

Heating

Technical Data

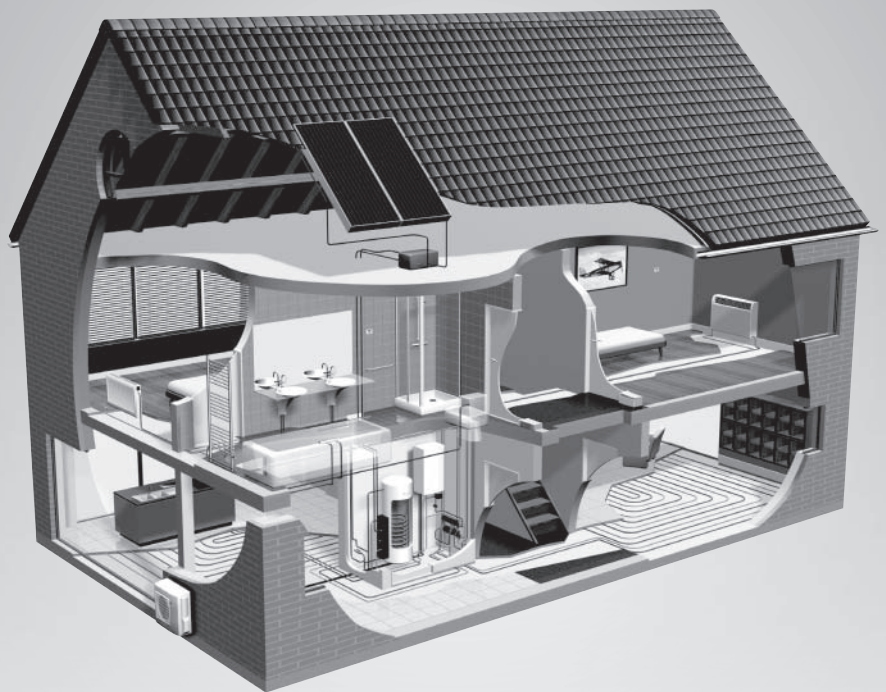
Daikin Altherma



Heating

Technical Data

Daikin Altherma



Daikin Altherma

I Daikin Altherma High Temperature

Outdoor unit with bottom plate heater ..	1	ERRQ-AV1 9	1
	2	ERRQ-AY1 21	2
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	4	ERSQ-AY1 45	4
Indoor unit	5	EKBRD-AV1 57	5
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II Daikin Altherma Low Temperature

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	13	EDLQ-B6W1 223	13
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III Extra Comfort

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Daikin Altherma High Temperature

I Daikin Altherma High Temperature

Outdoor unit with bottom plate heater ..	1	ERRQ-AV1	9
	2	ERRQ-AY1	21
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1 Features

- High temperature application: up to 80°C without electric heater
- Single phase large capacity outdoor unit with bottom plate heater
- Operation of unit guaranteed down to -20°C
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



1

1

2 Specifications

2-1 Nominal Capacity and Nominal Input				ERRQ011AAV1	ERRQ014AAV1	ERRQ016AAV1
For combination indoor units + outdoor units	Indoor Units			EKHBRD011AAV1	EKHBRD014AAV1	EKHBRD016AAV1
Condition 1	Heating capacity	Nominal	kW	11	14	16
	Heating PI	Nominal	kW	3.57	4.66	5.57
	COP	Nominal			3.08	3.00	2.88
Condition 2	Heating capacity	Nominal	kW	11	14	16
	Heating PI	Nominal	kW	2.61	3.55	4.31
	COP	Nominal			4.22	3.94	3.72
Condition 3	Heating capacity	Nominal	kW	11	14	16
	Heating PI	Nominal	kW	4.40	5.65	6.65
	COP	Nominal			2.50	2.48	2.41
Notes				Condition 1: EW: 55; LW: 65; dT: 10; ambient conditions: 7DB/6WB		
				Condition 2: EW: 30; LW: 35; dT: 5; ambient conditions: 7DB/6WB		
				Condition 3: EW: 70; LW: 80; dT: 10; ambient conditions: 7DB/6WB		

2-2 Technical Specifications				ERRQ011AAV1	ERRQ014AAV1	ERRQ016AAV1	
Casing	Colour			Daikin white			
	Material			Painted galvanised steel plate			
Dimensions	Unit	Height	mm	1,345			
		Width	mm	900	900	900	
		Depth	mm	320	320	320	
	Packing	Height	mm	1,524			
		Width	mm	980	980	980	
		Depth	mm	420	420	420	
Weight	Unit		kg	120	120	120	
	Packed Unit		kg	130	130	130	
Packing	Material			Wood			
				EPS			
				Cardboard			
Packing	Weight		kg	8	8	8	
	Heat Exchanger			Hi-XSS			
Heat Exchanger	Dimensions	Length	mm	857	857	857	
		Nr of Rows			2	2	2
		Fin Pitch	mm	2	2	2	
		Nr of Passes			10	10	10
		Face Area	m ²	1.131	1.131	1.131	
		Nr of Stages			60	60	60
	Tube type				Non-symmetric waffle louvre		
Fin	Type						
	Treatment	Corrosion resistant					
Fan	Type			Propeller			
	Quantity			2	2	2	
	Discharge direction			Horizontal			
	Motor	Quantity			2	2	2
		Model		Brushless DC motor			
		Output	W	70	70	70	
Drive		Direct drive					
Compressor	Quantity			1	1	1	
	Motor	Type	Hermetically sealed scroll compressor				
Starting Method		Direct on line					
Motor	Crankcase Heater	Quantity		1	1	1	
		Output	W	33	33	33	
Operation Range	Heating	Min	°CWB	-20	-20	-20	
		Max	°CWB	20	20	20	
	Domestic hot water	Min	°CDB	-20	-20	-20	
		Max	°CDB	35	35	35	
Sound Level (nominal)	Heating	Sound Power	dBA	68	69	71	
		Sound Pressure	dBA	52	53	55	

2 Specifications

2-2 Technical Specifications				ERRQ011AAV1	ERRQ014AAV1	ERRQ016AAV1
Refrigerant	Type			R-410A		
	Charge	kg		4.5	4.5	4.5
	Control			Expansion valve(electronic type)		
	Nr of Circuits			1	1	1
Refrigerant Oil	Type			Daphne FVC68D		
	Charged Volume	l		1.5	1.5	1.5
Piping connections	Liquid (OD)	Quantity		1	1	1
		Type		Flare connection		
		Diameter (OD)	mm	9,52		
	Gas	Quantity		1	1	1
		Type		Flare connection		
		Diameter (OD)	mm	15,9		
	Drain	Quantity		3	3	3
		Diameter (OD)	mm	26x3		
	Piping Length	Minimum	m	3	3	3
		Maximum	m	50	50	50
		Equivalent	m	63	63	63
		Chargeless	m	10	10	10
	Additional Refrigerant Charge		kg/m	See installation manual		
	Installation height difference	Maximum	m	30	30	30
Heat Insulation			Both liquid and gas pipes			
Defrost Method				Reverse cycle		
Defrost Control				Sensor for outdoor heat exchanger temperature		
Capacity Control Method				Inverter controlled		
Safety Devices				High pressure switch		
				Fan motor thermal protector		
				Inverter overload protector		
				PC board fuse		
Standard Accessories	Item			Installation manual		
	Quantity			1	1	1
High pressure side	Design pressure	bar	40	40	40	
Notes				See operation range drawing		

2-3 Electrical Specifications				ERRQ011AAV1	ERRQ014AAV1	ERRQ016AAV1
Power Supply	Name			V1		
	Phase			1~		
	Frequency	Hz		50	50	50
	Voltage			220-440		
	Voltage range	Minimum	V	198		
Maximum		V	254			
Current	Minimum Ssc value		kVa	Equipment complying with EN/IEC 61000-S-12 (1)		
	Maximum running Current	Heating	A	27	27	27
	Recomended fuses		A	25	25	25
Wiring connections	For Power Supply	Quantity		2G		
		Remark		Select diameter and type according to national and local regulations		
	For connection with indoor	Quantity		2	2	2
		Remark		F1+F2		
Power Supply Intake				Both indoor and outdoor unit		
Notes				(1) European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current > 16A smaller than or equal to 75A per phase.		
				In accordance with EN/IEC 61000-3-11 (1), it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) smaller than or equal to Zmax.		
				SSC means short-circuit power		
				(1) European/international technical standard setting the limits for voltage changers, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated smaller than or equal to 75A.		

3 Capacity tables

3 - 1 Heating capacity tables

ERRQ-AAV1

Capacity table

Peak	Ta[°CDB]	LW [°C]		LW [°C]		LW [°C]		LW [°C]		LW [°C]	
		45		55		65		75		80	
		HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EKHBRD 011	-20	11,0	5,07	11,0	5,10	11,0	5,55	11,0	6,04	11,0	6,35
	-15	11,0	4,82	11,0	4,91	11,0	5,39	11,0	5,98	11,0	6,32
	-7	11,0	4,11	11,0	4,24	11,0	4,71	11,0	5,31	11,0	5,67
	-2	11,0	3,66	11,0	3,80	11,0	4,24	11,0	4,81	11,0	5,15
	2	11,0	3,35	11,0	3,50	11,0	3,93	11,0	4,47	11,0	4,80
	7	11,0	3,03	11,0	3,18	11,0	3,57	11,0	4,12	11,0	4,40
	12	11,0	2,75	11,0	2,90	11,0	3,31	11,0	3,82	11,0	4,13
15	11,0	2,61	11,0	2,77	11,0	3,17	11,0	3,67	11,0	3,96	
EKHBRD 014	-20	12,2	5,59	12,1	5,57	12,0	5,86	12,1	6,56	12,0	6,81
	-15	13,5	5,80	13,4	5,84	13,4	6,20	13,5	6,97	13,3	7,29
	-7	14,0	5,41	14,0	5,53	14,0	5,98	14,0	6,76	14,0	7,20
	-2	14,0	4,92	14,0	5,07	14,0	5,50	14,0	6,30	14,0	6,72
	2	14,0	4,50	14,0	4,66	14,0	5,09	14,0	5,87	14,0	6,27
	7	14,0	4,07	14,0	4,23	14,0	4,66	14,0	5,42	14,0	5,65
	12	14,0	3,72	14,0	3,91	14,0	4,34	14,0	5,09	14,0	5,47
15	14,0	3,55	14,0	3,73	14,0	4,16	14,0	4,89	14,0	5,27	
EKHBRD 016	-20	12,6	5,85	12,5	5,80	12,5	6,15	12,1	6,50	11,9	6,76
	-15	14,1	6,14	14,1	6,14	14,0	6,52	13,5	6,92	13,3	7,24
	-7	15,9	6,24	15,9	6,34	15,8	6,78	15,6	7,50	15,3	7,81
	-2	16,0	5,82	16,0	5,97	16,0	6,48	16,0	7,33	15,9	7,69
	2	16,0	5,39	16,0	5,55	16,0	6,08	16,0	6,92	16,0	7,33
	7	16,0	4,83	16,0	5,01	16,0	5,57	16,0	6,35	16,0	6,65
	12	16,0	4,48	16,0	4,66	16,0	5,17	16,0	5,98	16,0	6,40
15	16,0	4,29	16,0	4,47	16,0	4,99	16,0	5,78	16,0	6,20	
		EW = 40°C		EW = 45°C		EW = 55°C		EW = 65°C		EW = 70°C	
		ΔT = 5°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C	

Symbols

- HC Heating capacity [kW]
- PI Power input [kW]
- LW Leaving water temperature
- EW Entering water temperature

Conditions

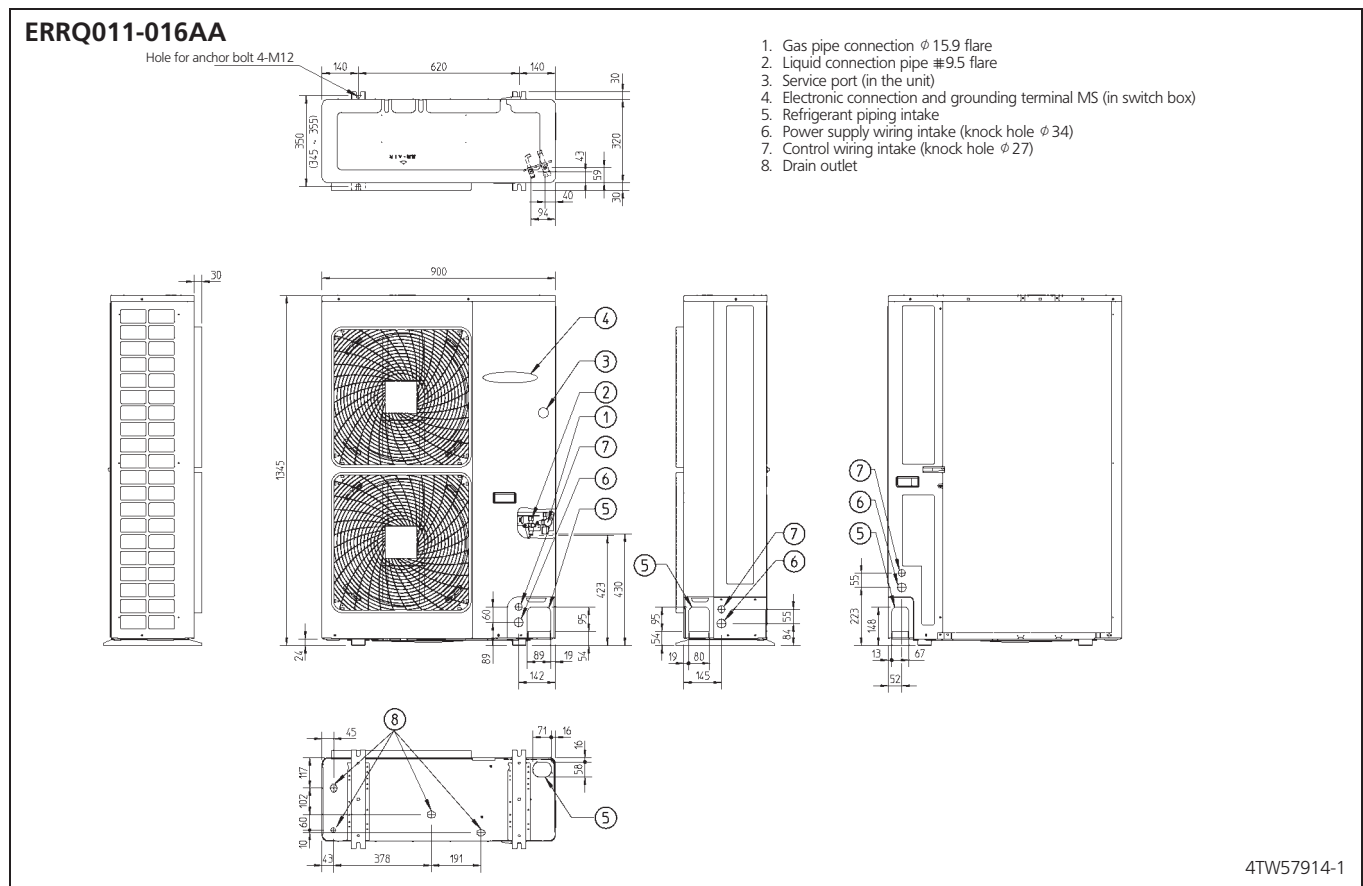
- ΔT (Leaving water temperature - Entering water temperature)
- Piping length R410A Refrigerant piping length = 5m
- No pump power input is included
- if Ta < 3°C and unit has bottom plate heater, 95 W has to be added to PI value
- Ta < 0°C: RH=75%
- Ta > 0°C: RH=85%

flowrate [l/min]	*011*	*014*	*016*
ΔT = 15°C	10,5	13,4	15,3
ΔT = 10°C	15,8	20,1	22,9
ΔT = 5°C	31,5	40,1	45,9

Integrated	Ta[°CDB]	LW [°C]		LW [°C]		LW [°C]		LW [°C]		LW [°C]	
		45		55		65		75		80	
		HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EKHBRD 011	-20	9,18	4,31	9,23	4,34	9,30	4,72	9,39	5,18	9,43	5,49
	-15	9,71	4,57	9,77	4,65	9,84	5,11	10,0	5,69	10,0	6,05
	-7	9,54	4,06	9,60	4,19	9,69	4,65	9,86	5,27	9,91	5,65
	-2	9,48	3,59	9,54	3,72	9,62	4,16	9,75	4,74	9,79	5,09
	2	9,47	3,31	9,53	3,45	9,62	3,88	9,76	4,42	9,80	4,75
	7	11,0	3,03	11,0	3,18	11,0	3,57	11,0	4,12	11,0	4,40
	12	11,0	2,75	11,0	2,90	11,0	3,31	11,0	3,82	11,0	4,13
15	11,0	2,61	11,0	2,77	11,0	3,17	11,0	3,67	11,0	3,96	
EKHBRD 014	-20	9,82	4,31	9,92	4,57	10,0	4,86	10,1	5,40	10,1	5,76
	-15	10,9	4,80	10,9	4,90	11,0	5,23	11,1	5,86	11,2	6,24
	-7	11,7	5,00	11,8	5,12	11,9	5,53	12,1	6,31	12,1	6,73
	-2	11,8	4,73	11,8	4,87	12,0	5,31	12,2	6,12	12,2	6,54
	2	11,8	4,41	11,8	4,56	11,9	4,99	12,1	5,78	12,2	6,19
	7	14,0	4,07	14,0	4,23	14,0	4,66	14,0	5,42	14,0	5,65
	12	14,0	3,72	14,0	3,91	14,0	4,34	14,0	5,09	14,0	5,47
15	14,0	3,55	14,0	3,73	14,0	4,16	14,0	4,89	14,0	5,27	
EKHBRD 016	-20	10,2	4,83	10,3	4,83	10,4	5,14	10,1	5,50	10,0	5,71
	-15	11,3	5,05	11,3	5,07	11,4	5,43	11,2	5,84	11,1	6,09
	-7	12,5	5,34	12,6	5,43	12,7	5,88	12,6	6,46	12,6	6,76
	-2	13,0	5,31	13,1	5,44	13,3	5,93	13,3	6,64	13,3	6,99
	2	13,2	5,08	13,3	5,29	13,5	5,80	13,6	6,59	13,6	6,99
	7	16,0	4,83	16,0	5,01	16,0	5,57	16,0	6,35	16,0	6,65
	12	16,0	4,48	16,0	4,66	16,0	5,17	16,0	5,98	16,0	6,40
15	16,0	4,29	16,0	4,47	16,0	4,99	16,0	5,78	16,0	6,20	
		EW = 40°C		EW = 45°C		EW = 55°C		EW = 65°C		EW = 70°C	
		ΔT = 5°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C	

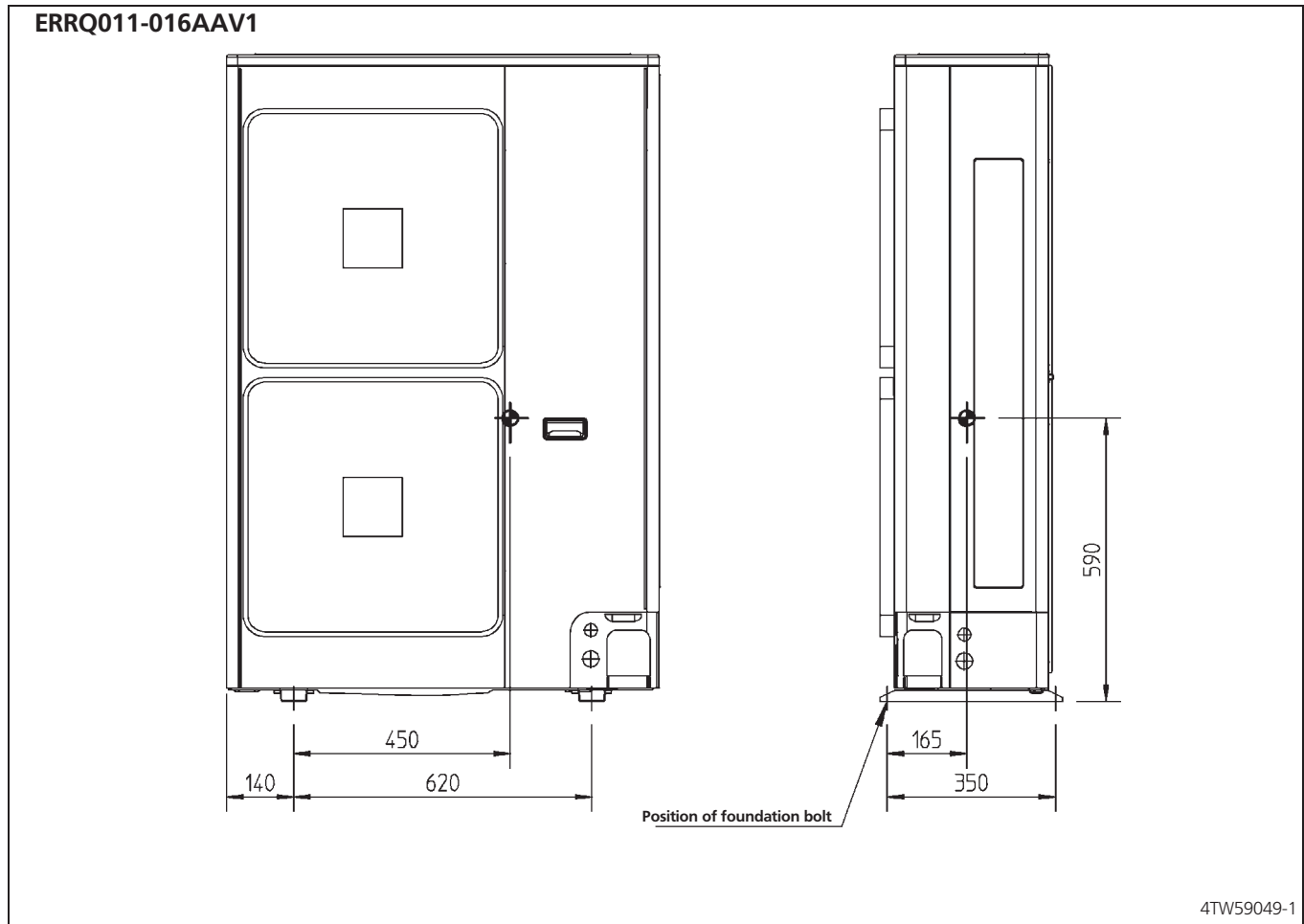
4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing



4 Dimensional drawing & centre of gravity

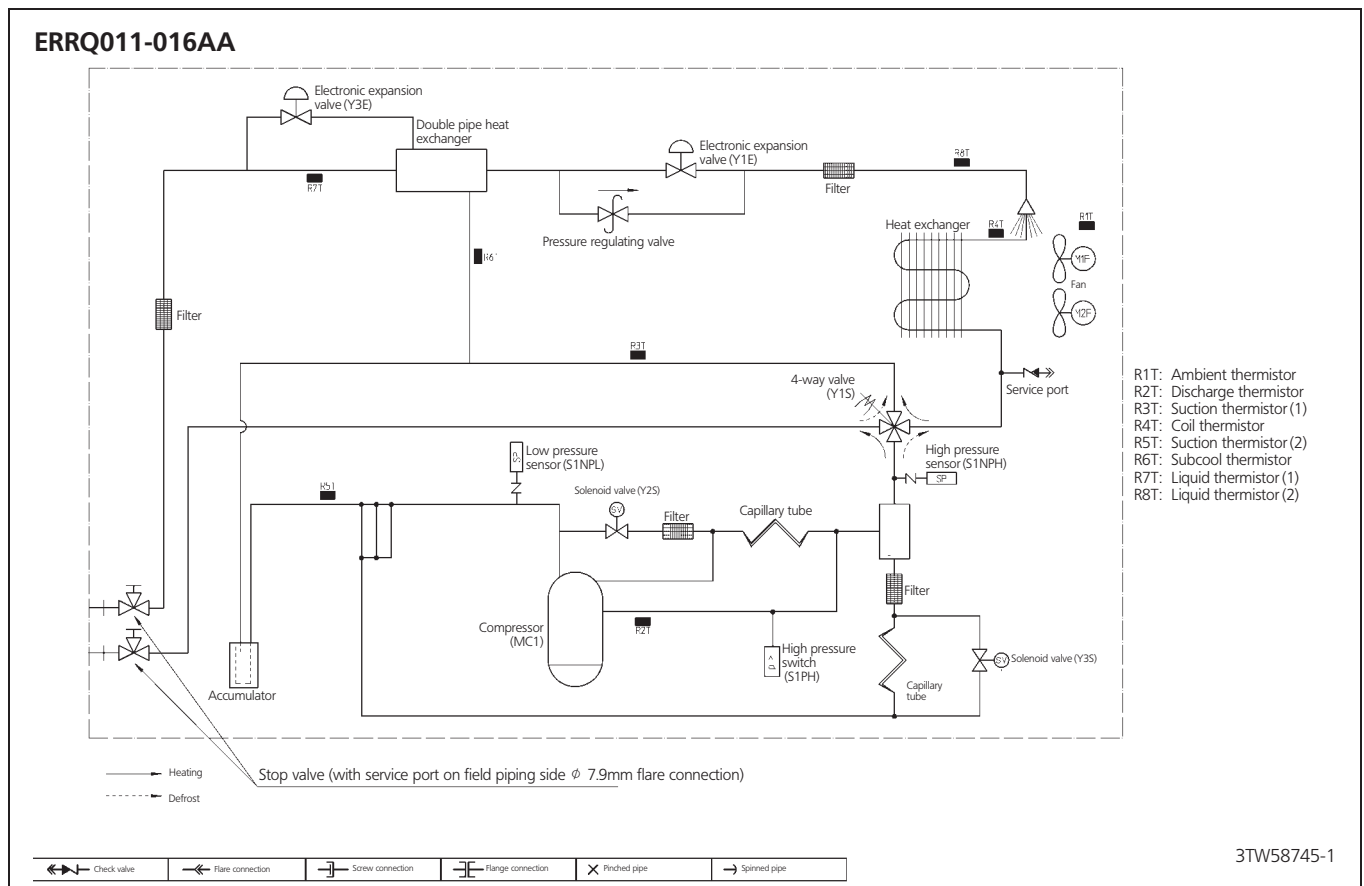
4 - 2 Centre of gravity



5 Piping diagram

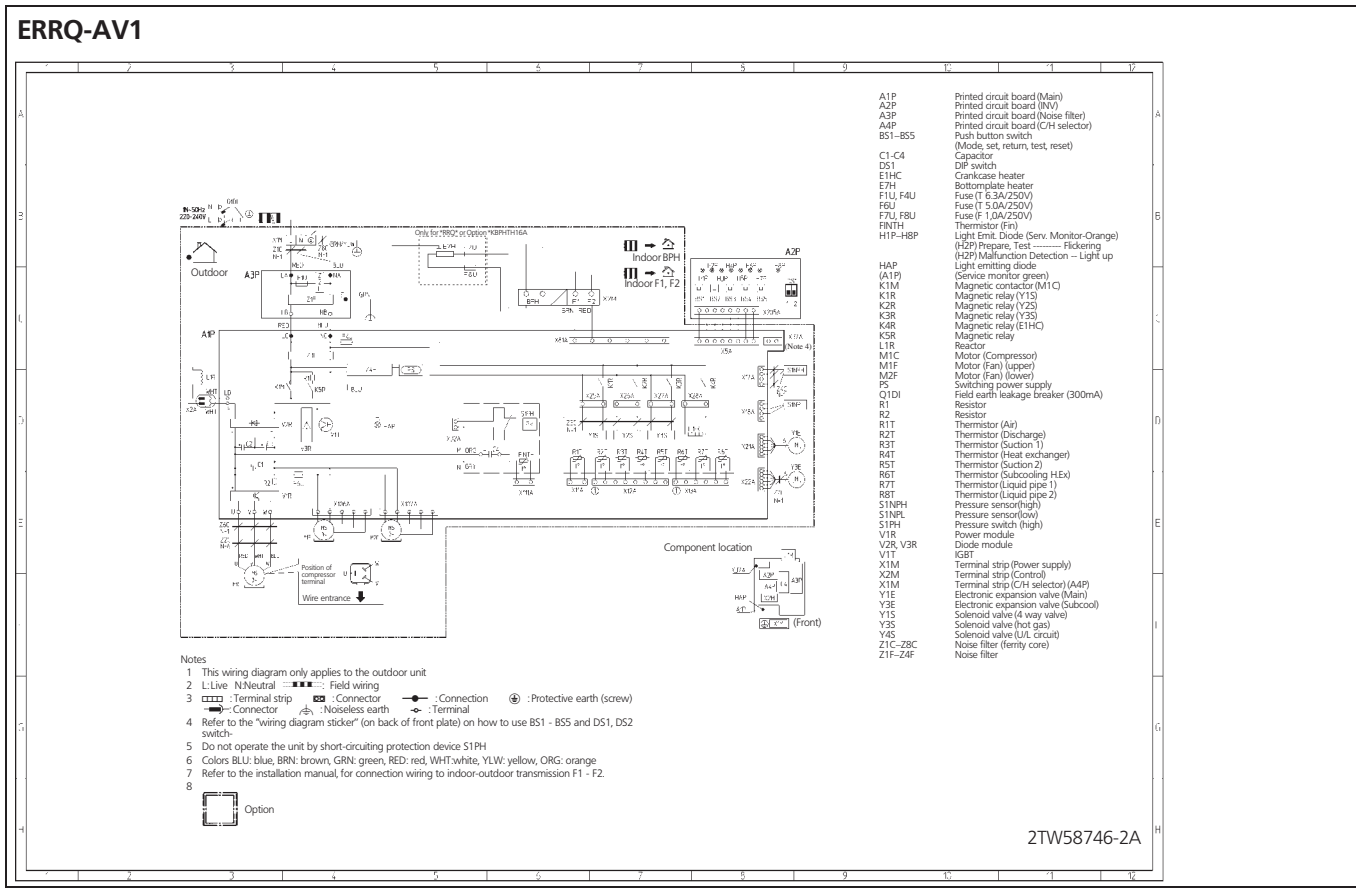
5 - 1 Piping Diagram

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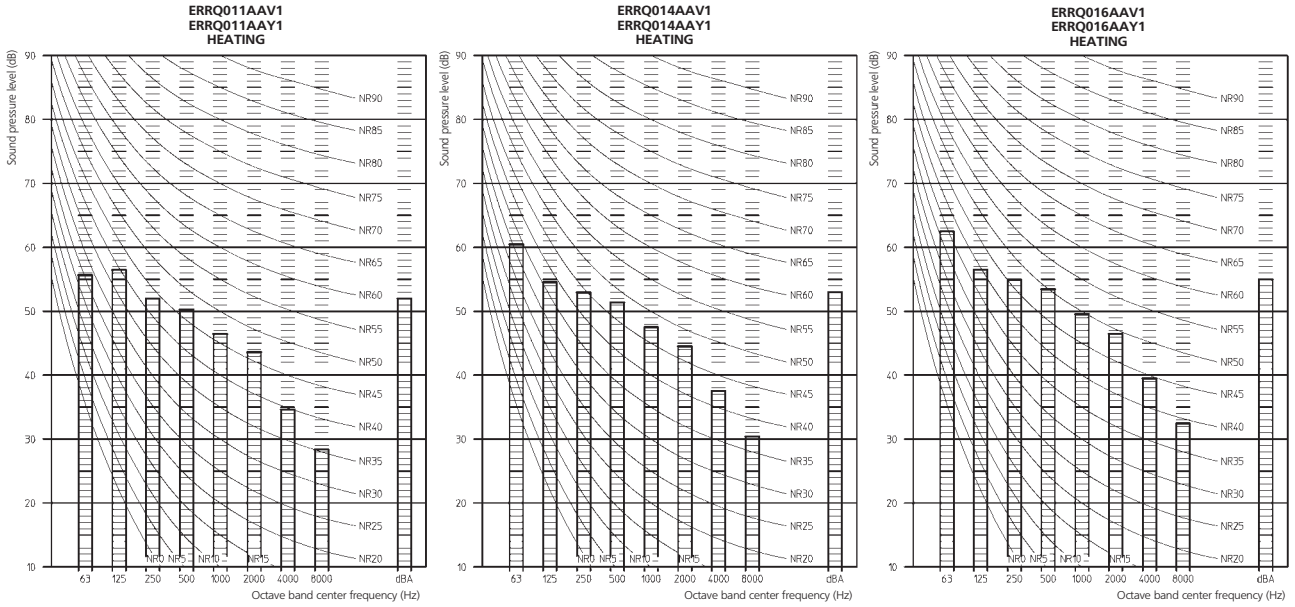
6 Wiring diagram

6 - 1 Wiring diagram



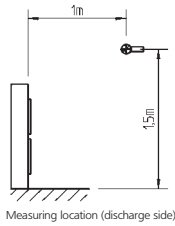
7 Sound data

7 - 1 Sound pressure spectrum



Notes:

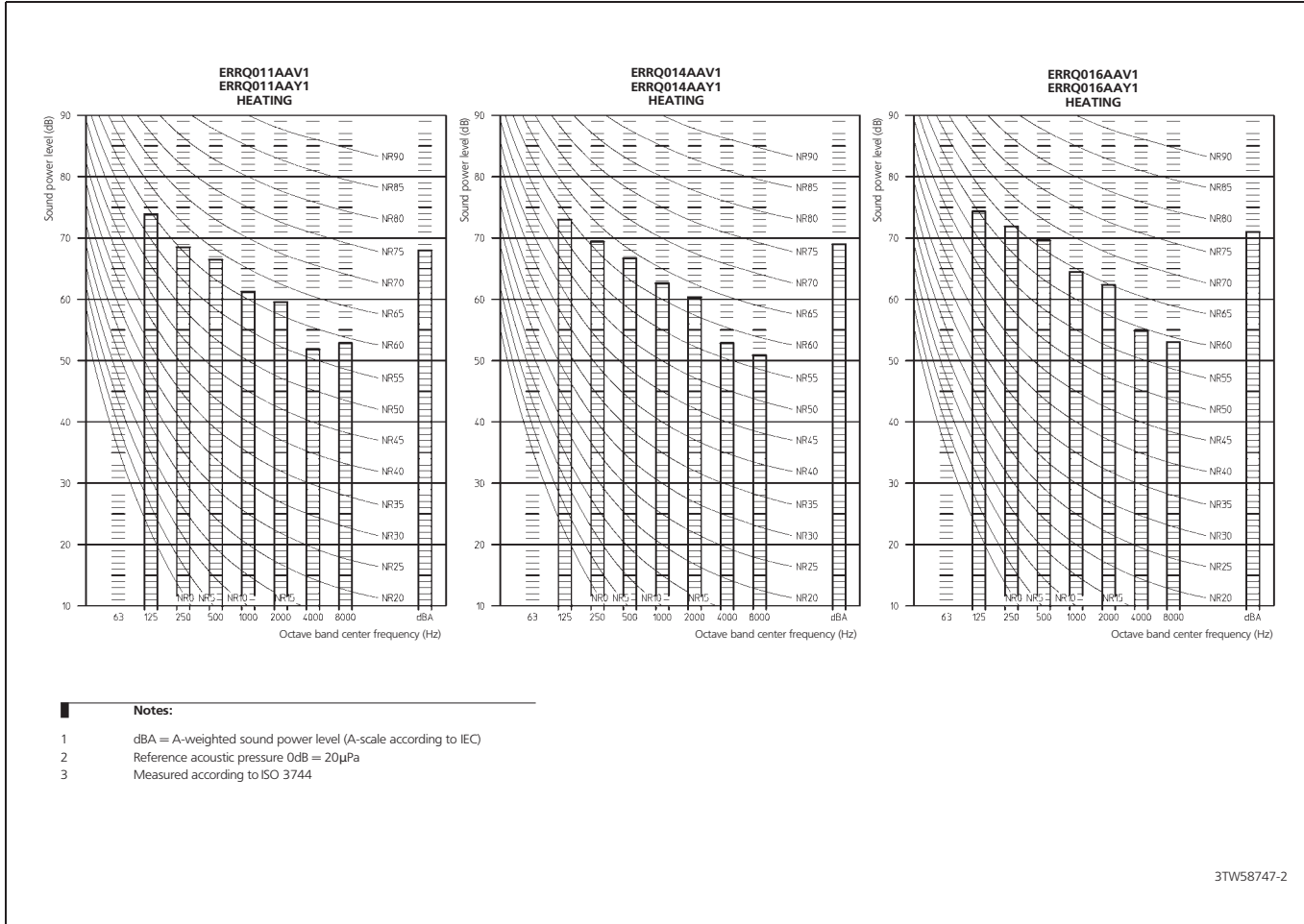
- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure $0\text{dB} = 20\mu\text{Pa}$
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



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7 Sound data

7 - 2 Sound power spectrum

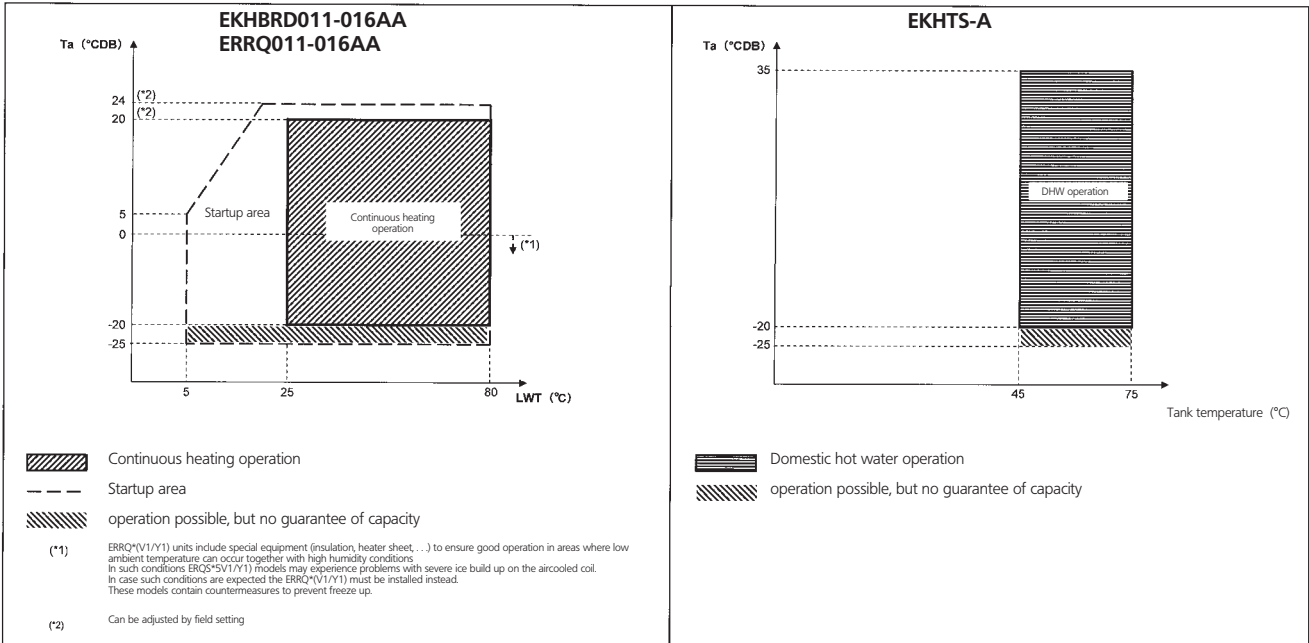


8 Operation range

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Space heating mode

Domestic hot water mode



3TW58843-1B

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1 Features

- High temperature application: up to 80°C without electric heater
- Three phase large capacity outdoor unit with bottom plate heater
- Operation of unit guaranteed down to -20°C
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2

1

2 Specifications

2-1 Nominal Capacity and Nominal Input				ERRQ011AA1	ERRQ014AA1	ERRQ016AA1
For combination indoor units + outdoor units	Indoor Units			EKHBRD011AA1	EKHBRD014AA1	EKHBRD016AA1
Condition 1	Heating capacity	Nominal	kW	11	14	16
	Heating PI	Nominal	kW	3.57	4.66	5.57
	COP	Nominal		3.08	3.00	2.88
Condition 2	Heating capacity	Nominal	kW	11	14	16
	Heating PI	Nominal	kW	2.61	3.55	4.31
	COP	Nominal		4.22	3.94	3.72
Condition 3	Heating capacity	Nominal	kW	11	14	16
	Heating PI	Nominal	kW	4.40	5.65	6.65
	COP	Nominal		2.50	2.48	2.41
Notes				Condition 1: EW: 55; LW: 65; dT: 10; ambient conditions: 7DB/6WB		
				Condition 2: EW: 30; LW: 35; dT: 5; ambient conditions: 7DB/6WB		
				Condition 3: EW: 70; LW: 80; dT: 10; ambient conditions: 7DB/6WB		

2-2 Technical Specifications				ERRQ011AA1	ERRQ014AA1	ERRQ016AA1	
Casing	Colour			Daikin white			
	Material			Painted galvanised steel plate			
Dimensions	Unit	Height	mm	1,345			
		Width	mm	900	900	900	
		Depth	mm	320	320	320	
	Packing	Height	mm	1,524			
		Width	mm	980	980	980	
		Depth	mm	420	420	420	
Weight	Unit		kg	120	120	120	
	Packed Unit		kg	130	130	130	
Packing	Material			Wood			
				EPS			
				Cardboard			
Weight			kg	8	8	8	
Heat Exchanger	Dimensions	Length	mm	857	857	857	
		Nr of Rows			2	2	2
		Fin Pitch	mm	2	2	2	
		Nr of Passes			10	10	10
		Face Area	m ²	1.131	1.131	1.131	
		Nr of Stages			60	60	60
	Tube type			Hi-XSS			
	Fin	Type			Non-symmetric waffle louvre		
		Treatment			Corrosion resistant		
	Fan	Type			Propeller		
Quantity			2	2	2		
Discharge direction			Horizontal				
Motor		Quantity			2	2	2
		Model			Brushless DC motor		
		Output	W	70	70	70	
	Drive			Direct drive			
Compressor	Quantity			1	1	1	
	Motor	Type			Hermetically sealed scroll compressor		
		Starting Method			Direct on line		
Motor	Crankcase Heater	Quantity			1	1	1
		Output	W	33	33	33	
Operation Range	Heating	Min	°CWB	-20	-20	-20	
		Max	°CWB	20	20	20	
	Domestic hot water	Min	°CDB	-20	-20	-20	
		Max	°CDB	35	35	35	
Sound Level (nominal)	Heating	Sound Power	dBA	68	69	71	
		Sound Pressure	dBA	52	53	55	

2 Specifications

2
2

2-2 Technical Specifications				ERRQ011AAY1	ERRQ014AAY1	ERRQ016AAY1
Refrigerant	Type			R-410A		
	Charge	kg	4.5	4.5	4.5	
	Control			Expansion valve(electronic type)		
	Nr of Circuits			1	1	1
Refrigerant Oil	Type			Daphne FVC68D		
	Charged Volume	l	1.5	1.5	1.5	
Piping connections	Liquid (OD)	Quantity		1	1	1
		Type		Flare connection		
		Diameter (OD)	mm	9,52		
	Gas	Quantity		1	1	1
		Type		Flare connection		
		Diameter (OD)	mm	15,9		
	Drain	Quantity		3	3	3
		Diameter (OD)	mm	26x3		
	Piping Length	Minimum	m	3	3	3
		Maximum	m	50	50	50
		Equivalent	m	63	63	63
		Chargeless	m	10	10	10
	Additional Refrigerant Charge		kg/m	See installation manual		
	Installation height difference	Maximum	m	30	30	30
Heat Insulation			Both liquid and gas pipes			
Defrost Method				Reverse cycle		
Defrost Control				Sensor for outdoor heat exchanger temperature		
Capacity Control Method				Inverter controlled		
Safety Devices				High pressure switch		
				Fan motor thermal protector		
				Inverter overload protector		
				PC board fuse		
Standard Accessories	Item			Installation manual		
	Quantity			1	1	1
High pressure side	Design pressure	bar	40	40	40	
Notes				See operation range drawing		

2-3 Electrical Specifications				ERRQ011AAY1	ERRQ014AAY1	ERRQ016AAY1
Power Supply	Name			Y1		
	Phase			3~		
	Frequency	Hz	50	50	50	
	Voltage			380-415		
	Voltage range	Minimum	V	342		
Maximum		V	440			
Current	Maximum running Current	Heating	A	13,5		
	Recomended fuses		A	16	16	16
Wiring connections	For Power Supply	Quantity		4G		
		Remark		Select diameter and type according to national and local regulations		
	For connection with indoor	Quantity		2	2	2
		Remark		F1+F2		
Power Supply Intake				Both indoor and outdoor unit		

3 Capacity tables

3 - 1 Heating capacity tables

ERRQ-AY1

Capacity table

Peak	Ta[°CDB]	LW [°C]		LW [°C]		LW [°C]		LW [°C]		LW [°C]	
		45		55		65		75		80	
		HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EKHBRD 011	-20	11,0	5,07	11,0	5,10	11,0	5,55	11,0	6,04	11,0	6,35
	-15	11,0	4,82	11,0	4,91	11,0	5,39	11,0	5,98	11,0	6,32
	-7	11,0	4,11	11,0	4,24	11,0	4,71	11,0	5,31	11,0	5,67
	-2	11,0	3,66	11,0	3,80	11,0	4,24	11,0	4,81	11,0	5,15
	2	11,0	3,35	11,0	3,50	11,0	3,93	11,0	4,47	11,0	4,80
	7	11,0	3,03	11,0	3,18	11,0	3,57	11,0	4,12	11,0	4,40
	12	11,0	2,75	11,0	2,90	11,0	3,31	11,0	3,82	11,0	4,13
	15	11,0	2,61	11,0	2,77	11,0	3,17	11,0	3,67	11,0	3,96
EKHBRD 014	-20	12,2	5,59	12,1	5,57	12,0	5,86	12,1	6,56	12,0	6,81
	-15	13,5	5,80	13,4	5,84	13,4	6,20	13,5	6,97	13,3	7,29
	-7	14,0	5,41	14,0	5,53	14,0	5,98	14,0	6,76	14,0	7,20
	-2	14,0	4,92	14,0	5,07	14,0	5,50	14,0	6,30	14,0	6,72
	2	14,0	4,50	14,0	4,66	14,0	5,09	14,0	5,87	14,0	6,27
	7	14,0	4,07	14,0	4,23	14,0	4,66	14,0	5,42	14,0	5,65
	12	14,0	3,72	14,0	3,91	14,0	4,34	14,0	5,09	14,0	5,47
	15	14,0	3,55	14,0	3,73	14,0	4,16	14,0	4,89	14,0	5,27
EKHBRD 016	-20	12,6	5,85	12,5	5,80	12,5	6,15	12,1	6,50	11,9	6,76
	-15	14,1	6,14	14,1	6,14	14,0	6,52	13,5	6,92	13,3	7,24
	-7	15,9	6,24	15,9	6,34	15,8	6,78	15,6	7,50	15,3	7,81
	-2	16,0	5,82	16,0	5,97	16,0	6,48	16,0	7,33	15,9	7,69
	2	16,0	5,39	16,0	5,55	16,0	6,08	16,0	6,92	16,0	7,33
	7	16,0	4,83	16,0	5,01	16,0	5,57	16,0	6,35	16,0	6,65
	12	16,0	4,48	16,0	4,66	16,0	5,17	16,0	5,98	16,0	6,40
	15	16,0	4,29	16,0	4,47	16,0	4,99	16,0	5,78	16,0	6,20
		EW = 40°C		EW = 45°C		EW = 55°C		EW = 65°C		EW = 70°C	
		ΔT = 5°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C	

Symbols

- HC Heating capacity [kW]
- PI Power input [kW]
- LW Leaving water temperature
- EW Entering water temperature

Conditions

- ΔT (Leaving water temperature - Entering water temperature)
- Piping length R410A Refrigerant piping length = 5m
- No pump power input is included
- if Ta < 3°C and unit has bottom plate heater, 95 W has to be added to PI value
- Ta < 0°C: RH=75%
- Ta > 0°C: RH=85%

flowrate [l/min]	*011*	*014*	*016*
ΔT = 15°C	10,5	13,4	15,3
ΔT = 10°C	15,8	20,1	22,9
ΔT = 5°C	31,5	40,1	45,9

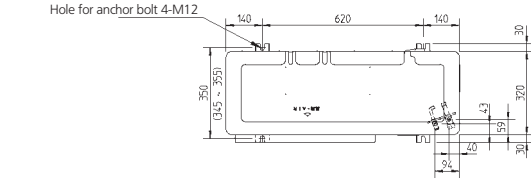
Integrated	Ta[°CDB]	LW [°C]		LW [°C]		LW [°C]		LW [°C]		LW [°C]	
		45		55		65		75		80	
		HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EKHBRD 011	-20	9,18	4,31	9,23	4,34	9,30	4,72	9,39	5,18	9,43	5,49
	-15	9,71	4,57	9,77	4,65	9,84	5,11	10,0	5,69	10,0	6,05
	-7	9,54	4,06	9,60	4,19	9,69	4,65	9,86	5,27	9,91	5,65
	-2	9,48	3,59	9,54	3,72	9,62	4,16	9,75	4,74	9,79	5,09
	2	9,47	3,31	9,53	3,45	9,62	3,88	9,76	4,42	9,80	4,75
	7	11,0	3,03	11,0	3,18	11,0	3,57	11,0	4,12	11,0	4,40
	12	11,0	2,75	11,0	2,90	11,0	3,31	11,0	3,82	11,0	4,13
	15	11,0	2,61	11,0	2,77	11,0	3,17	11,0	3,67	11,0	3,96
EKHBRD 014	-20	9,82	4,31	9,92	4,57	10,0	4,86	10,1	5,40	10,1	5,76
	-15	10,9	4,80	10,9	4,90	11,0	5,23	11,1	5,86	11,2	6,24
	-7	11,7	5,00	11,8	5,12	11,9	5,53	12,1	6,31	12,1	6,73
	-2	11,8	4,73	11,8	4,87	12,0	5,31	12,2	6,12	12,2	6,54
	2	11,8	4,41	11,8	4,56	11,9	4,99	12,1	5,78	12,2	6,19
	7	14,0	4,07	14,0	4,23	14,0	4,66	14,0	5,42	14,0	5,65
	12	14,0	3,72	14,0	3,91	14,0	4,34	14,0	5,09	14,0	5,47
	15	14,0	3,55	14,0	3,73	14,0	4,16	14,0	4,89	14,0	5,27
EKHBRD 016	-20	10,2	4,83	10,3	4,83	10,4	5,14	10,1	5,50	10,0	5,71
	-15	11,3	5,05	11,3	5,07	11,4	5,43	11,2	5,84	11,1	6,09
	-7	12,5	5,34	12,6	5,43	12,7	5,88	12,6	6,46	12,6	6,76
	-2	13,0	5,31	13,1	5,44	13,3	5,93	13,3	6,64	13,3	6,99
	2	13,2	5,08	13,3	5,29	13,5	5,80	13,6	6,59	13,6	6,99
	7	16,0	4,83	16,0	5,01	16,0	5,57	16,0	6,35	16,0	6,65
	12	16,0	4,48	16,0	4,66	16,0	5,17	16,0	5,98	16,0	6,40
	15	16,0	4,29	16,0	4,47	16,0	4,99	16,0	5,78	16,0	6,20
		EW = 40°C		EW = 45°C		EW = 55°C		EW = 65°C		EW = 70°C	
		ΔT = 5°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C	

4 Dimensional drawing & centre of gravity

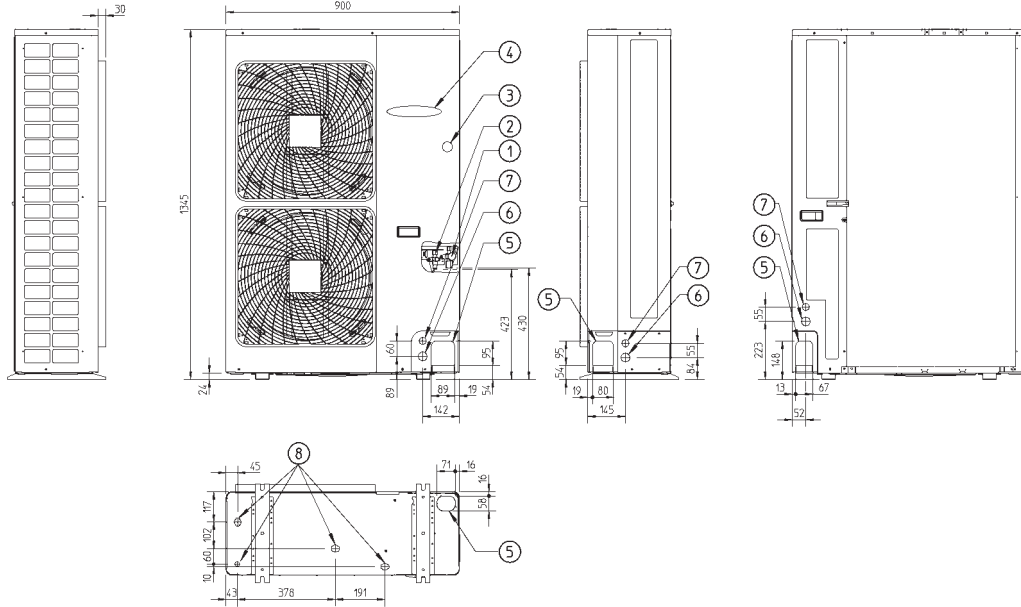
4 - 1 Dimensional drawing

ERRQ011-016AA

Hole for anchor bolt 4-M12



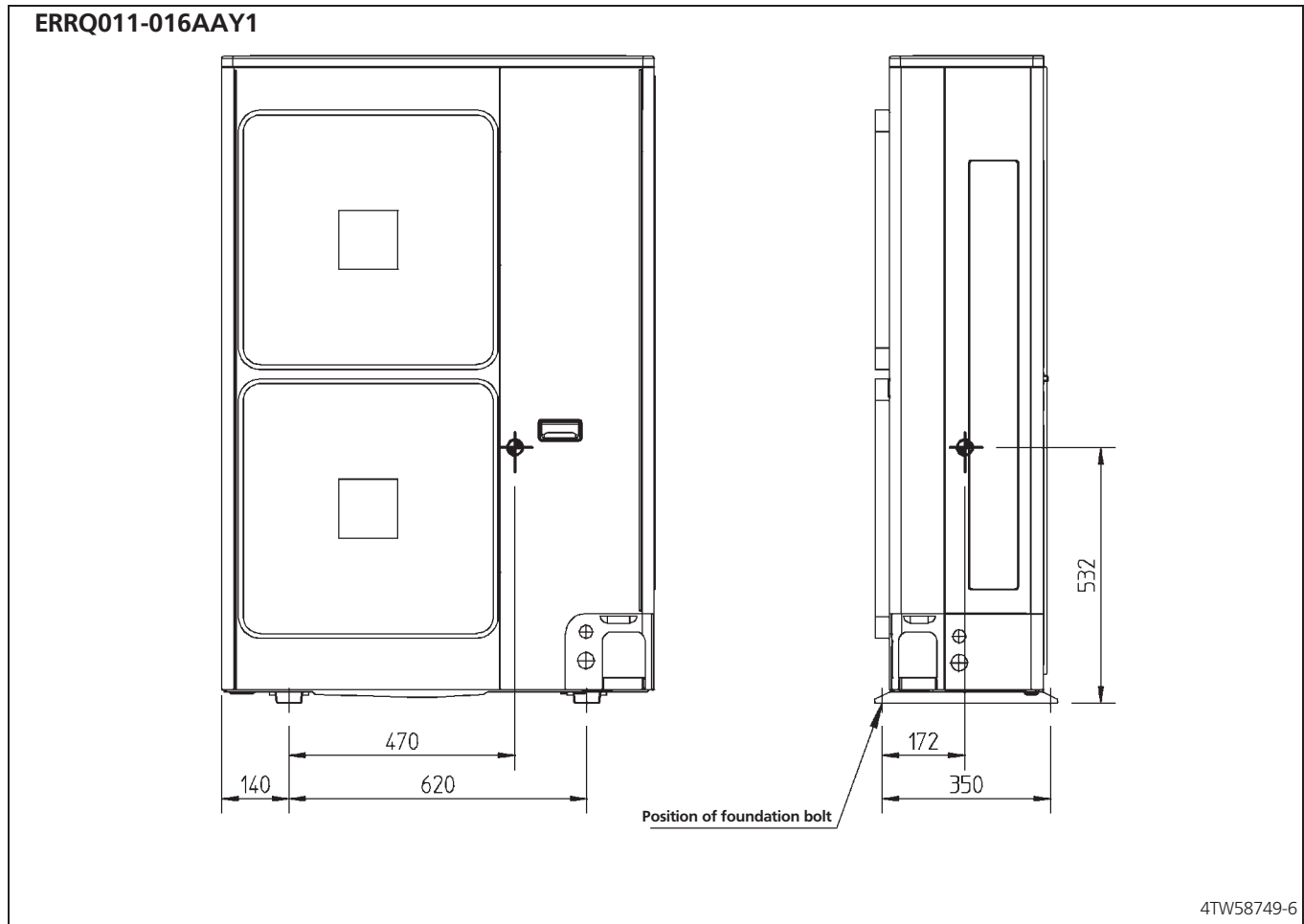
1. Gas pipe connection ϕ 15.9 flare
2. Liquid connection pipe $\#$ 9.5 flare
3. Service port (in the unit)
4. Electronic connection and grounding terminal MS (in switch box)
5. Refrigerant piping intake
6. Power supply wiring intake (knock hole ϕ 34)
7. Control wiring intake (knock hole ϕ 27)
8. Drain outlet



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4 Dimensional drawing & centre of gravity

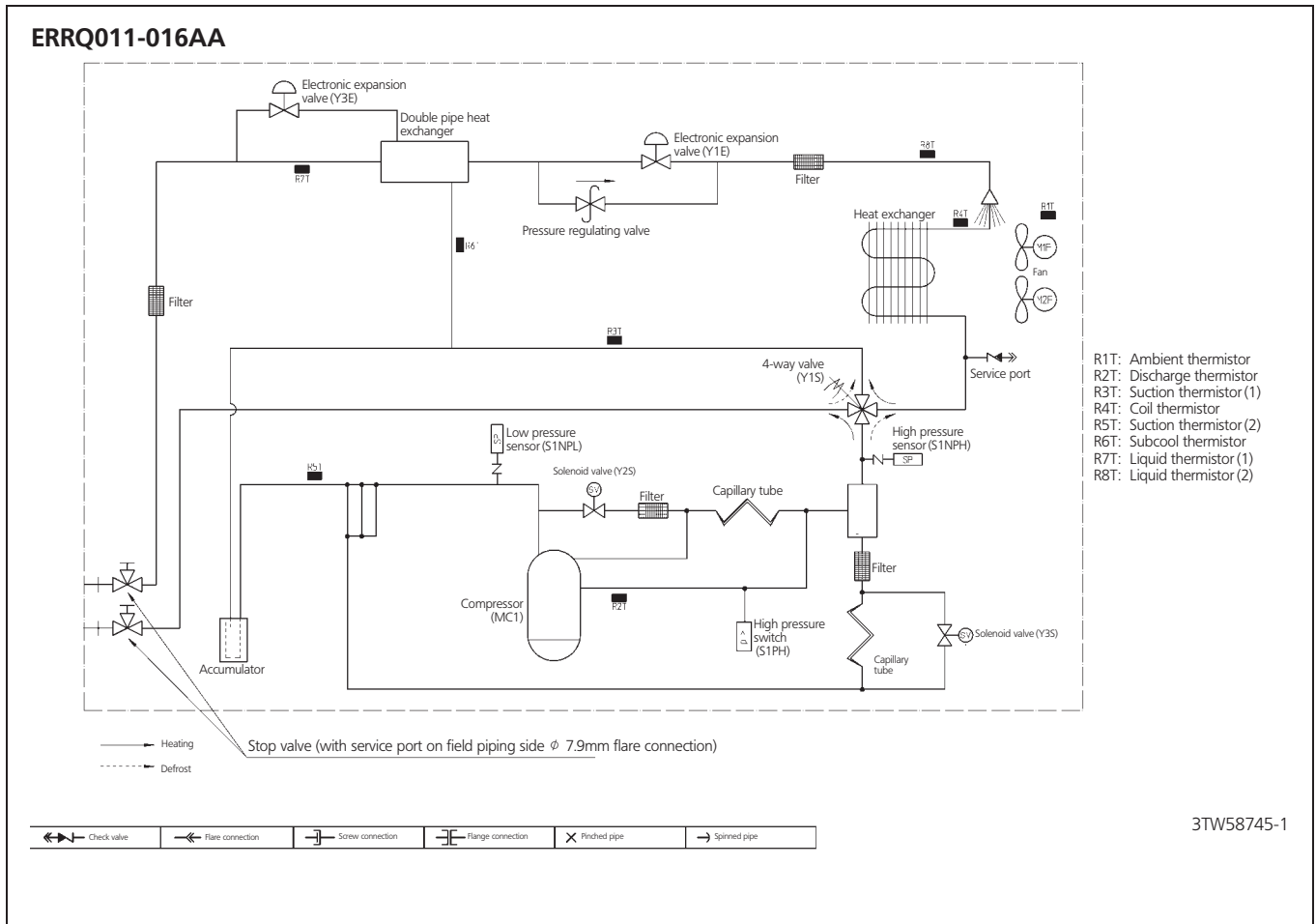
4 - 2 Centre of gravity



5 Piping diagram

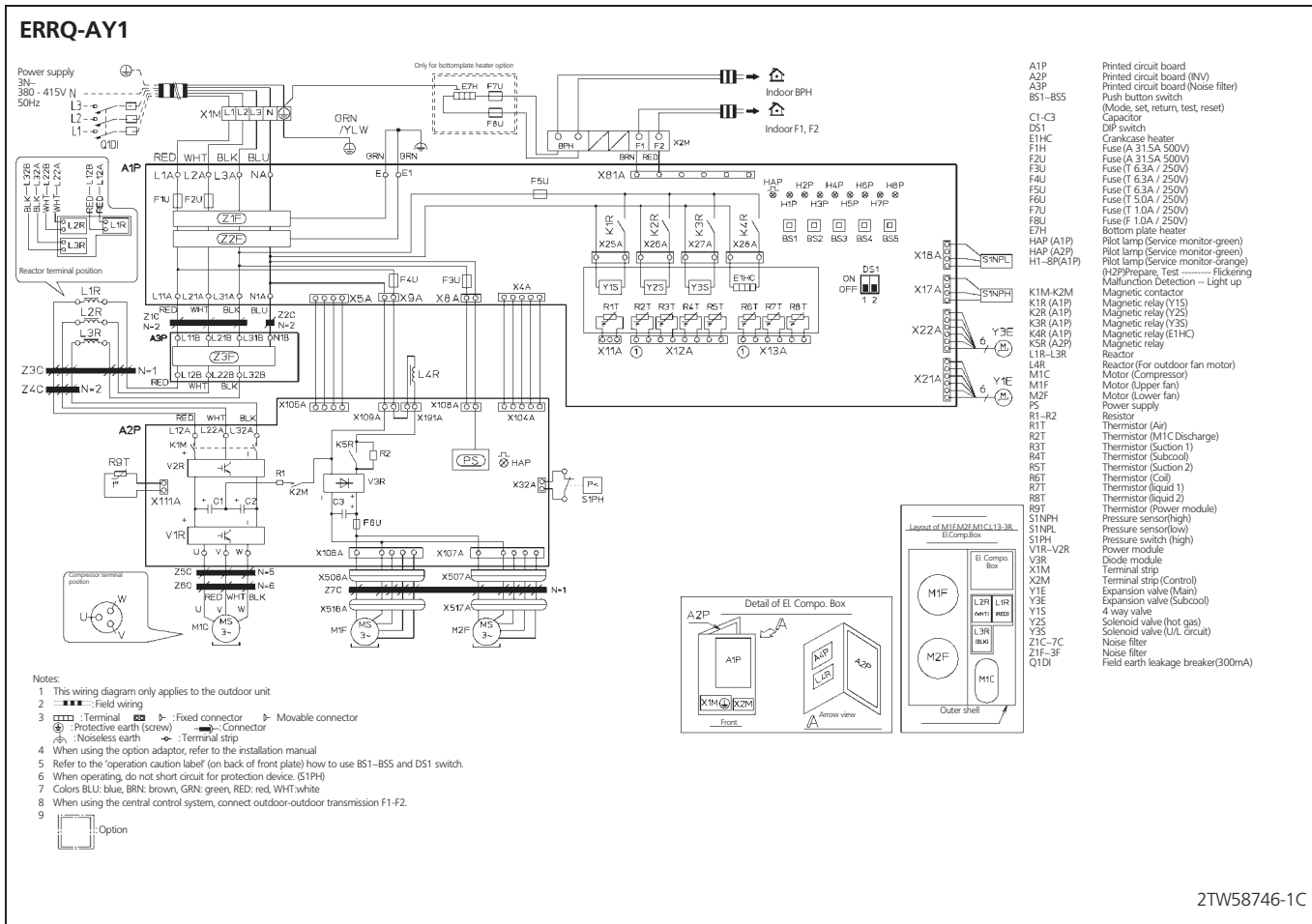
5 - 1 Piping diagram

2
5



6 Wiring diagram

6 - 1 Wiring diagram



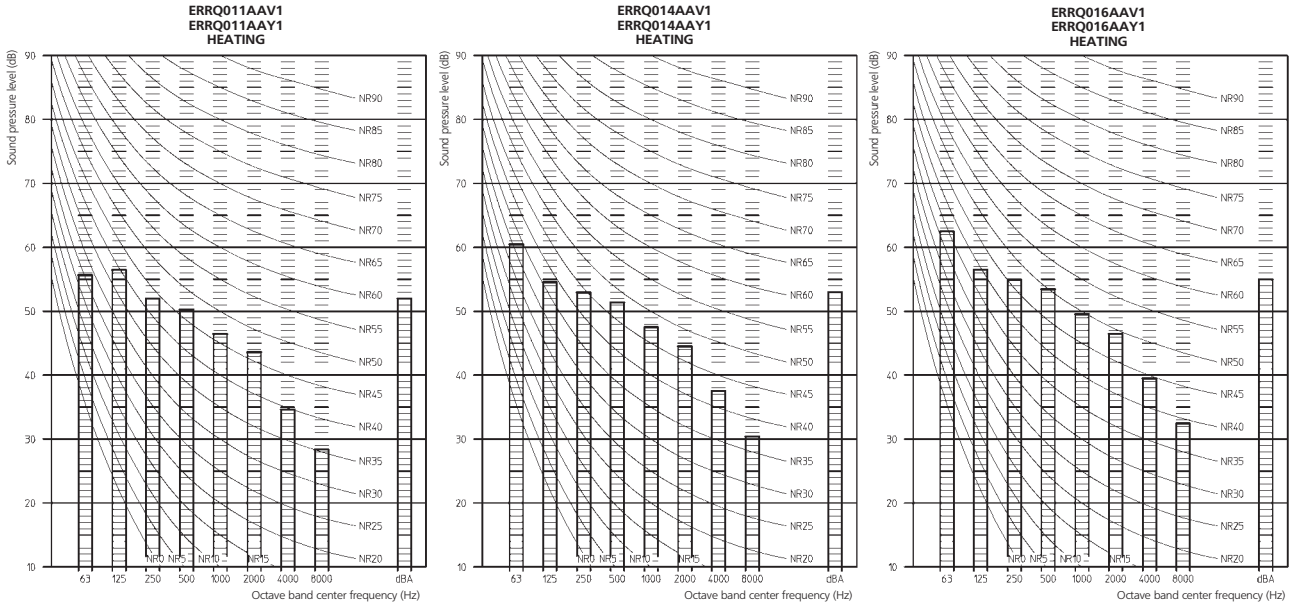
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7 Sound data

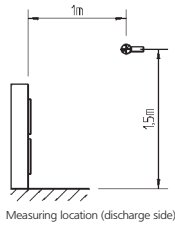
7 - 1 Sound pressure spectrum

2
7



Notes:

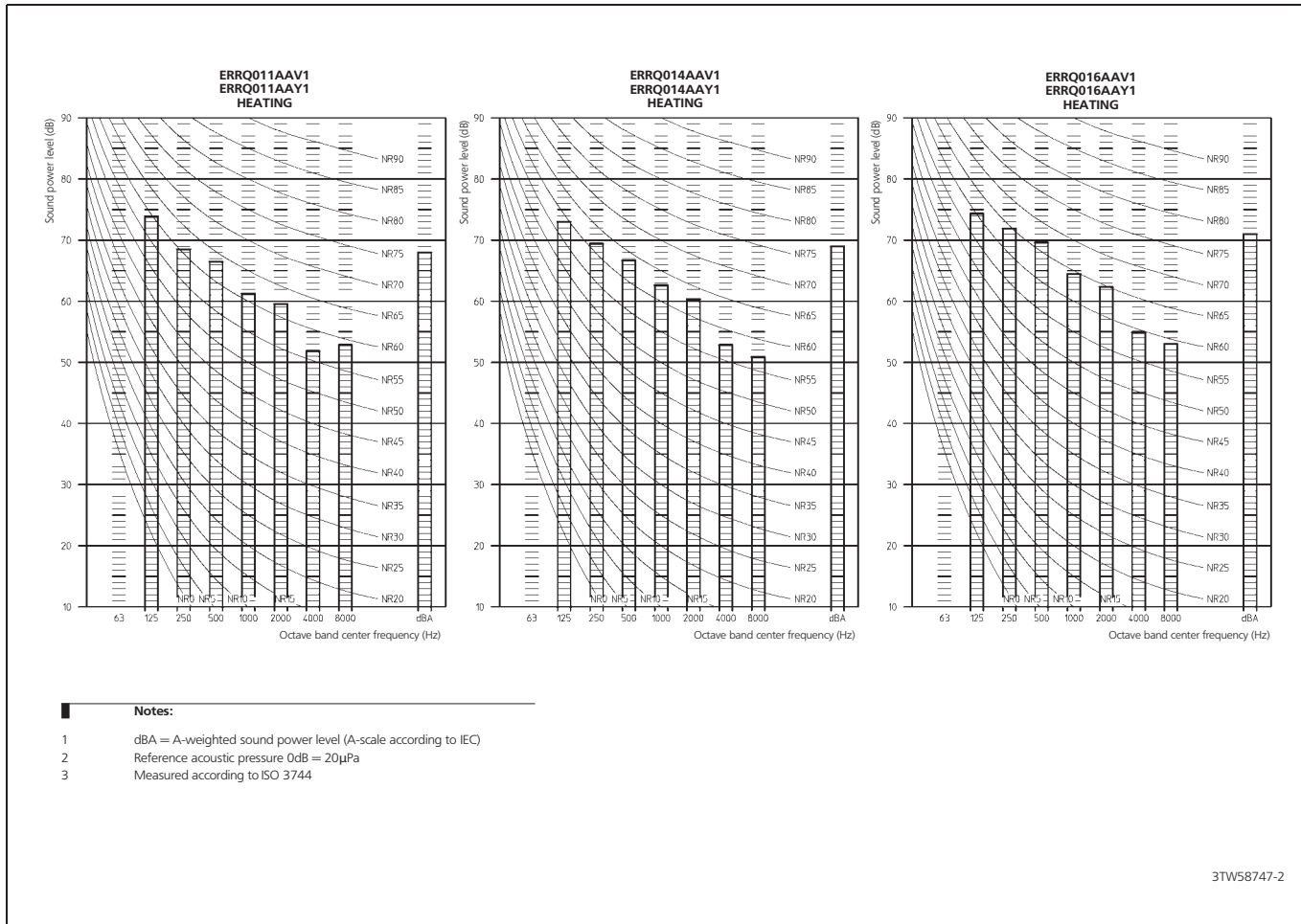
- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20µPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



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7 Sound data

7 - 2 Sound power spectrum

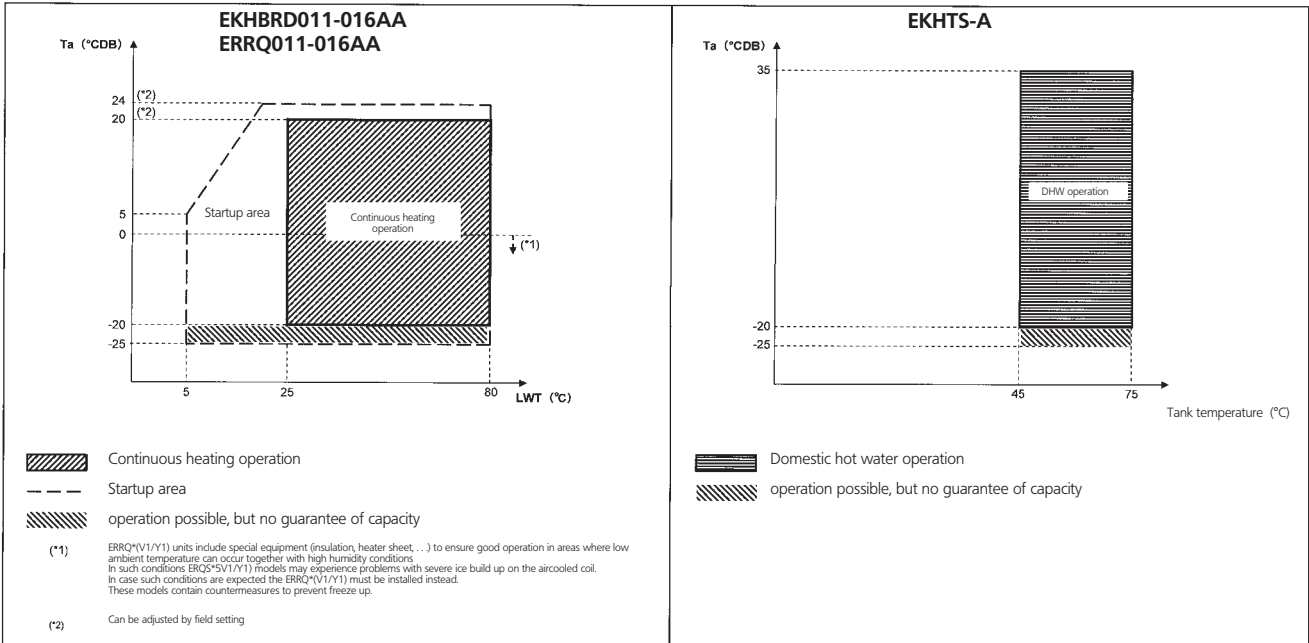


8 Operation range

2
8

Space heating mode

Domestic hot water mode



3TW58843-1B

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1 Features

- High temperature application: up to 80°C without electric heater
- Single phase large capacity outdoor unit
- Operation of unit guaranteed down to -20°C
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



3

1

2 Specifications

2-1 Nominal Capacity and Nominal Input				ERSQ011AAV1	ERSQ014AAV1	ERSQ016AAV1
For combination indoor units + outdoor units	Indoor Units			EKHBRD011AAV1	EKHBRD014AAV1	EKHBRD016AAV1
Condition 1	Heating capacity	Nominal	kW	11	14	16
	Heating PI	Nominal	kW	3.57	4.66	5.57
	COP	Nominal		3.08	3.00	2.88
Condition 2	Heating capacity	Nominal	kW	11	14	16
	Heating PI	Nominal	kW	2.61	3.55	4.31
	COP	Nominal		4.22	3.94	3.72
Condition 3	Heating capacity	Nominal	kW	11	14	16
	Heating PI	Nominal	kW	4.40	5.65	6.65
	COP	Nominal		2.50	2.48	2.41
Notes				Condition 1: EW: 55; LW: 65; dT: 10; ambient conditions: 7DB/6WB		
				Condition 2: EW: 30; LW: 35; dT: 5; ambient conditions: 7DB/6WB		
				Condition 3: EW: 70; LW: 80; dT: 10; ambient conditions: 7DB/6WB		

3
2

2-2 Technical Specifications				ERSQ011AAV1	ERSQ014AAV1	ERSQ016AAV1	
Casing	Colour			Daikin white			
	Material			Painted galvanised steel plate			
Dimensions	Unit	Height	mm	1,345			
		Width	mm	900	900	900	
		Depth	mm	320	320	320	
	Packing	Height	mm	1,524			
		Width	mm	980	980	980	
		Depth	mm	420	420	420	
Weight	Unit		kg	120	120	120	
	Packed Unit		kg	130	130	130	
Packing	Material			Wood			
				EPS			
				Cardboard			
Weight			kg	8	8	8	
Heat Exchanger	Dimensions	Length	mm	857	857	857	
		Nr of Rows			2	2	2
		Fin Pitch	mm	2	2	2	
		Nr of Passes			10	10	10
		Face Area	m ²	1.131	1.131	1.131	
		Nr of Stages			60	60	60
	Tube type			Hi-XSS			
	Fin	Type			Non-symmetric waffle louvre		
		Treatment			Corrosion resistant		
	Fan	Type			Propeller		
Quantity			2	2	2		
Discharge direction			Horizontal				
Motor		Quantity			2	2	2
		Model			Brushless DC motor		
		Output	W	70	70	70	
	Drive			Direct drive			
Compressor	Quantity			1	1	1	
	Motor	Type			Hermetically sealed scroll compressor		
		Starting Method			Direct on line		
Motor	Crankcase Heater	Quantity		1	1	1	
		Output	W	33	33	33	
Operation Range	Heating	Min	°CWB	-20	-20	-20	
		Max	°CWB	20	20	20	
	Domestic hot water	Min	°CDB	-20	-20	-20	
		Max	°CDB	35	35	35	
Sound Level (nominal)	Heating	Sound Power	dBA	68	69	71	
		Sound Pressure	dBA	52	53	55	

2 Specifications

2-2 Technical Specifications				ERSQ011AAV1	ERSQ014AAV1	ERSQ016AAV1
Refrigerant	Type			R-410A		
	Charge	kg	4.5	4.5	4.5	
	Control			Expansion valve(electronic type)		
	Nr of Circuits			1	1	1
Refrigerant Oil	Type			Daphne FVC68D		
	Charged Volume	l	1.5	1.5	1.5	
Piping connections	Liquid (OD)	Quantity		1	1	1
		Type		Flare connection		
		Diameter (OD)	mm	9,52		
	Gas	Quantity		1	1	1
		Type		Flare connection		
		Diameter (OD)	mm	15,9		
	Drain	Quantity		3	3	3
		Diameter (OD)	mm	26x3		
	Piping Length	Minimum	m	3	3	3
		Maximum	m	50	50	50
		Equivalent	m	63	63	63
		Chargeless	m	10	10	10
	Additional Refrigerant Charge		kg/m	See installation manual		
	Installation height difference	Maximum	m	30	30	30
Heat Insulation			Both liquid and gas pipes			
Defrost Method				Reverse cycle		
Defrost Control				Sensor for outdoor heat exchanger temperature		
Capacity Control Method				Inverter controlled		
Safety Devices				High pressure switch		
				Fan motor thermal protector		
				Inverter overload protector		
				PC board fuse		
Standard Accessories	Item			Installation manual		
	Quantity			1	1	1
High pressure side	Design pressure	bar	40	40	40	
Notes				See operation range drawing		

2-3 Electrical Specifications				ERSQ011AAV1	ERSQ014AAV1	ERSQ016AAV1
Power Supply	Name			V1		
	Phase			1~		
	Frequency	Hz	50	50	50	
	Voltage			220-440		
	Voltage range	Minimum	V	198		
Maximum		V	254			
Current	Minimum Ssc value		kVa	Equipment complying with EN/IEC 61000-S-12 (1)		
	Maximum running Current	Heating	A	23.8	23.8	23.8
	Recomended fuses		A	25	25	25
Wiring connections	For Power Supply	Quantity		2G		
		Remark		Select diameter and type according to national and local regulations		
	For connection with indoor	Quantity		2	2	2
		Remark		F1 + F2		
Power Supply Intake				Both indoor and outdoor unit		
Notes				(1) European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current > 16A smaller than or equal to 75A per phase.		
				In accordance with EN/IEC 61000-3-11 (1), it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (system impedance) smaller than or equal to Zmax.		
				SSC means short-circuit power		
				(1) European/international technical standard setting the limits for voltage changers, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated smaller than or equal to 75A.		

3 Capacity tables

3 - 1 Heating capacity tables

ERSQ-AAV1

Capacity table

Peak	Ta[°CDB]	LW [°C]		LW [°C]		LW [°C]		LW [°C]		LW [°C]	
		45		55		65		75		80	
		HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EKHBRD 011	-20	11,0	5,07	11,0	5,10	11,0	5,55	11,0	6,04	11,0	6,35
	-15	11,0	4,82	11,0	4,91	11,0	5,39	11,0	5,98	11,0	6,32
	-7	11,0	4,11	11,0	4,24	11,0	4,71	11,0	5,31	11,0	5,67
	-2	11,0	3,66	11,0	3,80	11,0	4,24	11,0	4,81	11,0	5,15
	2	11,0	3,35	11,0	3,50	11,0	3,93	11,0	4,47	11,0	4,80
	7	11,0	3,03	11,0	3,18	11,0	3,57	11,0	4,12	11,0	4,40
	12	11,0	2,75	11,0	2,90	11,0	3,31	11,0	3,82	11,0	4,13
15	11,0	2,61	11,0	2,77	11,0	3,17	11,0	3,67	11,0	3,96	
EKHBRD 014	-20	12,2	5,59	12,1	5,57	12,0	5,86	12,1	6,56	12,0	6,81
	-15	13,5	5,80	13,4	5,84	13,4	6,20	13,5	6,97	13,3	7,29
	-7	14,0	5,41	14,0	5,53	14,0	5,98	14,0	6,76	14,0	7,20
	-2	14,0	4,92	14,0	5,07	14,0	5,50	14,0	6,30	14,0	6,72
	2	14,0	4,50	14,0	4,66	14,0	5,09	14,0	5,87	14,0	6,27
	7	14,0	4,07	14,0	4,23	14,0	4,66	14,0	5,42	14,0	5,65
	12	14,0	3,72	14,0	3,91	14,0	4,34	14,0	5,09	14,0	5,47
15	14,0	3,55	14,0	3,73	14,0	4,16	14,0	4,89	14,0	5,27	
EKHBRD 016	-20	12,6	5,85	12,5	5,80	12,5	6,15	12,1	6,50	11,9	6,76
	-15	14,1	6,14	14,1	6,14	14,0	6,52	13,5	6,92	13,3	7,24
	-7	15,9	6,24	15,9	6,34	15,8	6,78	15,6	7,50	15,3	7,81
	-2	16,0	5,82	16,0	5,97	16,0	6,48	16,0	7,33	15,9	7,69
	2	16,0	5,39	16,0	5,55	16,0	6,08	16,0	6,92	16,0	7,33
	7	16,0	4,83	16,0	5,01	16,0	5,57	16,0	6,35	16,0	6,65
	12	16,0	4,48	16,0	4,66	16,0	5,17	16,0	5,98	16,0	6,40
15	16,0	4,29	16,0	4,47	16,0	4,99	16,0	5,78	16,0	6,20	
		EW = 40°C		EW = 45°C		EW = 55°C		EW = 65°C		EW = 70°C	
		ΔT = 5°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C	

Symbols

HC Heating capacity [kW]
 PI Power input [kW]
 LW Leaving water temperature
 EW Entering water temperature

Conditions

- ΔT (Leaving water temperature - Entering water temperature)
 - Piping length R410A Refrigerant piping length = 5m
 - No pump power input is included
 - if Ta < 3°C and unit has bottom plate heater, 95 W has to be added to PI value
 - Ta < 0°C: RH=75%
 - Ta > 0°C: RH=85%

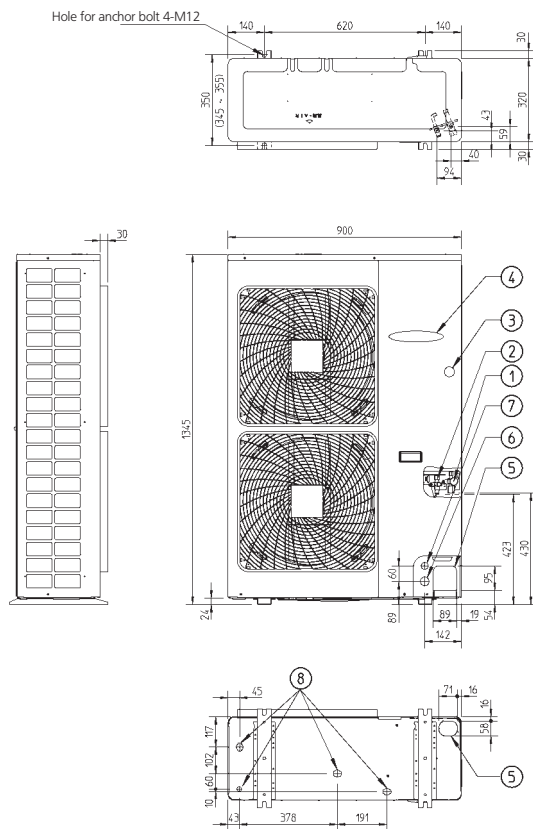
flowrate [l/min]	*011*	*014*	*016*
ΔT = 15°C	10,5	13,4	15,3
ΔT = 10°C	15,8	20,1	22,9
ΔT = 5°C	31,5	40,1	45,9

Integrated	Ta[°CDB]	LW [°C]		LW [°C]		LW [°C]		LW [°C]		LW [°C]	
		45		55		65		75		80	
		HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EKHBRD 011	-20	9,18	4,31	9,23	4,34	9,30	4,72	9,39	5,18	9,43	5,49
	-15	9,71	4,57	9,77	4,65	9,84	5,11	10,0	5,69	10,0	6,05
	-7	9,54	4,06	9,60	4,19	9,69	4,65	9,86	5,27	9,91	5,65
	-2	9,48	3,59	9,54	3,72	9,62	4,16	9,75	4,74	9,79	5,09
	2	9,47	3,31	9,53	3,45	9,62	3,88	9,76	4,42	9,80	4,75
	7	11,0	3,03	11,0	3,18	11,0	3,57	11,0	4,12	11,0	4,40
	12	11,0	2,75	11,0	2,90	11,0	3,31	11,0	3,82	11,0	4,13
15	11,0	2,61	11,0	2,77	11,0	3,17	11,0	3,67	11,0	3,96	
EKHBRD 014	-20	9,82	4,31	9,92	4,57	10,0	4,86	10,1	5,40	10,1	5,76
	-15	10,9	4,80	10,9	4,90	11,0	5,23	11,1	5,86	11,2	6,24
	-7	11,7	5,00	11,8	5,12	11,9	5,53	12,1	6,31	12,1	6,73
	-2	11,8	4,73	11,8	4,87	12,0	5,31	12,2	6,12	12,2	6,54
	2	11,8	4,41	11,8	4,56	11,9	4,99	12,1	5,78	12,2	6,19
	7	14,0	4,07	14,0	4,23	14,0	4,66	14,0	5,42	14,0	5,65
	12	14,0	3,72	14,0	3,91	14,0	4,34	14,0	5,09	14,0	5,47
15	14,0	3,55	14,0	3,73	14,0	4,16	14,0	4,89	14,0	5,27	
EKHBRD 016	-20	10,2	4,83	10,3	4,83	10,4	5,14	10,1	5,50	10,0	5,71
	-15	11,3	5,05	11,3	5,07	11,4	5,43	11,2	5,84	11,1	6,09
	-7	12,5	5,34	12,6	5,43	12,7	5,88	12,6	6,46	12,6	6,76
	-2	13,0	5,31	13,1	5,44	13,3	5,93	13,3	6,64	13,3	6,99
	2	13,2	5,08	13,3	5,29	13,5	5,80	13,6	6,59	13,6	6,99
	7	16,0	4,83	16,0	5,01	16,0	5,57	16,0	6,35	16,0	6,65
	12	16,0	4,48	16,0	4,66	16,0	5,17	16,0	5,98	16,0	6,40
15	16,0	4,29	16,0	4,47	16,0	4,99	16,0	5,78	16,0	6,20	
		EW = 40°C		EW = 45°C		EW = 55°C		EW = 65°C		EW = 70°C	
		ΔT = 5°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C	

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

ERSQ011-016AA



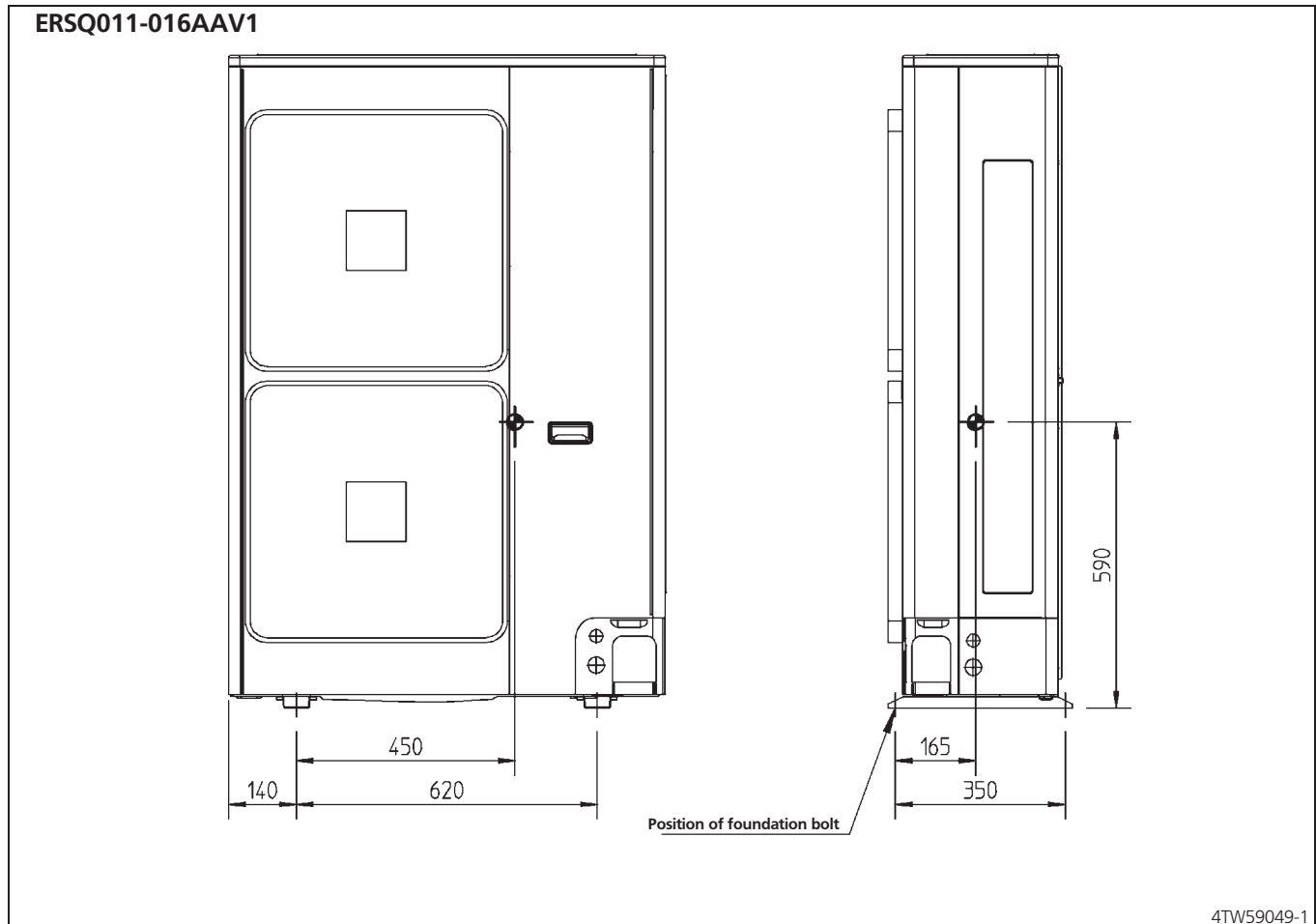
1. Gas pipe connection ϕ 15.9 flare
2. Liquid connection pipe $\#$ 9.5 flare
3. Service port (in the unit)
4. Electronic connection and grounding terminal MS (in switch box)
5. Refrigerant piping intake
6. Power supply wiring intake (knock hole ϕ 34)
7. Control wiring intake (knock hole ϕ 27)
8. Drain outlet

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4 Dimensional drawing & centre of gravity

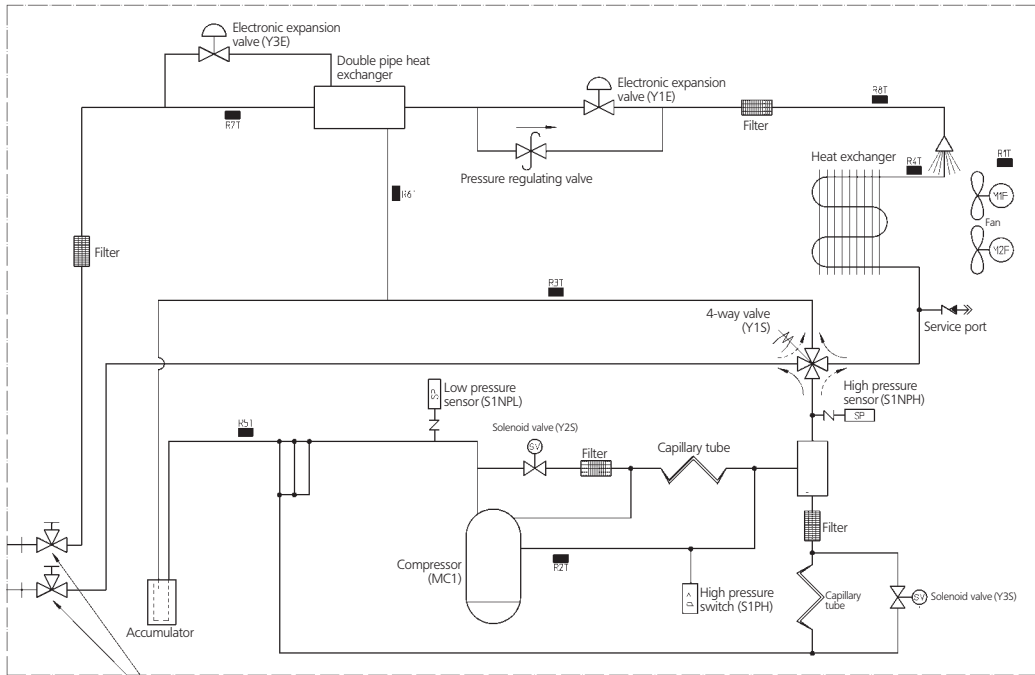
4 - 2 Centre of gravity



5 Piping diagram

5 - 1 Piping diagram

ERSQ011-016AA



- R1T: Ambient thermistor
- R2T: Discharge thermistor
- R3T: Suction thermistor(1)
- R4T: Coil thermistor
- R5T: Suction thermistor(2)
- R6T: Subcool thermistor
- R7T: Liquid thermistor (1)
- R8T: Liquid thermistor (2)

Heating
 Defrost
 Stop valve (with service port on field piping side ϕ 7.9mm flare connection)

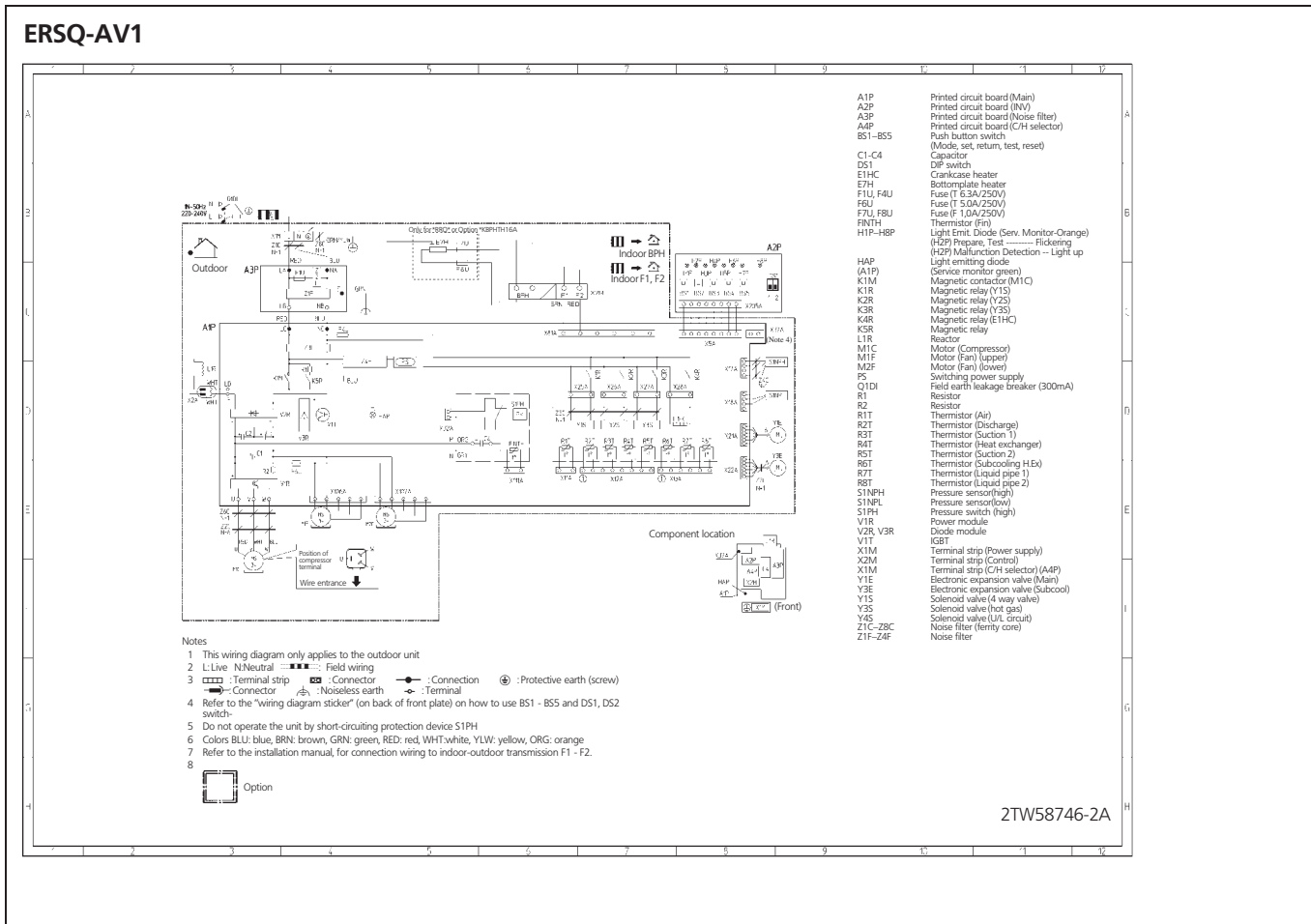


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6 Wiring diagram

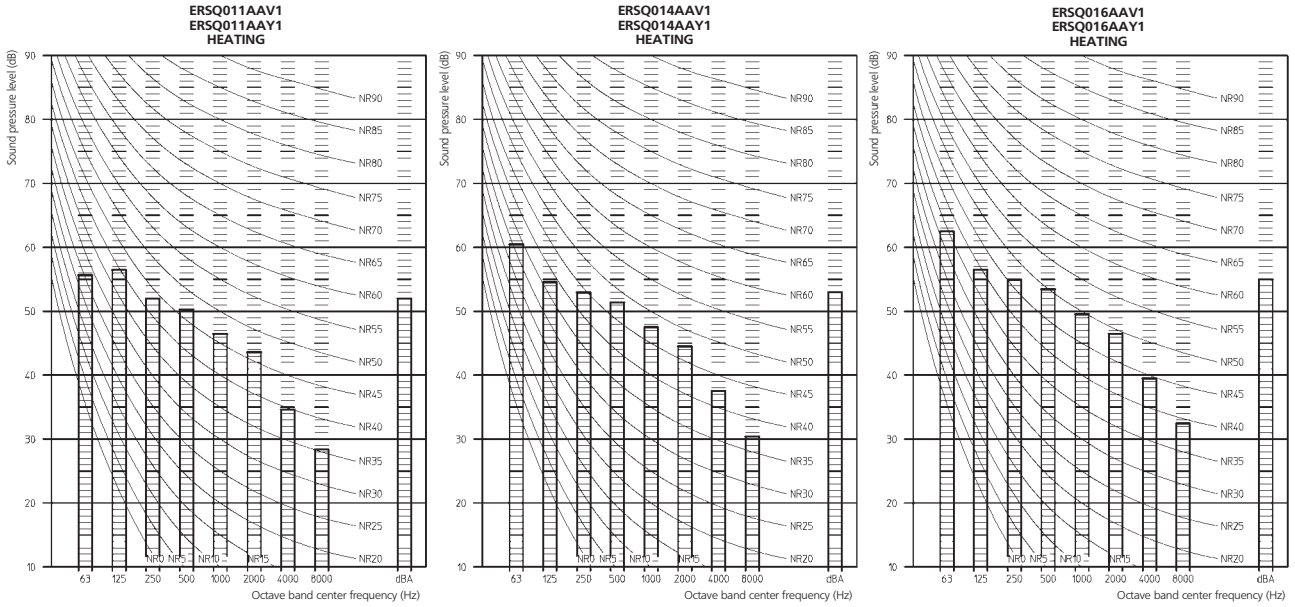
6 - 1 Wiring diagram



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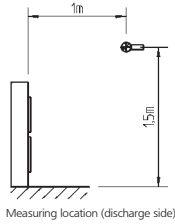
7 Sound data

7 - 1 Sound pressure spectrum



Notes:

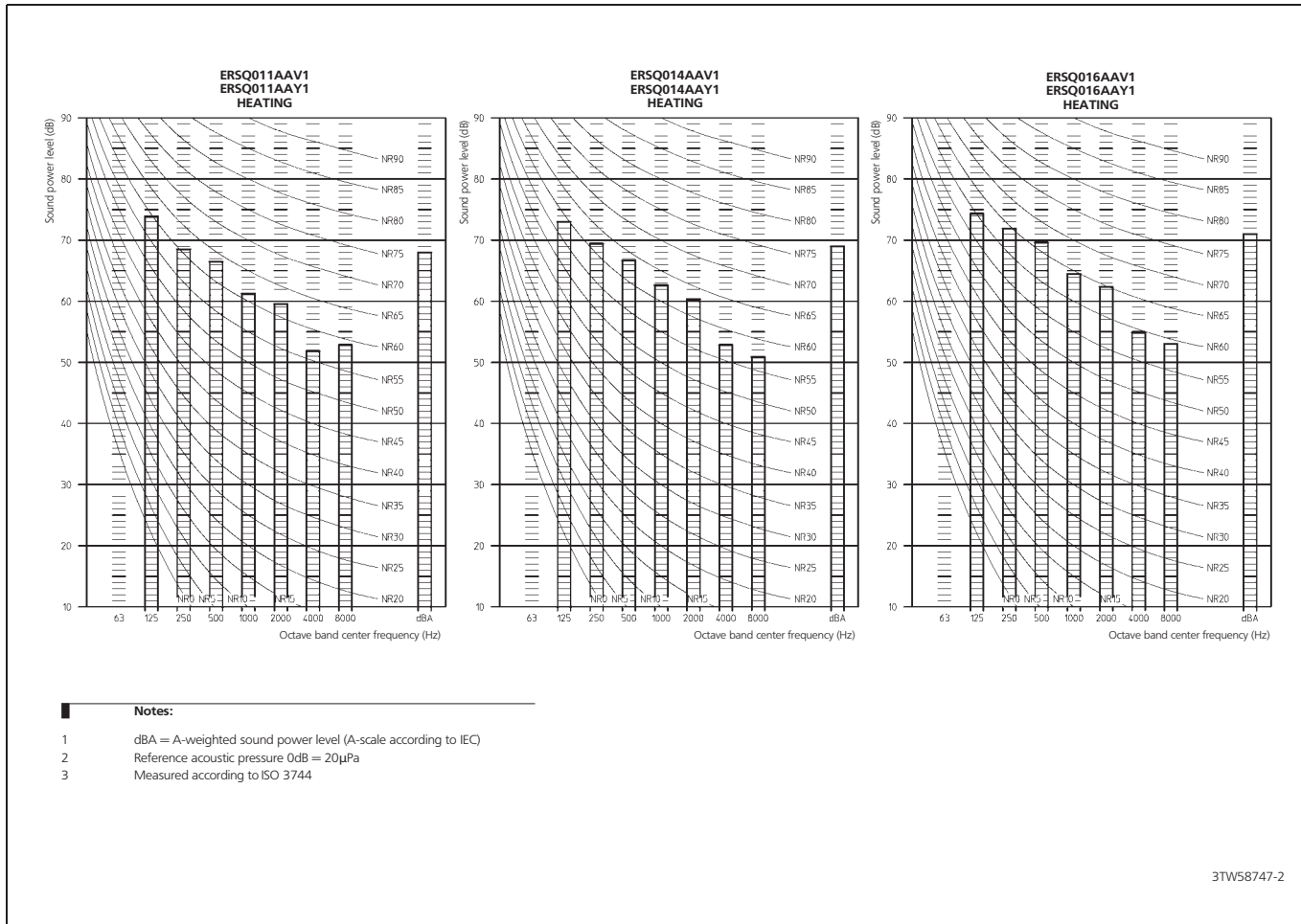
- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20μPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



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7 Sound data

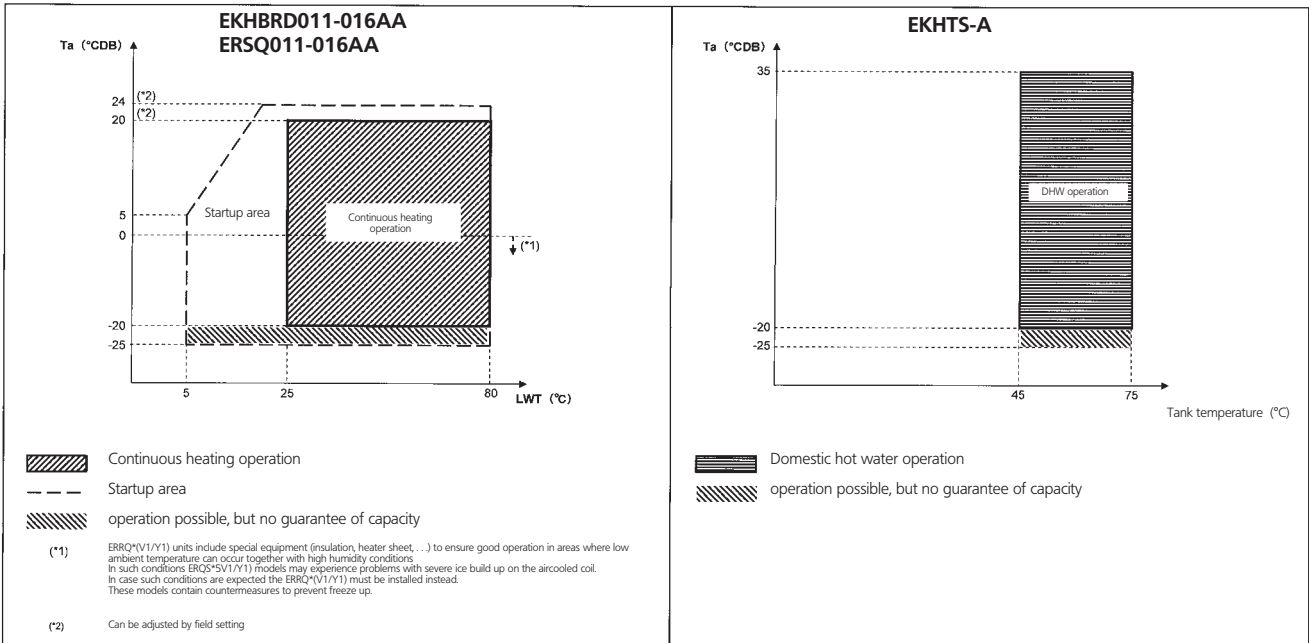
7 - 2 Sound power spectrum



8 Operation range

Space heating mode

Domestic hot water mode



3TW58843-1B

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1 Features

- High temperature application: up to 80°C without electric heater
- Three phase large capacity outdoor unit
- Operation of unit guaranteed down to -20°C
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO₂ emissions
- Easy to install
- Total solution for year round comfort



4

1

2 Specifications

2-1 Nominal Capacity and Nominal Input				ERSQ011AAAY1	ERSQ014AAAY1	ERSQ016AAAY1
For combination indoor units + outdoor units	Indoor Units			EKHBRD011AAAY1	EKHBRD014AAAY1	EKHBRD016AAAY1
Condition 1	Heating capacity	Nominal	kW	11	14	16
	Heating PI	Nominal	kW	3.57	4.66	5.57
	COP	Nominal		3.08	3.00	2.88
Condition 2	Heating capacity	Nominal	kW	11	14	16
	Heating PI	Nominal	kW	2.61	3.55	4.31
	COP	Nominal		4.22	3.94	3.72
Condition 3	Heating capacity	Nominal	kW	11	14	16
	Heating PI	Nominal	kW	4.40	5.65	6.65
	COP	Nominal		2.50	2.48	2.41
Notes				Condition 1: EW: 55; LW: 65; dT: 10; ambient conditions: 7DB/6WB		
				Condition 2: EW: 30; LW: 35; dT: 5; ambient conditions: 7DB/6WB		
				Condition 3: EW: 70; LW: 80; dT: 10; ambient conditions: 7DB/6WB		

2-2 Technical Specifications				ERSQ011AAAY1	ERSQ014AAAY1	ERSQ016AAAY1	
Casing	Colour			Daikin white			
	Material			Painted galvanised steel plate			
Dimensions	Unit	Height	mm	1,345			
		Width	mm	900	900	900	
		Depth	mm	320	320	320	
	Packing	Height	mm	1,524			
		Width	mm	980	980	980	
		Depth	mm	420	420	420	
Weight	Unit		kg	120	120	120	
	Packed Unit		kg	130	130	130	
Packing	Material			Wood			
				EPS			
				Cardboard			
Weight			kg	8	8	8	
Heat Exchanger	Dimensions	Length	mm	857	857	857	
		Nr of Rows			2	2	2
		Fin Pitch	mm	2	2	2	
		Nr of Passes			10	10	10
		Face Area	m ²	1.131	1.131	1.131	
		Nr of Stages			60	60	60
	Tube type			Hi-XSS			
	Fin	Type			Non-symmetric waffle louvre		
		Treatment			Corrosion resistant		
	Fan	Type			Propeller		
Quantity			2	2	2		
Discharge direction			Horizontal				
Motor		Quantity			2	2	2
		Model			Brushless DC motor		
		Output	W	70	70	70	
	Drive			Direct drive			
Compressor	Quantity			1	1	1	
	Motor	Type			Hermetically sealed scroll compressor		
		Starting Method			Direct on line		
Motor	Crankcase Heater	Quantity			1	1	1
		Output	W	33	33	33	
Operation Range	Heating	Min	°CWB	-20	-20	-20	
		Max	°CWB	20	20	20	
	Domestic hot water	Min	°CDB	-20	-20	-20	
		Max	°CDB	35	35	35	
Sound Level (nominal)	Heating	Sound Power	dBA	68	69	71	
		Sound Pressure	dBA	52	53	55	

2 Specifications

2-2 Technical Specifications				ERSQ011AAY1	ERSQ014AAY1	ERSQ016AAY1
Refrigerant	Type			R-410A		
	Charge	kg		4.5	4.5	4.5
	Control			Expansion valve(electronic type)		
	Nr of Circuits			1	1	1
Refrigerant Oil	Type			Daphne FVC68D		
	Charged Volume	l		1.5	1.5	1.5
Piping connections	Liquid (OD)	Quantity		1	1	1
		Type		Flare connection		
		Diameter (OD)	mm	9,52		
	Gas	Quantity		1	1	1
		Type		Flare connection		
		Diameter (OD)	mm	15,9		
	Drain	Quantity		3	3	3
		Diameter (OD)	mm	26x3		
	Piping Length	Minimum	m	3	3	3
		Maximum	m	50	50	50
		Equivalent	m	63	63	63
		Chargeless	m	10	10	10
	Additional Refrigerant Charge		kg/m	See installation manual		
	Installation height difference	Maximum	m	30	30	30
Heat Insulation			Both liquid and gas pipes			
Defrost Method				Reverse cycle		
Defrost Control				Sensor for outdoor heat exchanger temperature		
Capacity Control Method				Inverter controlled		
Safety Devices				High pressure switch		
				Fan motor thermal protector		
				Inverter overload protector		
				PC board fuse		
Standard Accessories	Item			Installation manual		
	Quantity			1	1	1
High pressure side	Design pressure	bar	40	40	40	
Notes				See operation range drawing		

2-3 Electrical Specifications				ERSQ011AAY1	ERSQ014AAY1	ERSQ016AAY1
Power Supply	Name			Y1		
	Phase			3~		
	Frequency	Hz		50	50	50
	Voltage			380-415		
	Voltage range	Minimum	V	342		
Maximum		V	440			
Current	Maximum running Current	Heating	A	13,5		
	Recomended fuses		A	16	16	16
Wiring connections	For Power Supply	Quantity		4G		
		Remark		Select diameter and type according to national and local regulations		
	For connection with indoor	Quantity		2	2	2
		Remark		F1+F2		
Power Supply Intake				Both indoor and outdoor unit		

3 Capacity tables

3 - 1 Heating capacity tables

ERSQ-AY1

Capacity table

Peak	Ta[°CDB]	LW [°C]		LW [°C]		LW [°C]		LW [°C]		LW [°C]	
		45		55		65		75		80	
		HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EKHBRD 011	-20	11,0	5,07	11,0	5,10	11,0	5,55	11,0	6,04	11,0	6,35
	-15	11,0	4,82	11,0	4,91	11,0	5,39	11,0	5,98	11,0	6,32
	-7	11,0	4,11	11,0	4,24	11,0	4,71	11,0	5,31	11,0	5,67
	-2	11,0	3,66	11,0	3,80	11,0	4,24	11,0	4,81	11,0	5,15
	2	11,0	3,35	11,0	3,50	11,0	3,93	11,0	4,47	11,0	4,80
	7	11,0	3,03	11,0	3,18	11,0	3,57	11,0	4,12	11,0	4,40
	12	11,0	2,75	11,0	2,90	11,0	3,31	11,0	3,82	11,0	4,13
	15	11,0	2,61	11,0	2,77	11,0	3,17	11,0	3,67	11,0	3,96
EKHBRD 014	-20	12,2	5,59	12,1	5,57	12,0	5,86	12,1	6,56	12,0	6,81
	-15	13,5	5,80	13,4	5,84	13,4	6,20	13,5	6,97	13,3	7,29
	-7	14,0	5,41	14,0	5,53	14,0	5,98	14,0	6,76	14,0	7,20
	-2	14,0	4,92	14,0	5,07	14,0	5,50	14,0	6,30	14,0	6,72
	2	14,0	4,50	14,0	4,66	14,0	5,09	14,0	5,87	14,0	6,27
	7	14,0	4,07	14,0	4,23	14,0	4,66	14,0	5,42	14,0	5,65
	12	14,0	3,72	14,0	3,91	14,0	4,34	14,0	5,09	14,0	5,47
	15	14,0	3,55	14,0	3,73	14,0	4,16	14,0	4,89	14,0	5,27
EKHBRD 016	-20	12,6	5,85	12,5	5,80	12,5	6,15	12,1	6,50	11,9	6,76
	-15	14,1	6,14	14,1	6,14	14,0	6,52	13,5	6,92	13,3	7,24
	-7	15,9	6,24	15,9	6,34	15,8	6,78	15,6	7,50	15,3	7,81
	-2	16,0	5,82	16,0	5,97	16,0	6,48	16,0	7,33	15,9	7,69
	2	16,0	5,39	16,0	5,55	16,0	6,08	16,0	6,92	16,0	7,33
	7	16,0	4,83	16,0	5,01	16,0	5,57	16,0	6,35	16,0	6,65
	12	16,0	4,48	16,0	4,66	16,0	5,17	16,0	5,98	16,0	6,40
	15	16,0	4,29	16,0	4,47	16,0	4,99	16,0	5,78	16,0	6,20
		EW = 40°C		EW = 45°C		EW = 55°C		EW = 65°C		EW = 70°C	
		ΔT = 5°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C	

Symbols

- HC Heating capacity [kW]
- PI Power input [kW]
- LW Leaving water temperature
- EW Entering water temperature

Conditions

- ΔT (Leaving water temperature - Entering water temperature)
- Piping length R410A Refrigerant piping length = 5m
- No pump power input is included
- if Ta < 3°C and unit has bottom plate heater, 95 W has to be added to PI value
- Ta < 0°C: RH=75%
- Ta > 0°C: RH=85%

flowrate [l/min]	*011*	*014*	*016*
ΔT = 15°C	10,5	13,4	15,3
ΔT = 10°C	15,8	20,1	22,9
ΔT = 5°C	31,5	40,1	45,9

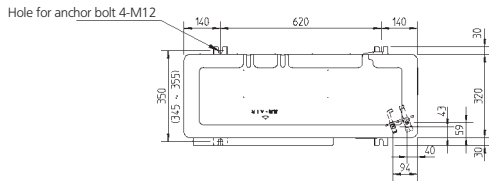
Integrated	Ta[°CDB]	LW [°C]		LW [°C]		LW [°C]		LW [°C]		LW [°C]	
		45		55		65		75		80	
		HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EKHBRD 011	-20	9,18	4,31	9,23	4,34	9,30	4,72	9,39	5,18	9,43	5,49
	-15	9,71	4,57	9,77	4,65	9,84	5,11	10,0	5,69	10,0	6,05
	-7	9,54	4,06	9,60	4,19	9,69	4,65	9,86	5,27	9,91	5,65
	-2	9,48	3,59	9,54	3,72	9,62	4,16	9,75	4,74	9,79	5,09
	2	9,47	3,31	9,53	3,45	9,62	3,88	9,76	4,42	9,80	4,75
	7	11,0	3,03	11,0	3,18	11,0	3,57	11,0	4,12	11,0	4,40
	12	11,0	2,75	11,0	2,90	11,0	3,31	11,0	3,82	11,0	4,13
	15	11,0	2,61	11,0	2,77	11,0	3,17	11,0	3,67	11,0	3,96
EKHBRD 014	-20	9,82	4,31	9,92	4,57	10,0	4,86	10,1	5,40	10,1	5,76
	-15	10,9	4,80	10,9	4,90	11,0	5,23	11,1	5,86	11,2	6,24
	-7	11,7	5,00	11,8	5,12	11,9	5,53	12,1	6,31	12,1	6,73
	-2	11,8	4,73	11,8	4,87	12,0	5,31	12,2	6,12	12,2	6,54
	2	11,8	4,41	11,8	4,56	11,9	4,99	12,1	5,78	12,2	6,19
	7	14,0	4,07	14,0	4,23	14,0	4,66	14,0	5,42	14,0	5,65
	12	14,0	3,72	14,0	3,91	14,0	4,34	14,0	5,09	14,0	5,47
	15	14,0	3,55	14,0	3,73	14,0	4,16	14,0	4,89	14,0	5,27
EKHBRD 016	-20	10,2	4,83	10,3	4,83	10,4	5,14	10,1	5,50	10,0	5,71
	-15	11,3	5,05	11,3	5,07	11,4	5,43	11,2	5,84	11,1	6,09
	-7	12,5	5,34	12,6	5,43	12,7	5,88	12,6	6,46	12,6	6,76
	-2	13,0	5,31	13,1	5,44	13,3	5,93	13,3	6,64	13,3	6,99
	2	13,2	5,08	13,3	5,29	13,5	5,80	13,6	6,59	13,6	6,99
	7	16,0	4,83	16,0	5,01	16,0	5,57	16,0	6,35	16,0	6,65
	12	16,0	4,48	16,0	4,66	16,0	5,17	16,0	5,98	16,0	6,40
	15	16,0	4,29	16,0	4,47	16,0	4,99	16,0	5,78	16,0	6,20
		EW = 40°C		EW = 45°C		EW = 55°C		EW = 65°C		EW = 70°C	
		ΔT = 5°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C		ΔT = 10°C	

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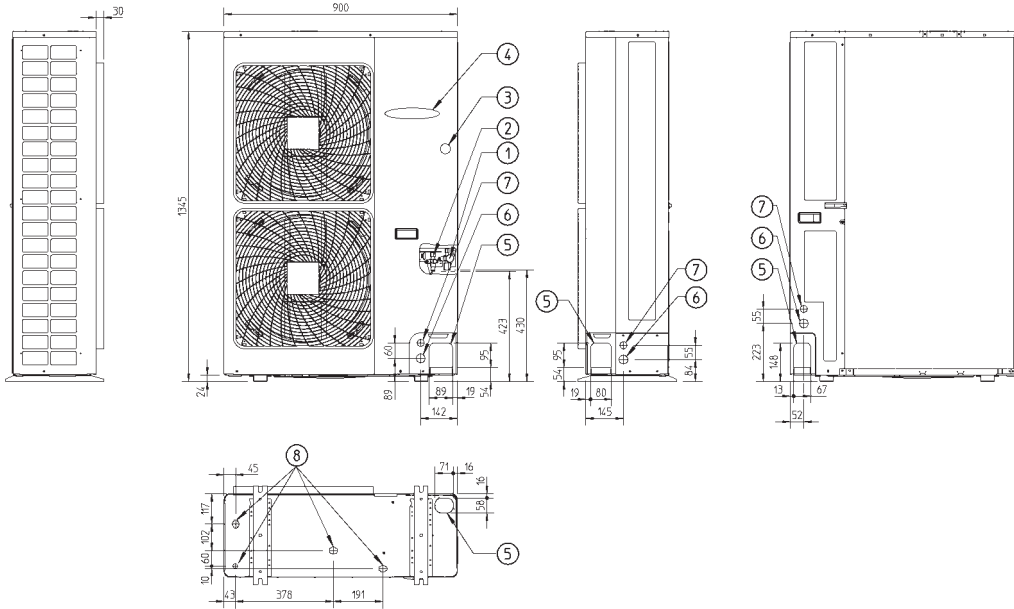
4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

ERSQ011-016AA



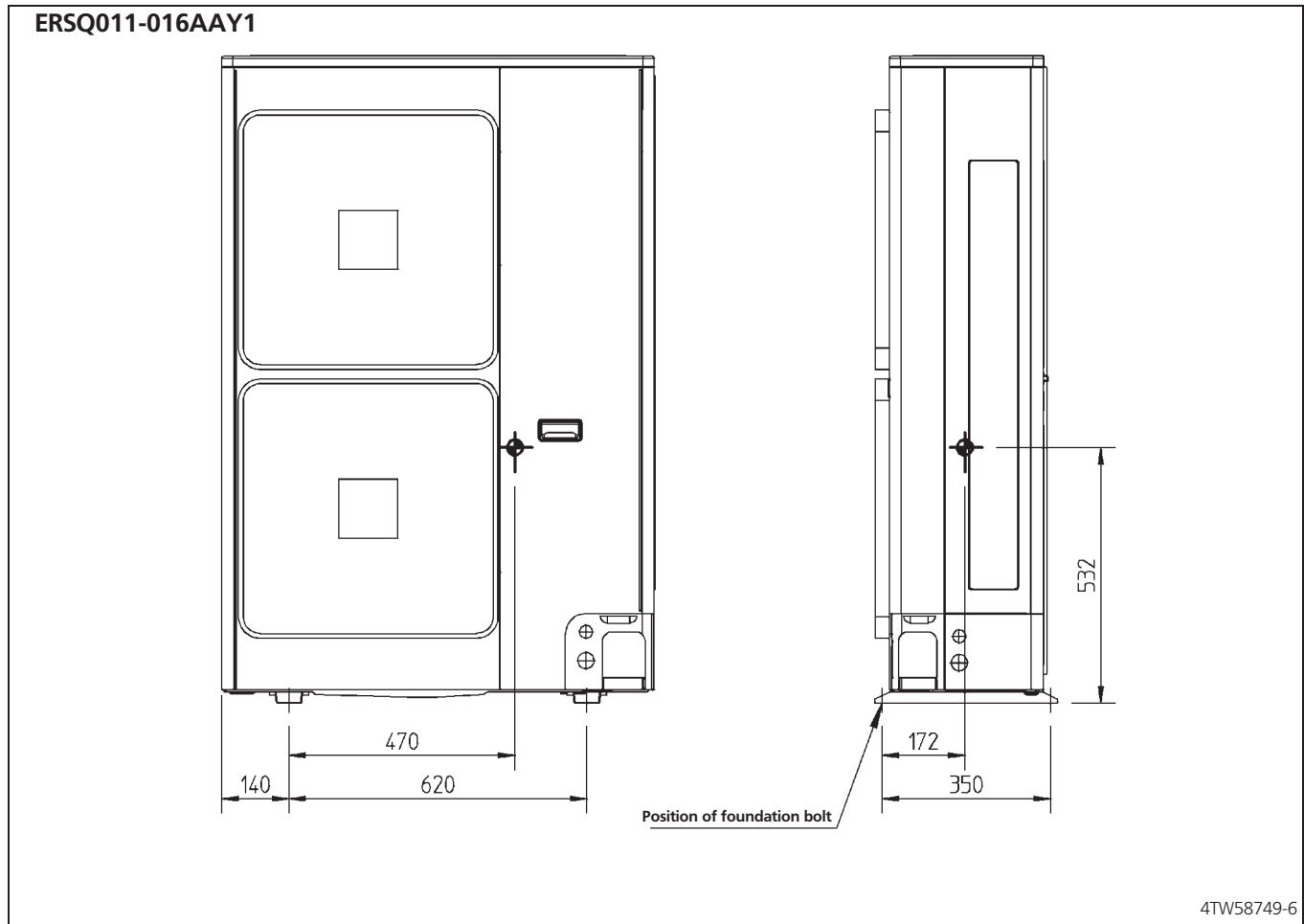
1. Gas pipe connection ϕ 15.9 flare
2. Liquid connection pipe $\#$ 9.5 flare
3. Service port (in the unit)
4. Electronic connection and grounding terminal MS (in switch box)
5. Refrigerant piping intake
6. Power supply wiring intake (knock hole ϕ 34)
7. Control wiring intake (knock hole ϕ 27)
8. Drain outlet



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4 Dimensional drawing & centre of gravity

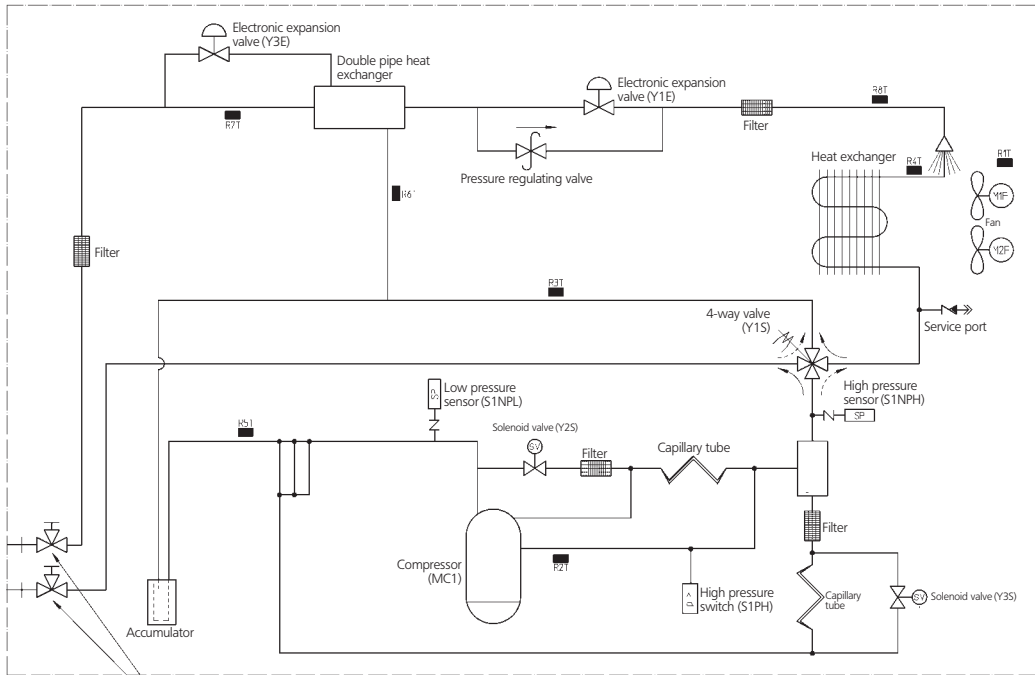
4 - 2 Centre of gravity



5 Piping diagram

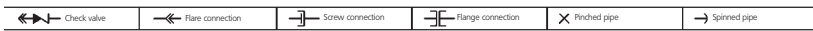
5 - 1 Piping diagram

ERSQ011-016AA



- R1T: Ambient thermistor
- R2T: Discharge thermistor
- R3T: Suction thermistor(1)
- R4T: Coil thermistor
- R5T: Suction thermistor(2)
- R6T: Subcool thermistor
- R7T: Liquid thermistor (1)
- R8T: Liquid thermistor (2)

Heating
 Defrost
 Stop valve (with service port on field piping side ϕ 7.9mm flare connection)

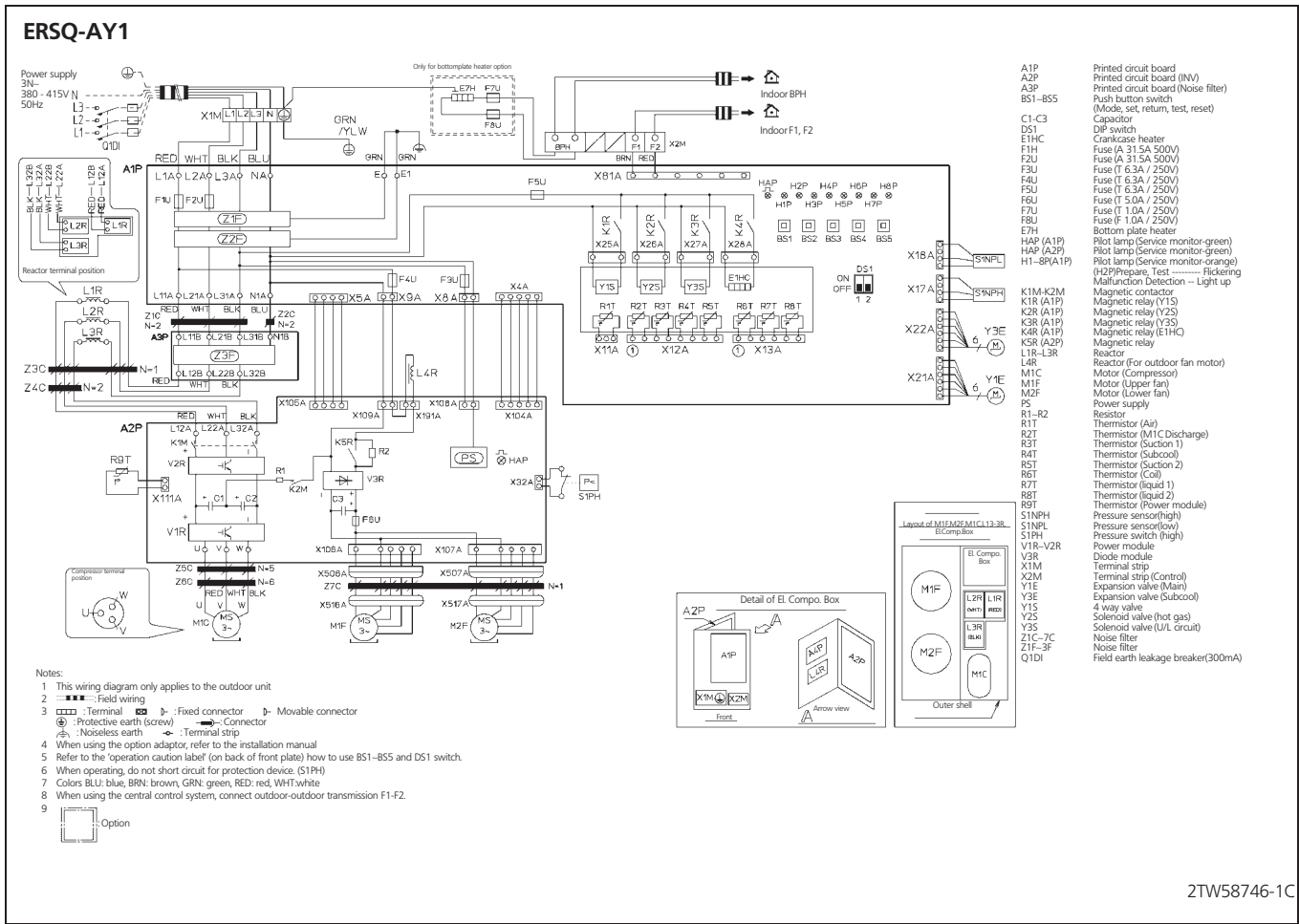


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6 Wiring diagram

6 - 1 Wiring diagram

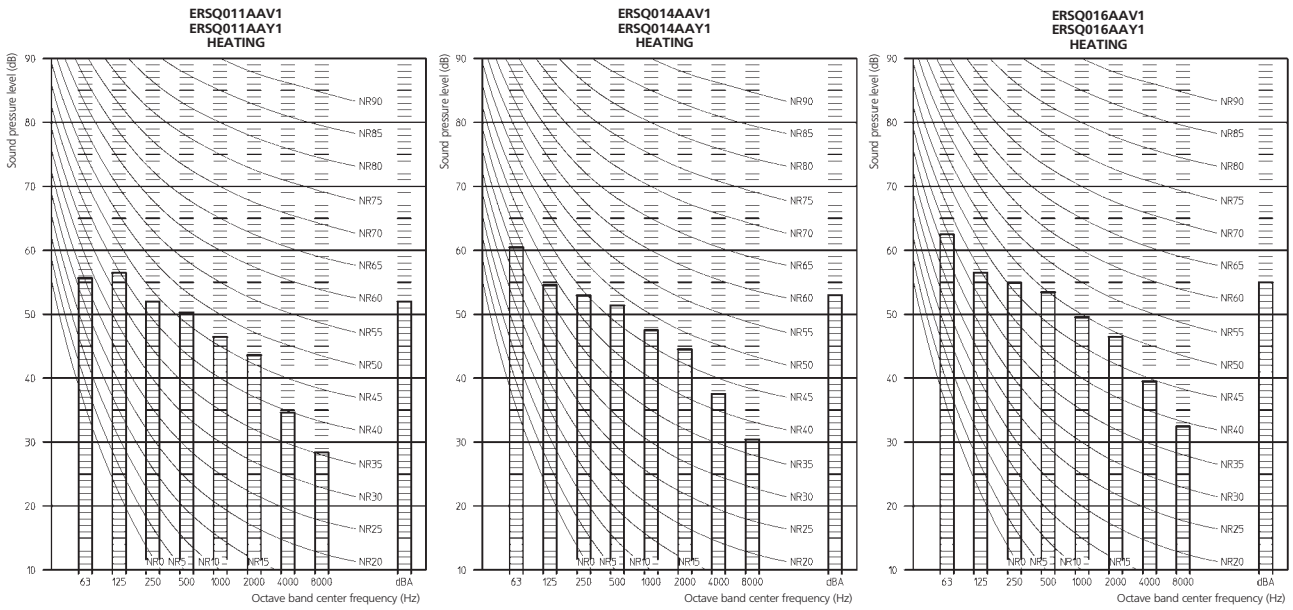


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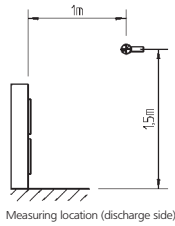
7 Sound data

7 - 1 Sound pressure spectrum



Notes:

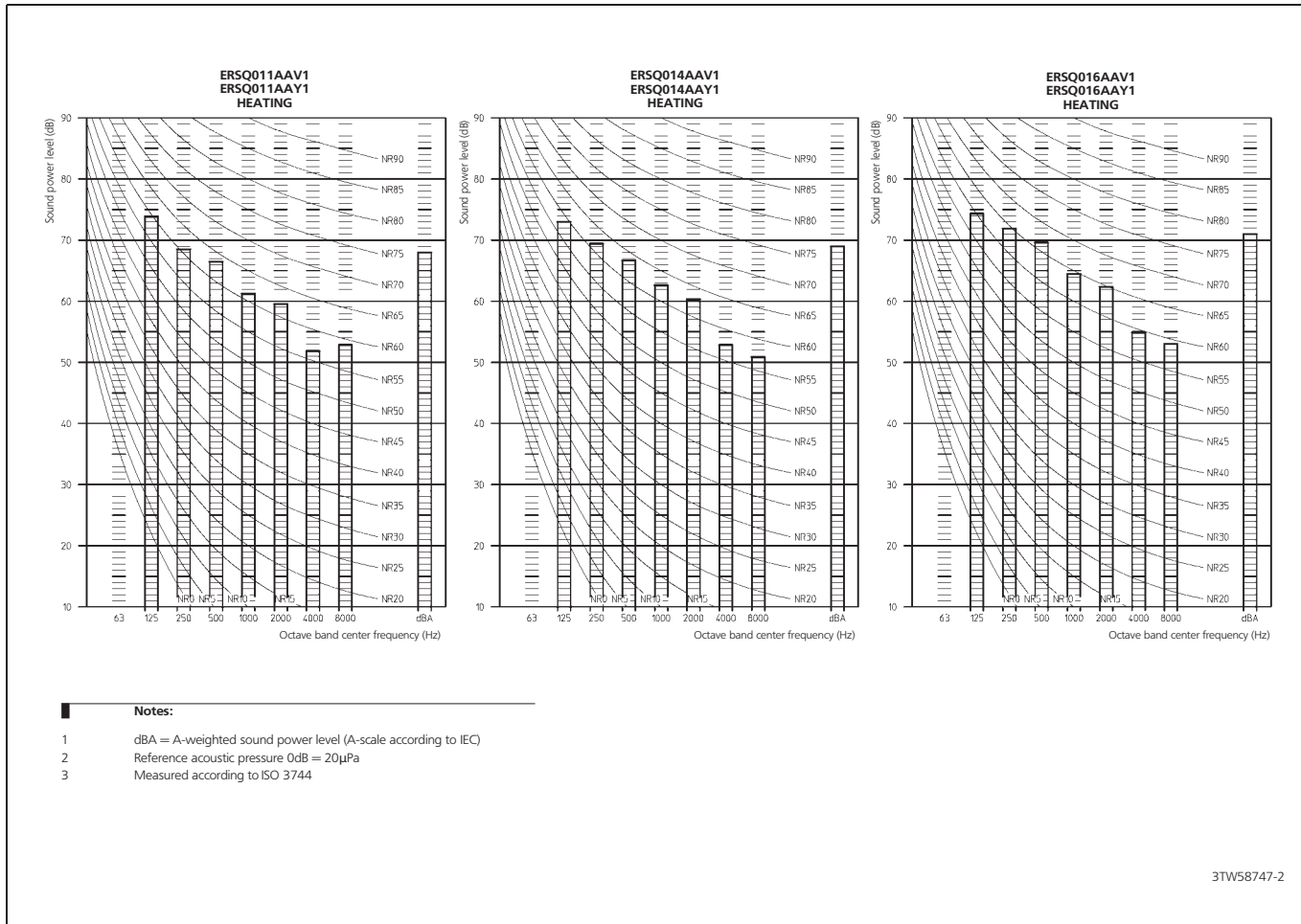
- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20μPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



3TW58747-1

7 Sound data

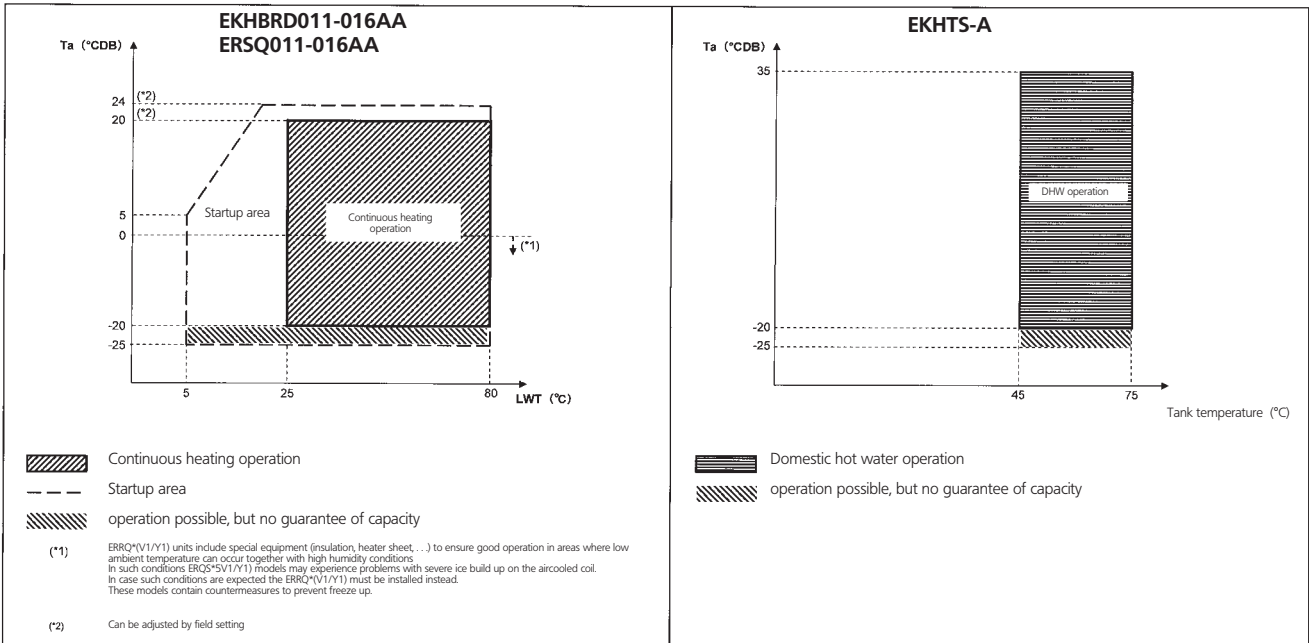
7 - 2 Sound power spectrum



8 Operation range

Space heating mode

Domestic hot water mode



3TW58843-1B

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1 Features

- High temperature application: up to 80°C without electric heater
- Single phase large capacity indoor unit
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 Technical Specifications				EKHDRD011AAV1	EKHDRD014AAV1	EKHDRD016AAV1	
Casing	Colour			Metalic grey			
	Material			Precoated sheet metal			
Dimensions	Packing	Height	mm	860	860	860	
		Width	mm	680	680	680	
		Depth	mm	800	800	800	
	Unit	Height	mm	705	705	705	
		Width	mm	600	600	600	
		Depth	mm	695	695	695	
Weight	Unit		kg	144,25			
	Packed Unit		kg	153	153	153	
Packing	Material			EPS			
				Cardboard			
				MDF			
				Wood (pallet)			
				Metal			
Weight		kg	8,75				
Main components	Refrigerant side heat exchanger	Type		Plate heat exchanger			
		Quantity		1	1	1	
Refrigerant side heat exchanger	Plates	Quantity		60	60	60	
Main components	Refrigerant side heat exchanger	Material		AISI 316			
		Insulation material		EPDM type			
	Pump	Type		DC motor			
		Nr. of speed		Inverter controlled			
Pump	Nominal ESP unit	Heating	kPa	94,0	91,9	89,7	
Main components	Pump	Power input		W	87	95	101
	Water side Heat exchanger	Type		Plate heat exchanger			
Qty		1	1	1			
Water side Heat exchanger	Plates	Quantity		50	50	50	
Main components	Water side Heat exchanger	Material		AISI 316			
		Water volume	l	2,78	2,78	2,78	
Water side Heat exchanger	Water flow rate Nom.	Heating	l/min	15,8	20,1	22,9	
Main components	Water side Heat exchanger	Water flow rate Max.	l/min	31,6	40	45,8	
		Insulation material		EPDM type			
	Expansion vessel	Volume	l	12	12	12	
		Max. water pressure	bar	3	3	3	
		Pre pressure	bar	1	1	1	
	Water filter	Diameter perforations	mm	1	1	1	
		Material		Brass			
	Cascade compressor	Quantity		1	1	1	
Cascade compressor	Motor	Type		Hermetically sealed scroll compressor			
		Starting Method		Direct on line			
Motor	Crankcase Heater	Quantity		1	1	1	
Cascade compressor	Motor	Crankcase Heater Output	W	33	33	33	
Water circuit	Piping connections diameter		inch	G 1"1/4 (female)			
	Piping		inch	1"			
	Safety valve		bar	3	3	3	
	Manometer			Yes			
	Drain valve / Fill valve			Yes			
	Shut off valve			Yes			
	Air purge valve			Yes			
Heating water system	Water volume	Min	l	20	20	20	
		Max	l	400	400	400	

2 Specifications

2-1 Technical Specifications				EKHDRD011AAV1	EKHDRD014AAV1	EKHDRD016AAV1
Refrigerant Circuit	Gas side diameter		mm	15,9		
	Liquid side diameter		mm	9,52		
	High pressure side	Design pressure	bar	38	38	38
Sound level	Sound Pressure		dBA	43(1) / 46(2)	45(1) / 46(2)	46(1) / 46(2)
Sound Level Night Quiet	Sound Pressure		dBA	40	43	45
Ambient	Heating	Min	°C	-20	-20	-20
		Max	°C	20	20	20
	Domestic hot water	Min	°C	-20	-20	-20
		Max	°C	35	35	35
Waterside	Heating	Min	°C	25	25	25
		Max	°C	80	80	80
	Domestic hot water	Min	°C	25	25	25
		Max	°C	80	80	80
Installation place				Indoor		
Notes				Nominal water flow rate for Dt = 10°C		
				Maximum water flow rate for Dt = 5°C		
				(1) Sound levels are measured at condition 1: EW: 55°C; LW: 65°C		
				(2) Sound levels are measured at condition 3: EW: 70°C; LW: 80°C		
				Sound level in night quiet mode is measured at condition 1: EW: 55°C; LW: 65°C		
				Sound level is valid in free field condition because it is measured in a semi-anechoic room. Measured value under actual installation conditions will be higher due to environmental noise and sound reflections. Values are sound pressure values measured at all sides (front, back, left, right, top) at 1m distance. The values do not occur simultaneously on all mentioned sides.		
				For details on operation range: cf. TW drawing		

2-2 Electrical Specifications				EKHDRD011AAV1	EKHDRD014AAV1	EKHDRD016AAV1
Power Supply	Name			V1		
	Phase			1~		
	Frequency	Hz	50	50	50	
	Voltage	V	220-240			
Current	Minimum Ssc value		Equipment complying with EN/IEC 61000-3-12 **			
Maximum running Current	Heating	A	22.5	23.8	23.8	
Recommended fuses			A	25	25	25
Voltage range	Minimum		198			
	Maximum		254			
Wiring connections	For Power Supply	Quantity	2G			
		Type of wires	(3) Select diameter and type according to national and local regulations			
		Quantity	2G + 2G			
		Connection type	For power supply with benefit kWh rates			
Power Supply Intake			Both indoor and outdoor unit			
	Wiring connections	Connection type	For connection with outdoor unit			
	Quantity of wires		2	2	2	
	Type of wires		F1+F2			
Notes				(**) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16A and <= 75A per phase		
				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		
				Ssc: Short-circuit power		
				(*) 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 <= 75A		
				(***) System impedance		

3 Capacity tables

3 - 1 Combination table

EKHBRD-AAV1

I. Pair outdoor / pair indoor combination table

Heating only indoor unit	Heating only outdoor unit	ER(S/R)Q011AAV1	ER(S/R)Q014AAV1	ER(S/R)Q016AAV1	ER(S/R)Q011AAAY1	ER(S/R)Q014AAAY1	ER(S/R)Q016AAAY1
EKHBRD011AAV1		○	—	—	—	—	—
EKHBRD014AAV1		—	○	—	—	—	—
EKHBRD016AAV1		—	—	○	—	—	—
EKHBRD011AAAY1		—	—	—	○	—	—
EKHBRD014AAAY1		—	—	—	—	○	—
EKHBRD016AAAY1		—	—	—	—	—	○

Note:
ERRQ units include special equipment (insulation, heater sheet, ...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the ERSQ models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the ERRQ must be installed instead. These models contain countermeasures (insulation, heater sheet, ...) to prevent freeze up.

II. Kit availability

1. Kits connected to the outdoor unit

Reference	Description	ERSQ011**	ERSQ014**	ERSQ016**	ERRQ011**	ERRQ014**	ERRQ016**
EKDK04(1)	Drain kit	○	○	○	—	—	—
EKBPTH16A	Bottom plate heater	○	○	○	—	—	—

2. Kits connected to the indoor unit

Reference	Description	Heating only model EKHBRD**					
		011AAV1	011AAAY1	014AAV1	014AAAY1	016AAV1	016AAAY1
EKHTS200A	Stainless domestic hot water tank 200l	○	○	○	○	○	○
EKHTS260A	Stainless domestic hot water tank 260l	○	○	○	○	○	○
EKHTSU200AA	Stainless domestic hot water tank 200l UK - Version	○	○	○	○	○	○
EKHTSU260AA	Stainless domestic hot water tank 260l UK - Version	○	○	○	○	○	○
EKHTSP200AA	Stainless domestic hot water tank 200l passivated tank with service hole	○	○	○	○	○	○
EKHTSP260AA	Stainless domestic hot water tank 260l passivated tank with service hole	○	○	○	○	○	○
EKRP1HBA	Digital I/O PCB	○	○	○	○	○	○
EKRP1AHTA	Demand PCB (3)	○	○	○	○	○	○
EKRUAHTA	Remote user interface (4)	○	○	○	○	○	○
EKRTRW	Room thermostat (2)	○	○	○	○	○	○
EKRTR	Room thermostat (2)	○	○	○	○	○	○
EKRTEFS	Room thermostat (2)	○	○	○	○	○	○

Kits connected to the domestic hot water tank

Reference	Description	EKHTS EKHTSU EKHTSP					
		200A	260A	200AA	260AA	200AA	260AA
EKUHWHTA	Option kit for UK EKHTSU200-270A	-	-	○	○	-	-
EKFMAHTA (5)	Option kit for standalone tank	○	○	○	○	○	○

Remarks: Other combinations are not guaranteed

(1) If bottom plate heater tape is installed (EKBPTH16A), it is not allowed to install a drain kit

(2) requires Demand PCB EKRP1AHTA.

(3) Required to install to be able to connect Roomthermostat or BUH kit.

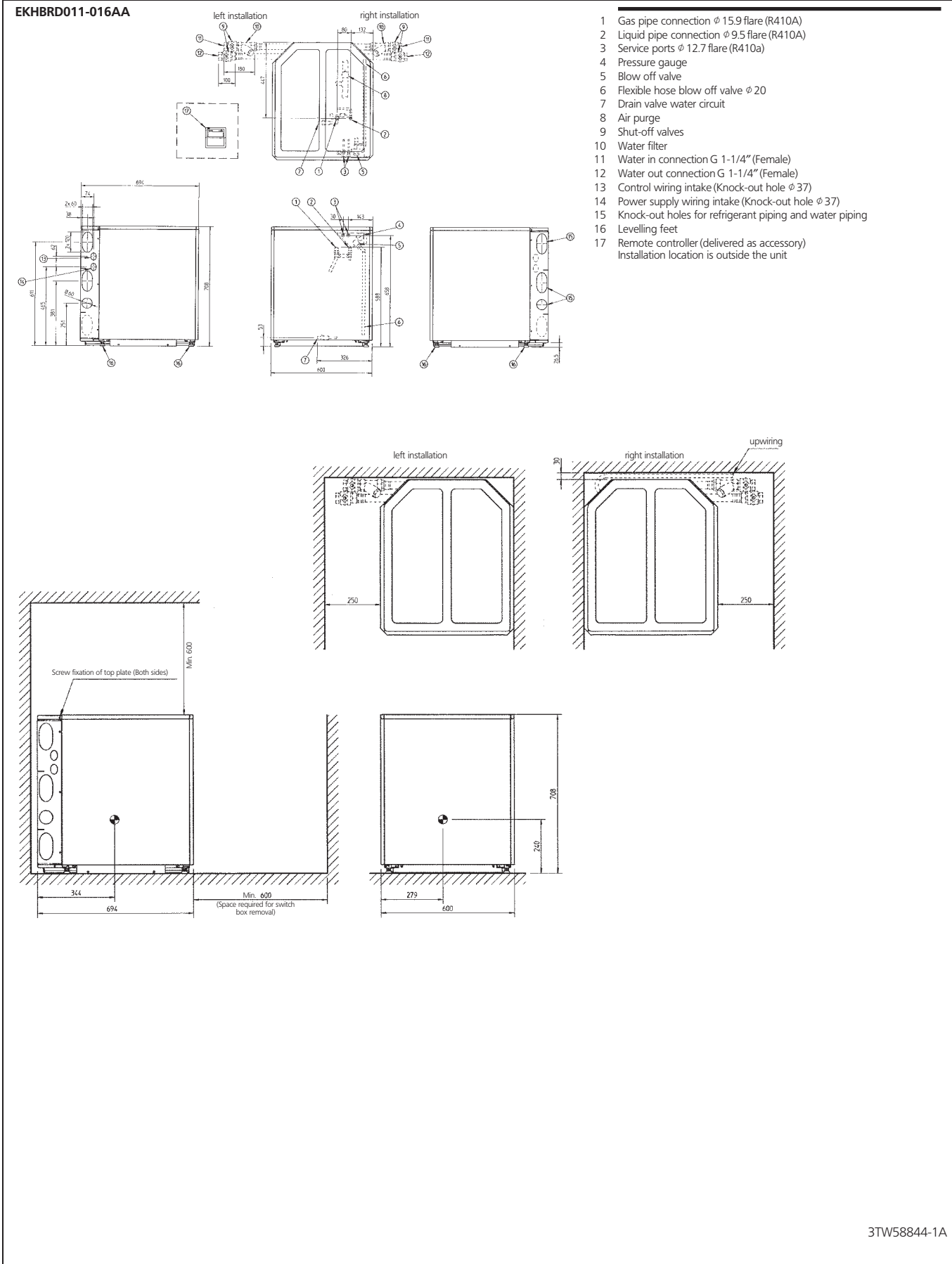
(4) Same controller as supplied with Cascade unit can be mounted parallel or on other location. If 2 controllers are installed, the installer needs to select 1 master and 1 slave.

(5) Only required if tank is NOT mounted on top of cascade indoor unit.

3TW58749-2B

4 Dimensional drawing & centre of gravity

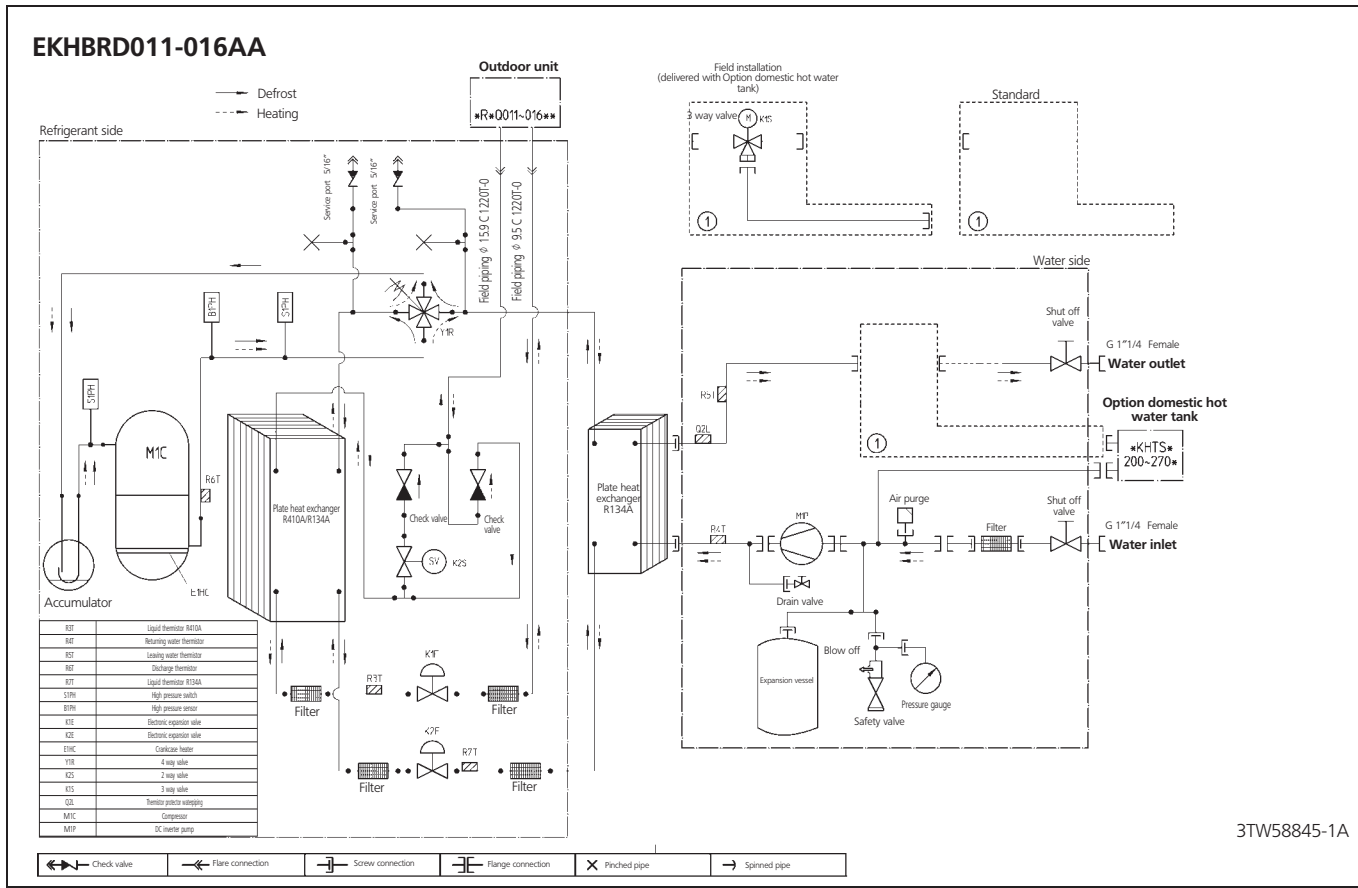
4 - 1 Dimensional drawing



3TW58844-1A

5 Piping diagram

5 - 1 Piping diagram



6 Wiring diagram

6 - 1 Wiring diagram

NOTES TO GO THROUGH BEFORE STARTING THE UNIT

X1M : Main terminal
 X2M : Fieldwiring terminal for AC
 X3M : Fieldwiring terminal for DC

— — — — — : Earth wiring
 - - - - - : Field supply



: Option



: Wiring depending on model



: Not mounted in switchbox



: PCB

— **/12.2 : Connection ** continues on page 12 column 2



: Several wiring possibilities

User installed:

KHTS = Domestic hot water tank
 *KRTW = Room thermostat (Wired)
 *KRTR = Room thermostat (Wireless)
 *KRTETS = External temperature sensor for *KRTR
 *KRUAHTA = Remote user interface
 *KRP1HBAA = Digital I/O PCB
 *KRP1AHTA = Demand PCB
 *KBPHTH16A = Bottom plate heater

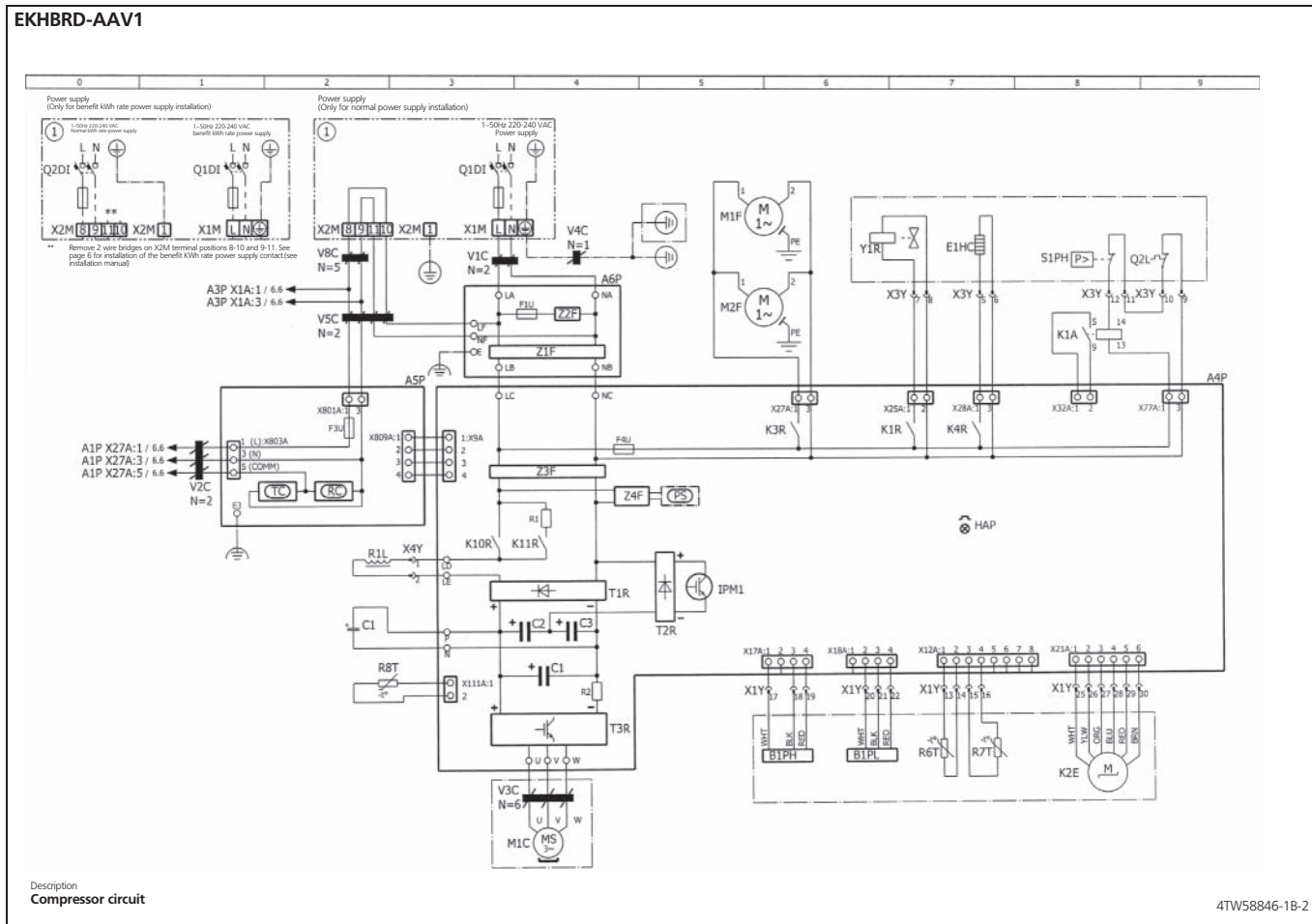
Legend

* : included in option kit
 # : field supplied

A1P : Main PCB
 A2P : User interface PCB
 A3P : control PCB
 A4P : Inverter PCB
 A5P : QA PCB
 A6P : Filter PCB
 A7P * : Digital I/O PCB
 A8P * : Demand PCB
 A9P : Service PCB
 A10P * : ThermostatPCB
 A11P * : Receiver PCB
 B1PH : High pressure sensor
 B1PL : Low pressure sensor
 B51-B54 (A9P) : Push button
 C1 : Capacitor
 C2-C3 : Filter capacitor
 C1-C3 (A4P) : PCB Capacitor
 DS1 (A*P) : Dipswitch
 E7H * : Bottom plate heater (only in combination with ERRQ* outdoor unit or ERSQ* outdoor unit with option EKBPHTH16A)
 E1HC : Crankcase heater
 F1U (A1P/A3P) : Fuse (T, 3.15A, 250V)
 F1U (A6P) : Fuse (T, 6.3A, 250V)
 F1U-F2U (A7P) * : Fuse (5A, 250V)
 F3U-F4U : Fuse (T, 6.3A, 250V)
 H1P-H7P (A9P) : PCB LED
 HAP (A*P) : PCB LED
 IPM1 : Integrated power module
 K1A : Interface relay
 K1E : Electronic expansion valve
 K2E : Electronic expansion valve
 K*R (A*P) : PCB Relay
 K1S * : 3 way valve
 K2S : 2 way valve
 M1C : Compressor
 M1F-M2F : Switchbox cooling fan
 M1P : DC inverter pump
 PC (A11P) * : Power circuit
 PHC1 : Optocoupler input circuit
 PS (A*P) : Switching power supply
 Q1DI-Q2DI # : Earth leakage protector
 Q2L : Thermal protector water piping
 R1-R2 (A4P) : Resistance
 R1L : Reactor
 R1H (*KRTR) * : Humidity sensor
 R1T (*KRTW/R) * : Ambient sensor
 R2T (*KHTS) * : Domestic hot water tank Thermistor
 R2T (*KRTETS) * : External sensor (floor or ambient)
 R3T : Liquid thermistor R410A
 R4T : Returning water thermistor
 R5T : Leaving water thermistor
 R6T : Discharge thermistor
 R7T : Liquid thermistor R134a
 R8T : Fin thermistor
 RC (A*P) : Receiver circuit
 S1PH : High pressure switch
 S1S # : benefit kWh rate power supply contact
 S3S # : Input multiple setpoint 1
 S4S # : Input multiple setpoint 2
 SS1 (A1P) : Selector switch(emergency)
 SS1 (A2P) : Selector switch(master slave)
 SS1 (A7P) * : Selector switch
 TC (A*P) : Transmitter circuit
 T1R-T2R (A*P) : Diode bridge
 T3R : Power module
 V1C-V8C : Ferrite core noise filter
 X1M-X3M : Terminal strip
 X*M (A*P) * : PCB terminal strip
 X1Y-X4Y : Connector
 Y1R : 4 way valve
 Z1F-Z5F (A*P) : Noise filter

6 Wiring diagram

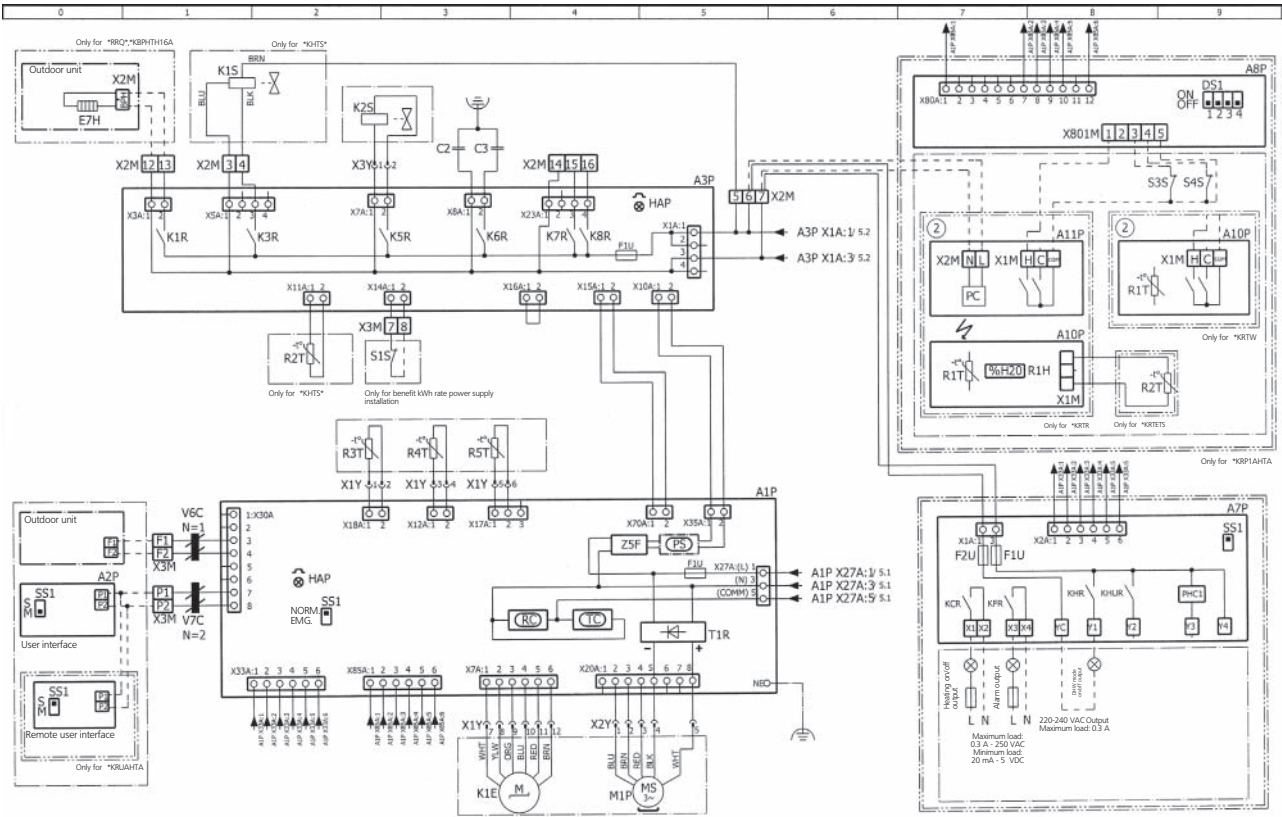
6 - 1 Wiring diagram



6 Wiring diagram

6 - 1 Wiring diagram

EKHBRD-AAV1



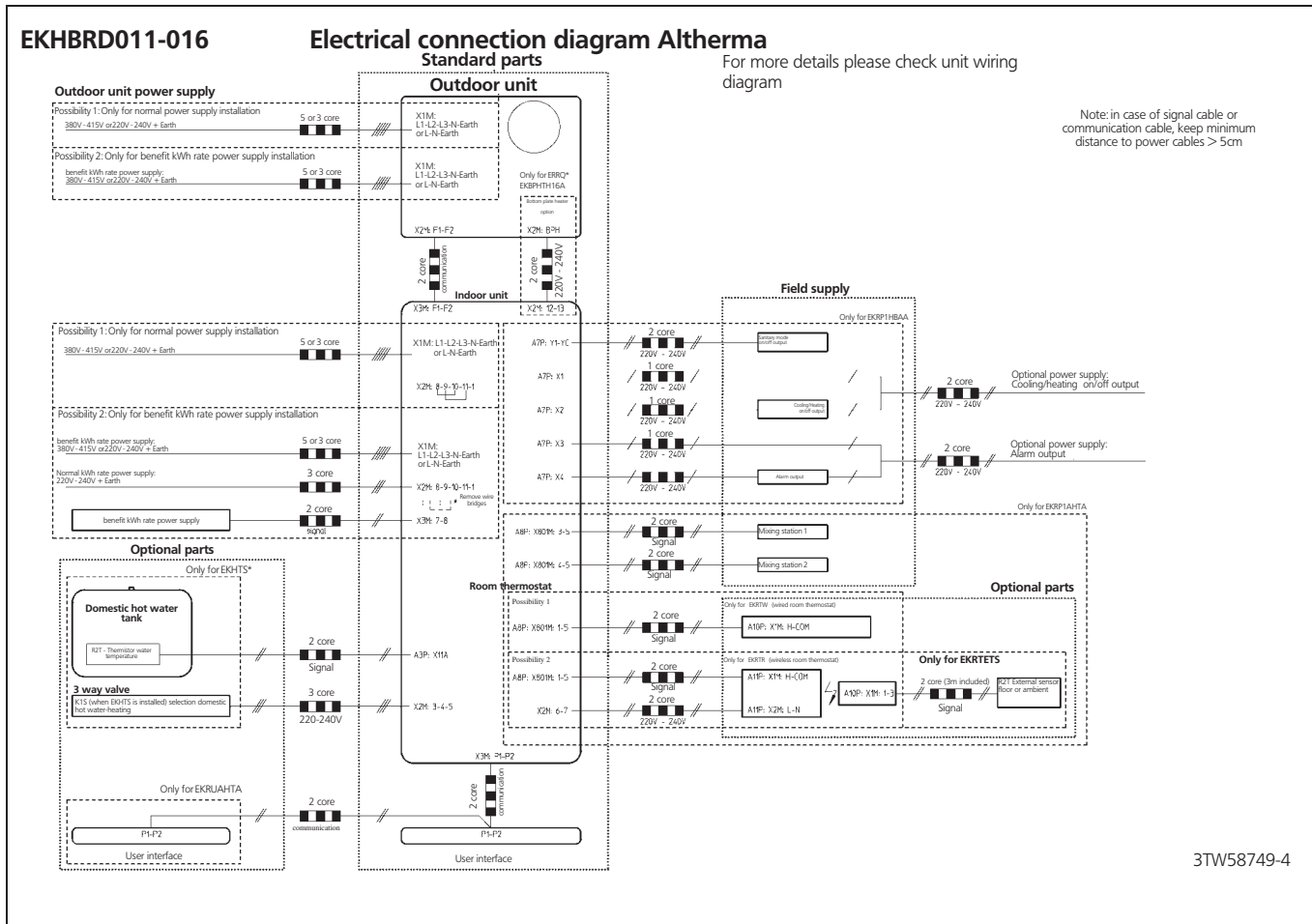
Description
Control circuit

4TW58846-1B

5
6

6 Wiring diagram

6 - 2 External connection diagram

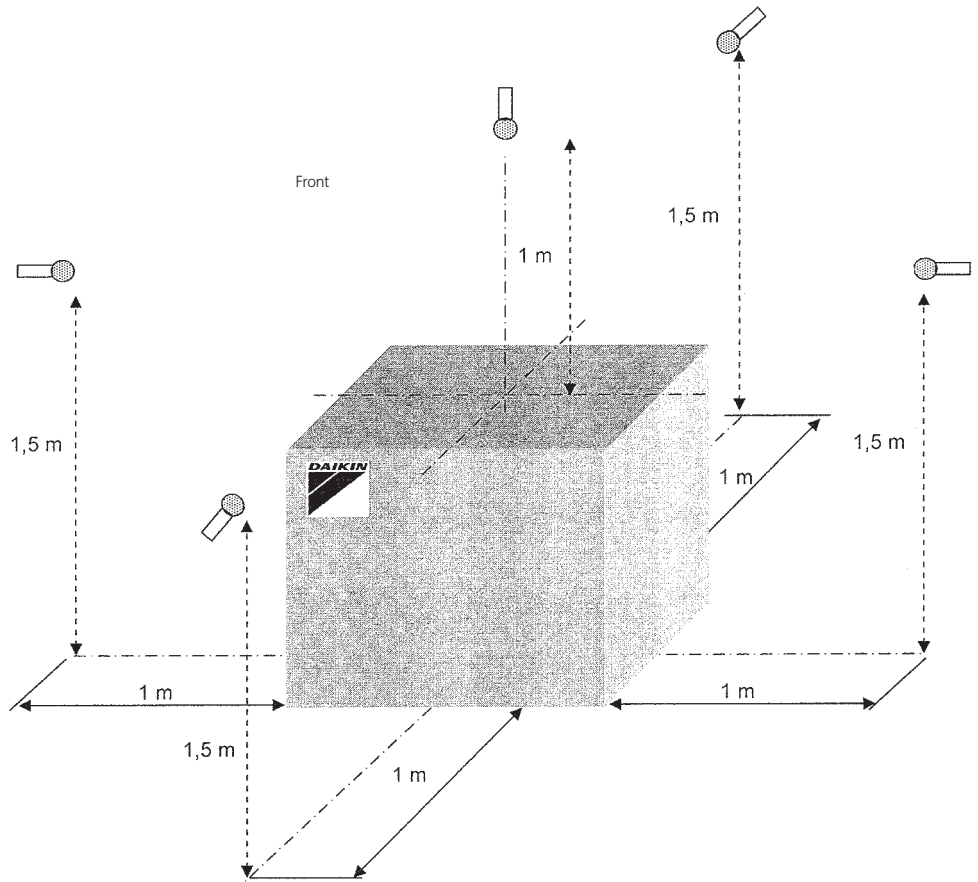


3TW58749-4

7 Sound data

7 - 1 Sound pressure spectrum

EKHRD011-016AA



Microphone

Sound levels

Sound pressure [dBA] - standalone

	11(V1/Y1)	14(V1/Y1)	16(V1/Y1)
[EW/LW 55/65°C] Front	40	43	46
Left / Right / Back / Top (*)	43	45	46
[EW/LW 70/80°C] Front	46	46	46
Left / Right / Back / Top (*)	46	46	46
[EW/LW 55/65°C] - Low sound mode n°1 Front	39	40	43
Left / Right / Back / Top (*)	40	43	45

Sound pressure [dBA] - Integrated (+Tank)

	11(V1/Y1)	14(V1/Y1)	16(V1/Y1)
[EW/LW 55/65°C] Front	38	39	42
Left / Right / Back / Top (*)	41	44	45
[EW/LW 70/80°C] Front	43	43	43
Left / Right / Back / Top (*)	46	46	46
[EW/LW 55/65°C] - Low sound mode n°1 Front	37	38	39
Left / Right / Back / Top (*)	40	41	44

Notes

- The above data is valid in free field condition, because it is measured in a semi-anechoic room. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections. Choose the installation location carefully and do not install in a sound sensitive environment (e.g. living room, bedroom, ...)
- dB(A) = A-weighted sound power level (A-scale according to IEC)
- EW = Entering water temperature
- LW = Leaving water temperature
- Reference acoustic pressure 0dB = 20µPa
- Sound pressure level of low sound mode n°2 and n°3 is lower than n°1
- (*) Does not occur simultaneously on all sides.

3TW58847-1B

7 Sound data

7 - 2 Sound power spectrum

EKHRD011-016AA

	Sound power Lw per Octave band (dB)							Total (dBA)
	125	250	500	1000	2000	4000	8000	LwA
EKHRD011AAV1	53	61	61	49	43	39	34	59
EKHRD014AAV1	73	61	61	51	43	42	38	60
EKHRD016AAV1	72	61	60	49	44	43	39	60

Notes

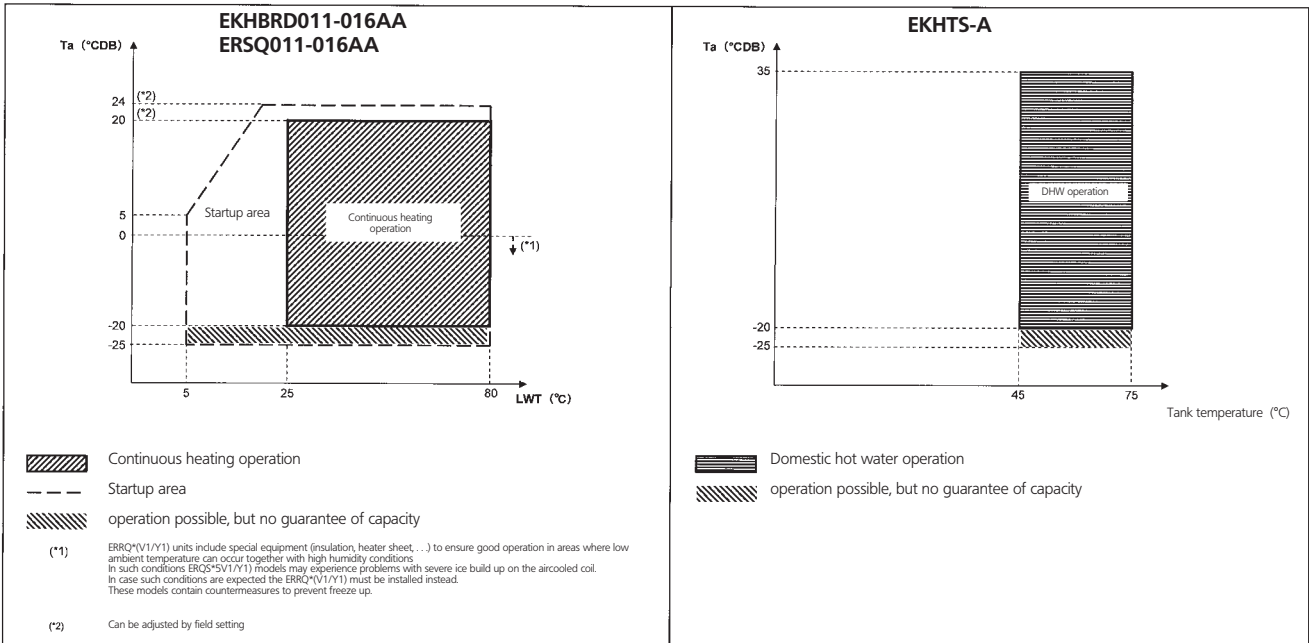
- Measured according to ISO3744
- Reference acoustic intensity $0\text{dB} = 10\text{E-}6\mu\text{W/m}^2$
- dBA=A-weighted sound power level
- Unit condition: $T_a=7/6^\circ\text{C}$ - Heating setpoint $70/80^\circ\text{C}$ - Maximum compressor frequency
- If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections. Choose the installation location carefully and do not install in a sound sensitive environment (e.g. living room, bedroom, ...)

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8 Operation range

Space heating mode

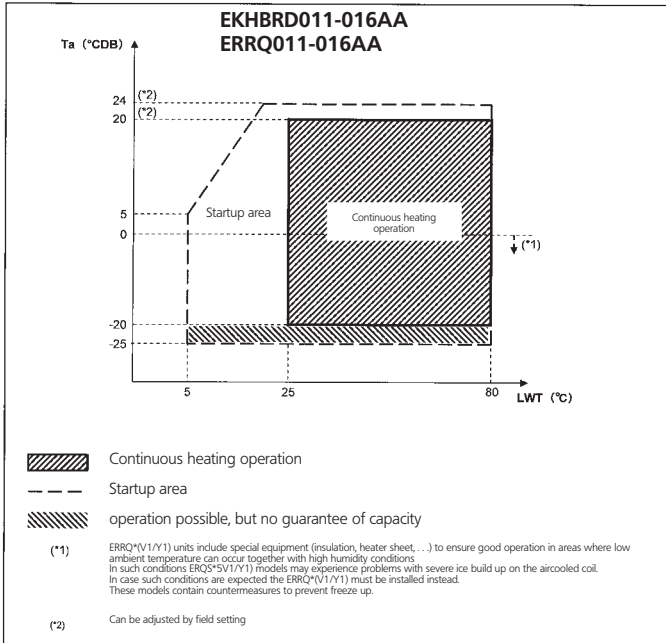
Domestic hot water mode



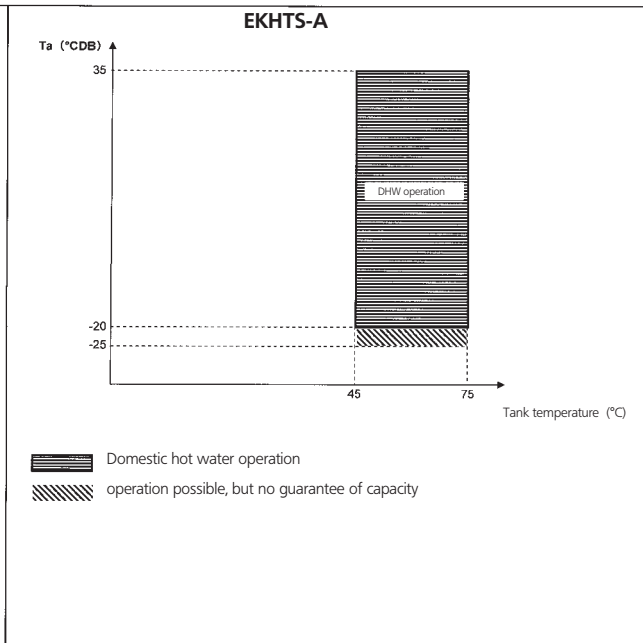
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8 Operation range

Space heating mode



Domestic hot water mode

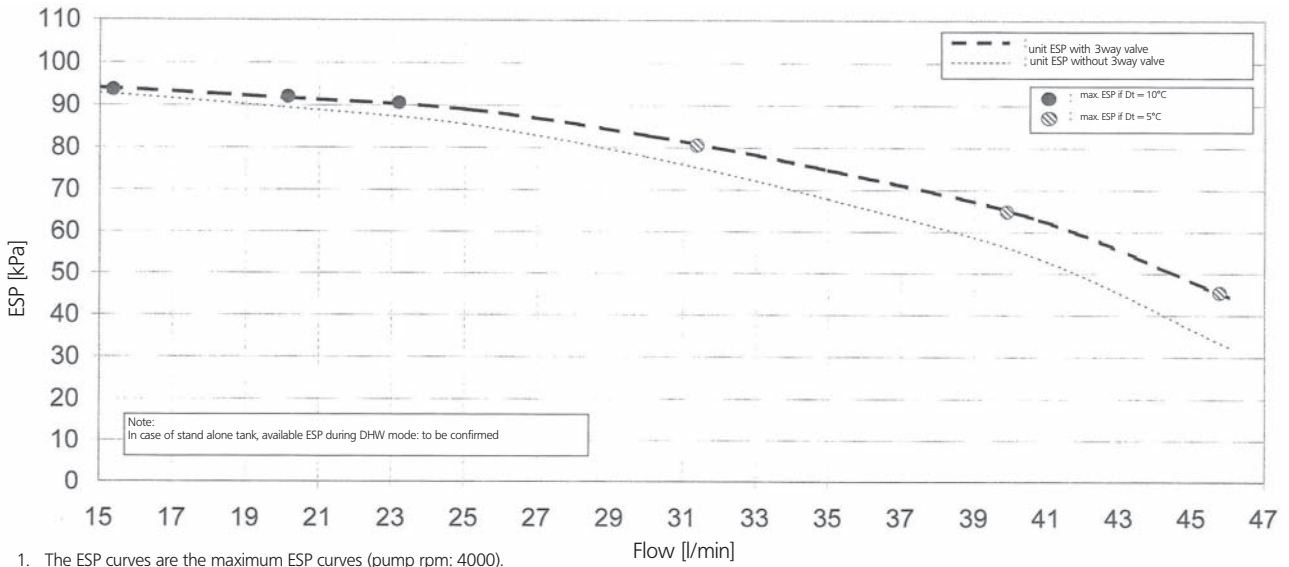


3TW58843-1B

9 Hydraulic performance

9 - 1 Static pressure drop unit

EKHRD011-016AA



Note:
In case of stand alone tank, available ESP during DHW mode: to be confirmed

1. The ESP curves are the maximum ESP curves (pump rpm: 4000). The pump of the indoor module is inverter controlled and controls to have a fixed ΔT between return and leaving water temperature.
2. In case of installing a domestic hot water tank there is an additional pressure drop over the three way valve (delivered as accessory with the tank)

ESP: External static pressure
Flow: waterflow through the unit

Warning

1. Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2. Water quality must be according to EN directive EC 98/83 EC.

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1 Features

- High temperature application: up to 80°C without electric heater
- Three phase large capacity indoor unit
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



6

1

2 Specifications

2-1 Technical Specifications				EKHRD011AA1	EKHRD014AA1	EKHRD016AA1	
Casing	Colour			Metalic grey			
	Material			Precoated sheet metal			
Dimensions	Packing	Height	mm	860	860	860	
		Width	mm	680	680	680	
		Depth	mm	800	800	800	
	Unit	Height	mm	705	705	705	
		Width	mm	600	600	600	
		Depth	mm	695	695	695	
Weight	Unit		kg	147.25			
	Packed Unit		kg	156	156	156	
Packing	Material			EPS			
				Cardboard			
				MDF			
				Wood (pallet)			
	Weight		kg	8,75			
Main components	Refrigerant side heat exchanger	Type		Plate heat exchanger			
		Quantity		1	1	1	
Refrigerant side heat exchanger	Plates	Quantity		60	60	60	
Main components	Refrigerant side heat exchanger	Material		AISI 316			
		Insulation material		EPDM type			
	Pump	Type		DC motor			
		Nr. of speed		Inverter controlled			
Pump	Nominal ESP unit	Heating	kPa	94,0	91,9	89,7	
Main components	Pump	Power input		W	87	95	101
	Water side Heat exchanger	Type		Plate heat exchanger			
Qty		1	1	1			
Water side Heat exchanger	Plates	Quantity		50	50	50	
Main components	Water side Heat exchanger	Material		AISI 316			
		Water volume	l	2.78	2.78	2.78	
Water side Heat exchanger	Water flow rate Nom.	Heating	l/min	15,8	20,1	22,9	
Main components	Water side Heat exchanger	Water flow rate Max.	l/min	31,6	40	45,8	
		Insulation material		EPDM type			
	Expansion vessel	Volume	l	12	12	12	
		Max. water pressure	bar	3	3	3	
		Pre pressure	bar	1	1	1	
	Water filter	Diameter perforations	mm	1	1	1	
		Material		Brass			
	Cascade compressor	Quantity		1	1	1	
Cascade compressor	Motor	Type		Hermetically sealed scroll compressor			
		Starting Method		Direct on line			
Motor	Crankcase Heater	Quantity		1	1	1	
Cascade compressor	Motor	Crankcase Heater Output	W	33	33	33	
Water circuit	Piping connections diameter		inch	G 1"1/4 (female)			
	Piping		inch	1"			
	Safety valve		bar	3	3	3	
	Manometer			Yes			
	Drain valve / Fill valve			Yes			
	Shut off valve			Yes			
	Air purge valve			Yes			
Heating water system	Water volume	Min	l	20	20	20	
		Max	l	400	400	400	

2 Specifications

2-1 Technical Specifications				EKHBRD011AA1	EKHBRD014AA1	EKHBRD016AA1
Refrigerant Circuit	Gas side diameter		mm	15,9		
	Liquid side diameter		mm	9,52		
	High pressure side	Design pressure	bar	38	38	38
Sound level	Sound Pressure		dBA	43(1) / 46(2)	45(1) / 46(2)	46(1) / 46(2)
Sound Level Night Quiet	Sound Pressure		dBA	40	43	45
Ambient	Heating	Min	°C	-20	-20	-20
		Max	°C	20	20	20
	Domestic hot water	Min	°C	-20	-20	-20
		Max	°C	35	35	35
Waterside	Heating	Min	°C	25	25	25
		Max	°C	80	80	80
	Domestic hot water	Min	°C	25	25	25
		Max	°C	80	80	80
Installation place				Indoor		
Notes				Nominal water flow rate for Dt = 10°C		
				Maximum water flow rate for Dt = 5°C		
				(1) Sound levels are measured at condition 1: EW: 55°C; LW: 65°C		
				(2) Sound levels are measured at condition 3: EW: 70°C; LW: 80°C		
				Sound level in night quiet mode is measured at condition 1: EW: 55°C; LW: 65°C		
				Sound level is valid in free field condition because it is measured in a semi-anechoic room. Measured value under actual installation conditions will be higher due to environmental noise and sound reflections. Values are sound pressure values measured at all sides (front, back, left, right, top) at 1m distance. The values do not occur simultaneously on all mentioned sides.		
				For details on operation range: cf. TW drawing		

6

2

2-2 Electrical Specifications				EKHBRD011AA1	EKHBRD014AA1	EKHBRD016AA1
Power Supply	Name			Y1		
	Phase			3~		
	Frequency	Hz	50	50	50	
	Voltage	V	380-415			
Maximum running Current	Heating	A	12,5			
Recomended fuses		A	16	16	16	
Voltage range	Minimum		-10%			
	Maximum		+10%			
Wiring connections	For Power Supply	Quantity	4G			
		Type of wires	(3) Select diameter and type according to national and local regulations			
		Quantity	4G+2G			
		Connection type	For power supply with benefit kWh rates			
Power Supply Intake	Wiring connections	Type of wires	(3) Select diameter and type according to national and local regulations			
		Power Supply Intake		Both indoor and outdoor unit		
		Wiring connections		For connection with outdoor unit		
		Quantity of wires	2	2	2	
Type of wires		F1+F2				

3 Capacity tables

3 - 1 Combination table

EKHBRD-AAY1

I. Pair outdoor / pair indoor combination table

Heating only indoor unit	Heating only outdoor unit	ER(S/R)Q011AAV1	ER(S/R)Q014AAV1	ER(S/R)Q016AAV1	ER(S/R)Q011AAY1	ER(S/R)Q014AAY1	ER(S/R)Q016AAY1
EKHBRD011AAV1		○	—	—	—	—	—
EKHBRD014AAV1		—	○	—	—	—	—
EKHBRD016AAV1		—	—	○	—	—	—
EKHBRD011AAY1		—	—	—	○	—	—
EKHBRD014AAY1		—	—	—	—	○	—
EKHBRD016AAY1		—	—	—	—	—	○

Note:
ERRQ units include special equipment (insulation, heater sheet, ...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the ERSQ models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the ERRQ must be installed instead. These models contain countermeasures (insulation, heater sheet, ...) to prevent freeze up.

II. Kit availability

1. Kits connected to the outdoor unit

Reference	Description	ERSQ011**	ERSQ014**	ERSQ016**	ERRQ011**	ERRQ014**	ERRQ016**
EKDK04(1)	Drain kit	○	○	○	—	—	—
EKBPTH16A	Bottom plate heater	○	○	○	—	—	—

2. Kits connected to the indoor unit

Reference	Description	Heating only model EKHBRD**					
		011AAV1	011AAY1	014AAV1	014AAY1	016AAV1	016AAY1
EKHTS200A	Stainless domestic hot water tank 200l	○	○	○	○	○	○
EKHTS260A	Stainless domestic hot water tank 260l	○	○	○	○	○	○
EKHTSU200AA	Stainless domestic hot water tank 200l UK - Version	○	○	○	○	○	○
EKHTSU260AA	Stainless domestic hot water tank 260l UK - Version	○	○	○	○	○	○
EKHTSP200AA	Stainless domestic hot water tank 200l passivated tank with service hole	○	○	○	○	○	○
EKHTSP260AA	Stainless domestic hot water tank 260l passivated tank with service hole	○	○	○	○	○	○
EKRP1HBA	Digital I/O PCB	○	○	○	○	○	○
EKRP1AHTA	Demand PCB (3)	○	○	○	○	○	○
EKRUAHTA	Remote user interface (4)	○	○	○	○	○	○
EKRTRW	Room thermostat (2)	○	○	○	○	○	○
EKRTR	Room thermostat (2)	○	○	○	○	○	○
EKRTEFS	Room thermostat (2)	○	○	○	○	○	○

Kits connected to the domestic hot water tank

Reference	Description	EKHTS EKHTSU EKHTSP					
		200A	260A	200AA	260AA	200AA	260AA
EKUHWHTA	Option kit for UK EKHTSU200-270A	-	-	○	○	-	-
EKFMAHTA (5)	Option kit for standalone tank	○	○	○	○	○	○

Remarks: Other combinations are not guaranteed

(1) If bottom plate heater tape is installed (EKBPTH16A), it is not allowed to install a drain kit

(2) requires Demand PCB EKRP1AHTA.

(3) Required to install to be able to connect Roomthermostat or BUH kit.

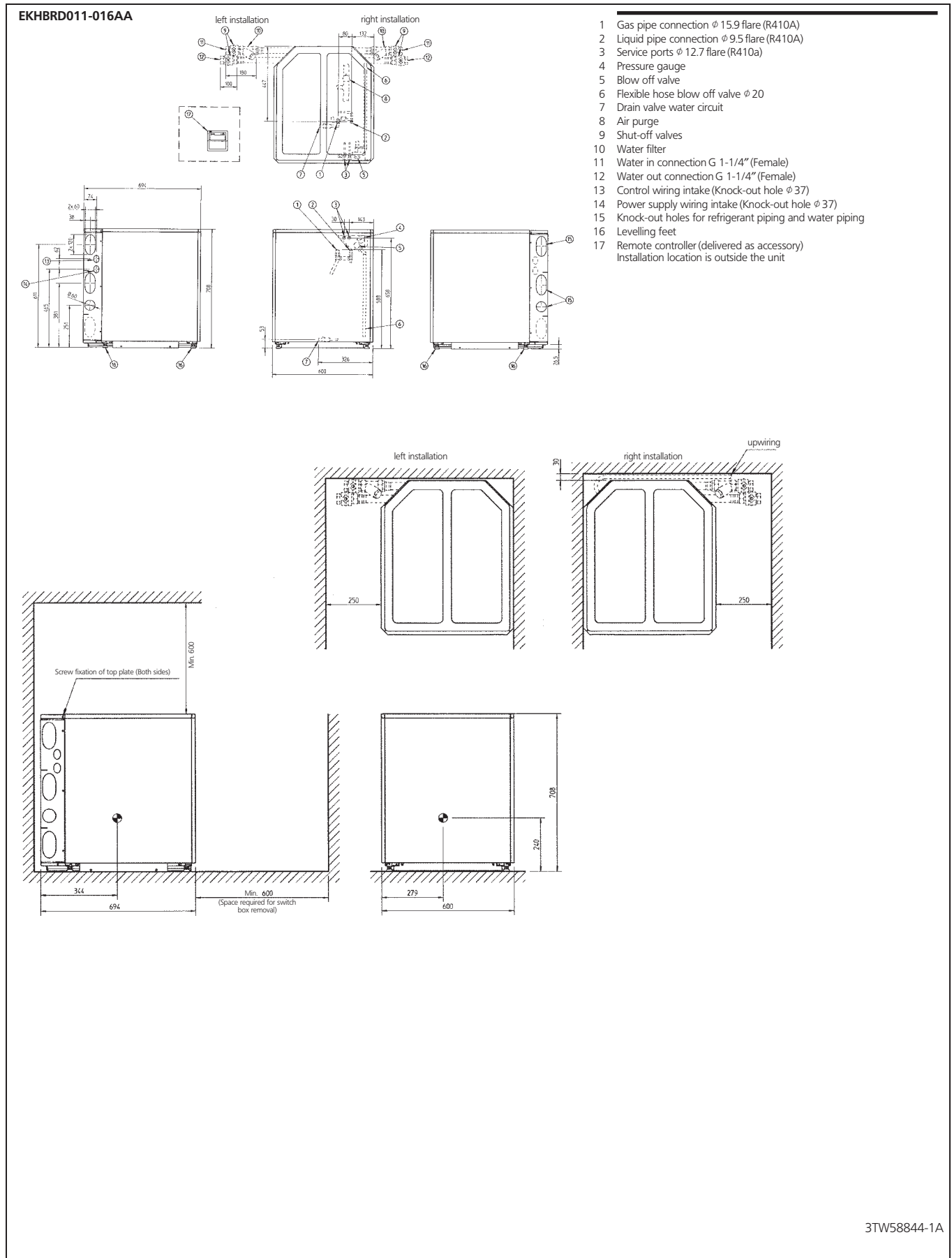
(4) Same controller as supplied with Cascade unit can be mounted parallel or on other location. If 2 controllers are installed, the installer needs to select 1 master and 1 slave.

(5) Only required if tank is NOT mounted on top of cascade indoor unit.

3TW58749-2B

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

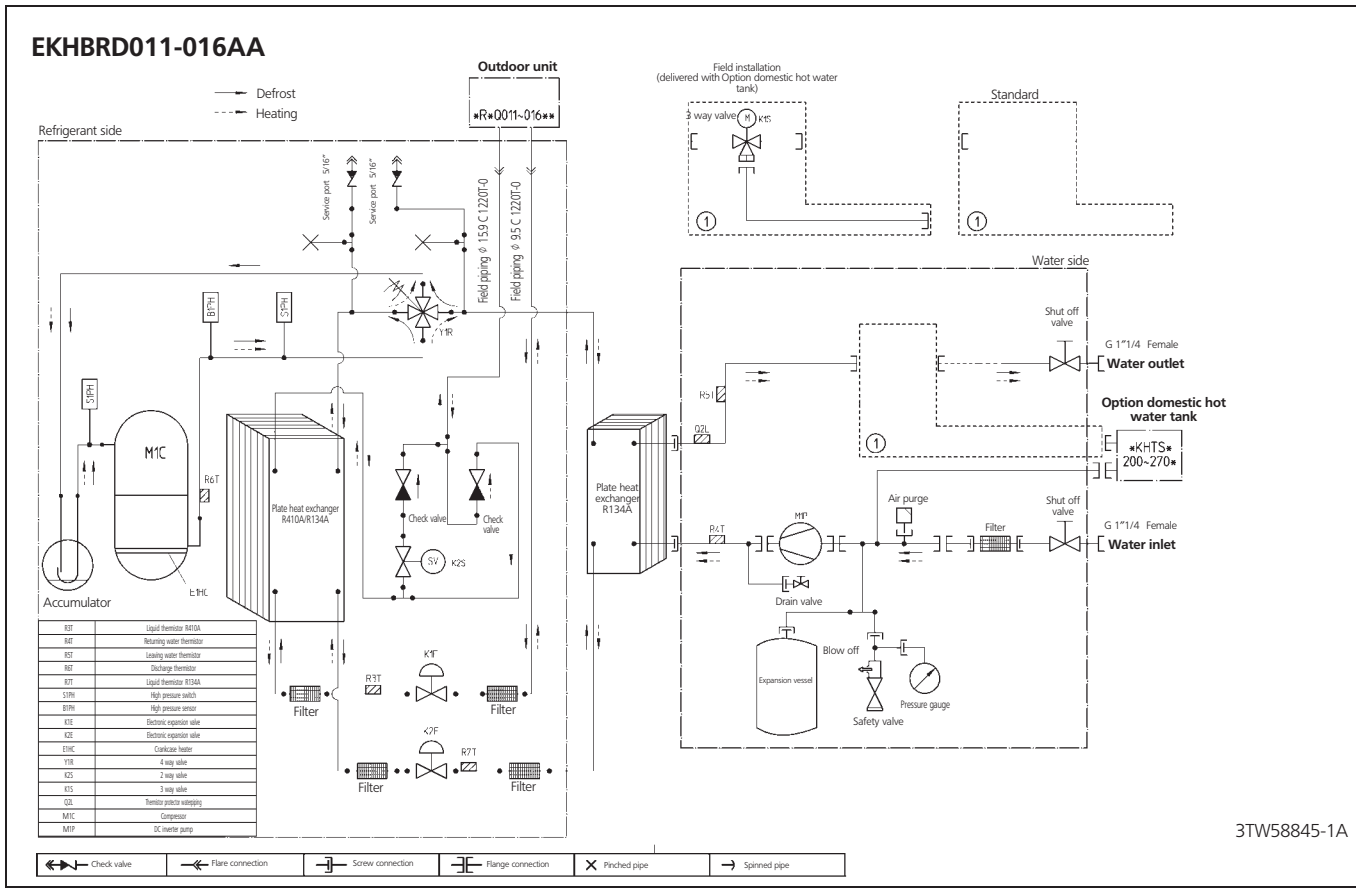


3TW58844-1A

6
4

5 Piping diagram

5 - 1 Piping diagram



6
5





6 Wiring diagram

6 - 1 Wiring diagram


NOTES TO GO THROUGH BEFORE STARTING THE UNIT

- X1M : Main terminal
- X2M : Fieldwiring terminal for AC
- X3M : Fieldwiring terminal for DC

- — — — — : Earth wiring
- : Field supply

-  : Option
-  : Wiring depending on model
-  : Not mounted in switchbox
-  : PCB

- **/12.2 : Connection ** continues on page 12 column 2

-  : Several wiring possibilities

User installed:

- Domestic hot water tank
- Room thermostat (Wired)
- Room thermostat (Wireless)
- External temperature sensor
- Remote user interface
- Digital I/O PCB
- Demand PCB
- Bottom plate heater

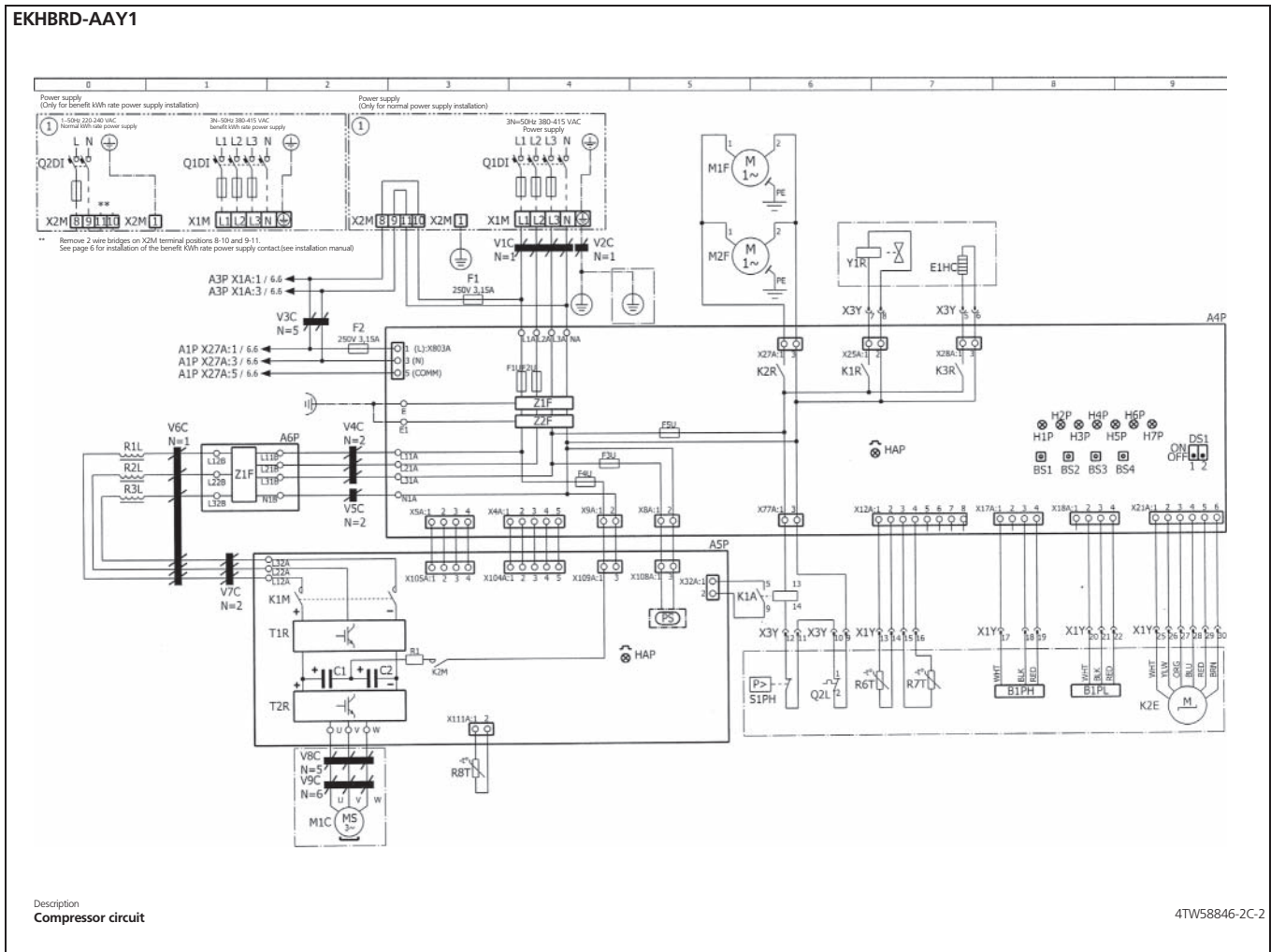
Legend

- * : included in option kit
- # : field supplied

- A1P : Main PCB
- A2P : User interface PCB
- A3P : control PCB
- A4P : Inverter control PCB
- A5P : Inverter PCB
- A6P : Filter PCB
- A7P * : Digital I/O PCB (Optional)
- A8P * : Demand PCB (Optional)
- A10P * : Thermostat PCB (Optional)
- A11P * : Receiver PCB (Optional)
- B1PH : High pressure sensor
- B1PL : Low pressure sensor
- B51-B54 (A4P) : Push button
- C1-C2 : Filter capacitor
- C1-C2 (ASP) : PCB Capacitor
- DS1 (A*P) : Dipswitch
- E7H * : Bottom plate heater
- E1HC : Crankcase heater
- F1-F2 : Inline fuse
- F1U (A1PA3P) : Fuse (T, 3,15A, 250V)
- F1U-F2U (A4P) : Fuse (3,15A, 500V)
- F3U-F5U (A4P) : Fuse (6,3A, 250V)
- F1U-F2U (A7P) * : Fuse (5A, 250V)
- H1P-H7P (A4P) : PCB LED
- HAP (A*P) : PCB LED
- K1A : Interface relay
- K1E : Electronic expansion valve
- K2E : Electronic expansion valve
- K1M-K2M : PCB Contactor
- K*R (A*P) : PCB Relay
- K1S * : 3 way valve
- K2S : 2 way valve
- M1C : Compressor
- M1F-M2F : Switchbox cooling fan
- M1P : DC inverter pump
- PC (A11P) * : Power circuit
- PHC1 : Optocoupler input circuit
- PS (A*P) : Switching power supply
- Q1D1-Q2D1 # : Earth leakage circuit breaker
- Q2L : Thermal protector water piping
- R1 (A5P) : Resistance
- R1L-R3L : Reactor
- R1H * : Humidity sensor
- R1T * : Ambient sensor
- R2T * : Domestic hot water tank Thermistor
- R2T * : External sensor (floor or ambient) (Optional)
- R3T : Liquid thermistor R410A
- R4T : Returning water thermistor
- R5T : Leaving water thermistor
- R6T : Discharge thermistor
- R7T : Liquid thermistor R134a
- R8T : Fin thermistor
- RC (A*P) : Receiver circuit
- S1PH : High pressure switch
- S1S # : benefit kWh rate power supply contact
- S3S # : Input multiple setpoint 1
- S4S # : Input multiple setpoint 2
- SS1 (A1P) : Selector switch(emergency)
- SS1 (A2P) : Selector switch(master slave)
- SS1 (A7P) * : Selector switch
- TC (A*P) : Transmitter circuit
- T1R-T2R (A*P) : Diode bridge
- V1C-V12C : Ferrite core noise filter
- X1M-X3M : Terminal strip
- X*M (A*P) * : PCB terminal strip
- X1Y-X4Y : Connector
- Y1R : 4 way valve
- Z1F-Z5F (A*P) : Noise filter

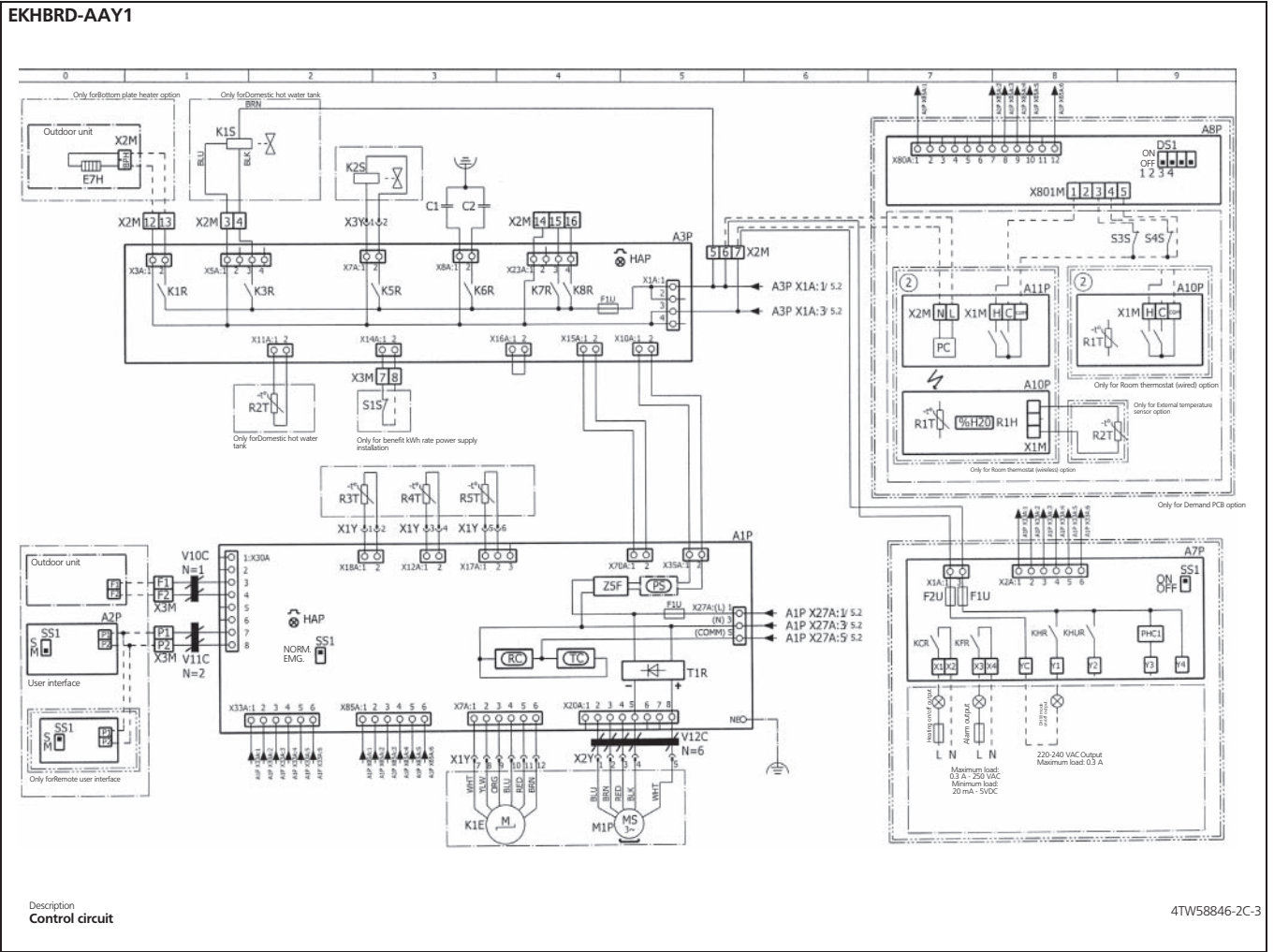
6 Wiring diagram

6 - 1 Wiring diagram



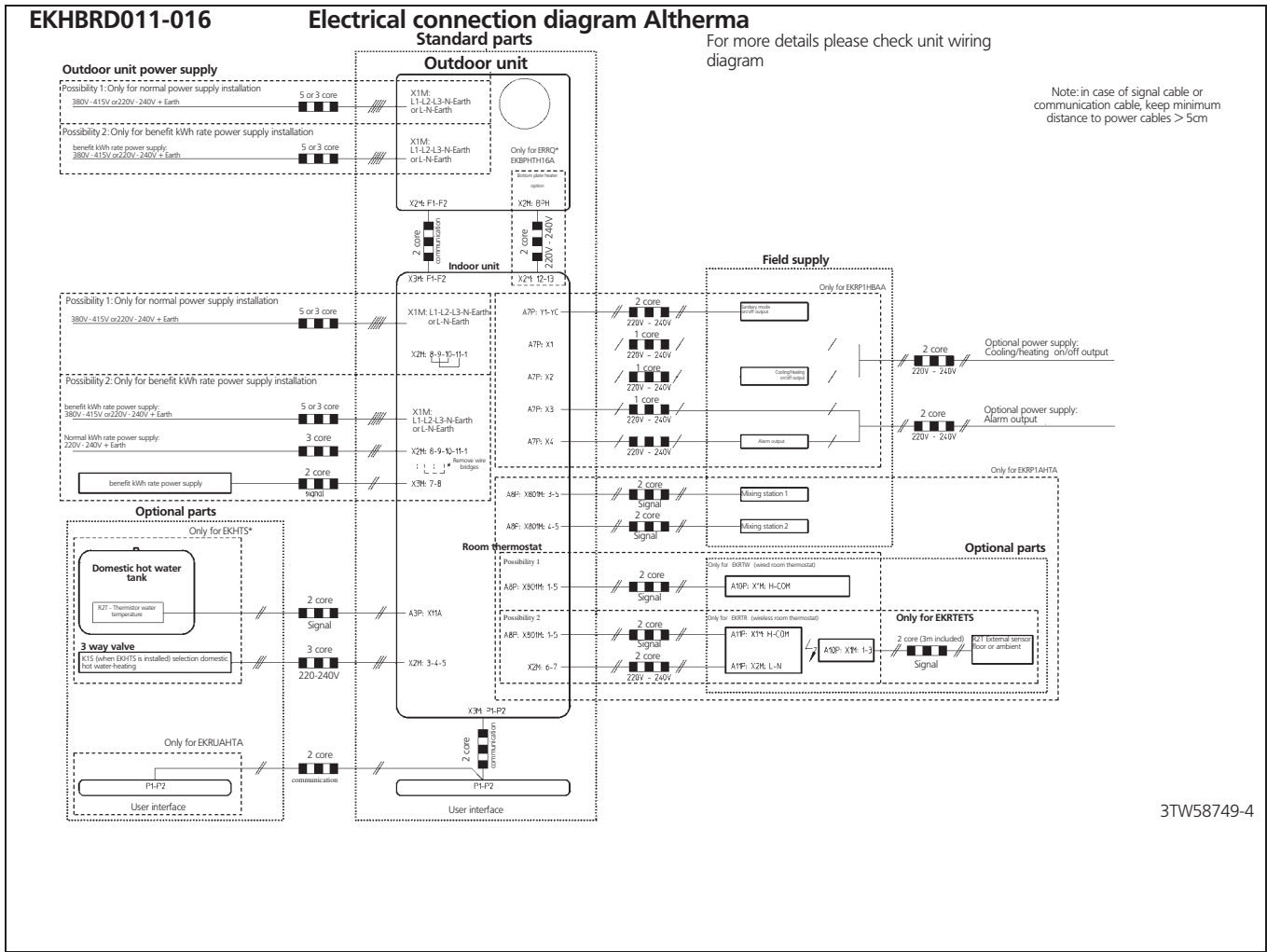
6 Wiring diagram

6 - 1 Wiring diagram



6 Wiring diagram

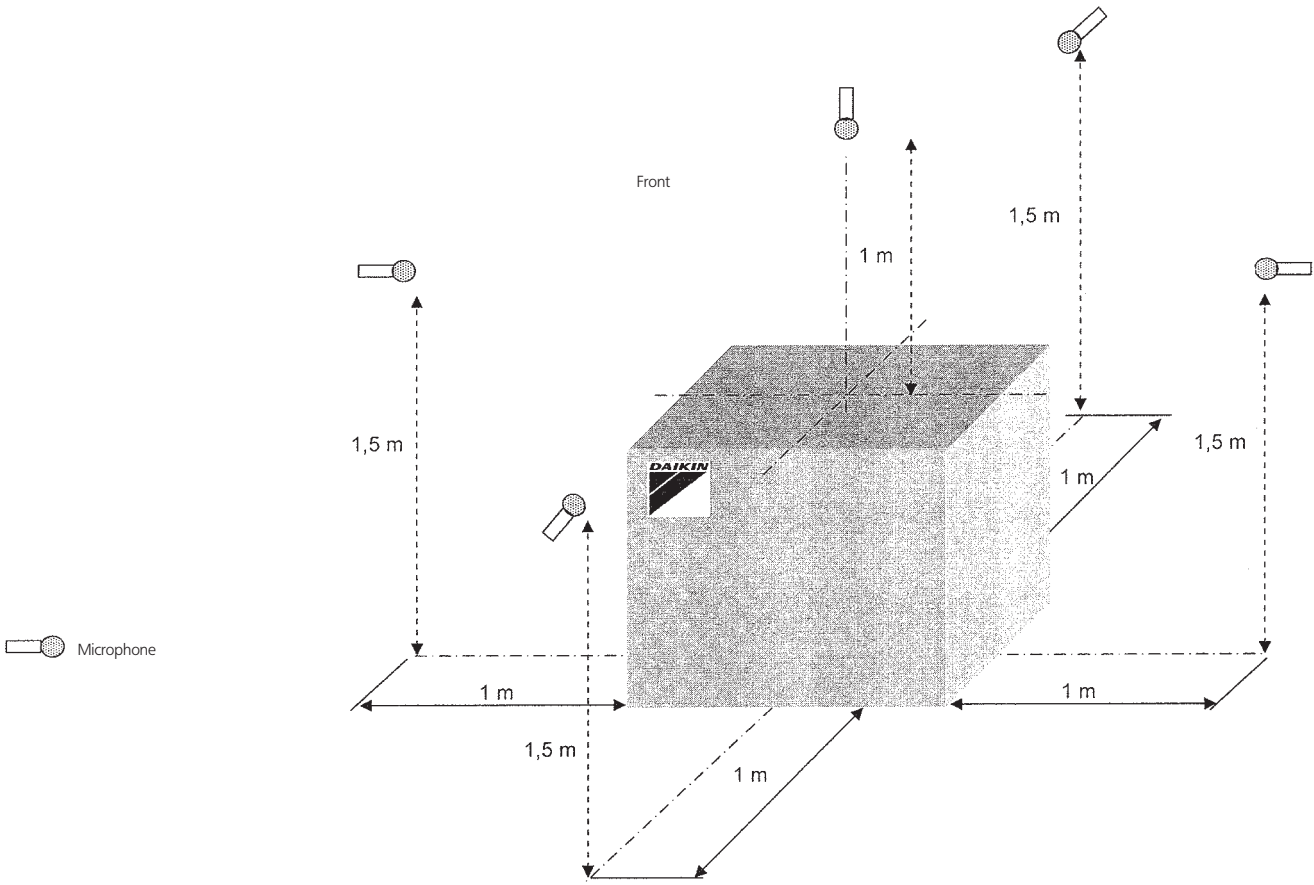
6 - 2 External connection diagram



7 Sound data

7 - 1 Sound pressure spectrum

EKHRD011-016AA



Sound levels

Sound pressure [dBA] - standalone

	11(V1/Y1)	14(V1/Y1)	16(V1/Y1)
[EW/LW 55/65°C] Front	40	43	46
Left / Right / Back / Top (*)	43	45	46
[EW/LW 70/80°C] Front	46	46	46
Left / Right / Back / Top (*)	46	46	46
[EW/LW 55/65°C] - Low sound mode n°1 Front	39	40	43
Left / Right / Back / Top (*)	40	43	45

Sound pressure [dBA] - Integrated (+Tank)

	11(V1/Y1)	14(V1/Y1)	16(V1/Y1)
[EW/LW 55/65°C] Front	38	39	42
Left / Right / Back / Top (*)	41	44	45
[EW/LW 70/80°C] Front	43	43	43
Left / Right / Back / Top (*)	46	46	46
[EW/LW 55/65°C] - Low sound mode n°1 Front	37	38	39
Left / Right / Back / Top (*)	40	41	44

Notes

- The above data is valid in free field condition, because it is measured in a semi-anechoic room. If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections. Choose the installation location carefully and do not install in a sound sensitive environment (e.g. living room, bedroom, ...)
- dB(A) = A-weighted sound power level (A-scale according to IEC)
- EW = Entering water temperature
- LW = Leaving water temperature
- Reference acoustic pressure 0dB = 20µPa
- Sound pressure level of low sound mode n°2 and n°3 is lower than n°1
- (*) Does not occur simultaneously on all sides.

3TW58847-1B

7 Sound data

7 - 2 Sound power spectrum

EKHBRD011-016AA

	Sound power Lw per Octave band (dB)							Total (dBA)
	125	250	500	1000	2000	4000	8000	LwA
EKHBRD011AAV1	53	61	61	49	43	39	34	59
EKHBRD014AAV1	73	61	61	51	43	42	38	60
EKHBRD016AAV1	72	61	60	49	44	43	39	60

Notes

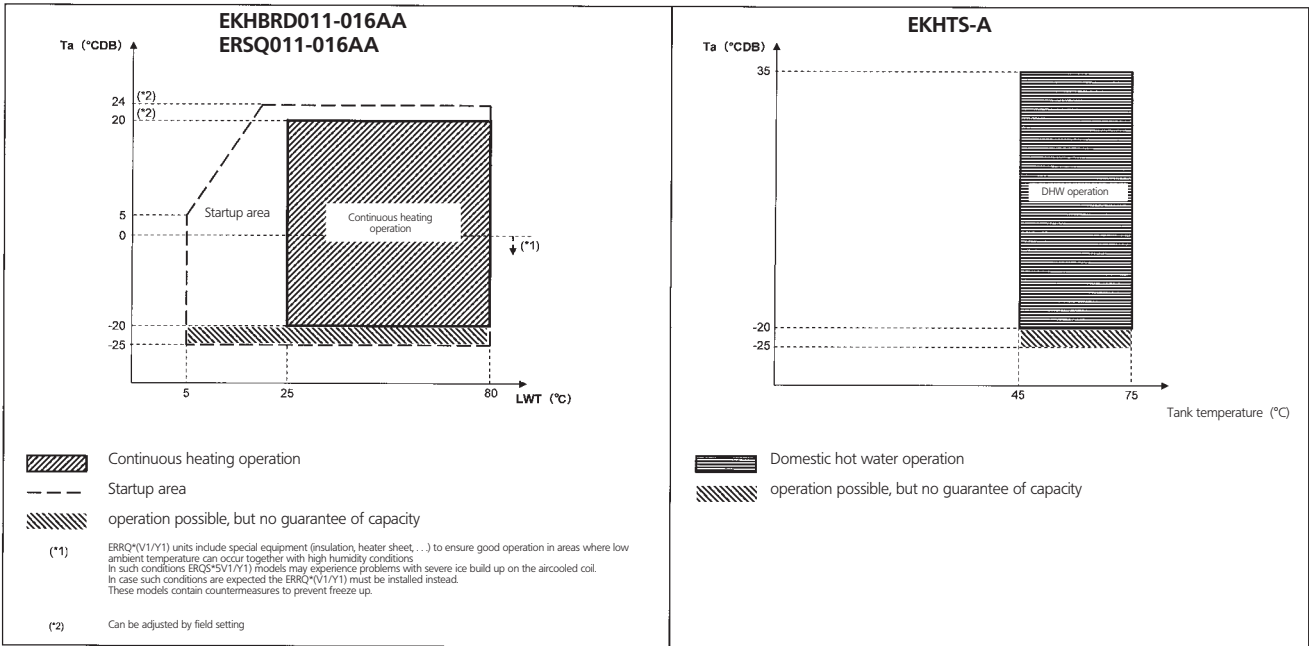
- Measured according to ISO3744
- Reference acoustic intensity $O_{dB} = 10E-6\mu W/m^2$
- dBA=A-weighted sound power level
- Unit condition: $T_a=7/6^{\circ}C$ - Heating setpoint $70/80^{\circ}C$ - Maximum compressor frequency
- If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections. Choose the installation location carefully and do not install in a sound sensitive environment (e.g. living room, bedroom, ...)

4TW58847-3

8 Operation range

Space heating mode

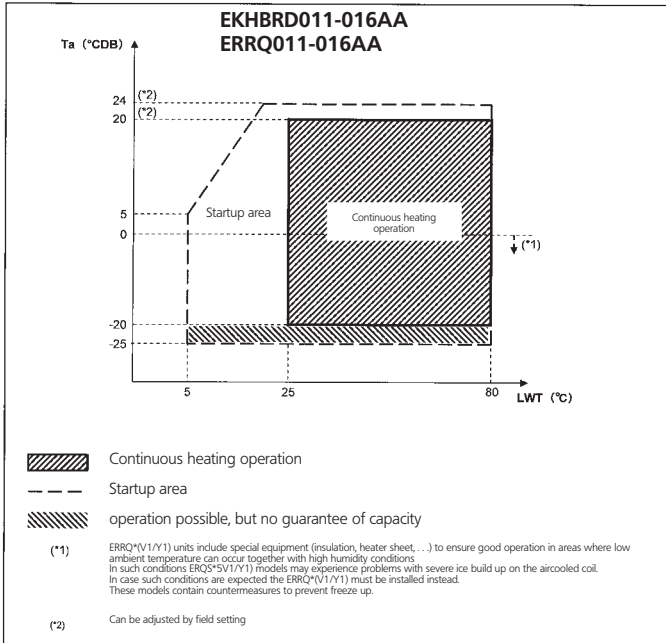
Domestic hot water mode



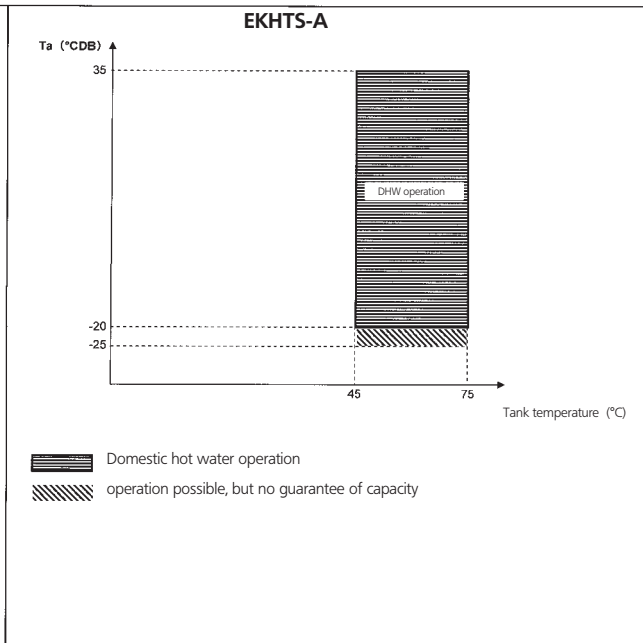
3TW58843-1B

8 Operation range

Space heating mode



Domestic hot water mode

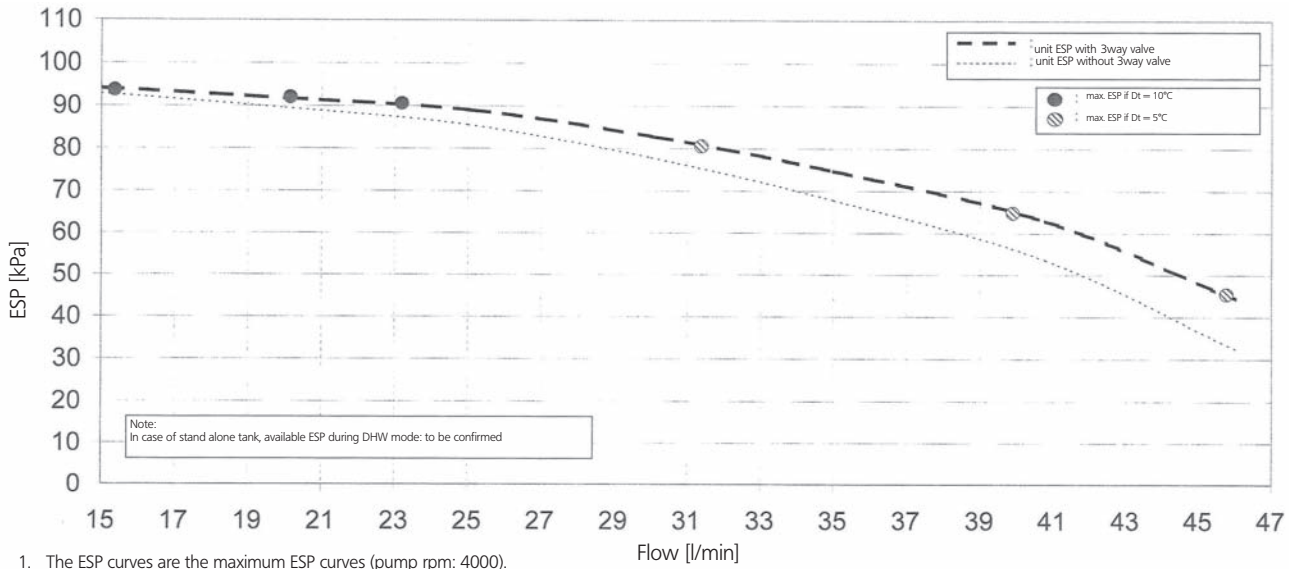


3TW58843-1B

9 Hydraulic performance

9 - 1 Static pressure drop unit

EKHRD011-016AA



1. The ESP curves are the maximum ESP curves (pump rpm: 4000). The pump of the indoor module is inverter controlled and controls to have a fixed ΔT between return and leaving water temperature.
2. In case of installing a domestic hot water tank there is an additional pressure drop over the three way valve (delivered as accessory with the tank)

ESP: External static pressure
Flow: waterflow through the unit

Warning

1. Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2. Water quality must be according to EN directive EC 98/83 EC.

3TW58849-6

Daikin Altherma Low temperature

II Daikin Altherma Low Temperature

Outdoor unit with bottom plate heater ..	7	ERLQ006-0016BAV3	.....	91
	8	ERLQ011-016BAW1	.....	115
Outdoor unit without bottom plate heater ..	9	ERHQ006-016BAV3	.....	133
	10	ERHQ011-016BAW1	.....	157
Indoor unit	11	EKHBH(X)-BA	.....	175
Heating only monobloc with bottom plate heater	12	EDLQ-B6V3	.....	201
	13	EDLQ-B6W1	.....	223
Heating only monobloc without bottom plate heater	14	EDHQ-B6V3	.....	245
	15	EDHQ-B6W1	.....	267
Heat pump monobloc with bottom plate heater	16	EBLQ-B6V3	.....	289
	17	EBLQ-B6V3	.....	311
Heat pump monobloc without bottom plate heater	18	EBHQ-B6V3	333
	19	EBHQ-B6W1	355

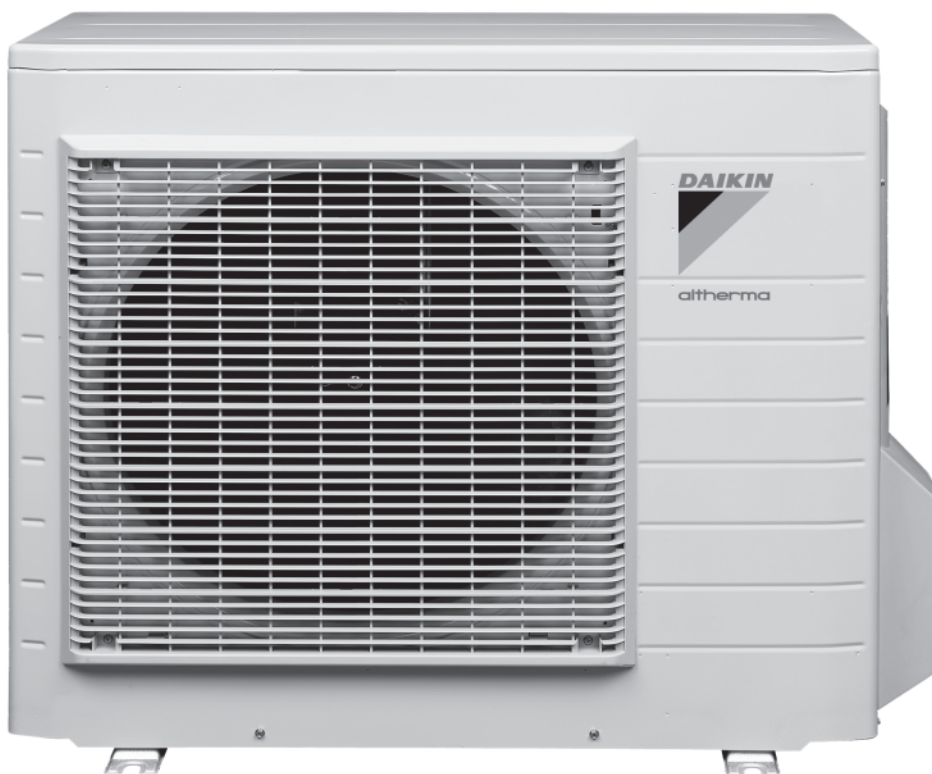
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ERLQ006-016BAV3

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1 Features

- Single phase outdoor unit with bottom plate heater
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



7
1

2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				ERLQ006BAV3	ERLQ007BAV3	ERLQ008BAV3	ERLQ011BAV3	ERLQ014BAV3	ERLQ016BAV3
For combination indoor units + outdoor units	Indoor Units			EKHBH008BA	EKHBH008BA	EKHBH008BA	EKHBH016BA	EKHBH016BA	EKHBH016BA
Condition 1	Heating capacity	Minimum	kW	4.36	4.36	4.36			
		Nominal	kW	5.75	6.84	8.43	11.2	14.0	16.0
		Maximum	kW	7.45	8.79	9.58			
	Heating PI	Nominal	kW	1.26	1.58	2.08	2.46	3.17	3.83
	COP	Nominal		4.56	4.34	4.05	4.55	4.42	4.18
Nominal Capacity	Heating capacity	Minimum	kW	3.87	3.87	3.87			
		Nominal	kW	5.03	6.10	7.64	10.3	13.1	15.2
		Maximum	kW	6.68	7.98	8.76			
	Heating PI	Nominal	kW	1.58	1.95	2.54	3.06	3.88	4.66
	COP	Nominal		3.18	3.13	3.00	3.37	3.38	3.26
For combination indoor units + outdoor units	Indoor Units			EKHBX008BA	EKHBX008BA	EKHBX008BA	EKHBX016BA	EKHBX016BA	EKHBX016BA
Condition 1	Heating capacity	Minimum	kW	4.36	4.36	4.36			
		Nominal	kW	5.75	6.84	8.43	11.2	14.0	16.0
		Maximum	kW	7.45	8.79	9.58			
	Cooling capacity	Minimum	kW	4.82	4.82	4.82			
		Nominal	kW	7.20	8.16	8.37	13.9	17.3	17.8
		Maximum	kW	7.20	8.50	8.91			
	Heating PI	Nominal	kW	1.26	1.58	2.08	2.46	3.17	3.83
	Cooling PI	Nominal	kW	2.27	2.78	2.97	3.79	5.78	6.77
	COP	Nominal		4.56	4.34	4.05	4.55	4.42	4.18
	EER	Nominal		3.17	2.94	2.82	3.67	2.99	2.63
	Nominal Capacity	Heating capacity	Minimum	kW	3.87	3.87	3.87		
Nominal			kW	5.03	6.10	7.64	10.3	13.1	15.2
Maximum			kW	6.68	7.98	8.76			
Cooling capacity		Minimum	kW	3.67	3.67	3.67			
		Nominal	kW	5.12	5.86	6.08	10.0	12.5	13.1
		Maximum	kW	5.12	6.13	7.10			
Heating PI		Nominal	kW	1.58	1.95	2.54	3.06	3.88	4.66
Cooling PI		Nominal	kW	2.16	2.59	2.75	3.60	5.29	5.95
COP		Nominal		3.18	3.13	3.00	3.37	3.38	3.26
EER		Nominal		2.37	2.26	2.21	2.78	2.36	2.20
Notes				Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C) - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)	Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C) - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)	Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C) - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)	Condition 1: cooling Ta 35°C - LWE 18°C - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)	Condition 1: cooling Ta 35°C - LWE 18°C - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)	Condition 1: cooling Ta 35°C - LWE 18°C - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)
				Condition 2: cooling Ta 35°C - LWE 7°C (DT = 5°C) - heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)					

7
2

2-2 TECHNICAL SPECIFICATIONS				ERLQ006BAV3	ERLQ007BAV3	ERLQ008BAV3	ERLQ011BAV3	ERLQ014BAV3	ERLQ016BAV3
Casing	Colour			Ivory white					
	Material			Polyester painted galvanised steel	Polyester painted galvanised steel	Polyester painted galvanised steel	Painted galvanised steel plate	Painted galvanised steel plate	Painted galvanised steel plate
Dimensions	Unit	Height	mm	735	735	735	1,170	1,170	1,170
		Width	mm	825	825	825	900	900	900
		Depth	mm	300	300	300	320	320	320
	Packing	Height	mm	797	797	797	1,349	1,349	1,349
		Width	mm	960	960	960	980	980	980
		Depth	mm	390	390	390	420	420	420

2 Specifications

2-2 TECHNICAL SPECIFICATIONS				ERLQ006BAV3	ERLQ007BAV3	ERLQ008BAV3	ERLQ011BAV3	ERLQ014BAV3	ERLQ016BAV3
Weight	Unit	kg	57	57	57	103	103	103	
	Packed Unit	kg	62	62	62	114	114	114	
Packing	Material		EPS						
			Carton						
						Wood	Wood	Wood	
						PE (Straps)	PE (Straps)	PE (Straps)	
Weight		kg	5	5	5	11	11	11	
Heat Exchanger	Dimensions	Length	mm	845	845	845	857	857	857
		Nr of Rows			2	2	2	2	2
		Fin Pitch	mm	1.8	1.8	1.8	1.4	1.4	1.4
		Nr of Passes					6	6	6
		Face Area	m ²				0.98	0.98	0.98
		Nr of Stages			32	32	32	52	52	52
	Tube type			Hi-Xa(8)	Hi-Xa(8)	Hi-Xa(8)	Hi-XSS(8)	Hi-XSS(8)	Hi-XSS(8)
Fin	Type	WF fin							
	Treatment	Anti-corrosion treatment (PE)							
Fan	Type		Propeller						
	Quantity			1	1	1	2	2	2
Air Flow Rate (nominal at 230V)	Heating	High	m ³ /min				90	90	90
	Cooling	High	m ³ /min				96	100	97
Fan	Discharge direction		Horizontal						
	Motor	Quantity		1	1	1	2	2	2
		Model					Brushless DC motor	Brushless DC motor	Brushless DC motor
Output	W	53	53	53					
Motor	Speed (nominal)	Steps				8	8	8	
		Heating	rpm				760	760	760
		Cooling	rpm				800	850	830
Fan	Motor	Output	W				70	70	70
		Drive					Direct drive	Direct drive	Direct drive
Compressor	Quantity			1	1	1	1	1	1
	Motor	Model		2YC63BXD#C	2YC63BXD#C	2YC63BXD#C	JT100G-VD	JT100G-VD	JT100G-VD
		Type		Hermetically sealed swing compressor	Hermetically sealed swing compressor	Hermetically sealed swing compressor	Hermetically sealed scroll compressor	Hermetically sealed scroll compressor	Hermetically sealed scroll compressor
		Motor Output	W	1,920	1,920	1,920	2,200	2,200	2,200
Starting Method						Inverter driven	Inverter driven	Inverter driven	
Motor	Crankcase Heater	Output	W				33	33	33
Operation Range	Heating	Min	°CWB	-20	-20	-20	-20	-20	-20
		Max	°CWB	25	25	25	35	35	35
	Cooling	Min	°CDB	10	10	10	10	10	10
		Max	°CDB	43	43	43	46	46	46
	Sanitary water	Min	°CDB	-20	-20	-20	-20	-20	-20
		Max	°CDB	43	43	43	43	43	43
Sound Level (nominal)	Heating	Sound Power	dBA	61	61	62	64	64	66
		Sound Pressure	dBA	48	48	49	49	51	53
	Cooling	Sound Power	dBA	63	63	63	64	66	69
		Sound Pressure	dBA	48	48	50	50	52	54
Sound Level (Night quiet)	Heating	Sound Pressure	dBA				42	42	43
	Cooling	Sound Pressure	dBA				45	45	46
Refrigerant	Type		R-410A						
	Charge	kg	1.7	1.7	1.7	3.7	3.7	3.7	
	Control		Expansion valve(electronic type)						
	Nr of Circuits			1	1	1	1	1	1
Refrigerant Oil	Type			FVC50K	FVC50K	FVC50K	Daphne FVC68D	Daphne FVC68D	Daphne FVC68D
	Charged Volume		l	0.75	0.75	0.75	1.0	1.0	1.0

2 Specifications

2-2 TECHNICAL SPECIFICATIONS			ERLQ006BAV3	ERLQ007BAV3	ERLQ008BAV3	ERLQ011BAV3	ERLQ014BAV3	ERLQ016BAV3	
Piping connections	Liquid (OD)	Quantity				1	1	1	
		Type	Flare connection						
		Diameter (OD) | mm	6,35	6,35	6,35	9,52	9,52	9,52	
	Gas	Quantity				1	1	1	
		Type	Flare connection						
		Diameter (OD) | mm	15,9						
	Drain	Quantity	1	1	1	3	3	3	
		Type	Socket	Socket	Socket	Hole	Hole	Hole	
		Diameter (OD) | mm	18	18	18	26	26	26	
	Piping Length	Minimum	m	3	3	3	5	5	5
		Maximum	m	30	30	30	75	75	75
		Equivalent	m				95	95	95
		Chargeless	m				30	30	30
	Additional Refrigerant Charge		kg/m	0.02>10m	0.02>10m	0.02>10m	See installation manual outdoor unit 4PW37976-1B	See installation manual outdoor unit 4PW37976-1B	See installation manual outdoor unit 4PW37976-1B
	Installation height difference	Maximum	m				30	30	30
Max. internunit level difference		m	20	20	20				
Heat Insulation						Both liquid and gas pipes	Both liquid and gas pipes	Both liquid and gas pipes	
Defrost Method			Reverse cycle	Reverse cycle	Reverse cycle	Pressure equalising	Pressure equalising	Pressure equalising	
Defrost Control			Sensor for outdoor heat exchanger temperature						
Capacity Control Method			Inverter controlled						
Safety Devices						Fan motor thermal protector	Fan motor thermal protector	Fan motor thermal protector	
						Fuse	Fuse	Fuse	
						High pressure switch	High pressure switch	High pressure switch	

2 Specifications

2-2 TECHNICAL SPECIFICATIONS			ERLQ006BAV3	ERLQ007BAV3	ERLQ008BAV3	ERLQ011BAV3	ERLQ014BAV3	ERLQ016BAV3
Standard Accessories	Item		Installation manual	Installation manual	Installation manual	Tie-wraps	Tie-wraps	Tie-wraps
	Quantity		1	1	1	2	2	2
	Item		Drain plug	Drain plug	Drain plug	Installation manual	Installation manual	Installation manual
	Quantity		1	1	1	1	1	1
Notes			See operation range drawing	See operation range drawing	See operation range drawing	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.
			The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.	Down to 3m with recharging of the outdoor unit. Refer to the installation manual of the outdoor unit.	Down to 3m with recharging of the outdoor unit. Refer to the installation manual of the outdoor unit.	Down to 3m with recharging of the outdoor unit. Refer to the installation manual of the outdoor unit.

2-3 ELECTRICAL SPECIFICATIONS			ERLQ006BAV3	ERLQ007BAV3	ERLQ008BAV3	ERLQ011BAV3	ERLQ014BAV3	ERLQ016BAV3	
Power Supply	Name		V3						
	Phase		1~						
	Frequency	Hz	50	50	50	50	50	50	
	Voltage	V	230	230	230	230	230	230	
	Voltage range	Minimum	V	-10%					
		Maximum	V	+10%					

2 Specifications

2-3 ELECTRICAL SPECIFICATIONS			ERLQ006BAV3	ERLQ007BAV3	ERLQ008BAV3	ERLQ011BAV3	ERLQ014BAV3	ERLQ016BAV3	
Current	Minimum Ssc value	kVa	Equipment complying with EN/IEC 61000-S-12 (1)	Equipment complying with EN/IEC 61000-S-12 (1)	Equipment complying with EN/IEC 61000-S-12 (1)	Equipment complying with 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 >16A and <=75A per phase	Equipment complying with 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 >16A and <=75A per phase	Equipment complying with 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 >16A and <=75A per phase	
	Starting current	Heating	A	11	11	11			
		Cooling	A	11	11	11			
	Maximum running Current	Heating	A	18	18	18			
		Cooling	A	16.25	16.25	16.25	22.8	27.4	31.9
Recommended fuses		A	20	20	20	32	32	32	
Wiring connections	For Power Supply	Quantity	3	3	3				
		Remark				See installation manual outdoor unit 4PW37976-1B	See installation manual outdoor unit 4PW37976-1B	See installation manual outdoor unit 4PW37976-1B	
	For connection with indoor	Quantity	4	4	4				
		Remark	Included earth wiring	Included earth wiring	Included earth wiring	See installation manual outdoor unit 4PW37976-1B	See installation manual outdoor unit 4PW37976-1B	See installation manual outdoor unit 4PW37976-1B	
Power Supply Intake						Outdoor unit only	Outdoor unit only	Outdoor unit only	
Notes			(1) European/ international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current > 16A smaller than or equal to 75A per phase.	(1) European/ international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current > 16A smaller than or equal to 75A per phase.	(1) European/ international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current > 16A smaller than or equal to 75A per phase.				

3 Capacity tables

3 - 1 Heating capacity tables

ERLQ011-016BAV3

Maximum Heating Capacity (Peak values)

Model	LWC [°C]	30		35		40		45		50		55	
		Tamb	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
R(H/L)Q011	-20	5,66	2,17	5,48	2,37	5,44	2,61						
	-15	6,48	2,21	6,25	2,42	6,17	2,67						
	-7	8,04	2,24	7,74	2,46	7,63	2,72	7,50	3,02				
	-2	9,18	2,24	8,84	2,47	8,71	2,74	8,57	3,05	8,18	3,36		
	2	10,2	2,23	9,81	2,47	9,68	2,74	9,52	3,06	9,10	3,38	8,72	3,77
	7	11,6	2,21	11,2	2,46	10,8	2,74	10,3	3,06	9,94	3,42	9,53	3,82
	12	13,1	2,18	12,7	2,43	12,2	2,72	11,8	3,04	11,3	3,41	10,9	3,81
	15	14,1	2,15	13,6	2,41	13,2	2,70	12,7	3,03	12,2	3,40	11,7	3,81
	20	15,9	2,10	15,4	2,36	14,9	2,65	14,4	2,99	13,8	3,37	13,3	3,78
R(H/L)Q014	-20	7,24	2,72	7,14	2,97	7,05	3,26						
	-15	8,19	2,78	8,01	3,04	7,85	3,34						
	-7	10,1	2,84	9,78	3,11	9,51	3,43	9,25	3,79				
	-2	11,5	2,87	11,1	3,14	11,1	3,47	10,7	3,74	10,4	4,14		
	2	12,7	2,87	12,3	3,16	12,2	3,49	11,8	3,76	11,4	4,17	11,1	4,62
	7	14,4	2,88	14,0	3,17	13,5	3,50	13,1	3,88	12,7	4,30	12,3	4,77
	12	16,3	2,86	15,9	3,16	15,4	3,50	14,9	3,89	14,4	4,32	13,9	4,79
	15	17,6	2,85	17,1	3,15	16,5	3,50	16,0	3,89	15,5	4,32	15,0	4,80
	20	19,9	2,82	19,3	3,13	18,7	3,48	18,1	3,87	17,5	4,31	17,0	4,80
R(H/L)Q016	-20	8,35	3,25	8,31	3,54	8,27	3,89						
	-15	9,38	3,33	9,33	3,63	9,28	3,98						
	-7	11,5	3,42	11,3	3,73	11,1	4,10	10,9	4,52				
	-2	13,0	3,46	12,7	3,78	12,5	4,15	12,2	4,58	12,0	5,06		
	2	14,4	3,48	14,1	3,81	13,8	4,19	13,5	4,62	13,1	5,11	11,9	5,35
	7	16,3	3,50	16,0	3,83	15,6	4,22	15,2	4,66	14,8	5,15	13,4	5,40
	12	18,5	3,51	18,1	3,85	17,6	4,24	17,2	4,69	16,7	5,18	15,1	5,44
	15	20,0	3,51	19,5	3,86	19,0	4,25	18,5	4,69	18,0	5,20	16,6	5,75
	20	22,5	3,50	22,0	3,85	21,4	4,25	20,8	4,70	20,3	5,21	18,7	5,77

Maximum Heating Capacity (integrated values)

Model	LWC	30		35		40		45		50		55	
		Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
R(H/L)Q011	-20	5,04	2,17	4,88	2,37	4,84	2,61						
	-15	5,77	2,21	5,56	2,42	5,49	2,67						
	-7	6,89	2,24	6,63	2,46	6,54	2,72	6,43	3,02				
	-2	7,43	2,11	7,16	2,33	7,06	2,58	6,94	2,87	6,63	3,17		
	2	8,16	2,16	7,86	2,39	7,75	2,65	7,63	2,96	7,29	3,26	6,99	3,64
	7	11,6	2,21	11,2	2,46	10,8	2,74	10,3	3,06	9,94	3,42	9,53	3,82
	12	13,1	2,18	12,7	2,43	12,2	2,72	11,8	3,04	11,3	3,41	10,9	3,81
	15	14,1	2,15	13,6	2,41	13,2	2,70	12,7	3,03	12,2	3,40	11,7	3,81
	20	15,9	2,10	15,4	2,36	14,9	2,65	14,4	2,99	13,8	3,37	13,3	3,78
R(H/L)Q014	-20	6,45	2,72	6,35	2,97	6,28	3,26						
	-15	7,29	2,78	7,13	3,04	6,99	3,34						
	-7	8,06	2,84	7,84	3,11	7,62	3,43	7,42	3,79				
	-2	9,27	2,70	9,00	2,96	8,95	3,26	8,65	3,52	8,38	3,90		
	2	10,0	2,78	9,71	3,05	9,65	3,37	9,32	3,64	9,02	4,03	8,73	4,47
	7	14,4	2,88	14,0	3,17	13,5	3,50	13,1	3,88	12,7	4,30	12,3	4,77
	12	16,3	2,86	15,9	3,16	15,4	3,50	14,9	3,89	14,4	4,32	13,9	4,79
	15	17,6	2,85	17,1	3,15	16,5	3,50	16,0	3,89	15,5	4,32	15,0	4,80
	20	19,9	2,82	19,3	3,13	18,7	3,48	18,1	3,87	17,5	4,31	17,0	4,80
R(H/L)Q016	-20	7,44	3,25	7,39	3,54	7,36	3,89						
	-15	8,35	3,33	8,30	3,63	8,26	3,98						
	-7	8,91	3,34	8,77	3,64	8,63	4,00	8,49	4,41				
	-2	10,5	3,26	10,3	3,56	10,1	3,91	9,91	4,31	9,71	4,77		
	2	11,1	3,15	10,9	3,45	10,6	3,79	10,4	4,18	10,2	4,62	9,19	4,84
	7	16,3	3,50	16,0	3,83	15,6	4,22	15,2	4,66	14,8	5,15	13,4	5,40
	12	18,5	3,51	18,1	3,85	17,6	4,24	17,2	4,69	16,7	5,18	15,1	5,44
	15	20,0	3,51	19,5	3,86	19,0	4,25	18,5	4,69	18,0	5,20	16,6	5,75
	20	22,5	3,50	22,0	3,85	21,4	4,25	20,8	4,70	20,3	5,21	18,7	5,77

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SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condensator temperature (°C)
- Tamb : Ambient temperature (°C) RH=85%

Conditions

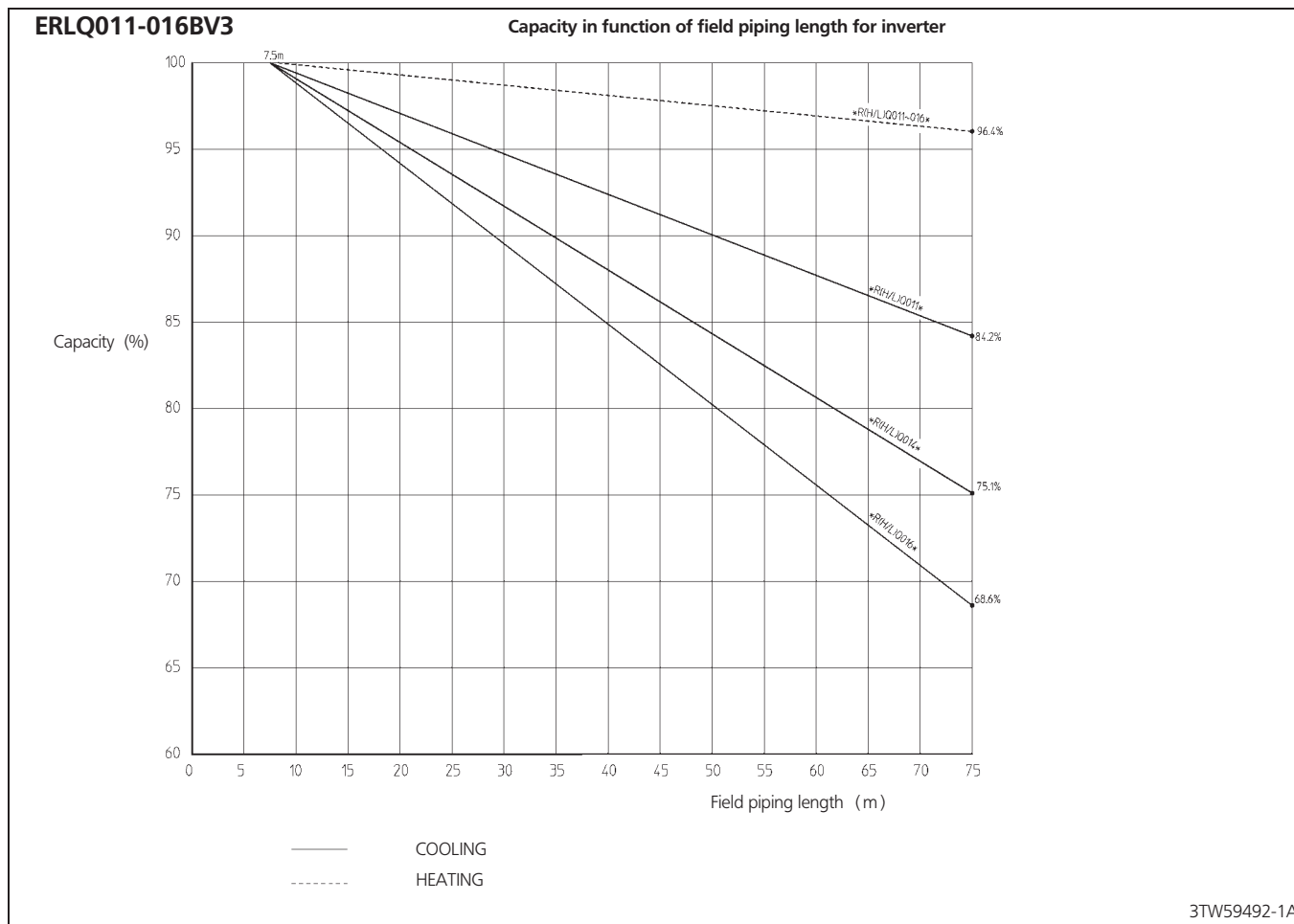
- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).
For ERHQ011-16AAW1 models only; if Tamb < 4°C; bottom plate heater power input to be added = 95 W

Notes:

- For the model with heatertape (*RLQ): when ambient temperature becomes lower than [F-02] (default = 3°C) bottom plate heater power input to be added = 95W
- [F-02] = BPH ON temp for more details see installation manual of indoor unit.

3 Capacity tables

3 - 1 Heating capacity tables



3 Capacity tables

3 - 2 Cooling capacity tables

ERLQ011-016BAV3

Maximum Cooling Capacity

Model	Tamb	20		25		30		35		40		45	
		LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]
R(H/L)Q011	7	11,7	2,56	11,2	2,86	10,6	3,21	10,0	3,60	9,39	4,03	8,75	4,50
	10	12,9	2,58	12,3	2,89	11,6	3,25	11,0	3,65	10,3	4,09	9,65	4,58
	13	14,1	2,59	13,4	2,92	12,8	3,29	12,1	3,70	11,3	4,15	10,6	4,65
	15	14,9	2,60	14,2	2,93	13,5	3,31	12,8	3,73	12,0	4,20	11,3	4,70
	18	16,2	2,61	15,5	2,96	14,7	3,35	13,9	3,79	13,1	4,26	12,3	4,78
22	18,0	2,62	17,2	2,99	16,4	3,40	15,5	3,86	14,7	4,35	13,3	3,93	
R(H/L)Q014	7	14,5	3,85	13,9	4,27	13,2	4,75	12,5	5,29	11,7	5,90	11,1	5,92
	10	16,0	3,94	15,3	4,37	14,6	4,86	13,7	5,42	12,9	6,04	11,2	5,46
	13	17,6	4,02	16,8	4,47	15,9	4,98	15,0	5,55	14,1	6,18	11,9	5,04
	15	18,6	4,08	17,8	4,54	16,9	5,06	15,9	5,64	14,9	6,28	12,2	4,79
	18	20,2	4,17	19,3	4,65	18,4	5,18	17,3	5,78	16,2	6,44	12,9	4,42
22	22,5	4,29	21,5	4,80	20,4	5,36	19,3	5,98	17,0	5,33	13,3	3,93	
R(H/L)Q016	7	15,3	4,37	14,7	4,84	13,9	5,37	13,1	5,95	12,2	6,59	11,1	5,92
	10	16,9	4,48	16,2	4,97	15,3	5,51	14,4	6,11	13,3	6,75	11,2	5,46
	13	18,5	4,60	17,7	5,10	16,7	5,66	15,7	6,27	14,6	6,93	11,9	5,04
	15	19,6	4,68	18,7	5,19	17,7	5,76	16,6	6,38	15,4	7,04	12,2	4,79
	18	21,0	4,97	20,0	5,52	18,9	6,12	17,8	6,77	16,4	6,69	12,9	4,42
22	23,3	5,21	22,2	5,79	21,0	6,42	19,7	7,10	17,0	5,33	13,3	3,93	

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3

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condensor temperature (°C)
- Tamb : Ambient temperature (°C) RH=85%

NOTES

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).
For ERHQ011-16AAW1 models only: if Tamb < 4°C: bottom plate heater power input to be added = 95 W

Notes:
- For the model with heatertape (*RLQ): when ambient temperature becomes lower than [F-02] (default = 3°C) bottom plate heater power input to be added = 95W
- [F-02] = BPH ON temp for more details see installation manual of indoor unit.

3 Capacity tables

3 - 3 Cooling/Heating capacity tables

COOLING

Model	Tamb (°C)	20		25		30		35		40		43	
	LWE (°C)	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
006	7	6.01	1.56	5.73	1.75	5.43	1.95	5.12	2.16	4.80	2.39	4.59	2.53
	11	6.81	1.57	6.50	1.77	6.17	1.98	5.83	2.21	5.30	2.32	4.98	2.38
	13	7.23	1.57	6.90	1.78	6.56	2.00	6.20	2.23	5.56	2.28	5.18	2.30
	16	7.88	1.56	7.54	1.78	7.17	2.01	6.79	2.26	5.95	2.22	5.46	2.18
	20	8.80	1.55	8.42	1.79	8.03	2.03	7.63	2.29	6.48	2.13	5.82	1.99
007	7	7.15	2.05	6.84	2.28	6.50	2.52	6.13	2.77	5.35	2.68	4.89	2.59
	11	8.09	2.09	7.73	2.34	7.34	2.59	6.94	2.87	5.84	2.62	5.21	2.43
	13	8.57	2.11	8.20	2.36	7.79	2.63	7.36	2.91	6.09	2.59	5.36	2.34
	16	9.33	2.13	8.92	2.40	8.49	2.68	8.03	2.97	6.46	2.53	5.57	2.20
	20	10.4	2.16	9.9	2.44	9.48	2.73	8.99	3.04	6.96	2.44	5.82	1.99
008	7	8.24	2.43	7.90	2.68	7.52	2.94	7.10	3.23	5.68	2.86	4.87	2.59
	11	9.26	2.49	8.87	2.76	8.45	3.05	7.79	3.31	6.12	2.80	5.18	2.43
	13	9.79	2.52	9.38	2.80	8.93	3.10	8.14	3.36	6.34	2.77	5.33	2.35
	16	10.6	2.57	10.17	2.86	9.69	3.17	8.68	3.41	6.67	2.71	5.55	2.20
	20	11.7	2.63	11.3	2.94	10.75	3.26	9.39	3.48	7.09	2.61	5.80	1.99

HEATING (Peak values)

Model	LWC	30		35		40		45		50	
		HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
006	-15	3.93	1.48	3.67	1.59	3.47	1.71	3.33	1.84	3.25	1.99
	-10	4.65	1.52	4.32	1.65	4.07	1.79	3.89	1.94	3.78	2.10
	-7	5.14	1.54	4.77	1.68	4.49	1.83	4.28	1.99	4.15	2.16
	-2	6.06	1.57	5.62	1.72	5.28	1.88	5.03	2.06	4.87	2.25
	2	6.89	1.57	6.38	1.74	6.00	1.91	5.72	2.11	5.53	2.31
	7	8.03	1.57	7.45	1.75	7.00	1.94	6.68	2.15	6.47	2.37
007	-15	4.87	1.82	4.62	1.94	4.43	2.08	4.30	2.23	4.24	2.40
	-10	5.67	1.88	5.34	2.02	5.09	2.18	4.92	2.36	4.82	2.55
	-7	6.21	1.91	5.83	2.07	5.55	2.24	5.35	2.42	5.23	2.63
	-2	7.23	1.95	6.77	2.13	6.42	2.32	6.17	2.52	6.02	2.75
	2	8.14	1.97	7.61	2.16	7.21	2.37	6.92	2.59	6.74	2.83
	7	9.40	1.98	8.79	2.19	8.32	2.42	7.98	2.66	7.78	2.92
008	-15	5.42	2.06	5.16	2.19	4.97	2.34	4.86	2.51	4.80	2.70
	-10	6.27	2.13	5.93	2.29	5.68	2.46	5.51	2.65	5.42	2.86
	-7	6.84	2.17	6.46	2.34	6.17	2.53	5.97	2.73	5.86	2.95
	-2	7.92	2.22	7.45	2.41	7.10	2.62	6.85	2.85	6.70	3.10
	2	8.9	2.26	8.35	2.46	7.93	2.69	7.65	2.93	7.47	3.20
	7	10.2	2.28	9.58	2.51	9.10	2.76	8.76	3.02	8.56	3.31

HEATING (integrated values*)

Model	LWC	30		35		40		45		50	
		HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
006	-15	3.50	1.40	3.27	1.51	3.09	1.62	2.97	1.75	2.89	1.89
	-10	4.14	1.45	3.85	1.56	3.62	1.70	3.46	1.84	3.36	2.00
	-7	4.52	1.45	4.20	1.58	3.95	1.72	3.77	1.87	3.65	2.03
	-2	5.27	1.46	4.89	1.60	4.59	1.75	4.38	1.92	4.24	2.10
	2	5.92	1.45	5.49	1.60	5.16	1.76	4.92	1.94	4.76	2.13
	7	8.03	1.57	7.45	1.75	7.00	1.94	6.68	2.15	6.47	2.37
007	-15	4.34	1.73	4.11	1.85	3.94	1.98	3.83	2.12	3.77	2.28
	-10	5.04	1.79	4.75	1.92	4.53	2.07	4.38	2.24	4.29	2.42
	-7	5.46	1.80	5.13	1.94	4.88	2.10	4.71	2.28	4.60	2.47
	-2	6.29	1.81	5.89	1.98	5.59	2.15	5.37	2.35	5.23	2.56
	2	7.00	1.81	6.55	1.99	6.20	2.18	5.96	2.38	5.80	2.61
	7	9.40	1.98	8.79	2.19	8.32	2.42	7.98	2.66	7.78	2.92
008	-15	4.82	1.96	4.59	2.08	4.43	2.23	4.32	2.39	4.27	2.56
	-10	5.58	2.03	5.28	2.17	5.06	2.34	4.91	2.52	4.82	2.72
	-7	6.02	2.04	5.69	2.20	5.43	2.37	5.26	2.57	5.15	2.78
	-2	6.89	2.07	6.48	2.25	6.17	2.44	5.96	2.65	5.83	2.88
	2	7.6	2.08	7.18	2.27	6.82	2.47	6.58	2.70	6.43	2.94
	7	10.2	2.28	9.58	2.51	9.10	2.76	8.76	3.02	8.56	3.31

* The integrated heating capacity and power input, is the average heating capacity and power input during 1 cycle, (from end of defrost till end of the next defrost).

3TW57782-1A

SYMBOLS

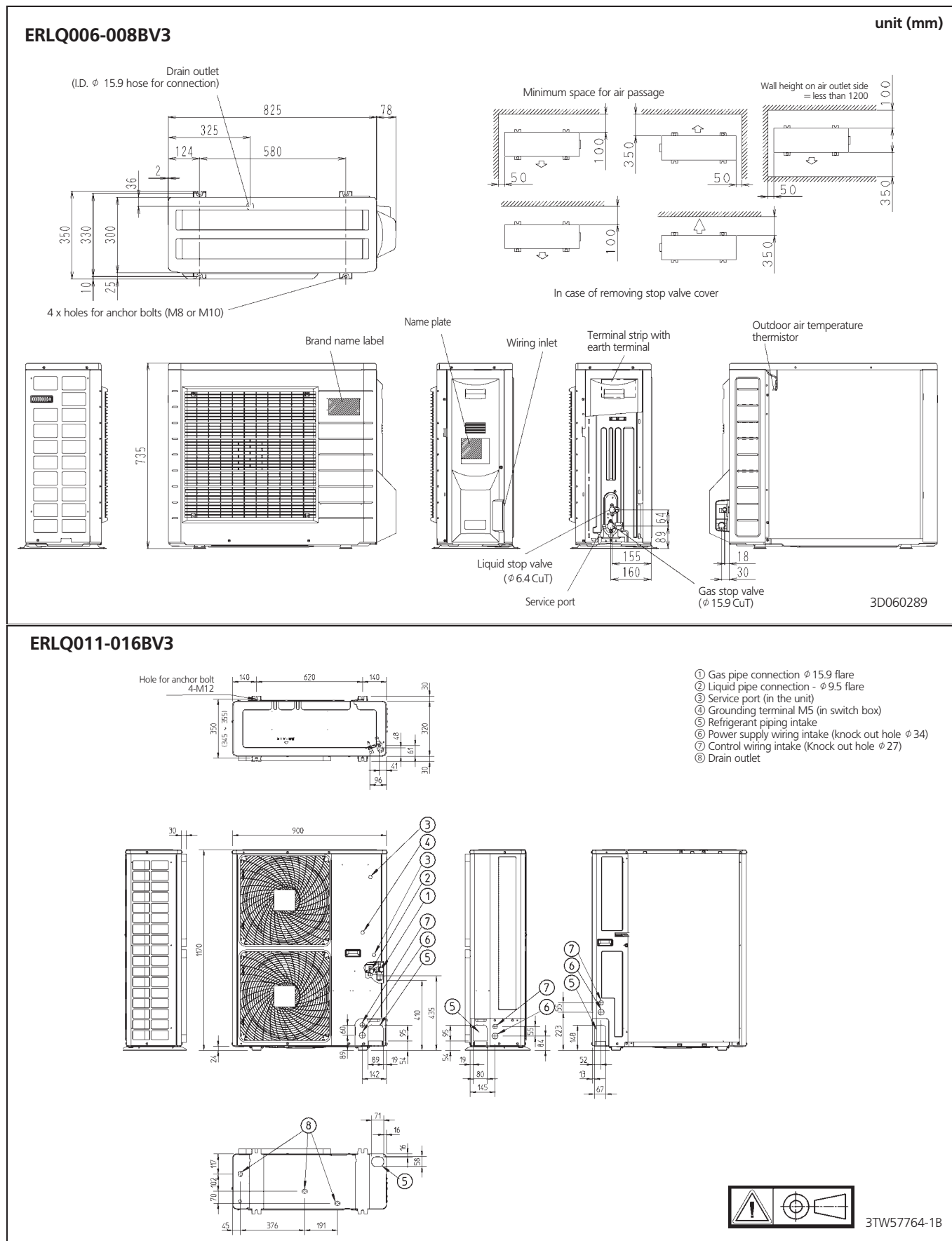
- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condenser temperature (°C)
- Tamb : Ambient temperature (°C) RH=85%

NOTES

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 60 W (according EN14511).
For the optional model with heatertape (V38) when ambient temperature becomes lower than 4°C: add power input of 60W

4 Dimensional drawing & centre of gravity

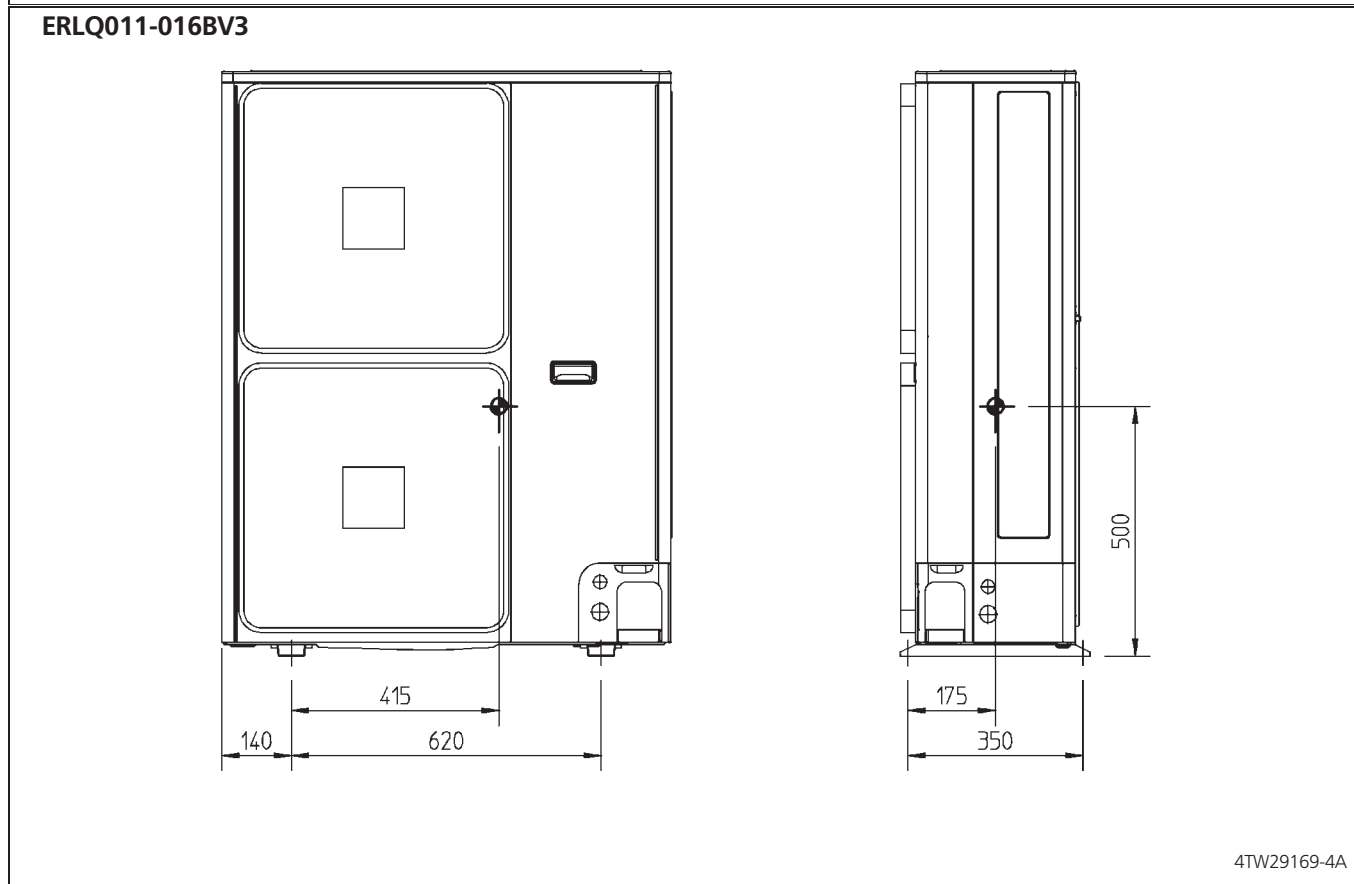
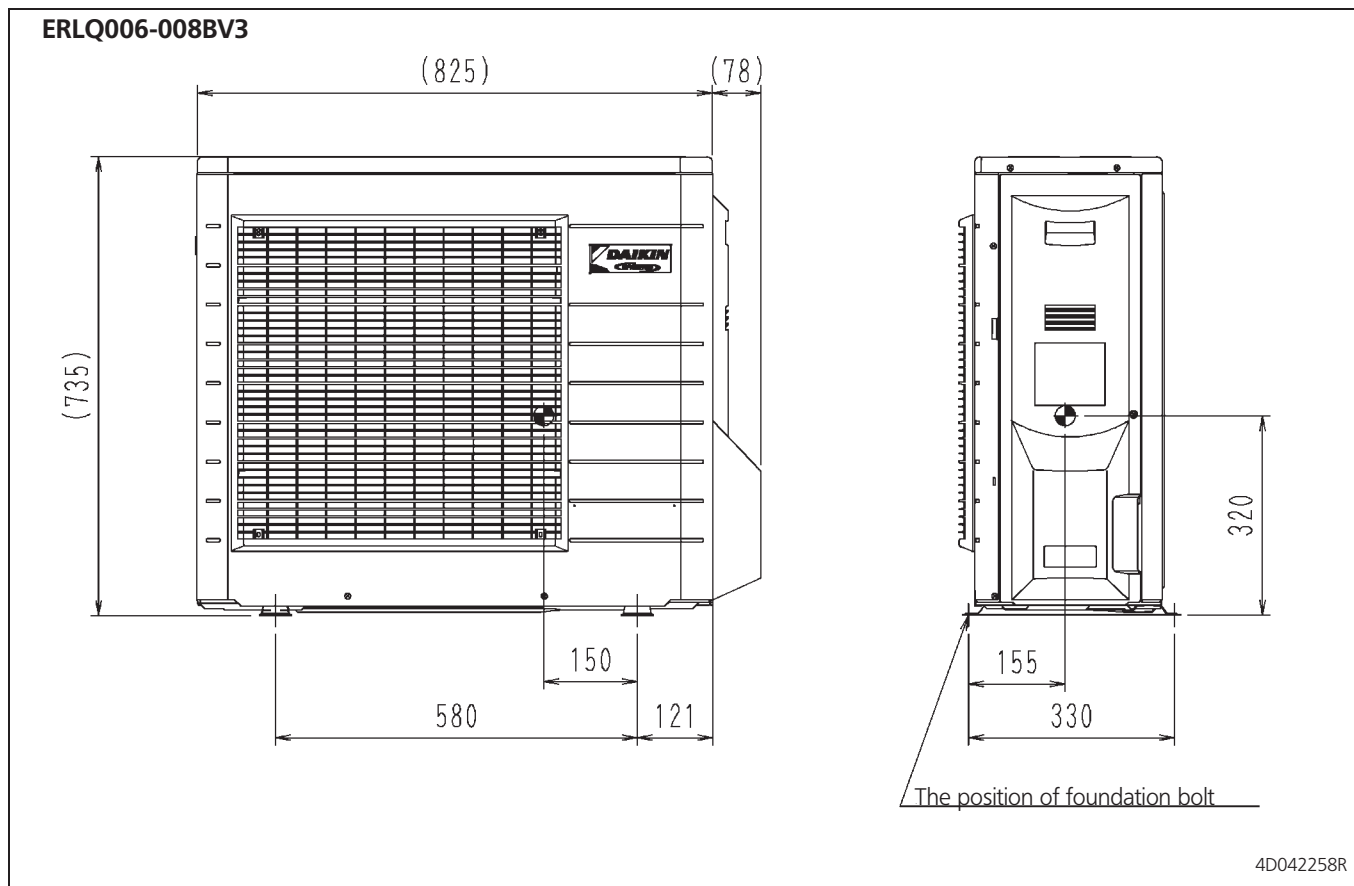
4 - 1 Dimensional drawing



7
4

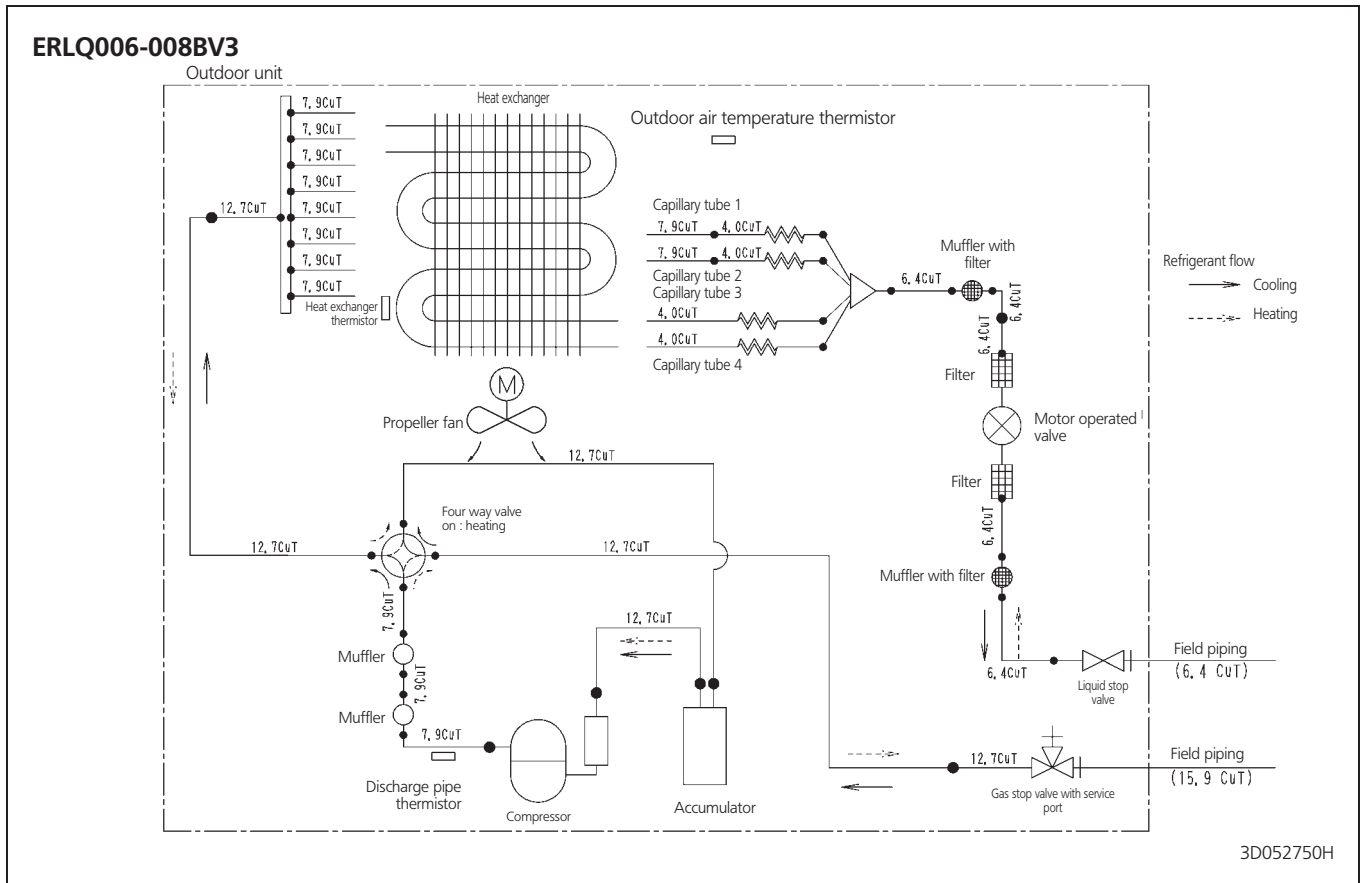
4 Dimensional drawing & centre of gravity

4 - 2 Centre of gravity

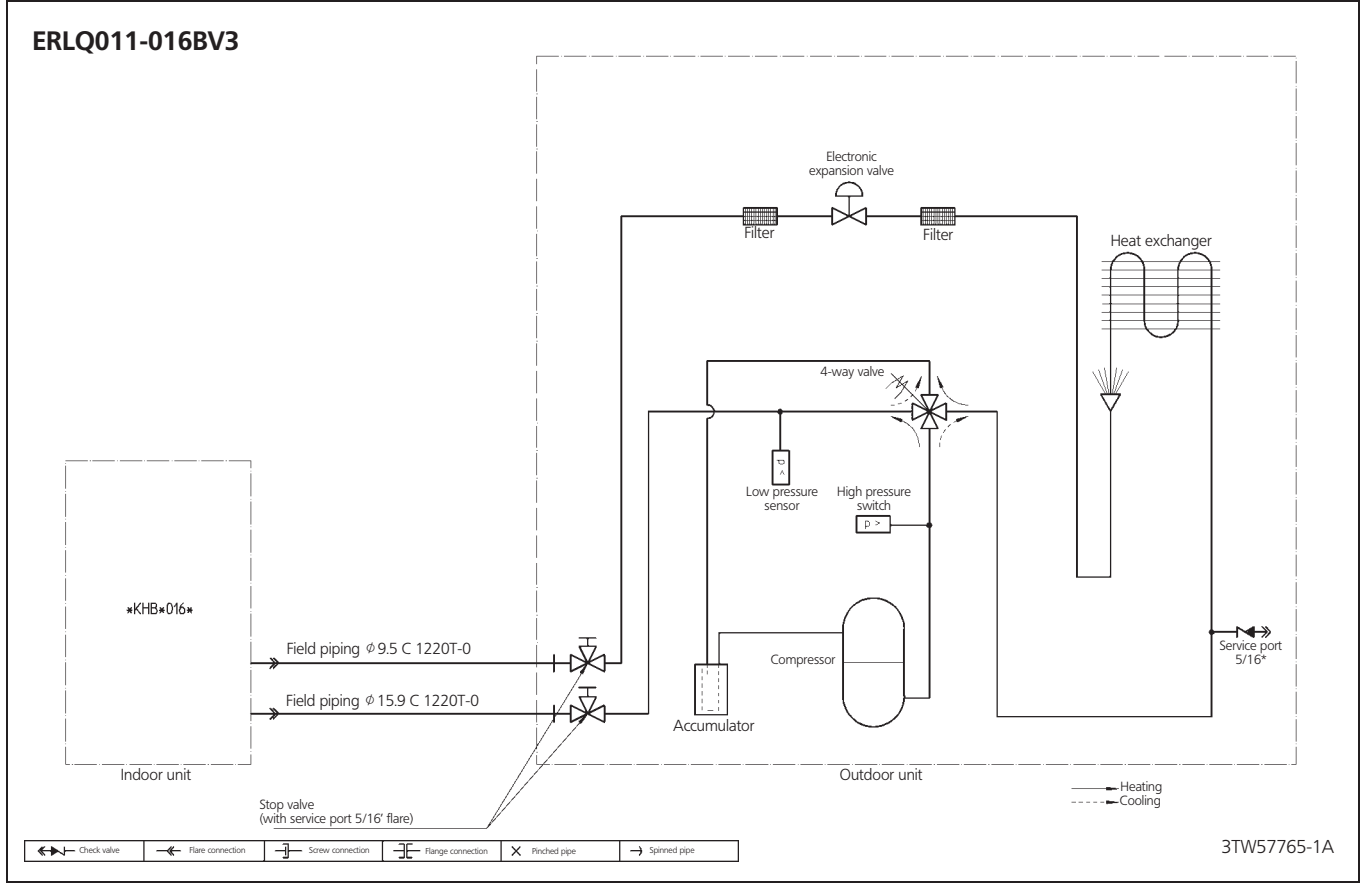


5 Piping diagram

5 - 1 Piping diagram

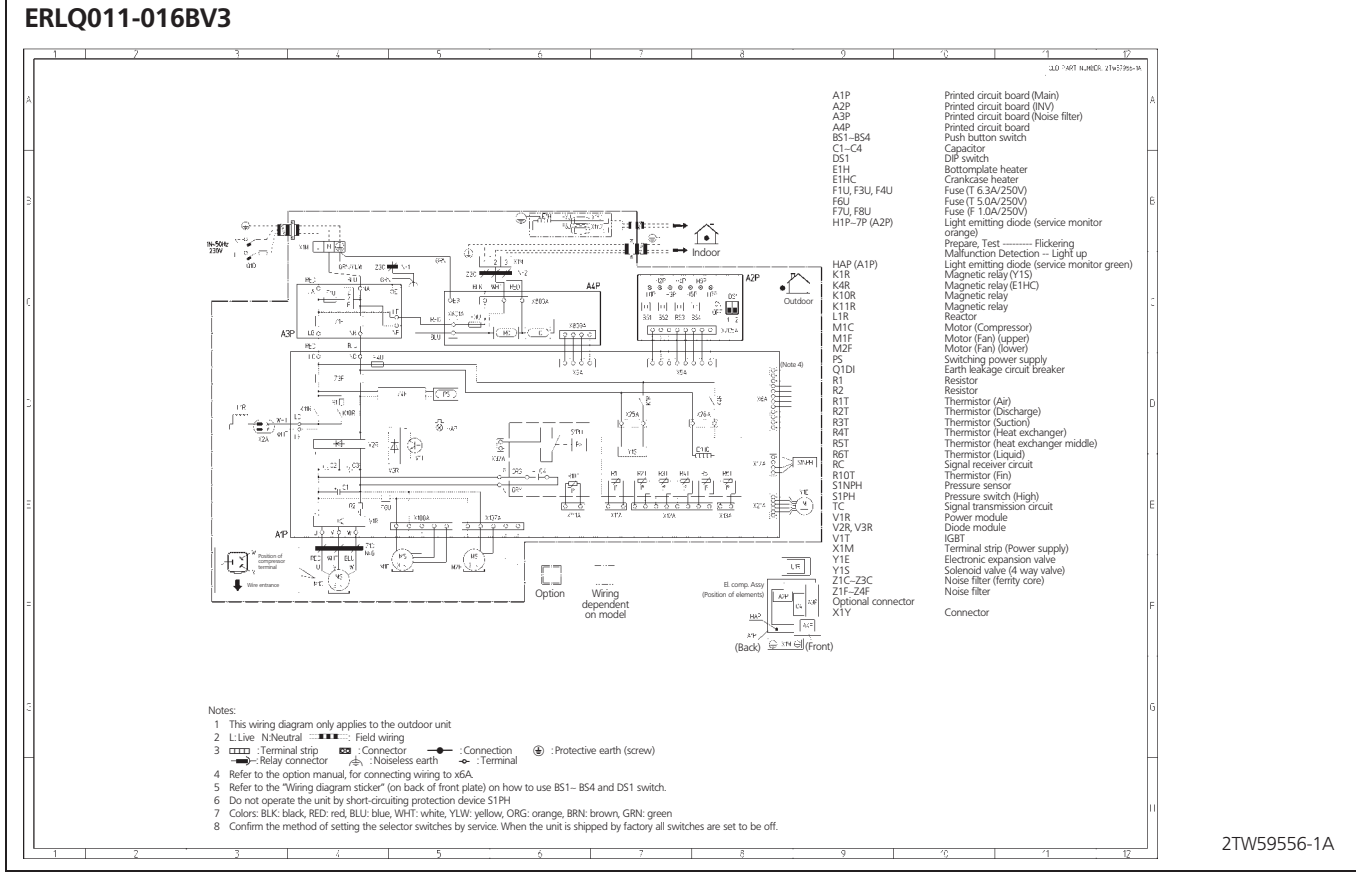
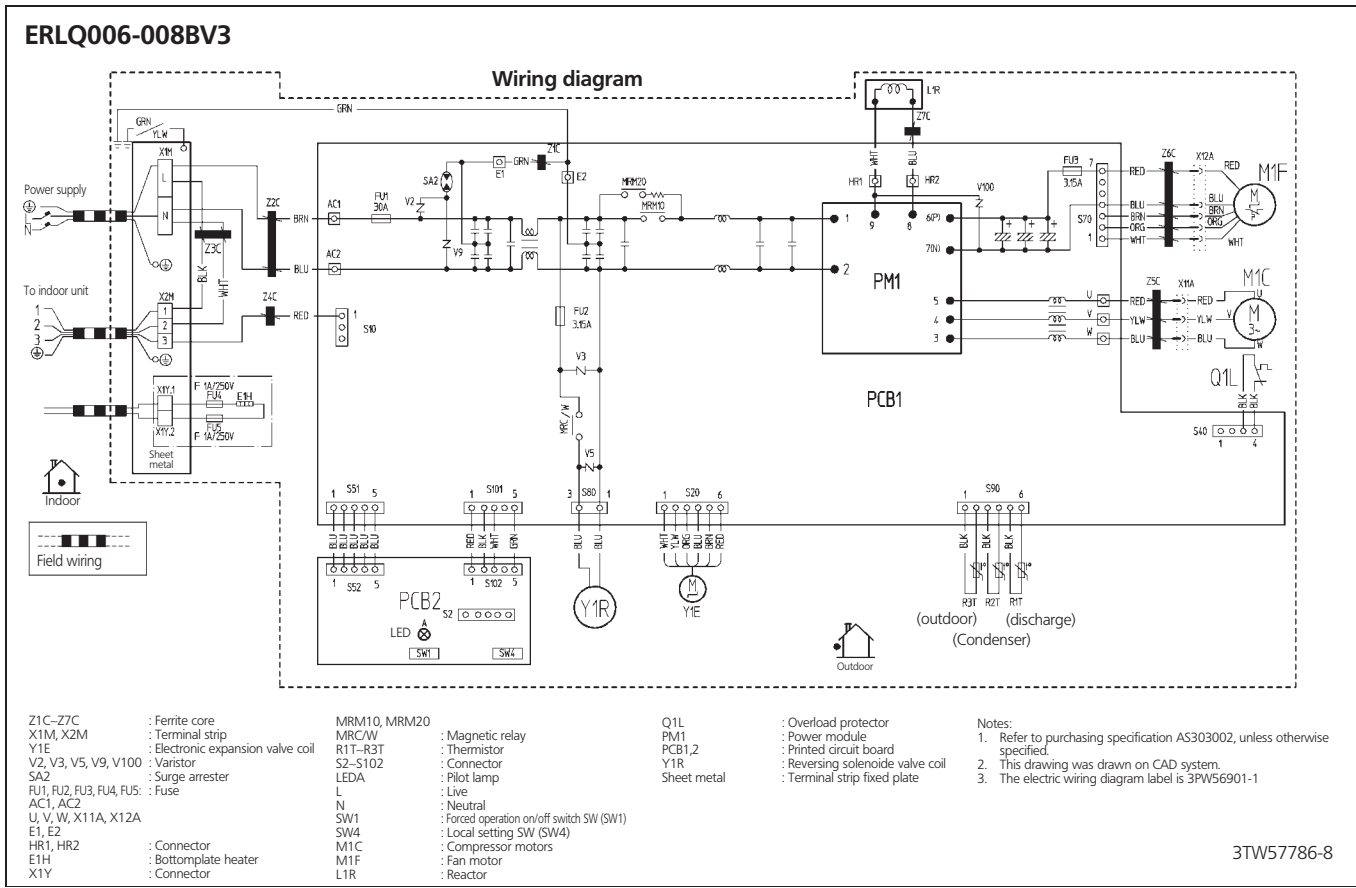


7
5



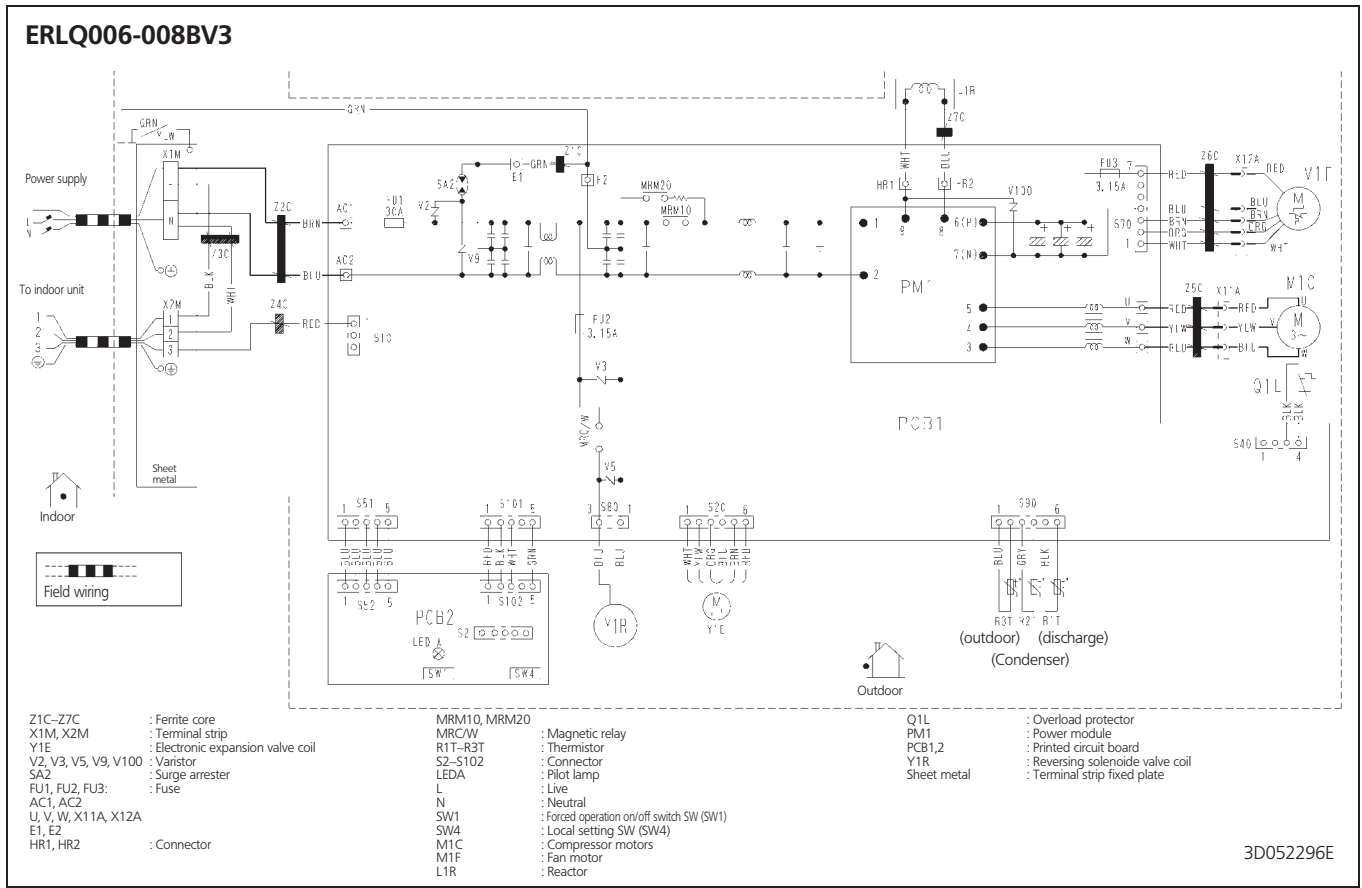
6 Wiring diagram

6 - 1 Wiring diagram



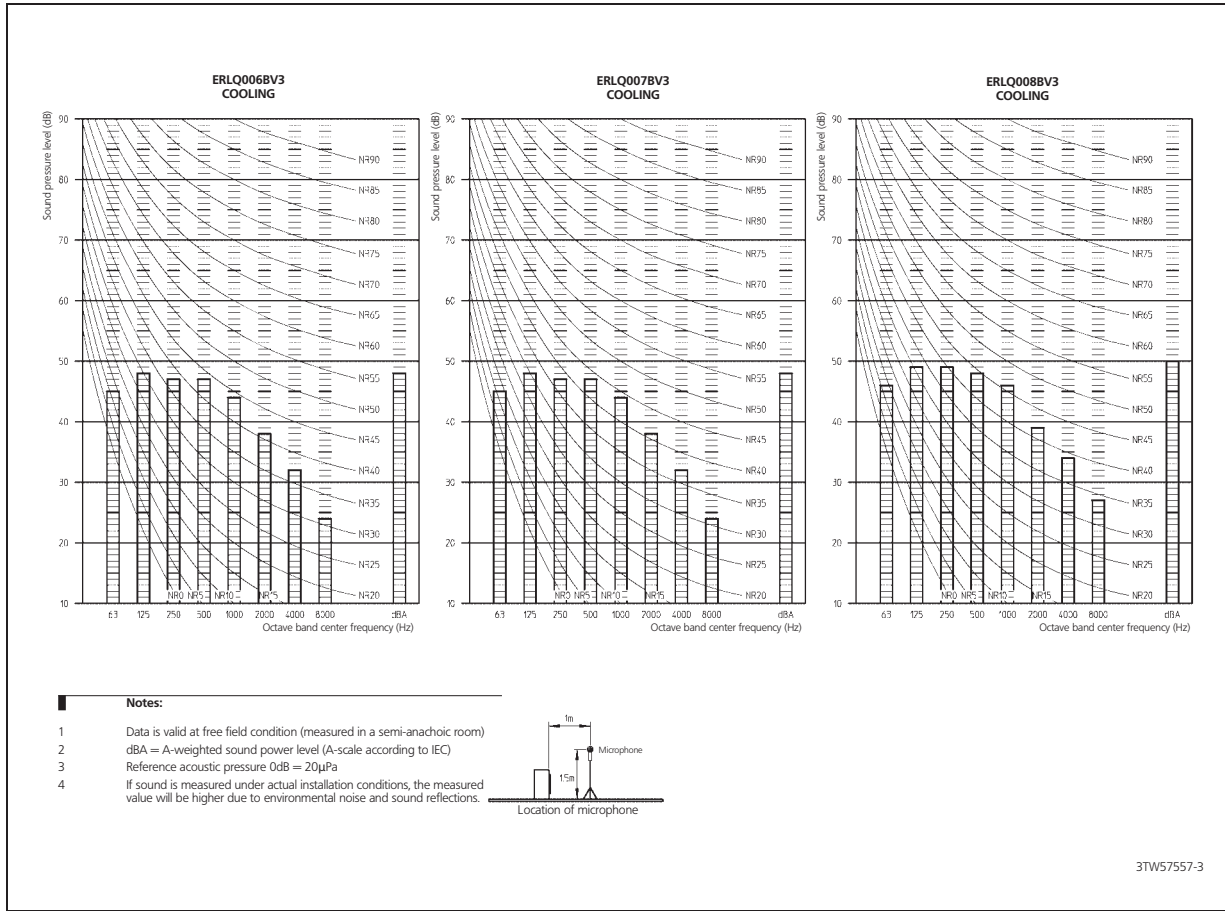
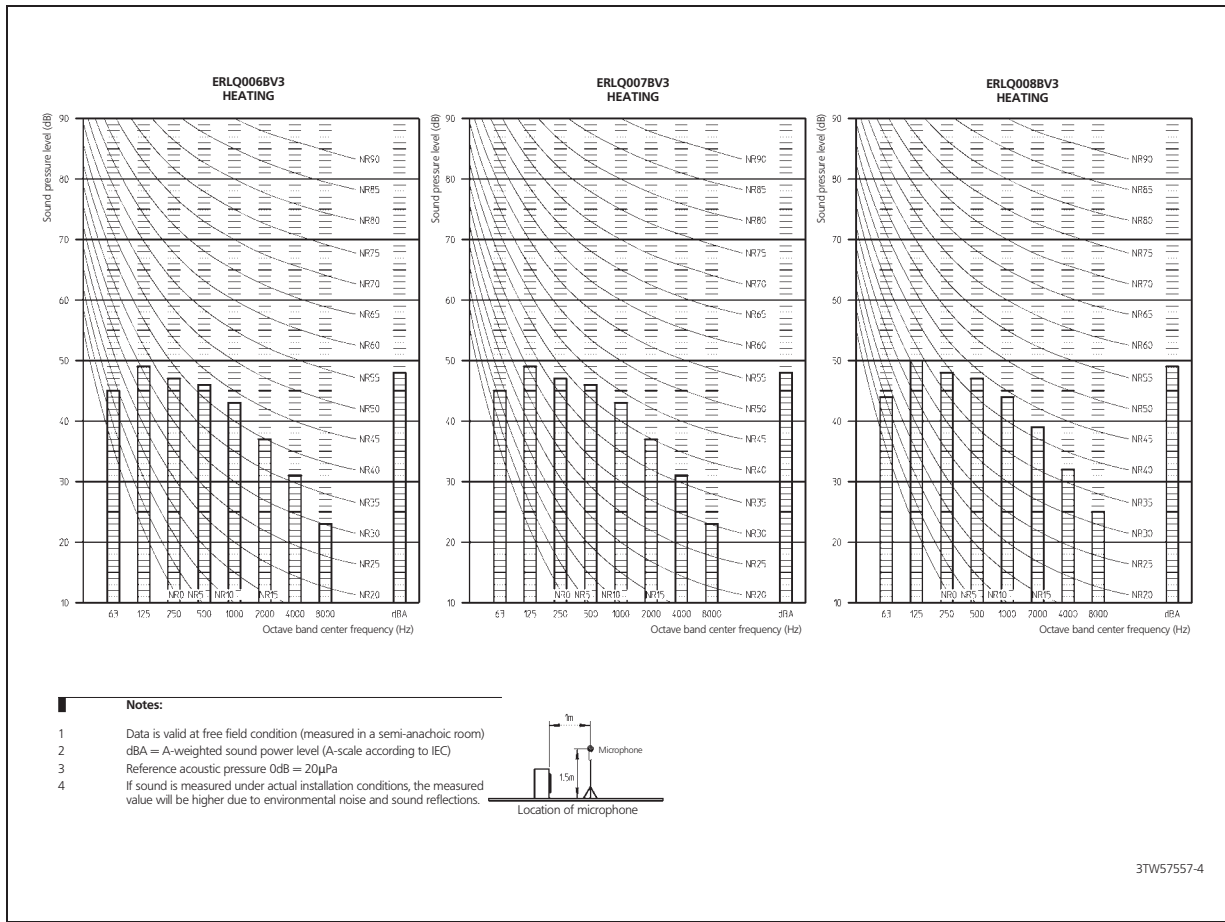
6 Wiring diagram

6 - 1 Wiring diagram



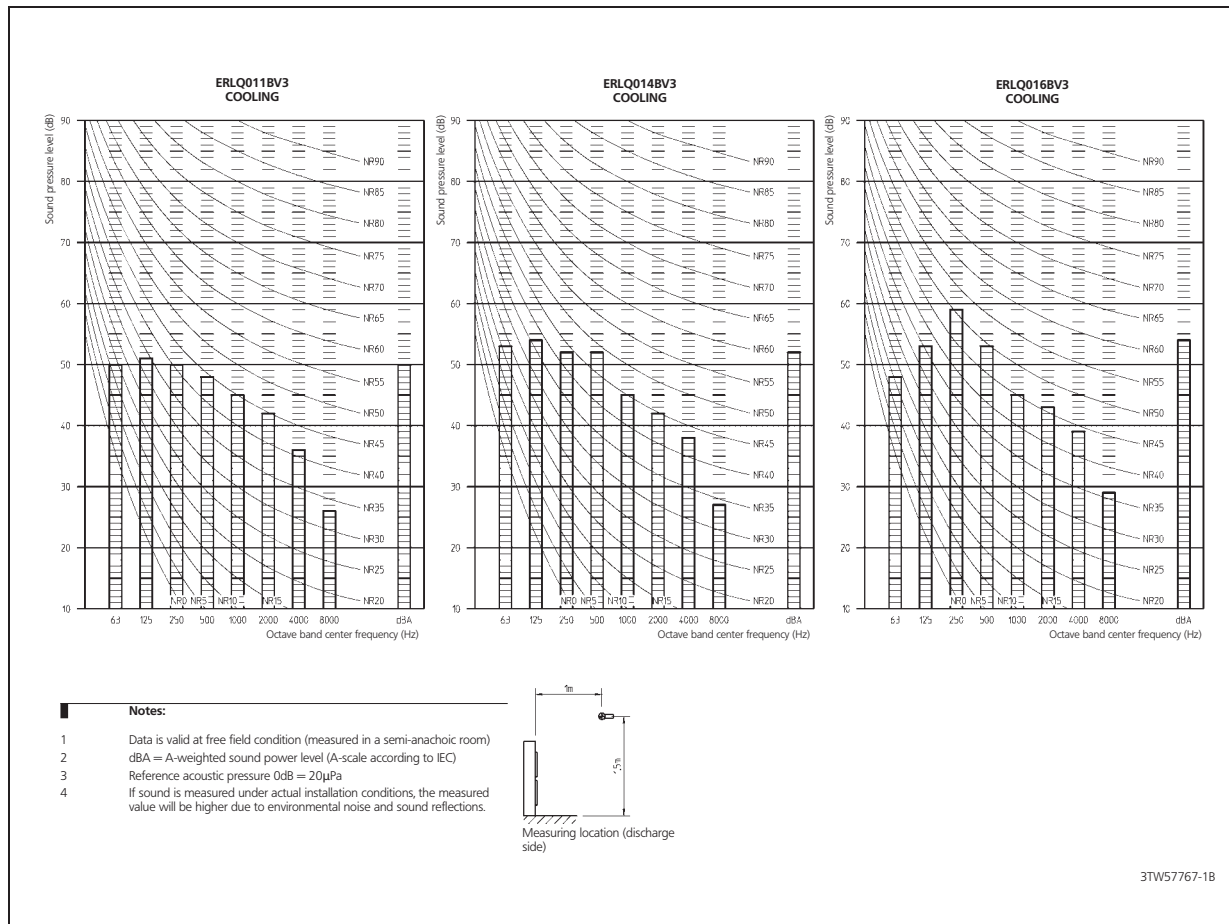
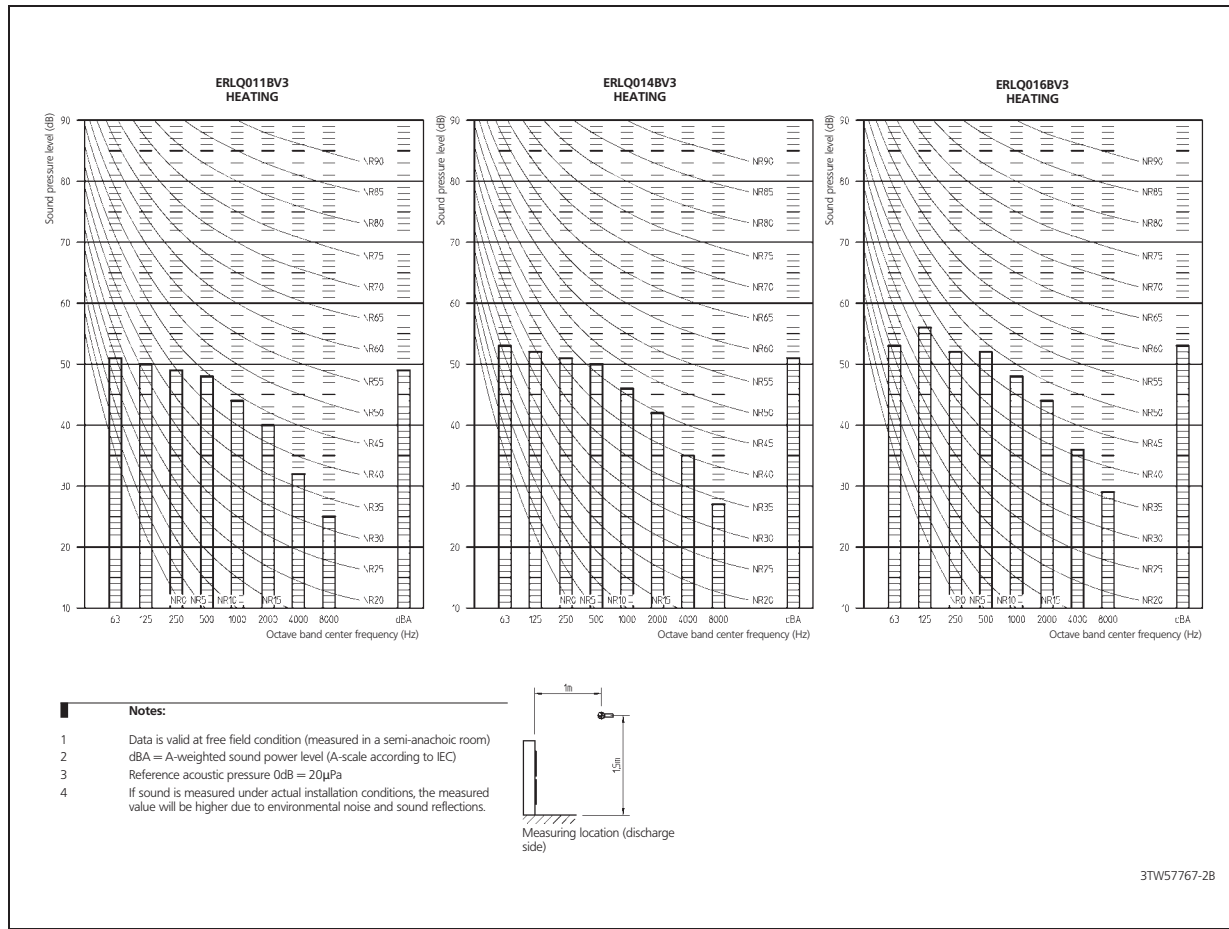
7 Sound data

7 - 1 Sound pressure spectrum



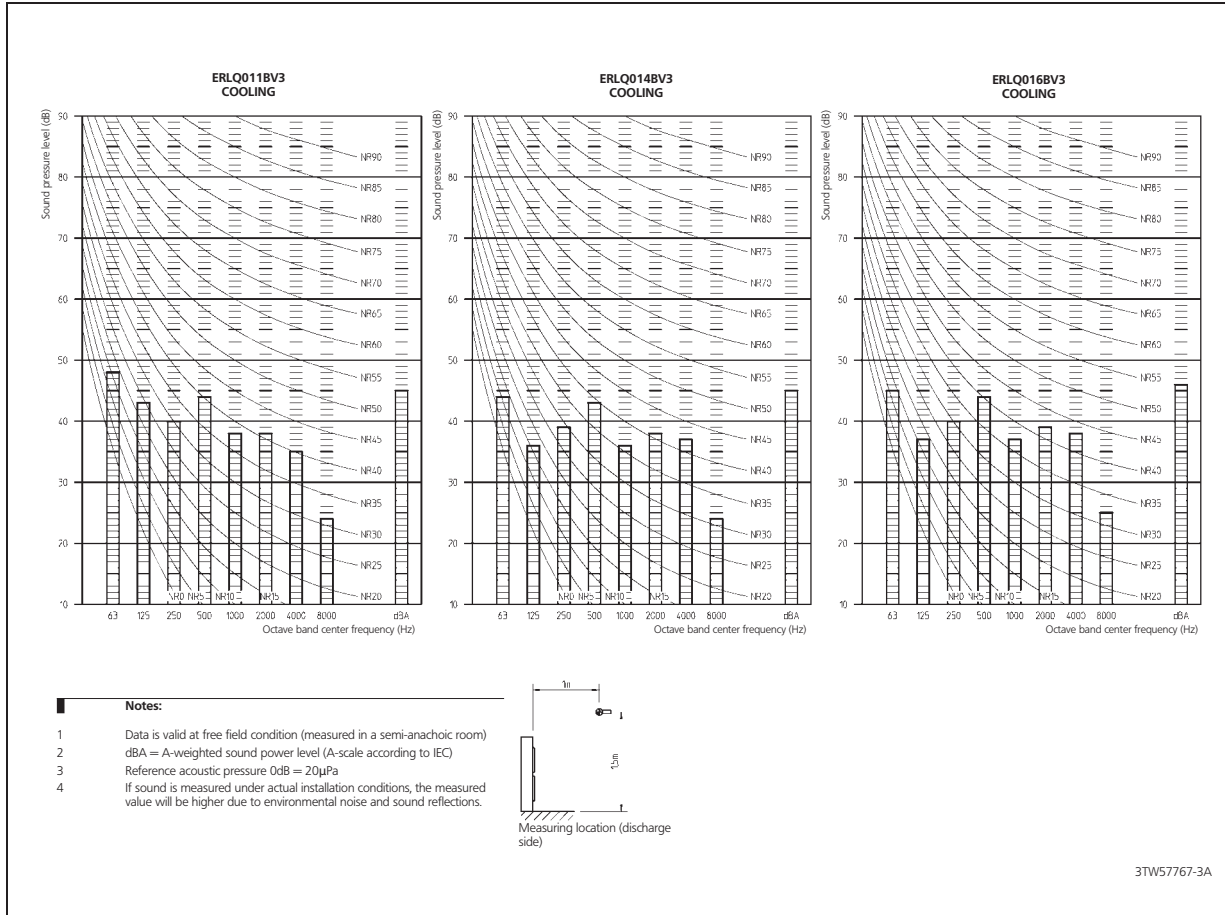
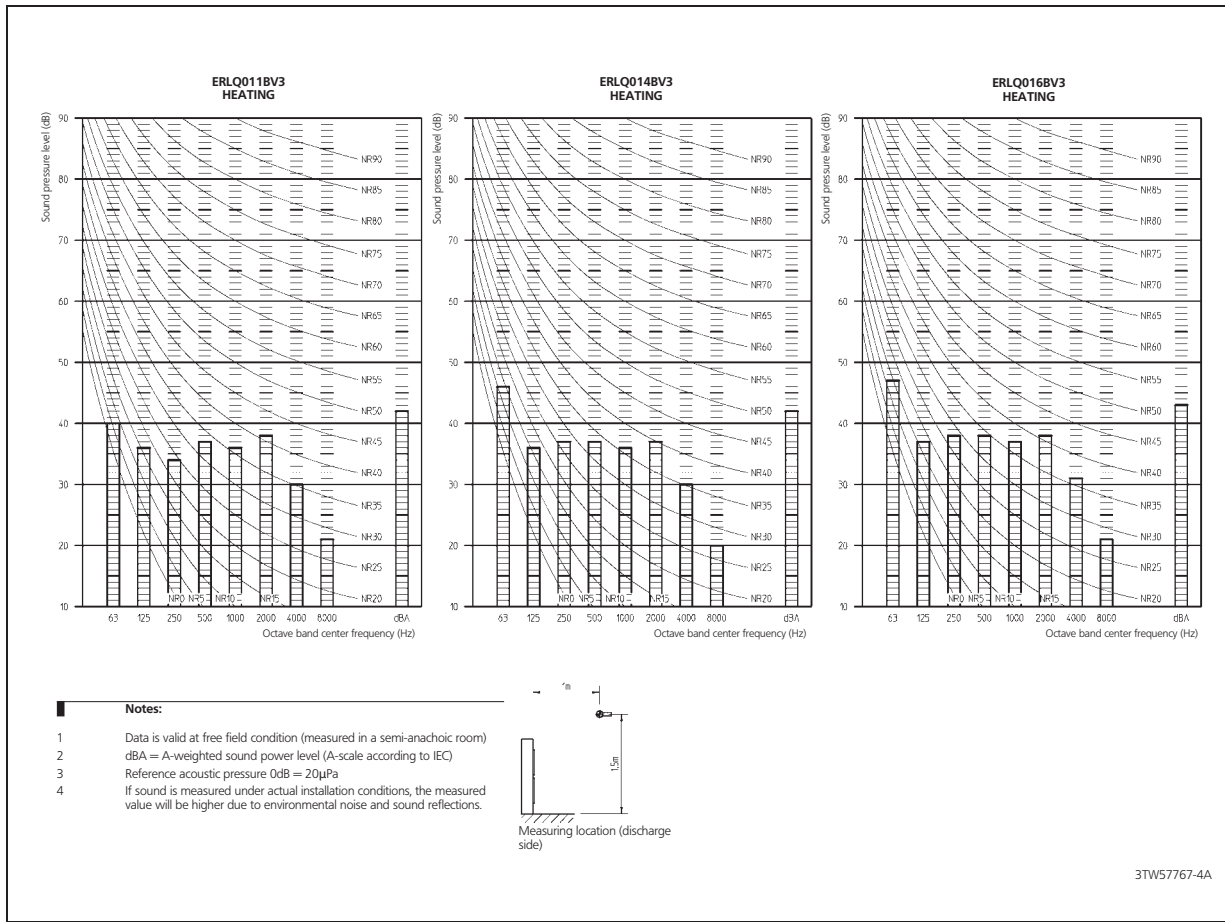
7 Sound data

7 - 1 Sound pressure spectrum



7 Sound data

7 - 2 Sound pressure spectrum quiet mode



8 Installation

8 - 1 Installation method

ERLQ-BV3

Outdoor unit

Installation guidelines / precautions Daikin Altherma

Installation location (General)

- The equipment is not intended for use in a potentially explosive atmosphere.
- The equipment is not intended for use in a potentially explosive atmosphere.
- Choose a place solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
- Choose a location where the hot/cold air discharger from the unit or the operation noise will not cause a nuisance to the neighbours of the user.
- Avoid places near a bedroom and the like, so that the operation noise will cause no trouble.
- There must be sufficient space for carrying the unit into and out of the site.
- There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
- The site must be free from the possibility of flammable gas leakage in a nearby place.
- Locate the unit so that the noise and the discharged hot/cold air will not annoy the neighbours.
- Install units, power cords and inter-unit cables at least 3 m away from television and radio sets. This is to prevent interference to images and sounds.
- Depending on radio wave conditions, electromagnetic interference may still occur even if installed more than 3 m away.
- In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the outdoor unit.
- Since drain flows out of the outdoor unit, do not place anything under the unit which must be kept away from moisture.

Installation location (in cold climates)

- To prevent exposure to wind, install the outdoor unit with its suction side facing the wall.
- Never install the outdoor unit at a site where the suction side may be exposed directly to wind.
- To prevent exposure to wind, install a baffle plate on the air discharge side of the outdoor unit.
- Unit should be installed in a way that a minimum of 10 cm free space is assured below the unit's bottom plate at all conditions, e.g.: heavy snowfall (if necessary construct a pedestal).
- In heavy snowfall areas it is very important to select an installation site where the snow will not affect the unit. If lateral snowfall is possible, make sure that the heat exchanger coil is not affected by the snow (if necessary construct a lateral canopy). (See figure)

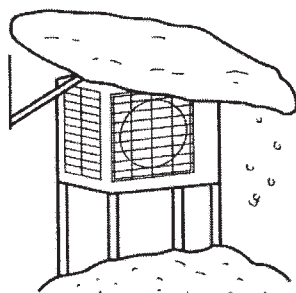


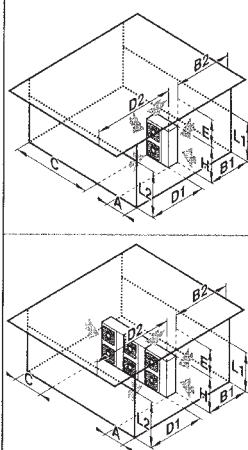
Figure 1: construction of canopy and pedestal

8 Installation

8 - 1 Installation method

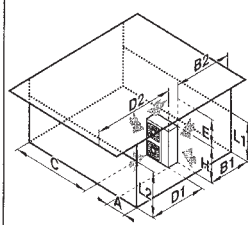
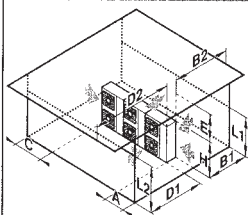
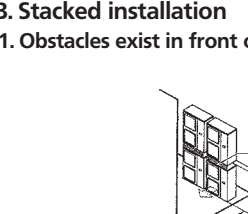
ERLQ011-016BV3

A. Non stacked installation



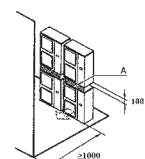
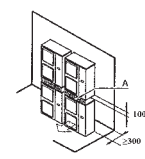
Legend unit (mm)

- ↖ Suction side obstacle
- ↗ Discharge side obstacle
- ↙ Left side obstacle
- ↘ Right side obstacle
- ⬇ Top side obstacle
- ✓ Obstacle is present
- ⚡ This situation is not allowed.

	↖	↗	↙	↘	⬇	A	B1	B2	C	D1	D2	E	L1/L2
	✓					≥100	≥100		≥100				
	✓	✓	✓			≥100	≥100		≥100		≤500	≥1000	
	✓	✓	✓	✓		≥100	≥100		≥100		≤500	≥1000	
	✓	✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓	✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓	✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓	✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓	✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓	✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓	✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
	✓				✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓			≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓		≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓					≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓			≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓		≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	
	✓	✓	✓	✓	✓	≥200	≥300		≥1000		≤500	≥1000	

B. Stacked installation

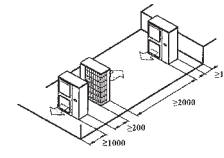
1. Obstacles exist in front of the outlet side **2. Obstacles exist in front of the air inlet**

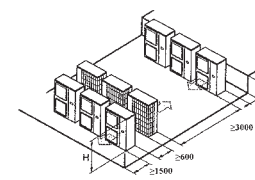
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row

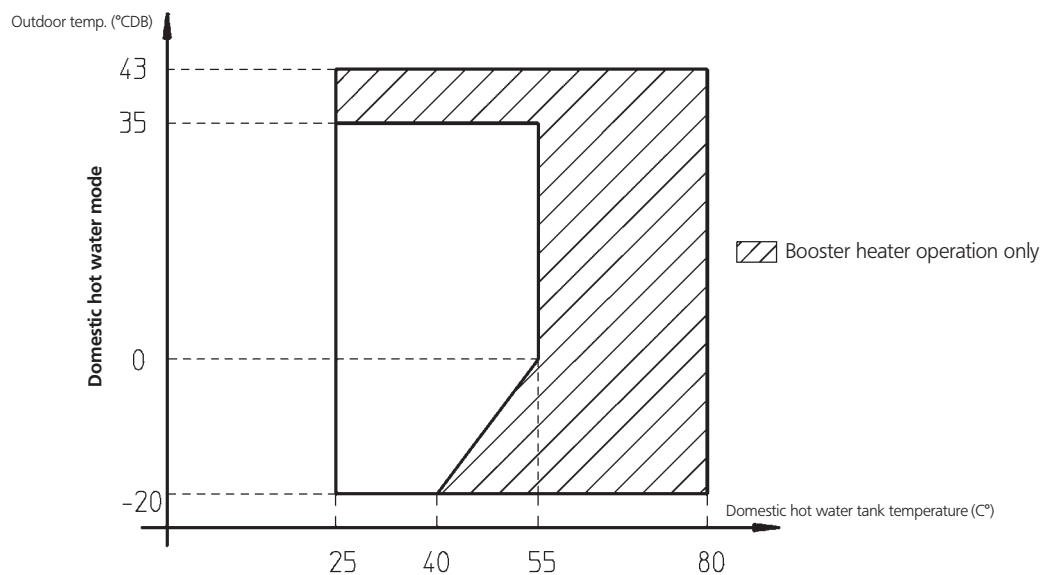
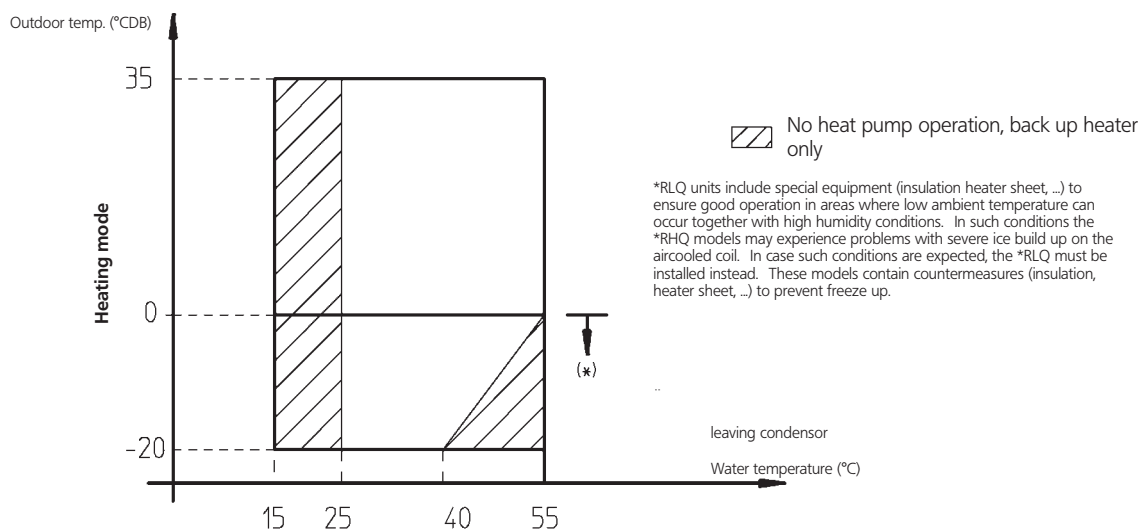
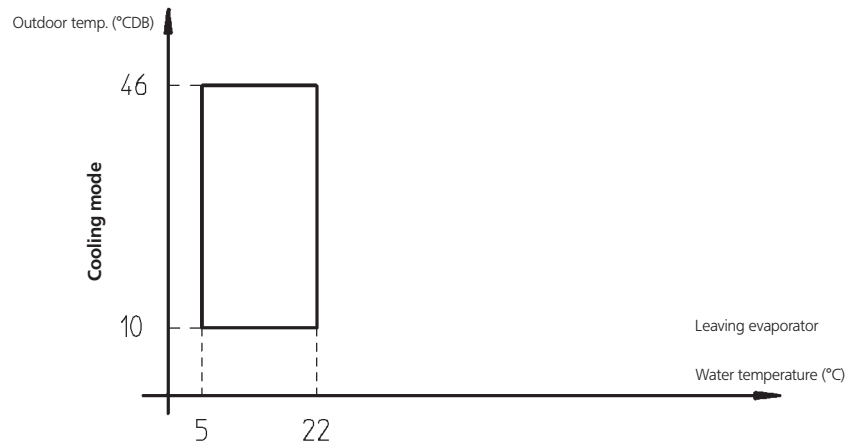


Relation of dimensions of H, A, and L are shown in the table below.

	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

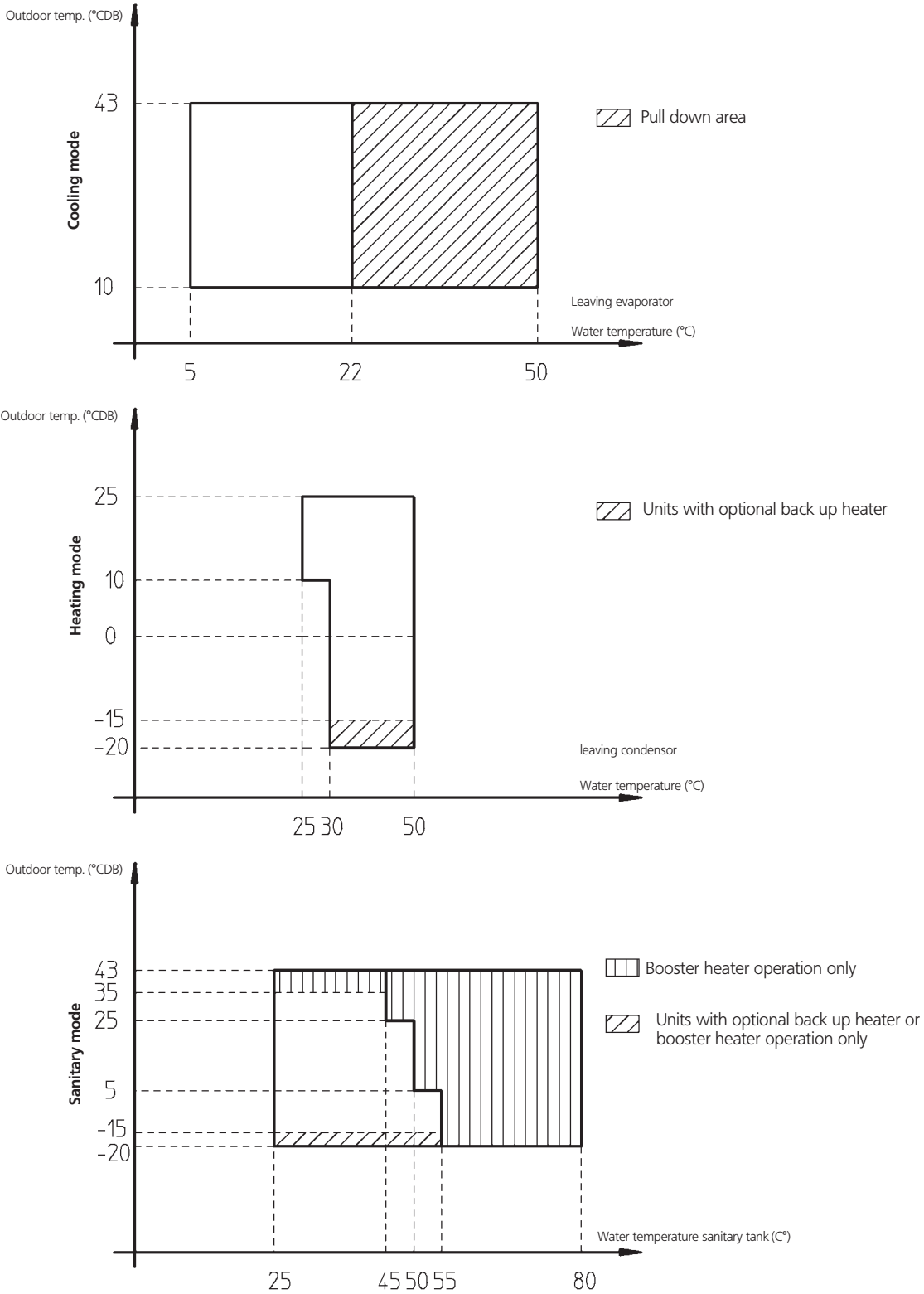
9 Operation range

ERLQ011-016BV3



4TW57753-1C

9 Operation range



4TW57783-1

TABLE OF CONTENTS

ERLQ011-016BAW1

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1 Features

- Three phase large capacity outdoor unit with bottom plate heater
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



8

1

2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				ERLQ011BAW1	ERLQ014BAW1	ERLQ016BAW1
For combination indoor units + outdoor units	Indoor Units			EKHBH016BA		
Condition 1	Heating capacity	Nominal	kW	11.32	14.50	16.05
	Heating PI	Nominal	kW	2.54	3.33	3.73
	COP	Nominal		4.46	4.35	4.30
Nominal Capacity	Heating capacity	Nominal	kW	10.98	13.57	15.11
	Heating PI	Nominal	kW	3.15	4.12	4.60
	COP	Nominal		3.48	3.29	3.29
For combination indoor units + outdoor units	Indoor Units			EKHBX016BA		
Condition 1	Heating capacity	Nominal	kW	11.32	14.50	16.05
	Cooling capacity	Nominal	kW	15.05	16.06	16.76
	Heating PI	Nominal	kW	2.54	3.33	3.73
	Cooling PI	Nominal	kW	4.44	5.33	6.06
	COP	Nominal		4.46	4.35	4.30
	EER	Nominal		3.39	3.01	2.76
Nominal Capacity	Heating capacity	Nominal	kW	10.98	13.57	15.11
	Cooling capacity	Nominal	kW	11.72	12.55	13.12
	Heating PI	Nominal	kW	3.15	4.12	4.60
	Cooling PI	Nominal	kW	4.22	5.00	5.65
	COP	Nominal		3.48	3.29	3.29
	EER	Nominal		2.78	2.51	2.32
Notes				Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C) - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)		
				Condition 2: cooling Ta 35°C - LWE 7°C (DT = 5°C) - heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)		

2-2 TECHNICAL SPECIFICATIONS				ERLQ011BAW1	ERLQ014BAW1	ERLQ016BAW1	
Casing	Colour			Ivory white			
	Material			Painted galvanised steel plate			
Dimensions	Unit	Height	mm	1,345			
		Width	mm	900	900	900	
		Depth	mm	320	320	320	
	Packing	Height	mm	1,524			
		Width	mm	980	980	980	
		Depth	mm	420	420	420	
Weight	Unit		kg	110	110	110	
	Packed Unit		kg	122	122	122	
Packing	Material			EPS			
				Carton			
				Wood			
	Weight			kg	12	12	12
Heat Exchanger	Dimensions	Length	mm	857	857	857	
		Nr of Rows			2	2	2
		Fin Pitch	mm	1.4	1.4	1.4	
		Nr of Passes			5	5	5
		Face Area	m ²	1.131	1.131	1.131	
		Nr of Stages			60	60	60
	Tube type			Hi-XSS(8)			
	Fin	Type		WF fin			
Treatment		Anti-corrosion treatment (PE)					
Fan	Type			Propeller			
	Quantity			2	2	2	
	Discharge direction			Horizontal			
	Motor	Quantity		2	2	2	
		Model		Brushless DC motor			

2 Specifications

2-2 TECHNICAL SPECIFICATIONS				ERLQ011BAW1	ERLQ014BAW1	ERLQ016BAW1
Motor	Speed (nominal)	Steps		8	8	8
		Heating	rpm	760	760	760
		Cooling	rpm	780	780	780
Fan	Motor	Output	W	70	70	70
		Drive		Direct drive		
Compressor	Quantity			1	1	1
	Motor	Model		JT1G-VDYR@S		
		Type		Hermetically sealed scroll compressor		
		Motor Output	W	2,200		
		Starting Method		Inverter driven		
Motor	Crankcase Heater	Output	W	33	33	33
Operation Range	Heating	Min	°CWB	-20	-20	-20
		Max	°CWB	35	35	35
	Cooling	Min	°CDB	10	10	10
		Max	°CDB	46	46	46
	Sanitary water	Min	°CDB	-20	-20	-20
		Max	°CDB	43	43	43
Sound Level (nominal)	Heating	Sound Power	dBA	64	64	66
		Sound Pressure	dBA	51	51	52
	Cooling	Sound Power	dBA	64	66	69
		Sound Pressure	dBA	50	52	54
Sound Level (Night quiet)	Heating	Sound Pressure	dBA	42	42	43
	Cooling	Sound Pressure	dBA	45	45	46
Refrigerant	Type			R-410A		
	Charge	kg		2.95	2.95	2.95
	Control			Expansion valve(electronic type)		
	Nr of Circuits			1	1	1
Refrigerant Oil	Type			Daphne FVC68D		
	Charged Volume		l	1.0	1.0	1.0
Piping connections	Liquid (OD)	Quantity		1	1	1
		Type		Flare connection		
		Diameter (OD)	mm	9,52		
	Gas	Quantity		1	1	1
		Type		Flare connection		
		Diameter (OD)	mm	15,9		
	Drain	Quantity		3	3	3
		Type		Hole		
		Diameter (OD)	mm	26	26	26
		Quantity		1	1	1
		Type		Hole		
		Diameter (OD)	mm	18	18	18
	Piping Length	Minimum	m	5	5	5
		Maximum	m	75	75	75
		Equivalent	m	95	95	95
		Chargeless	m	10	10	10
Additional Refrigerant Charge		kg/m	See installation manual outdoor unit 4PW42025-1			
Installation height difference	Maximum	m	30	30	3	
Heat Insulation			Both liquid and gas pipes			
Defrost Method			Pressure equalising			
Defrost Control			Sensor for outdoor heat exchanger temperature			
Capacity Control Method			Inverter controlled			
Safety Devices			High pressure switch			
			Fan motor thermal protector			
			Fuse			
Standard Accessories	Item		Tie-wraps			
	Quantity		2	2	2	
	Item		Installation manual			
Quantity		1	1	1		

2 Specifications

2-2 TECHNICAL SPECIFICATIONS	ERLQ011BAW1	ERLQ014BAW1	ERLQ016BAW1
Notes	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.		
	Down to 3m with recharging of the outdoor unit. Refer to the installation manual of the outdoor unit.		
	Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (
	Conditions: Ta 35°C - LWE 7°C (DT = 5°C)		

2-3 ELECTRICAL SPECIFICATIONS	ERLQ011BAW1		ERLQ014BAW1		ERLQ016BAW1	
Power Supply	Name		W1			
	Phase		3N~			
	Frequency	Hz	50	50	50	
	Voltage	V	400	400	400	
	Voltage range	Minimum	V	-10%		
Maximum		V	+10%			
Current	Nominal running current (RLA)	Heating (A)	A	5.8	5.8	5.8
	Maximum running Current	Heating	A	14	14	14
		Cooling	A	14	14	14
	Recommended fuses		A	20	20	20
Wiring connections	For Power Supply	Remark	See installation manual outdoor unit 4PW42025-1			
	For connection with indoor	Remark	See installation manual outdoor unit 4PW42025-1			
Power Supply Intake	Outdoor unit only					
Notes	Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)					

3 Capacity tables

3 - 1 Heating capacity tables

ERLQ011-016BAW1

Maximum Heating Capacity (Peak values)

Model	LWC [°C]	30		35		40		45		50		55	
		Tamb	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
R(H/L)Q011	-20	5,92	2,24	5,57	2,44	5,45	2,69	5,31	2,98				
	-15	6,70	2,28	6,30	2,49	6,15	2,74	5,98	3,04	5,74	3,38		
	-7	8,22	2,31	7,74	2,54	7,59	2,80	7,39	3,11	7,11	3,46	6,60	3,85
	-2	9,38	2,32	8,86	2,55	8,70	2,82	8,50	3,14	8,19	3,49	7,63	3,89
	2	10,43	2,31	9,88	2,55	9,72	2,83	9,52	3,15	9,20	3,51	8,60	3,91
	7	11,92	2,29	11,32	2,54	11,18	2,83	10,98	3,15	10,65	3,52	9,99	3,93
	12	12,93	2,22	12,31	2,47	12,20	2,76	12,02	3,09	11,69	3,46	11,01	3,87
	15	13,99	2,20	13,34	2,45	13,24	2,74	13,07	3,08	12,74	3,45	12,02	3,86
20	15,90	2,14	15,20	2,40	15,13	2,70	14,98	3,04	14,22	3,42	13,46	3,84	
R(H/L)Q014	-20	7,69	2,89	7,46	3,15	7,25	3,45	5,69	3,80				
	-15	8,59	2,95	8,28	3,22	7,99	3,53	7,87	3,89	7,83	4,30		
	-7	10,43	3,02	10,02	3,30	9,61	3,63	9,40	4,01	9,27	4,43	8,87	4,89
	-2	11,87	3,05	11,39	3,34	10,91	3,68	10,65	4,06	10,49	4,49	10,02	4,96
	2	13,20	3,06	12,66	3,36	12,13	3,70	11,84	4,09	11,65	4,52	11,12	5,01
	7	15,11	3,07	14,50	3,33	13,90	3,72	13,57	4,12	13,35	4,56	12,73	5,05
	12	15,99	2,97	15,36	3,27	14,74	3,62	14,40	4,01	14,18	4,44	13,54	4,92
	15	17,33	2,96	16,66	3,26	16,00	3,61	15,64	4,01	15,41	4,45	14,72	4,93
20	19,77	2,93	19,04	3,24	18,30	3,59	17,92	4,00	17,17	4,44	16,41	4,93	
R(H/L)Q016	-20	8,50	3,21	8,36	3,50	8,24	3,84	6,52	4,22				
	-15	9,46	3,28	9,24	3,58	9,02	3,93	8,94	4,32	8,73	4,77		
	-7	11,47	3,37	11,11	3,68	10,76	4,04	10,57	4,45	10,21	4,92	9,86	5,43
	-2	13,05	3,41	12,62	3,73	12,18	4,10	11,92	4,52	11,49	4,99	11,05	5,51
	2	14,52	3,44	14,02	3,76	13,52	4,13	13,22	4,56	12,71	5,04	12,20	5,56
	7	16,63	3,46	16,05	3,73	15,47	4,17	15,11	4,60	14,51	5,08	13,92	5,62
	12	17,34	3,36	16,74	3,69	16,13	4,06	15,76	4,49	15,13	4,96	14,51	5,49
	15	18,81	3,36	18,16	3,69	17,51	4,07	17,10	4,49	16,43	4,97	15,75	5,50
20	21,49	3,34	20,77	3,68	20,04	4,06	19,59	4,50	18,83	4,98	18,07	5,52	

Maximum Heating Capacity (integrated values)

Model	LWC	30		35		40		45		50		55	
		Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
R(H/L)Q011	-20	5,02	2,19	4,72	2,39	4,62	2,63	4,49	2,91				
	-15	5,67	2,23	5,33	2,44	5,21	2,69	5,07	2,98	4,86	3,30		
	-7	6,96	2,26	6,56	2,49	6,43	2,75	6,26	3,05	6,02	3,39	5,59	3,77
	-2	7,78	2,22	7,35	2,45	7,22	2,71	7,06	3,01	6,80	3,35	6,33	3,73
	2	8,66	2,22	8,20	2,45	8,07	2,72	7,90	3,02	7,64	3,37	7,14	3,75
	7	11,92	2,29	11,32	2,54	11,18	2,83	10,98	3,15	10,65	3,52	9,99	3,93
	12	12,93	2,22	12,31	2,47	12,20	2,76	12,02	3,09	11,69	3,46	11,01	3,87
	15	13,99	2,20	13,34	2,45	13,24	2,74	13,07	3,08	12,74	3,45	12,02	3,86
20	15,90	2,14	15,20	2,40	15,13	2,70	14,98	3,04	14,22	3,42	13,46	3,84	
R(H/L)Q014	-20	6,54	2,80	6,35	3,05	6,17	3,34	4,84	3,68				
	-15	7,30	2,86	7,05	3,12	6,80	3,42	6,69	3,77	6,66	4,16		
	-7	8,87	2,93	8,52	3,20	8,17	3,52	7,99	3,88	7,89	4,29	7,55	4,74
	-2	9,44	2,76	9,05	3,02	8,68	3,33	8,47	3,67	8,34	4,06	7,96	4,49
	2	10,50	2,77	10,07	3,04	9,65	3,35	9,41	3,70	9,26	4,09	8,84	4,53
	7	15,11	3,07	14,50	3,33	13,90	3,72	13,57	4,12	13,35	4,56	12,73	5,05
	12	15,99	2,97	15,36	3,27	14,74	3,62	14,40	4,01	14,18	4,44	13,54	4,92
	15	17,33	2,96	16,66	3,26	16,00	3,61	15,64	4,01	15,41	4,45	14,72	4,93
20	19,77	2,93	19,04	3,24	18,30	3,59	17,92	4,00	17,17	4,44	16,41	4,93	
R(H/L)Q016	-20	7,02	3,12	6,91	3,39	6,81	3,72	5,39	4,10				
	-15	7,82	3,19	7,63	3,47	7,45	3,81	7,39	4,20	7,21	4,63		
	-7	9,48	3,27	9,18	3,57	8,89	3,92	8,73	4,32	8,44	4,77	8,14	5,27
	-2	9,99	3,04	9,65	3,32	9,32	3,65	9,12	4,02	8,79	4,44	8,45	4,90
	2	11,11	3,06	10,73	3,35	10,34	3,68	10,11	4,06	9,72	4,48	9,33	4,95
	7	16,63	3,46	16,05	3,73	15,47	4,17	15,11	4,60	14,51	5,08	13,92	5,62
	12	17,34	3,36	16,74	3,69	16,13	4,06	15,76	4,49	15,13	4,96	14,51	5,49
	15	18,81	3,36	18,16	3,69	17,51	4,07	17,10	4,49	16,43	4,97	15,75	5,50
20	21,49	3,34	20,77	3,68	20,04	4,06	19,59	4,50	18,83	4,98	18,07	5,52	

3TW57912-1B

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condenser temperature (°C)
- Tamb : Ambient temperature (°C) RH=85%

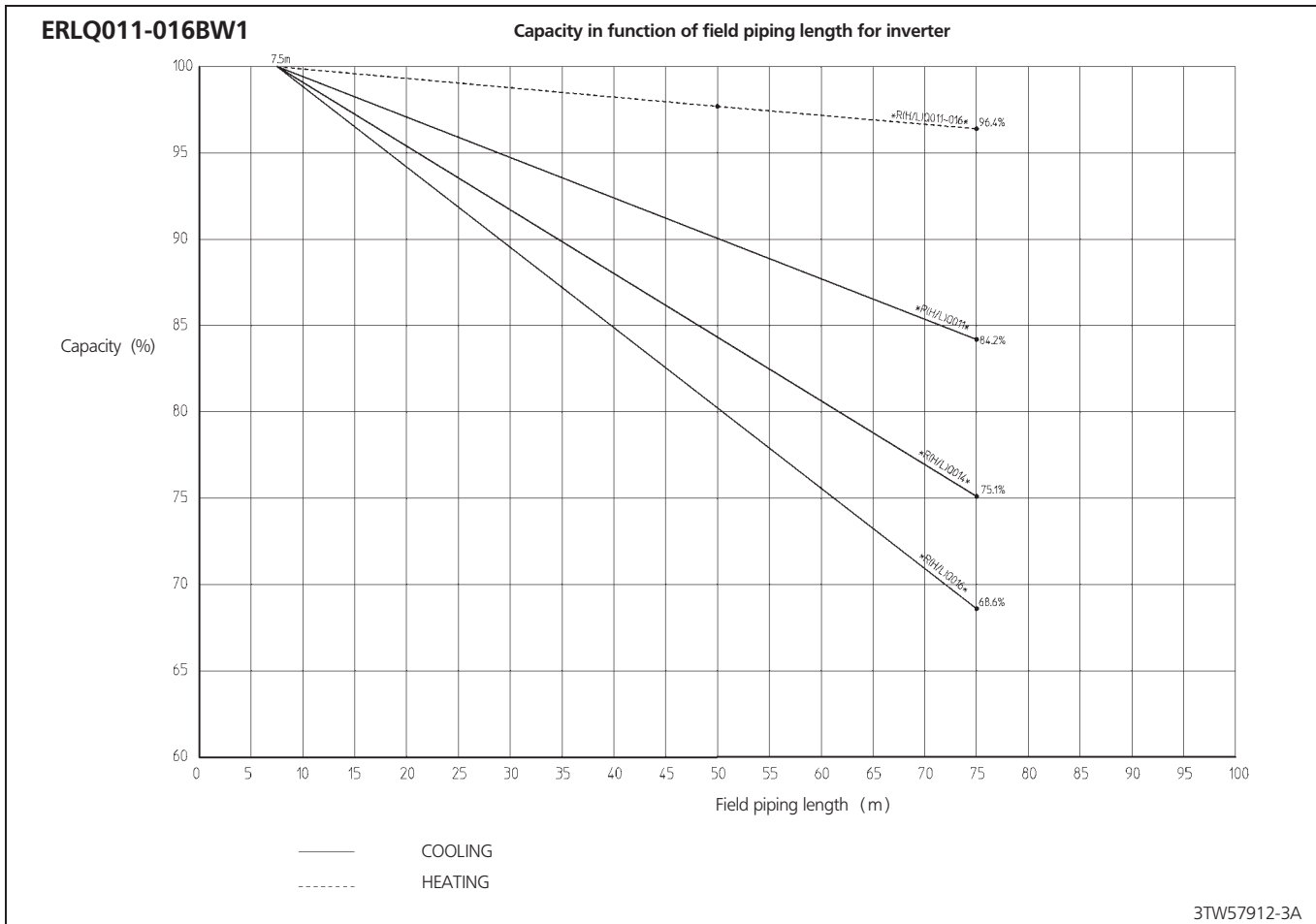
Conditions

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).
For ERHQ11-16AAW1 models only; if Tamb < 4°C: bottom plate heater power input to be added = 95 W

Notes:
- For the model with heatertape (*RLQ): when ambient temperature becomes lower than [F-02] (default = 3°C) bottom plate heater power input to be added = 95W
- [F-02] = BPH ON temp for more details see installation manual of indoor unit.

3 Capacity tables

3 - 1 Heating capacity tables



3 Capacity tables

3 - 2 Cooling capacity tables

ERLQ011-016BAW1

Maximum Cooling Capacity

Model	Tamb	20		25		30		35		40		45	
		LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
R(H/L)Q011	7	12,99	3,17	12,88	3,48	12,44	3,83	11,72	4,22	10,74	4,65	9,54	5,13
	10	13,79	3,20	13,67	3,52	13,20	3,88	12,44	4,28	11,40	4,72	10,14	5,21
	13	15,16	3,24	15,02	3,56	14,51	3,93	13,67	4,34	12,54	4,79	11,00	5,45
	15	16,10	3,26	15,95	3,59	15,41	3,96	14,52	4,38	13,33	4,83	11,40	5,32
	18	17,77	3,29	17,18	3,63	16,26	4,02	15,05	4,44	13,61	4,90	11,54	4,91
	22	19,82	3,34	19,17	3,69	18,16	4,09	16,83	4,52	15,23	4,99	12,10	4,38
R(H/L)Q014	7	13,92	3,79	13,81	4,14	13,34	4,54	12,55	5,00	11,13	4,79	9,85	5,28
	10	14,98	3,85	14,85	4,21	14,34	4,62	13,49	5,09	11,97	4,87	10,61	5,37
	13	16,45	3,92	16,30	4,29	15,74	4,70	14,81	5,18	13,15	4,96	11,00	5,45
	15	17,46	3,96	17,30	4,34	16,71	4,76	15,73	5,24	13,97	5,02	11,40	5,32
	18	19,00	4,03	18,36	4,41	17,37	4,85	16,06	5,33	14,05	5,10	11,54	4,91
	22	21,16	4,12	20,45	4,52	19,36	4,97	17,93	5,46	15,71	5,22	12,10	4,38
R(H/L)Q016	7	14,55	4,30	14,46	4,70	13,98	5,15	13,12	5,65	11,59	5,39	9,85	5,28
	10	15,67	4,39	15,56	4,80	15,02	5,25	14,09	5,76	12,45	5,49	10,61	5,37
	13	17,22	4,48	17,08	4,90	16,48	5,36	15,47	5,87	13,67	5,59	11,00	5,45
	15	18,29	4,54	18,13	4,97	17,49	5,43	16,42	5,95	14,52	5,66	11,40	5,32
	18	19,91	4,64	19,23	5,07	18,17	5,54	16,76	6,06	14,60	5,76	11,54	4,91
	22	22,18	4,77	21,42	5,21	20,25	5,70	18,69	6,22	16,31	5,90	12,10	4,38

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3

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condensor temperature (°C)
- Tamb : Ambient temperature (°C) RH=85%

NOTES

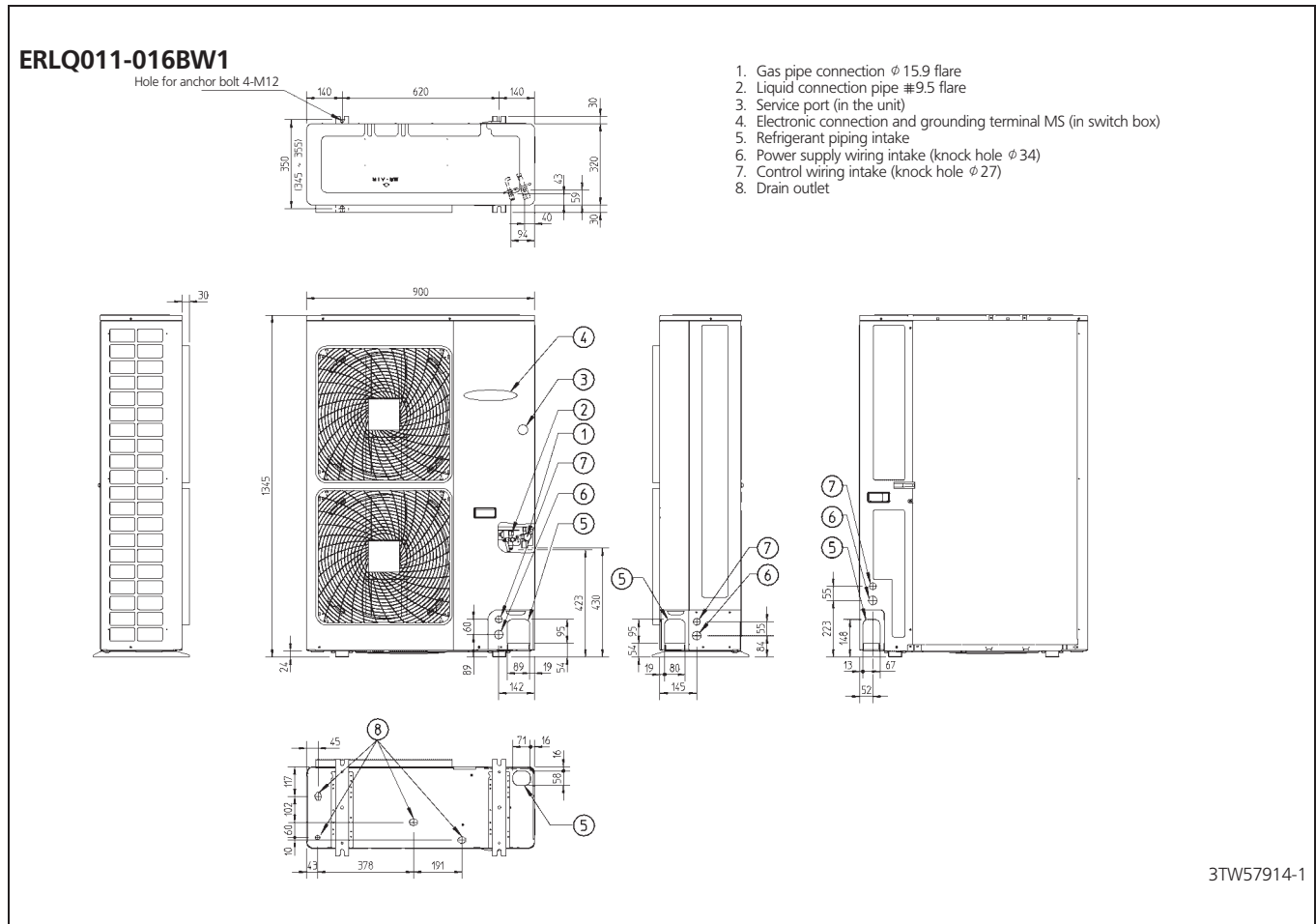
- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).
For ERHQ011-16AAW1 models only: if Tamb < 4°C: bottom plate heater power input to be added = 95 W

Notes:

- For the model with heatertape (*RLO): when ambient temperature becomes lower than [F-02] (default = 3°C) bottom plate heater power input to be added = 95W
- [F-02] = BPH ON temp for more details see installation manual of indoor unit.

4 Dimensional drawing & centre of gravity

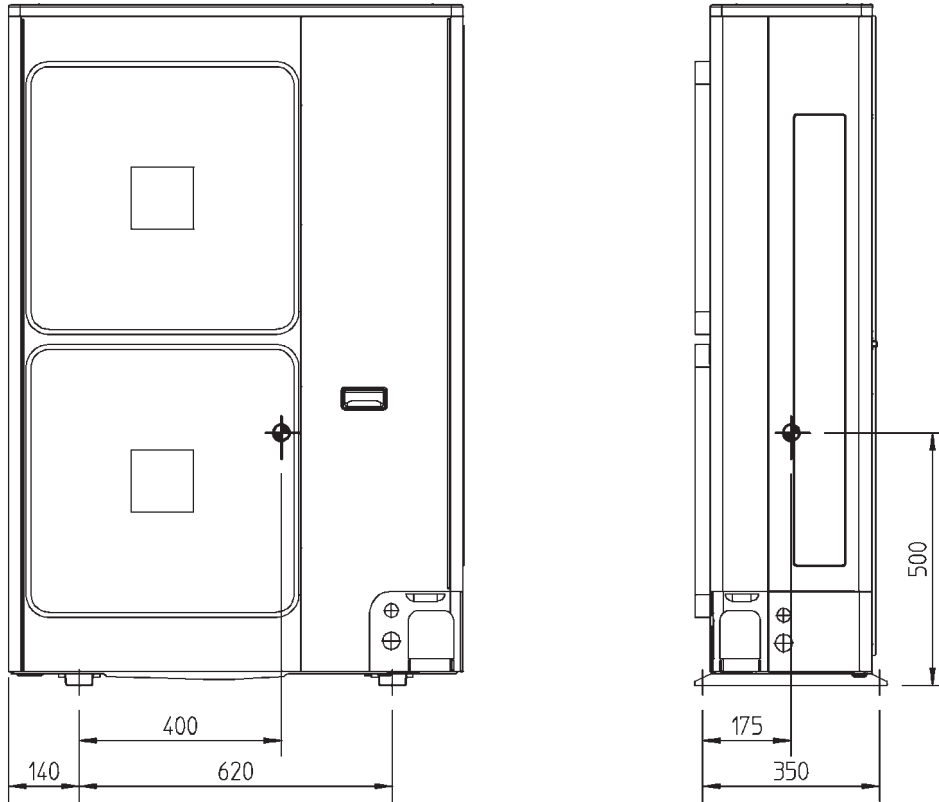
4 - 1 Dimensional drawing



4 Dimensional drawing & centre of gravity

4 - 2 Centre of gravity

ERLQ011-016BW1



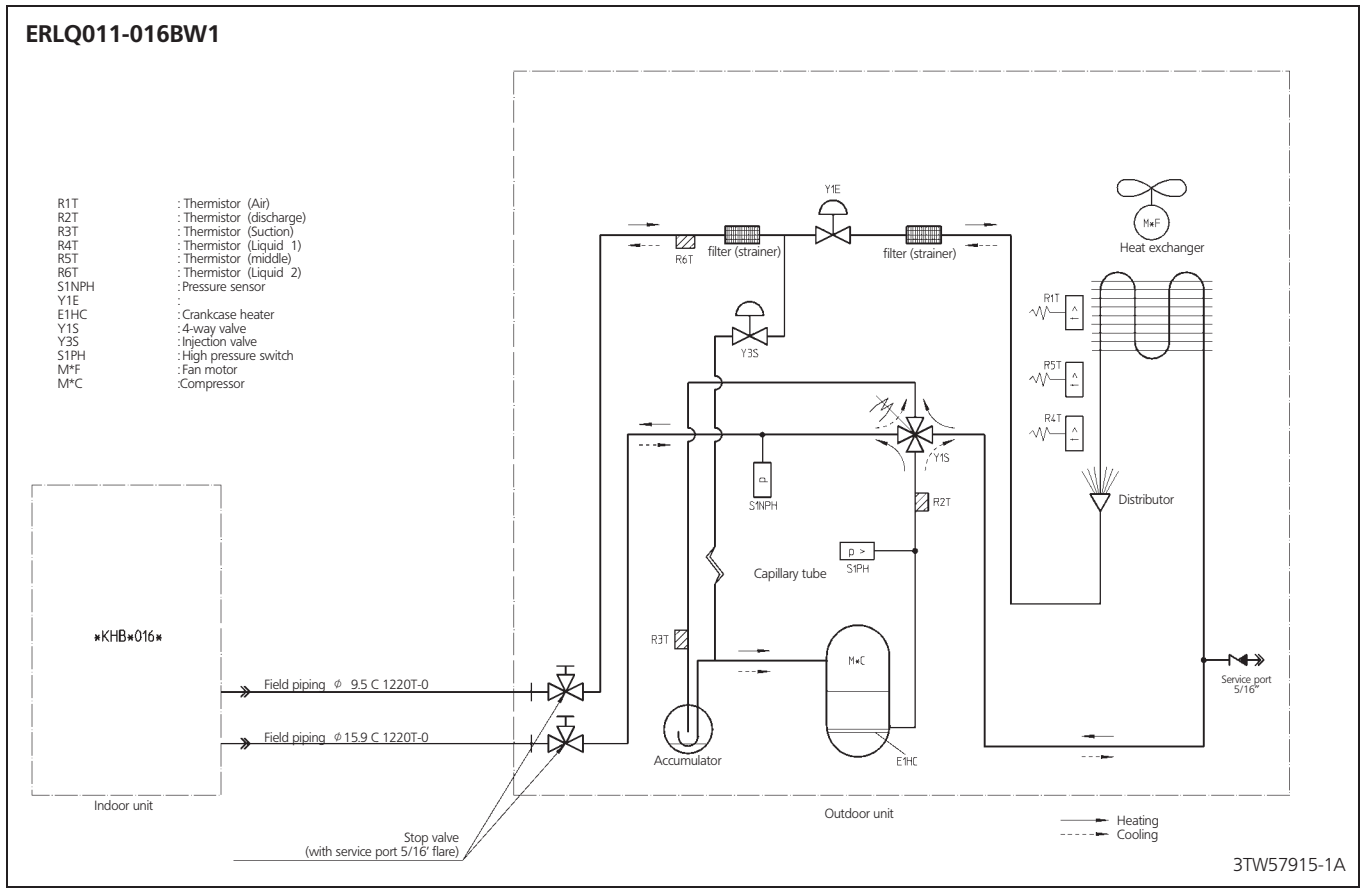
4TW57919-5

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4

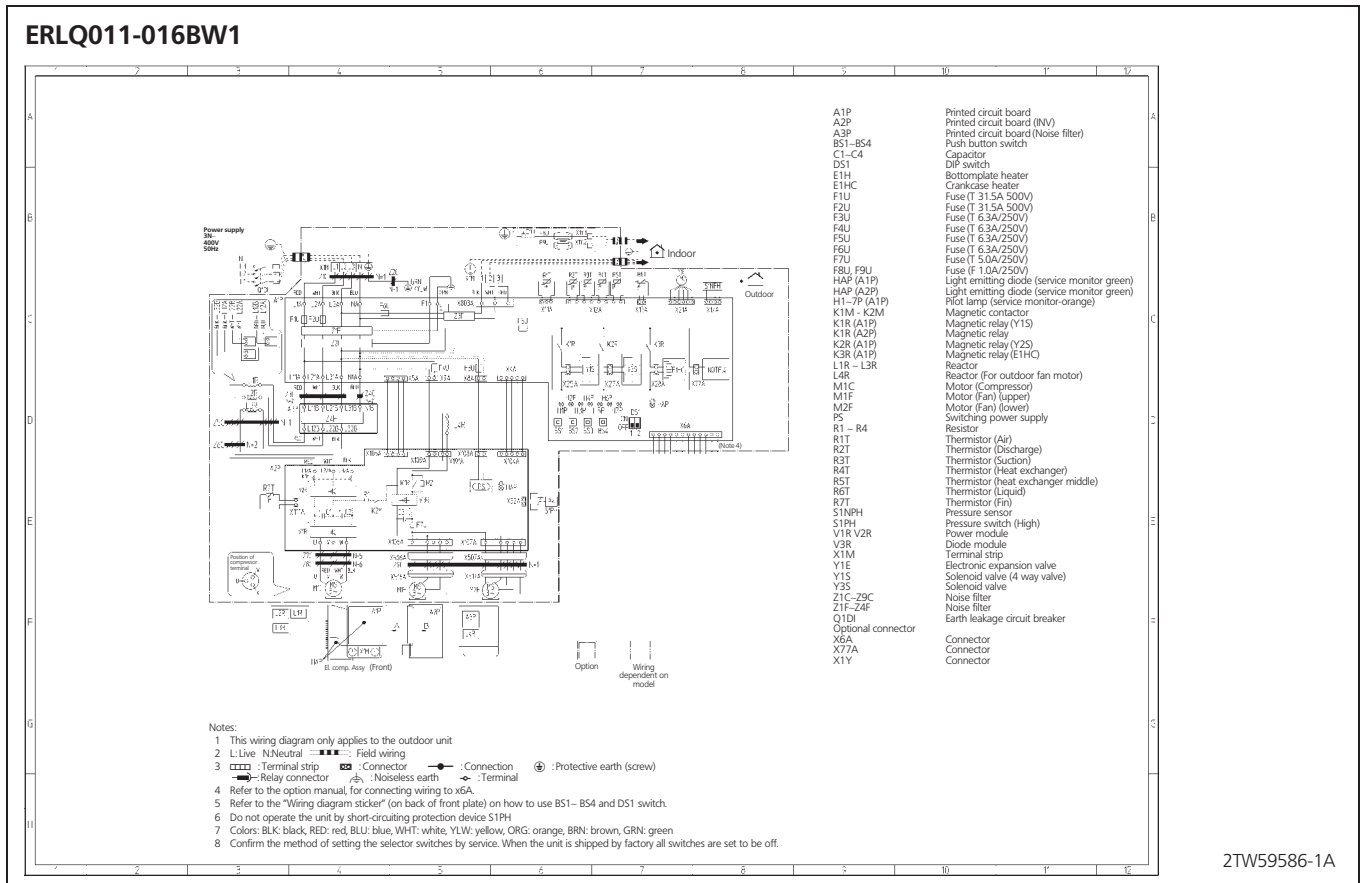
5 Piping diagram

5 - 1 Piping diagram



6 Wiring diagram

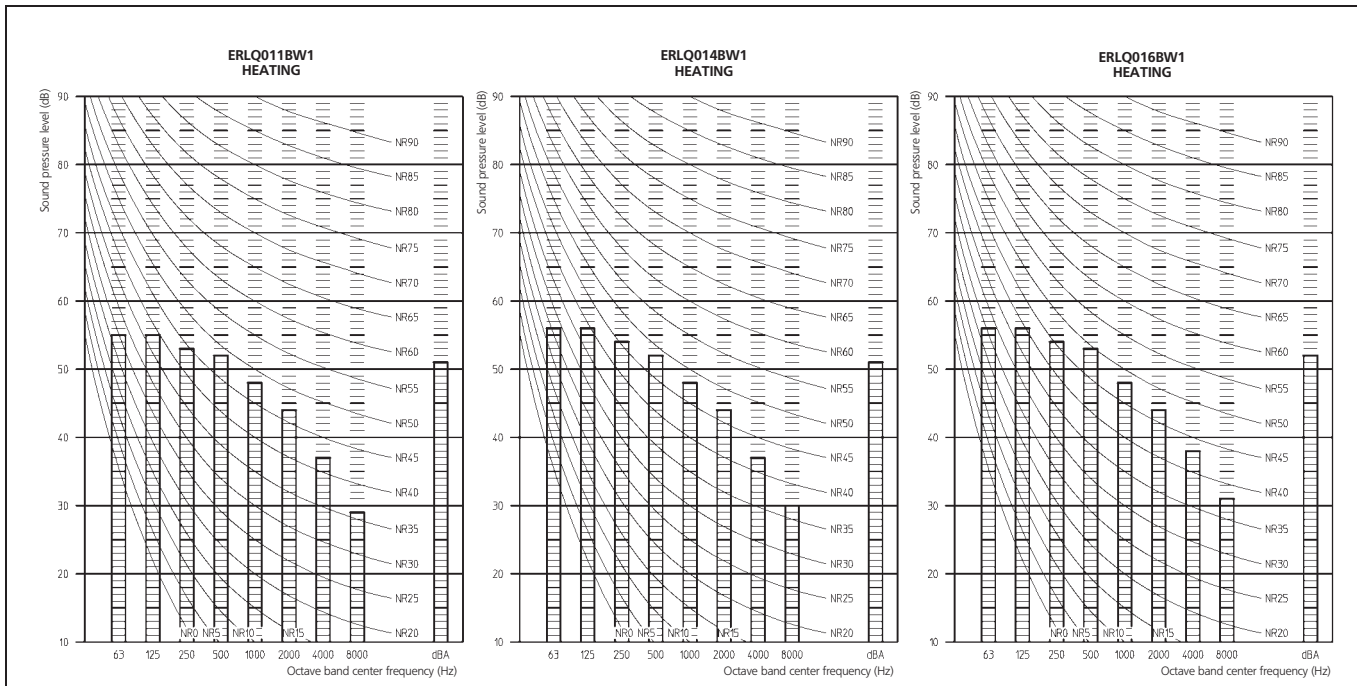
6 - 1 Wiring diagram



2TW59586-1A

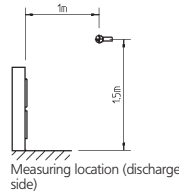
7 Sound data

7 - 1 Sound pressure spectrum

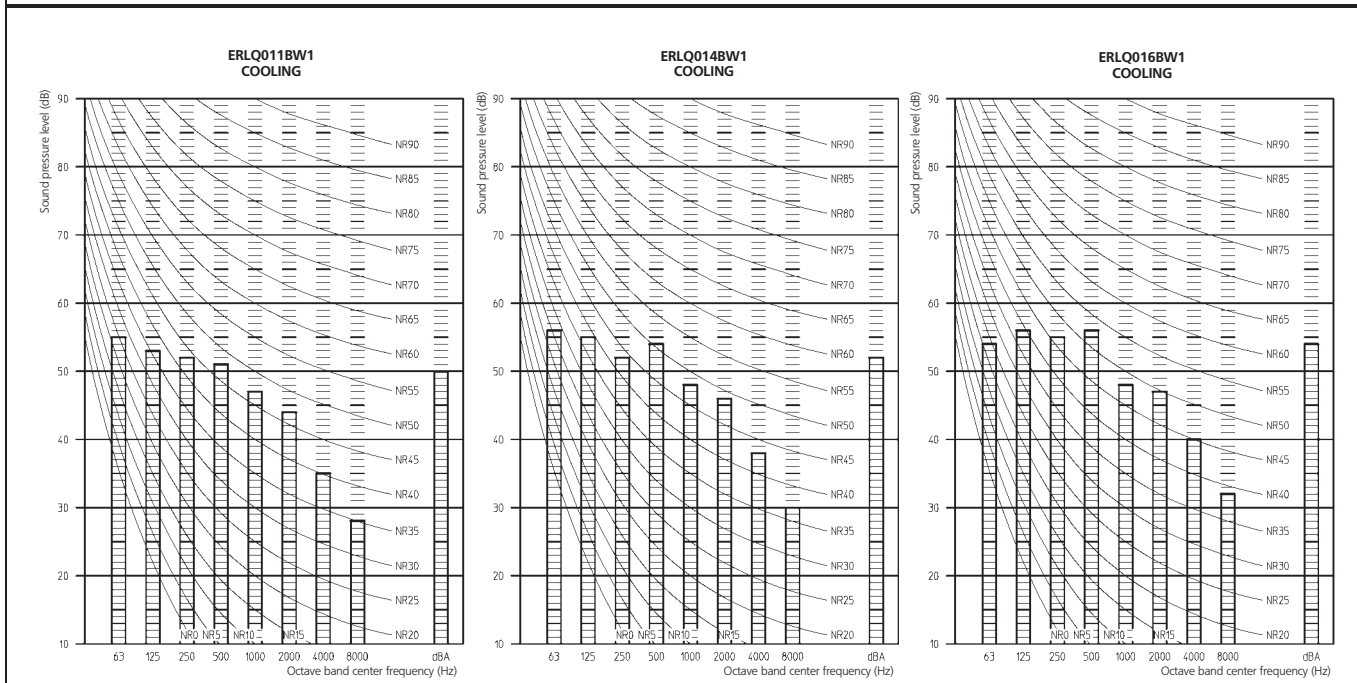


Notes:

- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20µPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

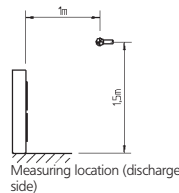


3TW57919-2A



Notes:

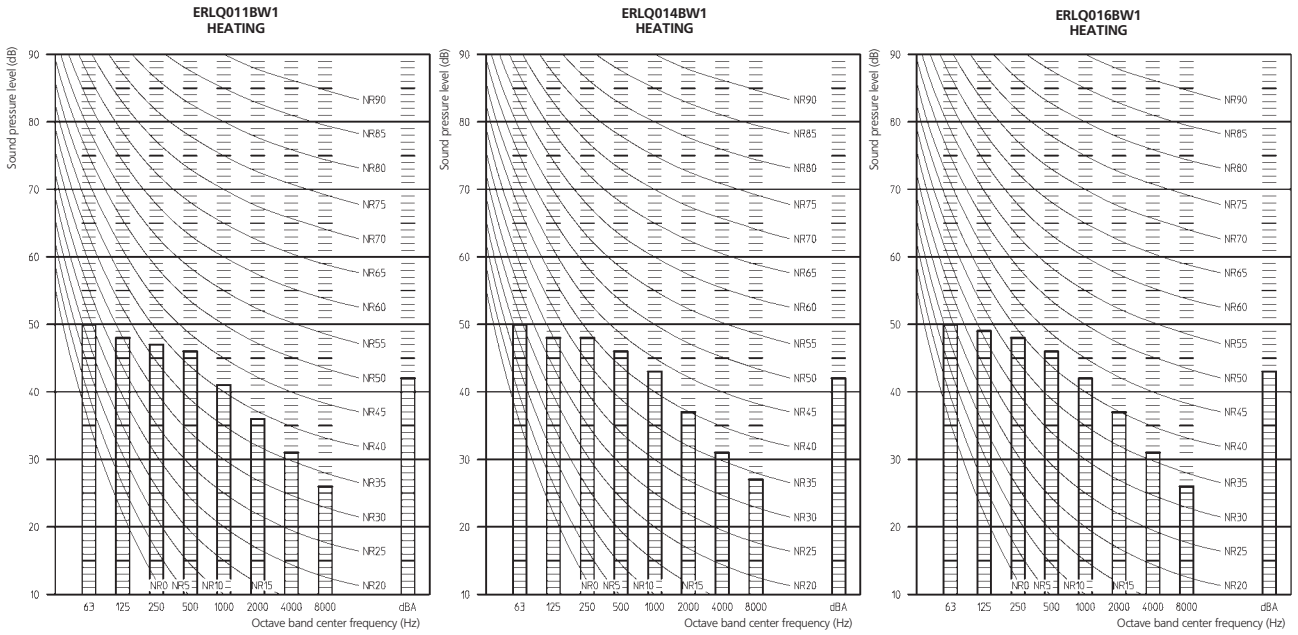
- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20µPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



3TW57919-1A

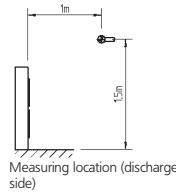
7 Sound data

7 - 2 Sound pressure spectrum quiet mode



Notes:

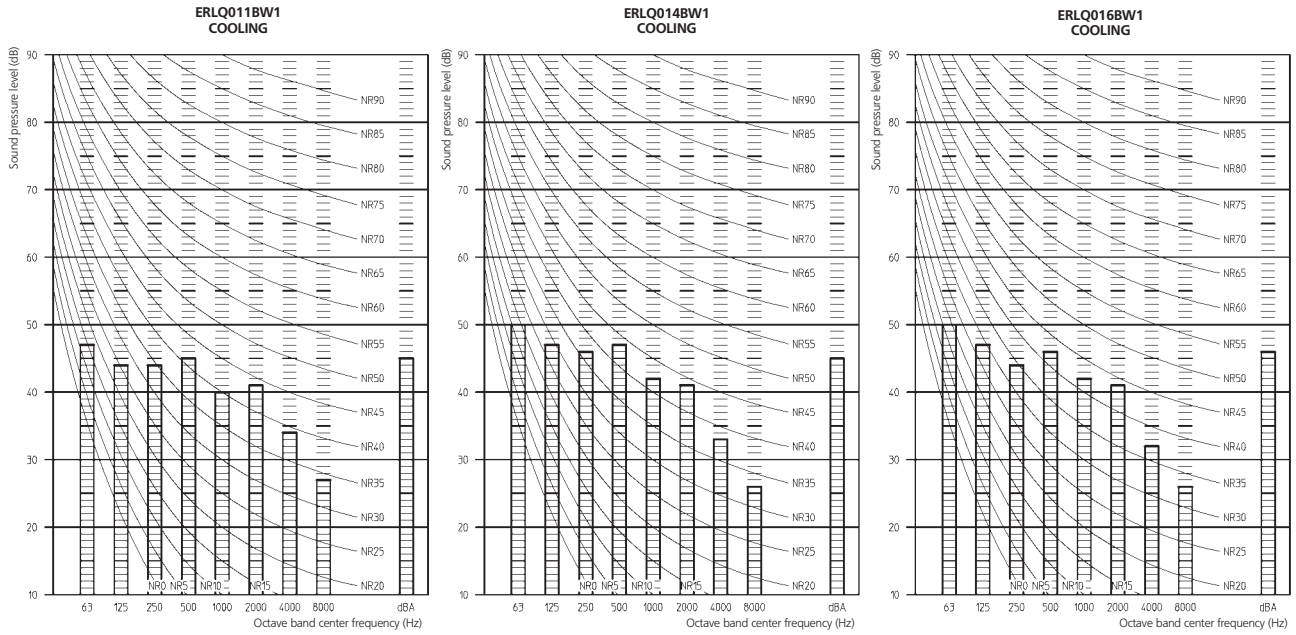
- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20μPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



3TW57919-4A

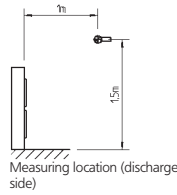
7 Sound data

7 - 2 Sound pressure spectrum quiet mode



Notes:

- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20µPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



3TW57919-3A

8 Installation

8 - 1 Installation method

ERLQ-BW1

Outdoor unit

Installation guidelines / precautions Daikin Altherma

Installation location (General)

- The equipment is not intended for use in a potentially explosive atmosphere.
- The equipment is not intended for use in a potentially explosive atmosphere.
- Choose a place solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
- Choose a location where the hot/cold air discharger from the unit or the operation noise will not cause a nuisance to the neighbours of the user.
- Avoid places near a bedroom and the like, so that the operation noise will cause no trouble.
- There must be sufficient space for carrying the unit into and out of the site.
- There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
- The site must be free from the possibility of flammable gas leakage in a nearby place.
- Locate the unit so that the noise and the discharged hot/cold air will not annoy the neighbours.
- Install units, power cords and inter-unit cables at least 3 m away from television and radio sets. This is to prevent interference to images and sounds.
- Depending on radio wave conditions, electromagnetic interference may still occur even if installed more than 3 m away.
- In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the outdoor unit.
- Since drain flows out of the outdoor unit, do not place anything under the unit which must be kept away from moisture.

Installation location (in cold climates)

- To prevent exposure to wind, install the outdoor unit with its suction side facing the wall.
- Never install the outdoor unit at a site where the suction side may be exposed directly to wind.
- To prevent exposure to wind, install a baffle plate on the air discharge side of the outdoor unit.
- Unit should be installed in a way that a minimum of 10 cm free space is assured below the unit's bottom plate at all conditions, e.g.: heavy snowfall (if necessary construct a pedestal).
- In heavy snowfall areas it is very important to select an installation site where the snow will not affect the unit. If lateral snowfall is possible, make sure that the heat exchanger coil is not affected by the snow (if necessary construct a lateral canopy). (See figure)

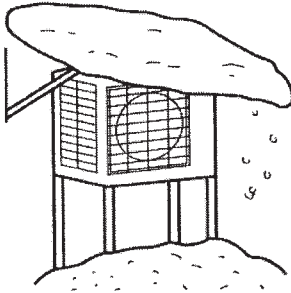


Figure 1: construction of canopy and pedestal

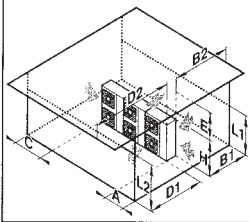
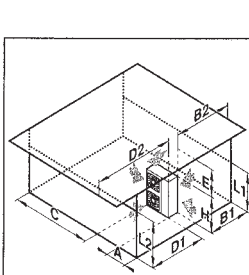
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8 Installation

8 - 1 Installation method

ERLQ011-016BW1

A. Non stacked installation



					A	B1	B2	C	D1	D2	E	L1/L2
✓	✓	✓	✓	✓	≥100	≥100		≥100				
✓	✓	✓	✓	✓	≥100	≥100		≥100		≤500	≥1000	
✓	✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000	
✓	✓	✓	✓	✓					≥500			
✓	✓	✓	✓	✓			≤500		≥500		≥1000	
✓	✓	✓	✓	✓	L1<L2	L1≤H	≥250	≤500	≥750		≥1000	0<L1≤1/2H
✓	✓	✓	✓	✓	L2<L1	L2≤H	≥100		≥1000		≥1000	0<L1≤1/2H
✓	✓	✓	✓	✓	L2<L1	L2≤H	≥200		≥1000	≥500	≥1000	0<L2≤1/2H
✓	✓	✓	✓	✓	L1<L2	L1≤H	≥200	≥300	≥1000			1/2H<L2≤H
✓	✓	✓	✓	✓	L2<L1	L2≤H	≥200	≥300	≥1000	≤500	≥1000	
✓	✓	✓	✓	✓	L1<L2	L1≤H	≥300	≤500	≥1000		≥1000	0<L2≤1/2H
✓	✓	✓	✓	✓	L2<L1	L2≤H	≥250		≥1250		≥1000	1/2H<L2≤H
✓	✓	✓	✓	✓	L2<L1	L2≤H	≥300		≥1500	≤500	≥1000	0<L1≤1/2H
✓	✓	✓	✓	✓	L1<L2	L1≤H	≥250		≥1500		≥1000	1/2H<L1≤H
✓	✓	✓	✓	✓	L2<L1	L2≤H	≥300		≥1500	≤500	≥1000	0<L2≤1/2H
✓	✓	✓	✓	✓	L2<L1	L2≤H	≥300		≥1500		≥1000	1/2H<L2≤H

Legend unit (mm)

- ↖ Suction side obstacle
- ↗ Discharge side obstacle
- ↙ Left side obstacle
- ↘ Right side obstacle
- ⬇ Top side obstacle
- ✓ Obstacle is present

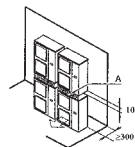
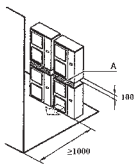
⚠ This situation is not allowed.

1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

2 In these cases, only 2 units can be installed.

B. Stacked installation

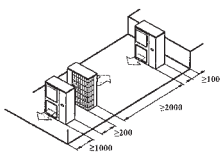
- Obstacles exist in front of the outlet side
- Obstacles exist in front of the air inlet



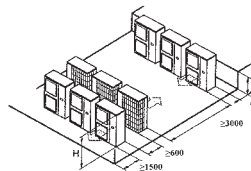
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

- Installation of one unit per row



- Installing multiple units (2 units or more) in lateral connection per row

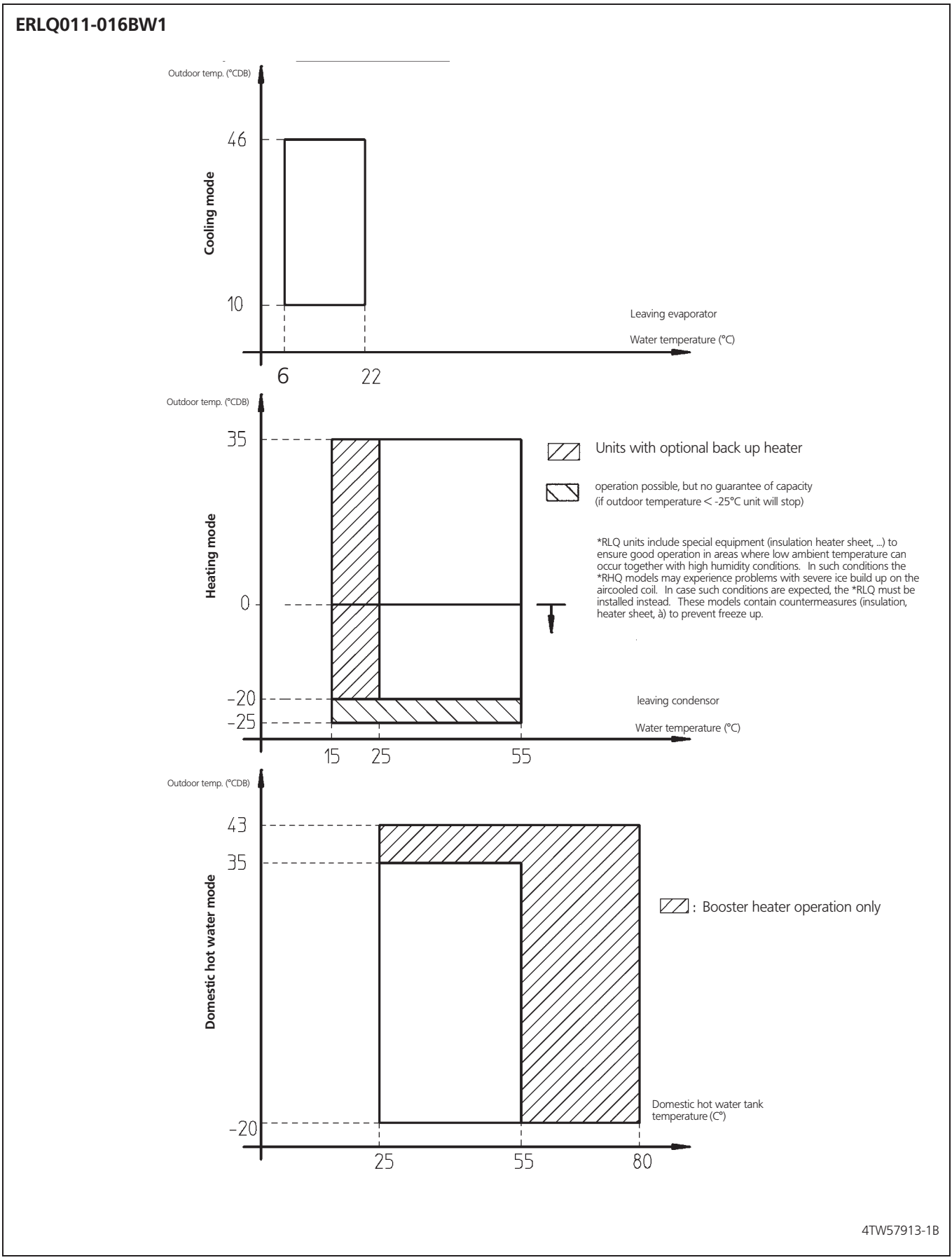


Relation of dimensions of H, A, and L are shown in the table below.

	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

3TW59559-1

9 Operation range



4TW57913-1B

8
9

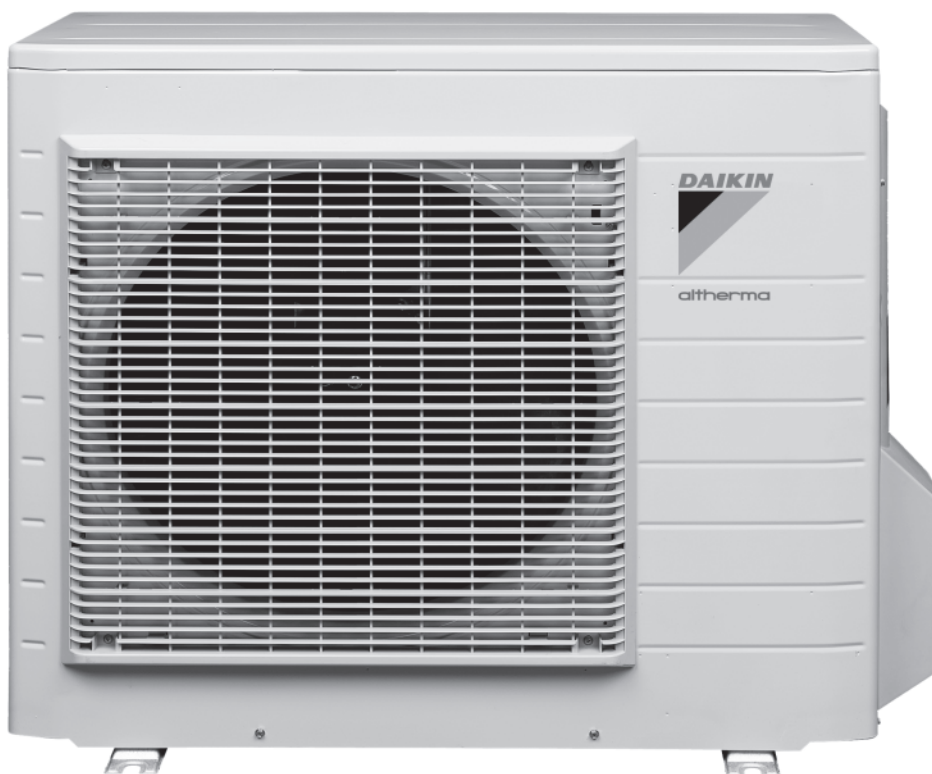
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ERHQ006-016BAV3

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1 Features

- Single phase outdoor unit
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				ERHQ006BAV3	ERHQ007BAV3	ERHQ008BAV3	ERHQ011BAV3	ERHQ014BAV3	ERHQ016BAV3
For combination indoor units + outdoor units	Indoor Units			EKHBH008BA	EKHBH008BA	EKHBH008BA	EKHBH016BA	EKHBH016BA	EKHBH016BA
Condition 1	Heating capacity	Minimum	kW	4.36	4.36	4.36			
		Nominal	kW	5.75	6.84	8.43	11.2	14.0	16.0
		Maximum	kW	7.45	8.79	9.58			
	Heating PI	Nominal	kW	1.26	1.58	2.08	2.46	3.17	3.83
	COP	Nominal		4.56	4.34	4.05	4.55	4.42	4.18
Nominal Capacity	Heating capacity	Minimum	kW	3.87	3.87	3.87			
		Nominal	kW	5.03	6.10	7.64	10.3	13.1	15.2
		Maximum	kW	6.68	7.98	8.76			
	Heating PI	Nominal	kW	1.58	1.95	2.54	3.06	3.88	4.66
	COP	Nominal		3.18	3.13	3.00	3.37	3.38	3.26
For combination indoor units + outdoor units	Indoor Units			EKHBX008BA	EKHBX008BA	EKHBX008BA	EKHBX016BA	EKHBX016BA	EKHBX016BA
Condition 1	Heating capacity	Minimum	kW	4.36	4.36	4.36			
		Nominal	kW	5.75	6.84	8.43	11.2	14.0	16.0
		Maximum	kW	7.45	8.79	9.58			
	Cooling capacity	Minimum	kW	4.82	4.82	4.82			
		Nominal	kW	7.20	8.16	8.37	13.9	17.3	17.8
		Maximum	kW	7.20	8.50	8.91			
	Heating PI	Nominal	kW	1.26	1.58	2.08	2.46	3.17	3.83
	Cooling PI	Nominal	kW	2.27	2.78	2.97	3.79	5.78	6.77
	COP	Nominal		4.56	4.34	4.05	4.55	4.42	4.18
	EER	Nominal		3.17	2.94	2.82	3.67	2.99	2.63
	Nominal Capacity	Heating capacity	Minimum	kW	3.87	3.87	3.87		
Nominal			kW	5.03	6.10	7.64	10.3	13.1	15.2
Maximum			kW	6.68	7.98	8.76			
Cooling capacity		Minimum	kW	3.67	3.67	3.67			
		Nominal	kW	5.12	5.86	6.08	10.0	12.5	13.1
		Maximum	kW	5.12	6.13	7.10			
Heating PI		Nominal	kW	1.58	1.95	2.54	3.06	3.88	4.66
Cooling PI		Nominal	kW	2.16	2.59	2.75	3.60	5.29	5.95
COP		Nominal		3.18	3.13	3.00	3.37	3.38	3.26
EER		Nominal		2.37	2.26	2.21	2.78	2.36	2.20
Notes				Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C) - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)	Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C) - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)	Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C) - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)	Condition 1: cooling Ta 35°C - LWE 18°C - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)	Condition 1: cooling Ta 35°C - LWE 18°C - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)	Condition 1: cooling Ta 35°C - LWE 18°C - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)
				Condition 2: cooling Ta 35°C - LWE 7°C (DT = 5°C) - heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)					

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2

2-2 TECHNICAL SPECIFICATIONS				ERHQ006BAV3	ERHQ007BAV3	ERHQ008BAV3	ERHQ011BAV3	ERHQ014BAV3	ERHQ016BAV3
Casing	Colour			Ivory white					
	Material			Polyester painted galvanised steel	Polyester painted galvanised steel	Polyester painted galvanised steel	Painted galvanised steel plate	Painted galvanised steel plate	Painted galvanised steel plate
Dimensions	Unit	Height	mm	735	735	735	1,170	1,170	1,170
		Width	mm	825	825	825	900	900	900
		Depth	mm	300	300	300	320	320	320
	Packing	Height	mm	797	797	797	1,349	1,349	1,349
		Width	mm	960	960	960	980	980	980
		Depth	mm	390	390	390	420	420	420

2 Specifications

2-2 TECHNICAL SPECIFICATIONS				ERHQ006BAV3	ERHQ007BAV3	ERHQ008BAV3	ERHQ011BAV3	ERHQ014BAV3	ERHQ016BAV3
Weight	Unit	kg	57	57	57	103	103	103	
	Packed Unit	kg	62	62	62	114	114	114	
Packing	Material		EPS						
			Carton						
	Weight		kg	5	5	5	11	11	11
			PE (Straps)	PE (Straps)	PE (Straps)	PE (Straps)	PE (Straps)	PE (Straps)	
Heat Exchanger	Dimensions	Length	mm	845	845	845	857	857	857
		Nr of Rows		2	2	2	2	2	2
		Fin Pitch	mm	1.8	1.8	1.8	1.4	1.4	1.4
		Nr of Passes					6	6	6
		Face Area	m ²				0.98	0.98	0.98
		Nr of Stages		32	32	32	52	52	52
	Tube type		Hi-Xa(8)	Hi-Xa(8)	Hi-Xa(8)	Hi-XSS(8)	Hi-XSS(8)	Hi-XSS(8)	
Fin	Type	WF fin							
	Treatment	Anti-corrosion treatment (PE)							
Fan	Type		Propeller						
	Quantity		1	1	1	2	2	2	
Air Flow Rate (nominal at 230V)	Heating	High	m ³ /min				90	90	90
	Cooling	High	m ³ /min				96	100	97
Fan	Discharge direction		Horizontal						
	Motor	Quantity	1	1	1	2	2	2	
		Model				Brushless DC motor	Brushless DC motor	Brushless DC motor	
Output	W	53	53	53					
Motor	Speed (nominal)	Steps				8	8	8	
		Heating	rpm				760	760	760
		Cooling	rpm				800	850	830
Fan	Motor	Output	W				70	70	70
		Drive				Direct drive	Direct drive	Direct drive	
Compressor	Quantity		1	1	1	1	1	1	
	Motor	Model	2YC63BXD#C	2YC63BXD#C	2YC63BXD#C	JT100G-VD	JT100G-VD	JT100G-VD	
		Type	Hermetically sealed swing compressor	Hermetically sealed swing compressor	Hermetically sealed swing compressor	Hermetically sealed scroll compressor	Hermetically sealed scroll compressor	Hermetically sealed scroll compressor	
		Motor Output	W	1,920	1,920	1,920	2,200	2,200	2,200
Starting Method					Inverter driven	Inverter driven	Inverter driven		
Motor	Crankcase Heater	Output	W				33	33	33
Operation Range	Heating	Min	×CWB	-20	-20	-20	-20	-20	-20
		Max	×CWB	25	25	25	35	35	35
	Cooling	Min	×CDB	10	10	10	10	10	10
		Max	×CDB	43	43	43	46	46	46
	Sanitary water	Min	×CDB	-20	-20	-20	-20	-20	-20
		Max	×CDB	43	43	43	43	43	43
Sound Level (nominal)	Heating	Sound Power	dBA	61	61	62	64	64	66
		Sound Pressure	dBA	48	48	49	49	51	53
	Cooling	Sound Power	dBA	63	63	63	64	66	69
		Sound Pressure	dBA	48	48	50	50	52	54
Sound Level (Night quiet)	Heating	Sound Pressure	dBA				42	42	43
	Cooling	Sound Pressure	dBA				45	45	46
Refrigerant	Type		R-410A						
	Charge	kg	1.7	1.7	1.7	3.7	3.7	3.7	
	Control		Expansion valve(electronic type)						
	Nr of Circuits		1	1	1	1	1	1	
Refrigerant Oil	Type		FVC50K	FVC50K	FVC50K	Daphne FVC68D	Daphne FVC68D	Daphne FVC68D	
	Charged Volume		l	0.75	0.75	0.75	1.0	1.0	1.0

2 Specifications

2-2 TECHNICAL SPECIFICATIONS				ERHQ006BAV3	ERHQ007BAV3	ERHQ008BAV3	ERHQ011BAV3	ERHQ014BAV3	ERHQ016BAV3	
Piping connections	Liquid (OD)	Quantity					1	1	1	
		Type		Flare connection						
		Diameter (OD)	mm	6,35	6,35	6,35	9,52	9,52	9,52	
	Gas	Quantity					1	1	1	
		Type		Flare connection						
		Diameter (OD)	mm				15,9			
	Drain	Quantity		1	1	1	3	3	3	
		Type		Socket	Socket	Socket	Hole	Hole	Hole	
		Diameter (OD)	mm	18	18	18	26	26	26	
	Piping Length	Minimum	m	3	3	3	5	5	5	
		Maximum	m	30	30	30	75	75	75	
		Equivalent	m				95	95	95	
		Chargeless	m				30	30	30	
	Additional Refrigerant Charge		kg/m	0.02>10m	0.02>10m	0.02>10m	See installation manual outdoor unit 4PW37976-1B	See installation manual outdoor unit 4PW37976-1B	See installation manual outdoor unit 4PW37976-1B	
	Installation height difference	Maximum	m				30	30	30	
Max. internunit level difference		m	20	20	20					
Heat Insulation						Both liquid and gas pipes	Both liquid and gas pipes	Both liquid and gas pipes		
Defrost Method			Reverse cycle	Reverse cycle	Reverse cycle	Pressure equalising	Pressure equalising	Pressure equalising		
Defrost Control			Sensor for outdoor heat exchanger temperature							
Capacity Control Method			Inverter controlled							
Safety Devices						Fan motor thermal protector	Fan motor thermal protector	Fan motor thermal protector		
						Fuse	Fuse	Fuse		
						High pressure switch	High pressure switch	High pressure switch		

2 Specifications

2-2 TECHNICAL SPECIFICATIONS			ERHQ006BAV3	ERHQ007BAV3	ERHQ008BAV3	ERHQ011BAV3	ERHQ014BAV3	ERHQ016BAV3
Standard Accessories	Item		Installation manual	Installation manual	Installation manual	Tie-wraps	Tie-wraps	Tie-wraps
	Quantity		1	1	1	2	2	2
	Item		Drain plug	Drain plug	Drain plug	Installation manual	Installation manual	Installation manual
	Quantity		1	1	1	1	1	1
Notes			See operation range drawing	See operation range drawing	See operation range drawing	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.
			The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.	Down to 3m with recharging of the outdoor unit. Refer to the installation manual of the outdoor unit.	Down to 3m with recharging of the outdoor unit. Refer to the installation manual of the outdoor unit.	Down to 3m with recharging of the outdoor unit. Refer to the installation manual of the outdoor unit.

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2

2-3 ELECTRICAL SPECIFICATIONS			ERHQ006BAV3	ERHQ007BAV3	ERHQ008BAV3	ERHQ011BAV3	ERHQ014BAV3	ERHQ016BAV3	
Power Supply	Name		V3						
	Phase		1~						
	Frequency	Hz	50	50	50	50	50	50	
	Voltage	V	230	230	230	230	230	230	
	Voltage range	Minimum	V	-10%					
		Maximum	V	+10%					

2 Specifications

2-3 ELECTRICAL SPECIFICATIONS			ERHQ006BAV3	ERHQ007BAV3	ERHQ008BAV3	ERHQ011BAV3	ERHQ014BAV3	ERHQ016BAV3	
Current	Minimum Ssc value	kVa	Equipment complying with EN/IEC 61000-S-12 (1)	Equipment complying with EN/IEC 61000-S-12 (1)	Equipment complying with EN/IEC 61000-S-12 (1)	Equipment complying with 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 >16A and <=75A per phase	Equipment complying with 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 >16A and <=75A per phase	Equipment complying with 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 >16A and <=75A per phase	
	Starting current	Heating	A	11	11	11			
		Cooling	A	11	11	11			
	Maximum running Current	Heating	A	18	18	18			
		Cooling	A	16.25	16.25	16.25	22.8	27.4	31.9
Recommended fuses		A	20	20	20	32	32	32	
Wiring connections	For Power Supply	Quantity	3	3	3				
		Remark				See installation manual outdoor unit 4PW37976-1B	See installation manual outdoor unit 4PW37976-1B	See installation manual outdoor unit 4PW37976-1B	
	For connection with indoor	Quantity	4	4	4				
		Remark	Included earth wiring	Included earth wiring	Included earth wiring	See installation manual outdoor unit 4PW37976-1B	See installation manual outdoor unit 4PW37976-1B	See installation manual outdoor unit 4PW37976-1B	
Power Supply Intake						Outdoor unit only	Outdoor unit only	Outdoor unit only	
Notes			(1) European/ international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current > 16A smaller than or equal to 75A per phase.	(1) European/ international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current > 16A smaller than or equal to 75A per phase.	(1) European/ international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current > 16A smaller than or equal to 75A per phase.				

3 Capacity tables

3 - 1 Heating capacity tables

ERHQ011-016BAV3

Maximum Heating Capacity (Peak values)

Model	LWC [°C]	30		35		40		45		50		55	
		Tamb	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
R(H/L)Q011	-20	5,66	2,17	5,48	2,37	5,44	2,61						
	-15	6,48	2,21	6,25	2,42	6,17	2,67						
	-7	8,04	2,24	7,74	2,46	7,63	2,72	7,50	3,02				
	-2	9,18	2,24	8,84	2,47	8,71	2,74	8,57	3,05	8,18	3,36		
	2	10,2	2,23	9,81	2,47	9,68	2,74	9,52	3,06	9,10	3,38	8,72	3,77
	7	11,6	2,21	11,2	2,46	10,8	2,74	10,3	3,06	9,94	3,42	9,53	3,82
	12	13,1	2,18	12,7	2,43	12,2	2,72	11,8	3,04	11,3	3,41	10,9	3,81
	15	14,1	2,15	13,6	2,41	13,2	2,70	12,7	3,03	12,2	3,40	11,7	3,81
	20	15,9	2,10	15,4	2,36	14,9	2,65	14,4	2,99	13,8	3,37	13,3	3,78
R(H/L)Q014	-20	7,24	2,72	7,14	2,97	7,05	3,26						
	-15	8,19	2,78	8,01	3,04	7,85	3,34						
	-7	10,1	2,84	9,78	3,11	9,51	3,43	9,25	3,79				
	-2	11,5	2,87	11,1	3,14	11,1	3,47	10,7	3,74	10,4	4,14		
	2	12,7	2,87	12,3	3,16	12,2	3,49	11,8	3,76	11,4	4,17	11,1	4,62
	7	14,4	2,88	14,0	3,17	13,5	3,50	13,1	3,88	12,7	4,30	12,3	4,77
	12	16,3	2,86	15,9	3,16	15,4	3,50	14,9	3,89	14,4	4,32	13,9	4,79
	15	17,6	2,85	17,1	3,15	16,5	3,50	16,0	3,89	15,5	4,32	15,0	4,80
	20	19,9	2,82	19,3	3,13	18,7	3,48	18,1	3,87	17,5	4,31	17,0	4,80
R(H/L)Q016	-20	8,35	3,25	8,31	3,54	8,27	3,89						
	-15	9,38	3,33	9,33	3,63	9,28	3,98						
	-7	11,5	3,42	11,3	3,73	11,1	4,10	10,9	4,52				
	-2	13,0	3,46	12,7	3,78	12,5	4,15	12,2	4,58	12,0	5,06		
	2	14,4	3,48	14,1	3,81	13,8	4,19	13,5	4,62	13,1	5,11	11,9	5,35
	7	16,3	3,50	16,0	3,83	15,6	4,22	15,2	4,66	14,8	5,15	13,4	5,40
	12	18,5	3,51	18,1	3,85	17,6	4,24	17,2	4,69	16,7	5,18	15,1	5,44
	15	20,0	3,51	19,5	3,86	19,0	4,25	18,5	4,69	18,0	5,20	16,6	5,75
	20	22,5	3,50	22,0	3,85	21,4	4,25	20,8	4,70	20,3	5,21	18,7	5,77

Maximum Heating Capacity (integrated values)

Model	LWC	30		35		40		45		50		55	
		Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
R(H/L)Q011	-20	5,04	2,17	4,88	2,37	4,84	2,61						
	-15	5,77	2,21	5,56	2,42	5,49	2,67						
	-7	6,89	2,24	6,63	2,46	6,54	2,72	6,43	3,02				
	-2	7,43	2,11	7,16	2,33	7,06	2,58	6,94	2,87	6,63	3,17		
	2	8,16	2,16	7,86	2,39	7,75	2,65	7,63	2,96	7,29	3,26	6,99	3,64
	7	11,6	2,21	11,2	2,46	10,8	2,74	10,3	3,06	9,94	3,42	9,53	3,82
	12	13,1	2,18	12,7	2,43	12,2	2,72	11,8	3,04	11,3	3,41	10,9	3,81
	15	14,1	2,15	13,6	2,41	13,2	2,70	12,7	3,03	12,2	3,40	11,7	3,81
	20	15,9	2,10	15,4	2,36	14,9	2,65	14,4	2,99	13,8	3,37	13,3	3,78
R(H/L)Q014	-20	6,45	2,72	6,35	2,97	6,28	3,26						
	-15	7,29	2,78	7,13	3,04	6,99	3,34						
	-7	8,06	2,84	7,84	3,11	7,62	3,43	7,42	3,79				
	-2	9,27	2,70	9,00	2,96	8,95	3,26	8,65	3,52	8,38	3,90		
	2	10,0	2,78	9,71	3,05	9,65	3,37	9,32	3,64	9,02	4,03	8,73	4,47
	7	14,4	2,88	14,0	3,17	13,5	3,50	13,1	3,88	12,7	4,30	12,3	4,77
	12	16,3	2,86	15,9	3,16	15,4	3,50	14,9	3,89	14,4	4,32	13,9	4,79
	15	17,6	2,85	17,1	3,15	16,5	3,50	16,0	3,89	15,5	4,32	15,0	4,80
	20	19,9	2,82	19,3	3,13	18,7	3,48	18,1	3,87	17,5	4,31	17,0	4,80
R(H/L)Q016	-20	7,44	3,25	7,39	3,54	7,36	3,89						
	-15	8,35	3,33	8,30	3,63	8,26	3,98						
	-7	8,91	3,34	8,77	3,64	8,63	4,00	8,49	4,41				
	-2	10,5	3,26	10,3	3,56	10,1	3,91	9,91	4,31	9,71	4,77		
	2	11,1	3,15	10,9	3,45	10,6	3,79	10,4	4,18	10,2	4,62	9,19	4,84
	7	16,3	3,50	16,0	3,83	15,6	4,22	15,2	4,66	14,8	5,15	13,4	5,40
	12	18,5	3,51	18,1	3,85	17,6	4,24	17,2	4,69	16,7	5,18	15,1	5,44
	15	20,0	3,51	19,5	3,86	19,0	4,25	18,5	4,69	18,0	5,20	16,6	5,75
	20	22,5	3,50	22,0	3,85	21,4	4,25	20,8	4,70	20,3	5,21	18,7	5,77

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SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condenser temperature (°C)
- Tamb : Ambient temperature (°C) RH=85%

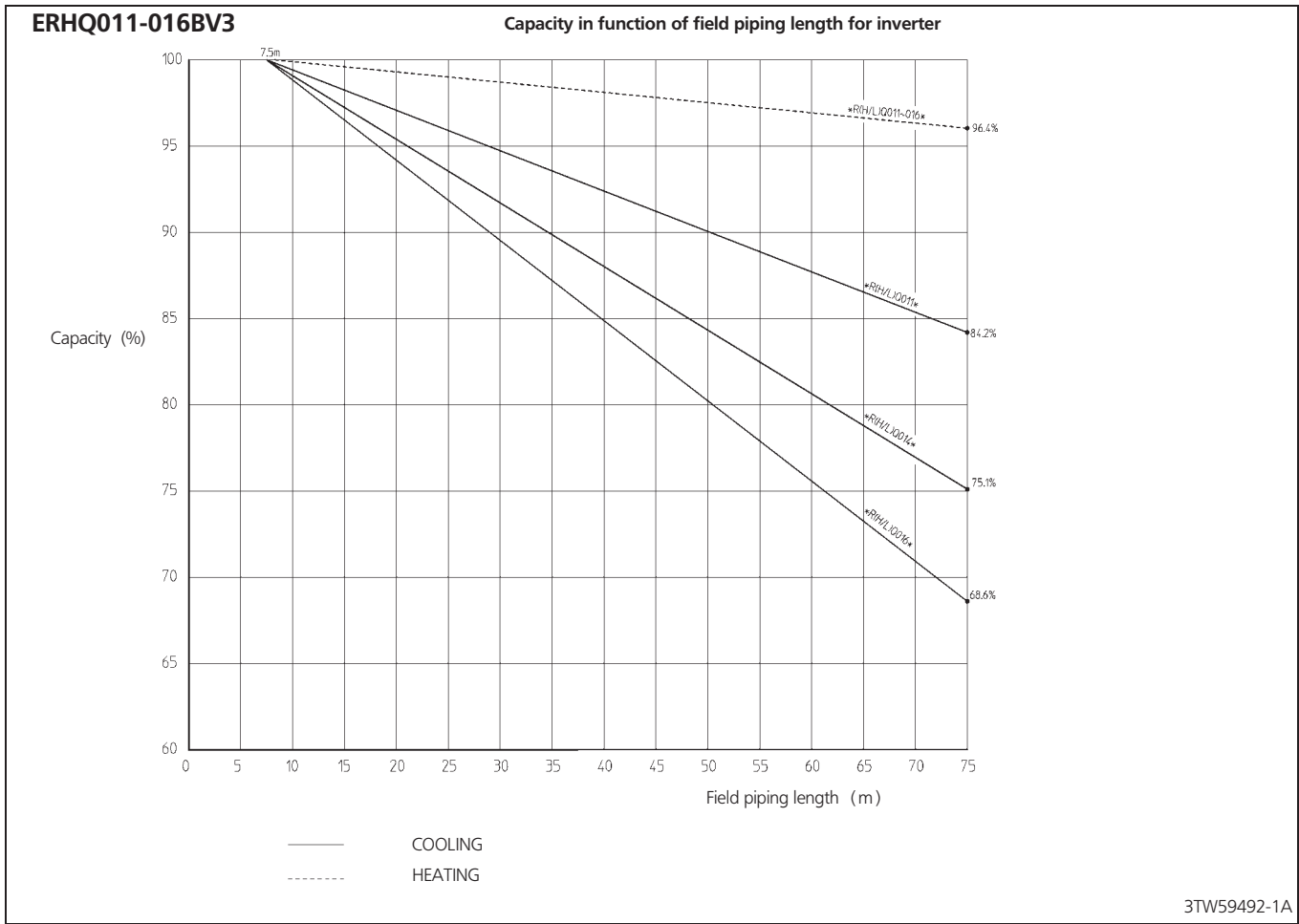
Conditions

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).
For ERHQ011-16AAW1 models only; if Tamb < 4°C; bottom plate heater power input to be added = 95 W

Notes:
- For the model with heatertape (*RLQ): when ambient temperature becomes lower than [F-02] (default = 3°C) bottom plate heater power input to be added = 95W
- [F-02] = BPH ON temp for more details see installation manual of indoor unit.

3 Capacity tables

3 - 1 Heating capacity tables



3 Capacity tables

3 - 2 Cooling capacity tables

ERHQ011-016BAV3

Maximum Cooling Capacity

Model	Tamb	20		25		30		35		40		45	
		LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]
R(H/L)Q011	7	11,7	2,56	11,2	2,86	10,6	3,21	10,0	3,60	9,39	4,03	8,75	4,50
	10	12,9	2,58	12,3	2,89	11,6	3,25	11,0	3,65	10,3	4,09	9,65	4,58
	13	14,1	2,59	13,4	2,92	12,8	3,29	12,1	3,70	11,3	4,15	10,6	4,65
	15	14,9	2,60	14,2	2,93	13,5	3,31	12,8	3,73	12,0	4,20	11,3	4,70
	18	16,2	2,61	15,5	2,96	14,7	3,35	13,9	3,79	13,1	4,26	12,3	4,78
22	18,0	2,62	17,2	2,99	16,4	3,40	15,5	3,86	14,7	4,35	13,3	3,93	
R(H/L)Q014	7	14,5	3,85	13,9	4,27	13,2	4,75	12,5	5,29	11,7	5,90	11,1	5,92
	10	16,0	3,94	15,3	4,37	14,6	4,86	13,7	5,42	12,9	6,04	11,2	5,46
	13	17,6	4,02	16,8	4,47	15,9	4,98	15,0	5,55	14,1	6,18	11,9	5,04
	15	18,6	4,08	17,8	4,54	16,9	5,06	15,9	5,64	14,9	6,28	12,2	4,79
	18	20,2	4,17	19,3	4,65	18,4	5,18	17,3	5,78	16,2	6,44	12,9	4,42
22	22,5	4,29	21,5	4,80	20,4	5,36	19,3	5,98	17,0	5,33	13,3	3,93	
R(H/L)Q016	7	15,3	4,37	14,7	4,84	13,9	5,37	13,1	5,95	12,2	6,59	11,1	5,92
	10	16,9	4,48	16,2	4,97	15,3	5,51	14,4	6,11	13,3	6,75	11,2	5,46
	13	18,5	4,60	17,7	5,10	16,7	5,66	15,7	6,27	14,6	6,93	11,9	5,04
	15	19,6	4,68	18,7	5,19	17,7	5,76	16,6	6,38	15,4	7,04	12,2	4,79
	18	21,0	4,97	20,0	5,52	18,9	6,12	17,8	6,77	16,4	6,69	12,9	4,42
22	23,3	5,21	22,2	5,79	21,0	6,42	19,7	7,10	17,0	5,33	13,3	3,93	

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SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condensor temperature (°C)
- Tamb : Ambient temperature (°C) RH=85%

NOTES

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).
For ERHQ011-16AAW1 models only: if Tamb < 4°C: bottom plate heater power input to be added = 95 W

Notes:
- For the model with heatertape (*RLO): when ambient temperature becomes lower than [F-02] (default = 3°C) bottom plate heater power input to be added = 95W
- [F-02] = BPH ON temp for more details see installation manual of indoor unit.

3 Capacity tables

3 - 3 Cooling/Heating capacity tables

COOLING													
Model	Tamb (°C)	20		25		30		35		40		43	
	LWE (°C)	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
006	7	6.01	1.56	5.73	1.75	5.43	1.95	5.12	2.16	4.80	2.39	4.59	2.53
	11	6.81	1.57	6.50	1.77	6.17	1.98	5.83	2.21	5.30	2.32	4.98	2.38
	13	7.23	1.57	6.90	1.78	6.56	2.00	6.20	2.23	5.56	2.28	5.18	2.30
	16	7.88	1.56	7.54	1.78	7.17	2.01	6.79	2.26	5.95	2.22	5.46	2.18
	20	8.80	1.55	8.42	1.79	8.03	2.03	7.63	2.29	6.48	2.13	5.82	1.99
007	7	7.15	2.05	6.84	2.28	6.50	2.52	6.13	2.77	5.35	2.68	4.89	2.59
	11	8.09	2.09	7.73	2.34	7.34	2.59	6.94	2.87	5.84	2.62	5.21	2.43
	13	8.57	2.11	8.20	2.36	7.79	2.63	7.36	2.91	6.09	2.59	5.36	2.34
	16	9.33	2.13	8.92	2.40	8.49	2.68	8.03	2.97	6.46	2.53	5.57	2.20
	20	10.4	2.16	9.9	2.44	9.48	2.73	8.99	3.04	6.96	2.44	5.82	1.99
008	7	8.24	2.43	7.90	2.68	7.52	2.94	7.10	3.23	5.68	2.86	4.87	2.59
	11	9.26	2.49	8.87	2.76	8.45	3.05	7.79	3.31	6.12	2.80	5.18	2.43
	13	9.79	2.52	9.38	2.80	8.93	3.10	8.14	3.36	6.34	2.77	5.33	2.35
	16	10.6	2.57	10.17	2.86	9.69	3.17	8.68	3.41	6.67	2.71	5.55	2.20
	20	11.7	2.63	11.3	2.94	10.75	3.26	9.39	3.48	7.09	2.61	5.80	1.99

HEATING (Peak values)											
Model	LWC	30		35		40		45		50	
		HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
006	-15	3.93	1.48	3.67	1.59	3.47	1.71	3.33	1.84	3.25	1.99
	-10	4.65	1.52	4.32	1.65	4.07	1.79	3.89	1.94	3.78	2.10
	-7	5.14	1.54	4.77	1.68	4.49	1.83	4.28	1.99	4.15	2.16
	-2	6.06	1.57	5.62	1.72	5.28	1.88	5.03	2.06	4.87	2.25
	2	6.89	1.57	6.38	1.74	6.00	1.91	5.72	2.11	5.53	2.31
	7	8.03	1.57	7.45	1.75	7.00	1.94	6.68	2.15	6.47	2.37
007	-15	4.87	1.82	4.62	1.94	4.43	2.08	4.30	2.23	4.24	2.40
	-10	5.67	1.88	5.34	2.02	5.09	2.18	4.92	2.36	4.82	2.55
	-7	6.21	1.91	5.83	2.07	5.55	2.24	5.35	2.42	5.23	2.63
	-2	7.23	1.95	6.77	2.13	6.42	2.32	6.17	2.52	6.02	2.75
	2	8.14	1.97	7.61	2.16	7.21	2.37	6.92	2.59	6.74	2.83
	7	9.40	1.98	8.79	2.19	8.32	2.42	7.98	2.66	7.78	2.92
008	-15	5.42	2.06	5.16	2.19	4.97	2.34	4.86	2.51	4.80	2.70
	-10	6.27	2.13	5.93	2.29	5.68	2.46	5.51	2.65	5.42	2.86
	-7	6.84	2.17	6.46	2.34	6.17	2.53	5.97	2.73	5.86	2.95
	-2	7.92	2.22	7.45	2.41	7.10	2.62	6.85	2.85	6.70	3.10
	2	8.9	2.26	8.35	2.46	7.93	2.69	7.65	2.93	7.47	3.20
	7	10.2	2.28	9.58	2.51	9.10	2.76	8.76	3.02	8.56	3.31

HEATING (integrated values*)											
Model	LWC	30		35		40		45		50	
		HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
006	-15	3.50	1.40	3.27	1.51	3.09	1.62	2.97	1.75	2.89	1.89
	-10	4.14	1.45	3.85	1.56	3.62	1.70	3.46	1.84	3.36	2.00
	-7	4.52	1.45	4.20	1.58	3.95	1.72	3.77	1.87	3.65	2.03
	-2	5.27	1.46	4.89	1.60	4.59	1.75	4.38	1.92	4.24	2.10
	2	5.92	1.45	5.49	1.60	5.16	1.76	4.92	1.94	4.76	2.13
	7	8.03	1.57	7.45	1.75	7.00	1.94	6.68	2.15	6.47	2.37
007	-15	4.34	1.73	4.11	1.85	3.94	1.98	3.83	2.12	3.77	2.28
	-10	5.04	1.79	4.75	1.92	4.53	2.07	4.38	2.24	4.29	2.42
	-7	5.46	1.80	5.13	1.94	4.88	2.10	4.71	2.28	4.60	2.47
	-2	6.29	1.81	5.89	1.98	5.59	2.15	5.37	2.35	5.23	2.56
	2	7.00	1.81	6.55	1.99	6.20	2.18	5.96	2.38	5.80	2.61
	7	9.40	1.98	8.79	2.19	8.32	2.42	7.98	2.66	7.78	2.92
008	-15	4.82	1.96	4.59	2.08	4.43	2.23	4.32	2.39	4.27	2.56
	-10	5.58	2.03	5.28	2.17	5.06	2.34	4.91	2.52	4.82	2.72
	-7	6.02	2.04	5.69	2.20	5.43	2.37	5.26	2.57	5.15	2.78
	-2	6.89	2.07	6.48	2.25	6.17	2.44	5.96	2.65	5.83	2.88
	2	7.6	2.08	7.18	2.27	6.82	2.47	6.58	2.70	6.43	2.94
	7	10.2	2.28	9.58	2.51	9.10	2.76	8.76	3.02	8.56	3.31

* The integrated heating capacity and power input, is the average heating capacity and power input during 1 cycle. (from end of defrost till end of the next defrost).

3TW57782-1A

SYMBOLS

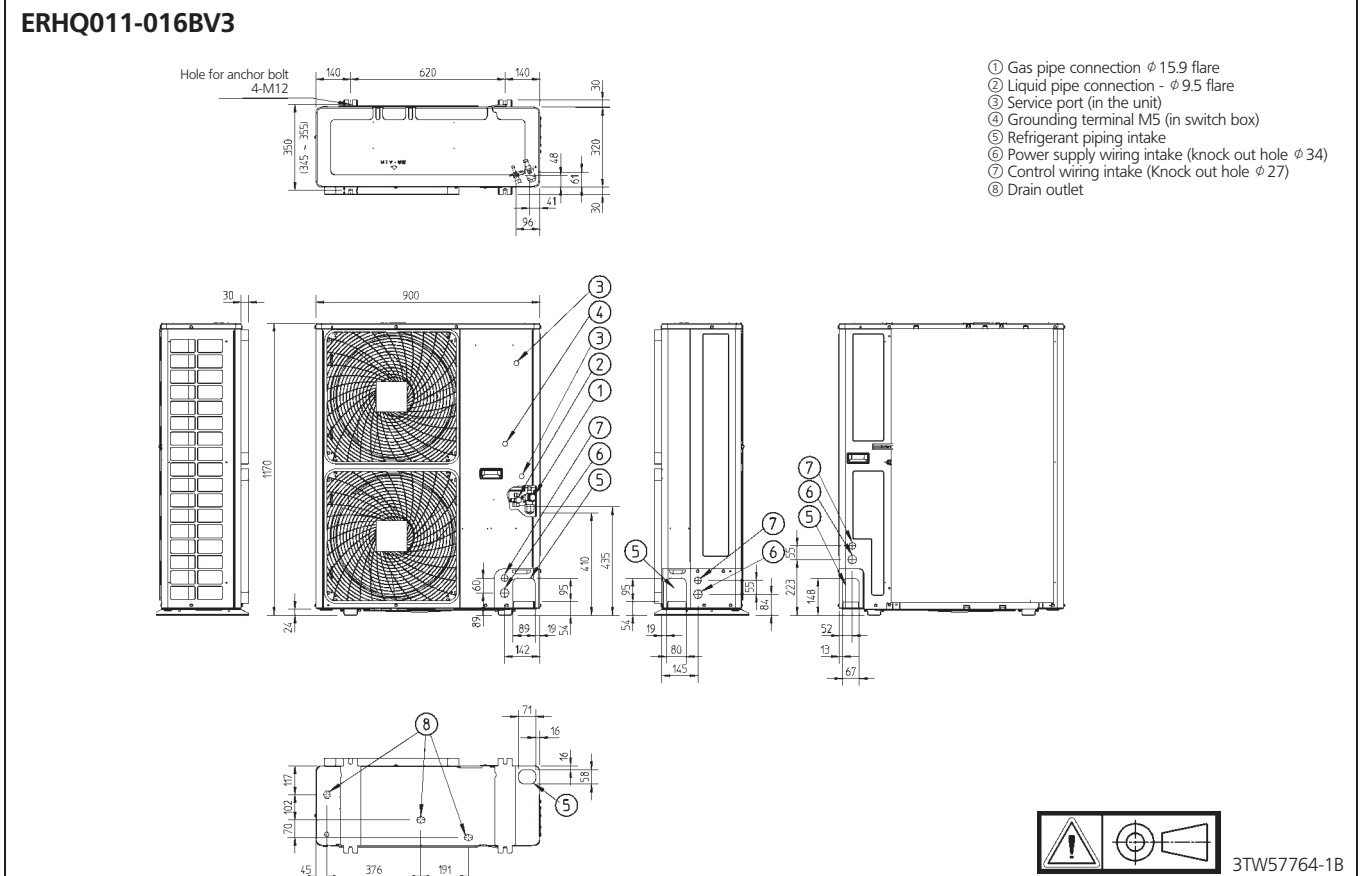
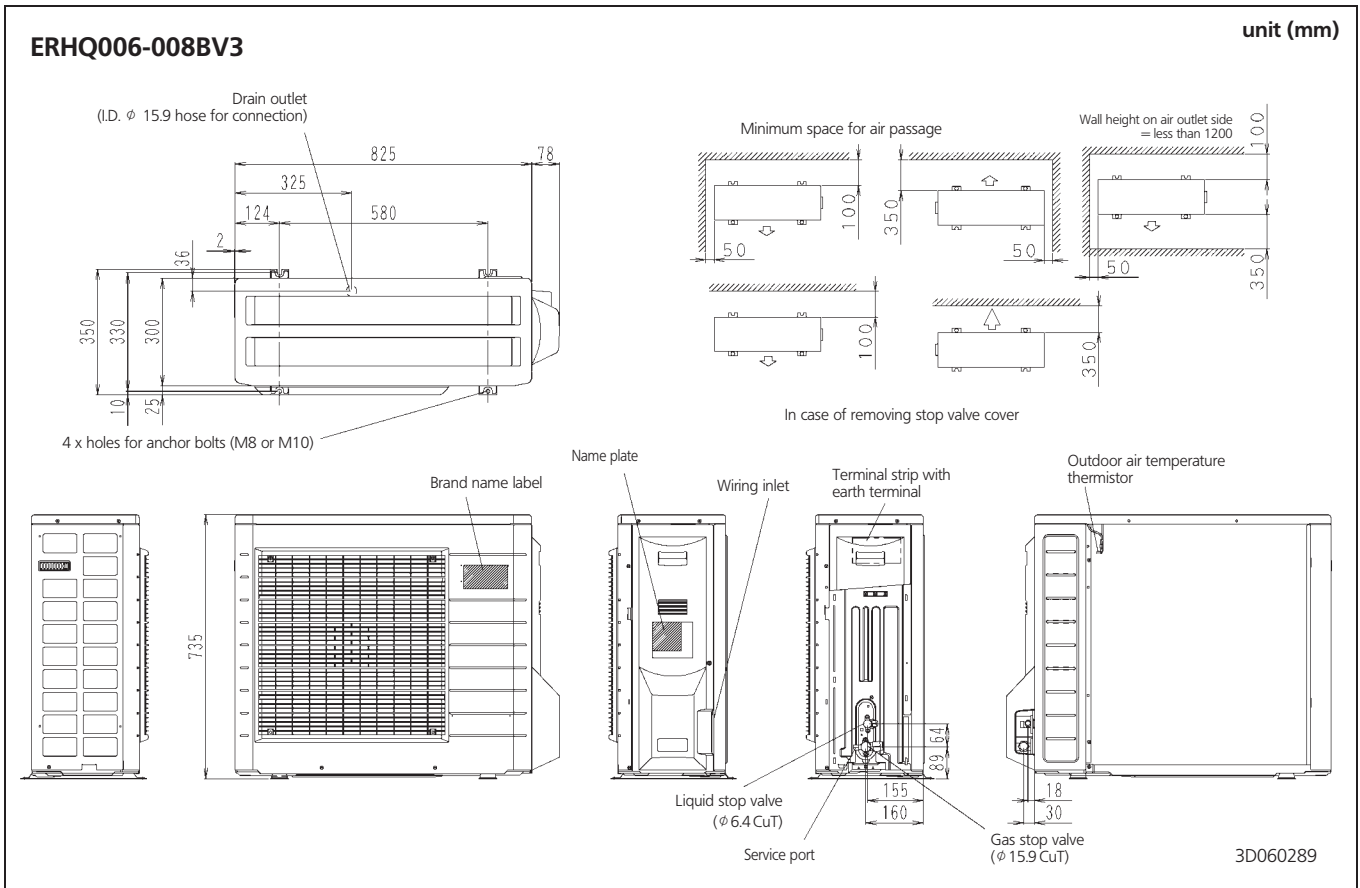
- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condenser temperature (°C)
- Tamb : Ambient temperature (°C) RH=85%

NOTES

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 60 W (according EN14511).
For the optional model with heatertape (V38) when ambient temperature becomes lower than 4°C: add power input of 60W

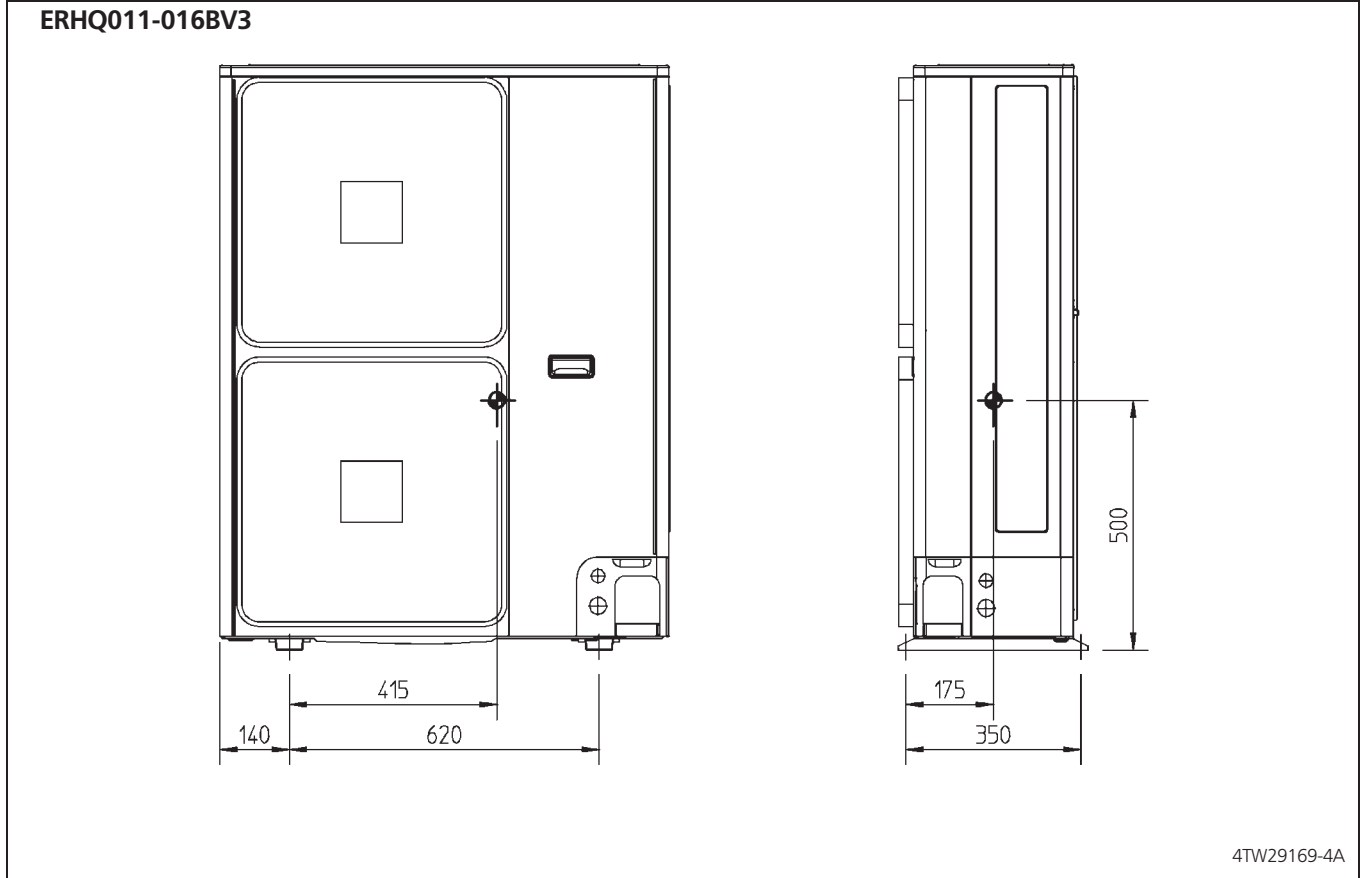
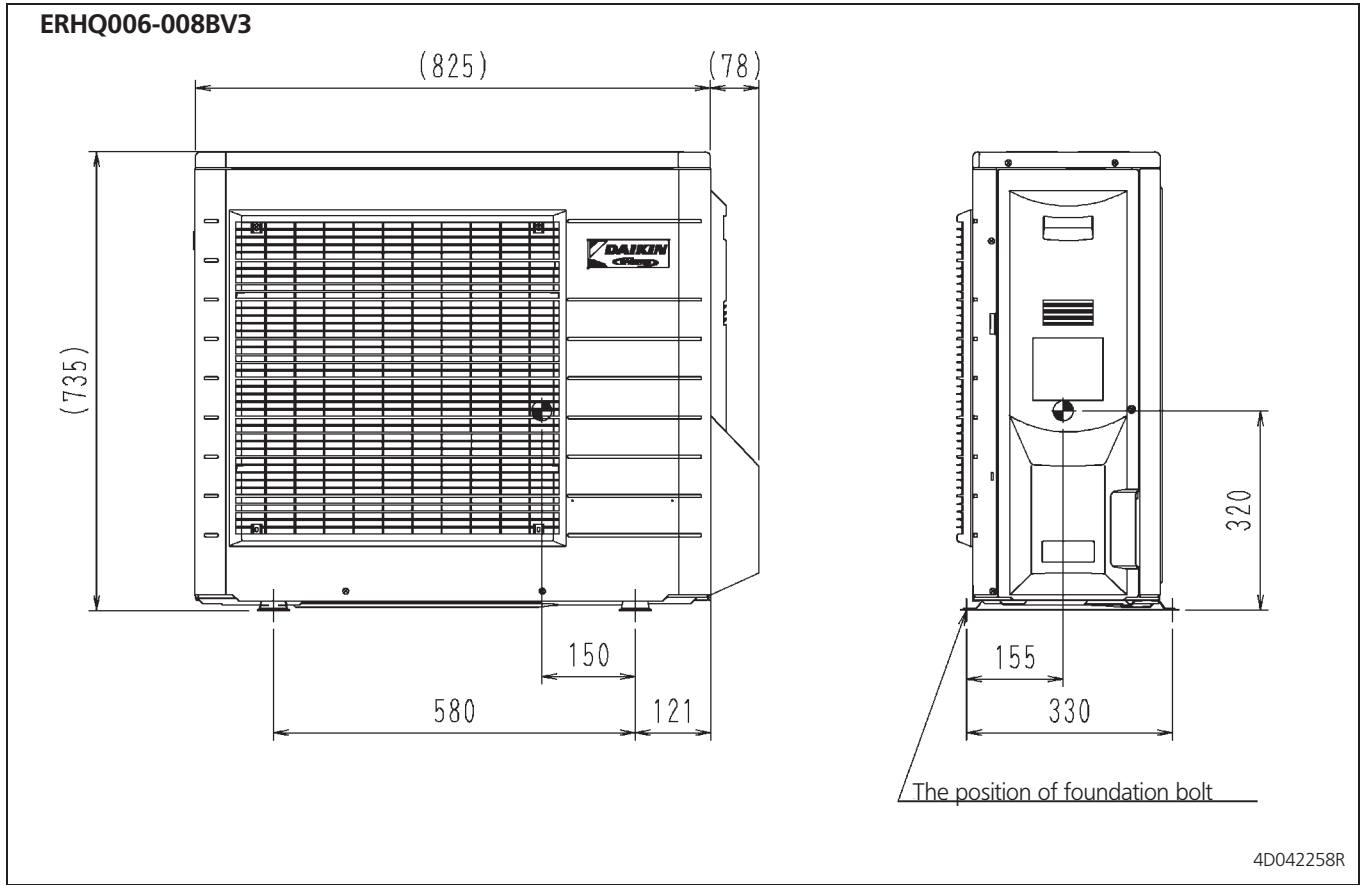
4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing



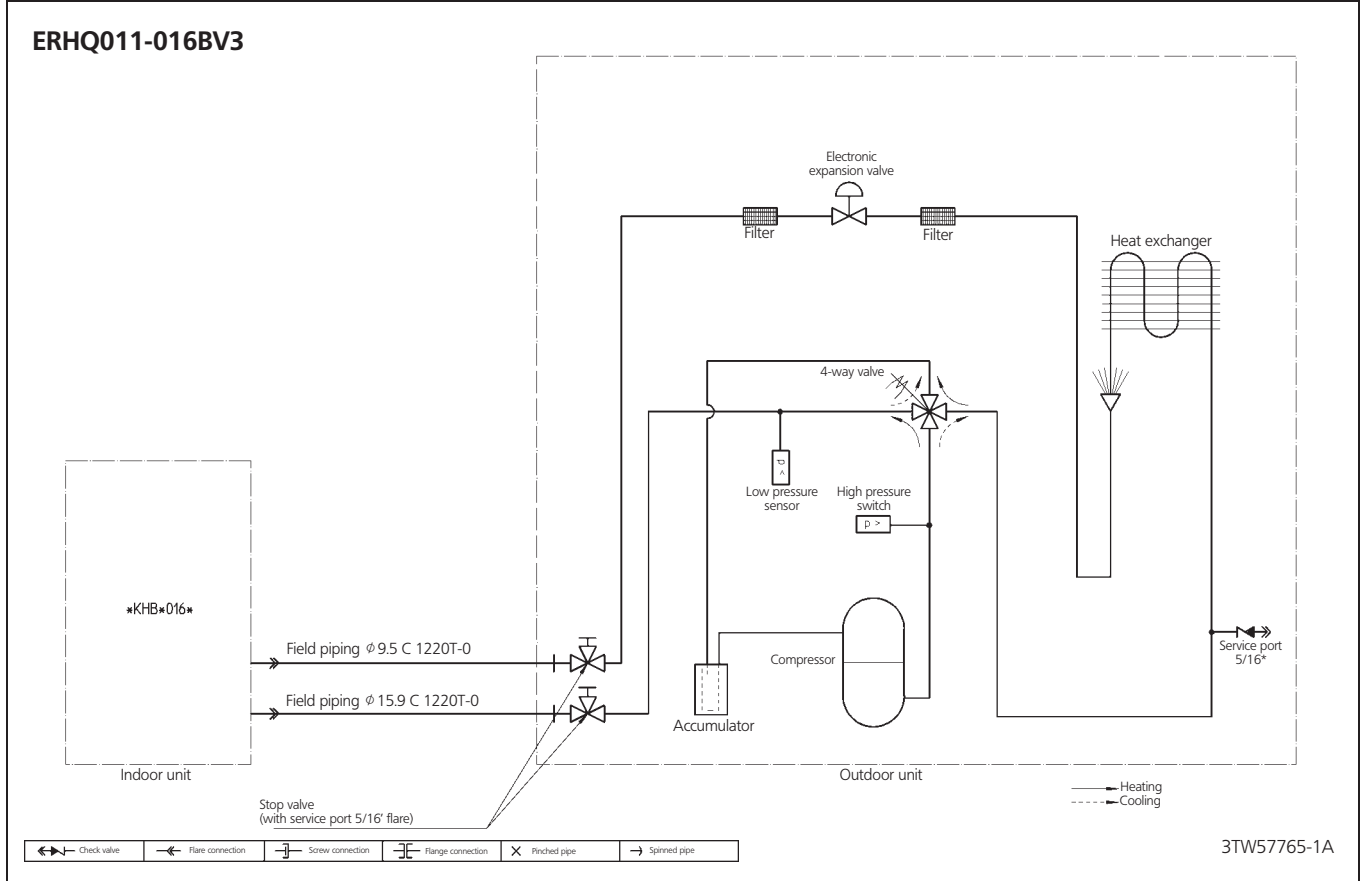
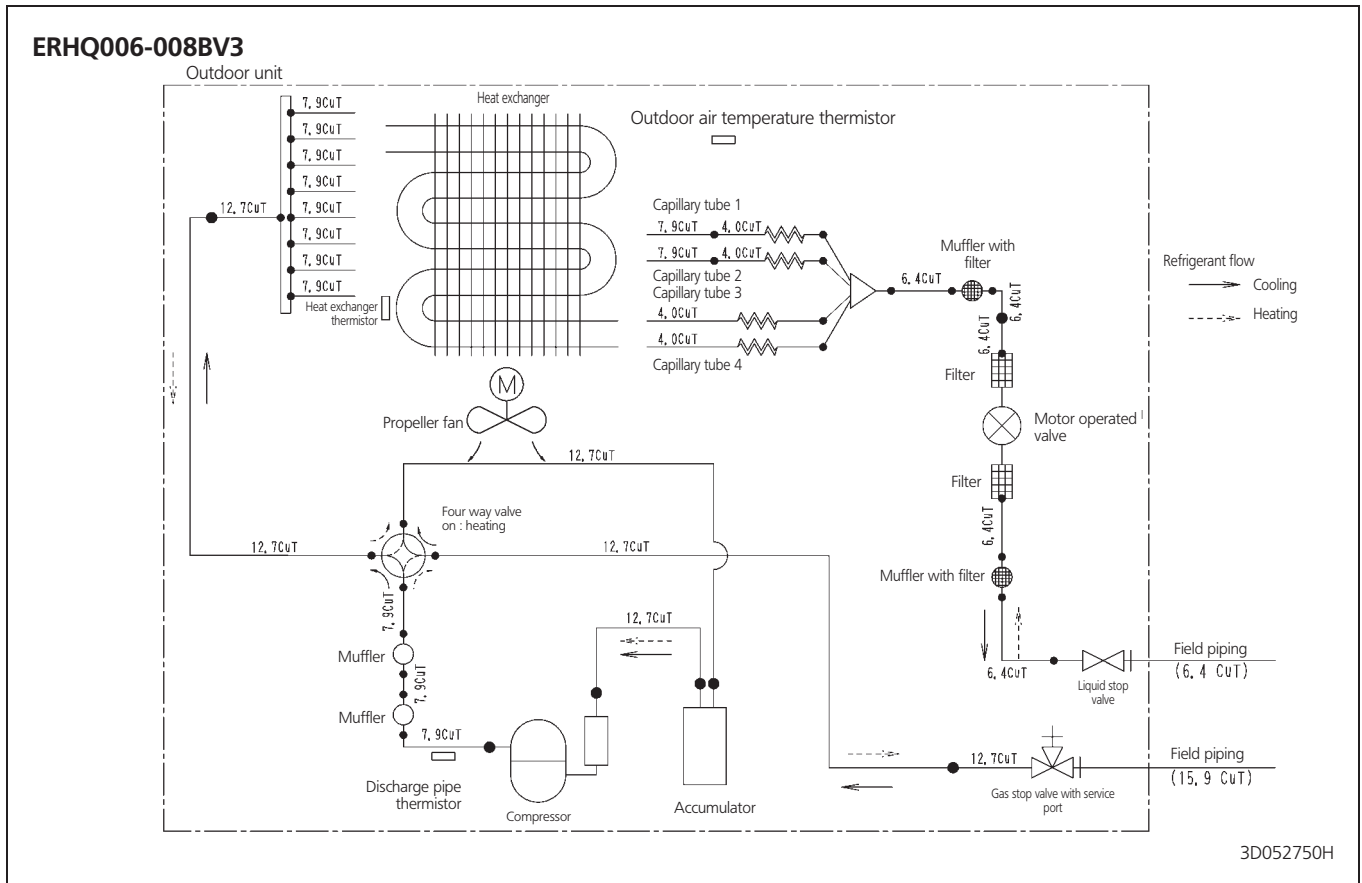
4 Dimensional drawing & centre of gravity

4 - 2 Centre of gravity



5 Piping diagram

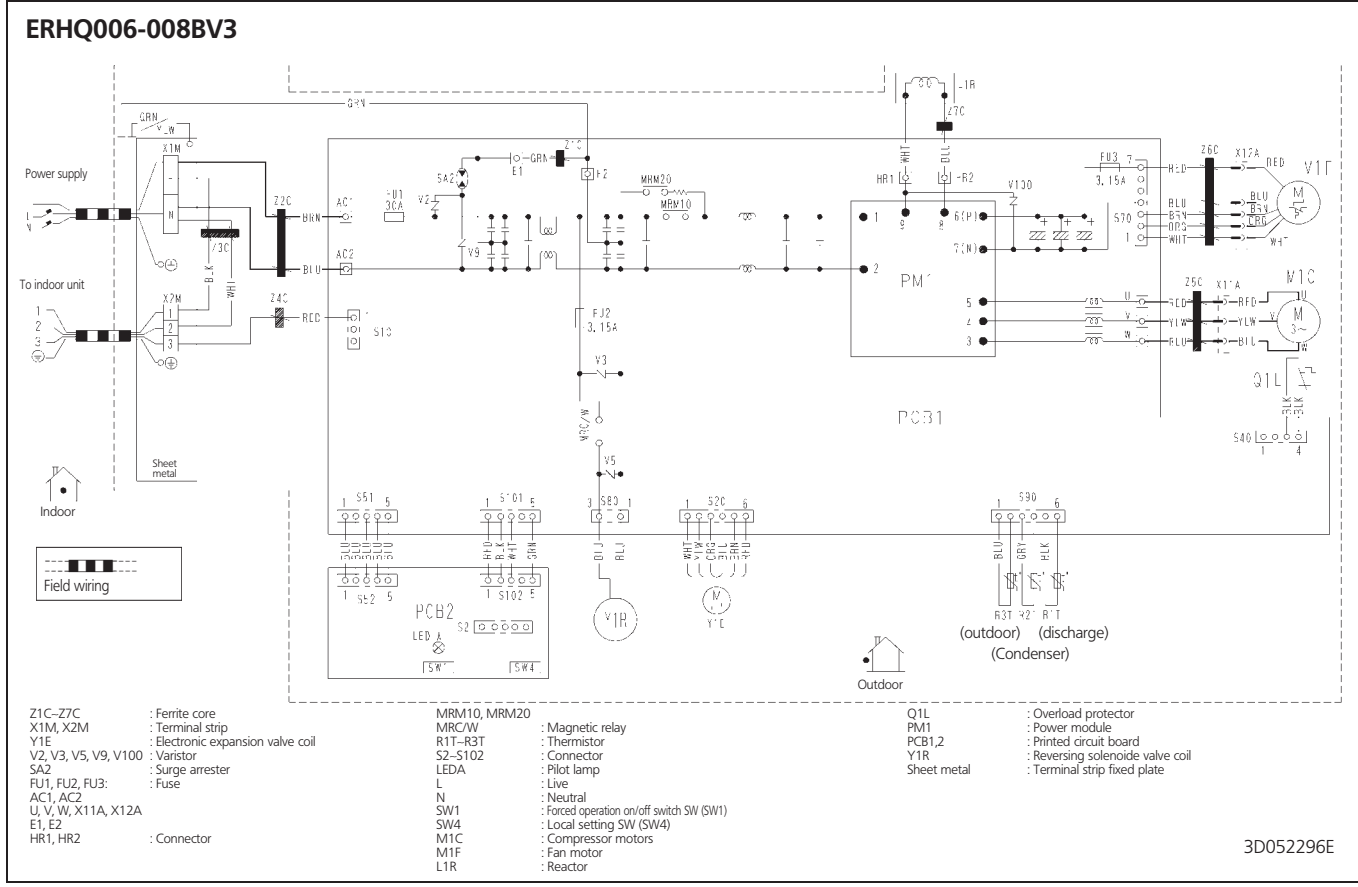
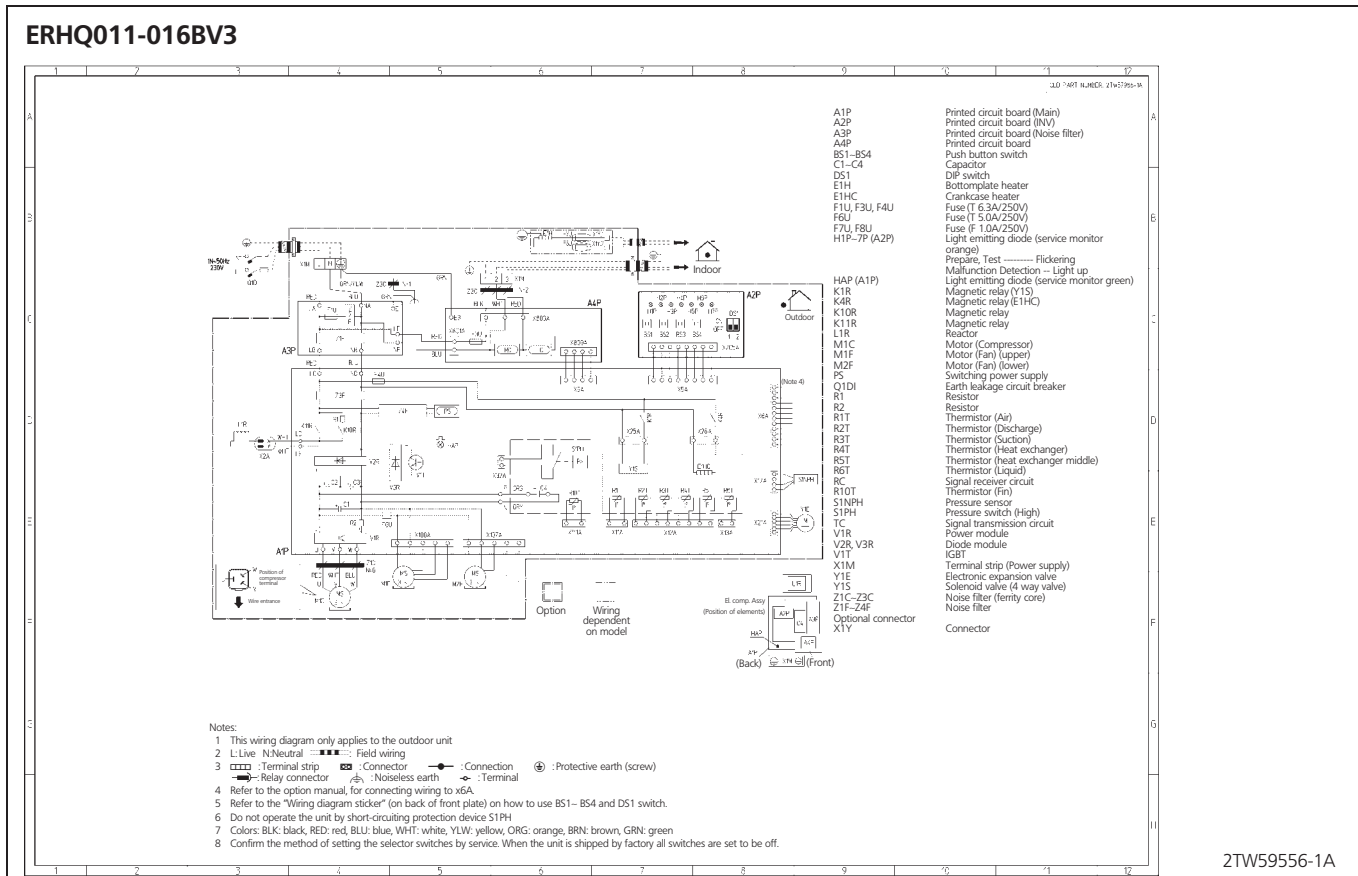
5 - 1 Piping diagram



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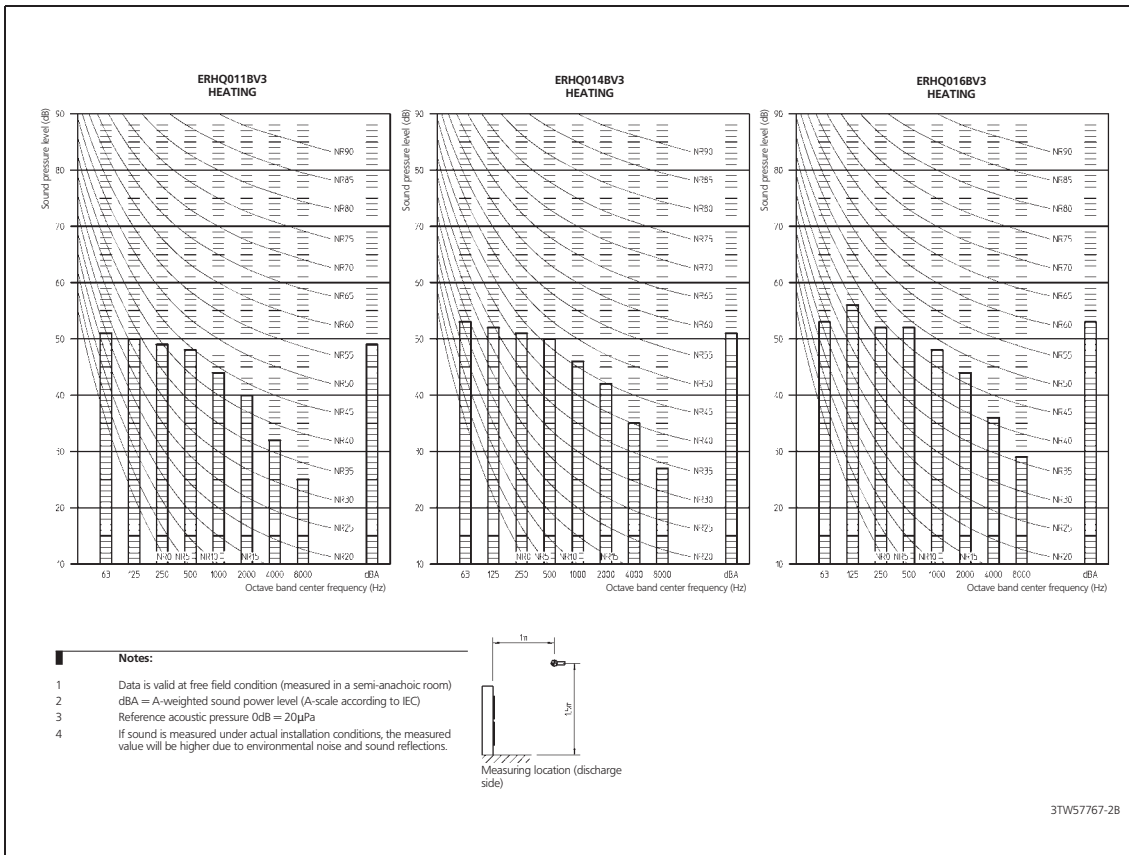
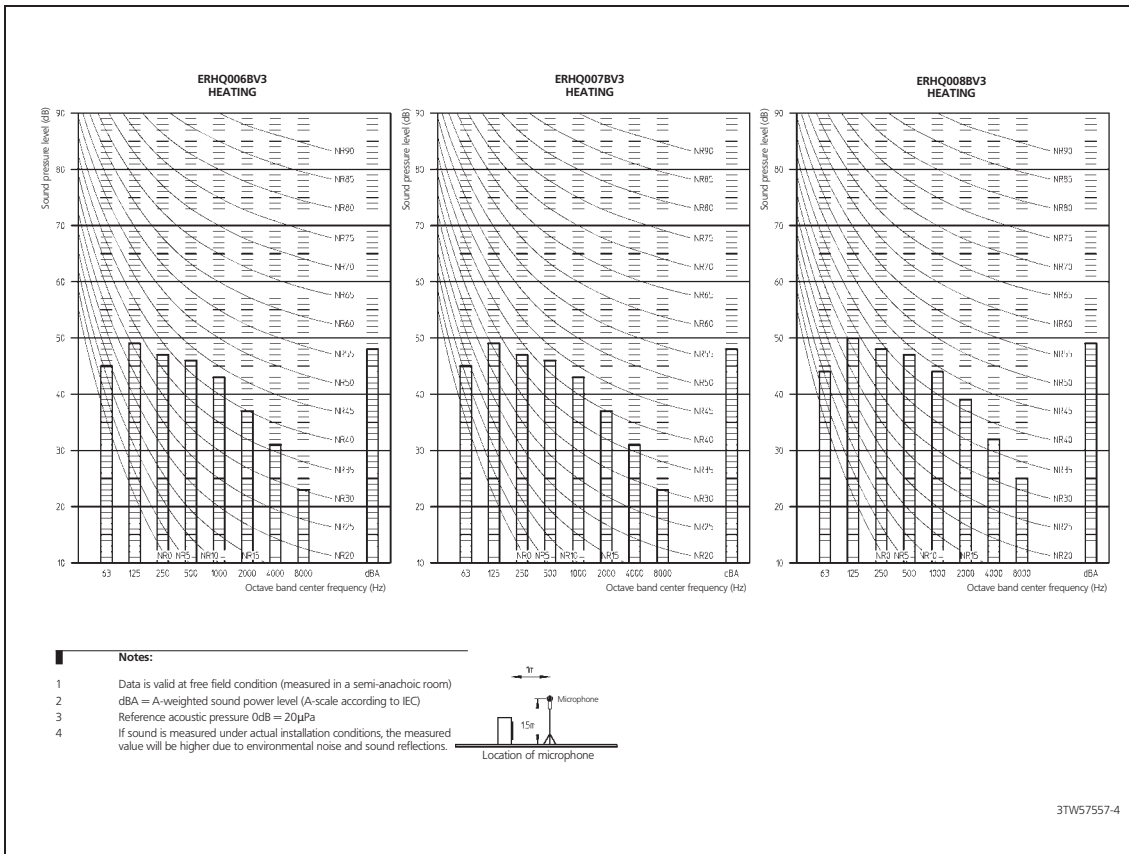
6 Wiring diagram

6 - 1 Wiring diagram



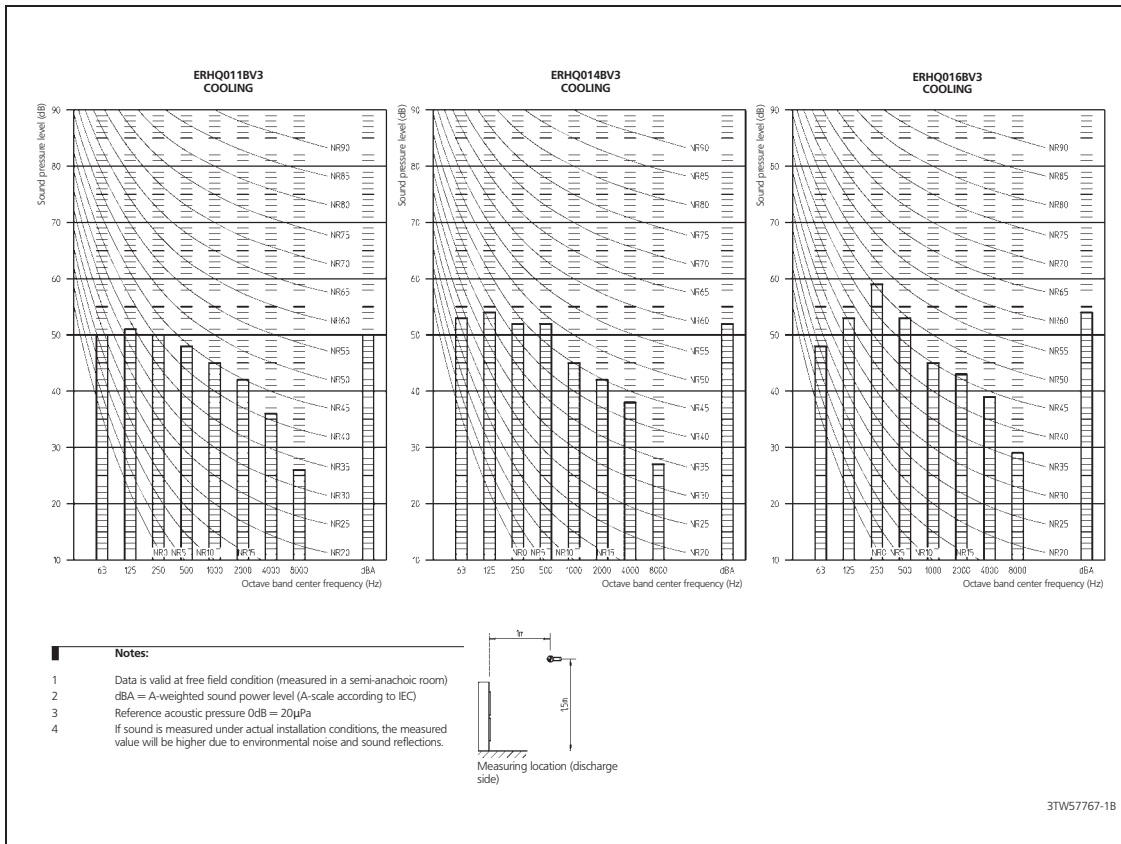
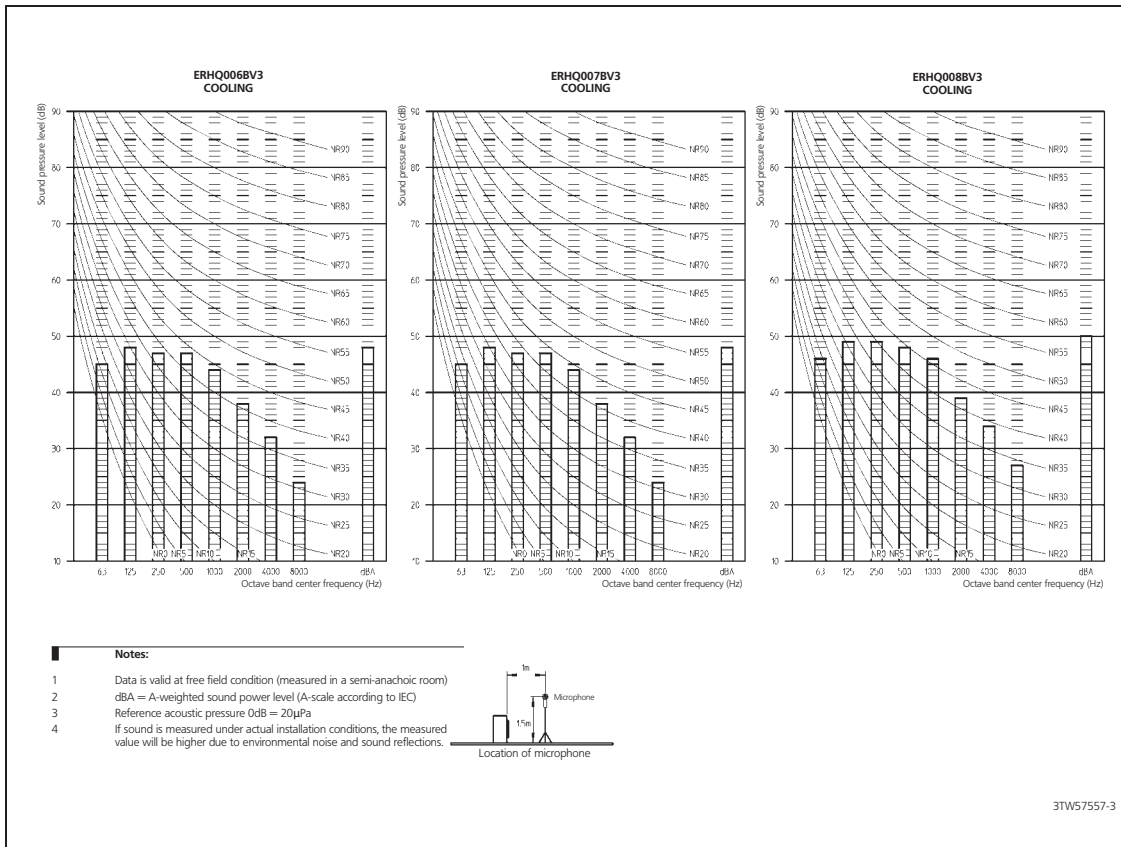
7 Sound data

7 - 1 Sound pressure spectrum



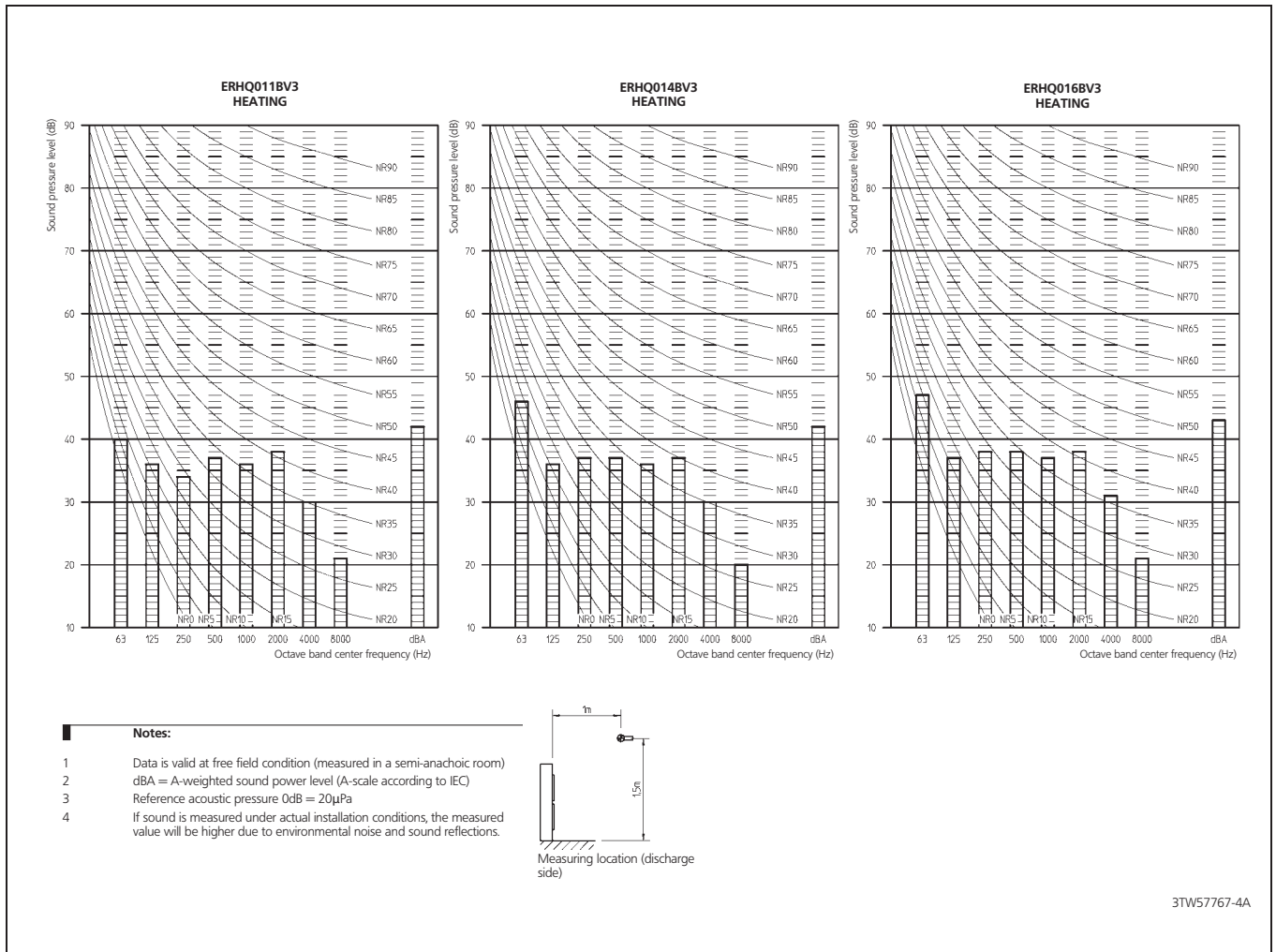
7 Sound data

7 - 1 Sound pressure spectrum



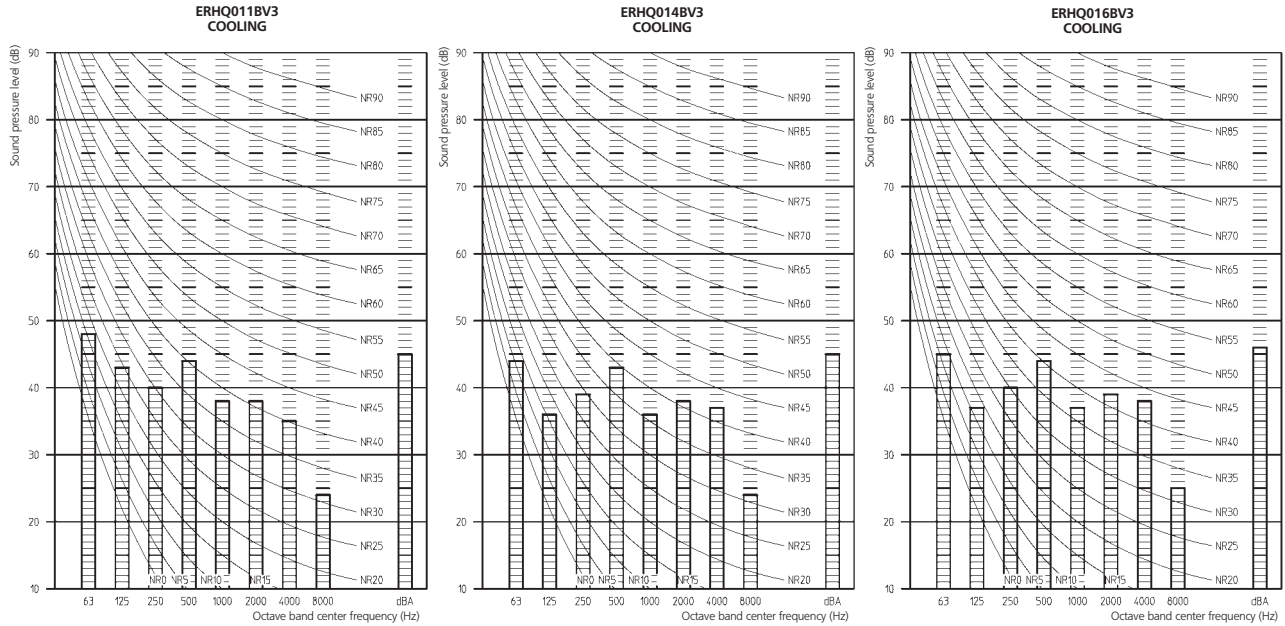
7 Sound data

7 - 2 Sound pressure spectrum quiet mode



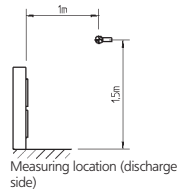
7 Sound data

7 - 2 Sound pressure spectrum quiet mode



Notes:

- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20μPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



3TW57767-3A

8 Installation

8 - 1 Installation method

ERHQ-BV3

Outdoor unit

Installation guidelines / precautions Daikin Altherma

Installation location (General)

- The equipment is not intended for use in a potentially explosive atmosphere.
- The equipment is not intended for use in a potentially explosive atmosphere.
- Choose a place solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
- Choose a location where the hot/cold air discharged from the unit or the operation noise will not cause a nuisance to the neighbours of the user.
- Avoid places near a bedroom and the like, so that the operation noise will cause no trouble.
- There must be sufficient space for carrying the unit into and out of the site.
- There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
- The site must be free from the possibility of flammable gas leakage in a nearby place.
- Locate the unit so that the noise and the discharged hot/cold air will not annoy the neighbours.
- Install units, power cords and inter-unit cables at least 3 m away from television and radio sets. This is to prevent interference to images and sounds.
- Depending on radio wave conditions, electromagnetic interference may still occur even if installed more than 3 m away.
- In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the outdoor unit.
- Since drain flows out of the outdoor unit, do not place anything under the unit which must be kept away from moisture.

Installation location (in cold climates)

- To prevent exposure to wind, install the outdoor unit with its suction side facing the wall.
- Never install the outdoor unit at a site where the suction side may be exposed directly to wind.
- To prevent exposure to wind, install a baffle plate on the air discharge side of the outdoor unit.
- Unit should be installed in a way that a minimum of 10 cm free space is assured below the unit's bottom plate at all conditions, e.g.: heavy snowfall (if necessary construct a pedestal).
- In heavy snowfall areas it is very important to select an installation site where the snow will not affect the unit. If lateral snowfall is possible, make sure that the heat exchanger coil is not affected by the snow (if necessary construct a lateral canopy). (See figure)

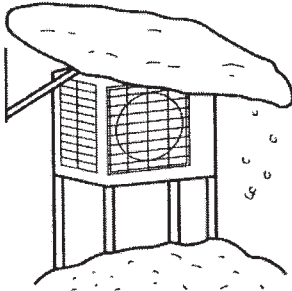


Figure 1: construction of canopy and pedestal

8 Installation

8 - 1 Installation method

ERHQ011-016BV3

A. Non stacked installation

	↙	↗	↘	↖	↓	A	B1	B2	C	D1	D2	E	L1/L2	
	✓						≥100							
	✓	✓	✓			≥100	≥100		≥100					
	✓	✓	✓	✓		≥100	≥100				≤500	≥1000		
	✓	✓	✓	✓	✓	≥150	≥150		≥150		≤500	≥1000		
	✓	✓	✓		✓			≤500		≥500			≥1000	
	✓	✓				L1<L2	≥100			≥500				
	✓	✓				L2<L1	≥100			≥500				
	✓	✓	✓	✓		L1<L2	L1≤H	≥250	≤500		≥750		≥1000	0<L1≤1/2H
	✓	✓	✓	✓		L2<L1	L2≤H	≥200			≥1000		≥1000	0<L1≤1/2H
	✓	✓	✓	✓		L2<L1	L2≤H	≥200			L2≤H		≥1000	0<L2≤1/2H
	✓	✓	✓	✓		≥200	≥300		≥1000					
	✓	✓	✓	✓		≥200	≥300		≥1000		≤500	≥1000		
	✓	✓	✓	✓				≤500		≥1000				
	✓	✓	✓		✓	L1<L2	≥300			≥1000				
	✓	✓	✓			L2<L1	≥250			≥1000				
	✓	✓	✓			L2<L1	≥300			≥1500				
	✓	✓	✓	✓		L1<L2	L1≤H	≥300	≤500		≥1000		≥1000	0<L1≤1/2H
	✓	✓	✓	✓		L2<L1	L2≤H	≥250			≥1250		≥1000	0<L1≤1/2H
	✓	✓	✓	✓		L2<L1	L2≤H	≥300			L2≤H		≥1000	1/2H<L1≤H
	✓	✓	✓	✓		L2<L1	L2≤H	≥300			L2≤H		≥1000	1/2H<L2≤H

Legend unit (mm)

- ↙ Suction side obstacle
- ↗ Discharge side obstacle
- ↘ Left side obstacle
- ↖ Right side obstacle
- ↓ Top side obstacle
- ✓ Obstacle is present

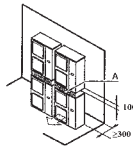
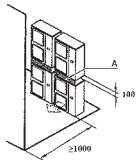
This situation is not allowed.

1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

2 In these cases, only 2 units can be installed.

B. Stacked installation

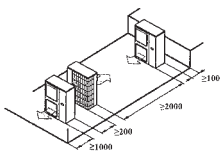
1. Obstacles exist in front of the outlet side 2. Obstacles exist in front of the air inlet



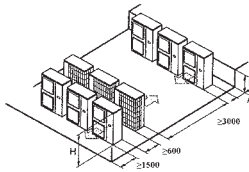
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row

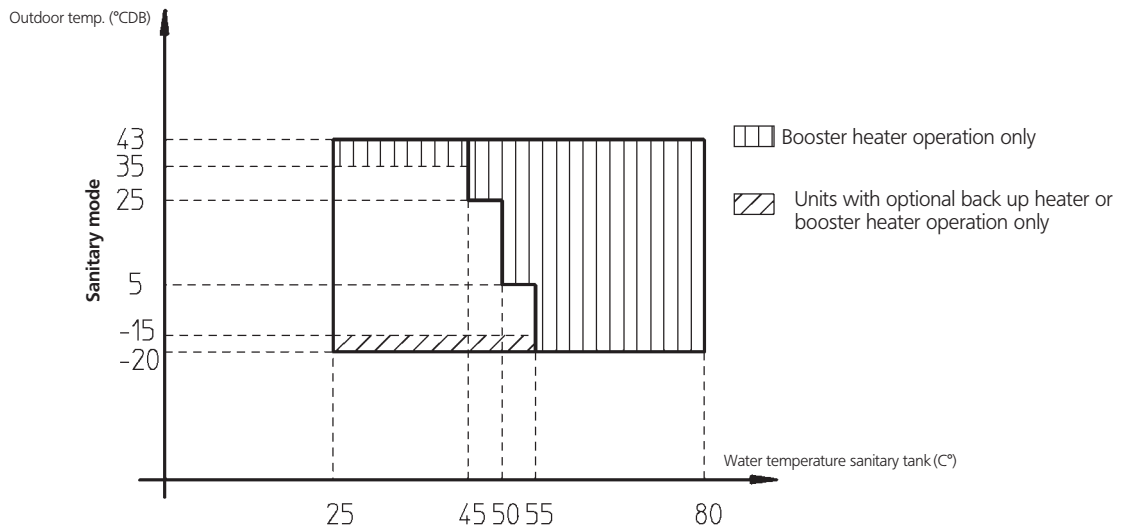
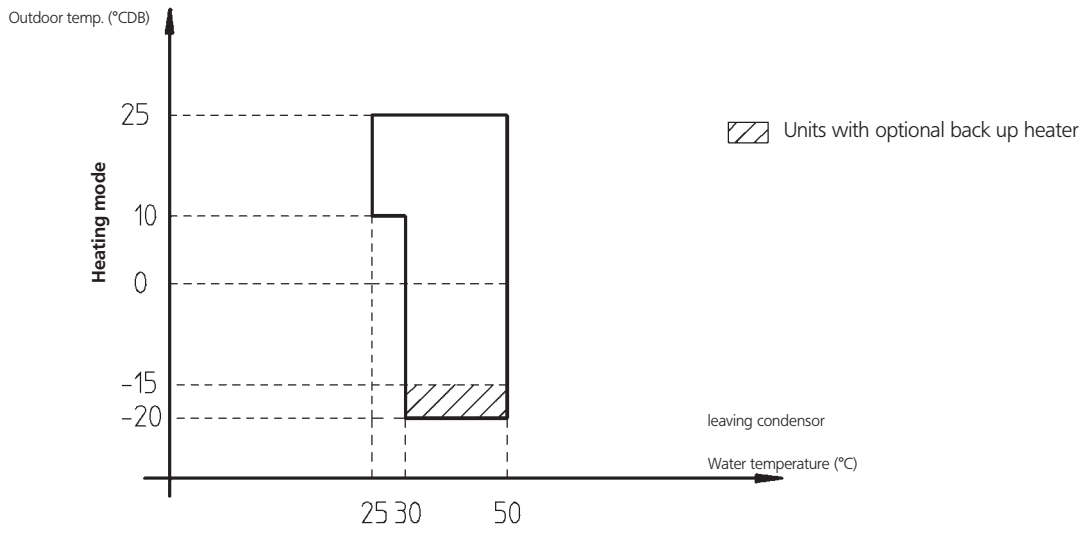
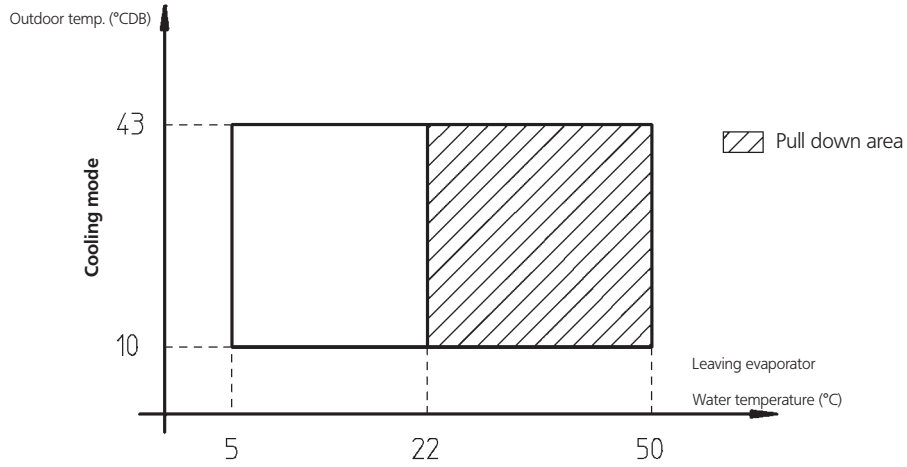


Relation of dimensions of H, A, and L are shown in the table below.

	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

3TW26739-4

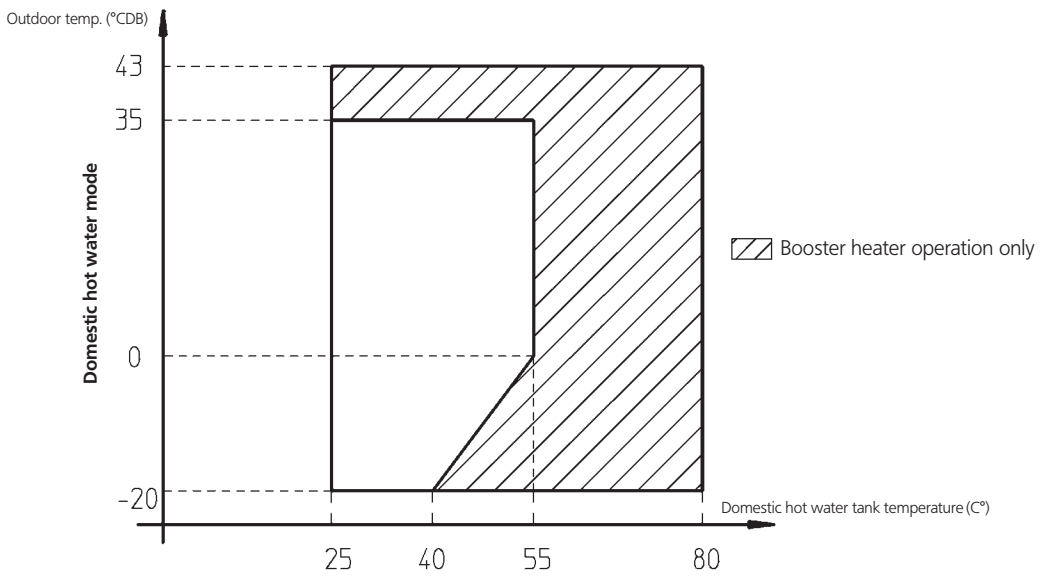
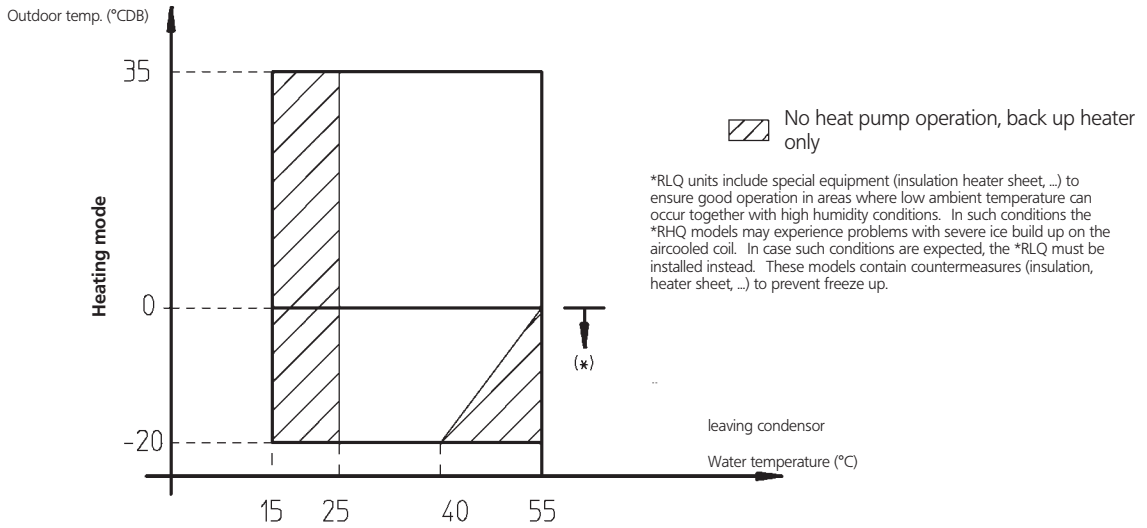
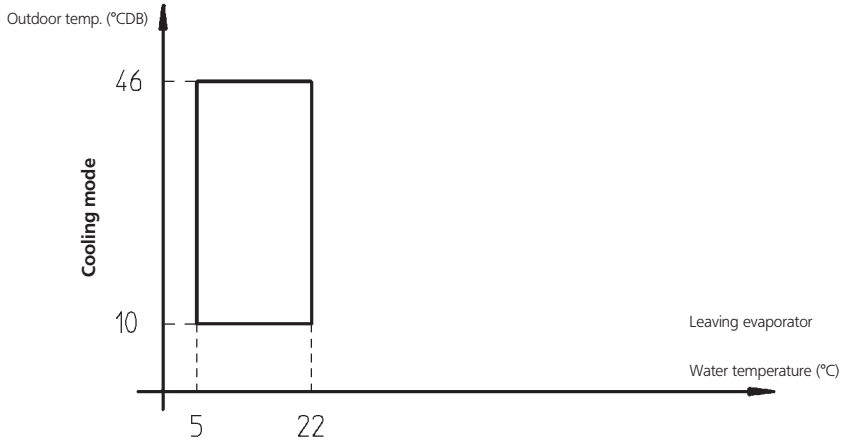
9 Operation range



4TW57783-1

9 Operation range

ERHQ011-016BV3



4TW57753-1C

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ERHQ011-016BAW1

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1 Features

- Three phase large capacity outdoor unit
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



10

1

2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				ERHQ011BAW1	ERHQ014BAW1	ERHQ016BAW1
For combination indoor units + outdoor units	Indoor Units			EKHBH016BA		
Condition 1	Heating capacity	Nominal	kW	11.32	14.50	16.05
	Heating PI	Nominal	kW	2.54	3.33	3.73
	COP	Nominal		4.46	4.35	4.30
Nominal Capacity	Heating capacity	Nominal	kW	10.98	13.57	15.11
	Heating PI	Nominal	kW	3.15	4.12	4.60
	COP	Nominal		3.48	3.29	3.29
For combination indoor units + outdoor units	Indoor Units			EKHBX016BA		
Condition 1	Heating capacity	Nominal	kW	11.32	14.50	16.05
	Cooling capacity	Nominal	kW	15.05	16.06	16.76
	Heating PI	Nominal	kW	2.54	3.33	3.73
	Cooling PI	Nominal	kW	4.44	5.33	6.06
	COP	Nominal		4.46	4.35	4.30
	EER	Nominal		3.39	3.01	2.76
Nominal Capacity	Heating capacity	Nominal	kW	10.98	13.57	15.11
	Cooling capacity	Nominal	kW	11.72	12.55	13.12
	Heating PI	Nominal	kW	3.15	4.12	4.60
	Cooling PI	Nominal	kW	4.22	5.00	5.65
	COP	Nominal		3.48	3.29	3.29
	EER	Nominal		2.78	2.51	2.32
Notes				Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C) - heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)		
				Condition 2: cooling Ta 35°C - LWE 7°C (DT = 5°C) - heating Ta DB/WB 7°C/6°C - LWC 45°C (DT = 5°C)		

2-2 TECHNICAL SPECIFICATIONS				ERHQ011BAW1	ERHQ014BAW1	ERHQ016BAW1	
Casing	Colour			Ivory white			
	Material			Painted galvanised steel plate			
Dimensions	Unit	Height	mm	1,345			
		Width	mm	900	900	900	
		Depth	mm	320	320	320	
	Packing	Height	mm	1,524			
		Width	mm	980	980	980	
Depth		mm	420	420	420		
Weight	Unit		kg	108	108	108	
	Packed Unit		kg	120	120	120	
Packing	Material			EPS			
				Carton			
				Wood			
Weight			kg	12	12	12	
Heat Exchanger	Dimensions	Length	mm	857	857	857	
		Nr of Rows			2	2	2
		Fin Pitch	mm	1.4	1.4	1.4	
		Nr of Passes			5	5	5
		Face Area	m ²	1.131	1.131	1.131	
		Nr of Stages			60	60	60
	Tube type			Hi-XSS(8)			
	Fin	Type		WF fin			
Treatment		Anti-corrosion treatment (PE)					
Fan	Type			Propeller			
	Quantity			2	2	2	
	Discharge direction			Horizontal			
	Motor	Quantity		2	2	2	
Model		Brushless DC motor					

2 Specifications

2-2 TECHNICAL SPECIFICATIONS				ERHQ011BAW1	ERHQ014BAW1	ERHQ016BAW1	
Motor	Speed (nominal)	Steps		8	8	8	
		Heating	rpm	760	760	760	
		Cooling	rpm	780	780	780	
Fan	Motor	Output	W	70	70	70	
		Drive		Direct drive			
Compressor	Quantity			1	1	1	
	Motor	Model		JT1G-VDYR@S			
		Type		Hermetically sealed scroll compressor			
		Motor Output	W	2,200			
Starting Method		Inverter driven					
Motor	Crankcase Heater	Output	W	33	33	33	
Operation Range	Heating	Min	×CWB	-20	-20	-20	
		Max	×CWB	35	35	35	
	Cooling	Min	×CDB	10	10	10	
		Max	×CDB	46	46	46	
	Sanitary water	Min	×CDB	-20	-20	-20	
		Max	×CDB	43	43	43	
Sound Level (nominal)	Heating	Sound Power	dBA	64	64	66	
		Sound Pressure	dBA	51	51	52	
	Cooling	Sound Power	dBA	64	66	69	
		Sound Pressure	dBA	50	52	54	
Sound Level (Night quiet)	Heating	Sound Pressure	dBA	42	42	43	
	Cooling	Sound Pressure	dBA	45	45	46	
Refrigerant	Type		R-410A				
	Charge		kg	2.95	2.95	2.95	
	Control		Expansion valve(electronic type)				
	Nr of Circuits		1				
Refrigerant Oil	Type		Daphne FVC68D				
	Charged Volume			l	1.0	1.0	1.0
Piping connections	Liquid (OD)	Quantity		1	1	1	
		Type		Flare connection			
		Diameter (OD)	mm	9,52			
	Gas	Quantity		1	1	1	
		Type		Flare connection			
		Diameter (OD)	mm	15,9			
	Drain	Quantity		4	4	4	
		Type		Hole			
		Diameter (OD)	mm	26x3			
	Piping Length	Minimum	m	5	5	5	
		Maximum	m	75	75	75	
		Equivalent	m	95	95	95	
		Chargeless	m	10	10	10	
	Additional Refrigerant Charge		kg/m	See installation manual outdoor unit 4PW42025-1			
Installation height difference	Maximum	m	30	30	30		
Heat Insulation		Both liquid and gas pipes					
Defrost Method		Pressure equalising					
Defrost Control		Sensor for outdoor heat exchanger temperature					
Capacity Control Method		Inverter controlled					
Safety Devices		High pressure switch					
		Fan motor thermal protector					
		Fuse					
Standard Accessories	Item		Tie-wraps				
	Quantity		2	2	2		
	Item		Installation manual				
	Quantity		1	1	1		

2 Specifications

2-2 TECHNICAL SPECIFICATIONS				ERHQ011BAW1	ERHQ014BAW1	ERHQ016BAW1
Notes				The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.		
				Down to 3m with recharging of the outdoor unit. Refer to the installation manual of the outdoor unit.		
				Conditions: Ta DB/WB 7×C/6×C - LWC 35×C (
				Conditions: Ta 35×C - LWE 7×C (DT = 5×C)		

2-3 ELECTRICAL SPECIFICATIONS				ERHQ011BAW1	ERHQ014BAW1	ERHQ016BAW1
Power Supply	Name			W1		
	Phase			3N~		
	Frequency		Hz	50	50	50
	Voltage		V	400	400	400
	Voltage range	Minimum	V	-10%		
Maximum		V	+10%			
Current	Nominal running current (RLA)	Heating (A)	A	5.8	5.8	5.8
		Maximum running Current	Heating	A	13.5	13.5	13.5
		Cooling	A	13.5	13.5	13.5
	Recommended fuses		A	20	20	20
Wiring connections	For Power Supply	Remark		See installation manual outdoor unit 4PW42025-1		
	For connection with indoor	Remark		See installation manual outdoor unit 4PW42025-1		
Power Supply Intake				Outdoor unit only		
Notes				Conditions: Ta DB/WB 7×C/6×C - LWC 35×C (DT = 5×C)		

3 Capacity tables

3 - 1 Heating capacity tables

ERHQ011-016BAW1

Maximum Heating Capacity (Peak values)

Model	LWC [°C]	30		35		40		45		50		55	
	Tamb	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
R(H/L)Q011	-20	5,92	2,24	5,57	2,44	5,45	2,69	5,31	2,98				
	-15	6,70	2,28	6,30	2,49	6,15	2,74	5,98	3,04	5,74	3,38		
	-7	8,22	2,31	7,74	2,54	7,59	2,80	7,39	3,11	7,11	3,46	6,60	3,85
	-2	9,38	2,32	8,86	2,55	8,70	2,82	8,50	3,14	8,19	3,49	7,63	3,89
	2	10,43	2,31	9,88	2,55	9,72	2,83	9,52	3,15	9,20	3,51	8,60	3,91
	7	11,92	2,29	11,32	2,54	11,18	2,83	10,98	3,15	10,65	3,52	9,99	3,93
	12	12,93	2,22	12,31	2,47	12,20	2,76	12,02	3,09	11,69	3,46	11,01	3,87
	15	13,99	2,20	13,34	2,45	13,24	2,74	13,07	3,08	12,74	3,45	12,02	3,86
	20	15,90	2,14	15,20	2,40	15,13	2,70	14,98	3,04	14,22	3,42	13,46	3,84
R(H/L)Q014	-20	7,69	2,89	7,46	3,15	7,25	3,45	6,99	3,80				
	-15	8,59	2,95	8,28	3,22	7,99	3,53	7,87	3,89	7,83	4,30		
	-7	10,43	3,02	10,02	3,30	9,61	3,63	9,40	4,01	9,27	4,43	8,87	4,89
	-2	11,87	3,05	11,39	3,34	10,91	3,68	10,65	4,06	10,49	4,49	10,02	4,96
	2	13,20	3,06	12,66	3,36	12,13	3,70	11,84	4,09	11,65	4,52	11,12	5,01
	7	15,11	3,07	14,50	3,33	13,90	3,72	13,57	4,12	13,35	4,56	12,73	5,05
	12	15,99	2,97	15,36	3,27	14,74	3,62	14,40	4,01	14,18	4,44	13,54	4,92
	15	17,33	2,96	16,66	3,26	16,00	3,61	15,64	4,01	15,41	4,45	14,72	4,93
	20	19,77	2,93	19,04	3,24	18,30	3,59	17,92	4,00	17,17	4,44	16,41	4,93
R(H/L)Q016	-20	8,50	3,21	8,36	3,50	8,24	3,84	8,02	4,22				
	-15	9,46	3,28	9,24	3,58	9,02	3,93	8,94	4,32	8,73	4,77		
	-7	11,47	3,37	11,11	3,68	10,76	4,04	10,57	4,45	10,21	4,92	9,86	5,43
	-2	13,05	3,41	12,62	3,73	12,18	4,10	11,92	4,52	11,49	4,99	11,05	5,51
	2	14,52	3,44	14,02	3,76	13,52	4,13	13,22	4,56	12,71	5,04	12,20	5,56
	7	16,63	3,46	16,05	3,73	15,47	4,17	15,11	4,60	14,51	5,08	13,92	5,62
	12	17,34	3,36	16,74	3,69	16,13	4,06	15,76	4,49	15,13	4,96	14,51	5,49
	15	18,81	3,36	18,16	3,69	17,51	4,07	17,10	4,49	16,43	4,97	15,75	5,50
	20	21,49	3,34	20,77	3,68	20,04	4,06	19,59	4,50	18,83	4,98	18,07	5,52

Maximum Heating Capacity (integrated values)

Model	LWC	30		35		40		45		50		55	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
R(H/L)Q011	-20	5,02	2,19	4,72	2,39	4,62	2,63	4,49	2,91				
	-15	5,67	2,23	5,33	2,44	5,21	2,69	5,07	2,98	4,86	3,30		
	-7	6,96	2,26	6,56	2,49	6,43	2,75	6,26	3,05	6,02	3,39	5,59	3,77
	-2	7,78	2,22	7,35	2,45	7,22	2,71	7,06	3,01	6,80	3,35	6,33	3,73
	2	8,66	2,22	8,20	2,45	8,07	2,72	7,90	3,02	7,64	3,37	7,14	3,75
	7	11,92	2,29	11,32	2,54	11,18	2,83	10,98	3,15	10,65	3,52	9,99	3,93
	12	12,93	2,22	12,31	2,47	12,20	2,76	12,02	3,09	11,69	3,46	11,01	3,87
	15	13,99	2,20	13,34	2,45	13,24	2,74	13,07	3,08	12,74	3,45	12,02	3,86
	20	15,90	2,14	15,20	2,40	15,13	2,70	14,98	3,04	14,22	3,42	13,46	3,84
R(H/L)Q014	-20	6,54	2,80	6,35	3,05	6,17	3,34	6,04	3,68				
	-15	7,30	2,86	7,05	3,12	6,80	3,42	6,69	3,77	6,66	4,16		
	-7	8,87	2,93	8,52	3,20	8,17	3,52	7,99	3,88	7,89	4,29	7,55	4,74
	-2	9,44	2,76	9,05	3,02	8,68	3,33	8,47	3,67	8,34	4,06	7,96	4,49
	2	10,50	2,77	10,07	3,04	9,65	3,35	9,41	3,70	9,26	4,09	8,84	4,53
	7	15,11	3,07	14,50	3,33	13,90	3,72	13,57	4,12	13,35	4,56	12,73	5,05
	12	15,99	2,97	15,36	3,27	14,74	3,62	14,40	4,01	14,18	4,44	13,54	4,92
	15	17,33	2,96	16,66	3,26	16,00	3,61	15,64	4,01	15,41	4,45	14,72	4,93
	20	19,77	2,93	19,04	3,24	18,30	3,59	17,92	4,00	17,17	4,44	16,41	4,93
R(H/L)Q016	-20	7,02	3,12	6,91	3,39	6,81	3,72	6,69	4,10				
	-15	7,82	3,19	7,63	3,47	7,45	3,81	7,39	4,20	7,21	4,63		
	-7	9,48	3,27	9,18	3,57	8,89	3,92	8,73	4,32	8,44	4,77	8,14	5,27
	-2	9,99	3,04	9,65	3,32	9,32	3,65	9,12	4,02	8,79	4,44	8,45	4,90
	2	11,11	3,06	10,73	3,35	10,34	3,68	10,11	4,06	9,72	4,48	9,33	4,95
	7	16,63	3,46	16,05	3,73	15,47	4,17	15,11	4,60	14,51	5,08	13,92	5,62
	12	17,34	3,36	16,74	3,69	16,13	4,06	15,76	4,49	15,13	4,96	14,51	5,49
	15	18,81	3,36	18,16	3,69	17,51	4,07	17,10	4,49	16,43	4,97	15,75	5,50
	20	21,49	3,34	20,77	3,68	20,04	4,06	19,59	4,50	18,83	4,98	18,07	5,52

3TW57912-1B

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condenser temperature (°C)
- Tamb : Ambient temperature (°C) RH=85%

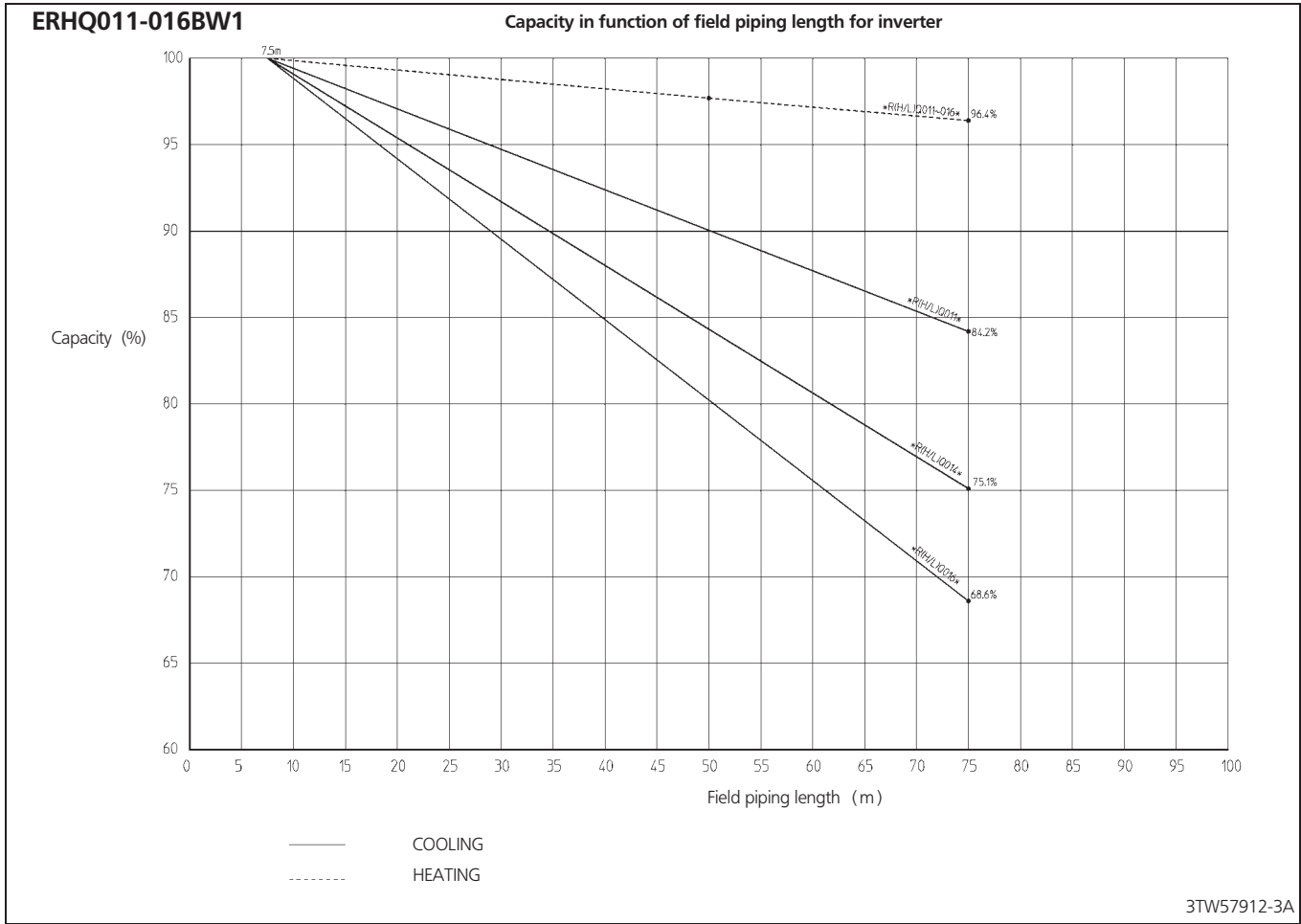
Conditions

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).
For ERHQ011-16AAW1 models only: if Tamb < 4°C: bottom plate heater power input to be added = 95 W

Notes:
- For the model with heatertape (*RLQ): when ambient temperature becomes lower than [F-02] (default = 3°C) bottom plate heater power input to be added = 95W
- [F-02] = BPH ON temp for more details see installation manual of indoor unit.

3 Capacity tables

3 - 1 Heating capacity tables



3 Capacity tables

3 - 2 Cooling capacity tables

ERHQ011-016BAW1

Maximum Cooling Capacity

Model	Tamb	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
R(H/L)Q011	7	12,99	3,17	12,88	3,48	12,44	3,83	11,72	4,22	10,74	4,65	9,54	5,13
	10	13,79	3,20	13,67	3,52	13,20	3,88	12,44	4,28	11,40	4,72	10,14	5,21
	13	15,16	3,24	15,02	3,56	14,51	3,93	13,67	4,34	12,54	4,79	11,00	5,45
	15	16,10	3,26	15,95	3,59	15,41	3,96	14,52	4,38	13,33	4,83	11,40	5,32
	18	17,77	3,29	17,18	3,63	16,26	4,02	15,05	4,44	13,61	4,90	11,54	4,91
	22	19,82	3,34	19,17	3,69	18,16	4,09	16,83	4,52	15,23	4,99	12,10	4,38
R(H/L)Q014	7	13,92	3,79	13,81	4,14	13,34	4,54	12,55	5,00	11,13	4,79	9,85	5,28
	10	14,98	3,85	14,85	4,21	14,34	4,62	13,49	5,09	11,97	4,87	10,61	5,37
	13	16,45	3,92	16,30	4,29	15,74	4,70	14,81	5,18	13,15	4,96	11,00	5,45
	15	17,46	3,96	17,30	4,34	16,71	4,76	15,73	5,24	13,97	5,02	11,40	5,32
	18	19,00	4,03	18,36	4,41	17,37	4,85	16,06	5,33	14,05	5,10	11,54	4,91
	22	21,16	4,12	20,45	4,52	19,36	4,97	17,93	5,46	15,71	5,22	12,10	4,38
R(H/L)Q016	7	14,55	4,30	14,46	4,70	13,98	5,15	13,12	5,65	11,59	5,39	9,85	5,28
	10	15,67	4,39	15,56	4,80	15,02	5,25	14,09	5,76	12,45	5,49	10,61	5,37
	13	17,22	4,48	17,08	4,90	16,48	5,36	15,47	5,87	13,67	5,59	11,00	5,45
	15	18,29	4,54	18,13	4,97	17,49	5,43	16,42	5,95	14,52	5,66	11,40	5,32
	18	19,91	4,64	19,23	5,07	18,17	5,54	16,76	6,06	14,60	5,76	11,54	4,91
	22	22,18	4,77	21,42	5,21	20,25	5,70	18,69	6,22	16,31	5,90	12,10	4,38

3TW57912-1B

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3

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condensor temperature (°C)
- Tamb : Ambient temperature (°C) RH=85%

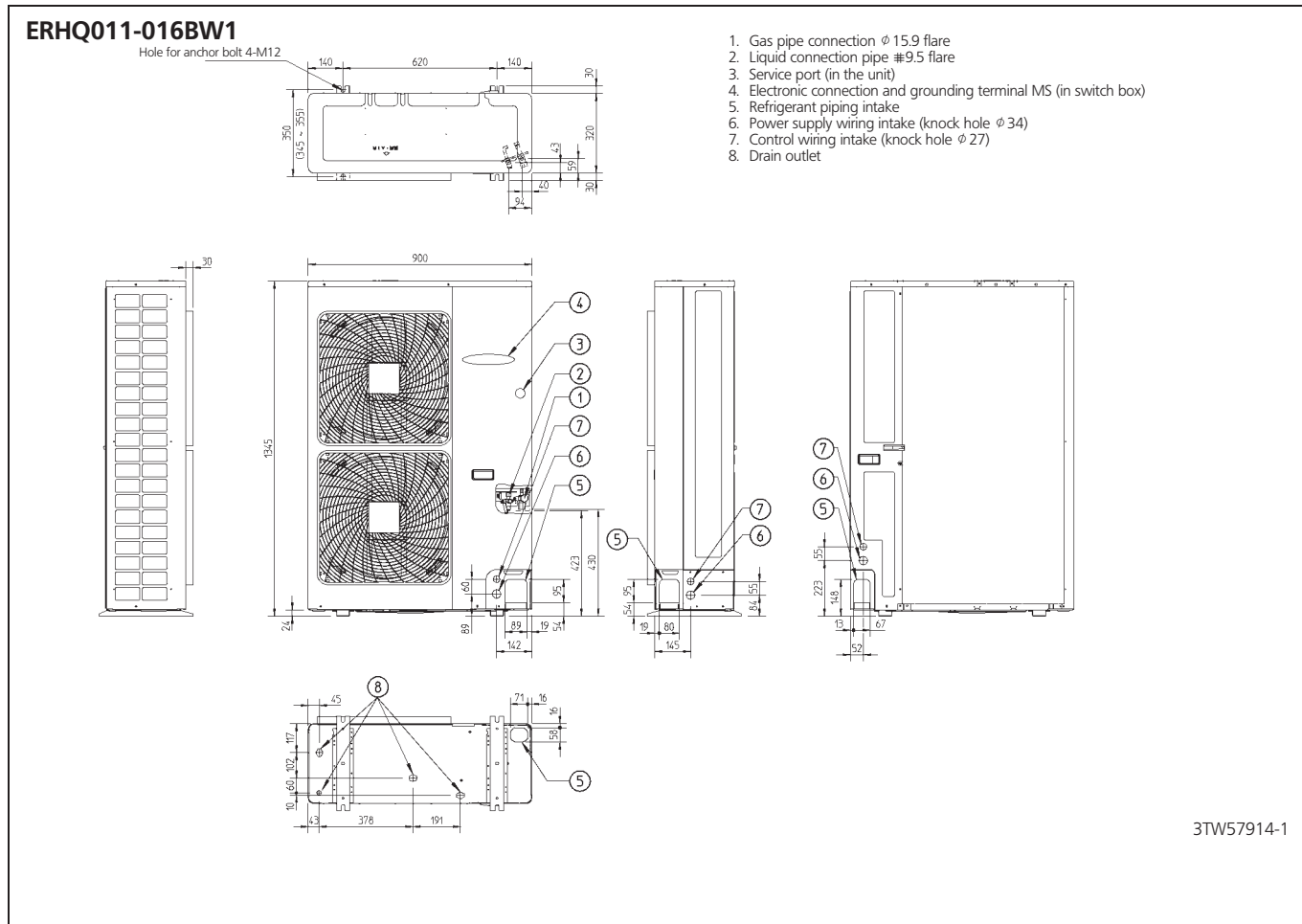
NOTES

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).
For ERHQ011-16AAW1 models only: if Tamb < 4°C: bottom plate heater power input to be added = 95 W

Notes:
- For the model with heatertape (*RLQ): when ambient temperature becomes lower than [F-02] (default = 3°C) bottom plate heater power input to be added = 95W
- [F-02] = BPH ON temp for more details see installation manual of indoor unit.

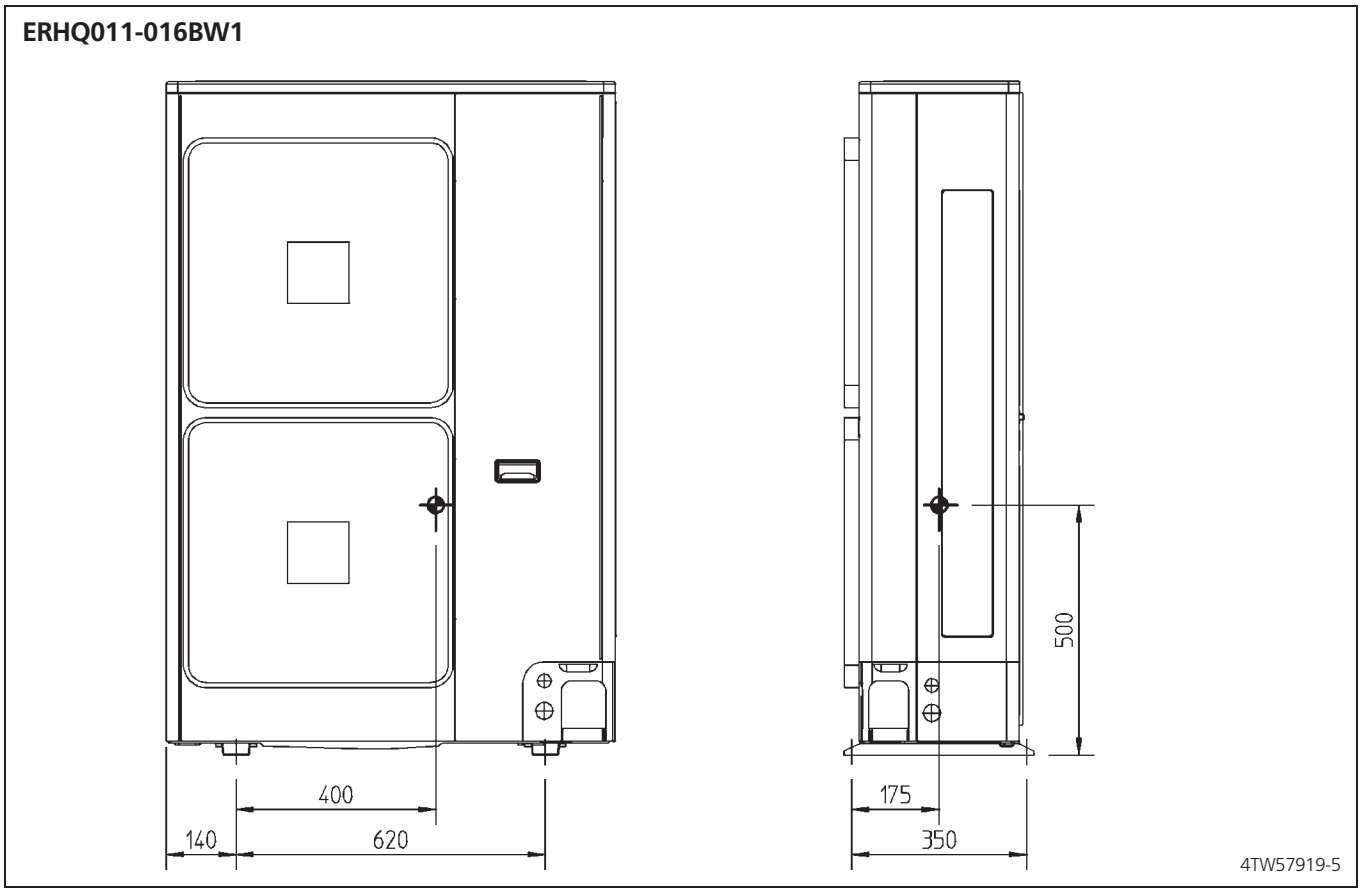
4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing



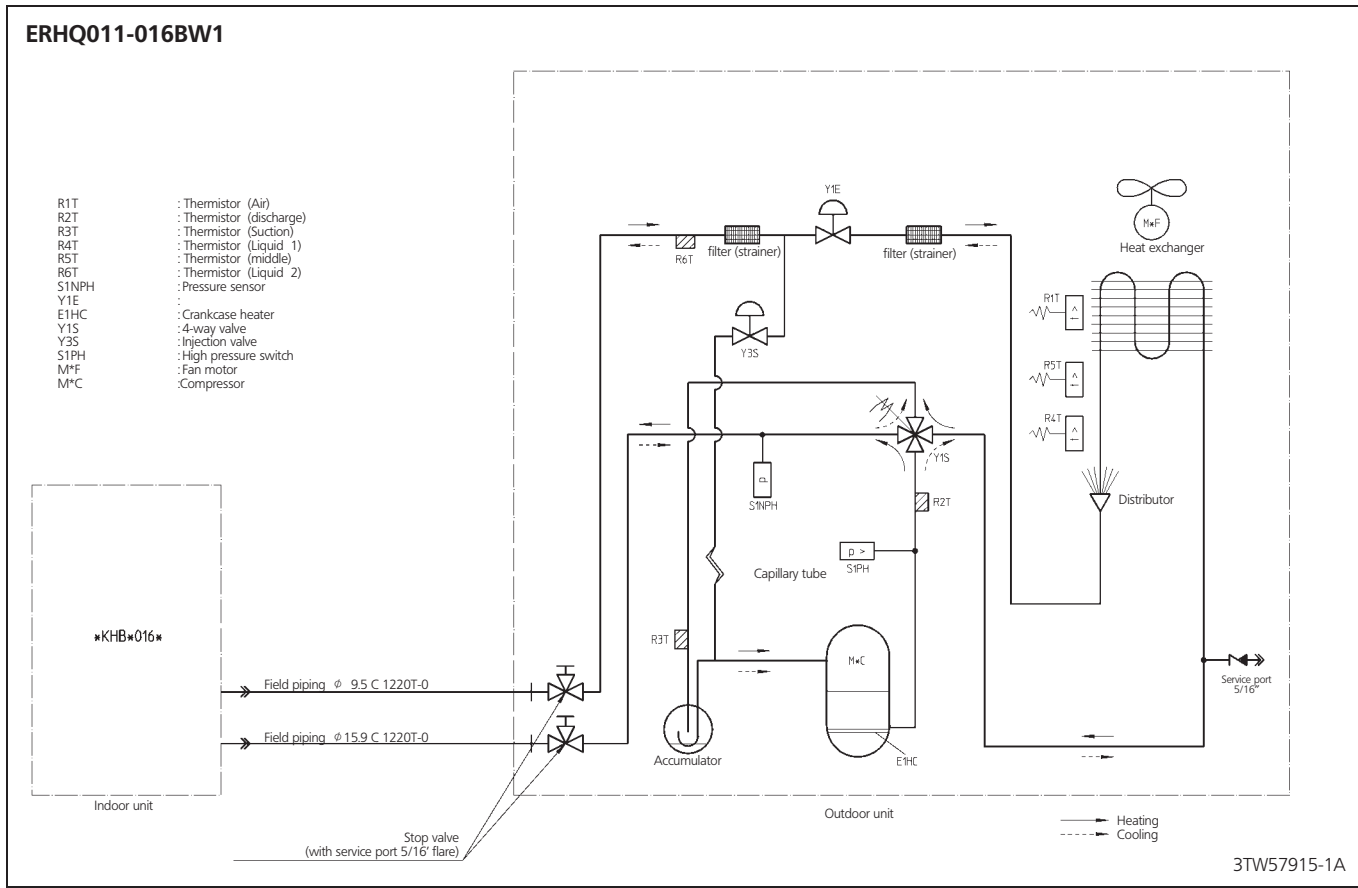
4 Dimensional drawing & centre of gravity

4 - 2 Centre of gravity



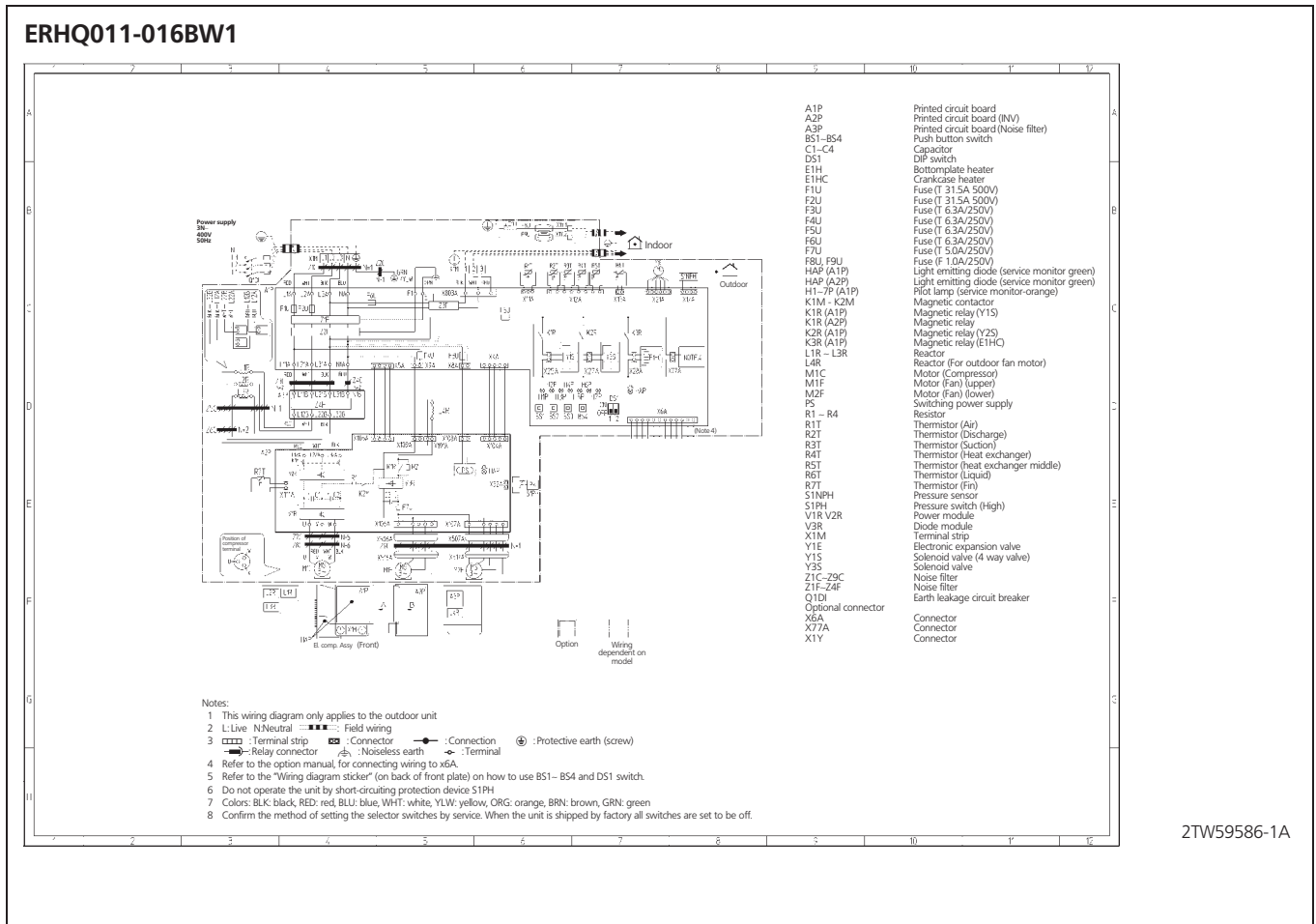
5 Piping diagram

5 - 1 Piping diagram



6 Wiring diagram

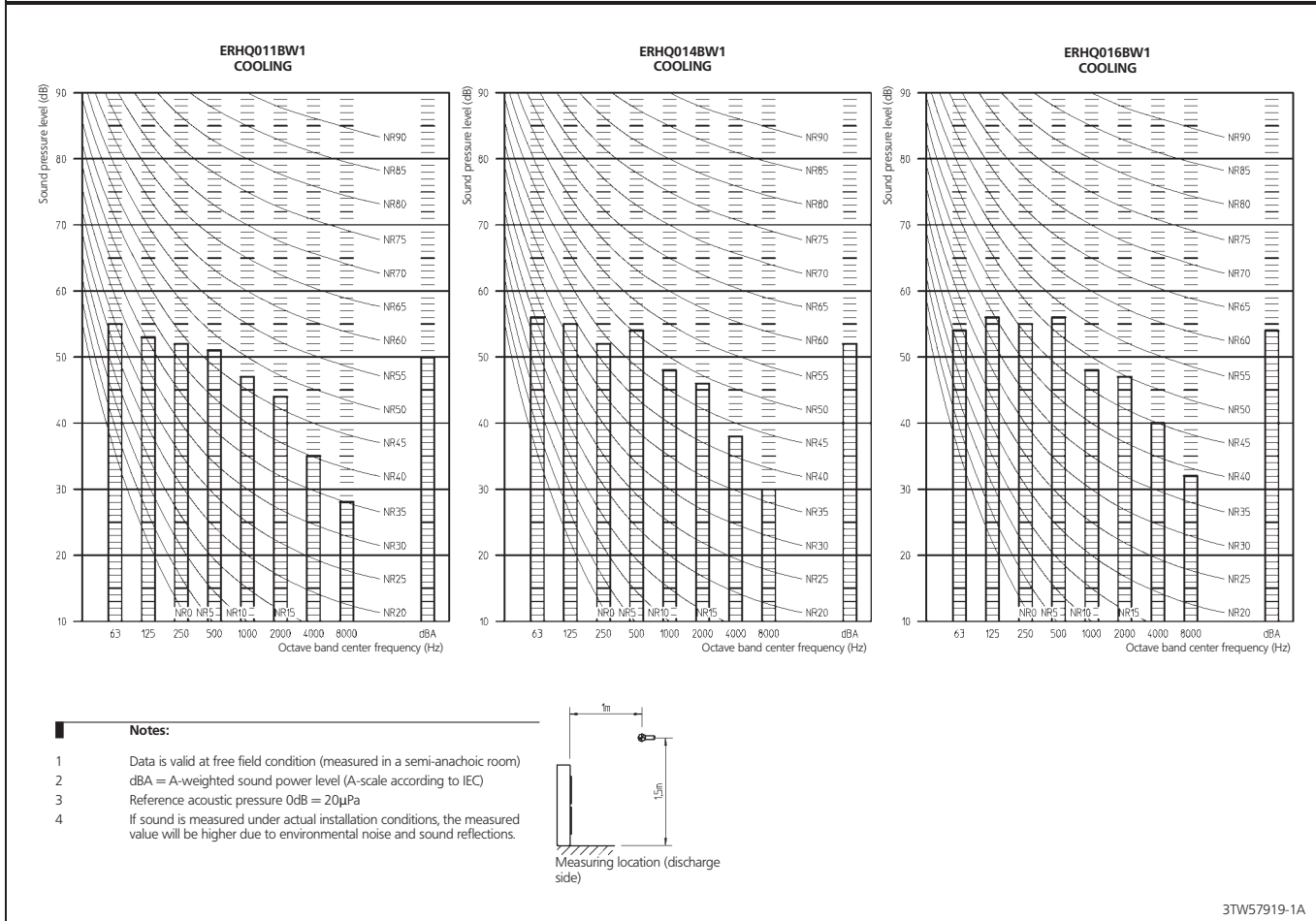
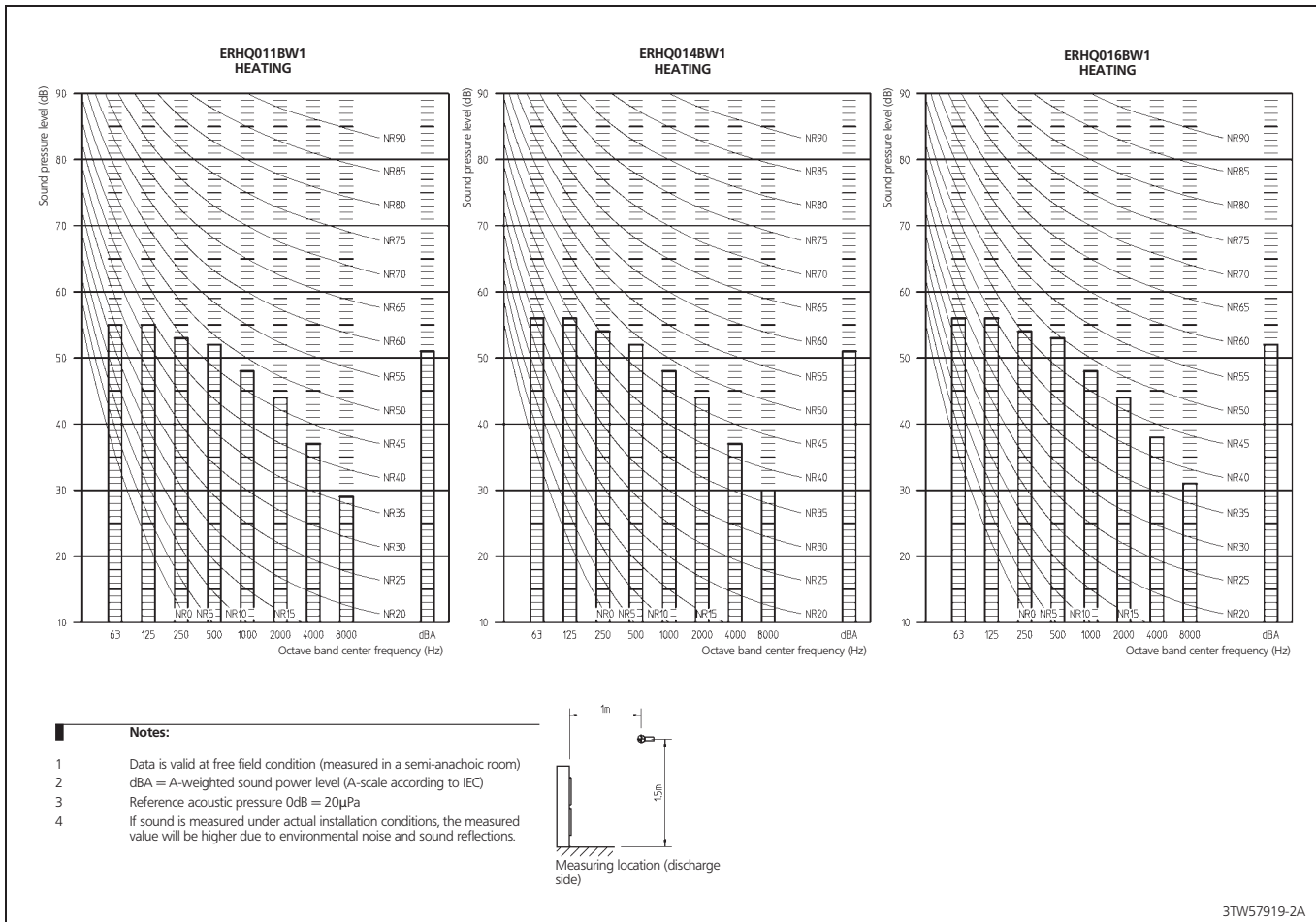
6 - 1 Wiring diagram



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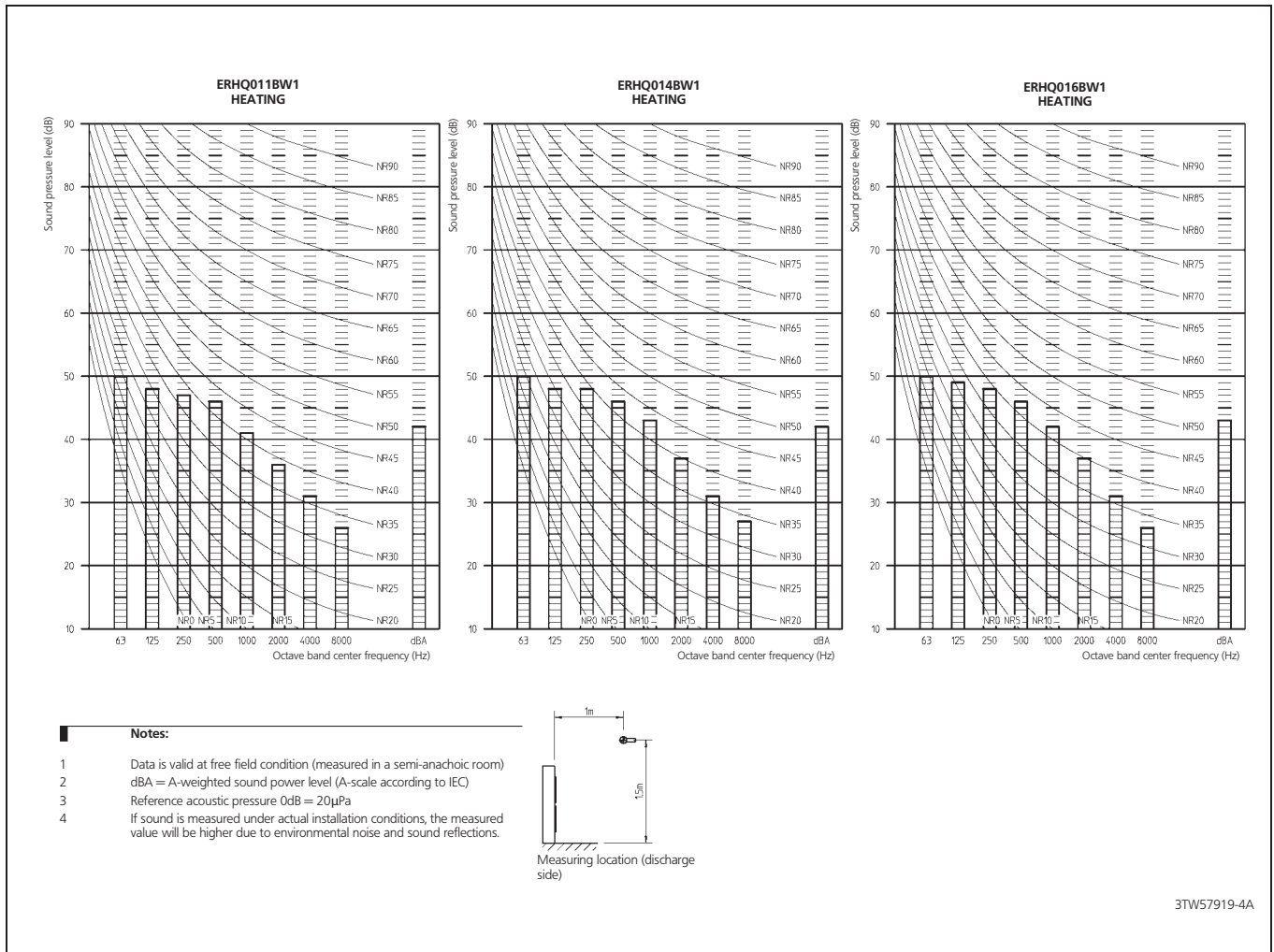
7 Sound data

7 - 1 Sound pressure spectrum



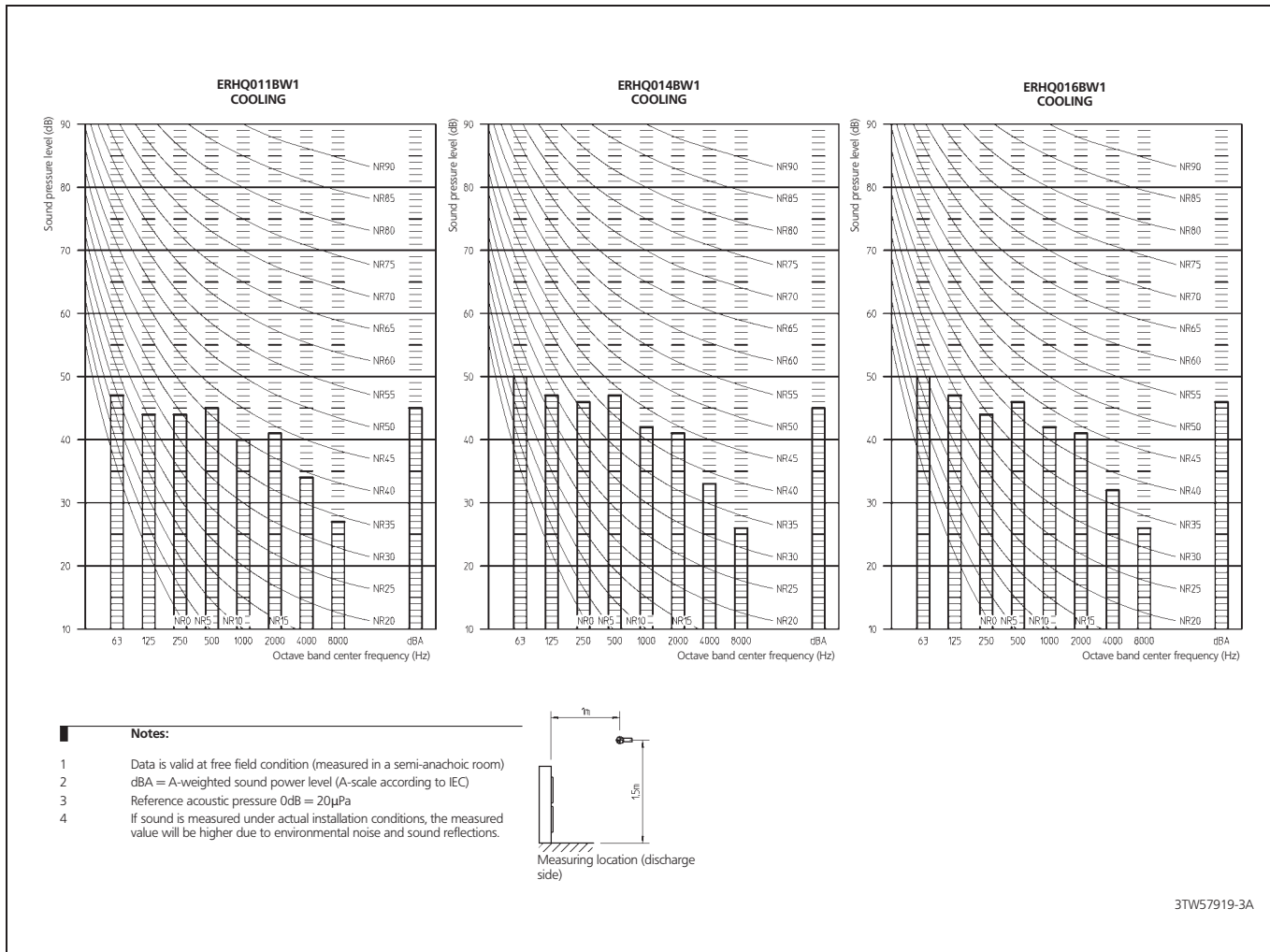
7 Sound data

7 - 2 Sound pressure spectrum quiet mode



7 Sound data

7 - 2 Sound pressure spectrum quiet mode



8 Installation

8 - 1 Installation method

ERHQ-BW1

Outdoor unit

Installation guidelines / precautions Daikin Altherma

Installation location (General)

- The equipment is not intended for use in a potentially explosive atmosphere.
- The equipment is not intended for use in a potentially explosive atmosphere.
- Choose a place solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
- Choose a location where the hot/cold air discharger from the unit or the operation noise will not cause a nuisance to the neighbours of the user.
- Avoid places near a bedroom and the like, so that the operation noise will cause no trouble.
- There must be sufficient space for carrying the unit into and out of the site.
- There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
- The site must be free from the possibility of flammable gas leakage in a nearby place.
- Locate the unit so that the noise and the discharged hot/cold air will not annoy the neighbours.
- Install units, power cords and inter-unit cables at least 3 m away from television and radio sets. This is to prevent interference to images and sounds.
- Depending on radio wave conditions, electromagnetic interference may still occur even if installed more than 3 m away.
- In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the outdoor unit.
- Since drain flows out of the outdoor unit, do not place anything under the unit which must be kept away from moisture.

Installation location (in cold climates)

- To prevent exposure to wind, install the outdoor unit with its suction side facing the wall.
- Never install the outdoor unit at a site where the suction side may be exposed directly to wind.
- To prevent exposure to wind, install a baffle plate on the air discharge side of the outdoor unit.
- Unit should be installed in a way that a minimum of 10 cm free space is assured below the unit's bottom plate at all conditions, e.g.: heavy snowfall (if necessary construct a pedestal).
- In heavy snowfall areas it is very important to select an installation site where the snow will not affect the unit. If lateral snowfall is possible, make sure that the heat exchanger coil is not affected by the snow (if necessary construct a lateral canopy). (See figure)

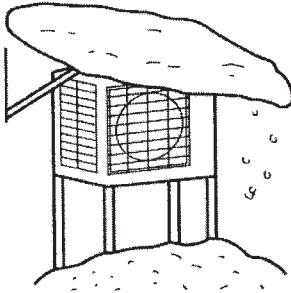


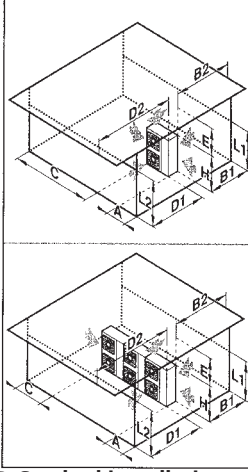
Figure 1: construction of canopy and pedestal

8 Installation

8 - 1 Installation method

ERHQ011-016BW1

A. Non stacked installation



↙	↗	↘	↖	↓	A	B1	B2	C	D1	D2	E	L1/L2
✓		✓	✓			≥100						
✓		✓	✓		≥100	≥100		≥100				
✓		✓	✓		≥100	≥100				≤500	≥1000	
✓		✓	✓		≥150	≥150		≥150		≤500	≥1000	
✓		✓	✓				≤500		≥500	≤500	≥1000	
✓		✓	✓						≥500			≥1000
✓		✓	✓			L1<L2			≥100			
✓		✓	✓			L2<L1			≥100			
✓		✓	✓						≥500			
✓		✓	✓			L1<L2	L1≤H		≥250	≤500		0<L1≤1/2H
✓		✓	✓				H<L1					0<L1≤1/2H
✓		✓	✓			L2<L1	L2≤H		≥100			0<L2≤1/2H
✓		✓	✓				H<L2		≥200			1/2H<L2≤H
✓		✓	✓						≥750		≥1000	
✓		✓	✓						≥1000	≥500	≥1000	
✓		✓	✓						L2≤H			

Legend unit (mm)

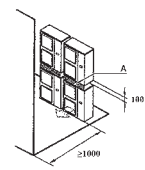
- ↙ Suction side obstacle
- ↗ Discharge side obstacle
- ↘ Left side obstacle
- ↖ Right side obstacle
- ↓ Top side obstacle
- ✓ Obstacle is present
- ▭ This situation is not allowed.

1 In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

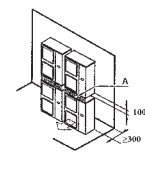
2 In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front of the outlet side



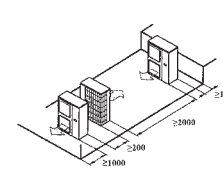
2. Obstacles exist in front of the air inlet



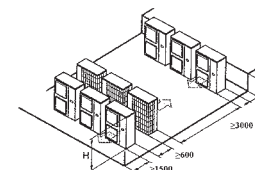
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



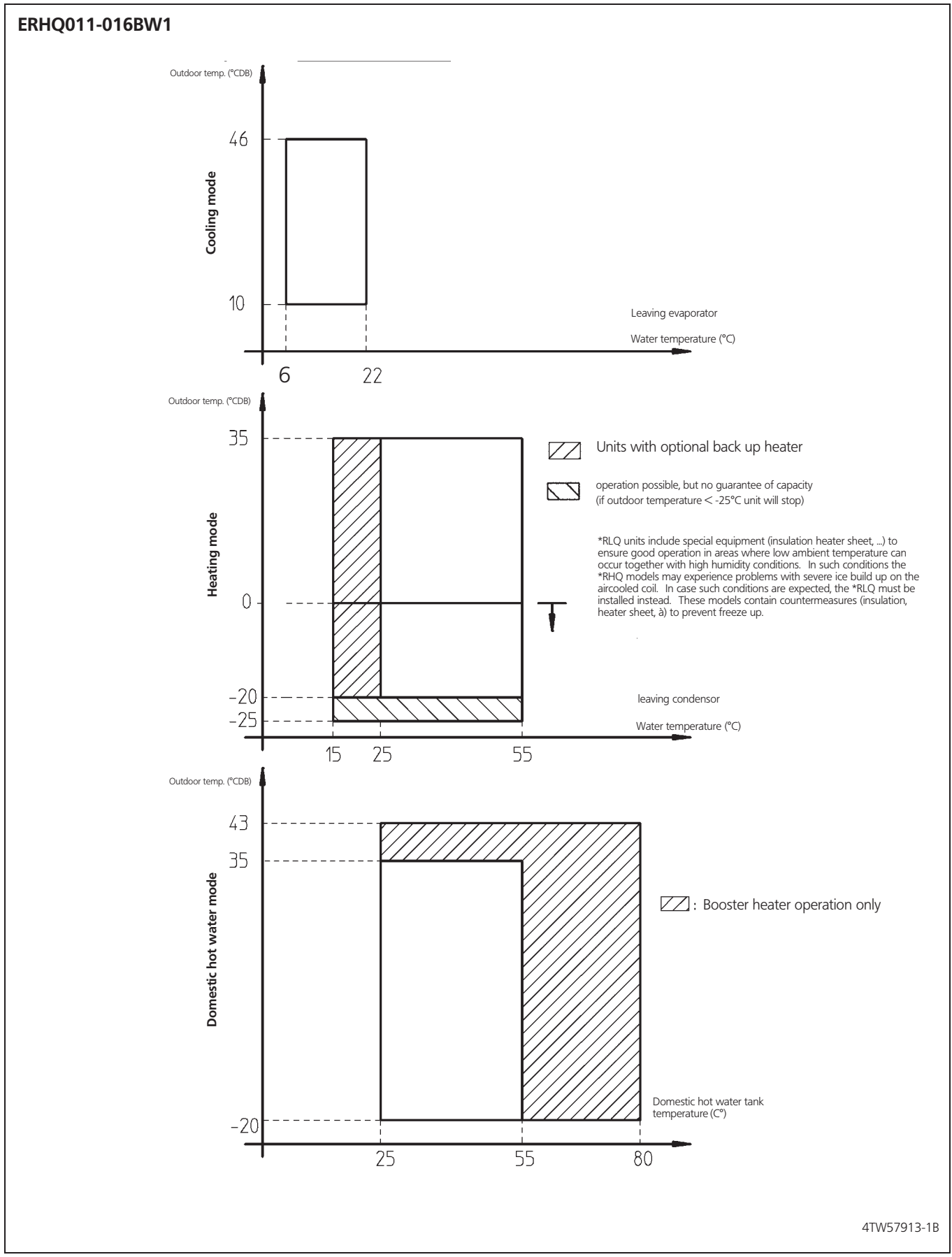
2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H, A, and L are shown in the table below.

	L	A
L ≤ H	0 < L ≤ 1/2 H	250
	1/2 H < L	300
H < L	Installation not allowed	

9 Operation range



4TW57913-1B

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9

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EKHBH-X008-016BA

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1 Features

- Small capacity indoor unit
- Large capacity indoor unit
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 Technical Specifications				EKHBH008BA3V3	EKHBH008BA6V3	EKHBH008BA6WN	EKHBH008BA6T1	EKHBH008BA9WN	EKHBH008BA9T1	EKHBX008BA3V3	EKHBX008BA6V3	EKHBX008BA6WN	EKHBX008BA6T1	EKHBX008BA9WN	EKHBX008BA9T1	
Outdoor units				ERHQ006BAV3 ERLQ006BAV3												
Nominal input (Indoor only)			W	230												
Casing	Colour			RAL9010												
	Material			Epoxy polyester painted galvanised steel												
Dimensions	Packing	Height	mm	1,225												
		Width	mm	660												
		Depth	mm	610												
	Unit	Height	mm	922												
		Width	mm	502												
		Depth	mm	361												
Weight	Machine weight		kg	46												
	Gross weight		kg	59												
Packing	Material			EPS												
				Wood												
				Carton												
				PP(straps)												
	Weight		kg	13												
Main components	Pump	Type		Water cooled												
		Nr. of speed		3												
		Nominal ESP unit	Heating	kPa	49											
			Cooling	kPa	51											
		Power input		W	130											
	Water side Heat exchanger	Type		Brazen plate												
		Qty		1												
		Water volume		l	0.67											
		Water flow rate Min.		l/min	12											
		Water flow rate Nom.	Heating	l/min	16.5											
			Cooling	l/min	14.7											
	Insulation material			Polyurethane foam												
	Expansion vessel	Volume		l	10											
		Max. water pressure		bar	3											
		Pre pressure		bar	1											
	Water filter	Diameter perforations		mm	1											
Material			Brass													
Water circuit	Piping connections diameter		inch	G1 (MALE)												
	Safety valve		bar	3												
	Manometer			Yes												
	Drain valve / Fill valve			Yes												
	Shut off valve			Yes												
	Air purge valve			Yes												
	Total water volume (6)		l	5.5												
Refrigerant Circuit	Gas side diameter		mm	15.9												
	Liquid side diameter		mm	6.35												
Sound level	Sound Pressure	Medium speed (ESP-Nominal flow)	dB(A)	28-30												
		High Speed (Nominal flow)	dB(A)	32												
	Sound Power	Medium speed (0 ESP)	dB(A)	42												
Operation range	Ambient	Heating	°C	-20~25												
		Cooling	°C	10~43												
	Waterside	Heating	°C	15~50												
		Cooling	°C	5~22												

2 Specifications

2-1 Technical Specifications				EKHBH008BA3V3	EKHBH008BA6V3	EKHBH008BA6WN	EKHBH008BA6T1	EKHBH008BA9WN	EKHBH008BA9T1	EKHBX008BA3V3	EKHBX008BA6V3	EKHBX008BA6WN	EKHBX008BA6T1	EKHBX008BA9WN	EKHBX008BA9T1
Notes				With option kit EKHBBDP installed: Height=936mm											
				Tamb 35°C - LWE 7°C (DT=5°C)											
				DB/WB 7°C/6°C-LWC 35°C(DT=5°C)											
				The sound pressure level is measured via a microphone at 1m from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow											
				15°C-25°C: BUH only, no Heatpump operation=during commissioning.											
				Including piping+PHE+backup heater/excluding expansion vessel.											
				Value mentioned is connection after ball valves. Connection at unit is G1 1/2 female											
				DB/WB 7°C/6°C - LWC 35°C (DT=5°C), medium pump speed											

2-1 Technical Specifications				EKHBH008BA3V3	EKHBH008BA6V3	EKHBH008BA6WN	EKHBH008BA6T1	EKHBH008BA9WN	EKHBH008BA9T1	EKHBX008BA3V3	EKHBX008BA6V3	EKHBX008BA6WN	EKHBX008BA6T1	EKHBX008BA9WN	EKHBX008BA9T1	
Outdoor units				ERHQ007BAV3 ERLQ007BAV3												
Nominal input (Indoor only)			W	230												
Casing	Colour			RAL9010												
	Material			Epoxy polyester painted galvanised steel												
Dimensions	Packing	Height	mm	1,225												
		Width	mm	660												
		Depth	mm	610												
	Unit	Height	mm	922												
		Width	mm	502												
		Depth	mm	361												
Weight	Machine weight		kg	46												
	Gross weight		kg	59												
Packing	Material			EPS												
				Wood												
				Carton												
	Weight			kg	PP(straps)											
				13												
Main components	Pump	Type		Water cooled												
		Nr. of speed		3												
		Nominal ESP unit	Heating	kPa	45											
			Cooling	kPa	49											
		Power input		W	130											
	Water side Heat exchanger	Type		Brazen plate												
		Qty		1												
		Water volume		l	0.67											
		Water flow rate Min.		l/min	12											
		Water flow rate Nom.	Heating	l/min	19.6											
			Cooling	l/min	16.8											
	Insulation material			Polyurethane foam												
	Expansion vessel	Volume		l	10											
		Max. water pressure		bar	3											
Pre pressure		bar	1													
Water filter	Diameter perforations		mm	1												
	Material			Brass												

2 Specifications

2-1 Technical Specifications			EKHBH008BA3V3	EKHBH008BA6V3	EKHBH008BA6WN	EKHBH008BA6T1	EKHBH008BA9WN	EKHBH008BA9T1	EKHBX008BA3V3	EKHBX008BA6V3	EKHBX008BA6WN	EKHBX008BA6T1	EKHBX008BA9WN	EKHBX008BA9T1	
Water circuit	Piping connections diameter	inch	G1 (MALE)												
	Safety valve	bar	3												
	Manometer		Yes												
	Drain valve / Fill valve		Yes												
	Shut off valve		Yes												
	Air purge valve		Yes												
	Total water volume (6)	l	5.5												
Refrigerant Circuit	Gas side diameter	mm	15.9												
	Liquid side diameter	mm	6.35												
Sound level	Sound Pressure	Medium speed (ESP-Nominal flow)	dBA	28~29											
		High Speed (Nominal flow)	dBA	32											
	Sound Power	Medium speed (0 ESP)	dBA	42											
Operation range	Ambient	Heating	°C	-20~25											
		Cooling	°C	10~43											
	Waterside	Heating	°C	15~50											
		Cooling	°C	5~22											
Notes	With option kit EKHBDP installed: Height=936mm														
	Tamb 35°C - LWE 7°C (DT=5°C)														
	DB/WB 7°C/6°C-LWC 35°C(DT=5°C)														
	The sound pressure level is measured via a microphone at 1m from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow														
	15°C-25°C: BUH only, no Heatpump operation=during commissioning.														
	Including piping+PHE+backup heater/excluding expansion vessel.														
	Value mentioned is connection after ball valves. Connection at unit is G1 1/2 female														
DB/WB 7°C/6°C - LWC 35°C (DT=5°C), medium pump speed															

2-1 Technical Specifications			EKHBH008BA3V3	EKHBH008BA6V3	EKHBH008BA6WN	EKHBH008BA6T1	EKHBH008BA9WN	EKHBH008BA9T1	EKHBX008BA3V3	EKHBX008BA6V3	EKHBX008BA6WN	EKHBX008BA6T1	EKHBX008BA9WN	EKHBX008BA9T1	
Outdoor units			ERHQ008BAV3 ERLQ008BAV3												
Nominal input (Indoor only)		W	230												
Casing	Colour		RAL9010												
	Material		Epoxy polyester painted galvanised steel												
Dimensions	Packing	Height	mm	1,225											
		Width	mm	660											
		Depth	mm	610											
	Unit	Height	mm	922											
		Width	mm	502											
		Depth	mm	361											
Weight	Machine weight	kg	46												
	Gross weight	kg	59												
Packing	Material	EPS													
		Wood													
		Carton													
		PP(straps)													
Weight	kg	13													

2 Specifications

2-1 Technical Specifications				EKHBH008BA3V3	EKHBH008BA6V3	EKHBH008BA6WN	EKHBH008BA6T1	EKHBH008BA9WN	EKHBH008BA9T1	EKHBX008BA3V3	EKHBX008BA6V3	EKHBX008BA6WN	EKHBX008BA6T1	EKHBX008BA9WN	EKHBX008BA9T1	
Main components	Pump	Type		Water cooled												
		Nr. of speed		3												
		Nominal ESP unit	Heating	kPa	38											
			Cooling	kPa	48											
		Power input		W	130											
	Water side Heat exchanger	Type		Braze plate												
		Qty		1												
		Water volume		l	0.67											
		Water flow rate Min.		l/min	12											
		Water flow rate Nom.	Heating	l/min	24.1											
			Cooling	l/min	17.4											
	Insulation material		Polyurethane foam													
	Expansion vessel	Volume		l	10											
		Max. water pressure		bar	3											
Pre pressure		bar	1													
Water filter	Diameter perforations		mm	1												
	Material		Brass													
Water circuit	Piping connections diameter		inch	G1 (MALE)												
	Safety valve		bar	3												
	Manometer		Yes													
	Drain valve / Fill valve		Yes													
	Shut off valve		Yes													
	Air purge valve		Yes													
	Total water volume (6)		l	5.5												
Refrigerant Circuit	Gas side diameter		mm	15.9												
	Liquid side diameter		mm	6.35												
Sound level	Sound Pressure	Medium speed (ESP-Nominal flow)	dBA	28~29												
		High Speed (Nominal flow)	dBA	31												
	Sound Power	Medium speed (0 ESP)	dBA	42												
Operation range	Ambient	Heating	°C	-20~25												
		Cooling	°C	10~43												
	Waterside	Heating	°C	15~50												
		Cooling	°C	5~22												
Notes	With option kit EKHBDP installed: Height=936mm															
	Tamb 35°C - LWE 7°C (DT=5°C)															
	DB/WB 7°C/6°C-LWC 35°C(DT=5°C)															
	The sound pressure level is measured via a microphone at 1m from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow															
	15°C-25°C: BUH only, no Heatpump operation=during commissioning.															
	Including piping+PHE+backup heater/excluding expansion vessel.															
	Value mentioned is connection after ball valves. Connection at unit is G1 1/2 female															
	DB/WB 7°C/6°C - LWC 35°C (DT=5°C), medium pump speed															

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2 Specifications

2-1 Technical Specifications				EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1	
Outdoor units				ERHQ011BAV3 ERLQ011BAV3												
Nominal input (Indoor only)			W	230												
Casing	Colour			RAL9010												
	Material			Epoxy polyester painted galvanised steel												
Dimensions	Packing	Height	mm	1,225												
		Width	mm	660												
		Depth	mm	610												
	Unit	Height	mm	922												
		Width	mm	502												
		Depth	mm	361												
Weight	Machine weight		kg	48												
	Gross weight		kg	61												
Packing	Material			EPS												
				Wood												
				Carton												
	Weight			kg	PP(straps)											
Main components	Pump	Type		Water cooled												
		Nr. of speed		3												
		Nominal ESP unit	Heating	kPa	47.4											
			Cooling	kPa	51.9											
		Power input		W	210											
	Water side Heat exchanger	Type		Brazed plate												
		Qty		1												
		Water volume		l	1.01											
		Water flow rate Min.		l/min	16											
		Water flow rate Nom.	Heating	l/min	32.1											
			Cooling	l/min	28.7											
		Water flow rate Max.		l/min	58											
	Insulation material			Polyurethane foam												
	Expansion vessel	Volume		l	10											
		Max. water pressure		bar	3											
		Pre pressure		bar	1											
	Water filter	Diameter perforations		mm	1											
		Material			Brass											
	Water circuit	Piping connections diameter		inch	G 1-1/4 (MALE)											
		Safety valve		bar	3											
Manometer			Yes													
Drain valve / Fill valve			Yes													
Shut off valve			Yes													
Air purge valve			Yes													
Total water volume (6)		l	5.5													
Refrigerant Circuit		Gas side diameter		mm	15.9											
	Liquid side diameter		mm	9.52												
Sound level	Sound Pressure	Medium speed (ESP-Nominal flow)	dBA	28-31												
		High Speed (Nominal flow)	dBA	33												
	Sound Power	Medium speed (0 ESP)	dBA	46												
Operation range	Ambient	Heating	°C	-20~35												
		Cooling	°C	10~46												
	Waterside	Heating	°C	15~55												
		Cooling	°C	5~22												

2 Specifications

2-1 Technical Specifications				EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1
Notes				With option kit EKHBDDP installed: Height=936mm											
				Tamb 35°C - LWE 7°C (Dt 5°C) at hi speed											
				7°CDB/6°CWB - LWC 35°C (dt 5°C) at hi speed											
				The sound pressure level is measured via a microphone at 1m from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow											
				15°C-25°C: BUH only, no Heatpump operation=during commissioning.											
				Including piping+PHE+backup heater/excluding expansion vessel.											

2-1 Technical Specifications				EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1	
Outdoor units				ERHQ014BAV3 ERLQ014BAV3												
Nominal input (Indoor only)			W	230												
Casing	Colour			RAL9010												
	Material			Epoxy polyester painted galvanised steel												
Dimensions	Packing	Height	mm	1,225												
		Width	mm	660												
		Depth	mm	610												
	Unit	Height	mm	922												
		Width	mm	502												
		Depth	mm	361												
Weight	Machine weight		kg	48												
	Gross weight		kg	61												
Packing	Material			EPS												
				Wood												
				Carton												
			PP(straps)													
Weight			kg	13												
Main components	Pump	Type		Water cooled												
		Nr. of speed		3												
		Nominal ESP unit	Heating	kPa	35.5											
			Cooling	kPa	42.2											
		Power input		W	210											
	Water side Heat exchanger	Type		Brazed plate												
		Qty		1												
		Water volume		l	1.01											
		Water flow rate Min.		l/min	16											
		Water flow rate Nom.	Heating	l/min	40.1											
			Cooling	l/min	35.8											
		Water flow rate Max.		l/min	58											
	Insulation material		Polyurethane foam													
	Expansion vessel	Volume	l	10												
		Max. water pressure	bar	3												
Pre pressure		bar	1													
Water filter	Diameter perforations	mm	1													
	Material		Brass													
Water circuit	Piping connections diameter		inch	G 1-1/4 (MALE)												
	Safety valve		bar	3												
	Manometer		Yes													
	Drain valve / Fill valve		Yes													
	Shut off valve		Yes													
	Air purge valve		Yes													
	Total water volume (6)		l	5.5												

2 Specifications

2-1 Technical Specifications			EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1	
Refrigerant Circuit	Gas side diameter	mm	15.9												
	Liquid side diameter	mm	9.52												
Sound level	Sound Pressure	Medium speed (ESP-Nominal flow)	dBA	28~29											
		High Speed (Nominal flow)	dBA	33											
	Sound Power	Medium speed (0 ESP)	dBA	46											
Operation range	Ambient	Heating	°C	-20~35											
		Cooling	°C	10~46											
	Waterside	Heating	°C	15~55											
		Cooling	°C	5~22											
Notes				With option kit EKHBDP installed: Height=936mm											
				Tamb 35°C - LWE 7°C (Dt 5°C) at hi speed											
				7°CDB/6°CWB - LWC 35°C (dT 5°C) at hi speed											
				The sound pressure level is measured via a microphone at 1m from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow											
				15°C-25°C: BUH only, no Heatpump operation=during commissioning.											
				Including piping+PHE+backup heater/excluding expansion vessel.											

2-1 Technical Specifications			EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1	
Outdoor units			ERHQ016BAV3 ERLQ016BAV3												
Nominal input (Indoor only)			W	230											
Casing	Colour	RAL9010													
	Material	Epoxy polyester painted galvanised steel													
Dimensions	Packing	Height	mm	1,225											
		Width	mm	660											
		Depth	mm	610											
	Unit	Height	mm	922											
		Width	mm	502											
		Depth	mm	361											
Weight	Machine weight	kg	48												
	Gross weight	kg	61												
Packing	Material	EPS													
		Wood													
		Carton													
	PP(straps)														
Weight	kg	13													

2 Specifications

2-1 Technical Specifications			EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1		
Main components	Pump	Type	Water cooled													
		Nr. of speed	3													
		Nominal ESP unit	Heating	kPa	25.7											
			Cooling	kPa	39.4											
		Power input	W	210												
	Water side Heat exchanger	Type	Brazed plate													
		Qty	1													
		Water volume	l	1.01												
		Water flow rate Min.	l/min	16												
		Water flow rate Nom.	Heating	l/min	45.9											
			Cooling	l/min	37.6											
		Water flow rate Max.	l/min	58												
	Insulation material	Polyurethane foam														
	Expansion vessel	Volume	l	10												
		Max. water pressure	bar	3												
Pre pressure		bar	1													
Water filter	Diameter perforations	mm	1													
	Material	Brass														
Water circuit	Piping connections diameter	inch	G 1-1/4 (MALE)													
	Safety valve	bar	3													
	Manometer	Yes														
	Drain valve / Fill valve	Yes														
	Shut off valve	Yes														
	Air purge valve	Yes														
	Total water volume (6)	l	5.5													
	Refrigerant Circuit	Gas side diameter	mm	15.9												
Liquid side diameter		mm	9.52													
Sound level	Sound Pressure	Medium speed (ESP-Nominal flow)	dBA	28												
		High Speed (Nominal flow)	dBA	32												
	Sound Power	Medium speed (0 ESP)	dBA	46												
Operation range	Ambient	Heating	°C	-20~35												
		Cooling	°C	10~46												
	Waterside	Heating	°C	15~55												
		Cooling	°C	5~22												
Notes	With option kit EKHBDP installed: Height=936mm															
	Tamb 35°C - LWE 7°C (Dt 5°C) at hi speed															
	7°C CDB/6°C CWB - LWC 35°C (dt 5°C) at hi speed															
	The sound pressure level is measured via a microphone at 1m from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow															
	15°C-25°C: BUH only, no Heatpump operation=during commissioning.															
	Including piping+PHE+backup heater/excluding expansion vessel.															
2-1 Technical Specifications			EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1		
Outdoor units			ERHQ011BAW1 ERLQ011BAW1													
Nominal input (Indoor only)			W	230												
Casing	Colour	RAL9010														
	Material	Epoxy polyester painted galvanised steel														

2 Specifications

2-1 Technical Specifications				EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1	
Dimensions	Packing	Height	mm	1,225												
		Width	mm	660												
		Depth	mm	610												
	Unit	Height	mm	922												
		Width	mm	502												
		Depth	mm	361												
Weight	Machine weight	kg	48													
	Gross weight	kg	61													
Packing	Material		EPS													
			Wood													
			Carton													
			PP(straps)													
	Weight	kg	13													
Main components	Pump	Type		Water cooled												
		Nr. of speed		3												
		Nominal ESP unit	Heating	kPa	46.9											
			Cooling	kPa	45.3											
		Power input		W	210											
	Water side Heat exchanger	Type		Brazen plate												
		Qty		1												
		Water volume		l	1.01											
		Water flow rate Min.		l/min	16											
		Water flow rate Nom.	Heating	l/min	32.4											
			Cooling	l/min	33.6											
	Water flow rate Max.		l/min	58												
	Insulation material		Polyurethane foam													
	Expansion vessel	Volume	l	10												
		Max. water pressure	bar	3												
		Pre pressure	bar	1												
	Water filter	Diameter perforations	mm	1												
		Material		Brass												
	Water circuit	Piping connections diameter		inch	G 1-1/4 (MALE)											
		Safety valve		bar	3											
Manometer		Yes														
Drain valve / Fill valve		Yes														
Shut off valve		Yes														
Air purge valve		Yes														
Total water volume (6)		l	5.5													
Refrigerant Circuit		Gas side diameter		mm	15.9											
	Liquid side diameter		mm	9.52												
Sound level	Sound Pressure	Medium speed (ESP-Nominal flow)	dBA	28~31												
		High Speed (Nominal flow)	dBA	33												
	Sound Power	Medium speed (0 ESP)	dBA	46												
Operation range	Ambient	Heating	°C	-25~35												
		Cooling	°C	10~46												
	Waterside	Heating	°C	15~55												
		Cooling	°C	5~22												

2 Specifications

2-1 Technical Specifications				EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1
Notes				With option kit EKHBDDP installed: Height=936mm											
				Tamb 35°C - LWE 7°C (Dt 5°C) at hi speed											
				7°CDB/6°CWB - LWC 35°C (dt 5°C) at hi speed											
				The sound pressure level is measured via a microphone at 1m from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow											
				15°C-25°C: BUH only, no Heatpump operation=during commissioning.											
				Including piping+PHE+backup heater/excluding expansion vessel.											

2-1 Technical Specifications				EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1	
Outdoor units				ERHQ014BAW1 ERLQ014BAW1												
Nominal input (Indoor only)			W	230												
Casing	Colour			RAL9010												
	Material			Epoxy polyester painted galvanised steel												
Dimensions	Packing	Height	mm	1,225												
		Width	mm	660												
		Depth	mm	610												
	Unit	Height	mm	922												
		Width	mm	502												
		Depth	mm	361												
Weight	Machine weight		kg	48												
	Gross weight		kg	61												
Packing	Material			EPS												
				Wood												
				Carton												
	Weight			kg	PP(straps)											
			kg	13												
Main components	Pump	Type		Water cooled												
		Nr. of speed		3												
		Nominal ESP unit	Heating	kPa	33.1											
			Cooling	kPa	41.9											
		Power input		W	210											
	Water side Heat exchanger	Type		Brazed plate												
		Qty		1												
		Water volume		l	1.01											
		Water flow rate Min.		l/min	16											
		Water flow rate Nom.	Heating	l/min	41.6											
			Cooling	l/min	36.0											
		Water flow rate Max.		l/min	58											
	Insulation material			Polyurethane foam												
	Expansion vessel	Volume		l	10											
Max. water pressure		bar	3													
Pre pressure		bar	1													
Water filter	Diameter perforations		mm	1												
	Material			Brass												
Water circuit	Piping connections diameter		inch	G 1-1/4 (MALE)												
	Safety valve		bar	3												
	Manometer			Yes												
	Drain valve / Fill valve			Yes												
	Shut off valve			Yes												
	Air purge valve			Yes												
	Total water volume (6)		l	5.5												

2 Specifications

2-1 Technical Specifications			EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1	
Refrigerant Circuit	Gas side diameter	mm	15.9												
	Liquid side diameter	mm	9.52												
Sound level	Sound Pressure	Medium speed (ESP-Nominal flow)	dBA	28~31											
		High Speed (Nominal flow)	dBA	33											
	Sound Power	Medium speed (0 ESP)	dBA	46											
Operation range	Ambient	Heating	°C	-25~35											
		Cooling	°C	10~46											
	Waterside	Heating	°C	15~55											
		Cooling	°C	5~22											
Notes			With option kit EKHBDP installed: Height=936mm												
			Tamb 35°C - LWE 7°C (Dt 5°C) at hi speed												
			7°CDB/6°CWB - LWC 35°C (dT 5°C) at hi speed												
			The sound pressure level is measured via a microphone at 1m from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow												
			15°C-25°C: BUH only, no Heatpump operation=during commissioning.												
			Including piping+PHE+backup heater/excluding expansion vessel.												

2-1 Technical Specifications			EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1	
Outdoor units			ERHQ016BAW1 ERLQ016BAW1												
Nominal input (Indoor only)			W	230											
Casing	Colour	RAL9010													
	Material	Epoxy polyester painted galvanised steel													
Dimensions	Packing	Height	mm	1,225											
		Width	mm	660											
		Depth	mm	610											
	Unit	Height	mm	922											
		Width	mm	502											
		Depth	mm	361											
Weight	Machine weight	kg	48												
	Gross weight	kg	61												
Packing	Material		EPS												
			Wood												
			Carton												
			PP(straps)												
	Weight	kg	13												

2 Specifications

2-1 Technical Specifications			EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA6WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA6WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1		
Main components	Pump	Type	Water cooled													
		Nr. of speed	3													
		Nominal ESP unit	Heating	kPa	25.5											
			Cooling	kPa												39.4
		Power input	W	210												
	Water side Heat exchanger	Type	Brazed plate													
		Qty	1													
		Water volume	l	1.01												
		Water flow rate Min.	l/min	16												
		Water flow rate Nom.	Heating	l/min	46											
			Cooling	l/min												37.6
		Water flow rate Max.	l/min	58												
	Insulation material	Polyurethane foam														
	Expansion vessel	Volume	l	10												
		Max. water pressure	bar	3												
		Pre pressure	bar	1												
Water filter	Diameter perforations	mm	1													
	Material	Brass														
Water circuit	Piping connections diameter	inch	G 1-1/4 (MALE)													
	Safety valve	bar	3													
	Manometer	Yes														
	Drain valve / Fill valve	Yes														
	Shut off valve	Yes														
	Air purge valve	Yes														
	Total water volume (6)	l	5.5													
	Refrigerant Circuit	Gas side diameter	mm	15.9												
Liquid side diameter		mm	9.52													
Sound level	Sound Pressure	Medium speed (ESP-Nominal flow)	dBA	28												
		High Speed (Nominal flow)	dBA	32												
	Sound Power	Medium speed (0 ESP)	dBA	46												
Operation range	Ambient	Heating	°C	-25~35												
		Cooling	°C	10~46												
	Waterside	Heating	°C	15~55												
		Cooling	°C	5~22												
Notes	With option kit EKHBDDP installed: Height=936mm															
	Tamb 35°C - LWE 7°C (Dt 5°C) at hi speed															
	7°C CDB/6°C CWB - LWC 35°C (dT 5°C) at hi speed															
	The sound pressure level is measured via a microphone at 1m from the unit. It is a relative value, depending on the distance and acoustic environment. The sound pressure level mentioned is valid for pump medium speed - 0 ESP / medium speed - nominal flow / high speed - nominal flow															
	15°C-25°C: BUH only, no Heatpump operation=during commissioning.															
	Including piping+PHE+backup heater/excluding expansion vessel.															

2 Specifications

2-2 Electrical Specifications			EKHBH008BA3V3	EKHBH008BA6V3	EKHBH008BA9WN	EKHBH008BA6T1	EKHBH008BA9WN	EKHBH008BA9T1	EKHBX008BA3V3	EKHBX008BA6V3	EKHBX008BA9WN	EKHBX008BA6T1	EKHBX008BA9WN	EKHBX008BA9T1	
Electric heater	Power Supply	Phase	1~	1~	3~	3~	3~	3~	1~	1~	3~	3~	3~	3~	
		Frequency	Hz	50											
		Voltage	V	230	230	400	230	400	230	230	230	400	230	400	230
	Current back-up heater	Running Current	A	13	26	8.7	15.1	13	22.6	13	26	8.7	15.1	13	22.6
		Zmax	Text		0.29						0.29				
		Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12 **				Equipment complying with EN/IEC 61000-3-12 **		Equipment complying with EN/IEC 61000-3-12 **				Equipment complying with EN/IEC 61000-3-12 **
	Current back-up heater + booster heater (EKHWS* models)	Zmax	Text	0.29	0.17					0.29	0.17				
		Running Current *V3	A	26(13+13)	39(26+13)	21.7(8.7+13)	28.1(15.1+13)	26(13+13)	35.6(22.6+13)	26(13+13)	39(26+13)	21.7(8.7+13)	28.1(15.1+13)	26(13+13)	35.6(22.6+13)
		Running Current *Z2	A			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 *V3		Equipment complying with EN/IEC 61000-3-12 **											
		Minimum Ssc value *Z2			Equipment complying with EN/IEC 61000-3-12 **							Equipment complying with EN/IEC 61000-3-12 **		Equipment complying with EN/IEC 61000-3-12 **	
	Voltage range	Minimum		-10%											
		Maximum		+10%											
	Wiring Connections For power supply backup heater	Quantity of wires		3G	3G	4G	4G	4G	4G	3G	3G	4G	4G	4G	4G
		Type of wires		Select diameter and type according to national and local regulations											
Wiring connections	For power supply	Quantity	3G												
		Connection type	For power supply connection to Optional Warm Water Tank + Q2L												
		Type of wires	Select diameter and type according to national and local regulations												
		Type of wires	For more details of the voltage range and current refer to installation manual EKHBH/X008BA*												
	Connection type	For connection with R5T													
	Quantity of wires	Wire included in option EKHWS*													
	Type of wires	Wire included in option EKHWS*													
	Connection type	For connection with A3P													
	Quantity of wires	Depends on thermostat type, refer to installation manual *KHB(H/X)016BA*													
	Type of wires	Select diameter and type according to national and local regulations													
	Type of wires	Voltage: 230V/Maximum current: 100mA/Minimum 0,75 mm ²													
	Connection type	For connection with M2S													
	Quantity of wires	3G													
	Type of wires	Select diameter and type according to national and local regulations													
	Type of wires	Voltage: 230V/Maximum current: 100mA/Minimum 0,75 mm ²													
	Connection type	For connection with M3S													
	Quantity of wires	3G or 4G													
	Type of wires	Select diameter and type according to national and local regulations													
	Type of wires	Voltage: 230V/Maximum current: 100mA/Minimum 0,75 mm ²													
	Connection type	For connection with bottom plate heater													
Quantity of wires	2														
Type of wires	Select diameter and type according to national and local regulations														
Notes	Above mentioned power supply of the hydro box is for the backup heater only. The Switch box & pump of the hydrobox are supplied via the outdoor unit. The optional domestic warm water tank has a separate power supply.														
	Optional electric heater has 2 capacity steps except for the 3V3 model which has only 1 capacity step.														
	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														
	(*) 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 ≤ 75A														
	(**) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16A and ≤ 75A per phase														
	(***) System impedance														
Equipment complying with EN/IEC 61000-3-12(**)															

2 Specifications

2-2 Electrical Specifications			EKHBH016BA3V3	EKHBH016BA6V3	EKHBH016BA9WN	EKHBH016BA6T1	EKHBH016BA9WN	EKHBH016BA9T1	EKHBX016BA3V3	EKHBX016BA6V3	EKHBX016BA9WN	EKHBX016BA6T1	EKHBX016BA9WN	EKHBX016BA9T1	
Electric heater	Power Supply	Phase	1~	1~	3~	3~	3~	3~	1~	1~	3~	3~	3~	3~	
		Frequency	Hz	50											
		Voltage	V	230	230	400	230	400	230	230	230	400	230	400	230
	Current back-up heater	Running Current	A	13	26	8.7	15.1	13	22.6	13	26	8.7	15.1	13	22.6
		Zmax	Text	0.29						0.29					
		Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12 **				Equipment complying with EN/IEC 61000-3-12 **		Equipment complying with EN/IEC 61000-3-12 **				Equipment complying with EN/IEC 61000-3-12 **
	Current back-up heater + booster heater (EKHWS* models)	Zmax	Text	0.29	0.17					0.29	0.17				
		Running Current *V3	A	26(13+13)	39(26+13)	21.7(8.7+13)	28.1(15.1+13)	26(13+13)	35.6(22.6+13)	26(13+13)	39(26+13)	21.7(8.7+13)	28.1(15.1+13)	26(13+13)	35.6(22.6+13)
		Running Current *Z2	A			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 *V3		Equipment complying with EN/IEC 61000-3-12 **											
		Minimum Ssc value *Z2				Equipment complying with EN/IEC 61000-3-12 **						Equipment complying with EN/IEC 61000-3-12 **		Equipment complying with EN/IEC 61000-3-12 **	
	Voltage range	Minimum		-10%											
		Maximum		+10%											
	Wiring Connections For power supply backup heater	Quantity of wires		3G	3G	4G	4G	4G	4G	3G	3G	4G	4G	4G	4G
		Type of wires		Select diameter and type according to national and local regulations											
Wiring connections	For power supply	Quantity	3G												
		Connection type	For power supply connection to Optional Warm Water Tank + Q2L												
		Type of wires	Select diameter and type according to national and local regulations												
		Type of wires	For more details of the voltage range and current refer to installation manual EKHBH/X008BA*												
	Connection type	For connection with R5T													
	Quantity of wires	Wire included in option EKHWS*													
	Type of wires	Wire included in option EKHWS*													
	Connection type	For connection with A3P													
	Quantity of wires	Depends on thermostat type, refer to installation manual *KHB(H/X)016BA*													
	Type of wires	Select diameter and type according to national and local regulations													
	Type of wires	Voltage: 230V/Maximum current: 100mA/Minimum 0,75 mm ²													
	Connection type	For connection with M2S													
	Quantity of wires	3G													
	Type of wires	Select diameter and type according to national and local regulations													
	Type of wires	Voltage: 230V/Maximum current: 100mA/Minimum 0,75 mm ²													
	Connection type	For connection with M3S													
	Quantity of wires	3G or 4G													
	Type of wires	Select diameter and type according to national and local regulations													
	Type of wires	Voltage: 230V/Maximum current: 100mA/Minimum 0,75 mm ²													
	Connection type	For connection with bottom plate heater													
Quantity of wires	2														
Type of wires	Select diameter and type according to national and local regulations														
Notes	Above mentioned power supply of the hydro box is for the backup heater only. The Switch box & pump of the hydrobox are supplied via the outdoor unit. The optional domestic warm water tank has a separate power supply.														
	Optional electric heater has 2 capacity steps except for the 3V3 model which has only 1 capacity step.														
	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														
	(*) 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 <= 75A														
	(**) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16A and <= 75A per phase														
(***) System impedance															

3 Options

Factory mounted optional equipment for *KHB(H/X)(E)008B*#

Reference	Heating only model *KHBHE008B*# (5) Reversible model *KHBXE008B*# (5)	Description											
		3V3	3V3	6V3	6V3	6WN	6WN	6T1	6T1	9WN	9WN	9T1	9T1
3V3	Back up heater 3kW 1-230 V	○	○	—	—	—	—	—	—	—	—	—	—
6V3	Back up heater 6kW 1-230 V	—	—	○	○	—	—	—	—	—	—	—	—
6WN	Back up heater 6kW 3-400 V	—	—	—	—	○	○	—	—	—	—	—	—
6T1	Back up heater 6kW 3-230 V	—	—	—	—	—	—	○	○	—	—	—	—
9WN	Back up heater 9kW 3-400 V	—	—	—	—	—	—	—	—	○	○	—	—
9T1	Back up heater 9kW 3-230 V	—	—	—	—	—	—	—	—	—	—	○	○

Outdoor combination table for *KHB(H/X)(E)008B*#

		*R(H/L)Q006B*V3*	*R(H/L)Q007B*V3*	*R(H/L)Q008B*V3*
KHB(H/X)(E)008B	Heating only indoor unit	○	○	○
KHB(X)(E)008B	Reversible indoor unit	○	○	○

Kit availability for *KHB(H/X)(E)008B*#

		*RHQ006*V3*	*RHQ007*V3*	*RHQ008*V3*
KBPHT08	Bottom plate heater (1) (3) (6)	○	○	○
*KDK02	drain plug kit (3)	○	○	○
*KDK03	drain stop kit(3)	○	○	○

Kit availability for *KHB(H/X)(E)008B*#

Reference	Heating only model *KHBHE008*# (5) Reversible model *KHBXE008*# (5)	Description											
		3V3	3V3	6V3	6V3	6WN	6WN	6T1	6T1	9WN	9WN	9T1	9T1
*KHWS150*3V3	Domestic hot water tank 150L 1-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
*KHWS200*3V3	Domestic hot water tank 200L 1-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
*KHWS300*3V3	Domestic hot water tank 300L 1-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
*KHWS200*3Z2	Domestic hot water tank 200L 2-400V	-	-	-	-	○	○	-	-	○	○	-	-
*KHWS300*3Z2	Domestic hot water tank 300L 2-400V	-	-	-	-	○	○	-	-	○	○	-	-
*KHWSU150*3V3	Domestic hot water tank 150L 1-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
*KHWSU200*3V3	Domestic hot water tank 200L 1-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
*KHWSU300*3V3	Domestic hot water tank 300L 1-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
*KHWE150*3V3	Enamel domestic hot water tank 150L 1-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
*KHWE150*3V3	Walmounted enamel domestic hot water tank 150L 1-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
*KHWE200*3V3	Enamel domestic hot water tank 200L 1-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
*KHWE300*3V3	Enamel domestic hot water tank 300L 1-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
*KHWE200*3Z2	Enamel domestic hot water tank 200L 2-400V	-	-	-	-	○	○	-	-	○	○	-	-
*KHWE300*3Z2	Enamel domestic hot water tank 300L 2-400V	-	-	-	-	○	○	-	-	○	○	-	-
*KHBDP	Option kit for condensate free cooling operation	-	○	-	○	-	○	-	○	-	○	-	○
*KRP1HB	Digital I/O PCB (2)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTW	Wired room thermostat option kit	○	○	○	○	○	○	○	○	○	○	○	○
*KRTR	Wireless room thermostat option kit (incl. receiver)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTEIS	External temperature sensor option kit (4)	○	○	○	○	○	○	○	○	○	○	○	○

(*) If neutral line is available

Kit availability for EKHW*

Reference	EKHWE(T)#3(V3/Z2) EKHWS#3(V3/Z2) EKHWSU#3V3	Description											
		150A	200A	300A	150(A/B)	200(A/B)	300(A/B)	150A	200A	300A	150B	200B	300B
EKUJHWA	Option kit for UK EKHWSU150-300V3	-	-	-	-	-	-	○	○	○	○	○	○
EKUJHWB	Option kit 1 for UK EKHWSU150-300V3 (B)	-	-	-	-	-	-	○(3)	○(3)	○(3)	○	○	○
EKUHW2WB	Option kit 2 for UK EKHWSU150-300V3 (B)	-	-	-	-	-	-	○(3)	○(3)	○(3)	○(4)	○(4)	○(4)
EKSOLHWAV1	Solarlit (2)	○	○	○	○	○	○	○	○	○	○	○	○
EKWSWV150	Wall bracket forEKHWSU150*3V3 or *KSIW150V3*	-	-	-	○	-	-	○	-	-	○	-	-

Remarks: Other combinations than mentioned in this option TW are not guaranteed.

- (1) Heater tape that can be fixed on the bottom plate to prevent excessive ice formation.
- (2) Address card that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KXSOLHWAV1, the same digital I/O PCB as for *KRP1HB is already included.
- (3) It is not allowed to combine bottom plate heater and drain plug/stop kit.
- (4) *KRTEIS can only be used in combination with *KRTR.
- (5) *KHB(H/X)(E)008* units are only available in the A3V3 series.
- (6) In case *KHB(H/X)(E)008B* is used in combination with *RHQ006-008A*, then the selected bottom plate heater should be *KBPHT08B*.
- (7) Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
- (8) If installation on tank A version both kits are required.
- (9) Kit is only necessary when installing *KXSOLHWAV1* on a UK tank B-series (*KHWSU(150/200/300)B3V3)(EKHWSU(150/200/300)B3V3)
- (10) *KUJHWB = *KUJHWA - (2 way valve and 2 way valve accessories)

*KUHW2WB = 2 way valve and 2 way valve accessories

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3 Options

Factory mounted optional equipment for EKHB(H/X)016AB**

Reference	Heating only model EKHBH016B*# Reversible model EKHBX016B*#	Description											
		3V3	3V3	6V3	6V3	6WN	6WN	6T1	6T1	9WN	9WN	9T1	9T1
3V3	Back up heater 3kW 1–230 V	○	○	—	—	—	—	—	—	—	—	—	—
6V3	Back up heater 6kW 1–230 V	—	—	○	○	—	—	—	—	—	—	—	—
6WN	Back up heater 6kW 3–400 V	—	—	—	—	○	○	—	—	—	—	—	—
6T1	Back up heater 6kW 3–230 V	—	—	—	—	—	—	○	○	—	—	—	—
9WN	Back up heater 9kW 3–400 V	—	—	—	—	—	—	—	—	○	○	—	—
9T1	Back up heater 9kW 3–230 V	—	—	—	—	—	—	—	—	—	—	○	○

Outdoor combination table for *KHB(H/X)016B*

		R(H/L)Q011B(V3*/W1)	*R(H/L)Q014B*(V3*/W1*)	*R(H/L)Q016B*(V3*/W1*)
EKHBH016B*	Heating only indoor unit	○	○	○
EKHBX016B*	Reversible indoor unit	○	○	○

Kit availability for *RHQ011-016B*

		RHQ011(V3/W1)	*RHQ011*(V38/W18)	*RHQ014*(V3/W1)	*RHQ014*(V38/W18)	*RHQ016*(V3/W1)	*RHQ016*(V38/W38)
EKBPHT16A	Bottom plate heater (2) (4)	○	-	○	-	○	-
EKDK04	drain plug kit (2)	○	-	○	-	○	-

Kit availability for *KHB(H/X)016B*

Reference	Heating only model *KHBH016*# Reversible model *KHBX016*#	Description											
		3V3	3V3	6V3	6V3	6WN	6WN	6T1	6T1	9WN	9WN	9T1	9T1
EKHWS150*3V3	Stainless domestic hot water tank 150 l-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
EKHWS200*3V3	Stainless domestic hot water tank 200 l-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
EKHWS300*3V3	Stainless domestic hot water tank 300 l-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
EKHWS200*3Z2	Stainless domestic hot water tank 200 l-400V	-	-	-	-	○	○	-	-	○	○	-	-
EKHWS300*3Z2	Stainless domestic hot water tank 300 l-400V	-	-	-	-	○	○	-	-	○	○	-	-
EKHWSU150*3V3	Stainless domestic hot water tank 150 l-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
EKHWSU200*3V3	Stainless domestic hot water tank 200 l-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
EKHWSU300*3V3	Stainless domestic hot water tank 300 l-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
EKHWE150*3V3	Enamel domestic hot water tank 150 l-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
EKHWE150*3V3	Wallmounted enamel domestic hot water tank 150 l-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
EKHWE200*3V3	Enamel domestic hot water tank 200 l-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
EKHWE300*3V3	Enamel domestic hot water tank 300 l-230V	○	○	○	○	○ (*)	○ (*)	○	○	○ (*)	○ (*)	○	○
EKHWE200*3Z2	Enamel domestic hot water tank 200 l-400V	-	-	-	-	○	○	-	-	○	○	-	-
EKHWE300*3Z2	Enamel domestic hot water tank 300 l-400V	-	-	-	-	○	○	-	-	○	○	-	-
EKHBDP	Option kit for condensate free cooling operation	-	○	○	○	-	-	-	○	-	○	-	○
EKRP1HB	Digital I/O PCB (1)	○	○	○	○	○	○	○	○	○	○	○	○
EKRTW	Wired room thermostat option kit	○	○	○	○	○	○	○	○	○	○	○	○
EKRTR	Wireless room thermostat option kit (incl receiver)	○	○	○	○	○	○	○	○	○	○	○	○
EKRTETS	External temperature sensor option kit (3)	○	○	○	○	○	○	○	○	○	○	○	○

(*) If neutral line is available

EKHWW*

Reference	EKHWE(T)#3(V3/Z2) EKHWS#3(V3/Z2) EKHWSU#3V3	Description											
		150A	200A	300A	150(A/B)	200(A/B)	300(A/B)	150A	200A	300A	150B	200B	300B
EKUJHWA	Option kit for UK EKHWSU150-300V3	-	-	-	-	-	-	○	○	○	○	○	○
EKUHWB	Option kit 1 for UK EKHWSU150-300V3 (5)	-	-	-	-	-	-	○(3)	○(3)	○(3)	○	○	○
EKUHW2WB	Option kit 2 for UK EKHWSU150-300V3 (5)	-	-	-	-	-	-	○(3)	○(3)	○(3)	○(4)	○(4)	○(4)
EKSOLHWAV1	Solar kit (2)	○	○	○	○	○	○	○	○	○	○	○	○
EKWBSWW150	Wall bracket for KHW(S)U150*3V3 or *KSW150V3*	○	-	-	○	-	-	○	-	-	○	-	-

Remarks: Other combinations than mentioned in this option TW are not guaranteed.

- (1) Address card that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRP1HB is already included.
- (2) It is not allowed to combine bottom plate heater and drain plug/stop kit
- (3) *KRTETS can only be used in combination with *KRTR.
- (4) in case *KHB(H/X)016B* is used in combination with *RHQ011-016A*, then the selected bottom plate heater should be *KBPHT16A.
- (5) Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
- (6) If installation on tank A version both kits are required
- (7) Kit is only necessary when installing *KSOLHWAV1 on a UK tank B-series (*KHW(S)U(150/200/300)B3V3) (*KHW(S)U(150/200/300)B3V3)
- (8) *KUJHWA = *KUJHWA - (2 way valve and 2 way valve accessories)
*KUHWB = 2 way valve and 2 way valve accessories

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

EKHBH(X)008BA

Required space for service and ventilation

- ① Holes (φ 12) for fixation to the wall
- ② Water out connection (1-1/4" M BSP)
- ③ Water in connection (1-1/4" M BSP)
- ④ Refrigerant liquid connection φ 9.52 (flare)
- ⑤ Refrigerant suction connection φ 15.9 (flare)
- ⑥ Pump (including switch for speed setting)
- ⑦ User interface
- ⑧ Safety valve (pressure)
- ⑨ Air purge
- ⑩ Expansion vessel
- ⑪ Electric heater option fuse
- ⑫ Drain hose from safety valve (φ 20)
- ⑬ Heat exchanger (Refrigerant / Water)
- ⑭ Shut off valve with drain/ fill valve (1-1/4" M BSP) (Included accessory)
- ⑮ Water filter
- ⑯ Power supply/ Communication wire entrance
- ⑰ Service door
- ⑱ Switchbox terminals
- ⑲ Switchbox terminals for domestic hot water tank (Option)

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EKHBH(X)016B

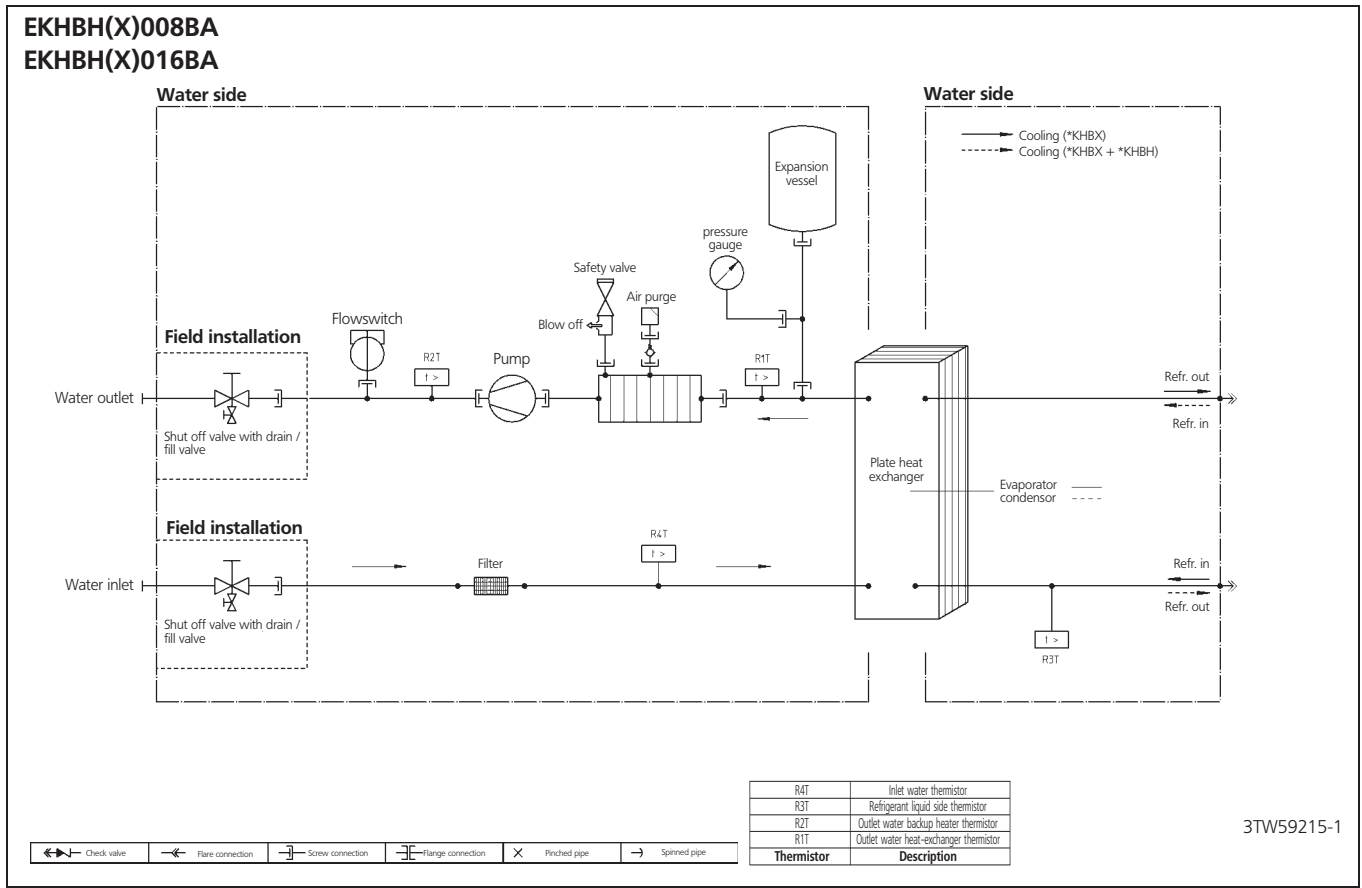
Required space for service and ventilation

- ① Holes (φ 12) for fixation to the wall
- ② Water out connection (1-1/4" M BSP)
- ③ Water in connection (1-1/4" M BSP)
- ④ Refrigerant liquid connection φ 9.52 (flare)
- ⑤ Refrigerant suction connection φ 15.9 (flare)
- ⑥ Pump (including switch for speed setting)
- ⑦ User interface
- ⑧ Safety valve (pressure)
- ⑨ Air purge
- ⑩ Expansion vessel
- ⑪ Electric heater option fuse
- ⑫ Drain hose from safety valve (φ 20)
- ⑬ Heat exchanger (Refrigerant / Water)
- ⑭ Shut off valve with drain/ fill valve (1-1/4" M BSP) (Included accessory)
- ⑮ Water filter
- ⑯ Power supply/ Communication wire entrance
- ⑰ Service door
- ⑱ Switchbox terminals
- ⑲ Switchbox terminals for domestic hot water tank (Option)

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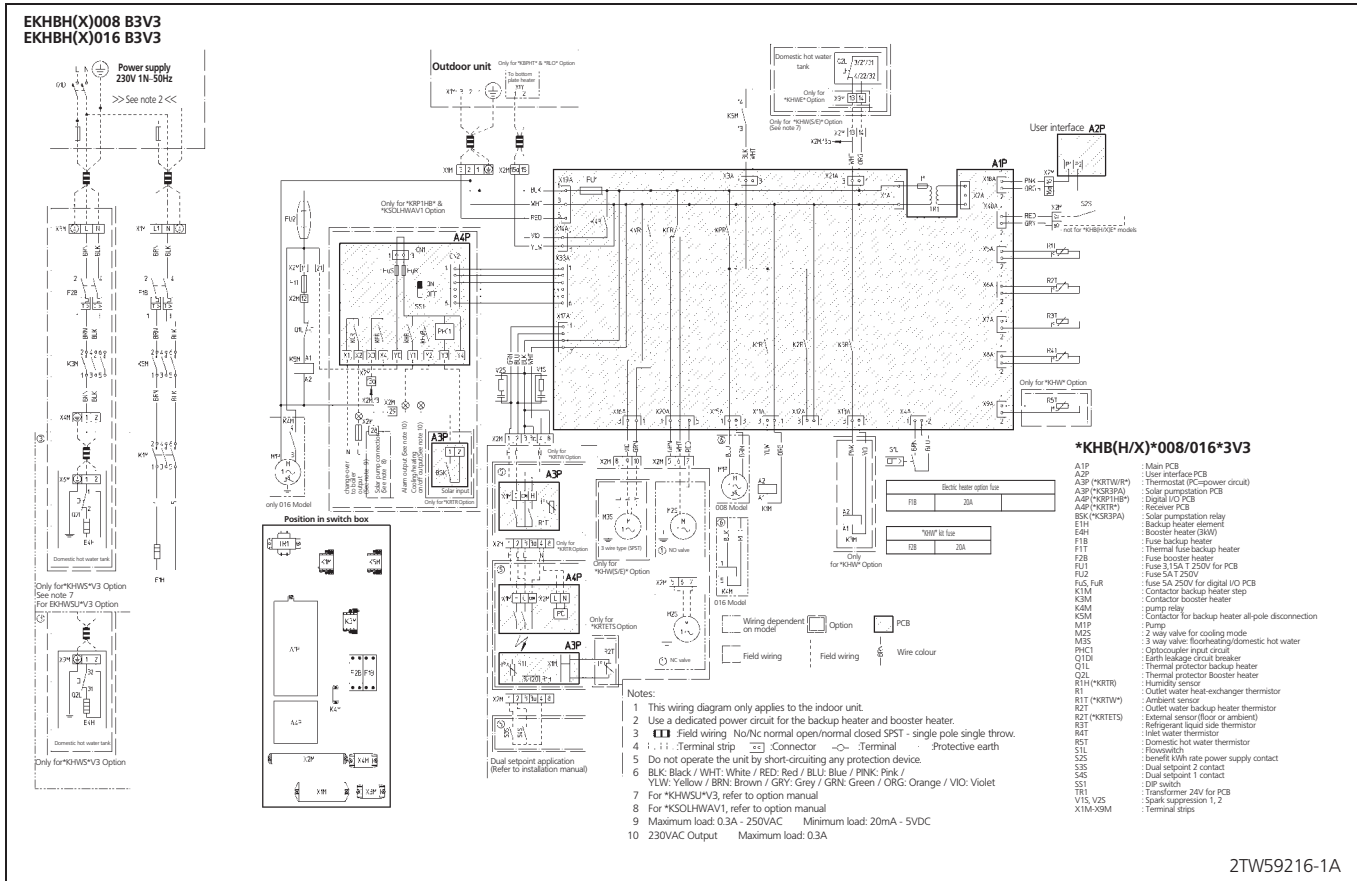
5 Piping diagram

5 - 1 Piping diagram

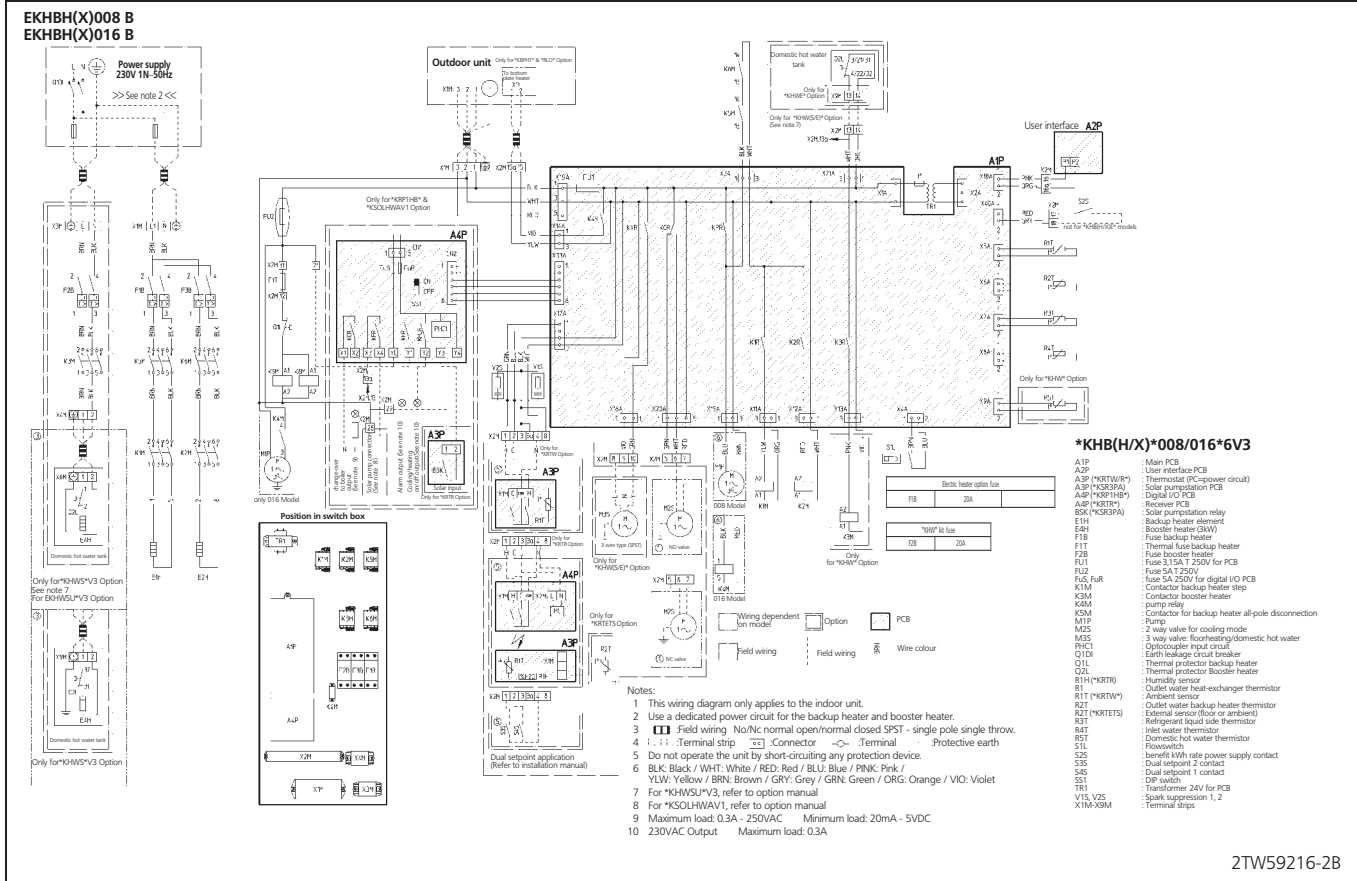


6 Wiring diagram

6 - 1 Wiring diagram



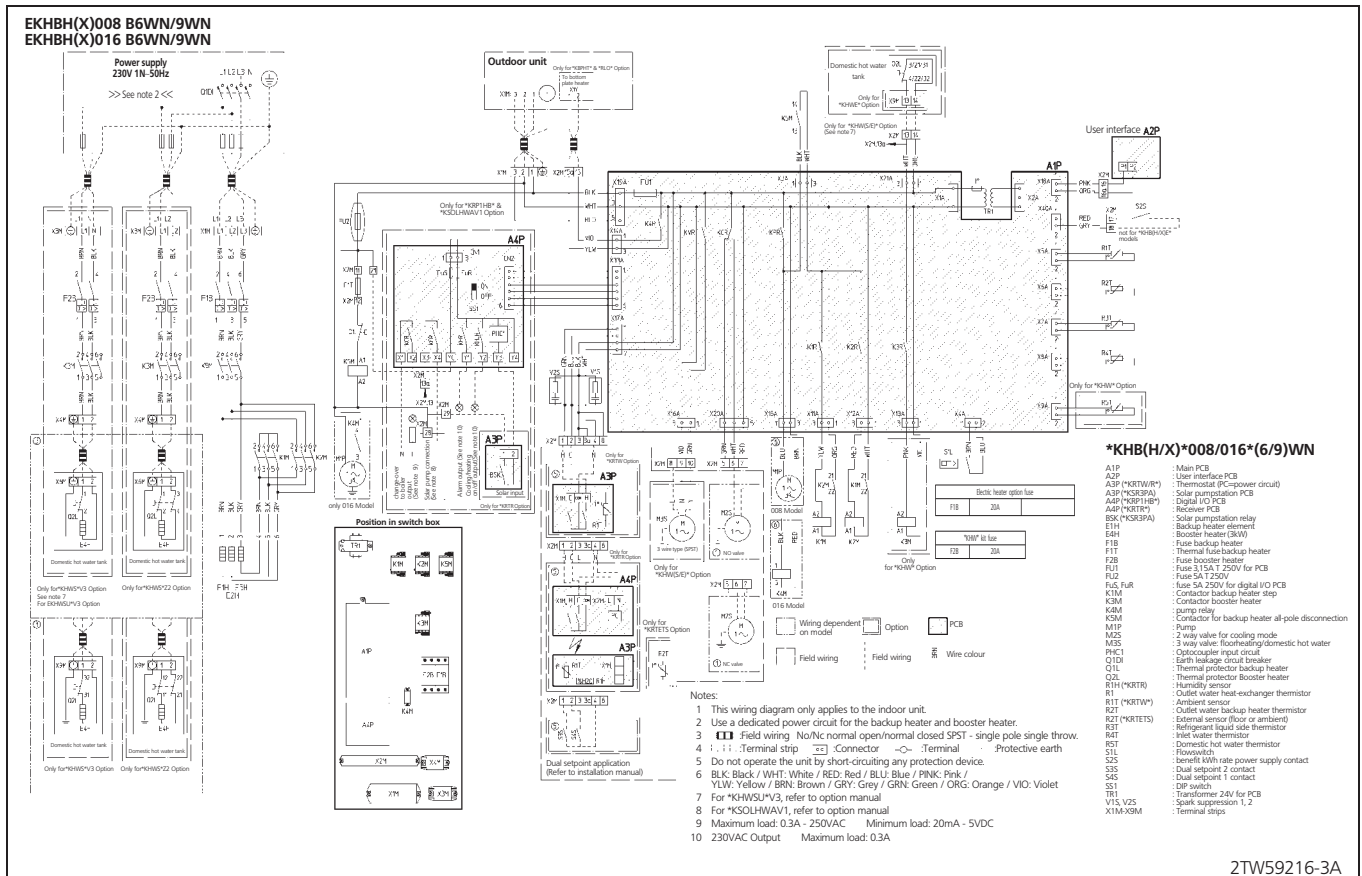
2TW59216-1A



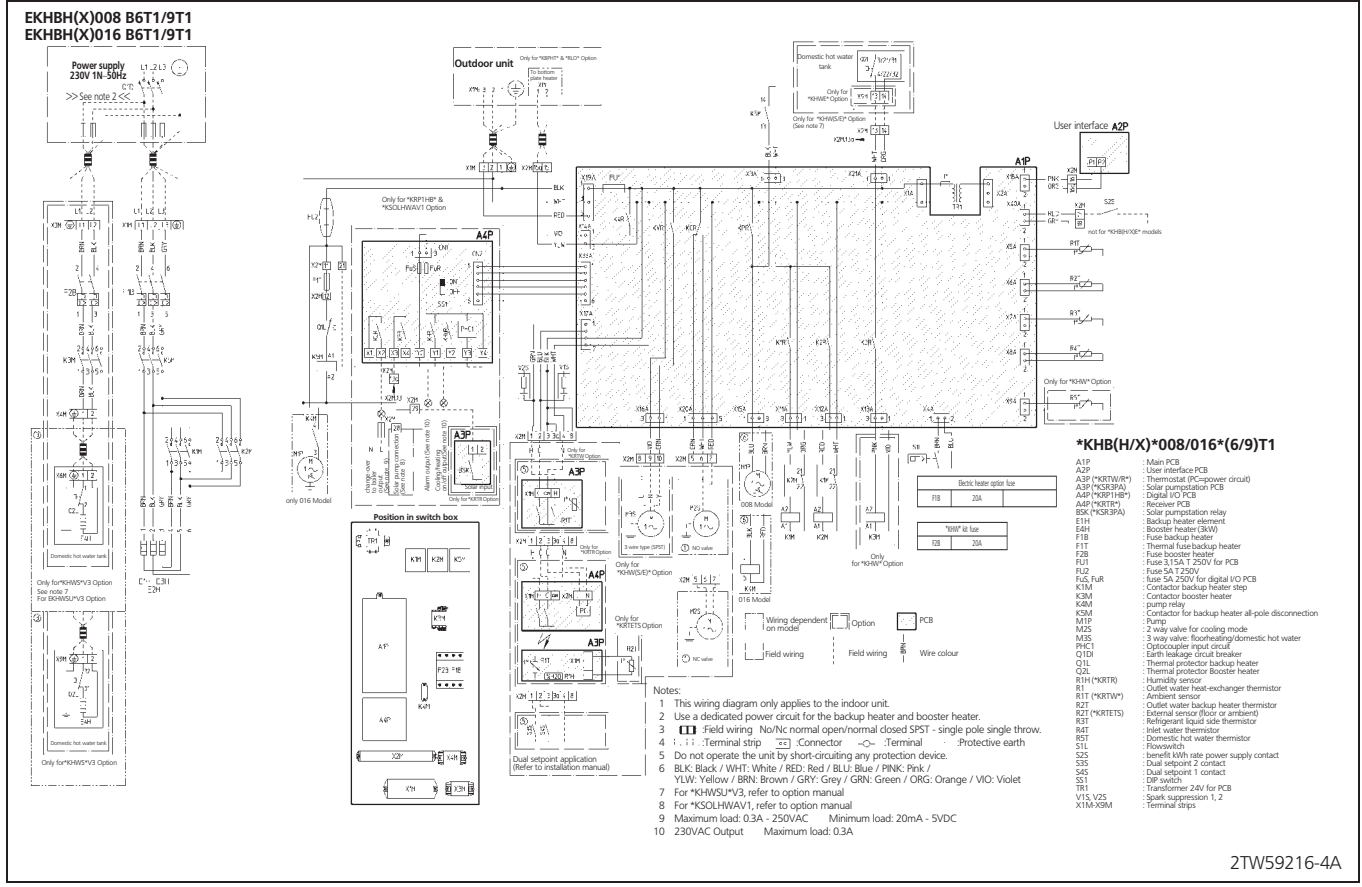
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6 Wiring diagram

6 - 1 Wiring diagram



2TW59216-3A

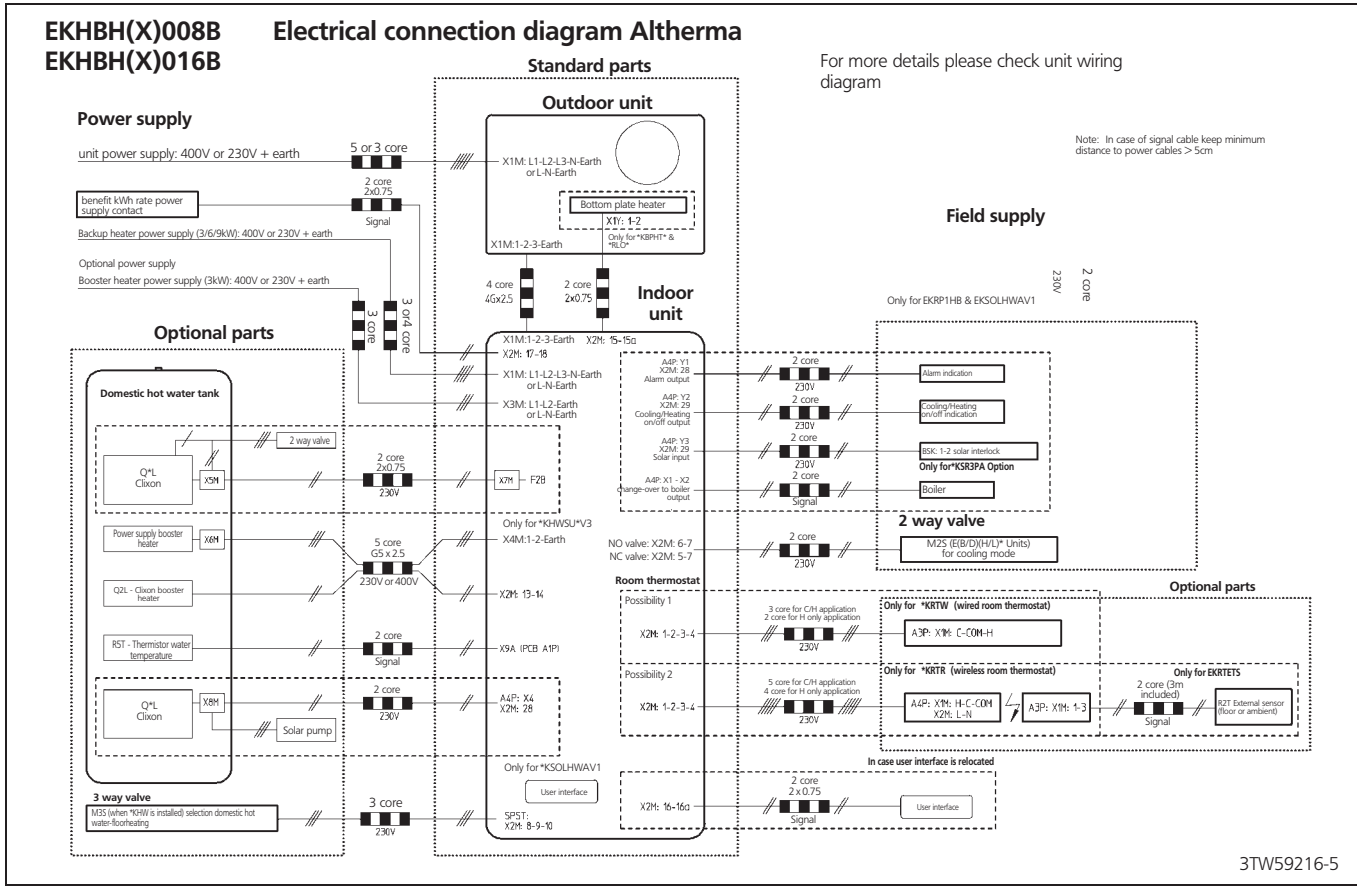


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11
6

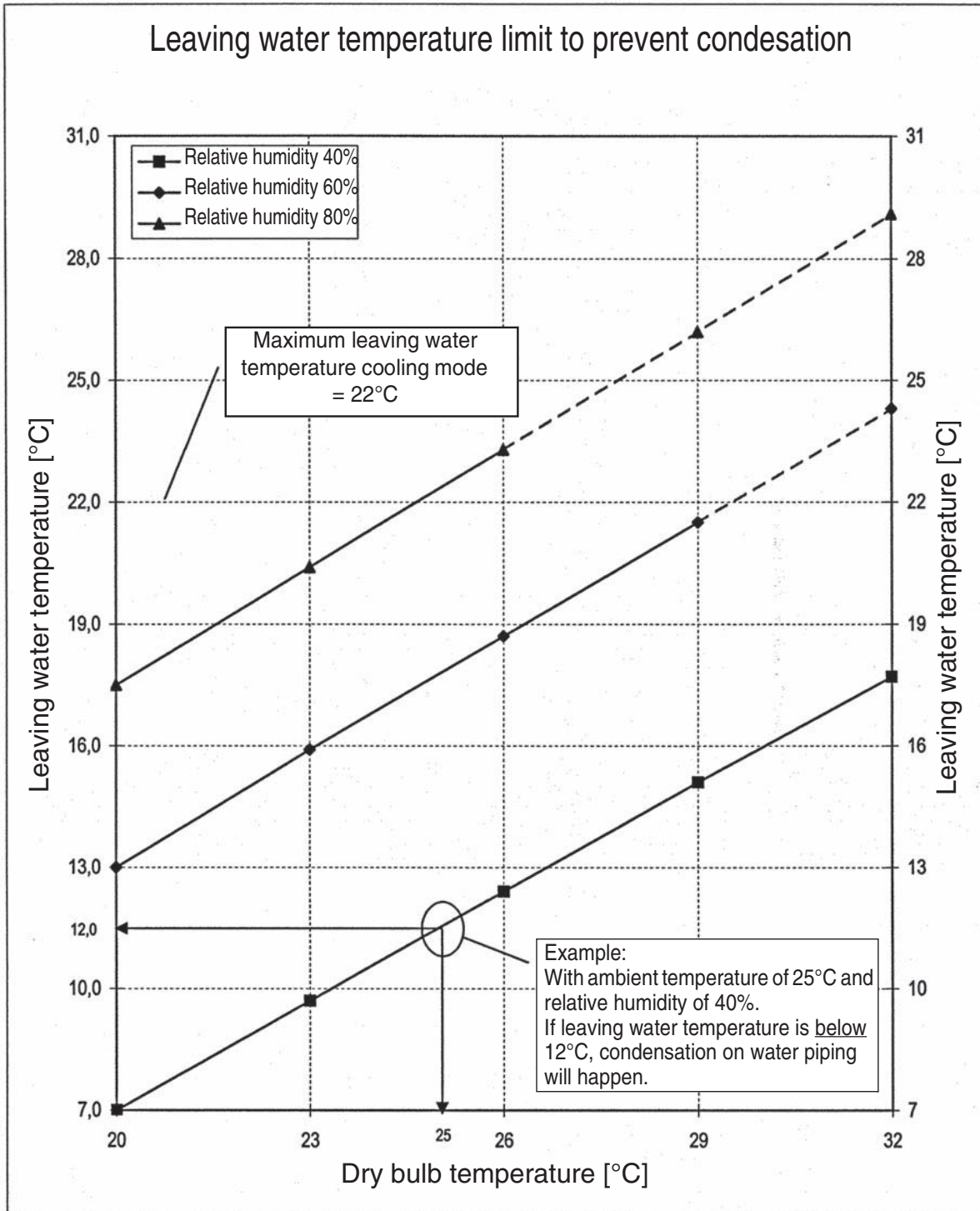
6 Wiring diagram

6 - 2 External connection diagram



7 Installation

EKHBDP



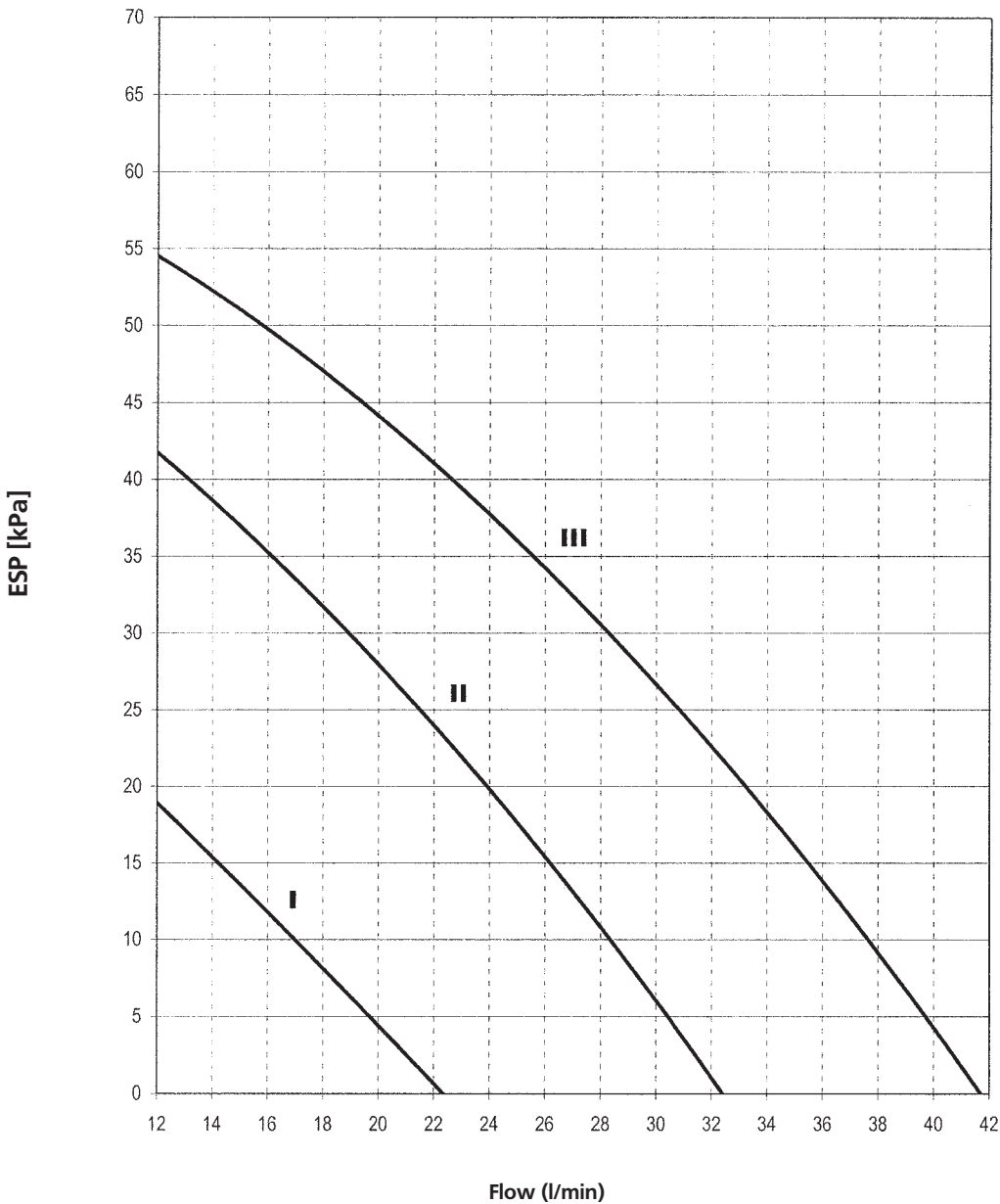
1. Refer to psychometric chart for more information.
2. If condensation is expected, installation of EKHBDP - drainpan kit must be considered.

4TW57759-3

8 Hydraulic performance

8 - 1 Static pressure drop unit

EKHBH(X)008B



- III: High speed
- II: medium speed
- I: Low speed

ESP: External static pressure
 Flow: waterflow through the unit

Warning:

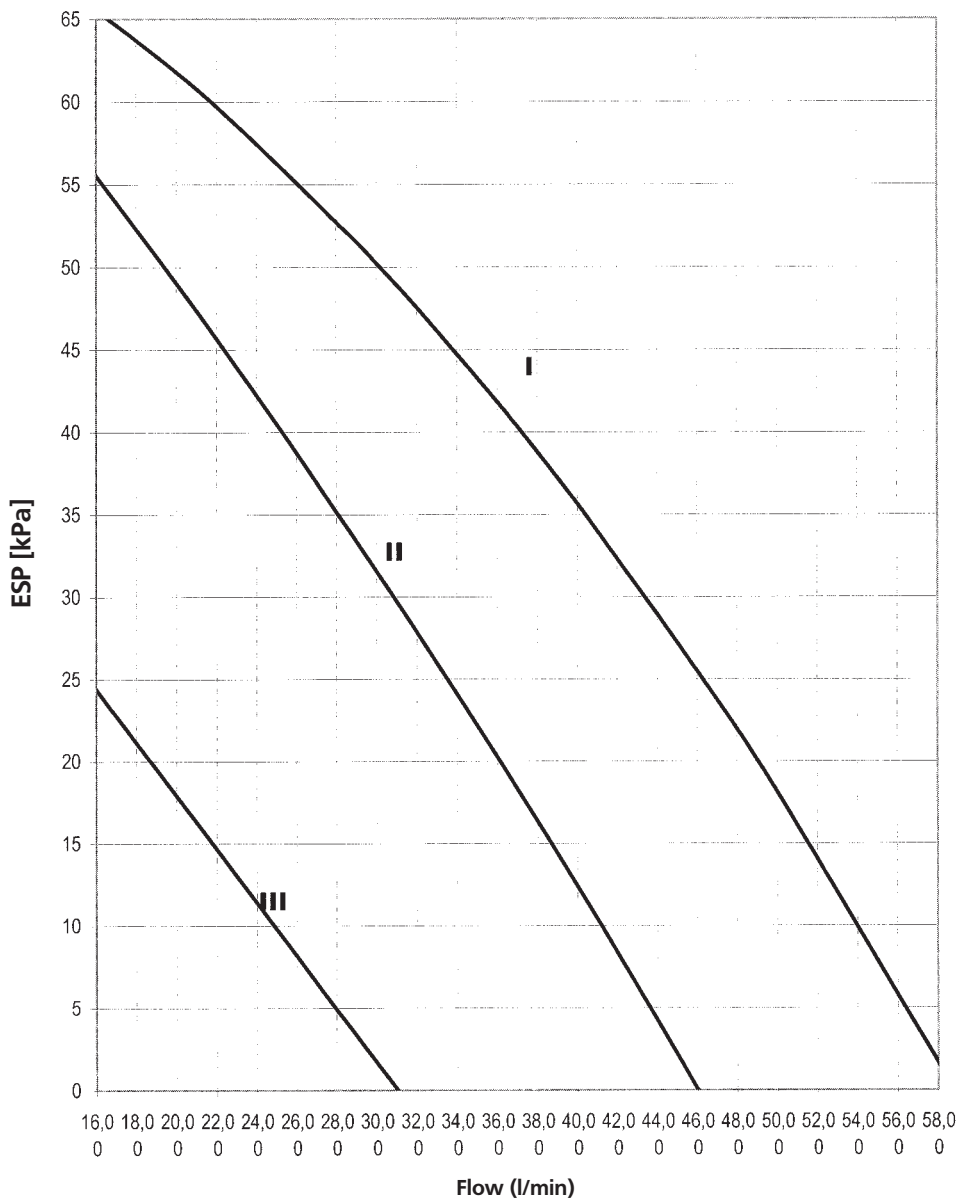
1. Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2. Water quality must be according to EN directive EC 98/83 EC.

4TW57789-1

8 Hydraulic performance

8 - 1 Static pressure drop unit

EKHBH(X)016BA



- I: High speed
- II: medium speed
- III: Low speed

ESP: External static pressure
Flow: waterflow through the unit

Warning:
1. Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.
2. Water quality must be according to EN directive EC 98/83 EC.

4TW59109-1

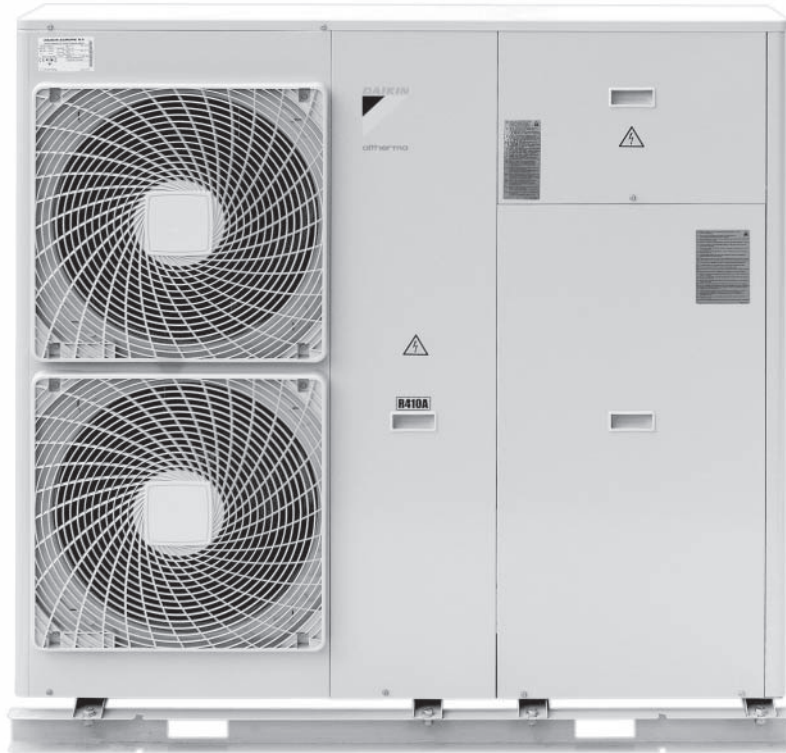
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1 Features

- Heating only monobloc with bottom plate heater
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				EDLQ011BA6V3	EDLQ014BA6V3	EDLQ016BA6V3
Condition 1	Heating capacity	Nominal	kW	11.20	14.00	16.00
	Heating PI	Nominal	kW	2.47	3.20	3.79
	COP	Nominal		4.54	4.37	4.22
Condition 2	Heating capacity	Nominal	kW	10.87	13.10	15.06
	Heating PI	Nominal	kW	3.22	3.91	4.62
	COP	Nominal		3.37	3.35	3.26
Notes				Condition 1: cooling Ta 35°C - LWE 18°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (Dt=5°C)		
				Condition 2: cooling Ta 35°C - LWE 7°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)		

2-2 TECHNICAL SPECIFICATIONS				EDLQ011BA6V3	EDLQ014BA6V3	EDLQ016BA6V3
Casing	Colour			Ivory white		
	Material			Painted galvanised steel		
Dimensions	Unit	Height	mm	1,418		
		Width	mm	1,435		
		Depth	mm	382	382	382
	Packing	Height	mm	1,557		
		Width	mm	1,500		
		Depth	mm	430	430	430
Weight	Unit		kg	180	180	180
	Packed unit		kg	200	200	200
Packing	Material			Wood		
				Carton		
				Plastic foil		
	Weight		kg	20	20	20
Operation Range	Heating - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	35	35	35
	Heating - Waterside	Min	°C	15	15	15
		Max	°C	55	55	55
	Domestic hot water - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	43	43	43
	Domestic hot water - Waterside	Min	°C	25	25	25
		Max	°C	80	80	80
Sound Level (nominal)	Heating	Sound Power	dBA	64	65	66
		Sound Pressure	dBA	51	51	52
Sound Level (Night quiet)	Heating	Sound Pressure	dBA	42	42	43
Refrigerant	Type			R-410A		
	Charge		kg	2.95	2.95	2.95
	Control			Electronic expansion valve		
	Nr of Circuits			1	1	1
Refrigerant Oil	Type			Daphne FVC68D		
	Charged Volume		l	1.0	1.0	1.0
Defrost Method				Pressure equalising		
Defrost Control				Sensor for outdoor heat exchanger temperature		
Capacity Control Method				Inverter controlled		
Safety Devices				High pressure switch		
				Fan motor thermal protector		
				Fuse		

2 Specifications

2-2 TECHNICAL SPECIFICATIONS		EDLQ011BA6V3	EDLQ014BA6V3	EDLQ016BA6V3
Notes	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.			
	Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)			
	Conditions: Ta 35°C - LWE 7°C (DT = 5°C)			
	15°-25°C: BUH only, no heat pump operation = during commissioning			
	Including piping + PHE + back-up heater / excluding expansion vessel			
	E(D)(B)L* model can reach -20°C / E(D)(B)L*6W1 model can reach -25°C but without capacity guarantee			
	Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load through, extra water volume might be required.			

2-3 MAIN COMPONENTS				EDLQ011BA6V3	EDLQ014BA6V3	EDLQ016BA6V3	
Air heat exchanger	Specifications	Length	mm	857	857	857	
		Nr of Rows			2	2	2
		Fin pitch	mm	1.4	1.4	1.4	
		Nr of Passes			5	5	5
		Face area	m ²	1.131	1.131	1.131	
		Nr of Stages			60	60	60
		Empty tubeplate hole			0	0	0
		Tube type		Hi-XSS (8)			
Fin	Type	WF fin					
	Treatment	Anti-corrosion treatment (PE)					
Fan	Type		Propeller				
	Quantity		2	2	2		
Air Flow Rate (nominal at 230V)	Heating	High	m ³ /min	90	90	90	
Fan	Discharge direction		Horizontal				
	Motor	Quantity	2	2	2		
		Model	Brushless DC				
Motor	Speed (nominal)	Steps	8	8	8		
		Heating	rpm	760	760	760	
Fan	Motor	Output	W	70	70	70	
		Drive	Direct drive				
Compressor	Quantity		1	1	1		
	Motor	Model	JT100G-VD				
		Type	Hermetically sealed scroll compressor				
		Motor Output	W	2,200			
Starting Method		Inverter driven					
Motor	Crankcase Heater	Output	W	33	33	33	
Pump	Type		Water cooled				
	Nr. of speed		2	2	2		
	Nominal ESP unit	Heating	kPa	54.5	43.3	34.0	
	Power input		W	210	210	210	
Water side Heat exchanger	Type		Brazed plate				
	Quantity		1	1	1		
	Water volume		l	1.01	1.01	1.01	
	Water flow rate Min.		l/min	16	16	16	
	Water flow rate Nom.	Heating	l/min	32.1	40.1	45.9	
	Water flow rate Max.		l/min	58	58	58	
	Insulation material		Polyurethane foam				
Expansion vessel	Volume		l	10	10	10	
	Maximum water pressure		bar	3	3	3	
	Pre pressure		bar	1.0	1.0	1.0	
Water filter	Diameter perforations		mm	1	1	1	
	Material		Brass				

2 Specifications

2-3 MAIN COMPONENTS			EDLQ011BA6V3	EDLQ014BA6V3	EDLQ016BA6V3
Water circuit	Piping connections	inch	G5/4 (FEMALE)		
	Piping	inch	5/4"		
	Safety valve	bar	3	3	3
	Manometer		Yes		
	Drain valve / Fill valve		Yes		
	Shut off valve		Yes		
	Air purge valve		Yes		
	Total water volume (6)	l	5.5	5.5	5.5
	Minimum water volume system	l	20	20	20

2-4 ELECTRICAL SPECIFICATIONS				EDLQ011BA6V3	EDLQ014BA6V3	EDLQ016BA6V3
Power supply compressor component	Main Power	Name		V3		
		Phase		1~	1~	1~
		Frequency	Hz	50	50	50
		Voltage	V	230	230	230
	Voltage range	Minimum	V	-10%		
		Maximum	V	+10%		
	Current	Minimum Ssc value	kVa	Equipment complying with EN/IEC 61000-3-12(*)		
		Recommended fuses	A	32	32	32
Wiring connections	For power supply compressor component		See installation manual			
Power supply hydraulic component	Current back-up heater	Type	6V3			
Current back-up heater	Power Supply	Phase	1~			
		Frequency	Hz	50	50	50
		Voltage	V	230	230	230
	Running Current	Back-up heater	A	26	26	26
Running Current	Back-up heater + booster heater	+EK*V3	A	39(26+13)		
Current back-up heater	Z-max	Back-up heater	A	0.29	0.29	0.29
		Back-up heater + booster heater	A	0.17	0.17	0.17
	Minimum Ssc value	+EK*V3	kVa	Equipment complying with EN/IEC 61000-3-12(**)		

2 Specifications

2-4 ELECTRICAL SPECIFICATIONS				EDLQ011BA6V3	EDLQ014BA6V3	EDLQ016BA6V3	
Power supply hydraulic component	Voltage range	Minimum	V	-10%			
		Maximum	V	+10%			
	Wiring connections	Connection type	For power supply hydraulic compartment				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Connection type	For power supply connection to optional sanitary tank + Q2L				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	For more details on voltage range and current refer to installation manual				
		Connection type	For connection with R5T				
		Quantity of wires	Wire included in option EKHWS*				
		Type of wires	Wire included in option EKHWS*				
		Connection type	For connection with A3P				
		Quantity of wires	Depends on thermostat type, refer to installation manual				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M2S				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M3S				
		Quantity of wires	3G or 4G				
	Type of wires	Select diameter and type according to national and local regulations					
	Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²					
	Notes	Power supply compressor compartment is for compressor, fan, pump and controller					
		In accordance with EN/IEC 61000-3-11 (1), it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (3) smaller than or equal to Zmax.					
		Power supply hydraulic compartment is for the electric heater. The optional domestic warm water tank has a separate power supply.					
		Installer can reduce capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Instructions see installation manual.					
Installer can reduce capacity of the heater from 6 to 3.5kW. The current is then reduced from 8.7 to 5A. Instructions see installation manual.							
(1) 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 ≤ 75A.							
(2) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16A = < 75A per phase.							
(3) System impedance							
Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)							

3 Options

EDLQ011-016BA6V3

Kit availability for E(D/B)(H/L)Q011-016BA*

		Altherma Monoblock / Low temperature											
		1-phase						3-phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BA6V3			EDHQ***BA6V3			EDLQ***BA6W1			EDHQ***BA6W1		
		EBLQ***BA6V3			EBHQ***BA6V3			EBLQ***BA6W1			EBHQ***BA6W1		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
*KRP1HBB	Digital I/O PCB (1)	○	○	○	○	○	○	○	○	○	○	○	○
*KBPTH16A	Bottom plate heater	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KDK04	Drain plug kit	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KHWS150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3Z2	Stainless domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3Z2	Stainless domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE150*3V3	Enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3V3	Enamel domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3V3	Enamel domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3Z2	Enamel domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3Z2	Enamel domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KSOLHWAV1	Solarkit (4)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTW	Wired room thermostat option kit	○	○	○	○	○	○	○	○	○	○	○	○
*KRTR	Wireless room thermostat option kit (incl. receiver)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTETS	External temperature sensor option kit (3)	○	○	○	○	○	○	○	○	○	○	○	○
*KWBSWW150	Wall bracket for *KHWS(U)150*3V3 or *KSWW150V3*	○	○	○	○	○	○	○	○	○	○	○	○

3TW59259-1

REMARK

- Other combinations are not guaranteed

NOTES

- Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KHP1HB is already included.
- It is not allowed to combine bottom plate heater and drain plug kit.
- *KRTETS can only be used in combination with *KRTR
- Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
- E(B/D)L units include special equipment (insulation, heater sheet,...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the e(B/D)L must be installed instead.

3 Options

EDLQ011-016BA6V3

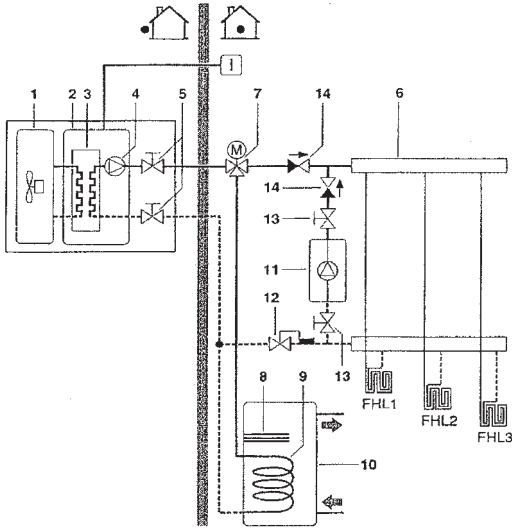
Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the altherma indoor unit or by an auxiliary boiler connected in the system. An auxiliary contact decides whether either the E(D/B)(H/L)Q* hydro module or the boiler will operate. This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

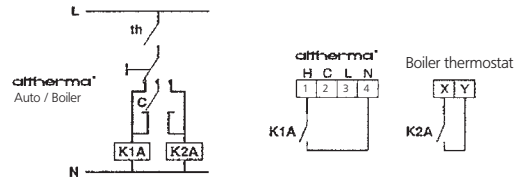
Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the hydro module, including when the boiler is in operation for space heating.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.



- 1 Compressor module
- 2 Hydro module
- 3 Heat exchanger
- 4 Pump
- 5 Shut-off valve
- 6 Collector (field supply)
- 7 Motorised 3-way valve (field supply)
- 8 Booster heater
- 9 Heat exchanger coil
- 10 Domestic hot water tank
- 11 Boiler (field supply)
- 12 Aquastat valve (field supply)
- 13 Shut-off valve (field supply)
- 14 Non-return valve (field supply)
- FHL 1...3 Floor heating loop (field supply)
- I User interface

Field wiring



- Boiler thermostat
- C
- th
- K1A
- K2A

- Boiler thermostat
- Auxiliary contact (normal closed)
- Heating only room thermostat
- Auxiliary relay for activation of E(D/B)(H/L)Q* unit (field supply)
- Auxiliary relay for activation of boiler (field supply)

Operation

When the room thermostat (th) closes, either the E(D/B)(H/L)Q* unit or the boiler starts operating, depending on the position of the auxiliary contact (C)



Make sure that auxiliary contact (C) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)(H/L)Q* unit and the boiler. If the auxiliary contact (C) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or turned ON/OFF by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.

During heating operation of the E(D/B)(H/L)Q* unit, the Altherma unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature. During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.

Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Altherma unit.



Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)(H/L)Q* switch box correctly. Refer to 'Room thermostat installation configuration' in the installation manual supplied with the unit.

Make sure that return water to the E(D/B)(H/L)Q* heat exchanger never exceeds 55°C. For this reason, never put the target leaving water temperature setpoint on the boiler controller above 55°C and if required, install an aquastat(*) valve in the return water flow of the E(D/B)(H/L)Q* unit. Daikin shall not be held liable for any damage resulting from failure to observe this rule.

(*)The aquastat valve must be set for 55°C and must operate to close the return water flow to the E(D/B)(H/L)Q* unit when the measured temperature exceeds 55°C. When temperature drops to a lower level, the aquastat valve must operate to open the return water flow to the E(D/B)(H/L)Q* unit again.

4 Capacity tables

4 - 1 Heating capacity tables

EDLQ-B6V3													
Maximum Heating Capacity (Peak values)													
	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D B) (H|L)Q011*6V3	-20 (a)	5,86	2,17	5,51	2,37								
	-15	6,63	2,21	6,23	2,42	6,09	2,67						
	-7	8,13	2,24	7,66	2,47	7,51	2,72	7,32	3,18				
	-2	9,28	2,25	8,76	2,48	8,61	2,74	8,41	3,21	8,11	3,57		
	2	10,32	2,25	9,77	2,48	9,62	2,75	9,42	3,22	9,10	3,59	8,51	4,00
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
	20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92
E(D|B)|(H|L)Q014*6V3	-20 (a)	7,42	2,78	7,20	3,03								
	-15	8,29	2,84	8,00	3,10	7,72	3,40						
	-7	10,07	2,91	9,67	3,18	9,28	3,49	9,08	3,80				
	-2	11,46	2,94	11,00	3,21	10,54	3,54	10,29	3,85	10,13	4,26		
	2	12,75	2,95	12,23	3,23	11,72	3,56	11,43	3,88	11,25	4,30	10,73	4,75
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
	20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69
E(D|B)|(H|L)Q016*6V3	-20 (a)	8,47	3,27	8,34	3,56								
	-15	9,44	3,34	9,21	3,64	8,99	3,99						
	-7	11,44	3,43	11,08	3,74	10,73	4,11	10,53	4,47				
	-2	13,01	3,47	12,58	3,79	12,14	4,17	11,89	4,54	11,45	5,01		
	2	14,48	3,49	13,98	3,82	13,48	4,20	13,18	4,58	12,67	5,06	12,17	5,59
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54
Maximum Heating Capacity (integrated values)													
	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]
E(D|B)|(H|L)Q011*6V3	-20 (a)	4,96	2,13	4,67	2,32								
	-15	5,61	2,16	5,27	2,37	5,16	2,61						
	-7	6,88	2,20	6,49	2,41	6,36	2,67	6,19	3,12				
	-2	7,70	2,16	7,27	2,38	7,15	2,63	6,98	3,08	6,73	3,43		
	2	8,57	2,16	8,11	2,38	7,99	2,64	7,82	3,09	7,56	3,45	7,06	3,84
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
	20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92
E(D|B)|(H|L)Q014*6V3	-20 (a)	6,31	2,69	6,13	2,93								
	-15	7,05	2,75	6,80	3,00	6,57	3,29						
	-7	8,57	2,82	8,23	3,08	7,89	3,38	7,72	3,68				
	-2	9,11	2,66	8,74	2,91	8,38	3,20	8,18	3,49	8,05	3,86		
	2	10,13	2,67	9,72	2,93	9,31	3,22	9,09	3,52	8,95	3,89	8,53	4,30
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
	20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69
E(D|B)|(H|L)Q016*6V3	-20 (a)	7,00	3,17	6,89	3,45								
	-15	7,80	3,24	7,61	3,53	7,43	3,87						
	-7	9,45	3,33	9,15	3,63	8,86	3,99	8,70	4,34				
	-2	9,96	3,09	9,62	3,38	9,29	3,71	9,09	4,04	8,76	4,46		
	2	11,08	3,11	10,69	3,35	10,31	3,74	10,08	4,08	9,69	4,50	9,31	4,98
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54

3TW58012-1C

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condensor temperature (°C)
- Tamb : Ambient temperature RH=85%

Heating capacity at heat recovery condenser

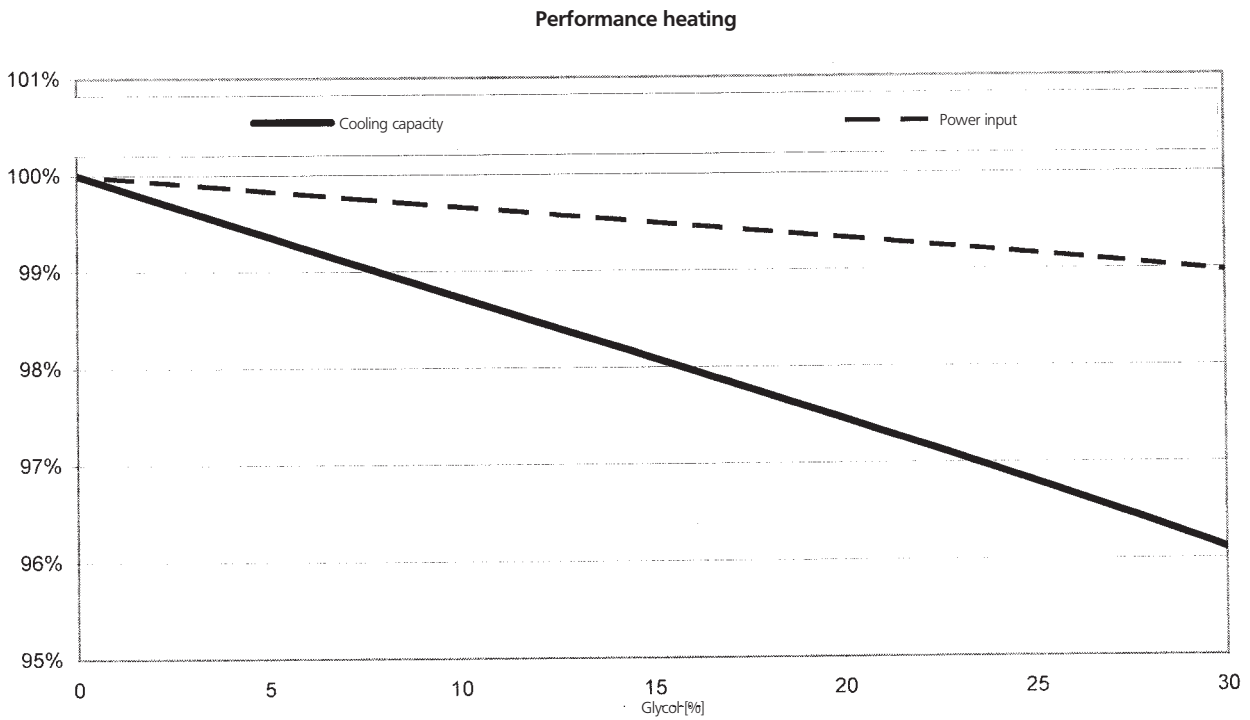
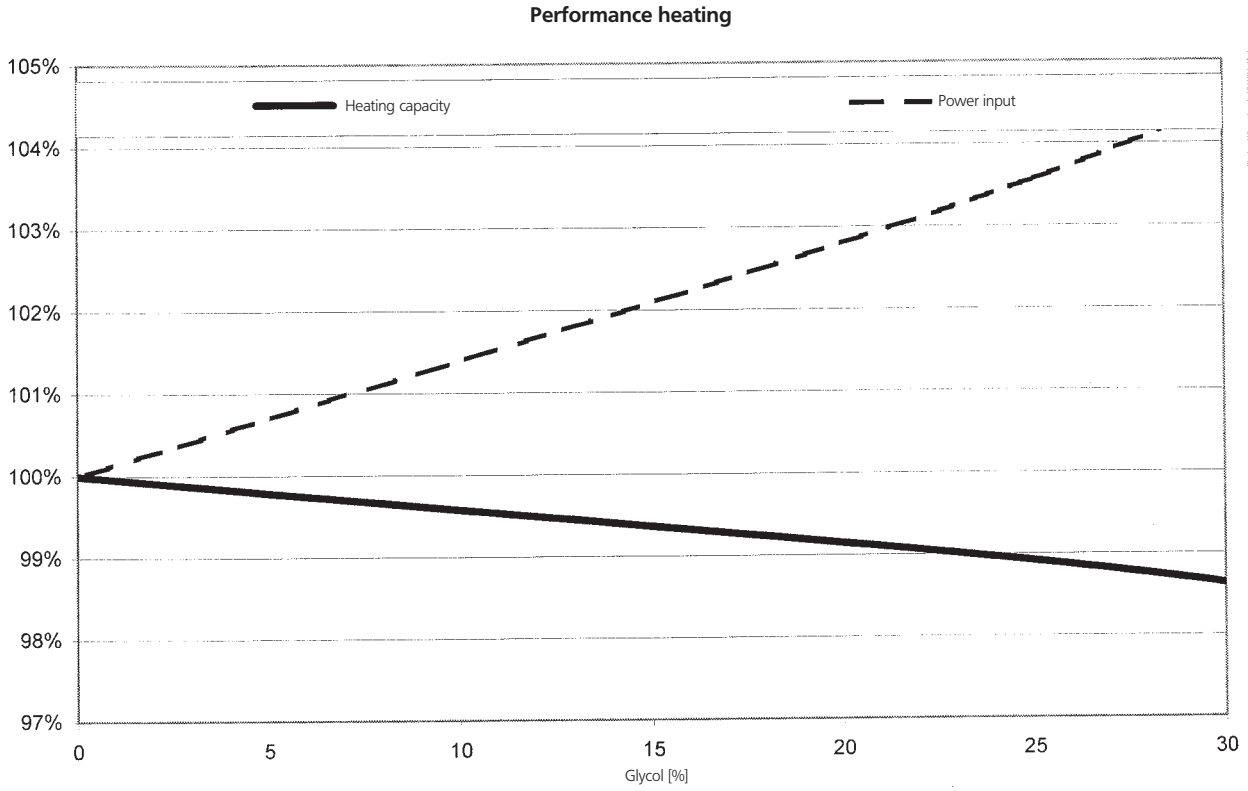
- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C. Capacity values may not be extrapolated below 7°C leaving water temperature.
 - 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C.
 - 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).
- NOTES:
-For the model with heatertape (°(D|V|LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp for more details see installation manual of indoor unit.

NOTES

- (a) only E(D|B)L*

4 Capacity tables

4 - 1 Heating capacity tables



4TW59252-2

5 Dimensional drawing & centre of gravity

5 - 1 Dimensional drawing

EDLQ011-016BA6V3

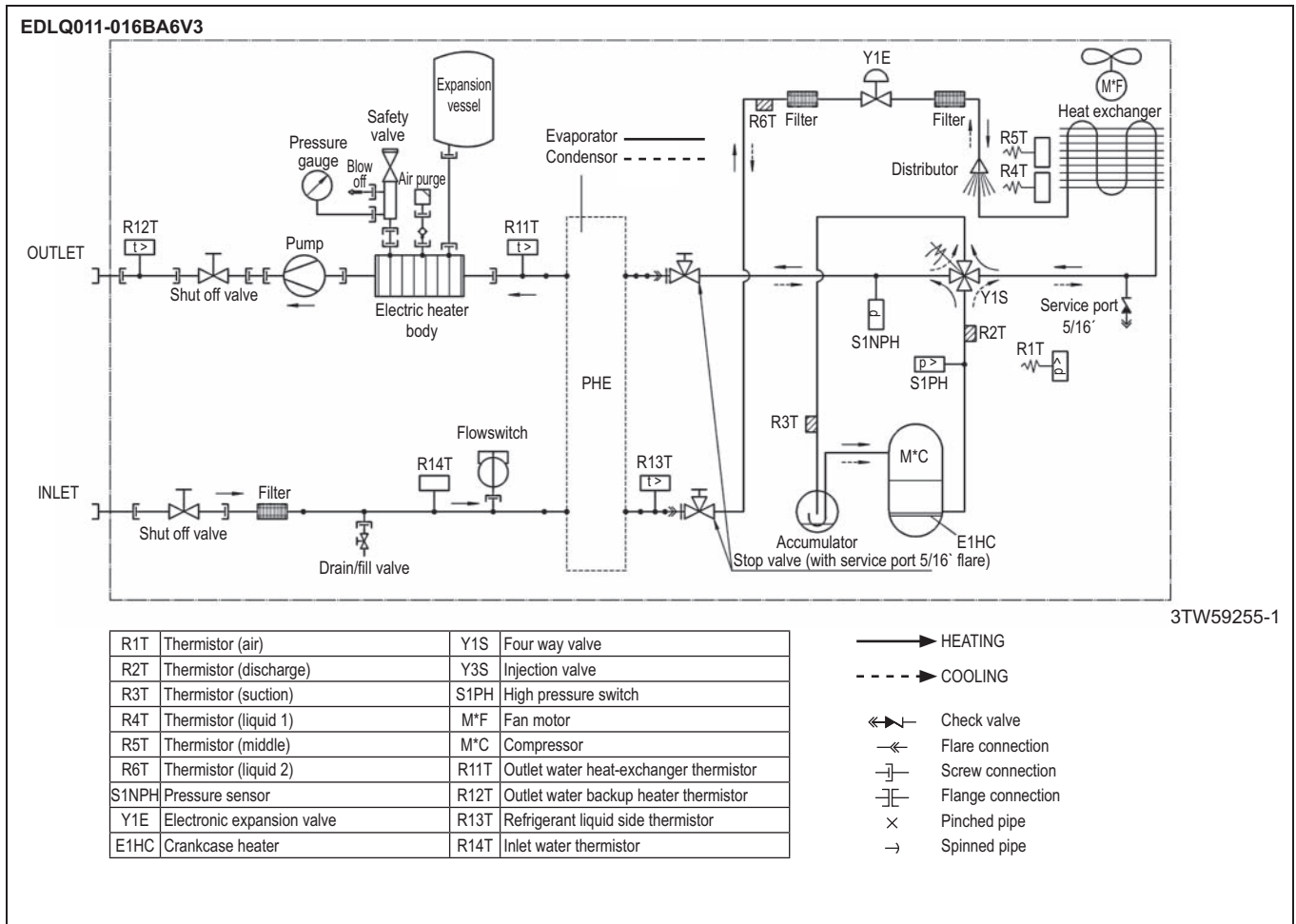
Center of gravity

3TW59254-1A

Nr	Name	Nr	Name	Nr	Name
☉	Center of gravity	8	Service door compressor module	16	Pressure gauge
1	Drain outlet	9	Service port	17	Waterfilter
2	Waterpiping outlet	10	Pump	18	Expansion vessel + (18a) nipple
3	Waterpiping inlet	11	Remoon kit (to be installed indoors)	19	Switchbox terminals
4	Entry low voltage cables (<30V)	12	Air purge	20	Switchbox terminals option sanitary warm water tank
5	Entry power cables	13	Shot-off valve	21	Drain & fill valve
6	Service door switchbox	14	Blow-off valve		
7	Service door hydraulic module	15	Blow-off drain		

6 Piping diagram

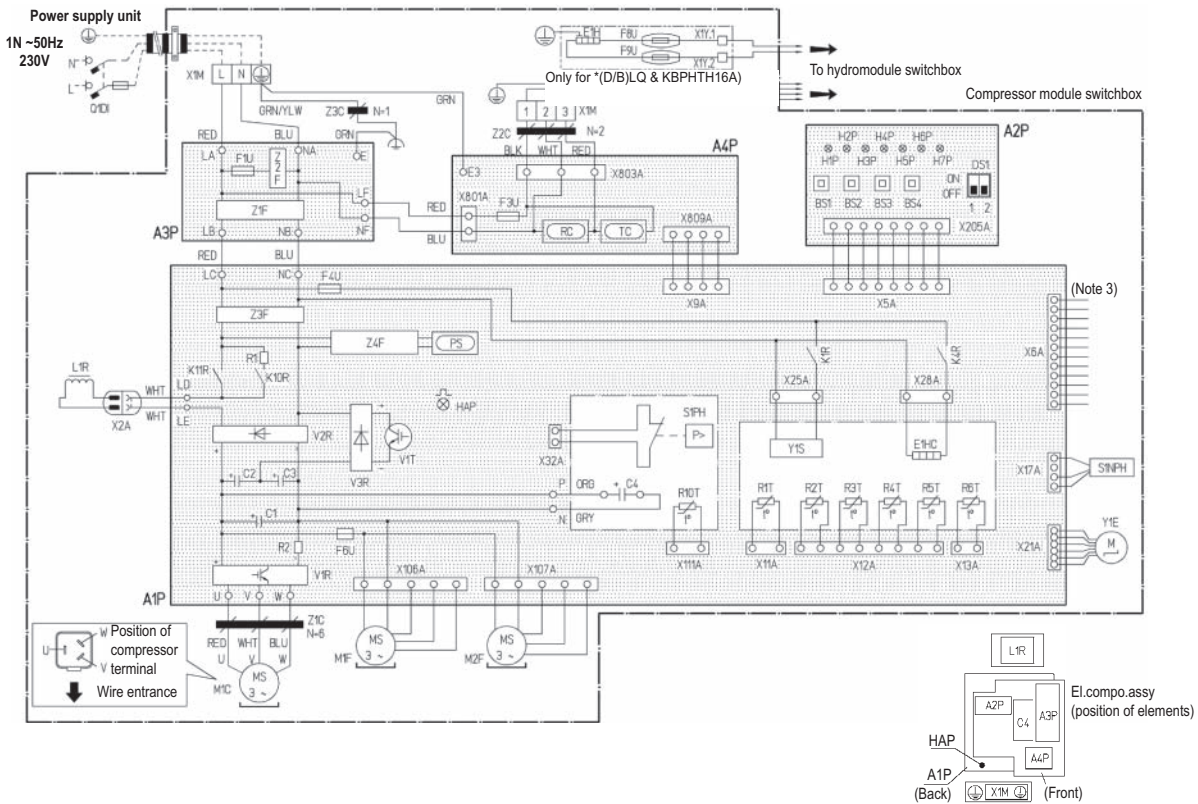
6 - 1 Piping diagram



7 Wiring diagram

7 - 1 Wiring diagram

EDLQ011-016BA6V3



A1P	Printed circuit board (main)	K1R	Magnetic relay (Y1S)	R6T	Thermistor (liquid)
A2P	Printed circuit board (inv.)	K4R	Magnetic relay (E1HC)	RC	Signal receiver circuit
A3P	Printed circuit board (noise filter)	K10R	Magnetic relay	R10T	Thermistor (fin)
A4P	Printed circuit board	K11R	Magnetic relay	S1NPH	Pressure sensor
BS1-BS4	Push button switch	L1R	Reactor	S1PH	Pressure switch (high)
C1~C4	Capacitor	M1C	Motor (compressor)	TC	Signal transmission circuit
DS1	DIP Switch	M1F	Motor (fan) (upper)	V1R	Power module
E1H	Bottomplate heater	M2F	Motor (fan) (lower)	V2R, V3R	Diode module
E1HC	Crankcase heater	PS	Switching power supply	V1T	IGBT
F1U, F3U, F4U	Fuse (T 6,3A / 250V)	Q1DI	Earth leakage circuit breaker	X1M	Terminal strip (power supply)
F6U	Fuse (T 5,0A / 250V)	R1	Resistor	Y1E	Electronic expansion valve
F7U, F8U	Fuse (F 1,0A / 250V)	R2	Resistor	Y1S	Solenoid valve (4 way valve)
H1P~7P(A2P)	Light emit. diode (serv. monitor-orange)	R1T	Thermistor (air)	Z1C~Z3C	Noise filter (ferry core)
	[H2P] Prepare, test - - - - - flickering	R2T	Thermistor (discharge)	Z1F~Z4F	Noise filter
	Malfunction detection - - - - - light up	R3T	Thermistor (suction)	Optional connector	
HAP (A1P)	Light emitting diode (service monitor green)	R4T	Thermistor (heat exchanger)	X1Y	Connector
		R5T	Thermistor (heat exchanger middle)		

- : Terminal strip ● : Connection Colors: BLU : Blue WHT : White
 : Connector ⚡ : Noiseless earth BRN : Brown YLW : Yellow
 : Field wiring ○ : Terminal GRN : Green ORG : Orange
⊕ : Protective earth (screw) ─┬─ : Connector RED : RED BLK : Black

2TW59256-1

NOTES

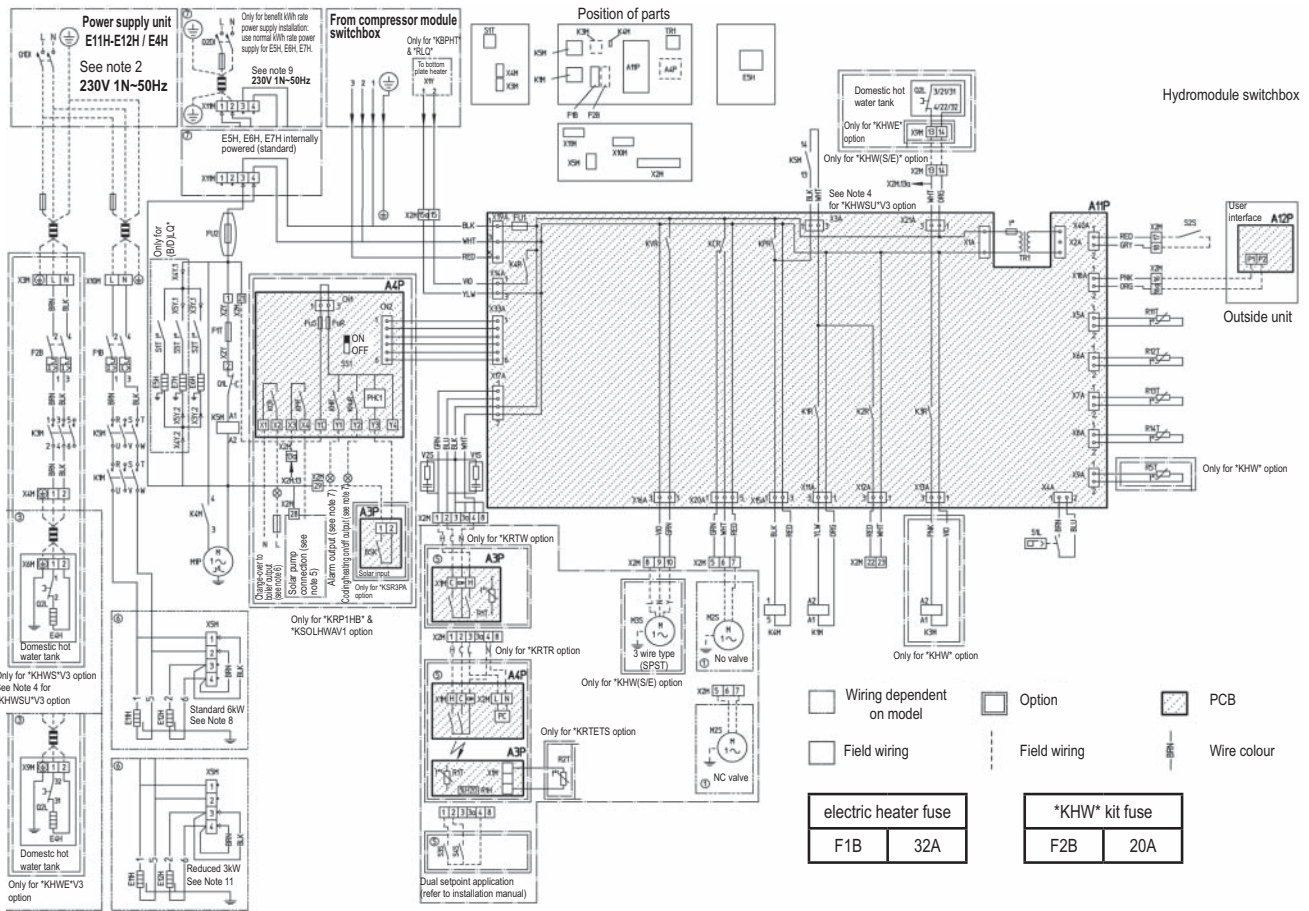
- This diagram only applies to the compressor module switchbox.
- L: Live, N: Neutral
- Not applicable
- Do not operate the unit by short-circuiting protection device S1PH
- Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".
-



7 Wiring diagram

7 - 1 Wiring diagram

EDLQ011-016BA6V3



A11P	Main PCB	K1M	Contactur backup heater step	R14T	Inlet water thermistor
A12P	User interface PCB	K3M	Contactur booster heater	R5T (*KHW*)	Domestic hot water thermistor
A3P (*KRTW/R*)	Thermostat (PC=power circuit)	K4M	Pump relay	S1L	Flowswitch
A3P (*KSR3PA)	Solar pump station PCB	K5M	Contactur for backup heater all pole disconnection	S2S	Benefit kWh rate power supply contact
A4P (*KRP1HB)	Digital I/O PCB	M1P	Pump	S3S	Dual setpoint 2 contact
A4P (*KRTR)	Receiver PCB	M2S	2way valve for cooling mode	S4S	Dual setpoint 1 contact
E11H-E12H	Backup heater element 1-2 (6kW)	M3S	3way valve: floorheating/domestic hot water	SS1	Dip switch
E4H	Booster heater (3kW)	PHC1	Optocoupler input circuit	S1T	Thermostat switchbox heater
E5H	Switchbox heater	Q1DI, Q2DI	Earth leakage circuit breaker	S2T	Thermostat expansion vessel heater
E6H	Expansion vessel heater	Q1L	Thermal protector backup heater	S3T	Thermostat plate heat exchanger
E7H	Plate heat exchanger heater	Q2L	Thermal protector 1/2 booster heater	TR1	Transformer 24V for PCB
F1B	Fuse backup heater	R1H (*KRTR)	Humidity sensor	V1S, V2S	Spark suppression 1, 2
F1T	Thermal fuse backup heater	R1T (*KRTW/R*)	Ambient sensor	X1M-X11M, X2-5Y	Terminal strips, connector
F2B	Fuse booster heater	R2T (*KRTETS)	External sensor (floor or ambient)		
FU1	Fuse 3.15A 250V for PCB	R11T	Outlet water heat exchanger thermistor		
FU2	Fuse 5A T 250V	R12T	Outlet water backup heater thermistor		
FuS, FuR	Fuse 5A 250V for digital I/O PCB	R13T	Refrigerant liquid side thermistor		

- : Terminal strip ○ : Terminal Colors: BLU : Blue WHT : White PNK : Pink
 : Connector BRN : Brown YLW : Yellow VIO : Violet
 : Field wiring GRN : Green ORG : Orange GRY : Grey
 ⊕ : Protective earth (screw) RED : RED BLK : Black

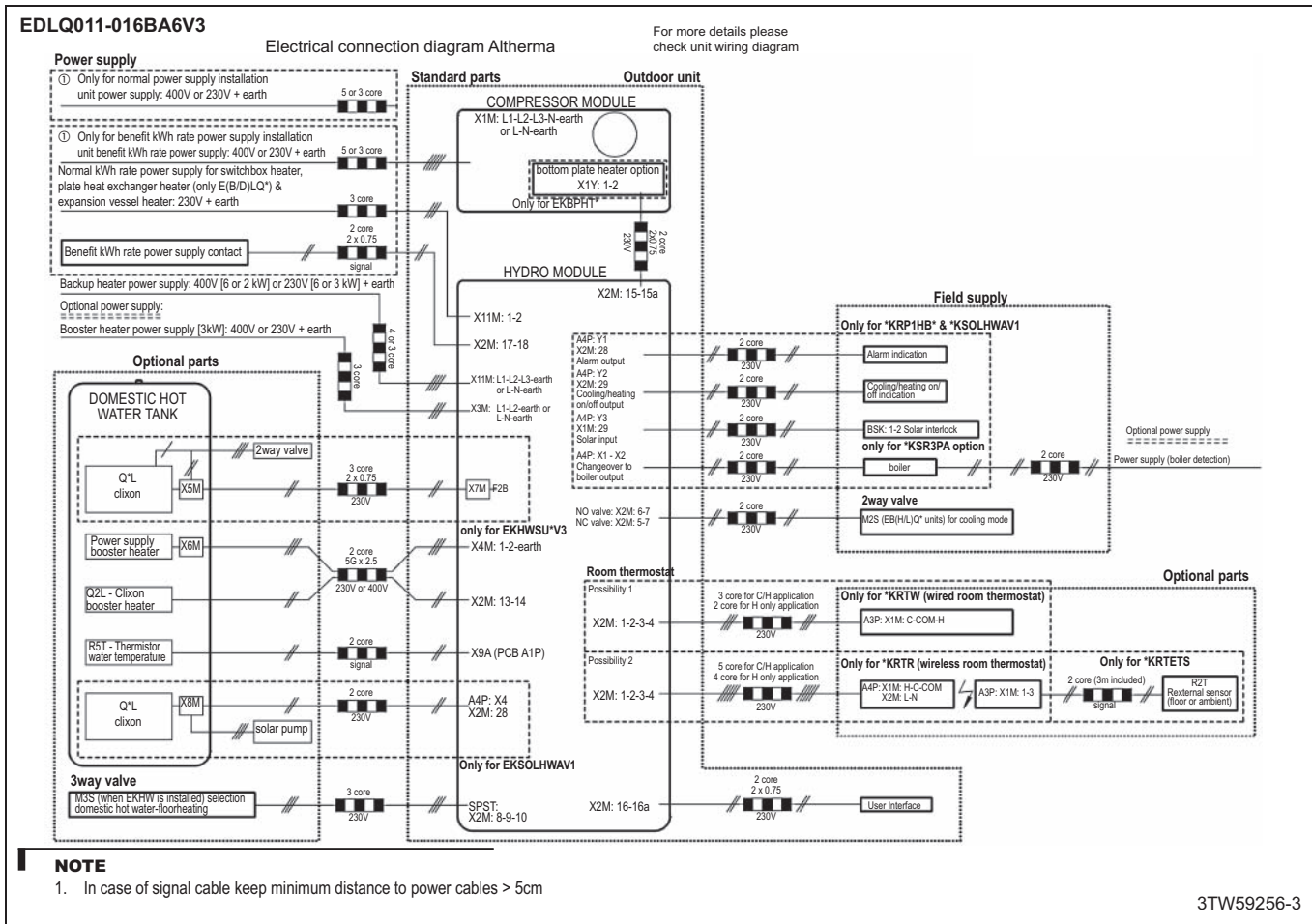
2TW59256-2

NOTES

- This wiring diagram only applies to the hydromodule switchbox.
- Use a dedicated power circuit for the backup heater and booster heater. Never use a power circuit shared by another appliance.
- Do not operate the unit by short-circuiting any protection device.
- For *KHWSU*V3, refer to option manual.
- For *KSOLHWAV1, refer to option manual.
- Maximum load: 0,3A - 250VAC Minimum load: 20mA - 5VDC
- 230 VAC output Maximum load: 0.3A
- Backupheater KW reduction, refer to installation manual.
- For beneat kWh rate power supply installation, refer to installation manual.

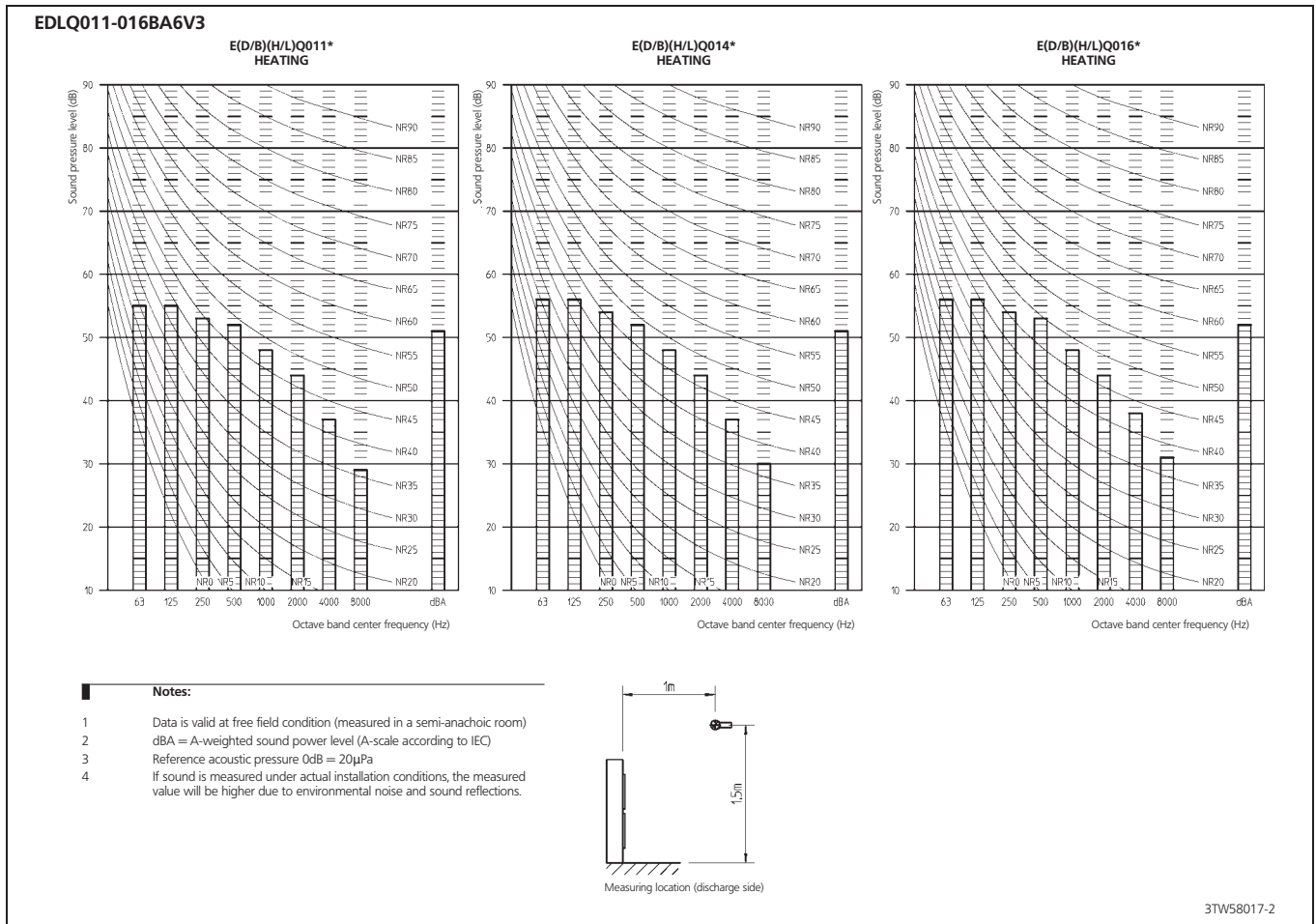
7 Wiring diagram

7 - 2 External connection diagram



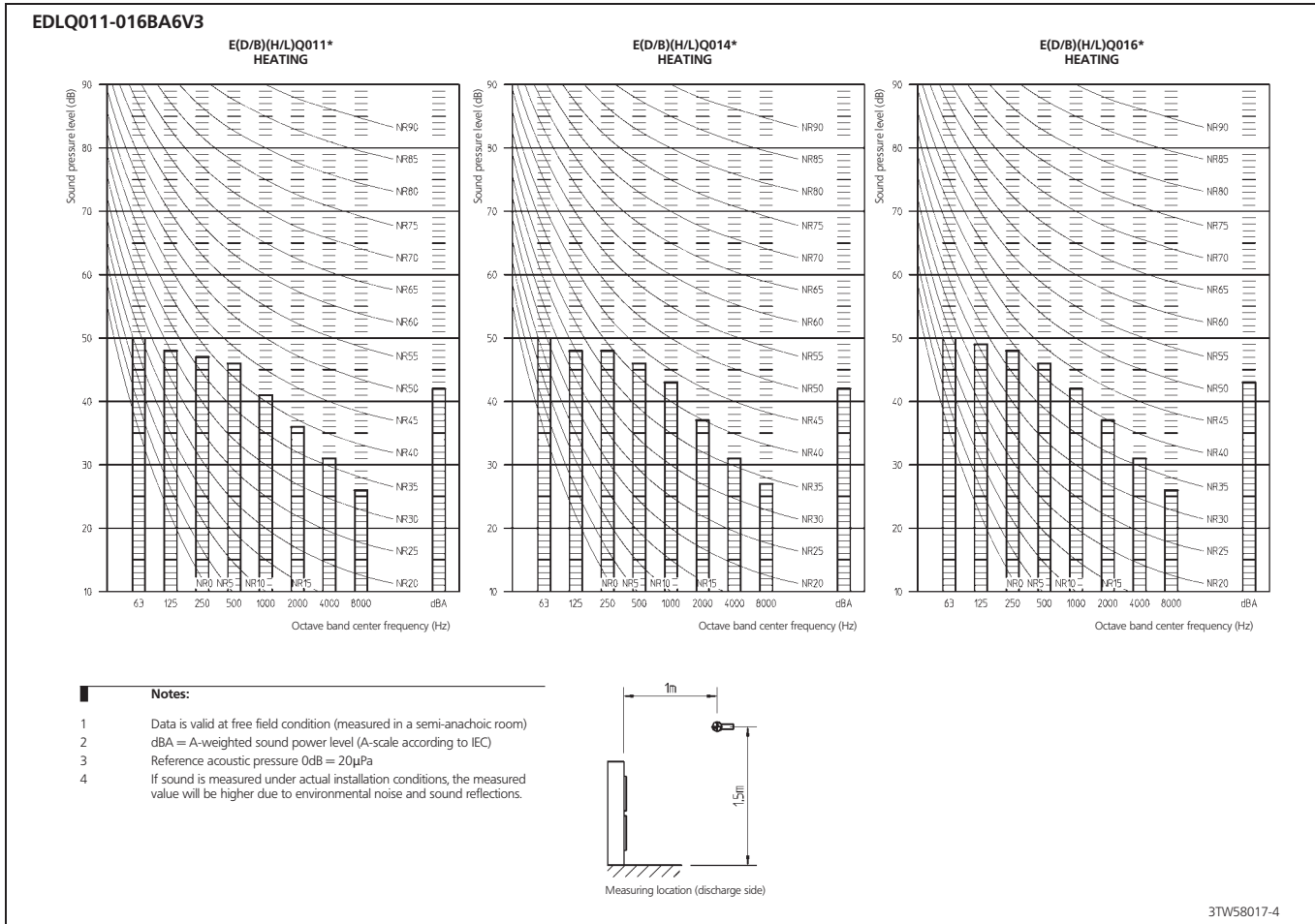
8 Sound data

8 - 1 Sound pressure spectrum



8 Sound data

8 - 2 Sound pressure night quiet mode



9 Installation

9 - 1 Service space

EDLQ011-016BA6V3

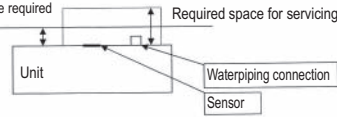
A. Non stacked installation

	←	→	↖	↗	↘	↙	A	B1	B2	C	D1	D2	E	L1/L2
	✓	✓	✓	✓	✓	✓	≥100	≥100						
	✓	✓	✓	✓	✓	✓	≥100	≥100	≥100			≤500	≥1000	
	✓	✓	✓	✓	✓	✓	≥150	≥150	≥150			≤500	≥1000	
	✓	✓	✓	✓	✓	✓	≥150	≥150	≥150	≤500		≥500	≥1000	
	✓	✓	✓	✓	✓	✓	≥100	≥100				≥750	≥500	0 < L1 ≤ 1/2H 0 < L2 ≤ 1/2H
	✓	✓	✓	✓	✓	✓	≥100	≥100	≤500			≥1000	≥1000	0 < L1 ≤ 1/2H 0 < L2 ≤ 1/2H
	✓	✓	✓	✓	✓	✓	≥200	≥300	≥1000			≥500	≥1000	
	✓	✓	✓	✓	✓	✓	≥200	≥300	≥1000			≥1000	≥1000	
	✓	✓	✓	✓	✓	✓	≥250	≥300	≥1000			≥1000	≥1000	0 < L1 ≤ 1/2H 1/2H < L2 ≤ H
	✓	✓	✓	✓	✓	✓	≥250	≥300	≥1000			≥1500	≥1000	0 < L1 ≤ 1/2H 1/2H < L2 ≤ H
	✓	✓	✓	✓	✓	✓	≥100	≥100				≥500	≥1000	0 < L1 ≤ 1/2H 1/2H < L2 ≤ H
	✓	✓	✓	✓	✓	✓	≥100	≥100	≤500	≥1000		≥1000	≥1000	0 < L1 ≤ 1/2H 1/2H < L2 ≤ H

- ↖ Suction side obstacle
 - ↗ Discharge side obstacle
 - ↘ Left side obstacle
 - ↙ Right side obstacle
 - ↖ Top side obstacle
 - ✓ Obstacle is present
- This situation is not allowed

NOTES

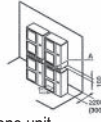
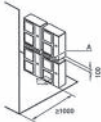
100 mm is min. space required for correct operation



- In these cases, close bottom of the installation frame to prevent discharged air from being bypassed.
- In these cases, only 2 units can be installed.

B. Stacked installation

- Obstacles exist in front on the outlet side
- Obstacles exist in front of the air inlet

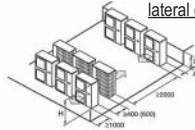
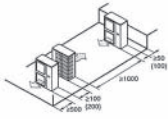


Do not stack more than one unit.

About 100 mm is required as the dimension for laying the upper outdoor unit's drain pipe. Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

- Installation of one unit per row
- Installing multiple units (2 units or more) in lateral connection per row



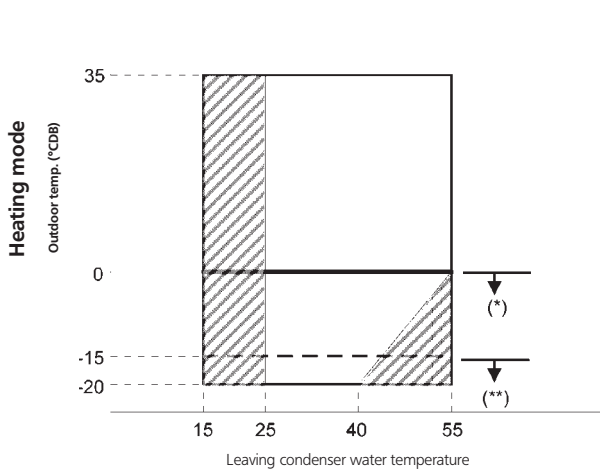
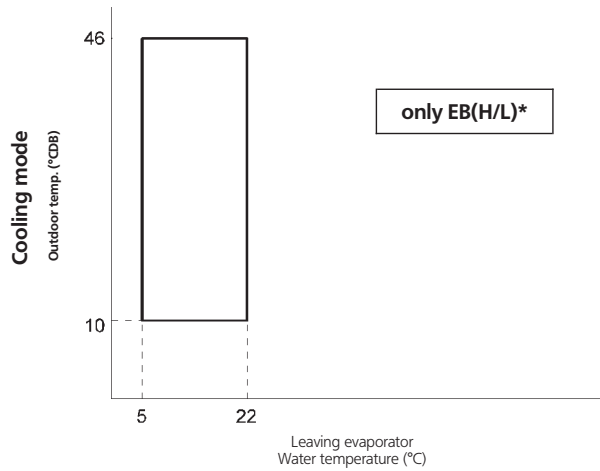
Relation of dimensions of H, A and L are shown in the table below.

	L	A
L ≤ H	0 < L ≤ 1/2H	250
	1/2H < L	300
H < L	Installation not allowed	

3TW58019-6A

10 Operation range

EDLQ011-016BA6V3

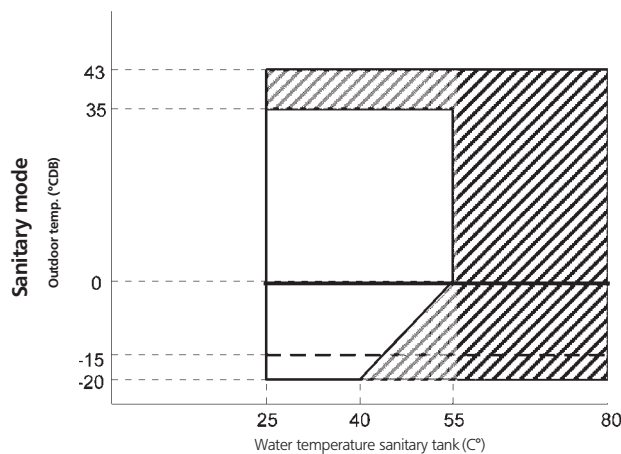


▨ No heat pump operation, back up heater only

(*) E(D/B)L* units include special equipment (insulation, heater sheet, ...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(D/B)H* models may experience problems with severe ice build-up on the aircooled coil. In case such conditions are expected, the E(D/B)L* must be installed instead.

Both E(D/B)L* and E(D/B)H* models have a freeze prevention function using the pump and back up heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen we recommend to use glycol.

(**) only E(D/B)L*



▨ Booster heater operation only

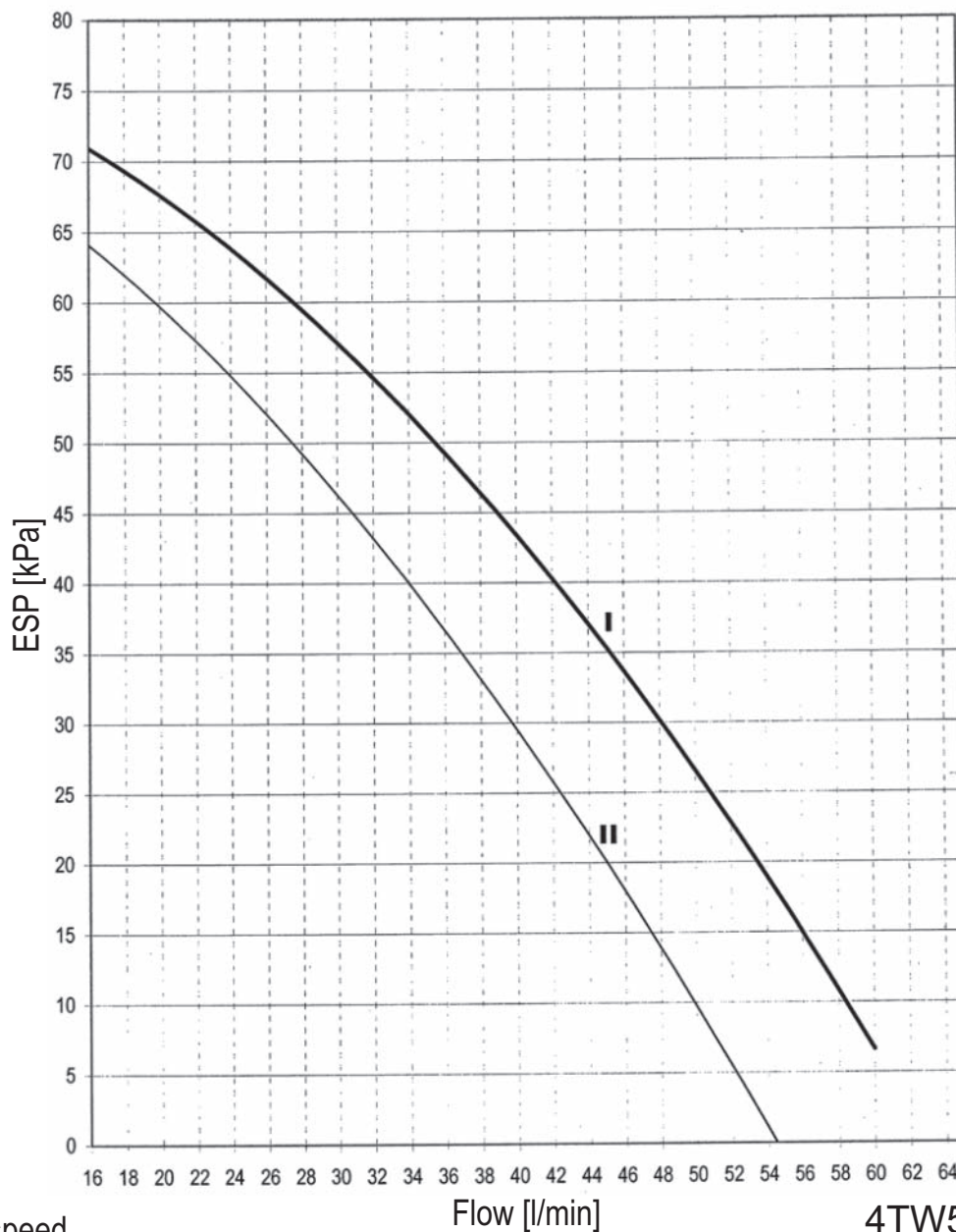
(**) only E(D/B)L*

4TW58013-1A

11 Hydraulic performance

11 - 1 Static pressure drop unit

EDLQ011-016BA6V3



4TW59259-2

I high speed

II medium speed

ESP: external static pressure

Flow: waterflow through the unit

Caution:

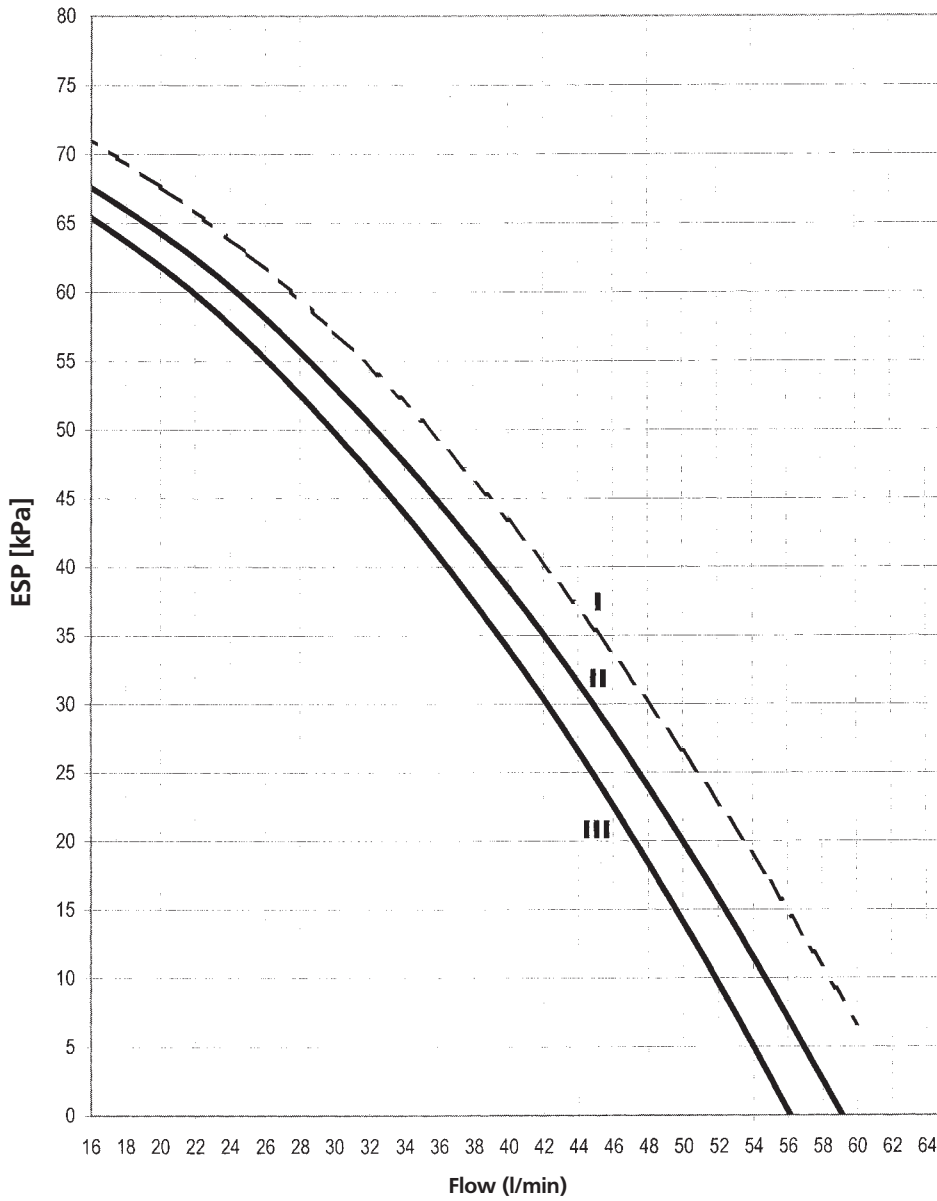
Selecting a flow outside the curves can cause damage to or malfunction of the unit.

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

11 Hydraulic performance

11 - 1 Static pressure drop unit

EDLQ-B6V3



- I: Water
- II: Water / Propylene glycol (25%) at 20°C
- III: Water / Propylene glycol (25%) at 5°C

Values only valid for high speed setting

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

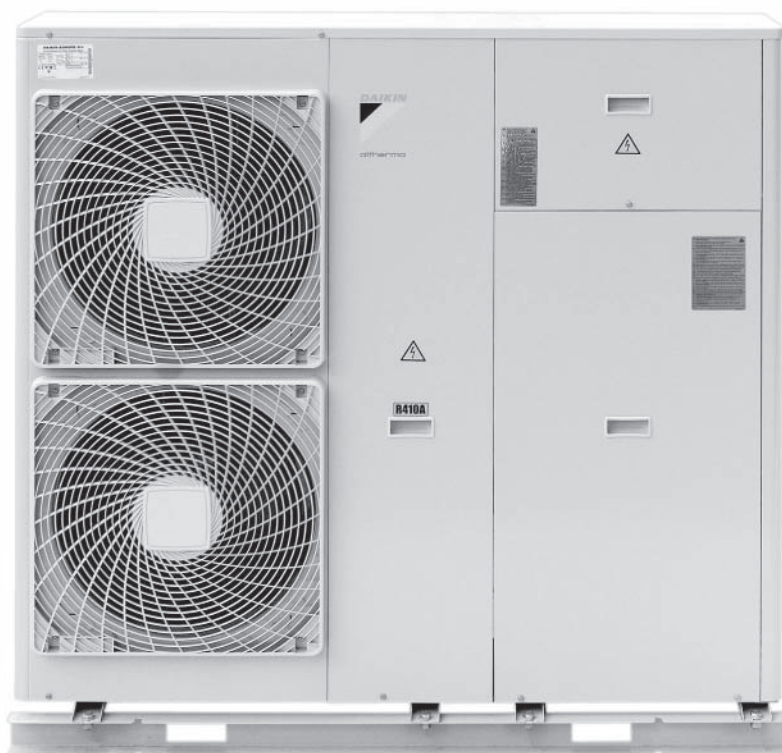
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1 Features

- Heating only monobloc with bottom plate heater
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				EDLQ011BA6W1	EDLQ014BA6W1	EDLQ016BA6W1
Condition 1	Heating capacity	Nominal	kW	11.20	14.00	16.00
	Heating PI	Nominal	kW	2.51	3.22	3.72
	COP	Nominal		4.46	4.35	4.30
Condition 2	Heating capacity	Nominal	kW	10.87	13.10	15.06
	Heating PI	Nominal	kW	3.12	3.98	4.58
	COP	Nominal		3.48	3.29	3.29
Notes				Condition 1: cooling Ta 35°C - LWE 18°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (Dt=5°C)		
				Condition 2: cooling Ta 35°C - LWE 7°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)		

2-2 TECHNICAL SPECIFICATIONS				EDLQ011BA6W1	EDLQ014BA6W1	EDLQ016BA6W1
Casing	Colour			Ivory white		
	Material			Painted galvanised steel		
Dimensions	Unit	Height	mm	1,418		
		Width	mm	1,435		
		Depth	mm	382	382	382
	Packing	Height	mm	1,557		
		Width	mm	1,500		
		Depth	mm	430	430	430
Weight	Unit		kg	180	180	180
	Packed unit		kg	200	200	200
Packing	Material			Wood		
				Carton		
				Plastic foil		
	Weight		kg	20	20	20
Operation Range	Heating - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	35	35	35
	Heating - Waterside	Min	°C	15	15	15
		Max	°C	55	55	55
	Domestic hot water - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	43	43	43
	Domestic hot water - Waterside	Min	°C	25	25	25
		Max	°C	80	80	80
Sound Level (nominal)	Heating	Sound Pressure	dBA	49	51	53
		Sound Power	dBA	64	65	66
Sound Level (Night quiet)	Heating	Sound Pressure	dBA	42	42	43
Refrigerant	Type			R-410A		
	Charge		kg	2.95	2.95	2.95
	Control			Electronic expansion valve		
	Nr of Circuits			1	1	1
Refrigerant Oil	Type			Daphne FVC68D		
	Charged Volume		l	1.0	1.0	1.0
Defrost Method				Pressure equalising		
Defrost Control				Sensor for outdoor heat exchanger temperature		
Capacity Control Method				Inverter controlled		
Safety Devices				High pressure switch		
				Fan motor thermal protector		
				Fuse		

2 Specifications

2-2 TECHNICAL SPECIFICATIONS		EDLQ011BA6W1	EDLQ014BA6W1	EDLQ016BA6W1
Notes	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.			
	Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)			
	Conditions: Ta 35°C - LWE 7°C (DT = 5°C)			
	15°-25°C: BUH only, no heat pump operation = during commissioning			
	Including piping + PHE + back-up heater / excluding expansion vessel			
	E(D)(B)L* model can reach -20°C / E(D)(B)L*6W1 model can reach -25°C but without capacity guarantee			
	Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load through, extra water volume might be required.			

2-3 MAIN COMPONENTS				EDLQ011BA6W1	EDLQ014BA6W1	EDLQ016BA6W1
Air heat exchanger	Specifications	Length	mm	857	857	857
		Nr of Rows		2	2	2
		Fin pitch	mm	1.4	1.4	1.4
		Nr of Passes		5	5	5
		Face area	m ²	1.131	1.131	1.131
		Nr of Stages		60	60	60
		Empty tubeplate hole		0	0	0
		Tube type		Hi-XSS (8)		
Fin	Type	WF fin				
	Treatment	Anti-corrosion treatment (PE)				
Fan	Type		Propeller			
	Quantity		2	2	2	
	Discharge direction		Horizontal			
	Motor	Quantity	2	2	2	
Model		Brushless DC				
Motor	Speed (nominal)	Steps	8	8	8	
		Heating	rpm	760	760	760
Fan	Motor	Output	W	70	70	
		Drive	Direct drive			
Compressor	Quantity		1	1	1	
	Motor	Model	JT1G-VDYR@S			
		Type	Hermetically sealed scroll compressor			
		Motor Output	W	2,200		
Starting Method		Inverter driven				
Motor	Crankcase Heater	Output	W	33	33	33
Pump	Type		Water cooled			
	Nr. of speed		2	2	2	
	Nominal ESP unit	Heating	kPa	54.5	43.3	34.0
	Power input		W	210	210	210
Water side Heat exchanger	Type		Brazed plate			
	Quantity		1	1	1	
	Water volume		l	1.01	1.01	1.01
	Water flow rate Min.		l/min	16	16	16
	Water flow rate	Heating	l/min	32.1	40.1	45.9
	Water flow rate Max.		l/min	58	58	58
	Insulation material		Polyurethane foam			
Expansion vessel	Volume	l	10	10	10	
	Maximum water pressure	bar	3	3	3	
	Pre pressure	bar	1.0	1.0	1.0	
Water filter	Diameter perforations	mm	1	1	1	
	Material	Brass				

2 Specifications

2-3 MAIN COMPONENTS			EDLQ011BA6W1	EDLQ014BA6W1	EDLQ016BA6W1
Water circuit	Piping connections	inch	G5/4 (FEMALE)		
	Piping	inch	5/4"		
	Safety valve	bar	3	3	3
	Manometer		Yes		
	Drain valve / Fill valve		Yes		
	Shut off valve		Yes		
	Air purge valve		Yes		
	Total water volume (6)	l	5.5	5.5	5.5
	Minimum water volume system	l	20	20	20

2-4 ELECTRICAL SPECIFICATIONS				EDLQ011BA6W1	EDLQ014BA6W1	EDLQ016BA6W1
Power supply compressor component	Main Power	Name		W1		
		Phase		3N~		
		Frequency	Hz	50	50	50
		Voltage	V	400	400	400
	Voltage range	Minimum	V	-10%		
Maximum		V	+10%			
Current	Nominal running current (RLA)	Heating (A)	A	5.8	5.8	5.8
	Maximum running current	Heating	A	14	14	14
Power supply compressor component	Current	Recommended fuses	A	20	20	20
Power supply hydraulic component	Current back-up heater	Type		6W1		
Current back-up heater	Power Supply	Phase		3~		
		Frequency	Hz	50	50	50
		Voltage	V	400	400	400
Running Current	Back-up heater	A	8.7	8.7	8.7	
Running Current	Back-up heater + booster heater	+EK*V3	A	21.7(8.7+13)		
		+EK*Z2	A	16.2(8.7+7.5)		
Current back-up heater	Minimum Ssc value	+EK*V3	kVa	Equipment complying with EN/IEC 61000-3-12(**)		
		+EK*Z2	kVa	Equipment complying with EN/IEC 61000-3-12(**)		

2 Specifications

2-4 ELECTRICAL SPECIFICATIONS				EDLQ011BA6W1	EDLQ014BA6W1	EDLQ016BA6W1	
Power supply hydraulic component	Voltage range	Minimum	V	-10%			
		Maximum	V	+10%			
	Wiring connections	Connection type	For power supply hydraulic compartment				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Connection type	For power supply connection to optional sanitary tank + Q2L				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	For more details on voltage range and current refer to installation manual				
		Connection type	For connection with R5T				
		Quantity of wires	Wire included in option EKHWS*				
		Type of wires	Wire included in option EKHWS*				
		Connection type	For connection with A3P				
		Quantity of wires	Depends on thermostat type, refer to installation manual				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M2S				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M3S				
		Quantity of wires	3G or 4G				
	Type of wires	Select diameter and type according to national and local regulations					
	Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²					
	Notes	Power supply compressor compartment is for compressor, fan, pump and controller					
		In accordance with EN/IEC 61000-3-11 (1), it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (3) smaller than or equal to Zmax.					
		Power supply hydraulic compartment is for the electric heater. The optional domestic warm water tank has a separate power supply.					
Installer can reduce capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Instructions see installation manual.							
Installer can reduce capacity of the heater from 6 to 3.5kW. The current is then reduced from 8.7 to 5A. Instructions see installation manual.							
(1)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 <= 75A.							
(2) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16A =< 75A per phase.							
(3) System impedance							
Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)							

3 Options

EDLQ011-016BA6W1													
Kit availability for E(D/B)(H/L)Q011-016BA*													
		Altherma Monoblock / Low temperature											
		1-phase						3-phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BA6V3			EDHQ***BA6V3			EDLQ***BA6W1			EDHQ***BA6W1		
		EBLQ***BA6V3			EBHQ***BA6V3			EBLQ***BA6W1			EBHQ***BA6W1		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
*KRP1HBB	Digital I/O PCB (1)	○	○	○	○	○	○	○	○	○	○	○	○
*KBPTH16A	Bottom plate heater	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KDK04	Drain plug kit	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KHWS150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3Z2	Stainless domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3Z2	Stainless domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE150*3V3	Enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3V3	Enamel domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3V3	Enamel domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3Z2	Enamel domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3Z2	Enamel domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KSOLHWAV1	Solarkit (4)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTW	Wired room thermostat option kit	○	○	○	○	○	○	○	○	○	○	○	○
*KRTR	Wireless room thermostat option kit (incl. receiver)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTETS	External temperature sensor option kit (3)	○	○	○	○	○	○	○	○	○	○	○	○
*KWBSWW150	Wall bracket for *KHWS(U)150*3V3 or *KSWW150V3*	○	○	○	○	○	○	○	○	○	○	○	○

3TW59259-1

REMARK

- Other combinations are not guaranteed

NOTES

- Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KHP1HB is already included.
- It is not allowed to combine bottom plate heater and drain plug kit.
- *KRTETS can only be used in combination with *KRTR
- Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
- E(B/D)L units include special equipment (insulation, heater sheet,...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the e(B/D)L must be installed instead.

3 Options

EDLQ011-016BA6W1

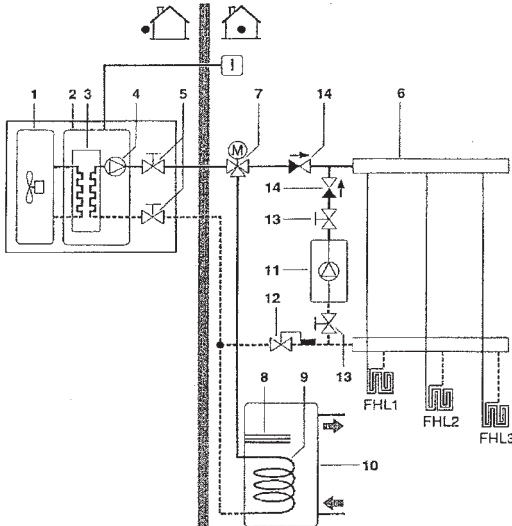
Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the altherma indoor unit or by an auxiliary boiler connected in the system. An auxiliary contact decides whether either the E(D/B)(H/L)Q* hydro module or the boiler will operate. This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

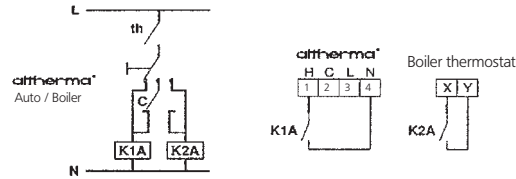
Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the hydro module, including when the boiler is in operation for space heating.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.



- 1 Compressor module
- 2 Hydro module
- 3 Heat exchanger
- 4 Pump
- 5 Shut-off valve
- 6 Collector (field supply)
- 7 Motorised 3-way valve (field supply)
- 8 Booster heater
- 9 Heat exchanger coil
- 10 Domestic hot water tank
- 11 Boiler (field supply)
- 12 Aquastat valve (field supply)
- 13 Shut-off valve (field supply)
- 14 Non-return valve (field supply)
- FHL 1..3 Floor heating loop (field supply)
- 1 User interface

Field wiring



- Boiler thermostat
- C
- th
- K1A
- K2A

- Boiler thermostat
- Auxiliary contact (normal closed)
- Heating only room thermostat
- Auxiliary relay for activation of E(D/B)(H/L)Q * unit (field supply)
- Auxiliary relay for activation of boiler (field supply)

Operation

When the room thermostat (th) closes, either the E(D/B)(H/L)Q * unit or the boiler starts operating, depending on the position of the auxiliary contact (C)



Make sure that auxiliary contact (C) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)(H/L)Q * unit and the boiler. If the auxiliary contact (C) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or turned ON/OFF by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.

During heating operation of the E(D/B)(H/L)Q * unit, the Altherma unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature.

During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.

Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Altherma unit.



Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)(H/L)Q * switch box correctly. Refer to ' Room thermostat installation configuration' in the installation manual supplied with the unit.

Make sure that return water to the E(D/B)(H/L)Q * heat exchanger never exceeds 55°C.

For this reason, never put the target leaving water temperature setpoint on the boiler controller above 55°C and if required, install an aquastat(*) valve in the return water flow of the E(D/B)(H/L)Q* unit. Daikin shall not be held liable for any damage resulting from failure to observe this rule.

(*)The aquastat valve must be set for 55°C and must operate to close the return water flow to the E(D/B)(H/L)Q * unit when the measured temperature exceeds 55°C. When temperature drops to a lower level, the aquastat valve must operate to open the return water flow to the E(D/B)(H/L)Q * unit again.

4 Capacity tables

4 - 1 Heating capacity tables

EDLQ-B6W1													
Maximum Heating Capacity (Peak values)													
	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	
E(D/B)(H/L)Q011*6W1	-20 (a)	5,86	2,21	5,51	2,42	5,39	2,66	5,25	2,95				
	-15	6,63	2,25	6,23	2,46	6,09	2,71	5,92	3,01	5,68	3,34		
	-7	8,13	2,29	7,66	2,51	7,51	2,77	7,32	3,08	7,03	3,43	6,53	3,81
	-2	9,28	2,29	8,76	2,52	8,61	2,79	8,41	3,11	8,11	3,46	7,55	3,85
	2	10,32	2,29	9,77	2,52	9,62	2,80	9,42	3,12	9,10	3,48	8,51	3,87
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80	
E(D/B)(H/L)Q014*6W1	-20 (a)	7,42	2,79	7,20	3,04	7,00	3,33	5,49	3,68				
	-15	8,29	2,85	8,00	3,11	7,72	3,41	7,60	3,76	7,57	4,16		
	-7	10,07	2,92	9,67	3,19	9,28	3,51	9,08	3,87	8,97	4,28	8,58	4,73
	-2	11,46	2,95	11,00	3,23	10,54	3,55	10,29	3,92	10,15	4,34	9,69	4,80
	2	12,75	2,96	12,23	3,25	11,72	3,57	11,43	3,96	11,27	4,38	10,75	4,84
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77	
E(D/B)(H/L)Q016*6W1	-20 (a)	8,47	3,20	8,34	3,49	8,22	3,83	6,50	4,21				
	-15	9,44	3,28	9,21	3,57	8,99	3,92	8,91	4,31	8,69	4,75		
	-7	11,44	3,37	11,08	3,67	10,73	4,03	10,53	4,43	10,17	4,90	9,81	5,41
	-2	13,01	3,41	12,58	3,72	12,14	4,09	11,89	4,50	11,43	4,97	11,00	5,49
	2	14,48	3,43	13,98	3,75	13,48	4,12	13,18	4,54	12,65	5,01	12,15	5,54
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49	
Maximum Heating Capacity (integrated values)													
	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	
E(D/B)(H/L)Q011*6W1	-20 (a)	4,96	2,16	4,67	2,37	4,57	2,60	4,45	2,89				
	-15	5,61	2,20	5,27	2,41	5,16	2,66	5,01	2,95	4,81	3,27		
	-7	6,88	2,24	6,49	2,46	6,36	2,72	6,19	3,02	5,95	3,35	5,53	3,73
	-2	7,70	2,20	7,27	2,42	7,15	2,68	6,98	2,98	6,73	3,32	6,27	3,70
	2	8,57	2,19	8,11	2,42	7,99	2,69	7,82	3,00	7,56	3,34	7,06	3,72
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80	
E(D/B)(H/L)Q014*6W1	-20 (a)	6,31	2,70	6,13	2,94	5,96	3,23	4,67	3,56				
	-15	7,05	2,76	6,80	3,01	6,57	3,30	6,46	3,64	6,44	4,02		
	-7	8,57	2,83	8,23	3,09	7,89	3,40	7,72	3,75	7,63	4,14	7,30	4,58
	-2	9,11	2,87	8,74	2,92	8,38	3,21	8,18	3,55	8,07	3,93	7,70	4,34
	2	10,13	2,68	9,72	2,94	9,31	3,24	9,09	3,58	8,96	3,96	8,55	4,38
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77	
E(D/B)(H/L)Q016*6W1	-20 (a)	7,00	3,11	6,89	3,39	6,79	3,71	5,37	4,08				
	-15	7,80	3,18	7,61	3,46	7,43	3,80	7,37	4,18	7,18	4,61		
	-7	9,45	3,26	9,15	3,56	8,86	3,91	8,70	4,30	8,40	4,75	8,11	5,25
	-2	9,96	3,03	9,62	3,31	9,29	3,64	9,09	4,00	8,75	4,42	8,41	4,88
	2	11,08	3,05	10,69	3,34	10,31	3,67	10,08	4,04	9,68	4,46	9,29	4,93
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49	

3TW58012-1C

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condenser temperature (°C)
- Tamb : Ambient temperature RH=85%

NOTES

(a) only E(D/B)L*

Heating capacity at heat recovery condenser

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

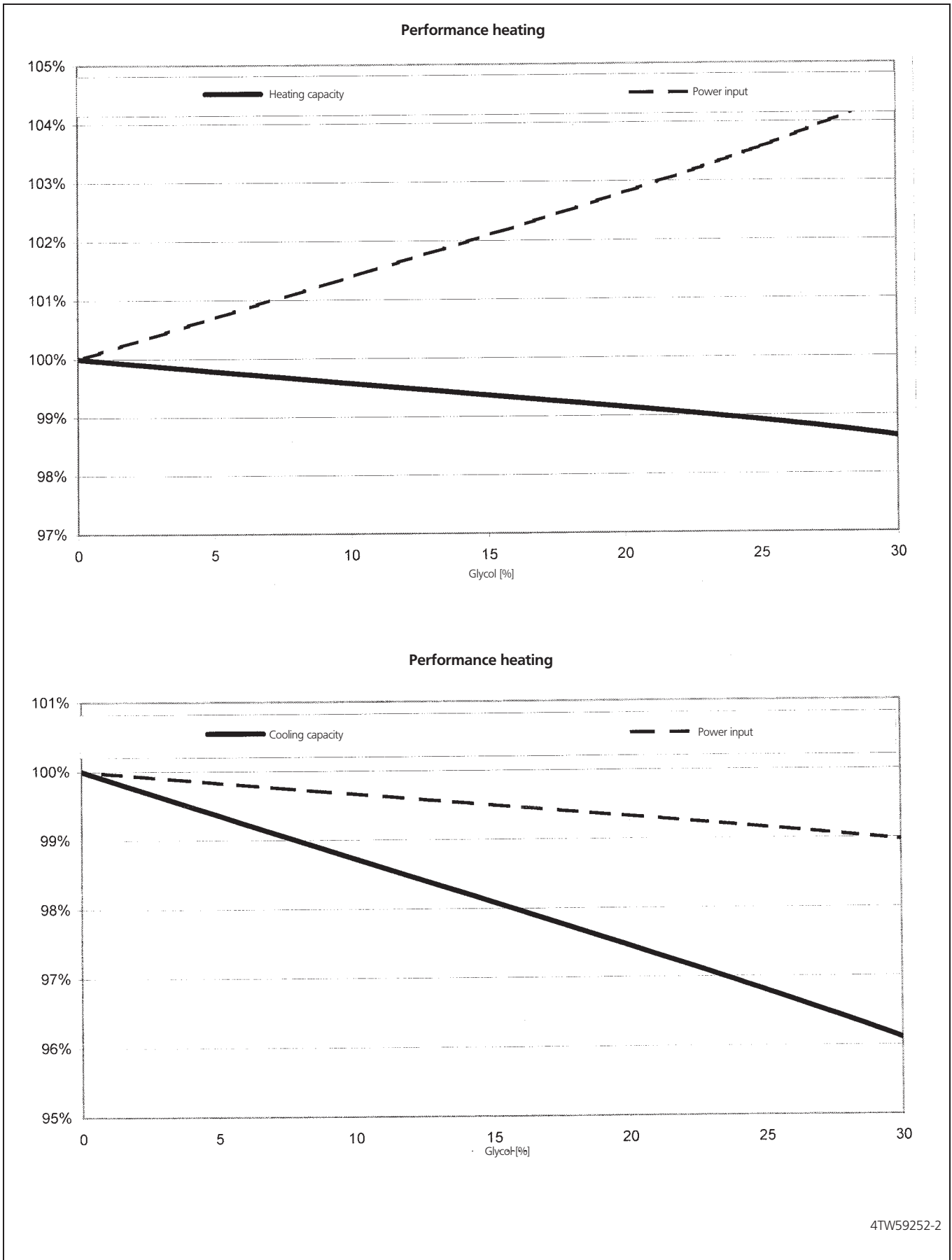
NOTES:

-For the model with heatertape *(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W

- 1) For AA models: 'X' = 4°C
- 2) For BA models: 'X' = [F-02] = BPH ON temp for more details see installation manual of indoor unit.

4 Capacity tables

4 - 1 Heating capacity tables



5 Dimensional drawing & centre of gravity

5 - 1 Dimensional drawing

EDLQ011-016BA6W1

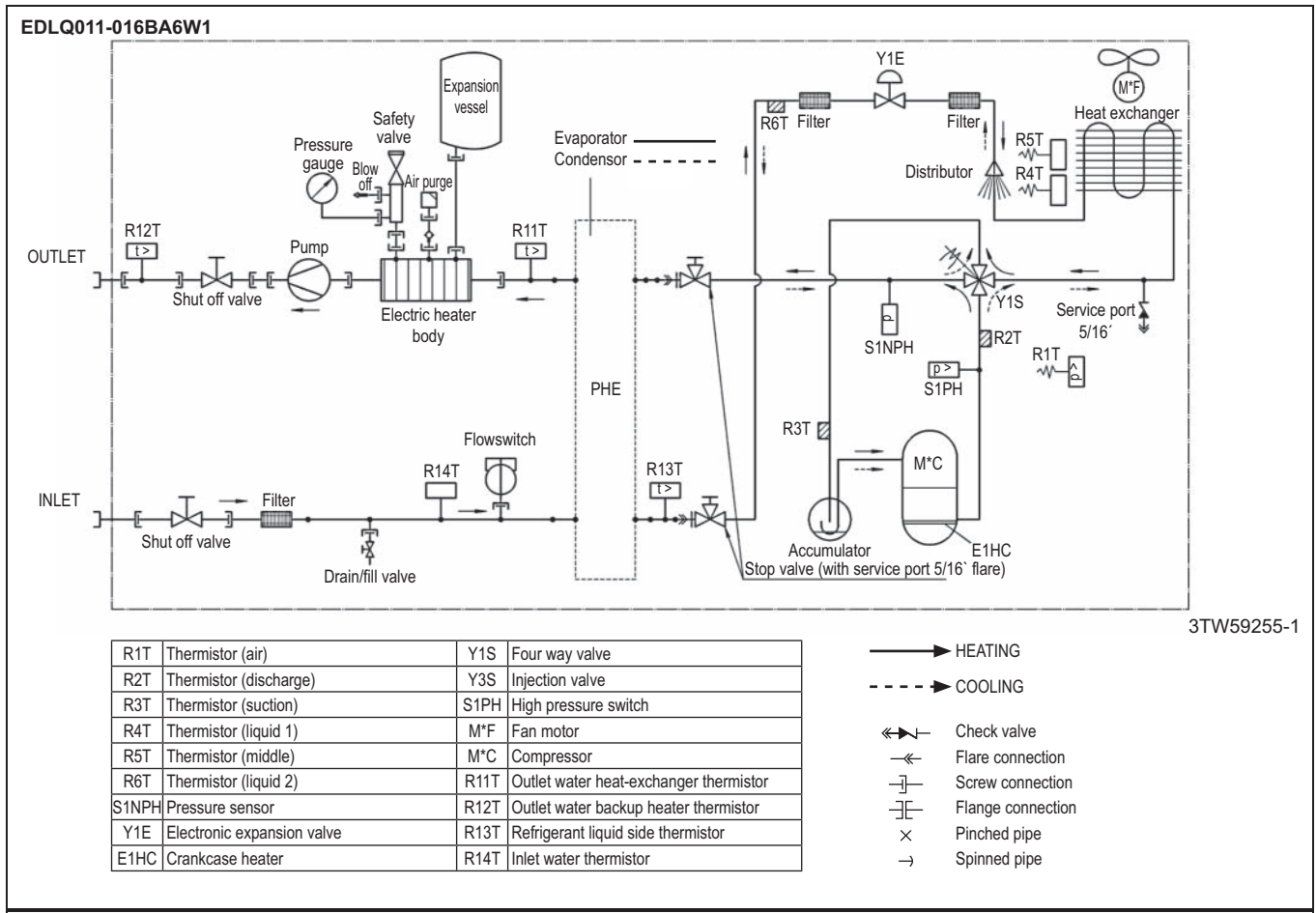
Center of gravity

3TW59254-1A

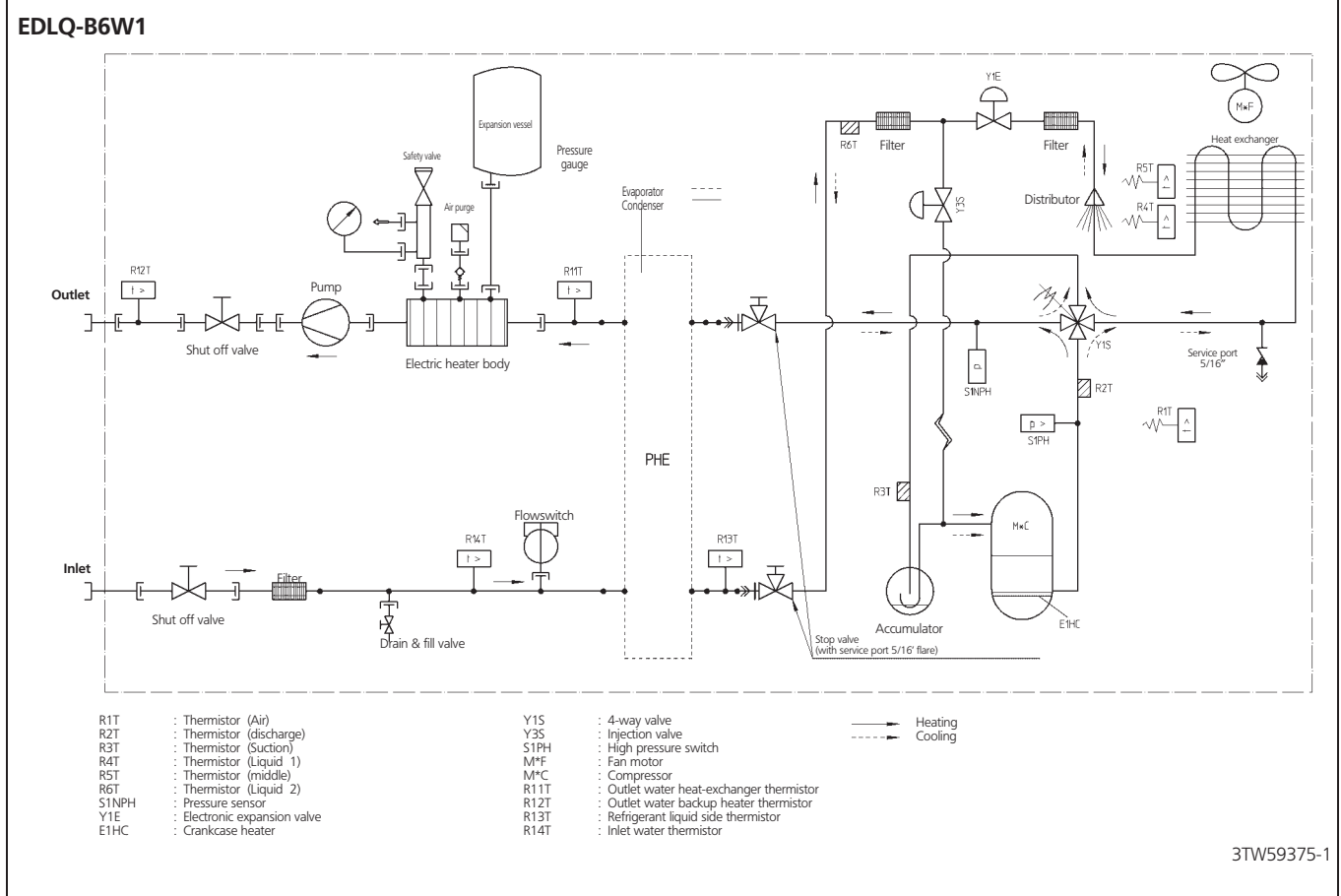
Nr	Name	Nr	Name	Nr	Name
☉	Center of gravity	8	Service door compressor module	16	Pressure gauge
1	Drain outlet	9	Service port	17	Waterfilter
2	Waterpiping outlet	10	Pump	18	Expansion vessel + (18a) nipple
3	Waterpiping inlet	11	Remocon kit (to be installed indoors)	19	Switchbox terminals
4	Entry low voltage cables (<30V)	12	Air purge	20	Switchbox terminals option sanitary warm water tank
5	Entry power cables	13	Shot-off valve	21	Drain & fill valve
6	Service door switchbox	14	Blow-off valve		
7	Service door hydraulic module	15	Blow-off drain		

6 Piping diagram

6 - 1 Piping diagram

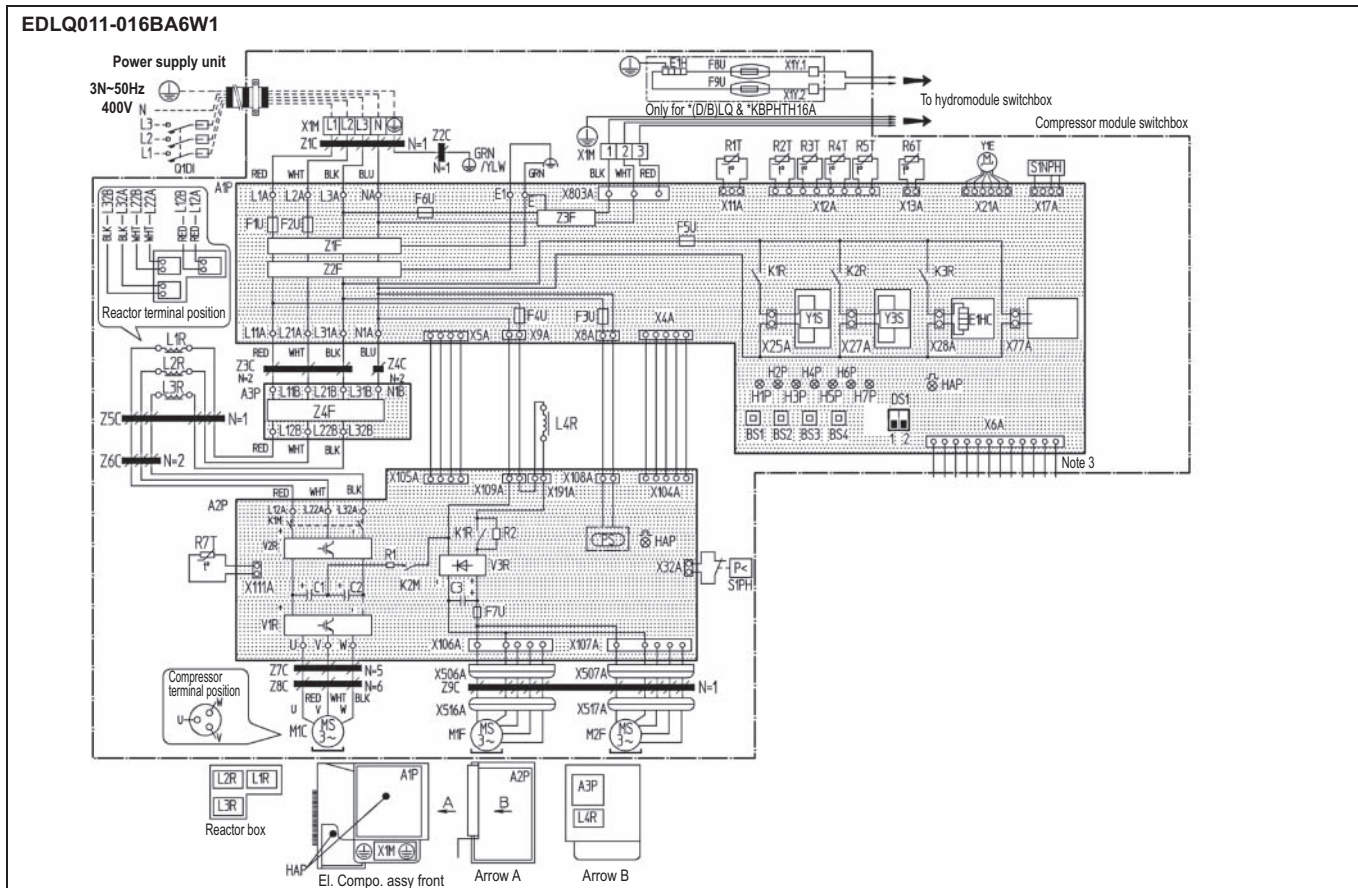


13
6



7 Wiring diagram

7 - 1 Wiring diagram



A1P	Printed circuit board	H1P-7P (A1P)	Pilot lamp (service monitor-orange)	R6T	Thermistor (liquid)
A2P	Printed circuit board (inv.)	K1M - K2M	Magnetic contactor	R7T	Thermistor (fin)
A3P	Printed circuit board (noise filter)	K1R (A1P)	Magnetic relay (Y1S)	S1NPH	Pressure sensor
BS1-BS4	Push button switch	K1R (A2P)	Magnetic relay	S1PH	Pressure switch (high)
C1-C4	Capacitor	K2R (A1P)	Magnetic relay (Y2S)	V1R, V2R	Power module
DS1	DIP Switch	K3R (A1P)	Magnetic relay (E1HC)	V3R	Diode module
E1HC	Crankcase heater	L1R ~ L3R	Reactor	X1M	Terminal strip
E1H	Bottomplate heater	L4R	Reactor (for outdoor fan motor)	Y1E	Electronic expansion valve
F1U	Fuse (31.5A 250V)	M1C	Motor (compressor)	Y1S	Solenoid valve (4 way valve)
F2U	Fuse (31.5A 250V)	M1F	Motor (fan) (upper)	Y3S	Solenoid valve
F3U	Fuse (T 6.3A / 250V)	M2F	Motor (fan) (lower)	Z1C ~ Z9C	Noise filter
F4U	Fuse (T 6.3A / 250V)	PS	Switching power supply	Z1F ~ Z4F	Noise filter
F5U	Fuse (T 6.3A / 250V)	R1 ~ R4	Resistor	Q1DI	Earth leakage circuit breaker
F6U	Fuse (T 6.3A / 250V)	R1T	Thermistor (air)	OPTIONAL CONNECTOR	
F7U	Fuse (T 5.0A / 250V)	R2T	Thermistor (discharge)	XBZ	Connector
F8U, F9U	Fuse (F 1.0A / 250V)	R3T	Thermistor (suction)	X77A	Connector
HAP (A1P)	Pilot lamp (service monitor-green)	R4T	Thermistor (heat exchanger)	X1Y	Connector
HAP (A2P)	Pilot lamp (service monitor-green)	R5T	Thermistor (heat exchanger middle)		

	: Terminal strip		: Connection	Colors:	BLU	: Blue	WHT	: White
	: Connector		: Noiseless earth		BRN	: Brown	YLW	: Yellow
	: Field wiring		: Terminal		GRN	: Green	ORG	: Orange
	: Protective earth (screw)		: Connector		RED	: RED	BLK	: Black

2TW59376-1

NOTES

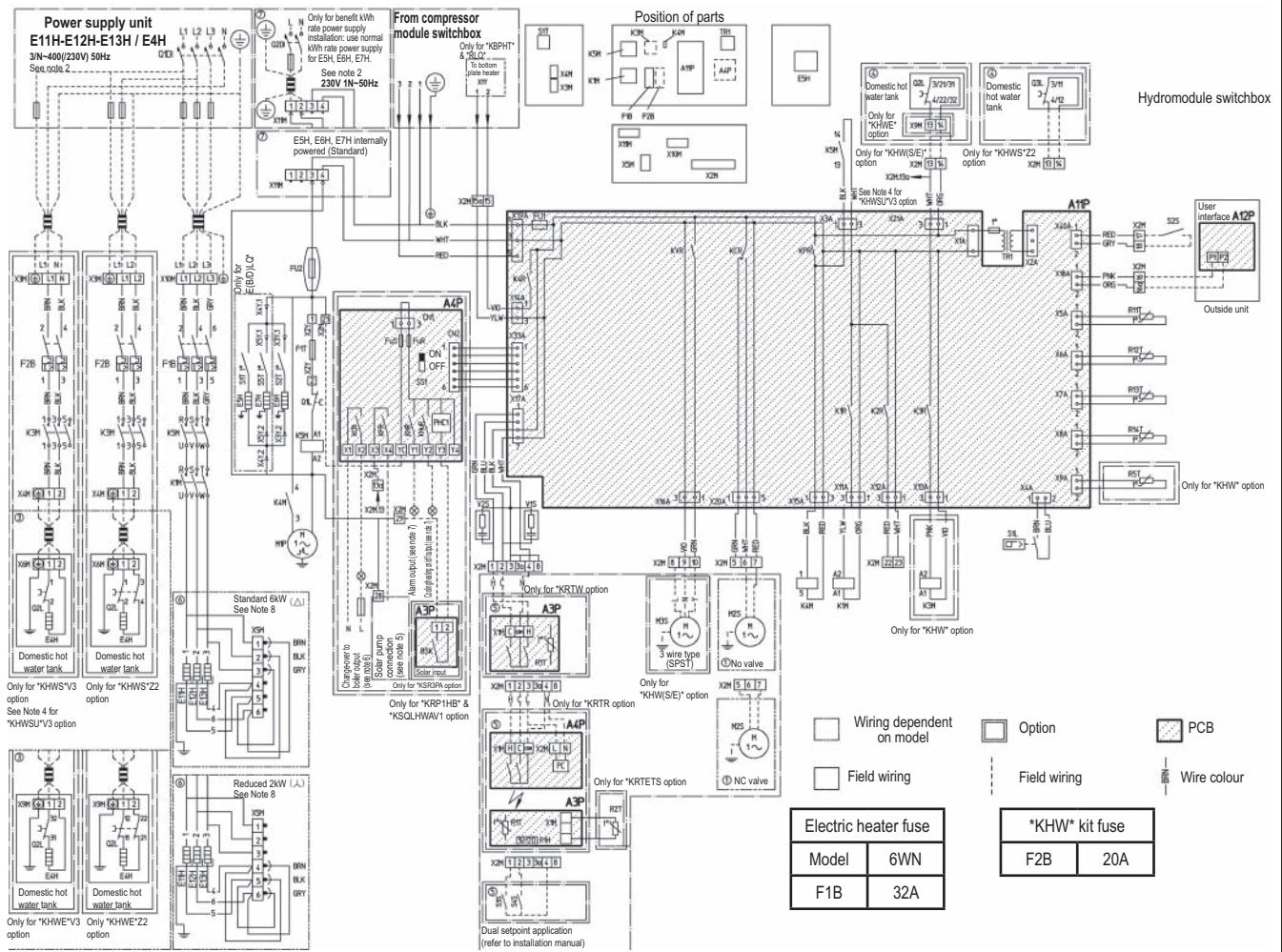
- 1 This wiring diagram only applies to the compressor module switchbox.
- 2 L: Live, N: Neutral
- 3 Not applicable
- 4 Do not operate the unit by short-circuiting protection device S1PH
- 5 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".
- 6



7 Wiring diagram

7 - 1 Wiring diagram

EDLQ011-016BA6W1



A11P	Main PCB	K1M	Contactor backup heater step	R13T	Refrigerant liquid side thermistor
A12P	User interface PCB	K3M	Contactor booster heater	R14T	Inlet water thermistor
A3P (*KRTW/R*)	Thermostat (PC=power circuit)	K4M	Pump relay	R5T (*KHW*)	Domestic hot water thermistor
A4P (EKRP1HB)	Digital I/O PCB	K5M	Contactor for backup heater all pole disconnection	S1L	Flowswitch
A4P (*KRTR)	Receiver PCB	M1P	Pump	S2S	Benefit kWh rate power supply contact
E11H-E12H-E13H	Backup heater element 1-2-3 (6kW)	M2S	2way valve for cooling mode	S3S	Dual setpoint 2 contact
E4H	Booster heater (3kW)	M3S	3way valve: floorheating/domestic hot water	S4S	Dual setpoint 1 contact
E5H	Switchbox heater	PHC1	Optocoupler input circuit	SS1	Dip switch
E6H	Expansion vessel heater	Q1DI, Q2DI	Earth leakage circuit breaker	S1T	Thermostat switchbox heater
E7H	Plate heat exchanger heater	Q1L	Thermal protector backup heater	S2T	Thermostat expansion vessel heater
F1B	Fuse backup heater	Q2L, Q3L	Thermal protector 1/2 booster heater	S3T	Thermostat plate heat exchanger
F1T	Thermal fuse backup heater	R1H (*KRTR)	Humidity sensor	TR1	Transformer 24V for PCB
F2B	Fuse booster heater	R1T (*KRTW/R*)	Ambient sensor	V1S, V2S	Spark suppression 1,2
FU1	Fuse 3.15A T 250V for PCB	R2T (EKRTETS)	External sensor (floor or ambient)	X1M-X11M, X2Y	Terminal strips, connector
FU2	Fuse 5A T 250V	R11T	Outlet water heat exchanger thermistor		
FuS, FuR	Fuse 5A 250V for digital I/O PCB	R12T	Outlet water backup heater thermistor		

- : Terminal strip : Terminal Colors: BLK : Black YLW : Yellow GRN : Green
 : Connector NO/NC: normal open/normal closed RED : RED PNK : Pink ORG : Orange
 : Field wiring SPST: Single pole single throw BLU : Blue BRN : Brown VIO : Violet
 : Protective earth WHT : White GRY : Grey

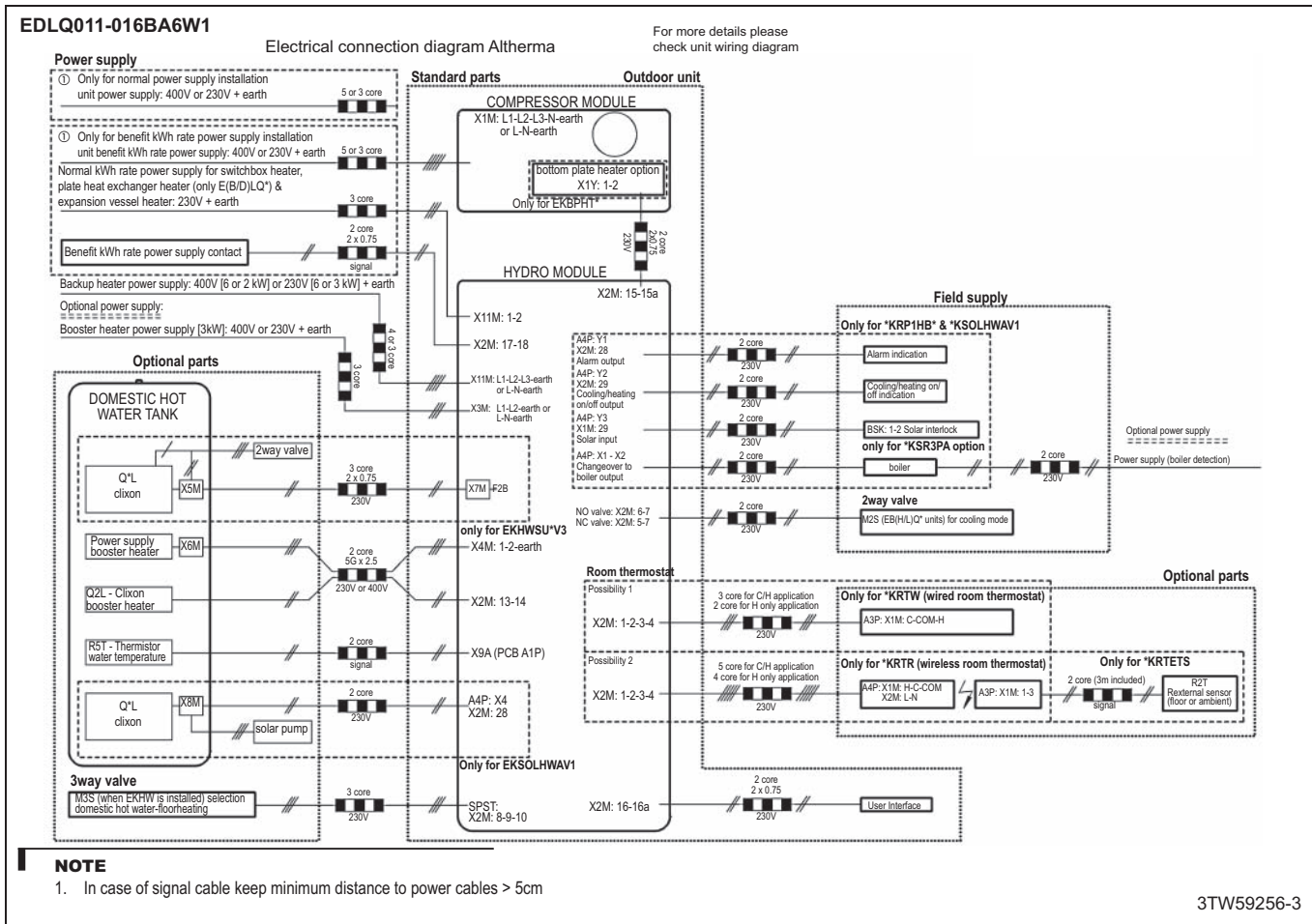
2TW59376-2

NOTES

- This wiring diagram only applies to the hydromodule switchbox.
- Use a dedicated power circuit for the backup heater and booster heater. Never use a power circuit shared by another appliance.
- Do not operate the unit by short-circuiting any protection device.
- For *KHW*V3, refer to option manual.
- For *KSOLHWAV1, refer to option manual.
- Maximum load: 0,3A - 250VAC Minimum load: 20mA - 5VDC
- 230 VAC output Maximum load: 0.3A
- Backupheater KW reduction, refer to installation manual.
- For benefit kWh rate power supply installation, refer to installation manual.

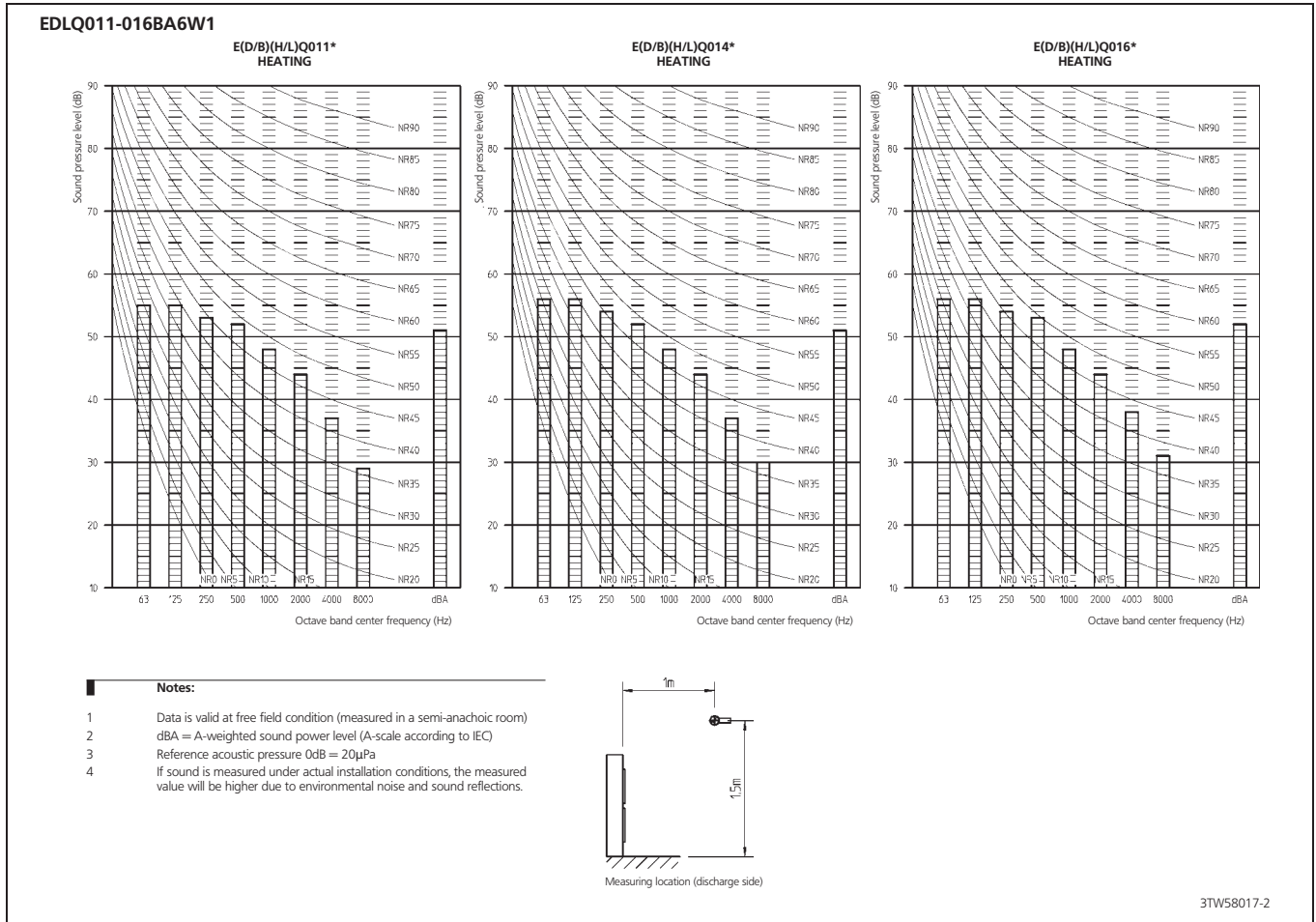
7 Wiring diagram

7 - 2 External connection diagram



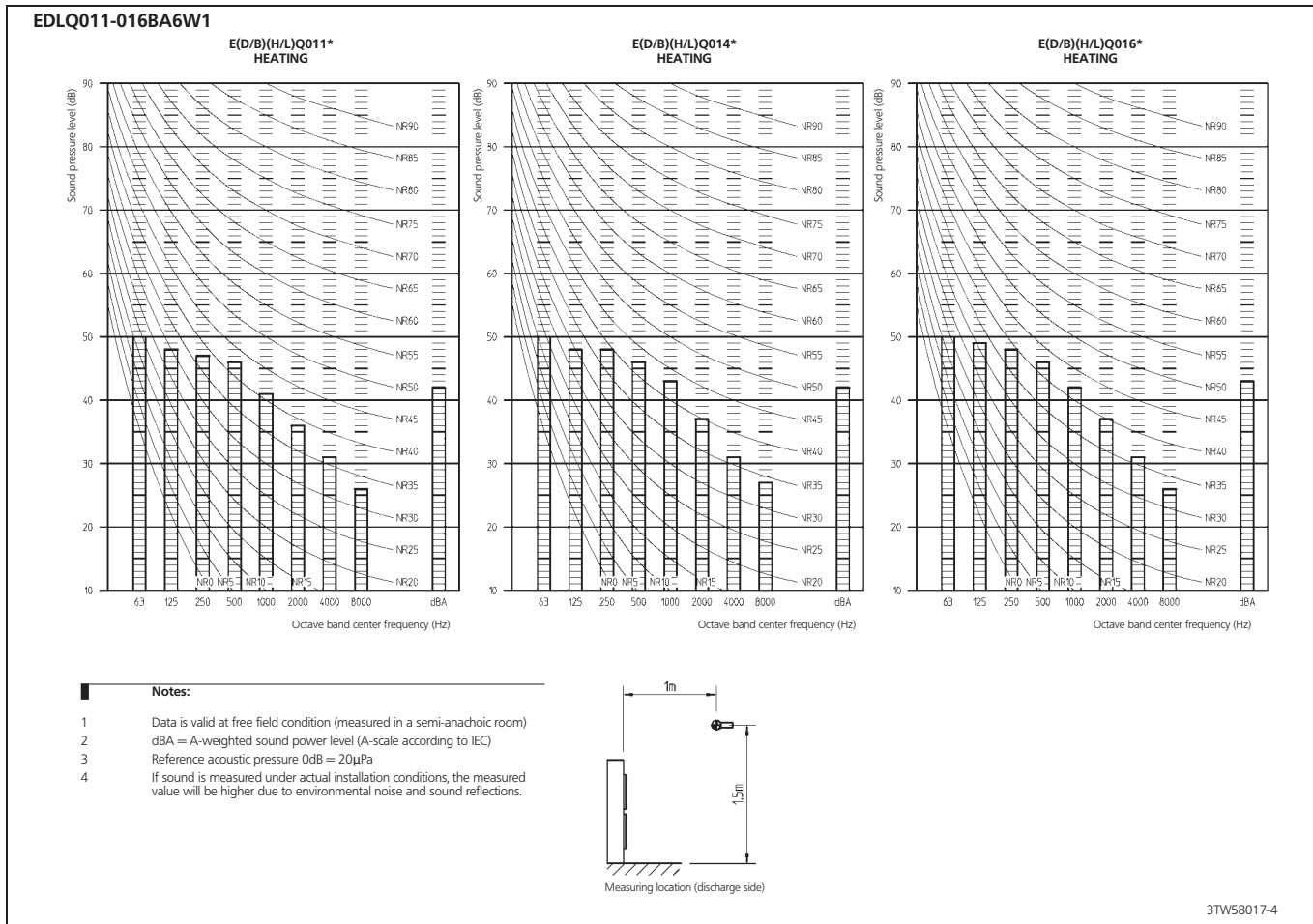
8 Sound data

8 - 1 Sound pressure spectrum



8 Sound data

8 - 2 Sound pressure night quiet mode



9 Installation

9 - 1 Service space

EDLQ011-016BA6W1

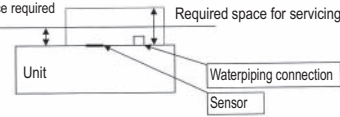
A. Non stacked installation

		←	↖	↗	→		A	B1	B2	C	D1	D2	E	L1/L2
	✓	✓	✓	✓	✓		≥100	≥100						
	✓	✓	✓	✓	✓		≥100	≥100	≥100				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥100	≥100						
	✓	✓	✓	✓	✓		≥100	≥100	≥100				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥100	≥100						
	✓	✓	✓	✓	✓		≥100	≥100	≥100				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥100	≥100						
	✓	✓	✓	✓	✓		≥100	≥100	≥100				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥100	≥100						
	✓	✓	✓	✓	✓		≥100	≥100	≥100				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥100	≥100						
	✓	✓	✓	✓	✓		≥100	≥100	≥100				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥100	≥100						
	✓	✓	✓	✓	✓		≥100	≥100	≥100				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥100	≥100						
	✓	✓	✓	✓	✓		≥100	≥100	≥100				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥100	≥100						
	✓	✓	✓	✓	✓		≥100	≥100	≥100				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000
	✓	✓	✓	✓	✓		≥150	≥150	≥150				≤500	≥1000

- ↖ Suction side obstacle
 - ↗ Discharge side obstacle
 - ← Left side obstacle
 - Right side obstacle
 - ↕ Top side obstacle
 - ✓ Obstacle is present
- ▭ This situation is not allowed

NOTES

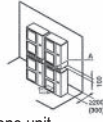
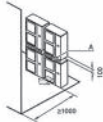
100 mm is min. space required for correct operation



1. In these cases, close bottom of the installation frame to prevent discharged air from being bypassed.
2. In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front on the outlet side
2. Obstacles exist in front of the air inlet

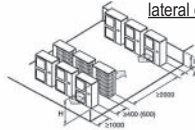
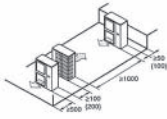


Do not stack more than one unit.

About 100 mm is required as the dimension for laying the upper outdoor unit's drain pipe. Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row
2. Installing multiple units (2 units or more) in lateral connection per row



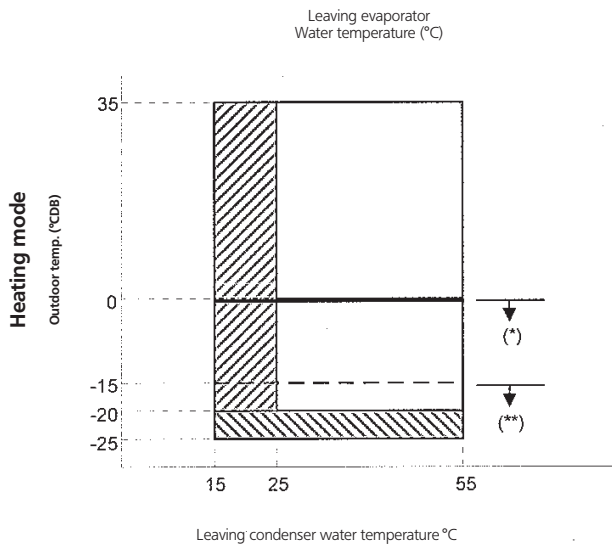
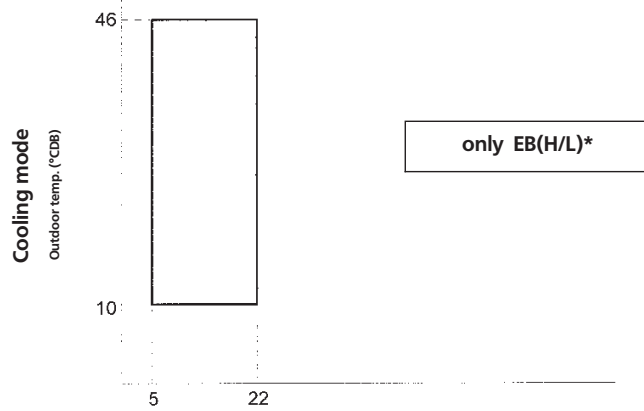
Relation of dimensions of H, A and L are shown in the table below.

	L	A
$L \leq H$	$0 < L \leq 1/2H$	250
	$1/2H < L$	300
$H < L$	Installation not allowed	

3TW58019-6A

10 Operation range

EDLQ011-016BA6W1

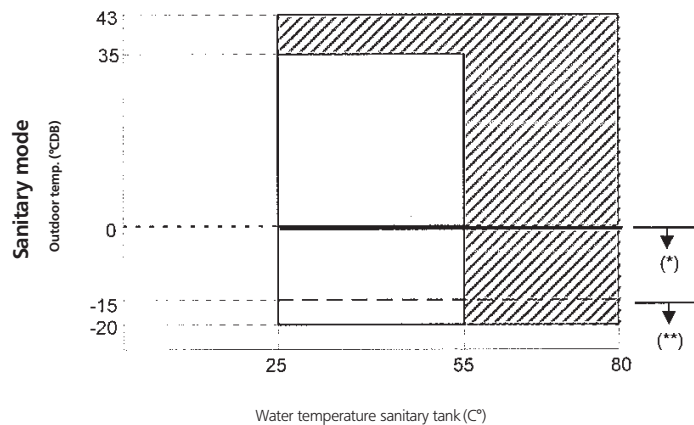


- No heat pump operation, back up heater only
- operation possible, but no guarantee of capacity

(*) E(D/B)L* units include special equipment (insulation, heater sheet, ...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(D/B)H* models may experience problems with severe ice build-up on the aircooled coil. In case such conditions are expected, the E(D/B)L* must be installed instead.

Both E(D/B)L* and E(D/B)H* models have a freeze prevention function using the pump and back up heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen we recommend to use glycol.

(**) only E(D/B)L*



- Booster heater operation only

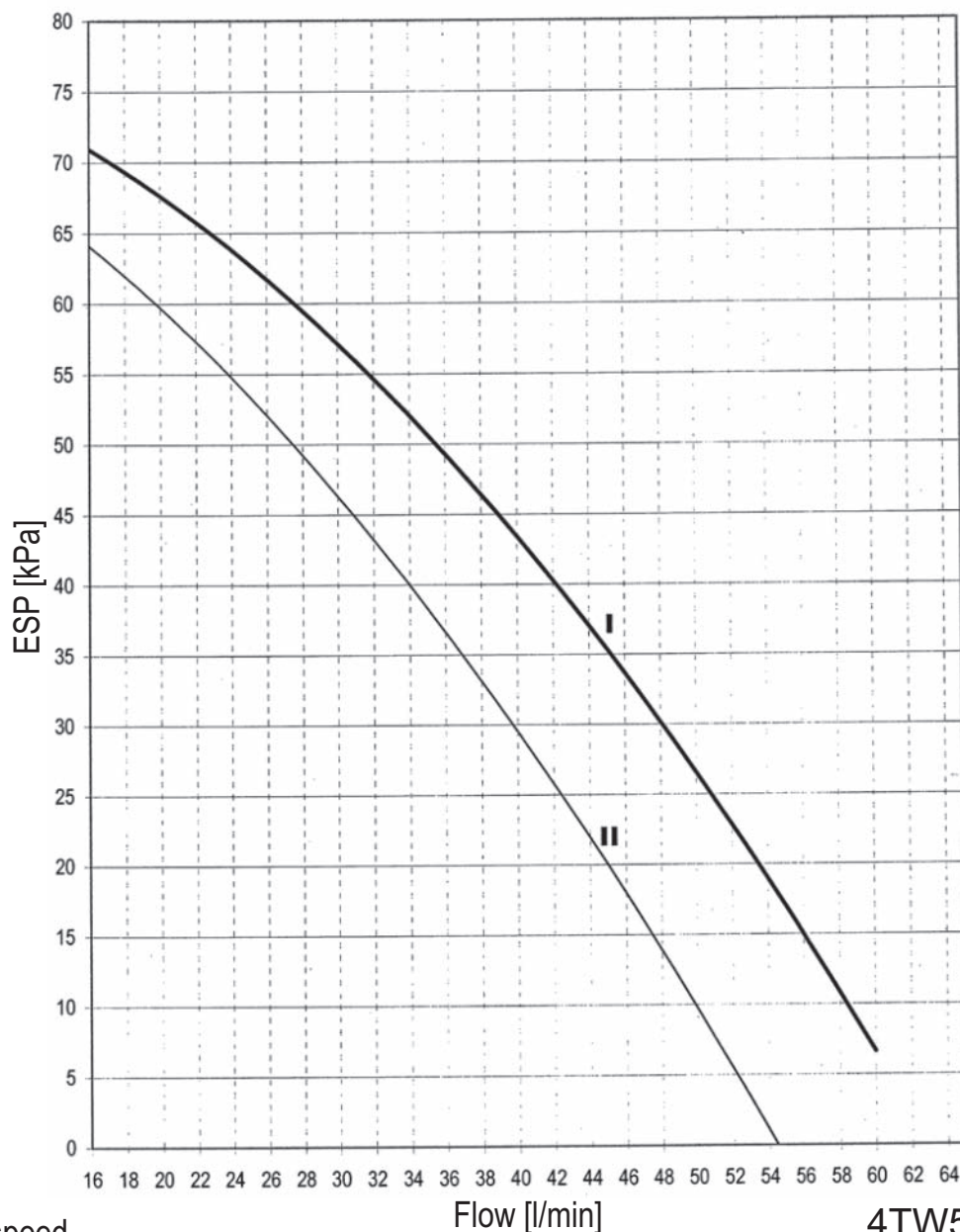
(**) only E(D/B)L*

4TW58133-1A

11 Hydraulic performance

11 - 1 Static pressure drop unit

EDLQ011-016BA6W1



I high speed

II medium speed

ESP: external static pressure

Flow: waterflow through the unit

4TW59259-2

13

11

Caution:

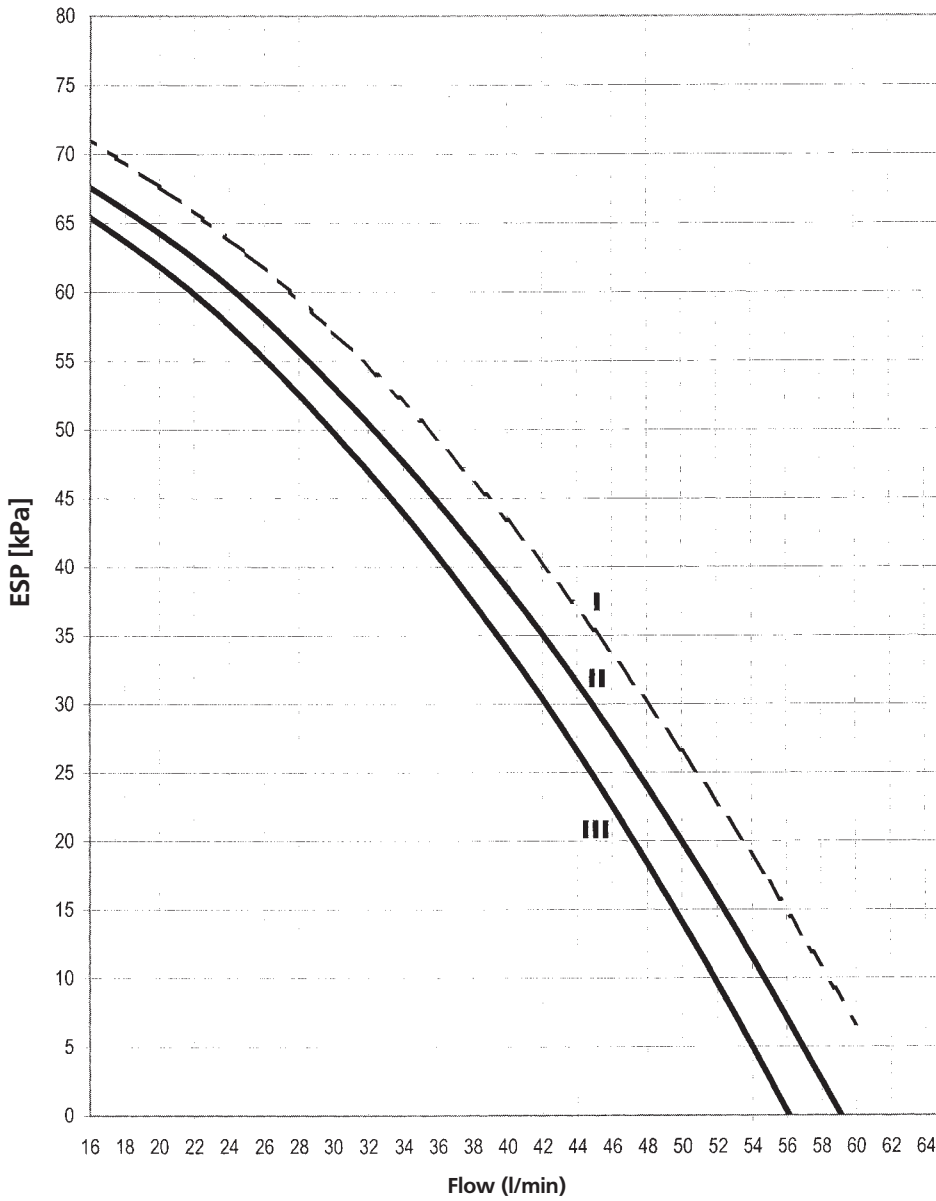
Selecting a flow outside the curves can cause damage to or malfunction of the unit.

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

11 Hydraulic performance

11 - 1 Static pressure drop unit

EDLQ-B6V3



- I: Water
- II: Water / Propylene glycol (25%) at 20°C
- III: Water / Propylene glycol (25%) at 5°C

Values only valid for high speed setting

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

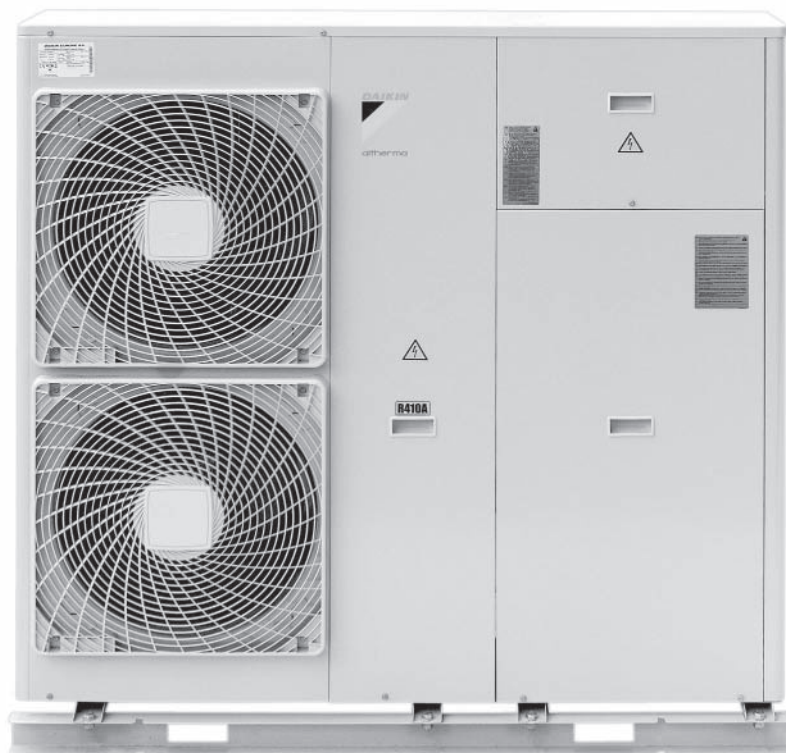
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1 Features

- Heating only monobloc
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				EDHQ011BA6V3	EDHQ014BA6V3	EDHQ016BA6V3
Condition 1	Heating capacity	Nominal	kW	11.20	14.00	16.00
	Heating PI	Nominal	kW	2.47	3.20	3.79
	COP	Nominal		4.54	4.37	4.22
Condition 2	Heating capacity	Nominal	kW	10.87	13.10	15.06
	Heating PI	Nominal	kW	3.22	3.91	4.62
	COP	Nominal		3.37	3.35	3.26
Notes				Condition 1: cooling Ta 35°C - LWE 18°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (Dt=5°C)		
				Condition 2: cooling Ta 35°C - LWE 7°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)		

2-2 TECHNICAL SPECIFICATIONS				EDHQ011BA6V3	EDHQ014BA6V3	EDHQ016BA6V3
Casing	Colour			Ivory white		
	Material			Painted galvanised steel		
Dimensions	Unit	Height	mm	1,418		
		Width	mm	1,435		
		Depth	mm	382	382	382
	Packing	Height	mm	1,557		
		Width	mm	1,500		
		Depth	mm	430	430	430
Weight	Unit		kg	180	180	180
	Packed unit		kg	200	200	200
Packing	Material			Wood		
				Carton		
				Plastic foil		
	Weight		kg	20	20	20
Operation Range	Heating - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	35	35	35
	Heating - Waterside	Min	°C	15	15	15
		Max	°C	55	55	55
	Domestic hot water - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	43	43	43
	Domestic hot water - Waterside	Min	°C	25	25	25
		Max	°C	80	80	80
Sound Level (nominal)	Heating	Sound Power	dBA	64	65	66
		Sound Pressure	dBA	51	51	52
Sound Level (Night quiet)	Heating	Sound Pressure	dBA	42	42	43
Refrigerant	Type			R-410A		
	Charge		kg	2.95	2.95	2.95
	Control			Electronic expansion valve		
	Nr of Circuits			1	1	1
Refrigerant Oil	Type			Daphne FVC68D		
	Charged Volume		l	1.0	1.0	1.0
Defrost Method				Pressure equalising		
Defrost Control				Sensor for outdoor heat exchanger temperature		
Capacity Control Method				Inverter controlled		
Safety Devices				High pressure switch		
				Fan motor thermal protector		
				Fuse		

2 Specifications

2-2 TECHNICAL SPECIFICATIONS	EDHQ011BA6V3	EDHQ014BA6V3	EDHQ016BA6V3
Notes	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.		
	Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)		
	Conditions: Ta 35°C - LWE 7°C (DT = 5°C)		
	15°-25°C: BUH only, no heat pump operation = during commissioning		
	Including piping + PHE + back-up heater / excluding expansion vessel		
	E(D)(B)L* model can reach -20°C / E(D)(B)L*6W1 model can reach -25°C but without capacity guarantee		
	Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load through, extra water volume might be required.		

2-3 MAIN COMPONENTS				EDHQ011BA6V3	EDHQ014BA6V3	EDHQ016BA6V3
Air heat exchanger	Specifications	Length	mm	857	857	857
		Nr of Rows		2	2	2
		Fin pitch	mm	1.4	1.4	1.4
		Nr of Passes		5	5	5
		Face area	m ²	1.131	1.131	1.131
		Nr of Stages		60	60	60
		Empty tubeplate hole		0	0	0
	Tube type		Hi-XSS (8)			
Fin	Type	WF fin				
	Treatment	Anti-corrosion treatment (PE)				
Fan	Type	Propeller				
	Quantity	2	2	2		
Air Flow Rate (nominal at 230V)	Heating	High	m ³ /min	90	90	90
Fan	Discharge direction		Horizontal			
	Motor	Quantity	2	2	2	
		Model	Brushless DC			
Motor	Speed (nominal)	Steps	8	8	8	
		Heating	rpm	760	760	760
Fan	Motor	Output	W	70	70	70
		Drive	Direct drive			
Compressor	Quantity		1	1	1	
	Motor	Model	JT100G-VD			
		Type	Hermetically sealed scroll compressor			
		Motor Output	W	2,200		
Starting Method		Inverter driven				
Motor	Crankcase Heater	Output	W	33	33	33
Pump	Type		Water cooled			
	Nr. of speed		2	2	2	
	Nominal ESP unit	Heating	kPa	54.5	43.3	34.0
	Power input		W	210	210	210
Water side Heat exchanger	Type		Brazen plate			
	Quantity		1	1	1	
	Water volume		l	1.01	1.01	1.01
	Water flow rate Min.		l/min	16	16	16
	Water flow rate Nom.	Heating	l/min	32.1	40.1	45.9
	Water flow rate Max.		l/min	58	58	58
	Insulation material		Polyurethane foam			
Expansion vessel	Volume		l	10	10	10
	Maximum water pressure		bar	3	3	3
	Pre pressure		bar	1.0	1.0	1.0
Water filter	Diameter perforations		mm	1	1	1
	Material		Brass			

2 Specifications

2-3 MAIN COMPONENTS			EDHQ011BA6V3	EDHQ014BA6V3	EDHQ016BA6V3
Water circuit	Piping connections	inch	G5/4 (FEMALE)		
	Piping	inch	5/4"		
	Safety valve	bar	3	3	3
	Manometer		Yes		
	Drain valve / Fill valve		Yes		
	Shut off valve		Yes		
	Air purge valve		Yes		
	Total water volume (6)	l	5.5	5.5	5.5
	Minimum water volume system	l	20	20	20

2-4 ELECTRICAL SPECIFICATIONS				EDHQ011BA6V3	EDHQ014BA6V3	EDHQ016BA6V3
Power supply compressor component	Main Power	Name		V3		
		Phase		1~	1~	1~
		Frequency	Hz	50	50	50
		Voltage	V	230	230	230
	Voltage range	Minimum	V	-10%		
		Maximum	V	+10%		
	Current	Minimum Ssc value	kVa	Equipment complying with EN/IEC 61000-3-12(*)		
		Recommended fuses	A	32	32	32
Wiring connections	For power supply compressor component		See installation manual			
Power supply hydraulic component	Current back-up heater	Type	6V3			
Current back-up heater	Power Supply	Phase	1~			
		Frequency	Hz	50	50	50
		Voltage	V	230	230	230
	Running Current	Back-up heater	A	26	26	26
Running Current	Back-up heater + booster heater	+EK*V3	A	39(26+13)		
Current back-up heater	Z-max	Back-up heater	A	0.29	0.29	0.29
		Back-up heater + booster heater	A	0.17	0.17	0.17
	Minimum Ssc value	+EK*V3	kVa	Equipment complying with EN/IEC 61000-3-12(**)		

2 Specifications

2-4 ELECTRICAL SPECIFICATIONS				EDHQ011BA6V3	EDHQ014BA6V3	EDHQ016BA6V3	
Power supply hydraulic component	Voltage range	Minimum	V	-10%			
		Maximum	V	+10%			
	Wiring connections	Connection type	For power supply hydraulic compartment				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Connection type	For power supply connection to optional sanitary tank + Q2L				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	For more details on voltage range and current refer to installation manual				
		Connection type	For connection with R5T				
		Quantity of wires	Wire included in option EKHWS*				
		Type of wires	Wire included in option EKHWS*				
		Connection type	For connection with A3P				
		Quantity of wires	Depends on thermostat type, refer to installation manual				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M2S				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M3S				
		Quantity of wires	3G or 4G				
	Type of wires	Select diameter and type according to national and local regulations					
	Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²					
	Notes	Power supply compressor compartment is for compressor, fan, pump and controller					
		In accordance with EN/IEC 61000-3-11 (1), it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (3) smaller than or equal to Zmax.					
		Power supply hydraulic compartment is for the electric heater. The optional domestic warm water tank has a separate power supply.					
Installer can reduce capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Instructions see installation manual.							
Installer can reduce capacity of the heater from 6 to 3.5kW. The current is then reduced from 8.7 to 5A. Instructions see installation manual.							
(1) 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 ≤ 75A.							
(2) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16A ≤ 75A per phase.							
(3) System impedance							
Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)							

3 Options

EDHQ011-016BA6V3

Kit availability for E(D/B)(H/L)Q011-016BA*

		Altherma Monoblock / Low temperature											
		1-phase						3-phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BA6V3			EDHQ***BA6V3			EDLQ***BA6W1			EDHQ***BA6W1		
		EBLQ***BA6V3			EBHQ***BA6V3			EBLQ***BA6W1			EBHQ***BA6W1		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
*KRP1HBB	Digital I/O PCB (1)	○	○	○	○	○	○	○	○	○	○	○	○
*KBPTH16A	Bottom plate heater	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KDK04	Drain plug kit	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KHWS150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3Z2	Stainless domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3Z2	Stainless domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE150*3V3	Enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3V3	Enamel domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3V3	Enamel domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3Z2	Enamel domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3Z2	Enamel domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KSOLHWAV1	Solarkit (4)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTW	Wired room thermostat option kit	○	○	○	○	○	○	○	○	○	○	○	○
*KRTR	Wireless room thermostat option kit (incl. receiver)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTETS	External temperature sensor option kit (3)	○	○	○	○	○	○	○	○	○	○	○	○
*KWBSWW150	Wall bracket for *KHWS(U)150*3V3 or *KSWW150V3*	○	○	○	○	○	○	○	○	○	○	○	○

3TW59259-1

REMARK

- Other combinations are not guaranteed

NOTES

- Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KHRP1HB is already included.
- It is not allowed to combine bottom plate heater and drain plug kit.
- *KRTETS can only be used in combination with *KRTR
- Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
- E(B/D)L units include special equipment (insulation, heater sheet,...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the e(B/D)L must be installed instead.

3 Options

EDHQ11-016BA6V3

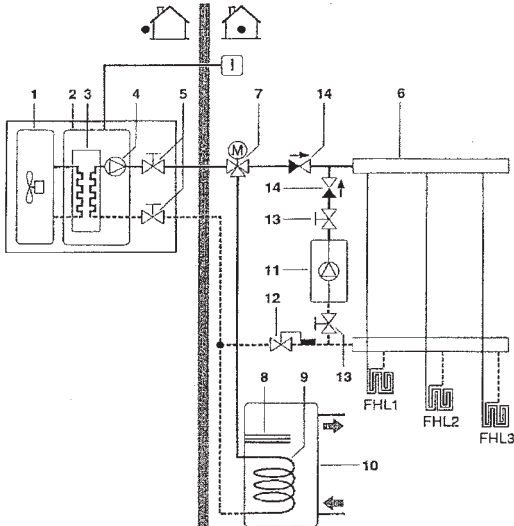
Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the altherma indoor unit or by an auxiliary boiler connected in the system. An auxiliary contact decides whether either the E(D/B)(H/L)Q* hydro module or the boiler will operate. This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

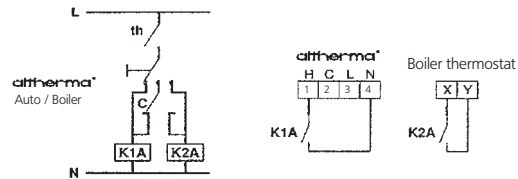
Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the hydro module, including when the boiler is in operation for space heating.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.



- 1 Compressor module
- 2 Hydro module
- 3 Heat exchanger
- 4 Pump
- 5 Shut-off valve
- 6 Collector (field supply)
- 7 Motorised 3-way valve (field supply)
- 8 Booster heater
- 9 Heat exchanger coil
- 10 Domestic hot water tank
- 11 Boiler (field supply)
- 12 Aquastat valve (field supply)
- 13 Shut-off valve (field supply)
- 14 Non-return valve (field supply)
- FHL 1..3 Floor heating loop (field supply)
- I User interface

Field wiring



- Boiler thermostat
- C
- th
- K1A
- K2A

- Boiler thermostat
- Auxiliary contact (normal closed)
- Heating only room thermostat
- Auxiliary relay for activation of E(D/B)(H/L)Q * unit (field supply)
- Auxiliary relay for activation of boiler (field supply)

Operation

When the room thermostat (th) closes, either the E(D/B)(H/L)Q * unit or the boiler starts operating, depending on the position of the auxiliary contact (C)



Make sure that auxiliary contact (C) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)(H/L)Q * unit and the boiler. If the auxiliary contact (C) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or turned ON/OFF by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.

During heating operation of the E(D/B)(H/L)Q * unit, the Altherma unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature.

During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.

Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already pre-mounted in the Altherma unit.



Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)(H/L)Q * switch box correctly. Refer to 'Room thermostat installation configuration' in the installation manual supplied with the unit.

Make sure that return water to the E(D/B)(H/L)Q * heat exchanger never exceeds 55°C.

For this reason, never put the target leaving water temperature setpoint on the boiler controller above 55°C and if required, install an aquastat(*) valve in the return water flow of the E(D/B)(H/L)Q* unit. Daikin shall not be held liable for any damage resulting from failure to observe this rule.

(*)The aquastat valve must be set for 55°C and must operate to close the return water flow to the E(D/B)(H/L)Q * unit when the measured temperature exceeds 55°C. When temperature drops to a lower level, the aquastat valve must operate to open the return water flow to the E(D/B)(H/L)Q * unit again.

4 Capacity tables

4 - 1 Heating capacity tables

EDHQ-B6V3

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6V3	-20 (a)	5,86	2,17	5,51	2,37								
	-15	6,63	2,21	6,23	2,42	6,09	2,67						
	-7	8,13	2,24	7,66	2,47	7,51	2,72						
	-2	9,28	2,25	8,76	2,48	8,61	2,74	8,41	3,21	8,11	3,57		
	2	10,32	2,25	9,77	2,48	9,62	2,75	9,42	3,22	9,10	3,59	8,51	4,00
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
	20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92
E(D/B)(H/L)Q014*6V3	-20 (a)	7,42	2,78	7,20	3,03								
	-15	8,29	2,84	8,00	3,10	7,72	3,40						
	-7	10,07	2,91	9,67	3,18	9,28	3,49	9,08	3,80				
	-2	11,46	2,94	11,00	3,21	10,54	3,54	10,29	3,85	10,13	4,26		
	2	12,75	2,95	12,23	3,23	11,72	3,56	11,43	3,88	11,25	4,30	10,73	4,75
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
	20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69
E(D/B)(H/L)Q016*6V3	-20 (a)	8,47	3,27	8,34	3,56								
	-15	9,44	3,34	9,21	3,64	8,99	3,99						
	-7	11,44	3,43	11,08	3,74	10,73	4,11	10,53	4,47				
	-2	13,01	3,47	12,58	3,79	12,14	4,17	11,89	4,54	11,45	5,01		
	2	14,48	3,49	13,98	3,82	13,48	4,20	13,18	4,58	12,67	5,06	12,17	5,59
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6V3	-20 (a)	4,96	2,13	4,67	2,32								
	-15	5,61	2,16	5,27	2,37	5,16	2,61						
	-7	6,88	2,20	6,49	2,41	6,36	2,67	6,19	3,12				
	-2	7,70	2,16	7,27	2,38	7,15	2,63	6,98	3,08	6,73	3,43		
	2	8,57	2,16	8,11	2,38	7,99	2,64	7,82	3,09	7,56	3,45	7,06	3,84
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
	20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92
E(D/B)(H/L)Q014*6V3	-20 (a)	6,31	2,69	6,13	2,93								
	-15	7,05	2,75	6,80	3,00	6,57	3,29						
	-7	8,57	2,82	8,23	3,08	7,89	3,38	7,72	3,68				
	-2	9,11	2,66	8,74	2,91	8,38	3,20	8,18	3,49	8,05	3,86		
	2	10,13	2,67	9,72	2,93	9,31	3,22	9,09	3,52	8,95	3,89	8,53	4,30
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
	20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69
E(D/B)(H/L)Q016*6V3	-20 (a)	7,00	3,17	6,89	3,45								
	-15	7,80	3,24	7,61	3,53	7,43	3,87						
	-7	9,45	3,33	9,15	3,63	8,86	3,99	8,70	4,34				
	-2	9,96	3,09	9,62	3,38	9,29	3,71	9,09	4,04	8,76	4,46		
	2	11,08	3,11	10,69	3,35	10,31	3,74	10,08	4,08	9,69	4,50	9,31	4,98
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54

3TW58012-1C

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condenser temperature (°C)
- Tamb : Ambient temperature RH=85%

Heating capacity at heat recovery condenser

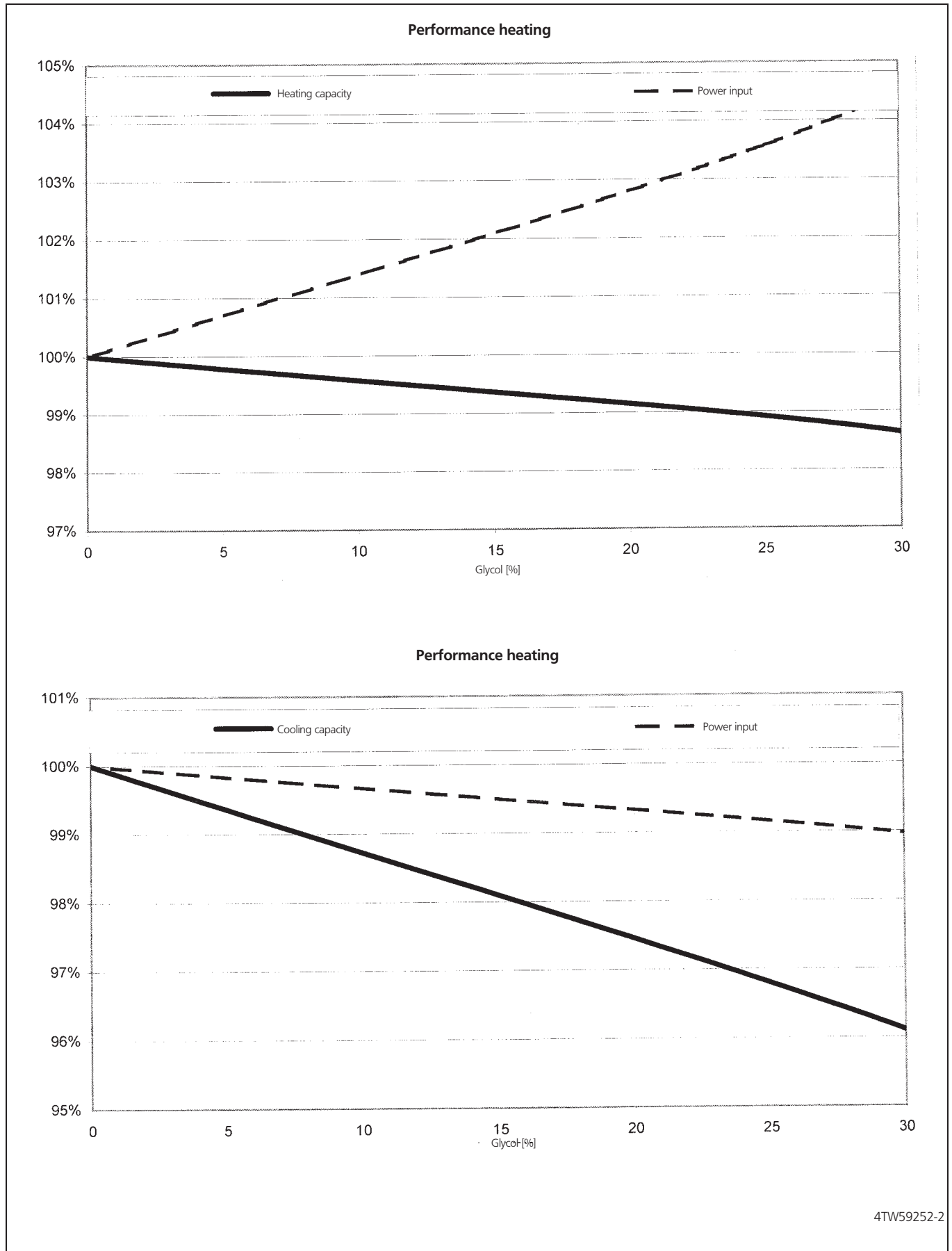
- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
 - 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
 - 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).
- NOTES:
-For the model with heatertape (*(D-V/LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp for more details see installation manual of indoor unit.

NOTES

- (a) only E(D/B)L*

4 Capacity tables

4 - 1 Heating capacity tables



5 Dimensional drawing & centre of gravity

5 - 1 Dimensional drawing

EDHQ011-016BA6V3

Center of gravity

Cutaway 4

Cutaway 2

Cutaway 3

Knock-out hole Ø40 for connection to item 15

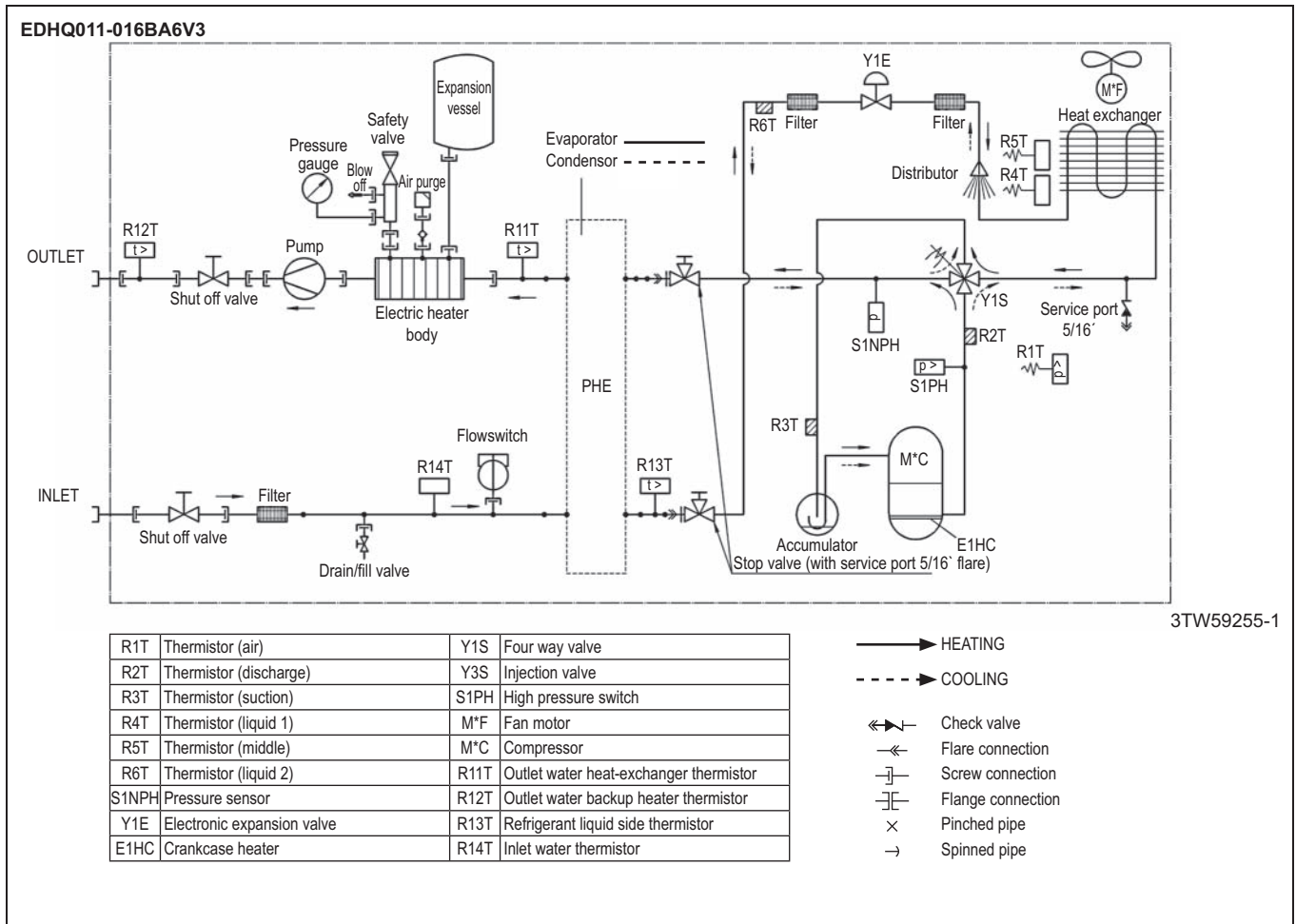
4 holes for anchor bolt M21

3TW59254-1A

Nr	Name	Nr	Name	Nr	Name
☉	Center of gravity	8	Service door compressor module	16	Pressure gauge
1	Drain outlet	9	Service port	17	Waterfilter
2	Waterpiping outlet	10	Pump	18	Expansion vessel + (18a) nipple
3	Waterpiping inlet	11	Remocon kit (to be installed indoors)	19	Switchbox terminals
4	Entry low voltage cables (<30V)	12	Air purge	20	Switchbox terminals option sanitary warm water tank
5	Entry power cables	13	Shot-off valve	21	Drain & fill valve
6	Service door switchbox	14	Blow-off valve		
7	Service door hydraulic module	15	Blow-off drain		

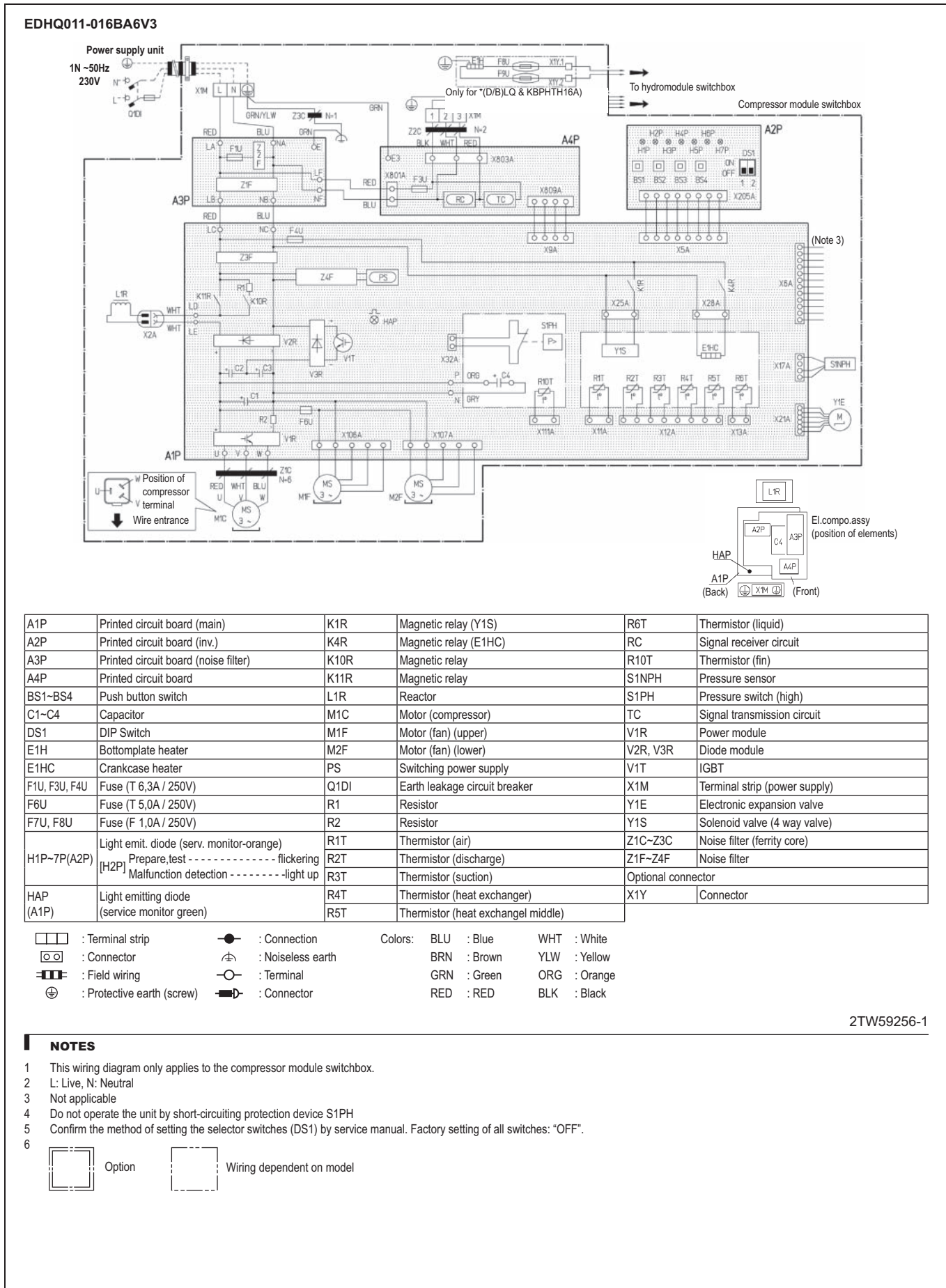
6 Piping diagram

6 - 1 Piping diagram



7 Wiring diagram

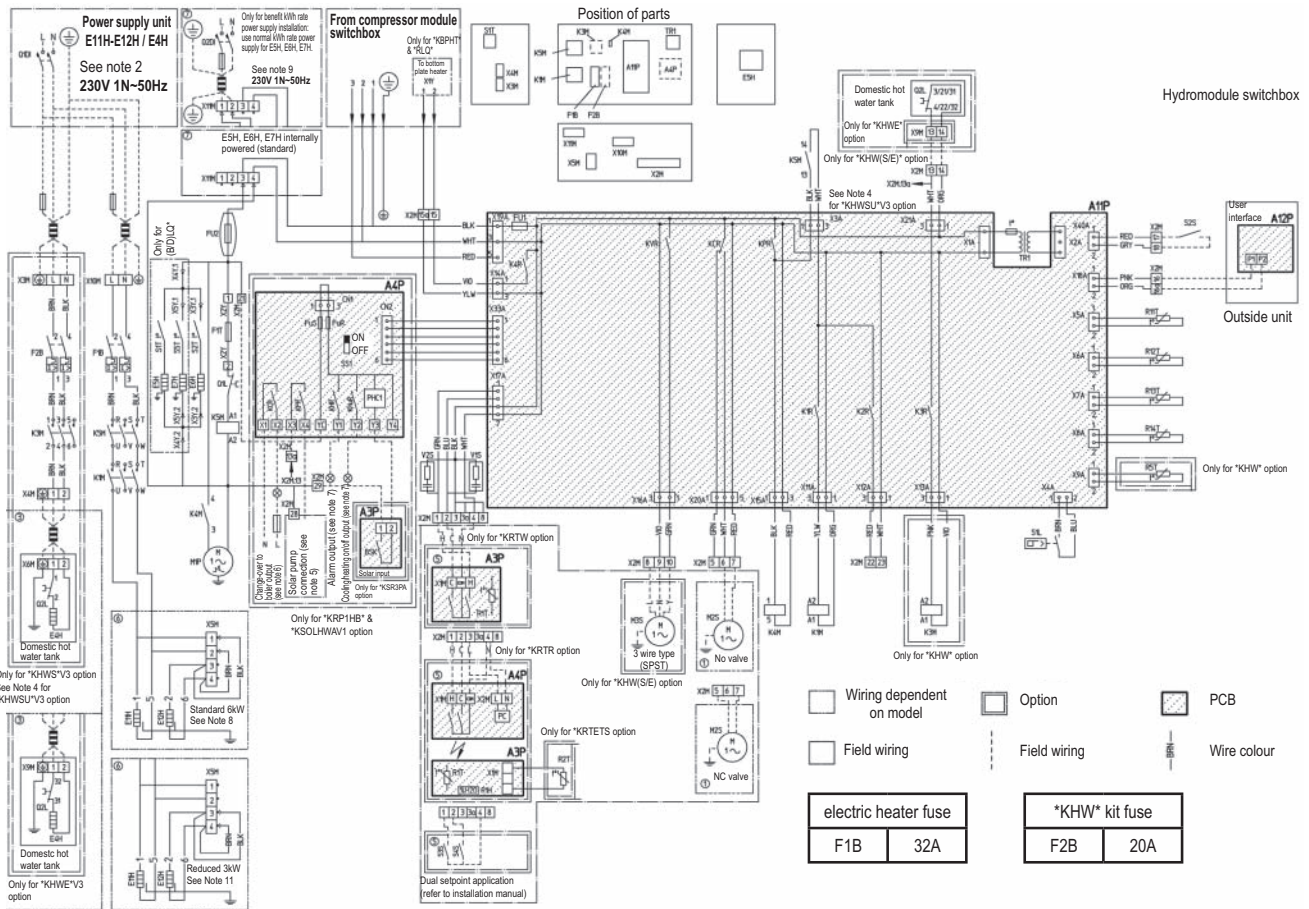
7 - 1 Wiring diagram



7 Wiring diagram

7 - 1 Wiring diagram

EDHQ011-016BA6V3



A11P	Main PCB	K1M	Contactor backup heater step	R14T	Inlet water thermistor
A12P	User interface PCB	K3M	Contactor booster heater	R5T (*KHW*)	Domestic hot water thermistor
A3P (*KRTW/R*)	Thermostat (PC=power circuit)	K4M	Pump relay	S1L	Flowswitch
A3P (*KSR3PA)	Solar pump station PCB	K5M	Contactor for backup heater all pole disconnection	S2S	Benefit kWh rate power supply contact
A4P (*KRP1HB)	Digital I/O PCB	M1P	Pump	S3S	Dual setpoint 2 contact
A4P (*KRTR)	Receiver PCB	M2S	2way valve for cooling mode	S4S	Dual setpoint 1 contact
E11H-E12H	Backup heater element 1-2 (6kW)	M3S	3way valve: floorheating/domestic hot water	SS1	Dip switch
E4H	Booster heater (3kW)	PHC1	Optocoupler input circuit	S1T	Thermostat switchbox heater
E5H	Switchbox heater	Q1DI, Q2DI	Earth leakage circuit breaker	S2T	Thermostat expansion vessel heater
E6H	Expansion vessel heater	Q1L	Thermal protector backup heater	S3T	Thermostat plate heat exchanger
E7H	Plate heat exchanger heater	Q2L	Thermal protector 1/2 booster heater	TR1	Transformer 24V for PCB
F1B	Fuse backup heater	R1H (*KRTR)	Humidity sensor	V1S, V2S	Spark suppression 1, 2
F1T	Thermal fuse backup heater	R1T (*KRTW/R*)	Ambient sensor	X1M-X11M, X2-5Y	Terminal strips, connector
F2B	Fuse booster heater	R2T (*KRTETS)	External sensor (floor or ambient)		
FU1	Fuse 3.15A 250V for PCB	R11T	Outlet water heat exchanger thermistor		
FU2	Fuse 5A T 250V	R12T	Outlet water backup heater thermistor		
FuS, FuR	Fuse 5A 250V for digital I/O PCB	R13T	Refrigerant liquid side thermistor		

- : Terminal strip ○ : Terminal Colors: BLU : Blue WHT : White PNK : Pink
- ⊙ : Connector BRN : Brown YLW : Yellow Vio : Violet
- ⋯ : Field wiring GRN : Green ORG : Orange GRY : Grey
- ⊕ : Protective earth (screw) RED : RED BLK : Black

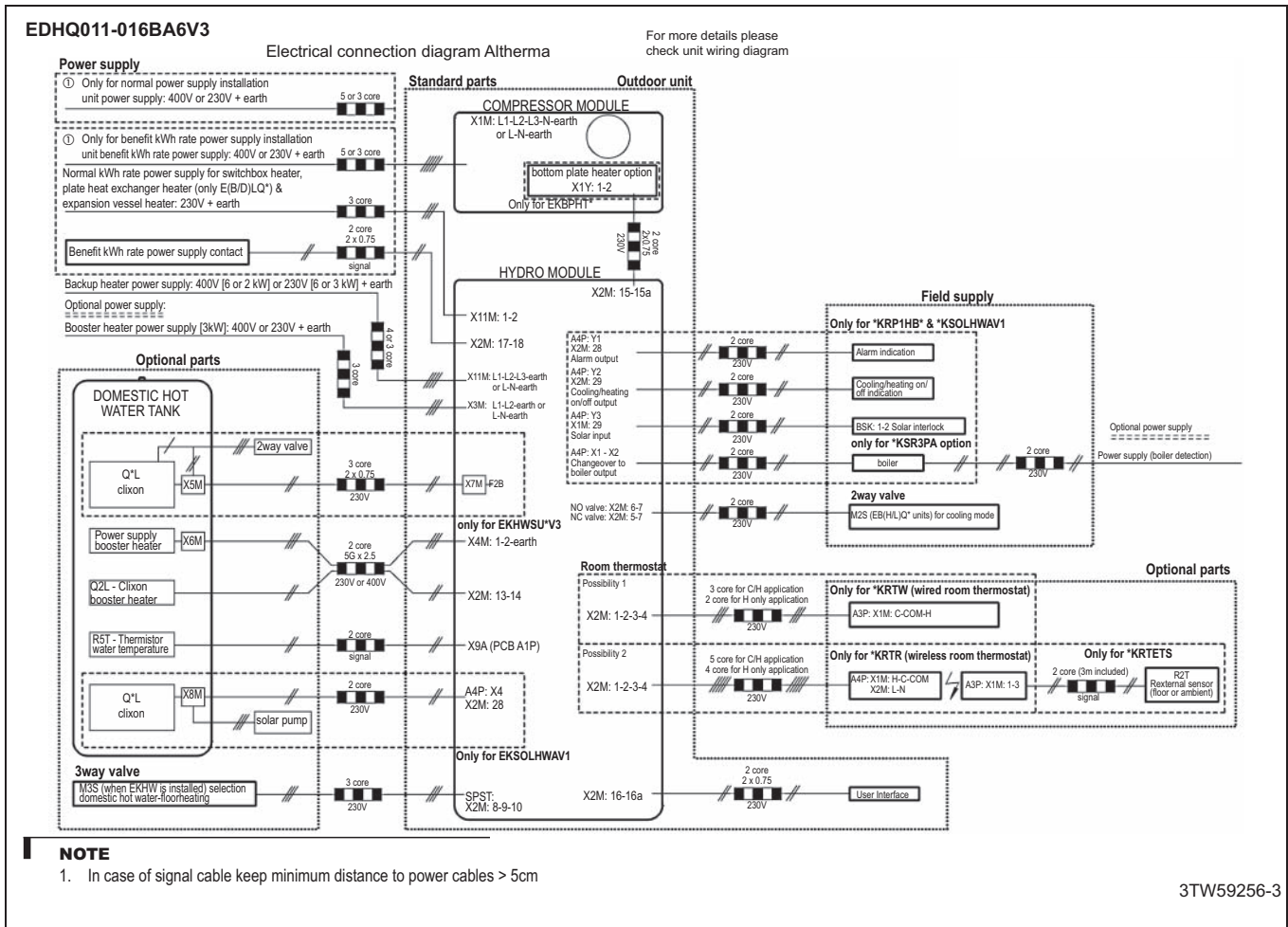
2TW59256-2

NOTES

- 1 This wiring diagram only applies to the hydromodule switchbox.
- 2 Use a dedicated power circuit for the backup heater and booster heater. Never use a power circuit shared by another appliance.
- 3 Do not operate the unit by short-circuiting any protection device.
- 4 For *KHWVSU*V3, refer to option manual.
- 5 For *KSOLHWAV1, refer to option manual.
- 6 Maximum load: 0,3A - 250VAC Minimum load: 20mA - 5VDC
- 7 230 VAC output Maximum load: 0.3A
- 8 Backupheater KW reduction, refer to installation manual.
- 9 For beneat kWh rate power supply installation, refer to installation manual.

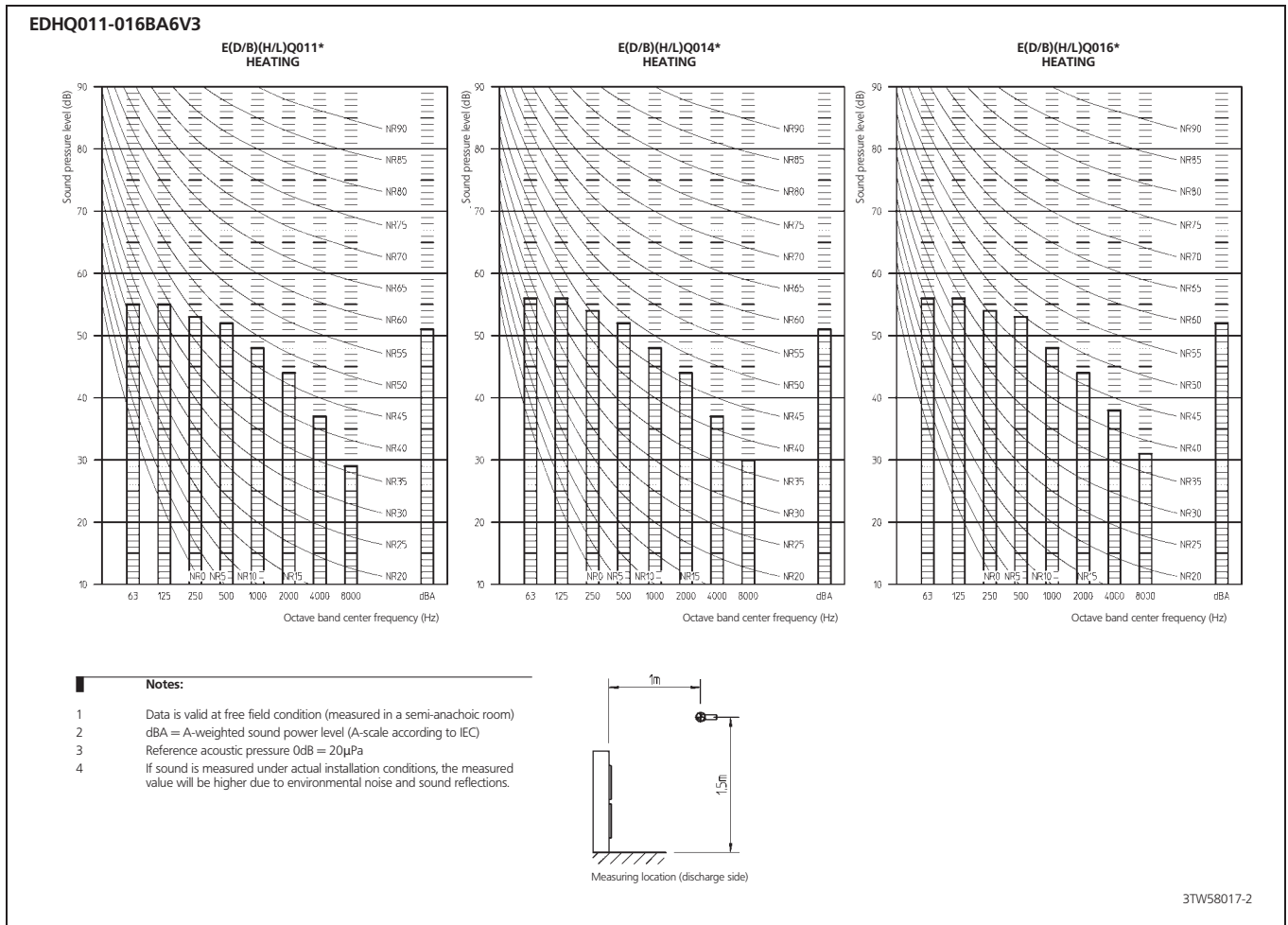
7 Wiring diagram

7 - 2 External connection diagram



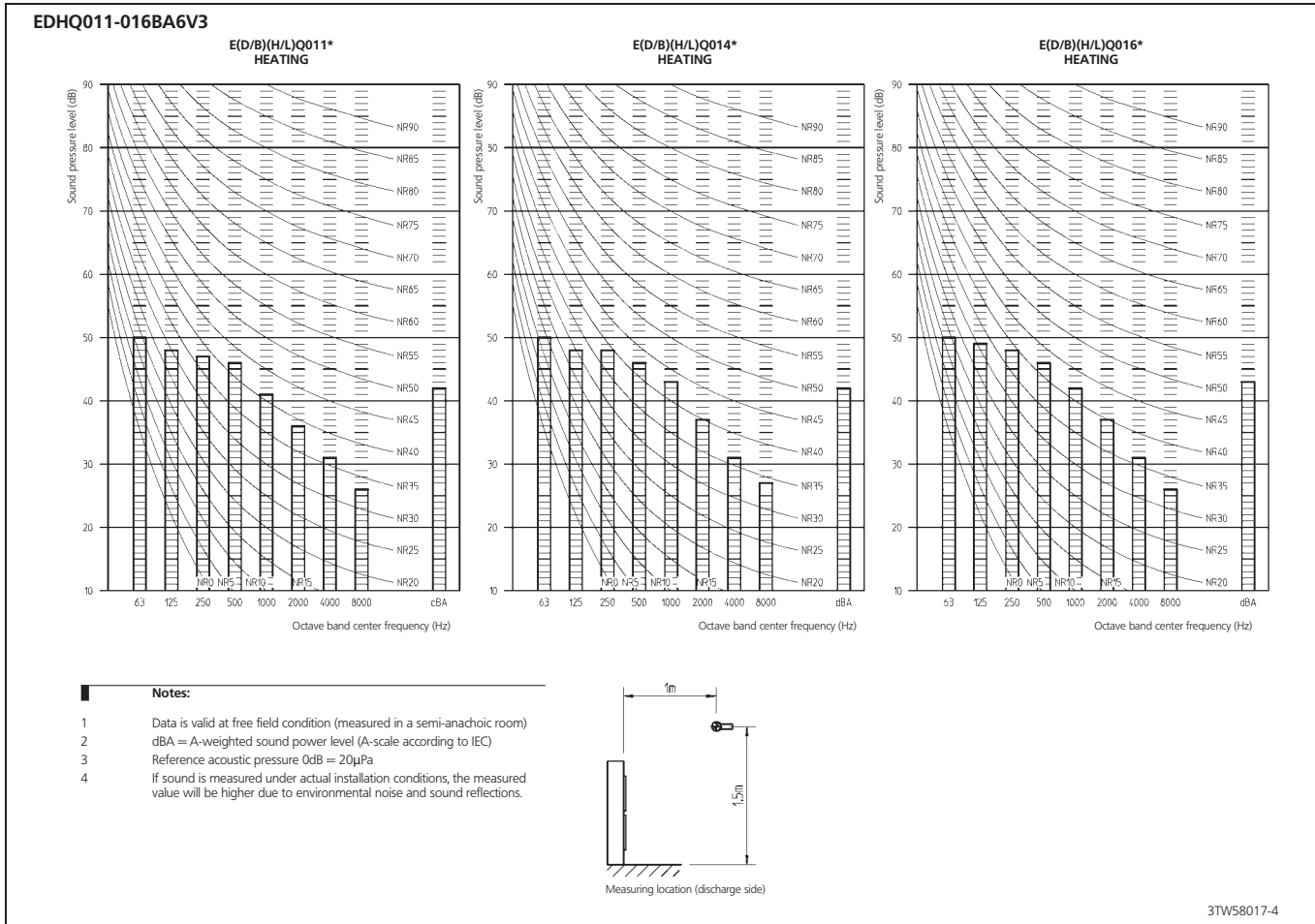
8 Sound data

8 - 1 Sound pressure spectrum



8 Sound data

8 - 2 Sound pressure night quiet mode



9 Installation

9 - 1 Service space

EDHQ11-016BA6V3

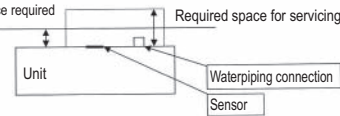
A. Non stacked installation

	↙	↘	↖	↗	A	B1	B2	C	D1	D2	E	L1/L2
	✓	✓	✓	✓	≥100	≥100	≥100					
	✓	✓	✓	✓	≥100	≥100	≥150			≤500	≥1000	
	✓	✓	✓	✓	≥150	≥150	≥150			≤500	≥1000	
	✓	✓	✓	✓	≥150	≥150	≥150			≤500	≥1000	
	✓	✓	✓	✓	L1=L2	≥100	≤500			≥500	≥1000	
	✓	✓	✓	✓	L2=L1	≥100	≤500			≥500	≥1000	
	✓	✓	✓	✓	L1=L2	L1=SH	≥150	≤500		≥750	≥1000	0<L1≤1/2H 0<L1≤1/2H
	✓	✓	✓	✓	L2=L1	L2=SH	≥150	≤500		≥750	≥1000	0<L2≤1/2H 1/2H<L2≤H
	✓	✓	✓	✓	L1=L2	L1=SH	≥200	≥300	≥1000	≤500	≥1000	
	✓	✓	✓	✓	L2=L1	L2=SH	≥200	≥300	≥1000	≤500	≥1000	
	✓	✓	✓	✓	L1=L2	L1=SH	≥200	≥250	≥1500			0<L2≤1/2H 1/2H<L2≤H
	✓	✓	✓	✓	L2=L1	L2=SH	≥200	≥250	≥1500			0<L1≤1/2H 1/2H<L1≤H
	✓	✓	✓	✓	L1=L2	L1=SH	≥50	≥100	≥500	≥500	≥1000	0<L2≤1/2H 1/2H<L2≤H
	✓	✓	✓	✓	L2=L1	L2=SH	≥50	≥100	≥500	≥500	≥1000	0<L1≤1/2H 1/2H<L1≤H

- ↙ Suction side obstacle
- ↘ Discharge side obstacle
- ↖ Left side obstacle
- ↗ Right side obstacle
- ↓ Top side obstacle
- ✓ Obstacle is present
- This situation is not allowed

NOTES

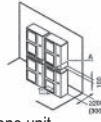
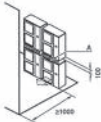
100 mm is min. space required for correct operation



- In these cases, close bottom of the installation frame to prevent discharged air from being bypassed.
- In these cases, only 2 units can be installed.

B. Stacked installation

- Obstacles exist in front on the outlet side
- Obstacles exist in front of the air inlet

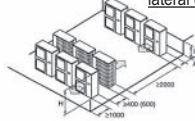
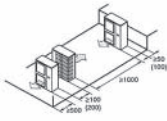


Do not stack more than one unit.

About 100 mm is required as the dimension for laying the upper outdoor unit's drain pipe. Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

- Installation of one unit per row
- Installing multiple units (2 units or more) in lateral connection per row



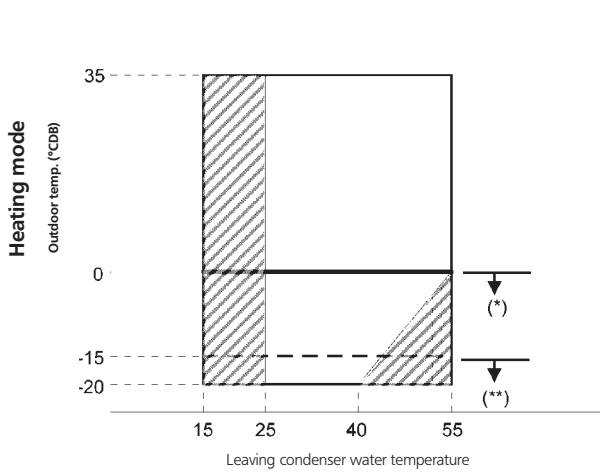
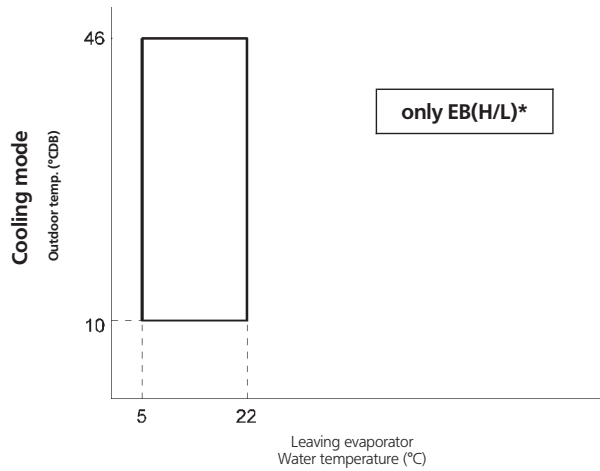
Relation of dimensions of H, A and L are shown in the table below.

	L	A
L ≤ H	0 < L ≤ 1/2H	250
	1/2H < L	300
H < L	Installation not allowed	

3TW58019-6A

10 Operation range

EDHQ011-016BA6V3

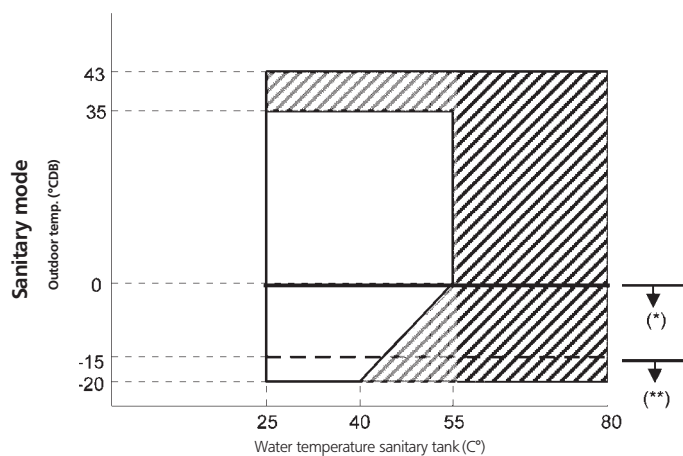


▨ No heat pump operation, back up heater only

(*) E(D/B)L* units include special equipment (insulation, heater sheet, ...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(D/B)H* models may experience problems with severe ice build-up on the aircooled coil. In case such conditions are expected, the E(D/B)L* must be installed instead.

Both E(D/B)L* and E(D/B)H* models have a freeze prevention function using the pump and back up heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen we recommend to use glycol.

(**) only E(D/B)L*



▨ Booster heater operation only

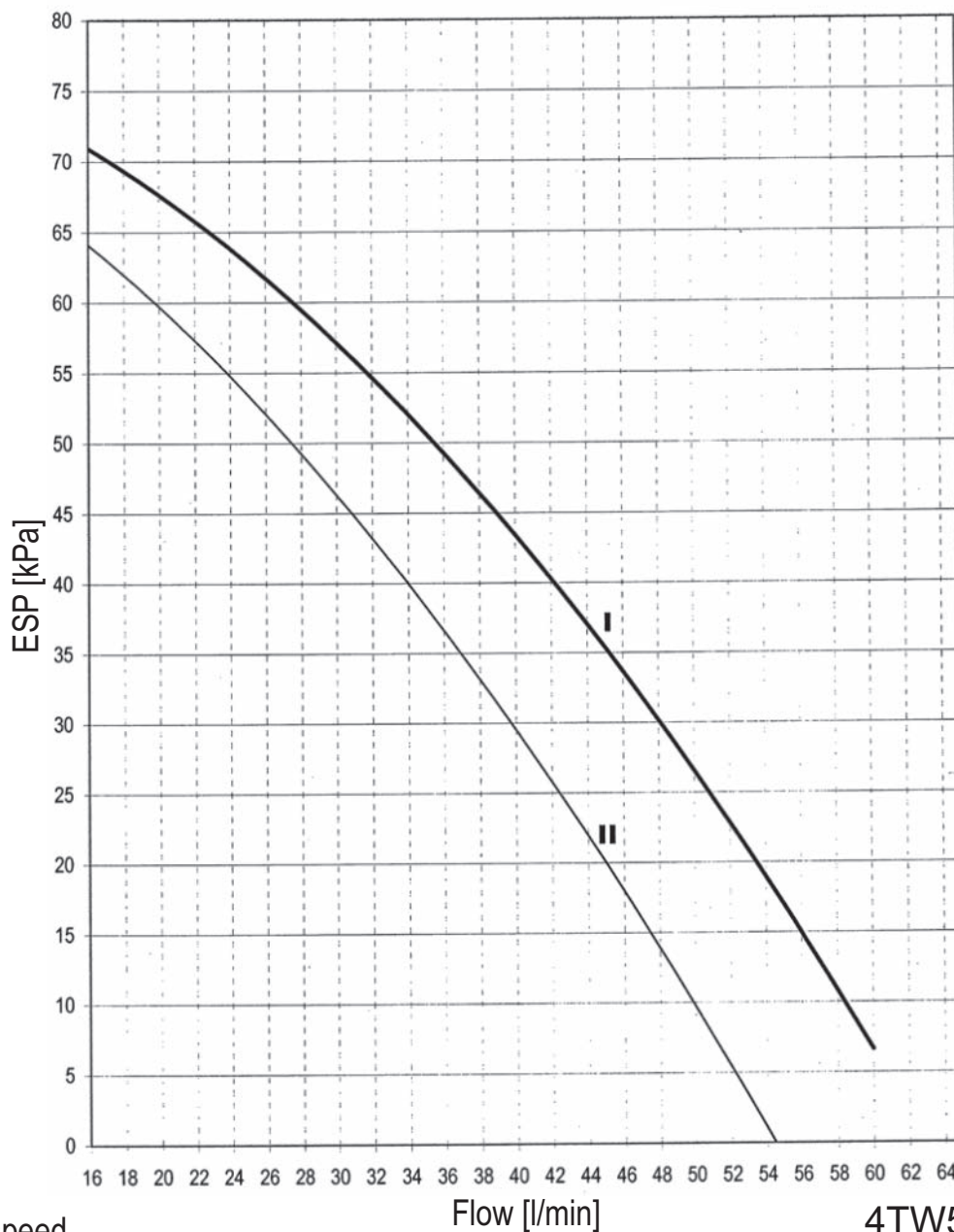
(**) only E(D/B)L*

4TW58013-1A

11 Hydraulic performance

11 - 1 Static pressure drop unit

EDHQ011-016BA6V3



I high speed

II medium speed

ESP: external static pressure

Flow: waterflow through the unit

Caution:

Selecting a flow outside the curves can cause damage to or malfunction of the unit.

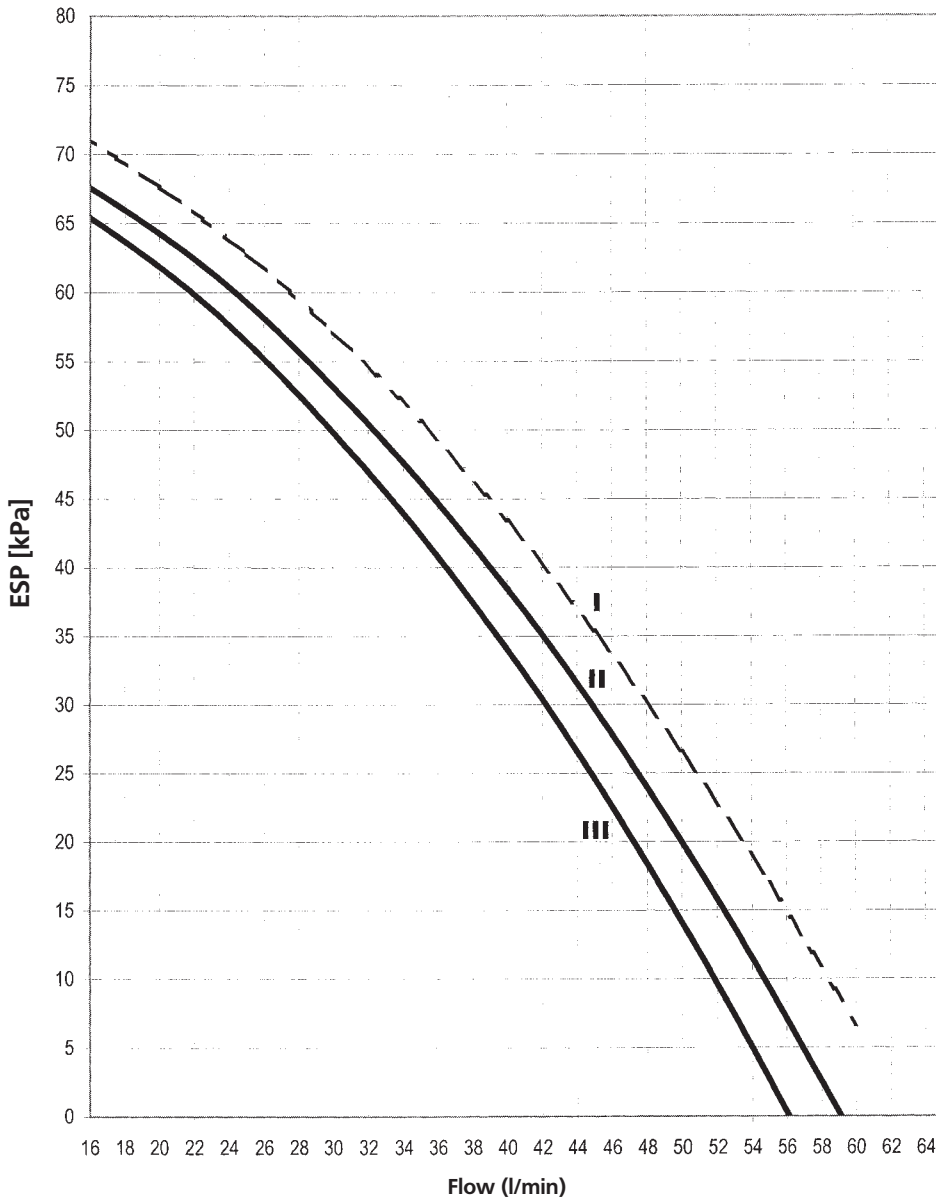
See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-2

11 Hydraulic performance

11 - 1 Static pressure drop unit

EDHQ-B6V3



- I: Water
- II: Water / Propylene glycol (25%) at 20°C
- III: Water / Propylene glycol (25%) at 5°C

Values only valid for high speed setting

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

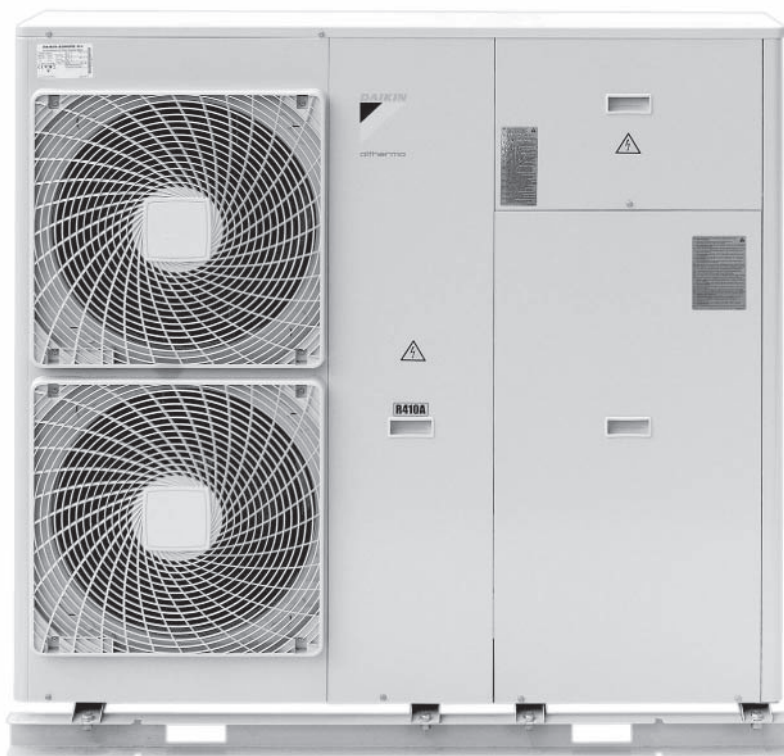
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1 Features

- Heating only monobloc
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				EDHQ011BA6W1	EDHQ014BA6W1	EDHQ016BA6W1
Condition 1	Heating capacity	Nominal	kW	11.20	14.00	16.00
	Heating PI	Nominal	kW	2.51	3.22	3.72
	COP	Nominal		4.46	4.35	4.30
Condition 2	Heating capacity	Nominal	kW	10.87	13.10	15.06
	Heating PI	Nominal	kW	3.12	3.98	4.58
	COP	Nominal		3.48	3.29	3.29
Notes				Condition 1: cooling Ta 35°C - LWE 18°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (Dt=5°C)		
				Condition 2: cooling Ta 35°C - LWE 7°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)		

2-2 TECHNICAL SPECIFICATIONS				EDHQ011BA6W1	EDHQ014BA6W1	EDHQ016BA6W1
Casing	Colour			Ivory white		
	Material			Painted galvanised steel		
Dimensions	Unit	Height	mm	1,418		
		Width	mm	1,435		
		Depth	mm	382	382	382
	Packing	Height	mm	1,557		
		Width	mm	1,500		
		Depth	mm	430	430	430
Weight	Unit		kg	180	180	180
	Packed unit		kg	200	200	200
Packing	Material			Wood		
				Carton		
				Plastic foil		
	Weight		kg	20	20	20
Operation Range	Heating - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	35	35	35
	Heating - Waterside	Min	°C	15	15	15
		Max	°C	55	55	55
	Domestic hot water - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	43	43	43
	Domestic hot water - Waterside	Min	°C	25	25	25
		Max	°C	80	80	80
Sound Level (nominal)	Heating	Sound Pressure	dBA	49	51	53
		Sound Power	dBA	64	65	65
Sound Level (Night quiet)	Heating	Sound Pressure	dBA	42	42	43
Refrigerant	Type			R-410A		
	Charge		kg	2.95	2.95	2.95
	Control			Electronic expansion valve		
	Nr of Circuits			1	1	1
Refrigerant Oil	Type			Daphne FVC68D		
	Charged Volume		l	1.0	1.0	1.0
Defrost Method				Pressure equalising		
Defrost Control				Sensor for outdoor heat exchanger temperature		
Capacity Control Method				Inverter controlled		
Safety Devices				High pressure switch		
				Fan motor thermal protector		
				Fuse		

2 Specifications

2-2 TECHNICAL SPECIFICATIONS		EDHQ011BA6W1	EDHQ014BA6W1	EDHQ016BA6W1
Notes	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.			
	Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)			
	Conditions: Ta 35°C - LWE 7°C (DT = 5°C)			
	15°-25°C: BUH only, no heat pump operation = during commissioning			
	Including piping + PHE + back-up heater / excluding expansion vessel			
	E(D)(B)L* model can reach -20°C / E(D)(B)L*6W1 model can reach -25°C but without capacity guarantee			
	Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load through, extra water volume might be required.			

2-3 MAIN COMPONENTS				EDHQ011BA6W1	EDHQ014BA6W1	EDHQ016BA6W1	
Air heat exchanger	Specifications	Length	mm	857	857	857	
		Nr of Rows		2	2	2	
		Fin pitch	mm	1.4	1.4	1.4	
		Nr of Passes		5	5	5	
		Face area	m ²	1.131	1.131	1.131	
		Nr of Stages		60	60	60	
		Empty tubeplate hole		0	0	0	
		Tube type	Hi-XSS (8)				
Fin	Type	WF fin					
	Treatment	Anti-corrosion treatment (PE)					
Fan	Type	Propeller					
	Quantity		2	2	2		
	Discharge direction	Horizontal					
	Motor	Quantity		2	2	2	
Model		Brushless DC					
Motor	Speed (nominal)	Steps	8	8	8		
		Heating	rpm	760	760	760	
Fan	Motor	Output	W	70	70		
		Drive	Direct drive				
Compressor	Quantity		1	1	1		
	Motor	Model	JT1G-VDYR@S				
		Type	Hermetically sealed scroll compressor				
		Motor Output	W	2,200			
	Starting Method	Inverter driven					
Motor	Crankcase Heater	Output	W	33	33	33	
Pump	Type	Water cooled					
	Nr. of speed		2	2	2		
	Nominal ESP unit	Heating	kPa	54.5	43.3	34.0	
	Power input		W	210	210	210	
Water side Heat exchanger	Type	Brazed plate					
	Quantity		1	1	1		
	Water volume		l	1.01	1.01	1.01	
	Water flow rate Min.		l/min	16	16	16	
	Water flow rate Norm.	Heating	l/min	32.1	40.1	45.9	
	Water flow rate Max.		l/min	58	58	58	
	Insulation material	Polyurethane foam					
Expansion vessel	Volume		l	10	10	10	
	Maximum water pressure		bar	3	3	3	
	Pre pressure		bar	1.0	1.0	1.0	
Water filter	Diameter perforations		mm	1	1	1	
	Material	Brass					

2 Specifications

2-3 MAIN COMPONENTS			EDHQ011BA6W1	EDHQ014BA6W1	EDHQ016BA6W1
Water circuit	Piping connections	inch	G5/4 (FEMALE)		
	Piping	inch	5/4"		
	Safety valve	bar	3	3	3
	Manometer		Yes		
	Drain valve / Fill valve		Yes		
	Shut off valve		Yes		
	Air purge valve		Yes		
	Total water volume (6)	l	5.5	5.5	5.5
	Minimum water volume system	l	20	20	20

2-4 ELECTRICAL SPECIFICATIONS				EDHQ011BA6W1	EDHQ014BA6W1	EDHQ016BA6W1
Power supply compressor component	Main Power	Name		W1		
		Phase		3N~		
		Frequency	Hz	50	50	50
		Voltage	V	400	400	400
	Voltage range	Minimum	V	-10%		
Maximum		V	+10%			
Current	Nominal running current (RLA)	Heating (A)	A	5.8	5.8	5.8
	Maximum running current	Heating	A	14	14	14
Power supply compressor component	Current	Recommended fuses	A	20	20	20
	Wiring connections	For power supply compressor component		See installation manual		
Power supply hydraulic component	Current back-up heater	Type		6W1		
Current back-up heater	Power Supply	Phase		3~		
		Frequency	Hz	50	50	50
		Voltage	V	400	400	400
Running Current	Back-up heater	A	8.7	8.7	8.7	
Running Current	Back-up heater + booster heater	+EK*V3	A	21.7(8.7+13)		
		+EK*Z2	A	16.2(8.7+7.5)		
Current back-up heater	Minimum Ssc value	+EK*V3	kVa	Equipment complying with EN/IEC 61000-3-12(**)		
		+EK*Z2	kVa	Equipment complying with EN/IEC 61000-3-12(**)		

2 Specifications

2-4 ELECTRICAL SPECIFICATIONS				EDHQ011BA6W1	EDHQ014BA6W1	EDHQ016BA6W1	
Power supply hydraulic component	Voltage range	Minimum	V	-10%			
		Maximum	V				+10%
	Wiring connections	Connection type	For power supply hydraulic compartment				
		Quantity of wires	4G				
		Type of wires	Select diameter and type according to national and local regulations				
		Connection type	For power supply connection to optional sanitary tank + Q2L				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	For more details on voltage range and current refer to installation manual				
		Connection type	For connection with R5T				
		Quantity of wires	Wire included in option EKHWS*				
		Type of wires	Wire included in option EKHWS*				
		Connection type	For connection with A3P				
		Quantity of wires	Depends on thermostat type, refer to installation manual				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M2S				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M3S				
		Quantity of wires	3G or 4G				
	Type of wires	Select diameter and type according to national and local regulations					
	Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²					
	Notes	Power supply compressor compartment is for compressor, fan, pump and controller					
		In accordance with EN/IEC 61000-3-11 (1), it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (3) smaller than or equal to Zmax.					
		Power supply hydraulic compartment is for the electric heater. The optional domestic warm water tank has a separate power supply.					
Installer can reduce capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Instructions see installation manual.							
Installer can reduce capacity of the heater from 6 to 3.5kW. The current is then reduced from 8.7 to 5A. Instructions see installation manual.							
(1)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 <= 75A.							
(2) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16A =< 75A per phase.							
(3) System impedance							
Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)							

3 Options

EDHQ011-016BA6W1

Kit availability for E(D/B)(H/L)Q011-016BA*

		Altherma Monoblock / Low temperature											
		1-phase						3-phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BA6V3			EDHQ***BA6V3			EDLQ***BA6W1			EDHQ***BA6W1		
		EBLQ***BA6V3			EBHQ***BA6V3			EBLQ***BA6W1			EBHQ***BA6W1		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
*KRP1HBB	Digital I/O PCB (1)	○	○	○	○	○	○	○	○	○	○	○	○
*KBPHTH16A	Bottom plate heater	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KDK04	Drain plug kit	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KHWS150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3Z2	Stainless domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3Z2	Stainless domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE150*3V3	Enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3V3	Enamel domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3V3	Enamel domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3Z2	Enamel domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3Z2	Enamel domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KSOLHWAV1	Solarkit (4)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTW	Wired room thermostat option kit	○	○	○	○	○	○	○	○	○	○	○	○
*KRTR	Wireless room thermostat option kit (incl. receiver)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTETS	External temperature sensor option kit (3)	○	○	○	○	○	○	○	○	○	○	○	○
*KWBSWW150	Wall bracket for *KHWS(U)150*3V3 or *KSWW150V3*	○	○	○	○	○	○	○	○	○	○	○	○

3TW59259-1

REMARK

- Other combinations are not guaranteed

NOTES

- Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KHRP1HB is already included.
- It is not allowed to combine bottom plate heater and drain plug kit.
- *KRTETS can only be used in combination with *KRTR
- Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
- E(B/D)L units include special equipment (insulation, heater sheet,...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the e(B/D)L must be installed instead.

3 Options

EDHQ11-016BA6W1

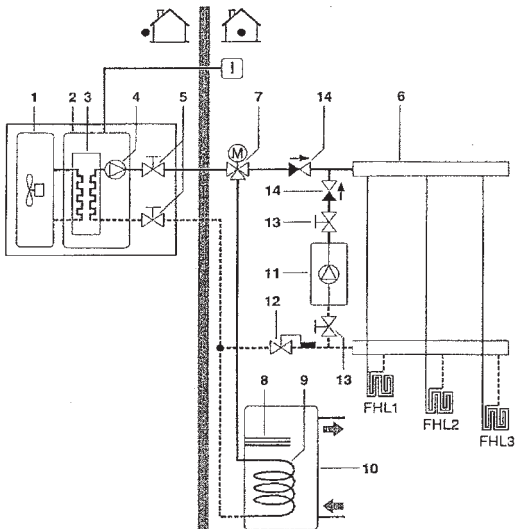
Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the altherma indoor unit or by an auxiliary boiler connected in the system. An auxiliary contact decides whether either the E(D/B)(H/L)Q* hydro module or the boiler will operate. This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

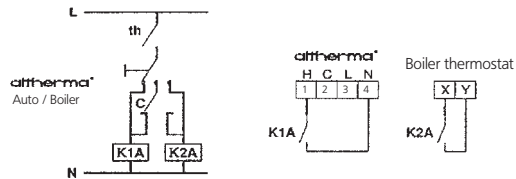
Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the hydro module, including when the boiler is in operation for space heating.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.



- 1 Compressor module
- 2 Hydro module
- 3 Heat exchanger
- 4 Pump
- 5 Shut-off valve
- 6 Collector (field supply)
- 7 Motorised 3-way valve (field supply)
- 8 Booster heater
- 9 Heat exchanger coil
- 10 Domestic hot water tank
- 11 Boiler (field supply)
- 12 Aquastat valve (field supply)
- 13 Shut-off valve (field supply)
- 14 Non-return valve (field supply)
- FHL 1..3 Floor heating loop (field supply)
- 1 User interface

Field wiring



Boiler thermostat

C
th
K1A
K2A

Boiler thermostat

Auxiliary contact (normal closed)
Heating only room thermostat
Auxiliary relay for activation of E(D/B)(H/L)Q * unit (field supply)
Auxiliary relay for activation of boiler (field supply)

Operation

When the room thermostat (th) closes, either the E(D/B)(H/L)Q * unit or the boiler starts operating, depending on the position of the auxiliary contact (C)



Make sure that auxiliary contact (C) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)(H/L)Q * unit and the boiler. If the auxiliary contact (C) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or turned ON/OFF by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.

During heating operation of the E(D/B)(H/L)Q * unit, the Altherma unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature.

During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.

Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Altherma unit.



Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)(H/L)Q * switch box correctly. Refer to 'Room thermostat installation configuration' in the installation manual supplied with the unit.

Make sure that return water to the E(D/B)(H/L)Q * heat exchanger never exceeds 55°C.

For this reason, never put the target leaving water temperature setpoint on the boiler controller above 55°C and if required, install an aquastat(*) valve in the return water flow of the E(D/B)(H/L)Q * unit. Daikin shall not be held liable for any damage resulting from failure to observe this rule.

(*)The aquastat valve must be set for 55°C and must operate to close the return water flow to the E(D/B)(H/L)Q * unit when the measured temperature exceeds 55°C. When temperature drops to a lower level, the aquastat valve must operate to open the return water flow to the E(D/B)(H/L)Q * unit again.

4 Capacity tables

4 - 1 Heating capacity tables

EDHQ-B6W1

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	5,86	2,21	5,51	2,42	5,39	2,66	5,25	2,95				
	-15	6,63	2,25	6,23	2,46	6,09	2,71	5,92	3,01	5,68	3,34		
	-7	8,13	2,29	7,66	2,51	7,51	2,77	7,32	3,08	7,03	3,43	6,53	3,81
	-2	9,28	2,29	8,76	2,52	8,61	2,79	8,41	3,11	8,11	3,46	7,55	3,85
	2	10,32	2,29	9,77	2,52	9,62	2,80	9,42	3,12	9,10	3,48	8,51	3,87
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80	
E(D/B)(H/L)Q014*6W1	-20 (a)	7,42	2,79	7,20	3,04	7,00	3,33	5,49	3,68				
	-15	8,29	2,85	8,00	3,11	7,72	3,41	7,60	3,76	7,57	4,16		
	-7	10,07	2,92	9,67	3,19	9,28	3,51	9,08	3,87	8,97	4,28	8,58	4,73
	-2	11,46	2,95	11,00	3,23	10,54	3,55	10,29	3,92	10,15	4,34	9,69	4,80
	2	12,75	2,96	12,23	3,25	11,72	3,57	11,43	3,96	11,27	4,38	10,75	4,84
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77	
E(D/B)(H/L)Q016*6W1	-20 (a)	8,47	3,20	8,34	3,49	8,22	3,83	6,50	4,21				
	-15	9,44	3,28	9,21	3,57	8,99	3,92	8,91	4,31	8,69	4,75		
	-7	11,44	3,37	11,08	3,67	10,73	4,03	10,53	4,43	10,17	4,90	9,81	5,41
	-2	13,01	3,41	12,58	3,72	12,14	4,09	11,89	4,50	11,43	4,97	11,00	5,49
	2	14,48	3,43	13,98	3,75	13,48	4,12	13,18	4,54	12,65	5,01	12,15	5,54
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49	

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	4,96	2,16	4,67	2,37	4,57	2,60	4,45	2,89				
	-15	5,61	2,20	5,27	2,41	5,16	2,66	5,01	2,95	4,81	3,27		
	-7	6,88	2,24	6,49	2,46	6,36	2,72	6,19	3,02	5,95	3,35	5,53	3,73
	-2	7,70	2,20	7,27	2,42	7,15	2,68	6,98	2,98	6,73	3,32	6,27	3,70
	2	8,57	2,19	8,11	2,42	7,99	2,69	7,82	3,00	7,56	3,34	7,06	3,72
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80	
E(D/B)(H/L)Q014*6W1	-20 (a)	6,31	2,70	6,13	2,94	5,96	3,23	4,67	3,56				
	-15	7,05	2,76	6,80	3,01	6,57	3,30	6,46	3,64	6,44	4,02		
	-7	8,57	2,83	8,23	3,09	7,89	3,40	7,72	3,75	7,63	4,14	7,30	4,58
	-2	9,11	2,87	8,74	2,92	8,38	3,21	8,18	3,55	8,07	3,93	7,70	4,34
	2	10,13	2,68	9,72	2,94	9,31	3,24	9,09	3,58	8,96	3,96	8,55	4,38
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77	
E(D/B)(H/L)Q016*6W1	-20 (a)	7,00	3,11	6,89	3,39	6,79	3,71	5,37	4,08				
	-15	7,80	3,18	7,61	3,46	7,43	3,80	7,37	4,18	7,18	4,61		
	-7	9,45	3,26	9,15	3,56	8,86	3,91	8,70	4,30	8,40	4,75	8,11	5,25
	-2	9,96	3,03	9,62	3,31	9,29	3,64	9,09	4,00	8,75	4,42	8,41	4,88
	2	11,08	3,05	10,69	3,34	10,31	3,67	10,08	4,04	9,68	4,46	9,29	4,93
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49	

3TW58012-1C

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condenser temperature (°C)
- Tamb : Ambient temperature RH=85%

Heating capacity at heat recovery condenser

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:

-For the model with heatertape *(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W

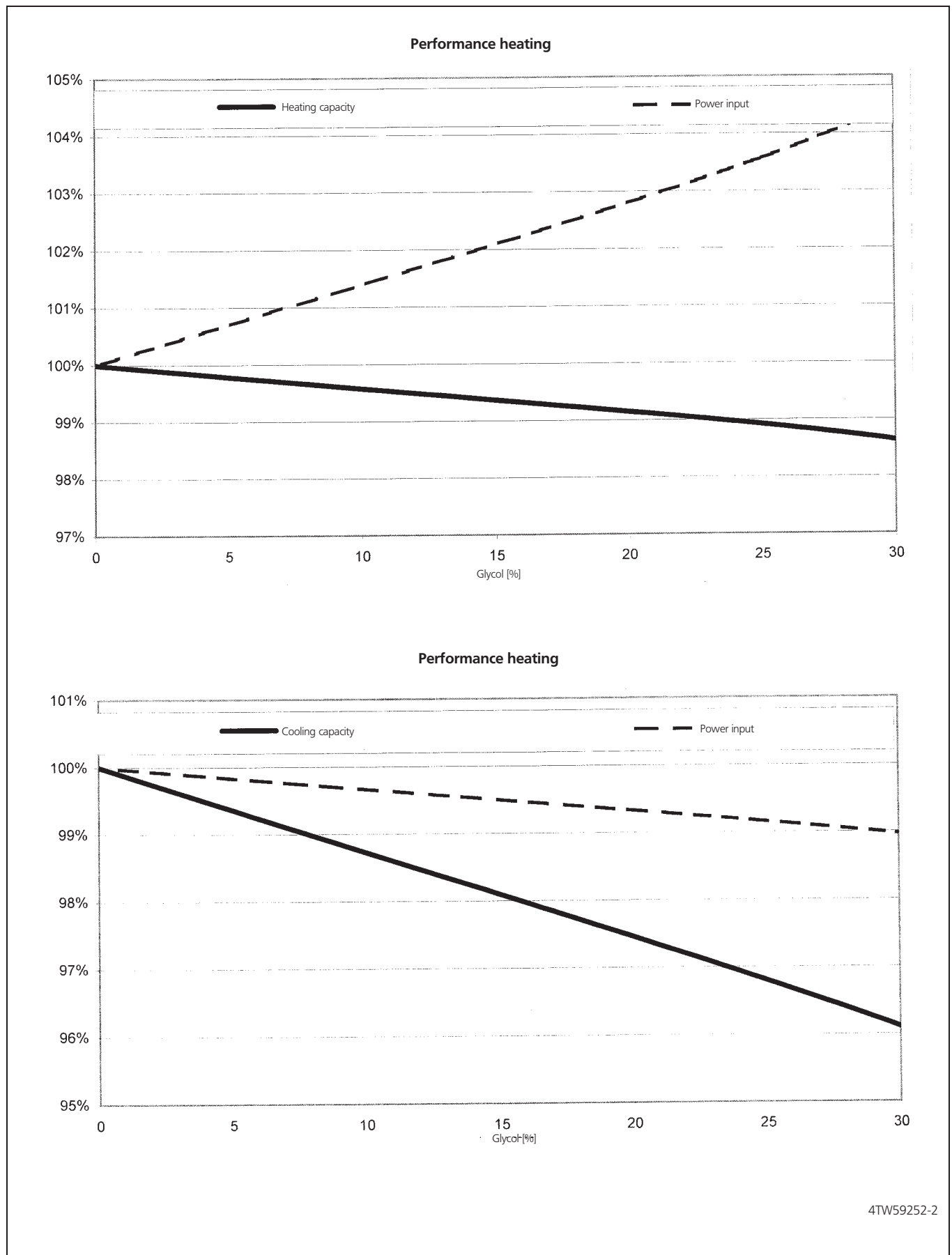
- 1) For AA models: 'X' = 4°C
- 2) For BA models: 'X' = [F-02] = BPH ON temp for more details see installation manual of indoor unit.

NOTES

(a) only E(D/B)L*

4 Capacity tables

4 - 1 Heating capacity tables



5 Dimensional drawing & centre of gravity

5 - 1 Dimensional drawing

EDHQ011-016BA6W1

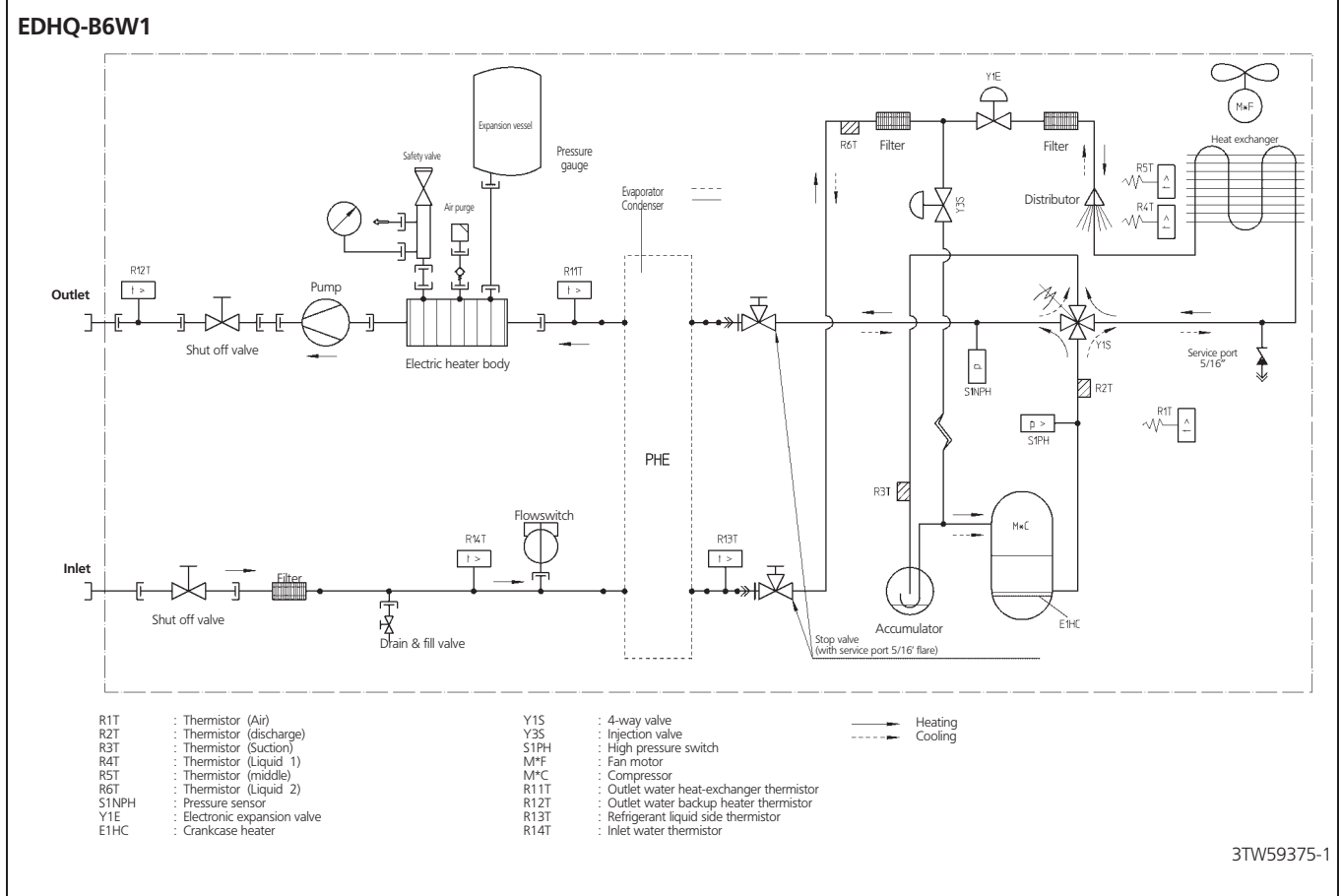
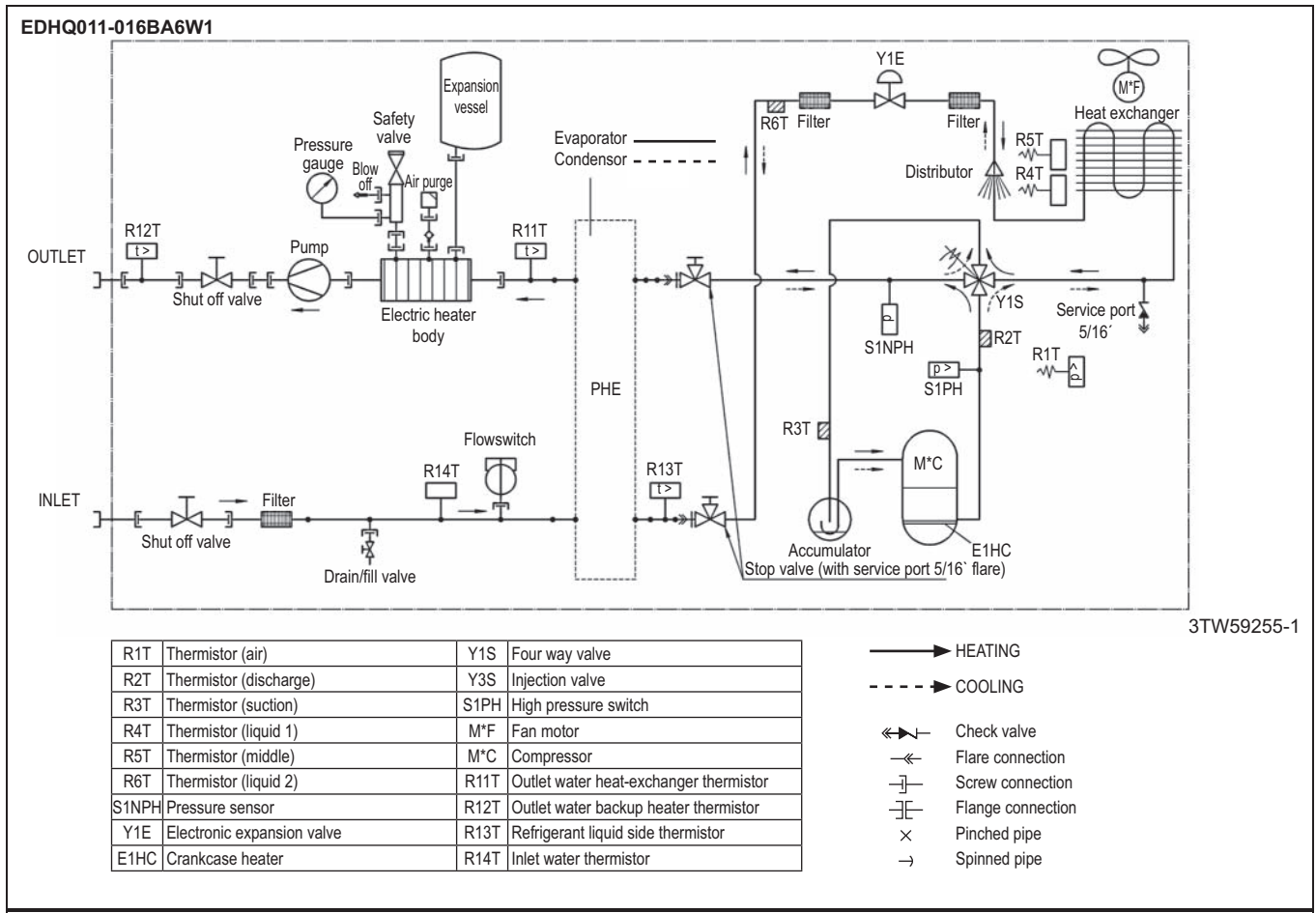
Center of gravity

3TW59254-1A

Nr	Name	Nr	Name	Nr	Name
☉	Center of gravity	8	Service door compressor module	16	Pressure gauge
1	Drain outlet	9	Service port	17	Waterfilter
2	Waterpiping outlet	10	Pump	18	Expansion vessel + (18a) nipple
3	Waterpiping inlet	11	Remocon kit (to be installed indoors)	19	Switchbox terminals
4	Entry low voltage cables (<30V)	12	Air purge	20	Switchbox terminals option sanitary warm water tank
5	Entry power cables	13	Shot-off valve	21	Drain & fill valve
6	Service door switchbox	14	Blow-off valve		
7	Service door hydraulic module	15	Blow-off drain		

6 Piping diagram

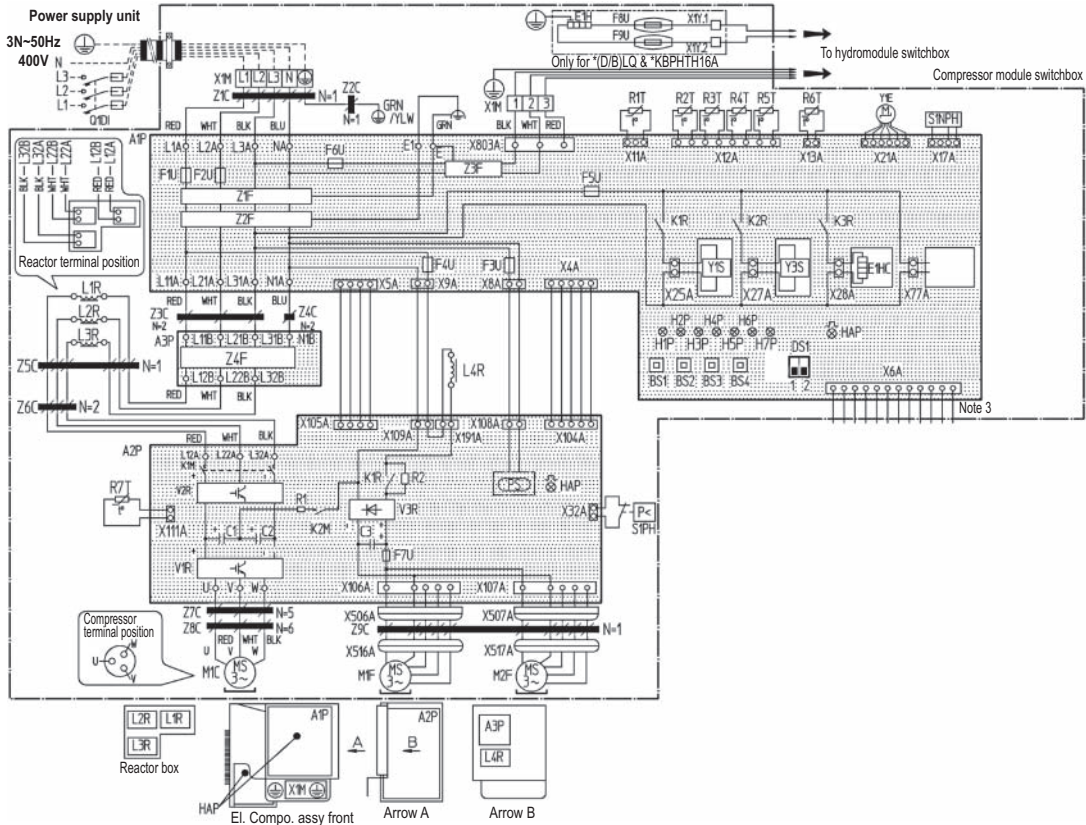
6 - 1 Piping diagram



7 Wiring diagram

7 - 1 Wiring diagram

EDHQ011-016BA6W1



A1P	Printed circuit board	H1P-7P (A1P)	Pilot lamp (service monitor-orange)	R6T	Thermistor (liquid)
A2P	Printed circuit board (inv.)	K1M - K2M	Magnetic contactor	R7T	Thermistor (fin)
A3P	Printed circuit board (noise filter)	K1R (A1P)	Magnetic relay (Y1S)	S1NPH	Pressure sensor
BS1-BS4	Push button switch	K1R (A2P)	Magnetic relay	S1PH	Pressure switch (high)
C1-C4	Capacitor	K2R (A1P)	Magnetic relay (Y2S)	V1R, V2R	Power module
DS1	DIP Switch	K3R (A1P)	Magnetic relay (E1HC)	V3R	Diode module
E1HC	Crankcase heater	L1R ~ L3R	Reactor	X1M	Terminal strip
E1H	Bottomplate heater	L4R	Reactor (for outdoor fan motor)	Y1E	Electronic expansion valve
F1U	Fuse (31.5A 250V)	M1C	Motor (compressor)	Y1S	Solenoid valve (4 way valve)
F2U	Fuse (31.5A 250V)	M1F	Motor (fan) (upper)	Y3S	Solenoid valve
F3U	Fuse (T 6.3A / 250V)	M2F	Motor (fan) (lower)	Z1C ~ Z9C	Noise filter
F4U	Fuse (T 6.3A / 250V)	PS	Switching power supply	Z1F ~ Z4F	Noise filter
F5U	Fuse (T 6.3A / 250V)	R1 ~ R4	Resistor	Q1DI	Earth leakage circuit breaker
F6U	Fuse (T 6.3A / 250V)	R1T	Thermistor (air)		OPTIONAL CONNECTOR
F7U	Fuse (T 5.0A / 250V)	R2T	Thermistor (discharge)	XBZ	Connector
F8U, F9U	Fuse (F 1.0A / 250V)	R3T	Thermistor (suction)	X77A	Connector
HAP (A1P)	Pilot lamp (service monitor-green)	R4T	Thermistor (heat exchanger)	X1Y	Connector
HAP (A2P)	Pilot lamp (service monitor-green)	R5T	Thermistor (heat exchanger middle)		

- : Terminal strip
 : Connection
 Colors: BLU : Blue WHT : White
 : Connector
 : Noiseless earth
 BRN : Brown YLW : Yellow
 : Field wiring
 : Terminal
 GRN : Green ORG : Orange
 : Protective earth (screw)
 : Connector
 RED : RED BLK : Black

2TW59376-1

NOTES

- This wiring diagram only applies to the compressor module switchbox.
- L: Live, N: Neutral
- Not applicable
- Do not operate the unit by short-circuiting protection device S1PH
- Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".

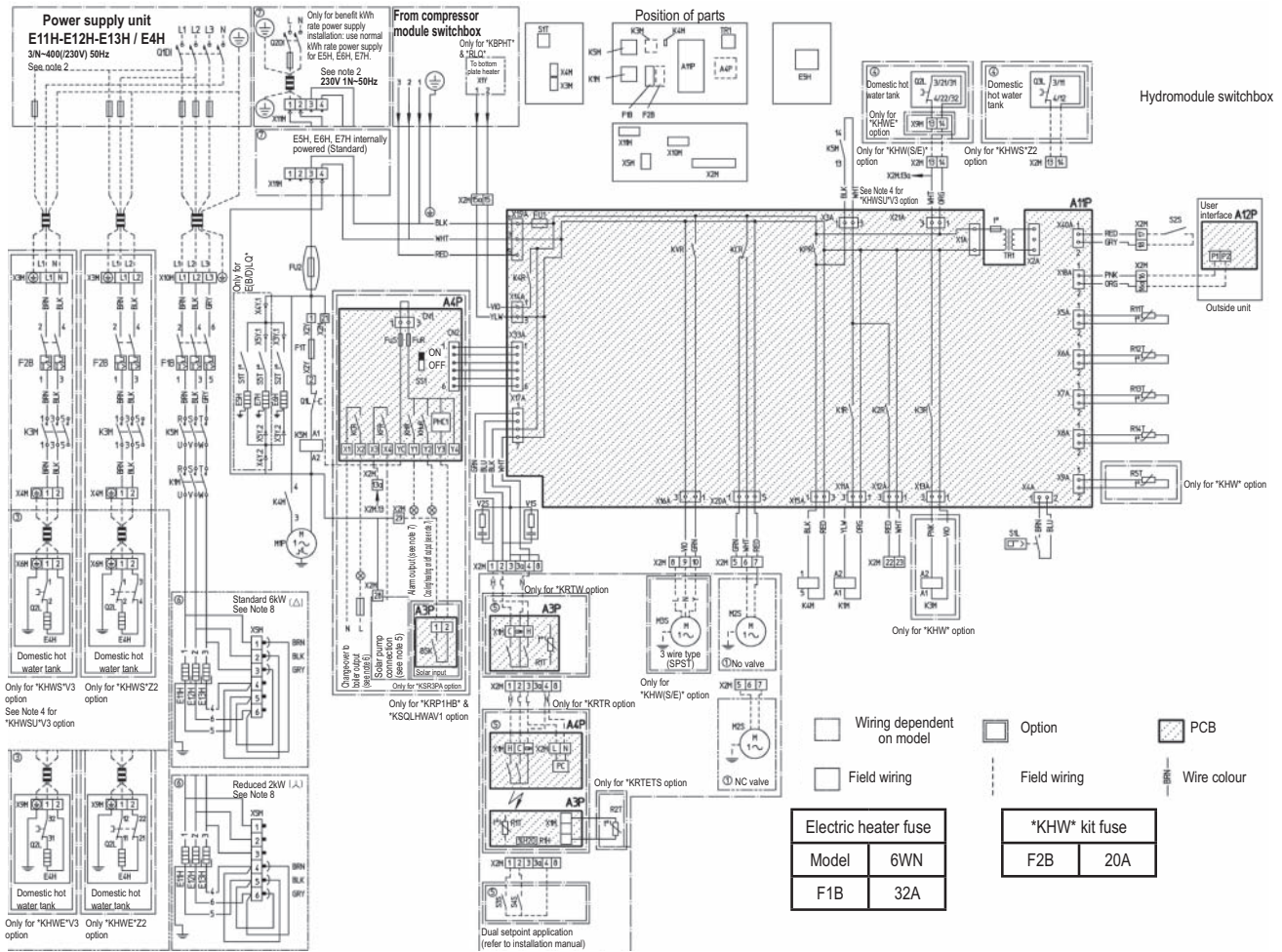
- Option

Wiring dependent on model

7 Wiring diagram

7 - 1 Wiring diagram

EDHQ011-016BA6W1



Electric heater fuse		*KHW* kit fuse	
Model	6WN	F2B	20A
F1B	32A		

A11P	Main PCB	K1M	Contactur backup heater step	R13T	Refrigerant liquid side thermistor
A12P	User interface PCB	K3M	Contactur booster heater	R14T	Inlet water thermistor
A3P (*KRTW/R*)	Thermostat (PC=power circuit)	K4M	Pump relay	R5T (*KHW*)	Domestic hot water thermistor
A4P (EKRP1HB)	Digital I/O PCB	K5M	Contactur for backup heater all pole disconnection	S1L	Flowswitch
A4P (*KRTR)	Receiver PCB	M1P	Pump	S2S	Benefit kWh rate power supply contact
E11H-E12H-E13H	Backup heater element 1-2-3 (6kW)	M2S	2way valve for cooling mode	S3S	Dual setpoint 2 contact
E4H	Booster heater (3kW)	M3S	3way valve: floorheating/domestic hot water	S4S	Dual setpoint 1 contact
E5H	Switchbox heater	PHC1	Optocoupler input circuit	SS1	Dip switch
E6H	Expansion vessel heater	Q1DI, Q2DI	Earth leakage circuit breaker	S1T	Thermostat switchbox heater
E7H	Plate heat exchanger heater	Q1L	Thermal protector backup heater	S2T	Thermostat expansion vessel heater
F1B	Fuse backup heater	Q2L, Q3L	Thermal protector 1/2 booster heater	S3T	Thermostat plate heat exchanger
F1T	Thermal fuse backup heater	R1H (*KRTR)	Humidity sensor	TR1	Transformer 24V for PCB
F2B	Fuse booster heater	R1T (*KRTW/R*)	Ambient sensor	V1S, V2S	Spark suppression 1,2
FU1	Fuse 3.15A T 250V for PCB	R2T (EKRTETS)	External sensor (floor or ambient)	X1M-X11M, X2Y	Terminal strips, connector
FU2	Fuse 5A T 250V	R11T	Outlet water heat exchanger thermistor		
FUS, FuR	Fuse 5A 250V for digital I/O PCB	R12T	Outlet water backup heater thermistor		

- : Terminal strip ○ : Terminal Colors: BLK : Black YLW : Yellow GRN : Green
- ⊡ : Connector NO/NC: normal open/normal closed RED : RED PNK : Pink ORG : Orange
- : Field wiring SPST: Single pole single throw BLU : Blue BRN : Brown VIO : Violet
- ⊕ : Protective earth WHT : White GRY : Grey

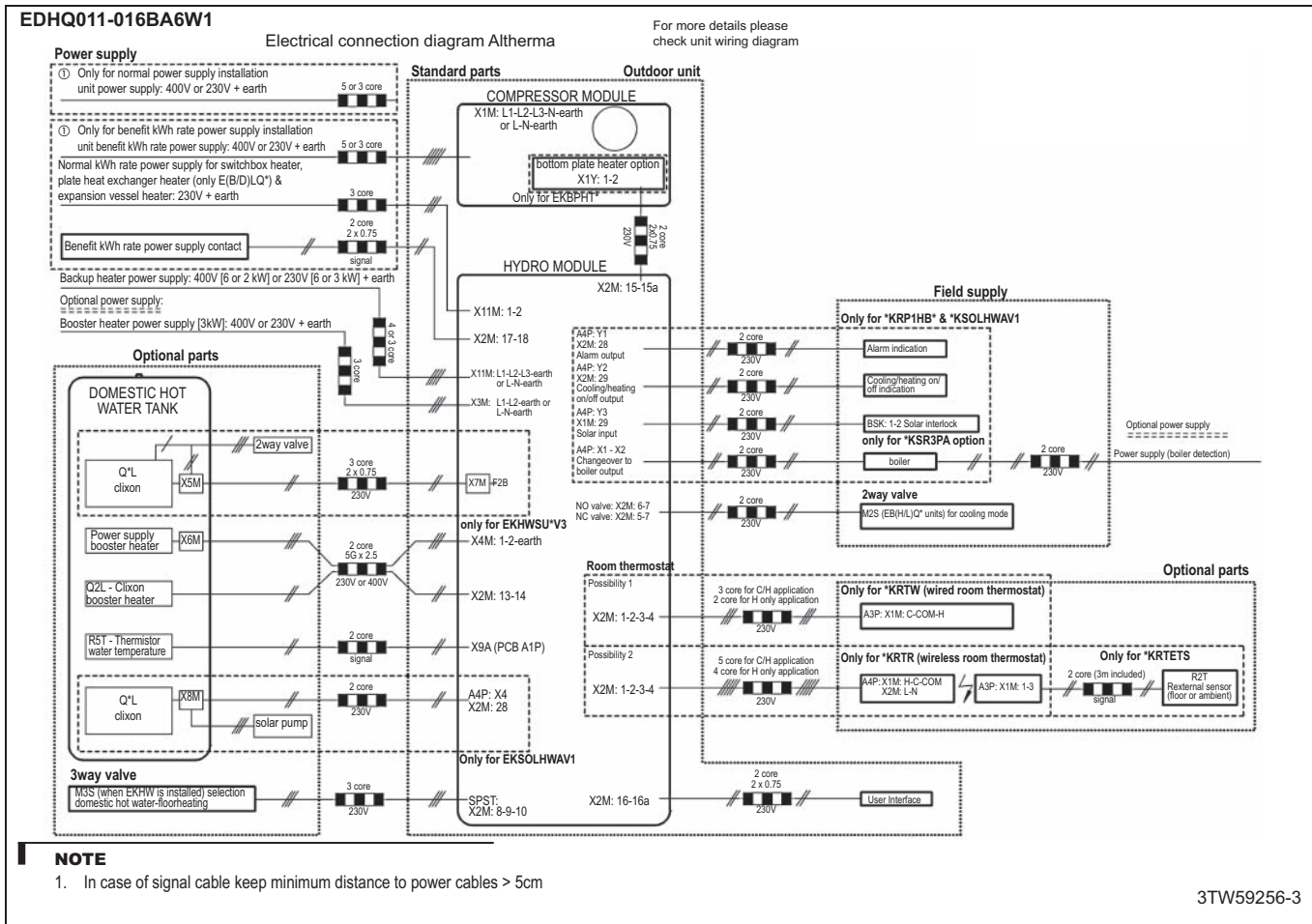
NOTES

- 1 This wiring diagram only applies to the hydromodule switchbox.
- 2 Use a dedicated power circuit for the backup heater and booster heater. Never use a power circuit shared by another appliance.
- 3 Do not operate the unit by short-circuiting any protection device.
- 4 For *KHWSU*V3, refer to option manual.
- 5 For *KSOLHWAV1, refer to option manual.
- 6 Maximum load: 0,3A - 250VAC Minimum load: 20mA - 5VDC
- 7 230 VAC output Maximum load: 0.3A
- 8 Backupheater KW reduction, refer to installation manual.
- 9 For benefit kWh rate power supply installation, refer to installation manual.

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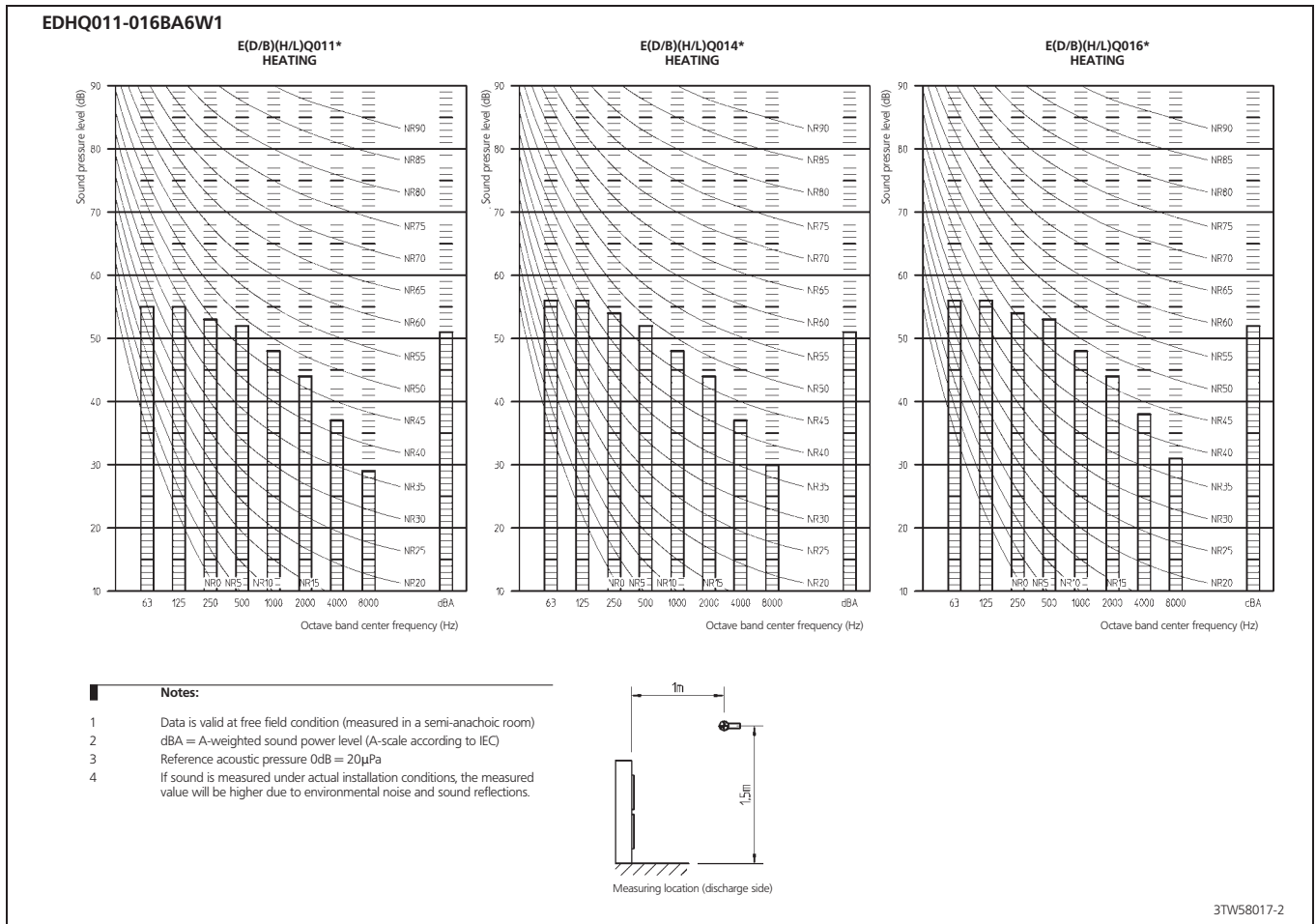
7 Wiring diagram

7 - 2 External connection diagram



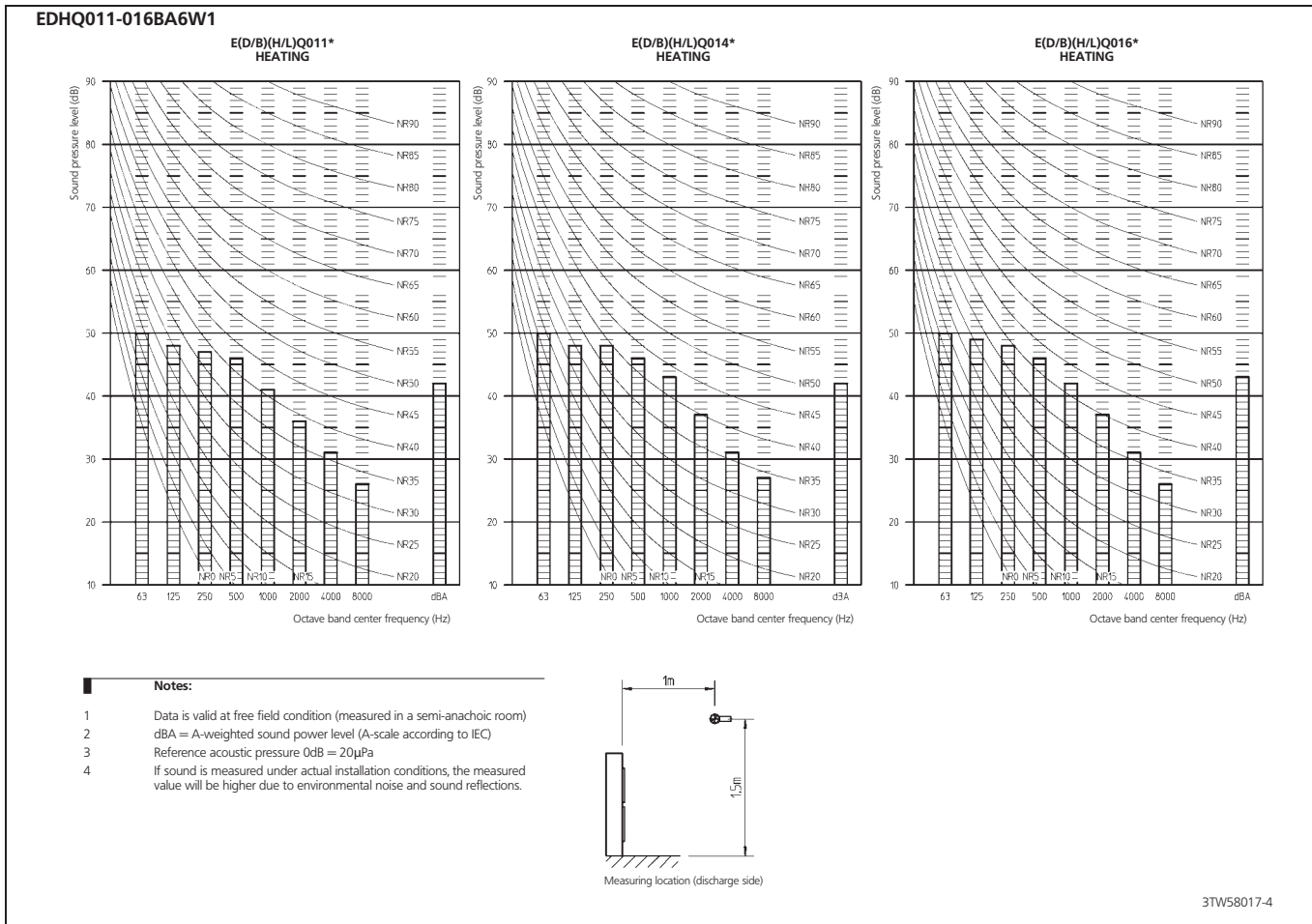
8 Sound data

8 - 1 Sound pressure spectrum



8 Sound data

8 - 2 Sound pressure night quiet mode



9 Installation

9 - 1 Service space

EDHQ011-016BA6W1

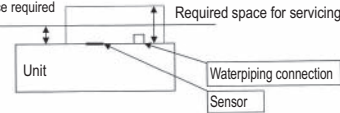
A. Non stacked installation

	↙	↘	↖	↗	A	B1	B2	C	D1	D2	E	L1/L2		
	✓	✓	✓	✓	≥100	≥100	≥100							
	✓	✓	✓	✓	≥100	≥100				≤500	≥1000			
	✓	✓	✓	✓	≥150	≥150	≥150			≤500	≥1000			
	✓	✓	✓	✓	≥150	≥150	≥150			≤500	≥1000			
	✓	✓	✓	✓	≥100	≥100	≤500			≥500	≥1000			
	✓	✓	✓	✓	≥100	≥100	≤500			≥500	≥1000			
	✓	✓	✓	✓	L1<L2	L1≥H	≥150	≤500	≥750	≥1000	0<L1≤1/2H	0<L1≤1/2H		
	✓	✓	✓	✓	L2<L1	L2≥H	≥50		≥500	≥500	≥1000	0<L2≤1/2H	1/2H<L2≥H	
	✓	✓	✓	✓	≥200	≥300	≥1000			≤500	≥1000			
	✓	✓	✓	✓	≥200	≥300	≥1000			≤500	≥1000			
	✓	✓	✓	✓	L1<L2	L1≥H	≥300	≤500	≥1000	≥1000	≥1000			
	✓	✓	✓	✓	L2<L1	L2≥H	≥250	≥300	≥1500			0<L2≤1/2H	1/2H<L2≥H	
	✓	✓	✓	✓	L1<L2	L1≥H	≥200	≤500	≥1000	≥1000		0<L1≤1/2H	1/2H<L1≥H	
	✓	✓	✓	✓	L2<L1	L2≥H	≥50	≥100	≥1250	≥500	≥1000		0<L2≤1/2H	1/2H<L2≥H
	✓	✓	✓	✓	L1<L2	L1≥H	≥200	≤500	≥1000	≥1000				
	✓	✓	✓	✓	L2<L1	L2≥H	≥50	≥100	≥1250	≥500	≥1000			

- ↙ Suction side obstacle
- ↘ Discharge side obstacle
- ↖ Left side obstacle
- ↗ Right side obstacle
- ↓ Top side obstacle
- ✓ Obstacle is present
- ▭ This situation is not allowed

NOTES

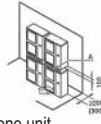
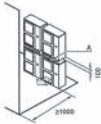
100 mm is min. space required for correct operation



- In these cases, close bottom of the installation frame to prevent discharged air from being bypassed.
- In these cases, only 2 units can be installed.

B. Stacked installation

- Obstacles exist in front on the outlet side
- Obstacles exist in front of the air inlet

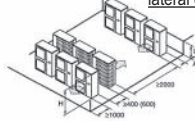
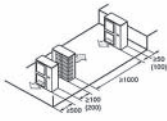


Do not stack more than one unit.

About 100 mm is required as the dimension for laying the upper outdoor unit's drain pipe. Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

- Installation of one unit per row
- Installing multiple units (2 units or more) in lateral connection per row



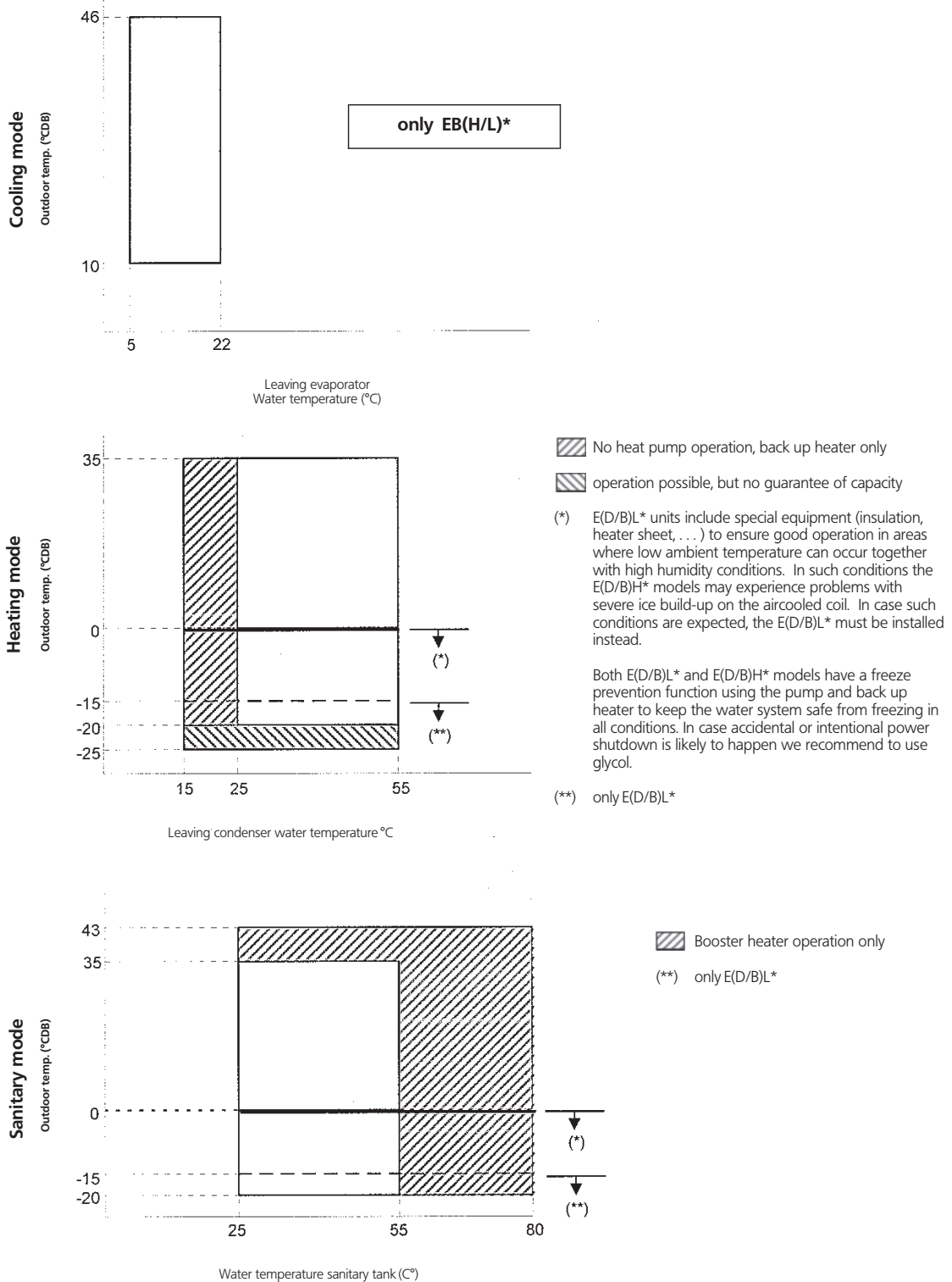
Relation of dimensions of H,A and L are shown in the table below.

	L	A
L ≤ H	0 < L ≤ 1/2H	250
	1/2H < L	300
H < L	Installation not allowed	

3TW58019-6A

10 Operation range

EDHQ011-016BA6W1

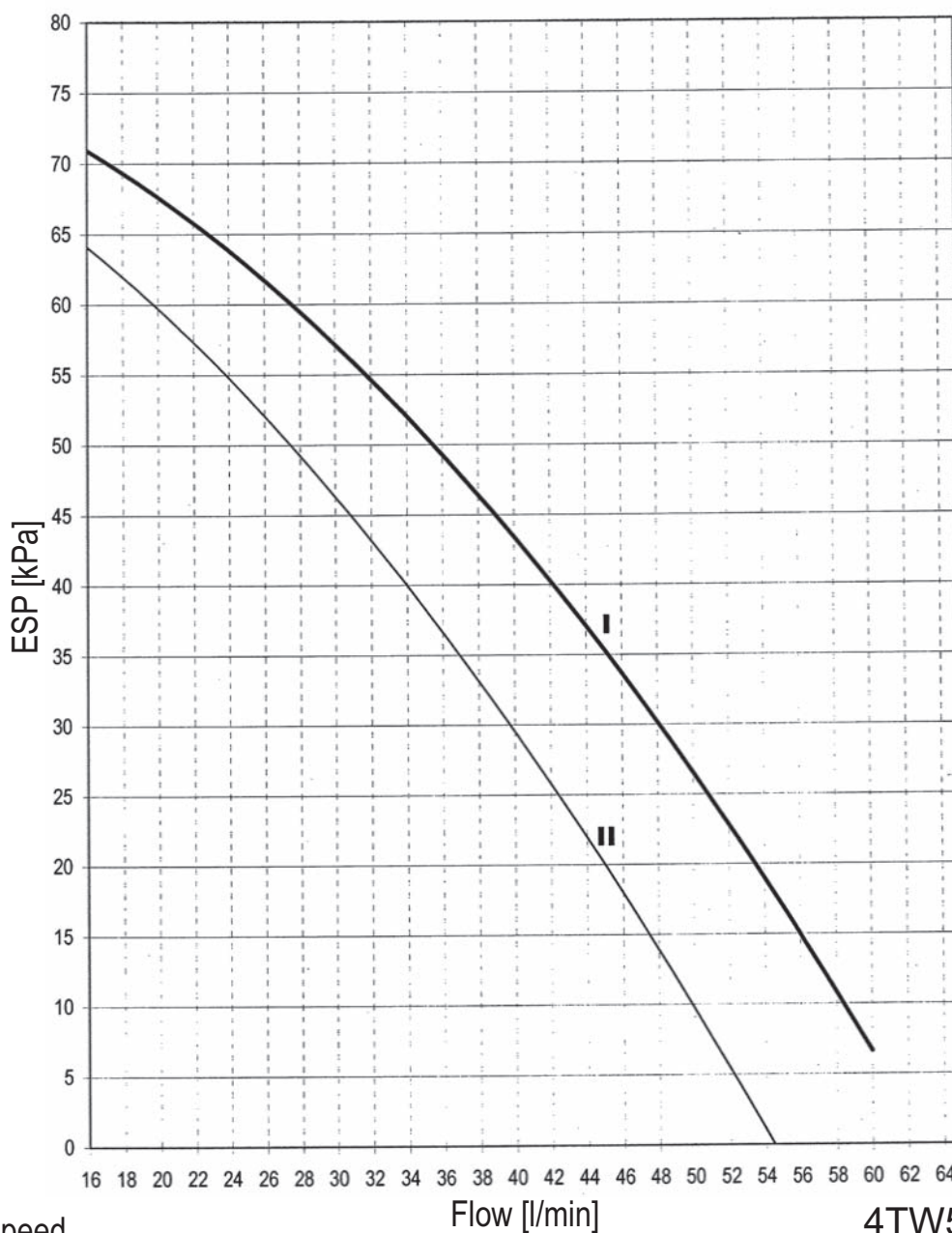


4TW58133-1A

11 Hydraulic performance

11 - 1 Static pressure drop unit

EDHQ011-016BA6W1



I high speed

II medium speed

ESP: external static pressure

Flow: waterflow through the unit

Caution:

Selecting a flow outside the curves can cause damage to or malfunction of the unit.

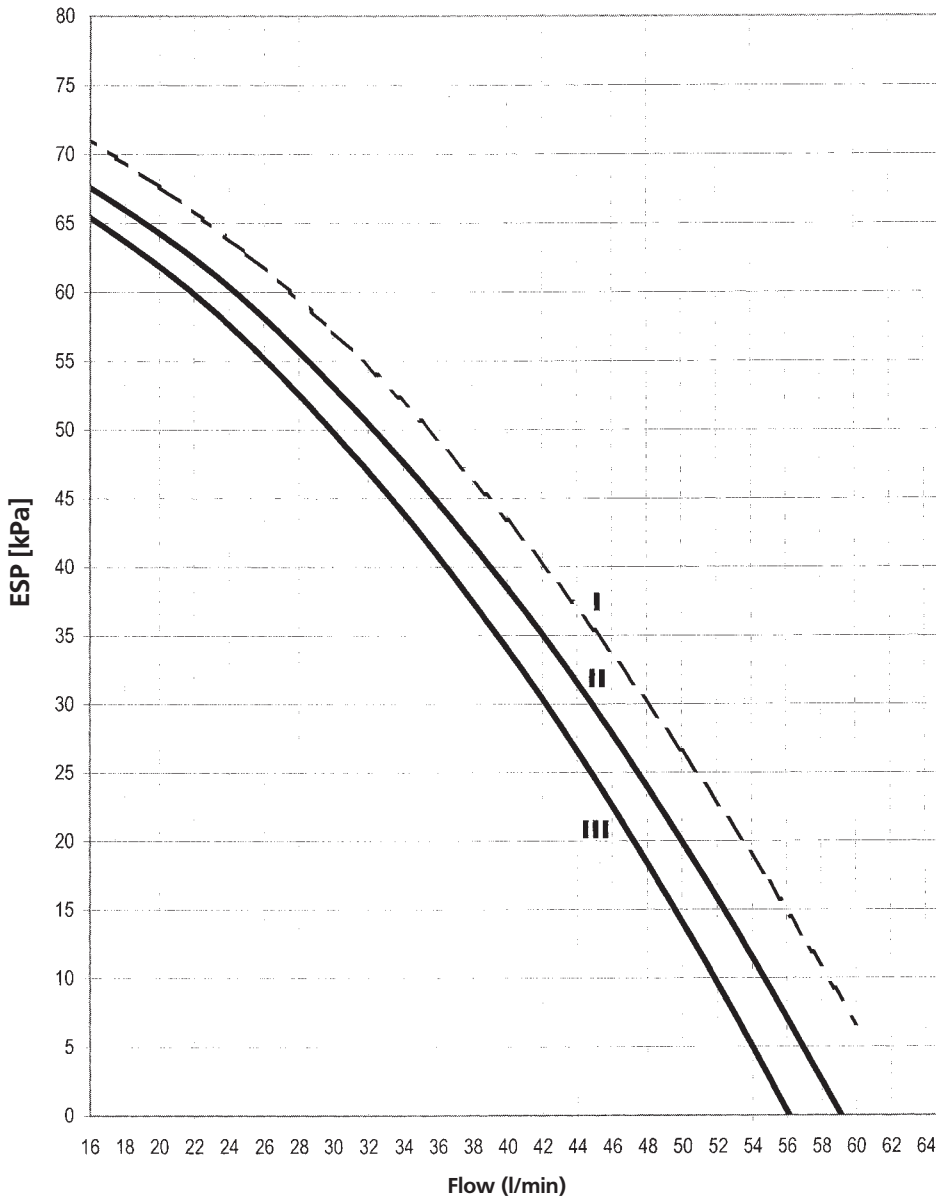
See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-2

11 Hydraulic performance

11 - 1 Static pressure drop unit

EDHQ-B6W1



- I: Water
- II: Water / Propylene glycol (25%) at 20°C
- III: Water / Propylene glycol (25%) at 5°C

Values only valid for high speed setting

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

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EBLQ011-016BA6V3

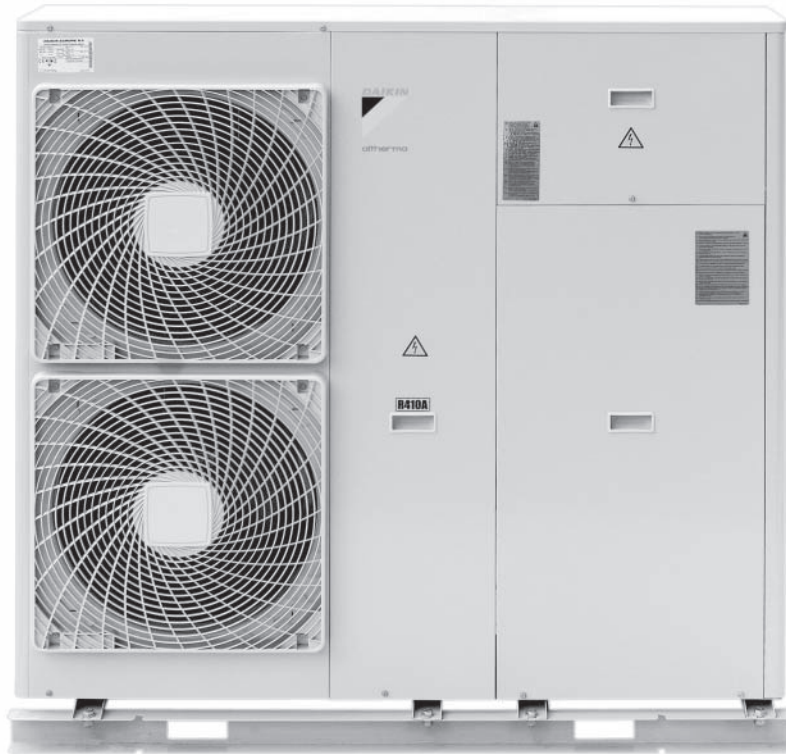
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1 Features

- Reversible monobloc with bottom plate heater
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort

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1



2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				EBLQ011BA6V3	EBLQ014BA6V3	EBLQ016BA6V3
Condition 1	Heating capacity	Nominal	kW	11.20	14.00	16.00
	Cooling capacity	Nominal	kW	12.85	15.99	16.73
	Heating PI	Nominal	kW	2.47	3.20	3.79
	Cooling PI	Nominal	kW	3.78	5.65	6.28
	COP	Nominal		4.54	4.37	4.22
	EER	Nominal		3.39	2.83	2.66
Condition 2	Heating capacity	Nominal	kW	10.87	13.10	15.06
	Cooling capacity	Nominal	kW	10.00	12.50	13.10
	Heating PI	Nominal	kW	3.22	3.91	4.62
	Cooling PI	Nominal	kW	3.60	5.30	5.85
	COP	Nominal		3.37	3.35	3.26
	EER	Nominal		2.78	2.36	2.24
Notes				Condition 1: cooling Ta 35°C - LWE 18°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (Dt=5°C)		
				Condition 2: cooling Ta 35°C - LWE 7°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)		

2-2 TECHNICAL SPECIFICATIONS				EBLQ011BA6V3	EBLQ014BA6V3	EBLQ016BA6V3
Casing	Colour			Ivory white		
	Material			Painted galvanised steel		
Dimensions	Unit	Height	mm	1,418		
		Width	mm	1,435		
		Depth	mm	382	382	382
	Packing	Height	mm	1,557		
		Width	mm	1,500		
		Depth	mm	430	430	430
Weight	Unit		kg	180	180	180
	Packed unit		kg	200	200	200
Packing	Material			Wood		
				Carton		
				Plastic foil		
	Weight		kg	20	20	20
Operation Range	Heating - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	35	35	35
	Heating - Waterside	Min	°C	15	15	15
		Max	°C	55	55	55
	Cooling - Ambient	Min	°CDB	10	10	10
		Max	°CDB	46	46	46
	Cooling - Waterside	Min	°C	5	5	5
		Max	°C	22	22	22
	Domestic hot water - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	43	43	43
Domestic hot water - Waterside	Min	°C	25	25	25	
	Max	°C	80	80	80	
Sound Level (nominal)	Heating	Sound Power	dBA	64	65	66
		Sound Pressure	dBA	51	51	52
	Cooling	Sound Power	dBA	65	66	69
		Sound Pressure	dBA	50	52	54
Sound Level (Night quiet)	Heating	Sound Pressure	dBA	42	42	43
	Cooling	Sound Pressure	dBA	45	45	46
Refrigerant	Type			R-410A		
	Charge		kg	2.95	2.95	2.95
	Control			Electronic expansion valve		
	Nr of Circuits			1	1	1

2 Specifications

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2

2-2 TECHNICAL SPECIFICATIONS			EBLQ011BA6V3	EBLQ014BA6V3	EBLQ016BA6V3
Refrigerant Oil	Type	Daphne FVC68D			
	Charged Volume	l	1.0	1.0	1.0
Defrost Method			Pressure equalising		
Defrost Control			Sensor for outdoor heat exchanger temperature		
Capacity Control Method			Inverter controlled		
Safety Devices			High pressure switch		
			Fan motor thermal protector		
			Fuse		
Notes			The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.		
			Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)		
			Conditions: Ta 35°C - LWE 7°C (DT = 5°C)		
			15°-25°C: BUH only, no heat pump operation = during commissioning		
			Including piping + PHE + back-up heater / excluding expansion vessel		
			E(D)(B)L* model can reach -20°C / E(D)(B)L*6W1 model can reach -25°C but without capacity guarantee		
			Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load through, extra water volume might be required.		

2-3 MAIN COMPONENTS				EBLQ011BA6V3	EBLQ014BA6V3	EBLQ016BA6V3	
Air heat exchanger	Specifications	Length	mm	857	857	857	
		Nr of Rows			2	2	2
		Fin pitch	mm	1.4	1.4	1.4	
		Nr of Passes			5	5	5
		Face area	m ²	1.131	1.131	1.131	
		Nr of Stages			60	60	60
		Empty tubeplate hole			0	0	0
	Tube type			Hi-XSS (8)			
	Fin	Type	WF fin				
		Treatment	Anti-corrosion treatment (PE)				
Fan	Type		Propeller				
	Quantity		2	2	2		
Air Flow Rate (nominal at 230V)	Heating	High	m ³ /min	90	90	90	
	Cooling	High	m ³ /min	96	100	97	
Fan	Discharge direction		Horizontal				
	Motor	Quantity		2	2	2	
		Model		Brushless DC			
Motor	Speed (nominal)	Steps		8	8	8	
		Heating	rpm	760	760	760	
		Cooling	rpm	780	780	780	
Fan	Motor	Output	W	70	70	70	
		Drive		Direct drive			
		Quantity		1	1	1	
Compressor	Motor	Model		JT100G-VD			
		Type		Hermetically sealed scroll compressor			
		Motor Output	W	2,200			
		Starting Method		Inverter driven			
Motor	Crankcase Heater	Output	W	33	33	33	
Pump	Type		Water cooled				
	Nr. of speed			2	2	2	
	Nominal ESP unit	Heating	kPa	54.5	43.3	34.0	
		Cooling	kPa	58.7	49.6	47.1	
	Power input		W	210	210	210	

2 Specifications

2-3 MAIN COMPONENTS				EBLQ011BA6V3	EBLQ014BA6V3	EBLQ016BA6V3
Water side Heat exchanger	Type		Brazen plate			
	Quantity		1	1	1	
	Water volume		l	1.01	1.01	1.01
	Water flow rate Min.		l/min	16	16	16
	Water flow rate Nom.	Heating	l/min	32.1	40.1	45.9
		Cooling	l/min	28.7	35.8	37.6
	Water flow rate Max.		l/min	58	58	58
Insulation material		Polyurethane foam				
Expansion vessel	Volume		l	10	10	10
	Maximum water pressure		bar	3	3	3
	Pre pressure		bar	1.0	1.0	1.0
Water filter	Diameter perforations		mm	1	1	1
	Material		Brass			
Water circuit	Piping connections		inch	G5/4 (FEMALE)		
	Piping		inch	5/4"		
	Safety valve		bar	3	3	3
	Manometer		Yes			
	Drain valve / Fill valve		yes			
	Shut off valve		yes			
	Air purge valve		yes			
	Total water volume (6)		l	5.5	5.5	5.5
	Minimum water volume system		l	20	20	20

2-4 ELECTRICAL SPECIFICATIONS				EBLQ011BA6V3	EBLQ014BA6V3	EBLQ016BA6V3	
Power supply compressor component	Main Power		Name		V3		
			Phase		1~	1~	1~
			Frequency	Hz	50	50	50
			Voltage	V	230	230	230
	Voltage range		Minimum	V	-10%		
			Maximum	V	+10%		
Current		Minimum Ssc value	kVa	Equipment complying with EN/IEC 61000-3-12(*)			
Current	Maximum running current	Cooling	A	26.5	26.5	26.5	
Power supply compressor component	Current	Recomende d fuses	A	32	32	32	
	Wiring connections	For power supply compressor component		See installation manual			
Power supply hydraulic component	Current back-up heater	Type		6V3			
Current back-up heater	Power Supply		Phase		1~		
			Frequency	Hz	50	50	50
			Voltage	V	230	230	230
Running Current	Running Current		Back-up heater	A	26	26	26
	Back-up heater + booster heater	+EK*V3	A	39(26+13)			
Current back-up heater	Z-max		Back-up heater	A	0.29	0.29	0.29
			Back-up heater + booster heater	A	0.17	0.17	0.17
	Minimum Ssc value		+EK*V3	kVa	Equipment complying with EN/IEC 61000-3-12(**)		

2 Specifications

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2-4 ELECTRICAL SPECIFICATIONS				EBLQ011BA6V3	EBLQ014BA6V3	EBLQ016BA6V3	
Power supply hydraulic component	Voltage range	Minimum	V	-10%			
		Maximum	V				+10%
	Wiring connections	Connection type	For power supply hydraulic compartment				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Connection type	For power supply connection to optional sanitary tank + Q2L				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	For more details on voltage range and current refer to installation manual				
		Connection type	For connection with R5T				
		Quantity of wires	Wire included in option EKHWS*				
		Type of wires	Wire included in option EKHWS*				
		Connection type	For connection with A3P				
		Quantity of wires	Depends on thermostat type, refer to installation manual				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M2S				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M3S				
		Quantity of wires	3G or 4G				
	Type of wires	Select diameter and type according to national and local regulations					
	Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²					
Notes	Power supply compressor compartment is for compressor, fan, pump and controller						
	In accordance with EN/IEC 61000-3-11 (1), it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (3) smaller than or equal to Zmax.						
	Installer can reduce capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Instructions see installation manual.						
	Installer can reduce capacity of the heater from 6 to 3.5kW. The current is then reduced from 8.7 to 5A. Instructions see installation manual.						
	(1) 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 <= 75A.						
	(2) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16A =< 75A per phase.						
	(3) System impedance						
	Power supply hydraulic compartment is for the electric heater. The optional domestic warm water tank has a separate power supply.						
Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)							

3 Options

EBLQ011-016BA6V3

Kit availability for E(D/B)(H/L)Q011-016BA*

		Altherma Monoblock / Low temperature											
		1-phase						3-phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BA6V3			EDHQ***BA6V3			EDLQ***BA6W1			EDHQ***BA6W1		
		EBLQ***BA6V3			EBHQ***BA6V3			EBLQ***BA6W1			EBHQ***BA6W1		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
*KRP1HBB	Digital I/O PCB (1)	○	○	○	○	○	○	○	○	○	○	○	○
*KBPTH16A	Bottom plate heater	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KDK04	Drain plug kit	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KHWS150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3Z2	Stainless domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3Z2	Stainless domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE150*3V3	Enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3V3	Enamel domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3V3	Enamel domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3Z2	Enamel domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3Z2	Enamel domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWT150*3V3	Wallmounted enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KSOLHWAV1	Solarkit (4)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTW	Wired room thermostat option kit	○	○	○	○	○	○	○	○	○	○	○	○
*KRTR	Wireless room thermostat option kit (incl. receiver)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTETS	External temperature sensor option kit (3)	○	○	○	○	○	○	○	○	○	○	○	○
*KWBSWW150	Wall bracket for *KHWS(U)150*3V3 or *KSWW150V3*	○	○	○	○	○	○	○	○	○	○	○	○

3TW59259-1

REMARK

- Other combinations are not guaranteed

NOTES

- Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KHRP1HB is already included.
- It is not allowed to combine bottom plate heater and drain plug kit.
- *KRTETS can only be used in combination with *KRTR
- Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
- E(B/D)L units include special equipment (insulation, heater sheet,...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the e(B/D)L must be installed instead.

3 Options

EBLQ011-016BA6V3

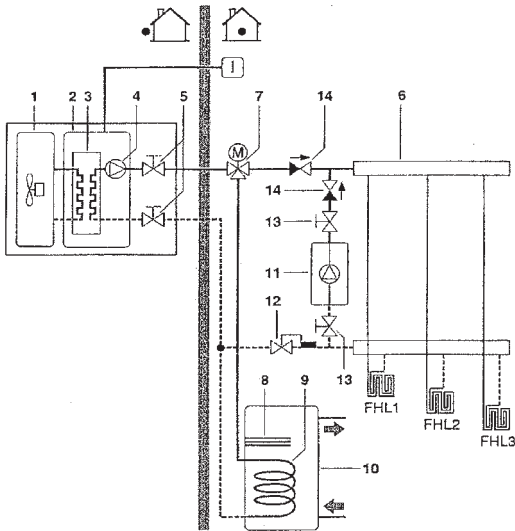
Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the altherma indoor unit or by an auxiliary boiler connected in the system. An auxiliary contact decides whether either the E(D/B)(H/L)Q* hydro module or the boiler will operate. This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

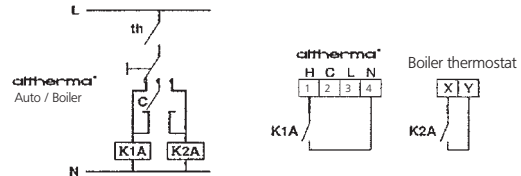
Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the hydro module, including when the boiler is in operation for space heating.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.



- 1 Compressor module
- 2 Hydro module
- 3 Heat exchanger
- 4 Pump
- 5 Shut-off valve
- 6 Collector (field supply)
- 7 Motorised 3-way valve (field supply)
- 8 Booster heater
- 9 Heat exchanger coil
- 10 Domestic hot water tank
- 11 Boiler (field supply)
- 12 Aquastat valve (field supply)
- 13 Shut-off valve (field supply)
- 14 Non-return valve (field supply)
- FHL 1...3 Floor heating loop (field supply)
- I User interface

Field wiring



- Boiler thermostat
- C
- th
- K1A
- K2A

- Boiler thermostat
- Auxiliary contact (normal closed)
- Heating only room thermostat
- Auxiliary relay for activation of E(D/B)(H/L)Q* unit (field supply)
- Auxiliary relay for activation of boiler (field supply)

Operation

When the room thermostat (th) closes, either the E(D/B)(H/L)Q* unit or the boiler starts operating, depending on the position of the auxiliary contact (C)



Make sure that auxiliary contact (C) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)(H/L)Q* unit and the boiler. If the auxiliary contact (C) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or turned ON/OFF by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.

During heating operation of the E(D/B)(H/L)Q* unit, the Altherma unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature.

During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.

Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already pre-mounted in the Altherma unit.



Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)(H/L)Q* switch box correctly. Refer to 'Room thermostat installation configuration' in the installation manual supplied with the unit.

Make sure that return water to the E(D/B)(H/L)Q* heat exchanger never exceeds 55°C.

For this reason, never put the target leaving water temperature setpoint on the boiler controller above 55°C and if required, install an aquastat(*) valve in the return water flow of the E(D/B)(H/L)Q* unit. Daikin shall not be held liable for any damage resulting from failure to observe this rule.

(*)The aquastat valve must be set for 55°C and must operate to close the return water flow to the E(D/B)(H/L)Q* unit when the measured temperature exceeds 55°C. When temperature drops to a lower level, the aquastat valve must operate to open the return water flow to the E(D/B)(H/L)Q* unit again.

4 Capacity tables

4 - 1 Heating capacity tables

EBLQ-B6V3													
Maximum Heating Capacity (Peak values)													
	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D B) (H|L)Q011*6V3	-20 (a)	5,86	2,17	5,51	2,37								
	-15	6,63	2,21	6,23	2,42	6,09	2,67						
	-7	8,13	2,24	7,66	2,47	7,51	2,72	7,32	3,18				
	-2	9,28	2,25	8,76	2,48	8,61	2,74	8,41	3,21	8,11	3,57		
	2	10,32	2,25	9,77	2,48	9,62	2,75	9,42	3,22	9,10	3,59	8,51	4,00
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
E(D|B)|(H|L)Q014*6V3	-20 (a)	7,42	2,78	7,20	3,03								
	-15	8,29	2,84	8,00	3,10	7,72	3,40						
	-7	10,07	2,91	9,67	3,18	9,28	3,49	9,08	3,80				
	-2	11,46	2,94	11,00	3,21	10,54	3,54	10,29	3,85	10,13	4,26		
	2	12,75	2,95	12,23	3,23	11,72	3,56	11,43	3,88	11,25	4,30	10,73	4,75
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
E(D|B)|(H|L)Q016*6V3	-20 (a)	8,47	3,27	8,34	3,56								
	-15	9,44	3,34	9,21	3,64	8,99	3,99						
	-7	11,44	3,43	11,08	3,74	10,73	4,11	10,53	4,47				
	-2	13,01	3,47	12,58	3,79	12,14	4,17	11,89	4,54	11,45	5,01		
	2	14,48	3,49	13,98	3,82	13,48	4,20	13,18	4,58	12,67	5,06	12,17	5,59
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
E(D|B)|(H|L)Q011*6V3	-20 (a)	4,96	2,13	4,67	2,32								
	-15	5,61	2,16	5,27	2,37	5,16	2,61						
	-7	6,88	2,20	6,49	2,41	6,36	2,67	6,19	3,12				
	-2	7,70	2,16	7,27	2,38	7,15	2,63	6,98	3,08	6,73	3,43		
	2	8,57	2,16	8,11	2,38	7,99	2,64	7,82	3,09	7,56	3,45	7,06	3,84
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
E(D|B)|(H|L)Q014*6V3	-20 (a)	6,31	2,69	6,13	2,93								
	-15	7,05	2,75	6,80	3,00	6,57	3,29						
	-7	8,57	2,82	8,23	3,08	7,89	3,38	7,72	3,68				
	-2	9,11	2,66	8,74	2,91	8,38	3,20	8,18	3,49	8,05	3,86		
	2	10,13	2,67	9,72	2,93	9,31	3,22	9,09	3,52	8,95	3,89	8,53	4,30
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
E(D|B)|(H|L)Q016*6V3	-20 (a)	7,00	3,17	6,89	3,45								
	-15	7,80	3,24	7,61	3,53	7,43	3,87						
	-7	9,45	3,33	9,15	3,63	8,86	3,99	8,70	4,34				
	-2	9,96	3,09	9,62	3,38	9,29	3,71	9,09	4,04	8,76	4,46		
	2	11,08	3,11	10,69	3,35	10,31	3,74	10,08	4,08	9,69	4,50	9,31	4,98
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
E(D B) (H L)Q011*6V3	-20 (a)	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	-15	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54
	-7												
	-2												
	2												
	7												
	12												

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4

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]
E(D|B)|(H|L)Q011*6V3	-20 (a)	4,96	2,13	4,67	2,32								
	-15	5,61	2,16	5,27	2,37	5,16	2,61						
	-7	6,88	2,20	6,49	2,41	6,36	2,67	6,19	3,12				
	-2	7,70	2,16	7,27	2,38	7,15	2,63	6,98	3,08	6,73	3,43		
	2	8,57	2,16	8,11	2,38	7,99	2,64	7,82	3,09	7,56	3,45	7,06	3,84
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
E(D|B)|(H|L)Q014*6V3	-20 (a)	6,31	2,69	6,13	2,93								
	-15	7,05	2,75	6,80	3,00	6,57	3,29						
	-7	8,57	2,82	8,23	3,08	7,89	3,38	7,72	3,68				
	-2	9,11	2,66	8,74	2,91	8,38	3,20	8,18	3,49	8,05	3,86		
	2	10,13	2,67	9,72	2,93	9,31	3,22	9,09	3,52	8,95	3,89	8,53	4,30
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
E(D|B)|(H|L)Q016*6V3	-20 (a)	7,00	3,17	6,89	3,45								
	-15	7,80	3,24	7,61	3,53	7,43	3,87						
	-7	9,45	3,33	9,15	3,63	8,86	3,99	8,70	4,34				
	-2	9,96	3,09	9,62	3,38	9,29	3,71	9,09	4,04	8,76	4,46		
	2	11,08	3,11	10,69	3,35	10,31	3,74	10,08	4,08	9,69	4,50	9,31	4,98
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
E(D|B)|(H|L)Q011*6V3	-20 (a)	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
	-15	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54
	-7												
	-2												
	2												
	7												
	12												

3TW58012-1C

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condensor temperature (°C)
- Tamb : Ambient temperature RH=85%

Heating capacity at heat recovery condenser

- Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
 - Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
 - Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).
- NOTES:
-For the model with heatertape (°(D|V|LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp for more details see installation manual of indoor unit.

NOTES

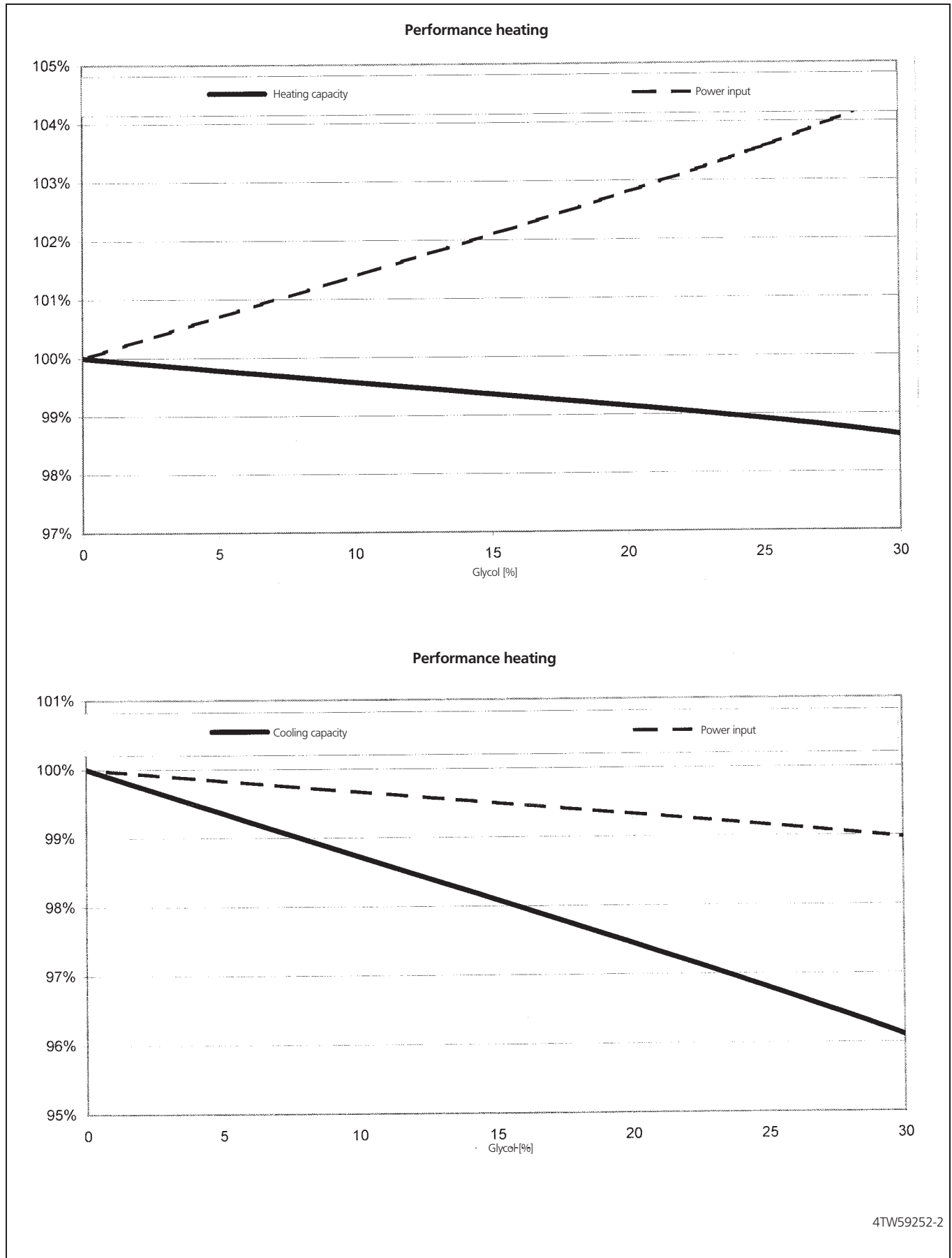
- (a) only E(D|B)L*

4 Capacity tables

4 - 1 Heating capacity tables

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4



4 Capacity tables

4 - 2 Cooling capacity tables

EBLQ-B6V3

Maximum Cooling Capacity

	T _{amb} [°C]	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
EB(H/L)Q011*6V3	7	11,08	2,70	10,99	2,97	10,62	3,26	10,00	3,60	9,16	3,97	8,14	4,38
	10	11,77	2,73	11,66	3,00	11,27	3,31	10,61	3,65	9,73	4,03	8,65	4,44
	13	12,93	2,76	12,81	3,04	12,38	3,35	11,66	3,70	10,70	4,08	9,39	4,65
	15	13,74	2,78	13,61	3,06	13,15	3,38	12,39	3,73	11,37	4,12	9,73	4,54
	18	15,17	2,81	14,66	3,10	13,87	3,42	12,85	3,78	11,61	4,18	9,85	4,18
	22	16,92	2,85	16,36	3,15	15,49	3,48	14,36	3,85	13,00	4,26	10,32	3,73
EB(H/L)Q014*6V3	7	13,87	4,02	13,75	4,39	13,29	4,81	12,50	5,30	11,08	5,08	9,81	5,60
	10	14,92	4,08	14,79	4,46	14,28	4,90	13,43	5,39	11,92	5,17	10,56	5,70
	13	16,38	4,15	16,23	4,54	15,68	4,99	14,75	5,49	13,09	5,26	10,95	5,78
	15	17,39	4,20	17,23	4,60	16,64	5,05	15,66	5,55	13,91	5,32	11,35	5,64
	18	18,92	4,27	18,28	4,68	17,29	5,14	15,99	5,65	13,99	5,41	11,49	5,20
	22	21,07	4,37	20,37	4,79	19,28	5,27	17,85	5,79	15,65	5,54	12,05	4,64
EB(H/L)Q016*6V3	7	14,52	4,45	14,44	4,87	13,95	5,33	13,10	5,85	11,57	5,58	9,84	5,47
	10	15,65	4,54	15,53	4,97	14,99	5,44	14,07	5,96	12,43	5,68	10,59	5,56
	13	17,19	4,64	17,05	5,07	16,45	5,55	15,44	6,08	13,64	5,79	10,98	5,65
	15	18,26	4,71	18,09	5,14	17,46	5,63	16,39	6,16	14,49	5,86	11,38	5,51
	18	19,87	4,81	19,20	5,25	18,14	5,74	16,73	6,28	14,57	5,97	11,52	5,08
	22	22,14	4,95	21,39	5,40	20,21	5,90	18,66	6,44	16,28	6,12	12,08	4,53

3TW58012-1C

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condensator temperature (°C)
- Tamb : Ambient temperature RH=85%

NOTES

- (a) only E(D/B)L*

Heating capacity at heat recovery condenser

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:

-For the model with heatertape (*D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W

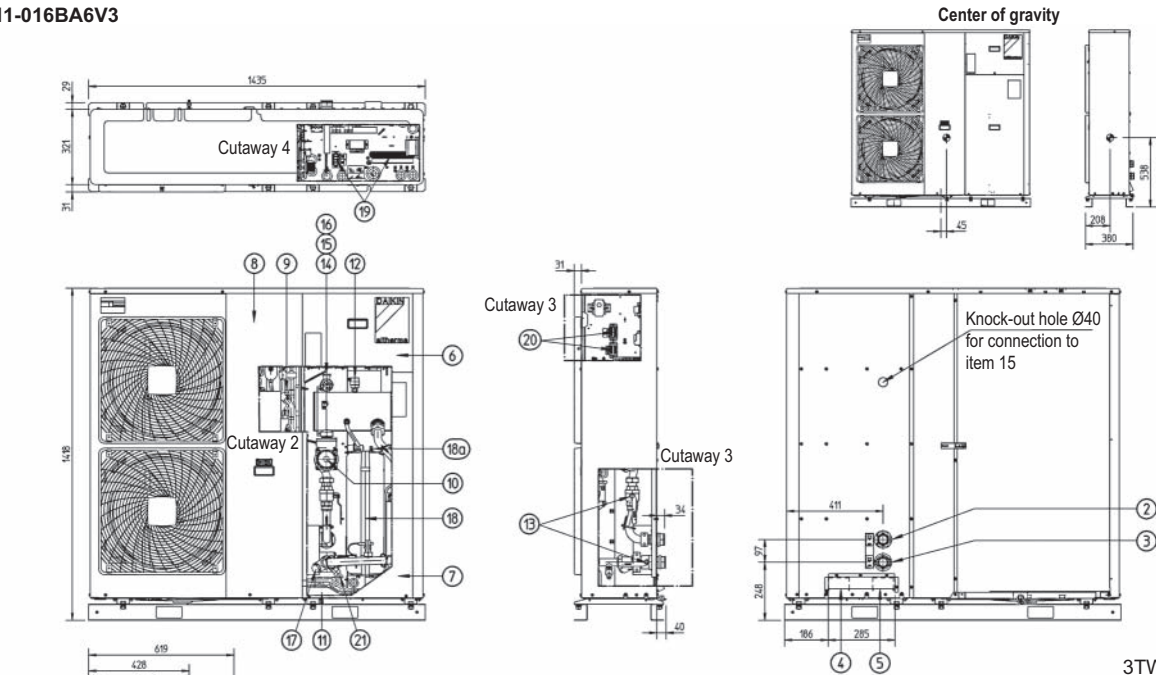
- 1) For AA models: 'X' = 4°C
- 2) For BA models: 'X' = [F-02] = BPH ON temp for more details see installation manual of indoor unit.

5 Dimensional drawing & centre of gravity

5 - 1 Dimensional drawing

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EBLQ011-016BA6V3

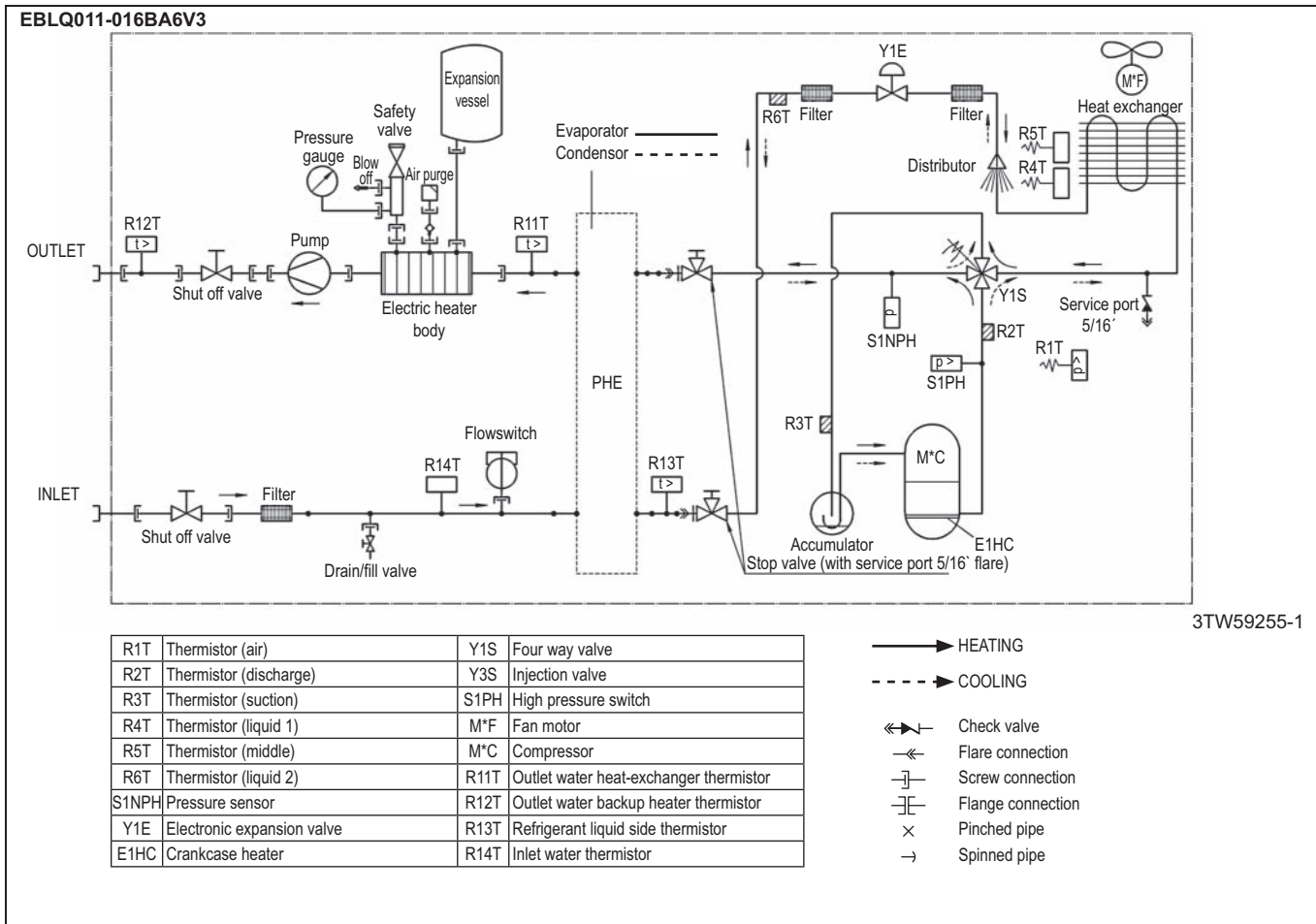


3TW59254-1A

Nr	Name	Nr	Name	Nr	Name
☉	Center of gravity	8	Service door compressor module	16	Pressure gauge
1	Drain outlet	9	Service port	17	Waterfilter
2	Waterpiping outlet	10	Pump	18	Expansion vessel + (18a) nipple
3	Waterpiping inlet	11	Remoon kit (to be installed indoors)	19	Switchbox terminals
4	Entry low voltage cables (<30V)	12	Air purge	20	Switchbox terminals option sanitary warm water tank
5	Entry power cables	13	Shot-off valve	21	Drain & fill valve
6	Service door switchbox	14	Blow-off valve		
7	Service door hydraulic module	15	Blow-off drain		

6 Piping diagram

6 - 1 Piping diagram

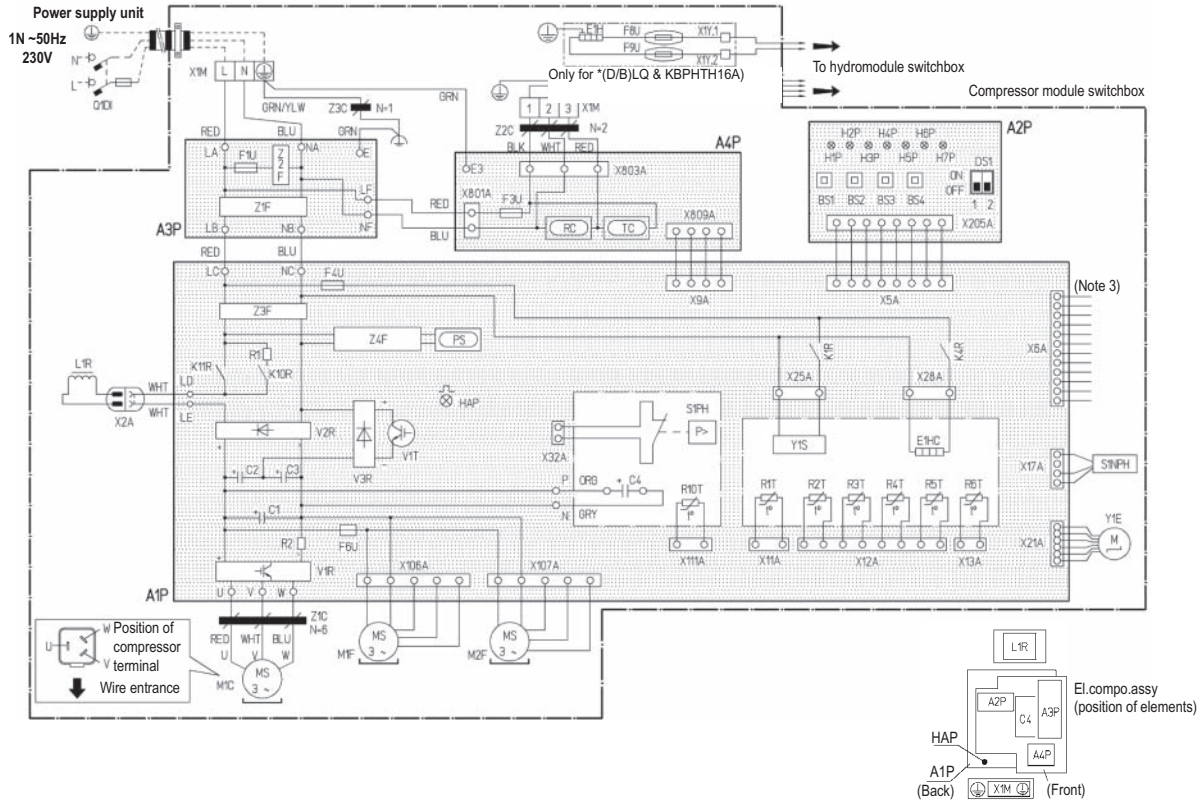


7 Wiring diagram

7 - 1 Wiring diagram

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7

EBLQ011-016BA6V3



A1P	Printed circuit board (main)	K1R	Magnetic relay (Y1S)	R6T	Thermistor (liquid)
A2P	Printed circuit board (inv.)	K4R	Magnetic relay (E1HC)	RC	Signal receiver circuit
A3P	Printed circuit board (noise filter)	K10R	Magnetic relay	R10T	Thermistor (fin)
A4P	Printed circuit board	K11R	Magnetic relay	S1NPH	Pressure sensor
BS1-BS4	Push button switch	L1R	Reactor	S1PH	Pressure switch (high)
C1-C4	Capacitor	M1C	Motor (compressor)	TC	Signal transmission circuit
DS1	DIP Switch	M1F	Motor (fan) (upper)	V1R	Power module
E1H	Bottomplate heater	M2F	Motor (fan) (lower)	V2R, V3R	Diode module
E1HC	Crankcase heater	PS	Switching power supply	V1T	IGBT
F1U, F3U, F4U	Fuse (T 6,3A / 250V)	Q1DI	Earth leakage circuit breaker	X1M	Terminal strip (power supply)
F6U	Fuse (T 5,0A / 250V)	R1	Resistor	Y1E	Electronic expansion valve
F7U, F8U	Fuse (F 1,0A / 250V)	R2	Resistor	Y1S	Solenoid valve (4 way valve)
H1P~7P(A2P)	Light emit. diode (serv. monitor-orange) [H2P] Prepare, test ----- flickering Malfunction detection ----- light up	R1T	Thermistor (air)	Z1C-Z3C	Noise filter (ferrity core)
HAP	Light emitting diode (service monitor green)	R2T	Thermistor (discharge)	Z1F-Z4F	Noise filter
		R3T	Thermistor (suction)		Optional connector
		R4T	Thermistor (heat exchanger)	X1Y	Connector
		R5T	Thermistor (heat exchanger middle)		

- : Terminal strip ● : Connection Colors: BLU : Blue WHT : White
 : Connector ⚡ : Noiseless earth BRN : Brown YLW : Yellow
 : Field wiring ○ : Terminal GRN : Green ORG : Orange
 : Protective earth (screw) —|— : Connector RED : RED BLK : Black

2TW59256-1

NOTES

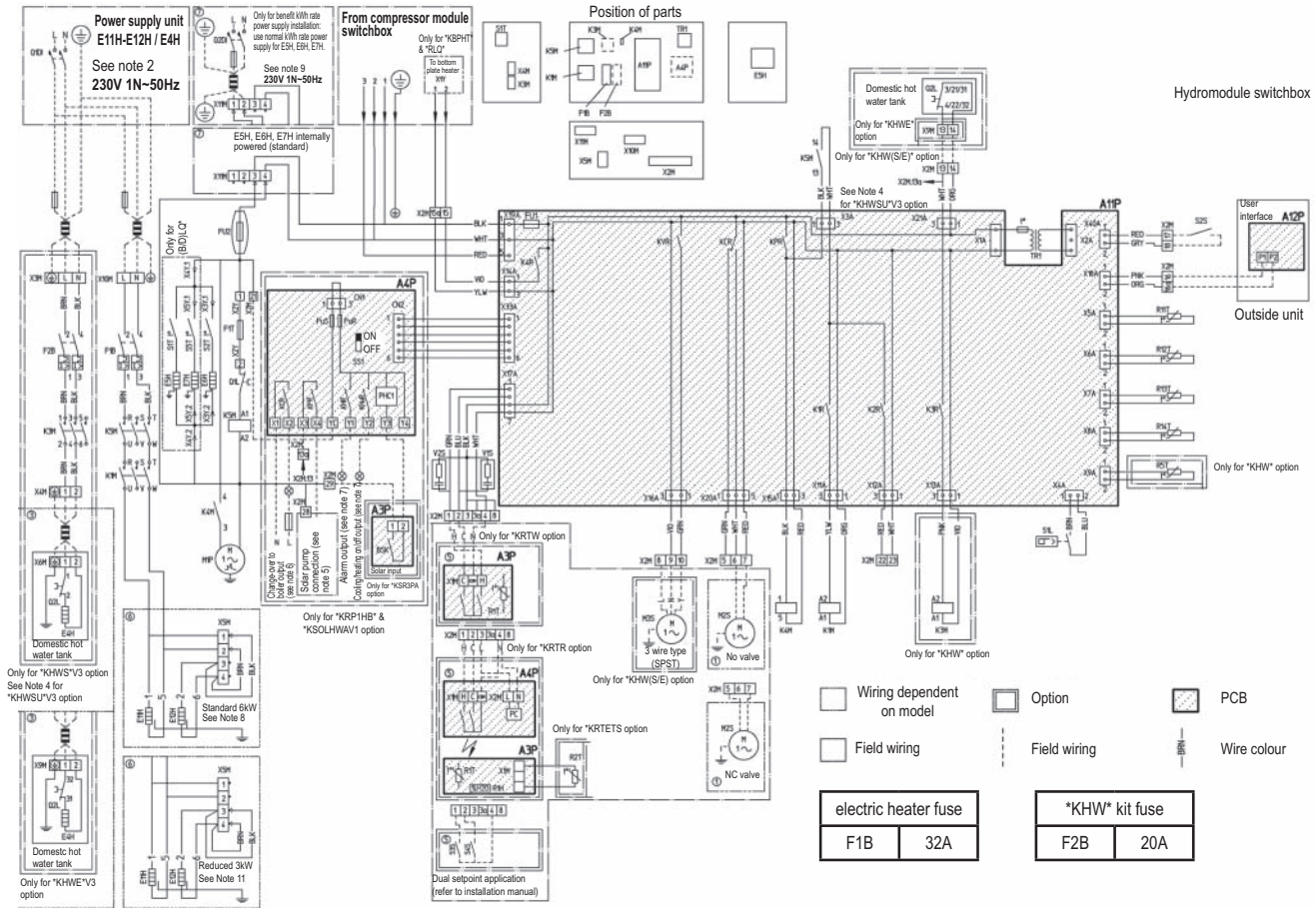
- This wiring diagram only applies to the compressor module switchbox.
- L: Live, N: Neutral
- Not applicable
- Do not operate the unit by short-circuiting protection device S1PH
- Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".
-



7 Wiring diagram

7 - 1 Wiring diagram

EBLQ011-016BA6V3



A11P	Main PCB	K1M	Contactor backup heater step	R14T	Inlet water thermistor
A12P	User interface PCB	K3M	Contactor booster heater	R5T (*KHW*)	Domestic hot water thermistor
A3P (*KRTW/R*)	Thermostat (PC=power circuit)	K4M	Pump relay	S1L	Flowswitch
A3P (*KSR3PA)	Solar pump station PCB	K5M	Contactor for backup heater all pole disconnection	S2S	Benefit kWh rate power supply contact
A4P (*KRP1HB)	Digital I/O PCB	M1P	Pump	S3S	Dual setpoint 2 contact
A4P (*KRTR)	Receiver PCB	M2S	2way valve for cooling mode	S4S	Dual setpoint 1 contact
E11H-E12H	Backup heater element 1-2 (6kW)	M3S	3way valve: floorheating/domestic hot water	SS1	Dip switch
E4H	Booster heater (3kW)	PHC1	Optocoupler input circuit	S1T	Thermostat switchbox heater
E5H	Switchbox heater	Q1DI, Q2DI	Earth leakage circuit breaker	S2T	Thermostat expansion vessel heater
E6H	Expansion vessel heater	Q1L	Thermal protector backup heater	S3T	Thermostat plate heat exchanger
E7H	Plate heat exchanger heater	Q2L	Thermal protector 1/2 booster heater	TR1	Transformer 24V for PCB
F1B	Fuse backup heater	R1H (*KRTR)	Humidity sensor	V1S, V2S	Spark suppression 1, 2
F1T	Thermal fuse backup heater	R1T (*KRTW/R*)	Ambient sensor	X1M-X11M, X2-5Y	Terminal strips, connector
F2B	Fuse booster heater	R2T (*KRTETS)	External sensor (floor or ambient)		
FU1	Fuse 3.15A 250V for PCB	R11T	Outlet water heat exchanger thermistor		
FU2	Fuse 5A T 250V	R12T	Outlet water backup heater thermistor		
FuS, FuR	Fuse 5A 250V for digital I/O PCB	R13T	Refrigerant liquid side thermistor		

- □ □ : Terminal strip ○ — : Terminal Colors: BLU : Blue WHT : White PNK : Pink
- □ □ : Connector BRN : Brown YLW : Yellow Vio : Violet
- □ — : Field wiring GRN : Green ORG : Orange GRY : Grey
- ⊕ : Protective earth (screw) RED : RED BLK : Black

2TW59256-2

NOTES

- 1 This wiring diagram only applies to the hydromodule switchbox.
- 2 Use a dedicated power circuit for the backup heater and booster heater. Never use a power circuit shared by another appliance.
- 3 Do not operate the unit by short-circuiting any protection device.
- 4 For *KHWSU*V3, refer to option manual.
- 5 For *KSOLHWAV1, refer to option manual.
- 6 Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
- 7 230 VAC output Maximum load: 0.3A
- 8 Backupheater KW reduction, refer to installation manual.
- 9 For beneat kWh rate power supply installation, refer to installation manual.

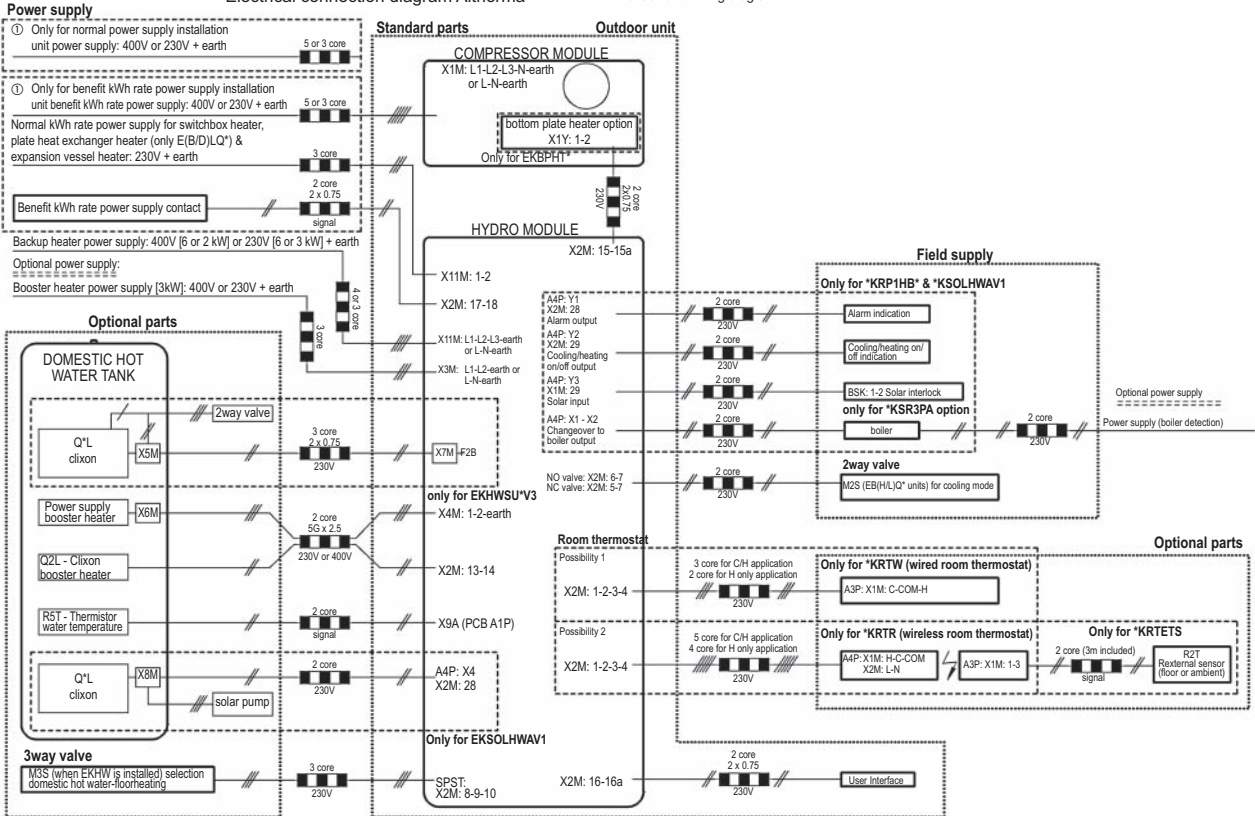
7 Wiring diagram

7 - 2 External connection diagram

EBLQ011-016BA6V3

Electrical connection diagram Altherma

For more details please check unit wiring diagram



NOTE

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

3TW59256-3

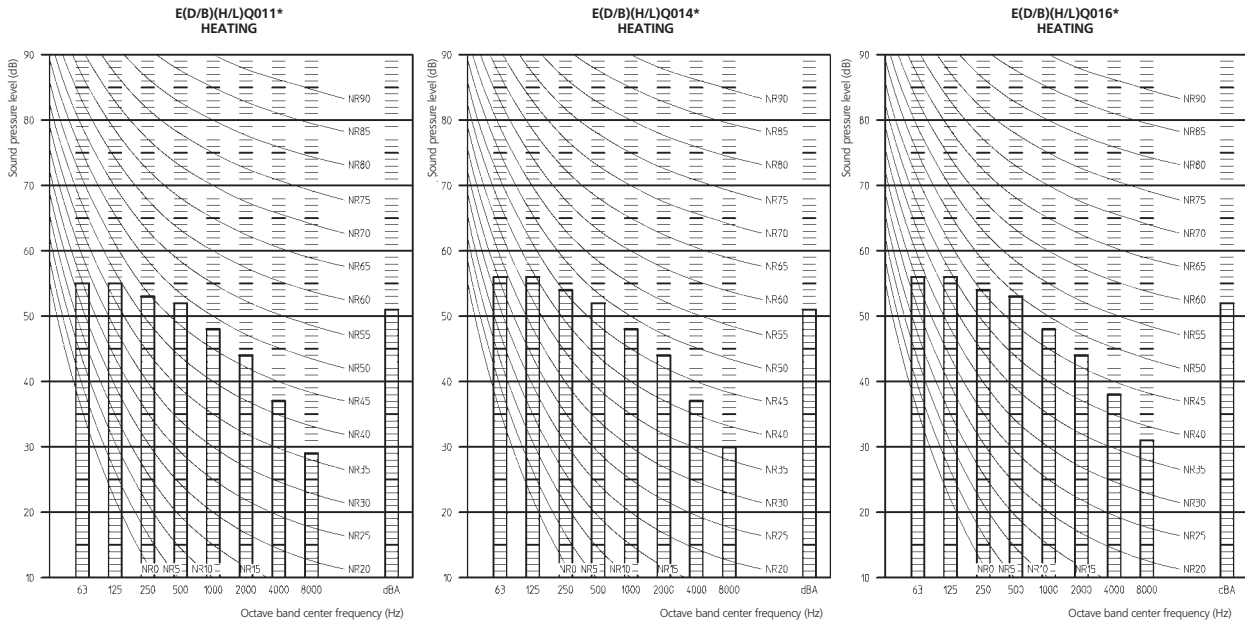
16

7

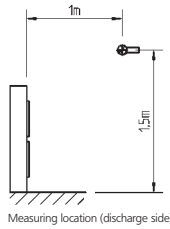
8 Sound data

8 - 1 Sound pressure spectrum

EBLQ11-016BA6V3

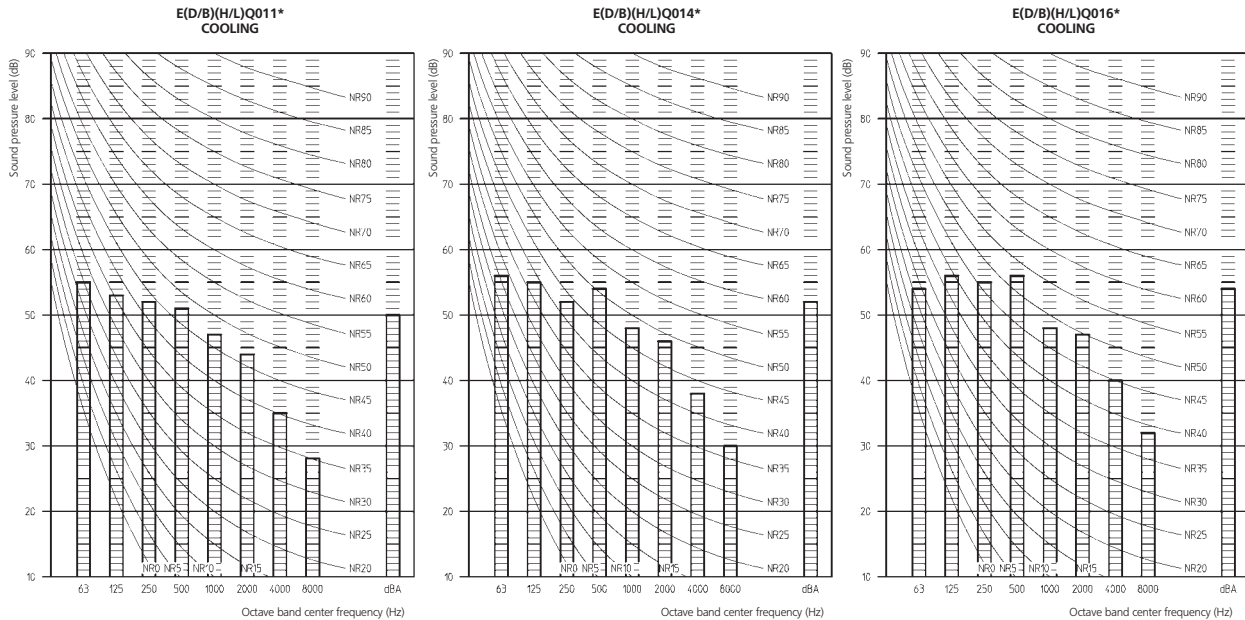


- Notes:**
- 1 Data is valid at free field condition (measured in a semi-anechoic room)
 - 2 dBA = A-weighted sound power level (A-scale according to IEC)
 - 3 Reference acoustic pressure 0dB = 20μPa
 - 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

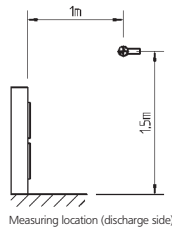


3TW58017-2

EBLQ11-016BA6V3



- Notes:**
- 1 Data is valid at free field condition (measured in a semi-anechoic room)
 - 2 dBA = A-weighted sound power level (A-scale according to IEC)
 - 3 Reference acoustic pressure 0dB = 20μPa
 - 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



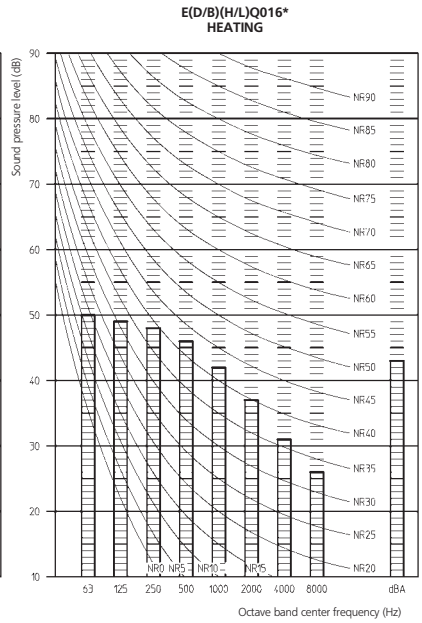
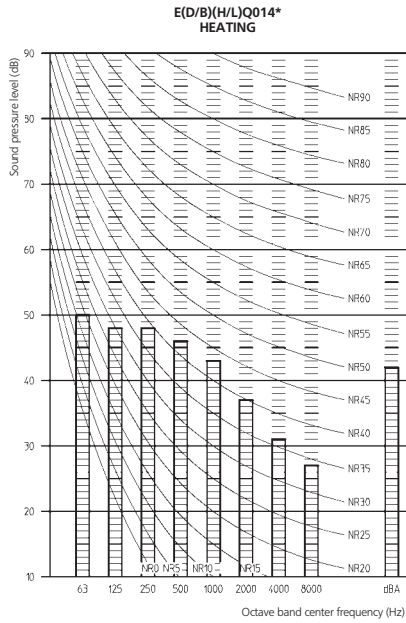
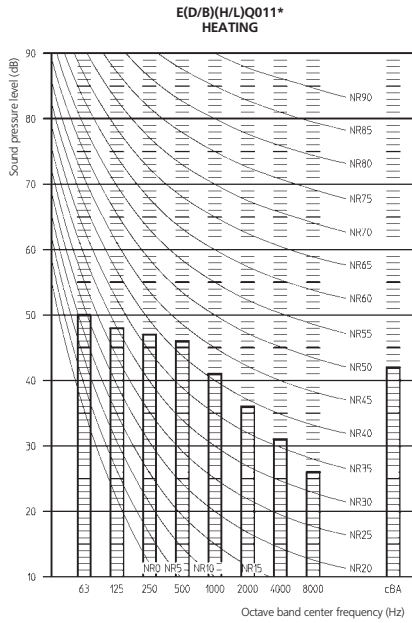
3TW58017-1

8 Sound data

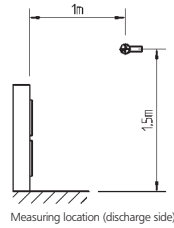
8 - 2 Sound pressure night quiet mode

16
8

EBLQ011-016BA6V3

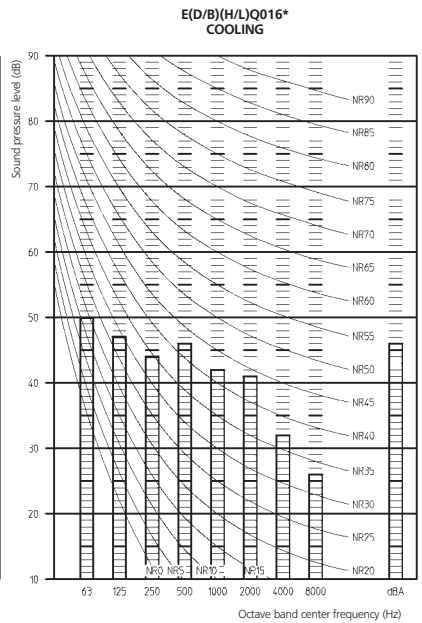
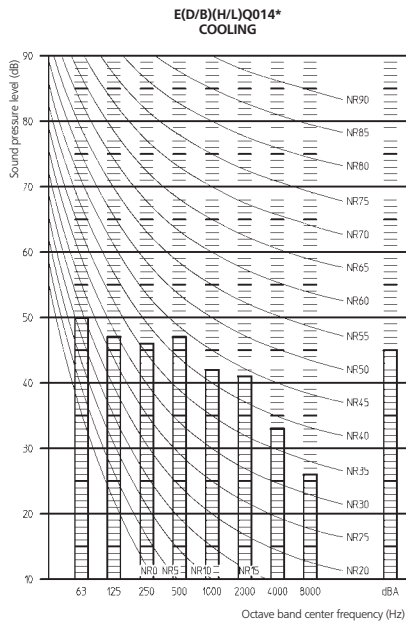
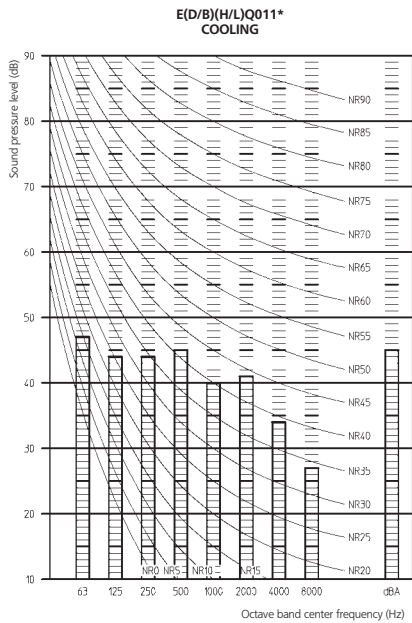


- Notes:**
- 1 Data is valid at free field condition (measured in a semi-anochoic room)
 - 2 dBA = A-weighted sound power level (A-scale according to IEC)
 - 3 Reference acoustic pressure 0dB = 20μPa
 - 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

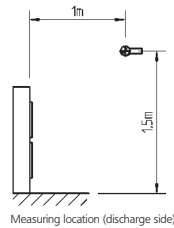


3TW58017-4

EBLQ011-016BA6V3



- Notes:**
- 1 Data is valid at free field condition (measured in a semi-anochoic room)
 - 2 dBA = A-weighted sound power level (A-scale according to IEC)
 - 3 Reference acoustic pressure 0dB = 20μPa
 - 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



3TW58017-3

9 Installation

9 - 1 Service space

EBLQ011-016BA6V3

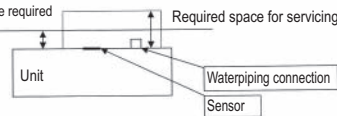
A. Non stacked installation

	↖	↗	↘	↙	A	B1	B2	C	D1	D2	E	L1/L2	
	✓	✓	✓	✓	≥100		≥100						
	✓	✓	✓	✓	≥100				≥500	≥1000			
	✓	✓	✓	✓	≥150	≥150			≥500	≥1000			
	✓	✓	✓	✓			≥500		≥500	≥1000			
	✓	✓	✓	✓	L1<L2	L1SH			≥750	≥1000	≥1000	0<L1≤1/2H 0<L1≤1/2H	
	✓	✓	✓	✓	L2<L1	L2SH	≥250		≥500	≥500	≥1000	0<L2≤1/2H 1/2H<L2SH	
	✓	✓	✓	✓			≥250		≥500	≥500	≥1000	0<L2≤1/2H 1/2H<L2SH	
	✓	✓	✓	✓					≥500	≥500	≥1000		
	✓	✓	✓	✓	L1<L2	L1SH	≥200	≥500	≥1000	≥1000	≥1000		0<L1≤1/2H 1/2H<L1SH
	✓	✓	✓	✓	L2<L1	L2SH	≥200	≥500	≥1000	≥1000	≥1000		0<L2≤1/2H 1/2H<L2SH
	✓	✓	✓	✓	≥200	≥300		≥1000		≥500	≥1000		
	✓	✓	✓	✓	≥200	≥300		≥1000		≥500	≥1000		
	✓	✓	✓	✓			≥500		≥1000	≥1000			
	✓	✓	✓	✓	L1<L2	L1SH	≥300		≥1000			0<L1≤1/2H 1/2H<L1SH	
	✓	✓	✓	✓	L2<L1	L2SH	≥250		≥1500			0<L2≤1/2H 1/2H<L2SH	
	✓	✓	✓	✓			≥300		≥1500			0<L2≤1/2H 1/2H<L2SH	
	✓	✓	✓	✓	L1<L2	L1SH	≥200	≥500	≥1000	≥1000	≥1000		0<L1≤1/2H 1/2H<L1SH
	✓	✓	✓	✓	L2<L1	L2SH	≥250		≥1250	≥500	≥1000		0<L2≤1/2H 1/2H<L2SH
	✓	✓	✓	✓			≥250		≥1250	≥500	≥1000		0<L2≤1/2H 1/2H<L2SH
	✓	✓	✓	✓					≥500	≥500	≥1000		

- ↖ Suction side obstacle
 - ↗ Discharge side obstacle
 - ↘ Left side obstacle
 - ↙ Right side obstacle
 - Top side obstacle
 - Obstacle is present
- ☐ This situation is not allowed

NOTES

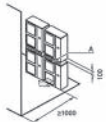
100 mm is min. space required for correct operation



- In these cases, close bottom of the installation frame to prevent discharged air from being bypassed.
- In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front on the outlet side

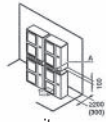


Do not stack more than one unit.

About 100 mm is required as the dimension for laying the upper outdoor unit's drain pipe.

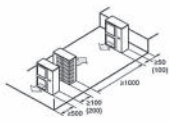
Get the portion A sealed so that air from the outlet does not bypass.

2. Obstacles exist in front of the air inlet

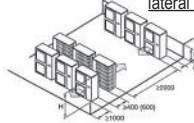


C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H,A and L are shown in the table below.

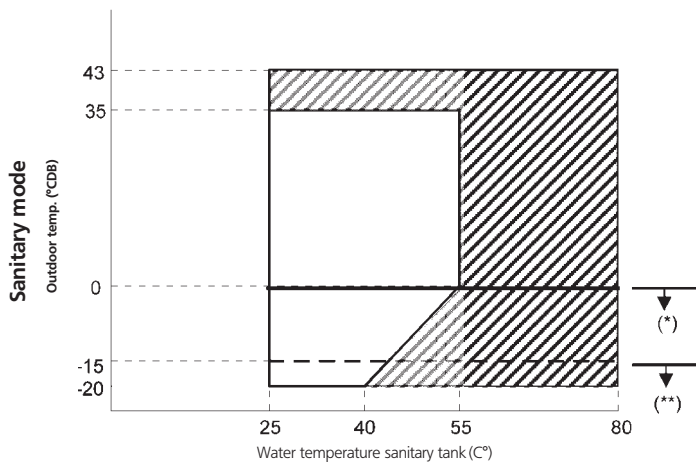
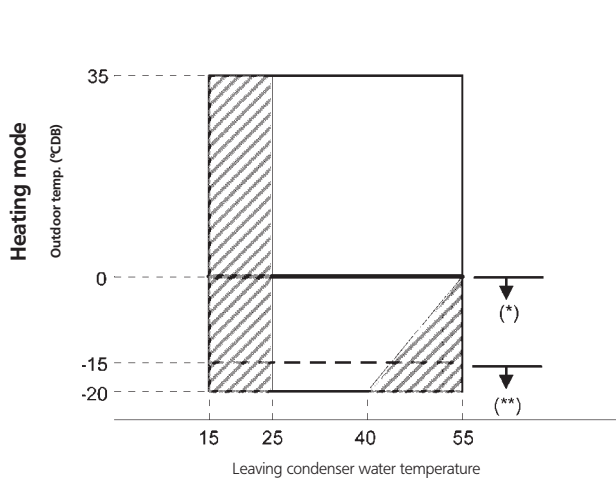
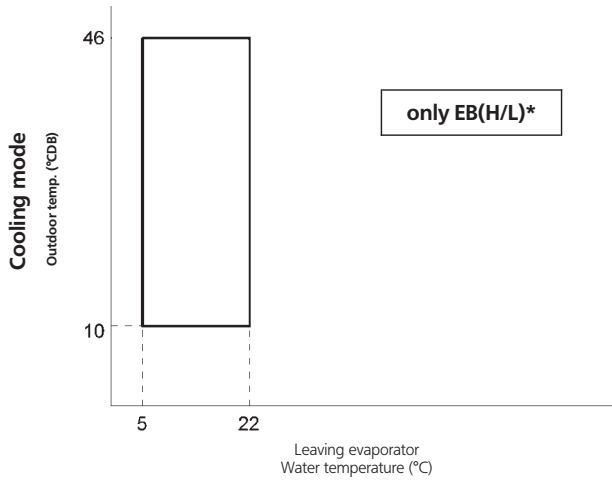
	L	A
$L \leq H$	$0 < L \leq 1/2H$	250
	$1/2H < L$	300
$H < L$		Installation not allowed

3TW58019-6A

10 Operation range

16
10

EBLQ011-016BA6V3

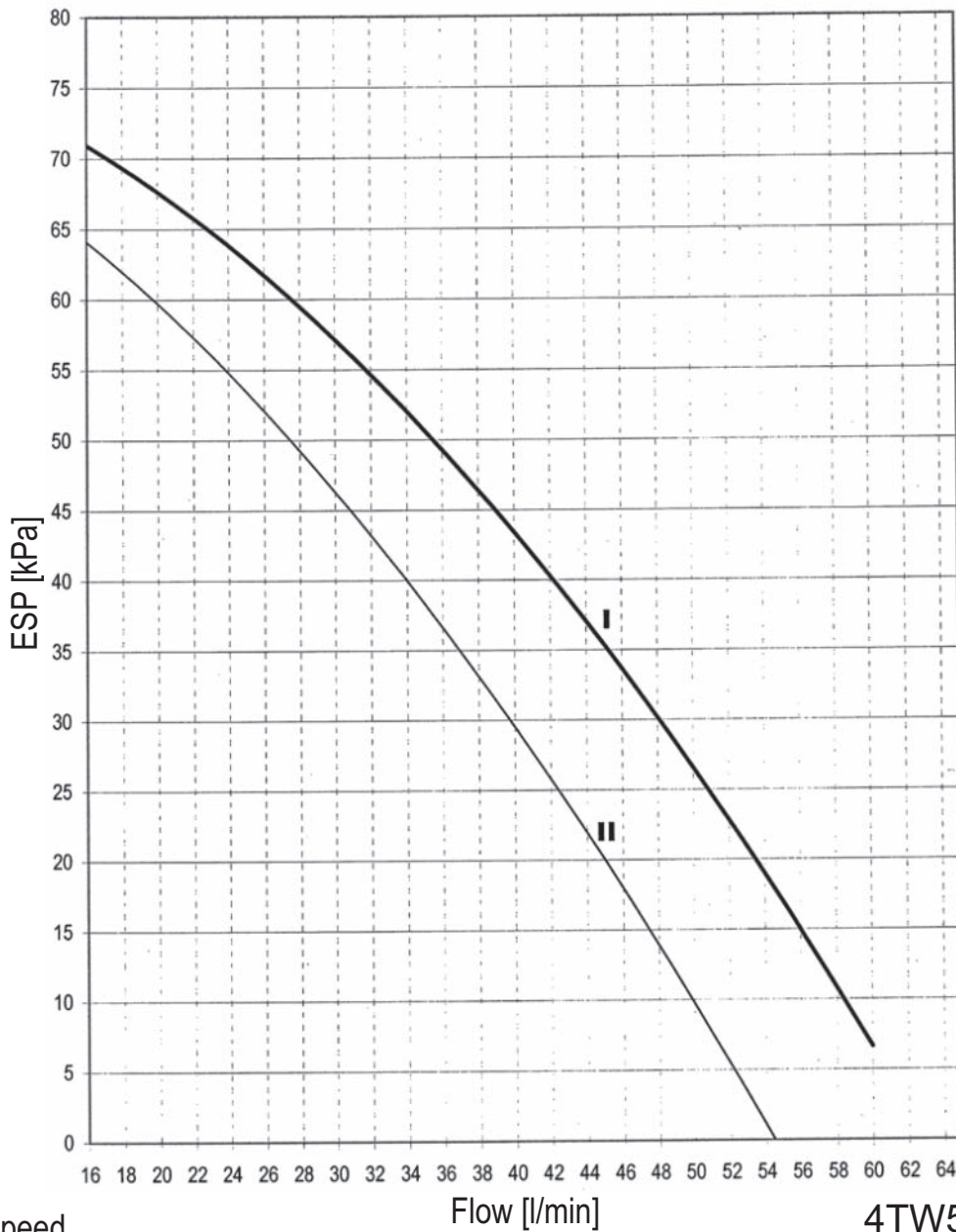


4TW58013-1A

11 Hydraulic performance

11 - 1 Static pressure drop unit

EBLQ011-016BA6V3



I high speed

II medium speed

ESP: external static pressure

Flow: waterflow through the unit

Caution:

Selecting a flow outside the curves can cause damage to or malfunction of the unit.

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

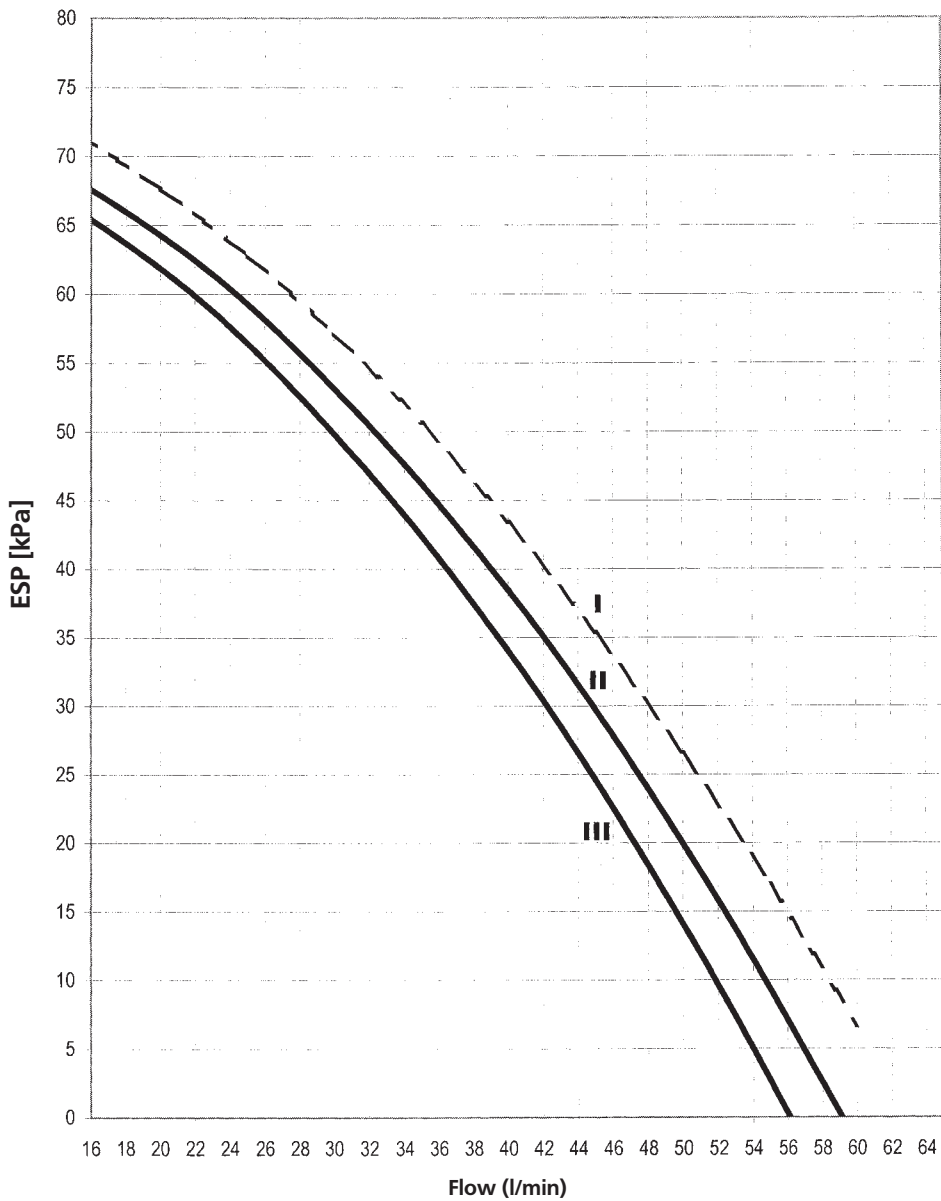
4TW59259-2

11 Hydraulic performance

11 - 1 Static pressure drop unit

16
11

EBLQ-B6V3



- I: Water
- II: Water / Propylene glycol (25%) at 20°C
- III: Water / Propylene glycol (25%) at 5°C

Values only valid for high speed setting

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

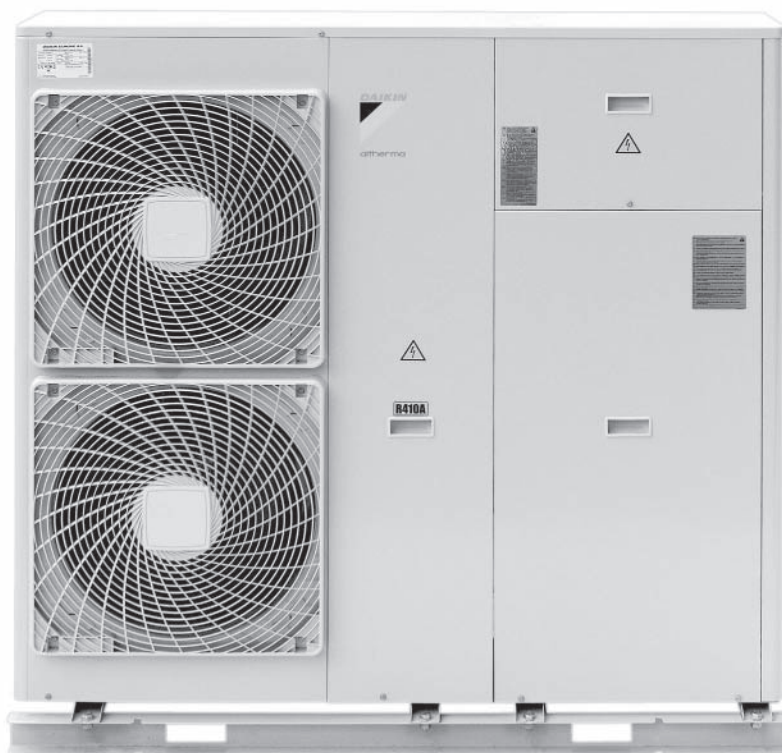
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EBLQ011-016BA6W1

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1 Features

- Reversible monobloc with bottom plate heater
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



17

1

2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				EBLQ011BA6W1	EBLQ014BA6W1	EBLQ016BA6W1
Condition 1	Heating capacity	Nominal	kW	11.20	14.00	16.00
	Cooling capacity	Nominal	kW	12.85	15.99	16.73
	Heating PI	Nominal	kW	2.51	3.22	3.72
	Cooling PI	Nominal	kW	3.78	5.32	6.06
	COP	Nominal		4.46	4.35	4.30
	EER	Nominal		3.39	3.01	2.76
Condition 2	Heating capacity	Nominal	kW	10.87	13.10	15.06
	Cooling capacity	Nominal	kW	10.00	12.50	13.10
	Heating PI	Nominal	kW	3.12	3.98	4.58
	Cooling PI	Nominal	kW	3.60	4.98	5.65
	COP	Nominal		3.48	3.29	3.29
	EER	Nominal		2.78	2.51	2.32
Notes				Condition 1: cooling Ta 35°C - LWE 18°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (Dt=5°C)		
				Condition 2: cooling Ta 35°C - LWE 7°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)		

17
2

2-2 TECHNICAL SPECIFICATIONS				EBLQ011BA6W1	EBLQ014BA6W1	EBLQ016BA6W1
Casing	Colour			Ivory white		
	Material			Painted galvanised steel		
Dimensions	Unit	Height	mm	1,418		
		Width	mm	1,435		
		Depth	mm	382	382	382
	Packing	Height	mm	1,557		
		Width	mm	1,500		
		Depth	mm	430	430	430
Weight	Unit		kg	180	180	180
	Packed unit		kg	200	200	200
Packing	Material			Wood		
				Carton		
				Plastic foil		
	Weight		kg	20	20	20
Operation Range	Heating - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	35	35	35
	Heating - Waterside	Min	°C	15	15	15
		Max	°C	55	55	55
	Cooling - Ambient	Min	°CDB	10	10	10
		Max	°CDB	46	46	46
	Cooling - Waterside	Min	°C	5	5	5
		Max	°C	22	22	22
	Domestic hot water - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	43	43	43
	Domestic hot water - Waterside	Min	°C	25	25	25
		Max	°C	80	80	80
Sound Level (nominal)	Heating	Sound Power	dBA	64	65	66
		Sound Pressure	dBA	49	51	53
	Cooling	Sound Power	dBA	65	66	69
		Sound Pressure	dBA	50	52	54
Sound Level (Night quiet)	Heating	Sound Pressure	dBA	42	42	43
	Cooling	Sound Pressure	dBA	45	45	46
Refrigerant	Type			R-410A		
	Charge		kg	2.95	2.95	2.95
	Control			Electronic expansion valve		
	Nr of Circuits			1	1	1
Refrigerant Oil	Type			Daphne FVC68D		
	Charged Volume		l	1.0	1.0	1.0
Defrost Method				Pressure equalising		
Defrost Control				Sensor for outdoor heat exchanger temperature		
Capacity Control Method				Inverter controlled		

2 Specifications

2-2 TECHNICAL SPECIFICATIONS		EBLQ011BA6W1	EBLQ014BA6W1	EBLQ016BA6W1
Safety Devices	High pressure switch			
	Fan motor thermal protector			
	Fuse			
Notes	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.			
	Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)			
	Conditions: Ta 35°C - LWE 7°C (DT = 5°C)			
	15°-25°C: BUH only, no heat pump operation = during commissioning			
	Including piping + PHE + back-up heater / excluding expansion vessel			
	E(D)(B)L* model can reach -20°C / E(D)(B)L*6W1 model can reach -25°C but without capacity guarantee			
	Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load through, extra water volume might be required.			

2-3 MAIN COMPONENTS				EBLQ011BA6W1	EBLQ014BA6W1	EBLQ016BA6W1	
Air heat exchanger	Specifications	Length	mm	857	857	857	
		Nr of Rows		2	2	2	
		Fin pitch	mm	1.4	1.4	1.4	
		Nr of Passes		5	5	5	
		Face area	m ²	1.131	1.131	1.131	
		Nr of Stages		60	60	60	
		Empty tubeplate hole		0	0	0	
	Tube type	Hi-XSS (8)					
Fin	Type	WF fin					
	Treatment	Anti-corrosion treatment (PE)					
Fan	Type	Propeller					
	Quantity		2	2	2		
	Discharge direction	Horizontal					
	Motor	Quantity		2	2	2	
Model		Brushless DC					
Motor	Speed (nominal)	Steps		8	8	8	
		Heating	rpm	760	760	760	
		Cooling	rpm	780	780	780	
Fan	Motor	Output	W	70	70	70	
		Drive	Direct drive				
Compressor	Quantity		1	1	1		
	Motor	Model	JT1G-VDYR@S				
		Type	Hermetically sealed scroll compressor				
		Motor Output	W	2,200			
	Starting Method	Inverter driven					
Motor	Crankcase Heater	Output	W	33	33	33	
Pump	Type	Water cooled					
	Nr. of speed		2	2	2		
	Nominal ESP unit	Heating	kPa	54.5	43.3	34.0	
		Cooling	kPa	58.7	49.6	47.1	
Power input		W	210	210	210		
Water side Heat exchanger	Type	Brazed plate					
	Quantity		1	1	1		
	Water volume		l	1.01	1.01	1.01	
	Water flow rate Min.		l/min	16	16	16	
		Water flow rate Nom.	Heating	l/min	32.1	40.1	45.9
	Cooling		l/min	28.7	35.8	37.6	
	Water flow rate Max.		l/min	58	58	58	
Insulation material	Polyurethane foam						
Expansion vessel	Volume		l	10	10	10	
	Maximum water pressure		bar	3	3	3	
	Pre pressure		bar	1.0	1.0	1.0	

2 Specifications

2-3 MAIN COMPONENTS			EBLQ011BA6W1	EBLQ014BA6W1	EBLQ016BA6W1
Water filter	Diameter perforations	mm	1	1	1
	Material		Brass		
Water circuit	Piping connections	inch	G5/4 (FEMALE)		
	Piping	inch	5/4"		
	Safety valve	bar	3	3	3
	Manometer		Yes		
	Drain valve / Fill valve		Yes		
	Shut off valve		Yes		
	Air purge valve		Yes		
	Total water volume (6)	l	5.5	5.5	5.5
Minimum water volume system		l	20	20	20

2-4 ELECTRICAL SPECIFICATIONS				EBLQ011BA6W1	EBLQ014BA6W1	EBLQ016BA6W1
Power supply compressor component	Main Power	Name		W1		
		Phase		3N~		
		Frequency	Hz	50	50	50
		Voltage	V	400	400	400
	Voltage range	Minimum	V	-10%		
Maximum		V	+10%			
Current	Nominal running current (RLA)	Heating (A)	A	5.8	5.8	5.8
		Maximum running current	Heating	A	14	14
	Cooling		A	14	14	14
Power supply compressor component	Current	Recommended fuses	A	20	20	20
	Wiring connections	For power supply compressor component		See installation manual		
Power supply hydraulic component	Current back-up heater	Type		6W1		
Current back-up heater	Power Supply	Phase		3~		
		Frequency	Hz	50	50	50
		Voltage	V	400	400	400
	Running Current	Back-up heater	A	8.7	8.7	8.7
Running Current	Back-up heater + booster heater	+EK*V3	A	21.7(8.7+13)		
		+EK*Z2	A	16.2(8.7+7.5)		
Current back-up heater	Minimum Ssc value	+EK*V3	kVa	Equipment complying with EN/IEC 61000-3-12(**)		
		+EK*Z2	kVa	Equipment complying with EN/IEC 61000-3-12(**)		

2 Specifications

2-4 ELECTRICAL SPECIFICATIONS				EBLQ011BA6W1	EBLQ014BA6W1	EBLQ016BA6W1	
Power supply hydraulic component	Voltage range	Minimum	V	-10%			
		Maximum	V	+10%			
	Wiring connections	Connection type	For power supply hydraulic compartment				
		Quantity of wires	2G				
		Type of wires	Select diameter and type according to national and local regulations				
		Connection type	For power supply connection to optional sanitary tank + Q2L				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	For more details on voltage range and current refer to installation manual				
		Connection type	For connection with R5T				
		Quantity of wires	Wire included in option EKHWS*				
		Type of wires	Wire included in option EKHWS*				
		Connection type	For connection with A3P				
		Quantity of wires	Depends on thermostat type, refer to installation manual				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M2S				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M3S				
		Quantity of wires	3G or 4G				
	Type of wires	Select diameter and type according to national and local regulations					
	Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²					
	Notes	Power supply compressor compartment is for compressor, fan, pump and controller					
		In accordance with EN/IEC 61000-3-11 (1), it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (3) smaller than or equal to Zmax.					
		Installer can reduce capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Instructions see installation manual.					
		Installer can reduce capacity of the heater from 6 to 3.5kW. The current is then reduced from 8.7 to 5A. Instructions see installation manual.					
(1)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 <= 75A.							
(2) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16A =< 75A per phase.							
(3) System impedance							
Power supply hydraulic compartment is for the electric heater. The optional domestic warm water tank has a separate power supply.							
Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)							

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2

3 Options

EBLQ011-016BA6W1

Kit availability for E(D/B)(H/L)Q011-016BA*

		Altherma Monoblock / Low temperature											
		1-phase						3-phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BA6V3			EDHQ***BA6V3			EDLQ***BA6W1			EDHQ***BA6W1		
		EBLQ***BA6V3			EBHQ***BA6V3			EBLQ***BA6W1			EBHQ***BA6W1		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
*KRP1HBB	Digital I/O PCB (1)	○	○	○	○	○	○	○	○	○	○	○	○
*KBPH16A	Bottom plate heater	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KDK04	Drain plug kit	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KHWS150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3Z2	Stainless domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3Z2	Stainless domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE150*3V3	Enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3V3	Enamel domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3V3	Enamel domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3Z2	Enamel domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3Z2	Enamel domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KSOLHWAV1	Solar kit (4)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTW	Wired room thermostat option kit	○	○	○	○	○	○	○	○	○	○	○	○
*KRTR	Wireless room thermostat option kit (incl. receiver)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTETS	External temperature sensor option kit (3)	○	○	○	○	○	○	○	○	○	○	○	○
*KWBSWW150	Wall bracket for *KHWS(U)150*3V3 or *KSWW150V3*	○	○	○	○	○	○	○	○	○	○	○	○

3TW59259-1

REMARK

- Other combinations are not guaranteed

NOTES

- Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KRP1HB is already included.
- It is not allowed to combine bottom plate heater and drain plug kit.
- *KRTETS can only be used in combination with *KRTR
- Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
- E(B/D)L units include special equipment (insulation, heater sheet,...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the e(B/D)L must be installed instead.

3 Options

EBLQ011-016BA6V3

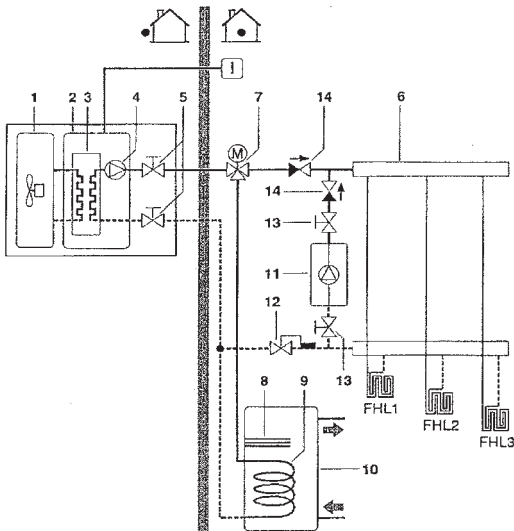
Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the altherma indoor unit or by an auxiliary boiler connected in the system. An auxiliary contact decides whether either the E(D/B)(H/L)Q* hydro module or the boiler will operate. This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

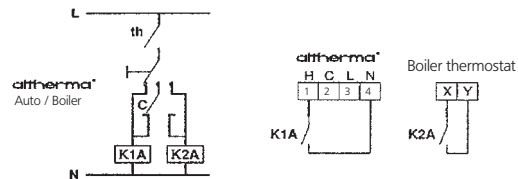
Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the hydro module, including when the boiler is in operation for space heating.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.



- 1 Compressor module
- 2 Hydro module
- 3 Heat exchanger
- 4 Pump
- 5 Shut-off valve
- 6 Collector (field supply)
- 7 Motorised 3-way valve (field supply)
- 8 Booster heater
- 9 Heat exchanger coil
- 10 Domestic hot water tank
- 11 Boiler (field supply)
- 12 Aquastat valve (field supply)
- 13 Shut-off valve (field supply)
- 14 Non-return valve (field supply)
- FHL 1..3 Floor heating loop (field supply)
- I User interface

Field wiring



- Boiler thermostat
- C
- th
- K1A
- K2A

- Boiler thermostat
- Auxiliary contact (normal closed)
- Heating only room thermostat
- Auxiliary relay for activation of E(D/B)(H/L)Q * unit (field supply)
- Auxiliary relay for activation of boiler (field supply)

Operation

When the room thermostat (th) closes, either the E(D/B)(H/L)Q * unit or the boiler starts operating, depending on the position of the auxiliary contact (C)



Make sure that auxiliary contact (C) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)(H/L)Q * unit and the boiler. If the auxiliary contact (C) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or turned ON/OFF by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.

During heating operation of the E(D/B)(H/L)Q * unit, the Altherma unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature.

During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.

Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Altherma unit.



Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)(H/L)Q * switch box correctly. Refer to 'Room thermostat installation configuration' in the installation manual supplied with the unit.

Make sure that return water to the E(D/B)(H/L)Q * heat exchanger never exceeds 55°C.

For this reason, never put the target leaving water temperature setpoint on the boiler controller above 55°C and if required, install an aquastat(*) valve in the return water flow of the E(D/B)(H/L)Q* unit. Daikin shall not be held liable for any damage resulting from failure to observe this rule.

(*)The aquastat valve must be set for 55°C and must operate to close the return water flow to the E(D/B)(H/L)Q * unit when the measured temperature exceeds 55°C. When temperature drops to a lower level, the aquastat valve must operate to open the return water flow to the E(D/B)(H/L)Q * unit again.

4 Capacity tables

4 - 1 Heating capacity tables

EBLQ-B6W1													
Maximum Heating Capacity (Peak values)													
	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	5,86	2,21	5,51	2,42	5,39	2,66	5,25	2,95				
	-15	6,63	2,25	6,23	2,46	6,09	2,71	5,92	3,01	5,68	3,34		
	-7	8,13	2,29	7,66	2,51	7,51	2,77	7,32	3,08	7,03	3,43	6,53	3,81
	-2	9,28	2,29	8,76	2,52	8,61	2,79	8,41	3,11	8,11	3,46	7,55	3,85
	2	10,32	2,29	9,77	2,52	9,62	2,80	9,42	3,12	9,10	3,48	8,51	3,87
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80	
E(D/B)(H/L)Q014*6W1	-20 (a)	7,42	2,79	7,20	3,04	7,00	3,33	5,49	3,68				
	-15	8,29	2,85	8,00	3,11	7,72	3,41	7,60	3,76	7,57	4,16		
	-7	10,07	2,92	9,67	3,19	9,28	3,51	9,08	3,87	8,97	4,28	8,58	4,73
	-2	11,46	2,95	11,00	3,23	10,54	3,55	10,29	3,92	10,15	4,34	9,69	4,80
	2	12,75	2,96	12,23	3,25	11,72	3,57	11,43	3,96	11,27	4,38	10,75	4,84
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77	
E(D/B)(H/L)Q016*6W1	-20 (a)	8,47	3,20	8,34	3,49	8,22	3,83	6,50	4,21				
	-15	9,44	3,28	9,21	3,57	8,99	3,92	8,91	4,31	8,69	4,75		
	-7	11,44	3,37	11,08	3,67	10,73	4,03	10,53	4,43	10,17	4,90	9,81	5,41
	-2	13,01	3,41	12,58	3,72	12,14	4,09	11,89	4,50	11,43	4,97	11,00	5,49
	2	14,48	3,43	13,98	3,75	13,48	4,12	13,18	4,54	12,65	5,01	12,15	5,54
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49	
Maximum Heating Capacity (integrated values)													
	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	4,96	2,16	4,67	2,37	4,57	2,60	4,45	2,89				
	-15	5,61	2,20	5,27	2,41	5,16	2,66	5,01	2,95	4,81	3,27		
	-7	6,88	2,24	6,49	2,46	6,36	2,72	6,19	3,02	5,95	3,35	5,53	3,73
	-2	7,70	2,20	7,27	2,42	7,15	2,68	6,98	2,98	6,73	3,32	6,27	3,70
	2	8,57	2,19	8,11	2,42	7,99	2,69	7,82	3,00	7,56	3,34	7,06	3,72
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80	
E(D/B)(H/L)Q014*6W1	-20 (a)	6,31	2,70	6,13	2,94	5,96	3,23	4,67	3,56				
	-15	7,05	2,76	6,80	3,01	6,57	3,30	6,46	3,64	6,44	4,02		
	-7	8,57	2,83	8,23	3,09	7,89	3,40	7,72	3,75	7,63	4,14	7,30	4,58
	-2	9,11	2,87	8,74	2,92	8,38	3,21	8,18	3,55	8,07	3,93	7,70	4,34
	2	10,13	2,68	9,72	2,94	9,31	3,24	9,09	3,58	8,96	3,96	8,55	4,38
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77	
E(D/B)(H/L)Q016*6W1	-20 (a)	7,00	3,11	6,89	3,39	6,79	3,71	5,37	4,08				
	-15	7,80	3,18	7,61	3,46	7,43	3,80	7,37	4,18	7,18	4,61		
	-7	9,45	3,26	9,15	3,56	8,86	3,91	8,70	4,30	8,40	4,75	8,11	5,25
	-2	9,96	3,03	9,62	3,31	9,29	3,64	9,09	4,00	8,75	4,42	8,41	4,88
	2	11,08	3,05	10,69	3,34	10,31	3,67	10,08	4,04	9,68	4,46	9,29	4,93
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49	

3TW58012-1C

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condenser temperature (°C)
- Tamb : Ambient temperature RH=85%

Heating capacity at heat recovery condenser

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:

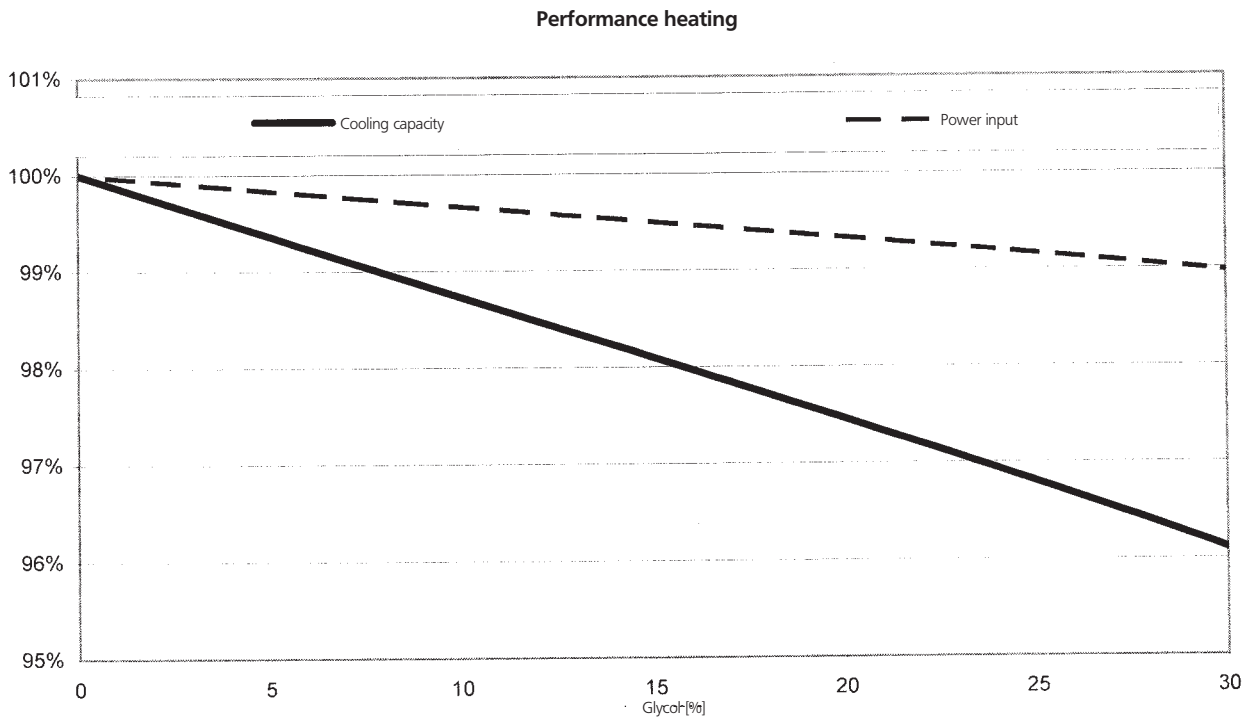
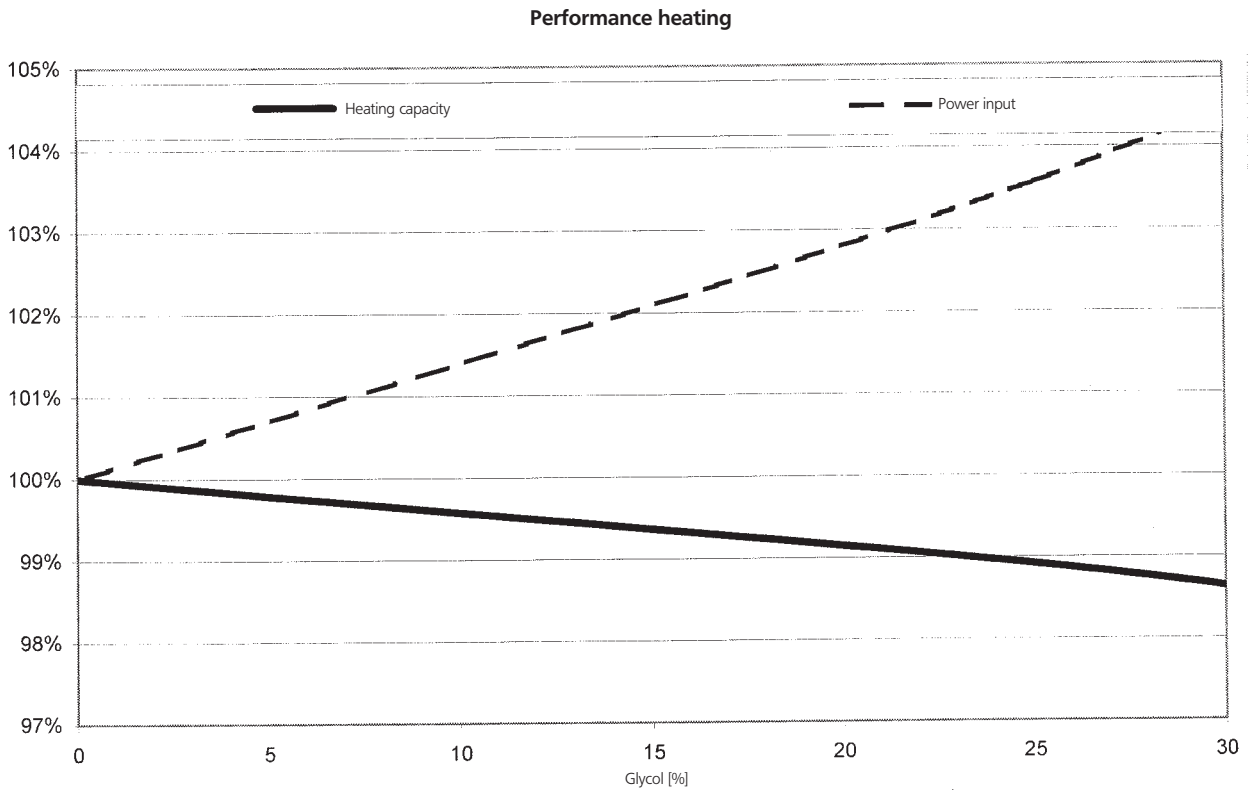
-For the model with heatertape *(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W

- 1) For AA models: 'X' = 4°C
- 2) For BA models: 'X' = [F-02] = BPH ON temp for more details see installation manual of indoor unit.

4 Capacity tables

4 - 1 Heating capacity tables

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4



4TW59252-2

4 Capacity tables

4 - 2 Cooling capacity tables

EBLQ-B6W1													
Maximum Cooling Capacity													
	T _{amb} [°C]	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
EB(H/L)Q011*6W1	7	11.08	2,70	10.99	2,97	10,62	3,26	10,00	3,60	9,16	3,97	8,14	4,38
	10	11,77	2,73	11,66	3,00	11,27	3,31	10,61	3,65	9,73	4,03	8,65	4,44
	13	12,93	2,76	12,81	3,04	12,38	3,35	11,66	3,70	10,70	4,08	9,39	4,65
	15	13,74	2,78	13,61	3,06	13,15	3,38	12,39	3,73	11,37	4,12	9,73	4,54
	18	15,17	2,81	14,66	3,10	13,87	3,42	12,85	3,78	11,61	4,18	9,85	4,18
	22	16,92	2,85	16,36	3,15	15,49	3,48	14,36	3,85	13,00	4,26	10,32	3,73
EB(H/L)Q014*6W1	7	13,87	3,78	13,75	4,12	13,29	4,52	12,50	4,98	11,08	4,78	9,81	5,27
	10	14,92	3,84	14,79	4,20	14,28	4,61	13,43	5,07	11,92	4,86	10,56	5,35
	13	16,38	3,90	16,23	4,27	15,68	4,69	14,75	5,16	13,09	4,94	10,95	5,43
	15	17,39	3,95	17,23	4,32	16,64	4,75	15,66	5,22	13,91	5,00	11,35	5,30
	18	18,92	4,02	18,28	4,40	17,29	4,83	15,99	5,32	13,99	5,09	11,49	4,89
	22	21,07	4,11	20,37	4,51	19,28	4,95	17,85	5,44	15,65	5,21	12,05	4,36
EB(H/L)Q016*6W1	7	14,52	4,30	14,44	4,70	13,95	5,15	13,10	5,65	11,57	5,39	9,84	5,28
	10	15,65	4,39	15,53	4,80	14,99	5,26	14,07	5,76	12,43	5,49	10,59	5,37
	13	17,19	4,48	17,05	4,90	16,45	5,36	15,44	5,87	13,64	5,59	10,98	5,45
	15	18,26	4,54	18,09	4,97	17,46	5,43	16,39	5,95	14,49	5,66	11,38	5,32
	18	19,87	4,64	19,20	5,07	18,14	5,54	16,73	6,06	14,57	5,76	11,52	4,91
	22	22,14	4,77	21,39	5,21	20,21	5,70	18,66	6,22	16,28	5,91	12,08	4,38

3TW58012-1C

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condensor temperature (°C)
- Tamb : Ambient temperature RH=85%

NOTES

- (a) only E(D/B)L*

Heating capacity at heat recovery condenser

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:

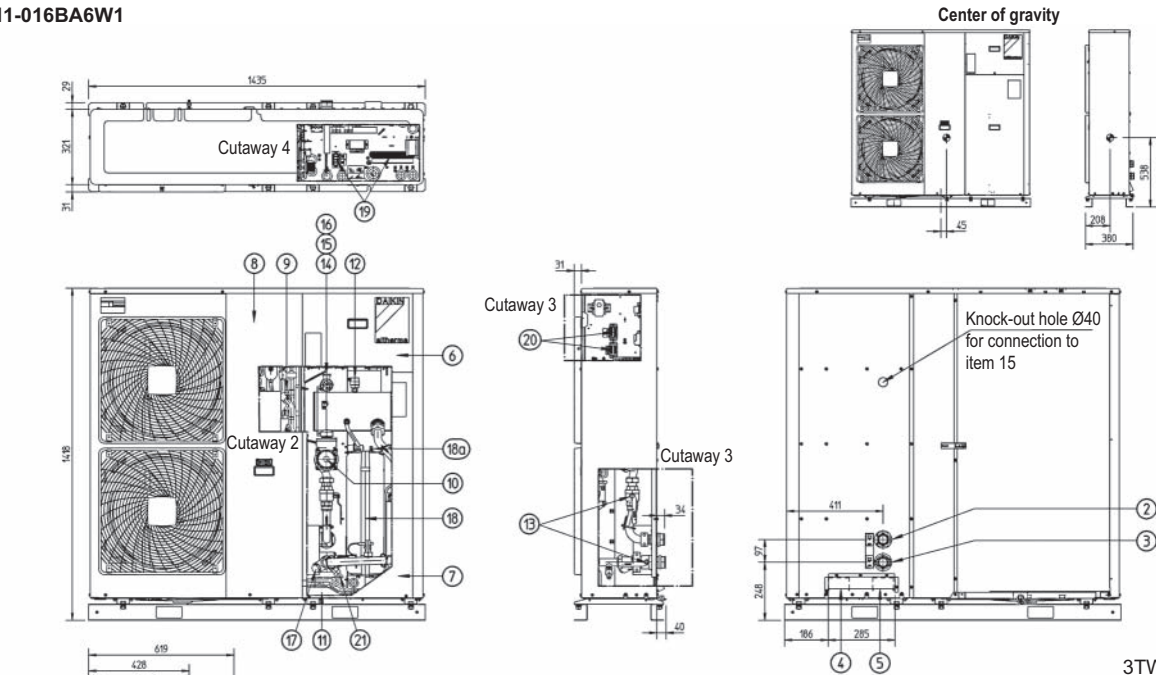
- For the model with heatertape (*D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
 - 1) For AA models: 'X' = 4°C
 - 2) For BA models: 'X' = [F-02] = BPH ON temp for more details see installationmanual of indoor unit.

5 Dimensional drawing & centre of gravity

5 - 1 Dimensional drawing

17
5

EBLQ011-016BA6W1

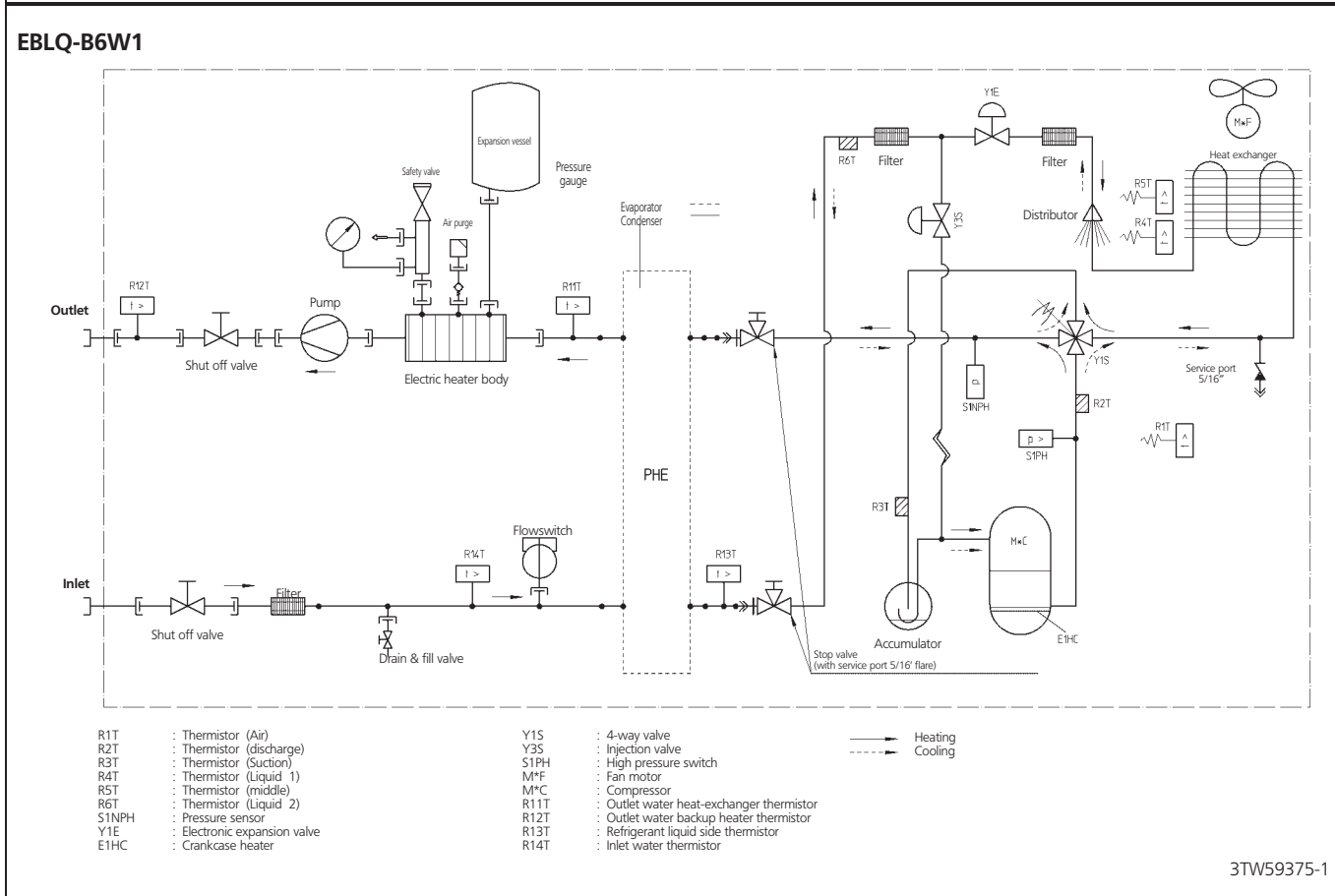
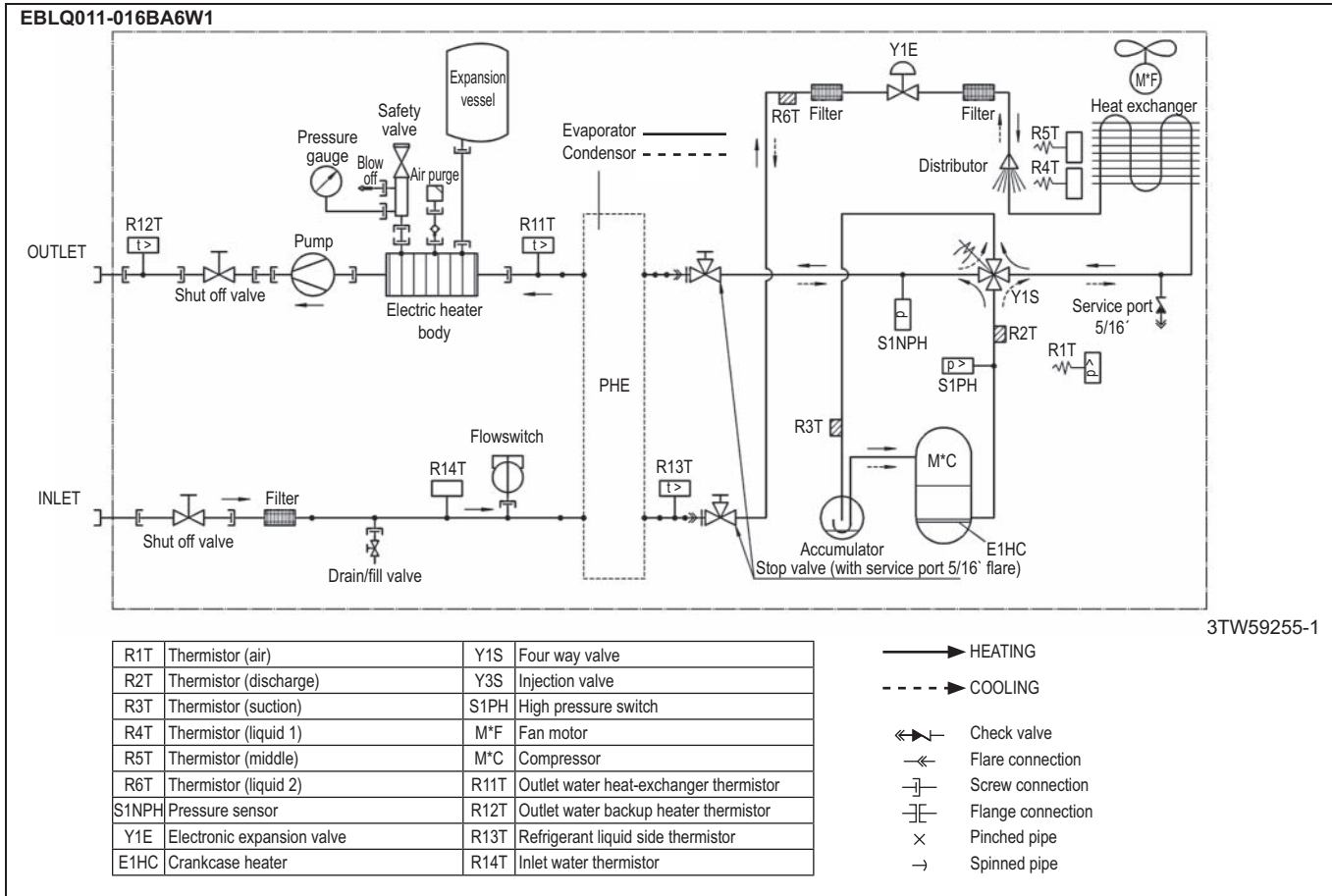


3TW59254-1A

Nr	Name	Nr	Name	Nr	Name
☉	Center of gravity	8	Service door compressor module	16	Pressure gauge
1	Drain outlet	9	Service port	17	Waterfilter
2	Waterpiping outlet	10	Pump	18	Expansion vessel + (18a) nipple
3	Waterpiping inlet	11	Remoon kit (to be installed indoors)	19	Switchbox terminals
4	Entry low voltage cables (<30V)	12	Air purge	20	Switchbox terminals option sanitary warm water tank
5	Entry power cables	13	Shot-off valve	21	Drain & fill valve
6	Service door switchbox	14	Blow-off valve		
7	Service door hydraulic module	15	Blow-off drain		

6 Piping diagram

6 - 1 Piping diagram

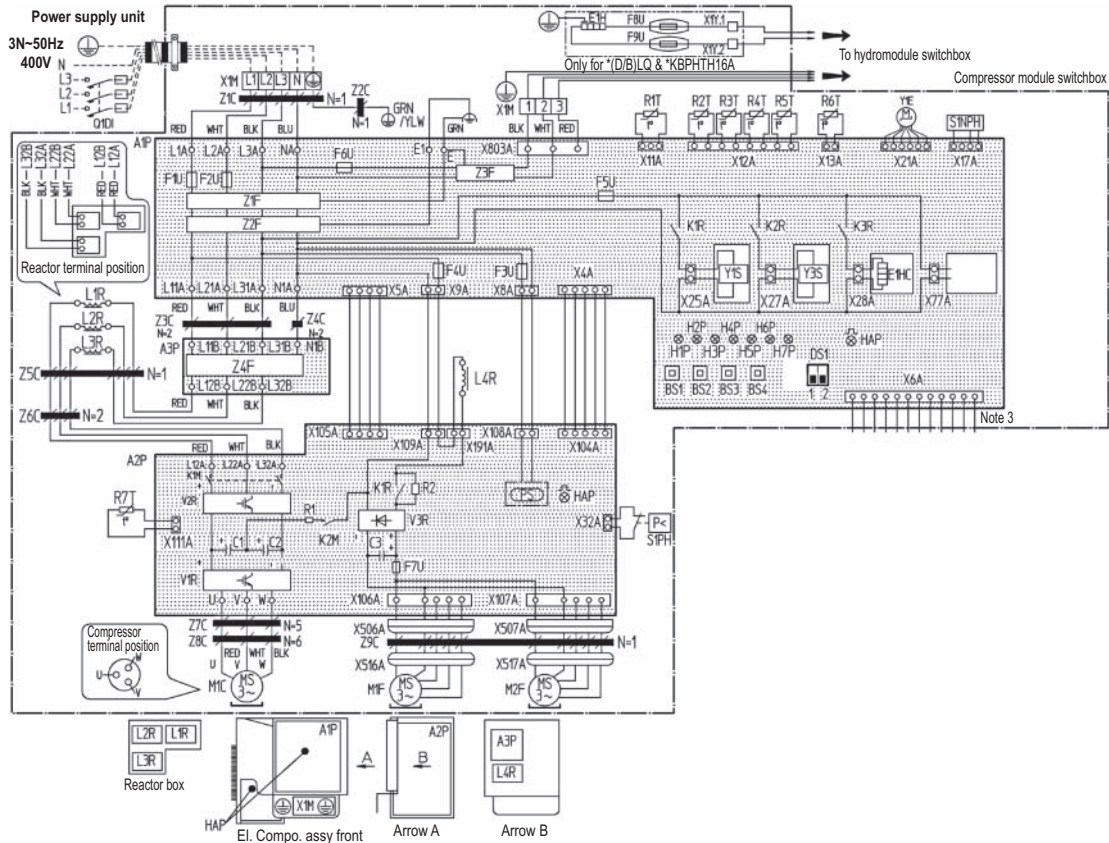


7 Wiring diagram

7 - 1 Wiring diagram

17
7

EBLQ011-016BA6W1



A1P	Printed circuit board	H1P~7P (A1P)	Pilot lamp (service monitor-orange)	R6T	Thermistor (liquid)
A2P	Printed circuit board (inv.)	K1M - K2M	Magnetic contactor	R7T	Thermistor (fin)
A3P	Printed circuit board (noise filter)	K1R (A1P)	Magnetic relay (Y1S)	S1NPH	Pressure sensor
BS1-BS4	Push button switch	K1R (A2P)	Magnetic relay (Y2S)	S1PH	Pressure switch (high)
C1-C4	Capacitor	K2R (A1P)	Magnetic relay (Y2S)	V1R, V2R	Power module
DS1	DIP Switch	K3R (A1P)	Magnetic relay (E1HC)	V3R	Diode module
E1HC	Crankcase heater	L1R ~ L3R	Reactor	X1M	Terminal strip
E1H	Bottomplate heater	L4R	Reactor (for outdoor fan motor)	Y1E	Electronic expansion valve
F1U	Fuse (31.5A 250V)	M1C	Motor (compressor)	Y1S	Solenoid valve (4 way valve)
F2U	Fuse (31.5A 250V)	M1F	Motor (fan) (upper)	Y3S	Solenoid valve
F3U	Fuse (T 6.3A / 250V)	M2F	Motor (fan) (lower)	Z1C ~ Z9C	Noise filter
F4U	Fuse (T 6.3A / 250V)	PS	Switching power supply	Z1F ~ Z4F	Noise filter
F5U	Fuse (T 6.3A / 250V)	R1 ~ R4	Resistor	Q1DI	Earth leakage circuit breaker
F6U	Fuse (T 6.3A / 250V)	R1T	Thermistor (air)	OPTIONAL CONNECTOR	
F7U	Fuse (T 5.0A / 250V)	R2T	Thermistor (discharge)	XBZ	Connector
F8U, F9U	Fuse (F 1.0A / 250V)	R3T	Thermistor (suction)	X77A	Connector
HAP (A1P)	Pilot lamp (service monitor-green)	R4T	Thermistor (heat exchanger)	X1Y	Connector
HAP (A2P)	Pilot lamp (service monitor-green)	R5T	Thermistor (heat exchanger middle)		

- : Terminal strip
- : Connector
- ▬ : Field wiring
- ⊕ : Protective earth (screw)
- : Connection
- ⊖ : Noiseless earth
- ⊖ : Terminal
- ▬ : Connector
- Colors: BLU : Blue
- BRN : Brown
- GRN : Green
- RED : RED
- WHT : White
- YELW : Yellow
- ORG : Orange
- BLK : Black

2TW59376-1

NOTES

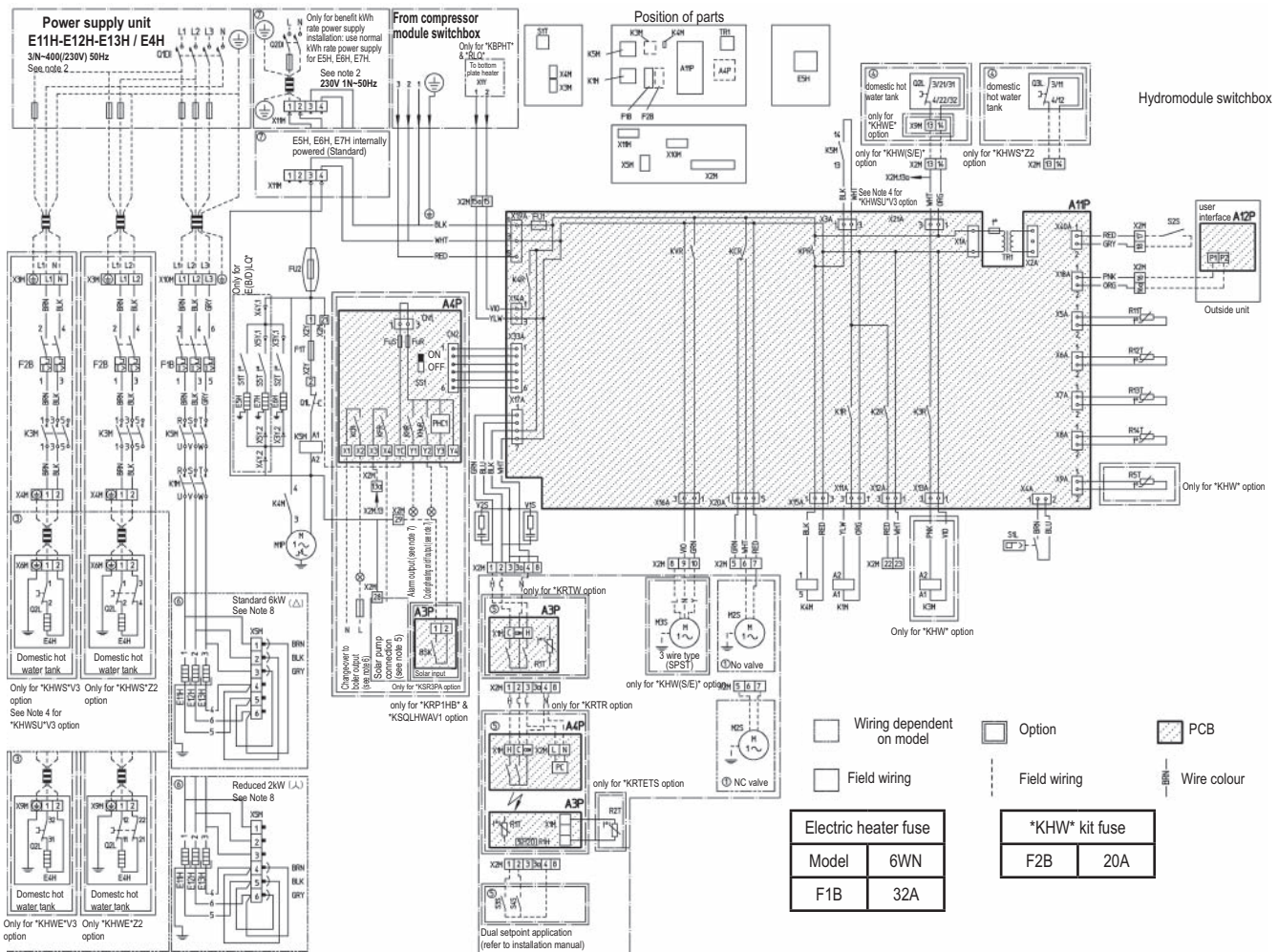
- 1 This wiring diagram only applies to the compressor module switchbox.
- 2 L: Live, N: Neutral
- 3 Not applicable
- 4 Do not operate the unit by short-circuiting protection device S1PH
- 5 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".
- 6



7 Wiring diagram

7 - 1 Wiring diagram

EBLQ011-016BA6W1



A11P	main PCB	K1M	contactor backup heater step	R13T	refrigerant liquid side thermistor
A12P	user interface PCB	K3M	contactor booster heater	R14T	inlet water thermistor
A3P (*KRTW/R*)	thermostat (PC=power circuit)	K4M	pump relay	R5T (*KHW*)	domestic hot water thermistor
A4P (EKRP1HB)	digital I/O PCB	K5M	contactor for backup heater all pole disconnection	S1L	flowswitch
A4P (*KRTR)	receiver PCB	M1P	pump	S2S	benefit kWh rate power supply contact
E11H-E12H-E13H	backup heater element 1-2-3 (6kW)	M2S	2way valve for cooling mode	S3S	dual setpoint 2 contact
E4H	booster heater (3kW)	M3S	3way valve: floorheating/domestic hot water	S4S	dual setpoint 1 contact
E5H	switchbox heater	PHC1	optocoupler input circuit	SS1	dip switch
E6H	expansion vessel heater	Q1DI, Q2DI	earth leakage circuit breaker	S1T	thermostat switchbox heater
E7H	plate heat exchanger heater	Q1L	thermal protector backup heater	S2T	thermostat expansion vessel heater
F1B	fuse backup heater	Q2L, Q3L	thermal protector 1/2 booster heater	S3T	thermostat plate heat exchanger
F1T	thermal fuse backup heater	R1H (*KRTR)	humidity sensor	TR1	transformer 24V for PCB
F2B	fuse booster heater	R1T (*KRTW/R*)	ambient sensor	V1S, V2S	spark suppression 1,2
FU1	fuse 3.15A T 250V for PCB	R2T (EKRTETS)	external sensor (floor or ambient)	X1M-X11M, X2Y	terminal strips, connector
FU2	fuse 5A T 250V	R11T	outlet water heat exchanger thermistor		
FuS, FuR	fuse 5A 250V for digital I/O PCB	R12T	outlet water backup heater thermistor		

- : Terminal strip
- : Terminal
- Colors: BLK : Black
- YLV : Yellow
- GRN : Green
- NO/NC: normal open/normal closed
- RED : RED
- PNK : Pink
- ORG : Orange
- SPST: Single pole single throw
- BLU : Blue
- BRN : Brown
- VIO : Violet
- WHT : White
- GRY : Grey

2TW59376-2

NOTES

- This wiring diagram only applies to the hydromodule switchbox.
- Use a dedicated power circuit for the backup heater and booster heater. Never use a power circuit shared by another appliance.
- Do not operate the unit by short-circuiting any protection device.
- For *KHWSU*V3, refer to option manual.
- For *KSOLHWAV1, refer to option manual.
- Maximum load: 0,3A - 250VAC Minimum load: 20mA - 5VDC
- 230 VAC output Maximum load: 0.3A
- Backupheater KW reduction, refer to installation manual.
- For benefit kWh rate power supply installation, refer to installation manual.

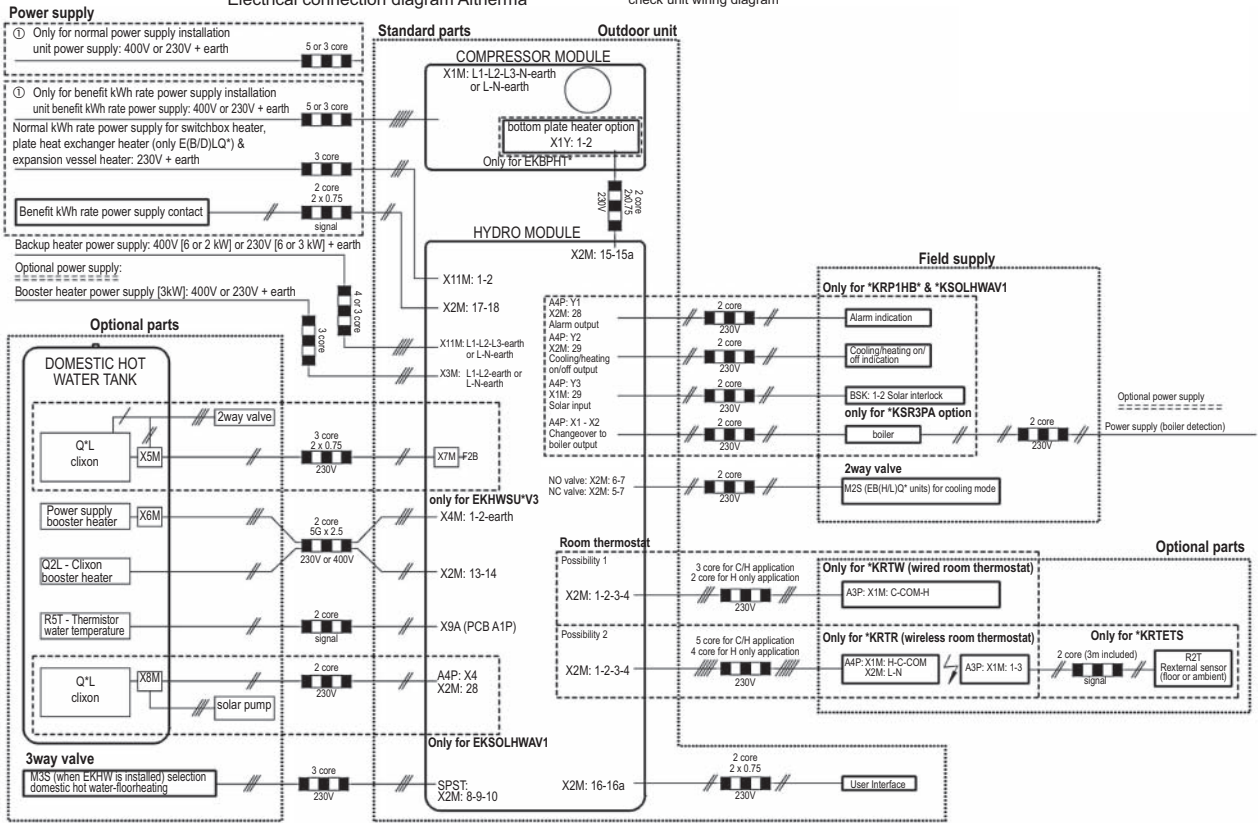
7 Wiring diagram

7 - 2 External connection diagram

EBLQ011-016BA6W1

Electrical connection diagram Altherma

For more details please check unit wiring diagram



NOTE

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

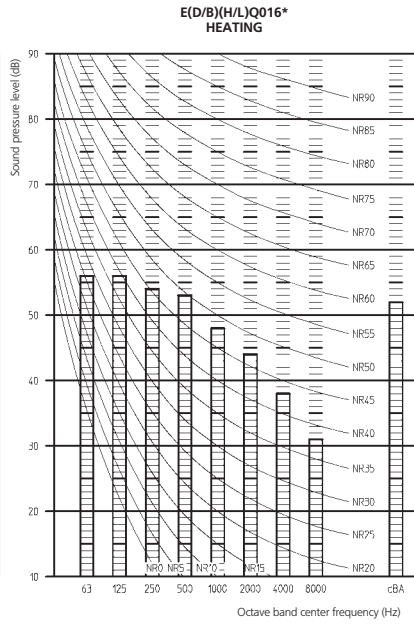
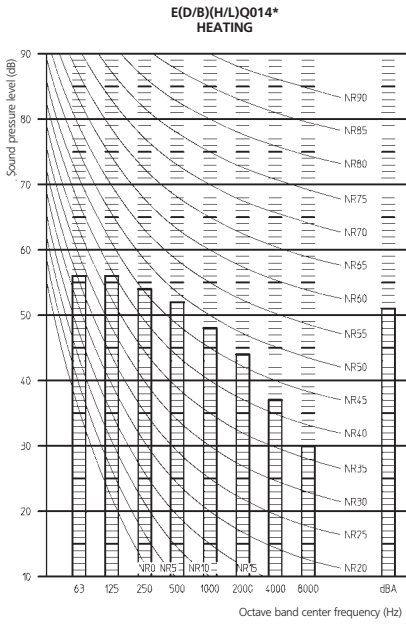
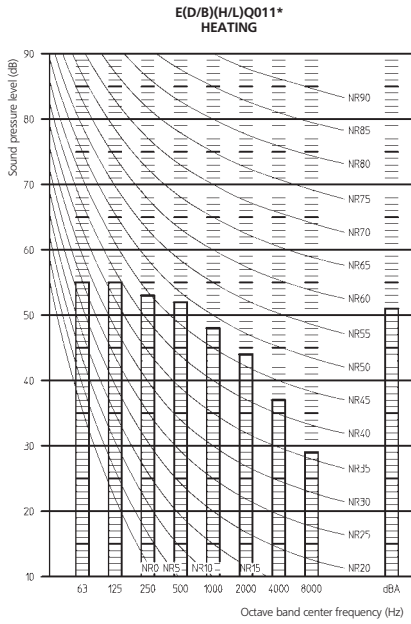
3TW59256-3

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8 Sound data

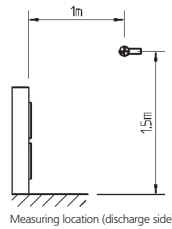
8 - 1 Sound pressure spectrum

EBLQ11-016BA6W1



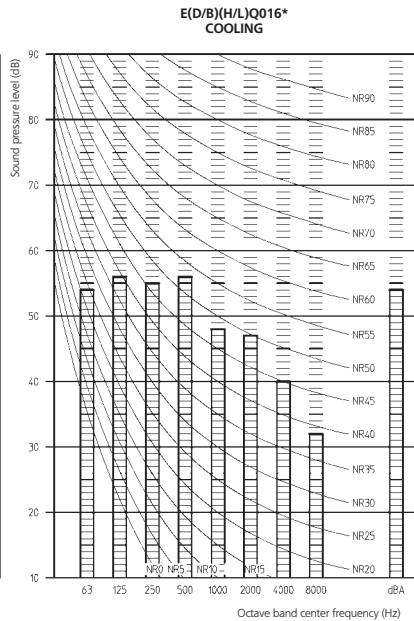
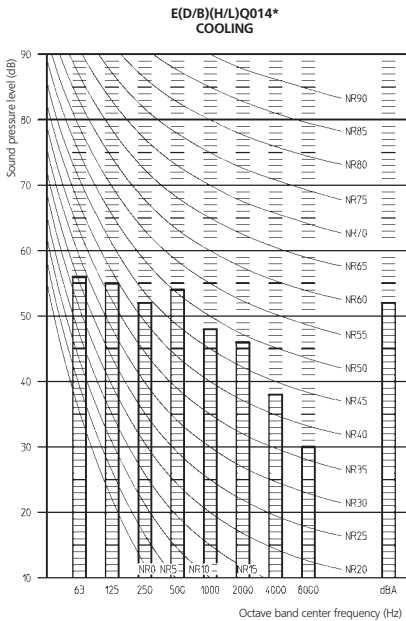
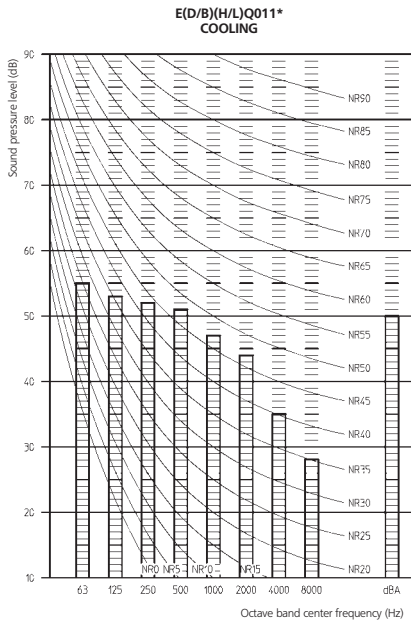
Notes:

- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20μPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



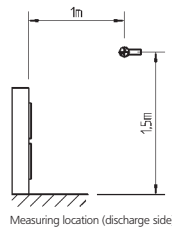
3TW58017-2

EBLQ11-016BA6W1



Notes:

- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20μPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



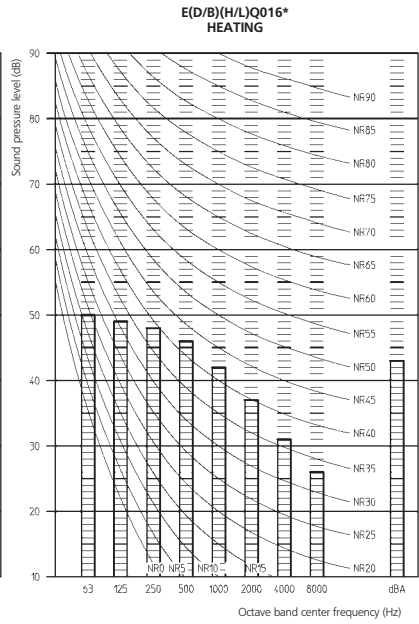
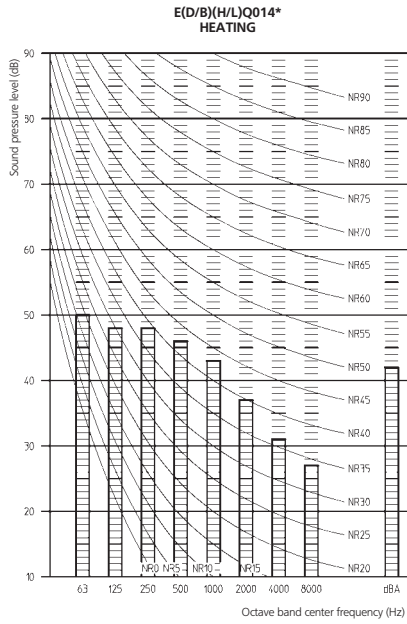
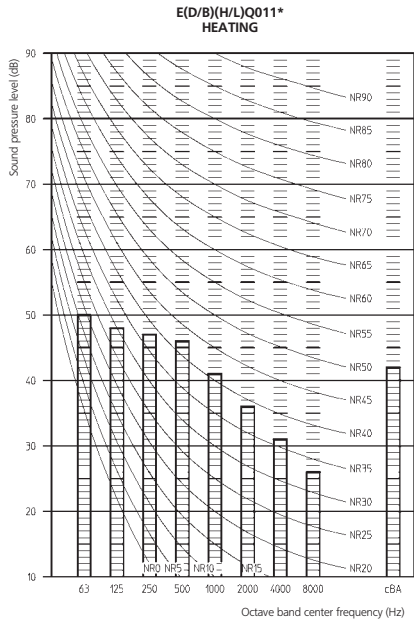
3TW58017-1

8 Sound data

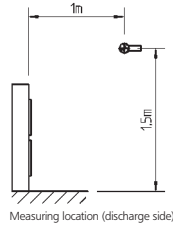
8 - 2 Sound pressure night quiet mode

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8

EBLQ011-016BA6W1

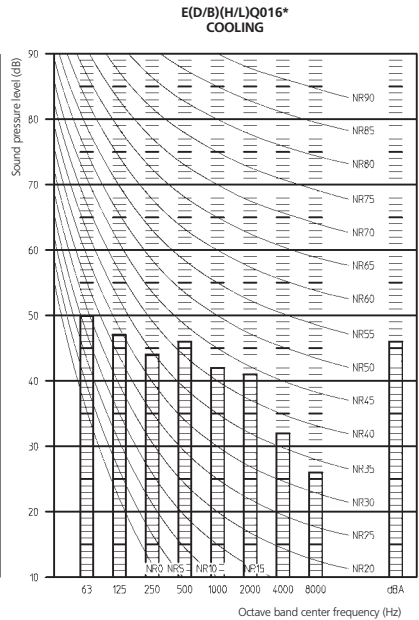
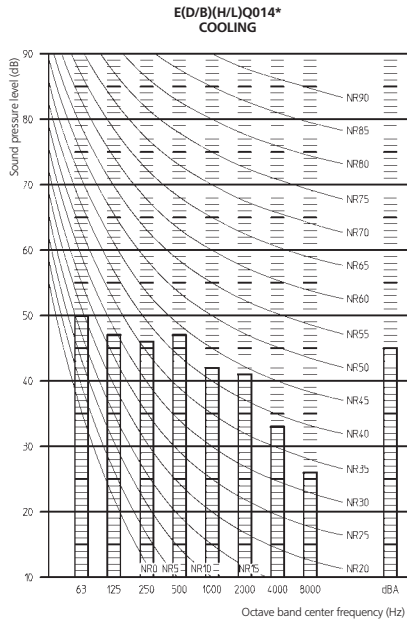
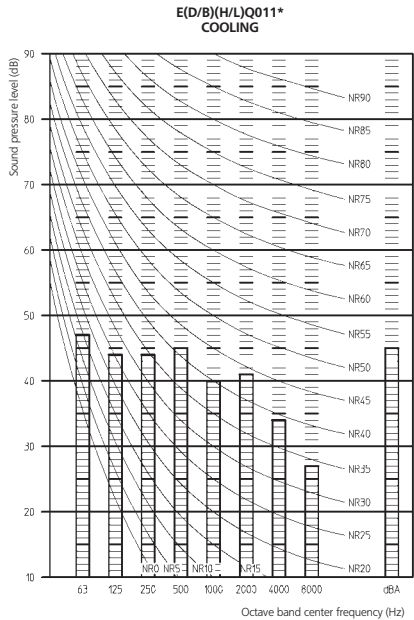


- Notes:**
- 1 Data is valid at free field condition (measured in a semi-anechoic room)
 - 2 dBA = A-weighted sound power level (A-scale according to IEC)
 - 3 Reference acoustic pressure 0dB = 20μPa
 - 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

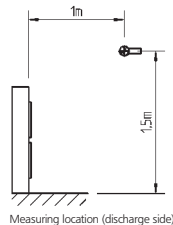


3TW58017-4

EBLQ011-016BA6W1



- Notes:**
- 1 Data is valid at free field condition (measured in a semi-anechoic room)
 - 2 dBA = A-weighted sound power level (A-scale according to IEC)
 - 3 Reference acoustic pressure 0dB = 20μPa
 - 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



3TW58017-3

9 Installation

9 - 1 Service space

EBLQ011-016BA6W1

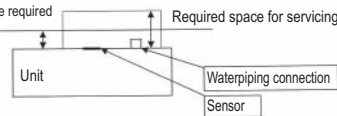
A. Non stacked installation

	↖	↗	↘	↙	A	B1	B2	C	D1	D2	E	L1/L2
	✓	✓	✓	✓	≥100		≥100					
	✓	✓	✓	✓	≥100				≥500	≥1000		
	✓	✓	✓	✓	≥150	≥150			≥500	≥1000		
	✓	✓	✓	✓	≥150	≥150			≥500	≥1000		
	✓	✓	✓	✓			≥500		≥500		≥1000	
	✓	✓	✓	✓					≥500	≥1000		
	✓	✓	✓	✓					≥500	≥1000		
	✓	✓	✓	✓					≥500	≥1000		
	✓	✓	✓	✓			≥200	≥300	≥1000	≥500	≥1000	
	✓	✓	✓	✓			≥200	≥300	≥1000	≥500	≥1000	
	✓	✓	✓	✓				≥500	≥1000	≥1000		
	✓	✓	✓	✓				≥300	≥1000	≥1000		
	✓	✓	✓	✓					≥200	≥500	≥1000	0<L1≤1/2H 0<L1≤1/2H
	✓	✓	✓	✓					≥250	≥1000	≥1000	0<L2≤1/2H 1/2H<L2≤H
	✓	✓	✓	✓					≥250	≥1000	≥1000	0<L2≤1/2H 1/2H<L2≤H
	✓	✓	✓	✓					≥250	≥1000	≥1000	0<L2≤1/2H 1/2H<L2≤H

- ↖ Suction side obstacle
 - ↗ Discharge side obstacle
 - ↘ Left side obstacle
 - ↙ Right side obstacle
 - Top side obstacle
 - Bottom side obstacle
 - Obstacle is present
- ☐ This situation is not allowed

NOTES

100 mm is min. space required for correct operation

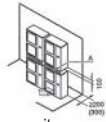
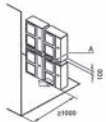


- In these cases, close bottom of the installation frame to prevent discharged air from being bypassed.
- In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front on the outlet side

2. Obstacles exist in front of the air inlet



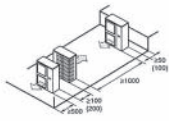
Do not stack more than one unit.

About 100 mm is required as the dimension for laying the upper outdoor unit's drain pipe.

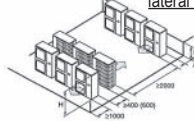
Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H,A and L are shown in the table below.

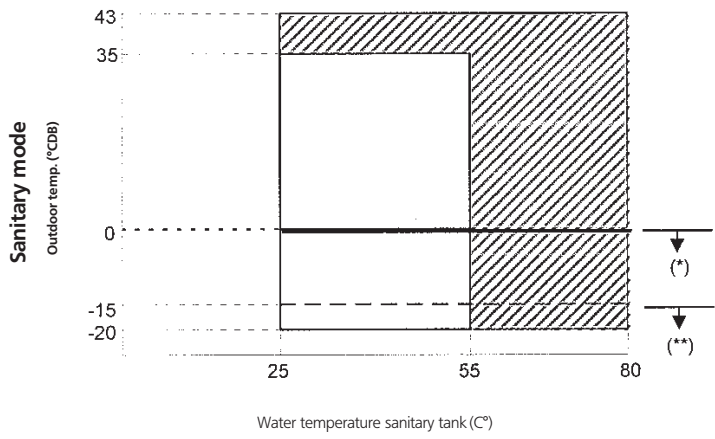
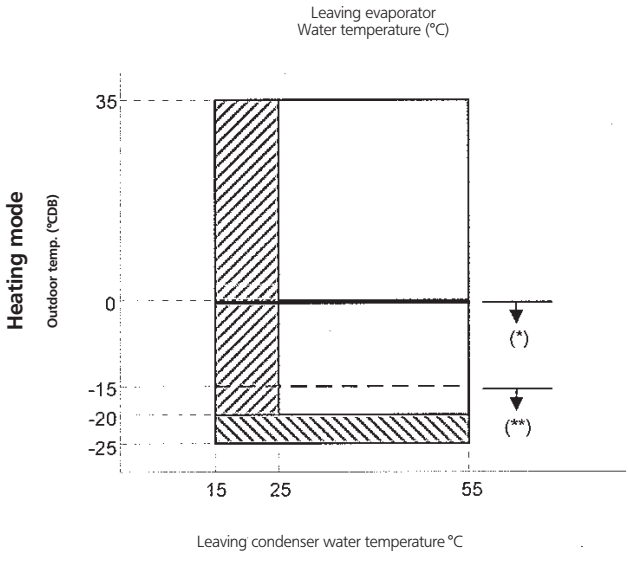
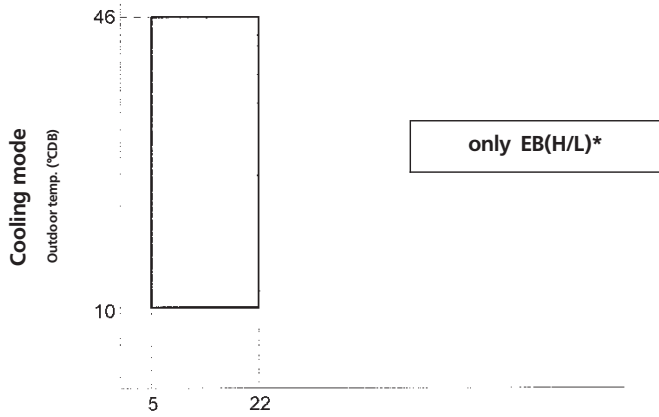
	L	A
$L \leq H$	$0 < L \leq 1/2H$	250
	$1/2H < L$	300
$H < L$	Installation not allowed	

3TW58019-6A

10 Operation range

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EBLQ011-016BA6W1

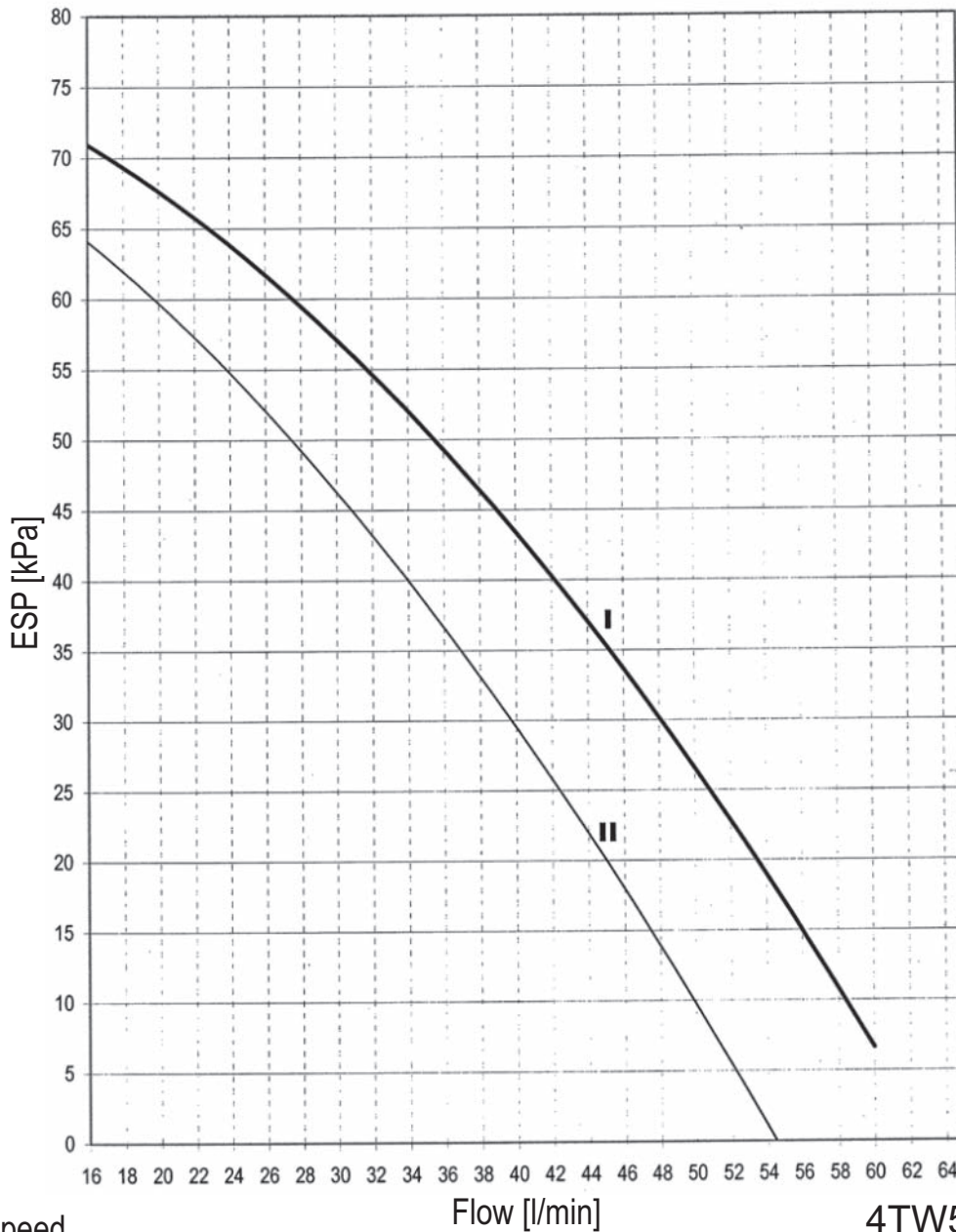


4TW58133-1A

11 Hydraulic performance

11 - 1 Static pressure drop unit

EBLQ011-016BA6W1



I high speed

II medium speed

ESP: external static pressure

Flow: waterflow through the unit

Caution:

Selecting a flow outside the curves can cause damage to or malfunction of the unit.

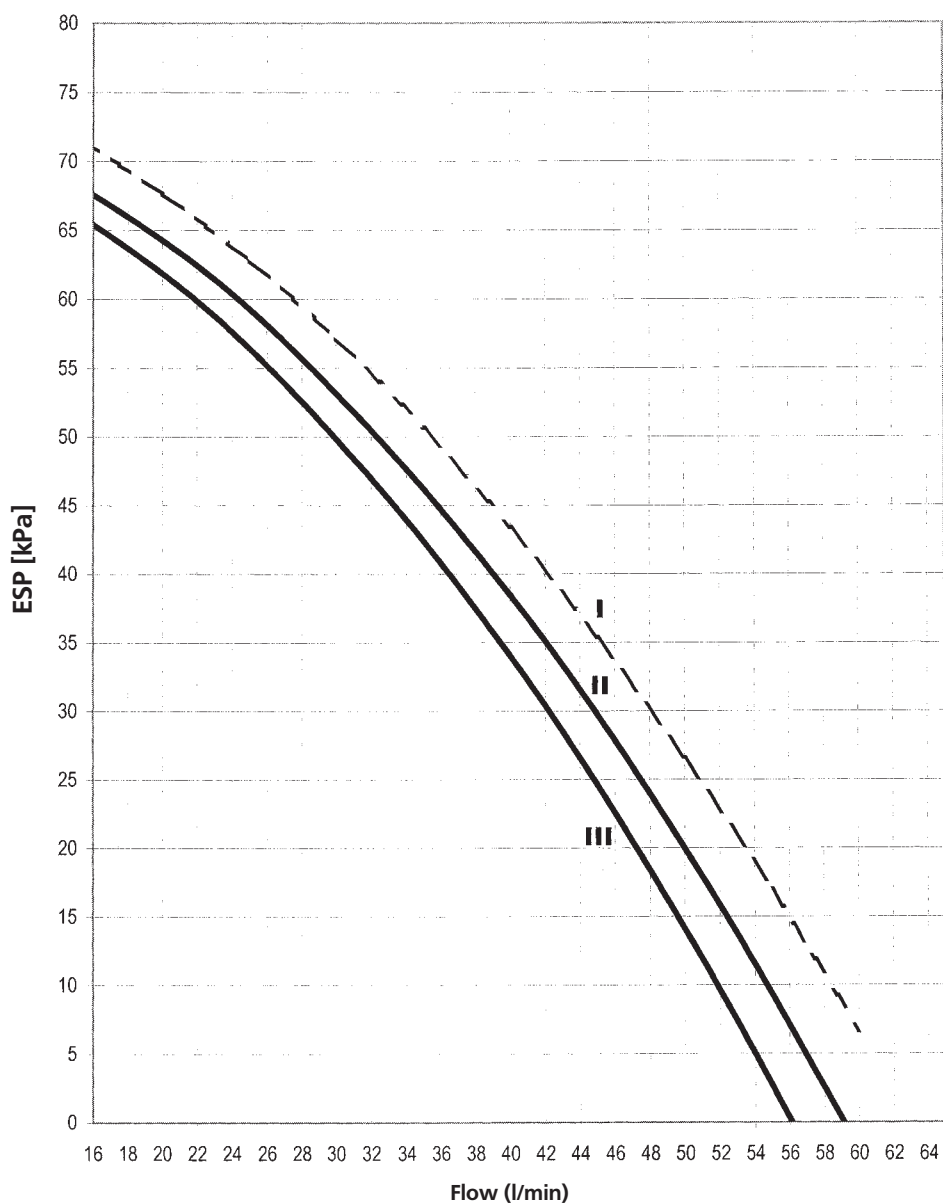
See also minimum and maximum allowed water flowrange in the technical specifications.

11 Hydraulic performance

11 - 1 Static pressure drop unit

17
11

EBLQ-B6W1



I: Water

II: Water / Propylene glycol (25%) at 20°C

III: Water / Propylene glycol (25%) at 5°C

Values only valid for high speed setting

ESP: External static pressure

Flow: waterflow through the unit

Caution:

Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

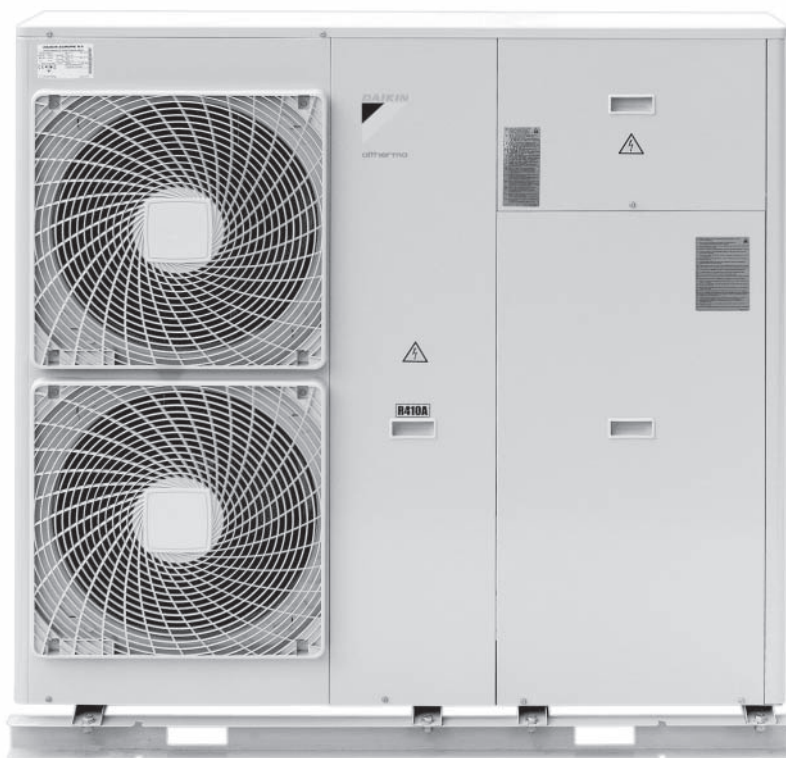
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1 Features

- Reversible monobloc
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



18

1

2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				EBHQ011BA6V3	EBHQ014BA6V3	EBHQ016BA6V3
Condition 1	Heating capacity	Nominal	kW	11.20	14.00	16.00
	Cooling capacity	Nominal	kW	12.85	15.99	16.73
	Heating PI	Nominal	kW	2.47	3.20	3.79
	Cooling PI	Nominal	kW	3.78	5.65	6.28
	COP	Nominal		4.54	4.37	4.22
	EER	Nominal		3.39	2.83	2.66
Condition 2	Heating capacity	Nominal	kW	10.87	13.10	15.06
	Cooling capacity	Nominal	kW	10.00	12.50	13.10
	Heating PI	Nominal	kW	3.22	3.91	4.62
	Cooling PI	Nominal	kW	3.60	5.30	5.85
	COP	Nominal		3.37	3.35	3.26
	EER	Nominal		2.78	2.36	2.24
Notes				Condition 1: cooling Ta 35°C - LWE 18°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (Dt=5°C)		
				Condition 2: cooling Ta 35°C - LWE 7°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)		

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2

2-2 TECHNICAL SPECIFICATIONS				EBHQ011BA6V3	EBHQ014BA6V3	EBHQ016BA6V3
Casing	Colour			Ivory white		
	Material			Painted galvanised steel		
Dimensions	Unit	Height	mm	1,418		
		Width	mm	1,435		
		Depth	mm	382	382	382
	Packing	Height	mm	1,557		
		Width	mm	1,500		
		Depth	mm	430	430	430
Weight	Unit		kg	180	180	180
	Packed unit		kg	200	200	200
Packing	Material			Wood		
				Carton		
	Weight			kg	20	20	20
Operation Range	Heating - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	35	35	35
	Heating - Waterside	Min	°C	15	15	15
		Max	°C	55	55	55
	Cooling - Ambient	Min	°CDB	10	10	10
		Max	°CDB	46	46	46
	Cooling - Waterside	Min	°C	5	5	5
		Max	°C	22	22	22
	Domestic hot water - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	43	43	43
	Domestic hot water - Waterside	Min	°C	25	25	25
		Max	°C	80	80	80
Sound Level (nominal)	Heating	Sound Power	dBA	64	65	66
		Sound Pressure	dBA	51	51	52
	Cooling	Sound Power	dBA	65	66	69
		Sound Pressure	dBA	50	52	54
Sound Level (Night quiet)	Heating	Sound Pressure	dBA	42	42	43
	Cooling	Sound Pressure	dBA	45	45	46
Refrigerant	Type			R-410A		
	Charge		kg	2.95	2.95	2.95
	Control			Electronic expansion valve		
	Nr of Circuits			1	1	1
Refrigerant Oil	Type			Daphne FVC68D		
	Charged Volume		l	1.0	1.0	1.0
Defrost Method				Pressure equalising		
Defrost Control				Sensor for outdoor heat exchanger temperature		
Capacity Control Method				Inverter controlled		

2 Specifications

2-2 TECHNICAL SPECIFICATIONS		EBHQ011BA6V3	EBHQ014BA6V3	EBHQ016BA6V3
Safety Devices	High pressure switch			
	Fan motor thermal protector			
	Fuse			
Notes	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.			
	Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)			
	Conditions: Ta 35°C - LWE 7°C (DT = 5°C)			
	15°-25°C: BUH only, no heat pump operation = during commissioning			
	Including piping + PHE + back-up heater / excluding expansion vessel			
	E(D)(B)L* model can reach -20°C / E(D)(B)L*6W1 model can reach -25°C but without capacity guarantee			
	Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load through, extra water volume might be required.			

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2

2-3 MAIN COMPONENTS				EBHQ011BA6V3	EBHQ014BA6V3	EBHQ016BA6V3	
Air heat exchanger	Specifications	Length	mm	857	857	857	
		Nr of Rows		2	2	2	
		Fin pitch	mm	1.4	1.4	1.4	
		Nr of Passes		5	5	5	
		Face area	m ²	1.131	1.131	1.131	
		Nr of Stages		60	60	60	
		Empty tubeplate hole		0	0	0	
		Tube type	Hi-XSS (8)				
Fin	Type	WF fin					
	Treatment	Anti-corrosion treatment (PE)					
Fan	Type	Propeller					
	Quantity		2	2	2		
Air Flow Rate (nominal at 230V)	Heating	High	m ³ /min	90	90	90	
	Cooling	High	m ³ /min	96	100	97	
Fan	Discharge direction		Horizontal				
	Motor	Quantity		2	2	2	
		Model	Brushless DC				
Motor	Speed (nominal)	Steps		8	8	8	
		Heating	rpm	760	760	760	
		Cooling	rpm	780	780	780	
Fan	Motor	Output	W	70	70	70	
		Drive	Direct drive				
Compressor	Quantity			1	1	1	
	Motor	Model	JT100G-VD				
		Type	Hermetically sealed scroll compressor				
		Motor Output	W	2,200			
Starting Method		Inverter driven					
Motor	Crankcase Heater	Output	W	33	33	33	
Pump	Type		Water cooled				
	Nr. of speed			2	2	2	
	Nominal ESP unit	Heating	kPa	54.5	43.3	34.0	
		Cooling	kPa	58.7	49.6	47.1	
Power input		W	210	210	210		
Water side Heat exchanger	Type		Brazed plate				
	Quantity			1	1	1	
	Water volume		l	1.01	1.01	1.01	
	Water flow rate Min.		l/min	16	16	16	
	Water flow rate Nom.	Heating	l/min	32.1	40.1	45.9	
		Cooling	l/min	28.7	35.8	37.6	
	Water flow rate Max.		l/min	58	58	58	
Insulation material		Polyurethane foam					

2 Specifications

2-3 MAIN COMPONENTS			EBHQ011BA6V3	EBHQ014BA6V3	EBHQ016BA6V3
Expansion vessel	Volume	l	10	10	10
	Maximum water pressure	bar	3	3	3
	Pre pressure	bar	1.0	1.0	1.0
Water filter	Diameter perforations	mm	1	1	1
	Material		Brass		
Water circuit	Piping connections	inch	G5/4 (FEMALE)		
	Piping	inch	5/4"		
	Safety valve	bar	3	3	3
	Manometer		Yes		
	Drain valve / Fill valve		yes		
	Shut off valve		yes		
	Air purge valve		yes		
	Total water volume (6)	l	5.5	5.5	5.5
	Minimum water volume system	l	20	20	20

2-4 ELECTRICAL SPECIFICATIONS				EBHQ011BA6V3	EBHQ014BA6V3	EBHQ016BA6V3
Power supply compressor component	Main Power	Name		V3		
		Phase		1~	1~	1~
		Frequency	Hz	50	50	50
		Voltage	V	230	230	230
	Voltage range	Minimum	V	-10%		
		Maximum	V	+10%		
Current	Minimum Ssc value	kVa	Equipment complying with EN/IEC 61000-3-12(x)			
Current	Maximum running current	Cooling	A	26.5	26.5	26.5
Power supply compressor component	Current	Recomended fuses	A	32	32	32
	Wiring connections	For power supply compressor component		See installation manual		
Power supply hydraulic component	Current back-up heater	Type		6V3		
Current back-up heater	Power Supply	Phase		1~		
		Frequency	Hz	50	50	50
		Voltage	V	230	230	230
Running Current	Back-up heater	A	26	26	26	
Running Current	Back-up heater + booster heater	+EK*V3	A	39(26+13)		
Current back-up heater	Z-max	Back-up heater	A	0.29	0.29	0.29
		Back-up heater + booster heater	A	0.17	0.17	0.17
	Minimum Ssc value	+EK*V3	kVa	Equipment complying with EN/IEC 61000-3-12(**)		

2 Specifications

2-4 ELECTRICAL SPECIFICATIONS				EBHQ011BA6V3	EBHQ014BA6V3	EBHQ016BA6V3	
Power supply hydraulic component	Voltage range	Minimum	V	-10%			
		Maximum	V				+10%
	Wiring connections	Connection type	For power supply hydraulic compartment				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Connection type	For power supply connection to optional sanitary tank + Q2L				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	For more details on voltage range and current refer to installation manual				
		Connection type	For connection with R5T				
		Quantity of wires	Wire included in option EKHWS*				
		Type of wires	Wire included in option EKHWS*				
		Connection type	For connection with A3P				
		Quantity of wires	Depends on thermostat type, refer to installation manual				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M2S				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M3S				
		Quantity of wires	3G or 4G				
	Type of wires	Select diameter and type according to national and local regulations					
	Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²					
	Notes	Power supply compressor compartment is for compressor, fan, pump and controller					
		In accordance with EN/IEC 61000-3-11 (1), it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (3) smaller than or equal to Zmax.					
		Installer can reduce capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Instructions see installation manual.					
Installer can reduce capacity of the heater from 6 to 3.5kW. The current is then reduced from 8.7 to 5A. Instructions see installation manual.							
(1)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 <= 75A.							
(2) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16A =< 75A per phase.							
(3) System impedance							
Power supply hydraulic compartment is for the electric heater. The optional domestic warm water tank has a separate power supply.							
Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)							

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3 Options

EBHQ011-016BA6V3

Kit availability for E(D/B)(H/L)Q011-016BA*

		Altherma Monoblock / Low temperature											
		1-phase						3-phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BA6V3			EDHQ***BA6V3			EDLQ***BA6W1			EDHQ***BA6W1		
		EBLQ***BA6V3			EBHQ***BA6V3			EBLQ***BA6W1			EBHQ***BA6W1		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
*KRP1HBB	Digital I/O PCB (1)	○	○	○	○	○	○	○	○	○	○	○	○
*KBPTH16A	Bottom plate heater	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KDK04	Drain plug kit	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KHWS150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3Z2	Stainless domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3Z2	Stainless domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE150*3V3	Enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3V3	Enamel domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3V3	Enamel domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3Z2	Enamel domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3Z2	Enamel domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KSOLHWAV1	Solarkit (4)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTW	Wired room thermostat option kit	○	○	○	○	○	○	○	○	○	○	○	○
*KRTR	Wireless room thermostat option kit (incl. receiver)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTETS	External temperature sensor option kit (3)	○	○	○	○	○	○	○	○	○	○	○	○
*KWBSWW150	Wall bracket for *KHWS(U)150*3V3 or *KSWW150V3*	○	○	○	○	○	○	○	○	○	○	○	○

3TW59259-1

REMARK

- Other combinations are not guaranteed

NOTES

- Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KHP1HB is already included.
- It is not allowed to combine bottom plate heater and drain plug kit.
- *KRTETS can only be used in combination with *KRTR
- Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
- E(B/D)L units include special equipment (insulation, heater sheet,...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the e(B/D)L must be installed instead.

3 Options

EBHQ011-016BA6V3

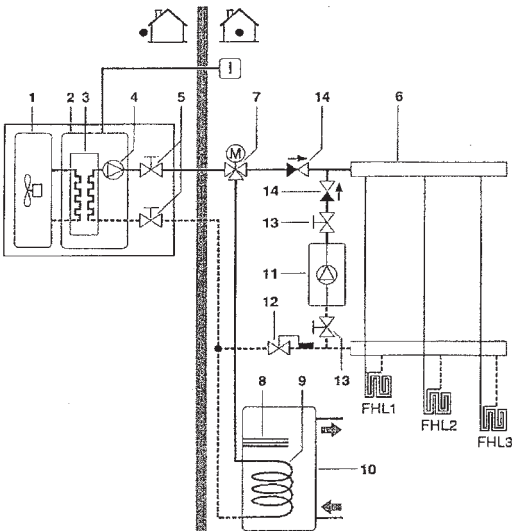
Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the altherma indoor unit or by an auxiliary boiler connected in the system. An auxiliary contact decides whether either the E(D/B)(H/L)Q* hydro module or the boiler will operate. This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

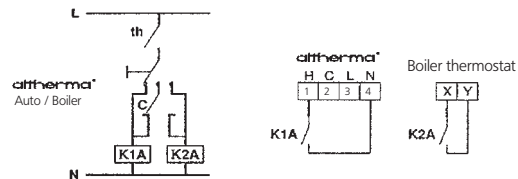
Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the hydro module, including when the boiler is in operation for space heating.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.



- 1 Compressor module
- 2 Hydro module
- 3 Heat exchanger
- 4 Pump
- 5 Shut-off valve
- 6 Collector (field supply)
- 7 Motorised 3-way valve (field supply)
- 8 Booster heater
- 9 Heat exchanger coil
- 10 Domestic hot water tank
- 11 Boiler (field supply)
- 12 Aquastat valve (field supply)
- 13 Shut-off valve (field supply)
- 14 Non-return valve (field supply)
- FHL 1..3 Floor heating loop (field supply)
- I User interface

Field wiring



- Boiler thermostat
- C
- th
- K1A
- K2A

- Boiler thermostat
- Auxiliary contact (normal closed)
- Heating only room thermostat
- Auxiliary relay for activation of E(D/B)(H/L)Q * unit (field supply)
- Auxiliary relay for activation of boiler (field supply)

Operation

When the room thermostat (th) closes, either the E(D/B)(H/L)Q * unit or the boiler starts operating, depending on the position of the auxiliary contact (C)



Make sure that auxiliary contact (C) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)(H/L)Q * unit and the boiler. If the auxiliary contact (C) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or turned ON/OFF by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.

During heating operation of the E(D/B)(H/L)Q * unit, the Altherma unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature.

During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.

Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Altherma unit.



Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)(H/L)Q * switch box correctly. Refer to 'Room thermostat installation configuration' in the installation manual supplied with the unit.

Make sure that return water to the E(D/B)(H/L)Q * heat exchanger never exceeds 55°C.

For this reason, never put the target leaving water temperature setpoint on the boiler controller above 55°C and if required, install an aquastat(*) valve in the return water flow of the E(D/B)(H/L)Q* unit. Daikin shall not be held liable for any damage resulting from failure to observe this rule.

(*)The aquastat valve must be set for 55°C and must operate to close the return water flow to the E(D/B)(H/L)Q * unit when the measured temperature exceeds 55°C. When temperature drops to a lower level, the aquastat valve must operate to open the return water flow to the E(D/B)(H/L)Q * unit again.

4 Capacity tables

4 - 1 Heating capacity tables

EBHQ-B6V3													
Maximum Heating Capacity (Peak values)													
	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D B) (H|L)Q011*6V3	-20 (a)	5,86	2,17	5,51	2,37								
	-15	6,63	2,21	6,23	2,42	6,09	2,67						
	-7	8,13	2,24	7,66	2,47	7,51	2,72	7,32	3,18				
	-2	9,28	2,25	8,76	2,48	8,61	2,74	8,41	3,21	8,11	3,57		
	2	10,32	2,25	9,77	2,48	9,62	2,75	9,42	3,22	9,10	3,59	8,51	4,00
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92	
E(D|B)|(H|L)Q014*6V3	-20 (a)	7,42	2,78	7,20	3,03								
	-15	8,29	2,84	8,00	3,10	7,72	3,40						
	-7	10,07	2,91	9,67	3,18	9,28	3,49	9,08	3,80				
	-2	11,46	2,94	11,00	3,21	10,54	3,54	10,29	3,85	10,13	4,26		
	2	12,75	2,95	12,23	3,23	11,72	3,56	11,43	3,88	11,25	4,30	10,73	4,75
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69	
E(D|B)|(H|L)Q016*6V3	-20 (a)	8,47	3,27	8,34	3,56								
	-15	9,44	3,34	9,21	3,64	8,99	3,99						
	-7	11,44	3,43	11,08	3,74	10,73	4,11	10,53	4,47				
	-2	13,01	3,47	12,58	3,79	12,14	4,17	11,89	4,54	11,45	5,01		
	2	14,48	3,49	13,98	3,82	13,48	4,20	13,18	4,58	12,67	5,06	12,17	5,59
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54	
Maximum Heating Capacity (integrated values)													
	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]
E(D|B)|(H|L)Q011*6V3	-20 (a)	4,96	2,13	4,67	2,32								
	-15	5,61	2,16	5,27	2,37	5,16	2,61						
	-7	6,88	2,20	6,49	2,41	6,36	2,67	6,19	3,12				
	-2	7,70	2,16	7,27	2,38	7,15	2,63	6,98	3,08	6,73	3,43		
	2	8,57	2,16	8,11	2,38	7,99	2,64	7,82	3,09	7,56	3,45	7,06	3,84
	7	11,80	2,23	11,20	2,47	11,06	2,75	10,87	3,22	10,53	3,60	9,88	4,02
	12	12,80	2,16	12,18	2,40	12,07	2,68	11,89	3,16	11,57	3,54	10,89	3,96
	15	13,84	2,13	13,20	2,38	13,10	2,67	12,93	3,15	12,60	3,53	11,89	3,95
20	15,73	2,08	15,04	2,33	14,97	2,62	14,82	3,11	14,07	3,50	13,32	3,92	
E(D|B)|(H|L)Q014*6V3	-20 (a)	6,31	2,69	6,13	2,93								
	-15	7,05	2,75	6,80	3,00	6,57	3,29						
	-7	8,57	2,82	8,23	3,08	7,89	3,38	7,72	3,68				
	-2	9,11	2,66	8,74	2,91	8,38	3,20	8,18	3,49	8,05	3,86		
	2	10,13	2,67	9,72	2,93	9,31	3,22	9,09	3,52	8,95	3,89	8,53	4,30
	7	14,59	2,95	14,00	3,20	13,42	3,58	13,10	3,91	12,89	4,33	12,30	4,79
	12	15,44	2,86	14,84	3,15	14,23	3,48	13,91	3,80	13,70	4,22	13,07	4,68
	15	16,73	2,84	16,09	3,14	15,45	3,48	15,10	3,81	14,88	4,22	14,21	4,68
20	19,09	2,81	18,38	3,11	17,67	3,46	17,30	3,79	16,58	4,22	15,85	4,69	
E(D|B)|(H|L)Q016*6V3	-20 (a)	7,00	3,17	6,89	3,45								
	-15	7,80	3,24	7,61	3,53	7,43	3,87						
	-7	9,45	3,33	9,15	3,63	8,86	3,99	8,70	4,34				
	-2	9,96	3,09	9,62	3,38	9,29	3,71	9,09	4,04	8,76	4,46		
	2	11,08	3,11	10,69	3,35	10,31	3,74	10,08	4,08	9,69	4,50	9,31	4,98
	7	16,58	3,51	16,00	3,79	15,42	4,24	15,06	4,62	14,47	5,11	13,88	5,64
	12	17,29	3,41	16,69	3,75	16,08	4,13	15,71	4,51	15,09	4,98	14,47	5,51
	15	18,75	3,41	18,10	3,75	17,45	4,13	17,05	4,52	16,38	5,00	15,71	5,53
20	21,42	3,40	20,70	3,74	19,98	4,13	19,53	4,52	18,77	5,01	18,01	5,54	

3TW58012-1C

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condensor temperature (°C)
- Tamb : Ambient temperature RH=85%

Heating capacity at heat recovery condenser

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C. Capacity values may not be extrapolated below 7°C leaving water temperature.
 - 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C.
 - 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).
- NOTES:
-For the model with heatertape (°(D|V|LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
1) For AA models: 'X' = 4°C
2) For BA models: 'X' = [F-02] = BPH ON temp for more details see installation manual of indoor unit.

NOTES

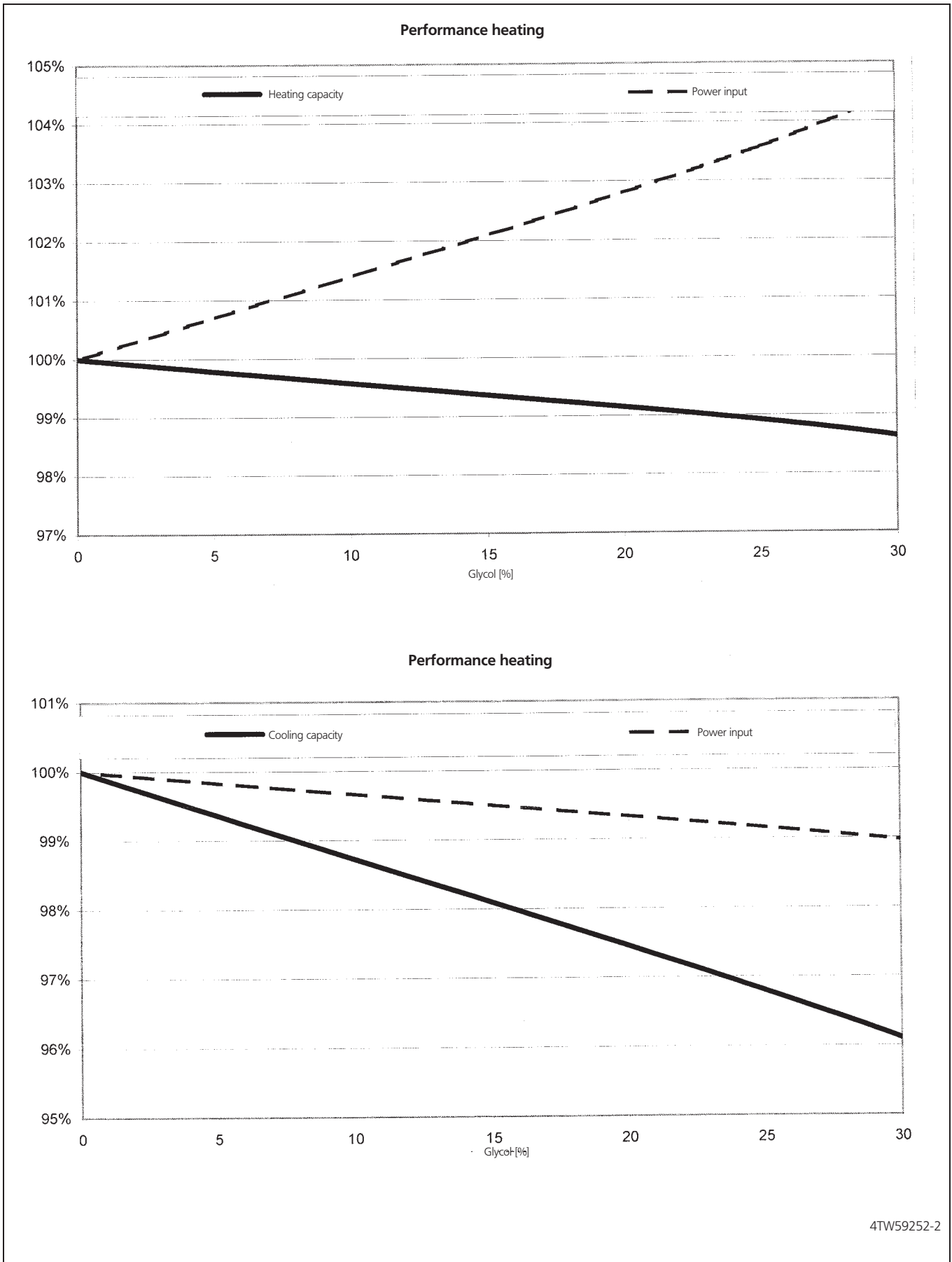
- (a) only E(D|B)L*

4 Capacity tables

4 - 1 Heating capacity tables

18

4



4 Capacity tables

4 - 2 Cooling capacity tables

EBHQ-B6V3

Maximum Cooling Capacity

	T _{amb} [°C]	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
EB(H/L)Q011*6V3	7	11,08	2,70	10,99	2,97	10,62	3,26	10,00	3,60	9,16	3,97	8,14	4,38
	10	11,77	2,73	11,66	3,00	11,27	3,31	10,61	3,65	9,73	4,03	8,65	4,44
	13	12,93	2,76	12,81	3,04	12,38	3,35	11,66	3,70	10,70	4,08	9,39	4,65
	15	13,74	2,78	13,61	3,06	13,15	3,38	12,39	3,73	11,37	4,12	9,73	4,54
	18	15,17	2,81	14,66	3,10	13,87	3,42	12,85	3,78	11,61	4,18	9,85	4,18
	22	16,92	2,85	16,36	3,15	15,49	3,48	14,36	3,85	13,00	4,26	10,32	3,73
EB(H/L)Q014*6V3	7	13,87	4,02	13,75	4,39	13,29	4,81	12,50	5,30	11,08	5,08	9,81	5,60
	10	14,92	4,08	14,79	4,46	14,28	4,90	13,43	5,39	11,92	5,17	10,56	5,70
	13	16,38	4,15	16,23	4,54	15,68	4,99	14,75	5,49	13,09	5,26	10,95	5,78
	15	17,39	4,20	17,23	4,60	16,64	5,05	15,66	5,55	13,91	5,32	11,35	5,64
	18	18,92	4,27	18,28	4,68	17,29	5,14	15,99	5,65	13,99	5,41	11,49	5,20
	22	21,07	4,37	20,37	4,79	19,28	5,27	17,85	5,79	15,65	5,54	12,05	4,64
EB(H/L)Q016*6V3	7	14,52	4,45	14,44	4,87	13,95	5,33	13,10	5,85	11,57	5,58	9,84	5,47
	10	15,65	4,54	15,53	4,97	14,99	5,44	14,07	5,96	12,43	5,68	10,59	5,56
	13	17,19	4,64	17,05	5,07	16,45	5,55	15,44	6,08	13,64	5,79	10,98	5,65
	15	18,26	4,71	18,09	5,14	17,46	5,63	16,39	6,16	14,49	5,86	11,38	5,51
	18	19,87	4,81	19,20	5,25	18,14	5,74	16,73	6,28	14,57	5,97	11,52	5,08
	22	22,14	4,95	21,39	5,40	20,21	5,90	18,66	6,44	16,28	6,12	12,08	4,53

3TW58012-1C

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condensator temperature (°C)
- Tamb : Ambient temperature RH=85%

NOTES

- (a) only E(D/B)L*

Heating capacity at heat recovery condenser

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:

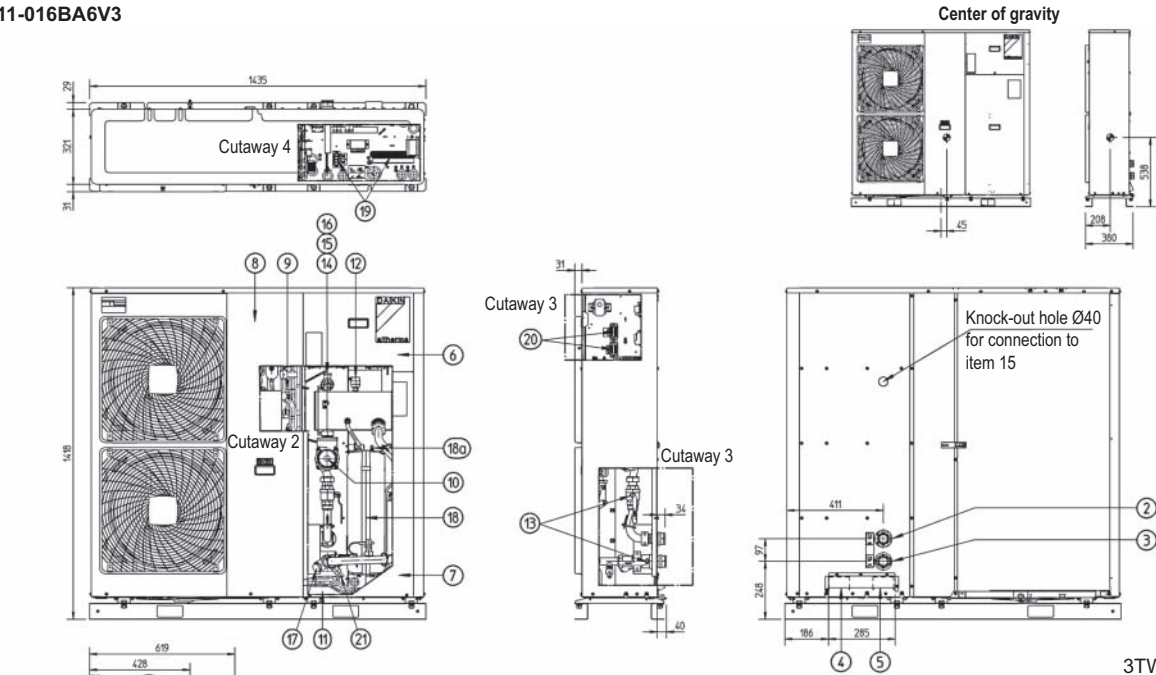
-For the model with heatertape (*(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W

- 1) For AA models: 'X' = 4°C
- 2) For BA models: 'X' = [F-02] = BPH ON temp for more details see installation manual of indoor unit.

5 Dimensional drawing & centre of gravity

5 - 1 Dimensional drawing

EBHQ011-016BA6V3



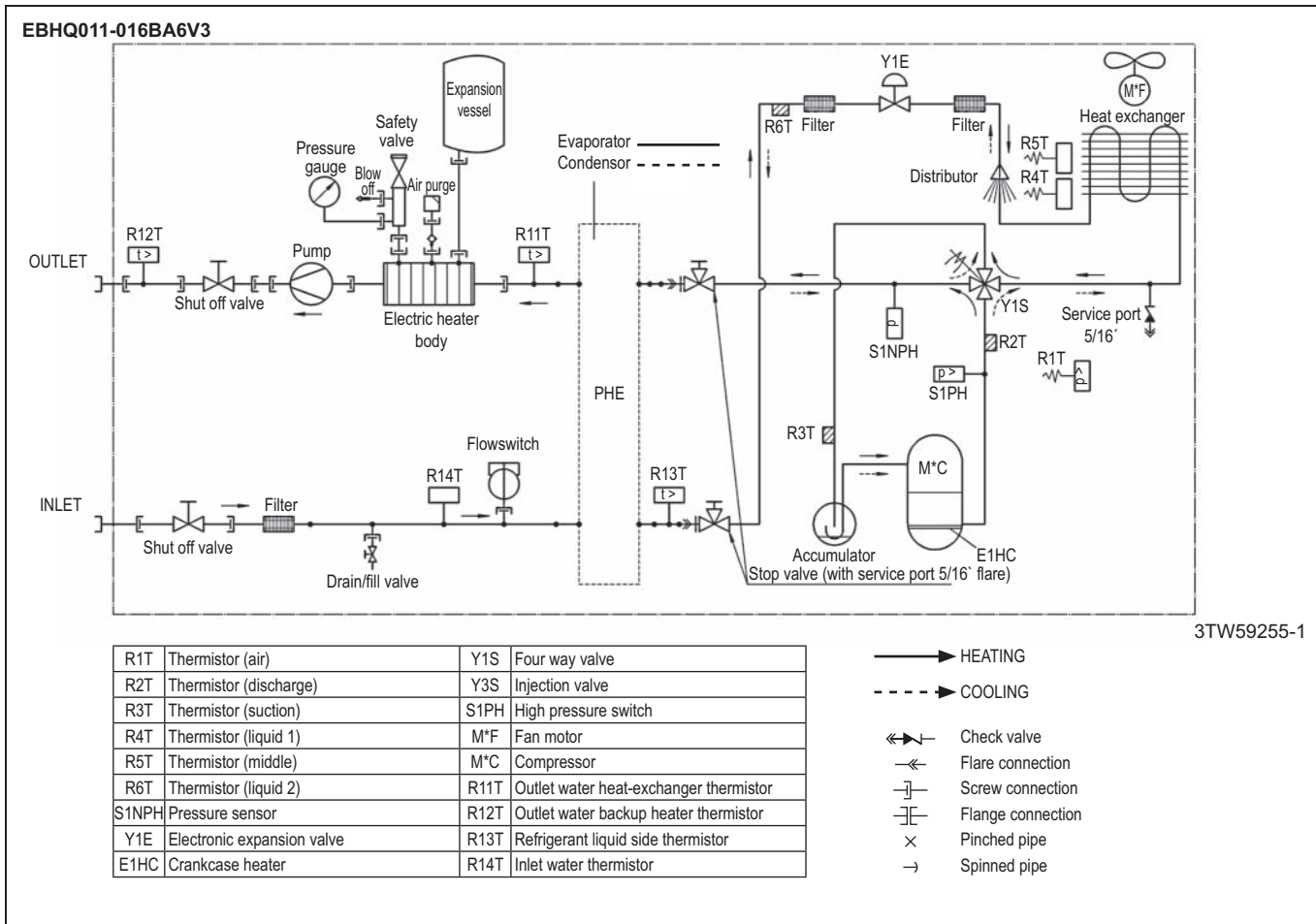
3TW59254-1A

Nr	Name	Nr	Name	Nr	Name
☉	Center of gravity	8	Service door compressor module	16	Pressure gauge
1	Drain outlet	9	Service port	17	Waterfilter
2	Waterpiping outlet	10	Pump	18	Expansion vessel + (18a) nipple
3	Waterpiping inlet	11	Remocon kit (to be installed indoors)	19	Switchbox terminals
4	Entry low voltage cables (<30V)	12	Air purge	20	Switchbox terminals option sanitary warm water tank
5	Entry power cables	13	Shot-off valve	21	Drain & fill valve
6	Service door switchbox	14	Blow-off valve		
7	Service door hydraulic module	15	Blow-off drain		

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5

6 Piping diagram

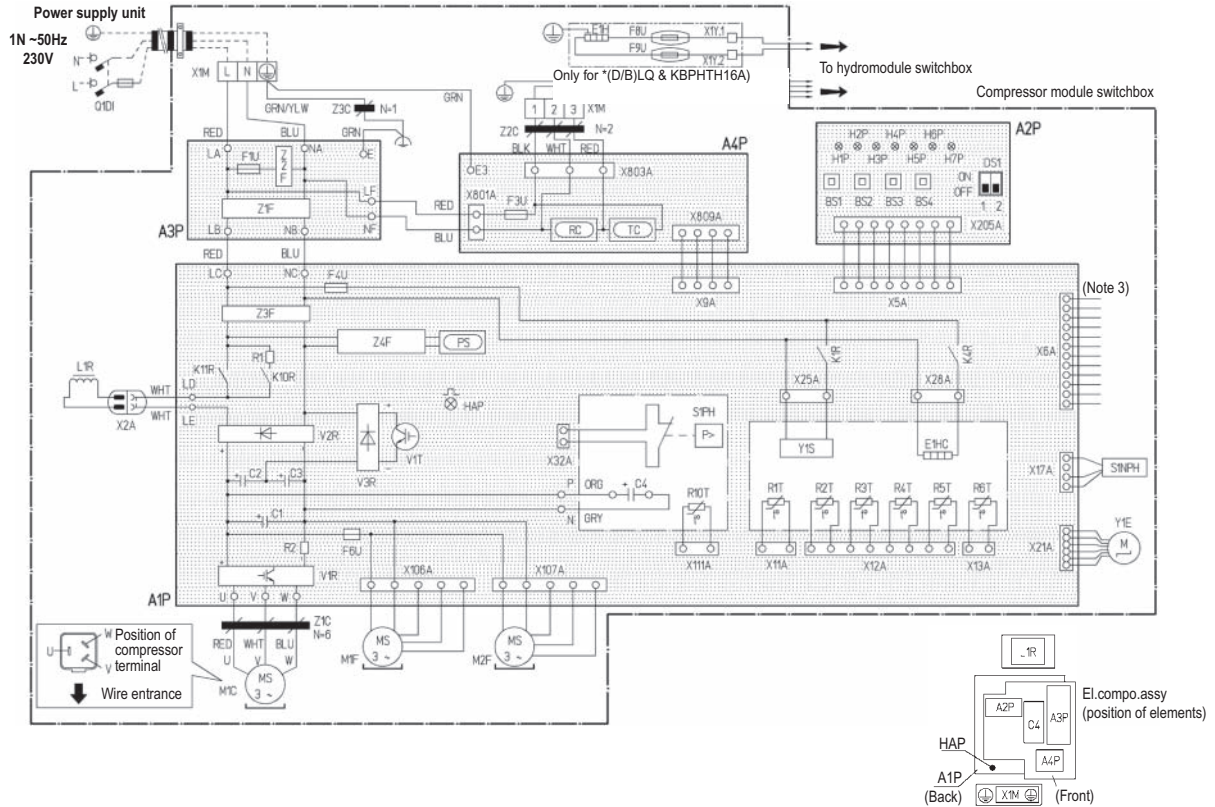
6 - 1 Piping diagram



7 Wiring diagram

7 - 1 Wiring diagram

EBHQ011-016BA6V3



A1P	Printed circuit board (main)	K1R	Magnetic relay (Y1S)	R6T	Thermistor (liquid)
A2P	Printed circuit board (inv.)	K4R	Magnetic relay (E1HC)	RC	Signal receiver circuit
A3P	Printed circuit board (noise filter)	K10R	Magnetic relay	R10T	Thermistor (fin)
A4P	Printed circuit board	K11R	Magnetic relay	S1NPH	Pressure sensor
BS1-BS4	Push button switch	L1R	Reactor	S1PH	Pressure switch (high)
C1-C4	Capacitor	M1C	Motor (compressor)	TC	Signal transmission circuit
DS1	DIP Switch	M1F	Motor (fan) (upper)	V1R	Power module
E1H	Bottomplate heater	M2F	Motor (fan) (lower)	V2R, V3R	Diode module
E1HC	Crankcase heater	PS	Switching power supply	V1T	IGBT
F1U, F3U, F4U	Fuse (T 6,3A / 250V)	Q1DI	Earth leakage circuit breaker	X1M	Terminal strip (power supply)
F6U	Fuse (T 5,0A / 250V)	R1	Resistor	Y1E	Electronic expansion valve
F7U, F8U	Fuse (F 1,0A / 250V)	R2	Resistor	Y1S	Solenoid valve (4 way valve)
H1P~7P(A2P)	Light emit. diode (serv. monitor-orange)	R1T	Thermistor (air)	Z1C~Z3C	Noise filter (ferry core)
	[H2P] Prepare, test - - - - - flickering	R2T	Thermistor (discharge)	Z1F~Z4F	Noise filter
	Malfunction detection - - - - - light up	R3T	Thermistor (suction)		Optional connector
HAP	Light emitting diode (service monitor green)	R4T	Thermistor (heat exchanger)	X1Y	Connector
		R5T	Thermistor (heat exchanger middle)		

- : Terminal strip
 - : Connector
 - ▬ : Field wiring
 - ⊕ : Protective earth (screw)
 - : Connection
 - ⊕ : Noiseless earth
 - : Terminal
 - ▬ : Connector
- Colors: BLU : Blue, WHT : White, BRN : Brown, YLW : Yellow, GRN : Green, ORG : Orange, RED : RED, BLK : Black

2TW59256-1

NOTES

- 1 This wiring diagram only applies to the compressor module switchbox.
- 2 L: Live, N: Neutral
- 3 Not applicable
- 4 Do not operate the unit by short-circuiting protection device S1PH
- 5 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".
- 6

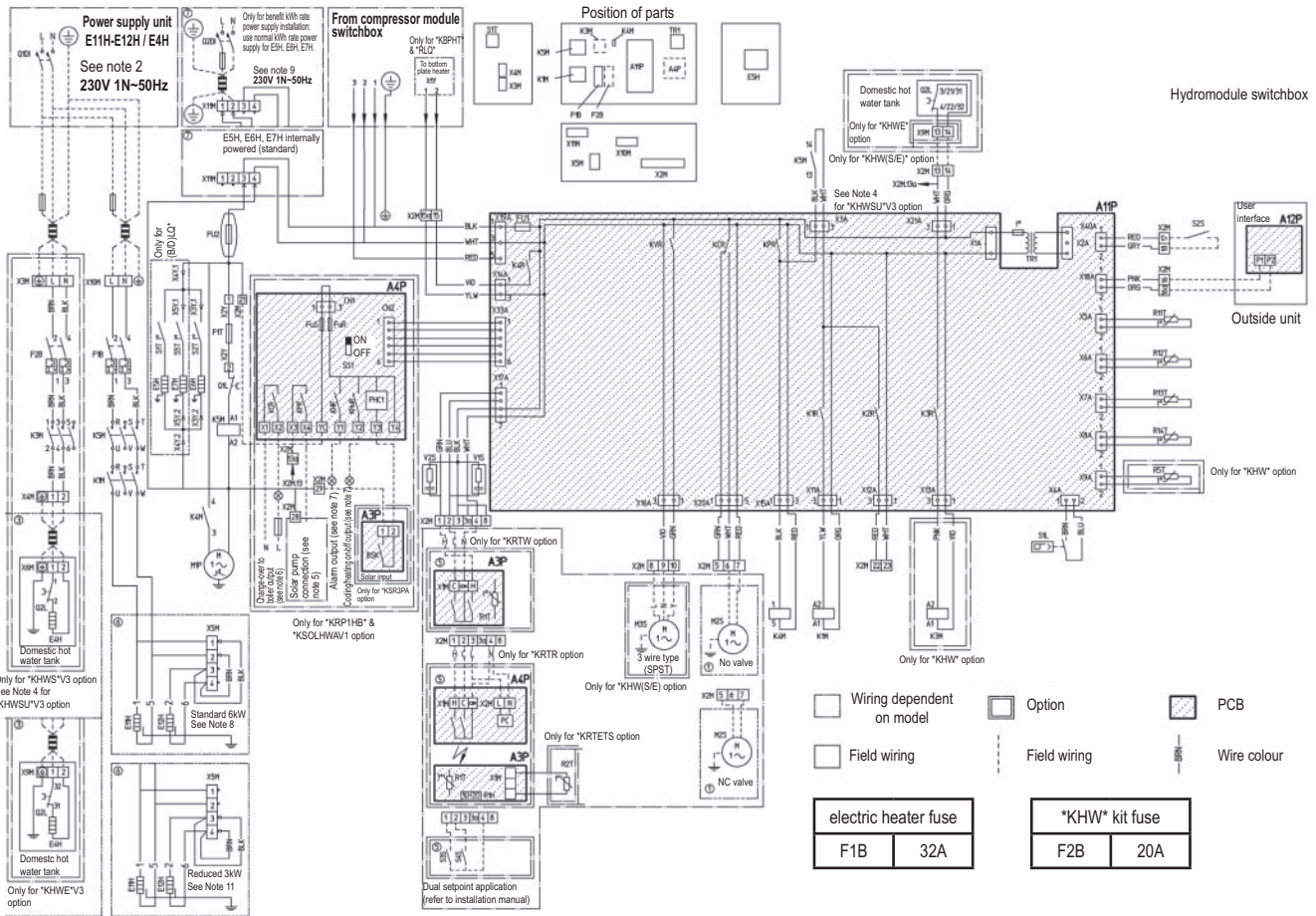


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7

7 Wiring diagram

7 - 1 Wiring diagram

EBHQ011-016BA6V3



Wiring dependent on model Option PCB
 Field wiring Field wiring Wire colour

electric heater fuse		*KHW* kit fuse	
F1B	32A	F2B	20A

A11P	Main PCB	K1M	Contactor backup heater step	R14T	Inlet water thermistor
A12P	User interface PCB	K3M	Contactor booster heater	R5T (*KHW*)	Domestic hot water thermistor
A3P (*KRTW/R*)	Thermostat (PC=power circuit)	K4M	Pump relay	S1L	Flowswitch
A3P (*KSR3PA)	Solar pump station PCB	K5M	Contactor for backup heater all pole disconnection	S2S	Benefit kWh rate power supply contact
A4P (*KRP1HB)	Digital I/O PCB	M1P	Pump	S3S	Dual setpoint 2 contact
A4P (*KRTR)	Receiver PCB	M2S	2way valve for cooling mode	S4S	Dual setpoint 1 contact
E11H-E12H	Backup heater element 1-2 (6kW)	M3S	3way valve: floorheating/domestic hot water	SS1	Dip switch
E4H	Booster heater (3kW)	PHC1	Optocoupler input circuit	S1T	Thermostat switchbox heater
E5H	Switchbox heater	Q1DI, Q2DI	Earth leakage circuit breaker	S2T	Thermostat expansion vessel heater
E6H	Expansion vessel heater	Q1L	Thermal protector backup heater	S3T	Thermostat plate heat exchanger
E7H	Plate heat exchanger heater	Q2L	Thermal protector 1/2 booster heater	TR1	Transformer 24V for PCB
F1B	Fuse backup heater	R1H (*KRTR)	Humidity sensor	V1S, V2S	Spark suppression 1, 2
F1T	Thermal fuse backup heater	R1T (*KRTW/R*)	Ambient sensor	X1M-X11M, X2-5Y	Terminal strips, connector
F2B	Fuse booster heater	R2T (*KRTETS)	External sensor (floor or ambient)		
FU1	Fuse 3.15A 250V for PCB	R11T	Outlet water heat exchanger thermistor		
FU2	Fuse 5A T 250V	R12T	Outlet water backup heater thermistor		
FuS, FuR	Fuse 5A 250V for digital I/O PCB	R13T	Refrigerant liquid side thermistor		

: Terminal strip : Terminal Colors: BLU : Blue WHT : White PNK : Pink
 : Connector BRN : Brown YLW : Yellow Vio : Violet
 : Field wiring GRN : Green ORG : Orange GRY: : Grey
 : Protective earth (screw) RED : RED BLK : Black

2TW59256-2

NOTES

- This wiring diagram only applies to the hydromodule switchbox.
- Use a dedicated power circuit for the backup heater and booster heater. Never use a power circuit shared by another appliance.
- Do not operate the unit by short-circuiting any protection device.
- For *KHW*SU*V3, refer to option manual.
- For *KSOLHWAV1, refer to option manual.
- Maximum load: 0.3A - 250VAC Minimum load: 20mA - 5VDC
- 230 VAC output Maximum load: 0.3A
- Backupheater KW reduction, refer to installation manual.
- For beneat kWh rate power supply installation, refer to installation manual.

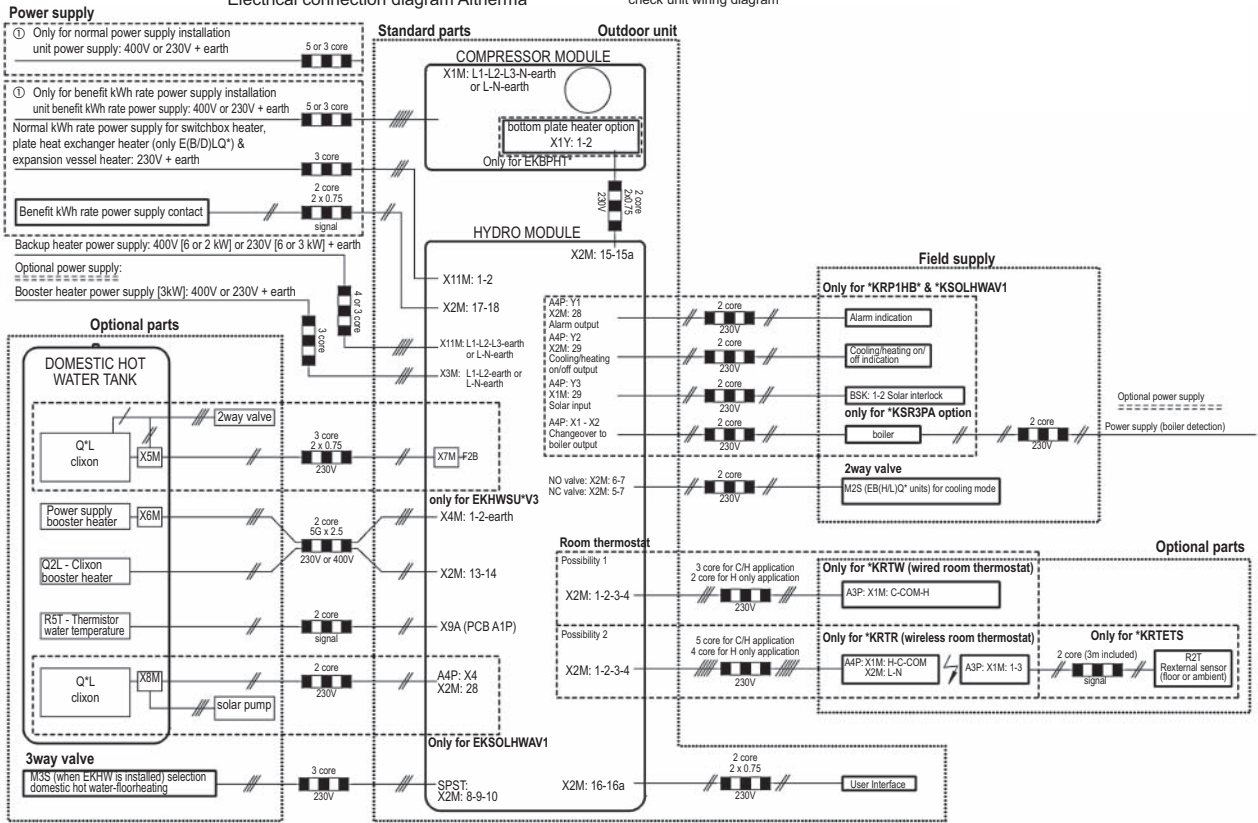
7 Wiring diagram

7 - 2 External connection diagram

EBHQ011-016BA6V3

Electrical connection diagram Altherma

For more details please check unit wiring diagram



NOTE

1. In case of signal cable keep minimum distance to power cables > 5cm

3TW59256-3

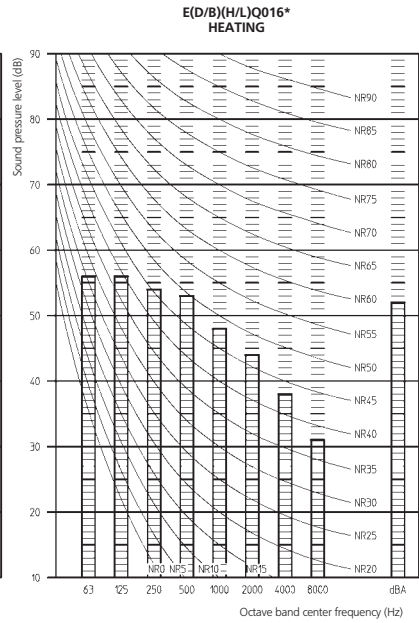
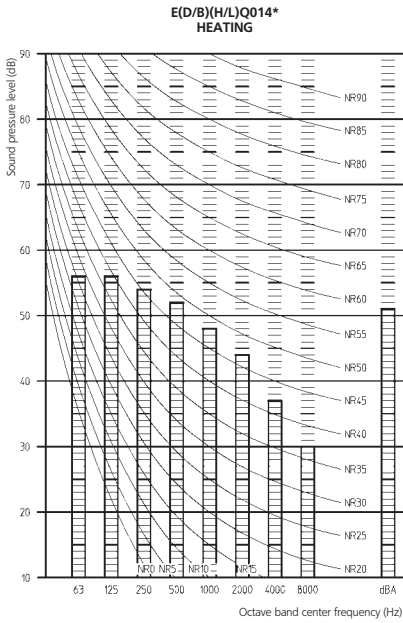
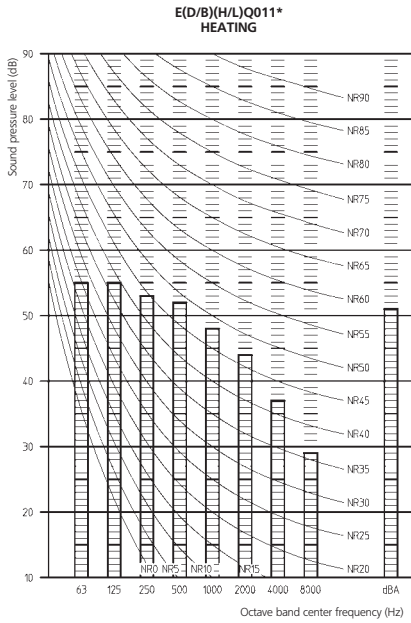
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8 Sound data

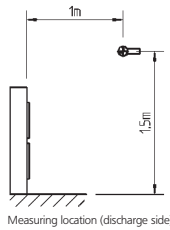
8 - 1 Sound pressure spectrum

EBHQ011-016BA6V3



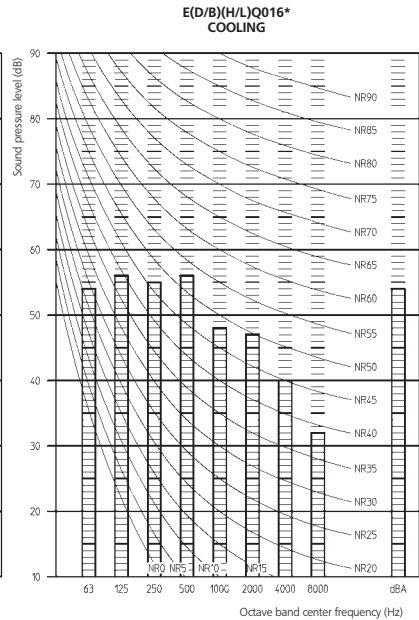
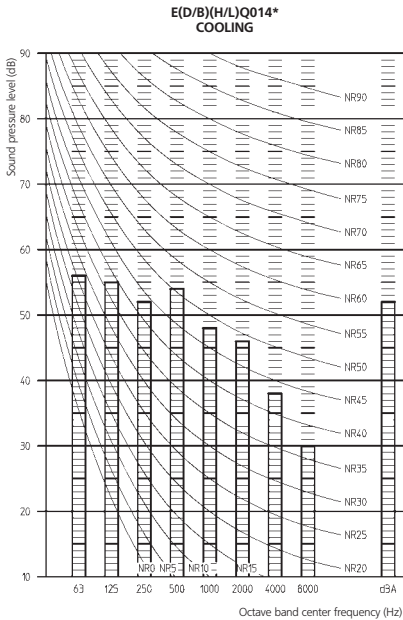
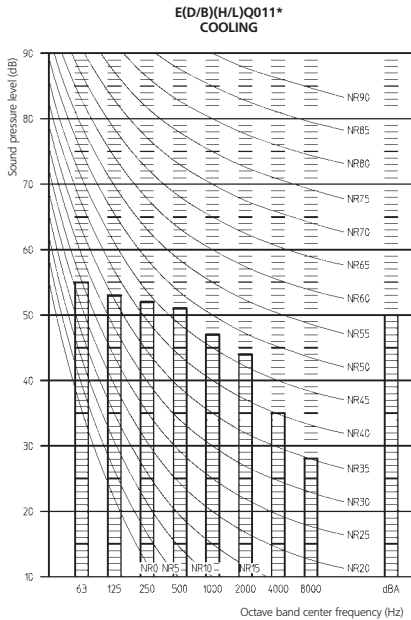
Notes:

- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20μPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



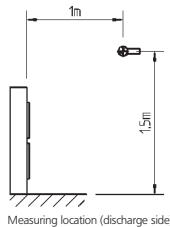
3TW58017-2

EBHQ011-016BA6V3



Notes:

- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20μPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



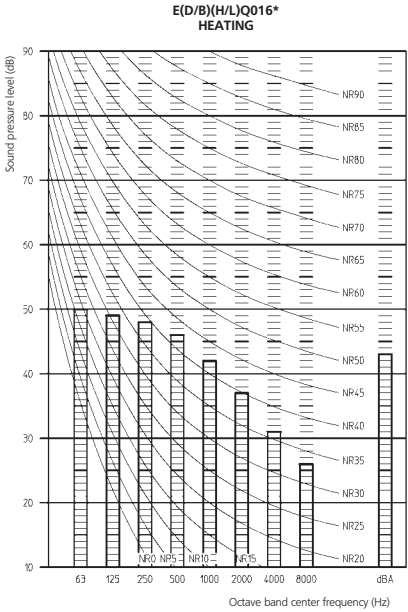
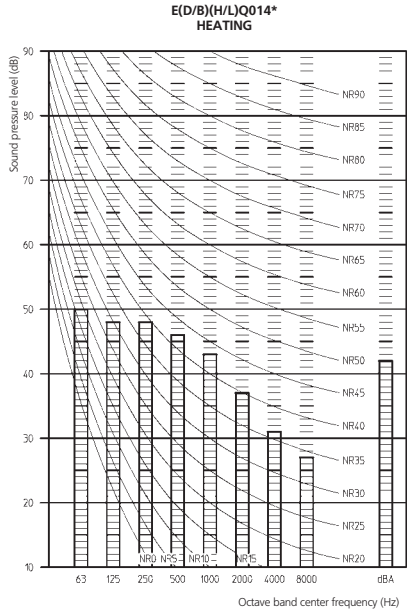
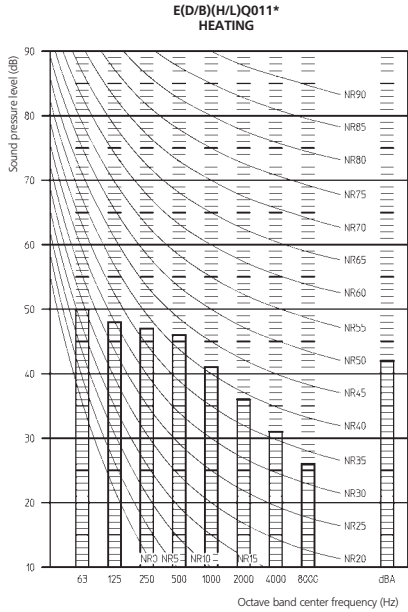
3TW58017-1

8 Sound data

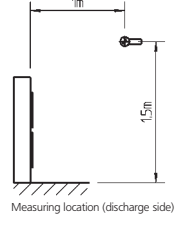
8 - 2 Sound pressure night quiet mode

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8

EBHQ011-016BA6V3

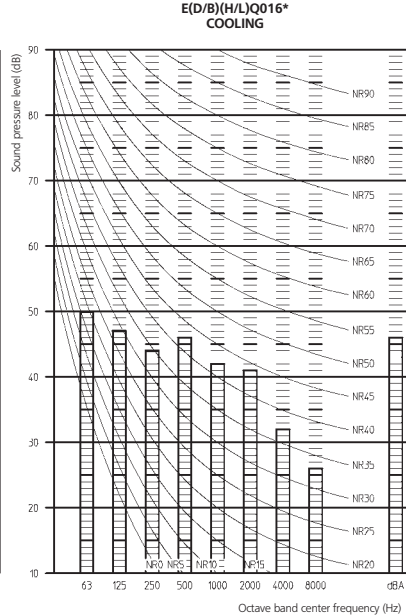
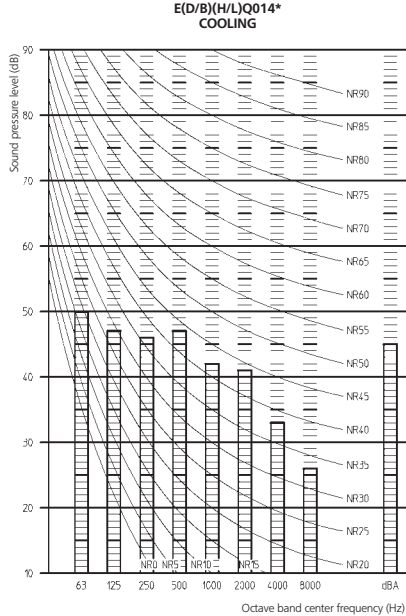
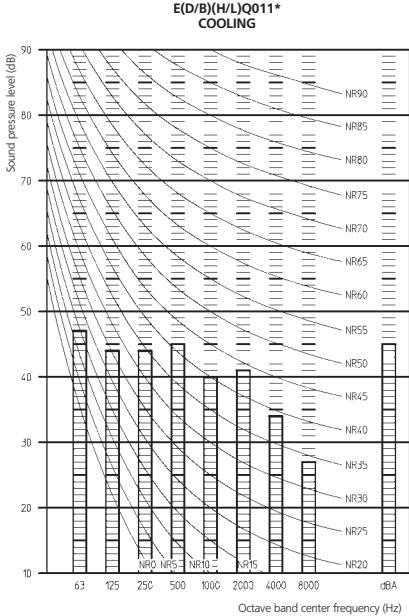


- Notes:**
- 1 Data is valid at free field condition (measured in a semi-anechoic room)
 - 2 dBA = A-weighted sound power level (A-scale according to IEC)
 - 3 Reference acoustic pressure 0dB = 20μPa
 - 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

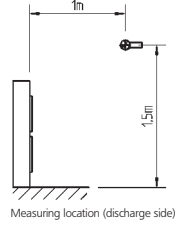


3TW58017-4

EBHQ011-016BA6V3



- Notes:**
- 1 Data is valid at free field condition (measured in a semi-anechoic room)
 - 2 dBA = A-weighted sound power level (A-scale according to IEC)
 - 3 Reference acoustic pressure 0dB = 20μPa
 - 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



3TW58017-3

9 Installation

9 - 1 Service space

EBHQ011-016BA6V3

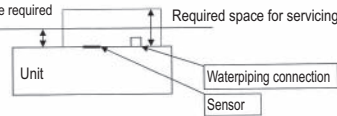
A. Non stacked installation

		A	B1	B2	C	D1	D2	E	L1/L2
	✓	≥100			≥100				
	✓	≥100			≥100				
	✓	≥150			≥150		≥500	≥1000	
	✓	≥150			≥150		≥500	≥1000	
	✓		≤500		≥500			≥1000	
	✓		≤500		≥500			≥1000	
	✓	L1<L2	L1SH	≥150	≥500	≥750	≥1000	≥1000	0<L1≤1/2H 0<L1≤1/2H
	✓	L2<L1	L2SH	≥100	≥100	≥500	≥500	≥1000	0<L2≤1/2H 1/2H<L2SH
	✓	≥200	≥300		≥1000			≥500	≥1000
	✓	≥200	≥300		≥1000			≥500	≥1000
	✓			≤500	≥1000			≥1000	
	✓	L1<L2	L1SH	≥300	≥300	≥1000		≥1000	0<L1≤1/2H 1/2H<L1SH
	✓			≥200	≥500	≥1000		≥1000	0<L1≤1/2H 1/2H<L1SH
	✓			≥200	≥500	≥1000		≥1000	0<L1≤1/2H 1/2H<L1SH
	✓	L2<L1	L2SH	≥50	≥100	≥500	≥500	≥1000	0<L2≤1/2H 1/2H<L2SH
	✓	L2<L1	L2SH	≥100	≥100	≥500	≥500	≥1000	0<L2≤1/2H 1/2H<L2SH

- ☒ Suction side obstacle
 - ☒ Discharge side obstacle
 - ☒ Left side obstacle
 - ☒ Right side obstacle
 - ☒ Top side obstacle
 - ☒ Obstacle is present
- ☒ This situation is not allowed

NOTES

100 mm is min. space required for correct operation

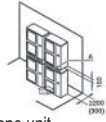
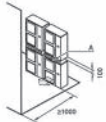


- In these cases, close bottom of the installation frame to prevent discharged air from being bypassed.
- In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front on the outlet side

2. Obstacles exist in front of the air inlet

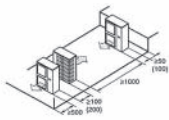


Do not stack more than one unit.

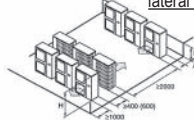
About 100 mm is required as the dimension for laying the upper outdoor unit's drain pipe. Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



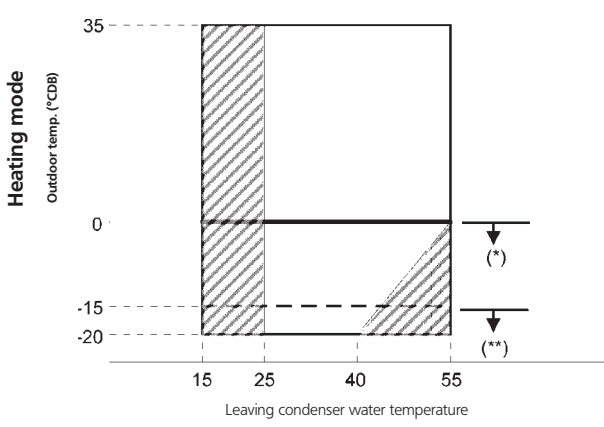
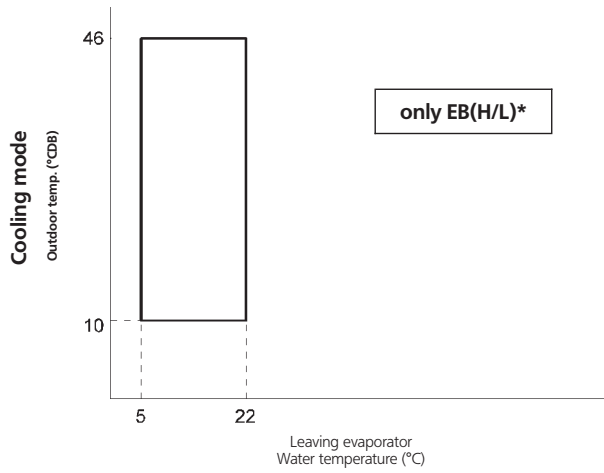
Relation of dimensions of H, A and L are shown in the table below.

	L	A
$L \leq H$	$0 < L \leq 1/2H$	250
	$1/2H < L$	300
$H < L$		Installation not allowed

3TW58019-6A

10 Operation range

EBHQ011-016BA6V3

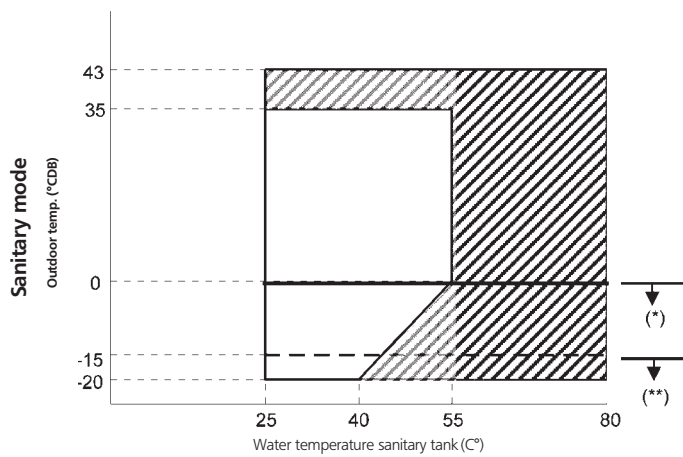


▨ No heat pump operation, back up heater only

(*) E(D/B)L* units include special equipment (insulation, heater sheet, ...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(D/B)H* models may experience problems with severe ice build-up on the aircooled coil. In case such conditions are expected, the E(D/B)L* must be installed instead.

Both E(D/B)L* and E(D/B)H* models have a freeze prevention function using the pump and back up heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen we recommend to use glycol.

(**) only E(D/B)L*



▨ Booster heater operation only

(**) only E(D/B)L*

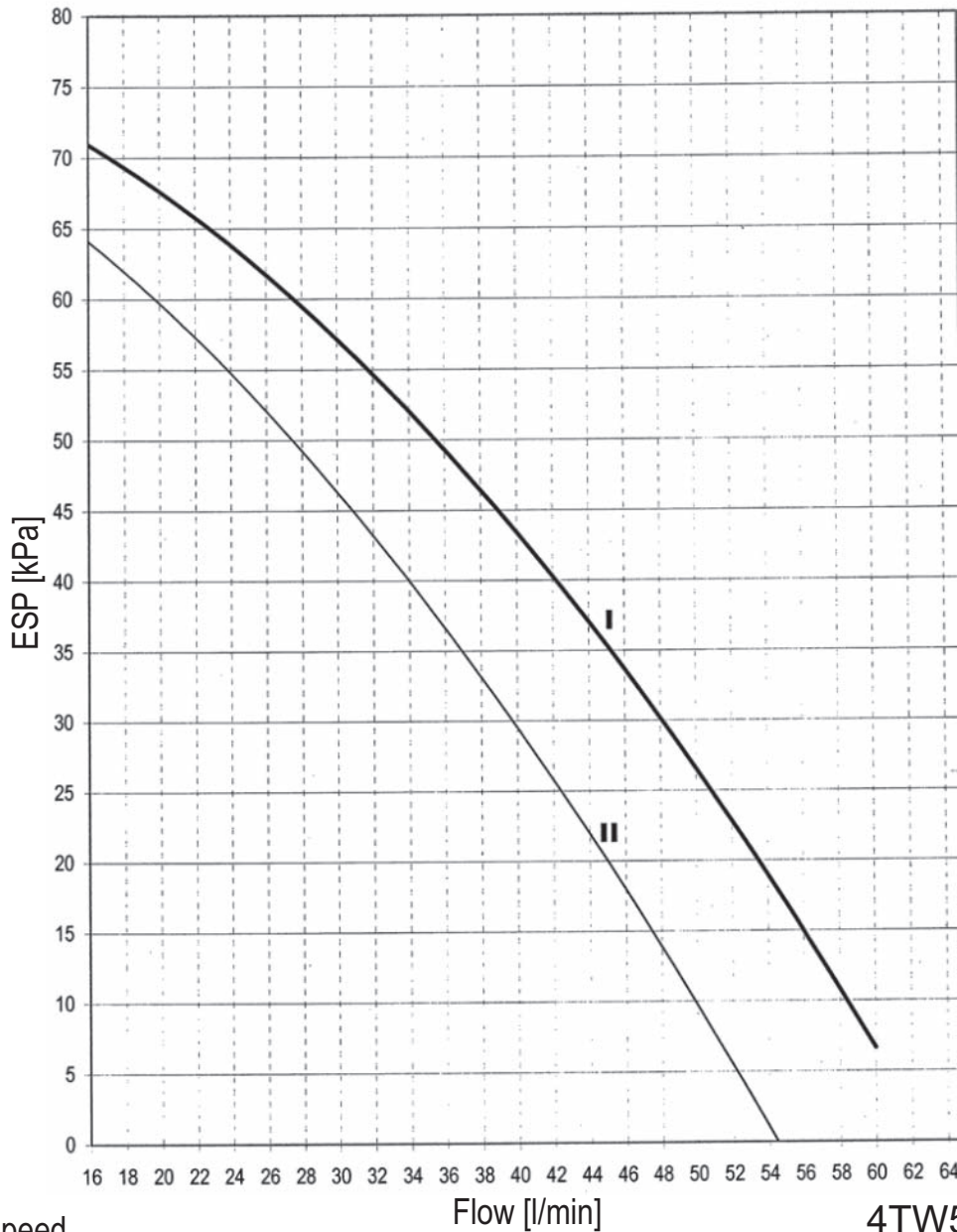
4TW58013-1A

18
10

11 Hydraulic performance

11 - 1 Static pressure drop unit

EBHQ011-016BA6V3



I high speed

II medium speed

ESP: external static pressure

Flow: waterflow through the unit

Caution:

Selecting a flow outside the curves can cause damage to or malfunction of the unit.

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

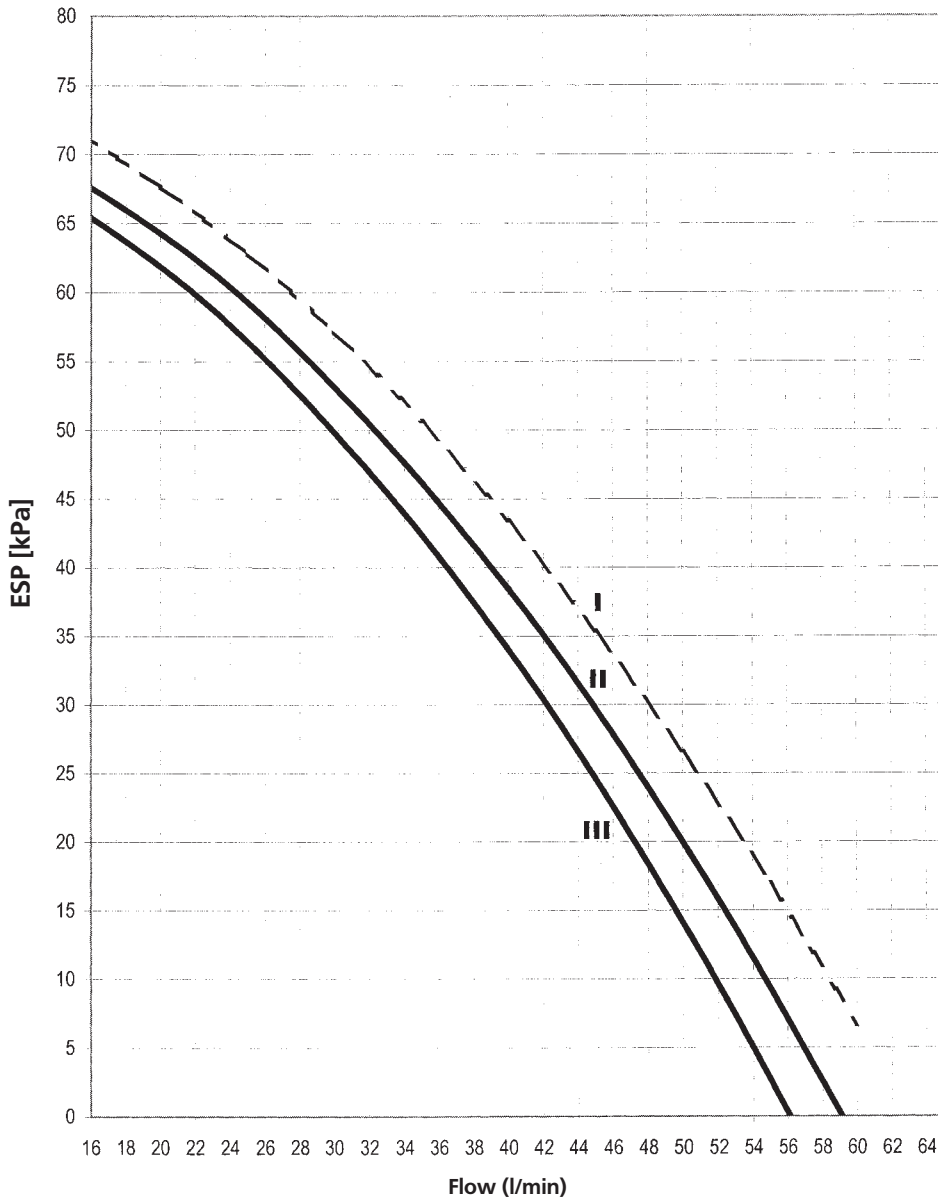
4TW59259-2

11 Hydraulic performance

11 - 1 Static pressure drop unit

18
11

EBHQ-B6V3



- I: Water
- II: Water / Propylene glycol (25%) at 20°C
- III: Water / Propylene glycol (25%) at 5°C

Values only valid for high speed setting

ESP: External static pressure
Flow: waterflow through the unit

Caution:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

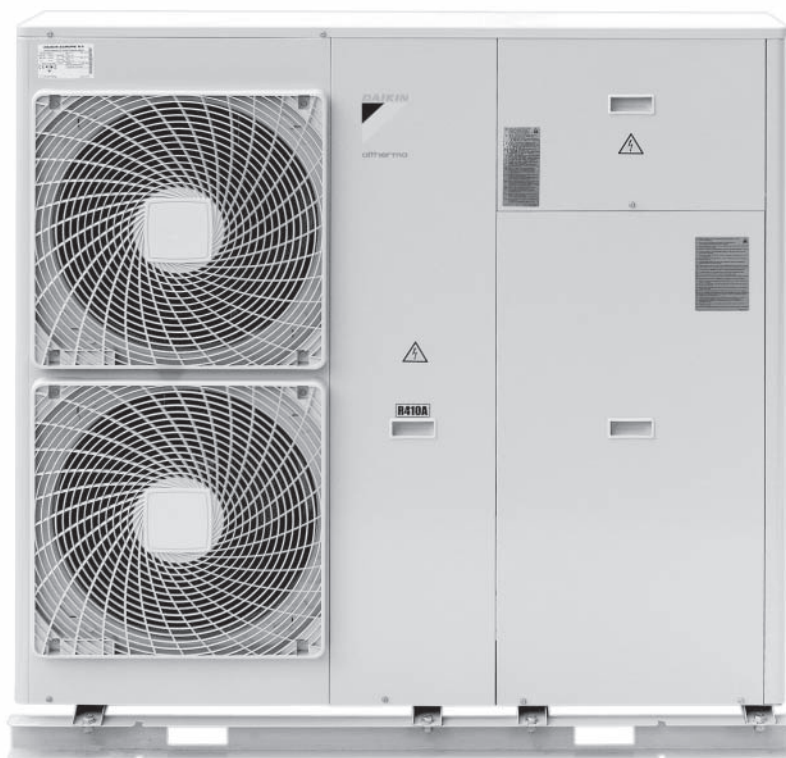
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1 Features

- Reversible monobloc
- H2O piping between outdoor unit and indoor heating appliances
- Freeze protection of hydraulic parts
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



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1

2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				EBHQ011BA6W1	EBHQ014BA6W1	EBHQ016BA6W1
Condition 1	Heating capacity	Nominal	kW	11.20	14.00	16.00
	Cooling capacity	Nominal	kW	12.85	15.99	16.73
	Heating PI	Nominal	kW	2.51	3.22	3.72
	Cooling PI	Nominal	kW	3.78	5.32	6.06
	COP	Nominal		4.46	4.35	4.30
	EER	Nominal		3.39	3.01	2.76
Condition 2	Heating capacity	Nominal	kW	10.87	13.10	15.06
	Cooling capacity	Nominal	kW	10.00	12.50	13.10
	Heating PI	Nominal	kW	3.12	3.98	4.58
	Cooling PI	Nominal	kW	3.60	4.98	5.65
	COP	Nominal		3.48	3.29	3.29
	EER	Nominal		2.78	2.51	2.32
Notes				Condition 1: cooling Ta 35°C - LWE 18°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (Dt=5°C)		
				Condition 2: cooling Ta 35°C - LWE 7°C (Dt=5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)		

2-2 TECHNICAL SPECIFICATIONS				EBHQ011BA6W1	EBHQ014BA6W1	EBHQ016BA6W1
Casing	Colour			Ivory white		
	Material			Painted galvanised steel		
Dimensions	Unit	Height	mm	1,418		
		Width	mm	1,435		
		Depth	mm	382	382	382
	Packing	Height	mm	1,557		
		Width	mm	1,500		
		Depth	mm	430	430	430
Weight	Unit		kg	180	180	180
	Packed unit		kg	200	200	200
Packing	Material			Wood		
				Carton		
				Plastic foil		
	Weight		kg	20	20	20
Operation Range	Heating - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	35	35	35
	Heating - Waterside	Min	°C	15	15	15
		Max	°C	55	55	55
	Cooling - Ambient	Min	°CDB	10	10	10
		Max	°CDB	46	46	46
	Cooling - Waterside	Min	°C	5	5	5
		Max	°C	22	22	22
	Domestic hot water - Ambient	Min	°CDB	-15	-15	-15
		Max	°CDB	43	43	43
Domestic hot water - Waterside	Min	°C	25	25	25	
	Max	°C	80	80	80	
Sound Level (nominal)	Heating	Sound Power	dBA	64	65	66
		Sound Pressure	dBA	49	51	53
	Cooling	Sound Power	dBA	65	66	69
		Sound Pressure	dBA	50	52	54
Sound Level (Night quiet)	Heating	Sound Pressure	dBA	42	42	43
	Cooling	Sound Pressure	dBA	45	45	46
Refrigerant	Type			R-410A		
	Charge		kg	2.95	2.95	2.95
	Control			Electronic expansion valve		
	Nr of Circuits			1	1	1
Refrigerant Oil	Type			Daphne FVC68D		
	Charged Volume		l	1.0	1.0	1.0
Defrost Method				Pressure equalising		
Defrost Control				Sensor for outdoor heat exchanger temperature		
Capacity Control Method				Inverter controlled		

2 Specifications

2-2 TECHNICAL SPECIFICATIONS		EBHQ011BA6W1	EBHQ014BA6W1	EBHQ016BA6W1
Safety Devices	High pressure switch			
	Fan motor thermal protector			
	Fuse			
Notes	The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value depending on the distance and acoustic environment. Refer to sound spectrum drawing for more information.			
	Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)			
	Conditions: Ta 35°C - LWE 7°C (DT = 5°C)			
	15°-25°C: BUH only, no heat pump operation = during commissioning			
	Including piping + PHE + back-up heater / excluding expansion vessel			
	E(D)(B)L* model can reach -20°C / E(D)(B)L*6W1 model can reach -25°C but without capacity guarantee			
	Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load through, extra water volume might be required.			

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2

2-3 MAIN COMPONENTS				EBHQ011BA6W1	EBHQ014BA6W1	EBHQ016BA6W1	
Air heat exchanger	Specifications	Length	mm	857	857	857	
		Nr of Rows		2	2	2	
		Fin pitch	mm	1.4	1.4	1.4	
		Nr of Passes		5	5	5	
		Face area	m ²	1.131	1.131	1.131	
		Nr of Stages		60	60	60	
		Empty tubeplate hole		0	0	0	
		Tube type	Hi-XSS (8)				
	Fin	Type	WF fin				
		Treatment	Anti-corrosion treatment (PE)				
Fan	Type	Propeller					
	Quantity		2	2	2		
	Discharge direction	Horizontal					
	Motor	Quantity		2	2	2	
Model		Brushless DC					
Motor	Speed (nominal)	Steps		8	8	8	
		Heating	rpm	760	760	760	
		Cooling	rpm	780	780	780	
Fan	Motor	Output	W	70	70	70	
		Drive	Direct drive				
Compressor	Quantity		1	1	1		
	Motor	Model	JT1G-VDYR@S				
		Type	Hermetically sealed scroll compressor				
		Motor Output	W	2,200			
	Starting Method	Inverter driven					
Motor	Crankcase Heater	Output	W	33	33	33	
Pump	Type	Water cooled					
	Nr. of speed		2	2	2		
	Nominal ESP unit	Heating	kPa	54.5	43.3	34.0	
		Cooling	kPa	58.7	49.6	47.1	
	Power input		W	210	210	210	
Water side Heat exchanger	Type	Brazed plate					
	Quantity		1	1	1		
	Water volume		l	1.01	1.01	1.01	
	Water flow rate Min.		l/min	16	16	16	
	Water flow rate Nom.	Heating	l/min	32.1	40.1	45.9	
		Cooling	l/min	28.7	35.8	37.6	
	Water flow rate Max.		l/min	58	58	58	
	Insulation material	Polyurethane foam					
Expansion vessel	Volume		l	10	10	10	
	Maximum water pressure		bar	3	3	3	
	Pre pressure		bar	1.0	1.0	1.0	

2 Specifications

2-3 MAIN COMPONENTS			EBHQ011BA6W1	EBHQ014BA6W1	EBHQ016BA6W1
Water filter	Diameter perforations	mm	1	1	1
	Material		Brass		
Water circuit	Piping connections	inch	G5/4 (FEMALE)		
	Piping	inch	5/4"		
	Safety valve	bar	3	3	3
	Manometer		Yes		
	Drain valve / Fill valve		Yes		
	Shut off valve		Yes		
	Air purge valve		Yes		
	Total water volume (6)	l	5.5	5.5	5.5
Minimum water volume system		l	20	20	20

2-4 ELECTRICAL SPECIFICATIONS				EBHQ011BA6W1	EBHQ014BA6W1	EBHQ016BA6W1
Power supply compressor component	Main Power	Name		W1		
		Phase		3N~		
		Frequency	Hz	50	50	50
		Voltage	V	400	400	400
	Voltage range	Minimum	V	-10%		
Maximum		V	+10%			
Current	Nominal running current (RLA)	Heating (A)	A	5.8	5.8	5.8
	Maximum running current	Heating	A	14	14	14
Power supply compressor component	Current	Recommended fuses	A	20	20	20
	Wiring connections	For power supply compressor component		See installation manual		
Power supply hydraulic component	Current back-up heater	Type		6W1		
Current back-up heater	Power Supply	Phase		3~		
		Frequency	Hz	50	50	50
		Voltage	V	400	400	400
	Running Current	Back-up heater	A	8.7	8.7	8.7
Running Current	Back-up heater + booster heater	+EK*V3	A	21.7(8.7+13)		
		+EK*Z2	A	16.2(8.7+7.5)		
Current back-up heater	Minimum Ssc value	+EK*V3	kVa	Equipment complying with EN/IEC 61000-3-12(**)		
		+EK*Z2	kVa	Equipment complying with EN/IEC 61000-3-12(**)		

2 Specifications

2-4 ELECTRICAL SPECIFICATIONS				EBHQ011BA6W1	EBHQ014BA6W1	EBHQ016BA6W1	
Power supply hydraulic component	Voltage range	Minimum	V	-10%			
		Maximum	V				+10%
	Wiring connections	Connection type	For power supply hydraulic compartment				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Connection type	For power supply connection to optional sanitary tank + Q2L				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	For more details on voltage range and current refer to installation manual				
		Connection type	For connection with R5T				
		Quantity of wires	Wire included in option EKHWS*				
		Type of wires	Wire included in option EKHWS*				
		Connection type	For connection with A3P				
		Quantity of wires	Depends on thermostat type, refer to installation manual				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M2S				
		Quantity of wires	3G				
		Type of wires	Select diameter and type according to national and local regulations				
		Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²				
		Connection type	For connection with M3S				
		Quantity of wires	3G or 4G				
	Type of wires	Select diameter and type according to national and local regulations					
	Type of wires	Voltage 230V / Maximum current: 100mA / Minimum 0.75mm ²					
	Notes	Power supply compressor compartment is for compressor, fan, pump and controller					
		In accordance with EN/IEC 61000-3-11 (1), it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys (3) smaller than or equal to Zmax.					
		Installer can reduce capacity of the heater from 6 to 3kW. The current is then reduced from 26 to 13A. Instructions see installation manual.					
Installer can reduce capacity of the heater from 6 to 3.5kW. The current is then reduced from 8.7 to 5A. Instructions see installation manual.							
(1) 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 ≤ 75A.							
(2) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16A =< 75A per phase.							
(3) System impedance							
Power supply hydraulic compartment is for the electric heater. The optional domestic warm water tank has a separate power supply.							
Conditions: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)							

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2

3 Options

EBHQ011-016BA6W1

Kit availability for E(D/B)(H/L)Q011-016BA*

		Altherma Monoblock / Low temperature											
		1-phase						3-phase					
		Zone 2			Zone 3			Zone 2			Zone 3		
		EDLQ***BA6V3			EDHQ***BA6V3			EDLQ***BA6W1			EDHQ***BA6W1		
		EBLQ***BA6V3			EBHQ***BA6V3			EBLQ***BA6W1			EBHQ***BA6W1		
Reference	Description	011	014	016	011	014	016	011	014	016	011	014	016
*KRP1HBB	Digital I/O PCB (1)	○	○	○	○	○	○	○	○	○	○	○	○
*KBPTH16A	Bottom plate heater	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KDK04	Drain plug kit	-	-	-	○(2)	○(2)	○(2)	-	-	-	○(2)	○(2)	○(2)
*KHWS150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU150*3V3	Stainless domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU200*3V3	Stainless domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWSU300*3V3	Stainless domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS200*3Z2	Stainless domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWS300*3Z2	Stainless domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE150*3V3	Enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3V3	Enamel domestic hot water tank 200l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3V3	Enamel domestic hot water tank 300l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE200*3Z2	Enamel domestic hot water tank 200l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWE300*3Z2	Enamel domestic hot water tank 300l 2~400V	○	○	○	○	○	○	○	○	○	○	○	○
*KHWET150*3V3	Wallmounted enamel domestic hot water tank 150l 1~230V	○	○	○	○	○	○	○	○	○	○	○	○
*KSOLHWAV1	Solarkit (4)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTW	Wired room thermostat option kit	○	○	○	○	○	○	○	○	○	○	○	○
*KRTR	Wireless room thermostat option kit (incl. receiver)	○	○	○	○	○	○	○	○	○	○	○	○
*KRTETS	External temperature sensor option kit (3)	○	○	○	○	○	○	○	○	○	○	○	○
*KWBSWW150	Wall bracket for *KHWS(U)150*3V3 or *KSWW150V3*	○	○	○	○	○	○	○	○	○	○	○	○

3TW59259-1

REMARK

- Other combinations are not guaranteed

NOTES

- Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation). In *KSOLHWAV1, the same digital I/O PCB as for *KHRP1HB is already included.
- It is not allowed to combine bottom plate heater and drain plug kit.
- *KRTETS can only be used in combination with *KRTR
- Kit to be mounted on domestic hot water tank that provides connection to solar panels for additional water heating.
- E(B/D)L units include special equipment (insulation, heater sheet,...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(B/D)H models may experience problems with severe ice build up on the aircooled coil. In case such conditions are expected, the e(B/D)L must be installed instead.

3 Options

EBHQ011-016BA6W1

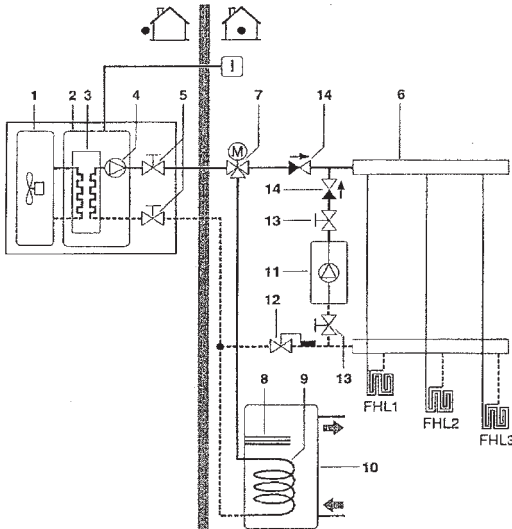
Bivalent system

Space heating with an auxiliary boiler (alternating operation)

Space heating application by either the altherma indoor unit or by an auxiliary boiler connected in the system. An auxiliary contact decides whether either the E(D/B)(H/L)Q* hydro module or the boiler will operate. This auxiliary contact can e.g. be an outdoor temperature thermostat, an electricity tariff contact, a manually operated contact, etc.

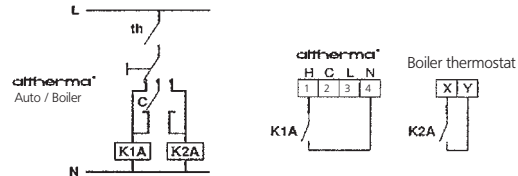
Domestic hot water in such an application is always provided by the domestic hot water tank which is connected to the hydro module, including when the boiler is in operation for space heating.

The auxiliary boiler can be integrated in the pipework and in the field wiring according to the illustrations below.



- 1 Compressor module
- 2 Hydro module
- 3 Heat exchanger
- 4 Pump
- 5 Shut-off valve
- 6 Collector (field supply)
- 7 Motorised 3-way valve (field supply)
- 8 Booster heater
- 9 Heat exchanger coil
- 10 Domestic hot water tank
- 11 Boiler (field supply)
- 12 Aquastat valve (field supply)
- 13 Shut-off valve (field supply)
- 14 Non-return valve (field supply)
- FHL 1..3 Floor heating loop (field supply)
- I User interface

Field wiring



Boiler thermostat

C

th

K1A

K2A

Boiler thermostat

Auxiliary contact (normal closed)

Heating only room thermostat

Auxiliary relay for activation of E(D/B)(H/L)Q * unit

(field supply)

Auxiliary relay for activation of boiler

(field supply)

Operation

When the room thermostat (th) closes, either the E(D/B)(H/L)Q * unit or the boiler starts operating, depending on the position of the auxiliary contact (C)



Make sure that auxiliary contact (C) has sufficient differential or time delay so as to avoid frequent changeover between the E(D/B)(H/L)Q * unit and the boiler. If the auxiliary contact (C) is an outdoor temperature thermostat, make sure to install the thermostat in the shade, so that it is not influenced or turned ON/OFF by the sun. Frequent switching may cause corrosion of the boiler in an early stage. Contact the manufacturer of the boiler.

During heating operation of the E(D/B)(H/L)Q * unit, the Altherma unit will operate so as to achieve the target leaving water temperature as set on the user interface. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature.

During heating operation of the boiler, the boiler will operate so as to achieve the target leaving water temperature as set on the boiler controller. Never set the target leaving water temperature setpoint on the boiler controller above 55°C.

Make sure to only have 1 expansion vessel in the water circuit. An expansion vessel is already premounted in the Altherma unit.



Make sure to configure the DIP switch SS2-3 on the PCB of the E(D/B)(H/L)Q * switch box correctly. Refer to 'Room thermostat installation configuration' in the installation manual supplied with the unit.

Make sure that return water to the E(D/B)(H/L)Q * heat exchanger never exceeds 55°C.

For this reason, never put the target leaving water temperature setpoint on the boiler controller above 55°C and if required, install an aquastat(*) valve in the return water flow of the E(D/B)(H/L)Q* unit. Daikin shall not be held liable for any damage resulting from failure to observe this rule.

(*)The aquastat valve must be set for 55°C and must operate to close the return water flow to the E(D/B)(H/L)Q * unit when the measured temperature exceeds 55°C. When temperature drops to a lower level, the aquastat valve must operate to open the return water flow to the E(D/B)(H/L)Q * unit again.

4 Capacity tables

4 - 1 Heating capacity tables

EBHQ-B6W1

Maximum Heating Capacity (Peak values)

	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	5,86	2,21	5,51	2,42	5,39	2,66	5,25	2,95				
	-15	6,63	2,25	6,23	2,46	6,09	2,71	5,92	3,01	5,68	3,34		
	-7	8,13	2,29	7,66	2,51	7,51	2,77	7,32	3,08	7,03	3,43	6,53	3,81
	-2	9,28	2,29	8,76	2,52	8,61	2,79	8,41	3,11	8,11	3,46	7,55	3,85
	2	10,32	2,29	9,77	2,52	9,62	2,80	9,42	3,12	9,10	3,48	8,51	3,87
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80	
E(D/B)(H/L)Q014*6W1	-20 (a)	7,42	2,79	7,20	3,04	7,00	3,33	5,49	3,68				
	-15	8,29	2,85	8,00	3,11	7,72	3,41	7,60	3,76	7,57	4,16		
	-7	10,07	2,92	9,67	3,19	9,28	3,51	9,08	3,87	8,97	4,28	8,58	4,73
	-2	11,46	2,95	11,00	3,23	10,54	3,55	10,29	3,92	10,15	4,34	9,69	4,80
	2	12,75	2,96	12,23	3,25	11,72	3,57	11,43	3,96	11,27	4,38	10,75	4,84
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77	
E(D/B)(H/L)Q016*6W1	-20 (a)	8,47	3,20	8,34	3,49	8,22	3,83	6,50	4,21				
	-15	9,44	3,28	9,21	3,57	8,99	3,92	8,91	4,31	8,69	4,75		
	-7	11,44	3,37	11,08	3,67	10,73	4,03	10,53	4,43	10,17	4,90	9,81	5,41
	-2	13,01	3,41	12,58	3,72	12,14	4,09	11,89	4,50	11,43	4,97	11,00	5,49
	2	14,48	3,43	13,98	3,75	13,48	4,12	13,18	4,54	12,65	5,01	12,15	5,54
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49	

Maximum Heating Capacity (integrated values)

	LWC [°C]	30		35		40		45		50		55	
		T _{amb} [°C]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]	PI [kW]	HC [kW]
E(D/B)(H/L)Q011*6W1	-20 (a)	4,96	2,16	4,67	2,37	4,57	2,60	4,45	2,89				
	-15	5,61	2,20	5,27	2,41	5,16	2,66	5,01	2,95	4,81	3,27		
	-7	6,88	2,24	6,49	2,46	6,36	2,72	6,19	3,02	5,95	3,35	5,53	3,73
	-2	7,70	2,20	7,27	2,42	7,15	2,68	6,98	2,98	6,73	3,32	6,27	3,70
	2	8,57	2,19	8,11	2,42	7,99	2,69	7,82	3,00	7,56	3,34	7,06	3,72
	7	11,80	2,27	11,20	2,51	11,06	2,79	10,87	3,12	10,53	3,49	9,88	3,89
	12	12,80	2,20	12,18	2,45	12,07	2,73	11,89	3,06	11,57	3,43	10,89	3,83
	15	13,84	2,17	13,20	2,42	13,10	2,71	12,93	3,05	12,60	3,42	11,89	3,82
20	15,73	2,11	15,04	2,37	14,97	2,67	14,82	3,01	14,07	3,39	13,32	3,80	
E(D/B)(H/L)Q014*6W1	-20 (a)	6,31	2,70	6,13	2,94	5,96	3,23	4,67	3,56				
	-15	7,05	2,76	6,80	3,01	6,57	3,30	6,46	3,64	6,44	4,02		
	-7	8,57	2,83	8,23	3,09	7,89	3,40	7,72	3,75	7,63	4,14	7,30	4,58
	-2	9,11	2,67	8,74	2,92	8,38	3,21	8,18	3,55	8,07	3,93	7,70	4,34
	2	10,13	2,68	9,72	2,94	9,31	3,24	9,09	3,58	8,96	3,96	8,55	4,38
	7	14,59	2,96	14,00	3,22	13,42	3,59	13,10	3,98	12,91	4,41	12,31	4,88
	12	15,44	2,87	14,84	3,16	14,23	3,49	13,91	3,87	13,72	4,30	13,09	4,76
	15	16,73	2,86	16,09	3,15	15,45	3,49	15,10	3,87	14,90	4,30	14,23	4,77
20	19,09	2,82	18,38	3,13	17,67	3,47	17,30	3,86	16,60	4,30	15,87	4,77	
E(D/B)(H/L)Q016*6W1	-20 (a)	7,00	3,11	6,89	3,39	6,79	3,71	5,37	4,08				
	-15	7,80	3,18	7,61	3,46	7,43	3,80	7,37	4,18	7,18	4,61		
	-7	9,45	3,26	9,15	3,56	8,86	3,91	8,70	4,30	8,40	4,75	8,11	5,25
	-2	9,96	3,03	9,62	3,31	9,29	3,64	9,09	4,00	8,75	4,42	8,41	4,88
	2	11,08	3,05	10,69	3,34	10,31	3,67	10,08	4,04	9,68	4,46	9,29	4,93
	7	16,58	3,45	16,00	3,72	15,42	4,16	15,06	4,58	14,45	5,06	13,86	5,59
	12	17,29	3,35	16,69	3,68	16,08	4,05	15,71	4,47	15,07	4,94	14,44	5,46
	15	18,75	3,35	18,10	3,68	17,45	4,06	17,05	4,47	16,36	4,95	15,68	5,48
20	21,42	3,33	20,70	3,67	19,98	4,05	19,53	4,48	18,74	4,96	17,98	5,49	

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SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condenser temperature (°C)
- Tamb : Ambient temperature RH=85%

Heating capacity at heat recovery condenser

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3-8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

NOTES:

- For the model with heatertape *(D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
 - 1) For AA models: 'X' = 4°C
 - 2) For BA models: 'X' = [F-02] = BPH ON temp for more details see installationmanual of indoor unit.

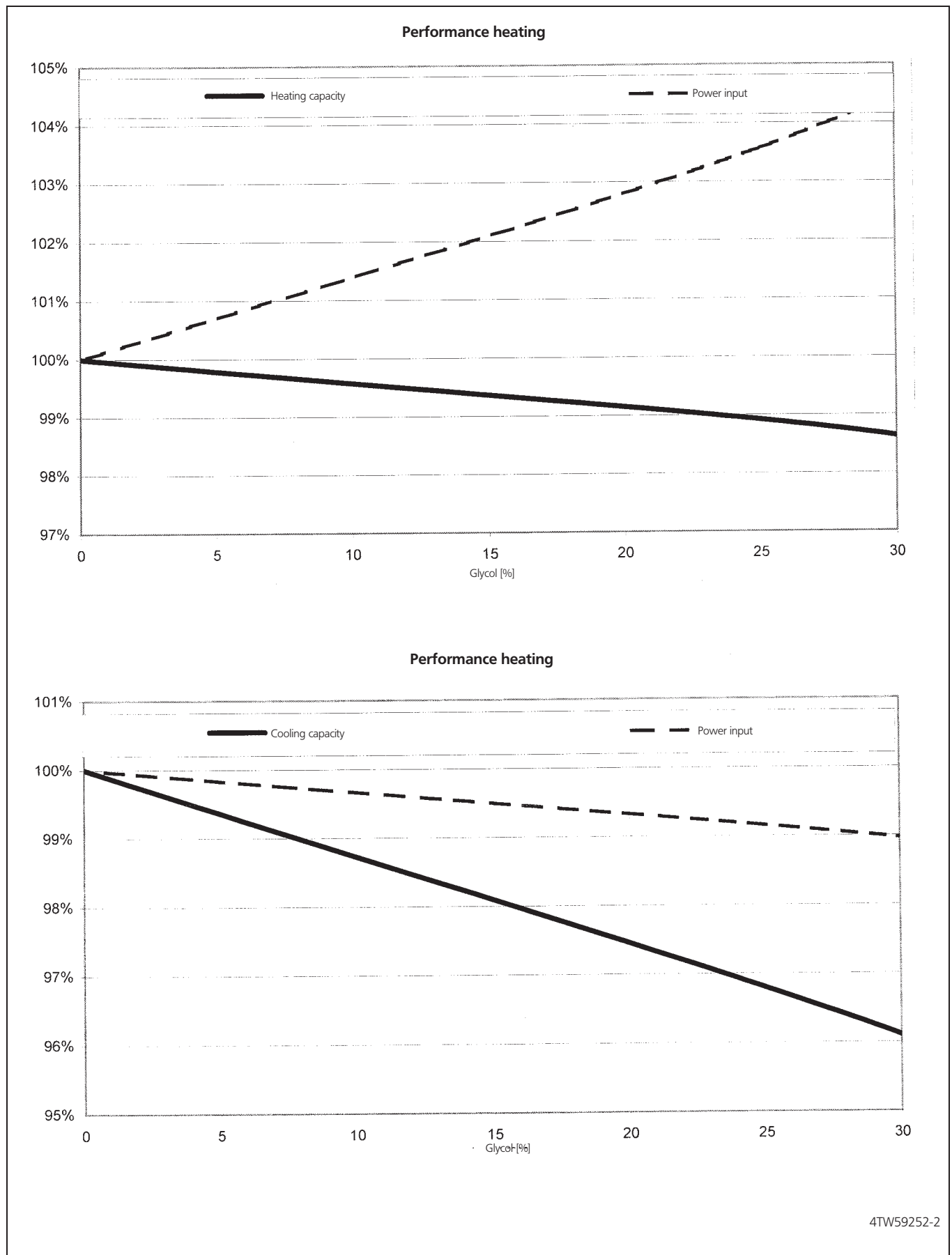
NOTES

- (a) only E(D/B)L*

4 Capacity tables

4 - 1 Heating capacity tables

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4



4 Capacity tables

4 - 2 Cooling capacity tables

EBHQ-B6W1													
Maximum Cooling Capacity													
	T _{amb} [°C]	20		25		30		35		40		45	
	LWE [°C]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]	CC [kW]	PI [kW]
EB(H/L)Q011*6W1	7	11.08	2,70	10.99	2,97	10,62	3,26	10,00	3,60	9,16	3,97	8,14	4,38
	10	11,77	2,73	11,66	3,00	11,27	3,31	10,61	3,65	9,73	4,03	8,65	4,44
	13	12,93	2,76	12,81	3,04	12,38	3,35	11,66	3,70	10,70	4,08	9,39	4,65
	15	13,74	2,78	13,61	3,06	13,15	3,38	12,39	3,73	11,37	4,12	9,73	4,54
	18	15,17	2,81	14,66	3,10	13,87	3,42	12,85	3,78	11,61	4,18	9,85	4,18
	22	16,92	2,85	16,36	3,15	15,49	3,48	14,36	3,85	13,00	4,26	10,32	3,73
EB(H/L)Q014*6W1	7	13,87	3,78	13,75	4,12	13,29	4,52	12,50	4,98	11,08	4,78	9,81	5,27
	10	14,92	3,84	14,79	4,20	14,28	4,61	13,43	5,07	11,92	4,86	10,56	5,35
	13	16,38	3,90	16,23	4,27	15,68	4,69	14,75	5,16	13,09	4,94	10,95	5,43
	15	17,39	3,95	17,23	4,32	16,64	4,75	15,66	5,22	13,91	5,00	11,35	5,30
	18	18,92	4,02	18,28	4,40	17,29	4,83	15,99	5,32	13,99	5,09	11,49	4,89
	22	21,07	4,11	20,37	4,51	19,28	4,95	17,85	5,44	15,65	5,21	12,05	4,36
EB(H/L)Q016*6W1	7	14,52	4,30	14,44	4,70	13,95	5,15	13,10	5,65	11,57	5,39	9,84	5,28
	10	15,65	4,39	15,53	4,80	14,99	5,26	14,07	5,76	12,43	5,49	10,59	5,37
	13	17,19	4,48	17,05	4,90	16,45	5,36	15,44	5,87	13,64	5,59	10,98	5,45
	15	18,26	4,54	18,09	4,97	17,46	5,43	16,39	5,95	14,49	5,66	11,38	5,32
	18	19,87	4,64	19,20	5,07	18,14	5,54	16,73	6,06	14,57	5,76	11,52	4,91
	22	22,14	4,77	21,39	5,21	20,21	5,70	18,66	6,22	16,28	5,91	12,08	4,38

3TW58012-1C

SYMBOLS

- CC : Cooling capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- HC : Heating capacity at maximum operating frequency, measured acc. Eurovent 6/C/003-2006 (kW)
- PI : Power input (kW), measured acc. Eurovent 6/C/003-2006 (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- LWC : Leaving Water Condensor temperature (°C)
- Tamb : Ambient temperature RH=85%

NOTES

- (a) only E(D/B)L*

Heating capacity at heat recovery condenser

- 1 **Cooling capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
Capacity values may not be extrapolated below 7°C leaving water temperature
- 2 **Heating capacity**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3–8°C
- 3 **Power input**
Power input is total of indoor and outdoor unit, except the circulation pump; according to Eurovent rating standard 6/C/003-2006.
Pump power input to be added = 90 W (according EN14511).

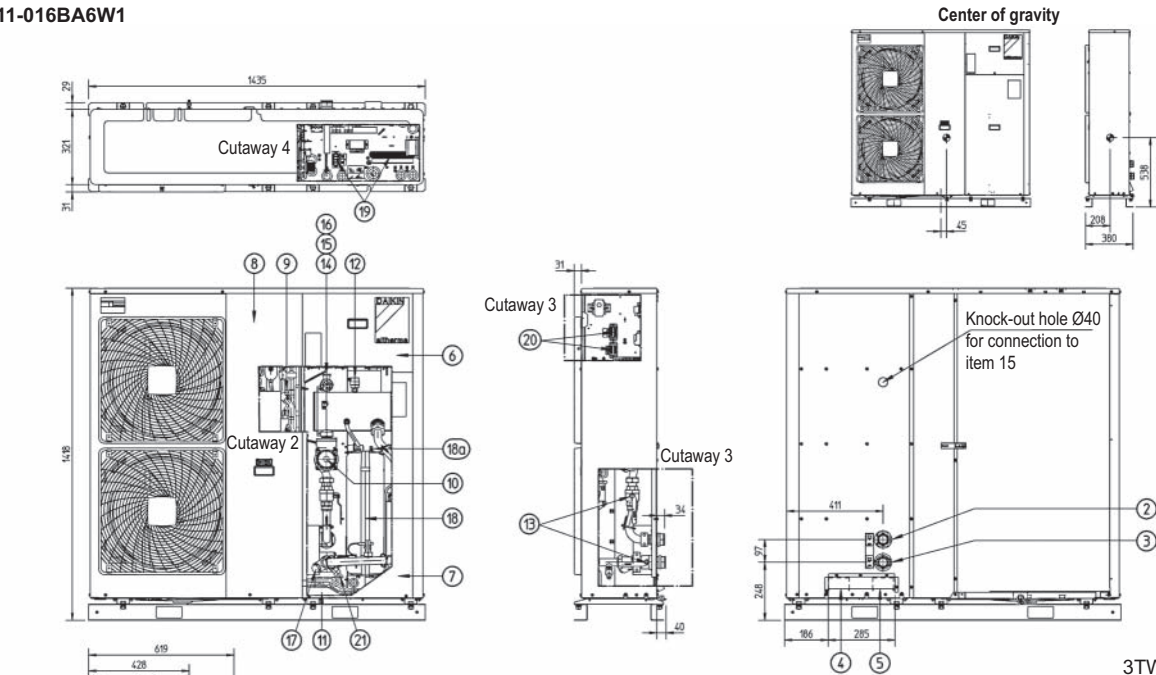
NOTES:

- For the model with heatertape (*D:V)LQ): when ambient temperature becomes lower than 'X': bottomplate heater power input to be added = 95W
 - 1) For AA models: 'X' = 4°C
 - 2) For BA models: 'X' = [F-02] = BPH ON temp for more details see installation manual of indoor unit.

5 Dimensional drawing & centre of gravity

5 - 1 Dimensional drawing

EBHQ011-016BA6W1



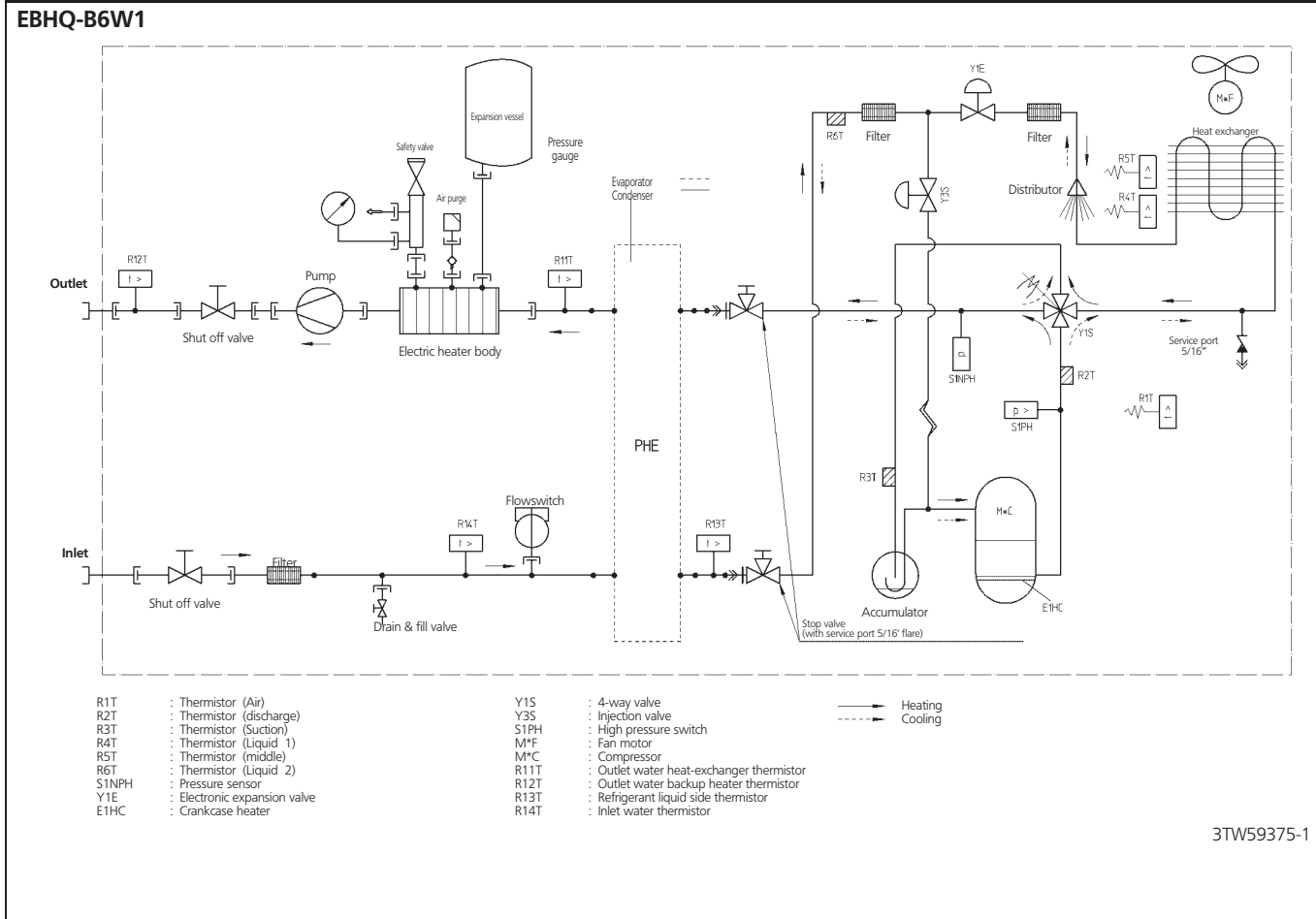
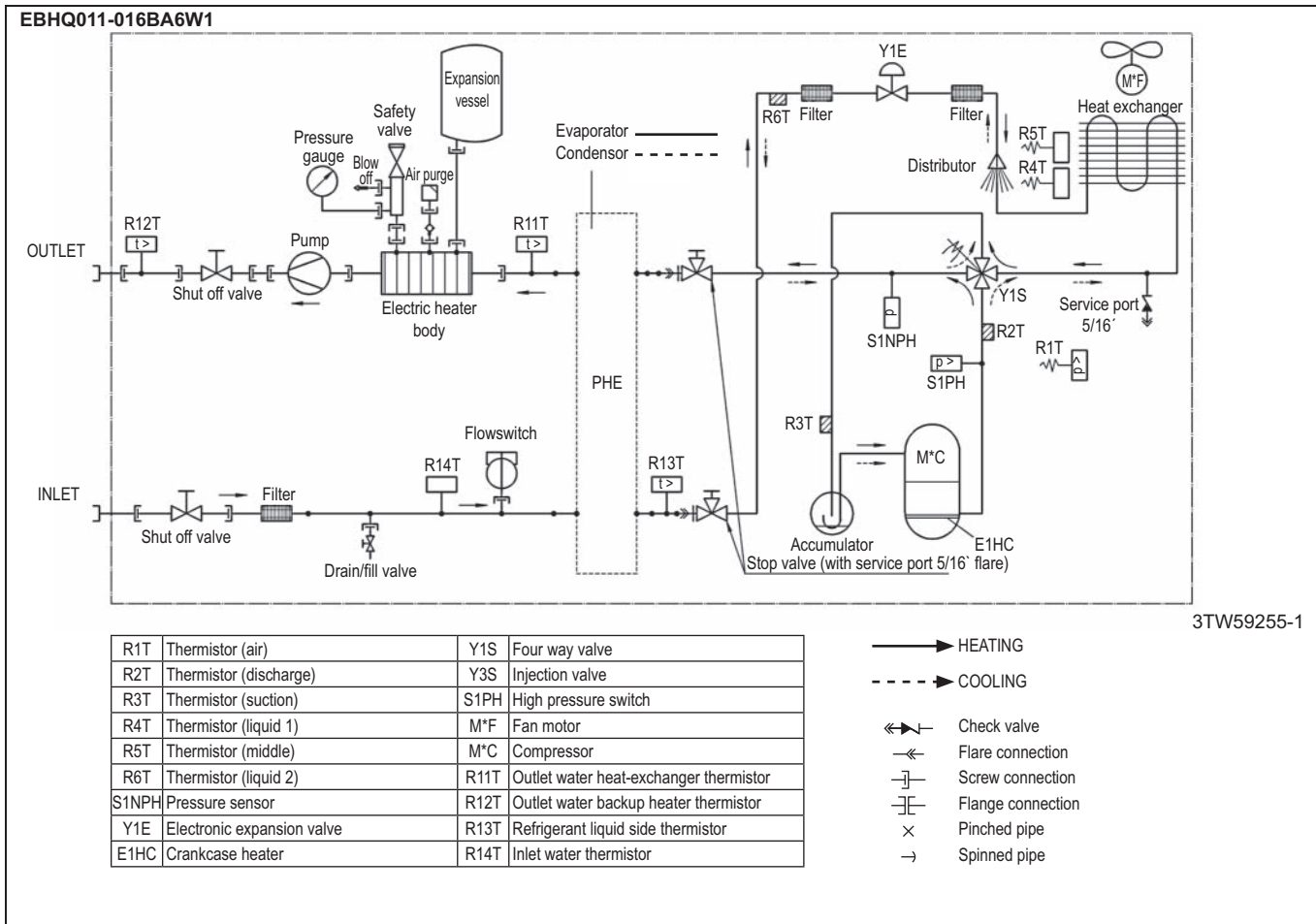
3TW59254-1A

Nr	Name	Nr	Name	Nr	Name
☉	Center of gravity	8	Service door compressor module	16	Pressure gauge
1	Drain outlet	9	Service port	17	Waterfilter
2	Waterpiping outlet	10	Pump	18	Expansion vessel + (18a) nipple
3	Waterpiping inlet	11	Remoon kit (to be installed indoors)	19	Switchbox terminals
4	Entry low voltage cables (<30V)	12	Air purge	20	Switchbox terminals option sanitary warm water tank
5	Entry power cables	13	Shot-off valve		
6	Service door switchbox	14	Blow-off valve	21	Drain & fill valve
7	Service door hydraulic module	15	Blow-off drain		

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6 Piping diagram

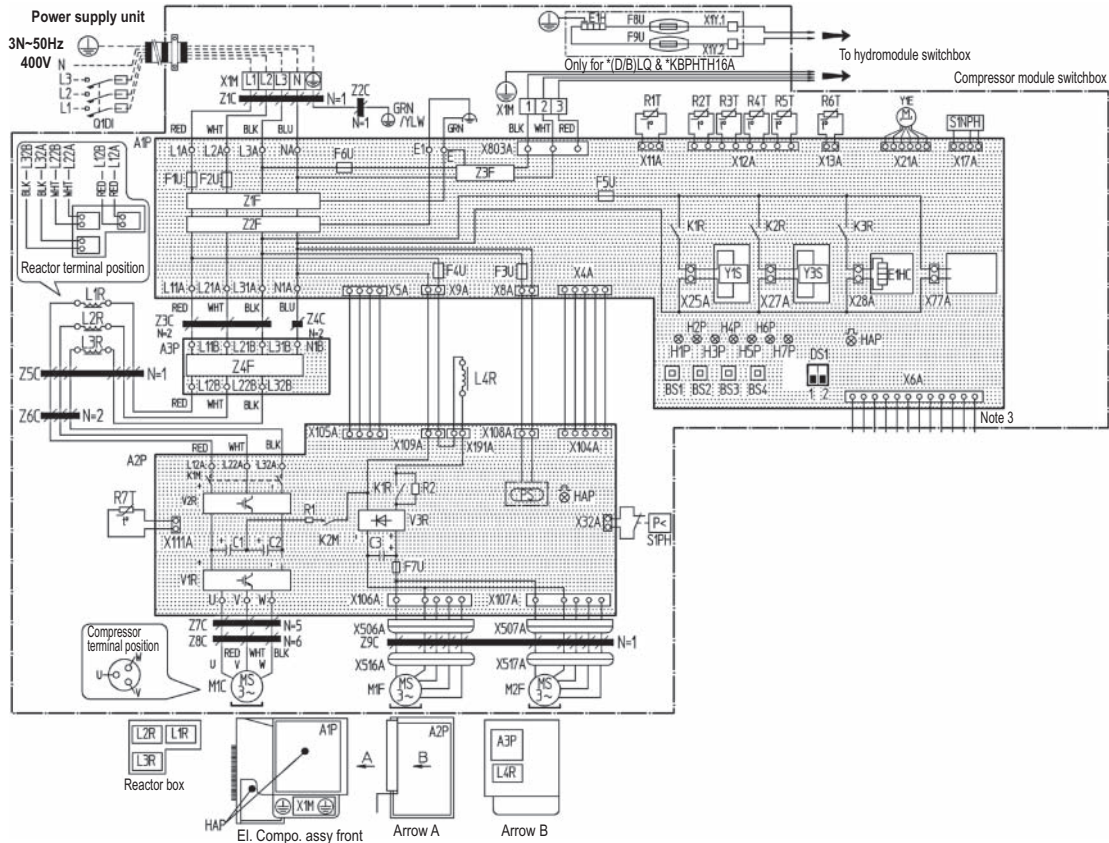
6 - 1 Piping diagram



7 Wiring diagram

7 - 1 Wiring diagram

EBHQ011-016BA6W1



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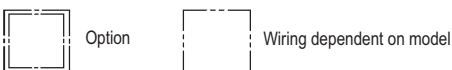
A1P	Printed circuit board	H1P~7P (A1P)	Pilot lamp (service monitor-orange)	R6T	Thermistor (liquid)
A2P	Printed circuit board (inv.)	K1M - K2M	Magnetic contactor	R7T	Thermistor (fin)
A3P	Printed circuit board (noise filter)	K1R (A1P)	Magnetic relay (Y1S)	S1NPH	Pressure sensor
BS1-BS4	Push button switch	K1R (A2P)	Magnetic relay (Y2S)	S1PH	Pressure switch (high)
C1-C4	Capacitor	K2R (A1P)	Magnetic relay (Y2S)	V1R, V2R	Power module
DS1	DIP Switch	K3R (A1P)	Magnetic relay (E1HC)	V3R	Diode module
E1HC	Crankcase heater	L1R ~ L3R	Reactor	X1M	Terminal strip
E1H	Bottomplate heater	L4R	Reactor (for outdoor fan motor)	Y1E	Electronic expansion valve
F1U	Fuse (31.5A 250V)	M1C	Motor (compressor)	Y1S	Solenoid valve (4 way valve)
F2U	Fuse (31.5A 250V)	M1F	Motor (fan) (upper)	Y3S	Solenoid valve
F3U	Fuse (T 6.3A / 250V)	M2F	Motor (fan) (lower)	Z1C ~ Z9C	Noise filter
F4U	Fuse (T 6.3A / 250V)	PS	Switching power supply	Z1F ~ Z4F	Noise filter
F5U	Fuse (T 6.3A / 250V)	R1 ~ R4	Resistor	Q1DI	Earth leakage circuit breaker
F6U	Fuse (T 6.3A / 250V)	R1T	Thermistor (air)	OPTIONAL CONNECTOR	
F7U	Fuse (T 5.0A / 250V)	R2T	Thermistor (discharge)	XBZ	Connector
F8U, F9U	Fuse (F 1.0A / 250V)	R3T	Thermistor (suction)	X77A	Connector
HAP (A1P)	Pilot lamp (service monitor-green)	R4T	Thermistor (heat exchanger)	X1Y	Connector
HAP (A2P)	Pilot lamp (service monitor-green)	R5T	Thermistor (heat exchanger middle)		

	: Terminal strip		: Connection	Colors: BLU	: Blue	WHT	: White
	: Connector		: Noiseless earth	BRN	: Brown	YLV	: Yellow
	: Field wiring		: Terminal	GRN	: Green	ORG	: Orange
	: Protective earth (screw)		: Connector	RED	: RED	BLK	: Black

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NOTES

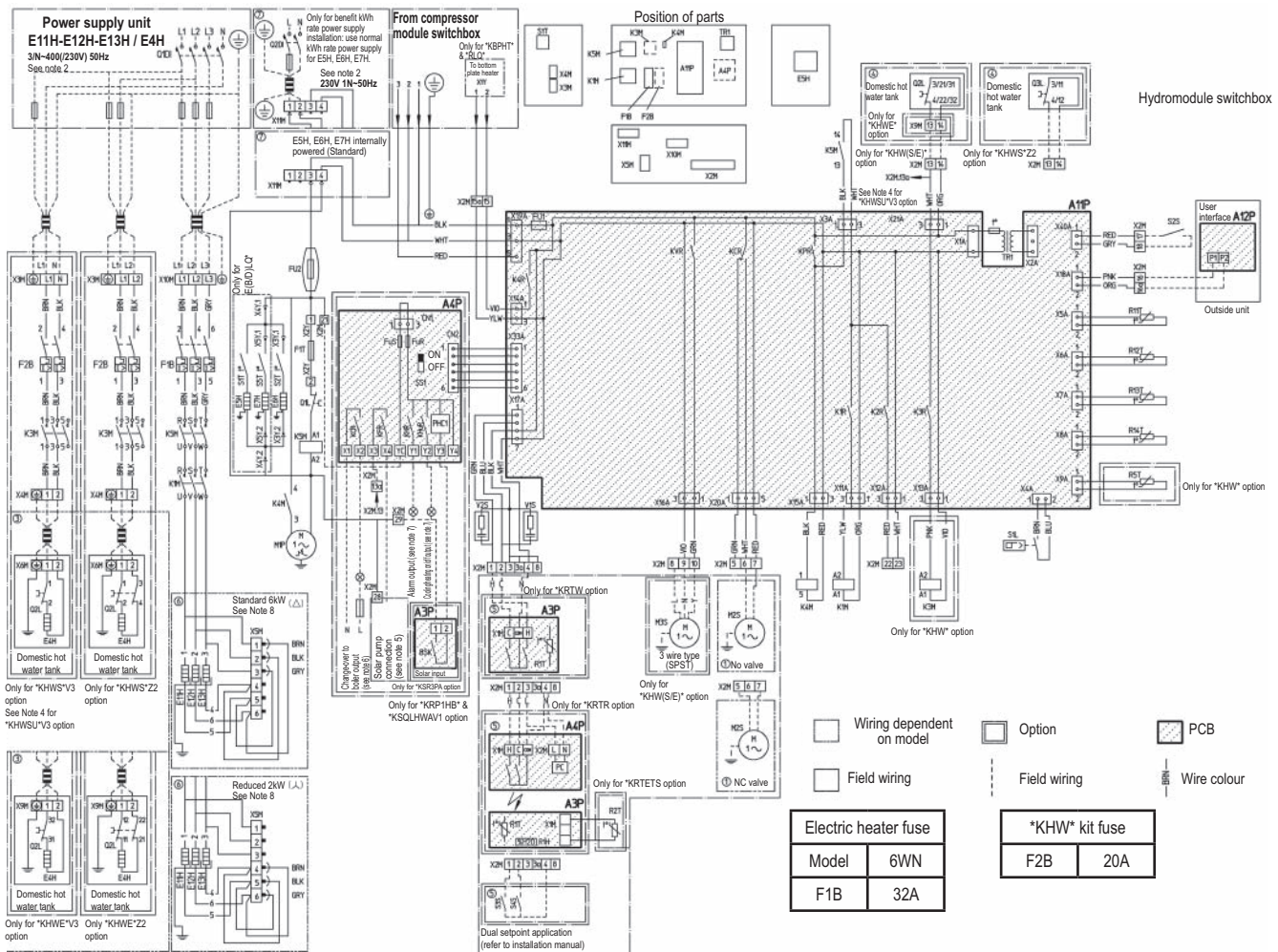
- This wiring diagram only applies to the compressor module switchbox.
- L: Live, N: Neutral
- Not applicable
- Do not operate the unit by short-circuiting protection device S1PH
- Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".



7 Wiring diagram

7 - 1 Wiring diagram

EBHQ011-016BA6W1



A11P	Main PCB	K1M	Contact backup heater step	R13T	Refrigerant liquid side thermistor
A12P	User interface PCB	K3M	Contact backup heater	R14T	Inlet water thermistor
A3P (*KRTW/R*)	Thermostat (PC=power circuit)	K4M	Pump relay	R5T (*KHW*)	Domestic hot water thermistor
A4P (EKRP1HB)	Digital I/O PCB	K5M	Contact for backup heater all pole disconnection	S1L	Flowswitch
A4P (*KRTR)	Receiver PCB	M1P	Pump	S2S	Benefit kWh rate power supply contact
E11H-E12H-E13H	Backup heater element 1-2-3 (6kW)	M2S	2way valve for cooling mode	S3S	Dual setpoint 2 contact
E4H	Booster heater (3kW)	M3S	3way valve: floorheating/domestic hot water	S4S	Dual setpoint 1 contact
E5H	Switchbox heater	PHC1	Optocoupler input circuit	SS1	Dip switch
E6H	Expansion vessel heater	Q1DI, Q2DI	Earth leakage circuit breaker	S1T	Thermostat switchbox heater
E7H	Plate heat exchanger heater	Q1L	Thermal protector backup heater	S2T	Thermostat expansion vessel heater
F1B	Fuse backup heater	Q2L, Q3L	Thermal protector 1/2 booster heater	S3T	Thermostat plate heat exchanger
F1T	Thermal fuse backup heater	R1H (*KRTR)	Humidity sensor	TR1	Transformer 24V for PCB
F2B	Fuse booster heater	R1T (*KRTW/R*)	Ambient sensor	V1S, V2S	Spark suppression 1,2
FU1	Fuse 3.15A T 250V for PCB	R2T (EKRTETS)	External sensor (floor or ambient)	X1M-X11M, X2Y	Terminal strips, connector
FU2	Fuse 5A T 250V	R11T	Outlet water heat exchanger thermistor		
FuS, FuR	Fuse 5A 250V for digital I/O PCB	R12T	Outlet water backup heater thermistor		

 : Terminal strip : Terminal Colors: BLK : Black YLW : Yellow GRN : Green
 : Connector NO/NC: normal open/normal closed RED : RED PNK : Pink ORG : Orange
 : Field wiring SPST: Single pole single throw BLU : Blue BRN : Brown VIO : Violet
 : Protective earth WHT : White GRY : Grey

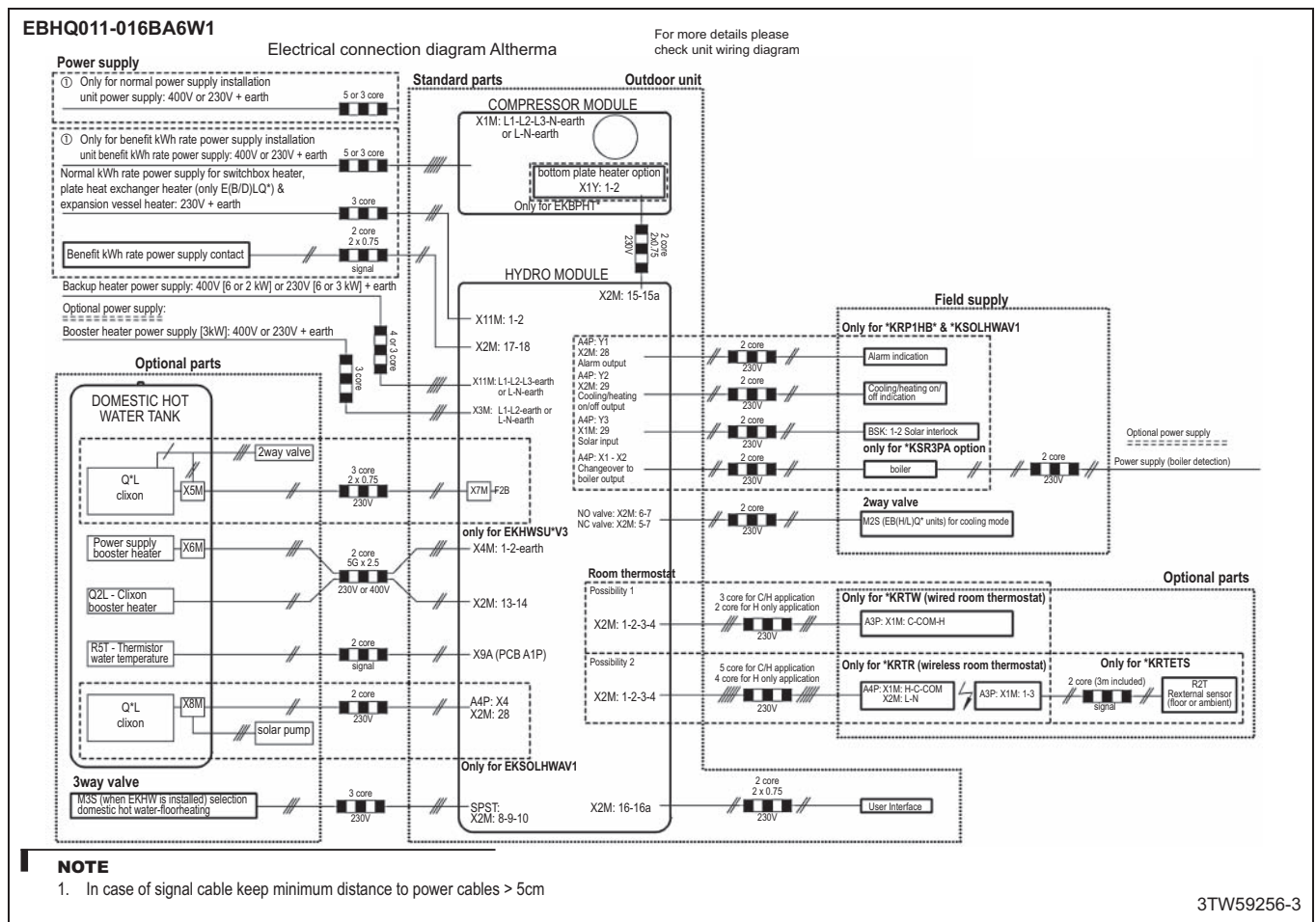
2TW59376-2

NOTES

- This wiring diagram only applies to the hydromodule switchbox.
- Use a dedicated power circuit for the backup heater and booster heater. Never use a power circuit shared by another appliance.
- Do not operate the unit by short-circuiting any protection device.
- For *KHWSU*V3, refer to option manual.
- For *KSOLHWAV1, refer to option manual.
- Maximum load: 0,3A - 250VAC Minimum load: 20mA - 5VDC
- 230 VAC output Maximum load: 0.3A
- Backupheater KW reduction, refer to installation manual.
- For benefit kWh rate power supply installation, refer to installation manual.

7 Wiring diagram

7 - 2 External connection diagram

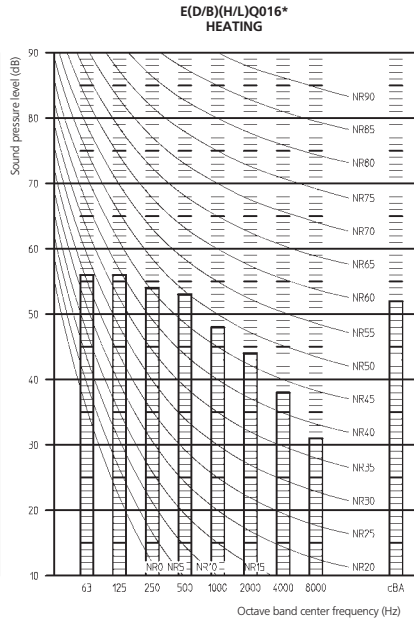
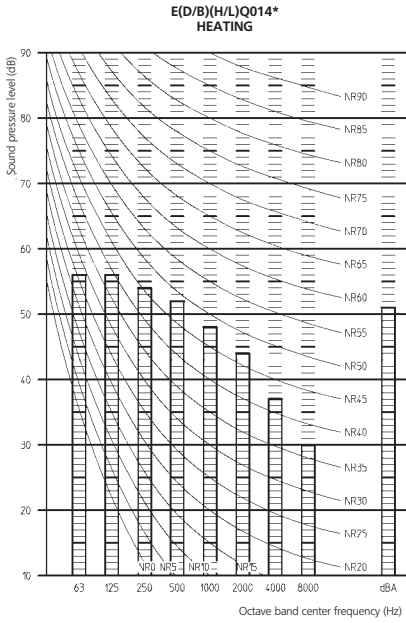
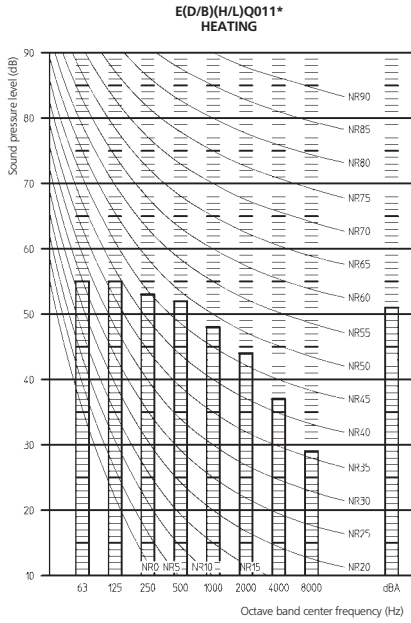


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8 Sound data

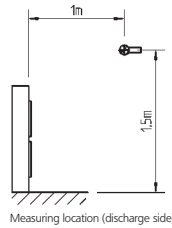
8 - 1 Sound pressure spectrum

EBHQ011-016BA6W1



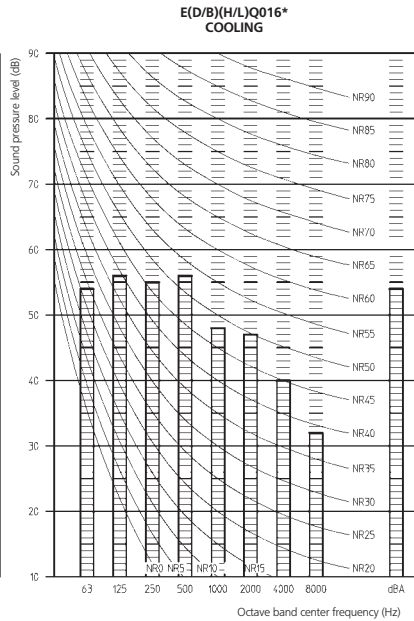
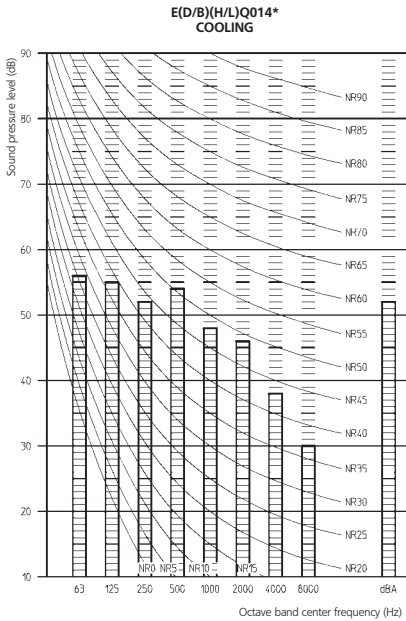
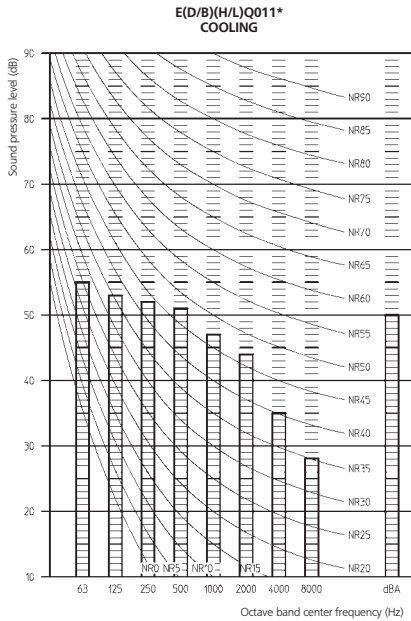
Notes:

- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20μPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



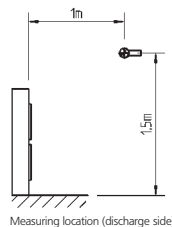
3TW58017-2

EBHQ011-016BA6W1



Notes:

- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20μPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

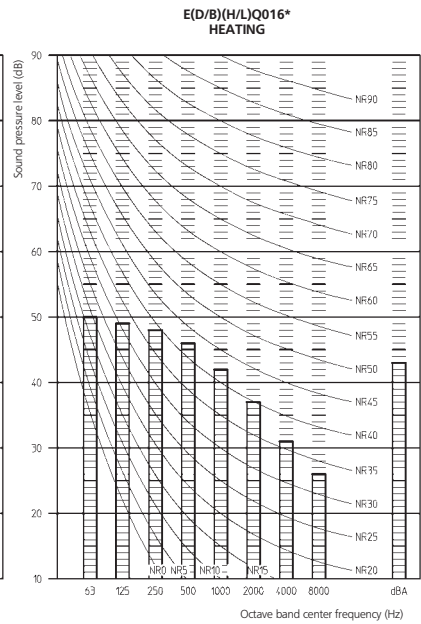
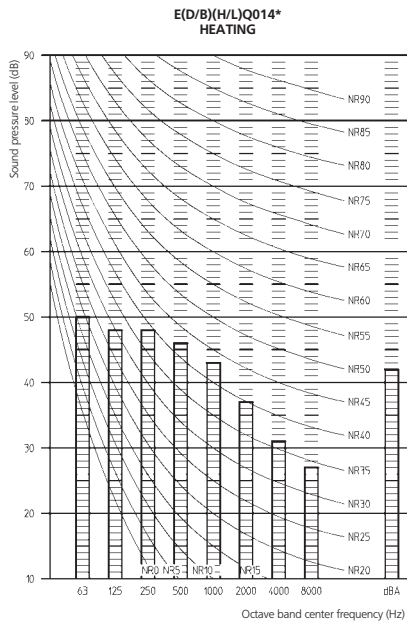
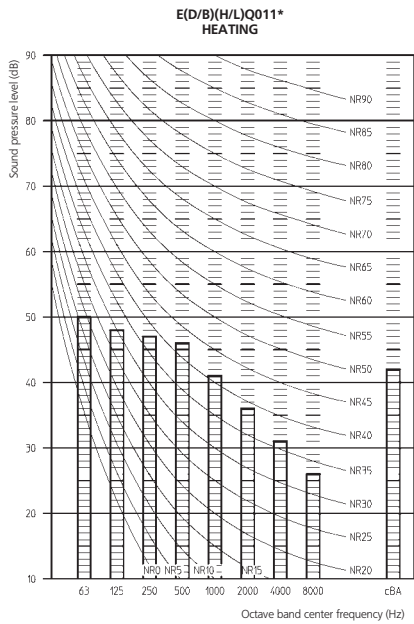


3TW58017-1

8 Sound data

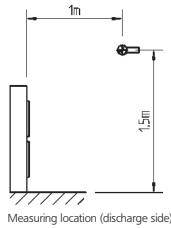
8 - 2 Sound pressure night quiet mode

EBHQ011-016BA6W1



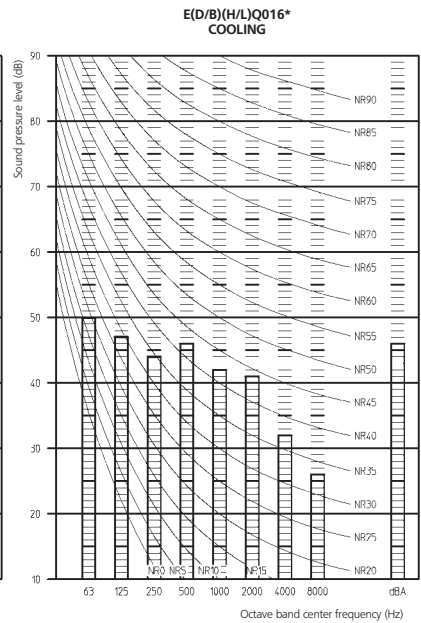
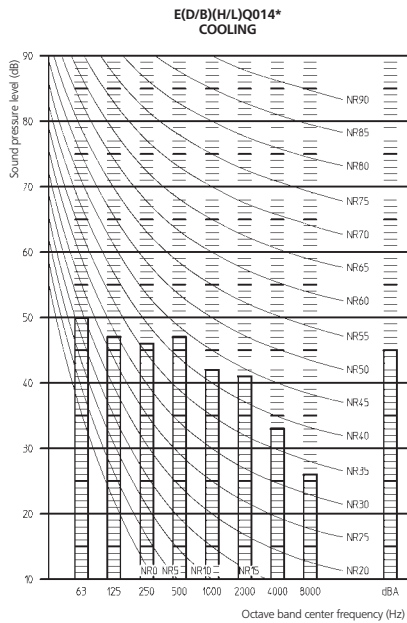
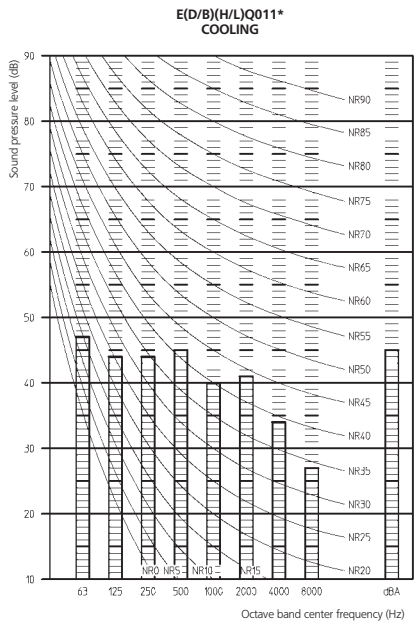
Notes:

- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20μPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



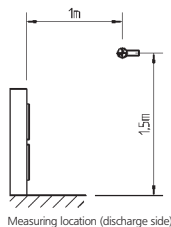
3TW58017-4

EBHQ011-016BA6W1



Notes:

- 1 Data is valid at free field condition (measured in a semi-anechoic room)
- 2 dBA = A-weighted sound power level (A-scale according to IEC)
- 3 Reference acoustic pressure 0dB = 20μPa
- 4 If sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



3TW58017-3

9 Installation

9 - 1 Service space

EBHQ011-016BA6W1

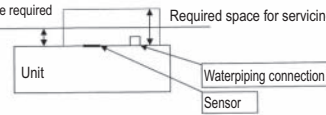
A. Non stacked installation

		A	B1	B2	C	D1	D2	E	L1/L2
	✓	≥100							
	✓	≥100	≥100	≥100				≥500	≥1000
	✓	≥150	≥150	≥150				≥500	≥1000
	✓	≥150	≥150	≥150	≥500			≥500	≥1000
	✓	L1<L2	≥100	≤500				≥1000	
	✓	L2<L1	≥100					≥1000	
	✓	L1<L2	L1SH	≥150	≤500	≥750	≥1000	≥1000	0<L1≤1/2H 0<L1≤1/2H
	✓	L2<L1	L2SH	≥100		≥500	≥500	≥1000	0<L2≤1/2H 1/2H<L2≤H
	✓	L1<L2	L1SH	≥200	≥300	≥1000		≥500	≥1000
	✓	L2<L1	L2SH	≥200	≥300	≥1000		≥500	≥1000
	✓	L1<L2	L1SH	≥200	≥300	≥1000		≥500	≥1000
	✓	L2<L1	L2SH	≥250	≥300	≥1000		≥500	≥1000
	✓	L1<L2	L1SH	≥200	≥300	≥1000		≥500	≥1000
	✓	L2<L1	L2SH	≥250	≥300	≥1000		≥500	≥1000

- ☒ Suction side obstacle
 - ☒ Discharge side obstacle
 - ☒ Left side obstacle
 - ☒ Right side obstacle
 - ☒ Top side obstacle
 - ☒ Obstacle is present
- ☒ This situation is not allowed

NOTES

100 mm is min. space required for correct operation

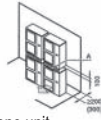
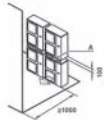


- In these cases, close bottom of the installation frame to prevent discharged air from being bypassed.
- In these cases, only 2 units can be installed.

B. Stacked installation

1. Obstacles exist in front on the outlet side

2. Obstacles exist in front of the air inlet

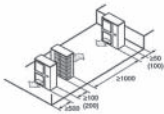


Do not stack more than one unit.

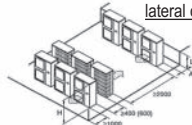
About 100 mm is required as the dimension for laying the upper outdoor unit's drain pipe. Get the portion A sealed so that air from the outlet does not bypass.

C. Multiple-row installation

1. Installation of one unit per row



2. Installing multiple units (2 units or more) in lateral connection per row



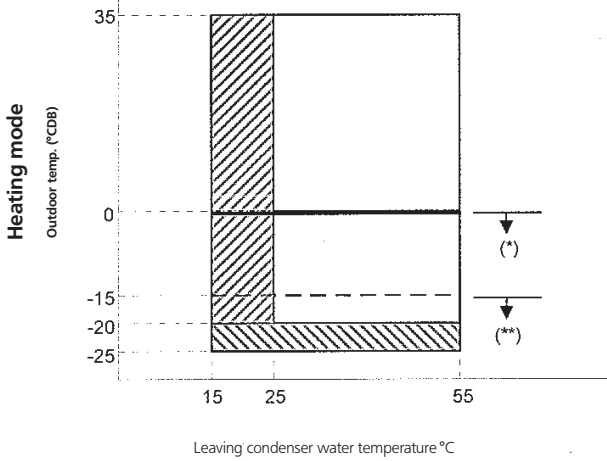
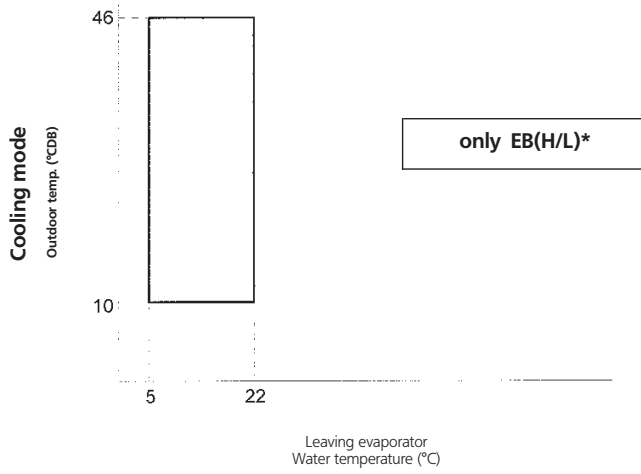
Relation of dimensions of H, A and L are shown in the table below.

L ≤ H	L	A
	0 < L ≤ 1/2H	250
1/2H < L	300	
H < L	Installation not allowed	

3TW58019-6A

10 Operation range

EBHQ011-016BA6W1

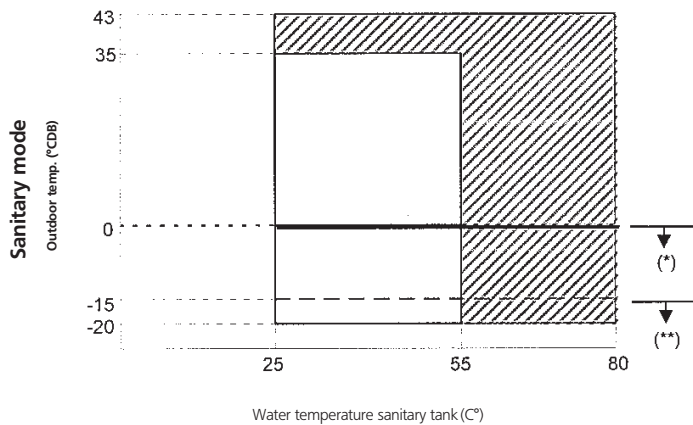


- No heat pump operation, back up heater only
- operation possible, but no guarantee of capacity

(*) E(D/B)L* units include special equipment (insulation, heater sheet, ...) to ensure good operation in areas where low ambient temperature can occur together with high humidity conditions. In such conditions the E(D/B)H* models may experience problems with severe ice build-up on the aircooled coil. In case such conditions are expected, the E(D/B)L* must be installed instead.

Both E(D/B)L* and E(D/B)H* models have a freeze prevention function using the pump and back up heater to keep the water system safe from freezing in all conditions. In case accidental or intentional power shutdown is likely to happen we recommend to use glycol.

(**) only E(D/B)L*



- Booster heater operation only

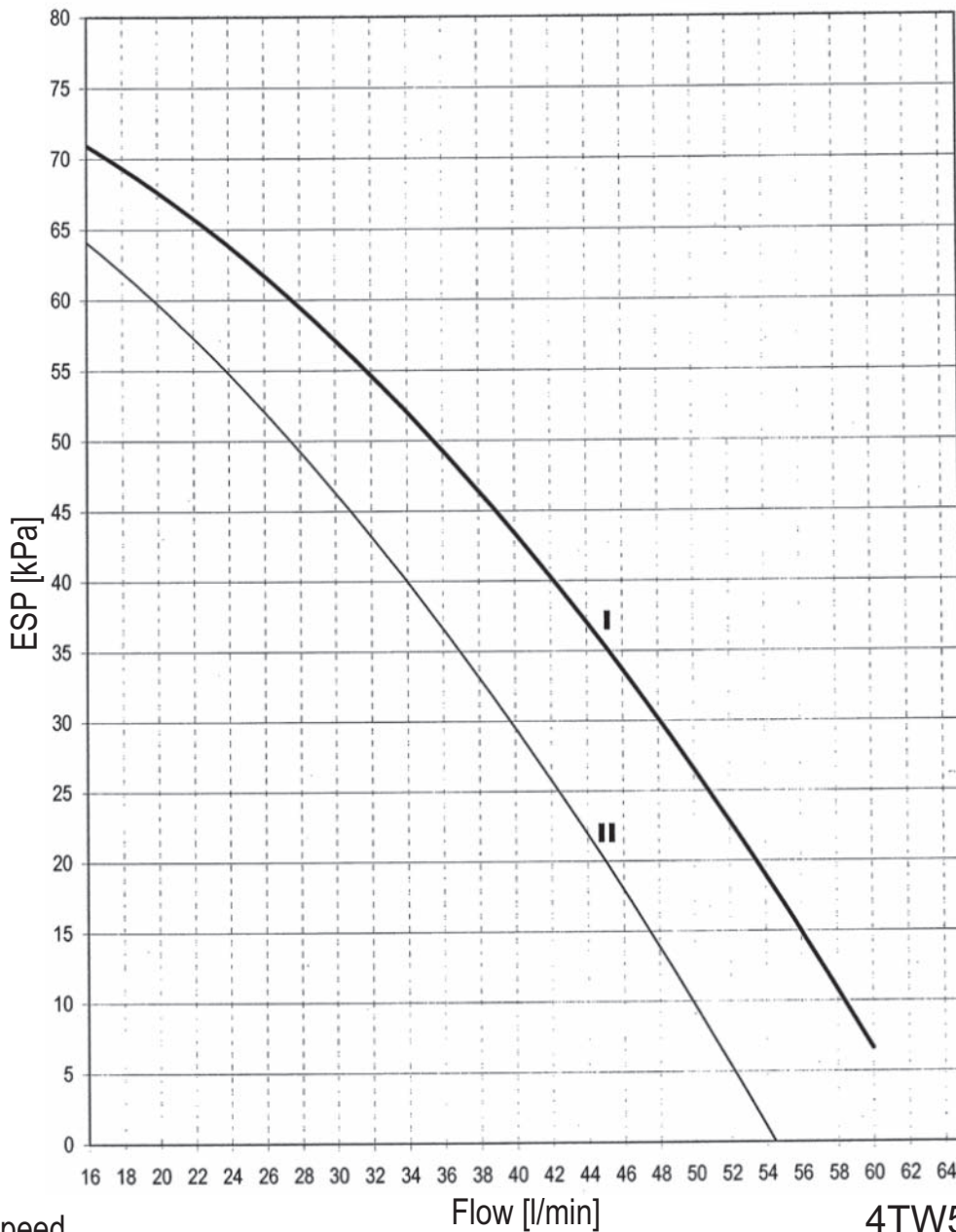
(**) only E(D/B)L*

4TW58133-1A

11 Hydraulic performance

11 - 1 Static pressure drop unit

EBHQ011-016BA6W1



I high speed

II medium speed

ESP: external static pressure

Flow: waterflow through the unit

Caution:

Selecting a flow outside the curves can cause damage to or malfunction of the unit.

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

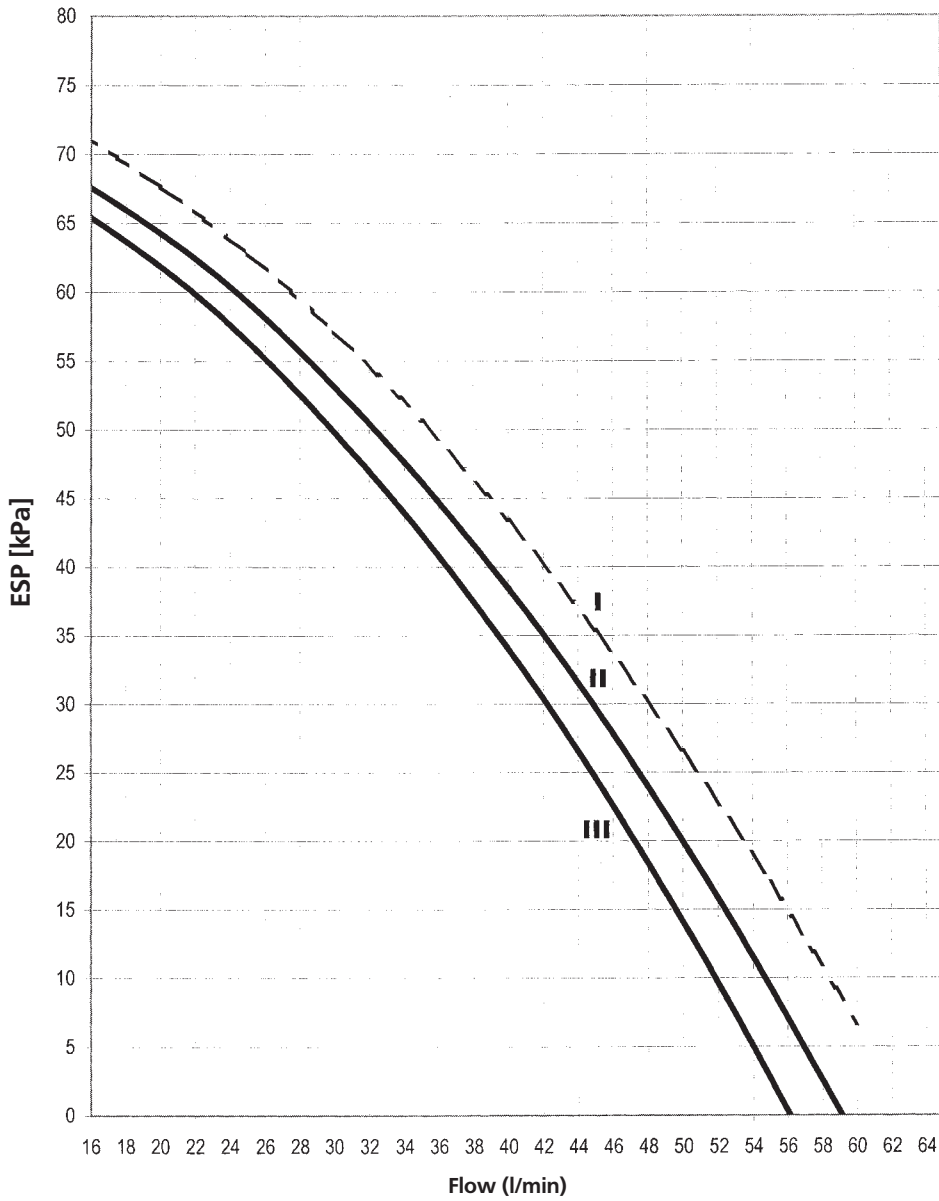
4TW59259-2

11 Hydraulic performance

11 - 1 Static pressure drop unit

19
11

EBHQ-B6W1



I: Water

II: Water / Propylene glycol (25%) at 20°C

III: Water / Propylene glycol (25%) at 5°C

Values only valid for high speed setting

ESP: External static pressure

Flow: waterflow through the unit

Caution:

Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW59259-4

Extra comfort

III Extra Comfort

Heat pump convector	20	FWXV-AVEB	..... 379
Domestic hot water tank for High Temperature	21	EKHTS-A	..... 391
	22	EKHWP-A	..... 399
Domestic hot water tank for Low Temperature	23	EKHWS-B	..... 405
	24	EKHWE	..... 411
Solar collector	25	EKSV(H)-P	..... 417
Pump station with integrated controller for High Temperature	26	EKSRPS3	..... 427
Pump station & Controller for Low Temperature	27	EKSRDS1A & EKSR3PA	..... 431
Solar kit	28	EKSOL	..... 437
Wireless room thermostat	29	EKRTR 445
Wired room thermostat	30	EKRTW 451

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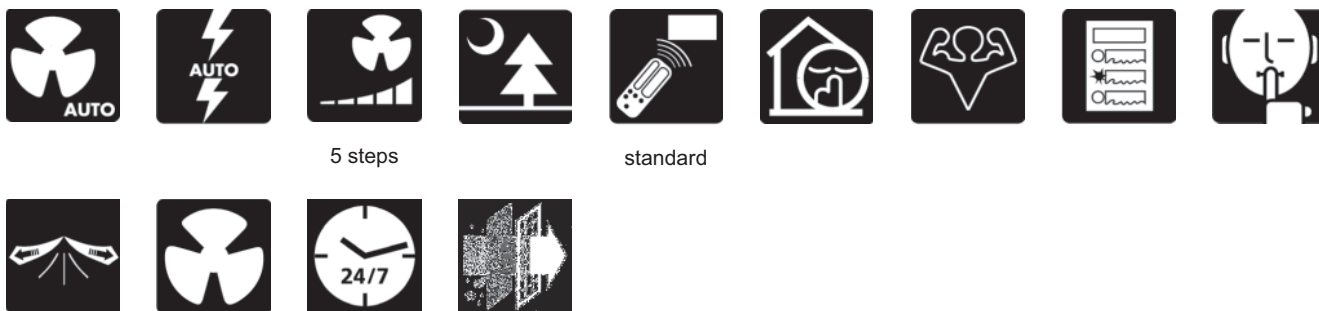
1 Features

- Optimal energy efficiency when connected to a Daikin Altherma system, thanks to the interlink function
- Stylish design
- Flat front panel: its stylish appearance blends easily within any interior décor and is more easy to clean.
- Titanium apatite photocatalytic air purification filter
- Can be installed against a wall or recessed
- Lightweight but sturdy design



20

1



2 Specifications

2-1 For indoor units only				FWXV15AVEB	FWXV20AVEB
Nominal input (Indoor only)	Cooling		kW	0.013	0.015
	Heating		kW	0.013	0.015
Heating capacity	Total capacity	Nom.	kW	1.5	2.0
	Water volume	Nom.	m ³ /hr	0.26	0.34
			l/min	4.3	5.7
	Water pressure drop	Nom.	kPa	13	22
Cooling capacity	Total capacity	Nom.	kW	1.2	1.7
	Sensible capacity	Nom.	kW	0.98	1.4
	Water volume	Nom.	m ³ /hr	0.20	0.29
			l/min	3.4	4.9
	Water pressure drop	Nom.	kPa	10	17

2-2 Technical Specifications				FWXV15AVEB	FWXV20AVEB
Casing	Colour	White			
Dimensions	Packing	Height	mm	696	696
		Width	mm	786	786
		Depth	mm	286	286
	Unit	Height	mm	600	600
		Width	mm	700	700
		Depth	mm	210	210
Weight	Unit		kg	15	15
	Packed Unit		kg	19	19
Heat Exchanger	Dimensions	Length	mm	510	510
		Nr of Rows		2	2
		Fin Pitch	mm	1.2	1.2
		Nr of Stages		22	22
	Tube type	ø6.35 Smooth tube			
	Fin	Type	Multi slit fin		
Fan	Type	Turbo fan			
Air Flow Rate	Heating	High	m ³ /h	318	474
		Medium	m ³ /h	228	354
		Low	m ³ /h	150	240
		Silent Operation	m ³ /h	126	198
	Cooling	High	m ³ /h	318	474
		Medium	m ³ /h	228	354
		Low	m ³ /h	150	240
		Silent Operation	m ³ /h	126	198
Fan	Motor	Model	D48D-28		
		Number of steps	5 steps, silent and auto		
Motor	Speed (heating)	High	rpm	400	560
		Medium	rpm	310	440
		Low	rpm	230	320
		Silent Operation	rpm	210	280
	Speed (cooling)	High	rpm	400	560
		Medium	rpm	310	440
		Low	rpm	230	320
		Silent Operation	rpm	210	280
Heating	Sound Power	Medium	dBA	35	45
	Sound Pressure	Medium	dBA	19	29
Cooling	Sound Power	Medium	dBA	35	45
	Sound Pressure	Medium	dBA	19	29
Piping connections	Liquid ID/OD	Diameter	inch	G1/2 / G1/2	G1/2 / G1/2
	Gas ID/OD	Diameter	inch	G1/2 / G1/2	G1/2 / G1/2
	Drain	Diameter	mm	18	
	Heat Insulation	Both inlet and outlet pipes			
Air Filter	Removable/washable/Mildew proof				
Air direction control	Right, Left, Horizontal, Downward				
Temperature control	Microcomputer control				

2 Specifications

2-2 Technical Specifications				FWXV15AVEB		FWXV20AVEB	
Standard Accessories	Item		Installation manual				
	Quantity		1		1		
	Item		Operation manual				
	Quantity		1		1		
	Item		Wireless remote control				
	Quantity		1		1		
	Item		Batteries				
	Quantity		2		2		
	Item		Remote control holder				
	Quantity		1		1		
	Item		Drain hose				
	Quantity		1		1		
	Item		Photocatalytic filter (apatite)				
	Quantity		2		2		
	Item		Thermal insulation tape				
	Quantity		2		2		
	Item		Thermal insulation tube				
	Quantity		2		2		
	Item		Connection pipe				
	Quantity		2		2		
Item		Binding band					
Quantity		1		1			
Item		O Ring					
Quantity		4		4			
Notes				Cooling: indoor temp. 27°CDB, 19°CWB; entering water temp. 7°C, water temperature rise 5K.			
				Heating: indoor temp. 20°CDB; entering water temp. 45°C, water temperature drop 5K.			
				The range of usable water temperature is 6°C (min.) to 60°C (max.)			
				Maximum allowable water pressure is 1.18 MPa			
				Comply with drinking water directive 98/93/EC for chilled water, hot water and make up water.			
				The amount of water circulation should be 3l/min to 15l/min (0.18m³/hr to 0.9m³/hr)			
				Allowable model of hydrobox interlinking is BA-series			

2-3 Electrical Specifications				FWXV15AVEB		FWXV20AVEB	
Power Supply	Name			VE			
	Phase			1		1	
	Frequency		Hz	50/60		50/60	
	Voltage		V	220-240 / 220			
Current	Nominal running current (RLA)	Heating	A	0.08		0.10	
		Cooling	A	0.08		0.10	

3 Capacity tables

3 - 1 Heating capacity tables

FWXV15-20A																
Heating capacity tables																
Air temperature (°C)		20°C														
Water temperature (Entering °C - leaving °C)		35°C-30°C			45°C-40°C			50°C-45°C			55°C-45°C			60°C-50°C		
Model	Fan	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop
		kW	L/min	kPa	kW	L/min	kPa	kW	L/min	kPa	kW	L/min	kPa	kW	L/min	kPa
FWXV15AVEB	H	1.12	3.2	7	2.00	5.7	22	2.43	7.0	32	2.95	4.1	12	3.27	4.7	15
	M	0.83	2.4	4	1.50	4.3	13	1.82	5.2	19	2.13	3.1	7	2.44	3.5	9
	L	0.50	1.4	2	1.00	2.9	6	1.35	3.9	10	1.43	2.0	3	1.64	2.4	4
FWXV20AVEB	H	1.65	4.7	15	3.00	8.6	49	3.67	10.5	71	4.33	6.2	26	4.99	7.2	34
	M	1.12	3.2	7	2.00	5.7	22	2.43	7.0	32	2.96	4.1	12	3.29	4.7	15
	L	0.83	2.4	4	1.50	4.3	13	1.82	5.2	19	2.13	3.1	7	2.44	3.5	9

22°CDB																
Air temperature (°CDB-°CWB)		22°CDB														
Water temperature (Entering °C - leaving °C)		35°C-30°C			45°C-40°C			50°C-45°C			55°C-45°C			60°C-50°C		
Model	Fan	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop	Heating capacity	Water flow	Water pressure drop
		kW	L/min	kPa	kW	L/min	kPa	kW	L/min	kPa	kW	L/min	kPa	kW	L/min	kPa
FWXV15AVEB	H	1.01	2.9	6	1.84	5.3	19	2.27	6.5	28	2.69	3.9	10	3.11	4.5	14
	M	0.75	2.2	3	1.38	4.0	11	1.70	4.9	16	2.01	2.9	6	2.31	3.3	8
	L	0.45	1.3	1	0.92	2.6	5	1.26	3.6	9	1.35	1.9	3	1.55	2.2	4
FWXV20AVEB	H	1.48	4.2	13	2.76	7.9	41	3.42	9.8	62	4.08	5.8	23	4.74	6.8	31
	M	1.00	2.9	6	1.84	5.3	19	2.27	6.5	28	2.70	3.9	10	3.12	4.5	14
	L	0.75	2.2	3	1.38	4.0	11	1.70	4.9	16	2.01	2.9	6	2.31	3.3	8

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3 Capacity tables

3 - 2 Cooling capacity tables

FWXV15-20A

Cooling capacity tables

Air temperature (°CDB-°CWB)		27°CDB-19°CWB															
Water temperature (Entering °C - leaving °C)		6°C-11°C				7°C-12°C				8°C-13°C				9°C-14°C			
Model	Fan	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop
		kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa
FWXV15AVEB	H	1.77	1.44	5.1	20	1.70	1.39	4.9	19	1.55	1.31	4.4	16	1.41	1.25	4.0	13
	M	1.25	1.00	3.6	10	1.20	0.95	3.4	10	1.09	0.92	3.1	8	1.00	0.88	2.9	7
	L	0.83	0.67	2.4	5	0.80	0.66	2.3	4	0.73	0.62	2.1	4	0.66	0.59	1.9	3
FWXV20AVEB	H	2.60	2.13	7.5	42	2.50	2.05	7.2	39	2.28	1.93	6.5	33	2.08	1.85	6.0	27
	M	1.77	1.46	5.1	20	1.70	1.40	4.9	19	1.55	1.32	4.4	16	1.41	1.26	4.0	13
	L	1.25	1.03	3.6	10	1.20	0.99	3.4	10	1.09	0.93	3.1	8	1.00	0.89	2.9	7

Air temperature (°CDB-°CWB)		22°CDB-16°CWB															
Water temperature (Entering °C - leaving °C)		6°C-11°C				7°C-12°C				8°C-13°C				9°C-14°C			
Model	Fan	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop
		kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa
FWXV15AVEB	H	1.31	1.09	3.8	11	1.19	1.03	3.4	9	1.05	0.99	3.0	7	0.93	0.93	2.7	6
	M	0.93	0.76	2.7	6	0.84	0.74	2.4	5	0.74	0.72	2.1	4	0.66	0.66	1.9	3
	L	0.61	0.51	1.7	3	0.56	0.50	1.6	2	0.50	0.49	1.4	2	0.44	0.44	1.3	1
FWXV20AVEB	H	1.92	1.62	5.5	23	1.75	1.52	5.0	20	1.55	1.41	4.4	16	1.37	1.37	3.9	12
	M	1.31	1.11	3.8	11	1.19	1.05	3.4	9	1.04	1.03	3.0	7	0.93	0.93	2.7	6
	L	0.93	0.78	2.7	6	0.84	0.75	2.4	5	0.74	0.73	2.1	4	0.66	0.66	1.9	3

Air temperature (°CDB-°CWB)		25°CDB-18°CWB															
Water temperature (Entering °C - leaving °C)		6°C-11°C				7°C-12°C				8°C-13°C				9°C-14°C			
Model	Fan	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop
		kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa
FWXV15AVEB	H	1.58	1.28	4.5	16	1.51	1.24	4.3	15	1.35	1.15	3.9	12	1.24	1.11	3.6	10
	M	1.11	0.90	3.2	8	1.07	0.87	3.1	8	0.95	0.81	2.7	6	0.88	0.78	2.5	5
	L	0.74	0.60	2.1	4	0.71	0.58	2.0	3	0.64	0.55	1.8	3	0.58	0.53	1.7	2
FWXV20AVEB	H	2.31	1.90	6.6	33	2.23	1.82	6.4	31	1.99	1.70	5.7	25	1.83	1.65	5.2	21
	M	1.58	1.31	4.5	16	1.51	1.25	4.3	15	1.35	1.16	3.9	12	1.24	1.12	3.6	10
	L	1.11	0.93	3.2	8	1.07	0.88	3.1	8	0.95	0.82	2.7	6	0.88	0.79	2.5	5

Air temperature (°CDB-°CWB)		30°CDB-22°CWB															
Water temperature (Entering °C - leaving °C)		6°C-11°C				7°C-12°C				8°C-13°C				9°C-14°C			
Model	Fan	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop	Total cooling capacity	Sensible cooling capacity	Water flow	Water pressure drop
		kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa	kW	kW	L/min	kPa
FWXV15AVEB	H	2.32	1.57	6.7	34	2.23	1.50	6.4	31	2.00	1.40	5.7	25	1.80	1.33	5.2	21
	M	1.64	1.09	4.7	17	1.57	1.06	4.5	16	1.41	0.98	4.0	13	1.28	0.93	3.7	11
	L	1.09	0.73	3.1	8	1.05	0.71	3.0	7	0.94	0.66	2.7	6	0.84	0.63	2.4	5
FWXV20AVEB	H	3.41	2.32	9.8	70	3.28	2.21	9.4	65	2.94	2.07	8.4	53	2.66	1.96	7.6	44
	M	2.32	1.59	6.7	34	2.23	1.51	6.4	31	2.00	1.41	5.7	25	1.80	1.34	5.2	21
	L	1.64	1.12	4.7	17	1.57	1.07	4.5	16	1.41	1.00	4.0	13	1.28	0.94	3.7	11

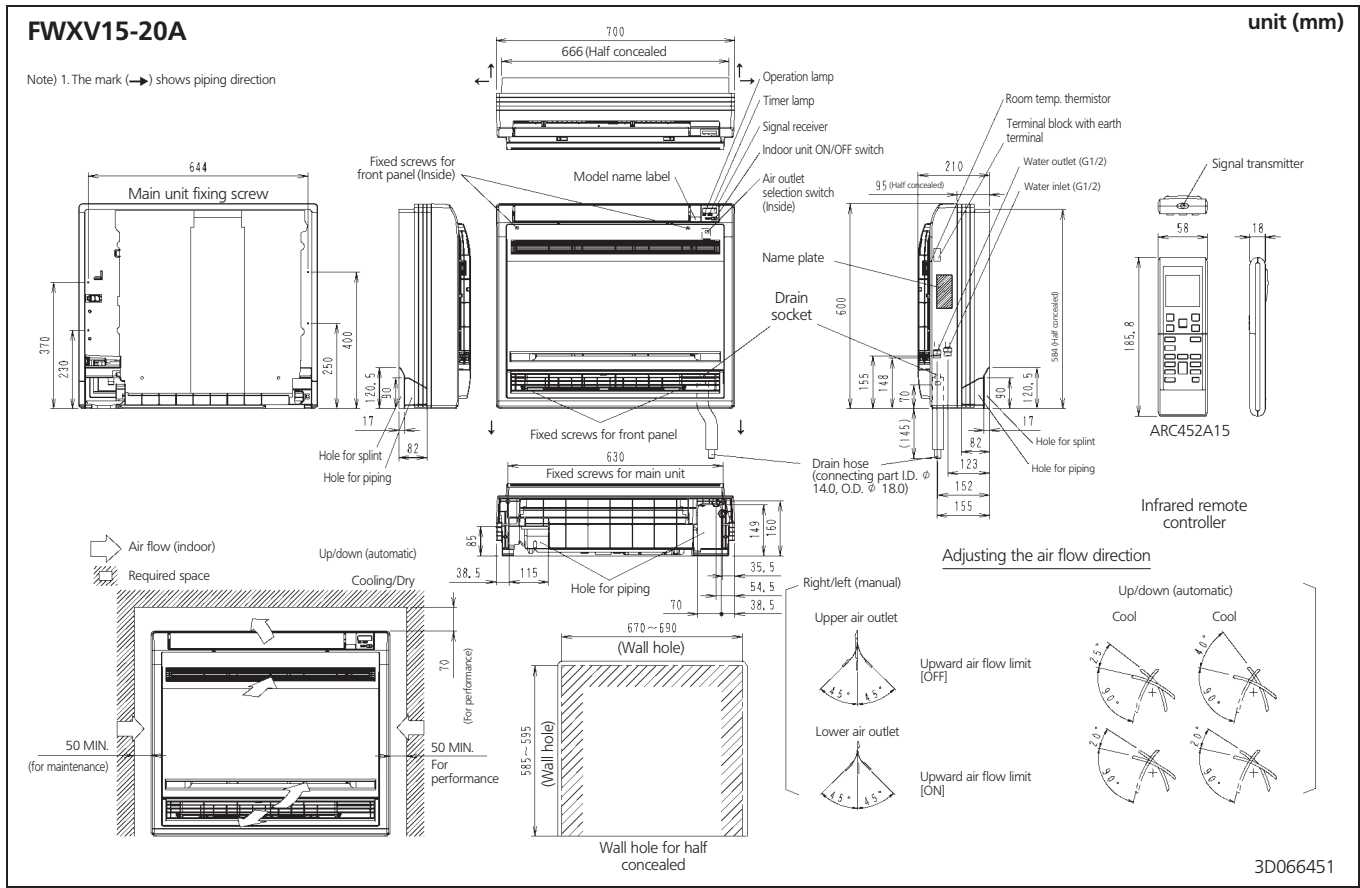
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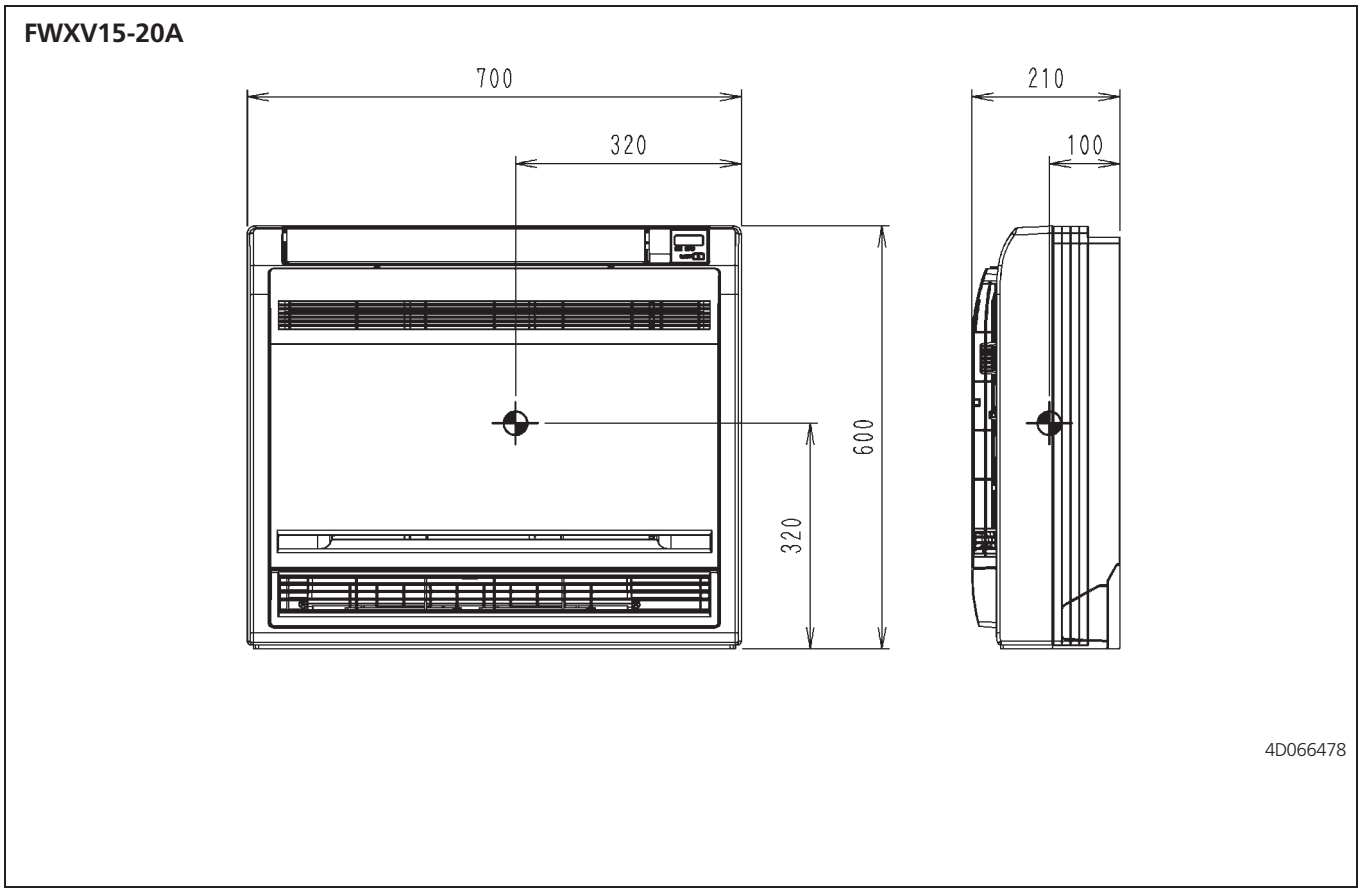
4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing



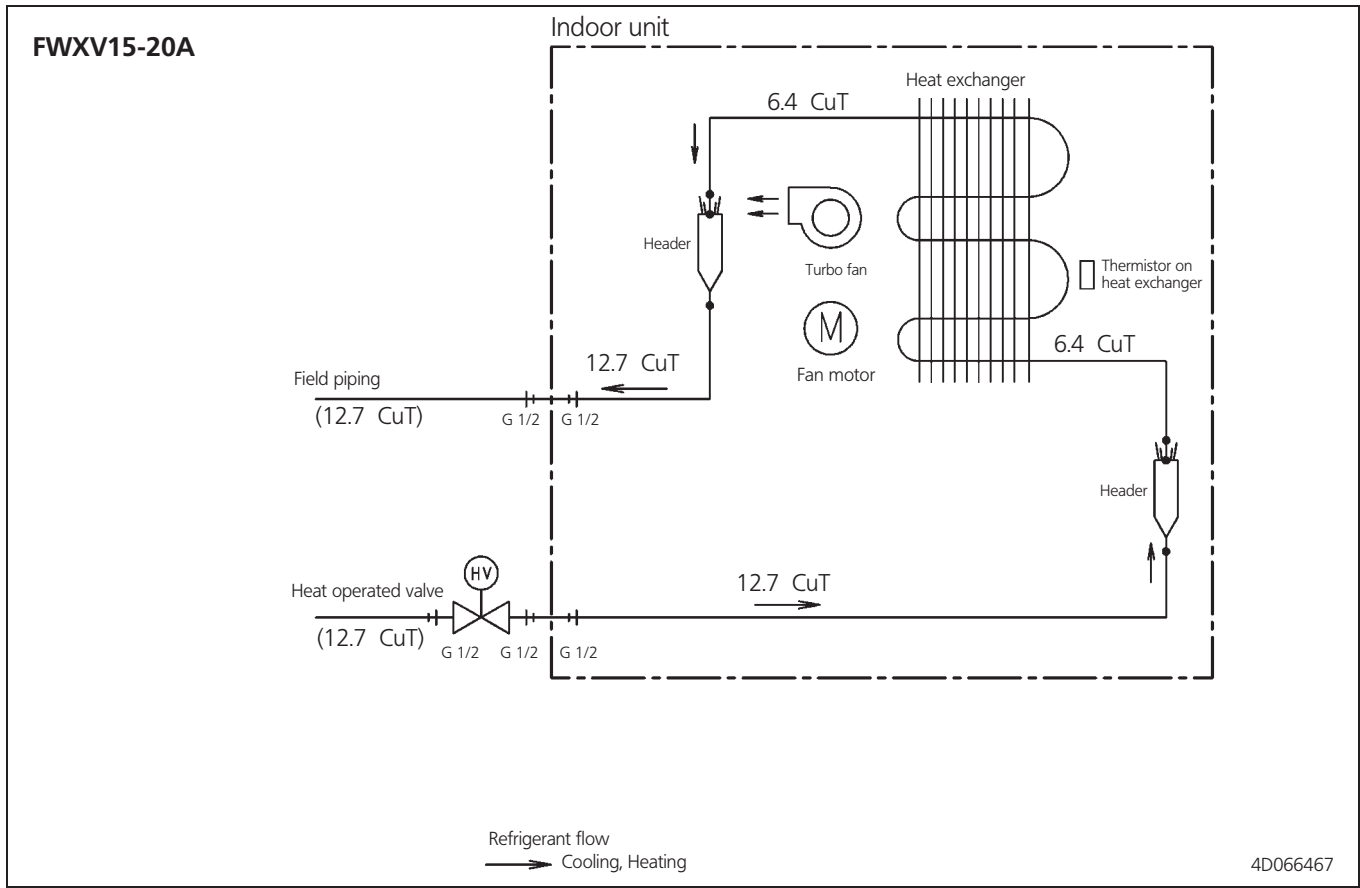
4 Dimensional drawing & centre of gravity

4 - 2 Centre of gravity



5 Piping diagram

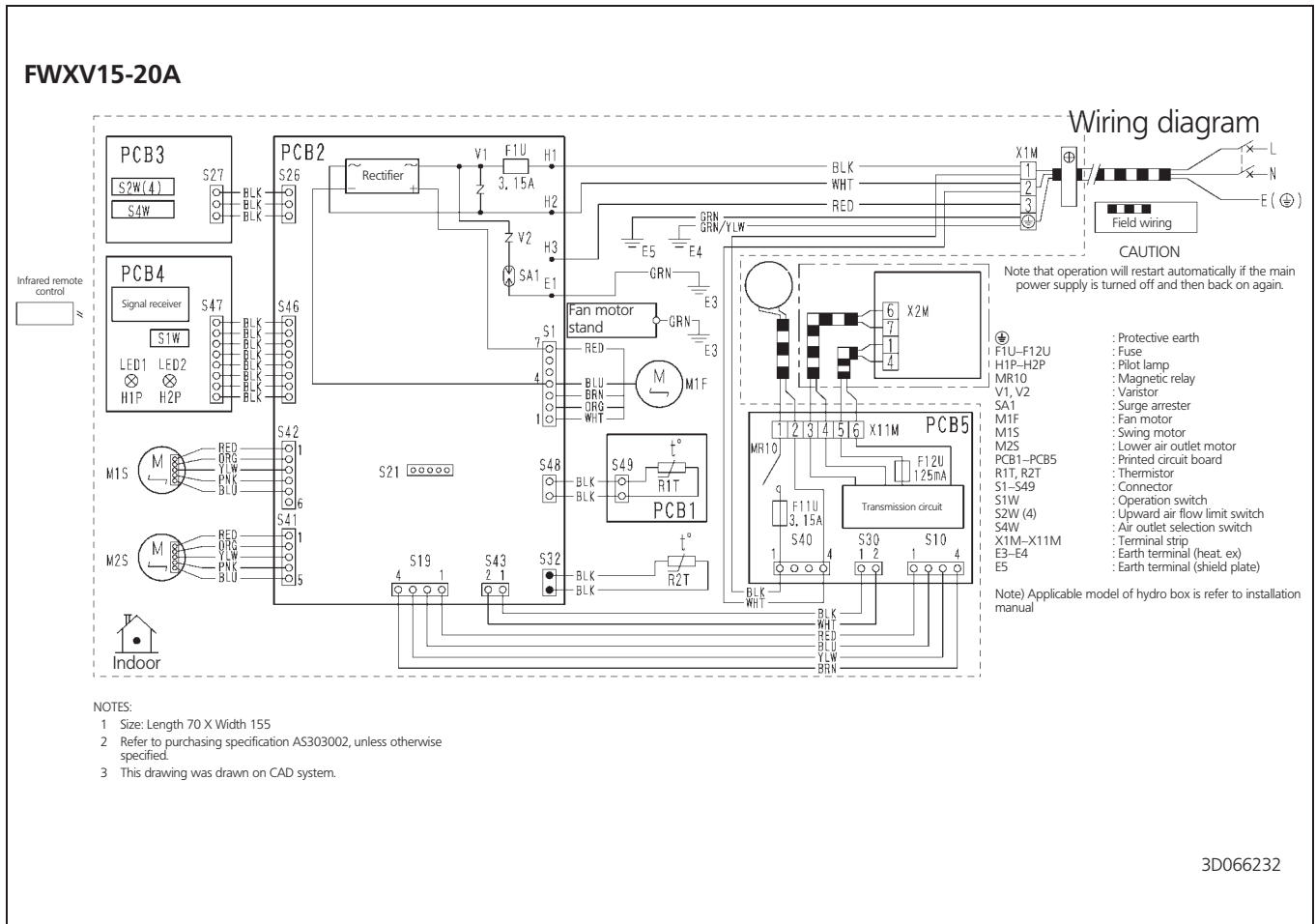
5 - 1 Piping diagram



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6 Wiring diagram

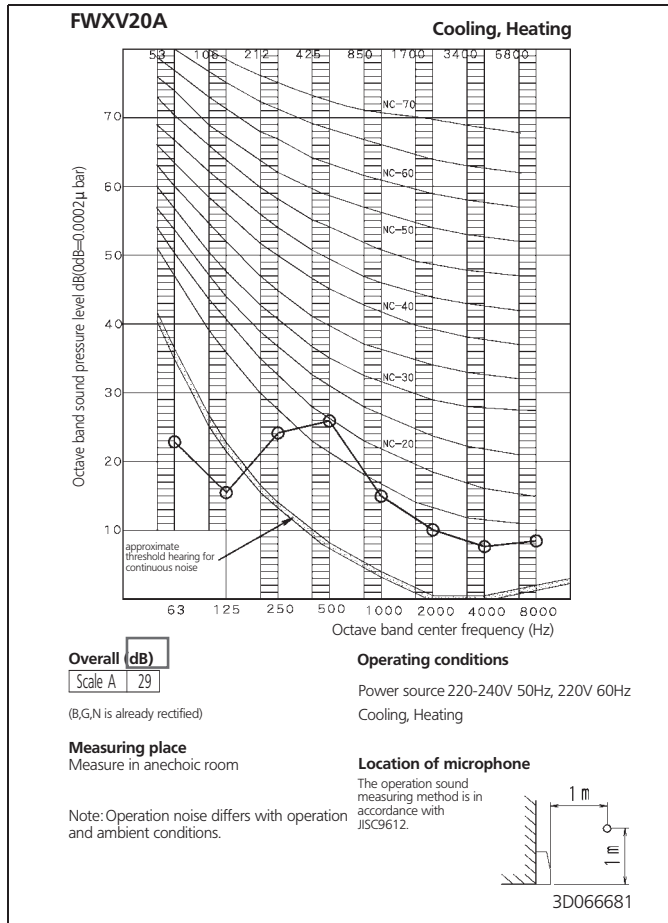
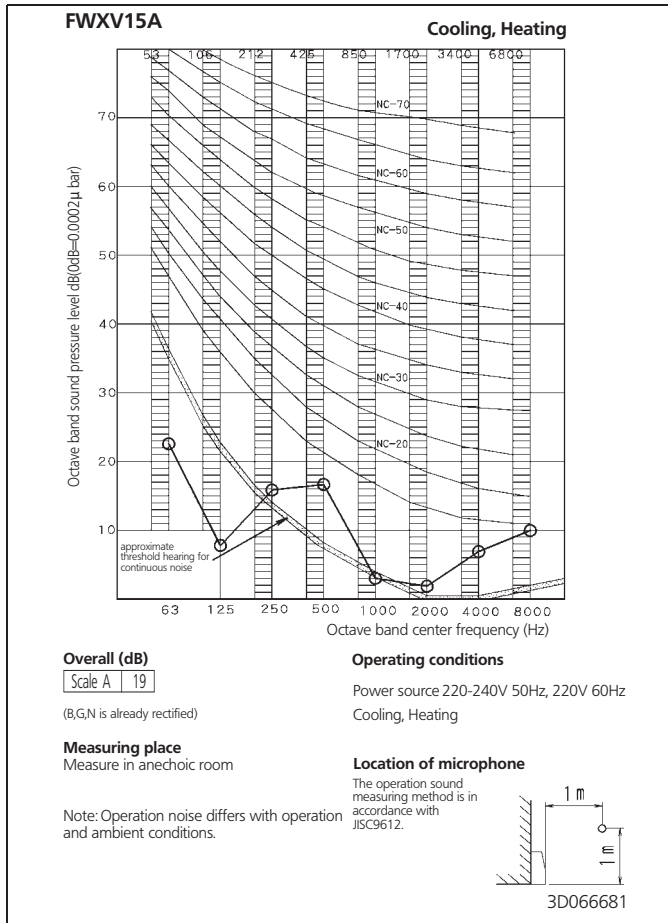
6 - 1 Wiring diagram



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7 Sound data

7 - 1 Sound pressure spectrum

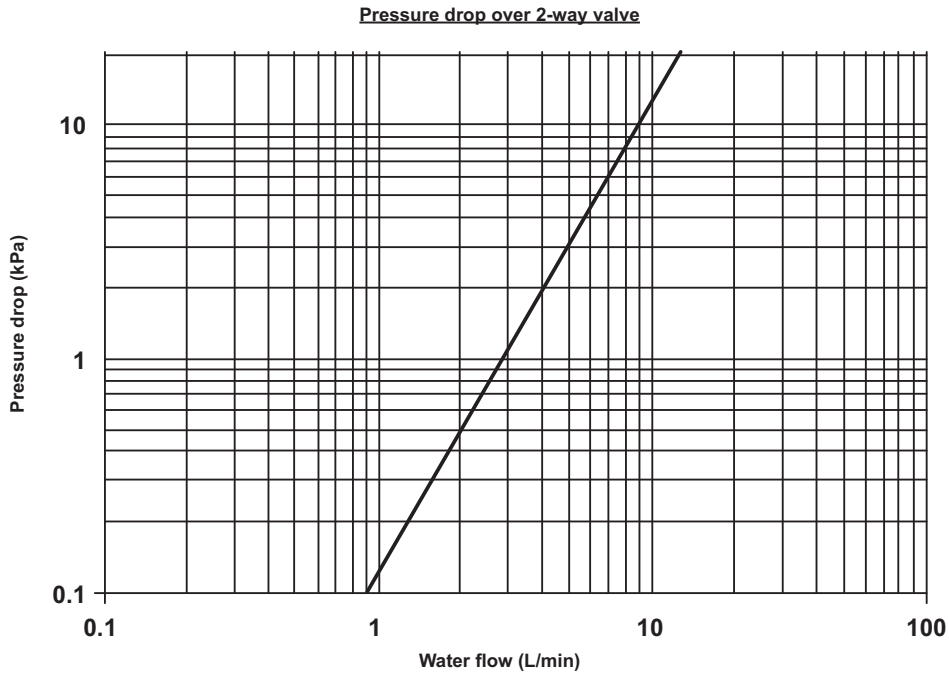


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7

8 Hydraulic performance

8 - 1 Static pressure drop unit

FWXV-A



4TW32891-1

NOTE

1. This graph can be used to calculate the pressure drop over the 2-way valve. The pressure drop over the Heat Pump Convector is not included.

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EKHTS-A

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	Piping diagram	397

1 Features

- High temperature application: up to 80°C without electric heater
- Stainless steel domestic hot water tank
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort

21

1



2 Specifications

2-1 Technical Specifications				EKHTS200A		EKHTS260A		
Casing	Colour			Metallic grey				
	Material			Galvanised steel (precoated sheet metal)				
Dimensions	Packing	Height	mm	1,470		1,745		
		Width	mm	680		680		
		Depth	mm	800		800		
	Unit	Height	mm	1,335		1,610		
Unit	Height	Integrated on indoor unit	mm	2,010		2,285		
Dimensions	Unit	Width	mm	600		600		
		Depth	mm	695		695		
Weight	Machine weight - empty		kg	70		78		
	Gross Weight - empty		kg	81		89		
Packing	Material			EPS				
				Carton				
				Wood				
		Weight	kg	11		11		
Main components	Tank	Water volume	l	200		260		
		Material			Stainless steel (DIN 1.4521)			
		Max. temperature	°C	75		75		
		Max. water pressure	bar	10		10		
Tank	Insulation	Material			EPS			
		Heat loss	kWh/24h	1.2		1.5		
Main components	Heat exchanger	Quantity		1		1		
		Material			Duplex steel LDX 2101			
		Surface	m ²	1.56		1.56		
		Internal coil volume	l	7.5		7.5		
3-Way Valve	Coefficient of flow (kV)	space heating	m ³ /h	13		13		
		domestic hot water tank	m ³ /h	8		8		
Main components	3-Way Valve	Inlet	inch	Male Quick coupling 35				
3-Way Valve	Outlet	space heating	mm	Female Quick coupling 35				
		domestic hot water tank	mm	Female Quick coupling 25				
Temperature sensor	Cable length		m	11.5		11.5		
Piping connections	Water inlet heat exchanger	Diameter	mm	Female Quick coupling 25				
	Water outlet heat exchanger	Diameter	mm	Female Quick coupling 25				
	Water inlet heat exchanger	Diameter	inch	G 3/4 (female)				
	Water outlet heat exchanger	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 1/2 (male)				
Safety Devices				Thermal cutout (on indoor unit): 90-95°C				
Service hole	Size	Diameter	mm					

3 Capacity tables

3 - 1 Heating capacity tables

Altherma HT-TW Domestic hot water tank

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

(1) Capacity:

	EKHTS*200	EKHTS*260
Total capacity (L)	210	258
Actual capacity (L)	193,5	250,5

Total capacity = internal volume of tank(= effective water volume+ coil volume)
Actual capacity=effective water volume inside the tank

(2) Maximum volume of usable hot water:

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.

Definition:

Maximum volume of usable hot water = 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. (cold water inlet temp = 10°C)

Tank	Setpoint temp.	Maximum volume of usable hot water	Tapping pattern*			
			Small	Medium	High	very high
EKHTS*200	40	190	+++	+	-	-
	50	255	+++	++	-	-
	60	320	+++	+++	-	-
	70	385	+++	+++	+	-
EKHTS*260	40	250	+++	++	-	-
	50	330	+++	+++	-	-
	60	415	+++	+++	++	-
	70	500	+++	+++	++	+

Grade +++ more than excessive availability of sanitary hot water (more than 40% of EHWV is still available after tapping pattern)
 ++ Excessive availability of sanitary hot water. (10%< EHWV still available after tapping pattern<40%)
 + Sufficient availability of sanitary hot water. (EHWV still available after tapping pattern <10%)
 - Temporary shortage of sanitary hot water can occur.

Tapping pattern**
Small Daily demand up to 90l -> typical 1-person daily usage pattern
Medium Daily demand up to 190l -> typical 2-persons daily usage pattern
High Daily demand up to 370l -> typical 3 to 4 persons daily usage pattern
very high Daily demand up to 500l -> 5 to 6 persons daily usage pattern

* based upon heat up to tank once / 24 hours

** Heat losses (over 24 hrs) are included in the tapping patterns

(3) Standing Heat loss:

Tank	Heat losses (kWh/24h)
EKHTS*200	1.2
EKHTS*260	1.5

* heat loss of tank at ΔT = 45K

(4) Heat-up time:

Definition:

Heat-up time = The time is required to heat up the domestic hot water tank from 15°C to 60°C (minutes)

Tank	Heat-up time <min>		
	EKHBRD11	EKHBRD14	EKHBRD16
EKHTS*200	60	50	40
EKHTS*260	70	60	50

conditions for testing: Ta = 7°CDB / 6°CWB, TStart = 15°C

(5) Reheat time:

Definition:

Reheat time = The time required to reheat the domestic hot water tank back to 60°C after tapping 70% of the actual volume.

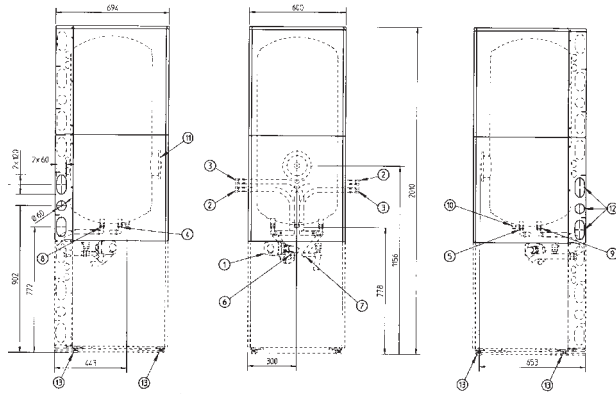
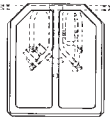
Tank	Reheat time <min>		
	EKHBRD11	EKHBRD14	EKHBRD16
EKHTS*200	50	40	30
EKHTS*260	60	50	40

Starting condition before tapping 70% of volume: tank at 60°C
 conditions for testing: Ta = 7°CDB / 6°CWB, TCold = 15°C

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

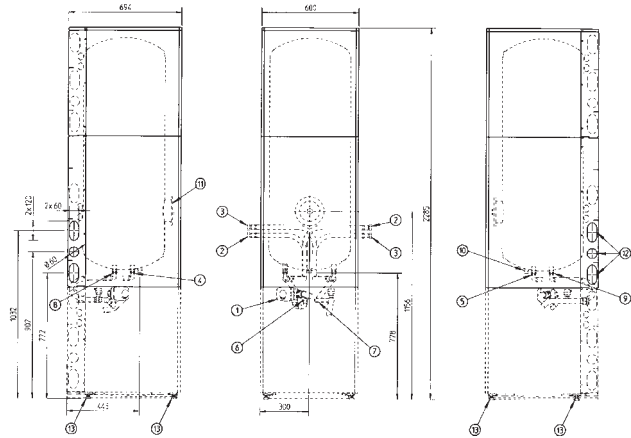
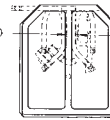
EKHTS(P)200* + EKHBRD*



Note: For details on EKHBRD* refer to 3TW58844-1

- 1 3 way valve
- 2 Hot water out connection G 3/4" Female
- 3 Cold water in connection G 3/4" Female
- 4 Hot water out (quick coupling) at bottom tank
- 5 Cold water in (quick coupling) at bottom tank
- 6 Tank connection from EKHBRD (quick coupling)
- 7 Tank connection to EKHBRD (quick coupling)
- 8 Tank connection from EKHBRD (quick coupling) at bottom tank
- 9 Tank connection to EKHBRD (quick coupling) at bottom tank
- 10 Recirculation connection G 1/2" (Male)
- 11 Service hole inner ϕ 125, socket spanner width 32mm (only on EKHTSP * models)
- 12 Knock-out holes for water piping
- 13 Levelling feet (on EKHBRD* unit)

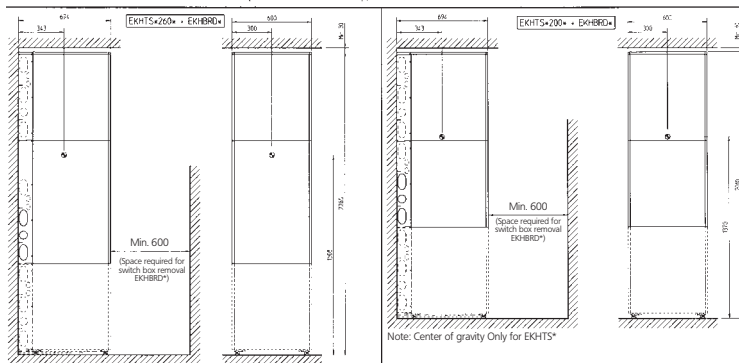
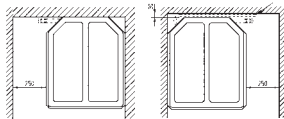
EKHTS(P)260* + EKHBRD*



Note: For details on EKHBRD* refer to 3TW58844-1

- 1 3 way valve
- 2 Hot water out connection G 3/4" Female
- 3 Cold water in connection G 3/4" Female
- 4 Hot water out (quick coupling) at bottom tank
- 5 Cold water in (quick coupling) at bottom tank
- 6 Tank connection from EKHBRD (quick coupling)
- 7 Tank connection to EKHBRD (quick coupling)
- 8 Tank connection from EKHBRD (quick coupling) at bottom tank
- 9 Tank connection to EKHBRD (quick coupling) at bottom tank
- 10 Recirculation connection G 1/2" (Male)
- 11 Service hole inner ϕ 125, socket spanner width 32mm (only on EKHTSP * models)
- 12 Knock-out holes for water piping
- 13 Levelling feet (on EKHBRD* unit)

left installation right installation upwiring (refer to EKHBRD*: 3TW58804-1)



Note: Center of gravity Only for EKHTS*

Note: Center of gravity Only for EKHTS*

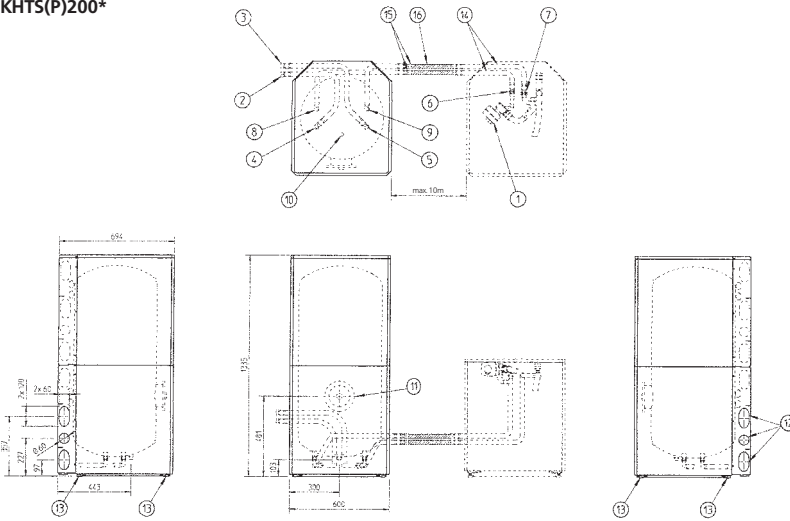
3TW58804-1A

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

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4

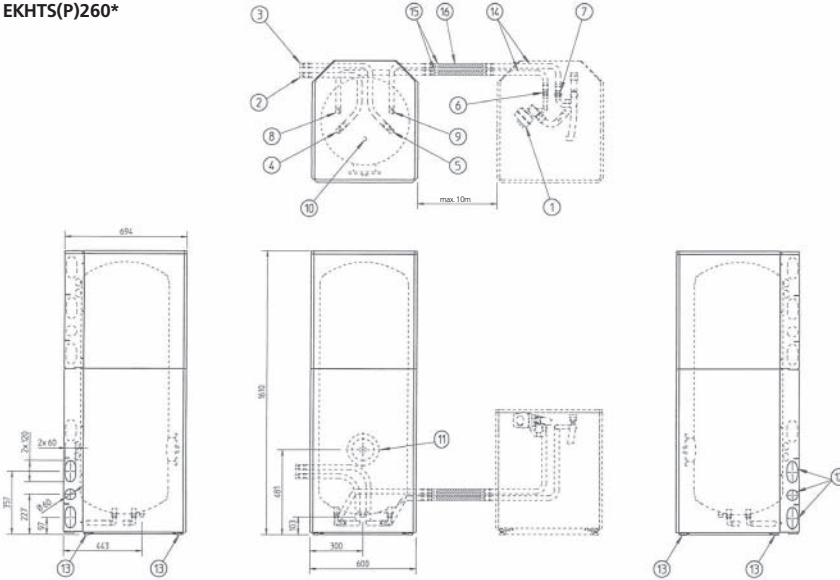
EKHTS(P)200*



- 1 3 way valve
- 2 Hot water out connection G 3/4" Female
- 3 Cold water in connection G 3/4" Female
- 4 Hot water out (quick coupling) at bottom tank
- 5 Cold water in (quick coupling) at bottom tank
- 6 Tank connection from EKHBRD (quick coupling)
- 7 Tank connection to EKHBRD (quick coupling)
- 8 Tank connection from EKHBRD (quick coupling) at bottom tank
- 9 Tank connection to EKHBRD (quick coupling) at bottom tank
- 10 Recirculation connection G 1/2" (Male)
- 11 Service hole inner ϕ 125, socket spanner width 32mm (only on EKHTSP * models)
- 12 Knock-out holes for water piping
- 13 Levelling feet (in option kit EKFMATHA)
- 14 Flexible pipes (in option kit EKFMATHA)
- 15 Adaptor quick connection- G 3/4" (in option kit EKFMAHTA)
- 16 Field piping

Note: For details on EKHBRD* refer to 3TW58844-1

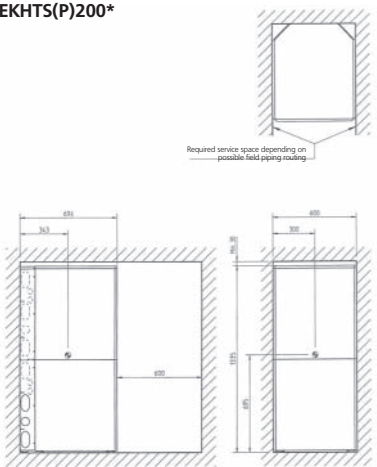
EKHTS(P)260*



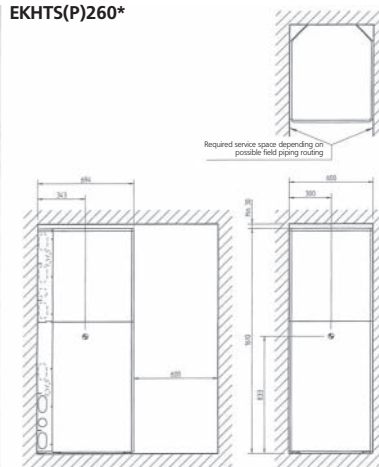
- 1 3 way valve
- 2 Hot water out connection G 3/4" Female
- 3 Cold water in connection G 3/4" Female
- 4 Hot water out (quick coupling) at bottom tank
- 5 Cold water in (quick coupling) at bottom tank
- 6 Tank connection from EKHBRD (quick coupling)
- 7 Tank connection to EKHBRD (quick coupling)
- 8 Tank connection from EKHBRD (quick coupling) at bottom tank
- 9 Tank connection to EKHBRD (quick coupling) at bottom tank
- 10 Recirculation connection G 1/2" (Male)
- 11 Service hole inner ϕ 125, socket spanner width 32mm (only on EKHTSP * models)
- 12 Knock-out holes for water piping
- 13 Levelling feet (in option kit EKFMATHA)
- 14 Flexible pipes (in option kit EKFMATHA)
- 15 Adaptor quick connection- G 3/4" (in option kit EKFMAHTA)
- 16 Field piping

Note: For details on EKHBRD* refer to 3TW58844-1

EKHTS(P)200*



EKHTS(P)260*



Note: For details on EKHBRD* refer to 3TW58844-1

3TW58804-2

5 Piping diagram

5 - 1 Piping diagram

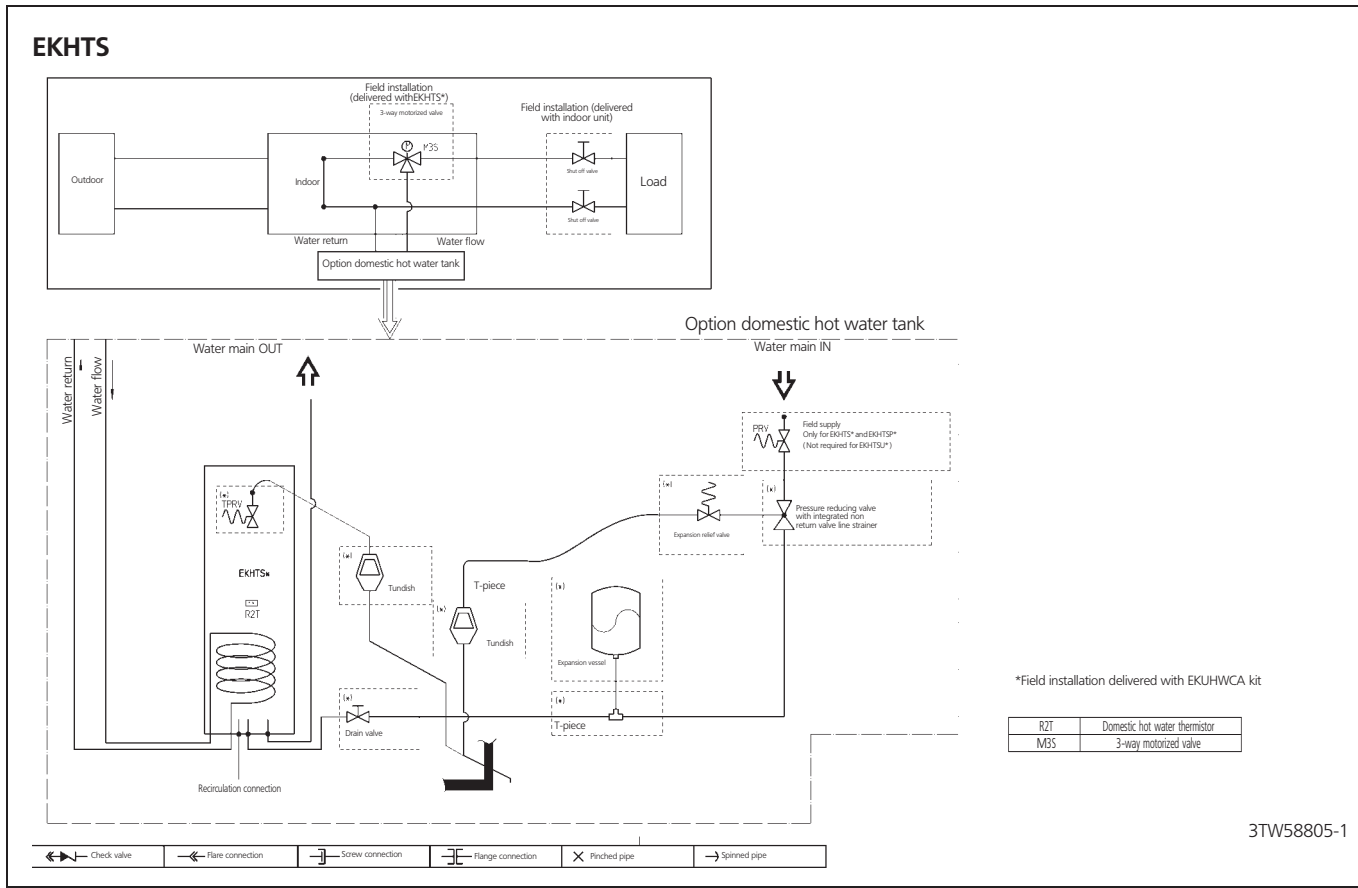


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EKHWP-A

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1 Features

- High temperature application: up to 80°C without electric heater
- High storage tank capacity and very low storage tank losses
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



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1

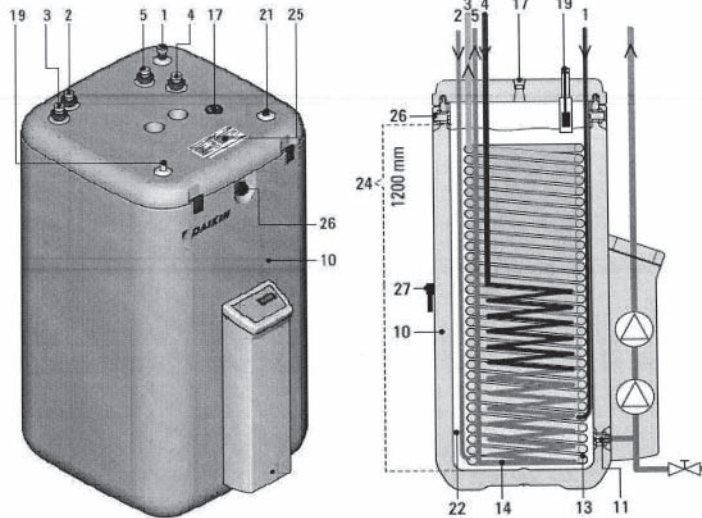
2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKHWP300A	EKHWP500A		
Mounting				Floor standing			
Casing	Colour			Dust grey (RAL7037)			
	Material			Impact resistant polypropylene			
Dimensions	Packing	Height	mm	1,750			
		Width	mm	800	800		
		Depth	mm	800	800		
	Unit	Height	mm	1,590			
		Width	mm	595	790		
		Depth	mm	615	790		
Weight	Machine weight - empty		kg	59	92		
	Machine weight - full		kg	355	592		
	Gross Weight - empty		kg	67	100		
Packing	Material			Pallet			
				Carton			
				Plastic			
				EPS			
Weight			kg	8	8		
Main components	Tank	Water volume	l	300	500		
		Max. temperature	°C	85	85		
Heat exchanger	Domestic hot water	Tube Material			Stainless steel (DIN 1.4404)		
		Face area	m ²	5.7	5.9		
		Internal coil volume	l	27.8	28.4		
Domestic hot water	Operating pressure	Bar		6	6		
Heat exchanger	Domestic hot water	Average specific thermal output		W/K	2,795	2,860	
		Charging	Tube Material			Stainless steel (DIN 1.4404)	
			Face area	m ²	2.5	3.7	
			Internal coil volume	l	12.3	17.4	
	Average specific thermal output		W/K	1,235	1,809		
	Auxiliary solar heating	Tube Material			Stainless steel (DIN 1.4404)		
		Face area	m ²		1.0		
		Internal coil volume	l		5		
		Average specific thermal output	W/K		313		
	Temperature sensor	Cable length		m	12	12	
	Piping connections	Water inlet heat exchanger	Diameter	mm		G1"	
		Water outlet heat exchanger	Diameter	mm		G1"	
		Solar collector inlet		inch	1" Female union joint		
Charging heat exchanger		inch		G1"			
Auxiliary solar heating heat exchanger		inch		G1"			
Level difference		Tank - Solar collector	m	12	12		

3 Dimensional drawing & centre of gravity

3 - 1 Dimensional drawing

EKHWP300A

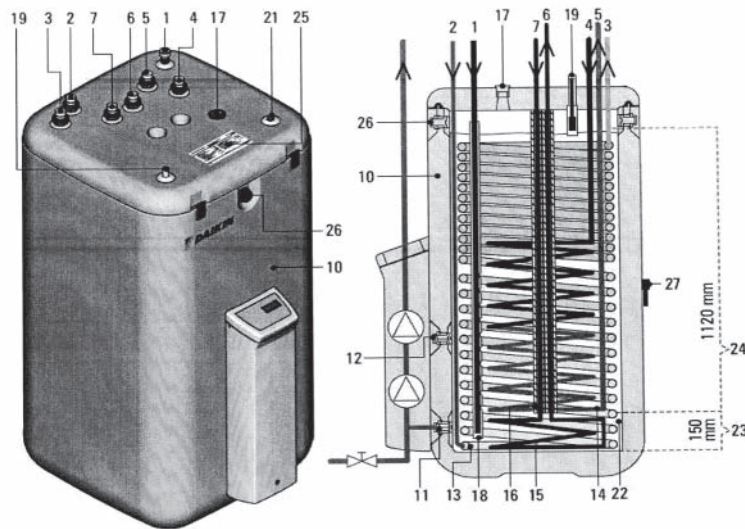


- 1. Inlet from solar collector (1" F junction joint)
- 2. Cold water inlet (1" M)
- 3. Hot water outlet (1" M)
- 4. Inlet from heatpump (1" M)
- 5. Return to heatpump (1" M)
- 6. Heating support outlet (1" M)
- 7. Heating support outlet (1" M)
- 10. Storage tank
- 11. Fill and drain valve
- 12. Connection for equalisation pipe (not used)
- 13. Heat exchanger domestic hot water
- 14. Heating heat exchanger

- 15. Heat exchanger for solar heating support
- 16. Heat insulation shell for solar heating support
- 17. Insertion hole for electric heater option (not used)
- 18. Solar collector inlet stratification pipe
- 19. Filling level indicator
- 21. Dip sleeve for temperature sensors
- 22. Pressure-free storage tank water
- 23. Solar zone
- 24. Service water zone
- 25. Nameplate
- 26. Safety overflow fitting
- 27. Handle

4TW59655-1

EKHWP500A



- 1. Inlet from solar collector (1" F junction joint)
- 2. Cold water inlet (1" M)
- 3. Hot water outlet (1" M)
- 4. Inlet from heatpump (1" M)
- 5. Return to heatpump (1" M)
- 6. Heating support outlet (1" M)
- 7. Heating support outlet (1" M)
- 8. Solar support outlet (1" M)
- 9. Solar support inlet (1" M)
- 10. Storage tank
- 11. Fill and drain valve
- 12. Connection for equalisation pipe (not used)
- 13. Heat exchanger domestic hot water

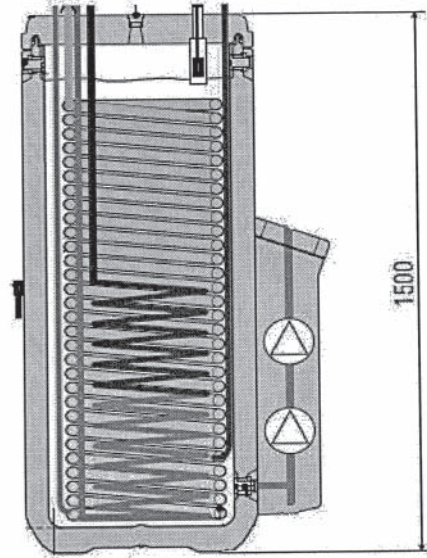
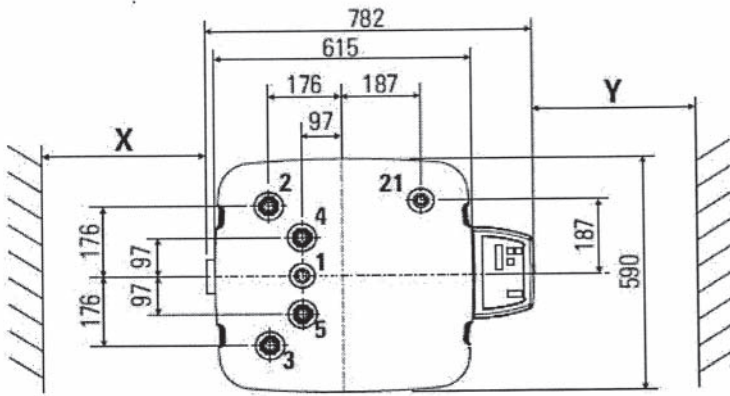
- 14. Heating heat exchanger
- 15. Heat exchanger for solar heating support
- 16. Heat insulation shell for solar heating support
- 17. Insertion hole for electric heater option (not used)
- 18. Solar collector inlet stratification pipe
- 19. Filling level indicator
- 21. Dip sleeve for temperature sensors
- 22. Pressure-free storage tank water
- 23. Solar zone
- 24. Service water zone
- 25. Nameplate
- 26. Safety overflow fitting
- 27. Handle

4TW59655-2

3 Dimensional drawing & centre of gravity

3 - 1 Dimensional drawing

EKHWP300A



- 1. Inlet from solar collector (1" F junction joint)
- 2. Cold water inlet (1" M)
- 3. Hot water outlet (1" M)
- 4. Inlet from heatpump (1" M)
- 5. Return to heatpump (1" M)

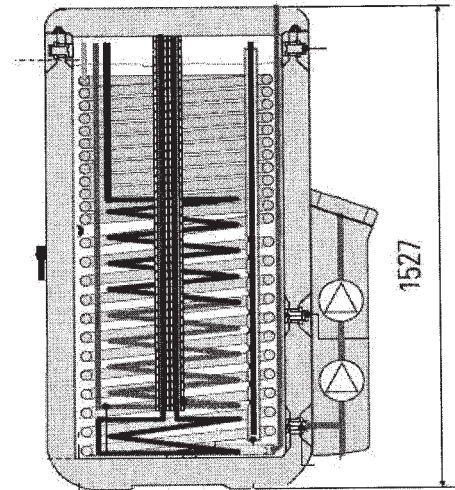
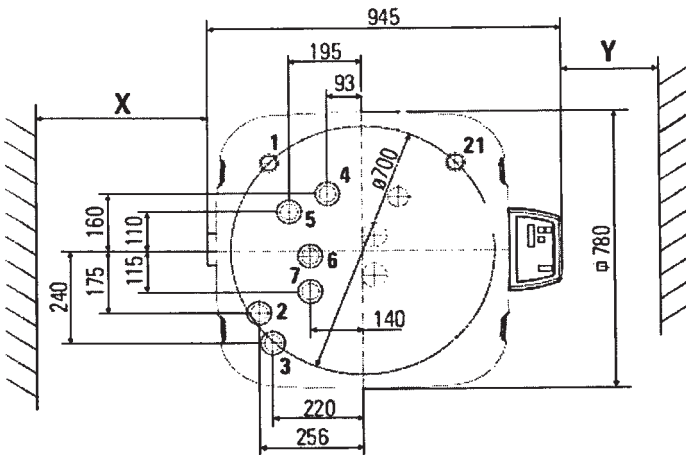
21. Dip Sleeve for temperature sensors

X = wall clearance > 20 cm

Y = Required service space > 80 cm

4TW59654-1

EKHWP500A



- 1. Inlet from solar collector (1" F junction joint)
- 2. Cold water inlet (1" M)
- 3. Hot water outlet (1" M)
- 4. Inlet from heatpump (1" M)
- 5. Return to heatpump (1" M)
- 6. Heating support outlet (1" M)
- 7. Heating support inlet (1" M)

21. Dip Sleeve for temperature sensors

X = wall clearance > 20 cm

Y = Required service space > 80 cm

4TW59654-2

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1 Features

- Stainless steel domestic hot water tank
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



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1

2 Specifications

2-1 Technical Specifications				EKHWS150 B3V3	EKHWS200 B3V3	EKHWS300 B3V3	EKHWS200 B3Z2	EKHWS300 B3Z2	EKHWSU15 0B3V3	EKHWSU20 0B3V3	EKHWSU30 0B3V3	
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		
		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		
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)								

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2

2-2 Electrical Specifications				EKHWS150 B3V3	EKHWS200 B3V3	EKHWS300 B3V3	EKHWS200 B3Z2	EKHWS300 B3Z2	EKHWSU15 0B3V3	EKHWSU20 0B3V3	EKHWSU30 0B3V3
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

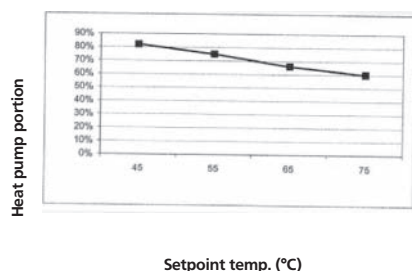
Conditions for testing: Ta = 7°CDB / 6°CWB, Troom = 20°C, Tstart = 10°C, outdoor unit type: ERHQ008

(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:

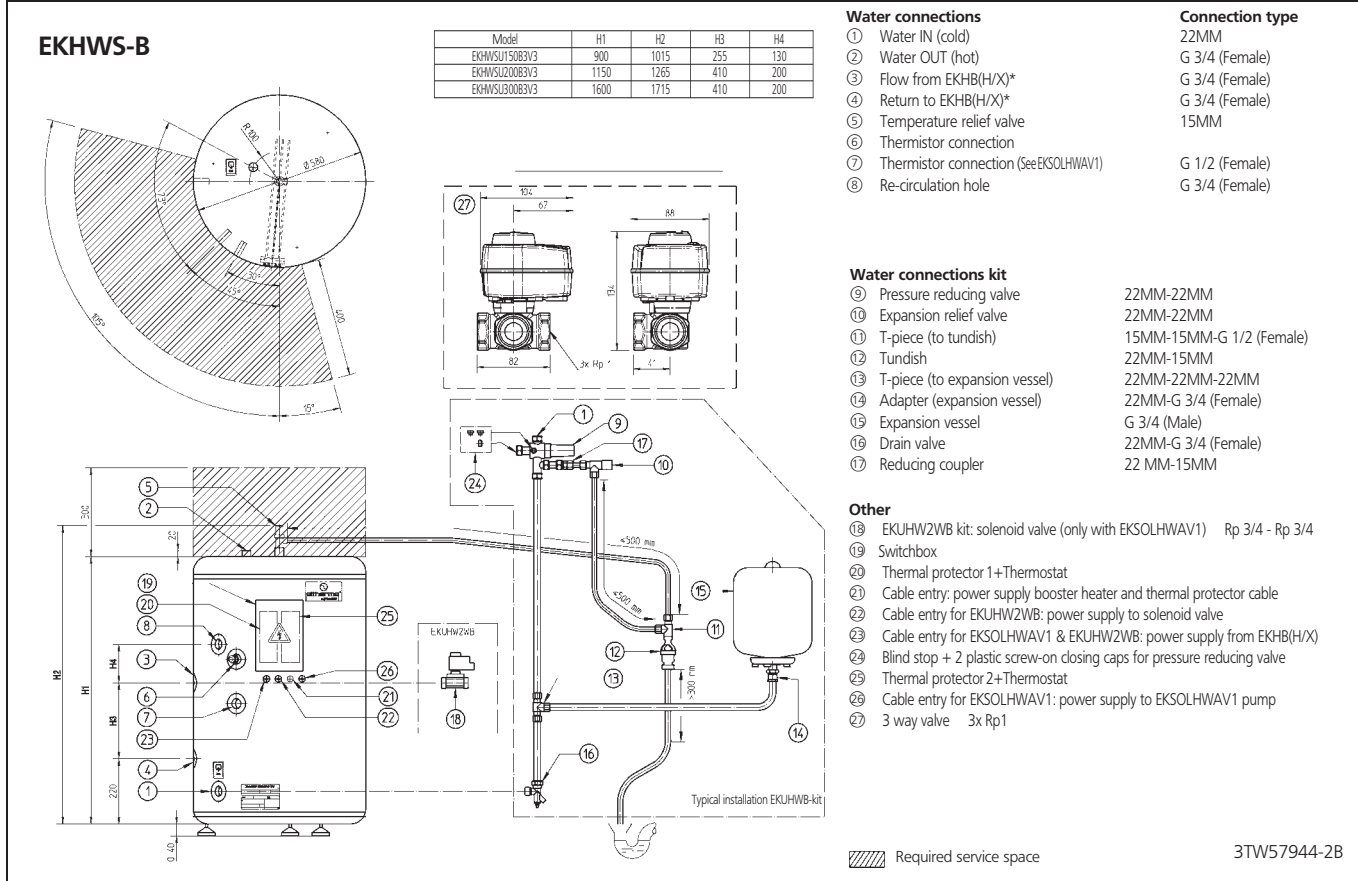
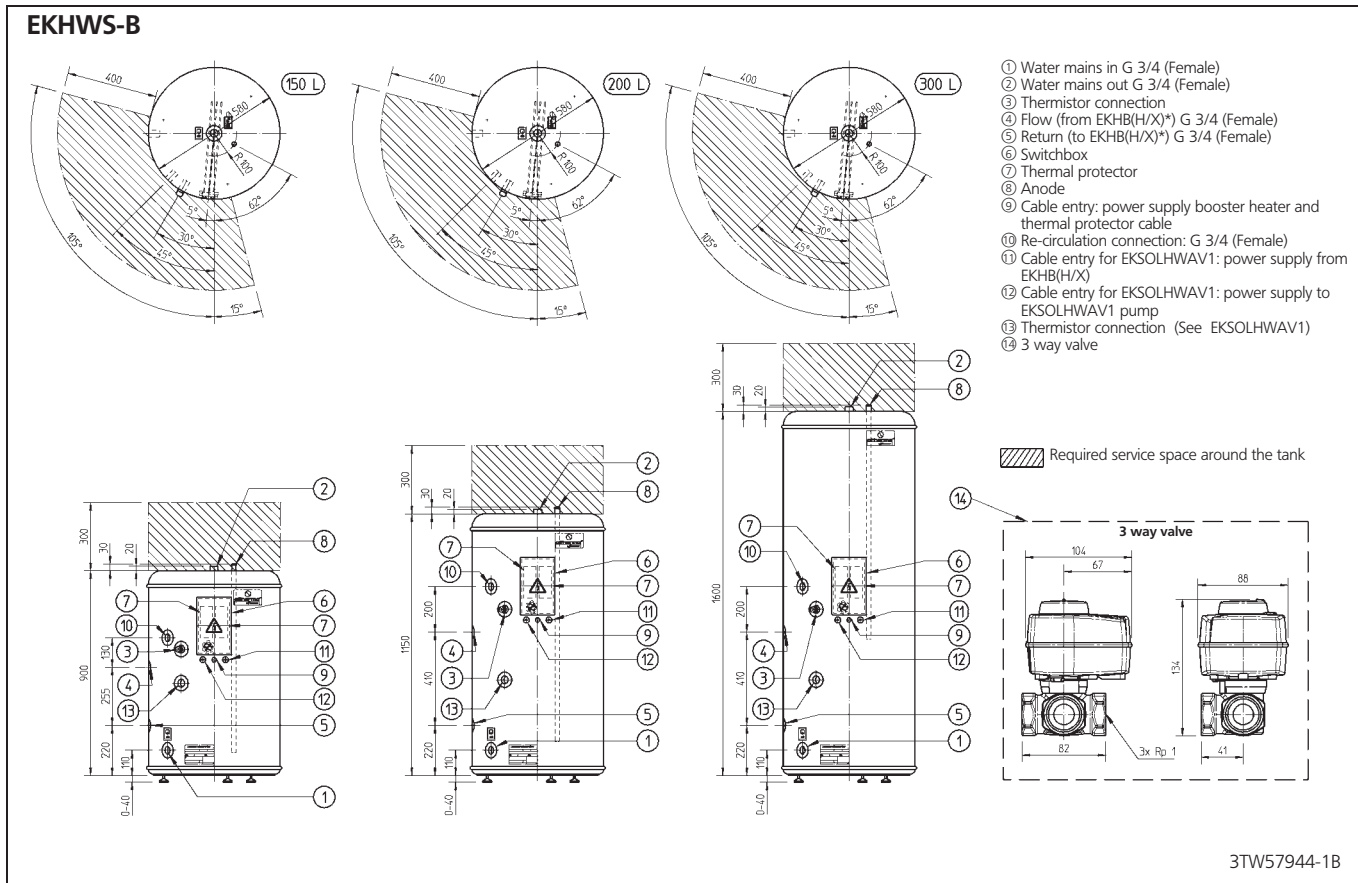
Heat pump portion Percentage of energy supplied by the heat pump in the total energy need for domestic hot water.



Conditions: Real life condition Simulation of a daily usage based upon 'medium' usage pattern.
 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

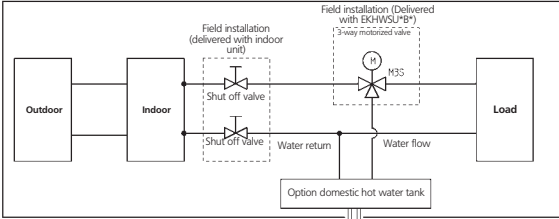


5 Piping diagram

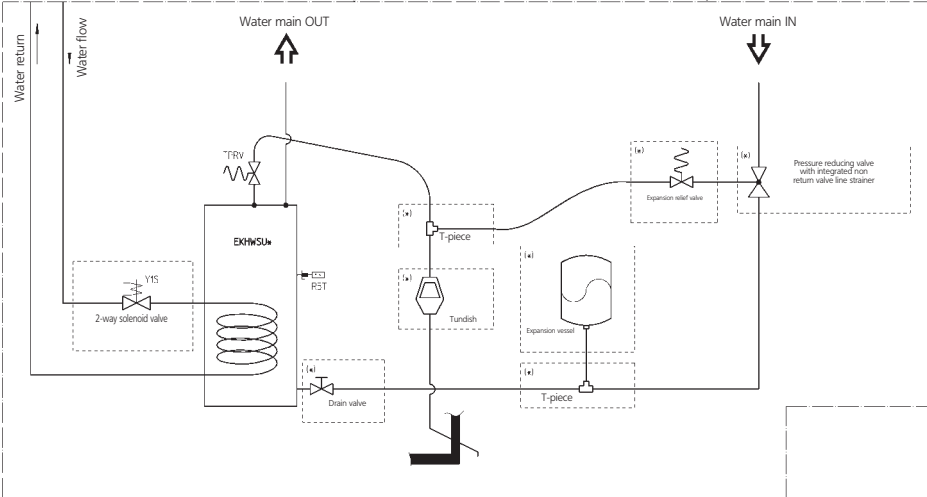
5 - 1 Piping diagram

EKHWSU-B

Overview



Option domestic hot water tank



(*) : Field installation delivered with EKUHWB kit
 (**): Field installation delivered with EKUHW2WB

RST	Domestic hot water thermostat
Y1S	Solenoid valve
M3S	3-way motorized valve

3TW57945-1



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1 Features

- Enameled domestic hot water tank
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



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1

2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKHWE150A3V3	EKHWE200A3V3	EKHWE300A3V3	EKHWE200A3Z2	EKHWE300A3Z2	EKHWE150A3V3	
Mounting				Floor	Floor	Floor	Floor	Floor	Wall	
Casing	Colour		RAL9010							
	Material		Epoxy coated steel							
Dimensions	Packing	Height	mm	1,460	1,835	1,830	1,835	1,830	1,460	
		Width	mm	615	615	720	615	720	615	
		Depth	mm	625	625	730	625	730	625	
	Unit	Height	mm	1,205	1,580	1,572	1,580	1,572	1,205	
Diameter		mm	545	545	660	545	660	545		
Weight	Unit		kg	80	104	140	104	140	82	
	Packed Unit		kg	92	117	158	117	158	94	
Packing	Material		Carton							
			Wood							
			EPS							
Weight		kg	13	13	18	13	18	12		
Main components	Tank	Water volume	l	150	200	300	200	300	150	
		Material		Enamel coated steel acc. DIN4753TL2						
		Max. temperature	°C	75	75	75	75	75	75	
		Max. water pressure	bar	10	10	10	10	10	10	
Tank	Insulation	Material		HFC-free Polyurethane foam						
		Min. thickness	mm	47.5	47.5	50	47.5	50	47.5	
Main components	Heat exchanger	Quantity		1	1	1	1	1	1	
		Material		Enamel coated steel acc. DIN4753TL2						
		Surface	m ²	0.5	0.8	1.06	0.8	1.06	0.5	
	Booster heater	Quantity		1.0	1.0	1.0	1.0	1.0	1.0	
		Capacity	kW	3.0	3.0	3.0	3.0	3.0	3.0	
	3-Way Valve	Coefficient of flow (kV)		12.0	12.0	12.0	12.0	12.0	12.0	
Inlet		inch	RP 1"							
Outlet		inch	2 x RP 1"							
Temperature sensor	Cable length		m	12.0	12.0	12.0	12.0	12.0	12.0	
Piping connections	Water inlet H/E Diameter		inch	Rp 3/4"						
	Water outlet H/E Diameter		inch	Rp 3/4"						
	Cold water in Diameter		inch	G 3/4"						
	Hot water out Diameter		inch	G 3/4"						
	Recirculation connection		inch	G3/4"						

2-2 ELECTRICAL SPECIFICATIONS				EKHWE150A3V3	EKHWE200A3V3	EKHWE300A3V3	EKHWE200A3Z2	EKHWE300A3Z2	EKHWE150A3V3	
Unit	Power Supply	Phase		1~	1~	1~	2~	2~	1~	
		Frequency	Hz	50	50	50	50	50	50	
		Voltage	V	230	230	230	400	400	230	
	Nominal running current		A	13	13	13	7.5	7.5	13	
	Fuse	Size		A	20	20	20	20	20	20
		Pole			2	2	2	2	2	2

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 (EHWW).

Definition:

EHWW = 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)	EHWW (l)	Usage pattern		
			Modest	Medium	High
150L	55	125	-	-	-
	65	165	+	-	-
	75	185	++	+	-
200L	55	200	+	-	-
	65	230	++	+	-
	75	260	++	++	-
300L	55	320	++	++	-
	65	400	++	++	+
	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

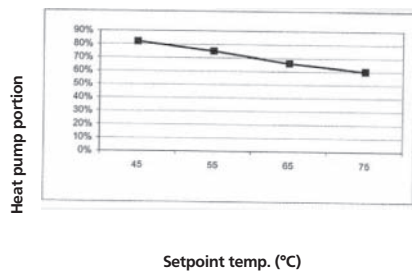
Conditions for testing: Ta = 7°CDB / 6°CWB, Troom = 20°C, Tstart = 10°C, outdoor unit type: ERHQ011

(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 ERHQ011 Tank type 200l Field settings Simulation of a daily usage based upon 'medium' usage pattern. Default field settings (see installation manual).

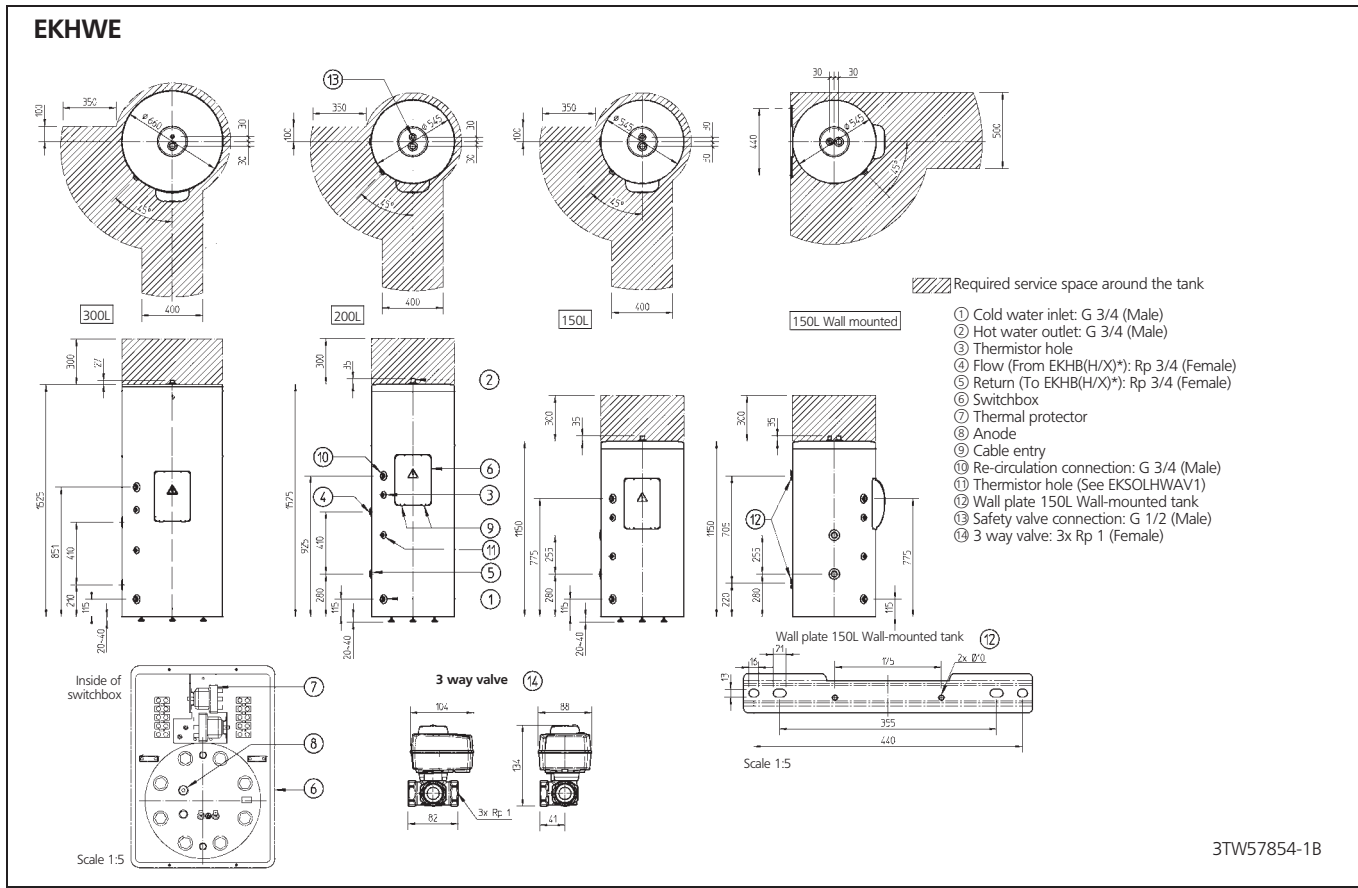
(4) Heat losses of domestic hot water tank:

Tank	Heat losses* (kWh/24h)
EKHWE 150L	1,7
200L	1,9
300L	2,5

* Heat losses at Δ45°C between hot water in tank and surrounding air.

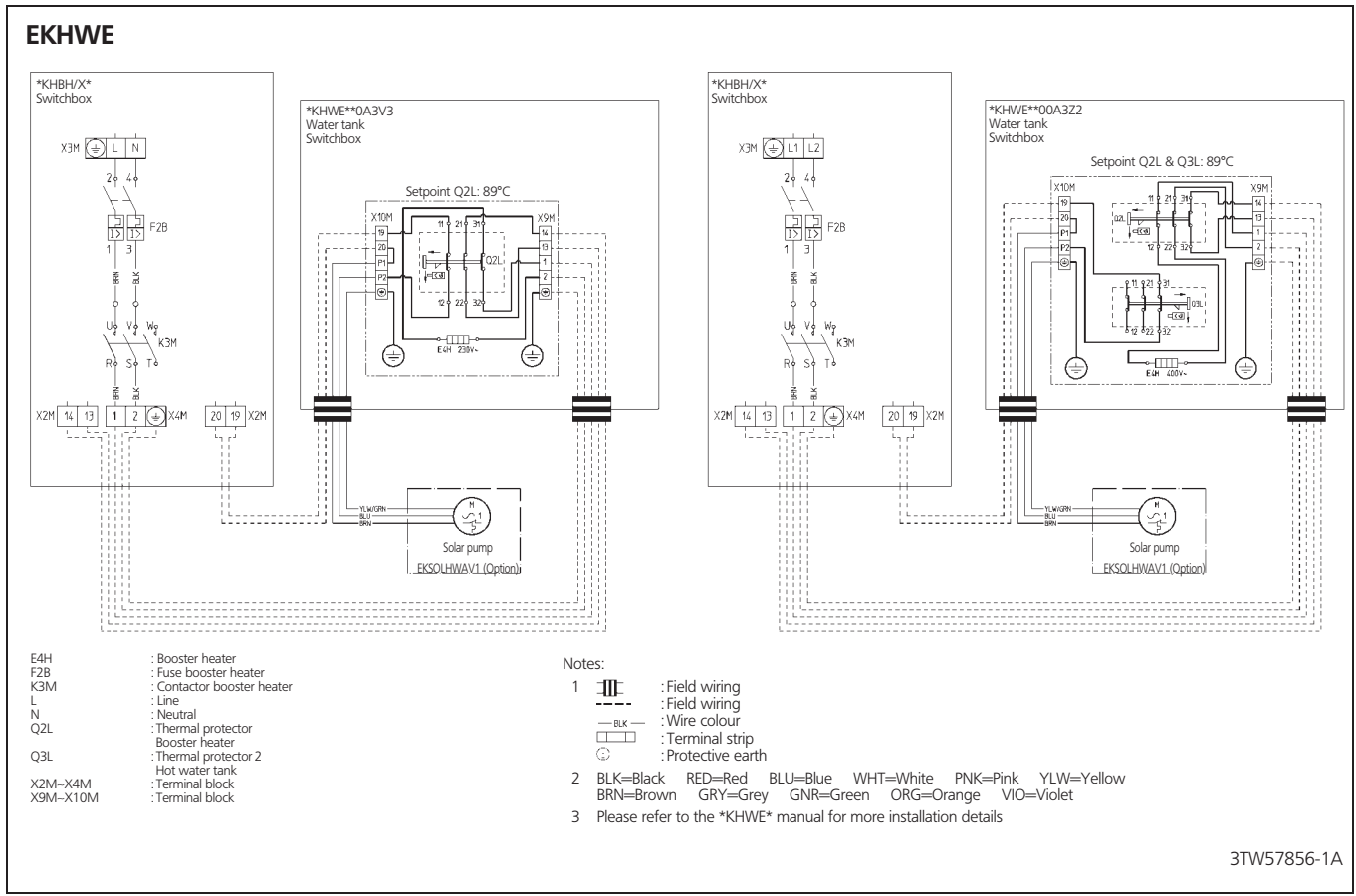
4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing



5 Wiring diagram

5 - 1 Wiring diagram



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1 Features

- Solar collector for domestic hot water production
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



25

1



2 Specifications

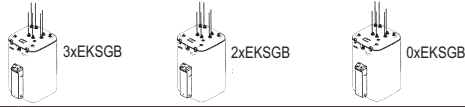

2-1 TECHNICAL SPECIFICATIONS				EKSV26P	EKSH26P
Dimensions	Unit	Height	mm	2,000	1,300
		Width	mm	1,300	2,000
		Depth	mm	85	85
Weight	Unit	kg	43	43	
Volume		l	1.7	2.1	
Surface	Outer	m ²	2.60	2.60	
	Absorber	m ²	2.36	2.36	
Coating	Micro-therm (absorption max. 96%, Emission ca. 5% +/-2%)				
Absorber	m ²	Harp-shaped copper pip register with laser-welded highly selective coated aluminium plate			
Glazing	Single pane safety glass, transmission +/- 92%				
Insulation material	Mineral wool 50mm				
Allowed roof angle	Minimum	°C	15	15	
	Maximum	°C	80	80	
Heat Exchanger	Maximum pressure drop at 100l/h	Solar side	mBar	3	0.5
Operating pressure	Maximum	bar	6	6	
Stand still temperature	Maximum	°C	200	200	
Notes	The collectors are standstill resistant over a long period and are tested for thermal shock. Minimum collector yield over 525kWh/m ² at 40% covering proportion; Location Würzburg, Germany.				

3 Options

EKS(H-V)P-A

MATERIAL LIST FOR SOLAR SYSTEM WITH EKHR* (Drain back system): ON ROOF MOUNTED


Required items	Reference	Description	Nr. of solar panels				
			1	2	3	4	5
SOLAR PANEL	EKSV26P EKSH26P	Solar panel, vertical Solar panel, horizontal	1	2	3	4	5
TANK	EKHWP300A EKHWP500A	Domestic hot water tank, 300l Domestic hot water tank, 500l			1		
PUMP STATION	EKSRPS3	Solar pump & control station			1		
SUPPORT HOOK KIT	EKSFIXAD EKSFIXADP EKSFIXADS AKSFIXWD EKSFIXBD	4 support hooks for low tiles 4 support hooks for high tiles 4 support hooks for flat tiles (slate) 4 support hooks for low curved roofings 4 support hooks for sheet metal roofs	1	2	3	4	5
MOUNTING RAIL	EKSFIXMP130 EKSFIXMP200	Mounting rail set for EKSV26P Mounting rail set for EKSH26P	1	2	3	4	5
CONNECTION KIT	EKSRCAP EKSRCP	Connection kit, including red roof tile Connection kit, including antracit roof tile			1		
COUPLING KIT	EKSFIXVBP	Set to couple 2 Solar panels	Nr. of panels - Nr. of rows Example:  4 panels, 2 rows => 4-2=2 2 connection sets  4 panels, 1 row => 4-1=3 3 connection sets				
CONNECTION PIPING	EKSCON15 EKSCON20	Connection piping, 15m Connection piping, 20m			1		

Optional items	Reference	Description	
GRAVITY BREAKS	EKSGB	Set of gravity breaks	Avoids thermal heat loss from tank due to thermo-siphon effect. Advised if piping from heat exchanger is not making a down ward bend at the tank. 
ELONGATION PIPES	EKSCONX25 EKSCONX50 EKSCONX100	Elongation pipe with couplings, 2.5m Elongation pipe with couplings, 5.0m Elongation pipe with couplings, 10.0m	Depending on required elongation
INLET ELONATION PIPE	EKSCONXV80	Elongation pipe with couplings for inlet, 8.0m	Only required if rooftransit of outlet pipe collector can not be located next to outlet connection of solar collector.  EKSCONXV80
CONNECTION BETWEEN ROWS	EKSCONRVP	Connection pipe between solar panel rows	Nr. of rows - 1
SOLAR PRIORITY PCB	EKHRP1HBAA	PCB kit to disable DHW heating by H/P during solar DHW heating	To be ordered together { 1
SOLAR PRIORITY CABLE	EKS164110	Connection cable to disable heatpump		1

3TW59649-1

EKS(H-V)P-A

MATERIAL LIST FOR SOLAR SYSTEM WITH EKHBH* and EKHBX* (pressurized system): ON ROOF MOUNTED

Required items	Reference	Description	Nr. of solar panels		
			1	2	3
SOLAR PANEL	EKSV26P EKSH26P	Solar panel, vertical Solar panel, horizontal	1	2	3
TANK	EKHWS* EKHWE*	DHW tank, stainless steel DHW tank, enamel coated		1	
SOLAR KIT	EKSOLHWAV1	Solar heat exchanger kit		1	
PUMP STATION	EKSRDS1A	Pump station		1	
SOLAR CONTROL	EKSR3PA	Solar controller		1	
SUPPORT HOOK KIT	EKSFIXAD EKSFIXADP EKSFIXADS EKSFIXWD EKSFIXDB	4 support hooks for low tiles 4 support hooks for high tiles 4 support hooks for flat tiles (slate) 4 support hooks for curved roofings 4 support hooks for sheet metal roofs	1	2	3
MOUNTING RAIL	EKSFIXMP130 EKSFIXMP200	Mounting rail for EKSV26P Mounting rail for EKSH26P	1	2	3
CONNECTION KIT	EKSRCP	Connection kit		1	
COUPLING KIT	EKSFIXVBP	Kit to couple 2 Solar panels	Nr. of panels - Nr. of rows Example:  3 panels, 1 row => 3-1=2 2 connection sets		
SOLAR FLUID	EKSGFL	20l Ready to use glycol Tmin= -28°C	Depending on system volume. Refer to technical data solar panels for volume of solar panels.		

Required items	Reference	Description	
CONNECTION BETWEEN ROWS	EKSCONLCP	Connection pipe between solar panel rows	Nr. of rows - 1
FLOW SENSOR	EKSFLP12A	Flow sensor for energy metering	1

4TW59649-2

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3

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

EKS(H-V)P-A
OVERALL DIMENSIONS FOR ON ROOF INSTALLATION

	Nr. of solar panels	EKSV26P					EKSH26P				
		1	2	3	4	5	1	2	3	4	5
Width of collector array	B	1332	2664	3996	5328	6660	2032	4064	6096	8128	10160
Distance from roof breakthrough	H ₀	300 to 700									
Height of collector array	Y ₀	2000					1300				
Distance from bottom edge of solar panel to lower mounting profile rail	Y ₁	200									
Spacing of the mounting rails	Y ₁	1400 to 1600					800 to 1000				
Distance from lower collector edge to lower edge of the perforated plate of roof mounting bracket	Y ₂	235 to 270									
Max. distance from edge of solar panel to the first roof mounting bracket.	X ₀	400									
Spacing of the roof mounting brackets of a flat solar panel	X ₀	500 to 1100					1000 to 1800				
Spacing of solar panel mounting brackets between two flat solar panels	X ₀	230 to 630									
Distance between solar panel and the first collector securing clip	A ₀	120 to 220									
Spacing of the roof mounting brackets of a flat solar panel	A ₁	900 to 1100					1600 to 1800				
Spacing of solar panel mounting brackets between two flat solar panels	A ₂	240 to 440									
Distance of edge of solar panel to hydraulic connection	E ₀	ca. 73									
Centre-to-centre distance of the solar panel couplings	E ₁	1854					1154				
Distance from top edge of solar panel to connection of solar panel sensor	F	172									

1. Roof mounting bracket 4. Solar panel 7. Collector sealing plug
 2. Mounting rail 5. Return flow connection 8. Solar panel connection elbow
 3. Collector securing clip 6. Flow connection 9. Universal roof penetration

3TW59644-1

EKSFIXWD

EPDM gasket ring

M12 DIN 934 A2 1x
 13 DIN 125 A2 1x

M12 thread

M12 DIN 6923 A2 2x

SW9

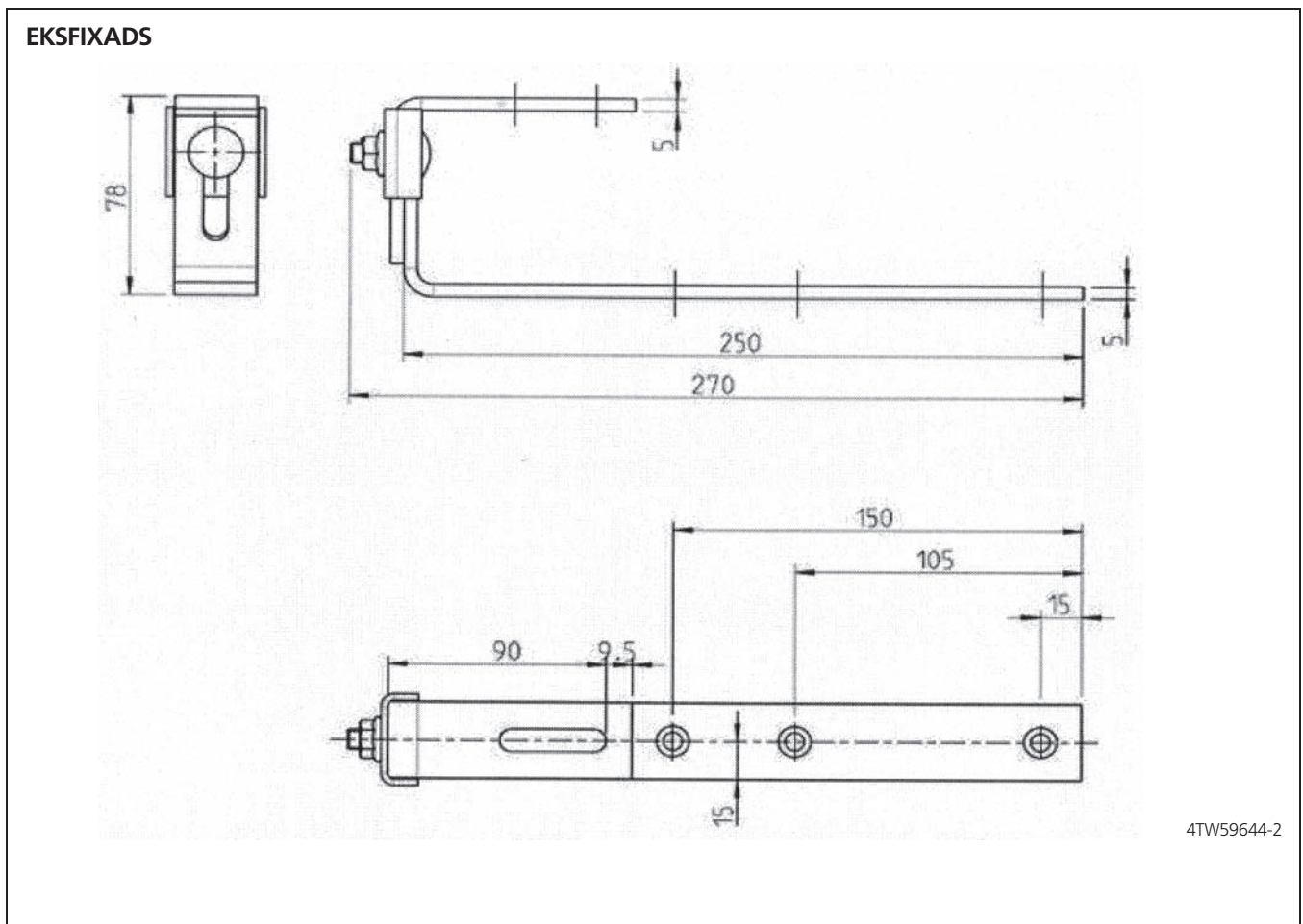
wood thread according to DIN 7998

100 110 250

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4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing



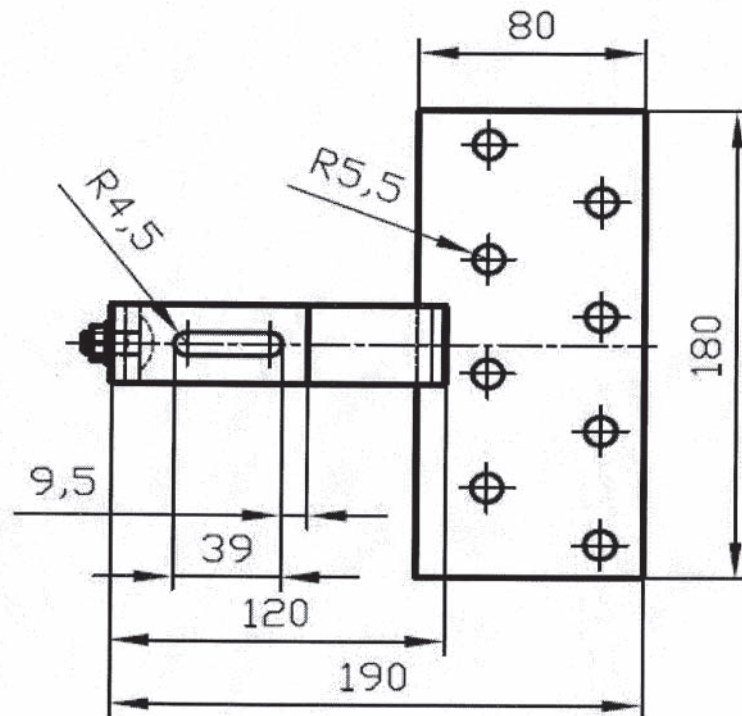
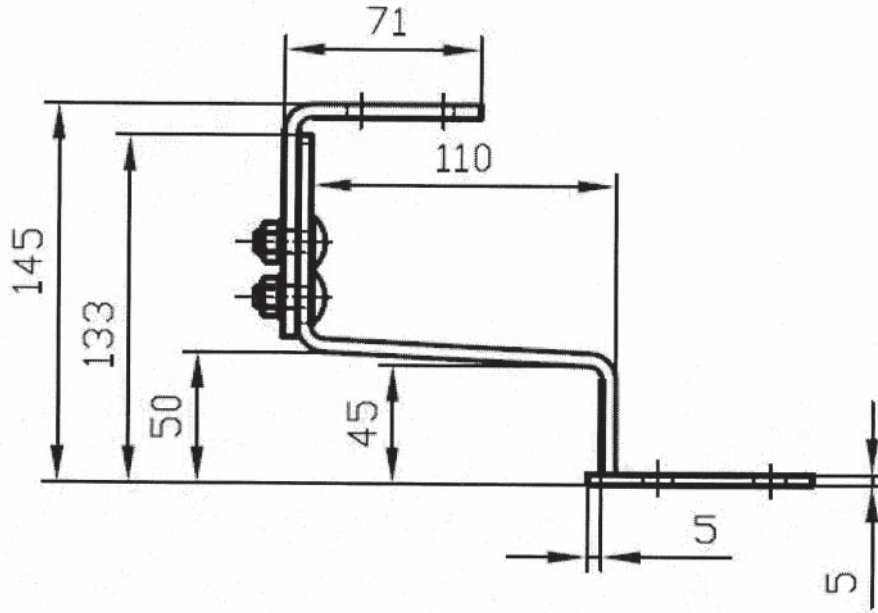
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4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

EKSFIXAD

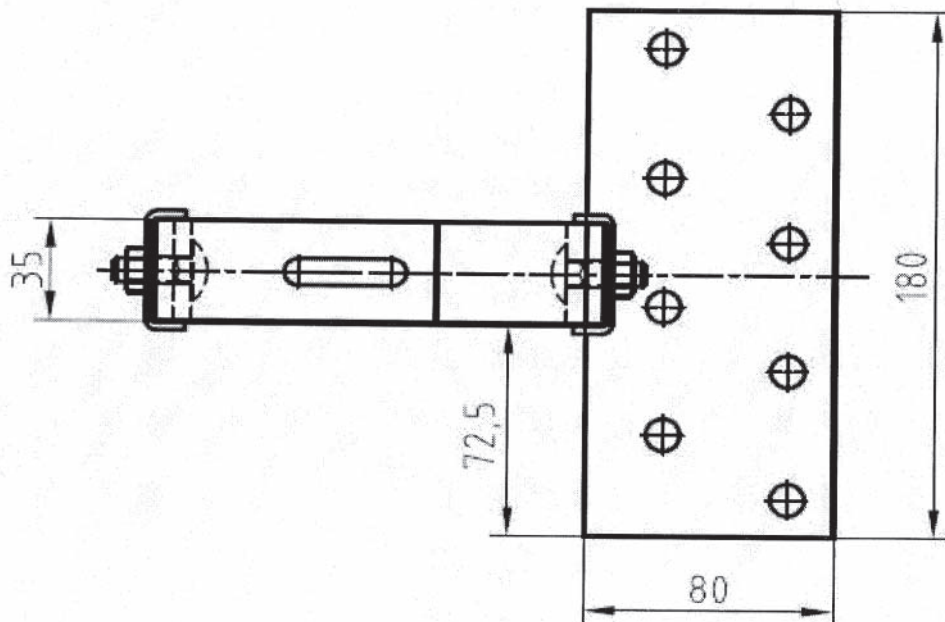
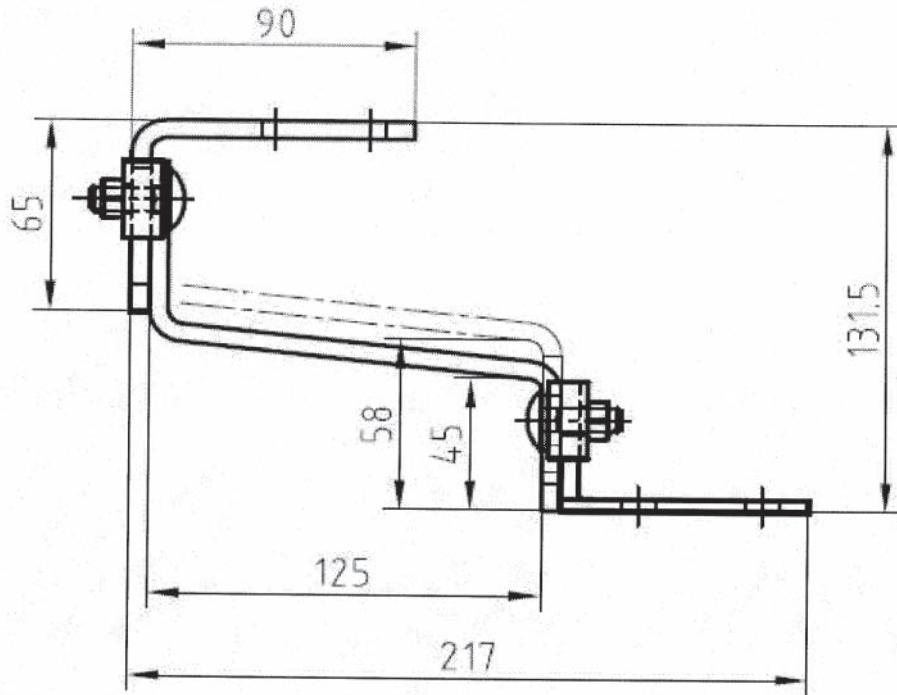


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4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

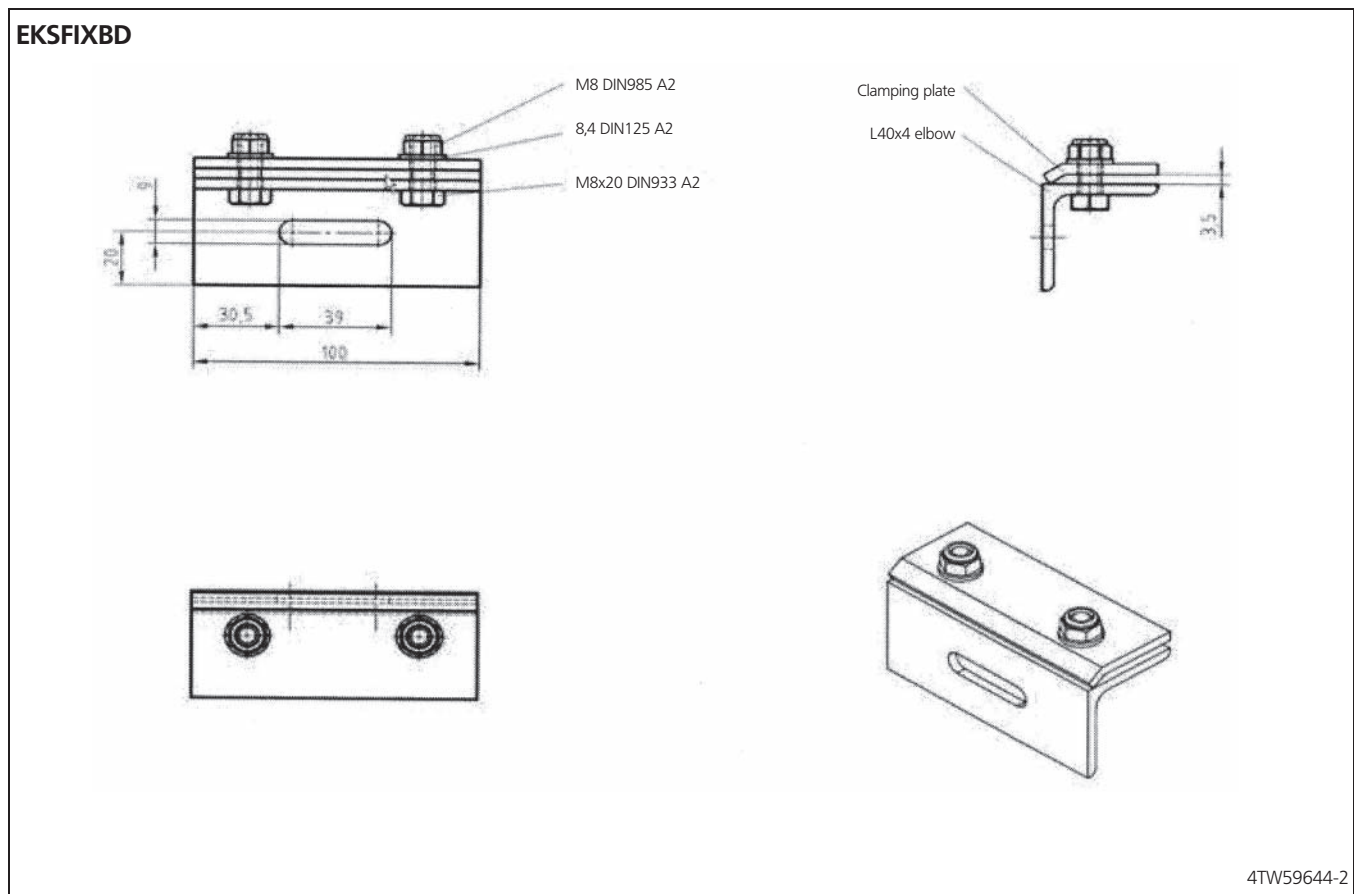
EKSFIXADP



4TW59644-2

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing



5 Installation

5 - 1 Installation method

EKS(H-V)P

Allowed wind loads

Subdivisions into windzones

Windzone	Area	Windspeed [km/h] at		
		building height ≤ 10m	building height ≤ 18m	building height ≤ 25m
1	inland	102	116	125
2	inland	116	129	137
	coast	133	144	151
3	inland	129	140	151
	coast	148	158	164
4	inland	140	154	164
	coast	161	170	179

Allowed building height according to windzone

Nr. of roof hooks per collector	Location	Windzone 1&2	Windzone 3		Windzone 4	
		4	4	6	4	6
max. allowed building height for collector installation						
	inland	25m	25m	25m	18m	25m
	coast	25m	10m	25m	Not allowed	10m

4TW59643-1

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EKSRRPS3

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1 Features

- Solar pump and control station for unpressurised system
- Connectable to solar collectors
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKSRRPS3
Mounting				On side of tank
Dimensions	Unit	Height	mm	815
		Width	mm	230
		Depth	mm	142
Pump	Power input		W	245
	Circulation pump	Type		Grundfoss UPSO 15-65 CIL2
	Booster pump	Type		Grundfoss UPSO 15-65 CACA0
Control	Type			Digital temperature difference controller with plain text display
Sensor	Solar panel temperature sensor			Pt1000
	Storage tank sensor			PTC
	Return flow sensor			PTC
	Feed temperature and flow sensor			Voltage signal (3.5 DC)

2-2 ELECTRICAL SPECIFICATIONS				EKSRRPS3
Unit	Power Supply	Frequency	Hz	50
		Voltage	V	230
Control	Power consumption		W	2

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1 Features

- Solar control of pump station for pressurised system
- Connectable to solar collectors
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort

2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKSR3PA
Mounting				On wall
Dimensions	Unit	Height	mm	332
		Width	mm	230
		Depth	mm	145
Control	Type			Digital temperature difference controller with plain text display
Sensor	Solar panel temperature sensor			Pt1000
	Storage tank sensor			PTC
	Return flow sensor			PTC
	Feed temperature and flow sensor			Voltage signal (3.5 DC)

2-2 ELECTRICAL SPECIFICATIONS				EKSR3PA
Unit	Power Supply	Frequency	Hz	50
		Voltage	V	230
Control	Power consumption		W	2

3 Options

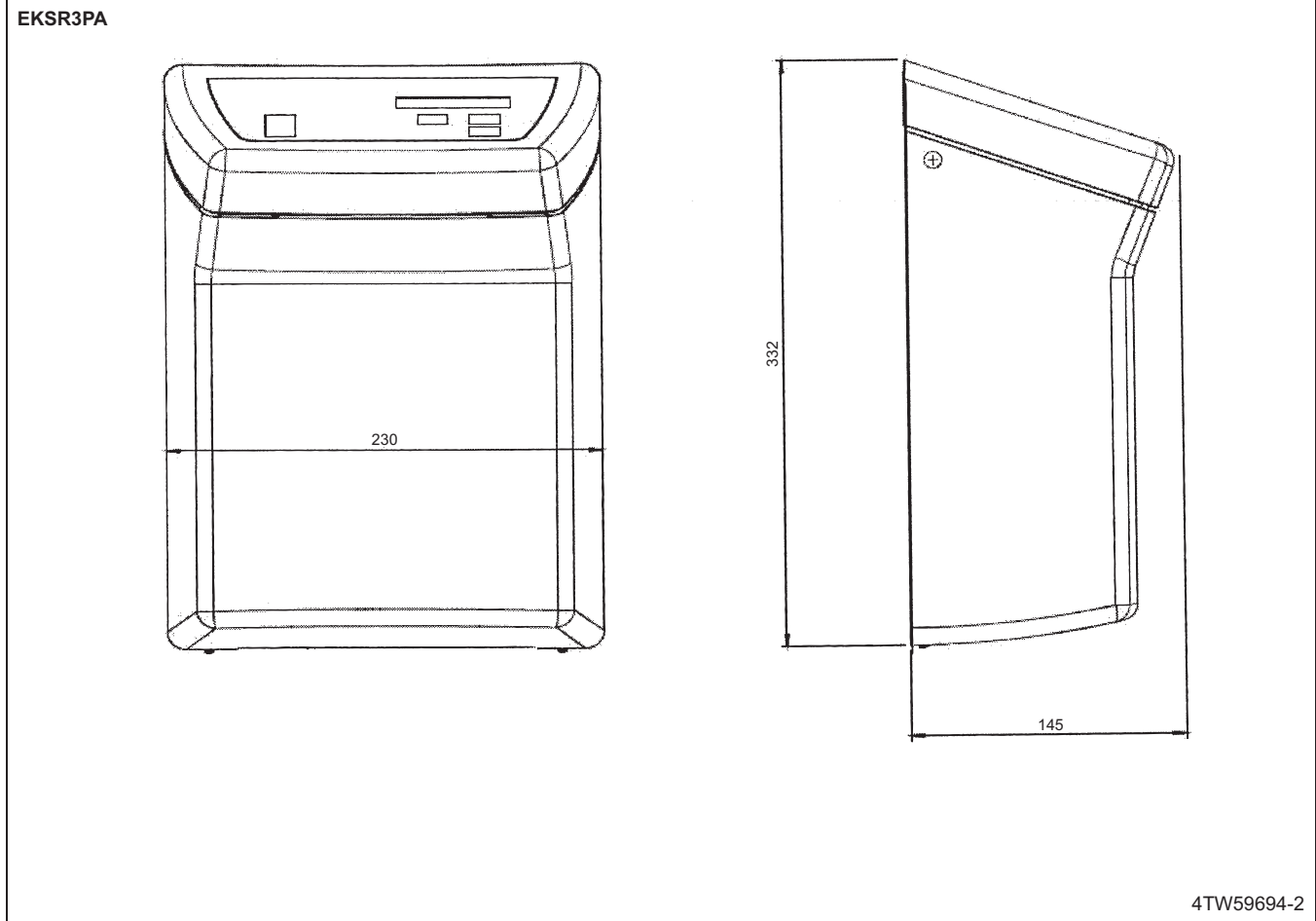
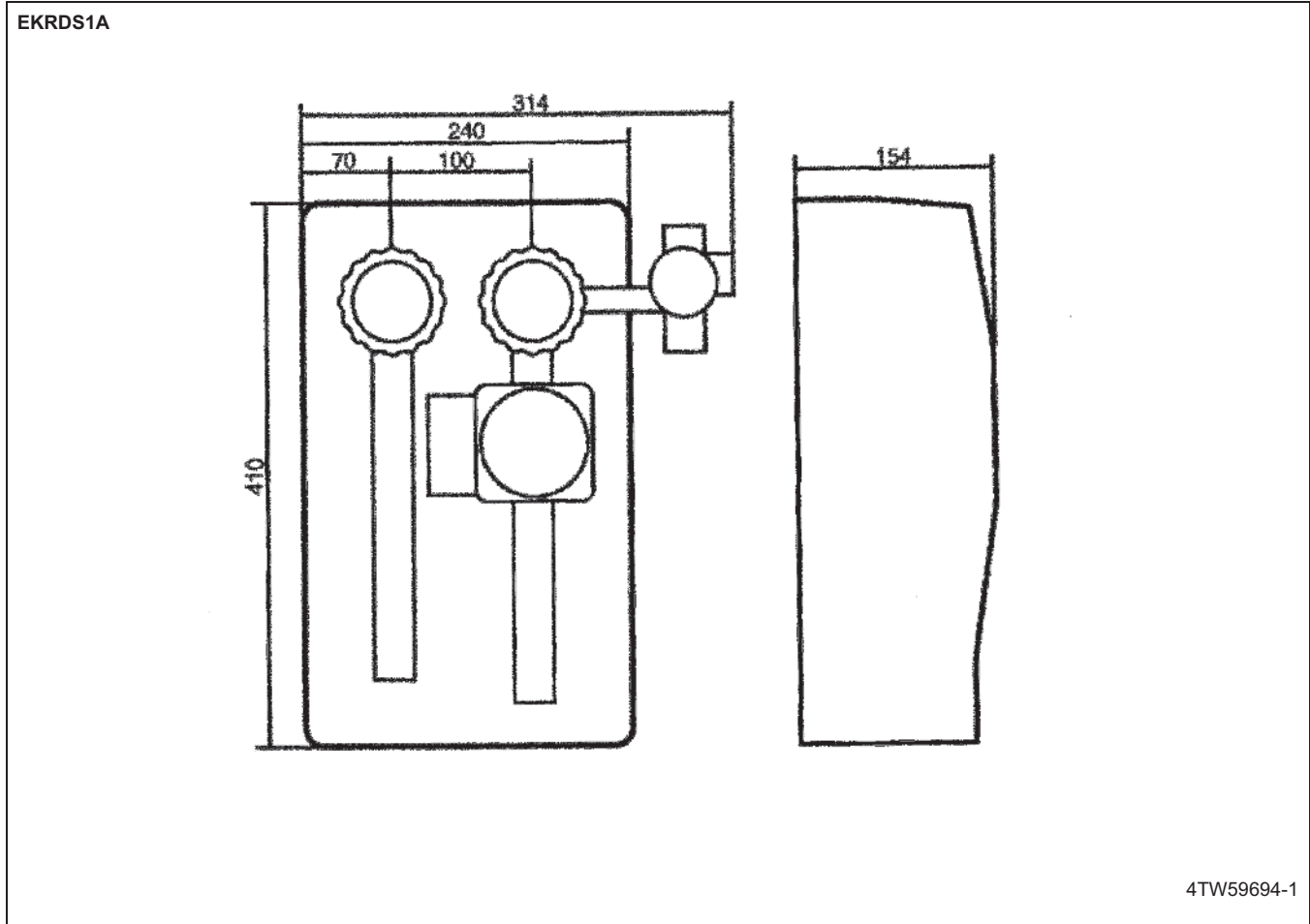
EKS3PA

General		
Weight	6.8 kg	
Material of fittings	Brass CW 617 N	
Insulation material	Polypropylene EPP	
System pressure	Max. 6 bar	
Operating temperature range		
Ambient	Max. 40°C	
Medium	Max. 120°C, brief spells max. 160°C	
Flow meter		
Connection	Screwed compression ring connector for 22 mm Ø pipe, pump side with flange and cap nut G1 ½	
Measuring range	2-12 l/min	
Combination cock, red (feed)		
Connection	Two-sided screwed compression ring connector for 22mm Ø pipe	
Indication range	0°C to + 120 °C	
Combination cock, blue (return)		
Connection	Screwed compression ring connector for 22 mm Ø pipe, pump side with flange and cap nut G1 ½	
Indication range	0°C to + 120 °C	
Safety group fittings		
Connection	Screwed compression ring connector for 22 mm Ø pipe for expansion vessel	
Safety valve	6 bar	
Pressure gauge	Ø 63 mm, 0-10 bar, hard soldered	
Circulation pump : Grundof Solar 25-65		
Nominal voltage	AC 230 V, 50Hz	
Power at	Power consumption [W]	Pumping height [m]
Speed 1	50	4.3
Speed 2	52	5.5
Pumping capacity	Max. 2.0 m³/h	
Connections	Male / male G1 ½	
Construction length	130 mm	
Protection	IP 44	
Noise level	< 43 dB(A)	

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4 Dimensional drawing & centre of gravity

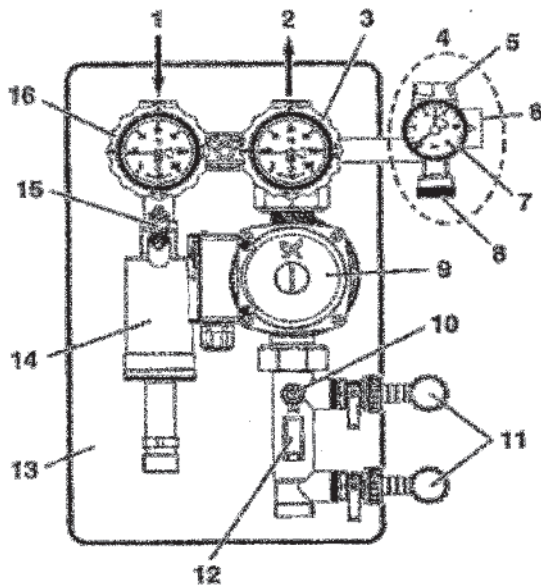
4 - 1 Dimensional drawing



5 Piping diagram

5 - 1 Piping diagram

EKSRDS1A



1. Feed
2. Return
3. Ball cock valve, blue, can be closed, with gravity brake and thermometer
4. Safety group fittings
5. Safety valve
6. Blow out opening
7. Pressure gauge with mounting valve
8. Connection for expansion vessel
9. Circulation pump
10. Stop cock
11. Fill- and rinsing cocks
12. Flow meter
13. Insulation
14. Vent pot
15. Vent cock with hand wheel
16. Ball cock valve, red, can be closed, with gravity brake and thermometer.

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1 Features

- Connectable to solar collectors
- Cost effective alternative to a fossil fuel boiler
- Low energy bills and low CO2 emissions
- Easy to install
- Total solution for year round comfort



2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKSOLHWAV1
Dimensions	Packing	Height	mm	795
		Width	mm	340
		Depth	mm	295
	Unit	Height	mm	770
		Width	mm	305
		Depth	mm	270
Weight	Unit	kg	8	
	Packed Unit	kg	9	
Packing	Material		Carton	
	Weight	kg	1	
Heat Exchanger	Type		Brazed plate	
	Pressure drop	Solar side	kPa	21.5
	Maximum inlet temperature	Solar side	°C	110
	Capacity		W/K	1,400
	Logarithmic mean temperature difference (LMTD)		K	5
Pump	Type		water cooled	
	Number of speeds		3	
	Power input	W	46	
Sound	Sound Pressure	dBA	27	
Water circuit	Piping connections diameter	inch	3/4" FBSP	
Insulation material			EPP	
Ambient temperature	Maximum	°C	35	
	Minimum	°C	1	

2-2 ELECTRICAL SPECIFICATIONS				EKSOLHWAV1
Unit	Power Supply	Phase		1~
		Frequency	Hz	50
		Voltage	V	220-240
Voltage range	Minimum		-10%	
	Maximum		+10%	
Power Supply Intake			indoor unit	

3 Dimensional drawing & centre of gravity

3 - 1 Dimensional drawing

EKSOLHWAV1+EKHWS

EKSOLHWAV1 + EKHW5200-300*

Components

- ① Pump + switch for speed setting
- ② Heat exchanger
- ③ EPP casing
- ④ Non return valves

CONNECTIONS

- ⑤ Inlet connection from solar pump station
- ⑥ Return connection to solar pump station
- ⑦ Inlet connection from Altherma indoor unit
- ⑧ Return connection to Altherma indoor unit
- ⑨ EKSOLHWAV1 return connection to the domestic hot water tank heatexchanger
 - ⓐ 200-300l Tank ⓑ 150l Tank
- ⑩ EKSOLHWAV1 inlet connection from the domestic hot water tank heatexchanger

Accessories (delivered with EKSOLHWAV1)

- ⑬ Thermistor socket (thermistor solar pump station) (internal diameter 6.1mm)
- ⑭ Adapter
- ⑮ Adapter
- ⑯ Adapter

Connection type

- 3/4" M BSP-3/4" M BSP
- 3/4" F BSP-3/4" M BSP
- 3/4" M BSP-3/4" M BSP

Minimum space for service & ventilation

Detail 1 Scale: 1/4

Service space Scale: 1/20

3TW57844-1

28

3

3 Dimensional drawing & centre of gravity

3 - 1 Dimensional drawing

EKSOLHWAV1+EKHWSU

EKSOLHWAV1 + EKHSU150*

Detail 2 Scale: 1/4

EKSOLHWAV1 + EKHSU200-300*

Detail 1

Detail 2

Switchbox domestic hot water tank

Minimum space for service & ventilation

Model H1

EKHWSU150*	430
EKHWSU200*	400
EKHWSU300*	400

Service space
Scale: 1/20

Components

- ① Pump + switch for speed setting
- ② Heat exchanger
- ③ EPP casing
- ④ Non return valves

Accessories (delivered with EKSOLHWAV1)

- ⑬ Thermistor socket (thermistor solar pump station) (internal diameter 6.1mm)
- ⑭ Adapter
- ⑮ Adapter (Field supply)

Connection type

- ⑯ Solenoid valve 3/4" F BSP-3/4" F BSP
- ⑰ Adapter 3/4" M BSP-3/4" M BSP
- Solenoid valve

EKUHWAKit

- ⑱ Solenoid valve 3/4" F BSP-3/4" F BSP
- ⑲ Adapter 3/4" M BSP-3/4" M BSP
- Solenoid valve

CONNECTIONS

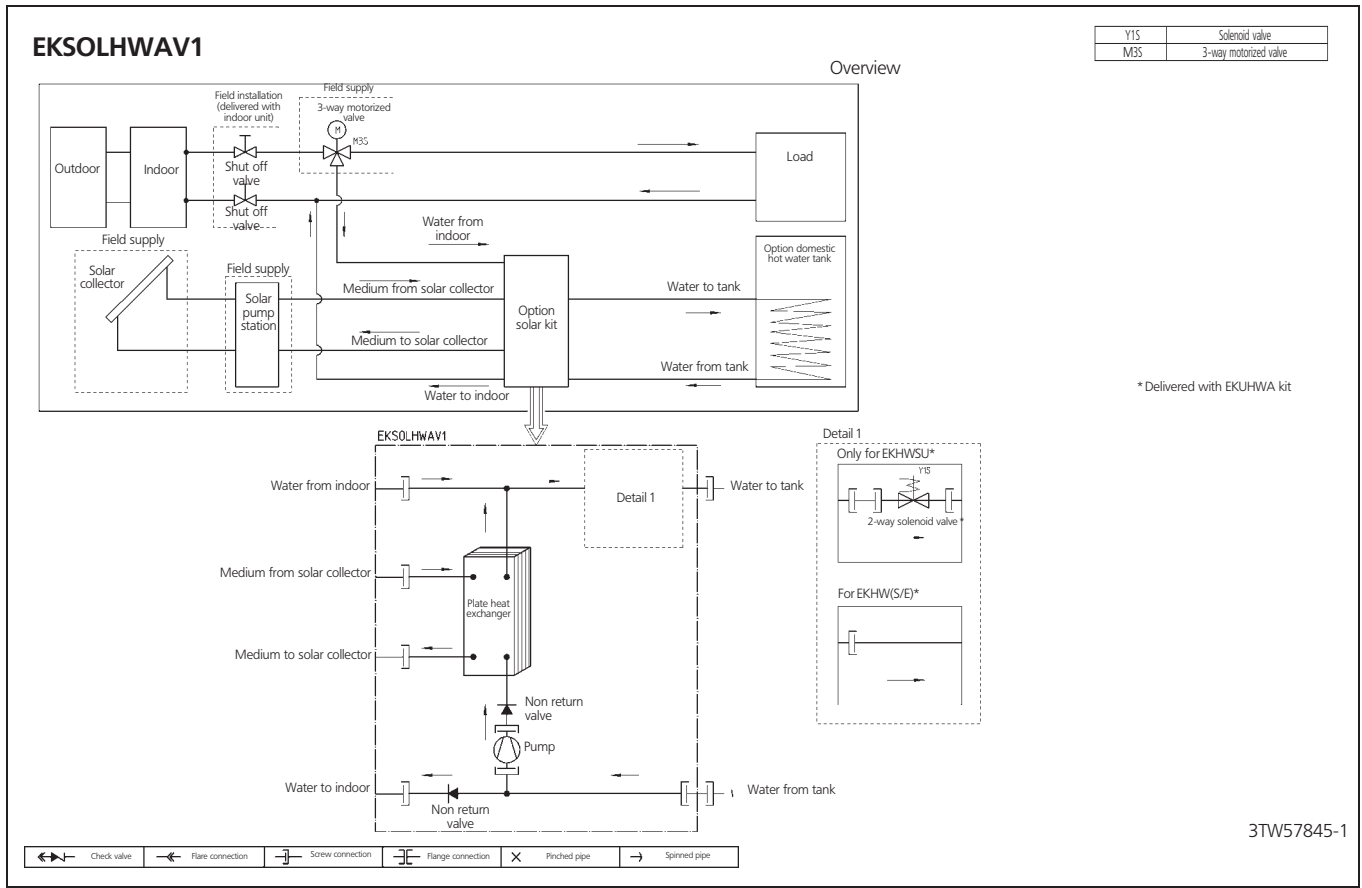
- ⑤ Inlet connection from solar pump station 3/4" F BSP
- ⑥ Return connection to solar pump station 3/4" F BSP
- ⑦ Inlet connection from Altherma indoor unit 3/4" F BSP
- ⑧ Return connection to Altherma indoor unit 3/4" F BSP
- ⑨ EKSOLHWAV1 return connection to the domestic hot water tank heatexchanger 3/4" F BSP
- ⑩ EKSOLHWAV1 inlet connection from the domestic hot water tank heatexchanger 3/4" F BSP

⑩ 200-300 Tank ⑩ 150l Tank

3TW57844-2

4 Piping diagram

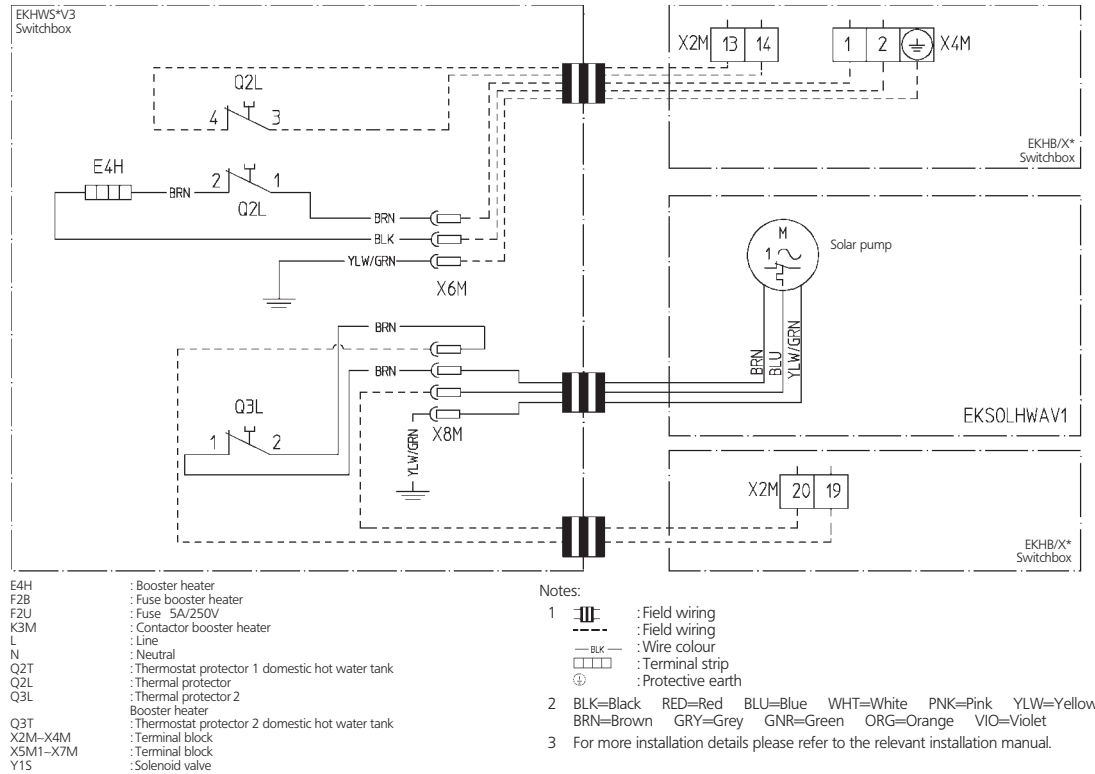
4 - 1 Piping diagram



5 Wiring diagram

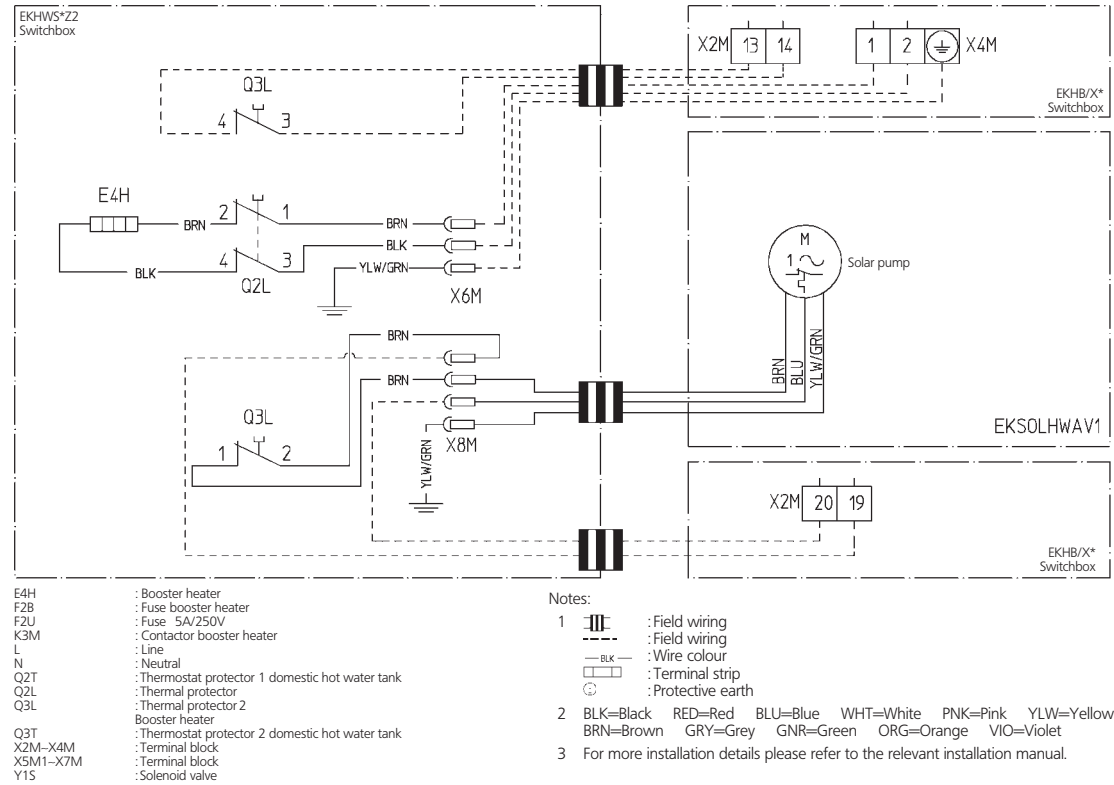
5 - 1 Wiring diagram

EKSOLHWAV1 with EKHWS*V3



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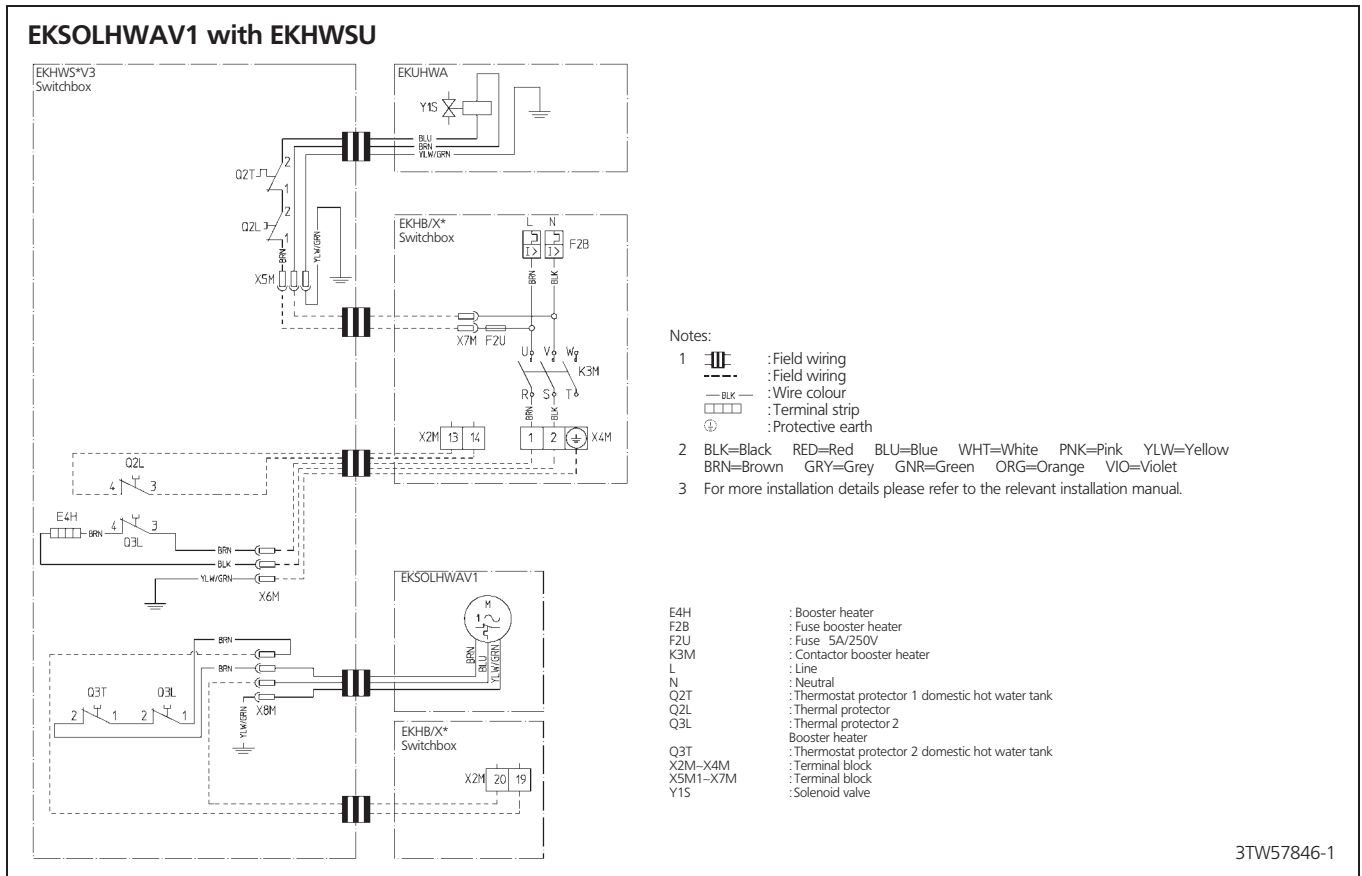
EKSOLHWAV1 with EKHWS*Z2



3TW57846-1

5 Wiring diagram

5 - 1 Wiring diagram



28
5

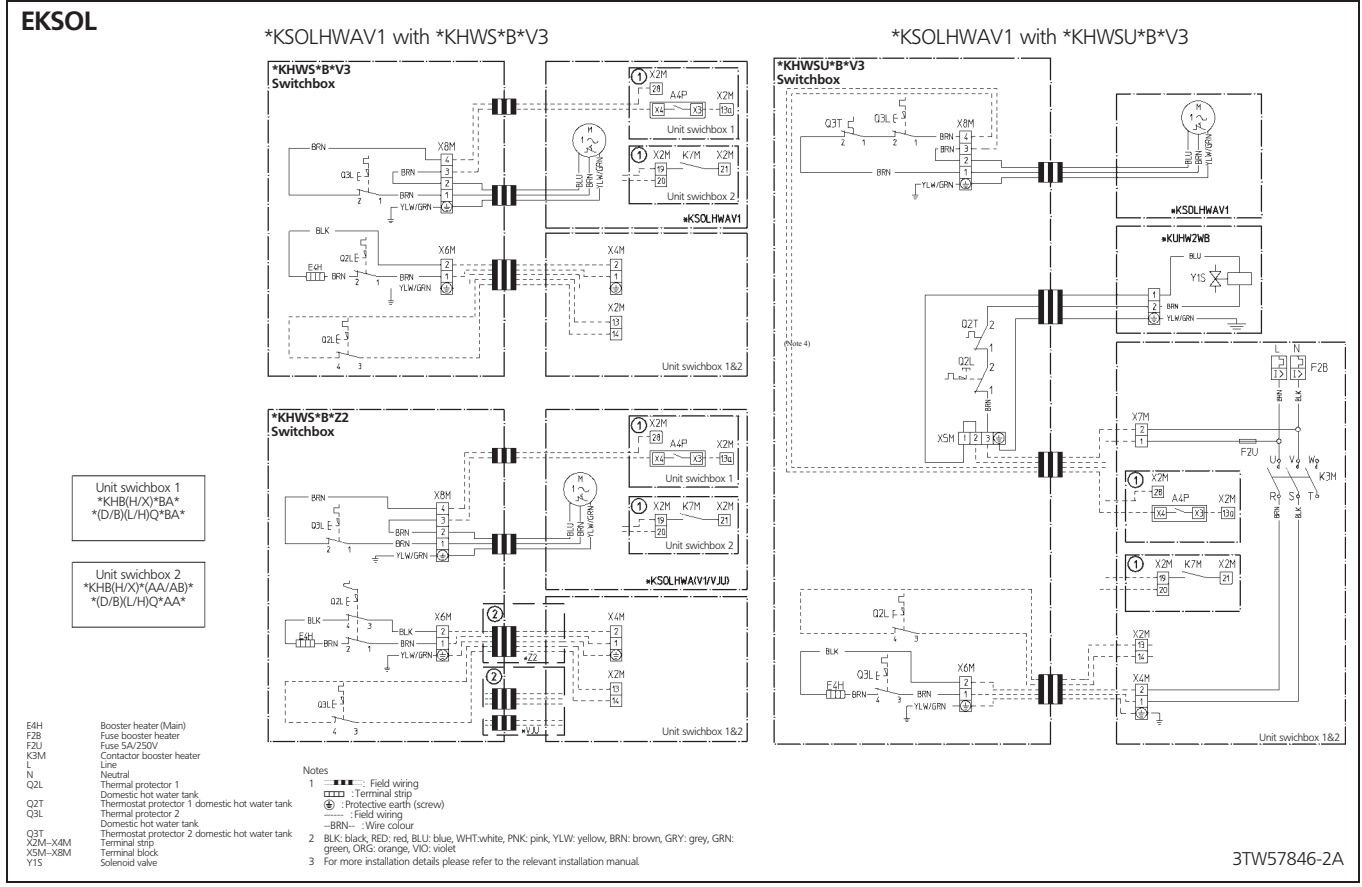


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1 Features



2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKRTR thermostat
Dimensions	Unit	Height	mm	87
		Width	mm	125
		Depth	mm	34
	Packing	Height	mm	70
		Width	mm	200
		Depth	mm	140
Weight	Unit	Net	g	210
		Gross	g	665
		Material		Carton
Packing	Weight		g	85
	Storage	°C	-20~60	
Ambient temperature	Operation		°C	0~50
	Temperature setting range	Heating	°C	4-37
Cooling		°C	4-37	
Temperature setting resolution			°C	0.5
Clock				Yes
Regulation function				Proportional band
Features	Item			Heating only
				Heating and cooling
				Comfort function mode (= comfort setpoint)
				Reduced function mode (=night setback setpoint)
				Scheduled function mode(= schedule timer)
				Number of setpoint changes
	Note			12/day
	Item			Holiday function mode
				Off function (with integrated frost protection)
				Setpoint limitation
				Keylock function
				Floor temperature protection
	Note			Only in combination with EKRTETS

2-2 ELECTRICAL SPECIFICATIONS				EKRTR thermostat
Power Supply	Voltage			Battery powered 3* AA-LR6 (alkaline)
Connection				Wireless
Maximum distance to receiver	Indoor	m		approx. 30m
	Outdoor	m		approx. 100m

3 Options

Additional information:	
comfort function mode	Use this mode for a fixed temperature on comfort level. (comfort setpoint default on 21°C in heating mode, 24°C in cooling mode)
reduced function mode	Use this mode for a fixed temperature on reduced level. (reduced setpoint default on 17°C in heating mode, 28°C in cooling mode)
scheduled function mode	Use this mode to let your installation be controlled by the schedule timer. The actions programmed in the schedule timer will be executed automatically according to the actual time. This function uses the scheduled temperature setpoint.
holiday function mode	Use this mode to set a fixed temperature during a long absence.
off function	Use this mode to switch of your installation. Integrated frost protection remains activated. (frost protection default on 4°C in heating mode)
setpoint limitation	Use this function to limit the setpoint range for the end customer.
floor temperature protection	Use this function to set a maximum and a minimum floor temperature.

4TW57991-2

4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

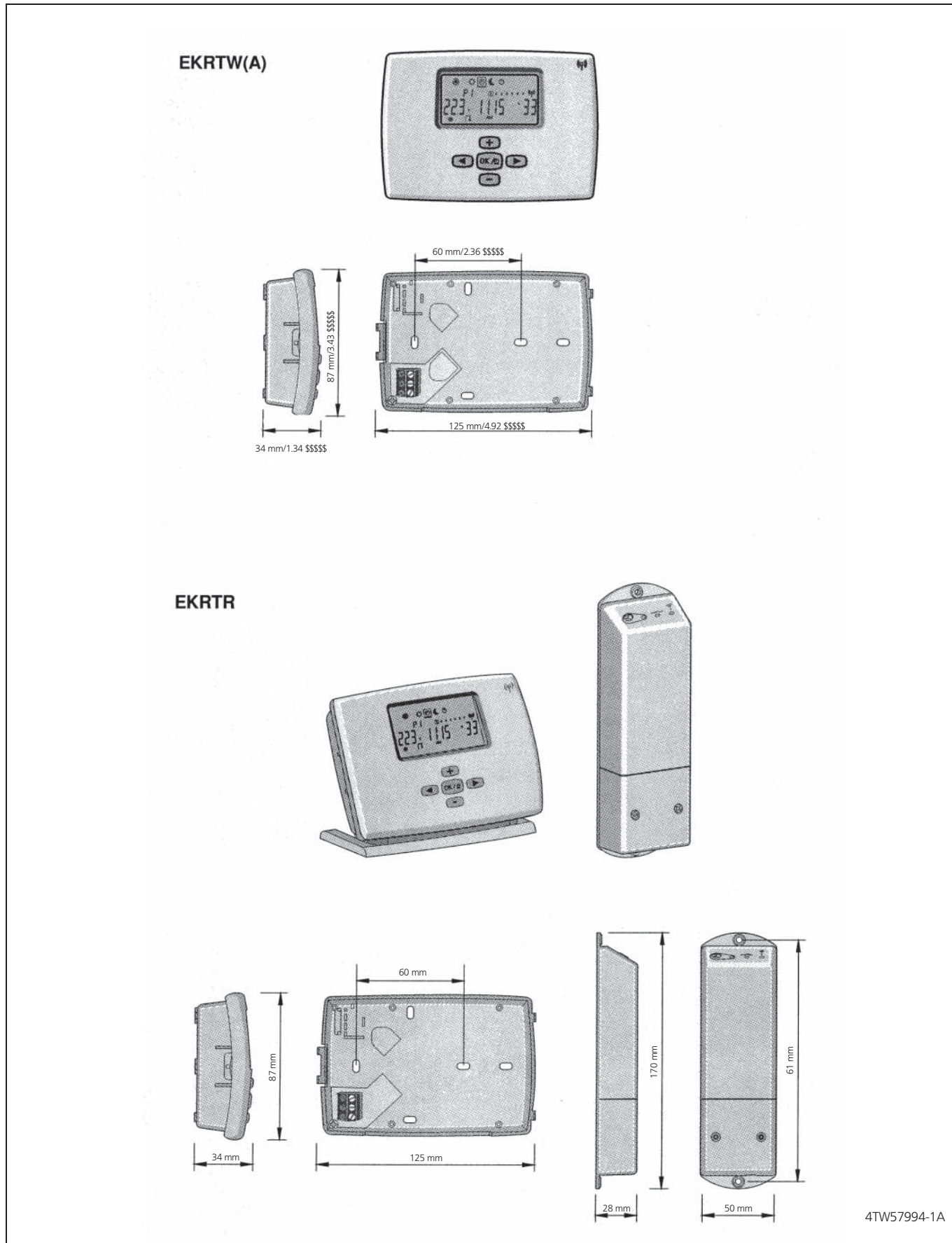


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1 Features



30

1

2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKRTW
Dimensions	Unit	Height	mm	87
		Width	mm	125
		Depth	mm	34
	Packing	Height	mm	65
		Width	mm	175
		Depth	mm	100
Weight	Unit	Net	g	215
		Gross	g	440
Packing	Material			Carton
	Weight		g	55
Ambient temperature	Storage		°C	-20~60
	Operation		°C	0~50
Temperature setting range	Heating		°C	4-37
	Cooling		°C	4-37
Temperature setting resolution			°C	0.5
Clock				Yes
Regulation function				Proportional band
Features	Item			Heating only
				Heating and cooling
				Comfort function mode (= comfort setpoint)
				Reduced function mode (=night setback setpoint)
				Scheduled function mode(= schedule timer)
				Number of setpoint changes
	Note			12/day
	Item			Holiday function mode
				Off function (with integrated frost protection)
				Setpoint limitation
		Keylock function		

2-2 ELECTRICAL SPECIFICATIONS				EKRTW
Power Supply	Voltage		Battery powered	3* AA-LR6 (alkaline)
Connection			Wired	
Maximum rated switching current (at 230VAC)			A	0.1

3 Options

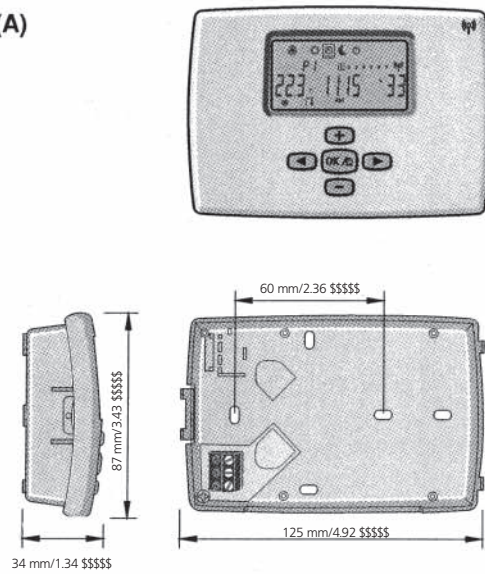
Additional information:	
comfort function mode	Use this mode for a fixed temperature on comfort level. (comfort setpoint default on 21°C in heating mode, 24°C in cooling mode)
reduced function mode	Use this mode for a fixed temperature on reduced level. (reduced setpoint default on 17°C in heating mode, 28°C in cooling mode)
scheduled function mode	Use this mode to let your installation be controlled by the schedule timer. The actions programmed in the schedule timer will be executed automatically according to the actual time. This function uses the scheduled temperature setpoint.
holiday function mode	Use this mode to set a fixed temperature during a long absence.
off function	Use this mode to switch of your installation. Integrated frost protection remains activated. (frost protection default on 4°C in heating mode)
setpoint limitation	Use this function to limit the setpoint range for the end customer.
floor temperature protection	Use this function to set a maximum and a minimum floor temperature.

4TW57991-2

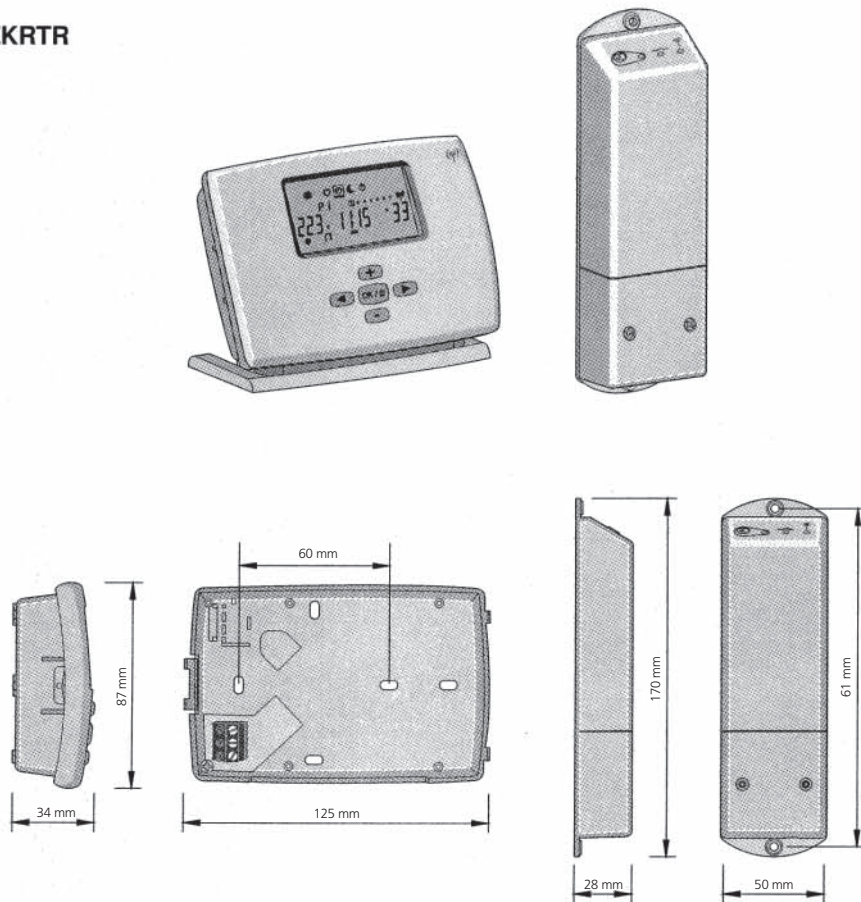
4 Dimensional drawing & centre of gravity

4 - 1 Dimensional drawing

EKRTW(A)



EKRTR



4TW57994-1A



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