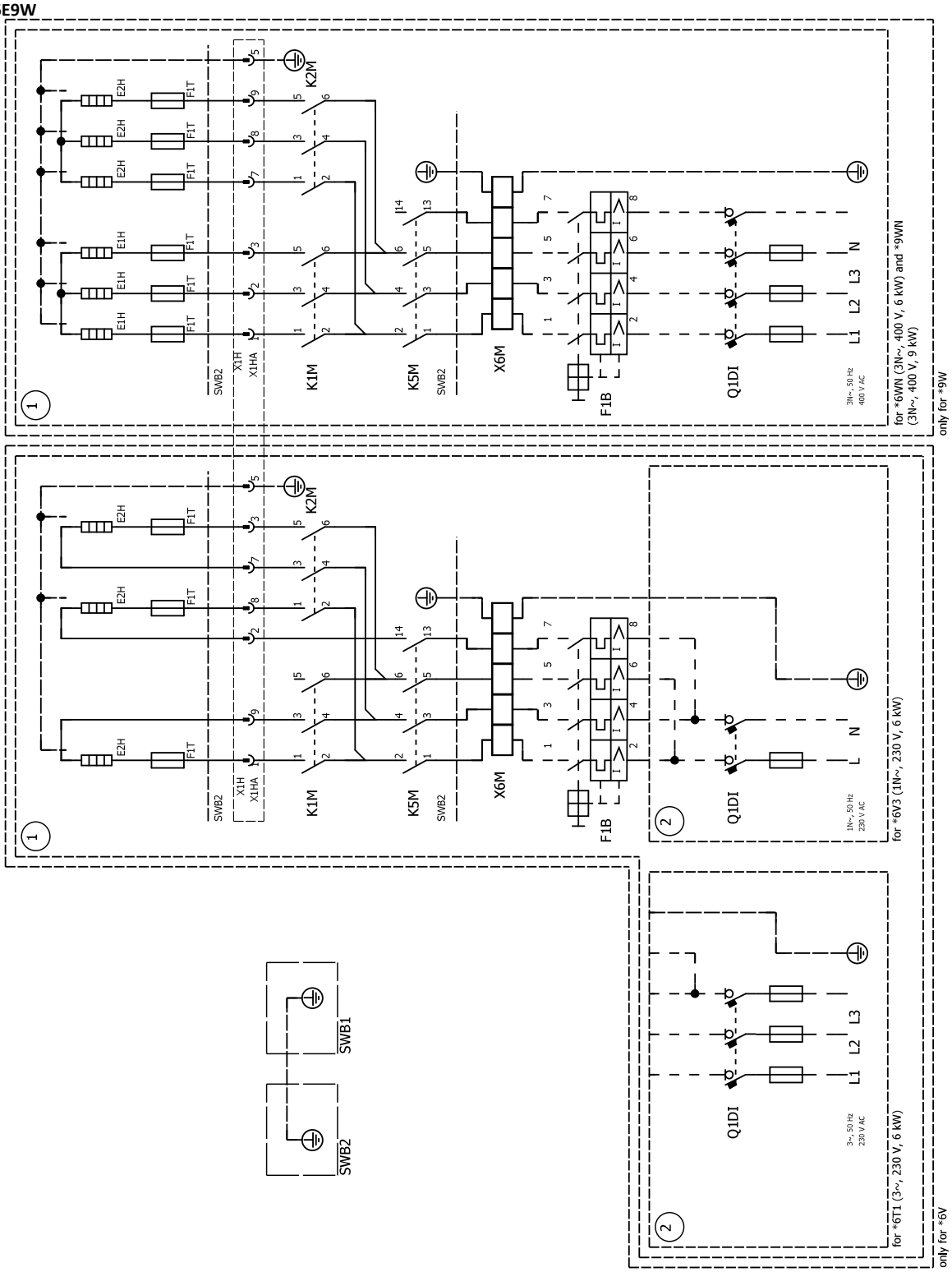
ETVH16E6V
ETVH16UE6V
ETVH16E9W
ETVX16E6V
ETVX16E9W



9 Wiring diagrams

9 - 3 Power Supply, Back-up Heater

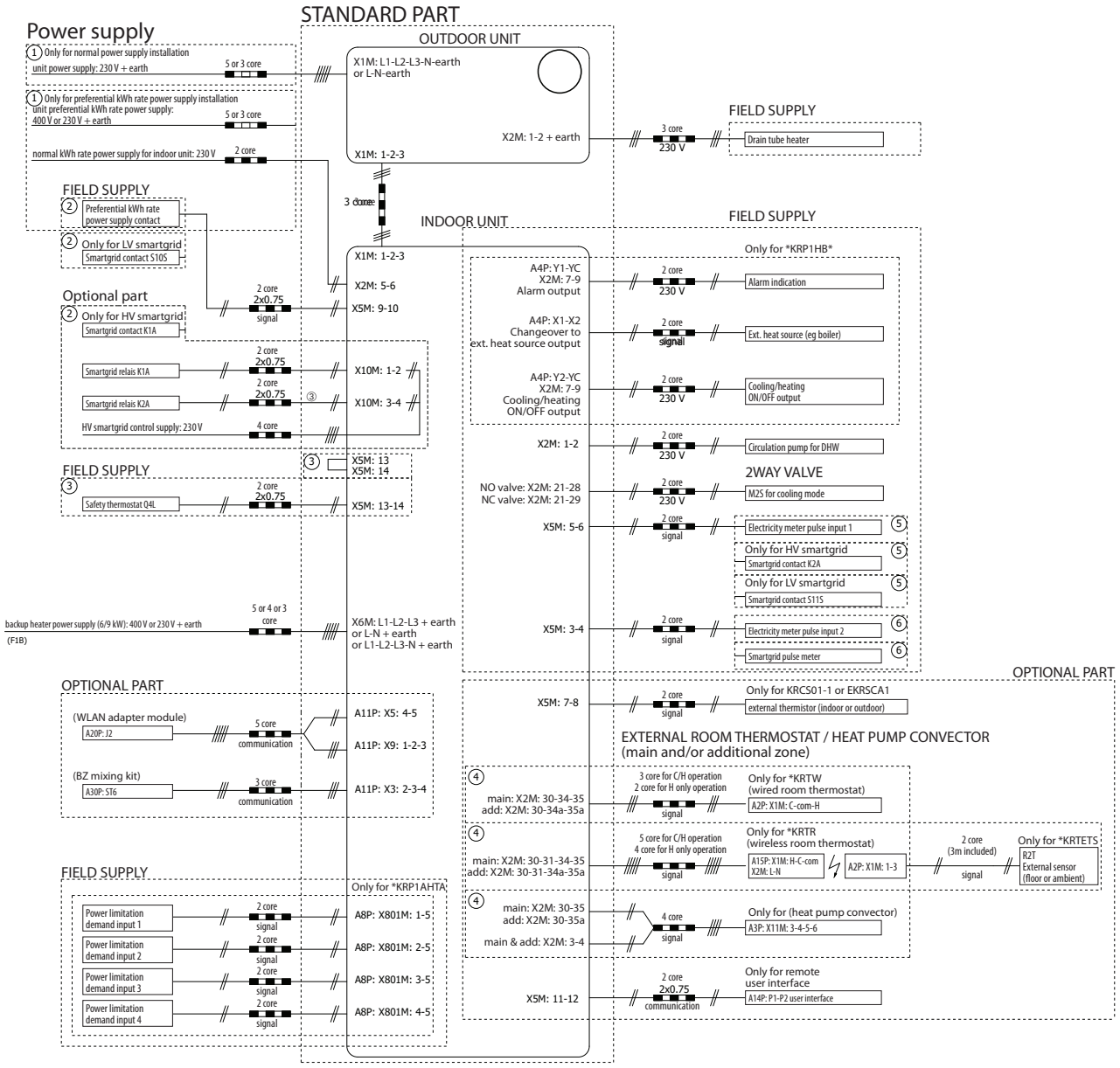
ETVH16E6V
ETVH16UE6V
ETVH16E9W
ETVX16E6V
ETVX16E9W



10 External connection diagrams

10 - 1 External Connection Diagrams

ETVH16E6V
ETVH16UE6V
ETVH16E9W
ETVX16E6V
ETVX16E9W



NOTE

- In case of signal cable: keep minimum distance to power cables > 5 cm

For more details please check unit wiring

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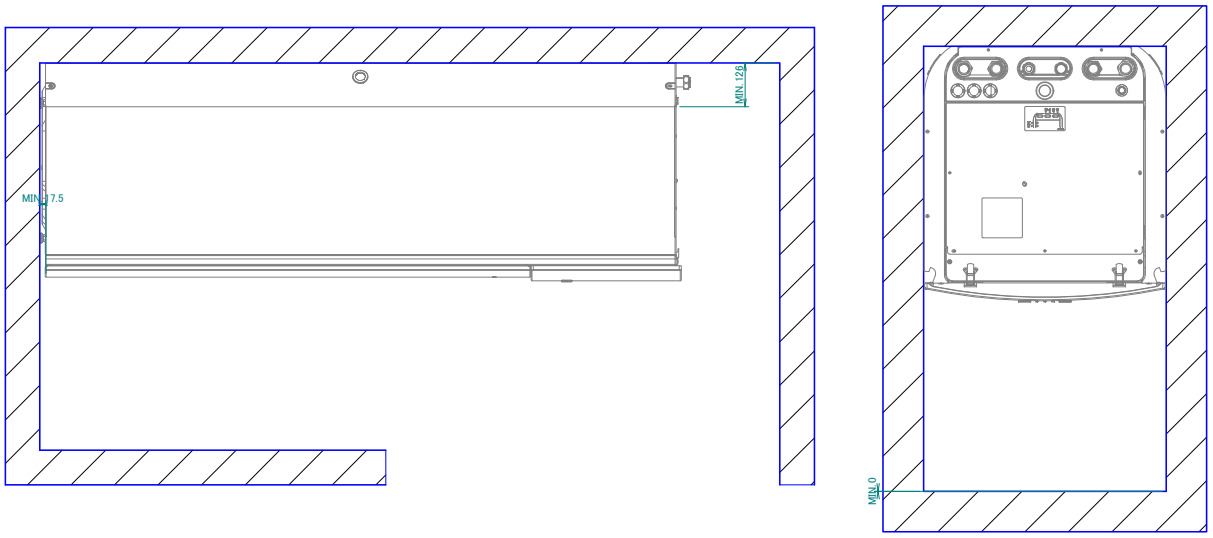
11 Installation

11 - 1 Installation Method

ETVH12E6V / ETVH16E6V
ETVH12E9W / ETVH16E9W
ETVX12E6V / ETVX16E6V
ETVX12E9W / ETVX16E9W



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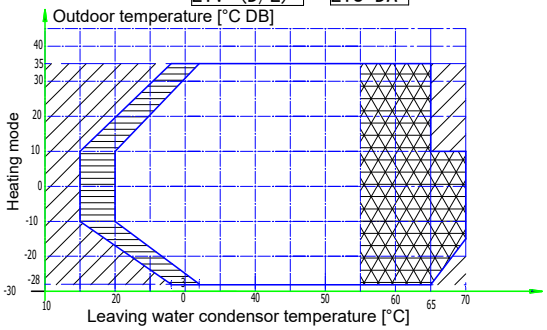
12 Operation range

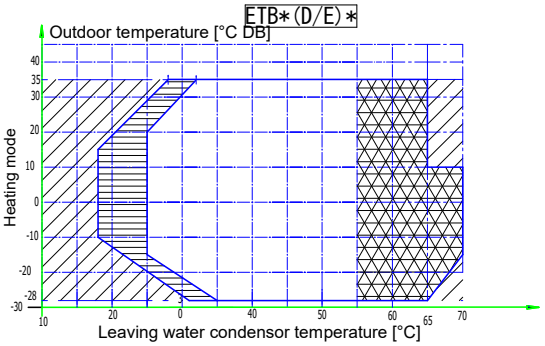
12 - 1 Operation Range

ETBH16E6V
ETBH16E9W
ETBX16E6V
ETBX16E9W
ETVH16E6V
ETVH16UE6V
ETVH16E9W
ETVX16E6V
ETVX16E9W
ETVZ16E6V
ETVZ16E9W

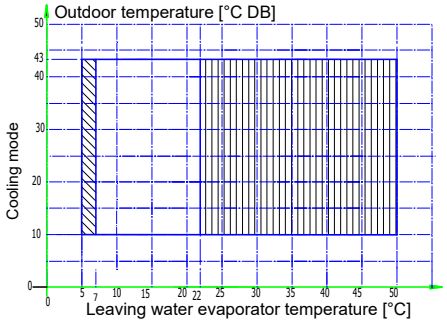
ETV*(D/E)* + ETS*DA*



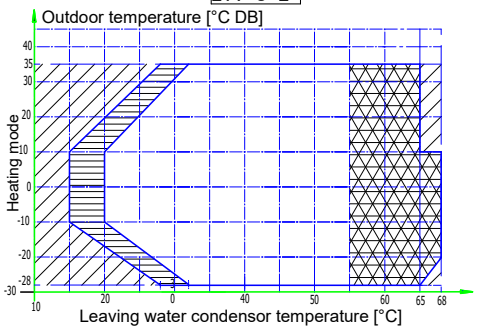
ETB*(D/E)*



ETV*(D/E)* + ETB*(D/E)* + ETS*DA*



ETV*U*E*



Legend
- Backup heater only operation
- No outdoor unit operation
- Outdoor unit operation if setpoint ≥ ·20·
- Pull-down area
- Outdoor unit operation if setpoint >·55·°C and ΔT = ·10·°C (ΔT = outlet temperature – inlet temperature)
- In case valve kit ·AFVALVE1· is part of the system, then the minimum setpoint is ·7·°C.

Remark
In restricted power supply mode, the outdoor unit, booster heater and backup heater can only operate separately.

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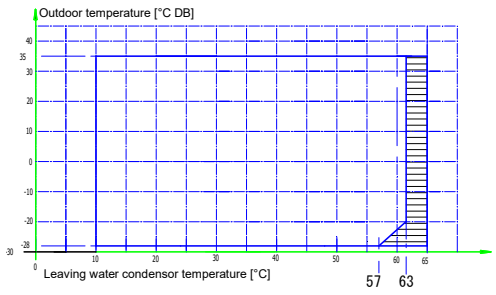
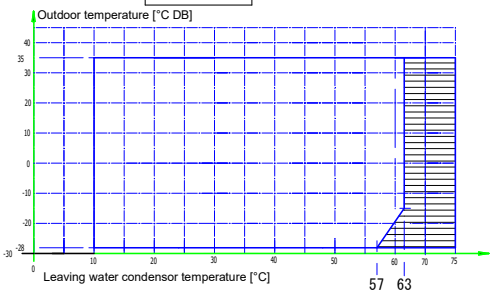
ETBH16E6V
ETBH16E9W
ETBX16E6V
ETBX16E9W
ETVH16E6V
ETVH16UE6V
ETVH16E9W
ETVX16E6V
ETVX16E9W
ETVZ16E6V
ETVZ16E9W

Domestic hot water heating mode

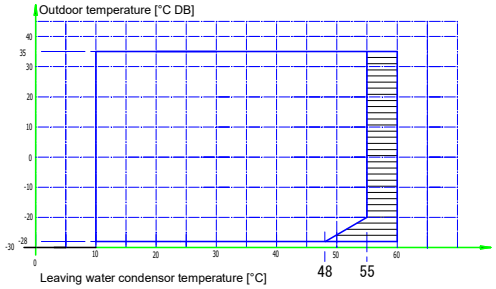
ETV*



EKHWP* + ETS* + EKHWS*200* EKHWS*250* EKHWS*300* + Third-party with identical specifications as ·EKHWS*200*



EKHWS*150*
EKHWS*180*
+
Third-party with identical specifications as ·EKHWS*150*·



Legend
- Backup heater only operation (or booster heater, if part of the system)

Remark
1. In restricted power supply mode (·EKHW*· only), the outdoor unit, booster heater and backup heater can only operate separately.
2. Third-party with identical specifications as ·EHKWS*150*·
   Coil surface >·1.05·m2
   Tank thermistor: top part of heat pump coil. Small overlap.
3. Third-party with identical specifications as ·EKHWS*200*·
   Coil surface >·1.8·m2
   Tank thermistor: top part of heat pump coil. Small overlap.

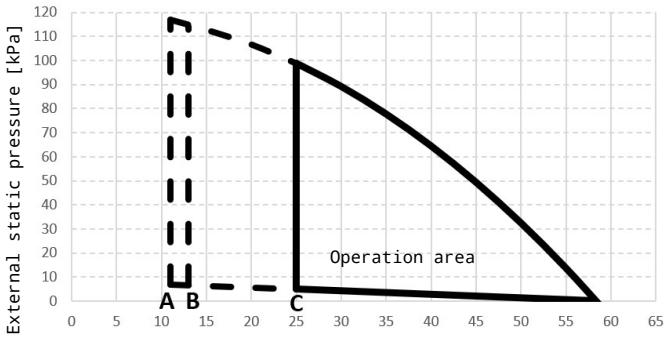
3D125789B

13 Hydraulic performance

13 - 1 Static Pressure Drop Unit

ETVH16E6V
ETVH16UE6V
ETVH16E9W
ETVX16E6V
ETVX16E9W

ETV(H/X)16S*(D/E)A*



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.
(Not in startup, no BUH operation, no defrost operation.)

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.

4D124954A

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