

Daikin Altherma low
temperature split
Technical Data
ERLA11-16DW1



TABLE OF CONTENTS

ERLA11-16DW1

1	Features	4
	ERLA11-16DW1	4
2	Specifications	5
3	Combination table	11
4	Capacity graphs	12
	Cooling Capacity Graphs	12
	Heating Capacity Graphs	13
	Heating Capacity Graphs - quiet mode	14
5	Capacity tables	15
	Certification Programs	15
	Domestic Hot Water performance	16
6	Dimensional drawings	17
7	Centre of gravity	18
8	Piping diagrams	19
9	Wiring diagrams	20
	Notes & Legend	20
	Compressor - Single phase	21
	Compressor - Three phase	22
10	Sound data	23
	Sound Pressure Spectrum - Cooling	23
	Sound Pressure Spectrum - Heating	24
	Sound Pressure Spectrum Quiet Mode	25
11	Installation	26
	Installation Method	26
12	Operation range	27

1 Features

1 - 1 ERLA11-16DW1

- › Outdoor unit extracts heat from the outdoor air, even at -25°C
- › Combining with R-32 Bluevolution technology, reduces environmental impact with 68% compared to R-410A, leads directly to lower energy consumption thanks to its high energy efficiency and has up to lower 16% refrigerant charge
- › W-LAN Adapter and cartridge connection (optional)
- › Black grille hiding the fan from view



Guaranteed
operation
down to
-25°C



Daikin
Residential
Controller
(optional)



Voice control

2 Specifications

1 - 1 ERLA11-16DW1

Technical specifications					EBVH16SU23D6V + ERLA11DW1	EBVH16SU23D6V + ERLA14DW1	EBVH16SU23D6V + ERLA16DW1
Heating capacity	Nom.			kW	10.6 (1) / 9.82 (2)	12.0 (1) / 12.5 (2)	16.0 (1) / 16.0 (2)
Power input	Heating	Nom.		kW	2.18 (1) / 2.68 (2)	2.46 (1) / 3.42 (2)	3.53 (1) / 4.56 (2)
	Domestic hot water from 10°C to 50°C	Nom.		kWh	3.41		
Heat up time from 10°C to 50°C				hr	1h07min at 7°C ambient temperature		
COP					4.83 (1) / 3.66 (2)	4.87 (1) / 3.64 (2)	4.53 (1) / 3.51 (2)
Water side Heat exchanger	Water flow rate	Heating	Nom.	l/min	46.1 (3) / 46.1 (4)		
General	Supplier/ Manufacturer details	Name and address			Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium		
		Name or trademark			Daikin Europe N.V.		
	Product description	Air-to-water heat pump			Yes		
		Brine-to-water heat pump			No		
		Heat pump combination heater			Yes		
		Low-temperature heat pump			No		
		Supplementary heater integrated			Yes		
		Water-to-water heat pump			No		
	LW(A) Sound power level (according to EN14825)	Indoor		dB(A)	44.0 (5)		
LW(A) Sound power level (according to EN14825)	Outdoor			dB(A)	62.0		
Sound condition Ecodesign and energy label					Sound power in heating mode, measured according to the EN12102 under conditions of the EN14825		
Space heating general	Air to water unit	Rated airflow (outdoor)		m³/h	3,350	4,220	5,100
		Capacity control			Inverter		
	Other	Pck (Crankcase heater mode) kW			0.000		
		Poff (Off mode) kW			0.023		
		Psb (Standby mode) kW			0.023		
		Pto (Thermostat off) kW			0.023		
Domestic hot water heating 	General	Declared load profile			XL		
		Function to fix water heating during off peak hours			No		
Space heating general	Integrated supplementary heater	Psup		kW	6.0		
		Type of energy input			Electrical		
Domestic hot water heating 	Average climate	AEC (Annual electricity consumption)		kWh	1,542		
		COPdhw			2.63		
		Heat up time			1h 11min		
		Mixed water at 40°C		l	295.0		
		ηwh (water heating efficiency)		%	109		
		Qelec (Daily electricity consumption)		kWh	7.260		
		Reference hot water temperature		°C	51.5		
		Stand-by power input		W	43.2		
		Water heating energy efficiency class			A		

2 Specifications

1 - 1 ERLA11-16DW1

Technical specifications				EBVH16SU23D6V + ERLA11DW1		EBVH16SU23D6V + ERLA14DW1		EBVH16SU23D6V + ERLA16DW1		
Domestic hot water heating 	Cold climate	AEC (Annual electricity consumption)		kWh	1,963					
		COPdhw			2.08					
		ηwh (water heating efficiency)		%	85					
		Qelec (Daily electricity consumption)		kWh	9.180					
		Stand-by power input		W	43.1					
	Warm climate	AEC (Annual electricity consumption)		kWh	1,349					
		COPdhw			3.00					
		Heat up time			1h 10min					
		Mixed water at 40°C		l	295.0					
		ηwh (water heating efficiency)		%	124					
		Qelec (Daily electricity consumption)		kWh	6.350					
		Reference hot water temperature		°C	51.5					
		Stand-by power input		W	37.6					
Space heating 	Average climate water outlet 55°C	General	Annual energy consumption	kWh	6,405		7,047		7,477	
			ηs (Seasonal space heating efficiency)	%	131		126		130	
		Prated at -10°C	kW	10		11		12		
			Qhe Annual energy consumption (GCV)	Gj	23		25		27	
		SCOP		3.23		3.22		3.32		
			Seasonal space heating eff. class		A++					
		A Condition (-7°CDB/-8°CWB)	Cdh (Degradation heating)		1.0					
			COPd		1.89		1.80		1.95	
			Pdh	kW	7.9		8.5		9.4	
			PERd	%	75.6		72.0		78.0	
		B Condition (2°CDB-11°CWB)	Cdh (Degradation heating)		1.0					
			COPd		3.25		3.28		3.27	
			Pdh	kW	5.4		6.2		6.9	
			PERd	%	130.0		131.2		130.8	
		C Condition (7°CDB-11°CWB)	Cdh (Degradation heating)		1.0					
			COPd		4.79		4.88		4.93	
			Pdh	kW			4.4			
			PERd	%	191.6		195.2		197.2	
		D Condition (12°CDB/11°CWB)	Cdh (Degradation heating)		1.0					
			COPd		6.38		6.58		6.60	
			Pdh	kW			5.3			
			PERd	%	255.2		263.2		264.0	
	Tol (temperature operating limit)	COPd		1.68		1.76		1.50		
			Pdh	kW	6.9		7.0		6.0	

2 Specifications

1 - 1 ERLA11-16DW1

Technical specifications					EBVH16SU23D6V + ERLA11DW1	EBVH16SU23D6V + ERLA14DW1	EBVH16SU23D6V + ERLA16DW1	
 Space heating	Average climate water outlet 55°C	Tol (temperature operating limit)	PERd	%	67.2	70.4	60.0	
			TOL	°C	-10			
			WTOL	°C	55			
		Rated heat output supplementary capacity	Psup (at Tdesign -10°C)	kW	3.2	4.0	6.1	
			Tbiv	COPd	1.96	1.87	2.13	
			(bivalent temperature)	Pdh	kW	8.2	8.9	10.1
				PERd	%	78.4	74.8	85.2
		Tbiv	°C	-5				
		Cold climate water outlet 55°C	General	Annual energy consumption	kWh	8,083	9,024	9,561
	ηs (Seasonal space heating efficiency)			%	119	117	121	
Prated at -22°C	kW			10	11	12		
Qhe Annual energy consumption (GCV)	Gj			29	32	34		
Warm climate water outlet 55°C	General	Annual energy consumption	kWh	3,262	3,818	3,792		
		ηs (Seasonal space heating efficiency)	%	161	166	168		
		Prated at 2°C	kW	10	12.1			
		Qhe Annual energy consumption (GCV)	Gj	12	14			
	B Condition (2°CDB/1°CWB)	Cd (Degradation heating)		1.0				
		COPd		2.23	2.20	2.17		
		Pdh	kW	9.0	10.1	9.8		
		PERd	%	89.2	88.0	86.8		
	C Condition (7°CDB/6°CWB)	Cd (Degradation heating)		1.0				
		COPd		3.74	3.83			
		Pdh	kW	6.2	7.6			
		PERd	%	149.6	153.2			
	D Condition (12°CDB/11°CWB)	Cd (Degradation heating)		1.0				
		COPd		5.67	5.69			
		Pdh	kW	5.0				
		PERd	%	227.6				
	Tbiv (bivalent temperature)	COPd		2.40	2.65	2.40		
		Pdh	kW	8.5	11.1	11.0		
PERd		%	96.0	106.0	96.0			
Tbiv		°C	43					
Average climate water outlet 35°C	General	Annual energy consumption	kWh	4,479	4,935	5,377		
		ηs (Seasonal space heating efficiency)	%	182	181			
		Prated at -10°C	kW	10	11	12		
		Qhe Annual energy consumption (GCV)	Gj	16	18	19		
		SCOP		4.61	4.60	4.61		

2 Specifications

1 - 1 ERLA11-16DW1

Technical specifications					EBVH16SU23D6V + ERLA11DW1		EBVH16SU23D6V + ERLA14DW1		EBVH16SU23D6V + ERLA16DW1	
Space heating	Average climate water outlet 35°C	General	Seasonal space heating eff. class		A+++					
			A Condition COPd	3.03		2.99		2.87		
		(-7°CDB/-8°CWB) Pdh kW	9.2		9.8		11.2			
		PERd %	121.2		119.6		114.8			
		B Con- dition (2°CDB- B/1°CWB)	Cdh (Degradation heating)		1.0					
			COPd	4.35				4.33		
			Pdh kW	5.5		6.1		6.7		
		PERd %	174.0				173.2			
		C Con- dition (7°CDB- B/6°CWB)	Cdh (Degradation heating)		1.0					
			COPd	6.69		6.70		6.83		
			Pdh kW	4.6				4.7		
		PERd %	267.6		268.0		273.2			
		D Condition (12°CDB/11°CWB)	Cdh (Degradation heating)		1.0					
			COPd	8.47		8.65		8.82		
			Pdh kW	5.4				5.5		
		PERd %	338.8		346.0		352.8			
		Tol (tem- perature operat- ing limit)	COPd		2.72		2.71		2.52	
			Pdh kW	8.4		9.1		10.6		
			PERd %	108.8		108.4		100.8		
			TOL °C	-10						
		WTOL °C	35							
		Tbiv (bivalent tempera- ture)	COPd		3.01		2.99		2.72	
			Pdh kW	9.2		9.8		11.4		
			PERd %	120.4		119.6		108.8		
			Tbiv °C	-8		-7		-8		
		Rated heat output supple- mentary capacity	Psup (at Tdesign -10°C) kW		1.6		1.9		1.4	
	Cold climate water outlet 35°C	General	Annual energy consumption kWh		5,964		6,439		7,257	
ηs (Seasonal space heating efficiency) %			162		165		160			
Prated at -22°C kW			12		11		12			
Qhe Annual energy consumption (GCV) GJ			21		23		26			
General		Annual energy consumption kWh		2,228		2,431		2,675		
		ηs (Seasonal space heating efficiency) %	237		239		237			
		Prated at 2°C kW	12		11		12			
		Qhe Annual energy consumption (GCV) GJ	8		9		10			
B Con- dition (2°CDB- B/1°CWB)		Cdh (Degradation heating)		1.0						
		COPd	3.80		3.51		3.30			
		Pdh kW	9.2		11.0		11.9			
		PERd %	152.0		140.4		132.0			
Warm climate water outlet 35°C	B Con- dition (2°CDB- B/1°CWB)	Cdh (Degradation heating)		1.0						
		COPd	5.70		5.77		5.64			
		Pdh kW	6.7		7.4		8.1			
		PERd %	228.0		230.8		225.6			
	Tbiv (bivalent tempera- ture)	COPd		3.80		3.51		3.30		
		Pdh kW	9.2		11.0		11.9			
		PERd %	152.0		140.4		132.0			
		Tbiv °C	3		2					
	D Condition (12°CDB/11°CWB)	Cdh (Degradation heating)		1.0						
		COPd	7.87		7.73					
		Pdh kW	5.2							
		PERd %	314.8		309.2					

(1)Condition: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C) |

(2)Condition: Ta DB/WB 7°C/6°C - LWC 45°C (DT=5°C) |

(3)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) |

(4)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 Specifications

1 - 1 ERLA11-16DW1

(5) Measured with a pressure drop of 10 kPa in the heating system at an operating condition of leaving water 47-55°C in a room with an ambient of 20°C. DB/WB 7°C/6°. |
Cooling: EW 12°C; LW 7°C; ambient conditions: 35°CDB |
Cooling: EW 23°C; LW 18°C; ambient conditions: 35°CDB |
According to EN14825

Technical Specifications					ERLA11DW1		ERLA14DW1		ERLA16DW1		
Casing	Colour				Ivory white						
	Material				Polyester painted galvanised steel plate						
Dimensions	Unit	Height	mm		870						
		Width	mm		1,100						
		Depth	mm		460						
	Packed unit	Height	mm		1,118						
		Width	mm		1,207						
		Depth	mm		682						
Weight	Unit		kg		101						
	Packed unit		kg		120						
Packing	Material				Carton + Wood + EPS						
	Weight				kg						
Heat exchanger	Length				mm						
	Rows	Quantity			3						
	Fin pitch				mm						
	Passes	Quantity			13						
	Face area				m²						
	Stages	Quantity			0.950 /0.970 /1.00						
	Empty tubeplate hole	Quantity			38						
	Tube type				2						
	Fin	Type			ø7 Hi-XSL						
		Treatment			WF fin						
Fan					Anti-corrosion treatment (PE)						
	Type				Propeller fan						
	Quantity				1						
	Air flow rate	Heating	High	m³/min	55.8	70.4			85.0		
		Cooling	High	m³/min	70.4	85.0					
Fan motor	Discharge direction				Horizontal						
	Quantity				1						
	Model				Brushless DC motor						
	Output				W						
	Drive				234						
	Speed	Steps			Direct drive						
		Heating	Nom.	rpm	450	550			650		
Compressor					8						
					650						
Compressor	Quantity				1						
	Model				2Y350BPAY1P#C						
Compressor	Type				Hermetically sealed swing inverter compressor						
	Starting method				Inverter driven						
PED	Category				Category II						
Operation range	Heating	Min.	°CDB		-25.0						
		Max.	°CDB		25 (1) / 35 (1)						
	Cooling	Min.	°CDB		10						
		Max.	°CDB		43						
	Domestic hot water	Max.	°CDB		25 (1) / 35 (1)						
		Min.	°CDB		-25						
PED	Most critical part	Name		Accumulator							
		Ps*V	Bar*I		159						
Sound power level	Heating	Nom.	dBA		62.0 (2)						
Sound pressure level	Heating	Nom.	dBA		48.0 (2)						
Refrigerant	Type				R-32						
	GWP				675.0						
	Charge				TCO2Eq						
	Charge				kg						
	Control				3.80						
	Circuits				Electronic expansion valve						
Refrigerant oil	Quantity				1						
	Type				FW68DA						
	Charged volume				l						
					1.4						

2 Specifications

1 - 1 ERLA11-16DW1

2

Technical Specifications				ERLA11DW1	ERLA14DW1	ERLA16DW1
Piping connections	Liquid	Quantity			1	
		Type			Flare connection	
		OD	mm		9.50	
	Gas	Quantity			1	
		Type			Flare connection	
		OD	mm		15.9	
	Drain	Quantity			8	
		Type			Hole	
		OD	mm		26	
	Piping length	OU - IU	Min.	m	3	
			Max.	m	50	
		System	Chargeless	m	10	
	High pressure side	Design pressure			42	
		Additional refrigerant charge			kg/m	
Level difference		IU - OU	Max.	m	0.05 (for piping length exceeding 10m) 30.0	
Heat insulation				Both liquid and gas pipes		
Defrost control				Sensor for outdoor heat exchanger temperature		
Capacity control	Method			Variable (inverter)		
Safety devices	Item	01			High pressure switch	
		02			Low pressure switch	
		03			Fan driver overload protector	
		04			Fuse	
		05			Compressor motor thermal protector	
Defrost method				Reversed cycle		
Electrical Specifications				ERLA11DW1	ERLA14DW1	ERLA16DW1
Power supply	Name			W1		
	Phase			3~		
	Frequency			50		
	Voltage			400		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Current	Maximum running current	Heating	A	14.0		
		Cooling	A	14.0		
	Recommended fuses			A 16		
Wiring connections	For power supply	Quantity			5	
		Remark			Select diameter and type according to national and local regulations	
	For connection with indoor	Quantity			4	
		Remark			1,5mm ²	
IP class	IP			IPX4		

(1)For more details, see operation range drawing |

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

3 Combination table

3 - 1 Combination Table

ERLA11-16DV3

ERLA11-16DW1

Combination table

Description	ERLA11DAV3	ERLA14DAV3	ERLA16DAV3	ERLA11DAW1	ERLA14DAW1	ERLA16DAW1
EBBH11DF*	Heating only indoor unit	o	---	---	o	---
EBBX11DF*	Reversible indoor unit	o	---	---	o	---
EBBH16DF*	Heating only indoor unit	---	o	o	---	o
EBBX16DF*	Reversible indoor unit	---	o	o	---	o

Description	ERLA11DAV3/W1	ERLA14DAV3/W1	ERLA16DAV3/W1
EBVH11S(18/23)DJ*	Heating only indoor unit	o	-
EBVX11S(18/23)DJ*	Reversible indoor unit	o	-
EBVH16S(18/23)DJ*	Heating only indoor unit	-	o
EBVX16S(18/23)DJ*	Reversible indoor unit	-	o
EBVZ16S(18/23)DJ*	(Integrated Bizzone)	o	o
EBVH16SU(18/23)DJ6V	Heating only indoor unit for the UK	o	o

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

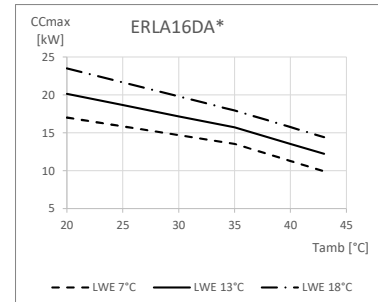
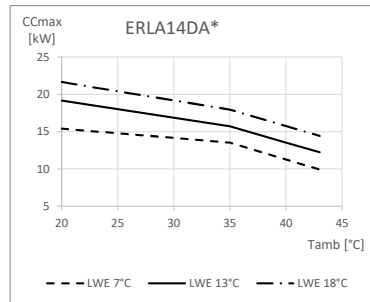
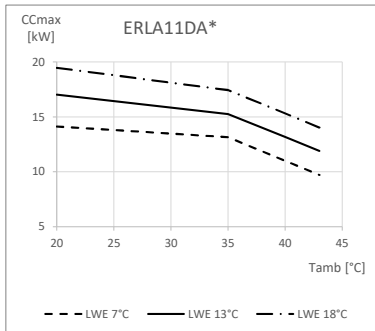
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4 Capacity graphs

4 - 1 Cooling Capacity Graphs

ERLA11-16DV3

ERLA11-16DW1 Maximum cooling capacity



Symbols

CC_{max} Cooling capacity at maximum operating frequency, measured according to EN 14511.

LWE Leaving water evaporator temperature [°C]

T_{amb} Ambient temperature [°C DB]

Conditions

Cooling capacity

Capacity according to standard EN 14511 and valid for chilled water range $\Delta T = 3 \sim 8^\circ\text{C}$.

Notes

The capacity and power input is valid for ·V3· models at ·230·V and for ·W1· models at ·400·V.

The capacity and the power input are at maximum operation.

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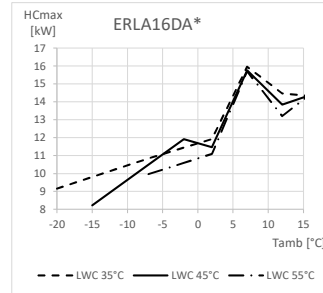
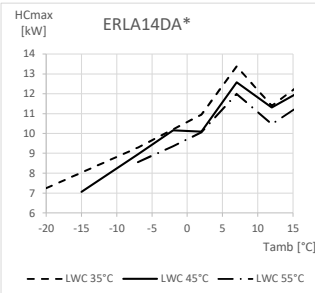
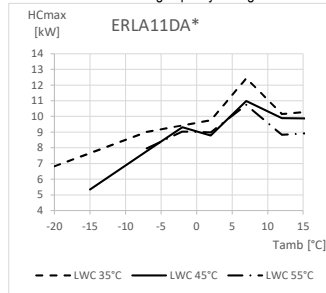
4 Capacity graphs

4 - 2 Heating Capacity Graphs

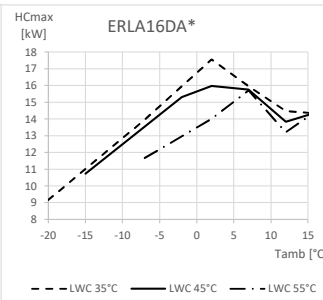
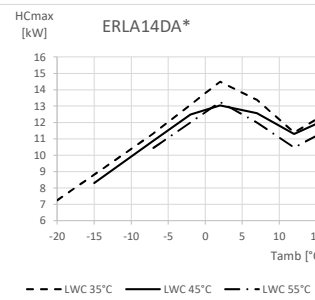
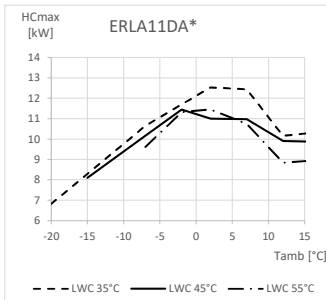
ERLA11-16DV3

ERLA11-16DW1

Maximum heating capacity - integrated value



Maximum heating capacity - peak values



Symbols

HC_{max} Heating capacity for maximum load, measured according to EN 14511
LWC Leaving water condenser temperature [°C]
Tamb Ambient temperature [°C DB]

Conditions

Heating capacity

Capacity according to standard EN 14511 and valid for heated water range $\Delta T = 3^{\circ}\text{C} \sim 8^{\circ}\text{C}$.

Notes

The capacity and power input is valid for -V3- models at -230-V and for -W1- models at -400-V.
The capacity and the power input are at maximum operation.

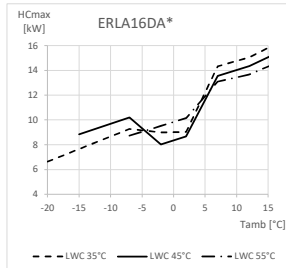
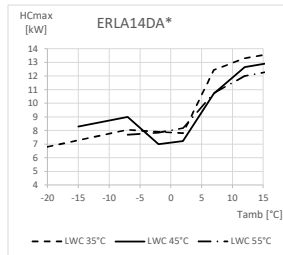
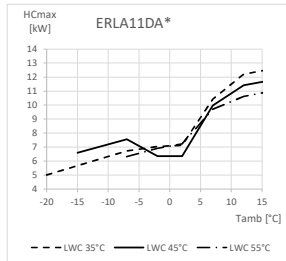
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4 Capacity graphs

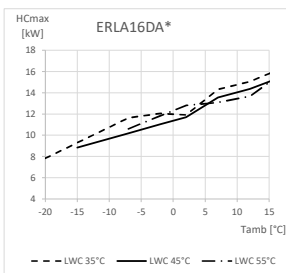
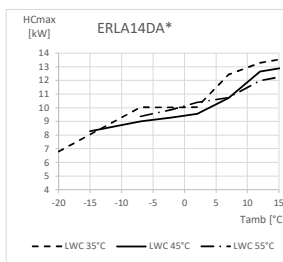
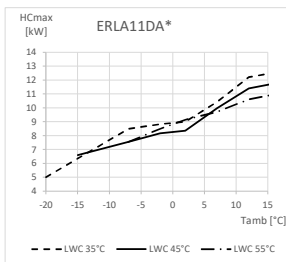
4 - 3 Heating Capacity Graphs - quiet mode

ERLA11-16DV3
ERLA11-16DW1

Maximum heating capacity - integrated value



Maximum heating capacity - peak values



Symbols

HC_{max} Heating capacity for maximum load, measured according to EN 14511

LWC Leaving water condensor temperature [°C]

Tamb Ambient temperature [°C DB]

Conditions

Heating capacity

Capacity according to standard EN 14511 and valid for heated water range $\Delta T = 3 \sim 8^\circ\text{C}$.

Notes

The capacity and power input is valid for -V3- models at 230-V and for for -W1- models at 400-V.

The capacity and the power input are at maximum operation.

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5 Capacity tables

5 - 1 Certification Programs

ERLA11-16DV3

ERLA11-16DW1

Rated data for certification programmes - domestic hot water performance

Outdoor unit		ERLA11/14/16)DAV3			ERLA11/14/16)DAW1		
Domestic hot water tank		EBV(H/X/Z)(11/16)S18D)(6V/9W)			EBV(H/X/Z)(11/16)S(U)23D)(6V/9W)		
Tapping pattern		L			L		
Application		Average climate (design temperature: -7 °C)			Colder climate (design temperature: -2 °C)		
COP _{DHW}	[-]	2,73	2,80	2,63	2,77	2,84	2,64
η _{wh}	[%]	115,6%	119,3%	108,7%	116,4%	119,9%	109,0%
AEC	[kWh]	886	858	1542	879	854	1537
Application		Warmer climate (design temperature: -14 °C)			Warmer climate (design temperature: -14 °C)		
COP _{DHW}	[-]	2,24	2,31	2,08	2,26	2,33	2,09
η _{wh}	[%]	94,2%	97,3%	85,3%	94,6%	97,7%	85,5%
AEC	[kWh]	1087	1053	1963	1082	1048	1959
Application		Warmer climate (design temperature: -14 °C)			Warmer climate (design temperature: -14 °C)		
COP _{DHW}	[-]	3,26	3,46	3,00	3,32	3,51	3,02
η _{wh}	[%]	138,8%	147,8%	124,1%	139,8%	148,9%	124,5%
AEC	[kWh]	737	692	1349	732	688	1345

Indoor Unit		EBS(X/H)(B/-)(11/16)P30DF		EBS(X/H)(B/-)(11/16)P50DF	
Outdoor Unit		ERLA11/14/16)DAV3		ERLA11/14/16)DAW1	
Tapping pattern		L		XL	
Application		Average climate (design temperature: -7 °C)		Colder climate (design temperature: -2 °C)	
COP _{DHW}	[-]	2,73	2,75	3,05	3,1
η _{wh}	[%]	115%	116%	126%	128%
AEC	[kWh]	890	887	1329	1313
Application		Warmer climate (design temperature: -14 °C)		Warmer climate (design temperature: -14 °C)	
COP _{DHW}	[-]	2,32	2,33	2,63	2,67
η _{wh}	[%]	97%	98%	109%	110%
AEC	[kWh]	1053	1051	1542	1526
Application		Warmer climate (design temperature: -14 °C)		Warmer climate (design temperature: -14 °C)	
COP _{DHW}	[-]	3,2	3,24	3,68	3,76
η _{wh}	[%]	136%	137%	153%	155%
AEC	[kWh]	753	750	1094	1078

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ERLA11-16DV3

ERLA11-16DW1

Rated data for certification programmes - heating mode

Tamb	EWC	LWC	ERLA11DAV3		ERLA14DAV3		ERLA16DAV3		ERLA11DAW1		ERLA14DAW1		ERLA16DAW1		Used for:
[°C]	[°C]	[°C]	HC	COP	HC	COP	HC	COP	HC	COP	HC	COP	HC	COP	
10/9	30	35	9,20	5,32	9,20	5,32	9,20	5,32	9,20	5,32	9,20	5,32	9,20	5,32	BAFA
7/6	30	35	10,56	4,83	12,00	4,87	16,00	4,53	10,56	4,83	12,00	4,87	16,00	4,53	Keymark, EHPA, BAFA, GET
2/1	(30)	35	9,00	3,65	10,80	3,50	12,00	3,30	9,00	3,65	10,80	3,50	12,00	3,30	EHPA, GET
2/1	(30)	35	6,29	4,01	6,29	4,01	6,29	4,01	6,29	4,01	6,29	4,01	6,29	4,01	BAFA
-7/-8	(30)	35	8,75	2,92	9,30	2,86	10,60	2,70	8,75	2,92	10,50	3,00	12,30	2,87	EHPA, BAFA, GET
7/6	40	45	9,82	3,66	12,45	3,64	16,00	3,51	9,82	3,66	12,45	3,64	16,00	3,51	EHPA
-2/-3	(40)	45	9,32	2,57	10,15	2,58	11,91	2,42	9,32	2,57	10,15	2,58	11,91	2,42	MCS
-7/-8	(40)	45	8,72	2,35	8,98	2,29	10,49	2,10	8,72	2,35	8,98	2,29	10,49	2,10	EHPA
7/6	47	55	10,64	2,94	11,87	2,89	15,63	2,75	10,64	2,94	11,87	2,89	15,63	2,75	Keymark, EHPA, GET
-7/-8	47	55	7,89	1,82	8,47	1,82	8,87	1,78	7,89	1,82	8,47	1,82	8,87	1,78	GET, EHPA

Rated data for certification programmes - cooling mode

Nominal cooling capacity									
Tamb	EWE	LWE	ERLA11DA(V3/W1)		ERLA14DA(V3/W1)		ERLA16DA(V3/W1)		Used for:
[°C]	[°C]	[°C]	CC	EER	CC	EER	CC	EER	
35	23	18	11,85	4,7	13,18	4,61	15,72	4,11	General
35	12	7	11,18	3,22	12,92	2,98	13,63	2,91	Keymark

Seasonal data - cooling LWE 7°C Low temperature

Application			
ERLA11DA(V3/W1)		ERLA14DA(V3/W1)	
Pdes [kW]	11	12,9	13,600
SEER [-]	5,92	5,86	5,76
η _{sc} [-]	234	231	227
Q _{sc} [kWh/annum]	1116	1322	1417

Rated data for certification programmes - standby power consumption

Standby power input		ERLA11/14/16)DA(V3/W1)	Used for:
[W]		23	Taux

Symbols

HC Heating capacity measured according to EN 14511
CC Cooling capacity, measured according to EN 14511.
COP/EER Coefficient of Performance/Energy efficiency ratio according to EN 14511.

EWC Entering water condenser temperature [°C]
LWC Leaving water condensor temperature [°C]
EWE Entering water evaporator temperature [°C]
LWE Leaving water evaporator temperature [°C]
Tamb Ambient temperature [°C DB/WB]
Pdes Nominal capacity value at design temperature [kW]
SEER Seasonal energy efficiency ratio according to EN14825
η_{sc} Seasonal space cooling energy efficiency according to EN14825
Q_{sc} Annual energy consumption for cooling according to EN14825

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5 Capacity tables

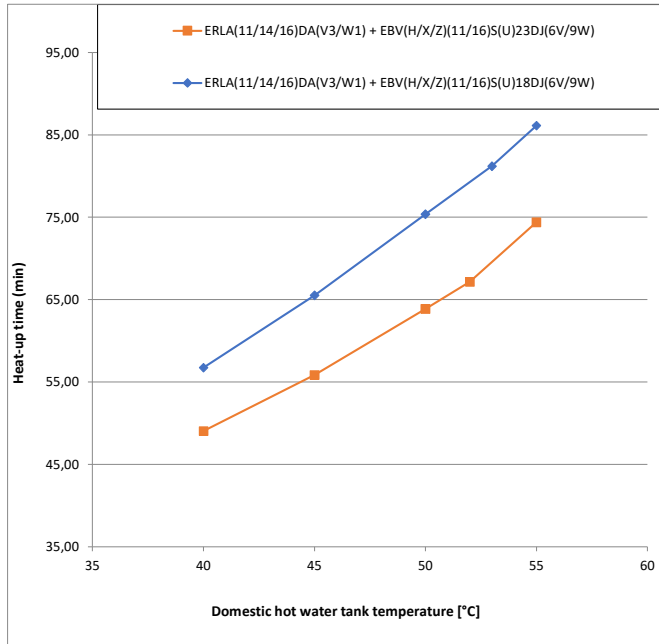
5 - 2 Domestic Hot Water performance

ERLA11-16DV3

ERLA11-16DW1

5

Heat-up times



Model name	Heat-up time domestic hot water tank until 45°C
ERLA(11/14/16)DA(V3/W1) + EBV(H/X/Z)(11/16)S(U)18DJ(6V/9W)	62 min.
ERLA(11/14/16)DA(V3/W1) + EBV(H/X/Z)(11/16)S(U)23DJ(6V/9W)	56 min.

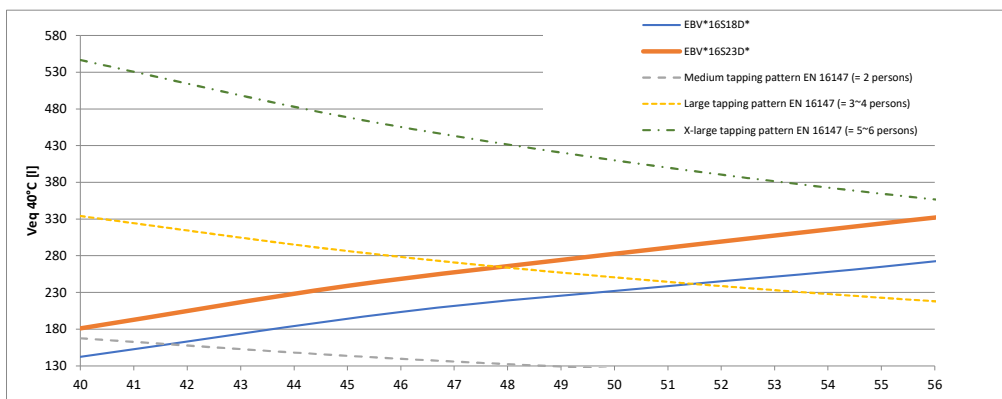
Notes

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

Selection guide for the domestic hot water tank volume

(1)

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



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

Notes

- According to EN16147.

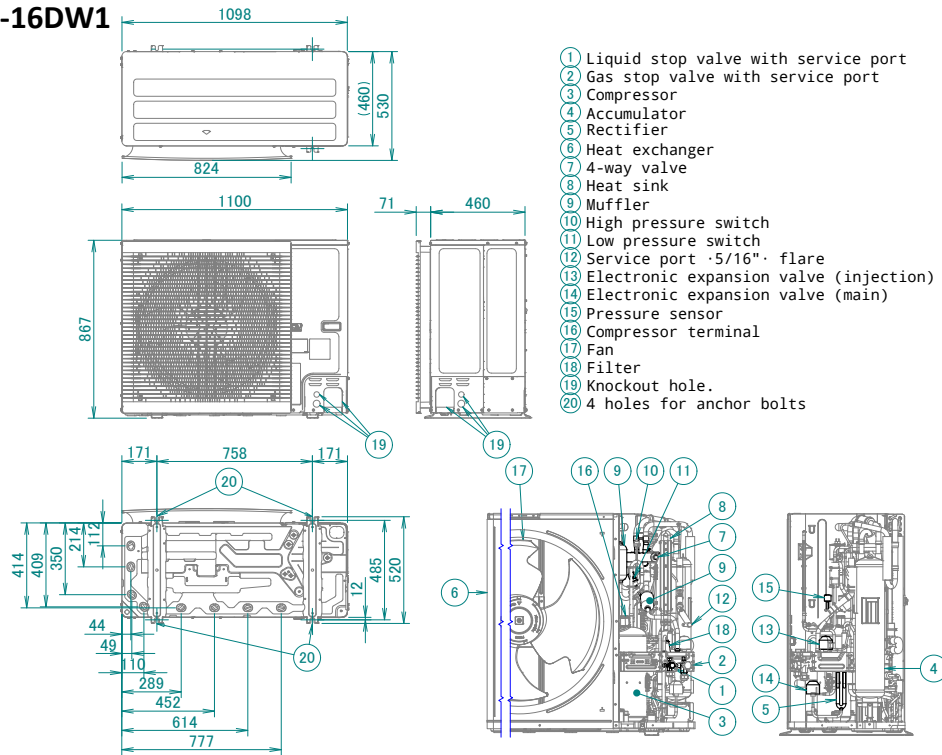
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6 Dimensional drawings

6 - 1 Dimensional Drawings

ERLA11-16DV3

ERLA11-16DW1



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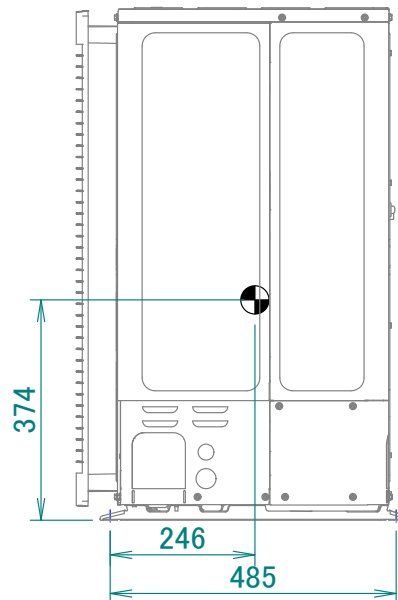
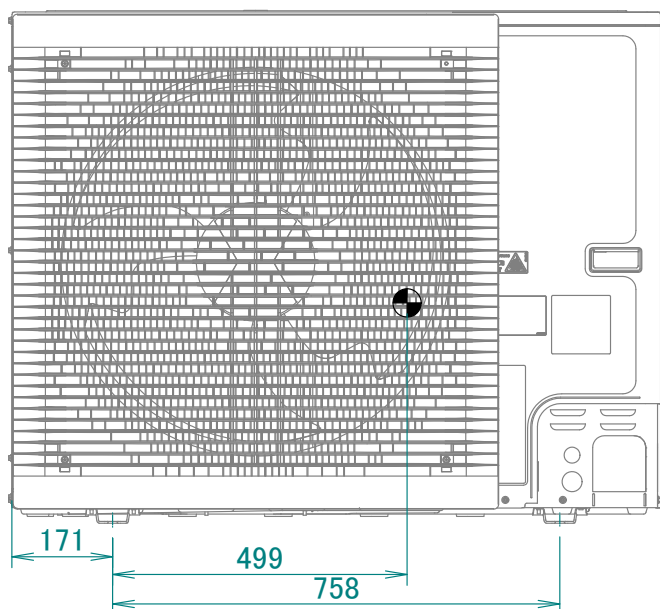
7 Centre of gravity

7 - 1 Centre of Gravity

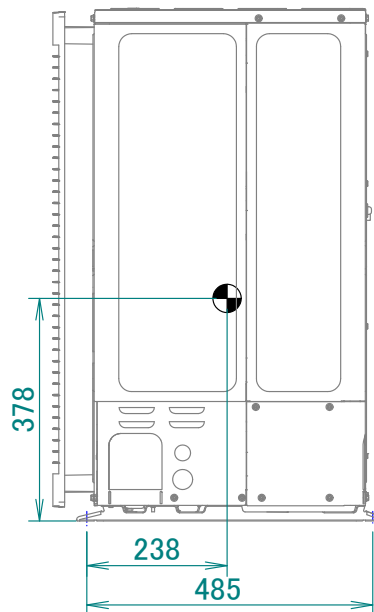
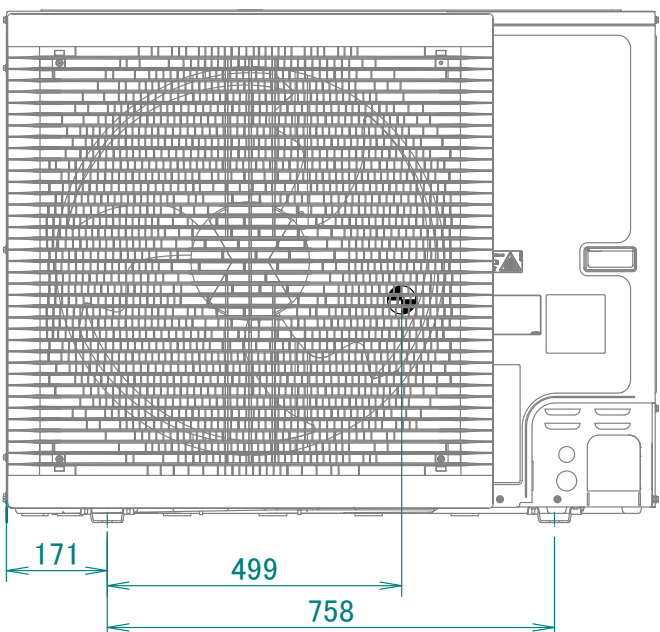
ERLA11-16DV3

ERLA11-16DW1

3~



1~

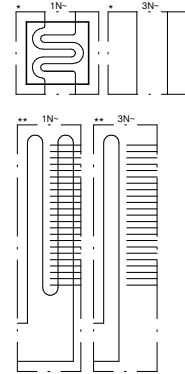
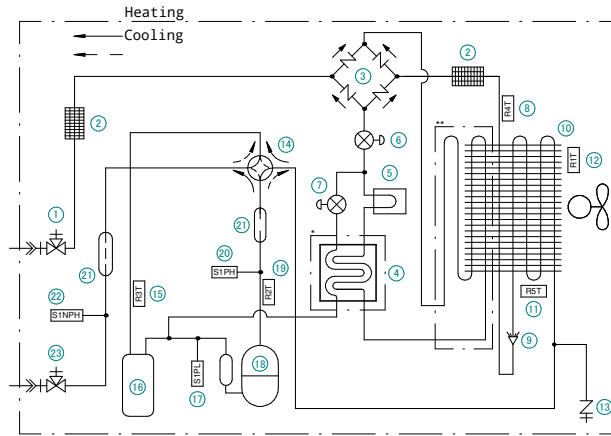
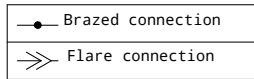


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8 Piping diagrams

8 - 1 Piping Diagrams

ERLA11-16DV3
ERLA11-16DW1



- | | |
|--|-------------------------------------|
| ① Liquid stop valve with service port | ①⑦ Low pressure switch |
| ② Filter | ①⑧ Compressor |
| ③ Rectifier | ①⑨ R2T - Thermistor (discharge) |
| ④ Economiser | ①⑩ High pressure switch |
| ⑤ Heat sink | ①⑪ Muffler |
| ⑥ Electronic expansion valve (main) | ①⑫ Pressure sensor |
| ⑦ Electronic expansion valve (injection) | ①⑬ Gas stop valve with service port |
| ⑧ R4T - Thermistor (heat exchanger) | |
| ⑨ Distributor | |
| ⑩ Heat exchanger | |
| ⑪ RST - Thermistor (heat exchanger middle) | |
| ⑫ R1T - Outdoor air | |
| ⑬ Service port ·5/16"· flare | |
| ⑭ 4-way valve | |
| ⑮ R3T - Thermistor (suction) | |
| ⑯ Accumulator | |

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9 Wiring diagrams

9 - 1 Notes & Legend

ERLA11-16DV3 / ERLA11-16DW1

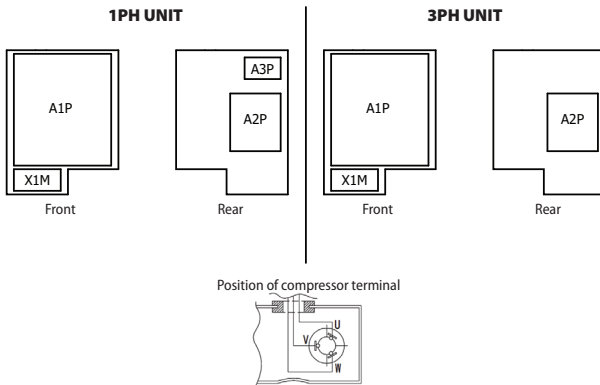
NOTES to go through before starting the unit

X1M	: Main terminal		: Option
---	: Earth wiring		: Wiring depending on model
- - - -	: Field supply		: Not mounted in switch box
①	: Several wiring possibilities		: PCB

NOTES

1. Refer to the wiring diagram sticker (on the back of the front plate) for how to use the BS1~BS4 and DS1 switches.
2. When operating, do not short-circuit protection device Q1, S1PH and S1PL.
3. Refer to the combination table and the option manual for how to connect the wiring to X6A, X41A and X77A.
4. Colours: BLK: black; RED: red; BLU: blue; WHT: white; GRN: green; BRN: brown; YLW: yellow; ORG: orange
5. Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: OFF

POSITION IN SWITCH BOX



LEGEND

1PH UNIT

Part n°	Description
A1P	Printed circuit board (main)
A2P	Printed circuit board (noise filter)
A3P	Printed circuit board (flash)
C* (A*P)	Capacitor
BS* (A1P)	Push button switch
DS1 (A1P)	Dipswitch
F1U, F3U~F4U (A2P)	Fuse T 6,3 A 250 V
F2U (A2P)	Fuse T 56 A 250 V
F6U (A1P)	Fuse T 5 A 250 V
H1~7P (A1P)	Indication light emitting diode (service monitor is orange)
HAP (A1P)	Light emitting diode (service monitor is green)
K1R (A1P)	Magnetic relay (Y1S)
K10R (A1P)	Magnetic relay
K11M (A1P)	Magnetic relay (Main)
K14~15R (A2P)	Magnetic relay
L*R (A1P)	Reactor
M1C	Compressor motor
M1F	Fan motor
PS (A1P)	Switching power supply
Q1	Thermal overcurrent protector
Q1DI	# Earth leakage circuit breaker (30mA)
R1~5 (A*P)	Resistor
R1T	Thermistor (air)
R2T	Thermistor (discharge)
R3T	Thermistor (suction)
R4T	Thermistor (distribution pipe)
R5T	Thermistor (heat exchanger middle)
R11T (A1P)	Thermistor (fin)
RC (A2P)	Signal receiver circuit
S1NPH	Pressure sensor
S1PH	High pressure switch
S1PL	Low pressure switch
TC (A2P)	Signal transmission circuit
V*D (A1P)	Diode
V1R (A1P)	Power module
V2R (A1P)	Diode module
V*T (A1P)	IGBT
X1M	Terminal strip
X*A, X*Y (A*P)	Connector
Y1E, Y3E	Electronic expansion valve
Y1S	Solenoid valve (4-way valve)
Z*C	Noise filter (ferrite core)
Z*F (A*P)	Noise filter

3PH UNIT

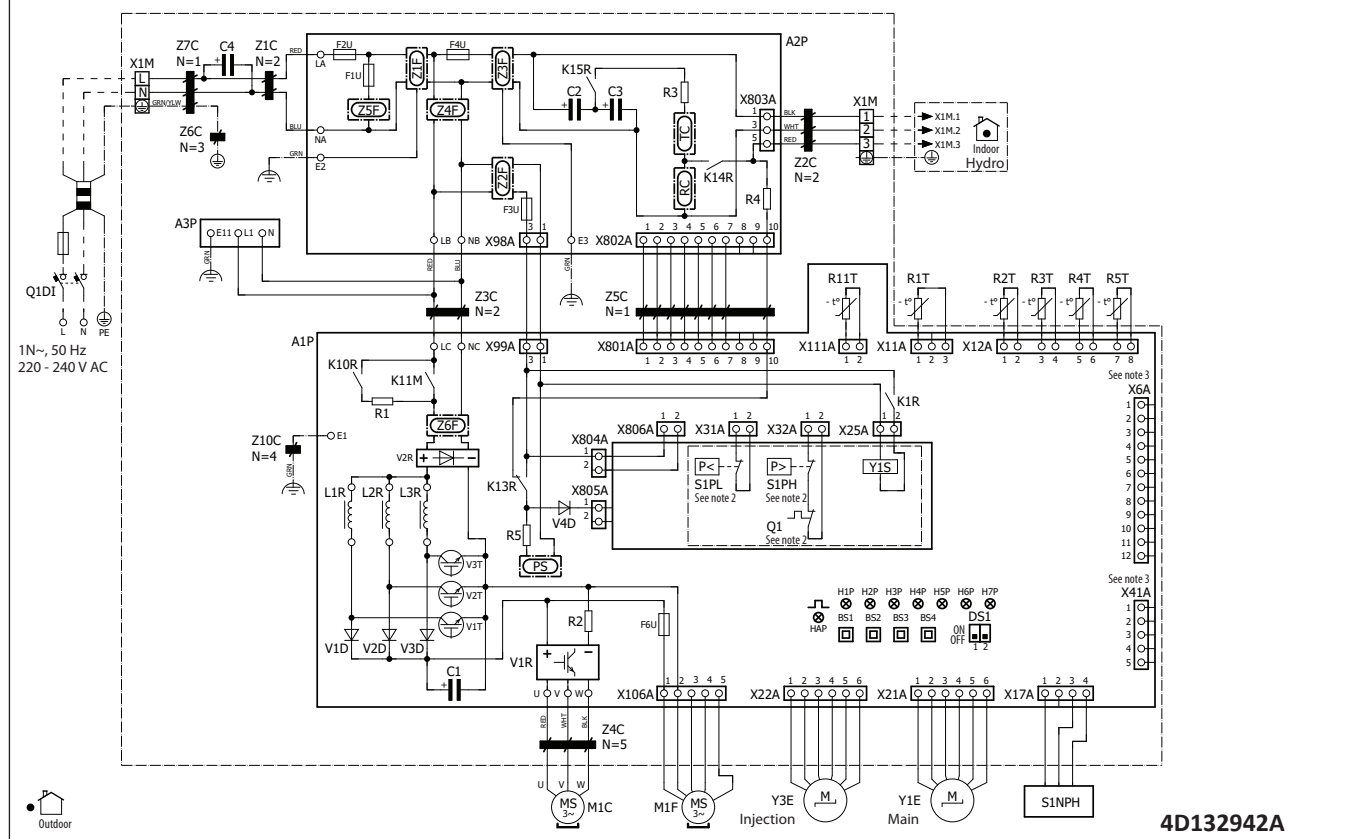
Part n°	Description
A1P	Printed circuit board (main)
A2P	Printed circuit board (noise filter)
C* (A1P)	Capacitor
BS* (A1P)	Push button switch
DS1 (A1P)	Dipswitch
F1U, F3U (A2P)	Fuse T 6,3 A 250 V
F4U, F5U (A2P)	Fuse T 30 A 500 V
F7U (A1P)	Fuse T 5 A 250 V
HAP (A1P)	Light emitting diode (service monitor is green)
K1R (A1P)	Magnetic relay (Y1S)
K5~8R (A1P)	Magnetic relay
K*M (A1P)	Magnetic relay (Main)
L*R (A*P)	Reactor
M1C	Compressor motor
M1F	Fan motor
PS (A1P)	Switching power supply
Q1	Thermal overcurrent protector
Q1DI	# Earth leakage circuit breaker (30mA)
R1~9 (A1P)	Resistor
R1T	Thermistor (air)
R2T	Thermistor (discharge)
R3T	Thermistor (suction)
R4T	Thermistor (distribution pipe)
R5T	Thermistor (heat exchanger middle)
R11T (A1P)	Thermistor (fin)
RC (A1P)	Signal receiver circuit
S1NPH	Pressure sensor
S1PH	High pressure switch
S1PL	Low pressure switch
SEG* (A1P)	7-segment display
TC (A1P)	Signal transmission circuit
V*D (A1P)	Diode
V1~2R (A1P)	Diode module
V3~5R (A1P)	Power module
X1M	Terminal strip
X*A, X*Y (A*P)	Connector
Y1E, Y3E	Electronic expansion valve
Y1S	Solenoid valve (4-way valve)
Z*C	Noise filter (ferrite core)
Z*F (A*P)	Noise filter

*: optional #: field supply

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9 - 2 Compressor - Single phase

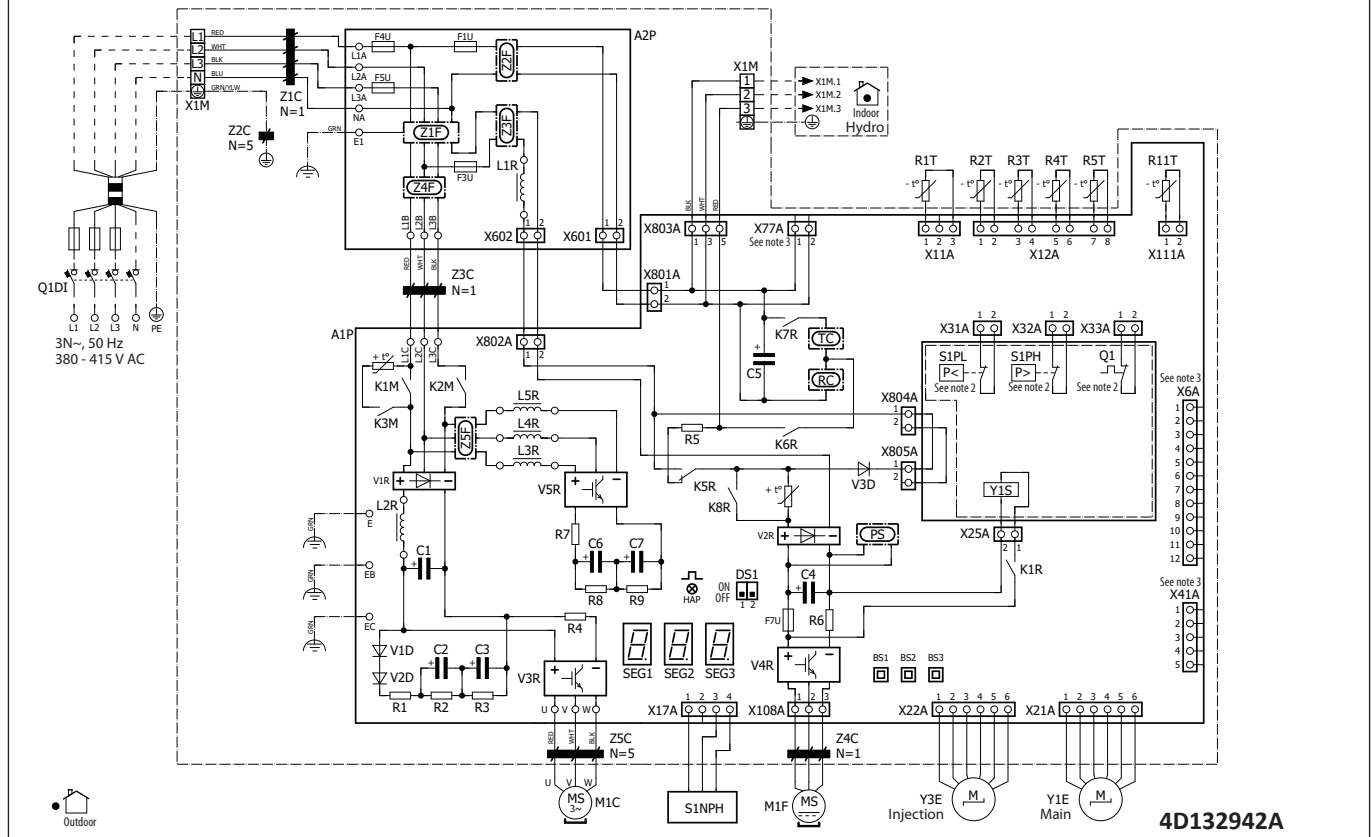
9



9 Wiring diagrams

9 - 3 Compressor - Three phase

ERLA11-16DV3
ERLA11-16DW1



10 Sound data

10 - 1 Sound Pressure Spectrum - Cooling

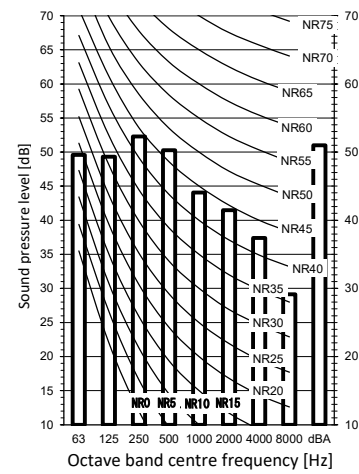
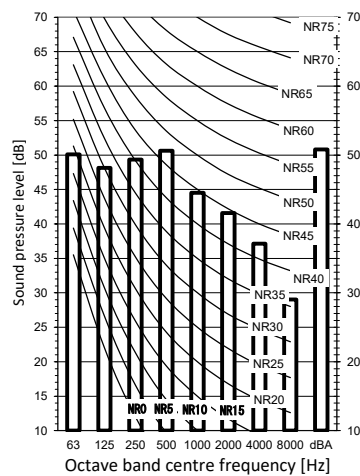
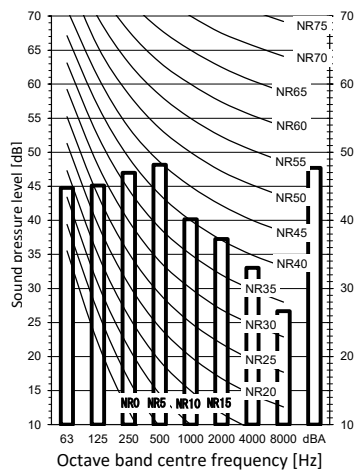
ERLA11-16DV3
ERLA11-16DW1

Cooling Sound

ERLA11*

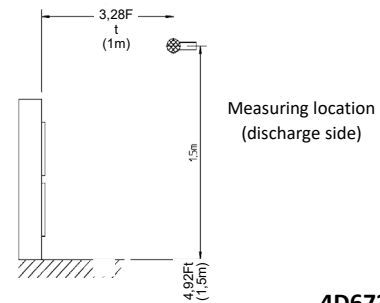
ERLA14*

ERLA16*



Notes

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


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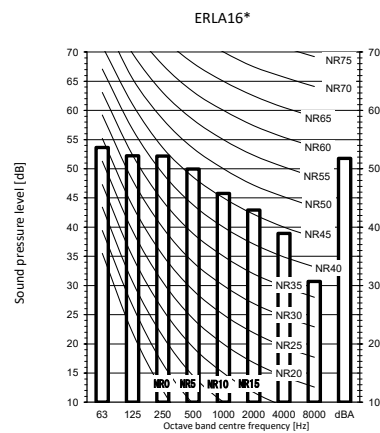
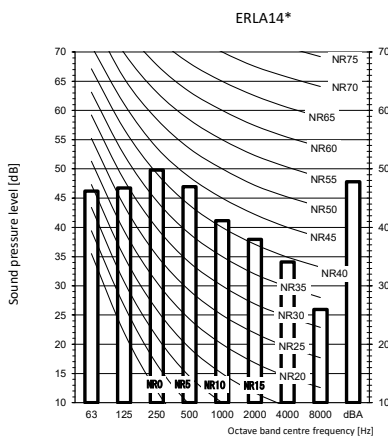
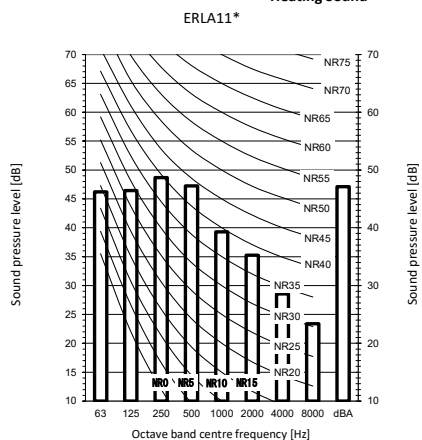
10 Sound data

10 - 2 Sound Pressure Spectrum - Heating

ERLA11-16DV3

ERLA11-16DW1

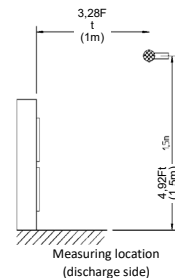
Heating Sound



Notes

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

		Maximum sound day			Maximum sound night		
		Sound Power Level [dBA]			Sound Power Level [dBA]		
Maximum sound day	Maximum sound night	ERLA11*	ERLA14*	ERLA16*	ERLA11*	ERLA14*	ERLA16*
Default	Low noise level -1-	68	69	73	62	62	62
Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode)							



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10 Sound data

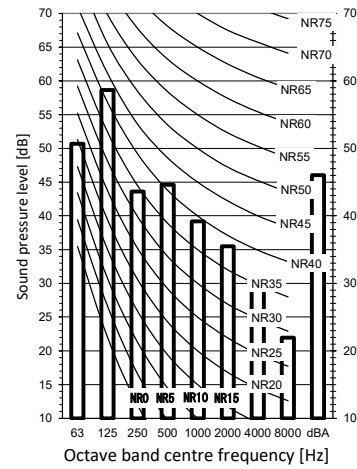
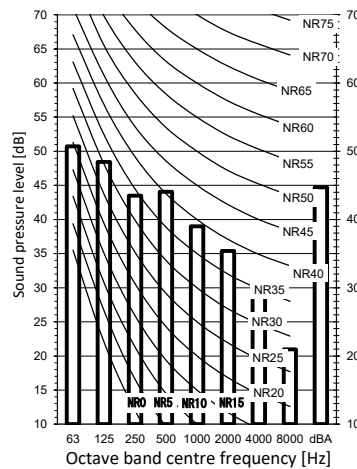
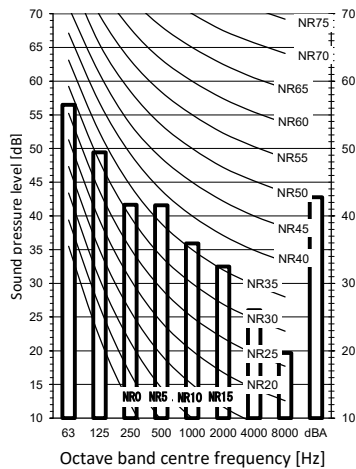
10 - 3 Sound Pressure Spectrum Quiet Mode

ERLA11-16DV3
ERLA11-16DW1 Cooling : Quiet mode

ERLA11*

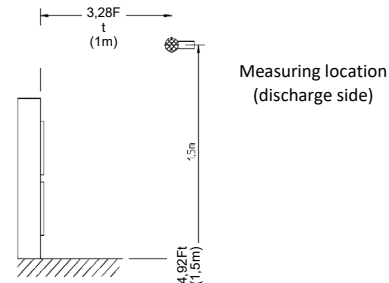
ERLA14*

ERLA16*



Notes

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



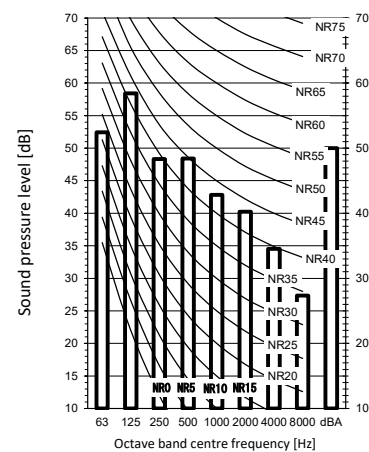
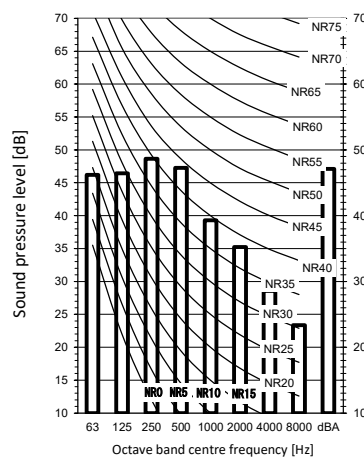
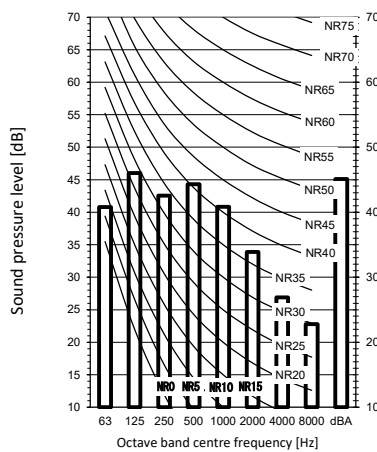
4D672153

ERLA11-16DV3
ERLA11-16DW1 Heating : Quiet mode

ERLA11*

ERLA14*

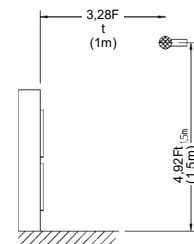
ERLA16*



Notes

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

		Maximum sound day			Maximum sound night		
		Sound Power Level [dBA]			Sound Power Level [dBA]		
Maximum sound day	Maximum sound night	ERLA11*	ERLA14*	ERLA16*	ERLA11*	ERLA14*	ERLA16*
Default : Low noise level '1'		65	66	68	62	62	62
Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode)							



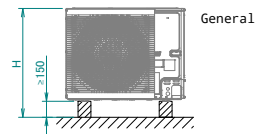
4D672155A

11 Installation

11 - 1 Installation Method

ERLA11-16DV3 ERLA11-16DW1

	Suction-side obstacle	Discharge-side obstacle	Suction-side obstacle + Discharge-side obstacle
Top-side obstacle			 Wall on suction side Wall on discharge side
No top-side obstacle			 Wall height unrestricted



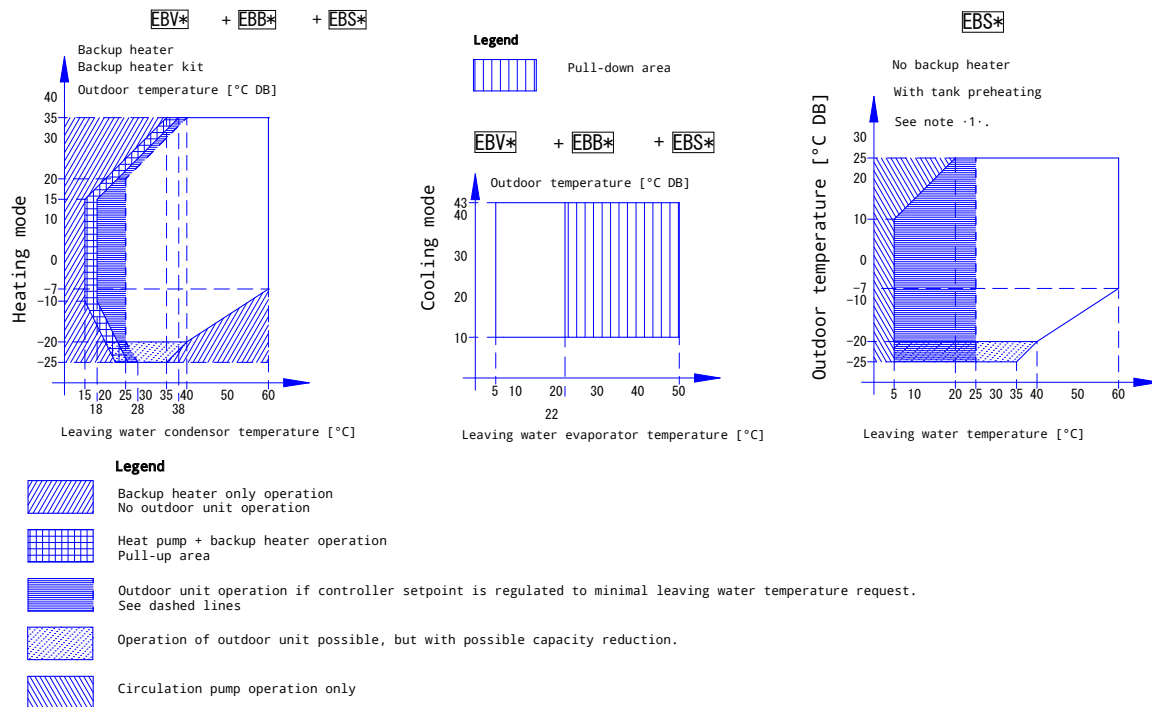
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12 Operation range

12 - 1 Operation Range

12

ERLA11-16DV3
ERLA11-16DW1

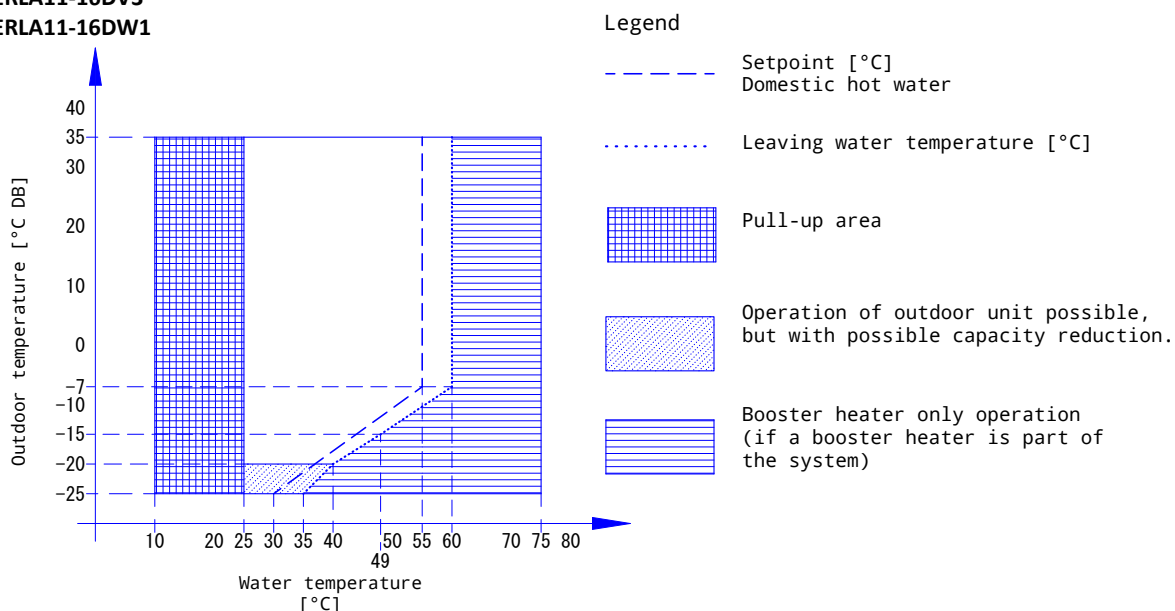


Notes

- Tank preheating
For details, see the installer reference guide.
- In restricted power supply mode, the outdoor unit and backup heater can only operate separately.

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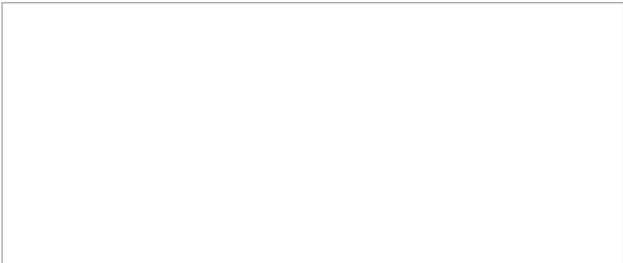
ERLA11-16DV3
ERLA11-16DW1



Notes

- In restricted power supply mode (·EKHW· only), the outdoor unit, booster heater and backup heater can only operate separately.
 - Third-party with identical specifications as ·EKHWS·.
Coil surface >1.05·m² and <3.7·m²
Tank thermistor and booster heater above heat pump coil.
 - If negative ambient temperatures are expected, both in operation or at standstill, take adequate countermeasures against freezing.
- For more information, refer to the installation manual.

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