



Chillers

Technical Data

Air Cooled heat pump inverter Chiller



EEDEN11-430

EWYQ-BAW*



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EEDEN11-430

EWYQ-BAW*

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EWYQ-BAW*

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1 Features

- Inverter chiller
- High efficiency, reduced sound levels
- Wide operating range
- Low starting current
- No buffer tank needed



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2 Specifications

2-1 Technical Specifications				EWYQ016BAW*	EWYQ021BAW*	EWYQ025BAW*	EWYQ032BAW*	EWYQ040BAW*	EWYQ050BAW*	EWYQ064BAW*	
Cooling capacity	Nom.		kW	16.8 (1)	21.0 (1)	25.2 (1)	31.5 (1)	42.0 (1)	50.4 (1)	63.0 (1)	
	Max.		kW	20.0 (1)	25.0 (1)	30.0 (1)	37.5 (1)	50.0 (1)	60.0 (1)	75.0 (1)	
Heating capacity	Nom.		kW	16.8 (2)	21.0 (2)	25.2 (2)	31.5 (2)	42.0 (2)	50.4 (2)	63.0 (2)	
	Max.		kW	20.0 (2)	25.0 (2)	30.0 (2)	37.5 (2)	50.0 (2)	60.0 (2)	75.0 (2)	
Capacity control	Method		Inverter controlled								
	Minimum capacity		%	25							
Power input	Cooling	Nom.	kW	5.57 (2)	7.25 (2)	9.25 (2)	12.9 (2)	14.9 (2)	19.0 (2)	26.7 (2)	
	Heating	Nom.	kW	5.51 (3)	7.09 (3)	8.87 (3)	10.5 (3)	14.2 (3)	17.8 (3)	21.0 (3)	
EER				3.01 (1)	2.90 (1)	2.72 (1)	2.44 (1)	2.82 (1)	2.65 (1)	2.36 (1)	
ESEER				4.75	4.65	4.45	4.00	4.60	4.40	3.95	
COP				3.05 (2)	2.96 (2)	2.84 (2)	3.00 (2)	2.96 (2)	2.83 (2)	3.00 (2)	
Casing	Colour		Daikin White								
	Material		Polyester coated galvanised steel plate								
Dimensions	Unit	Height	mm	1,684							
		Width	mm	1,371		1,684	2,358		2,980		
		Depth	mm	774			780				
	Packed unit	Height	mm	1,860							
		Width	mm	1,394		1,707	2,377		2,997		
		Depth	mm	834			838				
Weight	Unit		kg	264	317	397	571	730			
	Operation weight		kg	267	320	401	577				
	Packed unit		kg	291	344	428	616				
Packing	Material			Carton / Wood / Plastic	Carton / Wood / Plastic	Carton / Wood / Plastic	Carton / Wood / Plastic	Carton / Wood / Plastic	Carton / Wood / Plastic	Carton / Wood / Plastic	
	Weight		kg	27			-	45		53	
Water heat exchanger	Type		Braze plate								
	Quantity		1				2				
	Filter	Diameter perforations	mm	1							
	Water volume		l	1		2	3		5		
	Water flow rate	Min.	l/min	23		36	46		72		
	Nominal water flow	Cooling	l/min	48 (1)	60 (1)	72 (1)	90 (1)	120 (1)	144 (1)	181 (1)	
		Heating	l/min	48	60	72	90	120	144	181	
	Nominal water pressure drop	Cooling	Total	kPa	-		42	-		42	-
Air heat exchanger	Length		mm	1,778			2,088	1,778		2,088	
	Type		Hi-XSS (8)								
	Rows	Quantity		2							
	Fin pitch		mm	2							
	Passes	Quantity		18			21	18		21	
	Empty tubeplate hole		0								
Fan	Quantity		1			2		4			
	Type		Axial								
	Air flow rate	Cooling	Nom.	m ³ /min	171	185	233	370		466.0	
		Heating	Nom.	m ³ /min	171	185	233	370		466	
	Discharge direction		Vertical								
External static pressure	Max.	Pa	78								
Fan motor	Model		Brushless DC motor								
	Output		W	750		350	750		350		
	Quantity		1			2		4			
	Drive		Direct drive								
Fan motor 2	Output		W	-		350	750		350		
Sound power level	Cooling	Nom.	dBA	78		80	81	83			
Compressor	Type		Hermetically sealed scroll compressor								
	Quantity		1			2	3	4		6	

2 Specifications

2

2-1 Technical Specifications					EWYQ016BAW*	EWYQ021BAW*	EWYQ025BAW*	EWYQ032BAW*	EWYQ040BAW*	EWYQ050BAW*	EWYQ064BAW*
Operation range	Water side	Cooling	Min.	°CDB	5						
			Max.	°CDB	20						
	Heating	Min.	°CDB	25							
		Max.	°CDB	50							
Refrigerant	Type				R-410A						
	Charge			kg	7.6	9.6	15.2	19.2			
	Control				Electronic expansion valve						
	Circuits	Quantity			1						
Water circuit	Piping			inch	1-1/4"						
	Drain valve / fill valve				Yes						
	Shut off valve				Yes						
	Air purge valve				Yes						
	Total water volume			l	3.2 (4)	4.2 (4)	5.8 (4)	7.7 (4)			
Refrigerant oil	Type				Synthetic (ether) oil						
Defrost method					Reversed cycle						
Defrost control					Sensor for outdoor heat exchanger temperature						
Safety devices	Item	01			High pressure switch						
		02			Overcurrent relay						
		03			Inverter overload protector						
		04			Fuse						

2-2 Electrical Specifications					EWYQ016BAW*	EWYQ021BAW*	EWYQ025BAW*	EWYQ032BAW*	EWYQ040BAW*	EWYQ050BAW*	EWYQ064BAW*
Power supply	Name				W1						
	Phase				3N~						
	Frequency			Hz	50						
	Voltage				400						
	Voltage range	Min.			%						
		Max.			%						
Unit	Maximum starting current			A	-	77.7	78.7	88.7	99.8	101.9	120.7
	Current	Zmax		Text	-						0.22
	Maximum running current			A	22.2	25.3	26.4	35.2	47.4	49.6	67.2
	Recommended fuses					25	32	40	50	63	80

Notes

- (1) Condition: Ta 35°C - LWE 7°C (DT = 5°C)
- (2) Condition: Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C)
- (3) Pump is not included
- (4) Including piping + PHE; excluding expansion vessel

3 Options

3 - 1 Options

EWA/YQ-BA														
Option availability														
Reference	Description	EW(A/Y)Q*BA*							Availability	DIGIT				
		016	021	025	032	040	050	064		11	12	13	14	
	Standard hydraulic package Filter, shut-off valves, drain/fill valve, automatic air purge Flowswitch	○	○	○	○	○	○	○	○	Factory mounted	N			
OPSP	Additional hydraulic components: pump, expansion vessel	○	○	○	○	○	○	○	○	Factory mounted	P			
OPHP	= OPSP but pump with higher static pressure	○	○	○	○	○	○	○	○	Factory mounted	H			
OP10	Heatertape for freeze prevention during winter standstil	○	○	○	○	○	○	○	○	Factory mounted			H	
OPZL	Low leaving water operation down to -10°C	○	○	○	○	○	○	○	○	Factory mounted		B		
EKRP1AHT*	Demand PCB with additional inputs for: Remote ON/OFF Remote cooling/heating Remote thermo ON/OFF	○	○	○	○	○	○	○	○	Kit				
EKRUAHT*	Additional remote usser interface	○	○	○	○	○	○	○	○	Kit				
BHGP26A1	Digital pressure gauges	○	○	○	○	○	○	○	○	Kit				
DTA104A62	External control adapter for: Demand control Low noise control	○	○	○	○	○	○	○	○	Kit				

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3 Options

3 - 1 Options

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EWA/YQ-BA

TECHNICAL SPECIFICATIONS OF OPTICAL EQUIPMENT				016	021	025	032	040	050	064	
OPSP	Pump	Type		Horizontal multistage end-suction							
		Qty		1							
		Manufacturer		Grundfos							
		Model		CM5-3			CM5-4	CM10-2			
		Efficiency	%	-			77.4	79.6			
		Efficiency level		IE2							
		Rated speed	rpm	2770-2820			2840-2870		2820-2860		
		Rated output	kW	0.65			0.85		1.2		
	Water circuit	Safety valve	bar	3.0							
		Manometer		Yes							
		Expansion vessel	Volume	l	10			12			
			Pre-pressure	bar	1.0						
	Weight of unit	Nom. External Static Pressure	Cooling (1)	kPa	202	169	128	142	232	198	169
		Machine net weight		kg	276	328	328	408	596	596	754
Packed machine weight			kg	303	355	355	440	641	641	807	
Operating weight			kg	279	331	331	412	602	602	762	
OPHP	Pump	Type		Horizontal multistage end-suction							
		Qty		1							
		Manufacturer		Grundfos							
		Model		CM5-5			CM10-3				
		Efficiency	%	79.6			83.2				
		Efficiency level		IE2							
		Rated speed	rpm	2820-2860			2890-2920				
		Rated output	kW	1.2			2.2				
	Water circuit	Safety valve	bar	3.0							
		Manometer		Yes							
		Expansion vessel	Volume	l	10			12			
			Pre-pressure	bar	1.0						
	Weight of unit	Nom. External Static Pressure	Cooling (1)	kPa	382	343	292	221	384	338	284
		Machine net weight		kg	279	332	332	411	604	604	763
Packed machine weight			kg	306	359	359	443	648	648	815	
Operating weight			kg	282	335	335	415	610	610	771	
OP10	Operation range	Ambient	Min	°CDB refer to "operation range"							
OPZL	Operation range cooling	Ambient	Min	°CDB refer to "operation range"							
		Waterside	Min	°C refer to "operation range"							

ELECTRICAL SPECIFICATIONS OF OPTICAL EQUIPMENT

				016	021	025	032	040	050	064
OPSP										
Current	Maximum starting current (cooling/heating)	A	(7)	79.5	80.5	90.5	102.8	104.9	123.7	
	Maximum running current	A	24.0	27.1	28.2	37.0	50.4	52.6	70.2	
	Recommended fuses	A	25	32	32	40	63	63	80	
OPHP										
Current	Maximum starting current (cooling/heating)	A	(7)	79.9	81.7	91.7	103.7	106.3	125.1	
	Maximum running current	A	24.4	27.5	29.4	38.2	51.3	54.0	71.6	
	Recommended fuses	A	32	32	32	40	63	63	80	
Cable requirements	Water piping heater output	Quantity of wires		2						
		Maximum running current		1A						
EKRP1AHT*										
Cable requirements	Thermostat ON/OFF signal	Quantity of wires		2						
		Maximum running current		Minimum cable section 0.75 mm ²						
	Thermostat cooling/heating signal	Quantity of wires		2						
		Maximum running current		Minimum cable section 0.75 mm ²						
	Operation ON signal	Quantity of wires		2						
		Maximum running current		Minimum cable section 0.75 mm ²						
	Operation OFF signal	Quantity of wires		2						
		Maximum running current		Minimum cable section 0.75 mm ²						
Cable requirements	Secondary remote control	Quantity of wires		2						
		Maximum running current		Minimum cable section 0.75 mm ²						

NOTES

1. Additional or different specs compared to standard

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWY/YQ-BA

Cooling OPZL - Nominal performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	016	12,5	6,18	12,5	6,72	12,3	7,36	11,9	7,91	11,3	8,48
	021	18,0	7,98	17,8	8,68	17,2	9,42	16,5	10,1	15,5	11,1
	025	18,1	8,24	18,0	8,98	17,5	9,75	16,8	10,4	15,8	11,4
	032	25,6	12,2	24,8	13,6	22,9	15,0	20,9	16,4	16,8	14,3
	040	35,2	15,9	34,8	17,3	33,7	18,8	32,2	20,1	30,3	22,2
	050	37,6	16,6	37,3	18,1	36,4	19,7	35,1	21,1	30,6	22,8
	064	49,6	24,4	47,8	26,9	44,0	29,8	40,6	32,6	32,3	28,0
-5	016	15,5	6,51	15,5	6,99	15,1	7,65	14,5	8,21	13,7	8,78
	021	21,0	8,31	21,0	9,02	20,7	9,8	19,8	10,5	18,7	11,5
	025	21,6	8,61	21,5	9,32	21,0	10,1	20,1	10,8	19,0	11,8
	032	29,7	12,7	29,5	14,1	27,8	15,6	25,5	17,1	23,0	18,0
	040	42,0	16,6	41,5	18,0	40,3	19,5	38,6	20,9	36,5	23,0
	050	42,3	17,2	42,0	18,6	41,0	20,2	39,3	21,5	37,1	23,6
	064	57,8	25,2	57,0	28,0	53,6	31,0	48,9	34,0	41,0	31,1

NOTES

- Cooling capacity (kW)
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range $\Delta t = 3 - 8^\circ\text{C}$
- Power input (kW)
Power input is total input according to Eurovent rating standard 6/C/003-2006: Compressor + fans + control circuit
- Usage of glycol and other anti-freeze
Correction factors for CC and PI are applicable according type and concentration of the used anti-freeze

SYMBOLS

- CC : Cooling capacity (kW)
 PI : Power input (kW)
 LWE : Leaving Water Evaporator temperature ($^\circ\text{C}$)
 Tamb : Ambient temperature ($^\circ\text{C}$)

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4 Capacity tables

4 - 1 Cooling Capacity Tables

4

EWA/YQ-BA

Cooling - Nominal performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
5	016	16,8	4,08	16,8	4,64	16,8	5,31	16,8	6,05	16,8	6,82
	021	21,0	5,53	21,0	6,06	21,0	6,79	21,0	7,66	21,0	8,7
	025	25,2	7,22	25,2	8,05	25,2	8,9	25,2	10,0	25,2	11,7
	032	31,5	9,6	31,5	10,9	31,5	12,2	31,4	14,2	30,5	16,3
	040	42,0	11,3	42,0	12,5	42,0	14,1	42,0	16,0	42,0	18,1
	050	50,4	15,1	50,4	16,7	50,4	18,6	50,4	20,9	50,4	24,6
	064	63,0	19,8	63,0	22,3	63,0	25,4	63,0	29,7	59,3	32,9
7	016	16,8	3,81	16,8	4,31	16,8	4,92	16,8	5,58	16,8	6,33
	021	21,0	5,26	21,0	5,83	21,0	6,50	21,0	7,25	21,0	8,1
	025	25,2	6,77	25,2	7,6	25,2	8,4	25,2	9,3	25,2	10,5
	032	31,5	9,1	31,5	10,3	31,5	11,5	31,5	12,9	31,2	15,5
	040	42,0	10,8	42,0	11,8	42,0	13,2	42,0	14,9	42,0	16,7
	050	50,4	14,0	50,4	15,7	50,4	17,3	50,4	19,0	50,4	22,2
	064	63,0	18,7	63,0	21,1	63,0	23,6	63,0	26,7	63,0	31,5
10	016	16,8	3,36	16,8	3,80	16,8	4,31	16,8	5,01	16,8	5,69
	021	21,0	4,91	21,0	5,44	21,0	6,00	21,0	6,73	21,0	7,54
	025	25,2	6,03	25,2	6,99	25,2	7,6	25,2	8,6	25,2	9,6
	032	31,5	8,2	31,5	9,4	31,5	10,5	31,5	11,9	31,5	14,1
	040	42,0	9,9	42,0	11,0	42,0	12,2	42,0	13,6	42,0	15,2
	050	50,4	12,4	50,4	14,2	50,4	15,7	50,4	17,4	50,4	19,7
	064	63,0	17,0	63,0	19,5	63,0	21,7	63,0	25,0	63,0	29,4
15	016	16,8	2,59	16,8	3,06	16,8	3,50	16,8	4,04	16,8	4,63
	021	21,0	4,03	21,0	4,65	21,0	5,17	21,0	5,81	21,0	6,53
	025	25,2	5,26	25,2	5,90	25,2	6,72	25,2	7,51	25,2	8,2
	032	31,5	6,80	31,5	7,8	31,5	8,9	31,5	10,0	31,5	11,4
	040	42,0	8,2	42,0	9,6	42,0	10,7	42,0	11,9	42,0	13,4
	050	50,4	10,8	50,4	12,1	50,4	13,7	50,4	15,1	50,4	16,7
	064	63,0	14,1	63,0	16,1	63,0	18,4	63,0	20,6	63,0	24,1
18	016	16,8	2,31	16,8	2,72	16,8	3,13	16,8	3,63	16,8	4,20
	021	21,0	3,46	21,0	4,09	21,0	4,66	21,0	5,22	21,0	5,88
	025	25,2	4,96	25,2	5,51	25,2	6,28	25,2	7,00	25,2	7,74
	032	31,5	6,27	31,5	7,15	31,5	8,1	31,5	9,2	31,5	10,4
	040	42,0	7,1	42,0	8,4	42,0	9,5	42,0	10,6	42,0	12,1
	050	50,4	9,9	50,4	11,2	50,4	12,8	50,4	14,2	50,4	15,6
	064	63,0	12,8	63,0	14,6	63,0	16,9	63,0	18,9	63,0	21,3

NOTES

- Cooling capacity (CAP)
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range $\Delta t = 3 - 8^\circ\text{C}$
- Power input (kW)
Power input is total input according to Eurovent rating standard 6/C/003-2006: Compressor + fans + control circuit

SYMBOLS

- CC : Cooling capacity (kW)
- PI : Power input (kW)
- LWE : Leaving Water Evaporator temperature ($^\circ\text{C}$)
- Tamb : Ambient temperature ($^\circ\text{C}$)

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWY/YQ-BA

Cooling OPZL - Maximum performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	016	12,4	6,16	12,4	6,70	12,2	7,35	11,8	7,90	11,2	8,46
	021	17,6	8,21	17,5	8,66	17,0	9,40	16,3	10,1	15,3	11,1
	025	18,0	8,53	17,9	8,97	17,5	9,74	16,7	10,4	15,7	11,5
	032	25,3	12,2	24,5	13,5	22,6	14,9	20,7	16,3	16,7	14,3
	040	34,8	15,9	34,3	17,3	33,3	18,8	31,8	20,1	29,9	22,1
	050	35,2	16,3	34,9	17,9	33,9	19,4	32,5	20,8	30,6	22,8
-5	064	49,1	24,3	47,2	26,9	43,5	29,7	40,1	32,8	31,9	28,1
	016	15,3	6,49	15,2	6,97	14,9	7,63	14,3	8,19	13,5	8,76
	021	21,0	8,71	20,9	8,99	20,4	9,8	19,6	10,4	18,5	11,5
	025	21,4	8,58	21,3	9,30	20,9	10,1	19,9	10,8	18,8	11,8
	032	29,4	12,6	29,1	14,0	27,5	15,5	25,1	17,1	22,6	17,9
	040	41,3	16,4	41,0	18,0	39,8	19,5	38,1	20,8	36,0	22,9
050	41,8	16,9	41,6	18,6	40,5	20,1	38,9	21,5	36,7	23,6	
064	57,2	25,2	56,4	28,0	52,9	30,9	48,9	33,8	39,8	30,9	

NOTES

- Cooling capacity (kW)
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range $\Delta t = 3 - 8^\circ\text{C}$
- Power input (kW)
Power input is total input according to Eurovent rating standard 6/C/003-2006: Compressor + fans + control circuit
- Usage of glycol and other anti-freeze
Correction factors for CC and PI are applicable according type and concentration of the used anti-freeze

SYMBOLS

- CC : Cooling capacity (kW)
 PI : Power input (kW)
 LWE : Leaving Water Evaporator temperature ($^\circ\text{C}$)
 Tamb : Ambient temperature ($^\circ\text{C}$)

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4 Capacity tables

4 - 1 Cooling Capacity Tables

4

EWA/YQ-BA

Cooling - Maximum performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
5	016	20,0	5,82	20,0	6,47	20,0	7,48	20,0	8,69	19,4	9,38
	021	25,0	7,48	25,0	8,22	25,0	9,08	25,0	9,99	25,0	11,8
	025	28,2	9,03	28,0	9,94	28,0	10,8	27,3	11,5	26,1	12,7
	032	37,5	12,8	37,5	14,8	37,0	16,6	35,8	18,2	30,3	16,4
	040	50,0	15,6	50,0	16,8	50,0	18,7	50,0	21,0	50,0	24,9
	050	54,1	17,9	55,0	19,9	54,5	21,6	53,0	23,0	50,3	25,4
	064	73,9	26,8	72,8	29,8	71,7	33,1	69,0	36,2	58,9	33,2
7	016	20,0	5,11	20,0	5,64	20,0	6,42	20,0	7,45	20,0	8,76
	021	25,0	6,92	25,0	7,59	25,0	8,39	25,0	9,25	25,0	10,7
	025	30,0	8,94	30,0	10,3	30,0	11,3	30,0	12,7	28,2	13,6
	032	37,5	11,7	37,5	13,6	37,5	16,0	37,5	18,2	31,1	15,7
	040	50,0	14,3	50,0	15,6	50,0	17,2	50,0	19,3	50,0	22,4
	050	60,0	18,7	60,0	21,3	60,0	23,5	60,0	27,4	54,7	27,2
	064	75,0	25,5	75,0	29,1	75,0	33,5	75,0	39,4	60,0	31,3
10	016	20,0	4,56	20,0	4,97	20,0	5,62	20,0	6,37	20,0	7,18
	021	25,0	6,32	25,0	6,99	25,0	7,72	25,0	8,52	25,0	9,53
	025	30,0	8,14	30,0	9,45	30,0	10,6	30,0	11,5	29,0	12,3
	032	37,5	10,6	37,5	12,2	37,5	14,5	37,5	16,3	32,0	14,5
	040	50,0	12,7	50,0	14,1	50,0	15,6	50,0	17,4	50,0	19,7
	050	60,0	16,6	60,0	19,2	60,0	21,5	60,0	23,5	57,6	25,7
	064	75,0	23,1	75,0	26,1	75,0	30,7	75,0	35,2	62,5	29,4
15	016	20,0	3,66	20,0	4,23	20,0	4,78	20,0	5,38	20,0	6,09
	021	25,0	5,38	25,0	6,03	25,0	6,73	25,0	7,45	25,0	8,20
	025	30,0	6,62	30,0	7,66	30,0	8,80	30,0	9,73	30,0	10,7
	032	37,5	9,17	37,5	10,5	37,5	12,0	37,5	13,8	33,1	12,6
	040	50,0	10,8	50,0	12,1	50,0	13,5	50,0	15,0	50,0	16,6
	050	60,0	13,8	60,0	15,8	60,0	18,1	60,0	19,8	60,0	22,0
	064	75,0	19,7	75,0	21,9	75,0	25,1	75,0	28,9	65,1	25,6
18	016	20,0	3,33	20,0	3,76	20,0	4,29	20,0	4,89	20,0	5,53
	021	25,0	4,91	25,0	5,53	25,0	6,29	25,0	7,01	25,0	7,73
	025	30,0	6,00	30,0	6,93	30,0	8,02	30,0	8,94	30,0	9,79
	032	37,5	8,25	37,5	9,48	37,5	10,8	37,5	12,5	34,1	11,7
	040	50,0	10,0	50,0	11,3	50,0	12,7	50,0	14,0	50,0	15,6
	050	60,0	12,5	60,0	14,3	60,0	16,6	60,0	18,6	60,0	20,2
	064	75,0	17,8	75,0	19,8	75,0	22,8	75,0	26,5	67,7	24,2

NOTES

- Cooling capacity (CAP)
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3 - 8°C
- Power input (kW)
Power input is total input according to Eurovent rating standard 6/C/003-2006: Compressor + fans + control circuit

SYMBOLS

- CC : Cooling capacity (kW)
- PI : Power input (kW)
- LWE : Leaving Water Evaporator temperature (°C)
- Tamb : Ambient temperature (°C)

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4 Capacity tables

4 - 2 Heating Capacity Tables

EWA/YQ-BA															
Heating - Nominal performance table															
Tamb (°C)		-15		-10		-7		-2		2		7		15	
LWE	Size	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
30	016	14.4	6.54	16.7	6.76	16.8	6.18	16.8	5.05	16.8	4.48	16.8	3.75	16.8	2.88
	021	17.9	7.48	20.5	7.66	21.0	7.23	21.0	6.30	21.0	5.64	21.0	5.15	21.0	4.01
	025	20.0	8.62	22.9	8.84	24.6	8.97	25.2	8.04	25.2	7.12	25.2	6.17	25.2	5.45
	032	30.2	12.3	31.5	11.4	31.5	10.4	31.5	9.2	31.5	8.4	31.5	7.20	31.5	5.85
	040	35.9	15.0	41.0	15.3	42.0	14.5	42.0	12.6	42.0	11.3	42.0	10.3	42.0	8.0
	050	40.1	17.2	45.7	17.7	49.2	17.9	50.4	16.1	50.4	14.2	50.4	12.3	50.4	10.9
064	60.3	24.6	63.0	22.8	63.0	20.9	63.0	18.4	63.0	16.7	63.0	14.4	63.0	11.7	
35	016	14.9	7.23	16.8	7.46	16.80	6.77	16.8	5.61	16.8	5.03	16.8	4.23	16.8	3.31
	021	17.9	8.23	20.3	8.42	21.0	8.11	21.0	7.03	21.0	6.33	21.0	5.78	21.0	4.53
	025	20.2	9.50	22.8	9.73	24.5	9.86	25.2	8.99	25.2	8.0	25.2	6.96	25.2	5.87
	032	30.4	13.6	31.5	12.7	31.5	11.6	31.5	10.3	31.5	9.4	31.5	8.1	31.5	6.63
	040	35.8	16.5	40.7	16.8	42.0	16.2	42.0	14.1	42.0	12.7	42.0	11.6	42.0	9.1
	050	40.4	19.0	45.6	19.5	48.9	19.7	50.4	18.0	50.4	15.9	50.4	13.9	50.4	11.7
064	60.8	27.2	63.0	25.5	63.0	23.2	63.0	20.6	63.0	18.8	63.0	16.2	63.0	13.3	
40	016	15.1	7.95	16.8	8.19	16.8	7.47	16.8	6.29	16.8	5.63	16.8	4.85	16.8	3.79
	021	17.8	9.1	20.1	9.3	21.0	9.2	21.0	8.0	21.0	7.20	21.0	6.32	21.0	5.32
	025	20.1	10.5	22.6	10.7	24.2	10.9	25.2	10.1	25.2	9.0	25.2	7.9	25.2	6.54
	032	30.5	15.1	31.5	14.1	31.5	12.8	31.5	11.6	31.5	10.6	31.5	9.2	31.5	7.54
	040	35.6	18.2	40.2	18.6	42.0	18.3	42.0	16.1	42.0	14.4	42.0	12.6	42.0	10.6
	050	40.3	21.0	45.2	21.5	48.3	21.7	50.4	20.3	50.4	18.1	50.4	15.8	50.4	13.1
064	61.0	30.3	63.0	28.2	63.0	25.6	63.0	23.2	63.0	21.1	63.0	18.3	63.0	15.1	
45	016	15.0	8.72	16.7	8.97	16.8	8.45	16.8	7.14	16.8	6.37	16.8	5.51	16.8	4.37
	021	17.7	10.1	19.8	10.3	21.0	10.3	21.0	9.0	21.0	8.2	21.0	7.10	21.0	6.06
	025	19.9	11.6	22.2	11.9	23.7	12.0	25.2	11.5	25.2	10.3	25.2	8.9	25.2	7.52
	032	30.4	16.8	31.5	15.8	31.5	14.6	31.5	13.2	31.5	12.3	31.5	10.5	31.5	8.6
	040	35.3	20.3	39.7	20.7	42.0	20.6	42.0	18.1	42.0	16.4	42.0	14.2	42.0	12.1
	050	39.8	23.2	44.4	23.7	47.4	24.0	50.4	23.0	50.4	20.5	50.4	17.8	50.4	15.0
064	60.8	33.7	63.0	31.6	63.0	29.2	63.0	26.4	63.0	24.5	63.0	21.0	63.0	17.2	
50	016	14.8	9.54	16.3	9.80	16.5	9.22	16.7	8.08	16.8	7.37	16.8	6.37	16.8	5.06
	021	17.4	11.3	17.8	10.3	17.9	10.3	18.1	8.71	18.3	8.06	18.6	7.21	18.9	5.96
	025	18.2	11.9	18.8	10.9	19.0	10.3	19.2	9.30	19.4	8.55	19.2	7.61	20.0	6.52
	032	27.0	16.4	27.2	15.1	27.4	14.3	27.8	12.7	27.9	11.5	28.2	10.2	28.3	8.61
	040	34.9	22.6	35.6	20.5	35.8	20.5	36.1	17.4	36.6	16.1	37.1	14.4	37.9	11.9
	050	36.4	23.8	37.5	21.7	37.9	20.6	38.4	18.6	38.7	17.1	38.5	15.2	40.0	13.0
064	54.1	32.7	54.4	30.1	54.8	28.5	55.5	25.4	55.8	23.0	56.3	20.5	56.7	17.2	

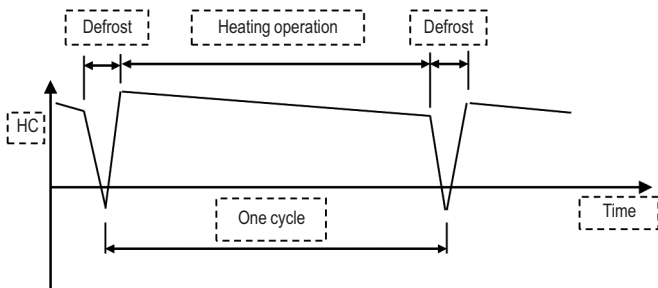
Note 1 :
 HC tabulated does not include capacity drop during frosting period and defrost.
 The integrated Heating Capacity takes into consideration the capacity drop during frosting period and defrosting operation.

(HC Integrated) = (HC) * (Integrated correction factor during frosting period)

- Integrated heating capacity means the heating capacity during one cycle (between defrosting period and defrosting period), which is integrated and converted to heating capacity per hour.
- Integrated correction factor :

Correction factor	Size	Tamb [°C] RH 85%					
		-15	-10	-7	-2	2	7
	016	0.90	0.86	0.84	0.82	0.86	1.00
	021	0.87	0.83	0.80	0.83	0.85	1.00
	025	0.87	0.83	0.81	0.81	0.82	0.87
	032	0.88	0.84	0.82	0.85	0.86	1.00
	040	0.87	0.83	0.80	0.83	0.85	1.00
	050	0.87	0.83	0.81	0.81	0.82	0.87
	064	0.88	0.84	0.82	0.85	0.86	1.00

- Integrated heating capacity graph :



Note 2 :
 In case the surface of the heat exchanger is covered with snow, heating capacity drops temporarily although it differs with outdoor temperature (°CDB), relative humidity (RH) and frosting volume.

SYMBOLS

- HC : Heating capacity (kW)
- PI : Power input (kW)
- LWC : Leaving Water Condenser temperature (°C)
- Tamb : Ambient temperature dry bulb(°C)

NOTES

1. Heating capacity (CAP)
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for heated water range Dt = 3 - 8°C
2. Power input (kW)
Power input is total input according to Eurovent rating standard 6/C/003-2006: Compressor + fans + control circuit

4 Capacity tables

4 - 2 Heating Capacity Tables

EWY/Q-BA

Heating - Maximum performance table

Tamb (°C)		-15		-10		-7		-2		2		7		15	
LWE	Size	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
30	016	14,4	6,50	16,6	6,71	18,0	6,83	20,0	6,79	20,0	5,76	20,0	4,76	20,0	3,63
	021	17,9	7,43	20,5	7,60	22,1	7,70	25,0	7,91	25,0	6,99	25,0	6,09	25,0	5,26
	025	20,0	8,56	22,8	8,78	24,6	8,90	27,6	9,09	30,0	9,22	30,0	7,88	30,0	6,38
	032	30,0	12,2	34,1	12,6	36,8	12,8	37,5	11,4	37,5	10,2	37,5	9,15	37,5	7,34
	040	35,8	14,9	41,0	15,2	44,2	15,4	50,0	15,8	50,0	14,0	50,0	12,2	50,0	10,5
	050	40,0	17,1	45,6	17,6	49,1	17,8	55,1	18,2	60,0	18,4	60,0	15,8	60,0	12,8
	064	60,1	24,5	68,3	25,1	73,5	25,5	75,0	22,7	75,0	20,4	75,0	18,3	75,0	14,7
35	016	14,8	7,17	16,8	7,40	18,11	7,52	20,0	7,55	20,0	6,49	20,0	5,42	20,0	4,77
	021	17,9	8,17	20,3	8,35	21,9	8,46	24,6	8,62	25,0	7,90	25,0	6,84	25,0	5,75
	025	20,1	9,43	22,8	9,66	24,4	9,78	27,3	9,98	29,6	10,1	30,0	8,93	30,0	7,24
	032	30,3	13,5	34,1	13,8	36,6	14,1	37,5	12,7	37,5	11,4	37,5	10,2	37,5	8,26
	040	35,7	16,3	40,6	16,7	43,7	16,9	49,2	17,2	50,0	15,8	50,0	13,7	50,0	11,5
	050	40,2	18,9	45,5	19,3	48,8	19,6	54,5	20,0	59,1	20,2	60,0	17,9	60,0	14,5
	064	60,6	27,0	68,3	27,7	73,3	28,1	75,0	25,4	75,0	22,8	75,0	20,4	75,0	16,5
40	016	15,0	7,90	16,8	8,13	18,0	8,26	20,0	8,46	20,0	7,37	20,0	6,13	20,0	4,86
	021	17,8	9,1	20,1	9,2	21,6	9,3	24,2	9,5	25,0	8,96	25,0	7,84	25,0	6,45
	025	20,1	10,4	22,5	10,7	24,1	10,8	25,3	10,1	29,0	11,1	30,0	10,2	30,0	8,27
	032	30,4	15,0	34,0	15,3	36,4	15,6	37,5	14,3	37,5	12,9	37,5	11,5	37,5	9,42
	040	35,5	18,1	40,1	18,5	43,1	18,7	48,3	19,0	50,0	17,9	50,0	15,7	50,0	12,9
	050	40,2	20,9	45,0	21,3	48,2	21,6	50,6	20,2	58,0	22,2	60,0	20,3	60,0	16,5
	064	60,8	30,0	68,0	30,7	72,7	31,1	75,0	28,7	75,0	25,8	75,0	23,0	75,0	18,8
45	016	15,0	8,67	16,6	8,91	17,7	9,04	19,6	9,24	20,0	8,43	20,0	7,01	20,0	5,62
	021	17,6	10,1	19,8	10,3	21,2	10,4	23,7	10,5	25,0	10,2	25,0	8,97	25,0	7,40
	025	19,9	11,5	22,2	11,8	23,7	11,9	26,2	12,1	28,3	12,2	30,0	11,7	30,0	9,47
	032	30,3	16,7	33,7	17,0	35,9	17,2	37,5	16,2	37,5	14,6	37,5	13,1	37,5	10,9
	040	35,2	20,1	39,6	20,5	42,4	20,7	47,4	21,1	50,0	20,4	50,0	17,9	50,0	14,8
	050	39,8	23,1	44,3	23,5	47,3	23,8	52,5	24,2	56,7	24,5	60,0	23,4	60,0	18,9
	064	60,6	33,4	67,4	34,1	71,9	34,5	75,0	32,5	75,0	29,3	75,0	26,2	75,0	21,7
50	016	14,8	9,48	16,3	9,73	17,3	9,87	17,6	8,84	18,0	8,04	18,2	7,04	18,6	5,77
	021	17,4	11,2	18,7	10,8	19,0	10,2	19,2	9,25	19,3	8,49	19,1	7,48	19,9	6,40
	025	19,2	12,6	19,6	11,5	19,9	10,7	20,2	9,78	20,4	9,00	20,7	8,10	21,2	7,13
	032	27,9	17,0	28,5	15,7	28,8	14,9	29,0	13,5	29,3	12,2	29,5	10,8	29,7	9,01
	040	34,8	22,4	37,5	21,6	37,9	20,5	38,3	18,5	38,7	17,0	38,2	15,0	39,7	12,8
	050	38,4	25,1	39,1	22,9	39,7	21,5	40,3	19,6	40,8	18,0	41,4	16,2	42,5	14,3
	064	55,8	34,0	56,9	31,3	57,7	29,9	58,0	26,9	58,6	24,5	59,1	21,5	59,4	18,0

Note 1 :

HC tabulated does not include capacity drop during frosting period and defrost.

The integrated Heating Capacity takes into consideration the capacity drop during frosting period and defrosting operation.

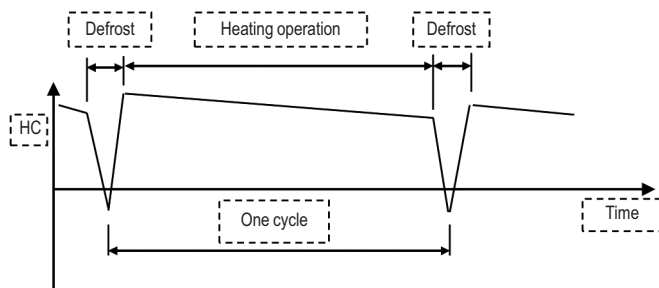
(HC Integrated) = (HC) * (Integrated correction factor during frosting period)

- Integrated heating capacity means the heating capacity during one cycle (between defrosting period and defrosting period), which is integrated and converted to heating capacity per hour.

- Integrated correction factor :

Correction factor	Size	Tamb [°C] RH 85%					
		-15	-10	-7	-2	2	7
	016	0,90	0,86	0,84	0,82	0,86	1,00
	021	0,87	0,83	0,80	0,83	0,85	1,00
	025	0,87	0,83	0,81	0,81	0,82	0,87
	032	0,88	0,84	0,82	0,85	0,86	1,00
	040	0,87	0,83	0,80	0,83	0,85	1,00
	050	0,87	0,83	0,81	0,81	0,82	0,87
	064	0,88	0,84	0,82	0,85	0,86	1,00

- Integrated heating capacity graph :



Note 2 :

In case the surface of the heat exchanger is covered with snow, heating capacity drops temporarily although it differs with outdoor temperature (°CDB), relative humidity (RH) and frosting volume.

SYMBOLS

- HC : Heating capacity (kW)
- PI : Power input (kW)
- LWC : Leaving Water Condenser temperature (°C)
- Tamb : Ambient temperature (°C)

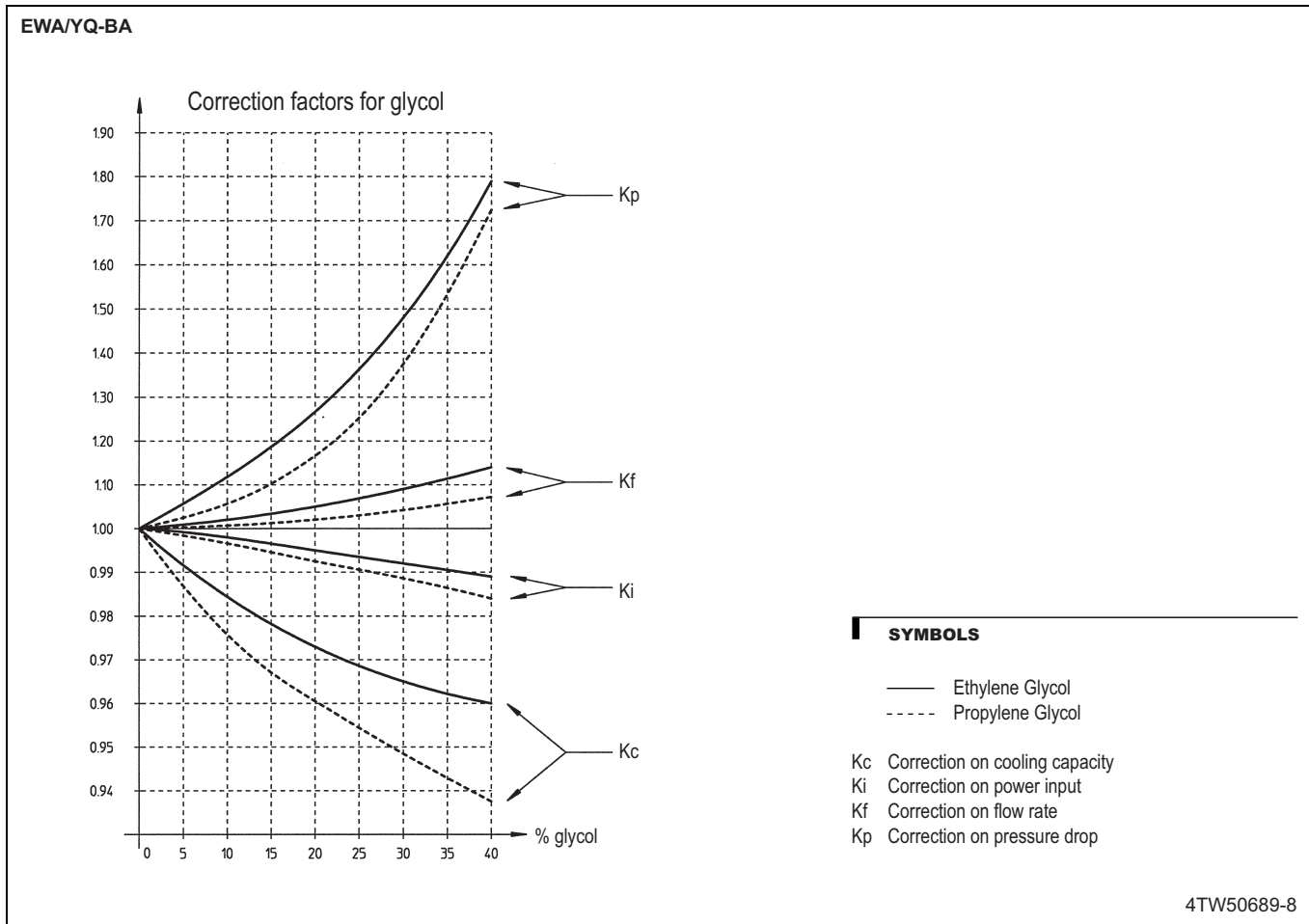
NOTES

1. Heating capacity (CAP)
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for heated water range $\Delta t = 3 - 8^\circ\text{C}$
2. Power input (kW)
Power input is total input according to Eurovent rating standard 6/C/003-2006: Compressor + fans + control circuit

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4 Capacity tables

4 - 3 Capacity Correction Factor





5 Dimensional drawings

5 - 1 Dimensional Drawings

5

EWAYQ16-25BA

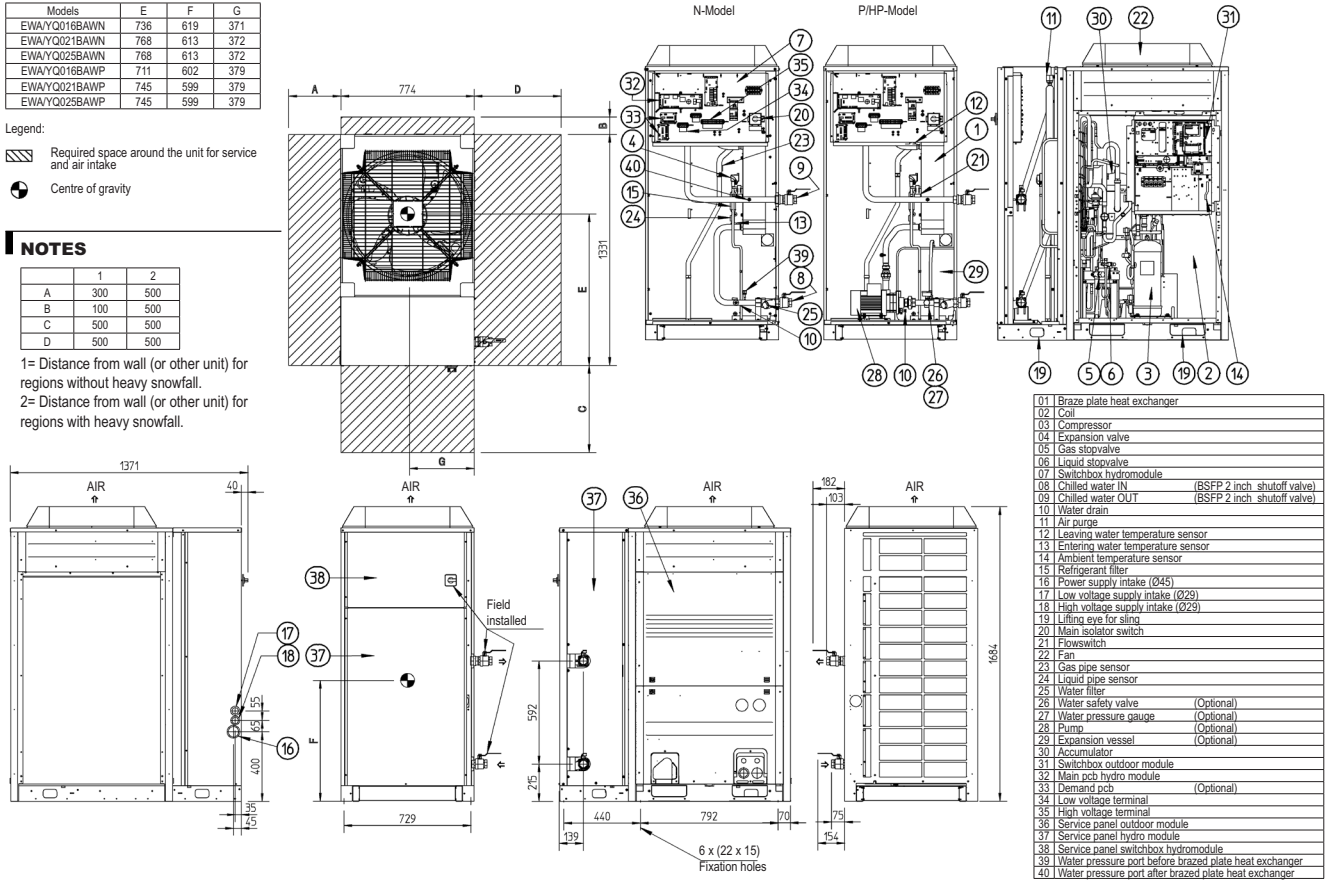
Models	E	F	G
EWAYQ016BAWN	736	619	371
EWAYQ0216BAWN	768	613	372
EWAYQ025BAWN	768	613	372
EWAYQ016BAWP	711	602	379
EWAYQ0216BAWP	745	599	379
EWAYQ025BAWP	745	599	379

Legend:
 Required space around the unit for service and air intake
 Centre of gravity

NOTES

	1	2
A	300	500
B	100	500
C	500	500
D	500	500



1= Distance from wall (or other unit) for regions without heavy snowfall.
 2= Distance from wall (or other unit) for regions with heavy snowfall.



3TW60724-1

EWAYQ32BA

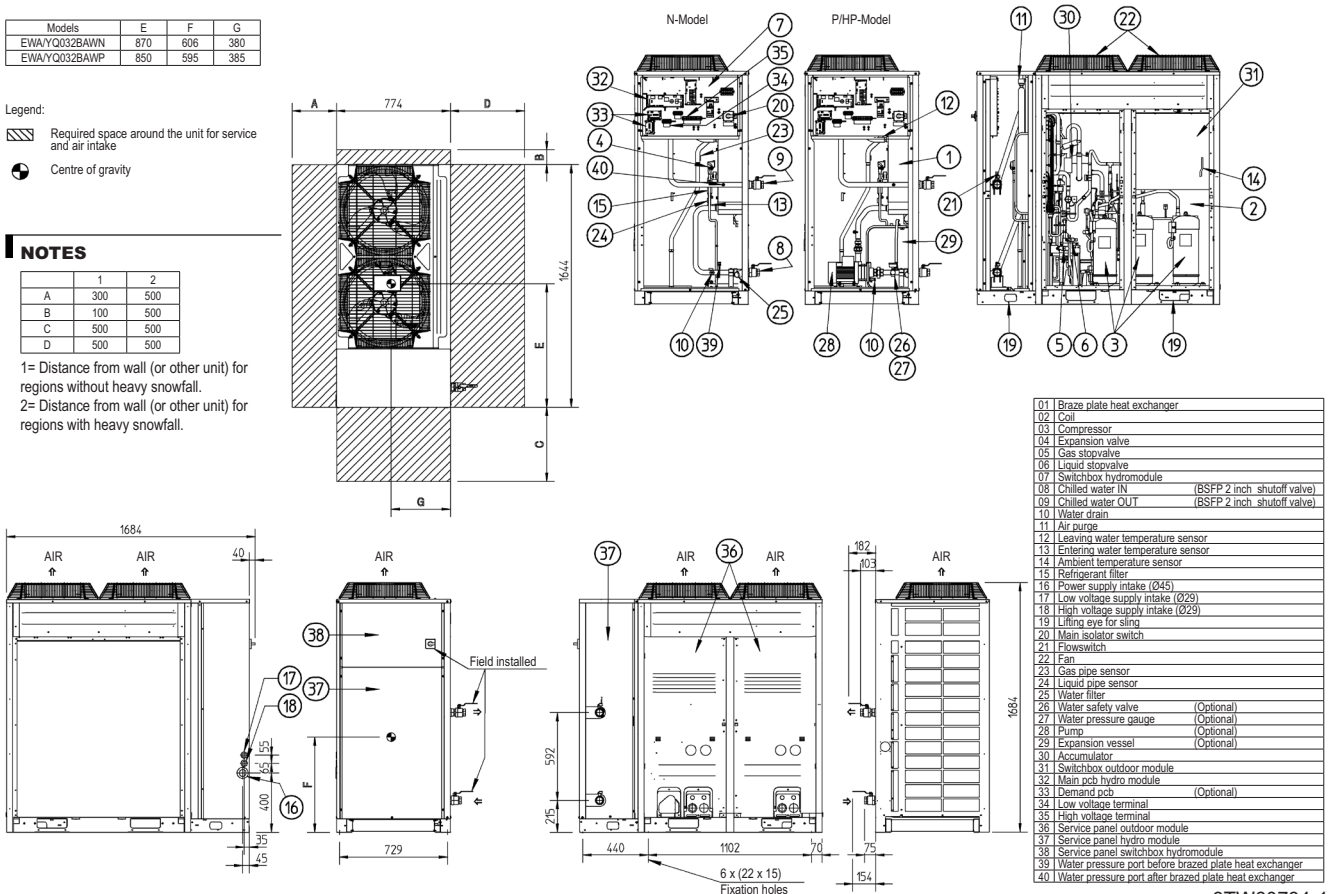
Models	E	F	G
EWAYQ032BAWN	870	606	380
EWAYQ032BAWP	850	595	385

Legend:
 Required space around the unit for service and air intake
 Centre of gravity

NOTES

	1	2
A	300	500
B	100	500
C	500	500
D	500	500

1= Distance from wall (or other unit) for regions without heavy snowfall.
 2= Distance from wall (or other unit) for regions with heavy snowfall.



3TW60734-1

5 Dimensional drawings

5 - 1 Dimensional Drawings

EWY/YQ40,50BA

01	Braze plate heat exchanger
02	Coil
03	Compressor
04	Expansion valve
05	Gas stopvalve
06	Liquid stopvalve
07	Switchbox hydromodule
08	Chilled water IN (BSFP 2 inch shutoff valve)
09	Chilled water OUT (BSFP 2 inch shutoff valve)
10	Water drain
11	Air purge
12	Leaving water temperature sensor
13	Entering water temperature sensor
14	Ambient temperature sensor
15	Refrigerant filter
16	Power supply intake (Ø45)
17	Low voltage supply intake (Ø29)
18	High voltage supply intake (Ø29)
19	Lifting eye for sling
20	Main isolator switch
21	Fuseswitch
22	Fan
23	Gas pipe sensor
24	Liquid pipe sensor
25	Water filter
26	Water safety valve (Optional)
27	Water pressure gauge (Optional)
28	Pump (Optional)
29	Expansion vessel (Optional)
30	Accumulator
31	Switchbox outdoor module
32	Main pcb hydromodule
33	Demand pcb (Optional)
34	Low voltage terminal
35	High voltage terminal
36	Service panel outdoor module
37	Service panel hydromodule
38	Service panel switchbox hydromodule
39	Water pressure port before brazed plate heat exchanger
40	Water pressure port after brazed plate heat exchanger

Models	E	F	G
EWY/YQ40BAWN	1227	592	380
EWY/YQ50BAWN	1227	592	380
EWY/YQ40BAWP	1183	577	387
EWY/YQ50BAWP	1183	577	387

Legend:
 Required space around the unit for service and air intake
 Centre of gravity

NOTES

	1	2
A	300	500
B	100	500
C	500	500
D	500	500

1= Distance from wall (or other unit) for regions without heavy snowfall.
 2= Distance from wall (or other unit) for regions with heavy snowfall.

3TW60754-1

EWY/YQ64BA

01	Braze plate heat exchanger
02	Coil
03	Compressor
04	Expansion valve
05	Gas stopvalve
06	Liquid stopvalve
07	Switchbox hydromodule
08	Chilled water IN (BSFP 2 inch shutoff valve)
09	Chilled water OUT (BSFP 2 inch shutoff valve)
10	Water drain
11	Air purge
12	Leaving water temperature sensor
13	Entering water temperature sensor
14	Ambient temperature sensor
15	Refrigerant filter
16	Power supply intake (Ø45)
17	Low voltage supply intake (Ø29)
18	High voltage supply intake (Ø29)
19	Lifting eye for sling
20	Main isolator switch
21	Fuseswitch
22	Fan
23	Gas pipe sensor
24	Liquid pipe sensor
25	Water filter
26	Water safety valve (Optional)
27	Water pressure gauge (Optional)
28	Pump (Optional)
29	Expansion vessel (Optional)
30	Accumulator
31	Switchbox outdoor module
32	Main pcb hydromodule
33	Demand pcb (Optional)
34	Low voltage terminal
35	High voltage terminal
36	Service panel outdoor module
37	Service panel hydromodule
38	Service panel switchbox hydromodule
39	Water pressure port before brazed plate heat exchanger
40	Water pressure port after brazed plate heat exchanger

Models	E	F	G
EWY/YQ64BAWN	1471	388	590
EWY/YQ64BAWP	1430	394	578

Legend:
 Required space around the unit for service and air intake
 Centre of gravity

NOTES

	1	2
A	300	500
B	100	500
C	500	500
D	500	500

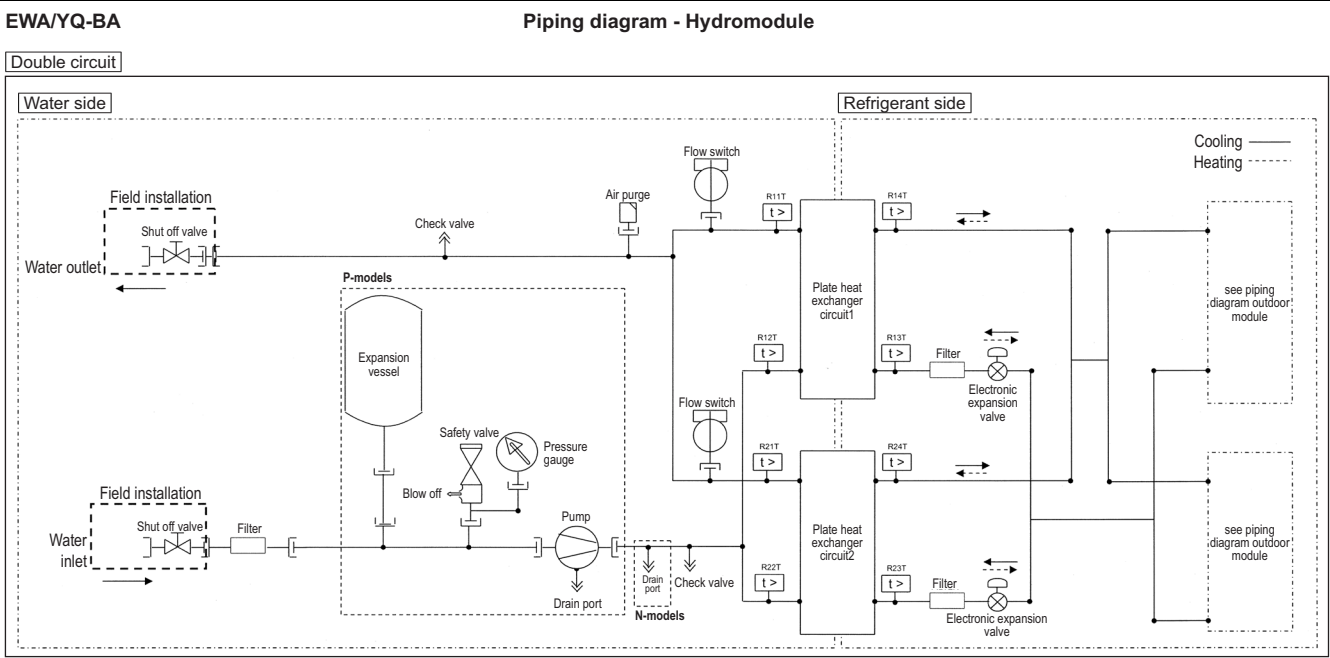
1= Distance from wall (or other unit) for regions without heavy snowfall.
 2= Distance from wall (or other unit) for regions with heavy snowfall.

3TW60774-1

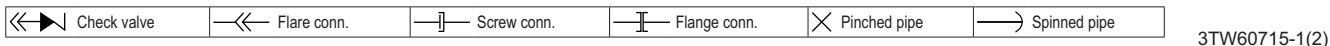
6 Piping diagrams

6 - 1 Piping Diagrams

6



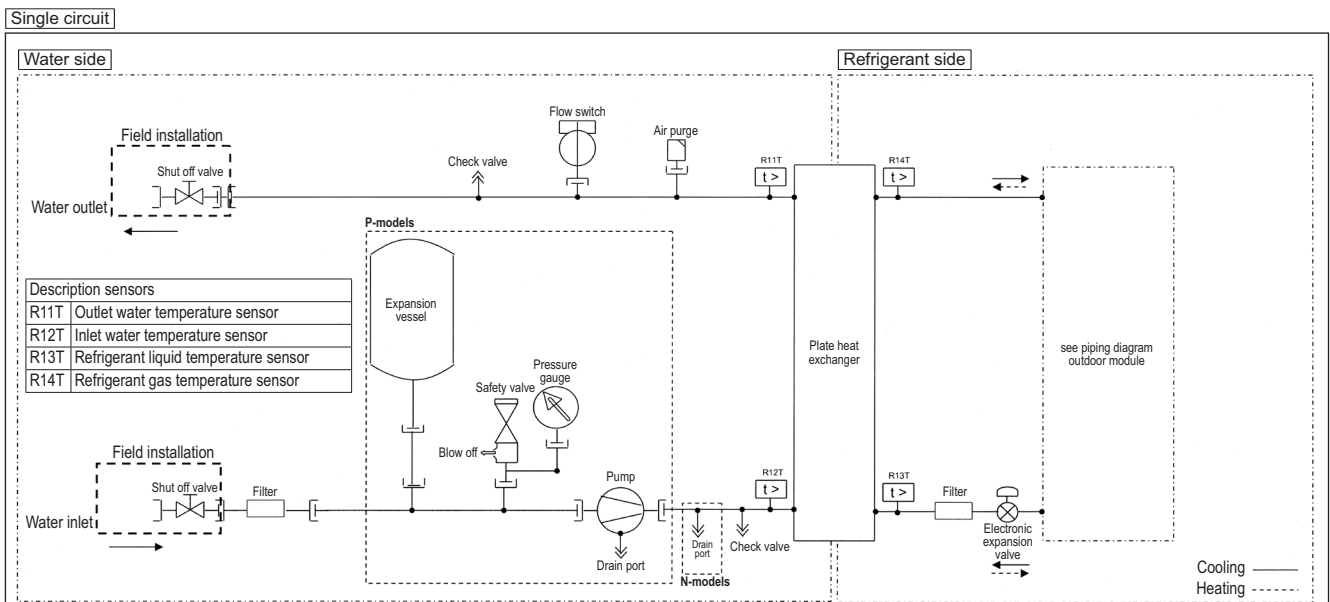
Description sensors circuit 1		Description sensors circuit 1	
R11T	Outlet water temperature sensor	R21T	Outlet water temperature sensor
R12T	Inlet water temperature sensor	R22T	Inlet water temperature sensor
R13T	Refrigerant liquid temperature sensor	R23T	Refrigerant liquid temperature sensor
R14T	Refrigerant gas temperature sensor	R24T	Refrigerant gas temperature sensor



EWA/YQ-BA Piping diagram - Hydromodule

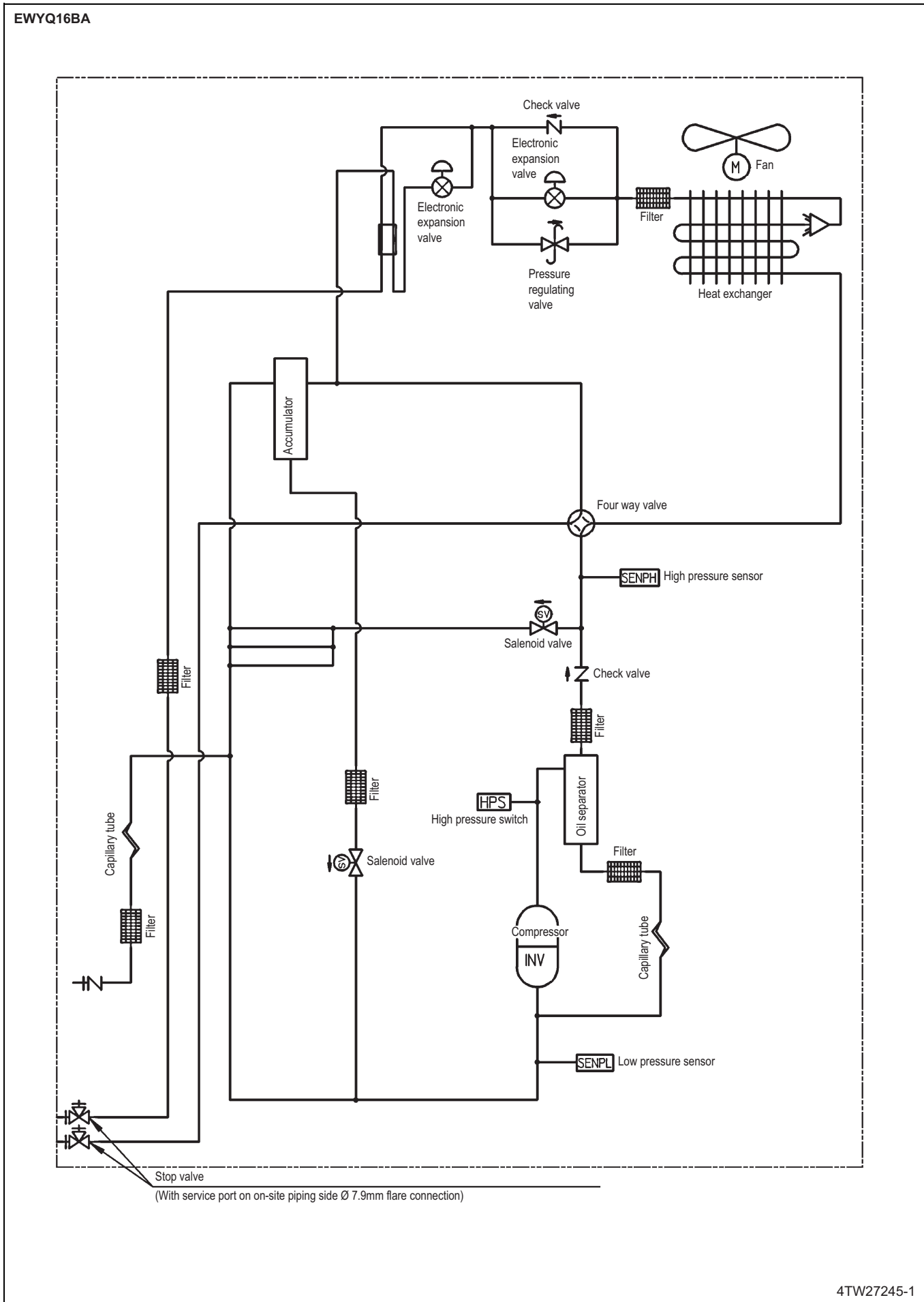
Overview

		Small inverter chiller - Outdoor module combination						
		Single circuit			Double circuit			
Outdoor module piping diagram		16kW	21kW	25kW	32kW	40kW	50kW	64kW
C/O	4TW27315-1	•						
	4TW27325-1		•			•		
	4TW27255-1			•			•	
	4TW27345-1				•			•
H/P	4TW27245-1	•						
	4TW27255-1		•	•		•	•	
	4TW27275-1				•			•



6 Piping diagrams

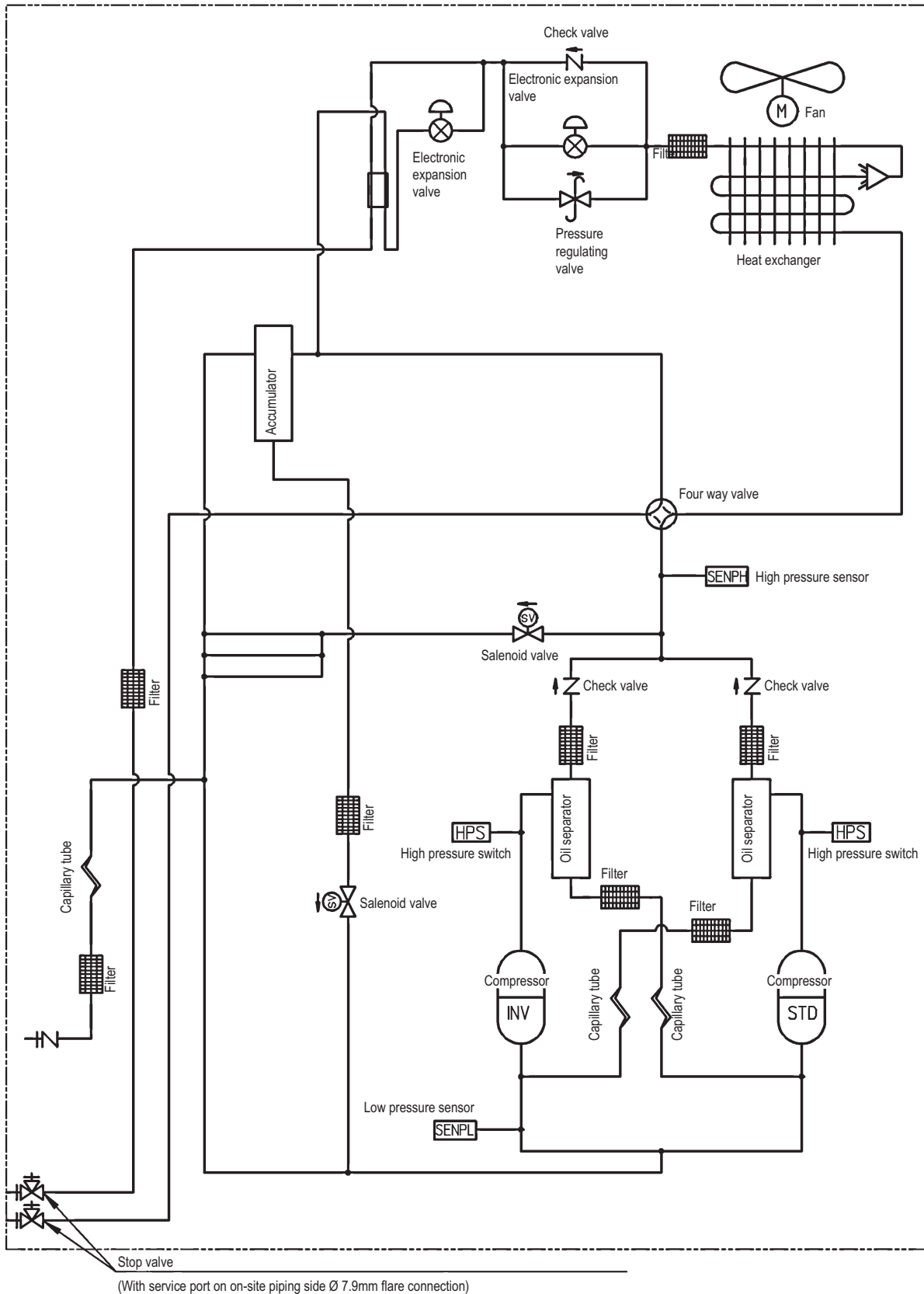
6 - 1 Piping Diagrams



6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ25,50BA
EWYQ21,25,40,50BA

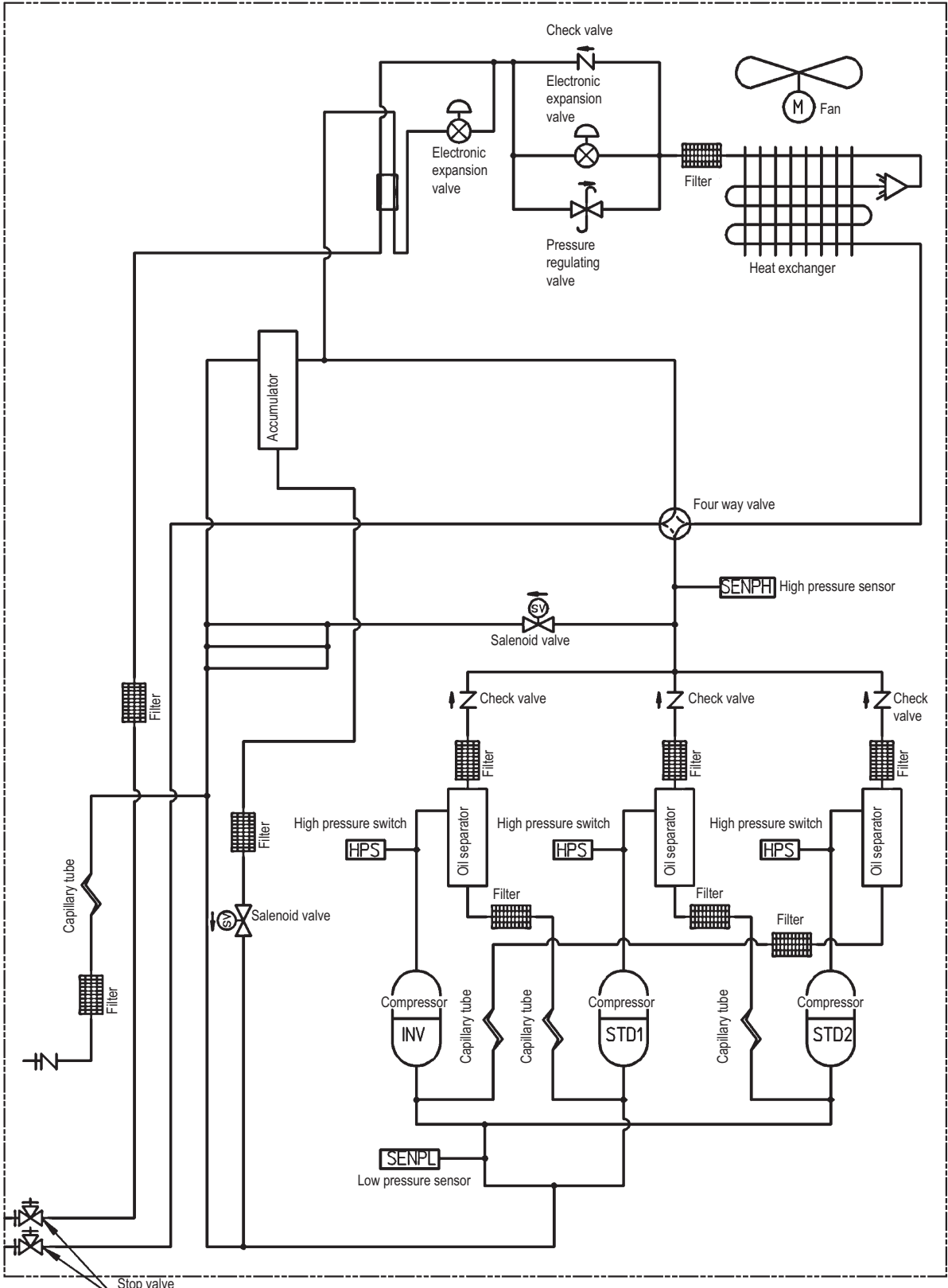


4TW27255-1

6 Piping diagrams

6 - 1 Piping Diagrams

EWYQ32,64BA



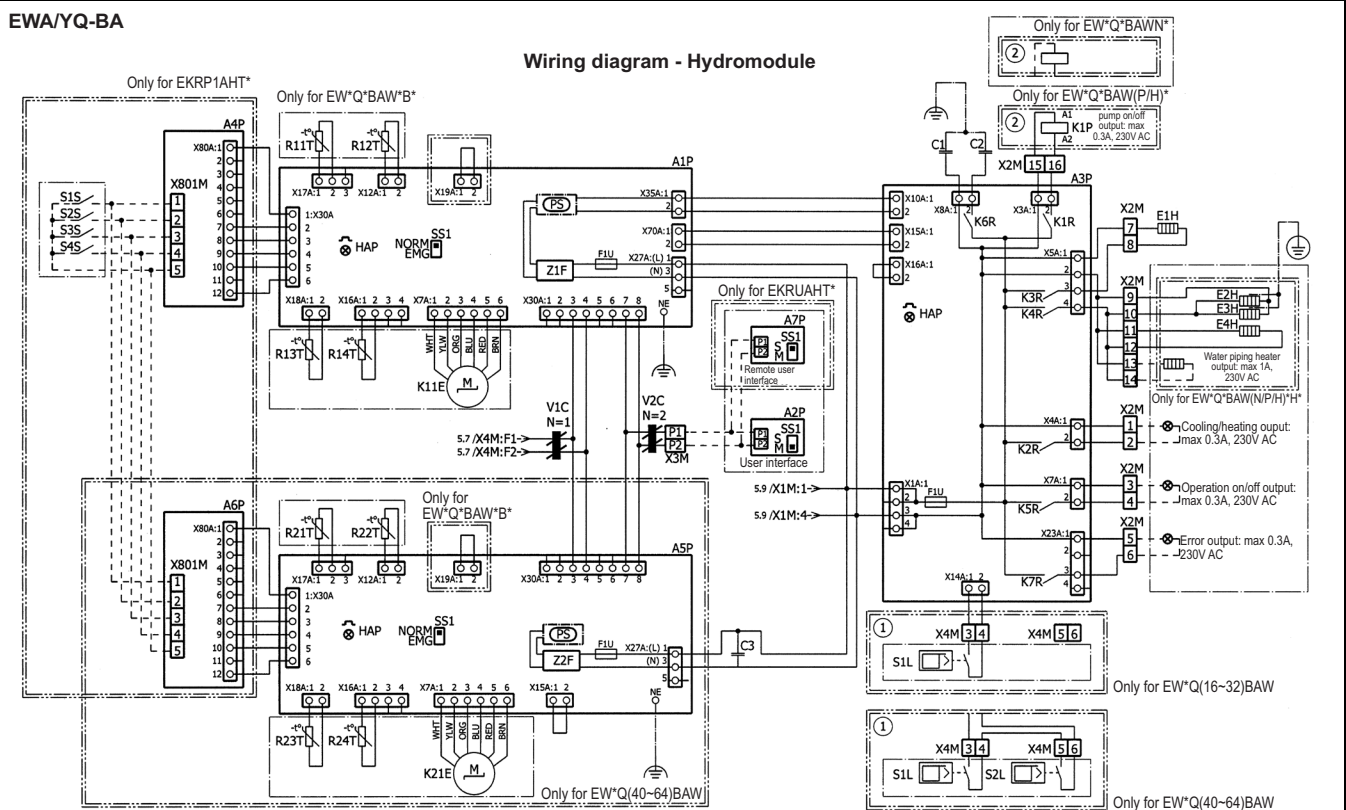
(With service port on on-site piping side Ø 7.9mm flare connection)

4TW27275-1

7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

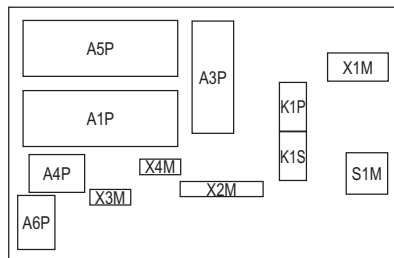
7



Part number	Description
A1P	Main PCB (master)
A2P	User interface PCB
A3P	Control PCB
A4P	* Demand PCB
A5P	Main PCB (slave)
A6P	* Demand PCB
A7P	* Remote user Interface PCB
C1 - C3	Filter capacitor
E1H	Switch box heater
E2H	Plate heat exchanger heater (circuit 1)
E3H	Plate heat exchanger heater (circuit 2)
E4H	Water piping heater
E5H	Expansion vessel heater
F1 - F2	Fuse (F, 1A, 250V)
F1U (A*P)	Fuse (T, 3.15A, 250V)
HAP (A*P)	PCB LED
K11E	Electronic expansion valve (circuit 1)
K21E	Electronic expansion valve (circuit 2)
K1P	Pump contactor
K1S	Pump overcurrent relay
K*R (A3P)	PCB relay
M1P	Pump
PS (A*P)	Switching power supply
Q1DI	# Earth leakage circuit breaker
Q1T	Thermostat for expansion vessel heater
R11T	Leaving water thermistor (Circuit 1)
R12T	Returning water thermistor (Circuit 1)
R13T	Refrigerant liquid thermistor (Circuit 1)

R14T	Refrigerant gas thermistor (Circuit 1)
R21T	Leaving water thermistor (Circuit 2)
R22T	Returning water thermistor (Circuit 2)
R23T	Refrigerant liquid thermistor (Circuit 2)
R24T	Refrigerant gas thermistor (Circuit 2)
S1L	Flow switch (Circuit 1)
S2L	Flow switch (Circuit 2)
S1M	Main switch
S1S	# Thermostat Input 1
S2S	# Thermostat input 2
S3S	# Operation ON input
S4S	# Operation OFF input
SS1 (A1P, A5P)	Selector switch (emergency)
SS1 (A2P)	Selector switch (main / sub)
SS1 (A7P)	* Selector switch (main / sub)
V1C - V2C	Ferrite core noise filter
X1M - X4M	Terminal strip
X801M (A*P)	* PCB terminal strip
Z1F - Z2F (A*P)	Noisefilter

*: field installed option #: field supplied



Switchbox layout

4TW60726-1 (2)

NOTES

- X1M: Terminal; X2M: Field wiring terminal for high voltage; X3M: Field wiring terminal for low voltage; X4M: Factory wiring terminal for low voltage
- : Earth wiring; - - - - -: Field supply; []: Option; []: Wiring depending on model; []: Not mounted in switch box; []: PCB; 1: Several wiring possibilities
- User installed options:

- EKRUHT* = Remote user interface
- 1x EKRP1AHT* = Demand PCB (only for EW*Q(16-32)BAW*)
- 2x EKRP1AHT* = Demand PCB's (only for EW*Q(40-64)BAW*)

7 Wiring diagrams

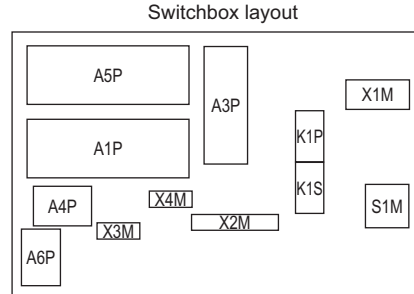
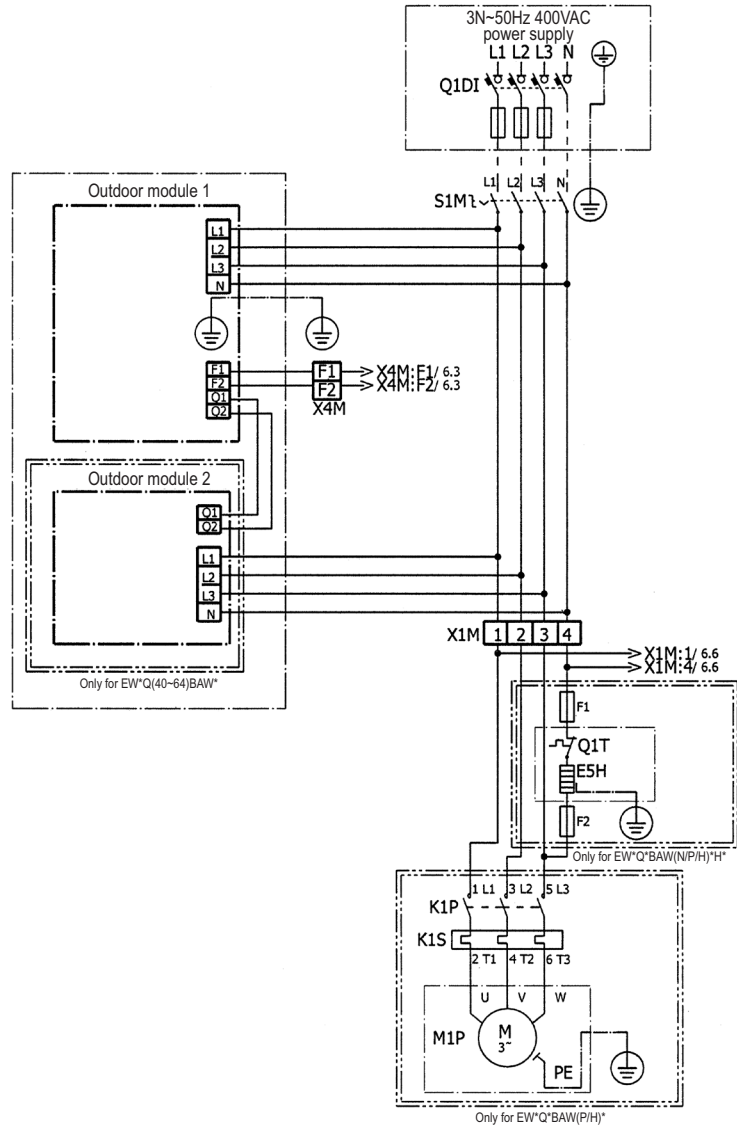
7 - 1 Wiring Diagrams - Three Phase

EWY/YQ-BA

Wiring diagram - Hydromodule

Part number	Description
A1P	Main PCB (master)
A2P	User interface PCB
A3P	Control PCB
A4P	* Demand PCB
A5P	Main PCB (slave)
A6P	* Demand PCB
A7P	* Remote user Interface PCB
C1 - C3	Filter capacitor
E1H	Switch box heater
E2H	Plate heat exchanger heater (circuit 1)
E3H	Plate heat exchanger heater (circuit 2)
E4H	Water piping heater
E5H	Expansion vessel heater
F1 - F2	Fuse (F, 1A, 250V)
F1U (A*P)	Fuse (T, 3.15A, 250V)
HAP (A*P)	PCB LED
K11E	Electronic expansion valve (circuit 1)
K21E	Electronic expansion valve (circuit 2)
K1P	Pump contactor
K1S	Pump overcurrent relay
K*R (A3P)	PCB relay
M1P	Pump
PS (A*P)	Switching power supply
Q1DI	# Earth leakage circuit breaker
Q1T	Thermostat for expansion vessel heater
R11T	Leaving water thermistor (Circuit 1)
R12T	Returning water thermistor (Circuit 1)
R13T	Refrigerant liquid thermistor (Circuit 1)
R14T	Refrigerant gas thermistor (Circuit 1)
R21T	Leaving water thermistor (Circuit 2)
R22T	Returning water thermistor (Circuit 2)
R23T	Refrigerant liquid thermistor (Circuit 2)
R24T	Refrigerant gas thermistor (Circuit 2)
S1L	Flow switch (Circuit 1)
S2L	Flow switch (Circuit 2)
S1M	Main switch
S1S	# Thermostat Input 1
S2S	# Thermostat input 2
S3S	# Operation ON input
S4S	# Operation OFF input
SS1 (A1P, A5P)	Selector switch (emergency)
SS1 (A2P)	Selector switch (main / sub)
SS1 (A7P)	* Selector switch (main / sub)
V1C - V2C	Ferrite core noise filter
X1M - X4M	Terminal strip
X801M (A*P)	* PCB terminal strip
Z1F - Z2F (A*P)	Noisefilter

*: field installed option #: field supplied



4TW60726-1 (1)

NOTES

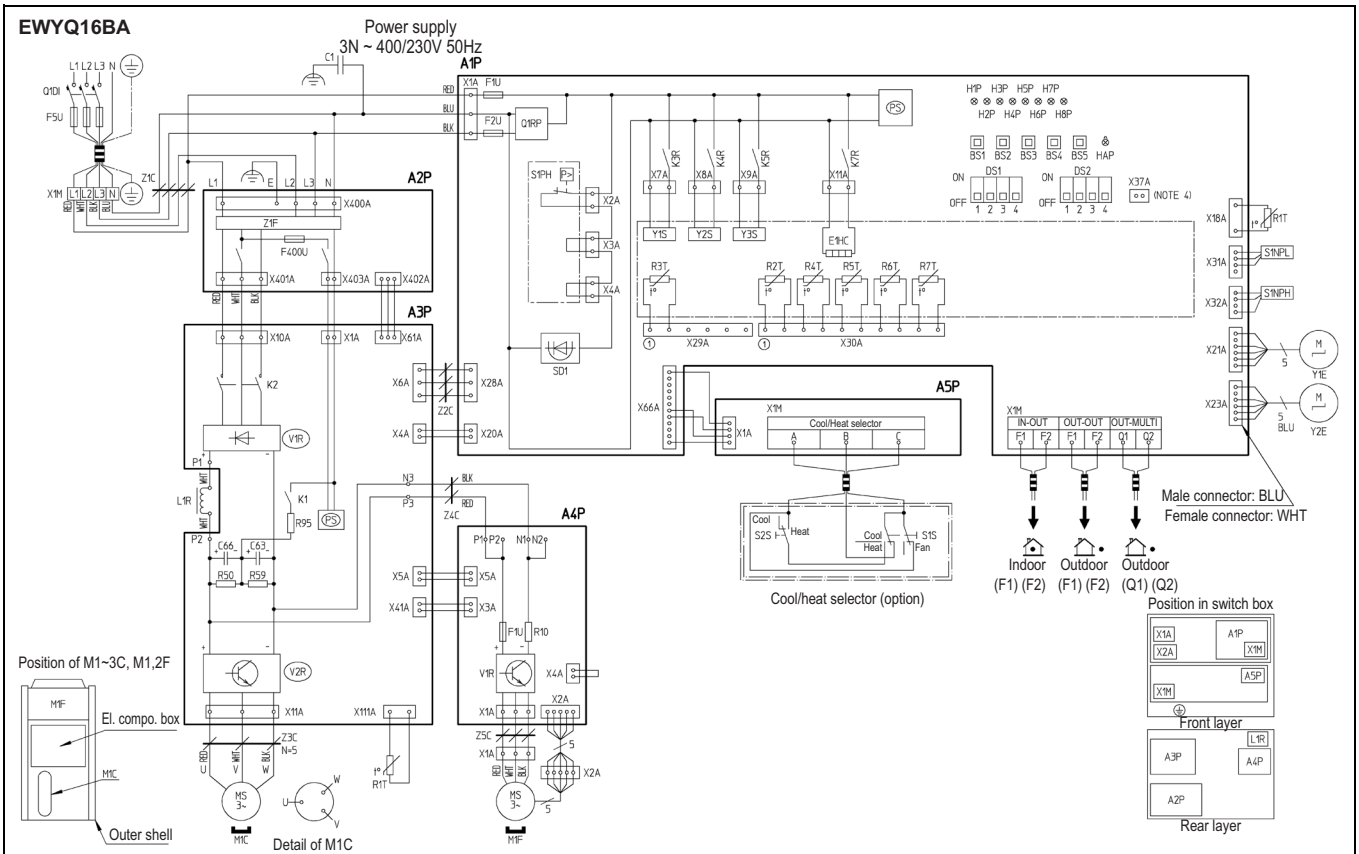
- X1M: Terminal; X2M: Field wiring terminal for high voltage; X3M: Field wiring terminal for low voltage; X4M: Factory wiring terminal for low voltage
- : Earth wiring; - - - -: Field supply; []: Option; []: Wiring depending on model; []: Not mounted in switch box; []: PCB; 1: Several wiring possibilities
- User installed options:

- EKRUAHT* = Remote user interface
- 1x EKRP1AHT* = Demand PCB (only for EW*Q(16-32)BAW*)
- 2x EKRP1AHT* = Demand PCB's (only for EW*Q(40-64)BAW*)

7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

7



A1P-A5P	Printed circuit board		R1T-R7T	Thermistor	
	A1P: Main	A4P: Fan		R1T: AIR (A1P)	R4T: Heat exch. deicer
	A2P: Noise filter	A5P: ABC I/P		R1T: FIN (A3P)	R5T: Heat exch. outlet
BS1-BS5	Push button switch (Mode, set, return, test, reset)		R50, R59	Resistor	
				S1NPH	Pressure sensor (high)
C1	Capacitor		S1NPL	Pressure sensor (low)	
C63, C66	Capacitor		S1PH	Pressure switch (high)	
DS1, DS2	Dip switch		SD1	Safety devices input	
E1HC	Crankcase heater		V1R	Power module (A4P)	
F1U	Fuse (250V, 8A Ⓢ) (A4P)		V1R, V2R	Power module (A3P)	
F1U, F2U	Fuse (250V, 3.15A Ⓢ) (A1P)		X1A-X2A	Connector (M1F)	
F5U	Field fuse		X1M	Terminal strip (power supply)	
F400U	Fuse (250V, 6.3A Ⓢ) (A2P)		X1M	Terminal strip (control) (A1P)	
H1P-H8P	Pilotlamp (service monitor - orange)		X1M	Terminal strip (A5P)	
	[H2P] Prepare, Test ----- Flickering		Y1E	Electronic expansion valve (main)	
	Malfunction detection ----- Light up		Y2E	Electronic expansion valve (subcool)	
HAP	Pilotlamp (service monitor - green)		Y1S-Y3S	Solenoid valve	
K1	Magnetic relay		Y1S: Hot gas	Y3S: 4 way valve	
K2	Magnetic contactor (M1C)		Y2S: Oil return		
	K3R: Y1S	K5R: Y3S	Z1C-5C	Noise filter (ferrite core)	
K3R-K7R	K4R: Y2S	K7R: E1HC	Z1F	Noise filter (With surge absorber)	
L1R	Reactor				
M1C	Motor (Compressor)				
M1F	Motor (Fan)				
PS	Switching power supply (A1P, A3P)		Cool/Heat Selector		
Q1RP	Phase reversal detect circuit		S1S	Selector switch (fan/cool - heat)	
Q1DI	Earth leakage breaker		S2S	Selector switch (cool - heat)	
R10	Resistor (current sensor) (A4P)				

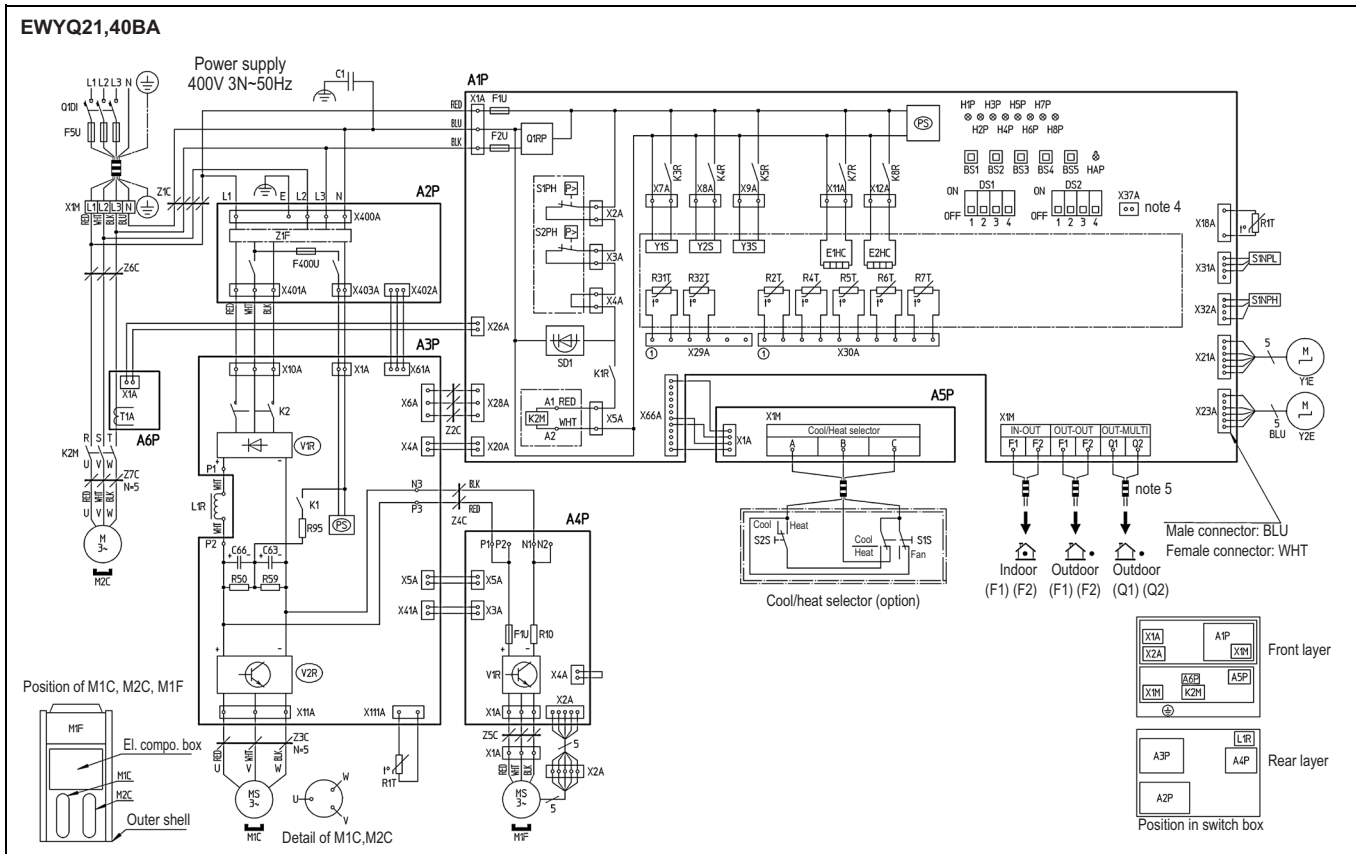
2TW27246-1A

NOTES

- This wiring diagram only applies to the outdoor unit
- Field wiring symbol:
- Terminal strip: ; connector: ; terminal: ; Protective earth (screw):
- When using the option adapter, refer to the installation manual
- Refer to the installation manual, for connection wiring to indoor-outdoor transmission F1-F2, outdoor-outdoor transmission F1-F2, outdoor-multi transmission Q1-Q2 and on how to use BS1-BS5 and DS1, DS2 switch.
- Do not operate the unit by short-circuiting protection device S1PH
- BLK = Black, RED = Red, BLU = Blue, WHT = White, PNK = Pink, YLW = Yellow, BRN = Brown, GRY = Grey, GRN = Green, ORG = Orange

7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase



A1P-A6 P	Printed circuit board	Q1DI	Earth leakage breaker
	A1P: Main	R10	Resistor (current sensor) (A4P)
	A2P: Noise filter		Thermistor
BS1-BS5	Push button switch (Mode, set, return, test, reset)	R1T-R7T	R1T: AIR (A1P)
		R31T,R32T	R1T: FIN (A3P)
C1	Capacitor		R2T: Suction
C63,C66	Capacitor		R31T: M1C Discharge
DS1, DS2	Dip switch		R32T: M2C Discharge
E1HC,E2HC	Crankcase heater	S1NPH	Pressure sensor (high)
F1U	Fuse (250V, 8A (⊕)) (A4P)	S1NPL	Pressure sensor (low)
F1U, F2U	Fuse (250V, 3.15A (⊕)) (A1P)	S1PH,S2PH	Pressure switch (high)
F5U	Field fuse	T1A	Current sensor (A6P)
F400U	Fuse (250V, 6.3A (⊕)) (A2P)	SD1	Safety devices input
H1P~H8P	Pilotlamp (service monitor - orange)	V1R, V2R	Power module (A3P)
	[H2P] Prepare, Test----- Flickering	X1A,X2A	Connector (M1F)
	Malfunction detection ----- Light up	X1M	Terminal strip (power supply)
HAP	Pilotlamp (service monitor - green)	X1M	Terminal strip (control) (A1P)
K1	Magnetic relay	X1M	Terminal strip (A5P)
K2	Magnetic contactor (M1C)	Y1E	Electronic expansion valve (main)
K2M	Magnetic contactor (M2C)	Y2E	Electronic expansion valve (subcool)
K1R	Magnetic relays (K2M)	Y1S~Y3S	Solenoid valve
K3R~K8R	K3R: Y1S		Y1S: Hot gas
	K4R: Y2S	K7R: E1HC	Y3S: 4 way valve
	K5R: Y3S	K8R: E2HC	
L1R	Reactor	Z1C~Z7C	Noise filter (ferrite core)
M1C,M2C	Motor (Compressor)	Z1F	Noise filter (With surge absorber)
M1F	Motor (Fan)		Cool/Heat Selector
PS	Switching power supply (A1P, A3P)	S1S	Selector switch (fan/cool - heat)
Q1RP	Phase reversal detect circuit	S2S	Selector switch (cool - heat)

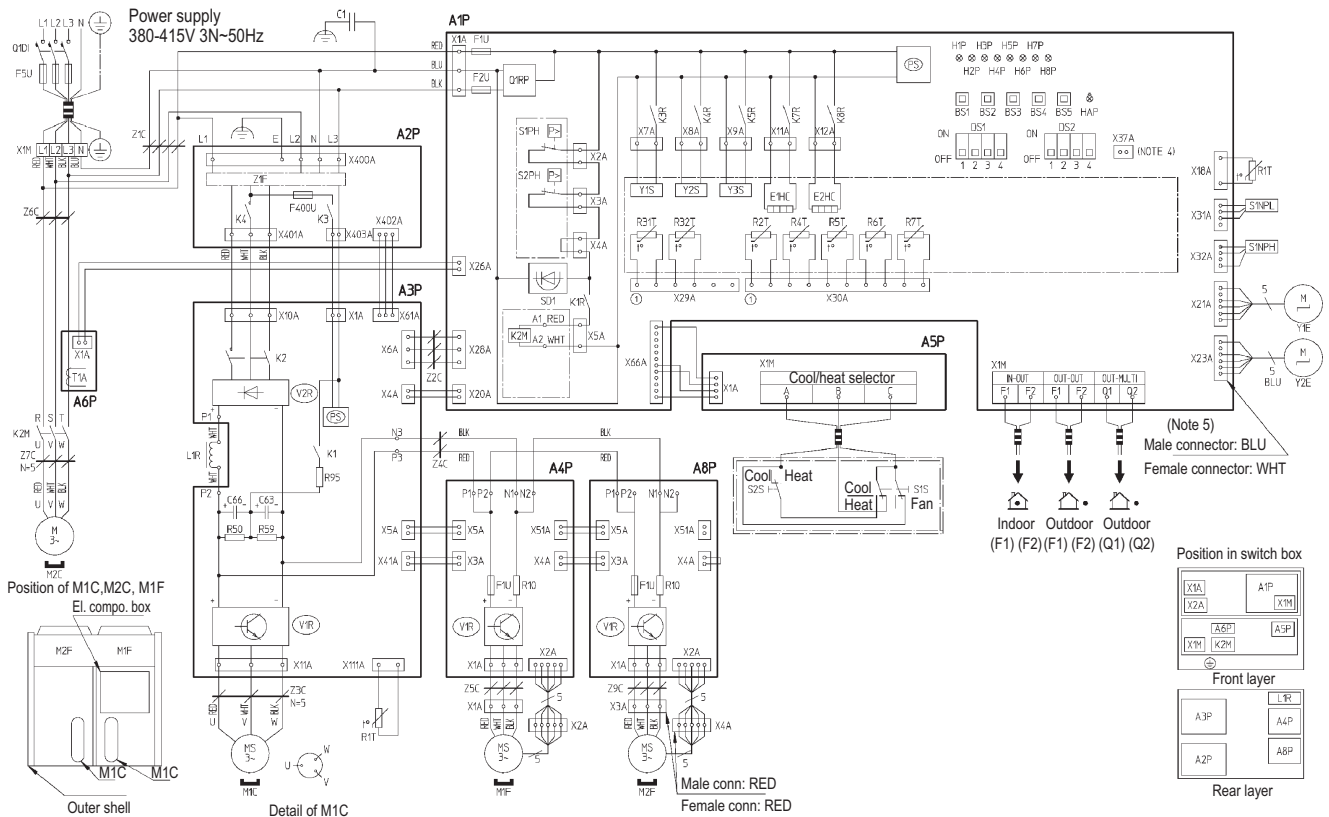
2TW27256-1A

- NOTES**
- This wiring diagram only applies to the outdoor unit
 - Field wiring
 - terminal strip, connector, terminal, Protective earth (screw)
 - When using the option adapter, refer to the installation manual
 - Refer to the installation manual, for connection wiring to indoor-outdoor transmission F1-F2, outdoor-outdoor transmission F1-F2, outdoor-multi transmission Q1-Q2 and on how to use BS1~BS5 and DS1, DS2 switch.
 - Do not operate the unit by short-circuiting protection device S1PH
 - BLK = Black, RED = Red, BLU = Blue, WHT = White, PNK = Pink, YLW = Yellow, BRN = brown, GRY = Grey, GRN = Green, ORG = Orange

7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

EWY-QY25,50BA



A1P-A6P	Printed circuit board	K1R	Magnetic relays (K2M)	S1PH, S2PH	Pressure switch (high)			
	A1P: Main	A4P, A8P: Fan	K3R-K7R	K3R: Y1S	K7R: E1HC	T1A	Current sensor (A6P)	
	A2P: Noise filter	A5P: ABC I/P		K4R: Y2S	K8R: E2HC	SD1	Safety devices input	
	A3P: Inverter	A6P: Current Sensor		K5R: Y3S		V1R	Power module (A3P, A4P, A8P)	
BS1-BS5	Push button switch (Mode, set, return, test, reset)	L1R	Reactor	V2R	Diode bridge (A3P)			
C1	Capacitor	M1C, M2C	Motor (Compressor)	X1A-X4A	Connector (M1F, M2F)			
C63, C66	Capacitor	M1F, M2F	Motor (Fan)	X1M	Terminal strip (power supply)			
DS1, DS2	Dip switch	PS	Switching power supply (A1P, A3P)	X1M	Terminal strip (Control) (A1P)			
E1HC	Crankcase heater	Q1RP	Phase reversal detect circuit	X1M	Terminal strip (A5P)			
F1U	Fuse (DC 650V, 8A ⊕) (A4P, A8P)	Q1DI	Earth leakage breaker	Y1E	Electronic expansion valve (main)			
F1U, F2U	Fuse (250V, 3.15A ⊕) (A1P)		Thermistor	Y2E	Electronic expansion valve (subcool)			
F5U	Field fuse	R1T-R7T	R1T: AIR (A1P)		R4T: Heat exch. deicer	Solenoid valve		
F400U	Fuse (250V, 6.3A ⊕) (A2P)	R31T-R32T	R1T: FIN (A3P)		R5T: Heat exch. outlet	Y1S: Hot gas	Y3S: 4 way valve	
H1P-H8P	Pilotlamp (service monitor - orange) [H2P] Prepare, Test ----- Flickering Malfunction detection --- Light up	R1T-R7T	R2T: Suction	Y1S~Y3S	R6T: Liquid pipe	Y2S: Oil return		
HAP	Pilotlamp (service monitor - green)	R10	R31T: M1C Discharge	Z1C~Z9C	R7T: Accumulator	Z1C~Z9C	Noise filter (ferrite core)	
K1, K3	Magnetic relay	R50, R59	R32T: M1C Discharge	Z1F		Z1F	Noise filter (With surge absorber)	
K2, K4	Magnetic contactor (M1C)	R95					Cool/heat selector	
K2M	Magnetic contactor (M2C)	S1NPH					S1S	Selector switch (fan/cool-heat)
		S1NPL					S2S	Selector switch (cool-heat)

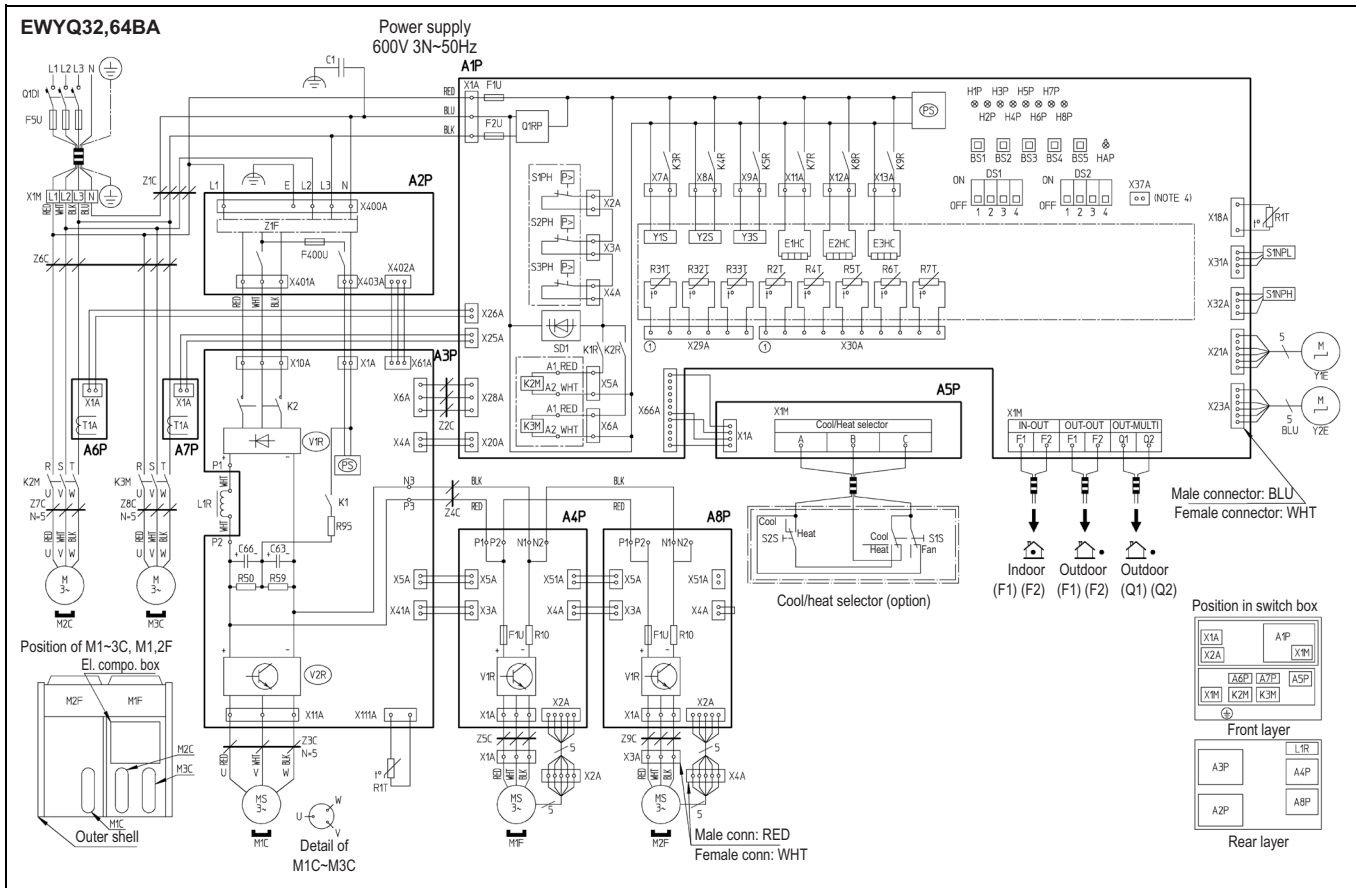
2TW31476-1

NOTES

- This wiring diagram only applies to the outdoor unit
- Field wiring
- Terminal strip, Connector, Terminal, Protective earth (screw)
- When using the option adapter, refer to the installation manual
- Refer to the installation manual, for connection wiring to indoor-outdoor transmission F1-F2, outdoor-outdoor transmission F1-F2 and on how to use BS1-BS5 and DS1, DS2 switch.
- Do not operate the unit by short-circuiting protection device S1PH
- BLK = Black, RED = Red, BLU = Blue, WHT = White, PNK = Pink, YLW = Yellow, BRN = brown, GRY = Grey, GRN = Green, ORG = Orange

7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase



A1P-A7P	Printed circuit board		R1T~R7T R31T~R33T	Thermistor		
	A1P: Main	A4P, A8P: Fan		R1T: AIR (A1P)	R33T: M3C discharge	
	A2P: Noise filter	A5P: ABC I/P		R1T: FIN (A3P)	R4T: Heat exch. deicer	
BS1-BS5	Push button switch (Mode, set, return, test, reset)		R50, R59	Resistor		
	Capacitor			R95	Resistor (current limiting)	
	Capacitor			S1NPH	Pressure sensor (high)	
C1	Dip switch		S1NPL	Pressure sensor (low)		
	Crankcase heater			S1PH-S3PH	Pressure switch (high)	
	Fuse (250V, 8A Ⓟ) (A4P)			T1A	Current sensor (A6P, A7P)	
F1U, F2U	Fuse (250V, 3.15A Ⓟ) (A1P)		SD1	Safety devices input		
	Field fuse			V1R	Power module (A4P, A8P)	
	Fuse (250V, 6.3A Ⓟ) (A2P)			V1R, V2R	Power module (A3P)	
H1P~H8P	Pilotlamp (service monitor - orange)		X1A~X4A	Connector (M1F)		
	[H2P] Prepare, Test----- Flickering			X1M	Terminal strip (power supply)	
	Malfunction detection----- Light up			X1M	Terminal strip (control) (A1P)	
HAP	Pilotlamp (service monitor - green)		X1M	Terminal strip (A5P)		
	Magnetic relay			Y1E	Electronic expansion valve (main)	
	Magnetic contactor (M1C)			Y2E	Electronic expansion valve (subcool)	
K1	Magnetic contactor (M2C, M3C)		Y1S~Y3S	Solenoid valve		
	Magnetic relays (K2M, K3M)			Y1S: Hot gas	Y3S: 4 way valve	
	K3R: Y1S			K7R: E1HC		
K2M, K3M	K4R: Y2S		K8R: E2HC			
	K5R: Y3S		K9R: E3HC			
	L1R		Z1C~Z9C	Noise filter (ferrite core)		
M1C~M2C	Motor (Compressor)		Z1F	Noise filter (With surge absorber)		
	Motor (Fan)			Cool/Heat Selector		
	Switching power supply (A1P, A3P)			S1S	Selector switch (fan/cool - heat)	
Q1RP	Phase reversal detect circuit		S2S	Selector switch (cool - heat)		
	Earth leakage breaker					
	Resistor (current sensor) (A4P, A8P)					

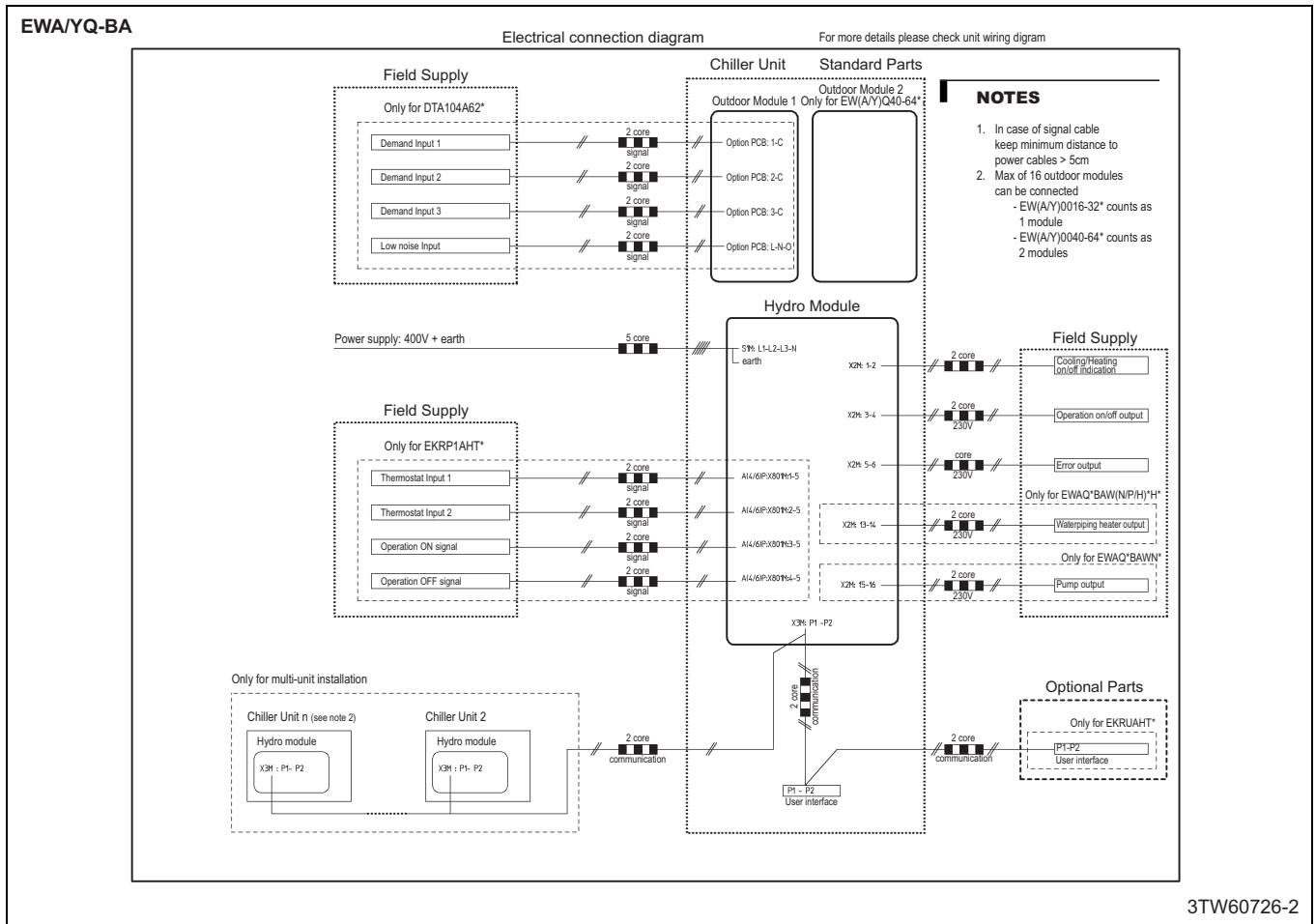
2TW27276-1A

NOTES

- This wiring diagram only applies to the outdoor unit
- Field wiring
- Terminal strip, connector, terminal, Protective earth (screw)
- When using the option adapter, refer to the installation manual
- Refer to the installation manual, for connection wiring to indoor-outdoor transmission F1-F2, outdoor-outdoor transmission F1-F2 and on how to use BS1-BS5 and DS1, DS2 switch.
- Do not operate the unit by short-circuiting protection device S1PH
- BLK = Black, RED = Red, BLU = Blue, WHT = White, PNK = Pink, YLW = Yellow, BRN = brown, GRY = Grey, GRN = Green, ORG = Orange

8 External connection diagrams

8 - 1 External Connection Diagrams



8

9 Sound data

9 - 1 Sound Power Spectrum

EWY/YQ-BA

Models LWE=7°C / Tamb=35°C								Total (dBA)
	125	250	500	1000	2000	4000	8000	LwA
EW(A/Y)Q016BAW*	84	79	76	73	67	65	61	78
EW(A/Y)Q021BAW*	84	80	77	73	66	60	53	78
EW(A/Y)Q025BAW*	84	80	80	75	68	63	62	80
EW(A/Y)Q032BAW*	84	80	80	75	68	63	62	80
EW(A/Y)Q040BAW*	87	83	80	76	69	63	56	81
EW(A/Y)Q050BAW*	87	83	83	78	71	66	65	83
EW(A/Y)Q064BAW*	87	83	83	78	71	66	65	83

NOTES

1. Values of Sound power according to **ISO3744**
2. LWE = Leaving water evaporator temperature
Tamb = Ambient temperature

4TW60717-1

10 Installation

10 - 1 Water Charge, Flow and Quality

10

EWY/YQ-BA

This table is from JRA GL-02-1994

JRA: Japanese Refrigerant Association

ITEMS (1) (5)	Cooling water (3)			Cooled water		Heated water (2)				Tendency if out of criteria		
	Circulating system		Once flow			Low temperature		High temperature				
	Circulating water	Supply water (4)	Flowing water	Circulating water [below 20°C]	Supply water (4)	Circulating water [20°C~60°C]	Supply water (4)	Circulating water [60°C~80°C]	Supply water (4)			
pH	at 25°C		6.5~8.2	6.0~8.0	6.8~8.0	6.8~8.0	6.8~8.0	7.0~8.0	7.0~8.0	7.0~8.0	7.0~8.0	corrosion + scale
Electrical conductivity	[mS/m] at 25°C		below 80	below 30	below 40	below 40	below 30	below 30	below 30	below 30	below 30	corrosion + scale
	(µS/cm) At 25°C(1)		(below 800)	(below 300)	(below 400)	(below 400)	(below 300)	(below 300)	(below 300)	(below 300)	(below 300)	corrosion + scale
Chloride ion	[mgCl ⁻ /l]		below 200	below 50	below 50	below 50	below 50	below 50	below 50	below 30	below 30	corrosion
Sulfate ion	[mgSO ₄ ²⁻ /l]		below 200	below 50	below 50	below 50	below 50	below 50	below 50	below 30	below 30	corrosion
M-alkalinity (pH4.8)	[mgCaCO ₃ /l]		below 100	below 50	below 50	below 50	below 50	below 50	below 50	below 50	below 50	scale
Total hardness	[mgCaCO ₃ /l]		below 200	below 70	below 70	below 70	below 70	below 70	below 70	below 70	below 70	scale
Calcium hardness	[mgCaCO ₃ /l]		below 150	below 50	below 50	below 50	below 50	below 50	below 50	below 50	below 50	scale
Silica ion	[mgSiO ₂ /l]		below 50	below 30	below 30	below 30	below 30	below 30	below 30	below 30	below 30	scale
ITEMS TO BE REFERRED TO	Iron	[mgFe/l]	below 1.0	below 0.3	below 1.0	below 1.0	below 0.3	below 1.0	below 0.3	below 1.0	below 0.3	corrosion + scale
	Copper	[mgCu/l]	below 0.3	below 0.1	below 1.0	below 1.0	below 0.1	below 1.0	below 0.1	below 1.0	below 0.1	corrosion
	Sulfide ion	[mgS ²⁻ /l]	not detectable	not detectable	not detectable	not detectable	not detectable	not detectable	not detectable	not detectable	not detectable	corrosion
	Ammonium ion	[mgNH ₄ ⁺ /l]	below 1.0	below 0.1	below 1.0	below 1.0	below 0.1	below 0.3	below 0.1	below 0.1	below 0.1	corrosion
	Remaining chloride	[mgCl/l]	below 0.3	below 0.3	below 0.3	below 0.3	below 0.3	below 0.25	below 0.3	below 0.1	below 0.3	corrosion
	Free carbide	[mgCo ₂ /l]	below 4.0	below 4.0	below 4.0	below 4.0	below 4.0	below 0.4	below 4.0	below 0.4	below 4.0	corrosion
	Stability index		6.0~7.0	---	---	---	---	---	---	---	---	corrosion + scale

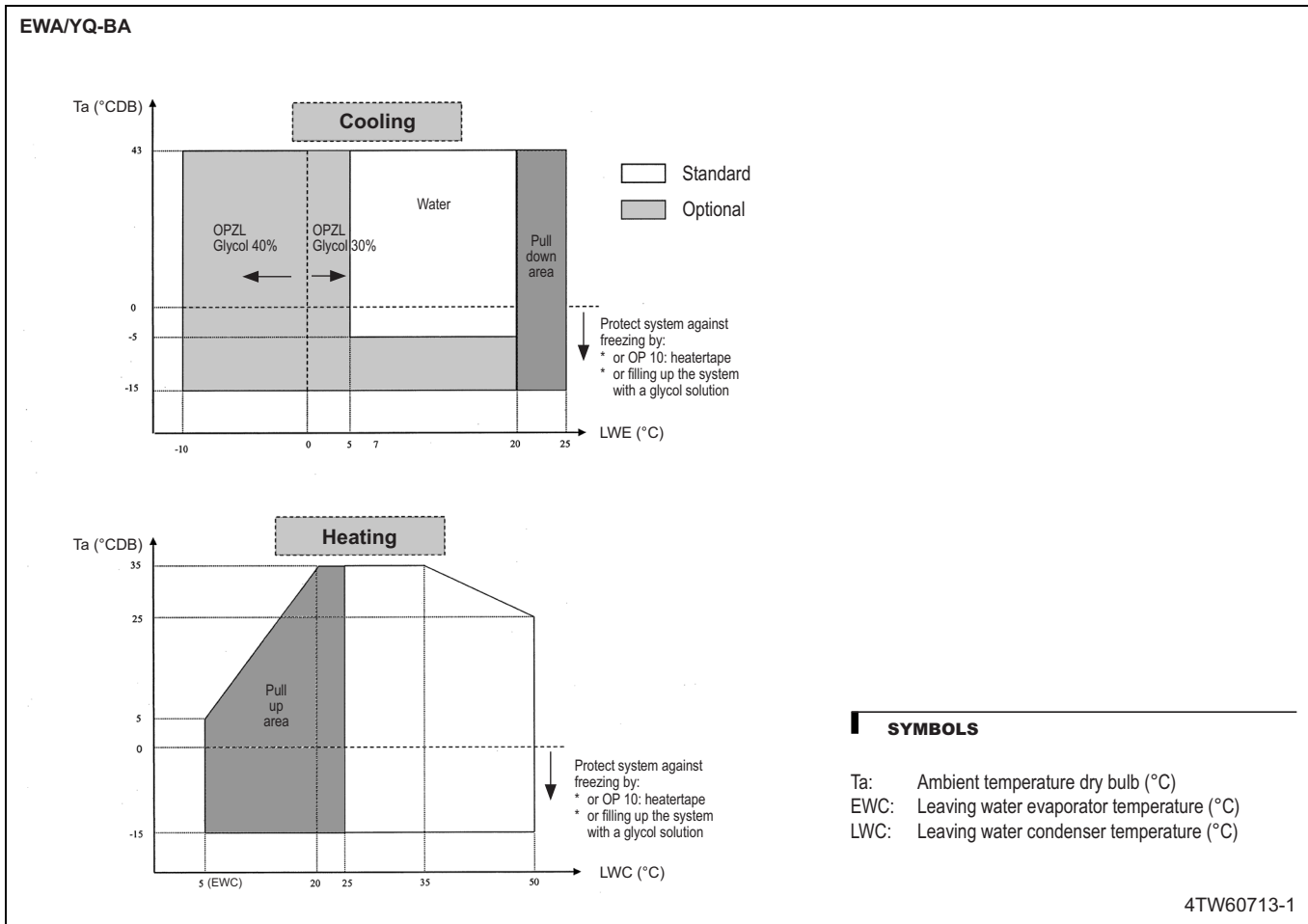
NOTES

- Names, definitions and units are according to JIS K 0101. Units and figures between brackets are old units published as reference only.
- In case of using heated water (more than 40°C), corrosion is generally noticeable.
Especially when the iron material is in direct contact with water without any protection shields, it is desirable to give the valid measures for corrosion. e.g. chemical measure,...
- In the cooling water using hermetic cooling tower, closed circuit water is according to heated water standard, and scattered water is according to cooling water standard.
- Supply water is considered drink water, industrial water and ground water except for genuine water, neutral water and soft water.
- The above mentioned items are representable items in corrosion and scale cases.

3TW50179-1

11 Operation range

11 - 1 Operation Range



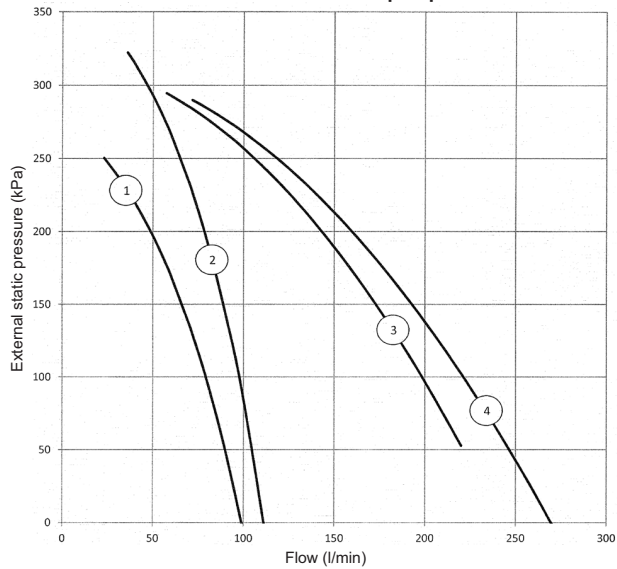
12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

12

EWA/YQ-BA

Unit with standard pump



- 1-size 016-021-025
- 2-size 032
- 3-size 040-050
- 4-size 064

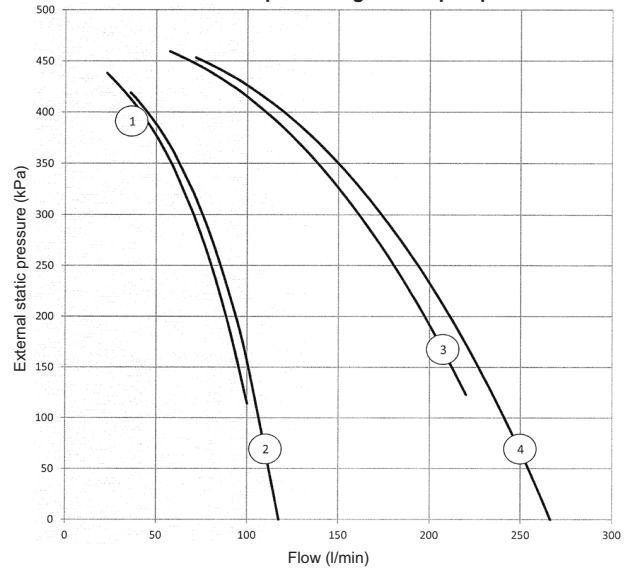
4TW60719-3 (1)

WARNING

1. Selecting a flow outside the curves can cause damage to or malfunctioning of the unit.
2. See minimum and maximum allowed flow in the technical specifications.

EWA/YQ-BA

Unit with optional high static pump



- 1-size 016-021-025
- 2-size 032
- 3-size 040-050
- 4-size 064

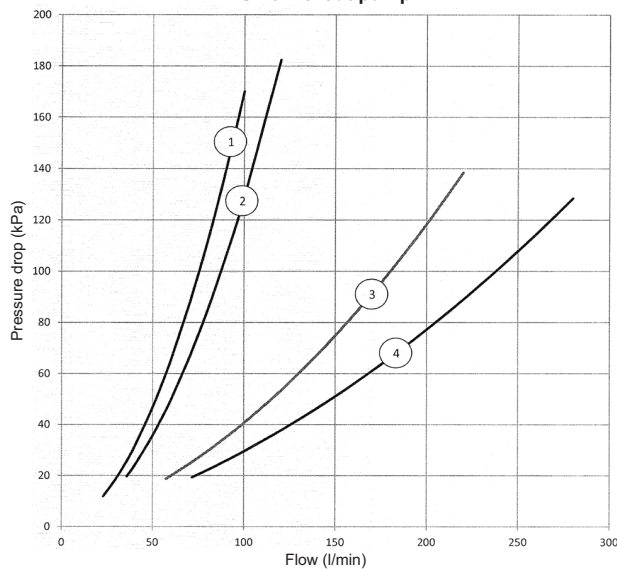
4TW60719-3 (2)

WARNING

1. Selecting a flow outside the curves can cause damage to or malfunctioning of the unit.
2. See minimum and maximum allowed flow in the technical specifications.

EWA/YQ-BA

Unit without pump



- 1-size 016-021-025
- 2-size 032
- 3-size 040-050
- 4-size 064

4TW60719-3 (3)

WARNING

1. Selecting a flow outside the curves can cause damage to or malfunctioning of the unit.
2. See minimum and maximum allowed flow in the technical specifications.

In all of us,
a green heart



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