

Chillers

Technical Data

Air cooled mini chiller inverter



EEDEN12-401

EWAQ-ACV3
EWAQ-ADVP
EWAQ-ACW1

EWYQ-ACV3
EWYQ-ADVP
EWYQ-ACW1

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EWAQ-ACV3	EWYQ-ACV3
EWAQ-ADVP	EWYQ-ADVP
EWAQ-ACW1	EWYQ-ACW1

EWA/YQ-AC/AD

Cooling only	1	EWAQ-ADVP	3	1
Cooling only	2	EWAQ-ACV3	19	2
Cooling only	3	EWAQ-ACW1	33	3
Heat pump	4	EWYQ-ADVP	47	4
Heat pump	5	EWYQ-ACV3	63	5
Heat pump	6	EWYQ-ACW1	81	6

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EWAQ-ADVP

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1 Features

- Wide operating range
- Low operating sound level
- Easy 'plug and play' installation
- Daikin swing compressor
- Integrated hydronics
- Single phase power supply and main switch included



2 Specifications

2-1 Technical Specifications					EWAQ005ADVP		EWAQ006ADVP		EWAQ007ADVP	
Cooling capacity	Min.		kW		4.01 (1)					
	Nom.		kW		5.2 (1)		6.0 (1)		7.1 (1)	
	Max.		kW		5.2 (1)		6.0 (1)		7.1 (1)	
Power input	Cooling	Nom.		kW	1.89 (1)		2.35 (1)		2.95 (1)	
EER					2.75 (1)		2.55 (1)		2.41 (1)	
Casing	Colour				Ivory white					
	Material				Polyester painted galvanised steel plate					
Dimensions	Unit	Height		mm	805					
		Width		mm	1,190					
		Depth		mm	360					
	Packed unit	Height		mm	915					
		Width		mm	1,265					
		Depth		mm	442					
Weight	Unit			kg	100					
	Operation weight			kg	104					
	Packed unit			kg	108					
Water heat exchanger	Type				Brazed plate					
	Filter	Type			Brass Y-strainer					
		Diameter perforations	mm		1					
	Minimum water volume in the system			l	10					
	Water flow rate	Min.		l/min	12					
	Nominal water flow	Cooling	l/min		14.9		17.2		20.4	
	Insulation material				Polyethylene foam					
	Model	Type			ACH30-48					
		Quantity			1					
Air heat exchanger	Type				Tube type					
	Rows	Quantity			2					
	Stages	Quantity			32					
	Fin pitch		mm		1.8					
Pump	Quantity				1					
	Type				Water cooled					
	Model				RS 25/7 3 PL 130 12					
	Nominal ESP unit	Cooling	kPa		49.4		45.1		38.3	
	Power input			W	130					
Hydraulic components	Anti freeze heater (optional)			W	75					
	Unit water volume			l	5.5 @ 5					
	Expansion vessel	Volume		l	6					
		Pre pressure		bar	1					
	Water filter	Diameter		inch	1"					
	Safety valve			bar	3					
Fan	Quantity				1					
	Type				Propeller fan					
	Discharge direction				Horizontal					
Fan motor	Output			W	53					
Sound power level	Cooling	Nom.		dBA	62				63	
Sound pressure level	Cooling	Nom.		dBA	48				50	
Compressor	Type				Hermetically sealed swing compressor					
	Quantity				1					
	Model				2YC63BXD#C					
	Output			W	1,920					
	Starting method				Inverter driven					
Operation range	Water side	Cooling	Min.	°CDB	5					
			Max.	°CDB	20					
	Air side	Cooling	Min.	°CDB	10					
			Max.	°CDB	43					

2 Specifications

2-1 Technical Specifications			EWAQ005ADVP	EWAQ006ADVP	EWAQ007ADVP
Refrigerant	Type		R-410A		
	Charge	kg	1.7		
	Control		Inverter		
	Circuits	Quantity	1		
Refrigerant oil	Type		FVC50K		
	Charged volume	l	0.75		
Piping connections	Water heat exchanger inlet / outlet		1" MBSP		
	Water heat exchanger drain		5/16 SAE flare		
Safety devices	Item	01	Fan motor thermal protection		
		02	Fuse		
		03	Safety valve		
		04	Flowswitch		

2 Specifications

2-2 Electrical Specifications				EWAQ005ADVP	EWAQ006ADVP	EWAQ007ADVP
Pump	Type			Water cooled		
	Phase			1~		
	Power input		kW	0.13		
	Voltage		V	230		
	Maximum running current		A	0.58		
	Speed	Min.	rpm	1,050		
		Nom.	rpm	2,250		
		Max.	rpm	2,450		
Power supply	Name			V3		
	Phase			1~		
	Frequency		Hz	50		
	Voltage		V	230		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Unit	Starting current		A	11		
	Maximum running current		A	17.3		
	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12		
	Recommended fuses according to IEC standard 269-2			20		
Fans	Quantity			1		
	Phase			1~		
	Voltage		V	230		
Evaporator heater tape	Supply voltage		V	230		
	Capacity		W	75		
	Voltage range	Min.	%	-10		
		Max.	%	10		
	Recommended fuses			20A		

Notes

- (1) Tamb 35°C - LWE 7°C (DT=5°C)
- (2) 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.
- (3) Including piping + PHE; excluding expansion vessel
- (4) PED: assembly = category I : excluded from scope of PED due to article 1, item 3.6 of 97/23/EC
- (5) EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current $\geq 16A$ and $\leq 75A$ per phase
- (6) Fuse value valid for complete unit

Options

Options

1
3

EWAQ-ADVP
EWYQ-ADVP

Optional equipment for EW*Q00*ADVP(on)

capacity: 5 - 7.1kW

Option number	Option description	(on)	Unit size						Availability
	standard unit		EWAQ005ADVP	EWAQ006ADVP	EWAQ007ADVP	EWYQ005ADVP	EWYQ006ADVP	EWYQ007ADVP	
OP10	available options evaporator heatertape	-H-	○	○	○	○	○	○	factory mounted

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ005-007ADVP

Cooling	Tamb[°C]	20		25		30		35		40		43	
Model	LWE(°C)	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
005	7	6.23	1.42	5.93	1.58	5.61	1.75	5.28	1.94	4.60	2.07	4.01	2.27
	11	7.05	1.43	6.71	1.60	6.36	1.79	6.00	1.99	5.07	2.04	4.34	2.18
	13	7.48	1.43	7.12	1.61	6.76	1.80	6.38	2.01	5.31	2.02	4.51	2.13
	16	8.14	1.43	7.77	1.62	7.38	1.82	6.98	2.04	5.68	1.98	4.75	2.05
	20	9.08	1.43	6.68	1.63	8.26	1.85	7.83	2.07	6.18	1.93	5.05	1.92
006	7	7.14	1.79	6.81	1.98	6.45	2.19	6.08	2.40	5.01	2.35	4.19	2.41
	11	8.04	1.83	7.67	2.04	7.28	2.25	6.86	2.48	5.51	2.34	4.53	2.34
	13	8.52	1.85	8.13	2.06	7.72	2.29	7.28	2.52	5.77	2.33	4.70	2.29
	16	9.26	1.87	8.84	2.10	8.40	2.33	7.94	2.58	6.17	2.31	4.96	2.22
	20	10.3	1.90	9.8	2.14	9.37	2.39	8.87	2.65	6.72	2.27	5.29	2.10
007	7	8.39	2.28	8.02	2.51	7.62	2.75	7.18	3.00	5.57	2.70	4.44	2.60
	11	9.39	2.36	8.97	2.60	8.52	2.86	7.57	2.99	5.87	2.64	4.68	2.50
	13	9.90	2.40	9.47	2.65	8.99	2.91	7.86	2.96	6.07	2.58	4.83	2.43
	16	10.7	2.46	10.23	2.72	9.73	2.99	8.31	2.90	6.36	2.50	5.03	2.31
	20	11.8	2.54	11.3	2.81	10.75	3.10	8.90	2.81	6.73	2.36	5.29	2.14

NOTES

- The heating capacity and power input in the table has to be multiplied by the correction factor CF as listed in the table below to obtain the integrated heating capacity and power input.

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)

Tamb	-15	-10	-7	-2	2	7
CF for HC	0.89	0.89	0.88	0.87	0.86	1.00
CF for PI	0.95	0.95	0.94	0.93	0.92	1.00

- Values in the capacity table can be interpolated
Values shall **NOT** be extrapolated

SYMBOLS

CC	Cooling capacity at maximum operating frequency, measured acc. EN14511:2011 [kW]
HC	Heating capacity at maximum operating frequency, measured acc. EN14511:2011 [kW]
PI	Power input, measured acc. EN14511:2011 [kW]
LWE	Leaving Water Evaporator temperature [°C]
LWC	Leaving Water Condensor temperature [°C]
Tamb	Ambient temperature [°C] RH=85%

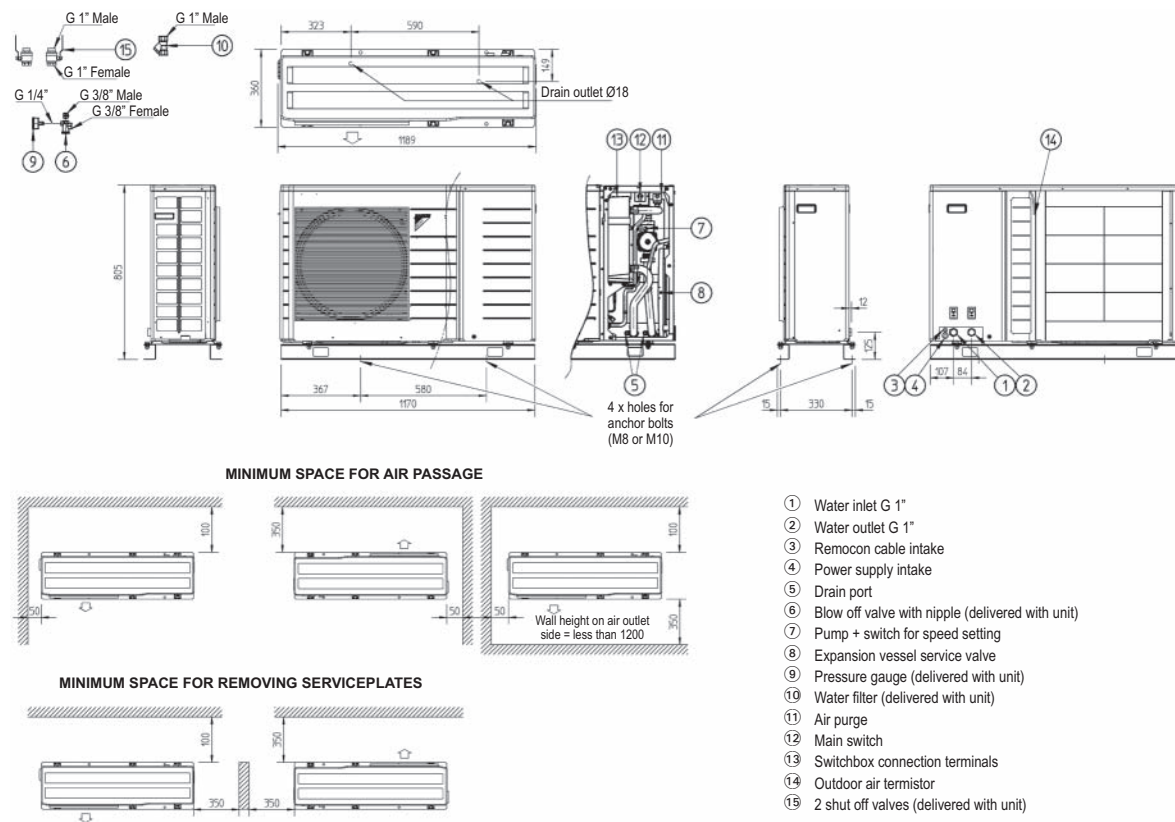
CONDITIONS

- Cooling capacity
Capacity is according to EN14511:2011 and valid for chilled water range $\Delta t = 3\text{--}8^\circ\text{C}$
- Heating capacity
Capacity is according to EN14511:2011 and valid for chilled water range $\Delta t = 3\text{--}8^\circ\text{C}$
- Power input
Power input is total input according to EN14511:2011

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5 - 1 Dimensional Drawings

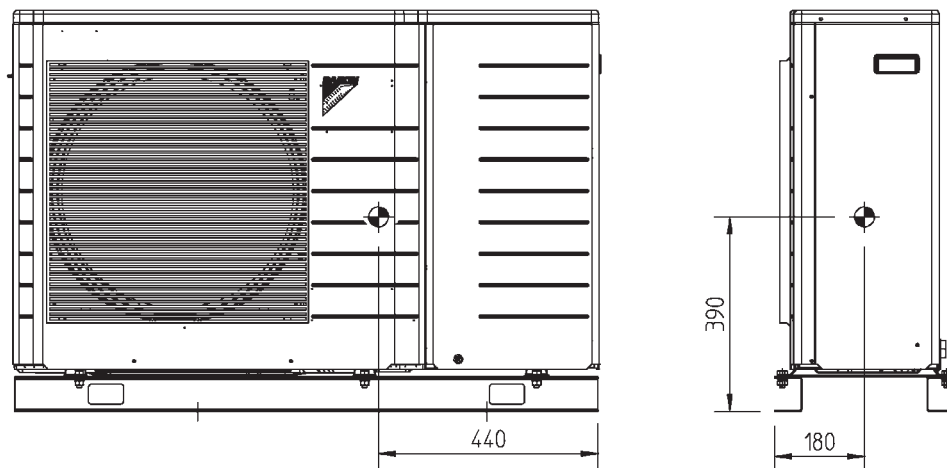
5 - 1 Dimensional Drawings

EWAQ-ADVP
EWYQ-ADVP

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6 Centre of gravity

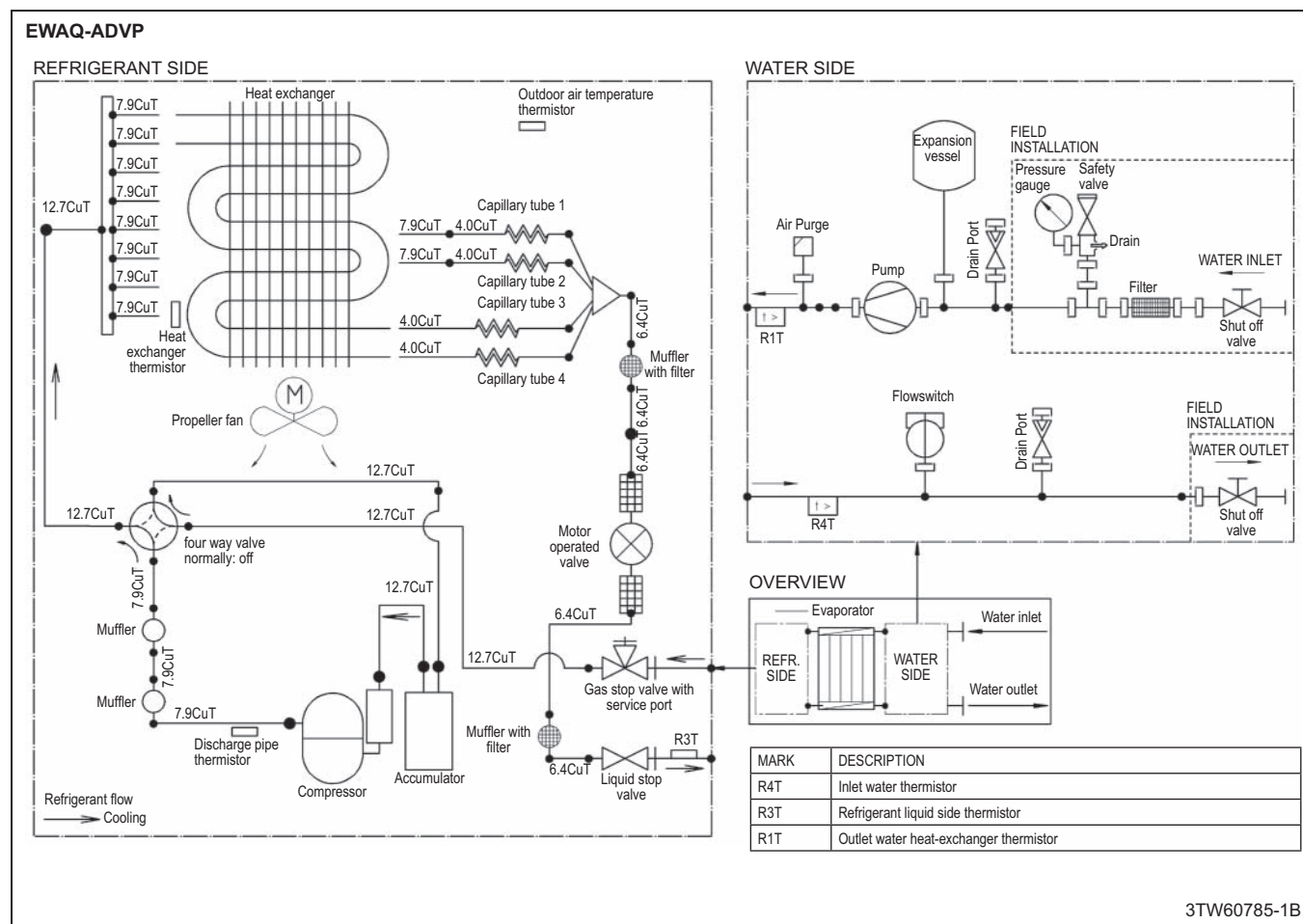
6 - 1 Centre of Gravity



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7 Piping diagrams

7 - 1 Piping Diagrams



8 Wiring diagrams

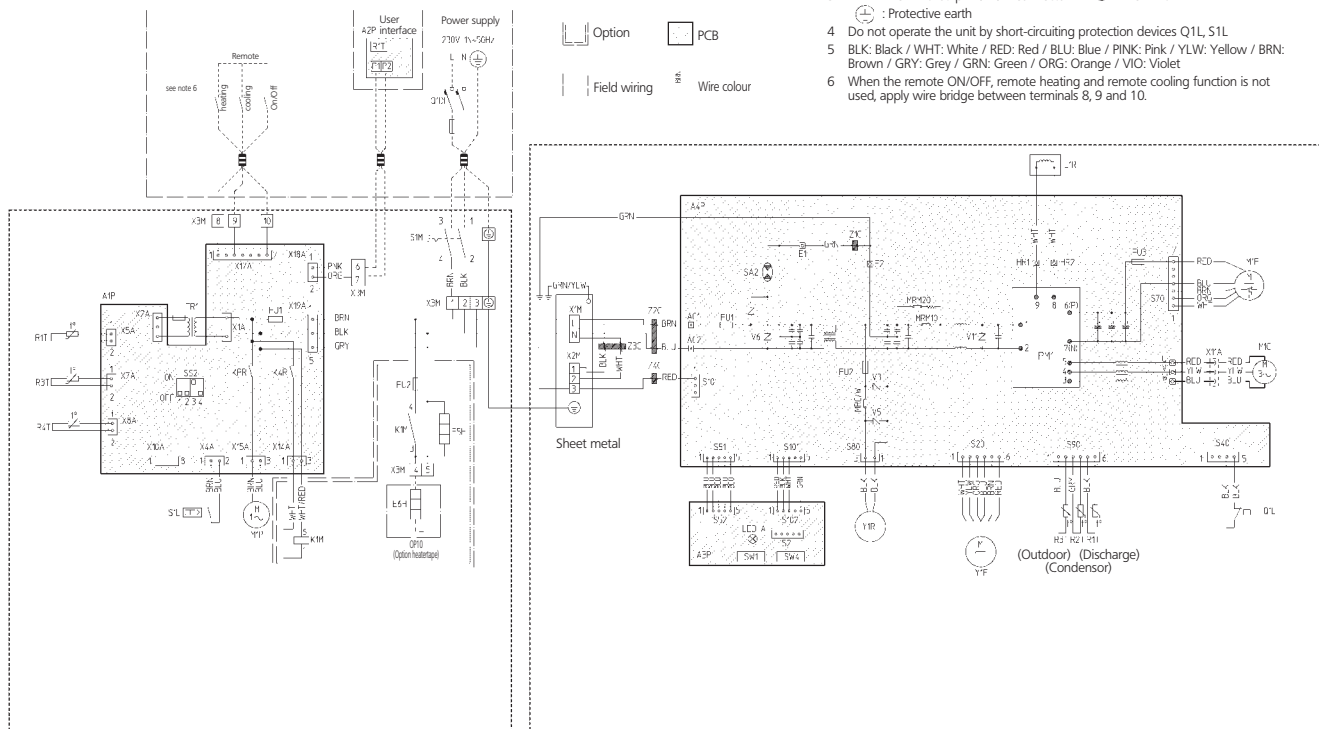
8 - 1 Wiring Diagrams - Single Phase

EWAQ005-007ADVP

EWYQ005-007ADVP

Notes:

- 1 This wiring diagram only applies to the outdoor unit
- 2 : Field wiring
- 3 : Terminal strip : Connector : Terminal
- 4 Do not operate the unit by short-circuiting protection devices Q1L, S1L
- 5 BLK: Black / WHT: White / RED: Red / BLU: Blue / PINK: Pink / YLW: Yellow / BRN: Brown / GRN: Grey / GRN: Green / ORG: Orange / VIO: Violet
- 6 When the remote ON/OFF, remote heating and remote cooling function is not used, apply wire bridge between terminals 8, 9 and 10.



Q1DI	Earth leakage protector
TR1	Transformer 24V for PCB
R4T	Inlet water thermistor
R3T	Refrigerant liquid side thermistor
R1T	Outlet water heat exchanger
S1L	Flowswitch
M1P	Pump
A2P	Remocom PCB (indoor)
A1P	Main PCB
S1M	Mainswitch
FU1	Fuse 3.15A T 250V
FU2	Fuse 5A 250V
X1A,X2A	Connector
X4A,X5A	Connector
X7A,X8A	Connector
X10A,X15A	Connector
X17A,X18A	Connector
X19A,X20A	Connector
E5H	Heatertape
E6H	Heatertape (Field supply)
SS2	Dipswitch
K1M	Relay
X3M	Terminal strip

Z1C~Z4C	Ferrite core
X1M,X2M	Terminal strip
Y1E	Electronic expansion valve coil
V2,V3,V5,V6,V11	Varistor
SA2	Surge arrester
FU1	Fuse 30A 250V
FU2	Fuse 3.15A 250V
FU3	Fuse 3.15A 250V
AC1,AC2	Connector
U,V,W,X11A	Connector
E1,E2	Connector
HR1,HR2	Magnetic relay
MRM10,MRM20	Magnetic relay
MRC/W	Thermistor
R1T~R3T	Connector
S2~S102	Pilot lamp
LED A	

L	Live
N	Neutral
SW1	Forced operation on/off SW (SW1)
SW4	Local setting SW (SW4)
M1C	Compressor motors
M1F	Fan motor
L1R	Reactor
Q1L	Overload protector
PM1	Power module
PCB1,2	Printed circuit board
Y1R	Reversing solenoid valve coil
Sheet metal	Terminal strip fixed plate

3TW57536-1A

9 Sound data

9 - 1 Sound Power Spectrum

1
9

	Sound power total (dBA)	
	LwA - Cooling mode	LwA - Heating mode
EWAQ005ADVP	62	N/A
EWAQ006ADVP	62	N/A
EWAQ007ADVP	63	N/A
EWYQ005ADVP	62	60
EWYQ006ADVP	62	60
EWYQ007ADVP	63	61

Notes:

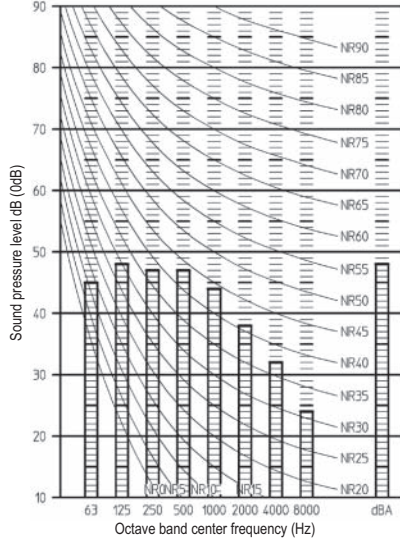
- Data valid at nominal operation condition
- Measured according ISO3744

4TW57537-3A

9 Sound data

9 - 2 Sound Pressure Spectrum

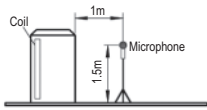
EWAQ005ADVP
EWYQ005ADVP (cooling)



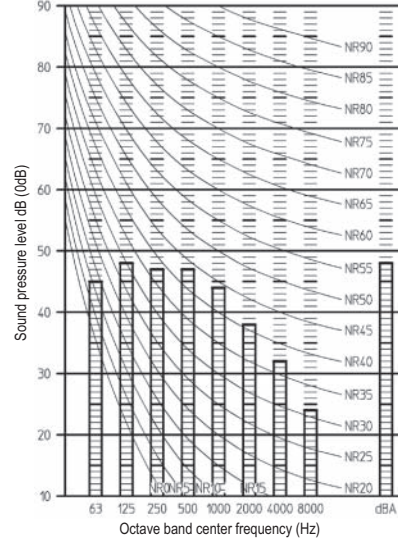
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NOTES

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



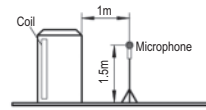
EWAQ006ADVP
EWYQ006ADVP (cooling)



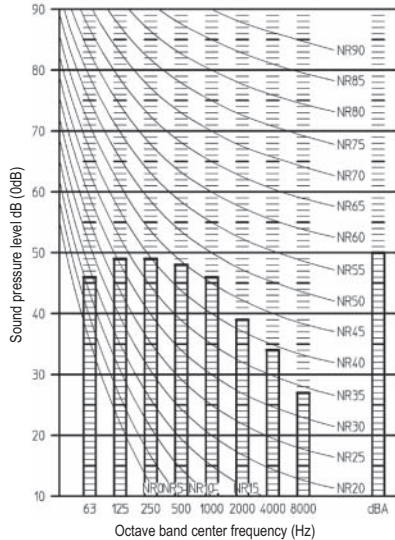
3TW60787-1

NOTES

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



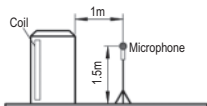
EWAQ007ADVP
EWYQ007ADVP (cooling)



3TW60787-1

NOTES

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



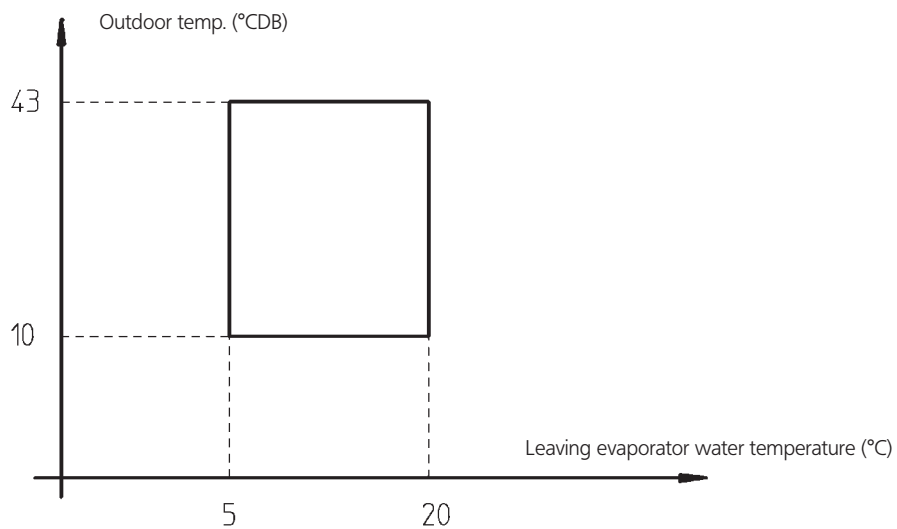
10 Operation range

10 - 1 Operation Range

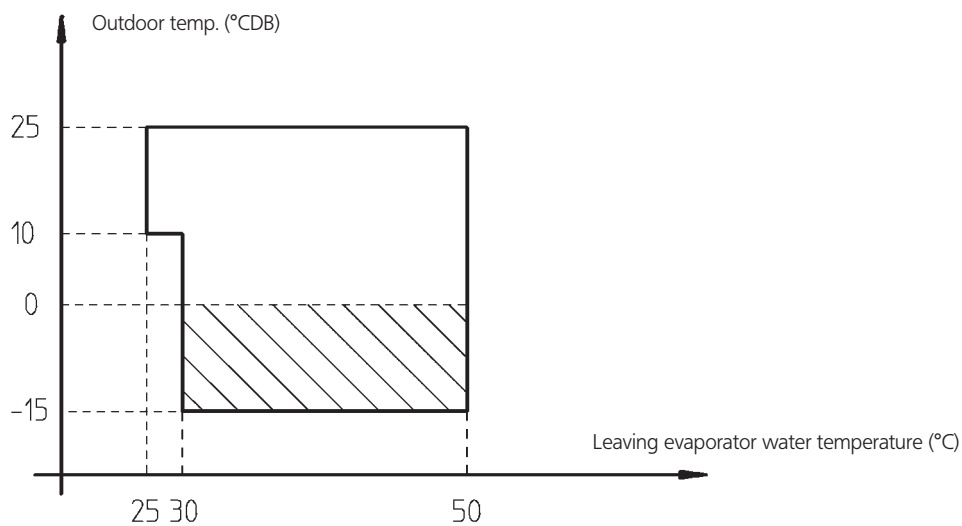
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EWAQ005-007ADVP
EWYQ005-007ADVP

Cooling mode



Heating mode



: Protect the water circuit against freezing

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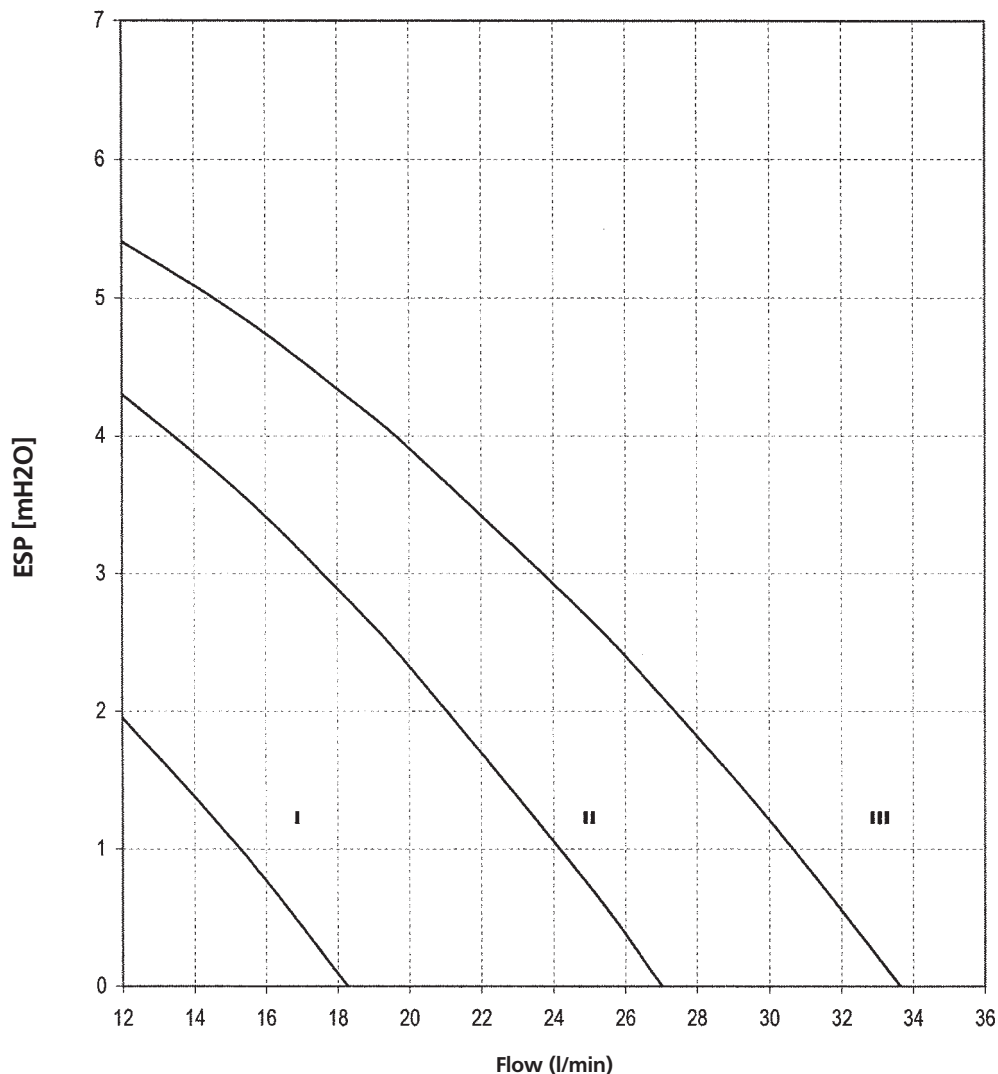
11 Hydraulic performance

11 - 1 Static Pressure Drop Unit

EWAQ005-007ADVP

EWYQ005-007ADVP

ESP = f (Flow)



- I: low speed setting pump
- II: medium speed setting pump
- III: high speed setting pump

ESP: External static pressure
Flow: waterflow trough the unit

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

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1 Features

- Inverter technology ensures: continuous match of requested load; excellent part load efficiency (ESEER up to 4.57); significant reduction of starting currents; precise temperature control (evaporator leaving water)
- Low operating sound level
- Wide operating range
- Integrated hydronics
- Single phase power supply and main switch included
- Easy 'plug and play' installation

2
1



2 Specifications

2-1 Technical Specifications					EWAQ009ACV3	EWAQ010ACV3	EWAQ011ACV3
Cooling capacity	Nom.		kW		12.2 (1) / 8.6 (2)	13.6 (1) / 9.6 (2)	15.7 (1) / 11.1 (2)
Capacity control	Method				Inverter controlled		
Power input	Cooling	Nom.	kW		2.85 (1) / 2.83 (2)	3.41 (1) / 3.28 (2)	4.13 (1) / 3.90 (2)
EER					4.27 (1) / 3.05 (2)	4.00 (1) / 2.93 (2)	3.79 (1) / 2.85 (2)
ESEER					4.31	4.30	4.33
Casing	Colour				Ivory white		
	Material				Painted galvanized steel plate		
Dimensions	Unit	Height	mm		1,435		
		Width	mm		1,418		
		Depth	mm		382		
	Packed unit	Height	mm		1,574		
		Width	mm		1,500		
		Depth	mm		430		
Weight	Unit		kg		180		
	Packed unit		kg		200		
Packing	Material				EPS / Wood / Carton / PP (Straps)		
	Weight		kg		20		
Water heat exchanger	Type				Brazen plate		
	Quantity				1		
	Water volume		l		1.01		
	Water flow rate	Min.	l/min		16		
		Max.	l/min		58		
	Nominal water flow	Cooling	l/min		24.7 (5)	27.6 (5)	31.9 (5)
	Insulation material				Foamed synthetic elastomer		
Air heat exchanger	Length		mm		857		
	Type				Hi-XSS (8)		
	Rows	Quantity			2		
	Stages	Quantity			60		
	Fin pitch		mm		1.4		
	Passes	Quantity			5		
	Face area		m ²		1.131		
	Empty tubeplate hole				0		
	Fin	Type			WF fin		
		Treatment			Anti-corrosion treatment (PE)		
Pump	Nr of speeds				2		
	Type				Water cooled		
	Nominal ESP unit	Cooling	kPa		58.0	54.6	49.1
	Power input		W		210		
Hydraulic components	Expansion vessel	Volume	l		10		
		Max. water pressure	bar		3		
		Pre pressure	bar		1.0		
	Water filter	Diameter perforations	mm		1		
		Material			Brass		
Fan	Quantity				2		
	Type				Propeller fan		
	Air flow rate	Cooling	Nom.	m ³ /min	96	100	97
	Discharge direction				Horizontal		
Fan motor	Model				Brushless DC motor		
	Output		W		70		
	Quantity				2		
	Drive				Direct drive		
	Speed	Cooling	Nom.	rpm	780		
		Steps			8		
Sound power level	Cooling	Nom.		dBA	64 (5)		
Sound pressure level	Cooling	Nom.		dBA	51 (5)		
	Night quiet mode	Cooling		dBA	45		

2 Specifications

2-1 Technical Specifications					EWAQ009ACV3	EWAQ010ACV3	EWAQ011ACV3
Compressor	Type				Hermetically sealed scroll compressor		
	Quantity				1		
	Model				JT100G-VD		
	Output		W		2,200		
	Starting method				Inverter driven		
	Motor (INV)		Crankcase heater		W		33
Operation range	Water side	Cooling	Min.	°CDB	5		
			Max.	°CDB	22		
	Air side	Cooling	Min.	°CDB	10		
			Max.	°CDB	46		
Refrigerant	Type				R-410A		
	Charge		kg		2.95		
	Control				Electronic expansion valve		
	Circuits	Quantity			1		
Water circuit	Piping connections diameter		inch		G 5/4" (female)		
	Piping		inch		5/4"		
	Safety valve		bar		3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Total water volume		l		4 (6)		
	Minimum water volume in the system		l		20 (7.0)		
	Air purge valve				Yes		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume		l		1.0		
Defrost method					Pressure equalising		
Defrost control					Sensor for outdoor heat exchanger temperature		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2-2 Electrical Specifications				EWAQ009ACV3	EWAQ010ACV3	EWAQ011ACV3
Pump	Type			Water cooled		
Compressor	Starting method			Inverter driven		
	Crankcase heater		W	33		
Power supply	Name			V3		
	Phase			1~		
	Frequency		Hz	50		
	Voltage		V	230		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Unit	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12		
	Recommended fuses			32		
Wiring connections				See installation manual		

Notes

- (1) Underfloor program: 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) Fan coil program: cooling Ta 35°C - LWE 7°C (Dt: 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (Dt: 5°C)
- (3) 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.
- (4) Condition: Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)
- (5) Condition: Ta 35°C - LWE 7°C (DT = 5°C)
- (6) Including piping + PHE; excluding expansion vessel
- (7) 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 though, extra water volume might be required. Refer to operation range for more info.
- (8) 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.
- (9) According to EN14511:2001

3 Options

3 - 1 Options

EWA(Y)Q009-013AC

Optional equipment for EWA/YQ*A*V3/W1P(on)

Model number

EWAQ009A*V3P(on) EWYQ009A*V3P(on)
EWAQ010A*V3P(on) EWYQ010A*V3P(on)
EWAQ011A*V3P(on) EWYQ011A*V3P(on)

(on) = option number

EWAQ009A*W1P(on) EWYQ009A*W1P(on)
EWAQ011A*W1P(on) EWYQ011A*W1P(on)
EWAQ013A*W1P(on) EWYQ013A*W1P(on)

Option number	Option description	(on)	Unit size						Availability
OP10	Standard unit available options evaporator + waterpiping heatertape		EWAQ009A*V3P(on)	EWAQ010A*V3P(on)	EWAQ011A*V3P(on)	EWYQ009A*V3P(on)	EWYQ010A*V3P(on)	EWYQ011A*V3P(on)	factory mounted
			○	○	○	○	○	○	
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit
OP10	Standard unit available options evaporator heatertape		EWAQ009A*W1P(on)	EWAQ011A*W1P(on)	EWAQ013A*W1P(on)	EWYQ009A*W1P(on)	EWYQ011A*W1P(on)	EWYQ013A*W1P(on)	factory mounted
			○	○	○	○	○	○	
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit

3TW58259-1A

NOTES

- Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation)

4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ009-011ACV3
EWYQ009-011ACV3

MAXIMUM COOLING CAPACITY

	Tamb	20		25		30		35		40		45	
	LWE	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
EWAQ009(V3)	7	10.42	1.95	9.82	2.25	9.22	2.54	8.62	2.83	7.70	3.09	6.78	3.35
	10	11.55	1.93	10.84	2.23	10.14	2.52	9.43	2.82	8.62	3.13	7.80	3.43
	13	12.71	1.90	11.92	2.21	11.13	2.51	10.34	2.82	9.55	3.16	8.77	3.50
	15	13.53	1.86	12.72	2.18	11.90	2.51	11.08	2.83	10.21	3.18	9.35	3.52
	18	14.77	1.80	13.91	2.15	13.05	2.50	12.18	2.85	11.20	3.20	10.22	3.55
	22	16.41	1.71	15.50	2.10	14.58	2.49	13.66	2.88	12.52	3.24	11.38	3.60
EWYQ010(V3)	7	11.76	2.30	11.05	2.62	10.34	2.95	9.62	3.28	8.75	3.58	7.87	3.89
	10	13.05	2.31	12.22	2.64	11.40	2.97	10.58	3.30	9.81	3.64	9.04	3.98
	13	14.36	2.31	13.45	2.65	12.54	2.99	11.62	3.33	10.87	3.69	10.11	4.05
	15	15.28	2.31	14.33	2.66	13.38	3.01	12.43	3.36	11.57	3.73	10.71	4.09
	18	16.65	2.32	15.65	2.68	14.64	3.04	13.64	3.41	12.63	3.78	11.62	4.15
	22	18.48	2.33	17.41	2.71	16.33	3.09	15.26	3.47	14.04	3.85	12.82	4.23
EWAQ011(V3)	7	13.57	2.81	12.76	3.17	11.94	3.54	11.13	3.90	10.05	4.26	8.98	4.62
	10	15.09	2.83	14.20	3.21	13.30	3.58	12.40	3.96	11.37	4.35	10.34	4.73
	13	16.58	2.86	15.61	3.24	14.63	3.63	13.65	4.02	12.61	4.43	11.57	4.83
	15	17.54	2.87	16.51	3.27	15.48	3.67	14.46	4.06	13.33	4.47	12.20	4.89
	18	18.97	2.90	17.87	3.31	16.77	3.72	15.66	4.13	14.40	4.55	13.15	4.97
	22	20.88	2.93	19.68	3.36	18.48	3.79	17.27	4.22	15.84	4.65	14.41	5.08

SYMBOLS

CC Cooling capacity [kW] at maximum operating frequency, measured acc. EN14511:2011
 PI Power input [kW], measured acc. EN14511:2011
 LWE Leaving Water Evaporator temperature [°C]
 Tamb Ambient temperature [°C] RH=85%

CONDITIONS

- Cooling capacity
Capacity is according to EN14511:2011 and valid for chilled water range $\Delta T = 3\sim 8^{\circ}\text{C}$
→ Capacity values may not be extra polated below 7°C leaving water temperature
- Power input
Power input is total input of indoor and outdoor unit; according to EN14511:2011

3TW58252-1C

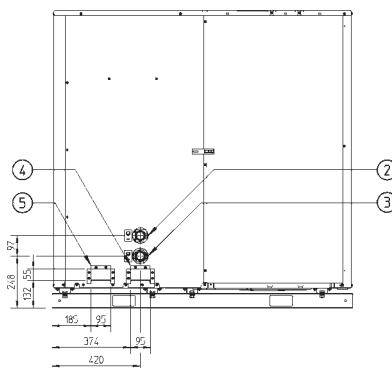
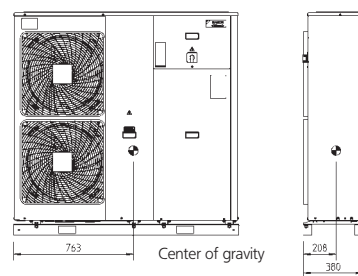
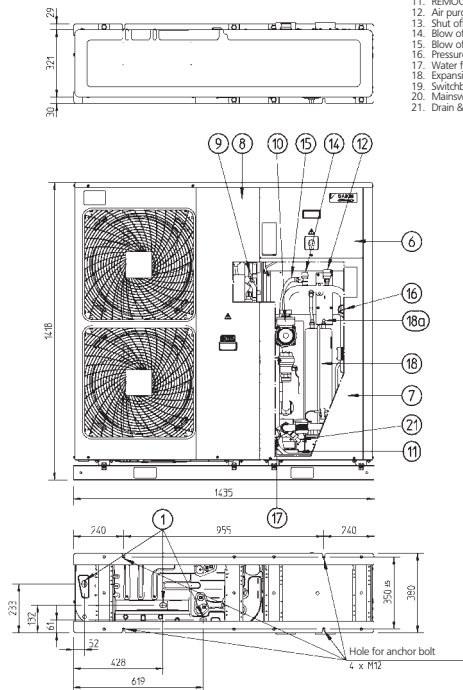
5 Dimensional drawings

5 - 1 Dimensional Drawings

EWAQ009-013AC

EWYQ009-013AC

- Center of gravity
1. Drain outlet
2. Waterpiping outlet
3. Waterpiping inlet
4. Power supply cables intake
5. Field wiring intake
6. Service door switchbox
7. Service door hydraulic module
8. Service door compressor module
9. Service port
10. Pump
11. REMOCOM kit (to be installed indoors)
12. Air purge
13. Shut off valve
14. Blow off valve
15. Blow off drain (flexible hose)
16. Pressure gauge
17. Water filter
18. Expansion vessel + (18a) nipple
19. Switchbox terminals (Field wiring)
20. Mains switch
21. Drain & fill valve

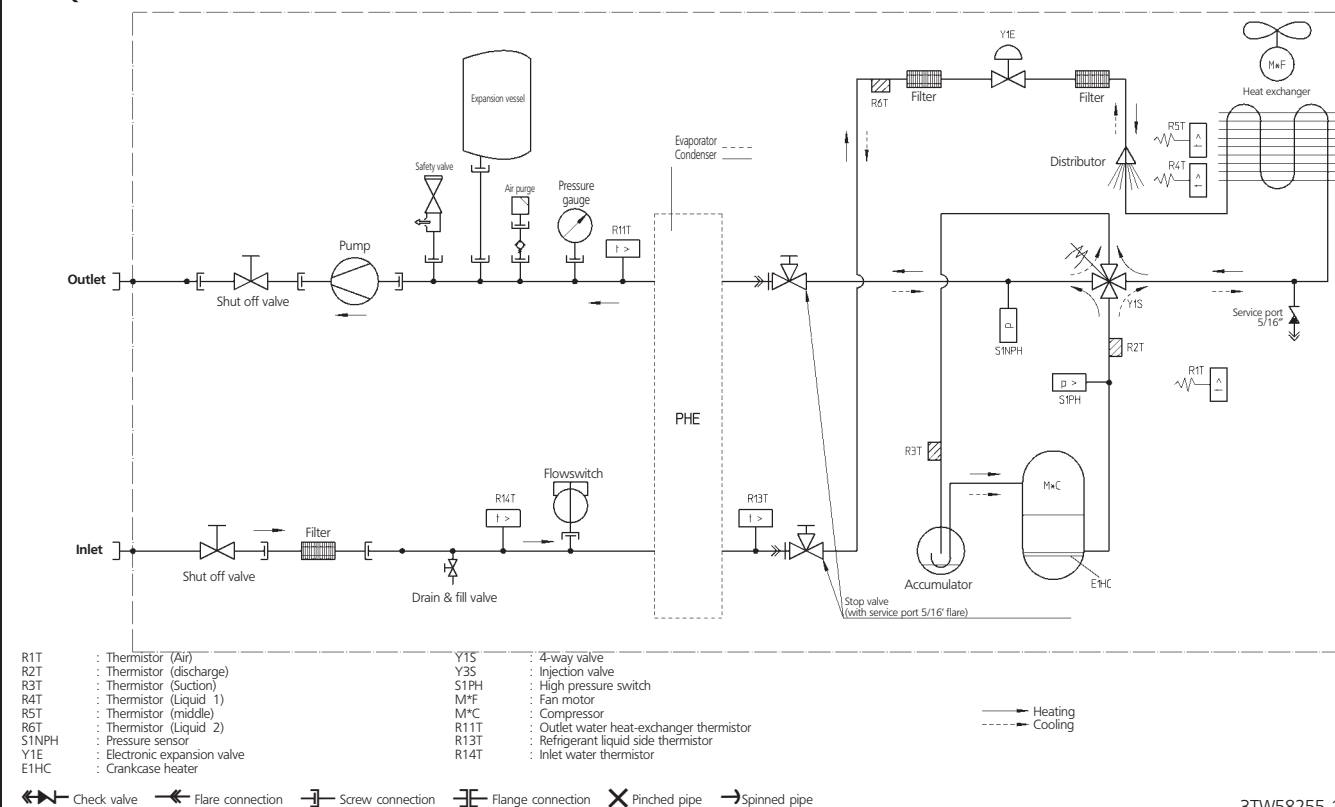


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6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ009-013ACV3P/ACW1P
EWYQ009-013ACV3P/ACW1P

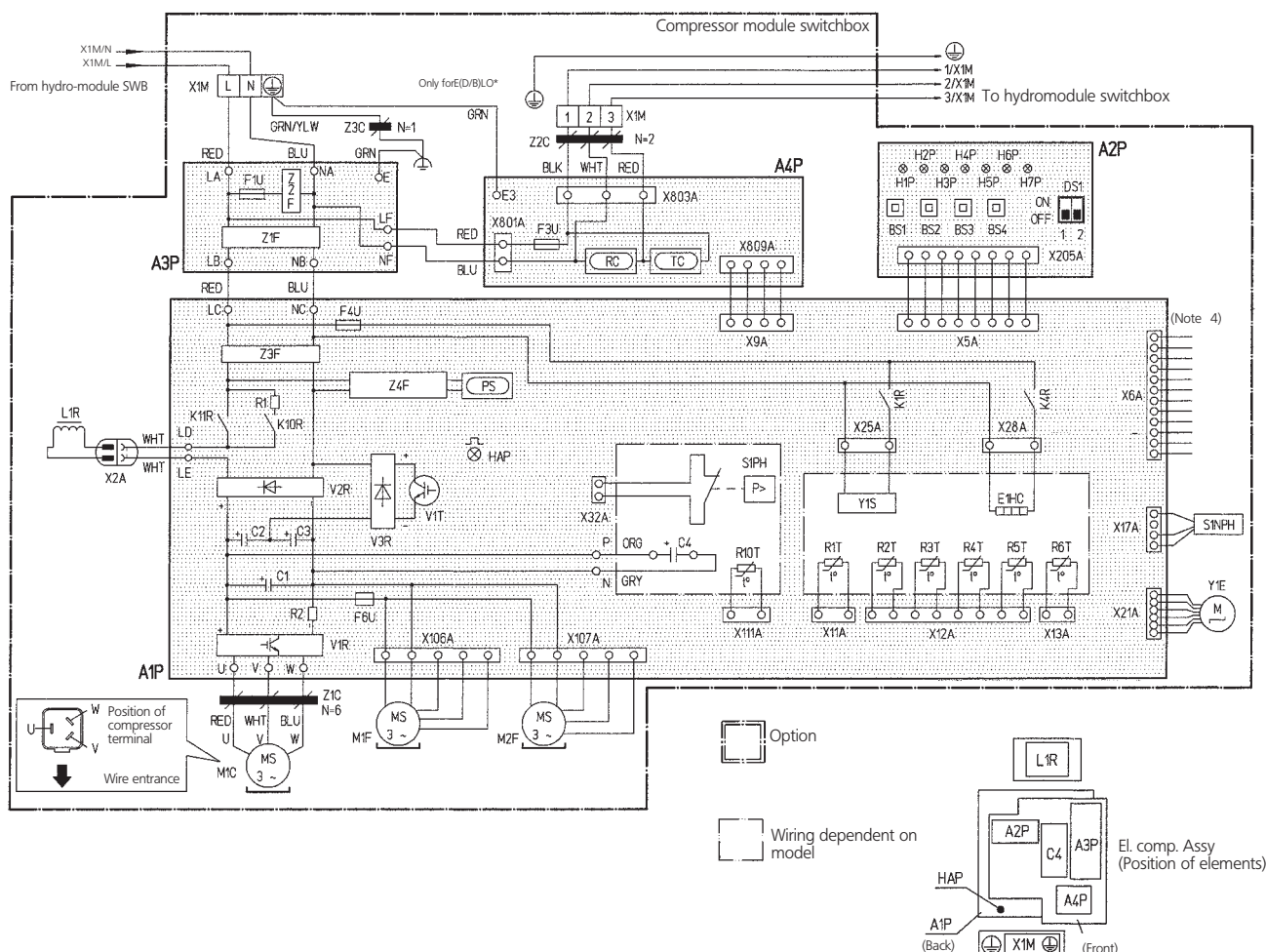


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7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EWAQ009-011ACV3
EWYQ009-011ACV3



Notes

- 1 This wiring diagram only applies to the compressor module switchbox
- 2 L: Live N: Neutral Field wiring
- 3 Terminal strip Connector Connection Protective earth (screw)
- 4 NOT APPLICABLE
- 5 -
- 6 Do not operate the unit by short-circuiting protection device S1PH
- 7 Colors: BLK: black, RED: red, BLU: blue, WHT: white, YLW: yellow, ORG: orange, BRN: brown, GRN: green
- 8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".

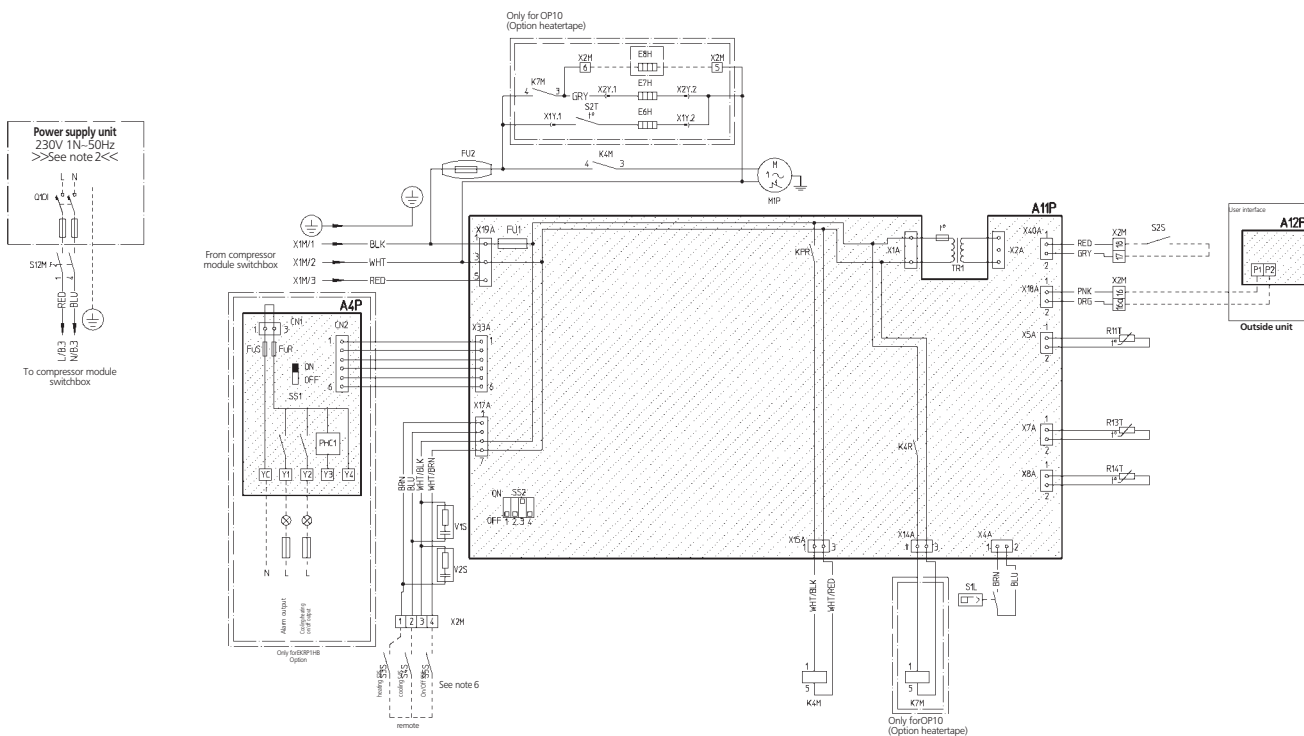
A1P	Printed circuit board (Main)
A2P	Printed circuit board (INV)
A3P	Printed circuit board (Noise filter)
A4P	Printed circuit board
BS1-BS4	Push button switch
C1-C4	Capacitor
DS1	DIP switch
E1HC	Crankcase heater
F1U, F3U, F4U	Fuse (T 6.3A/250V)
F6U	Fuse (T 5.0A/250V)
H1P-7P (A2P)	Light Emit. Diode (Serv. Monitor-Orange)
HAP (A1P)	Prepare, Test Flickering
K1R	Malfunction Detection - Light up
K4R	Light emitting diode (service monitor green)
K10R	Magnetic relay (Y1S)
K11R	Magnetic relay (E1HC)
L1R	Magnetic relay
M1C	Reactor
M1F	Motor (Compressor)
M2F	Motor (Fan) (upper)
PS	Motor (Fan) (lower)
	Switching power supply

Q1DI	Field earth leakage breaker (300mA)
R1	Resistor
R2	Resistor
R1T	Thermistor (Air)
R2T	Thermistor (Discharge)
R3T	Thermistor (Suction)
R4T	Thermistor (Heat exchanger)
R5T	Thermistor (heat exchanger middle)
R6T	Thermistor (Liquid)
RC	Thermistor (Fin)
R10T	Signal receiver circuit
S1NPH	Thermistor (Pressure)
S1PH	Pressure sensor
TC	Pressure switch (High)
V1R	Signal transmission circuit
V2R, V3R	Power module
V1T	Diode module
X1M	IGBT
Y1E	Terminal strip (Power supply)
Y1S	Electronic expansion valve
Z1C-Z3C	Solenoid valve (4 way valve)
Z1F-Z4F	Noise filter (ferrity core)
	Noise filter

7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EWAQ009-011ACV3
EWYQ009-011ACV3



Notes:

- 1 This wiring diagram only applies to the hydromodule switchbox
- 2 Field wiring No/Nc Normal open/Normal closed
- 3 Terminal strip Connector Terminal Protective earth
- 4 Do not operate the unit by short-circuiting any protection device.
- 5 BLK: Black / WHT: White / RED: Red / BLU: Blue / PINK: Pink / YLW: Yellow
BRN: Brown / GRY: Grey / GRN: Green / ORG: Orange / VIO: Violet
- 6 When the remote ON/OFF, remote heating and remote cooling function is not used, apply wire bridge between terminals 1, 2 and 4.

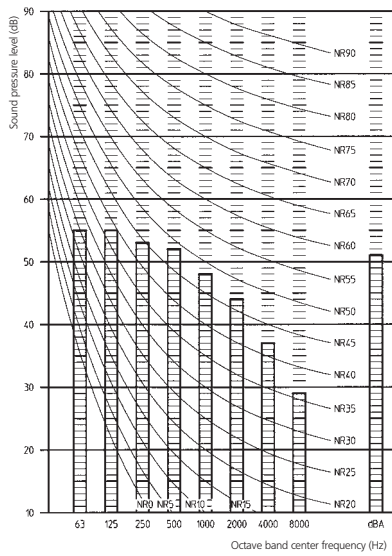
A11P	: Main PCB
A12P	: User interface PCB
A4P (EKR1HB)	: Remote alarm PCB
E6H	: Expansion vessel heater
E7H	: water piping heater
E8H	: Heater tape (Field supply Max. 200W)
FU1	: Fuse 3.15A T 250V for PCB
FU2	: Fuse 5A T 250V
FuS, FuR	: Fuse 5A 250V Remote alarm PCB
K4M	: pump relay
K9M	: Heater relay
M1P	: Pump
PHC1	: Optocoupler input circuit
Q1DI	: Earth leakage protector
R11T	: Outlet water heat-exchanger thermistor
R13T	: Refrigerant liquid side thermistor
R14T	: Inlet water thermistor
S1L	: Flowswitch
S12M	: Main switch
S2S	: benefit kWh rate signal
S3S	: remote heating signal
S4S	: remote cooling signal
S5S	: remote ON/OFF signal
S2T	: thermostat expansion vessel heater
SS1, SS2	: DIP switch
TR1	: Transformer 24V for PCB
V1S, V2S	: Spark suppression 1, 2
X2M	: Terminal strips
X1-2Y	: Connector

2TW58256-2B

8 Sound data

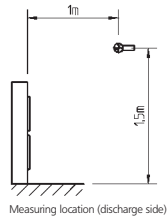
8 - 1 Sound Pressure Spectrum

EW(A/Y)Q009ACV3(cooling)



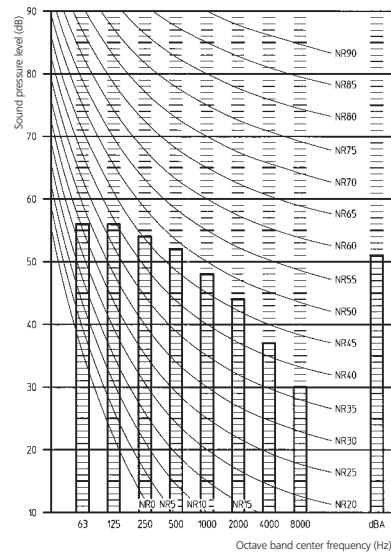
Notes:

- 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.



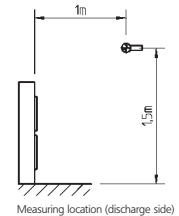
3TW58257-1

EW(A/Y)Q010ACV3(cooling)



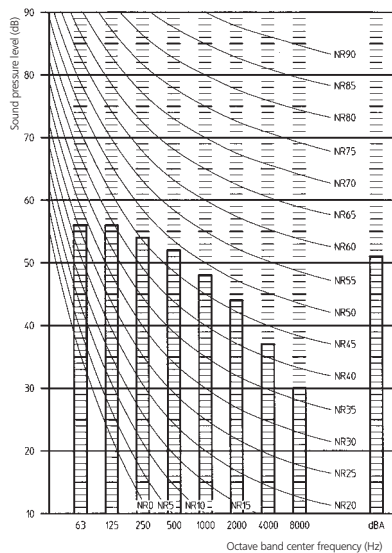
Notes:

- 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.



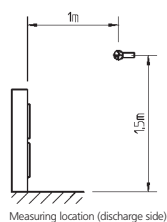
3TW58257-1

EW(A/Y)Q011ACV3(cooling)



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.

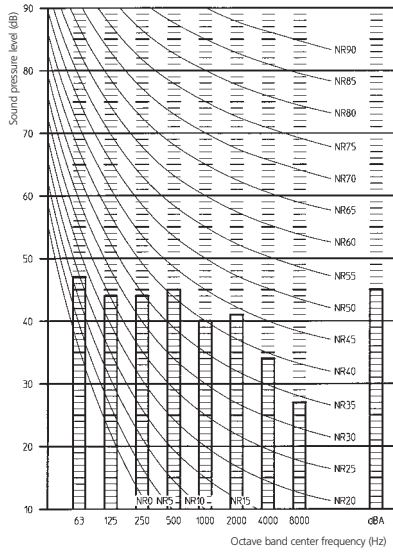


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8 Sound data

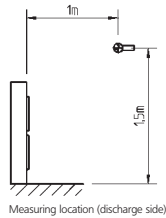
8 - 2 Sound Pressure Spectrum Quiet Mode

**EW(A/Y)Q009ACV3(cooling)
night quiet mode**



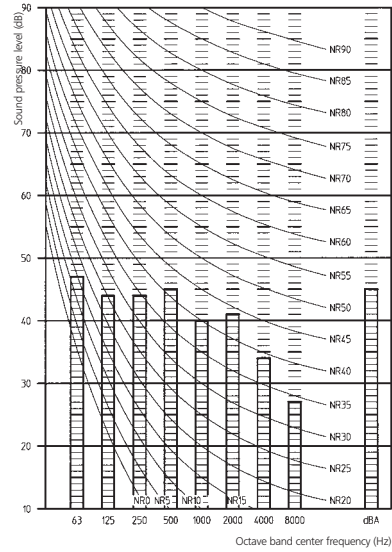
Notes:

- 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.



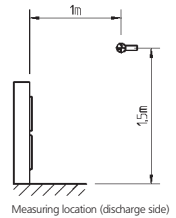
3TW58257-3

**EW(A/Y)Q010ACV3(cooling)
night quiet mode**



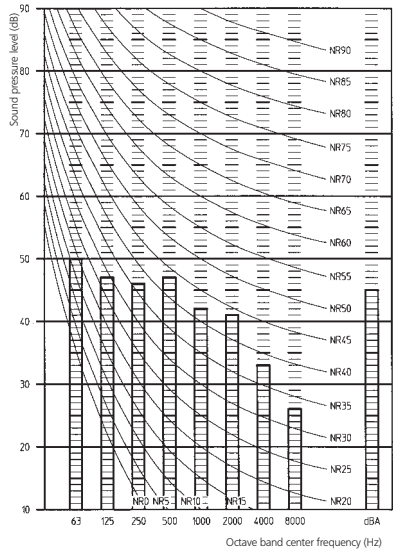
Notes:

- 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.



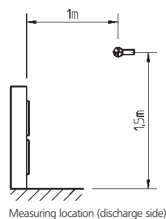
3TW58257-3

**EW(A/Y)Q011ACV3(cooling)
night 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.

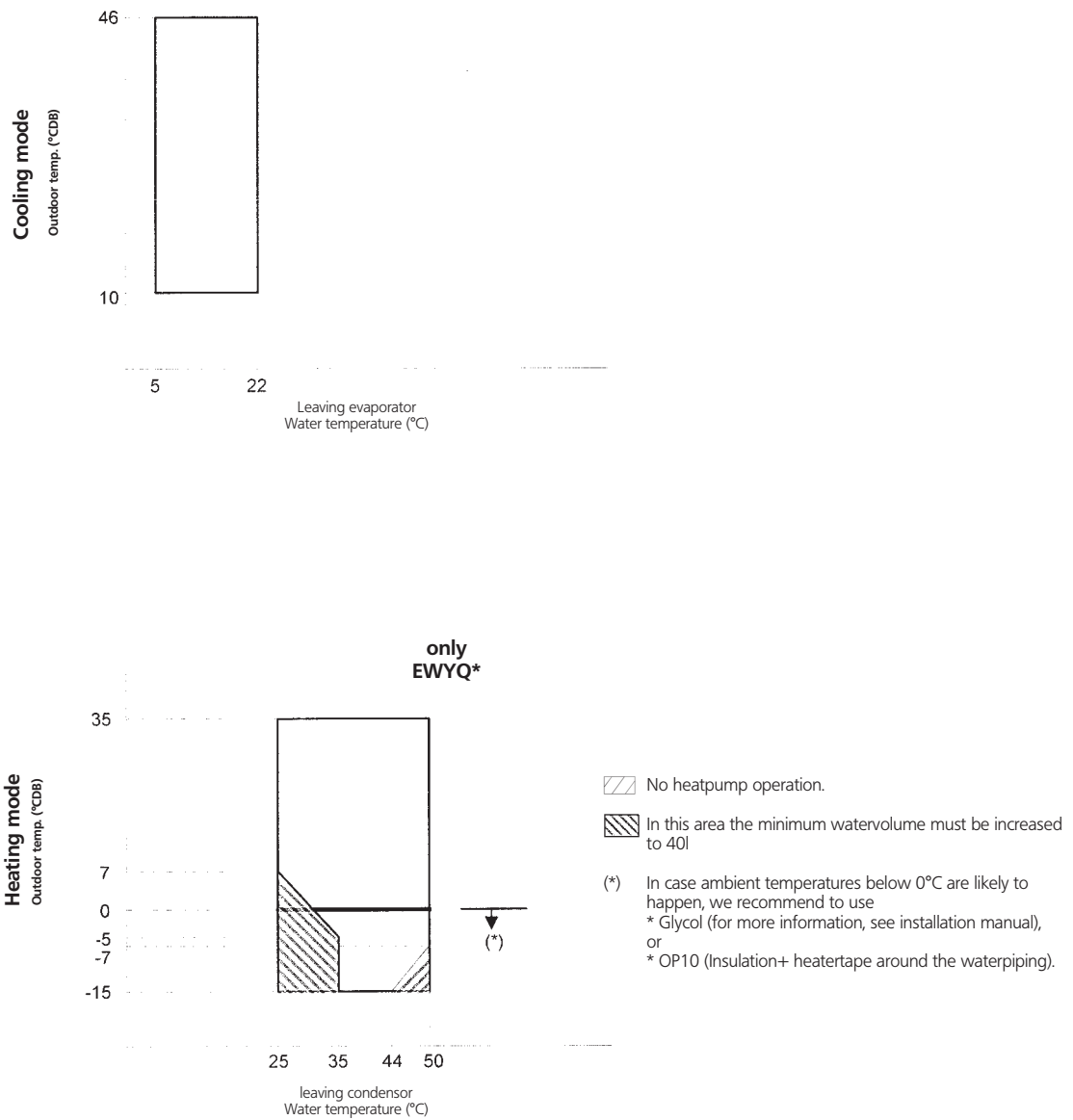


3TW58257-3

9 Operation range

9 - 1 Operation Range

EWAQ009-011ACV3
EWYQ009-011ACV3

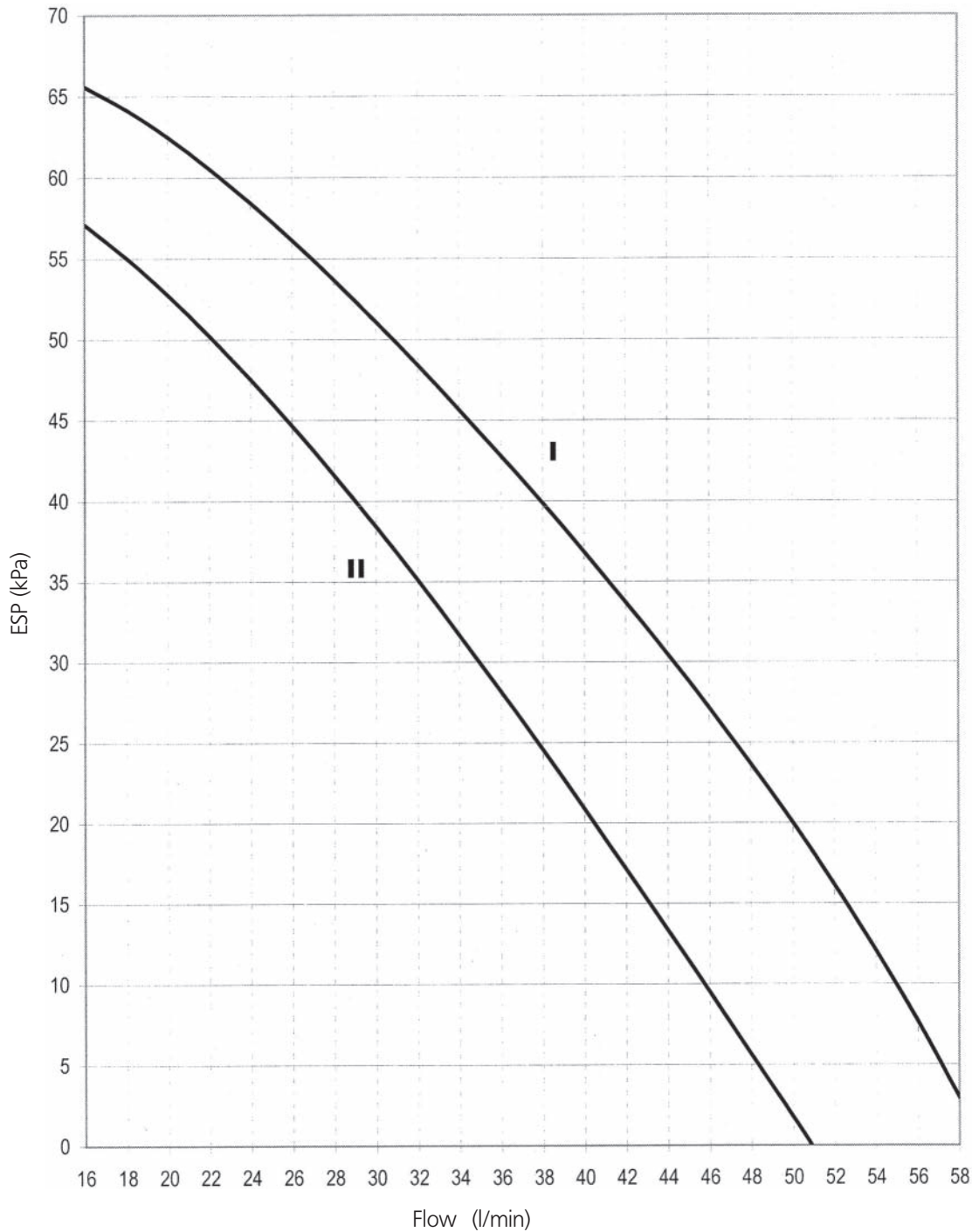


4TW58253-1A

10 Hydraulic performance

10 - 1 Static Pressure Drop Unit

EWAQ009-013AC
EWYQ009-013AC



I High speed

II medium 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.

4TW58259-2A

TABLE OF CONTENTS

EWAQ-ACW1

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1 Features

- Excellent part load efficiency (ESEER up to 4.68)
- Inverter technology ensures: continuous match of requested load; excellent part load efficiency (ESEER up to 4.68); significant reduction of starting currents; precise temperature control (evaporator leaving water)
- Low operating sound level
- Daikin scroll compressor
- Wide operating range
- Integrated hydronics
- Three phase power supply and main switch included
- Easy 'plug and play' installation



2 Specifications

2-1 Technical Specifications				EWAQ009ACW1	EWAQ011ACW1	EWAQ013ACW1
Cooling capacity	Nom.		kW	12.9 (1) / 9.1 (2)	15.7 (1) / 11.1 (2)	17.0 (1) / 13.3 (2)
Capacity control	Method			Inverter controlled		
Power input	Cooling	Nom.	kW	3.08 (1) / 3.05 (2)	4.13 (1) / 3.90 (2)	5.52 (1) / 5.18 (2)
EER				4.19 (1) / 2.99 (2)	3.79 (1) / 2.85 (2)	3.08 (1) / 2.57 (2)
ESEER				4.43	4.44	4.36
Casing	Colour			Ivory white		
	Material			Painted galvanized steel plate		
Dimensions	Unit	Height	mm	1,435		
		Width	mm	1,418		
		Depth	mm	382		
	Packed unit	Height	mm	1,574		
		Width	mm	1,500		
		Depth	mm	430		
Weight	Unit		kg	180		
	Packed unit		kg	200		
Packing	Material			EPS / Wood / Carton / PP (Straps)		
	Weight		kg	20		
Water heat exchanger	Type			Brazen plate		
	Quantity			1		
	Water volume		l	1.01		
	Water flow rate	Min.	l/min	16		
		Max.	l/min	58		
	Nominal water flow	Cooling	l/min	26.1 (5)	31.9 (5)	38.2 (5)
	Insulation material			Foamed synthetic elastomer		
Air heat exchanger	Length		mm	857		
	Type			Hi-XSS (8)		
	Rows	Quantity		2		
	Stages	Quantity		60		
	Fin pitch		mm	1.4		
	Passes	Quantity		5		
	Face area		m ²	1.131		
	Empty tubeplate hole			0		
	Fin	Type		WF fin		
		Treatment		Anti-corrosion treatment (PE)		
Pump	Nr of speeds			2		
	Type			Water cooled		
	Nominal ESP unit	Cooling	kPa	56.4	49.1	40.9
	Power input		W	210		
Hydraulic components	Expansion vessel	Volume	l	10		
		Max. water pressure	bar	3		
		Pre pressure	bar	1.0		
	Water filter	Diameter perforations	mm	1		
		Material		Brass		
Fan	Quantity			2		
	Type			Propeller fan		
	Discharge direction			Horizontal		
Fan motor	Model			Brushless DC motor		
	Output		W	70		
	Quantity			2		
	Drive			Direct drive		
	Speed	Cooling	Nom. rpm	780		
		Steps		8		
Sound power level	Cooling	Nom.	dBA	64 (5)		66 (5)
Sound pressure level	Cooling	Nom.	dBA	51 (5)		52 (5)
	Night quiet mode	Cooling	dBA	45		46

2 Specifications

2-1 Technical Specifications					EWAQ009ACW1	EWAQ011ACW1	EWAQ013ACW1
Compressor	Type				Hermetically sealed scroll compressor		
	Quantity				1		
	Model				JT1G-VDYR (S)		
	Output			W	2,200		
	Starting method				Inverter driven		
	Motor (INV)	Crankcase heater		W	33		
Operation range	Water side	Cooling	Min.	°CDB	5		
			Max.	°CDB	22		
	Air side	Cooling	Min.	°CDB	10		
			Max.	°CDB	46		
Refrigerant	Type				R-410A		
	Charge			kg	2.95		
	Control				Electronic expansion valve		
	Circuits	Quantity			1		
Water circuit	Piping connections diameter			inch	G 5/4" (female)		
	Piping			inch	5/4"		
	Safety valve			bar	3		
	Manometer				Yes		
	Drain valve / fill valve				Yes		
	Shut off valve				Yes		
	Total water volume			l	4 (6)		
	Minimum water volume in the system			l	20 (7.0)		
	Air purge valve				Yes		
Refrigerant oil	Type				Daphne FVC68D		
	Charged volume			l	1.0		
Defrost method					Pressure equalising		
Defrost control					Sensor for outdoor heat exchanger temperature		
Safety devices	Item	01			High pressure switch		
		02			Fan motor thermal protection		
		03			Fuse		

2-2 Electrical Specifications				EWAQ009ACW1	EWAQ011ACW1	EWAQ013ACW1
Pump	Type			Water cooled		
Compressor	Starting method			Inverter driven		
	Crankcase heater		W	33		
Power supply	Name			W1		
	Phase			3N~		
	Frequency		Hz	50		
	Voltage		V	400		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Unit	Recommended fuses			20		
Wiring connections				See installation manual		

Notes

- (1) Underfloor program: 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) Fan coil program: cooling Ta 35°C - LWE 7°C (Dt: 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (Dt: 5°C)
- (3) 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.
- (4) Condition: Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)
- (5) Condition: Ta 35°C - LWE 7°C (DT = 5°C)
- (6) Including piping + PHE; excluding expansion vessel
- (7) 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 though, extra water volume might be required. Refer to operation range for more info.
- (8) 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.
- (9) According to EN14511:2001

3 Options

3 - 1 Options

EWA(Y)Q009-013AC

Optional equipment for EWA/YQ*A*V3/W1P(on)

Model number

EWAQ009A*V3P(on) EWYQ009A*V3P(on)
EWAQ010A*V3P(on) EWYQ010A*V3P(on)
EWAQ011A*V3P(on) EWYQ011A*V3P(on)

(on) = option number

EWAQ009A*W1P(on) EWYQ009A*W1P(on)
EWAQ011A*W1P(on) EWYQ011A*W1P(on)
EWAQ013A*W1P(on) EWYQ013A*W1P(on)

Option number	Option description	(on)	Unit size						Availability
OP10	Standard unit available options evaporator + waterpiping heatertape		EWAQ009A*V3P(on)	EWAQ010A*V3P(on)	EWAQ011A*V3P(on)	EWYQ009A*V3P(on)	EWYQ010A*V3P(on)	EWYQ011A*V3P(on)	factory mounted
			○	○	○	○	○	○	
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit
OP10	Standard unit available options evaporator heatertape		EWAQ009A*W1P(on)	EWAQ011A*W1P(on)	EWAQ013A*W1P(on)	EWYQ009A*W1P(on)	EWYQ011A*W1P(on)	EWYQ013A*W1P(on)	factory mounted
			○	○	○	○	○	○	
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit

3TW58259-1A

NOTES

- Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation)

4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ009-013ACW1
EWYQ009-013ACW1

MAXIMUM COOLING CAPACITY

	Tamb	20		25		30		35		40		45	
	LWE	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
EWAQ009(W1)	7	11.03	2.10	10.40	2.42	9.76	2.73	9.12	3.05	8.15	3.33	7.18	3.62
	10	12.23	2.08	11.48	2.40	10.73	2.72	9.98	3.04	9.12	3.37	8.26	3.70
	13	13.46	2.05	12.62	2.38	11.78	2.71	10.94	3.04	10.11	3.41	9.28	3.78
	15	14.33	2.00	13.46	2.35	12.59	2.70	11.72	3.05	10.81	3.43	9.90	3.80
	18	15.63	1.93	14.72	2.31	13.81	2.69	12.90	3.08	11.86	3.46	10.82	3.83
	22	17.37	1.84	16.40	2.26	15.43	2.68	14.46	3.10	13.25	3.49	12.05	3.88
EWYQ011(W1)	7	13.57	2.81	12.76	3.17	11.94	3.54	11.13	3.90	10.05	4.26	8.98	4.62
	10	15.09	2.83	14.20	3.21	13.30	3.58	12.40	3.96	11.37	4.35	10.34	4.73
	13	16.58	2.86	15.61	3.24	14.63	3.63	13.65	4.02	12.61	4.43	11.57	4.83
	15	17.54	2.86	16.51	3.26	15.48	3.66	14.46	4.06	13.33	4.47	12.20	4.89
	18	18.97	2.90	17.87	3.31	16.77	3.72	15.66	4.13	14.40	4.55	13.15	4.97
	22	20.88	2.93	19.68	3.36	18.48	3.79	17.27	4.22	15.84	4.65	14.41	5.08
EWAQ013(W1)	7	14.77	3.95	14.65	4.30	14.16	4.71	13.33	5.18	11.83	4.97	10.49	5.47
	10	15.88	4.01	15.74	4.38	15.21	4.80	14.31	5.27	12.71	5.06	11.28	5.56
	13	17.42	4.08	17.27	4.45	16.68	4.88	15.70	5.36	13.95	5.14	11.69	5.64
	15	18.49	4.12	18.32	4.51	17.70	4.94	16.67	5.43	14.82	5.20	12.12	5.51
	18	20.10	4.19	19.43	4.59	18.39	5.03	17.02	5.52	14.91	5.29	12.26	5.09
	22	22.38	4.29	21.64	4.70	20.49	5.15	18.98	5.65	16.65	5.41	12.85	4.55

SYMBOLS

CC Cooling capacity [kW] at maximum operating frequency, measured acc. EN14511:2011
 PI Power input [kW], measured acc. EN14511:2011
 LWE Leaving Water Evaporator temperature [°C]
 Tamb Ambient temperature [°C] RH=85%

CONDITIONS

- Cooling capacity
Capacity is according to EN14511:2011 and valid for chilled water range $\Delta T = 3\sim 8^{\circ}\text{C}$
→ Capacity values may not be extra polated below 7°C leaving water temperature
- Power input
Power input is total input of indoor and outdoor unit; according to EN14511:2011

3TW58252-1C

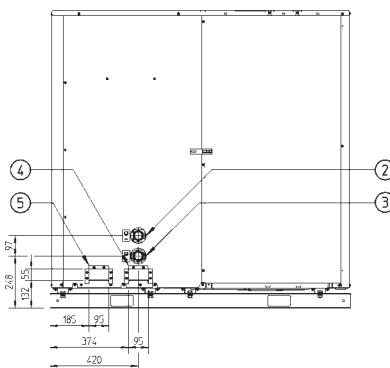
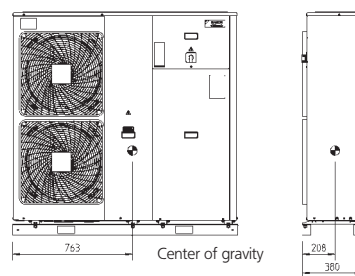
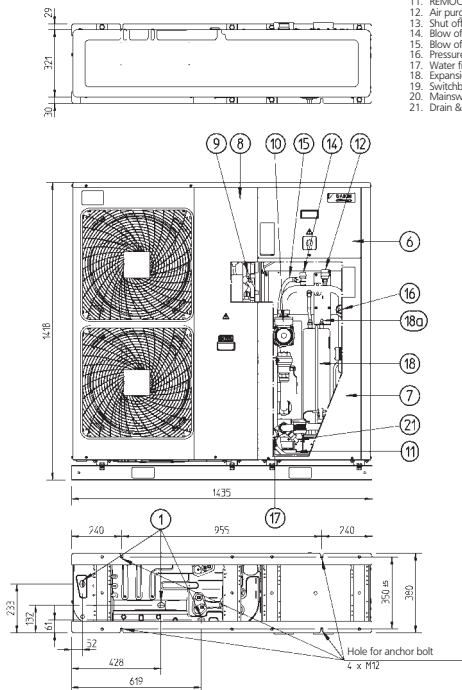
5 Dimensional drawings

5 - 1 Dimensional Drawings

EWAQ009-013AC

EWYQ009-013AC

- Center of gravity
- 1. Drain outlet
- 2. Waterpiping outlet
- 3. Waterpiping inlet
- 4. Power supply cables intake
- 5. Field wiring intake
- 6. Service door switchbox
- 7. Service door hydraulic module
- 8. Service door compressor module
- 9. Service port
- 10. Pump
- 11. REMOCON kit (to be installed indoors)
- 12. Air purge
- 13. Shut off valve
- 14. Blow off valve
- 15. Blow off drain (flexible hose)
- 16. Pressure gauge
- 17. Water filter
- 18. Expansion vessel + (18a) nipple
- 19. Switchbox terminals (Field wiring)
- 20. Mains switch
- 21. Drain & fill valve

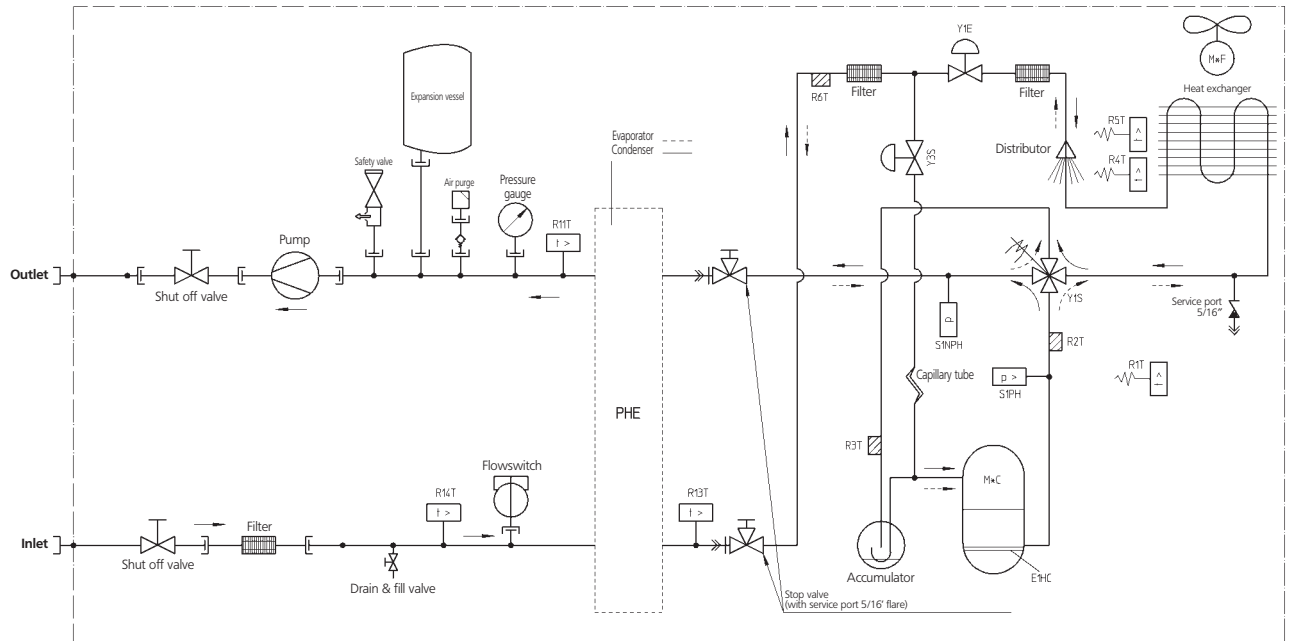


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6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ009-013ACV3H/ACW1H
EWYQ009-013ACV3H/ACW1H



R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*F	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R13T	: Refrigerant liquid side thermistor
Y1E	: Electronic expansion valve	R14T	: Inlet water thermistor
E1HC	: Crankcase heater		

→ Heating
--- Cooling

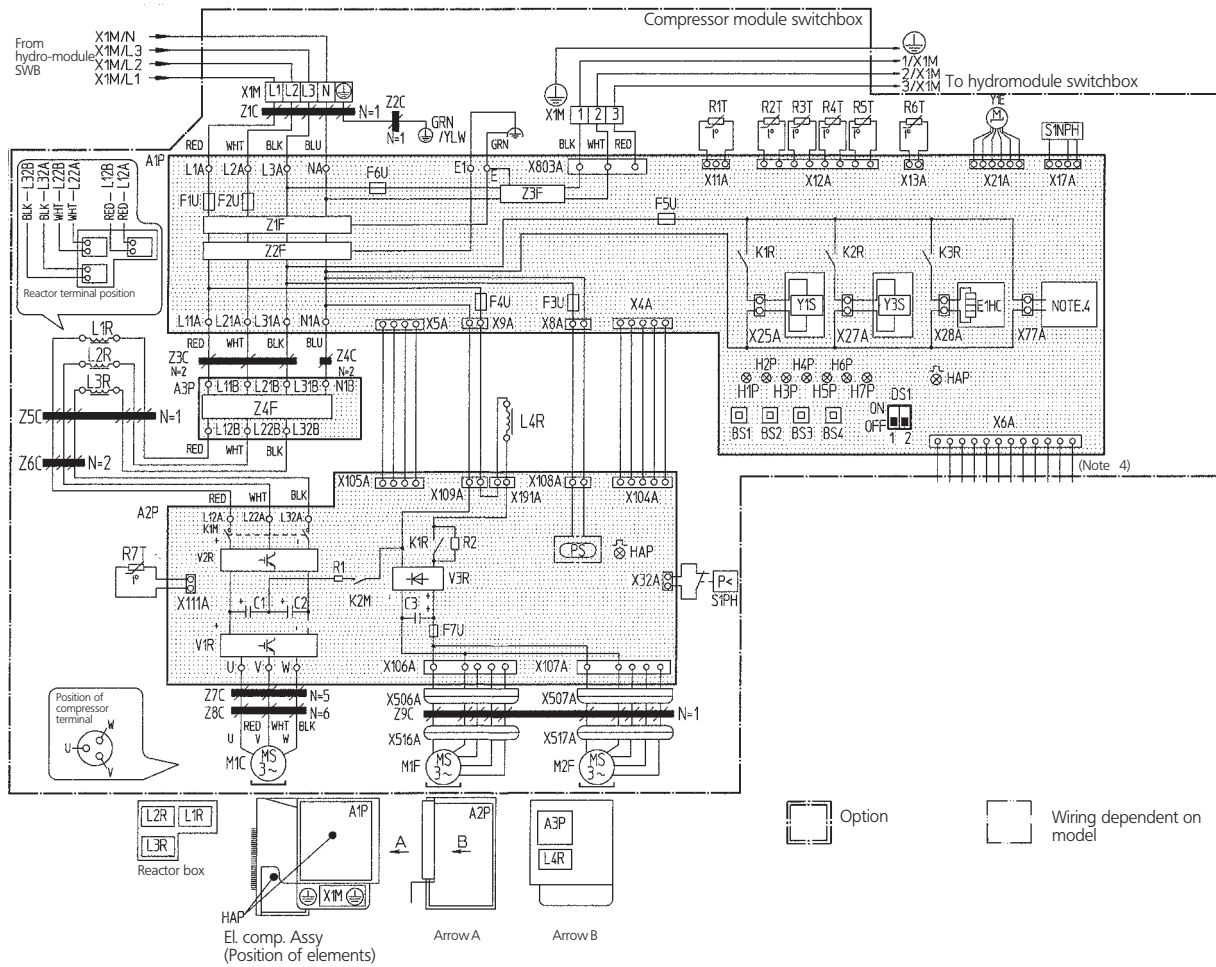
Check valve Flare connection Screw connection Flange connection Pinched pipe Spinned pipe

3TW58315-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EWAQ009-013ACW1
EWYQ009-013ACW1



Notes

- 1 This wiring diagram only applies to the compressor module switchbox
- 2 L: Live N: Neutral ---: Field wiring
- 3 : Terminal strip : Connector
 : Connection : Protective earth (screw)
 : Connector : Noiseless earth : Terminal
- 4 NOT APPLICABLE
- 5 -
- 6 Do not operate the unit by short-circuiting protection device S1PH
- 7 Colors: BLK: black, RED: red, BLU: blue, WHT: white, YLW: yellow, ORG: orange, BRN: brown, GRN: green
- 8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".

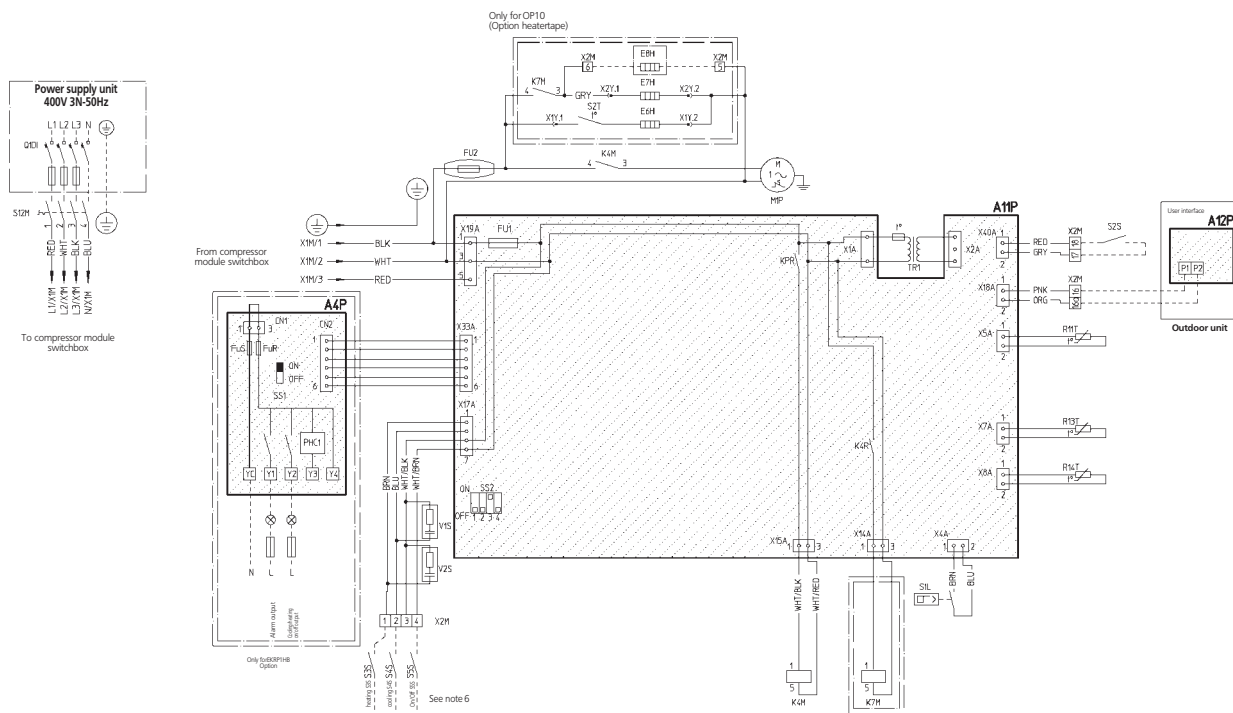
A1P Printed circuit board
A2P Printed circuit board (INV)
A3P Printed circuit board (Noise filter)
BS1-BS4 Push button switch
C1-C4 Capacitor
DS1 DIP switch
E1HC Crankcase heater
F1U Fuse (31.5A/250V)
F2U Fuse (31.5A/250V)
F3U Fuse (T 6.3A/250V)
F4U Fuse (T 6.3A/250V)
F5U Fuse (T 6.3A/250V)
F6U Fuse (T 6.3A/250V)
F7U Fuse (T 5.0A/250V)
HAP (A1P) Pilot lamp (Service monitor-green)
HAP (A2P) Pilot lamp (Service monitor-green)
H1P-7P (A1P) Pilot lamp (Service monitor-orange)
K1M-K2M Magnetic contactor
K1R (A1P) Magnetic relay (Y1S)
K1R (A2P) Magnetic relay
K2R (A1P) Magnetic relay (Y2S)
K3R (A1P) Magnetic relay (E1HC)
L1R-L3R Reactor
L4R Reactor (For outdoor fan motor)

M1C Motor (Compressor)
M1F Motor (Fan) (upper)
M2F Motor (Fan) (lower)
PS Switching power supply
R1-R4 Resistor
R1T Thermistor (Air)
R2T Thermistor (Discharge)
R3T Thermistor (Suction)
R4T Thermistor (Heat exchanger)
R5T Thermistor (heat exchanger middle)
R6T Thermistor (Liquid)
R7T Thermistor (Fin)
S1NPH Pressure sensor
S1PH Pressure switch (High)
V1R-V2R Power module
V3R Diode module
X1M Terminal strip (Power supply)
Y1E Electronic expansion valve
Y3S Solenoid valve
Z1C-Z9C Noise filter
Z1F-Z4F Noise filter
Optional connector
X6A Connector
X77A Connector

7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EWAQ009-013ACW1
EWYQ009-013ACW1



Notes:

- 1 This wiring diagram only applies to the hydromodule switchbox
- 2 Field wiring No/Nc: Normal open/Normal closed
- 3 Terminal strip Connector Terminal Protective earth
- 4 Do not operate the unit by short-circuiting any protection device.
- 5 BLK: Black / WHT: White / RED: Red / BLU: Blue / PINK: Pink / YLW: Yellow
BRN: Brown / GRY: Grey / GRN: Green / ORG: Orange / VIO: Violet
- 6 When the remote ON/OFF, remote heating and remote cooling function is not used, apply wire bridge between terminals 1, 2 and 4.

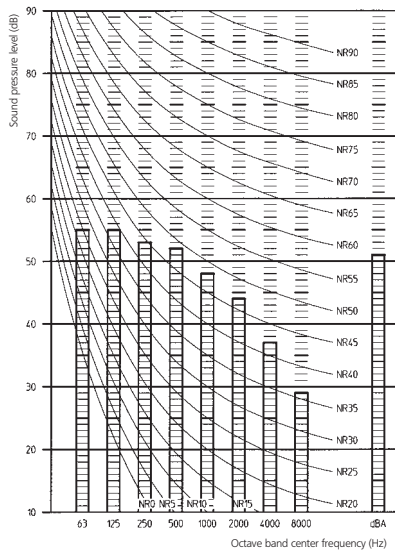
A11P	: Main PCB
A12P	: User interface PCB
A4P (EKR1HB)	: Remote alarm PCB
E6H	: Expansion vessel heater
E7H	: water piping heater
E8H	: Heater tape (field supply Max. 200W)
FU1	: Fuse 3.15A T. 250V for PCB
FU2	: Fuse 5A T. 250V
FuS, FuR	: Fuse 5A 250V Remote alarm PCB
K4M	: pump relay
K7M	: Heater relay
M1P	: Pump
PHC1	: Optocoupler input circuit
Q1DI	: Earth leakage protector
R11T	: Outlet water heat-exchanger thermistor
R13T	: Refrigerant liquid side thermistor
R14T	: Inlet water thermistor
S1L	: Flowswitch
S12M	: Main switch
S2S	: benefit kWh rate signal
S3S	: remote heating signal
S4S	: remote cooling signal
S5S	: remote ON/OFF signal
S2T	: thermostat expansion vessel heater
SS1, SS2	: DIP switch
TR1	: Transformer 24V for PCB
V1S, V2S	: Spark suppression 1, 2
X2M	: Terminal strips
X1-2Y	: Connector

2TW58316-2B

8 Sound data

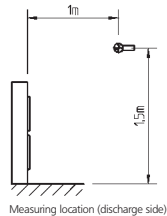
8 - 1 Sound Pressure Spectrum

EW(A/Y)Q009ACW1(cooling)



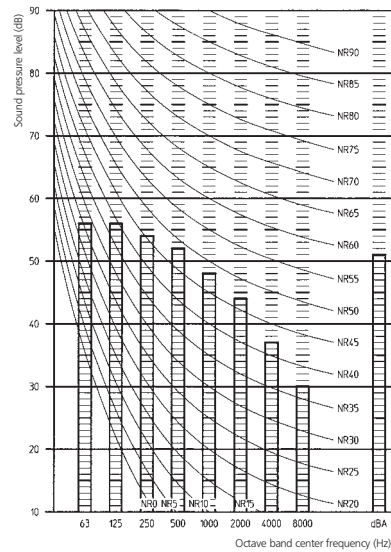
Notes:

- 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.



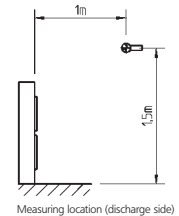
3TW58257-1

EW(A/Y)Q011ACW1(cooling)



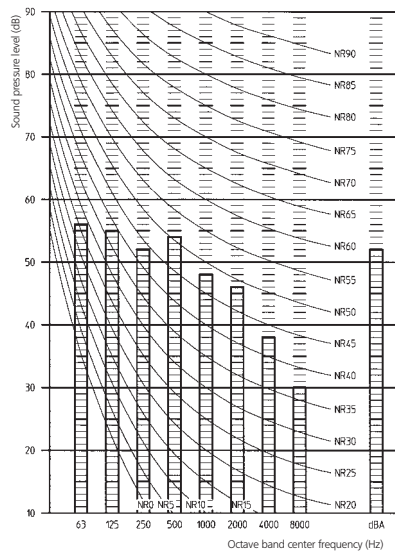
Notes:

- 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.



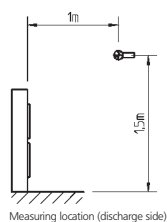
3TW58257-1

EW(A/Y)Q013ACW1(cooling)



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.

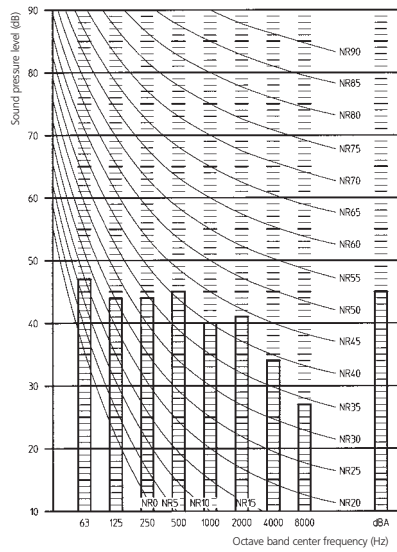


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8 Sound data

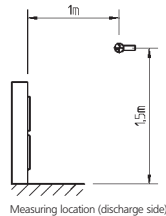
8 - 2 Sound Pressure Spectrum Quiet Mode

**EW(A/Y)Q009ACW1(cooling)
night quiet mode**



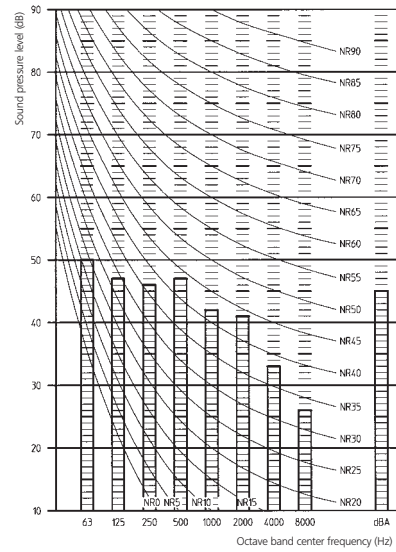
Notes:

- 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.



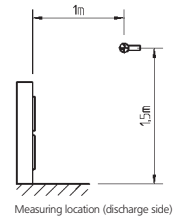
3TW58257-3

**EW(A/Y)Q011ACW1(cooling)
night quiet mode**



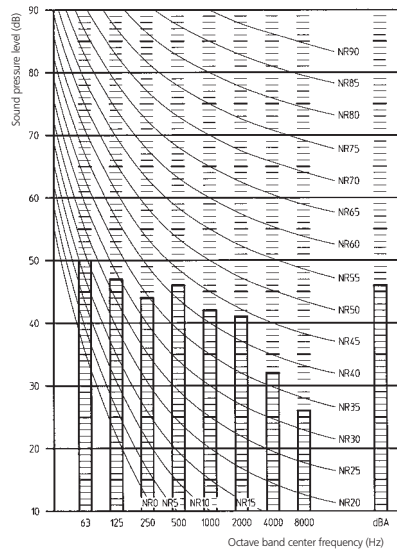
Notes:

- 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.



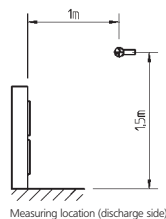
3TW58257-3

**EW(A/Y)Q013ACW1(cooling)
night 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.

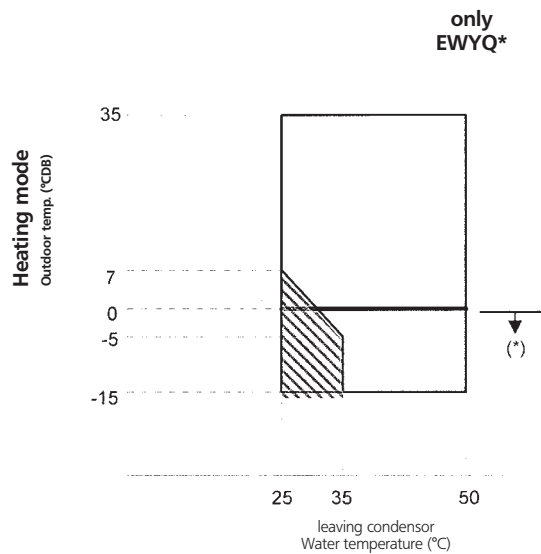
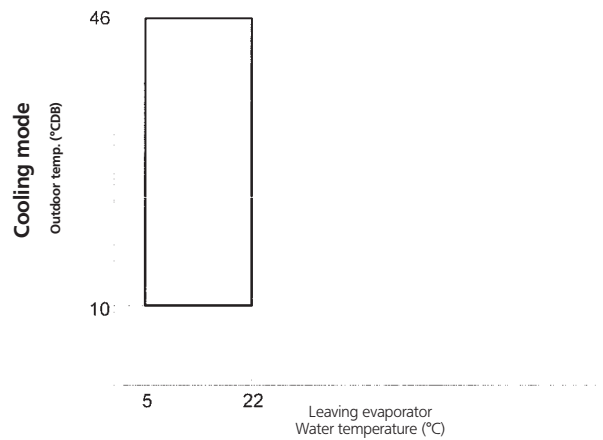


3TW58257-3

9 Operation range

9 - 1 Operation Range

EWAQ009-013ACW1
EWYQ009-013ACW1



▨ No heatpump operation.

▨ In this area the minimum watervolume must be increased to 40l

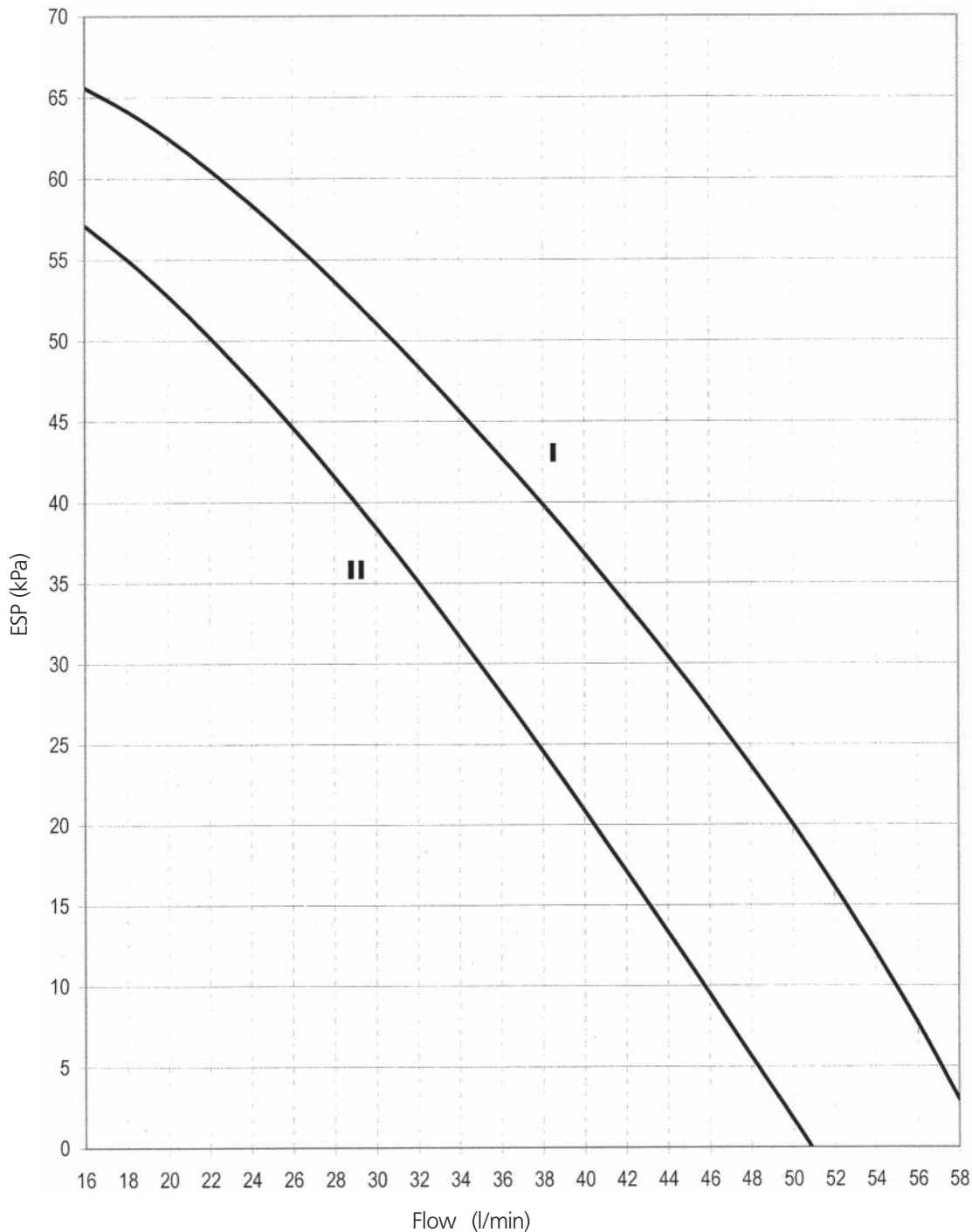
(*) In case ambient temperatures below 0°C are likely to happen, we recommend to use
* Glycol (for more information, see installation manual),
or
* OP10 (Insulation+ heatertape around the waterpiping).

4TW58313-1A

10 Hydraulic performance

10 - 1 Static Pressure Drop Unit

EWAQ009-013AC
EWYQ009-013AC



I High speed

II medium 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.

4TW58259-2A

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EWYQ-ADVP

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1 Features

- Wide operating range
- Low operating sound level
- Easy 'plug and play' installation
- Daikin swing compressor
- Integrated hydronics
- Single phase power supply and main switch included



2 Specifications

2-1 Technical Specifications				EWYQ005ADVP		EWYQ006ADVP		EWYQ007ADVP		
Cooling capacity	Min.		kW	4.01 (1)						
	Nom.		kW	5.2 (1)		6.0 (1)		7.1 (1)		
	Max.		kW	5.2 (1)		6.0 (1)		7.1 (1)		
Heating capacity	Min.		kW	4.5 (2) / 4.09 (3)		4.5 (2) / 4.09 (3)		4.5 (2) / 4.09 (3)		
	Nom.		kW	6.1 (2) / 5.65 (3)		6.8 (2) / 6.35 (3)		8.2 (2) / 7.75 (3)		
	Max.		kW	7.27 (2) / 6.83 (3)		8.58 (2) / 8.13 (3)		9.18 (2) / 8.73 (3)		
Power input	Cooling	Nom.	kW	1.89 (1)		2.35 (1)		2.95 (1)		
	Heating	Nom.	kW	1.60 (2) / 1.97 (3)		1.84 (2) / 2.24 (3)		2.36 (2) / 2.83 (3)		
EER				2.75 (1)		2.55 (1)		2.41 (1)		
COP				3.81 (2) / 2.87 (3)		3.70 (2) / 2.83 (3)		3.47 (2) / 2.74 (3)		
Casing	Colour			Ivory white						
	Material			Polyester painted galvanised steel plate						
Dimensions	Unit	Height	mm	805						
		Width	mm	1,190						
		Depth	mm	360						
	Packed unit	Height	mm	915						
		Width	mm	1,265						
		Depth	mm	442						
Weight	Unit		kg	100						
	Operation weight		kg	104						
	Packed unit		kg	108						
Water heat exchanger	Type			Brazen plate						
	Filter	Type		Brass Y-strainer						
		Diameter perforations	mm	1						
	Minimum water volume in the system			l						
	Water flow rate			Min.	l/min					
	Nominal water flow	Cooling	l/min	14.9		17.2		20.4		
		Heating	l/min	17.5		19.5		23.5		
	Insulation material			Polyethylene foam						
	Model	Type		ACH30-48						
		Quantity		1						
Air heat exchanger	Type			Tube type						
	Rows	Quantity		2						
	Stages	Quantity		32						
	Fin pitch		mm	1.8						
Pump	Quantity			1						
	Type			Water cooled						
	Model			RS 25/7 3 PL 130 12						
	Nominal ESP unit	Cooling	kPa	49.4		45.1		38.3		
		Heating	kPa	44.5		40.3		30.7		
	Power input			W		130				
Hydraulic components	Anti freeze heater (optional)		W		75					
	Unit water volume		l		5.5 @ 5					
	Expansion vessel	Volume	l		6					
		Pre pressure	bar		1					
	Water filter	Diameter		inch		1"				
	Safety valve			bar		3				
Fan	Quantity			1						
	Type			Propeller fan						
	Discharge direction			Horizontal						
Fan motor	Output		W		53					
Sound power level	Cooling	Nom.	dBA		62				63	
Sound pressure level	Cooling	Nom.	dBA		48				50	
	Heating	Nom.	dBA		48				49	

2 Specifications

2-1 Technical Specifications					EWYQ005ADVP	EWYQ006ADVP	EWYQ007ADVP
Compressor	Type				Hermetically sealed swing compressor		
	Quantity				1		
	Model				2YC63BXD#C		
	Output			W	1,920		
	Starting method				Inverter driven		
Operation range	Water side	Cooling	Min.	°CDB	5		
			Max.	°CDB	20		
		Heating	Min.	°CDB	25		
			Max.	°CDB	50		
	Air side	Cooling	Min.	°CDB	10		
			Max.	°CDB	43		
		Heating	Min.	°CDB	-15		
			Max.	°CDB	25		
Refrigerant	Type				R-410A		
	Charge			kg	1.7		
	Control				Inverter		
	Circuits	Quantity			1		
Refrigerant oil	Type				FVC50K		
	Charged volume			l	0.75		
Piping connections	Water heat exchanger inlet / outlet				1" MBSP		
	Water heat exchanger drain				5/16 SAE flare		
Safety devices	Item	01			Fan motor thermal protection		
		02			Fuse		
		03			Safety valve		
		04			Flowswitch		

2 Specifications

2-2 Electrical Specifications				EWYQ005ADVP	EWYQ006ADVP	EWYQ007ADVP
Pump	Type			Water cooled		
	Phase			1~		
	Power input		kW	0.13		
	Voltage		V	230		
	Maximum running current		A	0.58		
	Speed	Min.	rpm	1,050		
		Nom.	rpm	2,250		
		Max.	rpm	2,450		
Power supply	Name			V3		
	Phase			1~		
	Frequency		Hz	50		
	Voltage		V	230		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Unit	Starting current		A	11		
	Maximum running current		A	19		
	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12		
	Recommended fuses according to IEC standard 269-2			20		
Fans	Quantity			1		
	Phase			1~		
	Voltage		V	230		
Evaporator heater tape	Supply voltage		V	230		
	Capacity		W	75		
	Voltage range	Min.	%	-10		
		Max.	%	10		
	Recommended fuses			25A		

Notes

- (1) Tamb 35°C - LWE 7°C (DT=5°C)
- (2) DB/WB 7°C/6°C - LWC 35°C (DT=5°C)
- (3) DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)
- (4) 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.
- (5) Including piping + PHE; excluding expansion vessel
- (6) PED: assembly = category I : excluded from scope of PED due to article 1, item 3.6 of 97/23/EC
- (7) EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current $I > 16A$ and $\leq 75A$ per phase
- (8) Fuse value valid for complete unit

3 Options

3 - 1 Options

EWAQ-ADVP EWYQ-ADVP									
Optional equipment for EW*Q00*ADVP(on)									
capacity: 5 - 7.1kW									
Option number	Option description	(on)	Unit size						Availability
OP10	standard unit		EWAQ005ADVP	EWAQ006ADVP	EWAQ007ADVP	EWYQ005ADVP	EWYQ006ADVP	EWYQ007ADVP	
	available options								
	evaporator heatertape	-H-	○	○	○	○	○	○	factory mounted
3TW60789-2									

4 Capacity tables

4 - 1 Cooling/Heating Capacity Tables

EWYQ005-007ADVP

Cooling	Tamb[°C]	20		25		30		35		40		43	
Model	LWE(°C)	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
005	7	6.23	1.42	5.93	1.58	5.61	1.75	5.28	1.94	4.60	2.07	4.01	2.27
	11	7.05	1.43	6.71	1.60	6.36	1.79	6.00	1.99	5.07	2.04	4.34	2.18
	13	7.48	1.43	7.12	1.61	6.76	1.80	6.38	2.01	5.31	2.02	4.51	2.13
	16	8.14	1.43	7.77	1.62	7.38	1.82	6.98	2.04	5.68	1.98	4.75	2.05
	20	9.08	1.43	8.68	1.63	8.26	1.85	7.83	2.07	6.18	1.93	5.05	1.92
006	7	7.14	1.79	6.81	1.98	6.45	2.19	6.08	2.40	5.01	2.35	4.19	2.41
	11	8.04	1.83	7.67	2.04	7.28	2.25	6.86	2.48	5.51	2.34	4.53	2.34
	13	8.52	1.85	8.13	2.06	7.72	2.29	7.28	2.52	5.77	2.33	4.70	2.29
	16	9.26	1.87	8.84	2.10	8.40	2.33	7.94	2.58	6.17	2.31	4.96	2.22
	20	10.3	1.90	9.8	2.14	9.37	2.39	8.87	2.65	6.72	2.27	5.29	2.10
007	7	8.39	2.28	8.02	2.51	7.62	2.75	7.18	3.00	5.57	2.70	4.44	2.60
	11	9.39	2.36	8.97	2.60	8.52	2.86	7.57	2.99	5.87	2.64	4.68	2.50
	13	9.90	2.40	9.47	2.65	8.99	2.91	7.86	2.96	6.07	2.58	4.83	2.43
	16	10.7	2.46	10.23	2.72	9.73	2.99	8.31	2.90	6.36	2.50	5.03	2.31
	20	11.8	2.54	11.3	2.81	10.75	3.10	8.90	2.81	6.73	2.36	5.29	2.14

Heating	Tamb	30		35		40		45		50	
Model	LWC	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
005	-15	3.66	1.59	3.59	1.71	3.51	1.84	3.43	1.98	3.34	2.14
	-10	4.32	1.68	4.22	1.71	4.11	1.96	3.99	2.12	3.86	2.30
	-7	4.78	1.72	4.65	1.87	4.52	2.03	4.37	2.20	4.23	2.39
	-2	5.61	1.79	5.46	1.96	5.29	2.14	5.12	2.33	4.94	2.53
	2	6.36	1.84	6.18	2.02	5.99	2.21	5.80	2.42	5.59	2.64
	7	7.40	1.90	7.19	2.09	6.97	2.30	6.75	2.52	6.52	2.76
006	-15	4.55	1.99	4.52	2.13	4.48	2.28	4.42	2.45	4.34	2.63
	-10	5.29	2.11	5.22	2.27	5.14	2.44	5.03	2.64	4.90	2.85
	-7	5.80	2.18	5.70	2.35	5.59	2.54	5.46	2.75	5.30	2.97
	-2	6.73	2.28	6.60	2.48	6.44	2.69	6.27	2.92	6.07	3.17
	2	7.56	2.36	7.40	2.58	7.21	2.81	7.01	3.06	6.79	3.32
	7	8.70	2.46	8.50	2.70	8.28	2.95	8.05	3.22	7.79	3.50
007	-15	4.94	2.20	4.94	2.35	4.91	2.51	4.86	2.70	4.79	2.90
	-10	5.74	2.34	5.68	2.51	5.60	2.70	5.50	2.91	5.38	3.15
	-7	6.27	2.42	6.18	2.61	6.08	2.81	5.95	3.04	5.80	3.29
	-2	7.25	2.55	7.12	2.76	6.97	3.00	6.80	3.25	6.61	3.52
	2	8.11	2.65	7.76	2.88	7.78	3.14	7.57	3.41	7.35	3.70
	7	9.29	2.77	9.10	3.03	8.89	3.30	8.65	3.60	8.39	3.91

NOTES

- The heating capacity and power input in the table has to be multiplied by the correctionfactor CF as listed in the table below to obtain the integrated heating capacity and power input.
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)

Tamb	-15	-10	-7	-2	2	7
CF for HC	0.89	0.89	0.88	0.87	0.86	1.00
CF for PI	0.95	0.95	0.94	0.93	0.92	1.00

- Values in the capacity table can be interpolated
Values shall **NOT** be extrapolated

SYMBOLS

CC	Cooling capacity at maximum operating frequency, measured acc. EN14511:2011 [kW]
HC	Heating capacity at maximum operating frequency, measured acc. EN14511:2011 [kW]
PI	Power input, measured acc. EN14511:2011 [kW]
LWE	Leaving Water Evaporator temperature [°C]
LWC	Leaving Water Condensor temperature [°C]
Tamb	Ambient temperature [°C] RH=85%

CONDITIONS

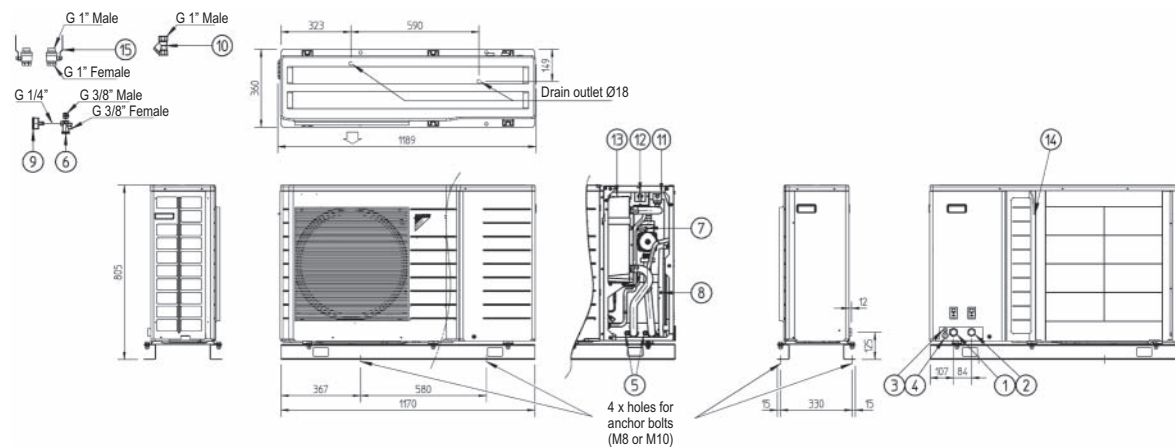
- Cooling capacity
Capacity is according to EN14511:2011 and valid for chilled water range Dt = 3~8°C
- Heating capacity
Capacity is according to EN14511:2011 and valid for chilled water range Dt = 3~8°C
- Power input
Power input is total input according to EN14511:2011

3TW57532-1A

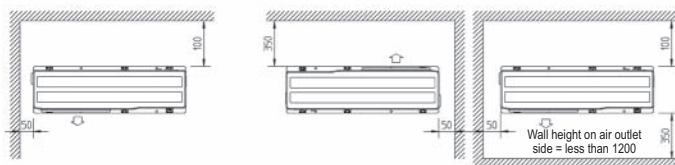
5 Dimensional drawings

5 - 1 Dimensional Drawings

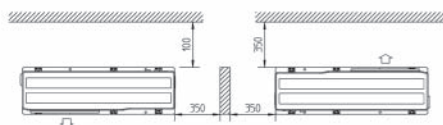
EWYQ-ADVP
EWYQ-ADVP



MINIMUM SPACE FOR AIR PASSAGE



MINIMUM SPACE FOR REMOVING SERVICEPLATES

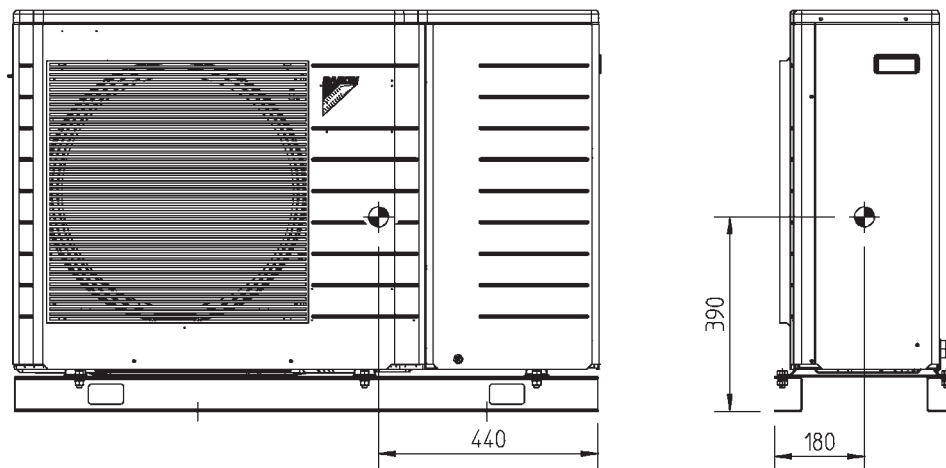


- ① Water inlet G 1"
- ② Water outlet G 1"
- ③ Remote cable intake
- ④ Power supply intake
- ⑤ Drain port
- ⑥ Blow off valve with nipple (delivered with unit)
- ⑦ Pump + switch for speed setting
- ⑧ Expansion vessel service valve
- ⑨ Pressure gauge (delivered with unit)
- ⑩ Water filter (delivered with unit)
- ⑪ Air purge
- ⑫ Main switch
- ⑬ Switchbox connection terminals
- ⑭ Outdoor air thermistor
- ⑮ 2 shut off valves (delivered with unit)

3TW60784-1A

6 Centre of gravity

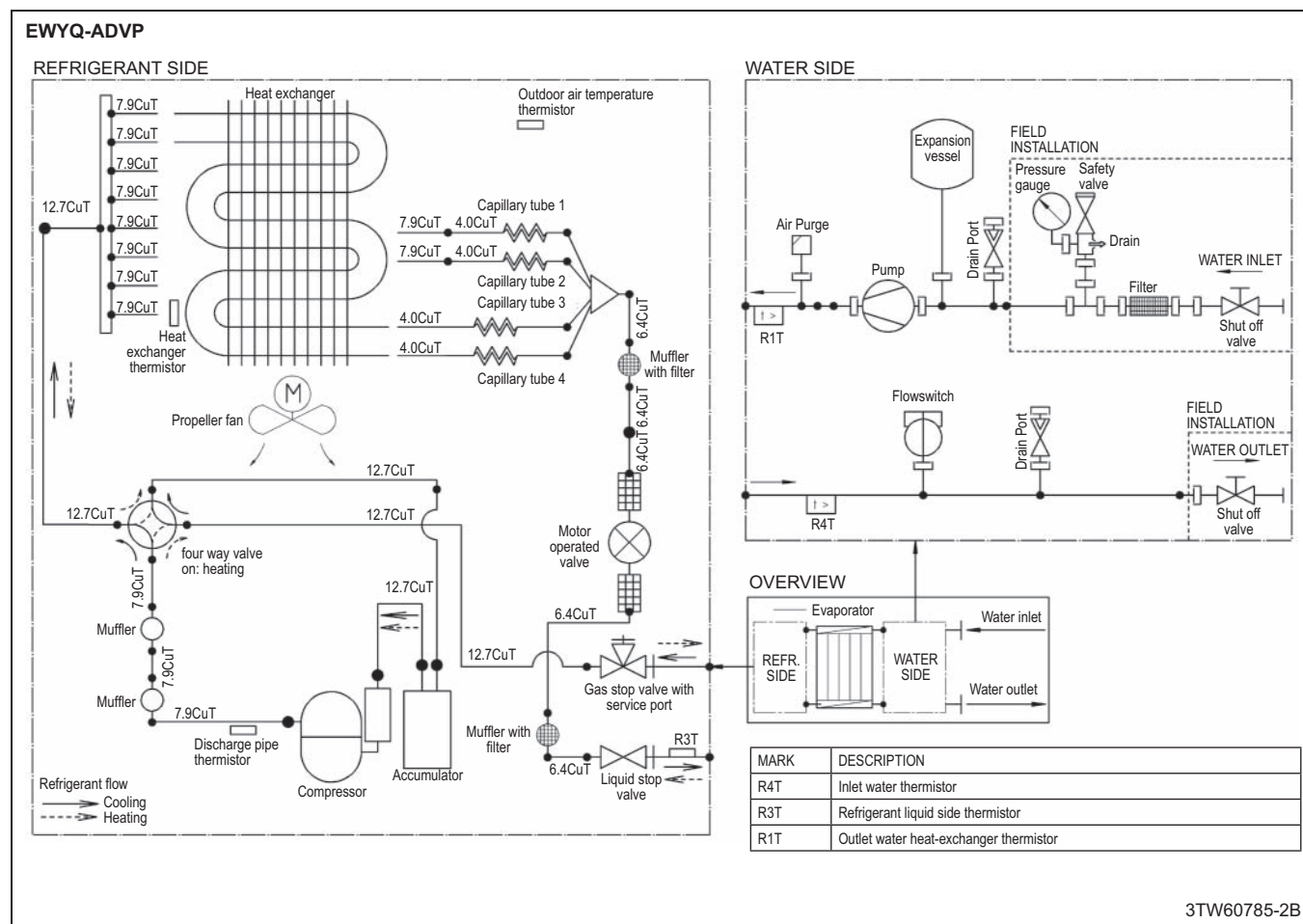
6 - 1 Centre of Gravity



4TW56749-1

7 Piping diagrams

7 - 1 Piping Diagrams



8 Wiring diagrams

8 - 1 Wiring Diagrams - Single Phase

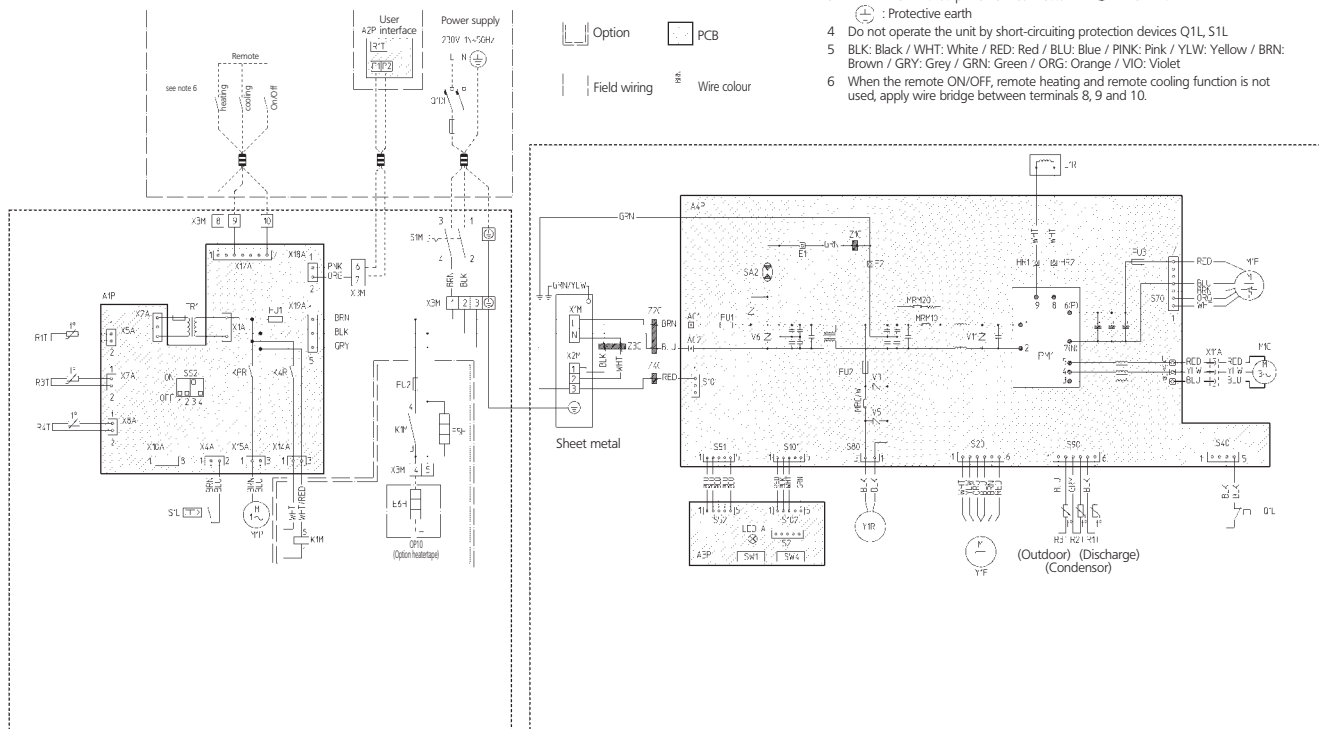
EWAQ005-007ADVP

EWYQ005-007ADVP

Notes:

- 1 This wiring diagram only applies to the outdoor unit
- 2 : Field wiring
- 3 : Terminal strip : Connector : Terminal
- 4 Do not operate the unit by short-circuiting protection devices Q1L, S1L
- 5 BLK: Black / WHT: White / RED: Red / BLU: Blue / PINK: Pink / YLW: Yellow / BRN: Brown / GRN: Grey / GRN: Green / ORG: Orange / VIO: Violet
- 6 When the remote ON/OFF, remote heating and remote cooling function is not used, apply wire bridge between terminals 8, 9 and 10.

Option PCB
 Field wiring Wire colour



Q1DI	Earth leakage protector
TR1	Transformer 24V for PCB
R4T	Inlet water thermistor
R3T	Refrigerant liquid side thermistor
R1T	Outlet water heat exchanger
S1L	Flowswitch
M1P	Pump
A2P	Remocom PCB (indoor)
A1P	Main PCB
S1M	Mainswitch
FU1	Fuse 3.15A T 250V
FU2	Fuse 5A 250V
X1A,X2A	Connector
X4A,X5A	Connector
X7A,X8A	Connector
X10A,X15A	Connector
X17A,X18A	Connector
X19A,X20A	Connector
E5H	Heatertape
E6H	Heatertape (Field supply)
SS2	Dipswitch
K1M	Relay
X3M	Terminal strip

Z1C~Z4C	Ferrite core
X1M,X2M	Terminal strip
Y1E	Electronic expansion valve coil
V2,V3,V5,V6,V11	Varistor
SA2	Surge arrester
FU1	Fuse 30A 250V
FU2	Fuse 3.15A 250V
FU3	Fuse 3.15A 250V
AC1,AC2	Connector
U,V,W,X11A	Connector
E1,E2	Connector
HR1,HR2	Magnetic relay
MRM10,MRM20	Magnetic relay
MRC/W	Thermistor
R1T~R3T	Connector
S2~S102	Pilot lamp
LED A	

L	Live
N	Neutral
SW1	Forced operation on/off SW (SW1)
SW4	Local setting SW (SW4)
M1C	Compressor motors
M1F	Fan motor
L1R	Reactor
Q1L	Overload protector
PM1	Power module
PCB1,2	Printed circuit board
Y1R	Reversing solenoid valve coil
Sheet metal	Terminal strip fixed plate

3TW57536-1A

9 Sound data

9 - 1 Sound Power Spectrum

	Sound power total (dBA)	
	LwA - Cooling mode	LwA - Heating mode
EWAQ005ADVP	62	N/A
EWAQ006ADVP	62	N/A
EWAQ007ADVP	63	N/A
EWYQ005ADVP	62	60
EWYQ006ADVP	62	60
EWYQ007ADVP	63	61

Notes:

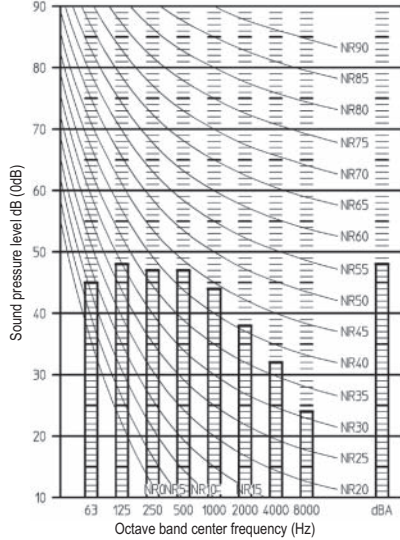
- Data valid at nominal operation condition
 - Measured according ISO3744

4TW57537-3A

9 Sound data

9 - 2 Sound Pressure Spectrum

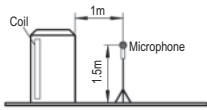
EWAQ005ADVP
EWYQ005ADVP (cooling)



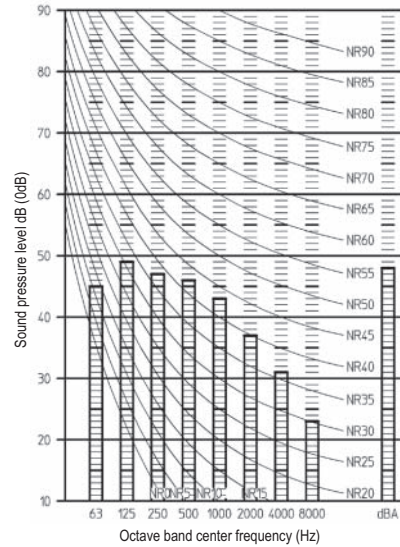
3TW60787-1

NOTES

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



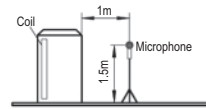
EWYQ005ADVP (heating)



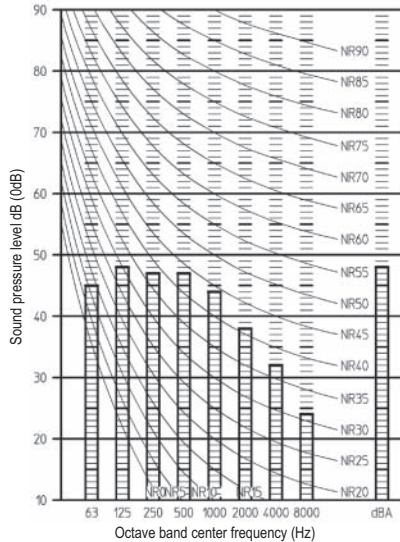
3TW60787-2

NOTES

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



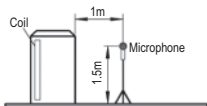
EWAQ006ADVP
EWYQ006ADVP (cooling)



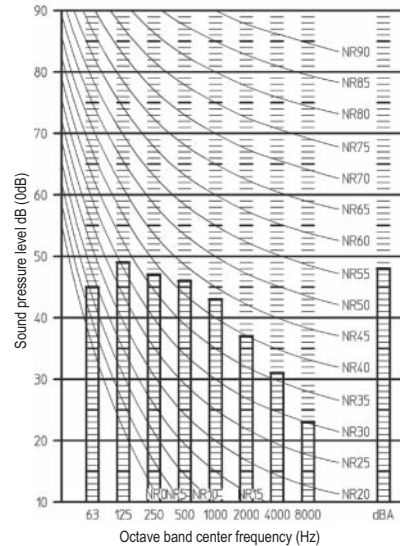
3TW60787-1

NOTES

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



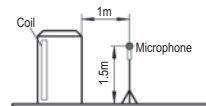
EWYQ006ADVP (heating)



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NOTES

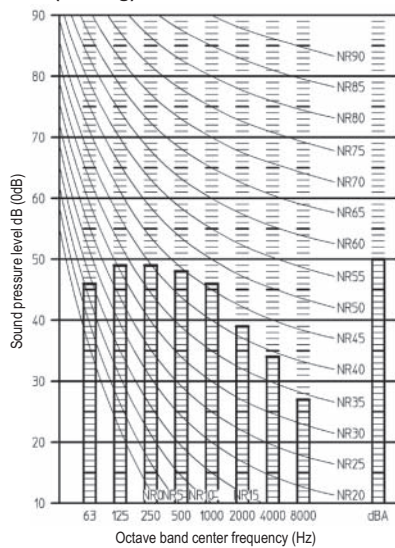
1. Data is valid at free field condition (measured in a semi-anechoic room)
2. dBA = A-weighted sound pressure level (A-scale according to IEC)
3. Reference acoustic pressure 0dB = 20uPa
4. If sound is measured under actual installation conditions, the measured value will be higher due to environmental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



9 Sound data

9 - 2 Sound Pressure Spectrum

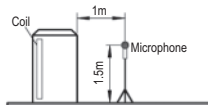
EWYQ007ADVP
EWYQ007ADVP (cooling)



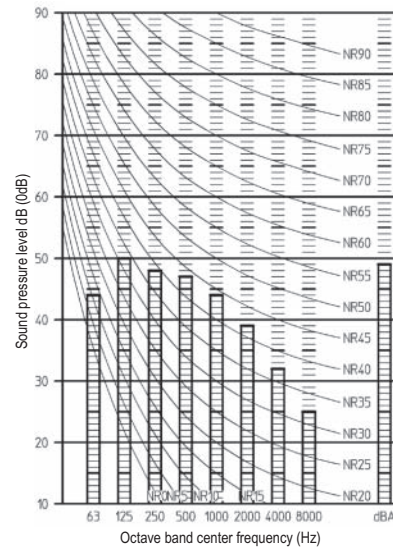
3TW60787-1

NOTES

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



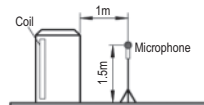
EWYQ007ADVP (heating)



3TW60787-2

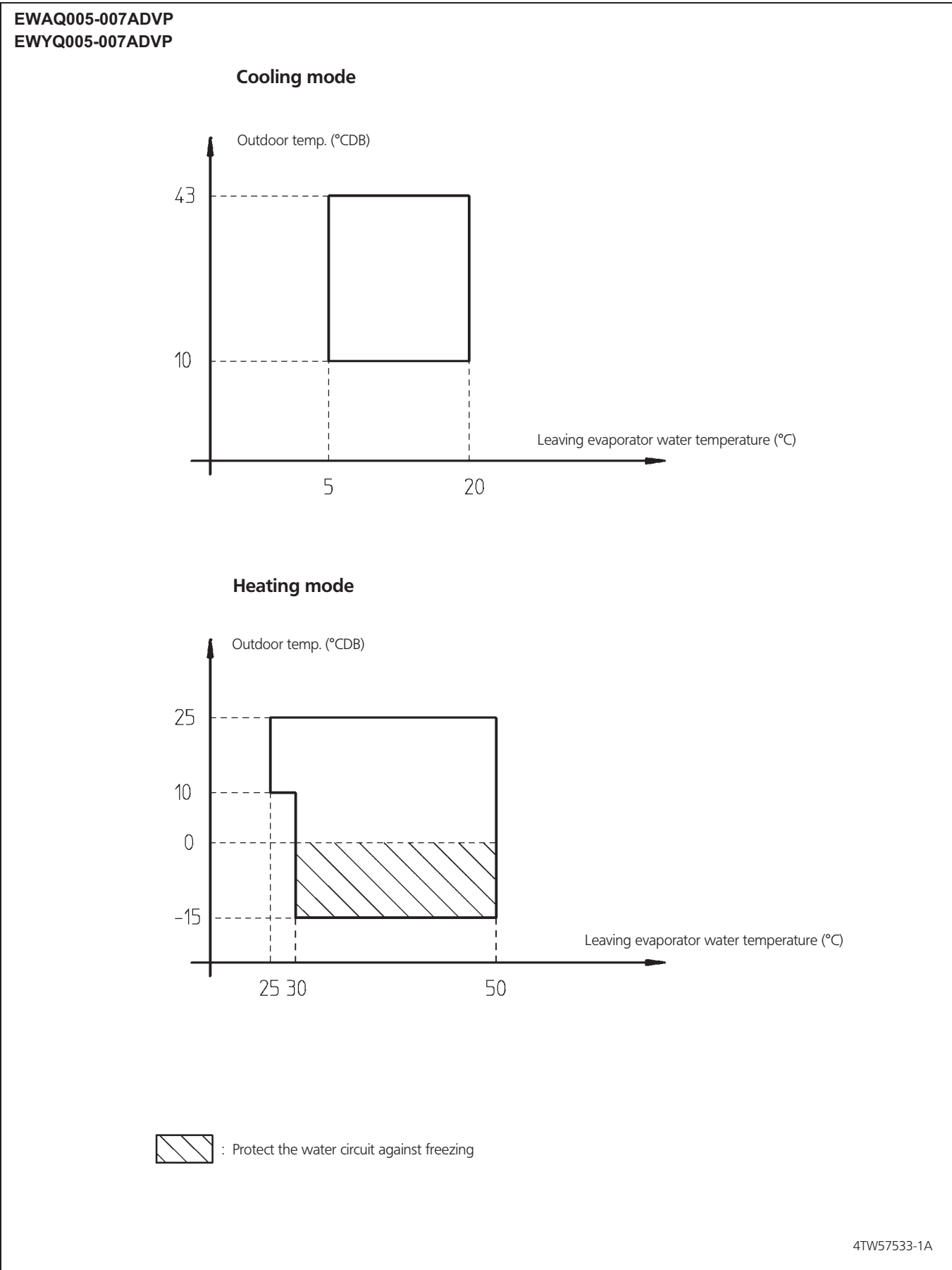
NOTES

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



10 Operation range

10 - 1 Operation Range



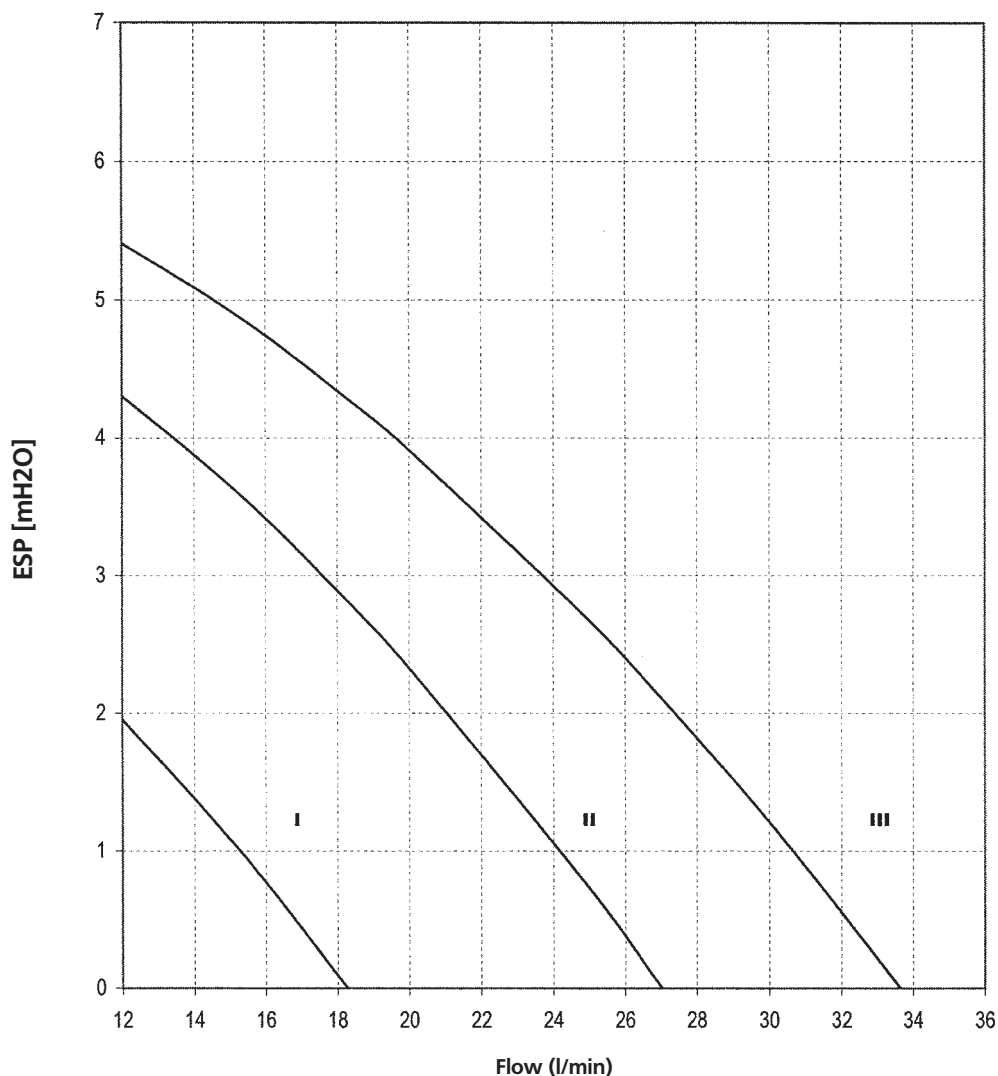
11 Hydraulic performance

11 - 1 Static Pressure Drop Unit

EWAQ005-007ADVP

EWYQ005-007ADVP

ESP = f (Flow)



- I: low speed setting pump
- II: medium speed setting pump
- III: high speed setting pump

ESP: External static pressure
Flow: waterflow trough the unit

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

4TW56749-2

TABLE OF CONTENTS

EWYQ-ACV3

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1 Features

- Inverter technology ensures: continuous match of requested load; excellent part load efficiency (ESEER up to 4.57); significant reduction of starting currents; precise temperature control (evaporator leaving water)
- Low operating sound level
- Wide operating range
- Integrated hydronics
- Single phase power supply and main switch included
- Easy 'plug and play' installation



2 Specifications

2-1 Technical Specifications				EWYQ009ACV3	EWYQ010ACV3	EWYQ011ACV3
Cooling capacity	Nom.		kW	12.2 (1) / 8.6 (2)	13.6 (1) / 9.6 (2)	15.7 (1) / 11.1 (2)
Heating capacity	Nom.		kW	10.2 (1) / 9.9 (2)	11.7 (1) / 11.4 (2)	13.8 (1) / 12.9 (2)
Capacity control	Method			Inverter controlled		
Power input	Cooling	Nom.	kW	2.85 (1) / 2.83 (2)	3.41 (1) / 3.28 (2)	4.13 (1) / 3.90 (2)
	Heating	Nom.	kW	2.43 (1) / 2.99 (2)	2.81 (1) / 3.46 (2)	3.20 (1) / 3.94 (2)
EER				4.27 (1) / 3.05 (2)	4.00 (1) / 2.93 (2)	3.79 (1) / 2.85 (2)
ESEER				4.31	4.30	4.33
COP				4.19 (1) / 3.30 (2)	4.17 (1) / 3.29 (2)	4.30 (1) / 3.27 (2)
Casing	Colour			Ivory white		
	Material			Painted galvanized steel plate		
Dimensions	Unit	Height	mm	1,435		
		Width	mm	1,418		
		Depth	mm	382		
	Packed unit	Height	mm	1,574		
		Width	mm	1,500		
		Depth	mm	430		
Weight	Unit		kg	180		
	Packed unit		kg	200		
Packing	Material			EPS / Wood / Carton / PP (Straps)		
	Weight		kg	20		
Water heat exchanger	Type			Brazen plate		
	Quantity			1		
	Water volume		l	1.01		
	Water flow rate	Min.	l/min	16		
		Max.	l/min	58		
	Nominal water flow	Cooling	l/min	24.7 (5)	27.6 (5)	31.9 (5)
		Heating	l/min	28.3 (4)	32.6 (4)	36.9 (4)
	Insulation material			Foamed synthetic elastomer		
Air heat exchanger	Length		mm	857		
	Type			Hi-XSS (8)		
	Rows	Quantity		2		
	Stages	Quantity		60		
	Fin pitch		mm	1.4		
	Passes	Quantity		5		
	Face area		m ²	1.131		
	Empty tubeplate hole			0		
	Fin	Type		WF fin		
		Treatment		Anti-corrosion treatment (PE)		
Pump	Nr of speeds			2		
	Type			Water cooled		
	Nominal ESP unit	Cooling	kPa	58.0	54.6	49.1
		Heating	kPa	52.8	47.1	40.9
Hydraulic components	Expansion vessel	Volume	l	10		
		Max. water pressure	bar	3		
		Pre pressure	bar	1.0		
	Water filter	Diameter perforations	mm	1		
		Material		Brass		
Fan	Quantity			2		
	Type			Propeller fan		
	Air flow rate	Cooling	Nom. m ³ /min	96	100	97
		Heating	Nom. m ³ /min	90		
	Discharge direction			Horizontal		

2 Specifications

2-1 Technical Specifications					EWYQ009ACV3		EWYQ010ACV3		EWYQ011ACV3	
Fan motor	Model				Brushless DC motor					
	Output			W		70				
	Quantity				2					
	Drive				Direct drive					
	Speed	Cooling	Nom.	rpm		780				
		Heating	Nom.	rpm		760				
		Steps			8					
Sound power level	Cooling	Nom.		dBA		64 (5)				
	Heating	Nom.		dBA		64 (4)				
Sound pressure level	Cooling	Nom.		dBA		51 (5)				
	Heating	Nom.		dBA		51 (5)				
	Night quiet mode	Cooling	dBA		45					
		Heating	dBA		42					
Compressor	Type				Hermetically sealed scroll compressor					
	Quantity				1					
	Model				JT100G-VD					
	Output			W		2,200				
	Starting method				Inverter driven					
	Motor (INV)	Crankcase heater		W		33				
Operation range	Water side	Cooling	Min.	°CDB		5				
			Max.	°CDB		22				
		Heating	Min.	°CDB		25 (6)				
			Max.	°CDB		50 (6)				
	Air side	Cooling	Min.	°CDB		10				
			Max.	°CDB		46				
		Heating	Min.	°CDB		-15				
			Max.	°CDB		35				
Refrigerant	Type				R-410A					
	Charge			kg		2.95				
	Control				Electronic expansion valve					
	Circuits	Quantity			1					
Water circuit	Piping connections diameter			inch		G 5/4" (female)				
	Piping			inch		5/4"				
	Safety valve			bar		3				
	Manometer				Yes					
	Drain valve / fill valve				Yes					
	Shut off valve				Yes					
	Total water volume			l		4 (6)				
	Minimum water volume in the system			l		20 (7.0)				
	Air purge valve				Yes					
Refrigerant oil	Type				Daphne FVC68D					
	Charged volume			l		1.0				
Defrost method					Pressure equalising					
Defrost control					Sensor for outdoor heat exchanger temperature					
Safety devices	Item	01			High pressure switch					
		02			Fan motor thermal protection					
		03			Fuse					

2 Specifications

2-2 Electrical Specifications				EWYQ009ACV3	EWYQ010ACV3	EWYQ011ACV3
Pump	Type			Water cooled		
Compressor	Starting method			Inverter driven		
	Crankcase heater		W	33		
Power supply	Name			V3		
	Phase			1~		
	Frequency		Hz	50		
	Voltage		V	230		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Unit	Minimum Ssc value			Equipment complying with EN/IEC 61000-3-12		
	Recommended fuses			32		
Wiring connections				See installation manual		

Notes

- (1) Underfloor program: 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) Fan coil program: cooling Ta 35°C - LWE 7°C (Dt: 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (Dt: 5°C)
- (3) 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.
- (4) Condition: Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)
- (5) Condition: Ta 35°C - LWE 7°C (DT = 5°C)
- (6) Including piping + PHE; excluding expansion vessel
- (7) 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 though, extra water volume might be required. Refer to operation range for more info.
- (8) 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.
- (9) According to EN14511:2001

3 Options

3 - 1 Options

EW(Y)Q009-013AC

Optional equipment for EWA/YQ*A*V3/W1P(on)

Modelnumber

EWAQ009A*V3P(on) EWYQ009A*V3P(on)
EWAQ010A*V3P(on) EWYQ010A*V3P(on)
EWAQ011A*V3P(on) EWYQ011A*V3P(on)

(on) = option number

EWAQ009A*W1P(on) EWYQ009A*W1P(on)
EWAQ011A*W1P(on) EWYQ011A*W1P(on)
EWAQ013A*W1P(on) EWYQ013A*W1P(on)

Option number	Option description	(on)	Unit size						Availability
OP10	Standard unit available options evaporator + waterpiping heatertape		EWAQ009A*V3P(on)	EWAQ010A*V3P(on)	EWAQ011A*V3P(on)	EWYQ009A*V3P(on)	EWYQ010A*V3P(on)	EWYQ011A*V3P(on)	factory mounted
			○	○	○	○	○	○	
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit
OP10	Standard unit available options evaporator heatertape		EWAQ009A*W1P(on)	EWAQ011A*W1P(on)	EWAQ013A*W1P(on)	EWYQ009A*W1P(on)	EWYQ011A*W1P(on)	EWYQ013A*W1P(on)	factory mounted
			○	○	○	○	○	○	
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit

3TW58259-1A

NOTES

- Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation)

4 Capacity tables

4 - 1 Cooling Capacity Tables

EWYQ009-011ACV3
EWYQ009-011ACV3

MAXIMUM COOLING CAPACITY

	Tamb	20		25		30		35		40		45	
	LWE	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
EWA/YQ009(V3)	7	10.42	1.95	9.82	2.25	9.22	2.54	8.62	2.83	7.70	3.09	6.78	3.35
	10	11.55	1.93	10.84	2.23	10.14	2.52	9.43	2.82	8.62	3.13	7.80	3.43
	13	12.71	1.90	11.92	2.21	11.13	2.51	10.34	2.82	9.55	3.16	8.77	3.50
	15	13.53	1.86	12.72	2.18	11.90	2.51	11.08	2.83	10.21	3.18	9.35	3.52
	18	14.77	1.80	13.91	2.15	13.05	2.50	12.18	2.85	11.20	3.20	10.22	3.55
	22	16.41	1.71	15.50	2.10	14.58	2.49	13.66	2.88	12.52	3.24	11.38	3.60
EWA/YQ010(V3)	7	11.76	2.30	11.05	2.62	10.34	2.95	9.62	3.28	8.75	3.58	7.87	3.89
	10	13.05	2.31	12.22	2.64	11.40	2.97	10.58	3.30	9.81	3.64	9.04	3.98
	13	14.36	2.31	13.45	2.65	12.54	2.99	11.62	3.33	10.87	3.69	10.11	4.05
	15	15.28	2.31	14.33	2.66	13.38	3.01	12.43	3.36	11.57	3.73	10.71	4.09
	18	16.65	2.32	15.65	2.68	14.64	3.04	13.64	3.41	12.63	3.78	11.62	4.15
	22	18.48	2.33	17.41	2.71	16.33	3.09	15.26	3.47	14.04	3.85	12.82	4.23
EWA/YQ011(V3)	7	13.57	2.81	12.76	3.17	11.94	3.54	11.13	3.90	10.05	4.26	8.98	4.62
	10	15.09	2.83	14.20	3.21	13.30	3.58	12.40	3.96	11.37	4.35	10.34	4.73
	13	16.58	2.86	15.61	3.24	14.63	3.63	13.65	4.02	12.61	4.43	11.57	4.83
	15	17.54	2.87	16.51	3.27	15.48	3.67	14.46	4.06	13.33	4.47	12.20	4.89
	18	18.97	2.90	17.87	3.31	16.77	3.72	15.66	4.13	14.40	4.55	13.15	4.97
	22	20.88	2.93	19.68	3.36	18.48	3.79	17.27	4.22	15.84	4.65	14.41	5.08

SYMBOLS

CC Cooling capacity [kW] at maximum operating frequency, measured acc. EN14511:2011
 PI Power input [kW], measured acc. EN14511:2011
 LWE Leaving Water Evaporator temperature [°C]
 Tamb Ambient temperature [°C] RH=85%

CONDITIONS

- Cooling capacity
Capacity is according to EN14511:2011 and valid for chilled water range $\Delta T = 3\sim 8^{\circ}\text{C}$
→ Capacity values may not be extra polated below 7°C leaving water temperature
- Power input
Power input is total input of indoor and outdoor unit; according to EN14511:2011

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4 Capacity tables

4 - 2 Heating Capacity Tables

EWYQ009-011ACV3

MAXIMUM HEATING CAPACITY - PEAK VALUES

	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EWYQ009(V3)	-15	5.97	2.18	5.61	2.38	5.48	2.62				
	-7	7.36	2.22	6.93	2.42	6.79	2.67	6.61	2.95		
	-2	8.41	2.22	7.94	2.44	7.80	2.69	7.62	2.98	7.33	3.31
	2	9.37	2.22	8.87	2.44	8.73	2.70	8.55	2.99	8.25	3.32
	7	10.73	2.20	10.18	2.43	10.06	2.69	9.87	2.99	9.57	3.33
	12	11.65	2.14	11.09	2.37	10.98	2.63	10.82	2.94	10.52	3.28
	15	12.61	2.11	12.02	2.35	11.93	2.62	11.77	2.92	11.47	3.27
	20	14.35	2.06	13.72	2.30	13.65	2.57	13.51	2.89	12.82	3.24
EWYQ010(V3)	-15	6.89	2.52	6.46	2.75	6.32	3.03				
	-7	8.48	2.56	7.98	2.81	7.82	3.09	7.62	3.42		
	-2	9.69	2.57	9.15	2.82	8.99	3.11	8.77	3.45	8.45	3.83
	2	10.80	2.56	10.21	2.82	10.06	3.12	9.84	3.46	9.51	3.85
	7	12.36	2.54	11.73	2.81	11.58	3.11	11.37	3.46	11.02	3.86
	12	13.42	2.47	12.77	2.74	12.64	3.05	12.46	3.40	12.12	3.79
	15	14.52	2.44	13.84	2.71	13.73	3.03	13.56	3.38	13.21	3.78
	20	16.52	2.38	15.79	2.66	15.72	2.98	15.56	3.34	14.76	3.75
EWYQ011(V3)	-15	8.10	2.85	7.81	3.10	7.53	3.39				
	-7	9.87	2.92	9.47	3.18	9.08	3.49	8.88	3.84		
	-2	11.25	2.94	10.79	3.21	10.33	3.53	10.08	3.89	9.93	4.29
	2	12.52	2.96	12.01	3.23	11.50	3.55	11.22	3.92	11.04	4.32
	7	14.35	2.96	13.77	3.20	13.19	3.57	12.87	3.94	12.67	4.36
	12	15.20	2.87	14.60	3.15	14.00	3.47	13.67	3.84	13.47	4.25
	15	16.48	2.85	15.84	3.14	15.20	3.47	14.86	3.84	14.64	4.25
	20	18.82	2.82	18.12	3.12	17.41	3.45	17.04	3.83	16.32	4.25

MAXIMUM HEATING CAPACITY - INTEGRATED VALUE

	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EWYQ009(V3)	-15	5.04	2.14	4.73	2.33	4.62	2.56				
	-7	6.21	2.17	5.85	2.38	5.73	2.62	5.57	2.89		
	-2	6.96	2.14	6.57	2.34	6.45	2.59	6.30	2.86	6.07	3.18
	2	7.76	2.13	7.34	2.34	7.22	2.59	7.07	2.87	6.83	3.19
	7	10.73	2.20	10.18	2.43	10.06	2.69	9.87	2.99	9.57	3.33
	12	11.65	2.14	11.09	2.37	10.98	2.63	10.82	2.94	10.52	3.28
	15	12.61	2.11	12.02	2.35	11.93	2.62	11.77	2.92	11.47	3.27
	20	14.35	2.06	13.72	2.30	13.65	2.57	13.51	2.89	12.82	3.24
EWYQ010(V3)	-15	5.81	2.47	5.45	2.70	5.33	2.97				
	-7	7.16	2.51	6.74	2.75	6.60	3.03	6.43	3.35		
	-2	8.02	2.47	7.57	2.71	7.44	2.99	7.26	3.32	6.99	3.68
	2	8.94	2.46	8.46	2.71	8.33	3.00	8.15	3.33	7.87	3.70
	7	12.36	2.54	11.73	2.81	11.58	3.11	11.37	3.46	11.02	3.86
	12	13.42	2.47	12.77	2.74	12.64	3.05	12.46	3.40	12.12	3.79
	15	14.52	2.44	13.84	2.71	13.73	3.03	13.56	3.38	13.21	3.78
	20	16.52	2.38	15.79	2.66	15.72	2.98	15.56	3.34	14.76	3.75
EWYQ011(V3)	-15	6.87	2.76	6.63	3.00	6.39	3.29				
	-7	8.38	2.83	8.04	3.08	7.71	3.38	7.53	3.72		
	-2	8.92	2.67	8.55	2.92	8.19	3.20	7.99	3.52	7.87	3.89
	2	9.93	2.68	9.52	2.93	9.12	3.22	8.90	3.55	8.75	3.92
	7	14.35	2.96	13.77	3.20	13.19	3.57	12.87	3.94	12.67	4.36
	12	15.20	2.87	14.60	3.15	14.00	3.47	13.67	3.84	13.47	4.25
	15	16.48	2.85	15.84	3.14	15.20	3.47	14.86	3.84	14.64	4.25
	20	18.82	2.82	18.12	3.12	17.41	3.45	17.04	3.83	16.32	4.25

SYMBOLS

HC Heating capacity [kW] at maximum operating frequency, measured acc. EN14511:2011
 PI Power input [kW], measured acc. EN14511:2011
 LWC Leaving Water Condensor temperature [°C]
 Tamb Ambient temperature [°C] RH=85%

CONDITIONS

- Heating capacity
Capacity is according to EN14511:2011 and valid for chilled water range $\Delta T = 3\sim 8^{\circ}\text{C}$
- Power input
Power input is total input of indoor and outdoor unit; according to EN14511:2011

3TW58252-1C

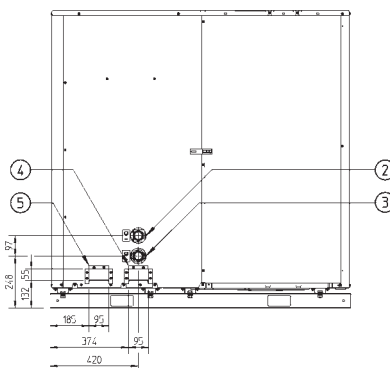
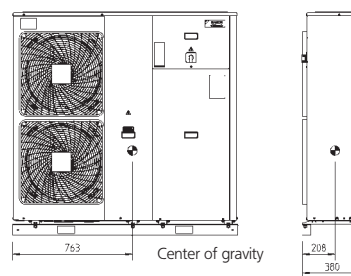
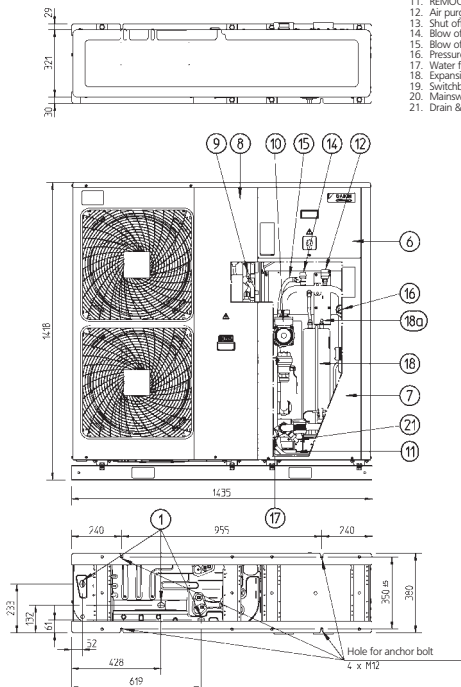
5 Dimensional drawings

5 - 1 Dimensional Drawings

EWAQ009-013AC

EWYQ009-013AC

- Center of gravity
- 1. Drain outlet
- 2. Waterpiping outlet
- 3. Waterpiping inlet
- 4. Power supply cables intake
- 5. Field wiring intake
- 6. Service door switchbox
- 7. Service door hydraulic module
- 8. Service door compressor module
- 9. Service port
- 10. Pump
- 11. REMOCON kit (to be installed indoors)
- 12. Air purge
- 13. Shut off valve
- 14. Blow off valve
- 15. Blow off drain (flexible hose)
- 16. Pressure gauge
- 17. Water filter
- 18. Expansion vessel + (18a) nipple
- 19. Switchbox terminals (Field wiring)
- 20. Mains switch
- 21. Drain & fill valve

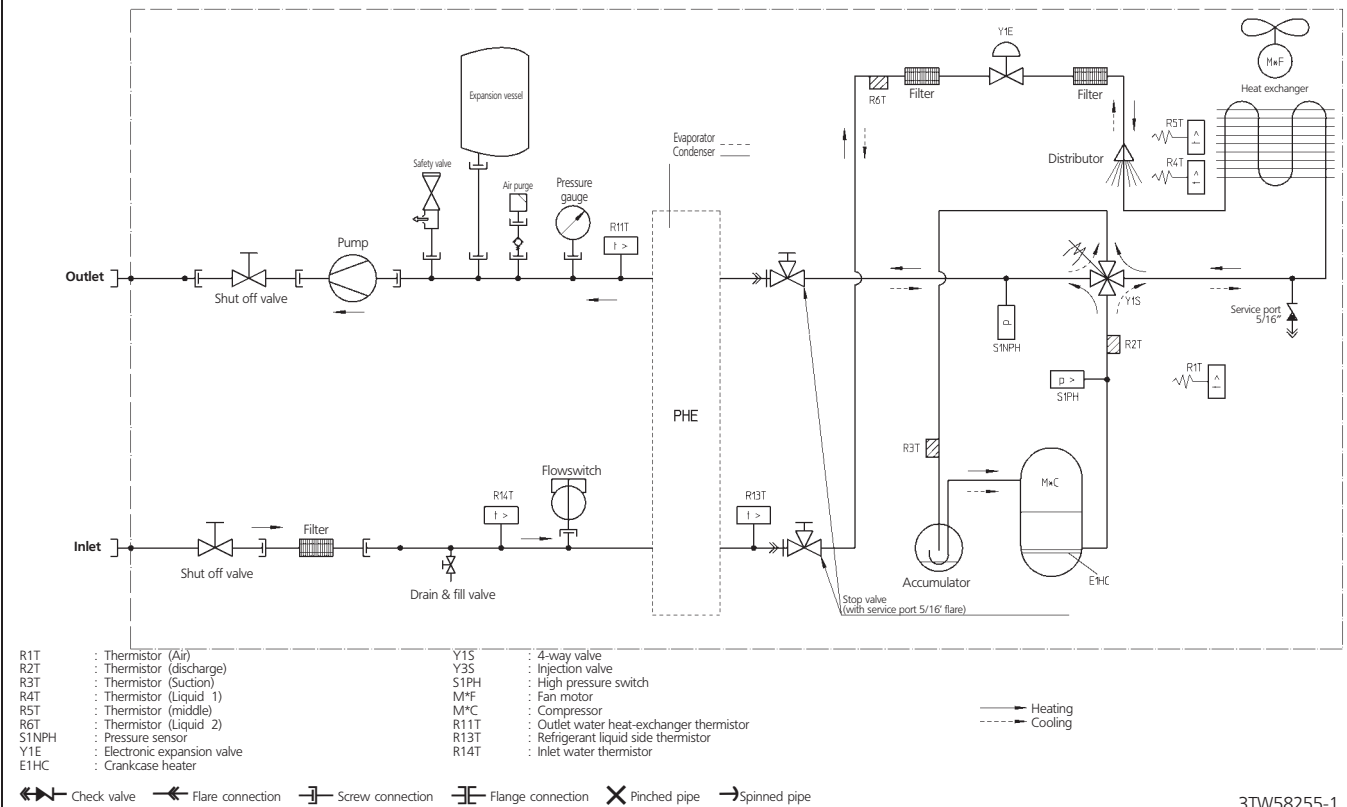


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6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ009-013ACV3P/ACW1P
EWYQ009-013ACV3P/ACW1P

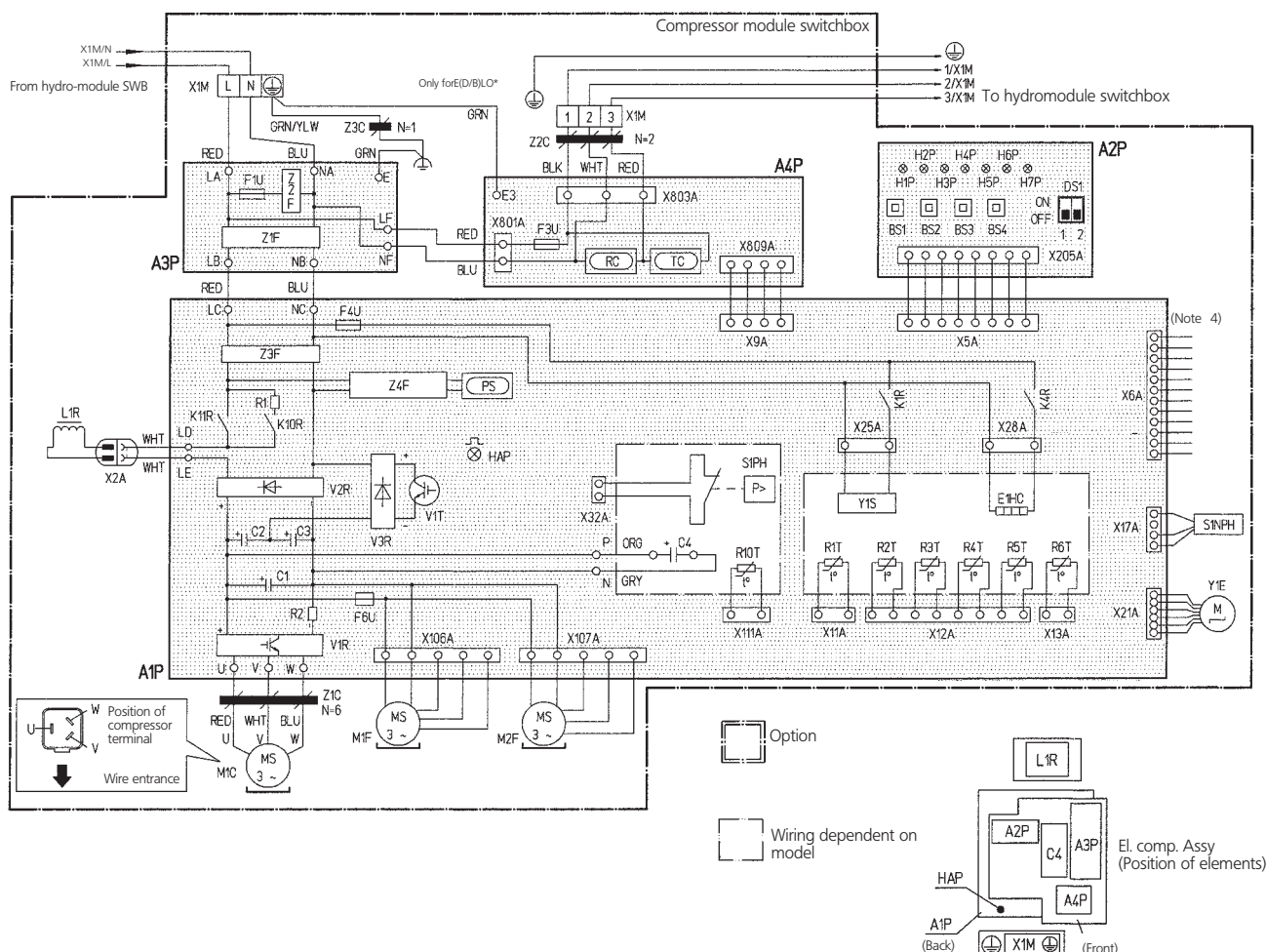


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7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EWYQ009-011ACV3
EWYQ009-011ACV3



- Notes
- 1 This wiring diagram only applies to the compressor module switchbox
 - 2 L: Live N: Neutral ——— Field wiring
 - 3 ——— : Terminal strip ——— : Connector ——— : Connection ——— : Protective earth (screw)
— : Connector — : Noiseless earth — : Terminal
 - 4 NOT APPLICABLE
 - 5 -
 - 6 Do not operate the unit by short-circuiting protection device S1PH
 - 7 Colors: BLK: black, RED: red, BLU: blue, WHT: white, YLW: yellow, ORG: orange, BRN: brown, GRN: green
 - 8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".

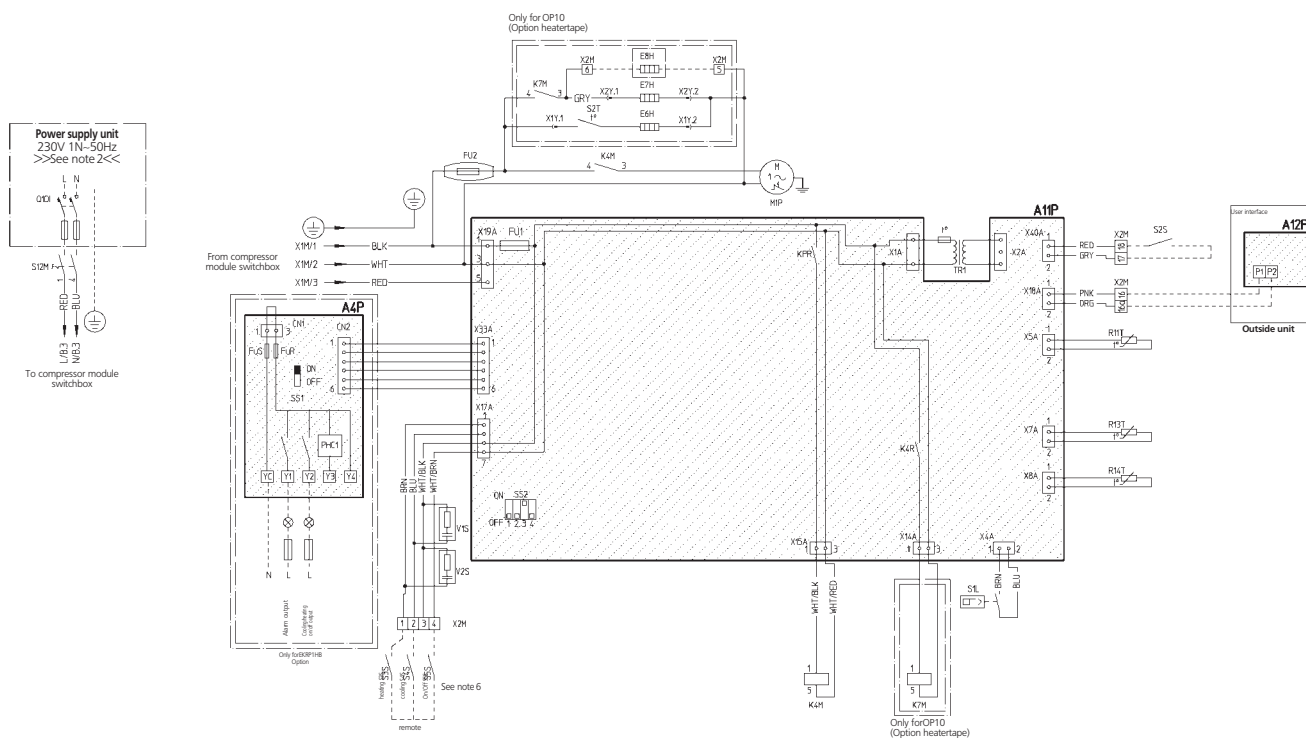
A1P Printed circuit board (Main)
A2P Printed circuit board (INV)
A3P Printed circuit board (Noise filter)
A4P Printed circuit board
BS1~BS4 Push button switch
C1~C4 Capacitor
DS1 DIP switch
E1HC Crankcase heater
F1U, F3U, F4U Fuse (T 6.3A/250V)
F6U Fuse (T 5.0A/250V)
H1P~7P (A2P) Light Emit. Diode (Serv. Monitor-Orange)
HAP (A1P) Prepare, Test ——— Flickering
K1R Malfunction Detection — Light up
K4R Light emitting diode (service monitor green)
K10R Magnetic relay (Y1S)
K11R Magnetic relay (E1HC)
L1R Magnetic relay
M1C Reactor
M1F Motor (Compressor)
M2F Motor (Fan) (upper)
PS Motor (Fan) (lower)
Switching power supply

Q1DI Field earth leakage breaker (300mA)
R1 Resistor
R2 Resistor
R1T Thermistor (Air)
R2T Thermistor (Discharge)
R3T Thermistor (Suction)
R4T Thermistor (Heat exchanger)
R5T Thermistor (heat exchanger middle)
R6T Thermistor (Liquid)
RC Signal receiver circuit
R10T Thermistor (Fin)
S1NPH Pressure sensor
S1PH Pressure switch (High)
TC Signal transmission circuit
V1R Power module
V2R, V3R Diode module
V1T IGBT
X1M Terminal strip (Power supply)
Y1E Electronic expansion valve
Y1S Solenoid valve (4 way valve)
Z1C~Z3C Noise filter (ferrity core)
Z1F~Z4F Noise filter

7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EWAQ009-011ACV3
EWYQ009-011ACV3



Notes:

- 1 This wiring diagram only applies to the hydromodule switchbox
- 2 Field wiring No/Nc Normal open/Normal closed
- 3 Terminal strip Connector Terminal Protective earth
- 4 Do not operate the unit by short-circuiting any protection device.
- 5 BLK: Black / WHT: White / RED: Red / BLU: Blue / PINK: Pink / YLW: Yellow
BRN: Brown / GRV: Grey / GRN: Green / ORG: Orange / VIO: Violet
- 6 When the remote ON/OFF, remote heating and remote cooling function is not used, apply wire bridge between terminals 1, 2 and 4.

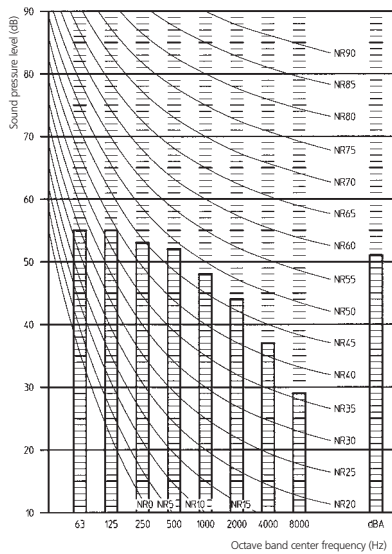
A11P	: Main PCB
A12P	: User interface PCB
A4P (EKR1HB)	: Remote alarm PCB
E6H	: Expansion vessel heater
E7H	: water piping heater
E8H	: Heatertape (Field supply Max. 200W)
FU1	: Fuse 3.15A T 250V for PCB
FU2	: Fuse 5A T 250V
FuS, FuR	: Fuse 5A 250V Remote alarm PCB
K4M	: pump relay
K9M	: Heater relay
M1P	: Pump
PHC1	: Optocoupler input circuit
Q1DI	: Earth leakage protector
R11T	: Outlet water heat-exchanger thermistor
R13T	: Refrigerant liquid side thermistor
R14T	: Inlet water thermistor
S1L	: Flowswitch
S12M	: Main switch
S2S	: benefit kWh rate signal
S3S	: remote heating signal
S4S	: remote cooling signal
S5S	: remote ON/OFF signal
S2T	: thermostat expansion vessel heater
SS1, SS2	: DIP switch
TR1	: Transformer 24V for PCB
V1S, V2S	: Spark suppression 1, 2
X2M	: Terminal strips
X1-2Y	: Connector

2TW58256-2B

8 Sound data

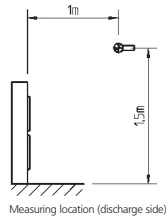
8 - 1 Sound Pressure Spectrum

EW(A/Y)Q009ACV3(cooling)



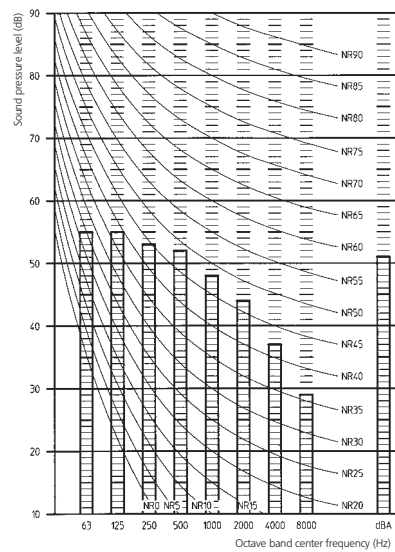
Notes:

- 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.



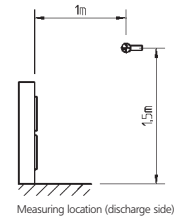
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EWYQ009ACV3(heating)



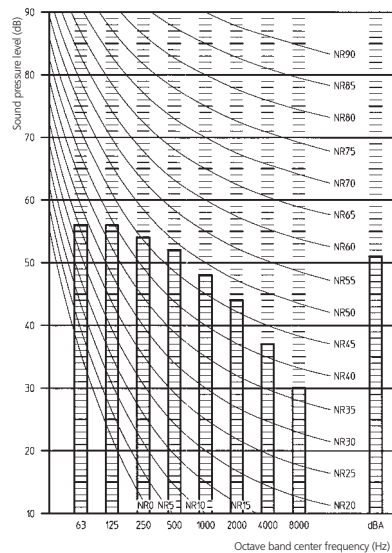
Notes:

- 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.



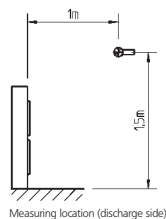
3TW58257-2

EW(A/Y)Q010ACV3(cooling)



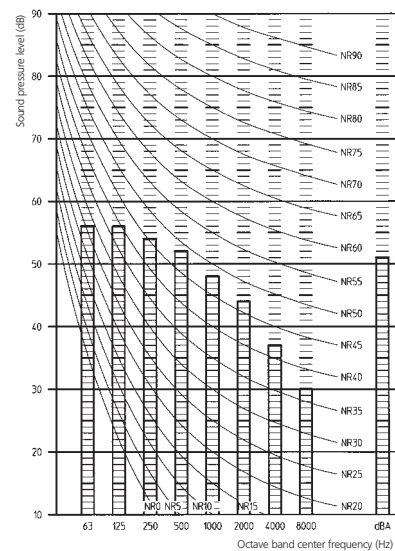
Notes:

- 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.



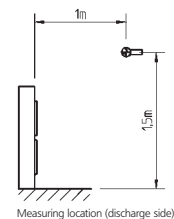
3TW58257-1

EWYQ010ACV3(heating)



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.

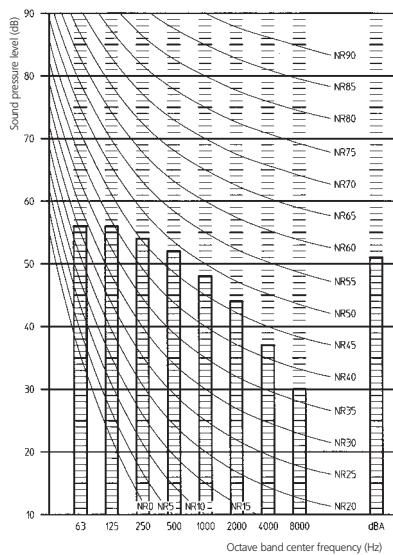


3TW58257-2

8 Sound data

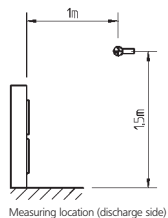
8 - 1 Sound Pressure Spectrum

EW(A/Y)Q011ACV3(cooling)



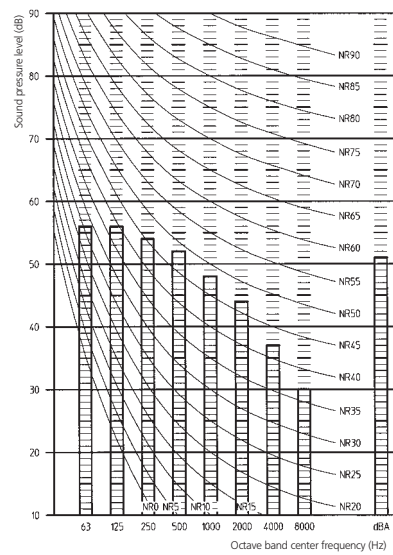
Notes:

- 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.



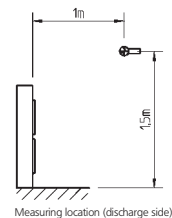
3TW58257-1

EWYQ011ACV3(heating)



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.

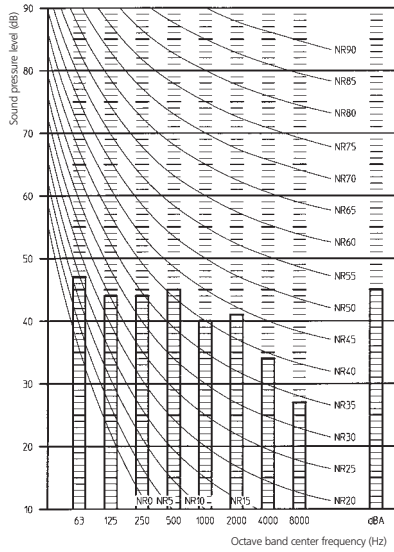


3TW58257-2

8 Sound data

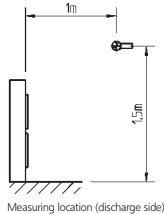
8 - 2 Sound Pressure Spectrum Quiet Mode

**EW(A/Y)Q009ACV3(cooling)
night quiet mode**



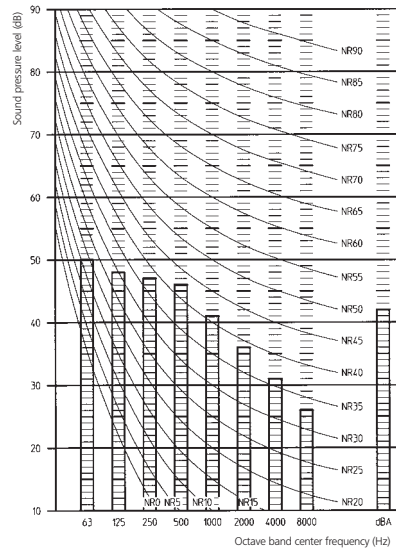
Notes:

- 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.



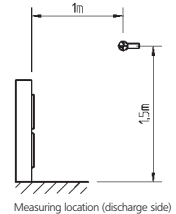
3TW58257-3

**EWYQ009ACV3(heating)
night quiet mode**



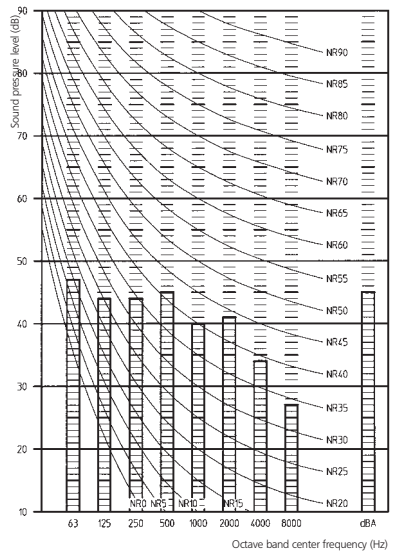
Notes:

- 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.



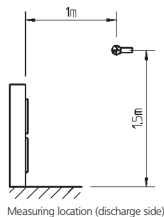
3TW58257-4A

**EW(A/Y)Q010ACV3(cooling)
night quiet mode**



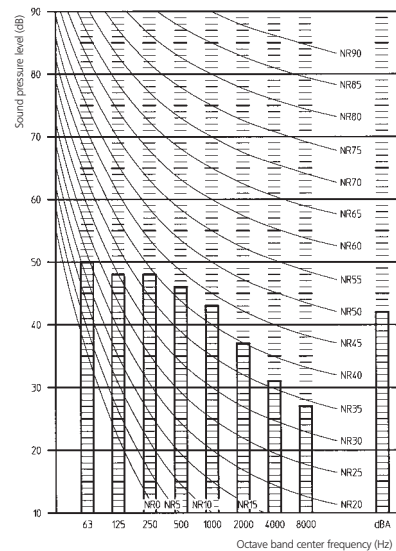
Notes:

- 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.



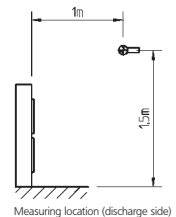
3TW58257-3

**EWYQ010ACV3(heating)
night 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.

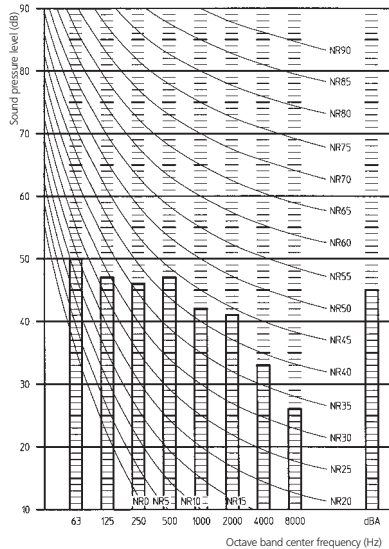


3TW58257-4A

8 Sound data

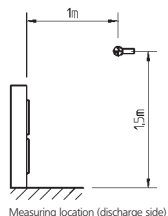
8 - 2 Sound Pressure Spectrum Quiet Mode

**EW(A/Y)Q011ACV3(cooling)
night quiet mode**



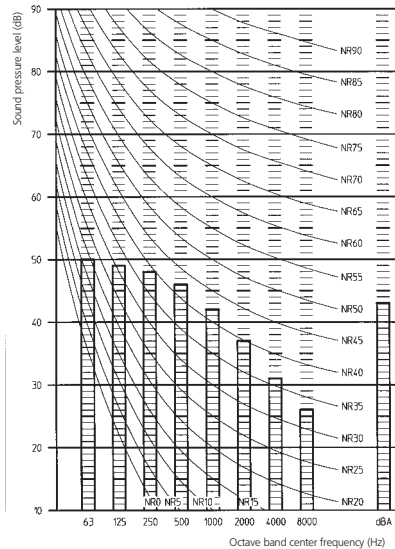
Notes:

- 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.



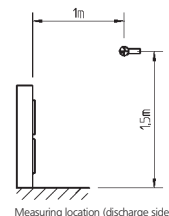
3TW58257-3

**EWYQ011ACV3(heating)
night 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.

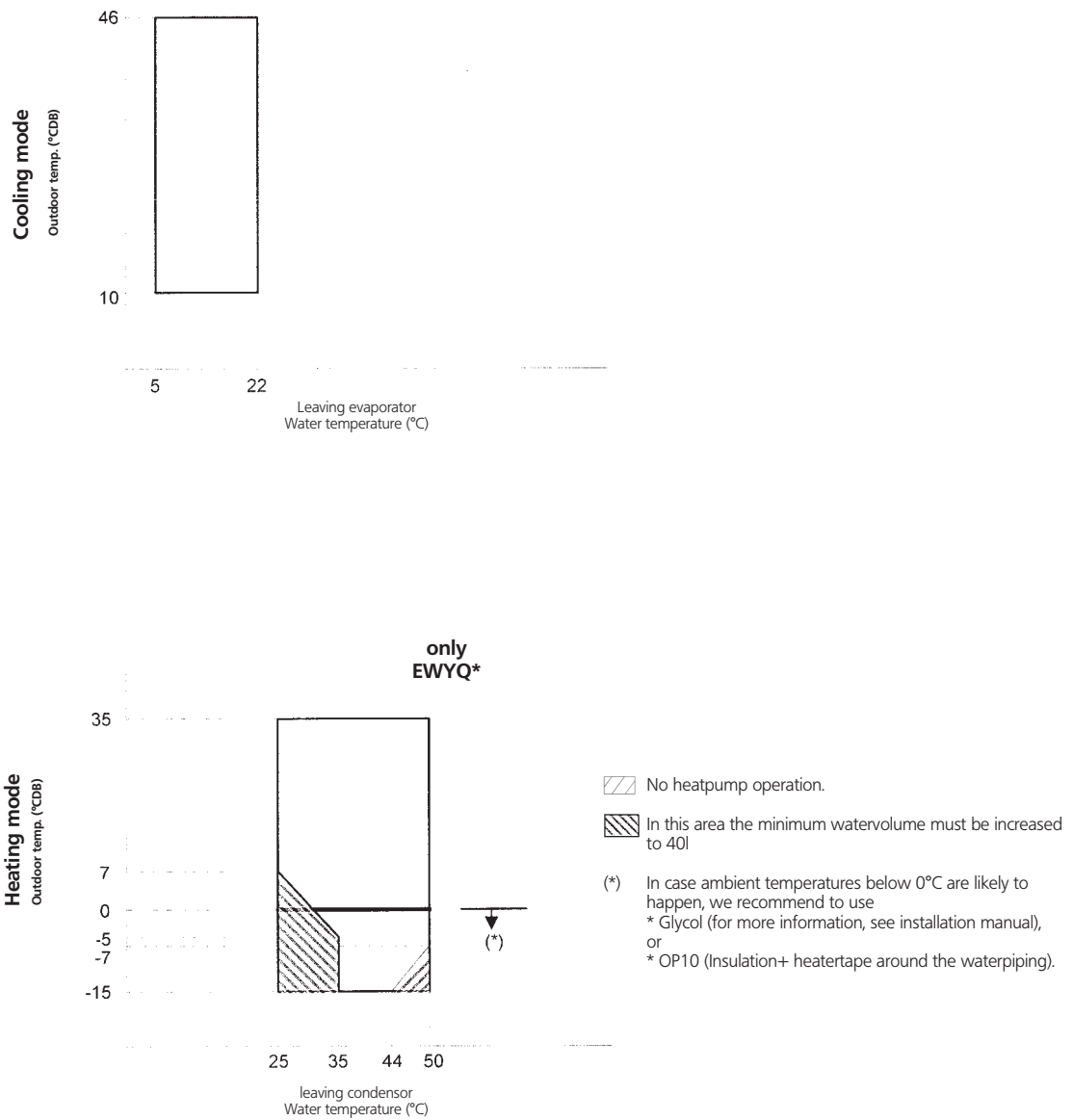


3TW58257-4A

9 Operation range

9 - 1 Operation Range

EWAQ009-011ACV3
EWYQ009-011ACV3

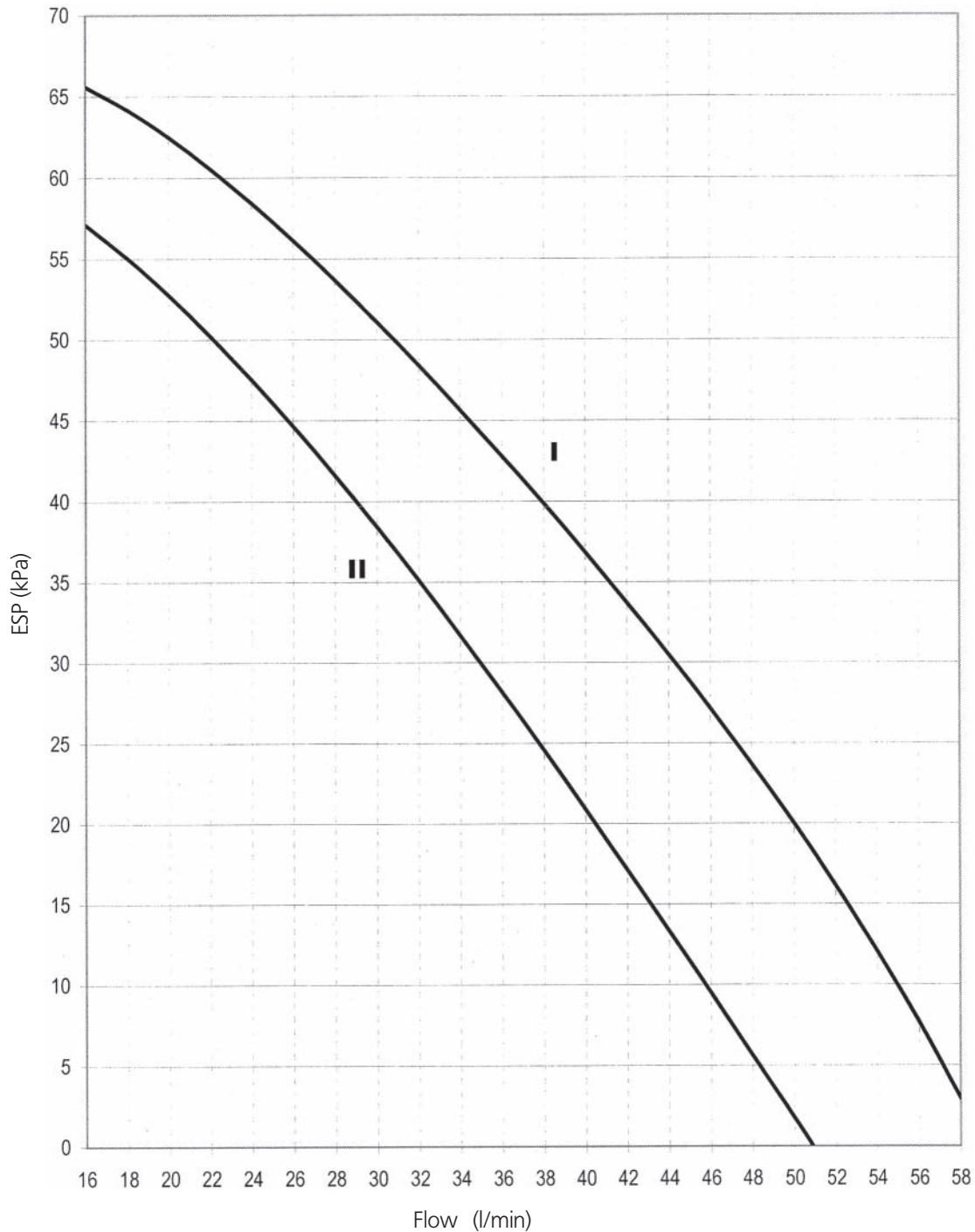


4TW58253-1A

10 Hydraulic performance

10 - 1 Static Pressure Drop Unit

EWAQ009-013AC
EWYQ009-013AC



I High speed

II medium 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.

4TW58259-2A

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EWYQ-ACW1

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1 Features

- Inverter technology ensures: continuous match of requested load; excellent part load efficiency (ESEER up to 4.68); significant reduction of starting currents; precise temperature control (evaporator leaving water)
- Low operating sound level
- Daikin scroll compressor
- Wide operating range
- Integrated hydronics
- Three phase power supply and main switch included
- Easy 'plug and play' installation



2 Specifications

2-1 Technical Specifications				EWYQ009ACW1	EWYQ011ACW1	EWYQ013ACW1
Cooling capacity	Nom.		kW	12.9 (1) / 9.1 (2)	15.7 (1) / 11.1 (2)	17.0 (1) / 13.3 (2)
Heating capacity	Nom.		kW	11.2 (1) / 10.9 (2)	13.2 (1) / 12.4 (2)	14.8 (1) / 13.9 (2)
Capacity control	Method			Inverter controlled		
Power input	Cooling	Nom.	kW	3.08 (1) / 3.05 (2)	4.13 (1) / 3.90 (2)	5.52 (1) / 5.18 (2)
	Heating	Nom.	kW	2.69 (1) / 3.31 (2)	3.07 (1) / 3.78 (2)	3.47 (1) / 4.27 (2)
EER				4.19 (1) / 2.99 (2)	3.79 (1) / 2.85 (2)	3.08 (1) / 2.57 (2)
ESEER				4.43	4.44	4.36
COP				4.17 (1) / 3.28 (2)	4.31 (1) / 3.27 (2)	4.28 (1) / 3.25 (2)
Casing	Colour			Ivory white		
	Material			Painted galvanized steel plate		
Dimensions	Unit	Height	mm	1,435		
		Width	mm	1,418		
		Depth	mm	382		
	Packed unit	Height	mm	1,574		
		Width	mm	1,500		
		Depth	mm	430		
Weight	Unit		kg	180		
	Packed unit		kg	200		
Packing	Material			EPS / Wood / Carton / PP (Straps)		
	Weight		kg	20		
Water heat exchanger	Type			Brazed plate		
	Quantity			1		
	Water volume		l	1.01		
	Water flow rate	Min.	l/min	16		
		Max.	l/min	58		
	Nominal water flow	Cooling	l/min	26.1 (5)	31.9 (5)	38.2 (5)
		Heating	l/min	31.2 (4)	35.5 (4)	39.8 (4)
	Insulation material			Foamed synthetic elastomer		
Air heat exchanger	Length		mm	857		
	Type			Hi-XSS (8)		
	Rows	Quantity		2		
	Stages	Quantity		60		
	Fin pitch		mm	1.4		
	Passes	Quantity		5		
	Face area		m ²	1.131		
	Empty tubeplate hole			0		
	Fin	Type		WF fin		
		Treatment		Anti-corrosion treatment (PE)		
Pump	Nr of speeds			2		
	Type			Water cooled		
	Nominal ESP unit	Cooling	kPa	56.4	49.1	40.9
		Heating	kPa	49.1	43.0	36.6
	Power input		W	210		
Hydraulic components	Expansion vessel	Volume	l	10		
		Max. water pressure	bar	3		
		Pre pressure	bar	1.0		
	Water filter	Diameter perforations	mm	1		
		Material		Brass		
	Quantity			2		
Fan	Type			Propeller fan		
	Discharge direction			Horizontal		

2 Specifications

2-1 Technical Specifications					EWYQ009ACW1		EWYQ011ACW1		EWYQ013ACW1	
Fan motor	Model				Brushless DC motor					
	Output			W	70					
	Quantity				2					
	Drive				Direct drive					
	Speed	Cooling	Nom.	rpm	780					
		Heating	Nom.	rpm	760					
		Steps			8					
Sound power level	Cooling	Nom.		dBA	64 (5)				66 (5)	
	Heating	Nom.		dBA	64 (4)					
Sound pressure level	Cooling	Nom.		dBA	51 (5)				52 (5)	
	Heating	Nom.		dBA	51 (5)					
	Night quiet mode	Cooling	dBA		45				46	
		Heating	dBA		42				43	
Compressor	Type				Hermetically sealed scroll compressor					
	Quantity				1					
	Model				JT1G-VDYR (S)					
	Output			W	2,200					
	Starting method				Inverter driven					
	Motor (INV)	Crankcase heater		W	33					
Operation range	Water side	Cooling	Min.	°CDB	5					
			Max.	°CDB	22					
		Heating	Min.	°CDB	25 (6)					
			Max.	°CDB	50 (6)					
	Air side	Cooling	Min.	°CDB	10					
			Max.	°CDB	46					
		Heating	Min.	°CDB	-15					
			Max.	°CDB	35					
Refrigerant	Type				R-410A					
	Charge			kg	2.95					
	Control				Electronic expansion valve					
	Circuits	Quantity			1					
Water circuit	Piping connections diameter			inch	G 5/4" (female)					
	Piping			inch	5/4"					
	Safety valve			bar	3					
	Manometer				Yes					
	Drain valve / fill valve				Yes					
	Shut off valve				Yes					
	Total water volume			l	4 (6)					
	Minimum water volume in the system			l	20 (7.0)					
	Air purge valve				Yes					
Refrigerant oil	Type				Daphne FVC68D					
	Charged volume			l	1.0					
Defrost method					Pressure equalising					
Defrost control					Sensor for outdoor heat exchanger temperature					
Safety devices	Item	01			High pressure switch					
		02			Fan motor thermal protection					
		03			Fuse					

2 Specifications

2-2 Electrical Specifications				EWYQ009ACW1	EWYQ011ACW1	EWYQ013ACW1
Pump	Type			Water cooled		
Compressor	Starting method			Inverter driven		
	Crankcase heater		W	33		
Power supply	Name			W1		
	Phase			3N~		
	Frequency		Hz	50		
	Voltage		V	400		
	Voltage range	Min.	%	-10		
		Max.	%	10		
Unit	Recommended fuses			20		
Wiring connections				See installation manual		

Notes

- (1) Cooling: entering evaporator water temp. 12°C; leaving evaporator water temp. 7°C; ambient air temp. 35°C
- (2) Cooling: entering evaporator water temp. 12°C; leaving evaporator water temp. 7°C; ambient air temp. 35°C; standard: Eurovent
- (3) Cooling: entering evaporator water temp. 23°C; leaving evaporator water temp. 18°C; ambient air temp. 35°C; standard: non-Eurovent
- (4) Heating: entering condenser water temp. 45°C; leaving condenser water temp. 50°C; ambient air temp. 7°CDB, 6°CWB; standard: Eurovent
- (5) Heating: condenser water temp. 35°C (Dt = 5°); leaving condenser water temp. 40°C; ambient air temp. 7°CDB, 6°CWB; standard: Eurovent
- (6) 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.
- (7) Underfloor program: cooling Ta 35°C - LWE 18°C (Dt: 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (Dt: 5°C)
- (8) Fan coil program: cooling Ta 35°C - LWE 7°C (Dt: 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C (Dt: 5°C)
- (9) Condition: Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)
- (10) Condition: Ta 35°C - LWE 7°C (DT = 5°C)
- (11) Including piping + PHE; excluding expansion vessel
- (12) 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 though, extra water volume might be required. Refer to operation range for more info.
- (13) 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.
- (14) According to EN14511:2001

3 Options

3 - 1 Options

EW(Y)Q009-013AC

Optional equipment for EWA/YQ*A*V3/W1P(on)

Modelnumber

EWAQ009A*V3P(on) EWYQ009A*V3P(on)
EWAQ010A*V3P(on) EWYQ010A*V3P(on)
EWAQ011A*V3P(on) EWYQ011A*V3P(on)

(on) = option number

EWAQ009A*W1P(on) EWYQ009A*W1P(on)
EWAQ011A*W1P(on) EWYQ011A*W1P(on)
EWAQ013A*W1P(on) EWYQ013A*W1P(on)

Option number	Option description	(on)	Unit size						Availability
OP10	Standard unit available options evaporator + waterpiping heatertape		EWAQ009A*V3P(on)	EWAQ010A*V3P(on)	EWAQ011A*V3P(on)	EWYQ009A*V3P(on)	EWYQ010A*V3P(on)	EWYQ011A*V3P(on)	factory mounted
			○	○	○	○	○	○	
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit
OP10	Standard unit available options evaporator heatertape		EWAQ009A*W1P(on)	EWAQ011A*W1P(on)	EWAQ013A*W1P(on)	EWYQ009A*W1P(on)	EWYQ011A*W1P(on)	EWYQ013A*W1P(on)	factory mounted
			○	○	○	○	○	○	
EKRP1HB	Digital I/O PCB (1)	-H-	○	○	○	○	○	○	option kit

3TW58259-1A

NOTES

- Input/Output PCB that provides two additional output connections (remote alarm and remote ON/OFF signalisation)

4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ009-013ACW1
EWYQ009-013ACW1

MAXIMUM COOLING CAPACITY

	Tamb	20		25		30		35		40		45	
	LWE	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
EWAYQ009(W1)	7	11.03	2.10	10.40	2.42	9.76	2.73	9.12	3.05	8.15	3.33	7.18	3.62
	10	12.23	2.08	11.48	2.40	10.73	2.72	9.98	3.04	9.12	3.37	8.26	3.70
	13	13.46	2.05	12.62	2.38	11.78	2.71	10.94	3.04	10.11	3.41	9.28	3.78
	15	14.33	2.00	13.46	2.35	12.59	2.70	11.72	3.05	10.81	3.43	9.90	3.80
	18	15.63	1.93	14.72	2.31	13.81	2.69	12.90	3.08	11.86	3.46	10.82	3.83
	22	17.37	1.84	16.40	2.26	15.43	2.68	14.46	3.10	13.25	3.49	12.05	3.88
EWAYQ011(W1)	7	13.57	2.81	12.76	3.17	11.94	3.54	11.13	3.90	10.05	4.26	8.98	4.62
	10	15.09	2.83	14.20	3.21	13.30	3.58	12.40	3.96	11.37	4.35	10.34	4.73
	13	16.58	2.86	15.61	3.24	14.63	3.63	13.65	4.02	12.61	4.43	11.57	4.83
	15	17.54	2.86	16.51	3.26	15.48	3.66	14.46	4.06	13.33	4.47	12.20	4.89
	18	18.97	2.90	17.87	3.31	16.77	3.72	15.66	4.13	14.40	4.55	13.15	4.97
	22	20.88	2.93	19.68	3.36	18.48	3.79	17.27	4.22	15.84	4.65	14.41	5.08
EWAYQ013(W1)	7	14.77	3.95	14.65	4.30	14.16	4.71	13.33	5.18	11.83	4.97	10.49	5.47
	10	15.88	4.01	15.74	4.38	15.21	4.80	14.31	5.27	12.71	5.06	11.28	5.56
	13	17.42	4.08	17.27	4.45	16.68	4.88	15.70	5.36	13.95	5.14	11.69	5.64
	15	18.49	4.12	18.32	4.51	17.70	4.94	16.67	5.43	14.82	5.20	12.12	5.51
	18	20.10	4.19	19.43	4.59	18.39	5.03	17.02	5.52	14.91	5.29	12.26	5.09
	22	22.38	4.29	21.64	4.70	20.49	5.15	18.98	5.65	16.65	5.41	12.85	4.55

SYMBOLS

CC Cooling capacity [kW] at maximum operating frequency, measured acc. EN14511:2011
 PI Power input [kW], measured acc. EN14511:2011
 LWE Leaving Water Evaporator temperature [°C]
 Tamb Ambient temperature [°C] RH=85%

CONDITIONS

- Cooling capacity
Capacity is according to EN14511:2011 and valid for chilled water range $\Delta T = 3\sim 8^{\circ}\text{C}$
→ Capacity values may not be extra polated below 7°C leaving water temperature
- Power input
Power input is total input of indoor and outdoor unit; according to EN14511:2011

3TW58252-1C

4 Capacity tables

4 - 2 Heating Capacity Tables

EWYQ009-013ACW1

MAXIMUM HEATING CAPACITY - PEAK VALUES

	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EWYQ009(V3)	-15	6.58	2.41	6.18	2.63	6.04	2.89				
	-7	8.11	2.45	7.63	2.68	7.48	2.95	7.28	3.27		
	-2	9.27	2.45	8.75	2.69	8.59	2.97	8.39	3.29	8.08	3.66
	2	10.32	2.45	9.77	2.69	9.61	2.98	9.41	3.31	9.09	3.67
	7	11.82	2.43	11.21	2.68	11.07	2.97	10.87	3.31	10.54	3.67
	12	12.83	2.36	12.21	2.62	12.09	2.91	11.91	3.25	11.58	3.62
	15	13.88	2.33	13.23	2.59	13.13	2.89	12.96	3.23	12.63	3.61
EWYQ011(V3)	20	15.80	2.27	15.10	2.54	15.03	2.85	14.88	3.19	14.12	3.58
	-15	7.79	2.73	7.51	2.97	7.24	3.26				
	-7	9.49	2.80	9.10	3.05	8.73	3.34	8.53	3.68		
	-2	10.81	2.82	10.37	3.08	9.93	3.39	9.69	3.73	9.54	4.11
	2	12.04	2.84	11.54	3.10	11.05	3.41	10.78	3.76	10.61	4.15
	7	13.79	2.84	13.23	3.07	12.68	3.43	12.37	3.78	12.18	4.18
	12	14.61	2.75	14.03	3.02	13.46	3.33	13.14	3.68	12.94	4.07
EWYQ013(V3)	15	15.84	2.74	15.23	3.01	14.61	3.33	14.28	3.68	14.08	4.08
	20	18.09	2.71	17.41	2.99	16.74	3.31	16.38	3.67	15.69	4.07
	-15	8.74	3.09	8.43	3.36	8.13	3.68				
	-7	10.64	3.16	10.21	3.45	9.79	3.78	9.58	4.16		
	-2	12.13	3.19	11.63	3.49	11.14	3.83	10.87	4.22	10.70	4.65
	2	13.50	3.21	12.95	3.51	12.40	3.86	12.10	4.25	11.90	4.69
	7	15.47	3.21	14.84	3.48	14.22	3.88	13.88	4.28	13.66	4.73
	12	16.38	3.11	15.73	3.42	15.09	3.77	14.74	4.17	14.51	4.61
	15	17.76	3.10	17.07	3.41	16.39	3.76	16.02	4.17	15.78	4.61
	20	20.28	3.07	19.52	3.38	18.76	3.75	18.37	4.15	17.59	4.61

MAXIMUM HEATING CAPACITY - INTEGRATED VALUE

	LWC	30		35		40		45		50	
	Tamb	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
EWYQ009(V3)	-15	5.55	2.37	5.21	2.58	5.09	2.84				
	-7	6.84	2.40	6.44	2.63	6.31	2.90	6.14	3.21		
	-2	7.67	2.36	7.24	2.59	7.11	2.86	6.94	3.17	6.68	3.52
	2	8.55	2.36	8.08	2.59	7.96	2.87	7.79	3.18	7.52	3.54
	7	11.82	2.43	11.21	2.69	11.07	2.98	10.87	3.31	10.54	3.69
	12	12.83	2.36	12.21	2.62	12.09	2.92	11.91	3.25	11.58	3.63
	15	13.88	2.34	13.23	2.60	13.13	2.90	12.96	3.24	12.63	3.62
EWYQ011(V3)	20	15.80	2.28	15.10	2.54	15.03	2.85	14.88	3.20	14.12	3.59
	-15	6.60	2.65	6.37	2.88	6.14	3.16				
	-7	8.05	2.71	7.72	2.96	7.41	3.24	7.24	3.57		
	-2	8.57	2.56	8.21	2.80	7.87	3.07	7.68	3.38	7.56	3.73
	2	9.54	2.57	9.15	2.81	8.76	3.09	8.55	3.41	8.41	3.76
	7	13.79	2.84	13.23	3.07	12.68	3.43	12.37	3.78	12.18	4.18
	12	14.61	2.75	14.03	3.02	13.46	3.33	13.14	3.68	12.94	4.07
EWYQ013(V3)	15	15.84	2.74	15.23	3.01	14.61	3.33	14.28	3.68	14.08	4.08
	20	18.09	2.71	17.41	2.99	16.74	3.31	16.38	3.67	15.69	4.07
	-15	7.42	2.99	7.15	3.26	6.89	3.56				
	-7	9.03	3.06	8.67	3.34	8.31	3.66	8.13	4.03		
	-2	9.62	2.89	9.22	3.16	8.83	3.47	8.62	3.82	8.49	4.22
	2	10.71	2.91	10.27	3.18	9.83	3.49	9.59	3.85	9.44	4.25
	7	15.47	3.21	14.84	3.47	14.22	3.87	13.88	4.27	13.66	4.72
	12	16.38	3.11	15.73	3.41	15.09	3.76	14.74	4.16	14.51	4.60
	15	17.76	3.09	17.07	3.40	16.39	3.76	16.02	4.16	15.78	4.61
	20	20.28	3.06	19.52	3.38	18.76	3.74	18.37	4.15	17.59	4.60

SYMBOLS

HC Heating capacity [kW] at maximum operating frequency, measured acc. EN14511:2011
 PI Power input [kW], measured acc. EN14511:2011
 LWC Leaving Water Condensor temperature [°C]
 Tamb Ambient temperature [°C] RH=85%

CONDITIONS

- Heating capacity
Capacity is according to EN14511:2011 and valid for chilled water range $\Delta t = 3\sim 8^{\circ}\text{C}$
- Power input
Power input is total input of indoor and outdoor unit; according to EN14511:2011

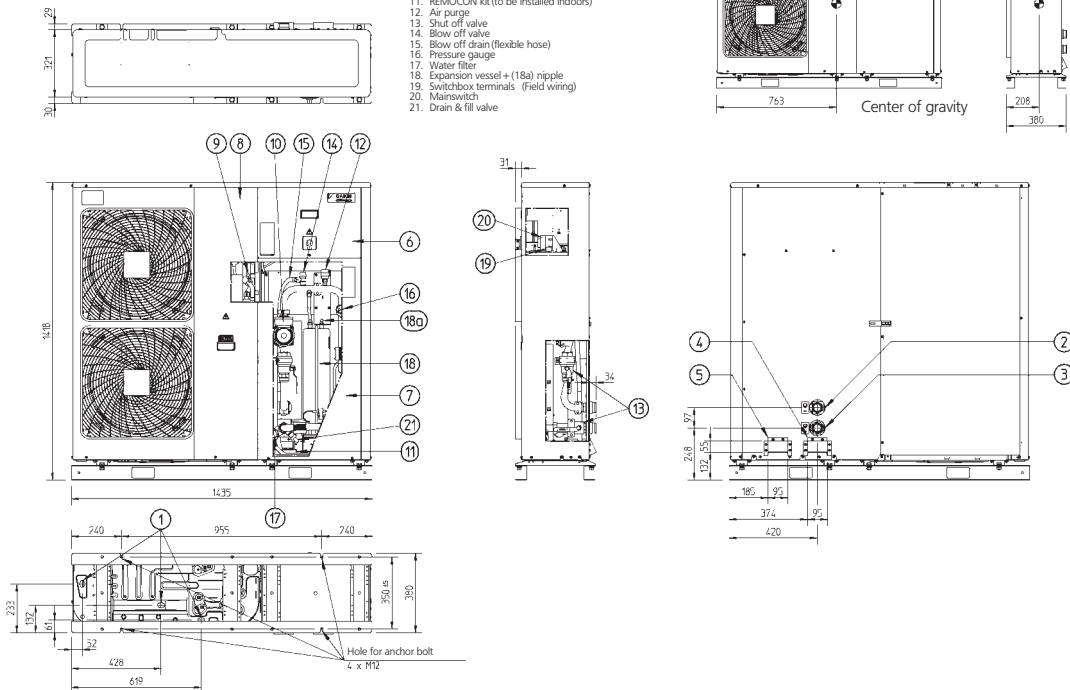
5 Dimensional drawings

5 - 1 Dimensional Drawings

EWAQ009-013AC

EWYQ009-013AC

- Center of gravity
- 1. Drain outlet
- 2. Waterpiping outlet
- 3. Waterpiping inlet
- 4. Power supply cables intake
- 5. Field wiring intake
- 6. Service door switchbox
- 7. Service door hydraulic module
- 8. Service door compressor module
- 9. Service port
- 10. Pump
- 11. REMOCON kit (to be installed indoors)
- 12. Air purge
- 13. Shut off valve
- 14. Blow off valve
- 15. Blow off drain (flexible hose)
- 16. Pressure gauge
- 17. Water filter
- 18. Expansion vessel + (18a) nipple
- 19. Switchbox terminals (Field wiring)
- 20. Mains switch
- 21. Drain & fill valve

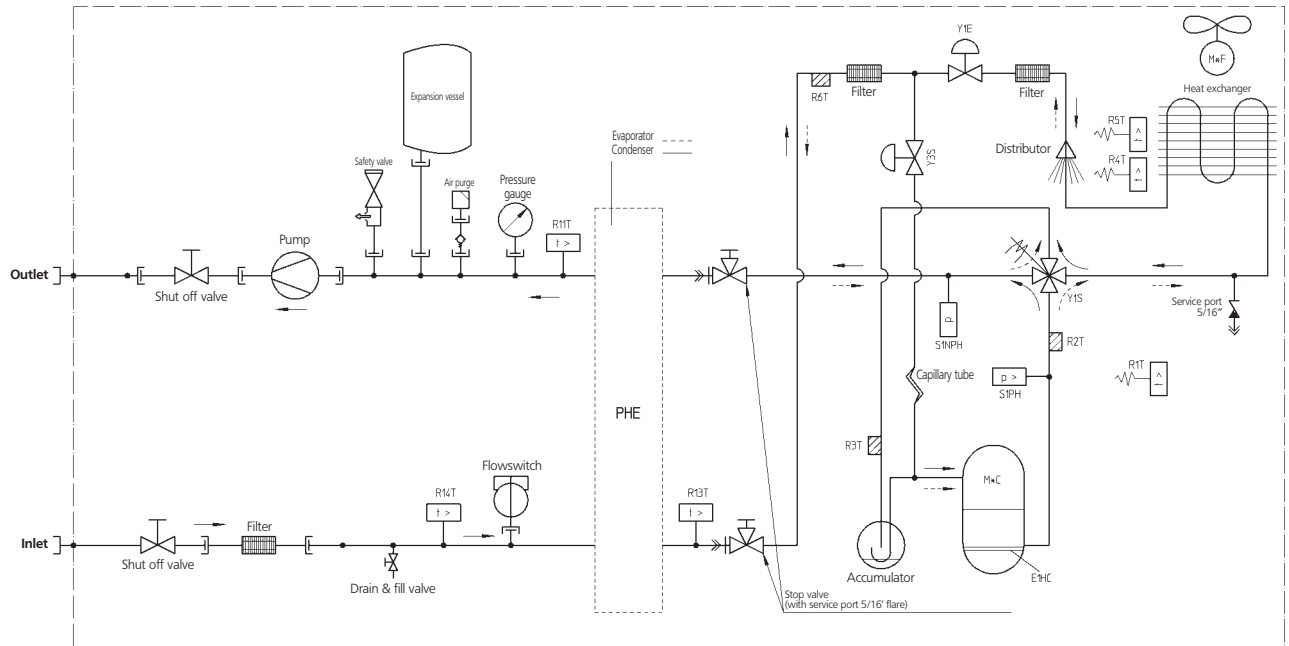


3TW58254-1

6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ009-013ACV3H/ACW1H
EWYQ009-013ACV3H/ACW1H



R1T	: Thermistor (Air)	Y1S	: 4-way valve
R2T	: Thermistor (discharge)	Y3S	: Injection valve
R3T	: Thermistor (Suction)	S1PH	: High pressure switch
R4T	: Thermistor (Liquid 1)	M*F	: Fan motor
R5T	: Thermistor (middle)	M*C	: Compressor
R6T	: Thermistor (Liquid 2)	R11T	: Outlet water heat-exchanger thermistor
S1NPH	: Pressure sensor	R13T	: Refrigerant liquid side thermistor
Y1E	: Electronic expansion valve	R14T	: Inlet water thermistor
E1HC	: Crankcase heater		

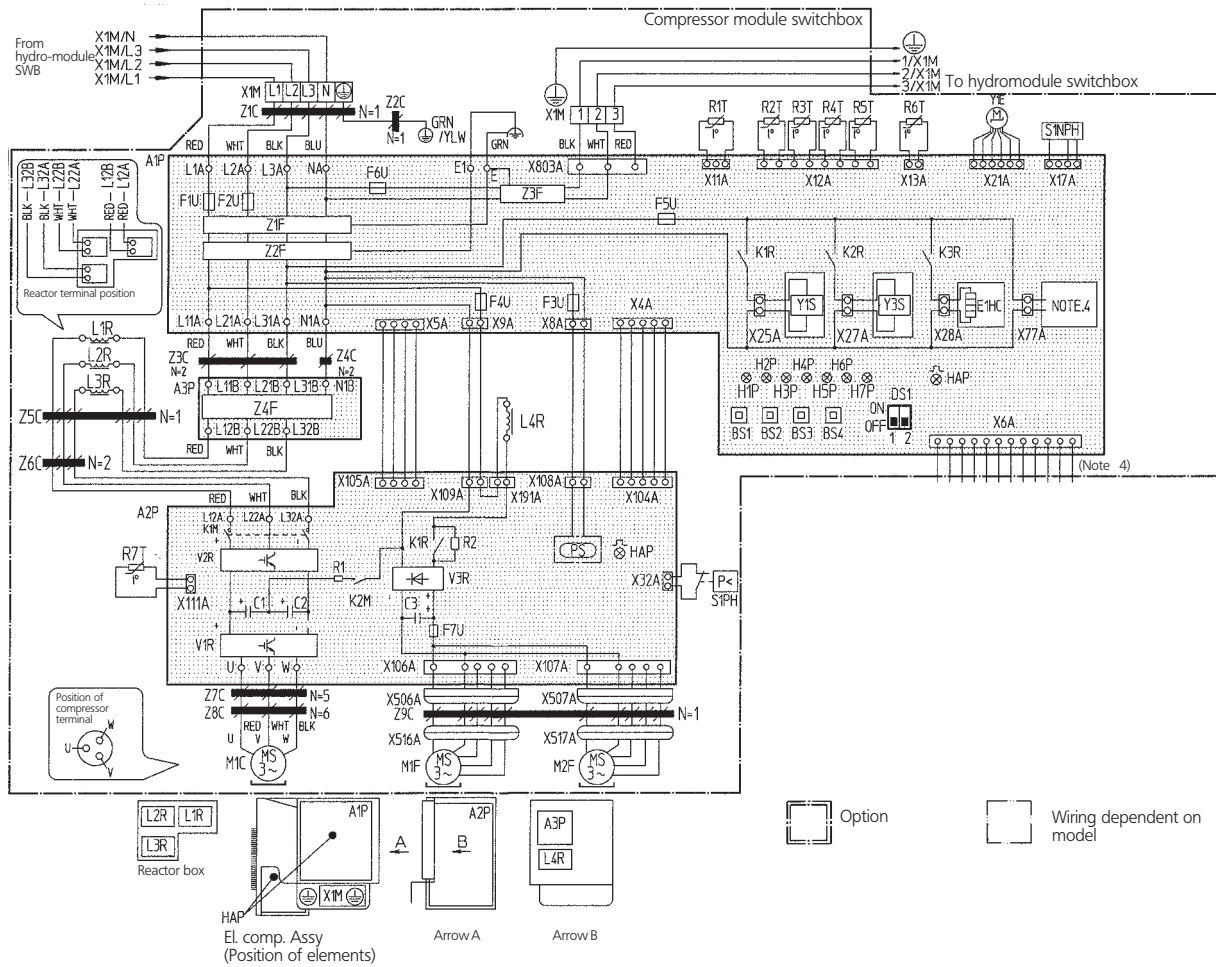
Check valve
 Flare connection
 Screw connection
 Flange connection
 Pinched pipe
 Spinned pipe

3TW58315-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EWYQ009-013ACW1
EWYQ009-013ACW1



Notes

- 1 This wiring diagram only applies to the compressor module switchbox
- 2 L: Live N: Neutral ---: Field wiring
- 3 : Terminal strip : Connector
 : Connection : Protective earth (screw)
 : Connector : Noiseless earth : Terminal
- 4 NOT APPLICABLE
- 5 -
- 6 Do not operate the unit by short-circuiting protection device S1PH
- 7 Colors: BLK: black, RED: red, BLU: blue, WHT: white, YLW: yellow, ORG: orange, BRN: brown, GRN: green
- 8 Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: "OFF".

A1P Printed circuit board
A2P Printed circuit board (INV)
A3P Printed circuit board (Noise filter)
BS1-BS4 Push button switch
C1-C4 Capacitor
DS1 DIP switch
E1HC Crankcase heater
F1U Fuse (31.5A/250V)
F2U Fuse (31.5A/250V)
F3U Fuse (T 6.3A/250V)
F4U Fuse (T 6.3A/250V)
F5U Fuse (T 6.3A/250V)
F6U Fuse (T 6.3A/250V)
F7U Fuse (T 5.0A/250V)
HAP (A1P) Pilot lamp (Service monitor-green)
HAP (A2P) Pilot lamp (Service monitor-green)
H1P-7P (A1P) Pilot lamp (Service monitor-orange)
K1M-K2M Magnetic contactor
K1R (A1P) Magnetic relay (Y1S)
K1R (A2P) Magnetic relay
K2R (A1P) Magnetic relay (Y2S)
K3R (A1P) Magnetic relay (E1HC)
L1R-L3R Reactor
L4R Reactor (For outdoor fan motor)

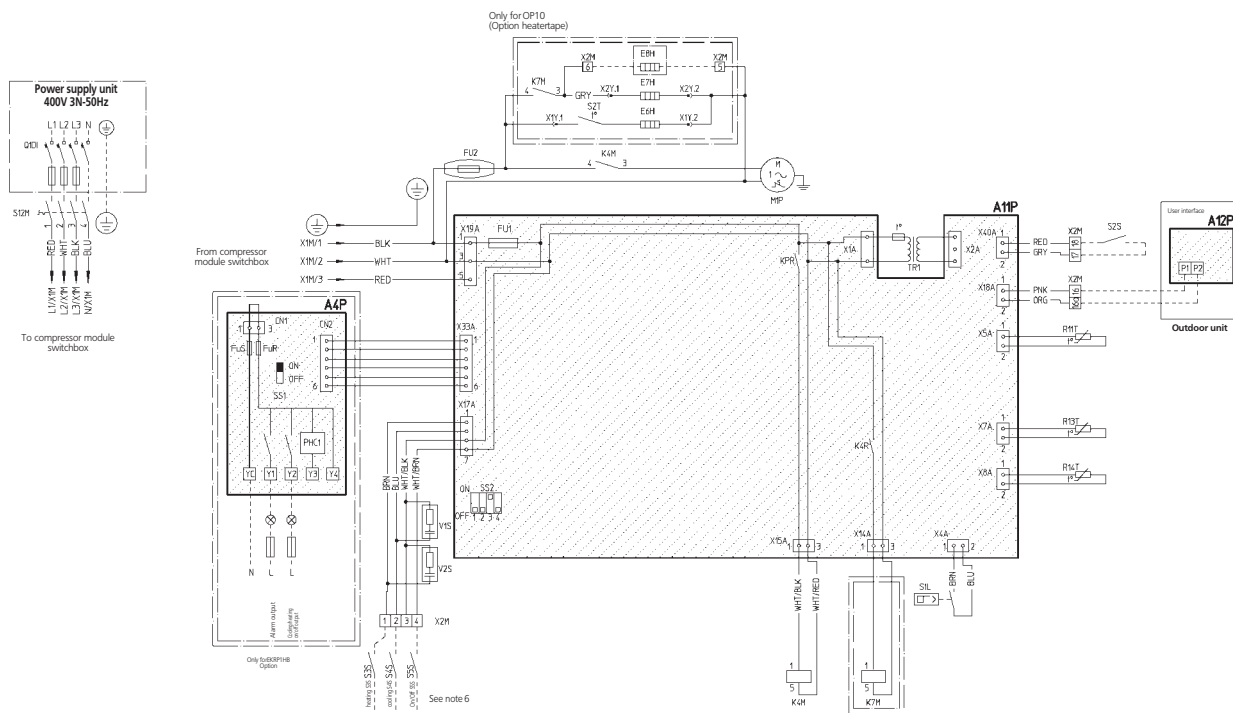
M1C Motor (Compressor)
M1F Motor (Fan) (upper)
M2F Motor (Fan) (lower)
PS Switching power supply
R1-R4 Resistor
R1T Thermistor (Air)
R2T Thermistor (Discharge)
R3T Thermistor (Suction)
R4T Thermistor (Heat exchanger)
R5T Thermistor (heat exchanger middle)
R6T Thermistor (Liquid)
R7T Thermistor (Fin)
S1NPH Pressure sensor
S1PH Pressure switch (High)
V1R-V2R Power module
V3R Diode module
X1M Terminal strip (Power supply)
Y1E Electronic expansion valve
Y3S Solenoid valve
Z1C-Z9C Noise filter
Z1F-Z4F Noise filter
Optional connector
X6A Connector
X77A Connector

2TW58316-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

EWAQ009-013ACW1
EWYQ009-013ACW1



Notes:

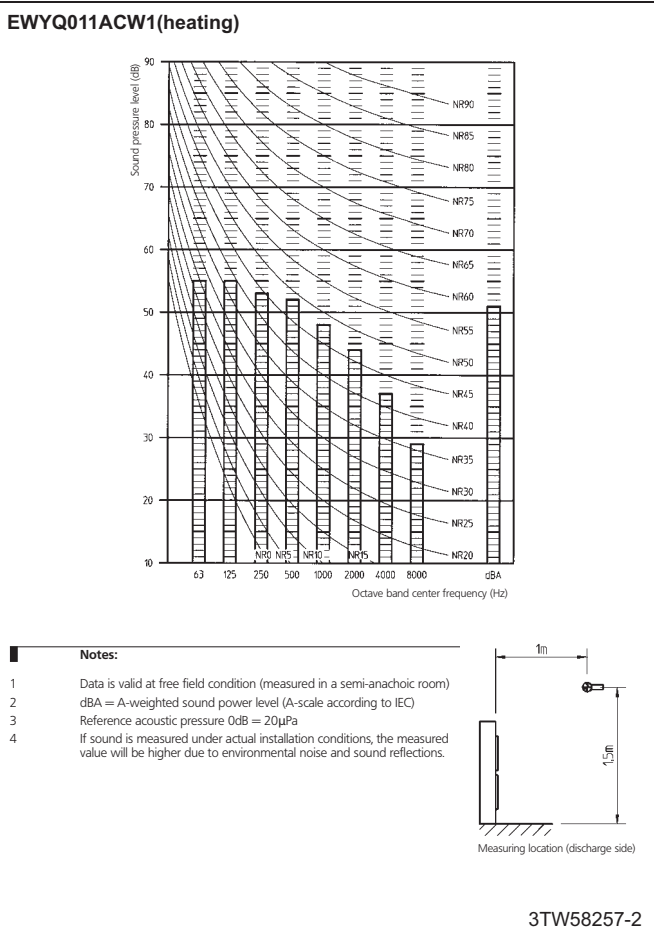
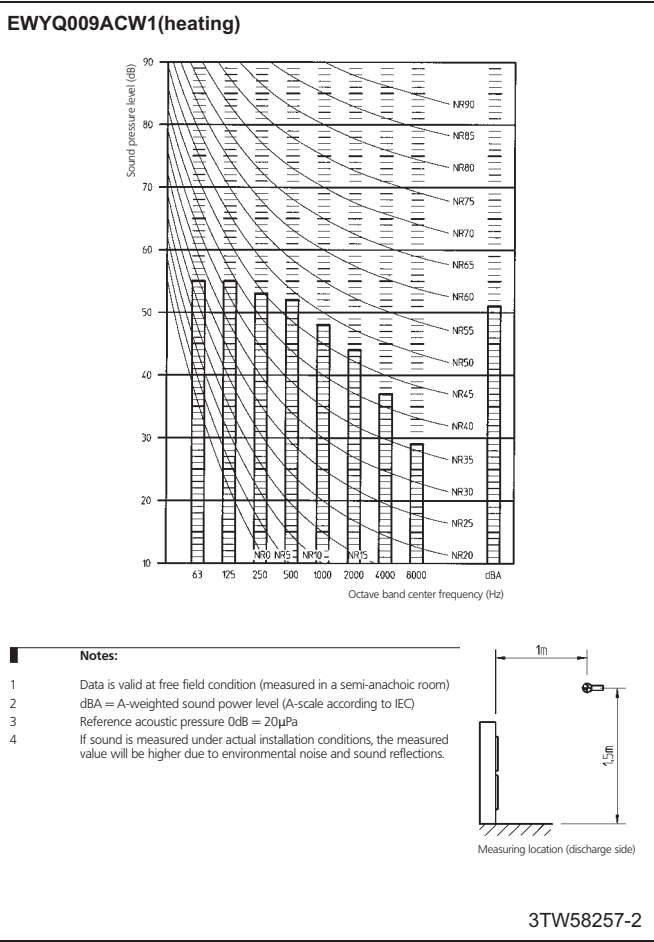
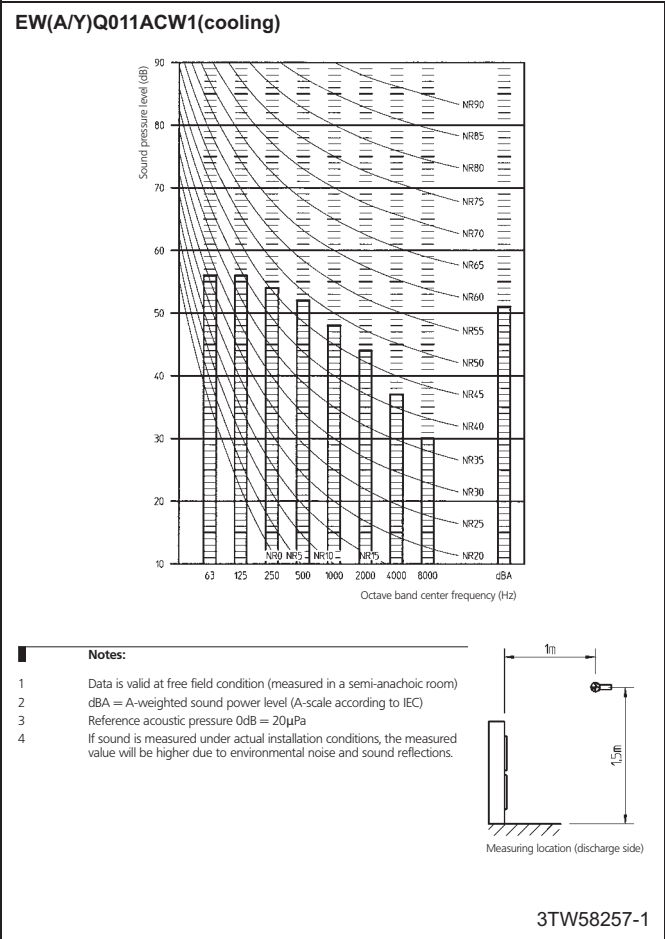
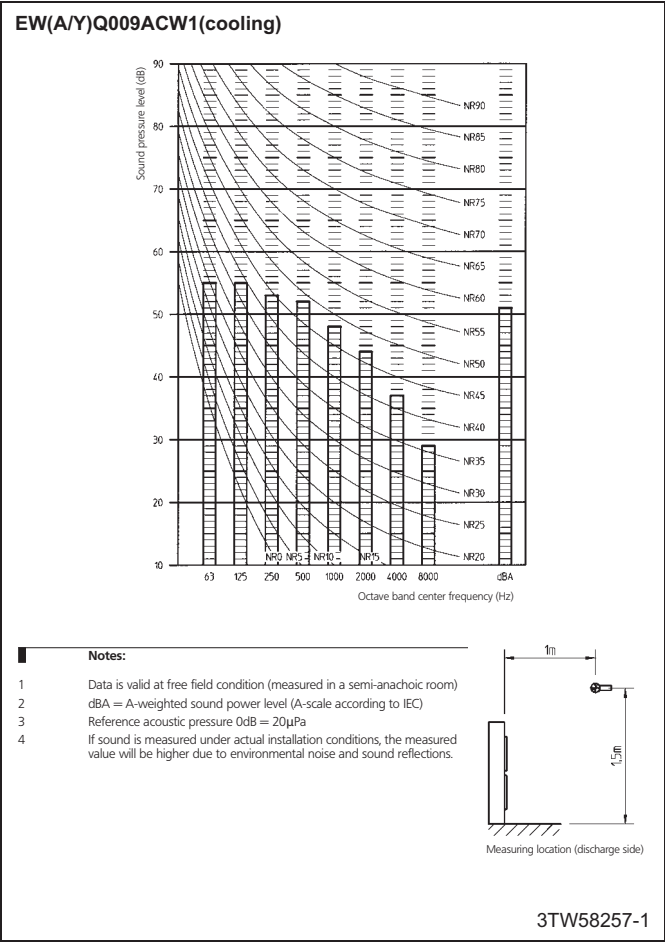
- 1 This wiring diagram only applies to the hydromodule switchbox
- 2 $\square/\square$ Field wiring No/Nc Normal open/Normal closed
- 3 $\square/\square$ Terminal strip $\square/\square$ Connector $\bigcirc$ Terminal $\oplus$ Protective earth
- 4 Do not operate the unit by short-circuiting any protection device.
- 5 BLK: Black / WHT: White / RED: Red / BLU: Blue / PINK: Pink / YLW: Yellow
BRN: Brown / GRY: Grey / GRN: Green / ORG: Orange / VIO: Violet
- 6 When the remote ON/OFF, remote heating and remote cooling function is not used, apply wire bridge between terminals 1, 2 and 4.

A11P	: Main PCB
A12P	: User interface PCB
A4P (EKR1HB)	: Remote alarm PCB
E6H	: Expansion vessel heater
E7H	: water piping heater
E8H	: Heatertape (field supply Max. 200W)
FU1	: Fuse 3.15A T. 250V for PCB
FU2	: Fuse 5A T. 250V
FuS, FuR	: Fuse 5A 250V Remote alarm PCB
K4M	: pump relay
K7M	: Heater relay
M1P	: Pump
PHC1	: Optocoupler input circuit
Q1DI	: Earth leakage protector
R11T	: Outlet water heat-exchanger thermistor
R13T	: Refrigerant liquid side thermistor
R14T	: Inlet water thermistor
S1L	: Flowswitch
S12M	: Main switch
S2S	: benefit kWh rate signal
S3S	: remote heating signal
S4S	: remote cooling signal
S5S	: remote ON/OFF signal
S2T	: thermostat expansion vessel heater
SS1, SS2	: DIP switch
TR1	: Transformer 24V for PCB
V1S, V2S	: Spark suppression 1, 2
X2M	: Terminal strips
X1-2Y	: Connector

2TW58316-2B

8 Sound data

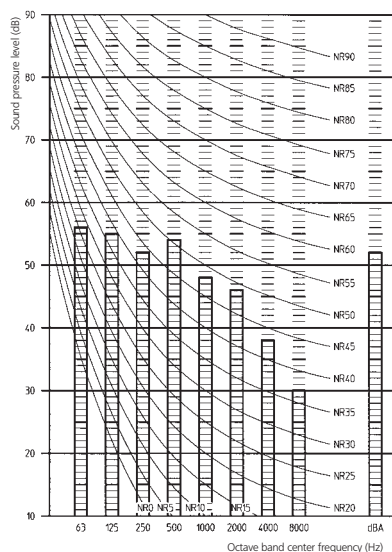
8 - 1 Sound Pressure Spectrum



8 Sound data

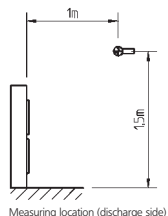
8 - 1 Sound Pressure Spectrum

EW(A/Y)Q013ACW1(cooling)



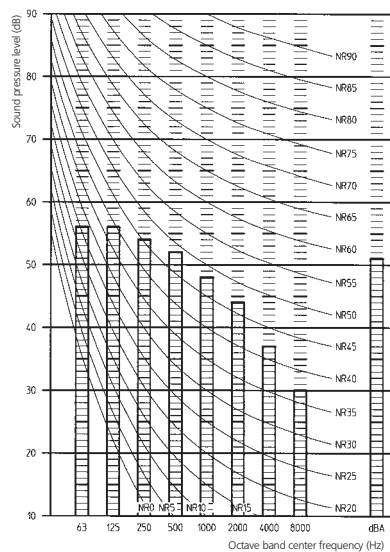
Notes:

- 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.



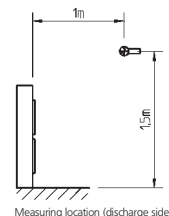
3TW58257-1

EWYQ013ACW1(heating)



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.

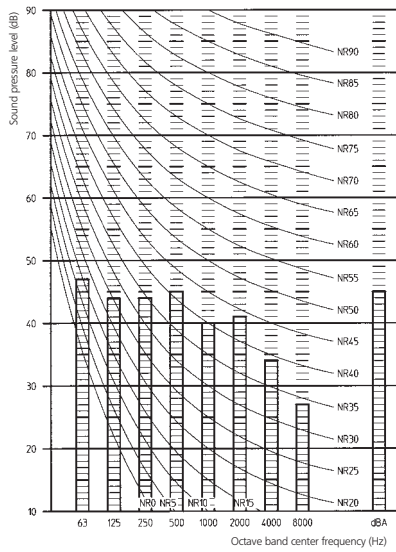


3TW58257-2

8 Sound data

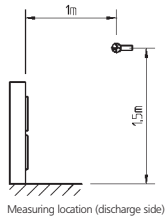
8 - 2 Sound Pressure Spectrum Quiet Mode

**EW(A/Y)Q009ACW1(cooling)
night quiet mode**



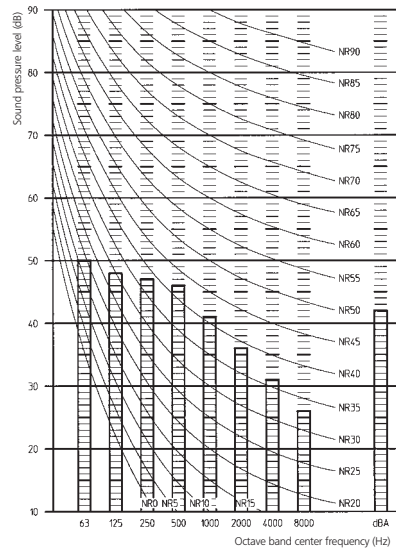
Notes:

- 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.



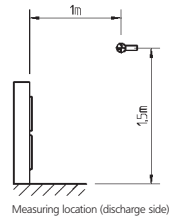
3TW58257-3

**EWYQ009ACW1(heating)
night quiet mode**



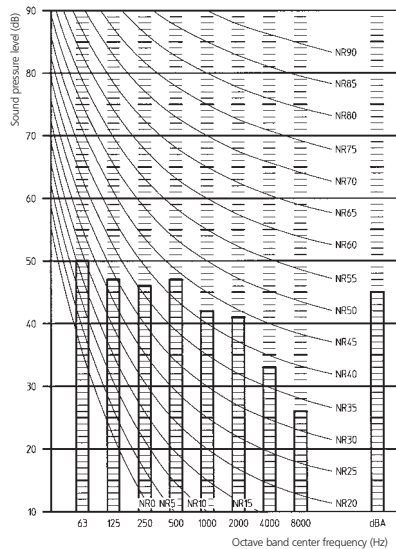
Notes:

- 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.



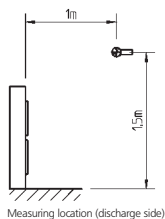
3TW58257-4A

**EW(A/Y)Q011ACW1(cooling)
night quiet mode**



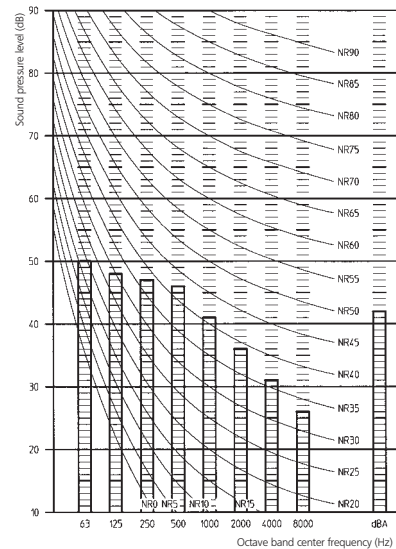
Notes:

- 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.



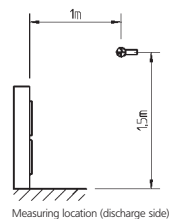
3TW58257-3

**EWYQ011ACW1(heating)
night 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.

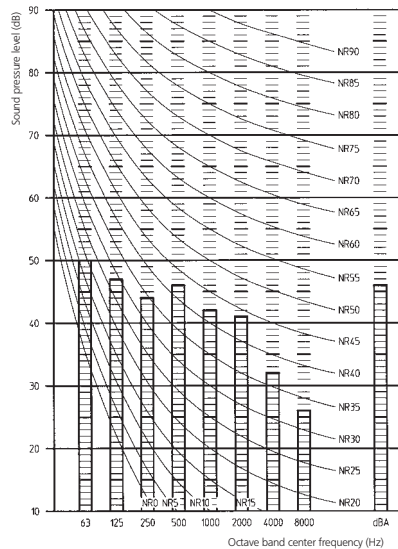


3TW58257-4A

8 Sound data

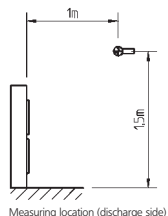
8 - 2 Sound Pressure Spectrum Quiet Mode

**EW(A/Y)Q013ACW1(cooling)
night quiet mode**



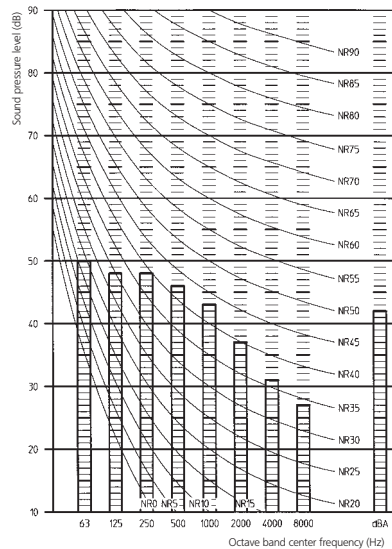
Notes:

- 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.



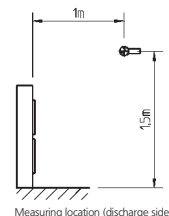
3TW58257-3

**EWYQ013ACW1(heating)
night 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.

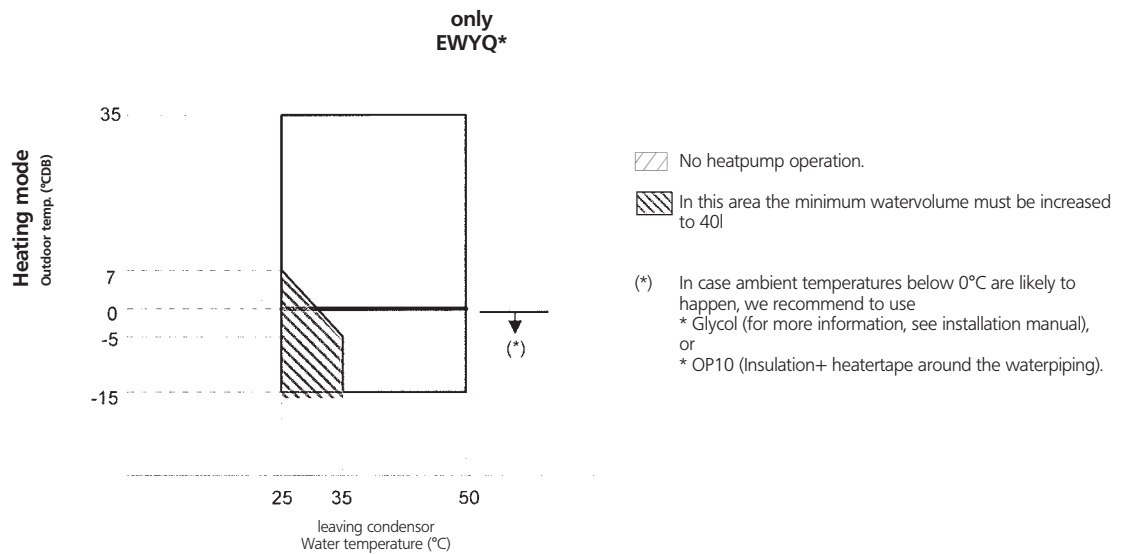
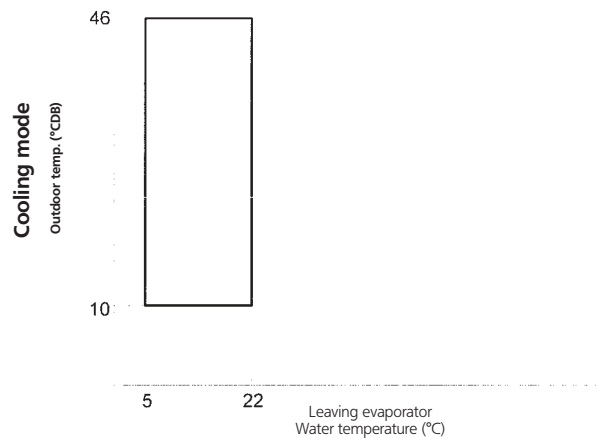


3TW58257-4A

9 Operation range

9 - 1 Operation Range

EWAQ009-013ACW1
EWYQ009-013ACW1

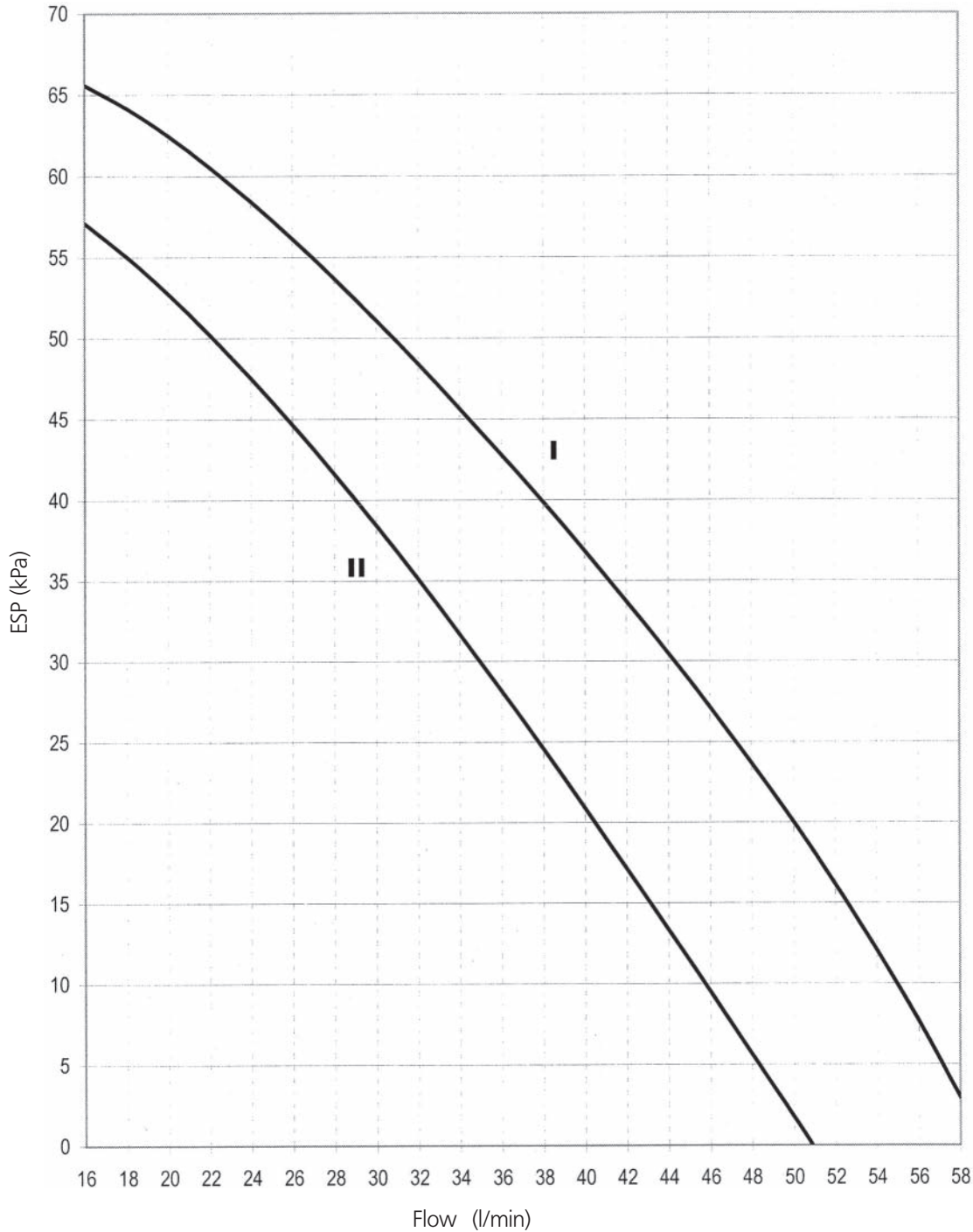


4TW58313-1A

10 Hydraulic performance

10 - 1 Static Pressure Drop Unit

EWAQ009-013AC
EWYQ009-013AC



I High speed

II medium 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.

4TW58259-2A



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