



Daikin Altherma low
temperature split
Technical data book
ERGA04-08EV



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ERGA04-08EV

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1 Features

1 - 1 ERGA04-08EV

- › 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
- › Outdoor unit extracts heat from the outdoor air, even at -25°C
- › W-LAN Adapter connection



Guaranteed
operation
down to -25°C



Daikin
Residential
Controller



Online
controller

2 Specifications

1 - 1 ERGA04-08EV

Technical specifications					EHVH04SU18E6V + ERGA04EV	EHVH04SU23E6V + ERGA04EV	EHVH08SU18E6V + ERGA06EV	EHVH08SU23E6V + ERGA06EV	EHVH08SU18E6V + ERGA08EV	EHVH08SU23E6V + ERGA08EV	
Heating capacity	Nom.		kW		4.30 (1) / 4.60 (2)		6.00 (1) / 5.90 (2)		7.50 (1) / 7.80 (2)		
Power input	Heating	Nom.	kW		0.850 (1) / 1.26 (2)		1.24 (1) / 1.69 (2)		1.63 (1) / 2.23 (2)		
	Domestic hot water from 10°C	Nom.	kWh		2.48	3.01	2.48	3.01	2.48	3.01	
Heat up time from 10°C to 50°C			hr		1h28min	1h40min	1h28min	1h40min	1h28min	1h40min	
COP					5.10 (1) / 3.65 (2)		4.85 (1) / 3.50 (2)		4.60 (1) / 3.50 (2)		
Pump	Nominal ESP unit	Heating		kPa	59.6 (1) / 58.6 (2)		52.4 (1) / 52.9 (2)		43.3 (1) / 41.2 (2)		
Water side Heat exchanger	Water flow rate	Heating Nom.		l/min	12.3 (1) / 13.2 (2)		17.2 (1) / 16.9 (2)		21.5 (1) / 22.4 (2)		
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	Indoor	dB(A)		42						
LW(A) Sound power level (according to EN14825)	Outdoor	dB(A)		58		60		62			
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	2,280.0		2,520.0		2,770.0		
	Other	Capacity control			Inverter						
		Pck (Crankcase heater mode)			0.000						
		Poff (Off mode)			0.010						
		Psb (Standby mode)			0.010						
		Pto (Thermostat off)			0.010						
	General	Declared load profile			L	XL	L	XL	L	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						
	Average climate	AEC (Annual electricity consumption)		kWh	820	1,267	820	1,267	820	1,267	
		ηwh (water heating efficiency)		%	125	133	125	133	125	133	
		Qelec (Daily electricity consumption)		kWh	3.870	5.900	3.870	5.900	3.870	5.900	
		Water heating energy efficiency class			A+						
	Cold climate	AEC (Annual electricity consumption)		kWh	951	1,475	951	1,475	951	1,475	
		ηwh (water heating efficiency)		%	107	114	107	114	107	114	
		Qelec (Daily electricity consumption)		kWh	4.480	6.860	4.480	6.860	4.480	6.860	
		AEC (Annual electricity consumption)		kWh	680	1,046	680	1,046	680	1,046	
	Domestic hot water heating	Warm climate	ηwh (water heating efficiency)		%	151	161	151	161	151	161
			Qelec (Daily electricity consumption)		kWh	3.220	4.880	3.220	4.880	3.220	4.880

2 Specifications

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Technical specifications				EHVH04SU18E6V + ERGA04EV	EHVH04SU23E6V + ERGA04EV	EHVH08SU18E6V + ERGA06EV	EHVH08SU23E6V + ERGA06EV	EHVH08SU18E6V + ERGA08EV	EHVH08SU23E6V + ERGA08EV	
Space heating	Average climate water outlet 55°C	General	Annual energy consumption	kWh	3,806		4,441		4,975	
			η_s (Seasonal space heating efficiency)	%	127				130	
			Prated at -10°C	kW	6.0		7.0		8.0	
			Qhe Annual energy consumption (GCV)	Gj	13.7		16.0		17.9	
			SCOP		3.26				3.32	
			Seasonal space heating eff. class		A++					
		A Condition (-7°CDB/-8°CWB)	Cdh (Degradation heating)		1.0					
			COPd		1.97		1.98		1.96	
			Pdh	kW	5.3		5.9		6.9	
			PERd	%	79				78	
		B Condition (2°CDB/1°CWB)	Cdh (Degradation heating)		1.0					
			COPd		3.23		3.16		3.20	
			Pdh	kW	3.3		3.9		4.4	
			PERd	%	129		126		128	
		C Condition (7°CDB/6°CWB)	Cdh (Degradation heating)		1.0					
			COPd		4.40		4.49		4.64	
			Pdh	kW	3.0				3.3	
			PERd	%	176		180		186	
		D Condition (12°CDB/11°CWB)	Cdh (Degradation heating)		1.0					
			COPd		6.10				6.22	
			Pdh	kW	3.3				4.1	
			PERd	%	244				249	
		Tol (temperature operating limit)	COPd		1.37		1.53		1.64	
			Pdh	kW	4.0		5.4		7.1	
			PERd	%	55		61		66	
			TOL	°C			-10			
		WTOL	°C			55				
		Rated heat output	Psup (at Tdesign -10°C)	kW	2.0		1.6		0.9	
			Tbiv (bivalent temperature)		1.97		2.12		1.90	
			Pdh	kW	5.3		6.1		7.5	
			PERd	%	79		85		76	
		Cold climate water outlet 55°C	Tbiv	°C	-7		-6		-8	
			Annual energy consumption	kWh	4,468		5,300		6,886	
			η_s (Seasonal space heating efficiency)	%	107		109		112	
			Prated at -22°C	kW	5.0		6.0		8.0	

2 Specifications

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Technical specifications					EHVH04SU18E6V + ERGA04EV	EHVH04SU23E6V + ERGA04EV	EHVH08SU18E6V + ERGA06EV	EHVH08SU23E6V + ERGA06EV	EHVH08SU18E6V + ERGA08EV	EHVH08SU23E6V + ERGA08EV	
 Space heating	Warm climate water outlet 55°C	General	Annual energy consumption	kWh	1,660		1,858		2,213		
			ηs (Seasonal space heating efficiency)	%	148		158		161		
			Prated at 2°C	kW	4.7		5.6		6.8		
	Average climate water outlet 35°C	General	Annual energy consumption	kWh	2,766		3,233		3,625		
			ηs (Seasonal space heating efficiency)	%	176				179		
			Prated at -10°C	kW	6.0		7.0		8.0		
			Qhe Annual energy consumption (GCV)	Gj	9.96		11.6		13.1		
			SCOP		4.48		4.47		4.56		
			Seasonal space heating eff. class		A+++						
		A	COPd		2.90		2.86		2.77		
			Condition (-7°CDB/-8°CWB)	Pdh	kW	5.5		6.0		7.0	
				PERd	%	116		114		111	
		B Condition (2°CDB/1°CWB)	Cdh (Degradation heating)		1.0						
			COPd		4.33		4.25		4.35		
			Pdh	kW	3.3		3.9		4.2		
			PERd	%	173		170		174		
			C Condition (7°CDB/6°CWB)	Cdh (Degradation heating)		1.0					
				COPd		6.19		6.30		6.49	
			Pdh	kW	3.2				3.3		
			PERd	%	248		252		260		
			D Condition (12°CDB/11°CWB)	Cdh (Degradation heating)		1.0					
	COPd			7.78				8.52			
			Pdh	kW	3.3				3.9		
			PERd	%	311				341		
			Tol (temperature operating limit)	COPd		2.56		2.49		2.41	
	Pdh	kW		5.2		6.0		6.9			
			PERd	%	102		100		96		
			TOL	°C	-10						
			WTOL	°C	35						
		Tbiv (bivalent temperature)	COPd		2.90		3.07		2.66		
			Pdh	kW	5.5		6.1		7.5		
			PERd	%	116		123		106		
			Tbiv	°C	-7		-6		-8		
			Rated heat output	Psup (at Tdesign -10°C)	kW	0.8		1.0		1.1	
			Cold climate water outlet 35°C	General	Annual energy consumption	kWh	3,230		3,749		5,034
	ηs (Seasonal space heating efficiency)	%			150		155		154		
	Prated at -22°C	kW			5.0		6.0		8.0		
Space heating	Warm climate water outlet 35°C	General	Annual energy consumption	kWh	1,139		1,276		1,437		
			ηs (Seasonal space heating efficiency)	%	241		248		257		
			Prated at 2°C	kW	5.2		6.0		7.0		

(1)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) |

(2)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)

Technical Specifications				ERGA04EV	ERGA06EV	ERGA08EV
Casing	Colour			Ivory white		
	Material			Polyester painted galvanised steel plate		
Dimensions	Unit	Height	mm	740		
		Width	mm	884		
		Depth	mm	388		
	Packed unit	Height	mm	815		
		Width	mm	1,043		
		Depth	mm	478		
Weight	Unit		kg	58.5		
	Packed unit		kg	60		
Packing	Material			Cardboard / EPS		
	Weight		kg	1.5		

2 Specifications

1 - 1 ERGA04-08EV

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Technical Specifications					ERGA04EV	ERGA06EV		ERGA08EV	
Heat exchanger	Length		mm		920				
	Rows	Quantity		2					
	Fin pitch		mm		1.40				
	Passes	Quantity		32					
	Face area		m²		0.658				
	Tube type		ø7 Hi-XA						
	Fin	Type			Aluminium				
	Treatment		Anti-corrosion Hydrophilic						
Fan	Type		Propeller fan						
	Quantity		1						
	Discharge direction		Horizontal						
Fan motor	Quantity		1						
	Model		KFD-325-77-10A						
	Output		W		77				
	Speed	Heating	Nom.	rpm	620	680	740		
		Cooling	Nom.	rpm	780				
Compressor	Quantity		1						
	Model		2YC71EXD#C						
	Type		Hermetically sealed swing compressor						
PED	Category		Category II						
Operation range	Heating	Min.	°CDB		-25				
		Max.	°CDB		25				
	Cooling	Min.	°CDB		10				
		Max.	°CDB		43				
Operation range	Domestic hot water	Max.	°CDB		35				
		Min.	°CDB		-25				
PED	Most critical part	Ps*V	Bar*I		110.4				
Sound power level	Heating	Nom.	dBA		58 (1)	60 (1)	62 (1)		
	Cooling	Nom.	dBA		61 (1)	62 (1)			
Sound pressure level	Heating	Nom.	dBA		44 (1)	47 (1)	49 (1)		
	Cooling	Nom.	dBA		48 (1)	49 (1)	50 (1)		
Refrigerant	Type		R-32						
	GWP		675.0						
	Charge		TCO2Eq		1.01				
	Charge		kg		1.50				
	Control		Expansion valve						
	Circuits	Quantity		1					
Refrigerant oil	Type		FW68DA						
	Charged volume		l		0.9				
Piping connections	Liquid	Quantity		1					
		Type		Flare connection					
		OD		mm		6,35			
	Gas	Quantity		1					
		Type		Flare connection					
		OD		mm		15.9			
	Drain	Quantity		2					
		Type		Hole					
		OD		mm		18			
	Piping length	OU - IU	Min.	m		3			
			Max.	m		30			
		System	Chargeless		m		10		
	High pressure side	Design pressure		bar		46			
	Additional refrigerant charge			kg/m		0.02 (for piping length exceeding 10m)			
	Level difference	IU - OU	Max.	m		20.0			
	Heat insulation		Both liquid and gas pipes						
Defrost method		Reversed cycle							
Defrost control		Sensor for outdoor heat exchanger temperature							
Safety devices		Item	01		High pressure switch				

Electrical Specifications					ERGA04EV	ERGA06EV	ERGA08EV
Power supply	Name				V3		
	Phase				1N~		
	Frequency	Hz			50		
	Voltage	V			230		
	Voltage range	Min.	%		-10		
		Max.	%		10		
	Maximum running current	Heating	A		19.9		24.0
Current	Recommended fuses	A				20	25

2 Specifications

1 - 1 ERGA04-08EV

Electrical Specifications			ERGA04EV	ERGA06EV	ERGA08EV
Wiring connections	For power supply	Quantity		3	
		Remark		4mm ²	
	For connection with indoor	Quantity		4	
		Remark		1,5mm ²	
IP class	IP			IPX4	

(I)Cooling Ta 35°C - LWE 18°C (DT = 5°C); Heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C)

3 Combination table

3 - 1 Combination Table

ERGA04-08EV
ERGA04-08EVA

Kit availability for outdoor units

·E· series

		ERGA04EAV3*	ERGA06EAV3*	ERGA08EAV3*
EKDP008D	Drain pan kit	o	o	o
EKDPH008CA	Drain pan heater	o	o	o
EKFT008D	Feet kit	o	o	o
EKLN08A1	Low noise kit	o	o	o

Notes

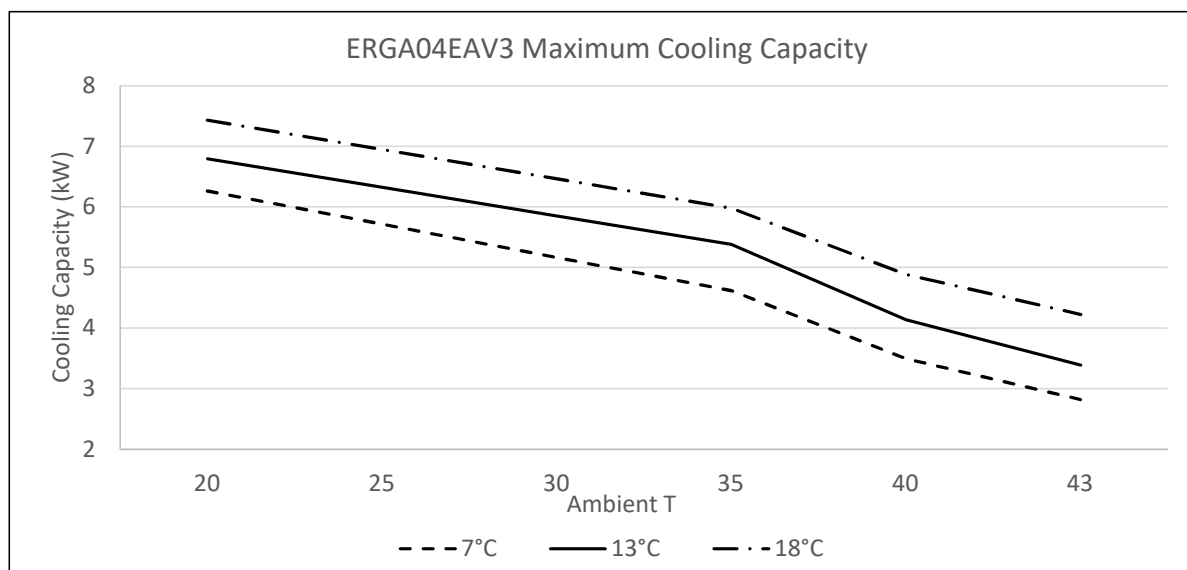
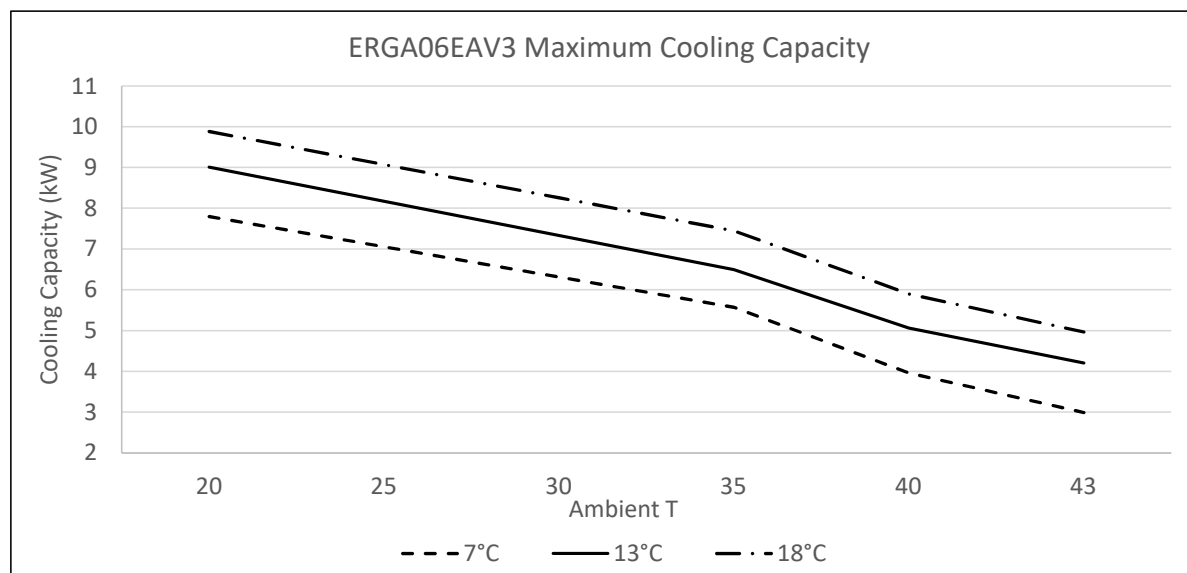
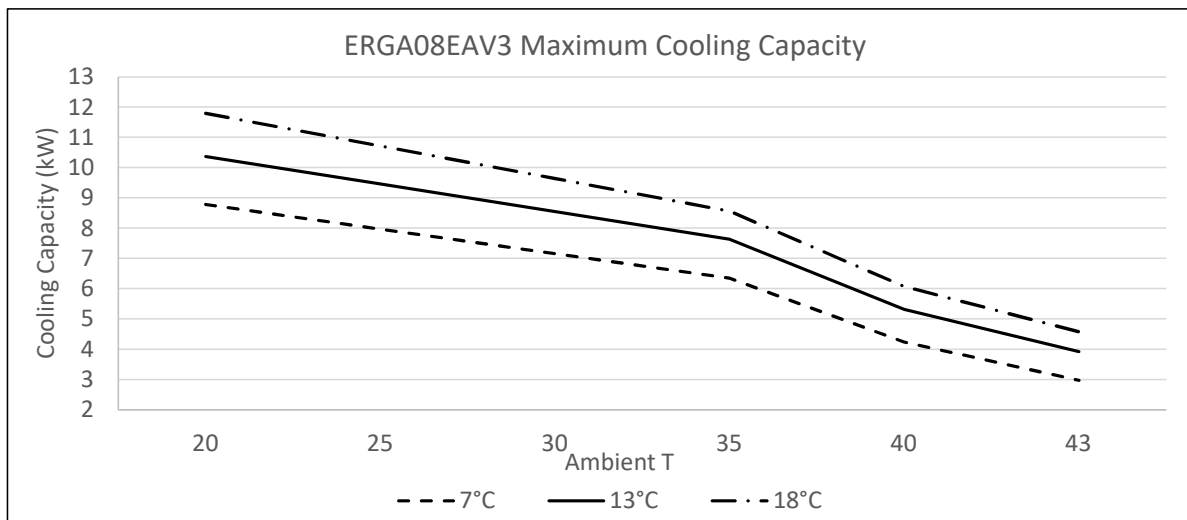
When installing ·EKHDP008D· units in heavy snowfall areas, also install option kit ·EKDPH008CA·.

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4 Capacity graphs

4 - 1 Cooling Capacity Graphs

ERGA04-08EV



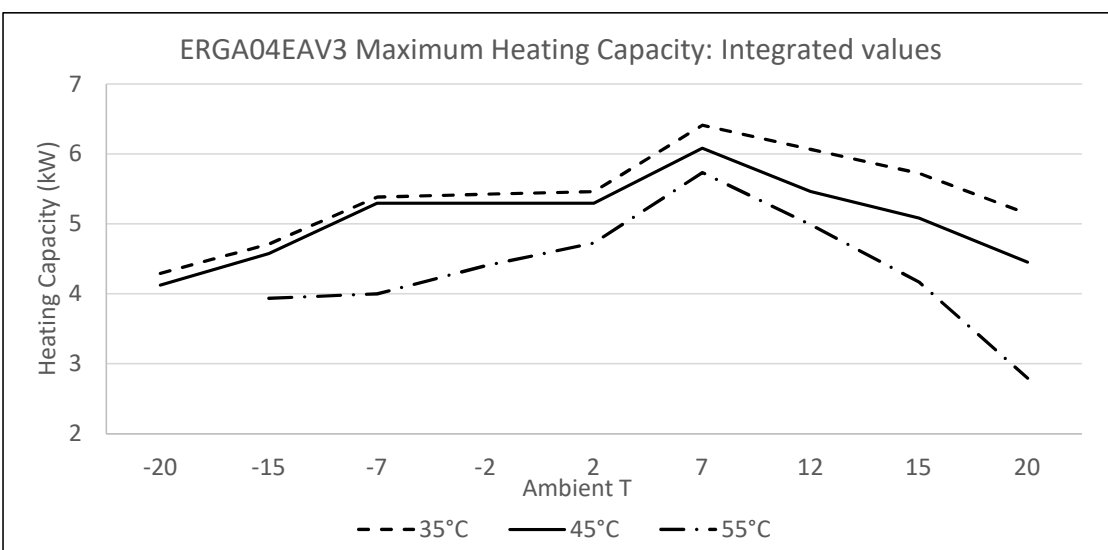
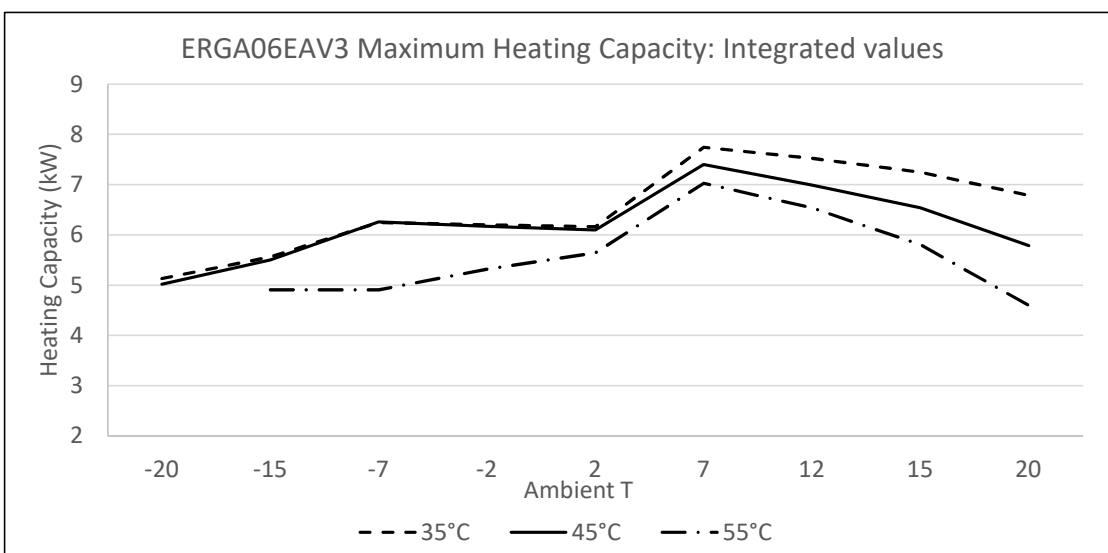
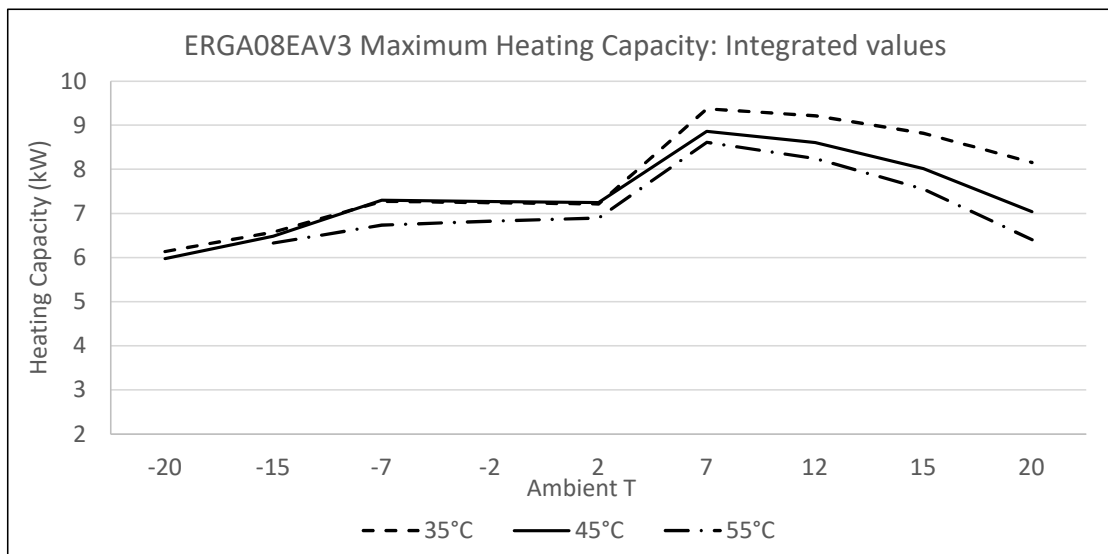
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4 Capacity graphs

4 - 2 Heating Capacity Graphs

ERGA04-08EV

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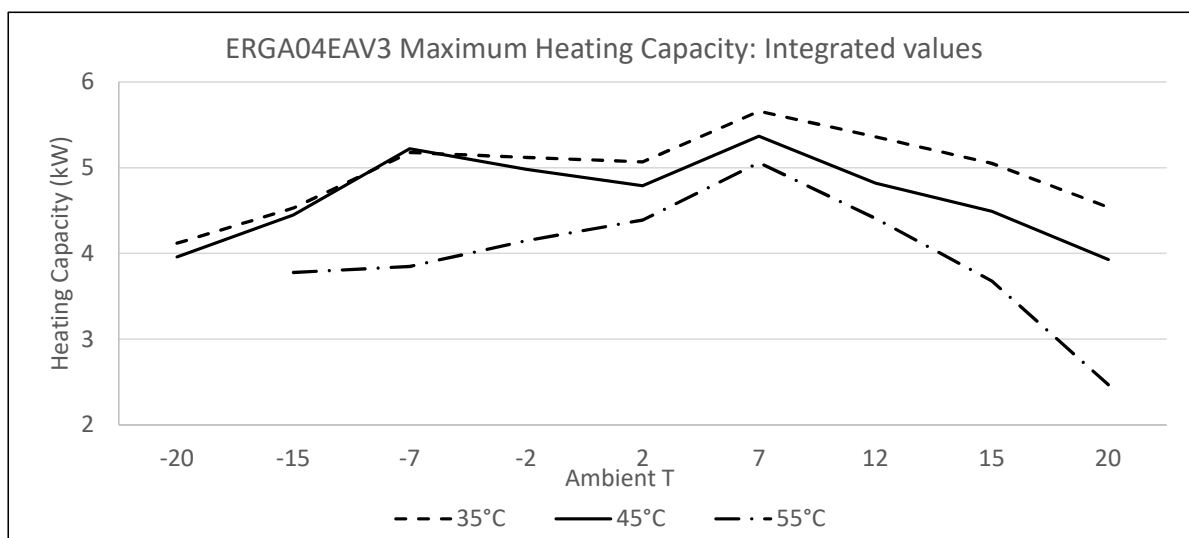
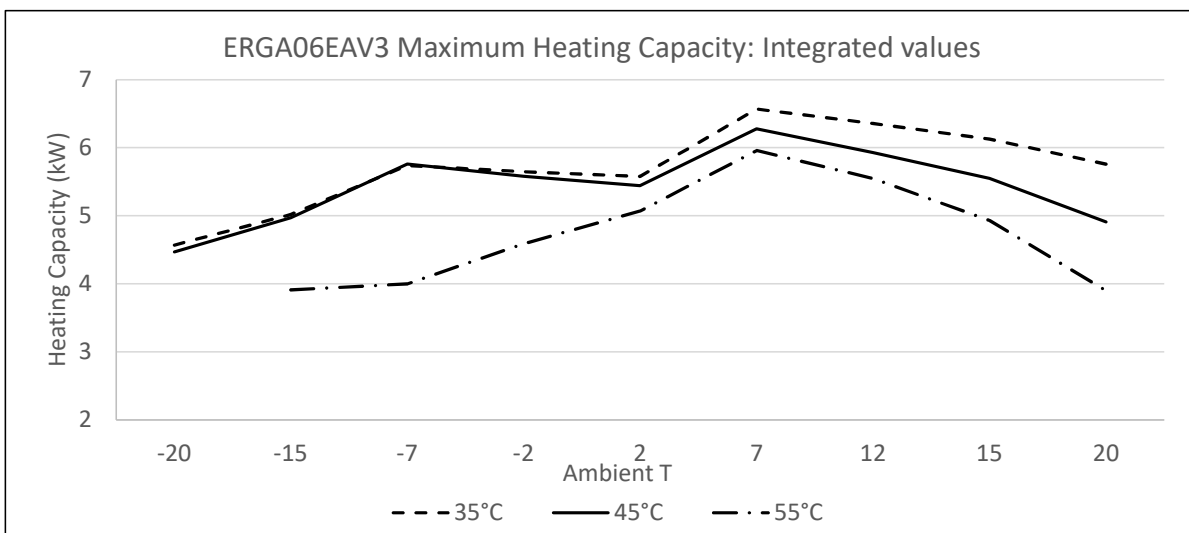
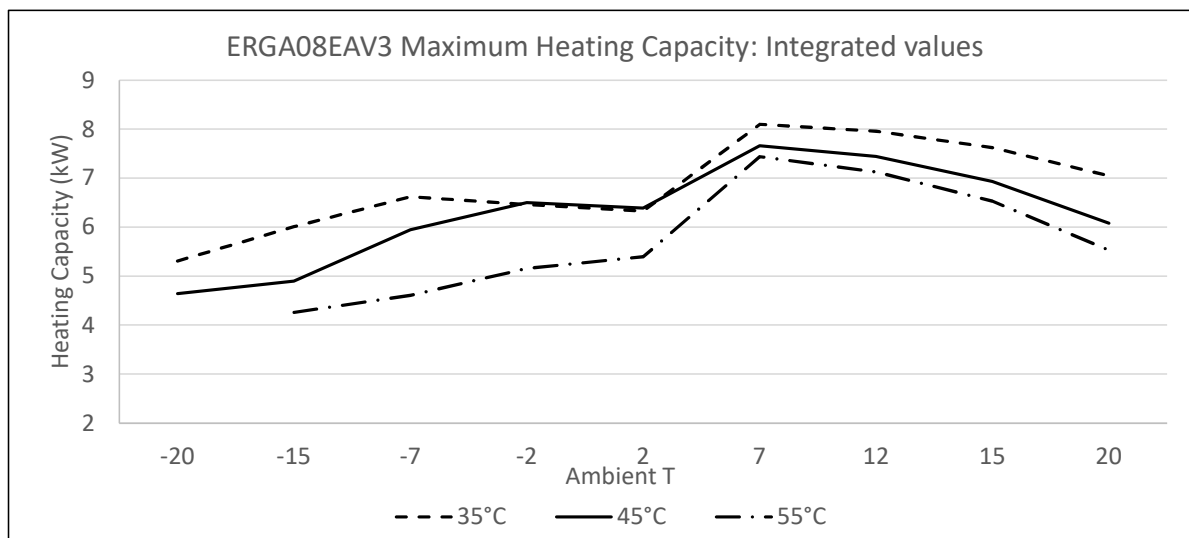
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4 Capacity graphs

4 - 3 Heating Capacity Graphs - more quiet mode

ERGA04-08EV

ERGA04-08EVA



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5 Capacity tables

5 - 1 Certification Programs

ERGA04-08EV

ERGA04-08EVA

Rated data for certification programmes - heating mode

Tamb [°C]	EWC [°C]	LWC [°C]	ERGA04EAV3 HC [kW]	COP	ERGA06EAV3 HC [kW]	COP	ERGA08EAV3 HC [kW]	COP
10/8	30	35	5,17	5,42	6,17	5,12	7,72	4,72
7/6	30	35	4,30	5,10	6,00	4,85	7,50	4,60
2/1	30	35	3,50	4,10	4,80	3,75	5,60	3,65
-7/-8	30	35	4,50	3,10	5,50	2,90	6,00	2,70
7/6	40	45	4,60	3,65	5,90	3,50	7,80	3,50
2/1	40	45	4,20	2,80	5,00	2,80	6,00	2,75
-7/-8	40	45	4,35	2,40	5,00	2,35	6,10	2,21
7/6	47	55	4,90	2,65	5,80	2,70	7,50	2,70
-7/-8	47	55	4,20	1,60	5,00	1,65	5,50	1,70

Rated data for certification programmes - cooling mode

Tamb [°C]	EWE [°C]	LWE [°C]	ERGA04EA* CC [kW]	EER	ERGA06EA* CC [kW]	EER	ERGA08EA* CC [kW]	EER
35	23	18	4,86	5,98	5,96	5,61	6,25	5,40
35	12	7	4,52	3,32	5,09	3,28	5,44	3,14

Seasonal data - cooling

Low temperature Application		LWE 7°C	ERGA04EA*	ERGA06EA*	ERGA08EA*
SEER	[-]		5,66	5,73	5,71
Pdes	[kW]		4,5	5,1	5,4
$\eta_{s,c}$	[-]		223%	226%	226%
Q _{CE}	[kWh/annum]		480	533	571

Rated data for certification programmes - heating mode

Tamb [°C]	EWC [°C]	LWC [°C]	ERGA04EAV3A HC [kW]	COP	ERGA06EAV3A HC [kW]	COP	ERGA08EAV3A HC [kW]	COP
10/8	30	35	5,17	5,42	6,17	5,12	7,72	4,72
7/6	30	35	4,30	5,10	6,00	4,85	7,50	4,60
2/1	30	35	3,50	4,10	4,80	3,75	5,60	3,65
-7/-8	30	35	4,50	3,10	5,50	2,90	6,00	2,70
7/6	40	45	4,60	3,65	5,90	3,50	7,80	3,50
2/1	40	45	4,20	2,80	5,00	2,80	6,00	2,75
-7/-8	40	45	4,35	2,40	5,00	2,35	6,02	2,21
7/6	47	55	4,90	2,65	5,80	2,70	7,50	2,70
-7/-8	47	55	4,20	1,60	4,91	1,65	4,86	1,70

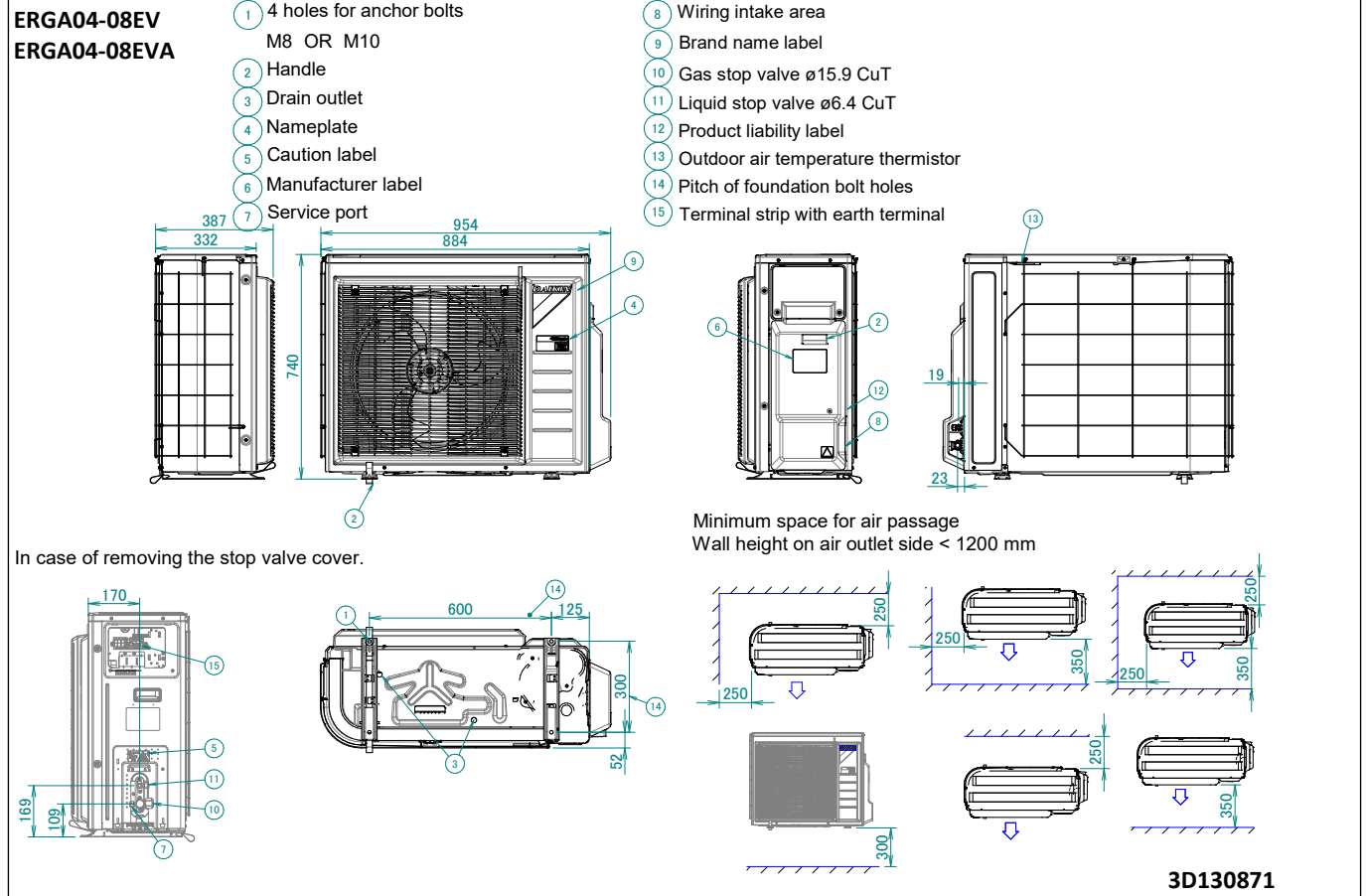
Symbols

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]
$\eta_{s,c}$	Seasonal space cooling energy efficiency according to EN14825.
SEER	Seasonal energy efficiency ratio according to EN14825.
Q _{CE}	Annual energy consumption for cooling according to EN14825.

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6 Dimensional drawings

6 - 1 Dimensional Drawings

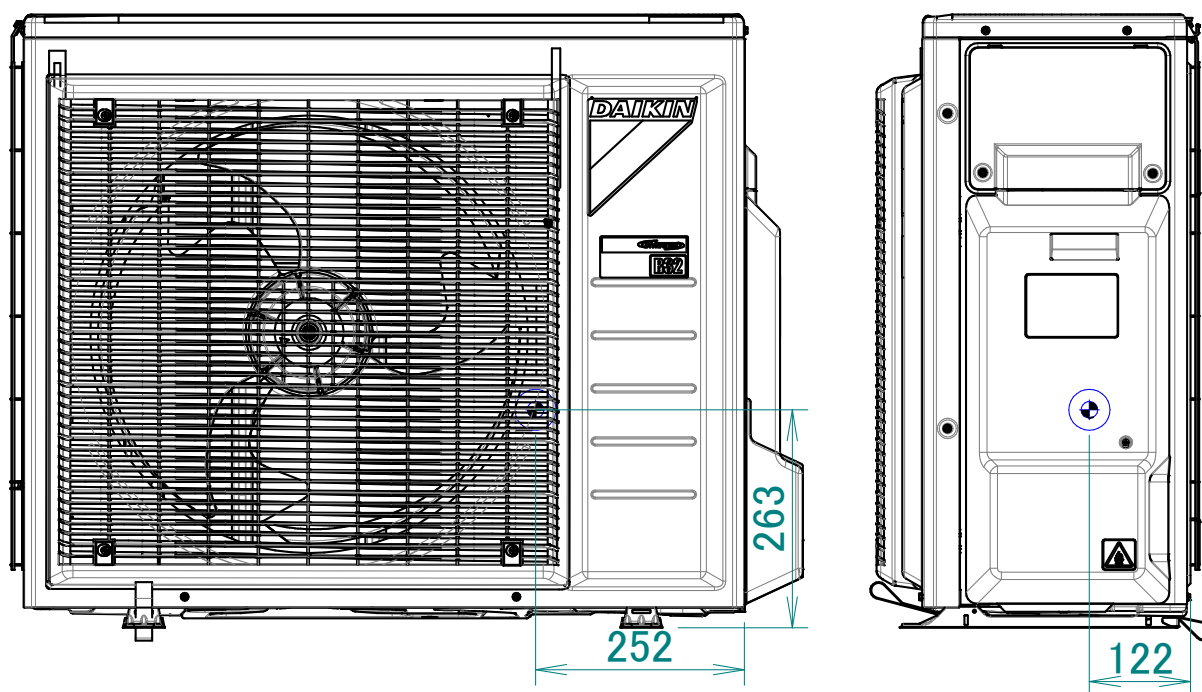


7 Centre of gravity

7 - 1 Centre of Gravity

ERGA04-08EV
ERGA04-08EVA

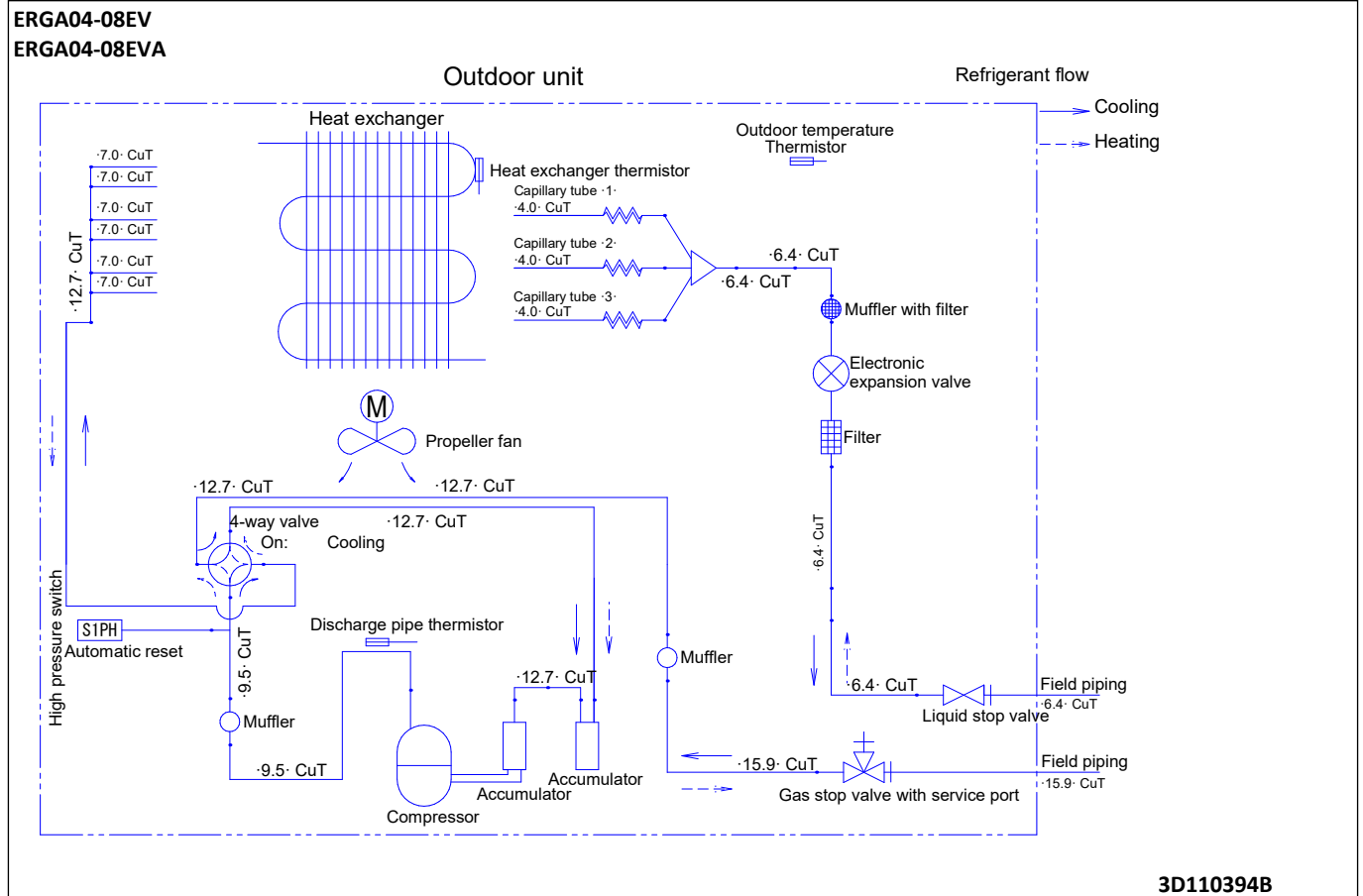
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8 Piping diagrams

8 - 1 Piping Diagrams

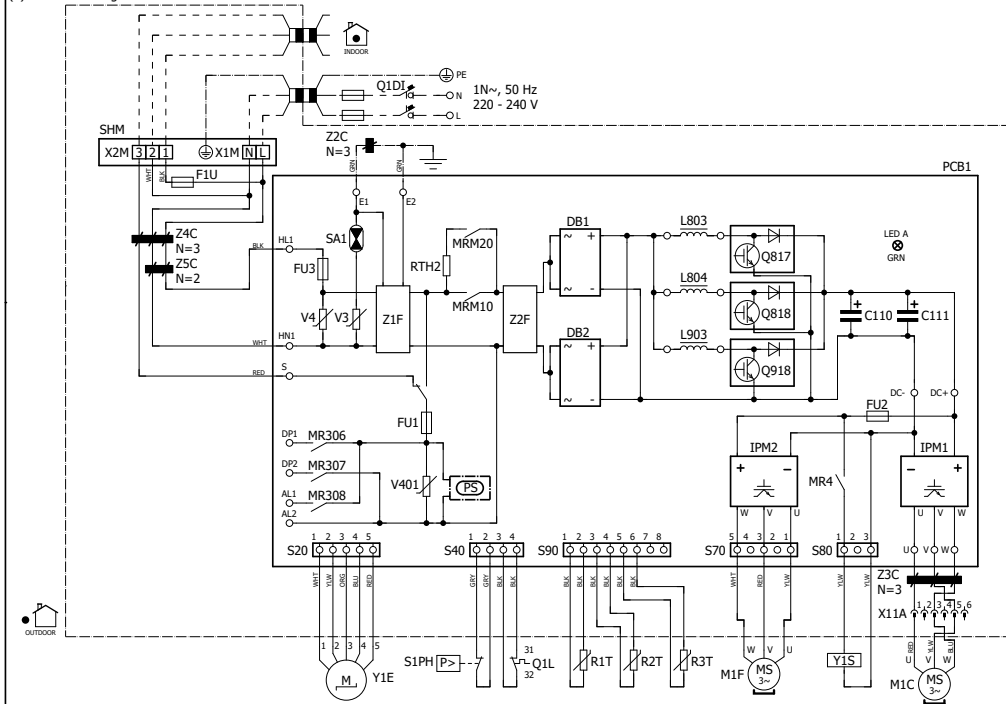


9 Wiring diagrams

9 - 1 Wiring Diagrams - Single Phase

ERGA04-08EV
ERGA04-08EVA

(1) Connection diagram



(3) Legend

Part n°	Description
AL*	Connector
C*	Capacitor
DB*	Rectifier bridge
DC*	Connector
DP*	Connector
E*	Connector
F1U, F2	Fuse T 6,3 A 250 V
F3	Fuse T 3,15 A 250 V
I*	Connector
IPM*	Intelligent power module
L	Connector
LED A	Pilot lamp
L*	Reactor
M1C	Compressor motor
M1F	Fan motor
MR*	Magnetic relay
N	Connector
PCB1	Printed circuit board (main)
PS	Switching power supply
QL	Thermal protector
Q1D1	Earth leakage circuit breaker
Q*	Insulated gate bipolar transistor (IGBT)
R1T	Thermistor (air)
R2T	Thermistor (heat exchanger)
R3T	Thermistor (discharge)
RTH2	Resistor
S	Connector
S1PH	High pressure switch
S2~80	Connector
SA1	Surge arrester
SHM	Terminal strip fixed plate
U, V, W	Connector
V3, V4, V401	Varistor
X*A	Connector
X*M	Terminal strip
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4-way valve)
Z1C	Noise filter (ferrite core)
Z2F	Noise filter

(2) Notes

- : Connection
- X1M : Main terminal
- : Earth wiring
- - - - : Field supply
- [] : Option
- [] : switch box
- [] : PCB
- ⊕ : Protective earth
- : Field wire

NOTES:

1. When operating, do not short-circuit protection device(s) S1PH and QL.
2. Refer to the combination table and the option manual for how to connect the wiring to X6A, X28A and X77A.
3. Colours: BLK:black; RED:red; BLU:blue; WHT:white; GRN:green; YLW:yellow

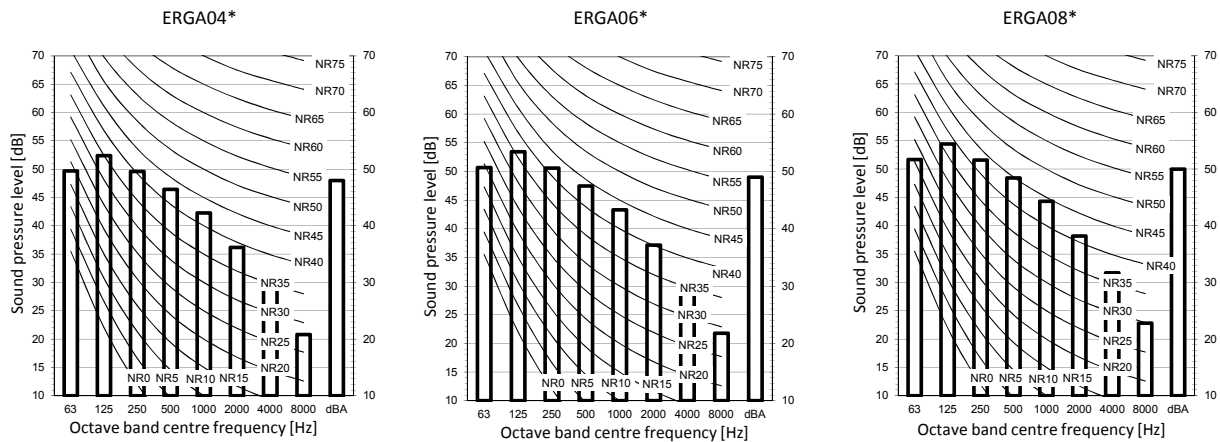
4D130218

10 Sound data

10 - 1 Sound Pressure Spectrum

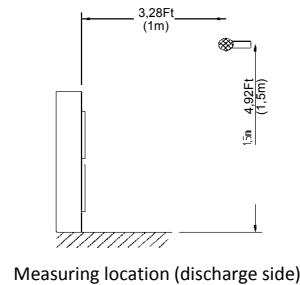
ERGA04-08EV ERGA04-08EVA

Cooling



Notes

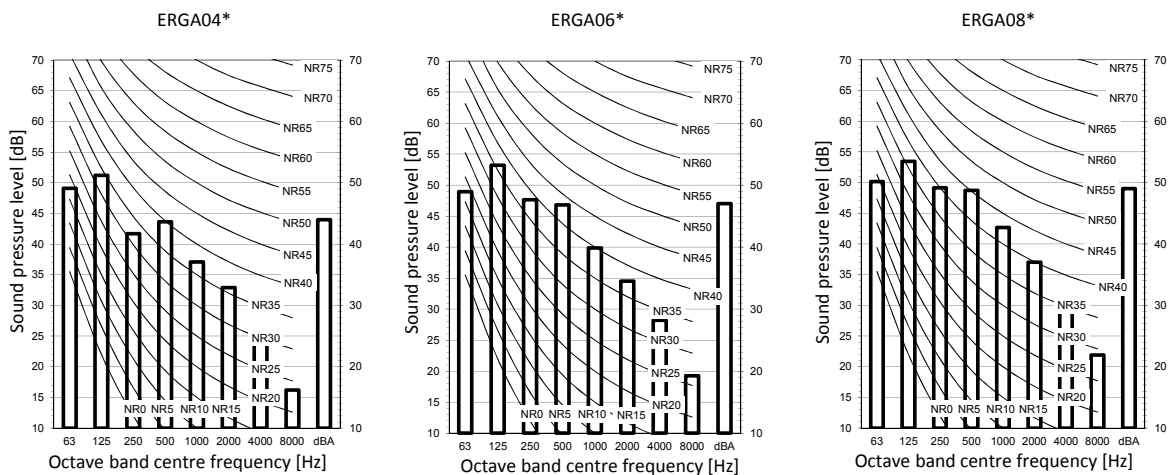
1. Data is valid at free field condition.
Measured in a semi-anechoic chamber
2. Data is valid at nominal operation condition.
3. dBA = A-weighted sound pressure level (A scale according to IEC).
4. Reference acoustic pressure 0 dB = 20 μ Pa
5. If the sound is measured under actual installation conditions,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



3D111595

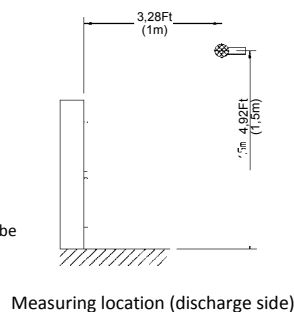
ERGA04-08EV ERGA04-08EVA

Heating



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.



3D111594A

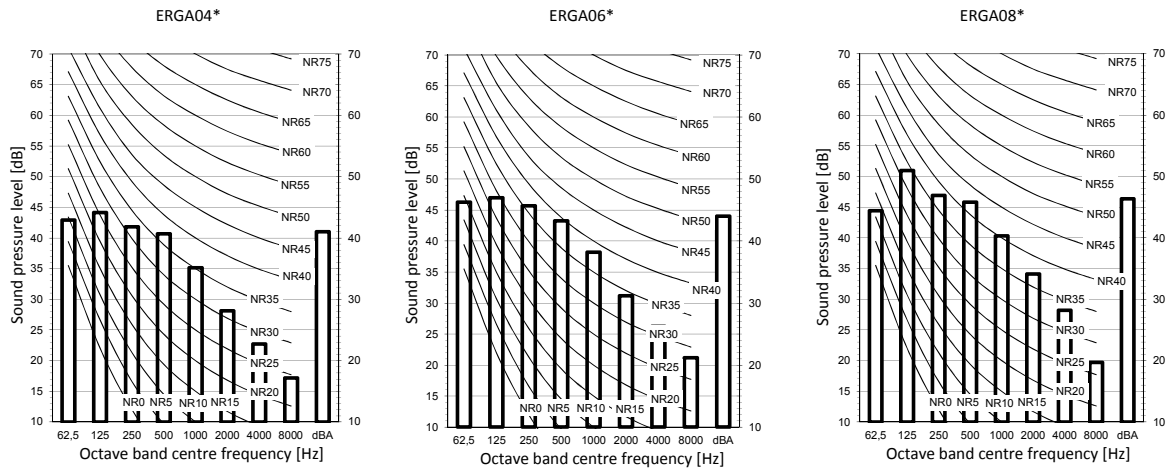
10 Sound data

10 - 1 Sound Pressure Spectrum

10

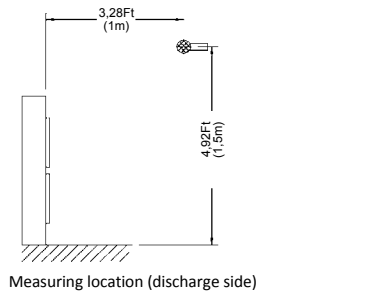
ERGA04-08EV
ERGA04-08EVA

Heating more quiet mode



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.

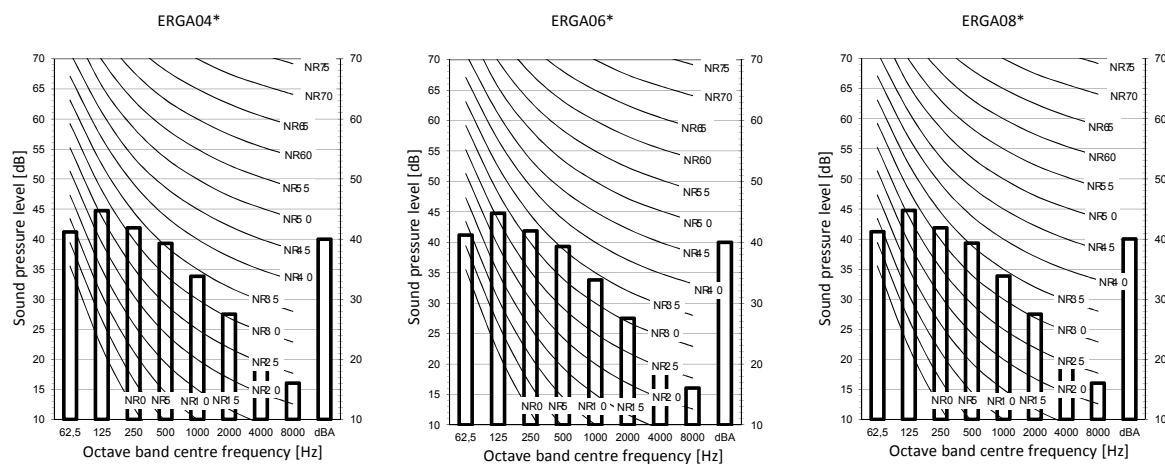


Measuring location (discharge side)

3D116213

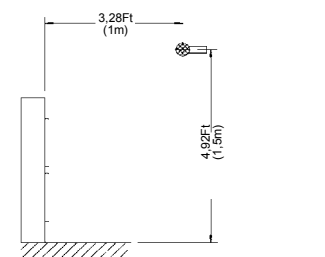
ERGA04-08EV
ERGA04-08EVA

Heating most quiet mode



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.



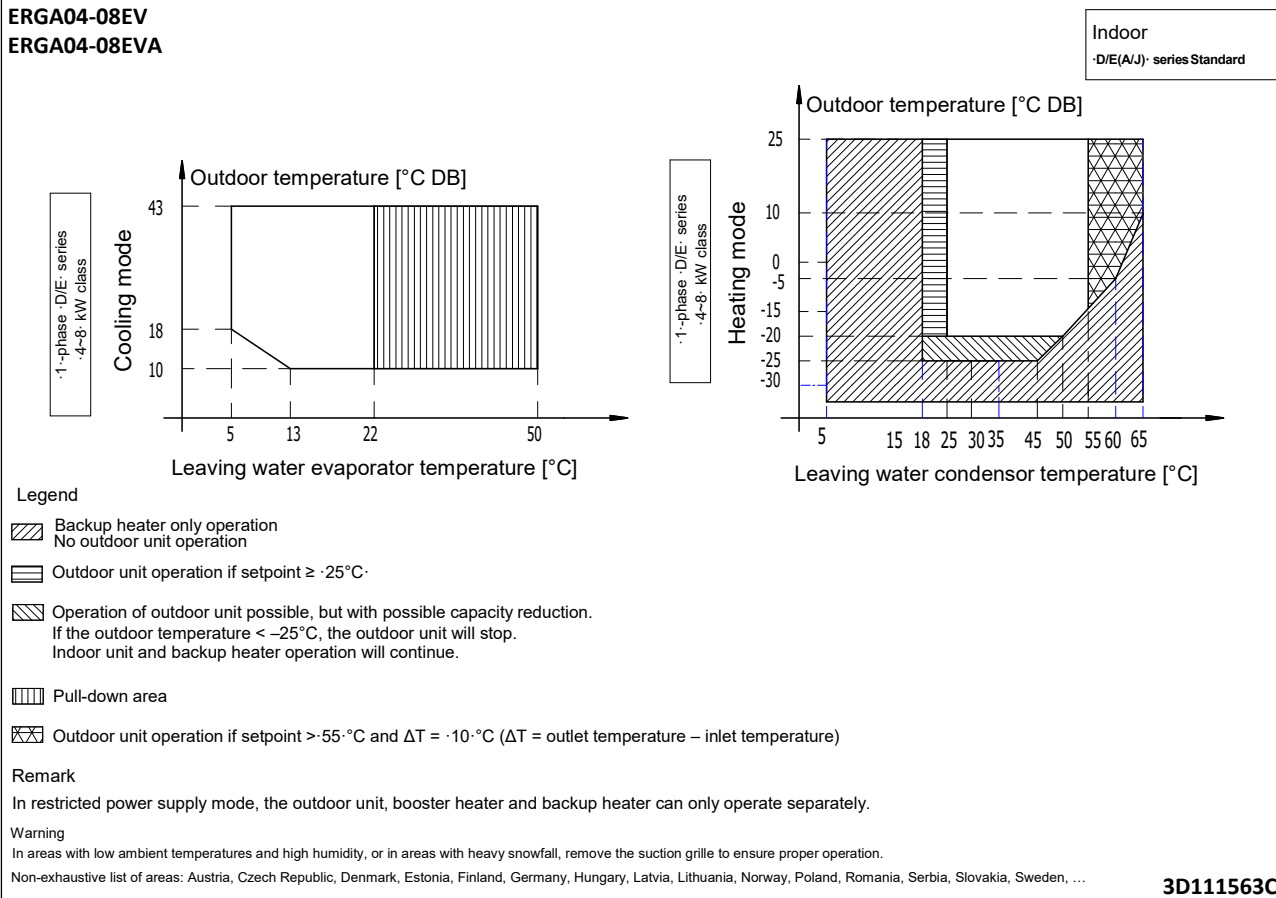
Measuring location (discharge side)

3D116214

11 Operation range

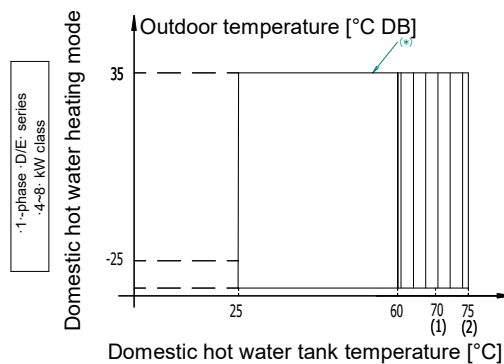
11 - 1 Operation Range

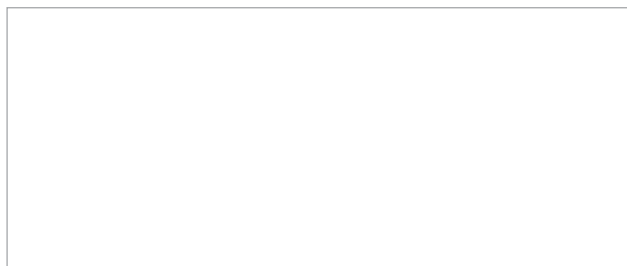
ERGA04-08EV
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11

ERGA04-08EV
ERGA04-08EVA





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