Chillers

Technical Data

Air Cooled inverter Chiller

EEDEN11-430

EWAQ-BAW*

DAIKIN

Chillers

Technical Data

Air Cooled inverter Chiller

EEDEN11-430

EWAQ-BAW*

TABLE OF CONTENTS

EWAQ-BAW*

1 Features

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

2 Specifications

2-1 Technical Specifications					EWAQ016BAW*	EWAQ021BAW*	EWAQ025BAW*	EWAQ032BAW*	EWAQ040BAW*	EWAQ050BAW*	EWAQ064BAW*
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)
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)
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
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		738
	Packed unit			kg	291	344		428	616		783
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			31	45		53
Water heat exchanger	Type				Brazed 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.	m³/min	171	185		233	370		466.0
	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
Operation range	Water side	Cooling	Min.	ºCDB	5						
			Max.	ºCDB	20						
Refrigerant	Type				R-410A						
	Charge			kg	7.6			9.6	15.2		19.2
	Control				Electronic expansion valve						
	Circuits	Quantity			1						

2 Specifications

2-1 Technical Specifications				EWAQ016BAW*	EWAQ021BAW*	EWAQ025BAW*	EWAQ032BAW*	EWAQ040BAW*	EWAQ050BAW*	EWAQ064BAW*
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 (3)			4.2 (3)	5.8 (3)		7.7 (3)
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				EWAQ016BAW*	EWAQ021BAW*	EWAQ025BAW*	EWAQ032BAW*	EWAQ040BAW*	EWAQ050BAW*	EWAQ064BAW*
Power supply	Name			W1						
	Phase			3N~						
	Frequency		Hz	50						
	Voltage		V	400						
	Voltage range	Min.	%	-10						
		Max.	%	10						
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 35ºC - LWE 7ºC (DT = 5ºC)

(2) Pump is not included

(3) Including piping + PHE; excluding expansion vessel

3 Options

3 - 1 Options

EWA/YQ-BA

Option availability

		EW(A/Y)Q*BA*								DIGIT			
Reference	Desciption	016	021	025	032	040	050	064	Availibility	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				

4TW60719-1

3 Options

3 - 1 Options

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						
		Nom. External Static Pressure	Cooling (1)	kPa	202	169	128	142	232	198	169
	Weight of unit	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						
		Nom. External Static Pressure	Cooling (1)	kPa	382	343	292	221	384	338	284
	Weight of unit	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
OP10										
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 mm²						
	Thermostat cooling/heating signal	Quantity of wires		2						
		Maximum running current		Minimum cable section 0.75 mm²						
	Operation ON signal	Quantity of wires		2						
		Maximum running current		Minimum cable section 0.75 mm²						
	Operation OFF signal	Quantity of wires		2						
		Maximum running current		Minimum cable section 0.75 mm²						
EKRUAHT*										
Cable requirements	Secondary remote control	Quantity of wires		2						
		Maximum running current		Minimum cable section 0.75 mm²						

NOTES

1. Additonal or different specs compared to standard

3TW60711-1A

4 Capacity tables

4 - 1 Cooling Capacity Tables

EWA/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

1. Cooling capacity (kW)
   Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled 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

3. 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 (°C)
Tamb : Ambient temperature (°C)

3TW60722-4(2)

4 Capacity tables

4 - 1 Cooling Capacity Tables

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

1. Cooling capacity (CAP)
   Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled 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

SYMBOLS

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

3TW60722-4(1)

4 Capacity tables

4 - 1 Cooling Capacity Tables

EWA/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
	064	49,1	24,3	47,2	26,9	43,5	29,7	40,1	32,8	31,9	28,1
-5	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

1. Cooling capacity (kW)
   Capacity is according to Eurovent
   rating standard 6/C/003-2006 and valid for chilled 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

3. 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 (°C)
Tamb : Ambient temperature (°C)

3TW60722-1(2)

4 Capacity tables

4 - 1 Cooling Capacity Tables

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

1. Cooling capacity (CAP)
   Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled 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

SYMBOLS

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

3TW60722-1(1)

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

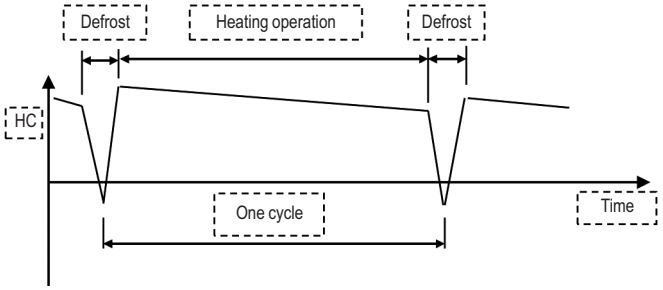
Note 1 :
HC tabulated does not include capacity drop during frosting period and defrost.
The integrated Heating Capacity takes into consideration the capacity drop during frosting period and defrosting operation.

(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 :

		Tamb [°C] RH 85%					
	Size	-15	-10	-7	-2	2	7
Correction factor	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

3TW60722-4(3)

4 Capacity tables

4 - 2 Heating Capacity Tables

EWA/YQ-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
		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

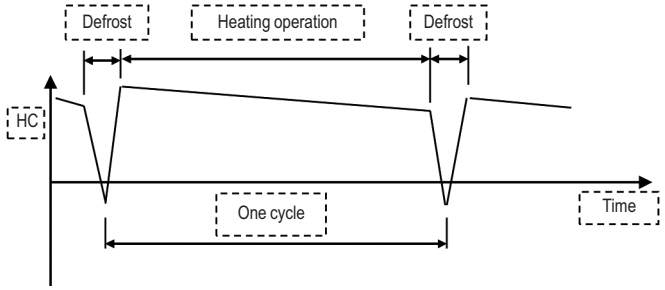
Note 1 :
HC tabulated does not include capacity drop during frosting period and defrost.
The integrated Heating Capacity takes into consideration the capacity drop during frosting period and defrosting operation.

(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 :

		Tamb [°C] RH 85%					
	Size	-15	-10	-7	-2	2	7
Correction factor	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 Dt = 3 - 8°C

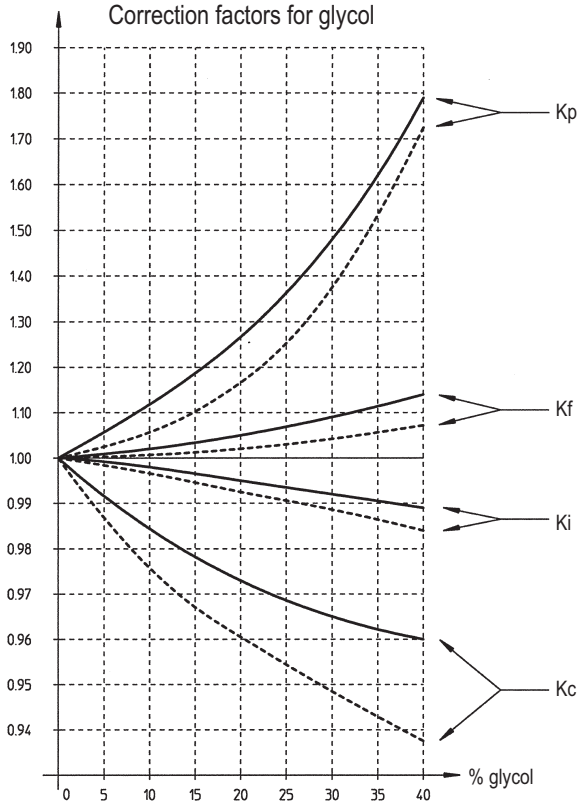
2. Power input (kW)
Power input is total input according to Eurovent rating standard 6/C/003-2006: Compressor + fans + control circuit

3TW60722-1(3)

4 Capacity tables

4 - 3 Capacity Correction Factor

EWA/YQ-BA



SYMBOLS

——— Ethylene Glycol
- - - - - Propylene Glycol

Kc Correction on cooling capacity
Ki Correction on power input
Kf Correction on flow rate
Kp Correction on pressure drop

4TW50689-8

5 Dimensional drawings

5 - 1 Dimensional Drawings

EWA/YQ16-25BA

Models	E	F	G
EWA/YQ016BAWN	736	619	371
EWA/YQ021BAWN	768	613	372
EWA/YQ025BAWN	768	613	372
EWA/YQ016BAWP	711	602	379
EWA/YQ021BAWP	745	599	379
EWA/YQ025BAWP	745	599	379

Legend:

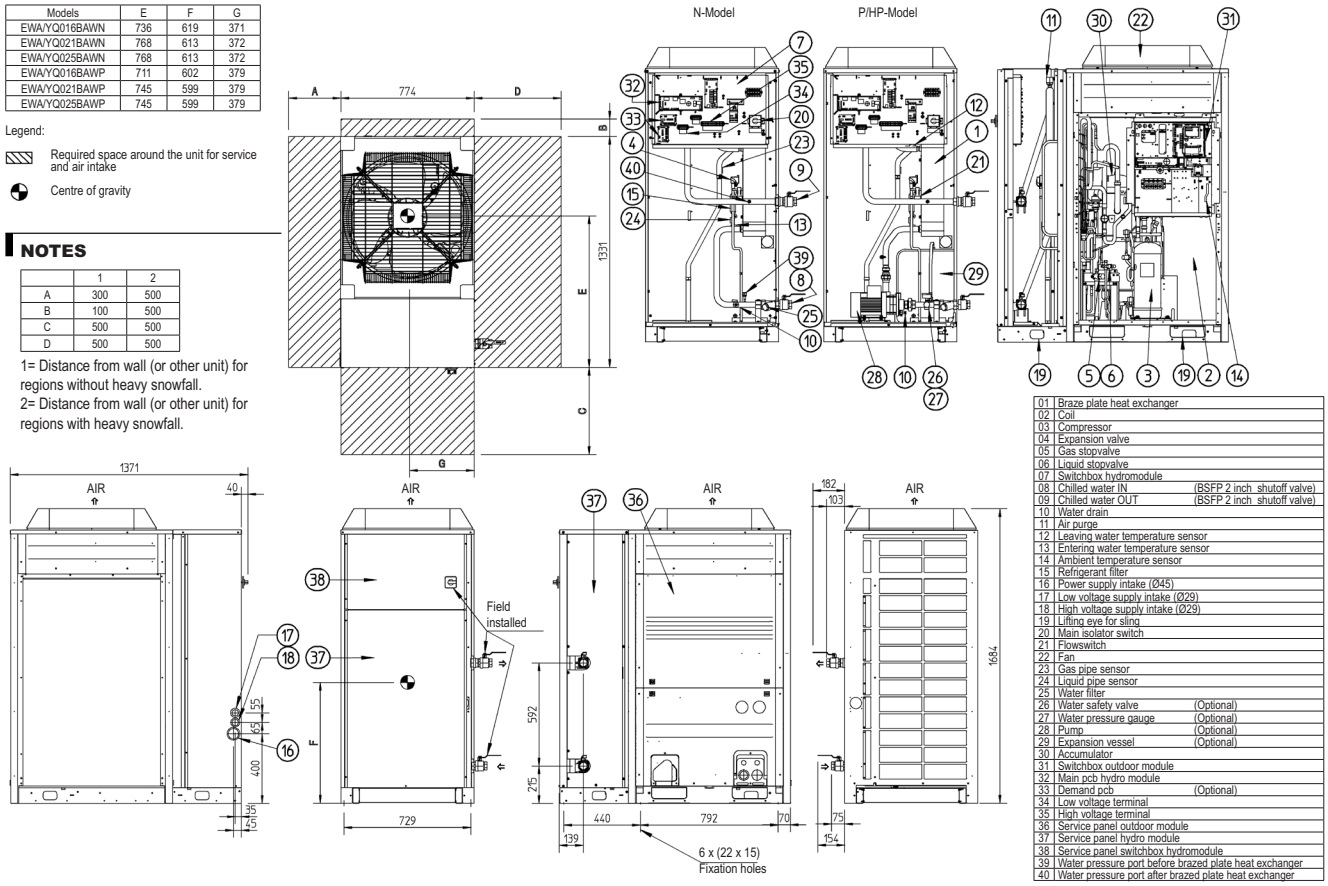
Required space around the unit for service and air intake

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.



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	Flowswitch	
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 hydro module	
33	Demand pcb	(Optional)
34	Low voltage terminal	
35	High voltage terminal	
36	Service panel outdoor module	
37	Service panel hydro module	
38	Service panel switchbox hydromodule	
39	Water pressure port before brazed plate heat exchanger	
40	Water pressure port after brazed plate heat exchanger	

3TW60724-1

EWA/YQ32BA

Models	E	F	G
EWA/YQ032BAWN	870	606	380
EWA/YQ032BAWP	850	595	385

Legend:

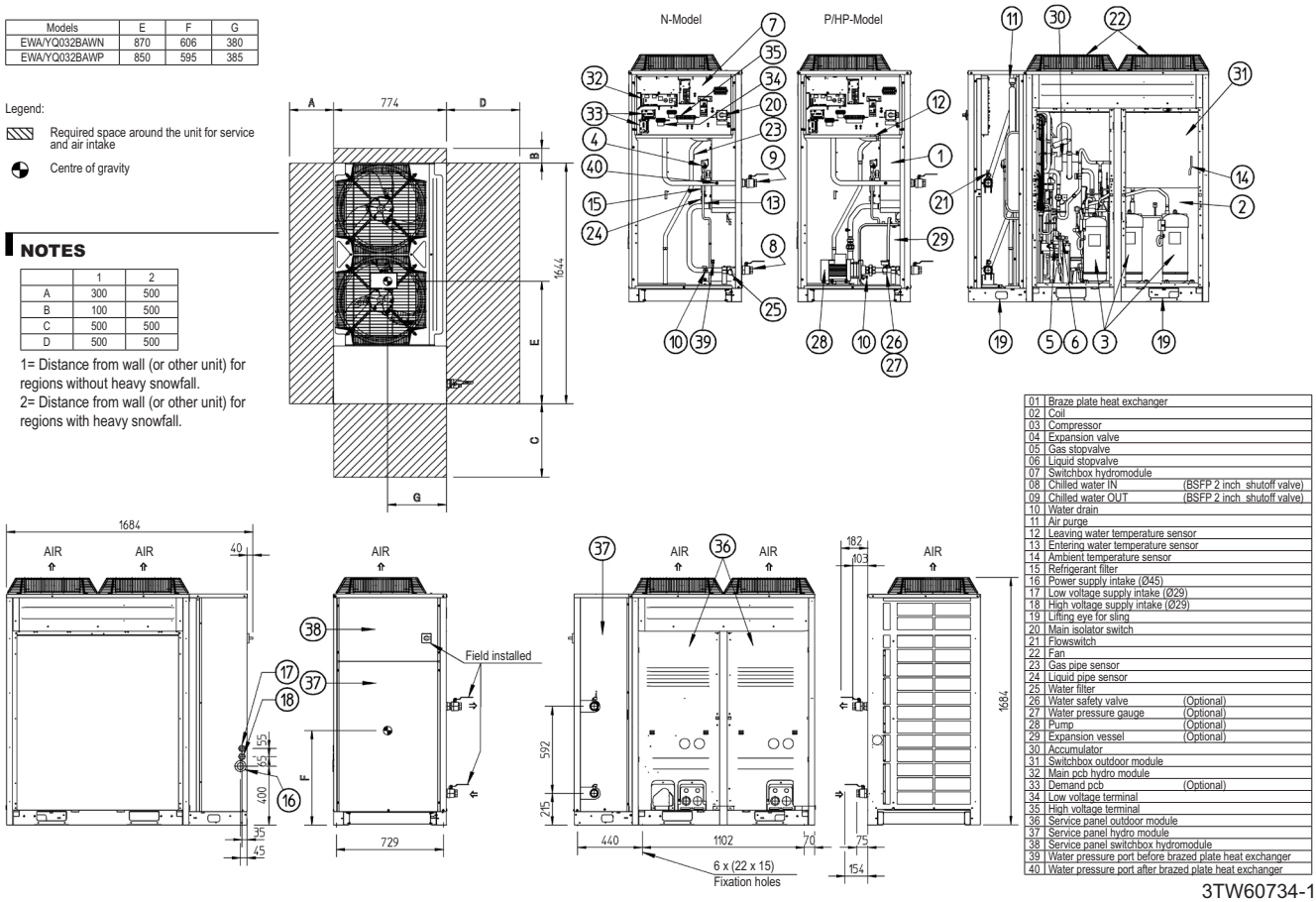
Required space around the unit for service and air intake

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.



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	Flowswitch	
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 hydro module	
33	Demand pcb	(Optional)
34	Low voltage terminal	
35	High voltage terminal	
36	Service panel outdoor module	
37	Service panel hydro module	
38	Service panel switchbox hydromodule	
39	Water pressure port before brazed plate heat exchanger	
40	Water pressure port after brazed plate heat exchanger	

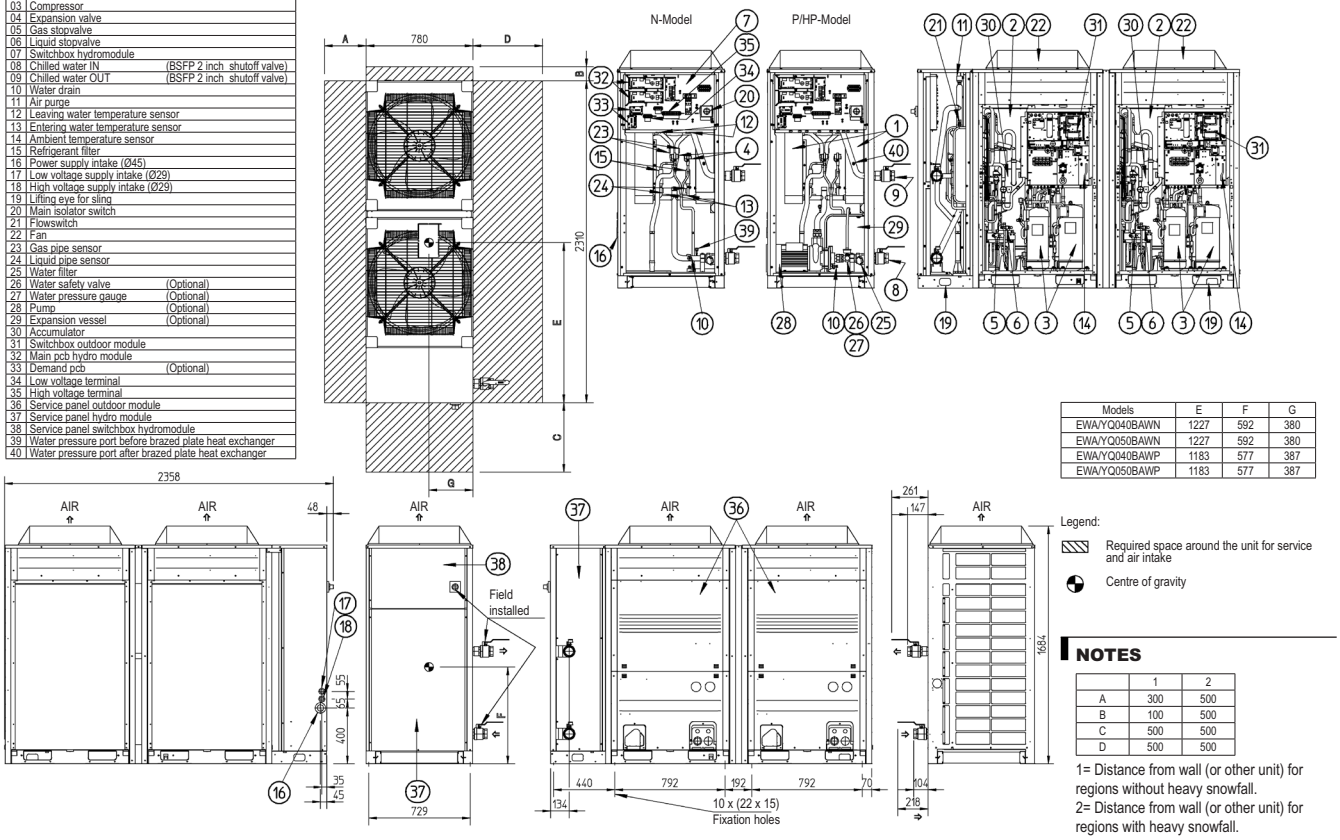
3TW60734-1

5 Dimensional drawings

5 - 1 Dimensional Drawings

EWA/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	Flowswitch	
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 hydro module	
33	Demand pcb	(Optional)
34	Low voltage terminal	
35	High voltage terminal	
36	Service panel outdoor module	
37	Service panel hydro module	
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
EWA/YQ040BAWN	1227	592	380
EWA/YQ050BAWN	1227	592	380
EWA/YQ040BAWP	1183	577	387
EWA/YQ050BAWP	1183	577	387

Legend:

Required space around the unit for service and air intake

Centre of gravity

NOTES

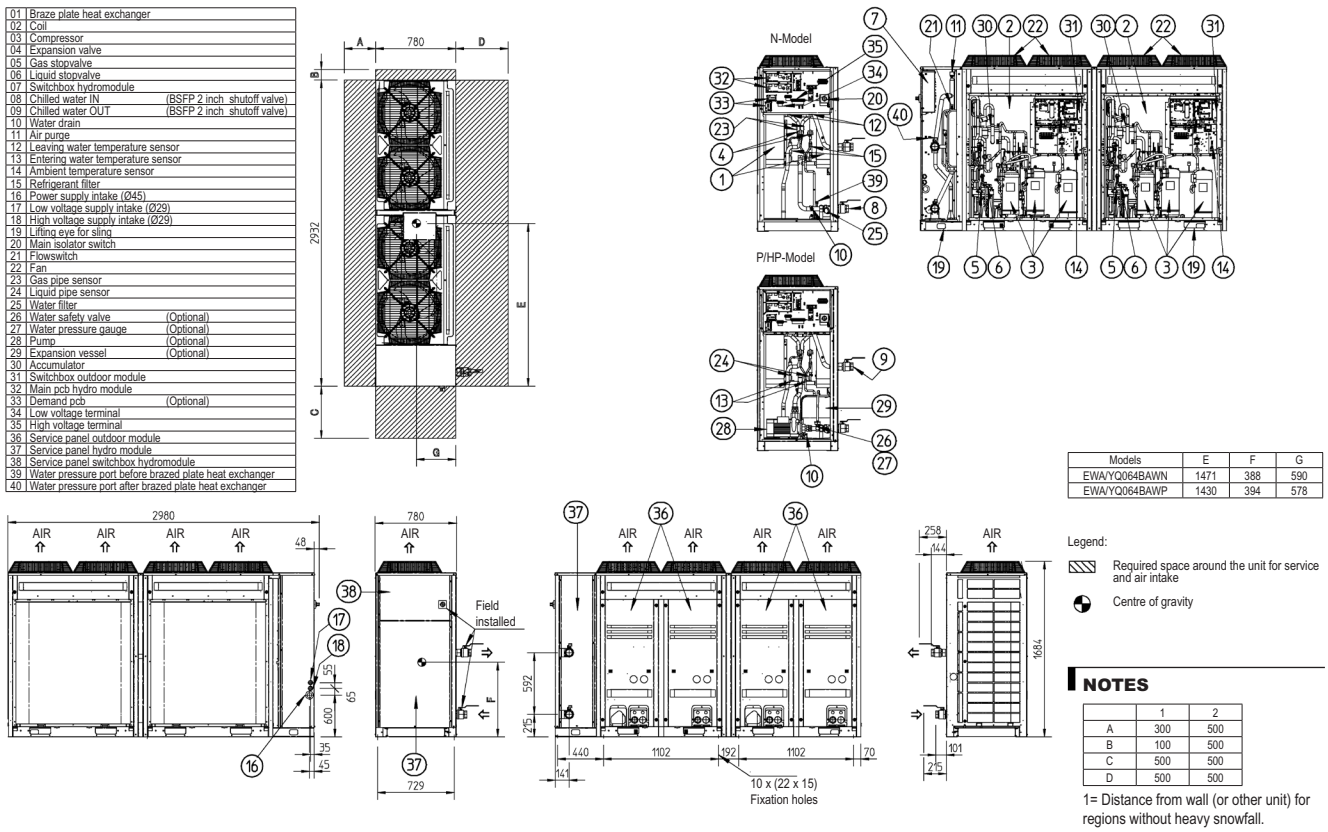
	1	2
A	300	500
B	100	500
C	500	500
D	500	500

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

EWA/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	Flowswitch	
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 hydro module	
33	Demand pcb	(Optional)
34	Low voltage terminal	
35	High voltage terminal	
36	Service panel outdoor module	
37	Service panel hydro module	
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
EWA/YQ064BAWN	1471	388	590
EWA/YQ064BAWP	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.

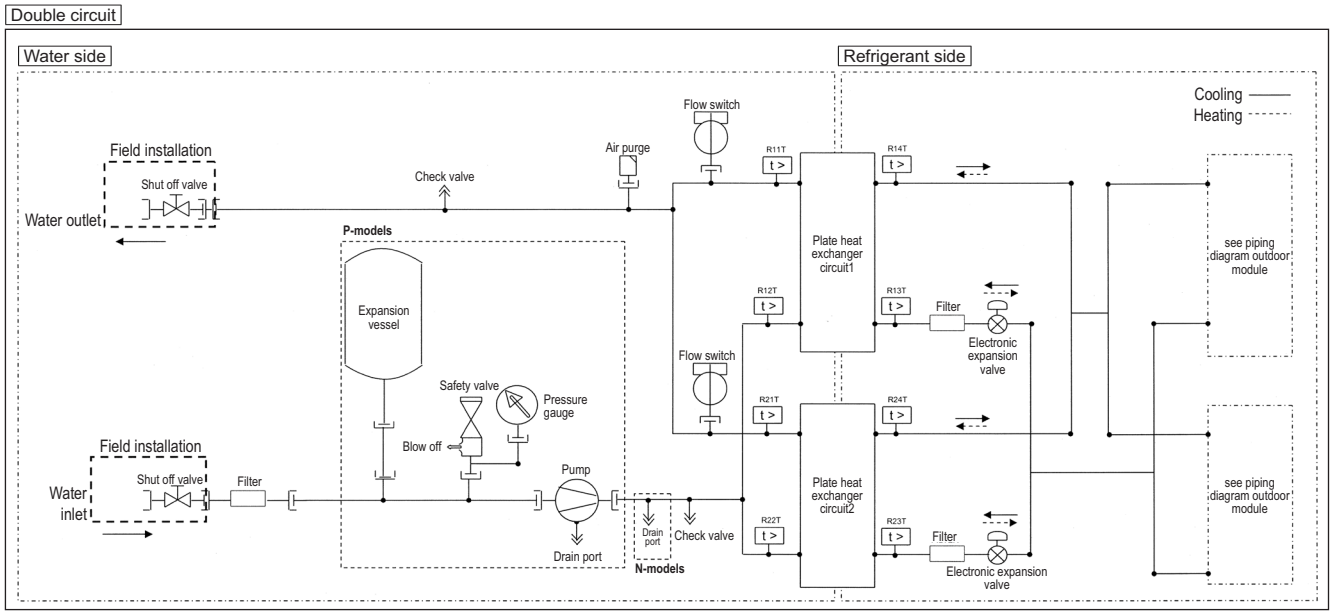
3TW60774-1

6 Piping diagrams

6 - 1 Piping Diagrams

EWA/YQ-BA **Piping diagram - Hydromodule**

Double circuit



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

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

Check valve | Flare conn. | Screw conn. | Flange conn. | Pinched pipe | Spinned pipe

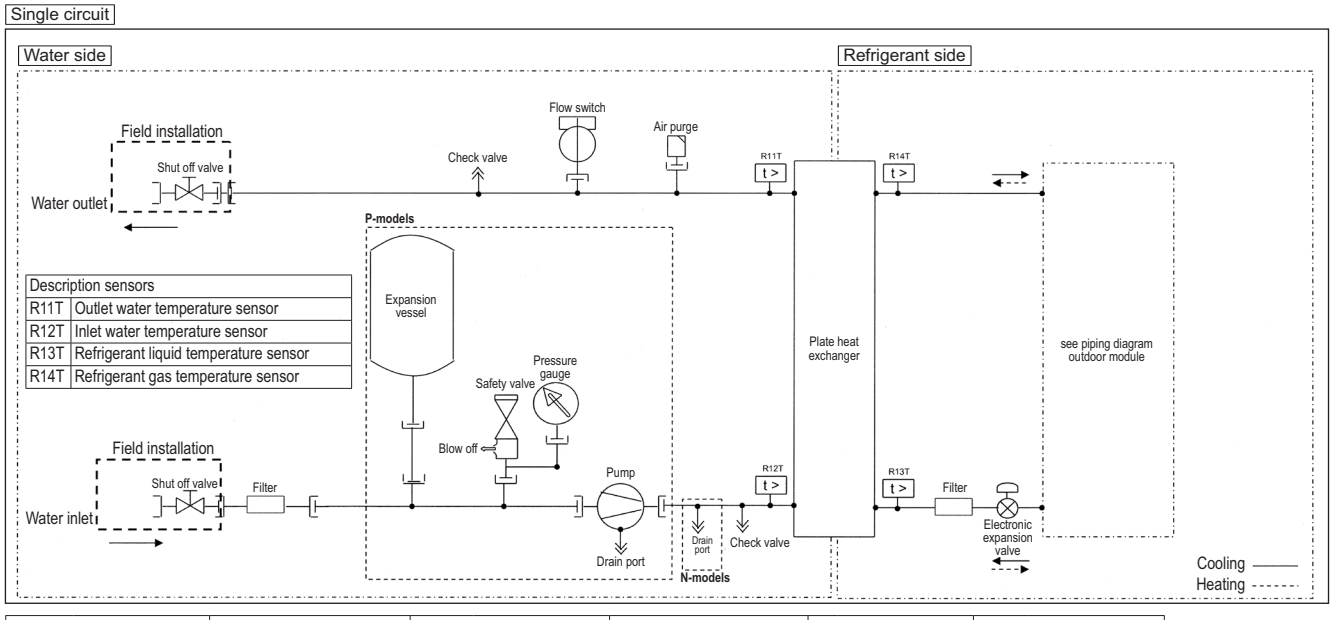
3TW60715-1(2)

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				•			•

Single circuit



Description sensors	
R11T	Outlet water temperature sensor
R12T	Inlet water temperature sensor
R13T	Refrigerant liquid temperature sensor
R14T	Refrigerant gas temperature sensor

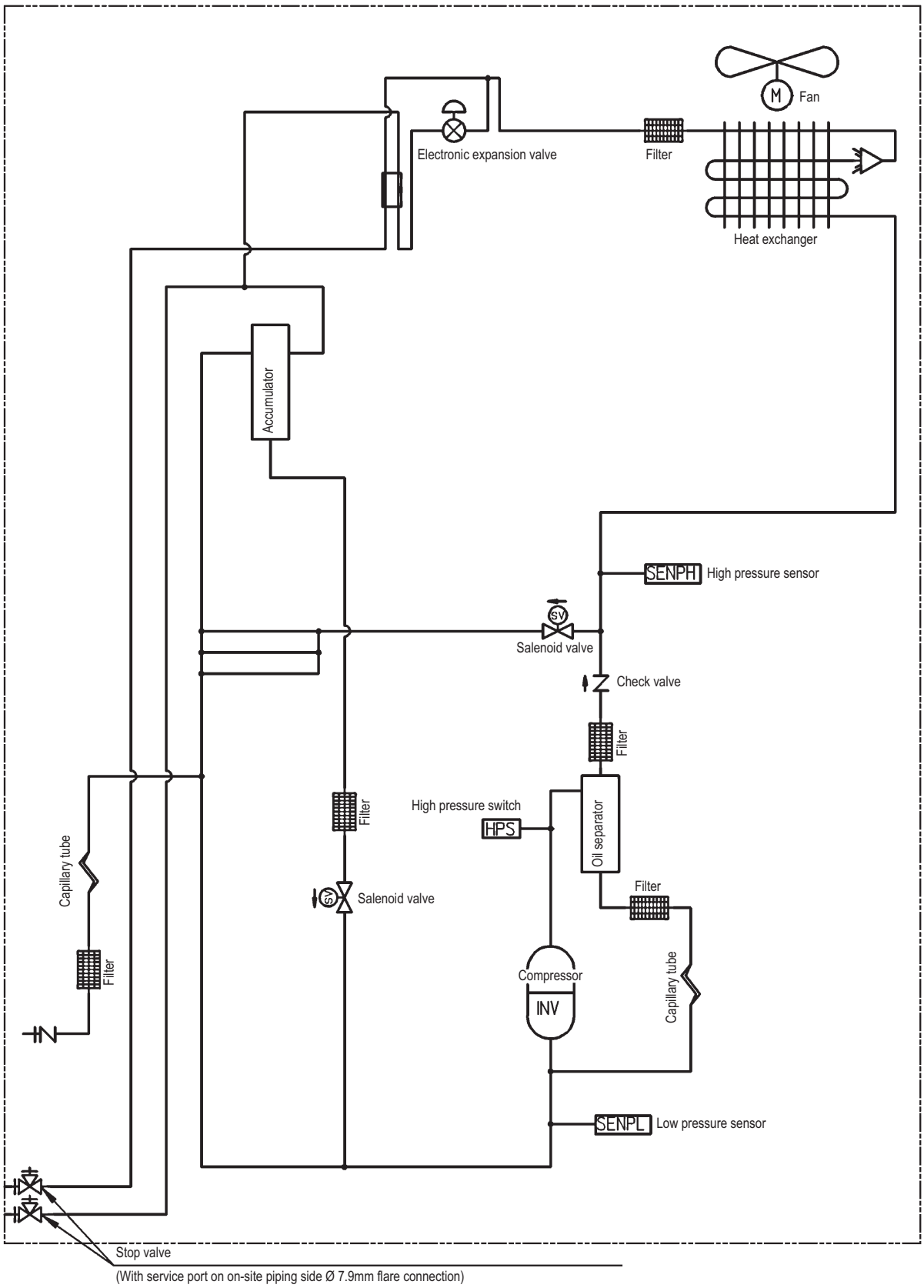
Check valve | Flare conn. | Screw conn. | Flange conn. | Pinched pipe | Spinned pipe

3TW60715-1(1)

6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ16BA

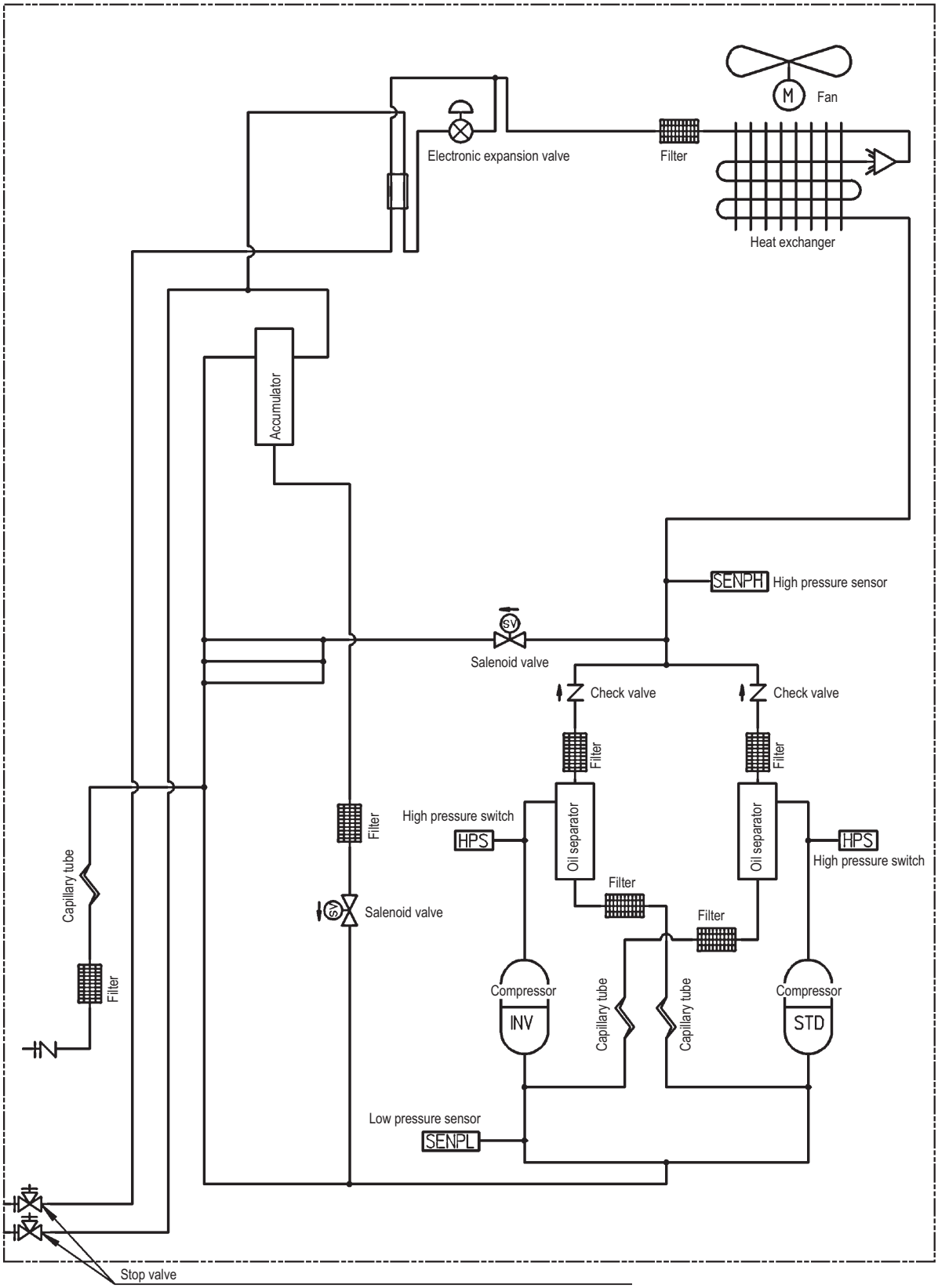


4TW27315-1A

6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ21,40BA

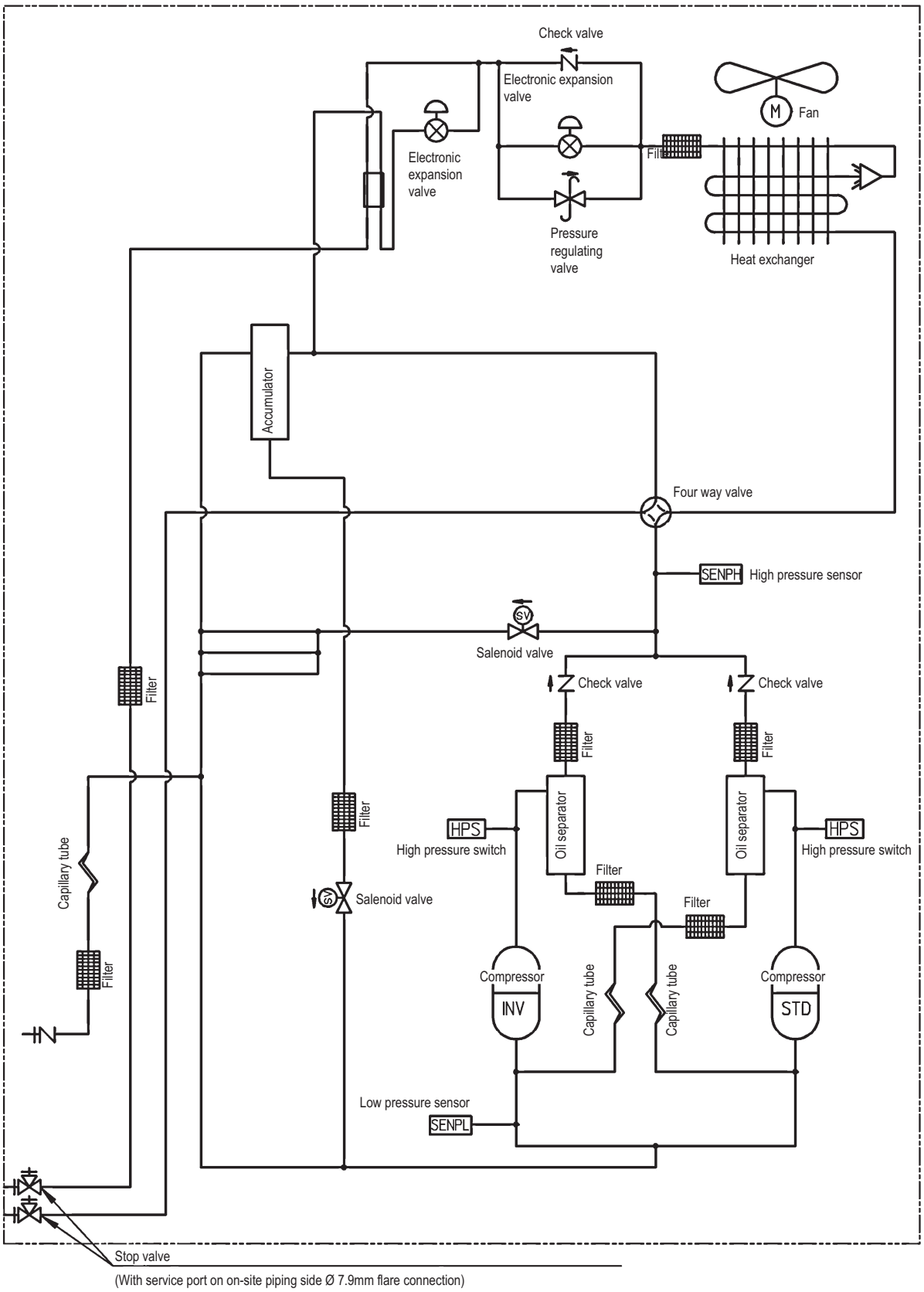


4TW27325-1A

6 Piping diagrams

6 - 1 Piping Diagrams

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

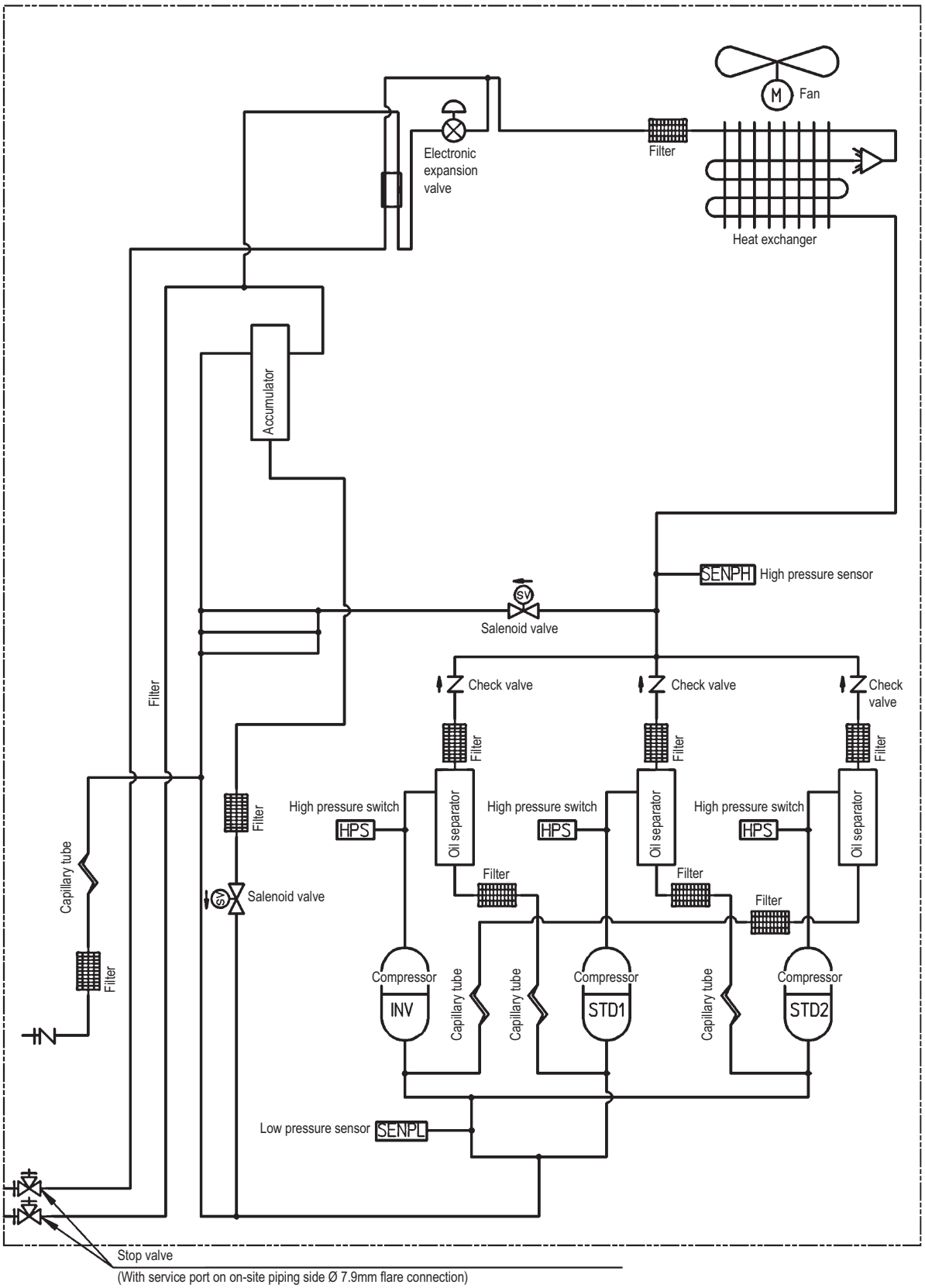


4TW27255-1

6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ32,64BA



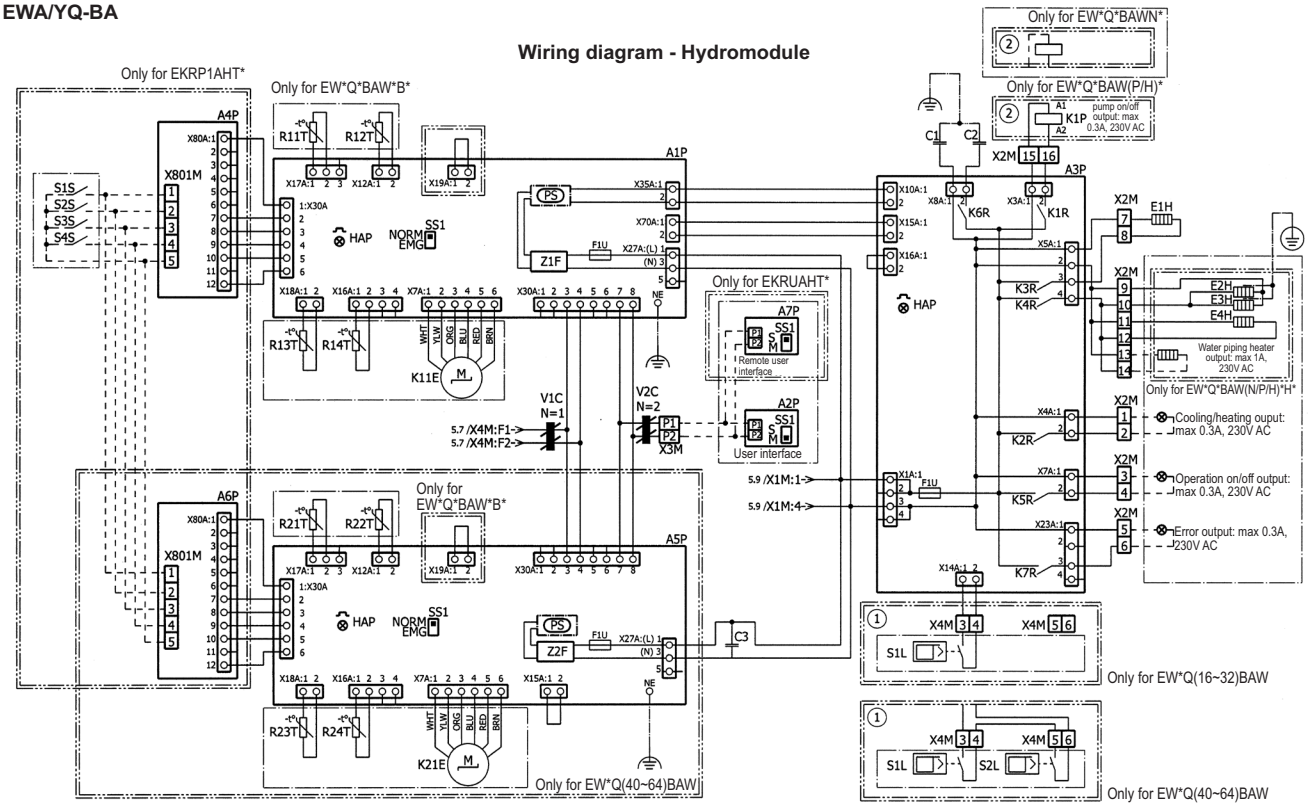
4TW27345-1A

7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

EWA/YQ-BA

Wiring diagram - Hydromodule

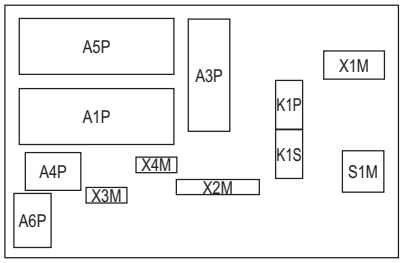


Part number		Description
A1P		Main PCB (master)
A2P		User interface PCB
A3P		Control PCB
A4P	*	Demand PCB
A5P		Main PCB (slave)
A6P	*	Demand PCB
A7P	*	Remote user Interface PCB
C1 - C3		Filter capacitor
E1H		Switch box heater
E2H		Plate heat exchanger heater (circuit 1)
E3H		Plate heat exchanger heater (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 #: fied supplied

Switchbox layout



4TW60726-1 (2)

NOTES

1. X1M: Terminal; X2M: Field wiring terminal for high voltage; X3M: Field wiring terminal for low voltage; X4M: Factory wiring terminal for low voltage
2. ——— : Earth wiring; - - - - - - - : Field supply; └┈┈┘ : Option; └┈┈┘ : Wiring depending on model; └ ─ ─ ┘ : Not mounted in switch box; └─────┘ : PCB; 1: Several wiring possibilities
3. 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

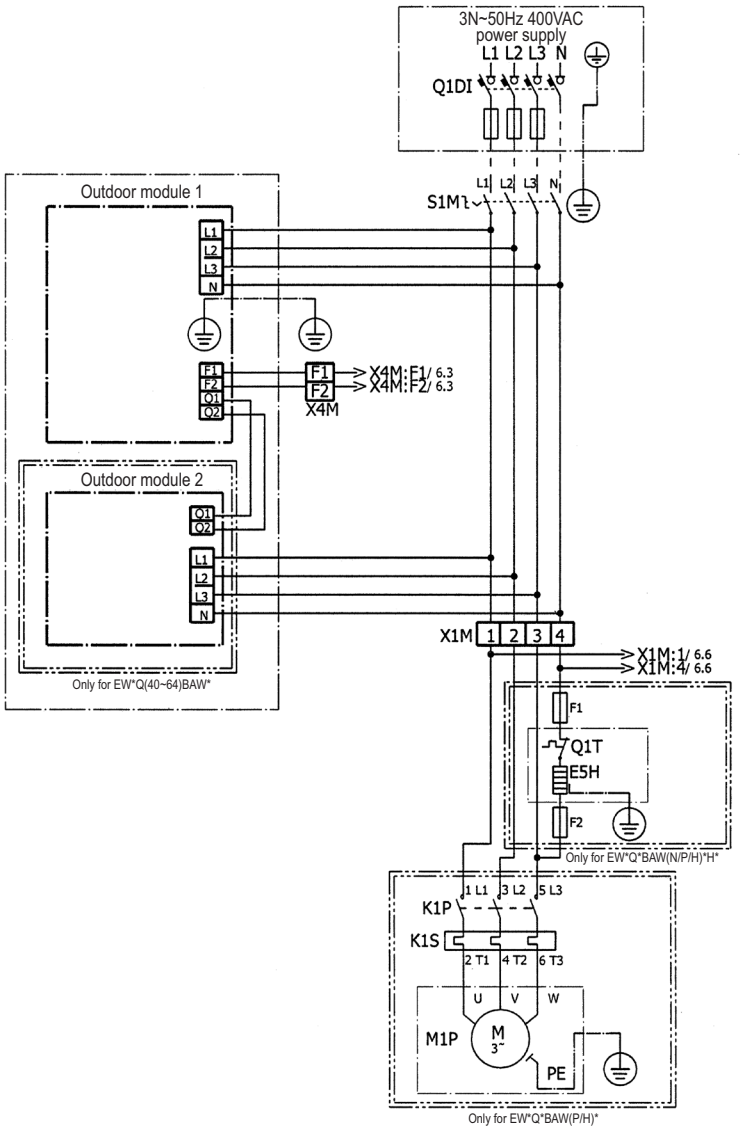
7 - 1 Wiring Diagrams - Three Phase

EWA/YQ-BA

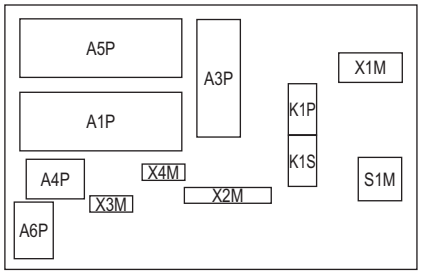
Wiring diagram - Hydromodule

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 #: fied supplied



Switchbox layout



4TW60726-1 (1)

NOTES

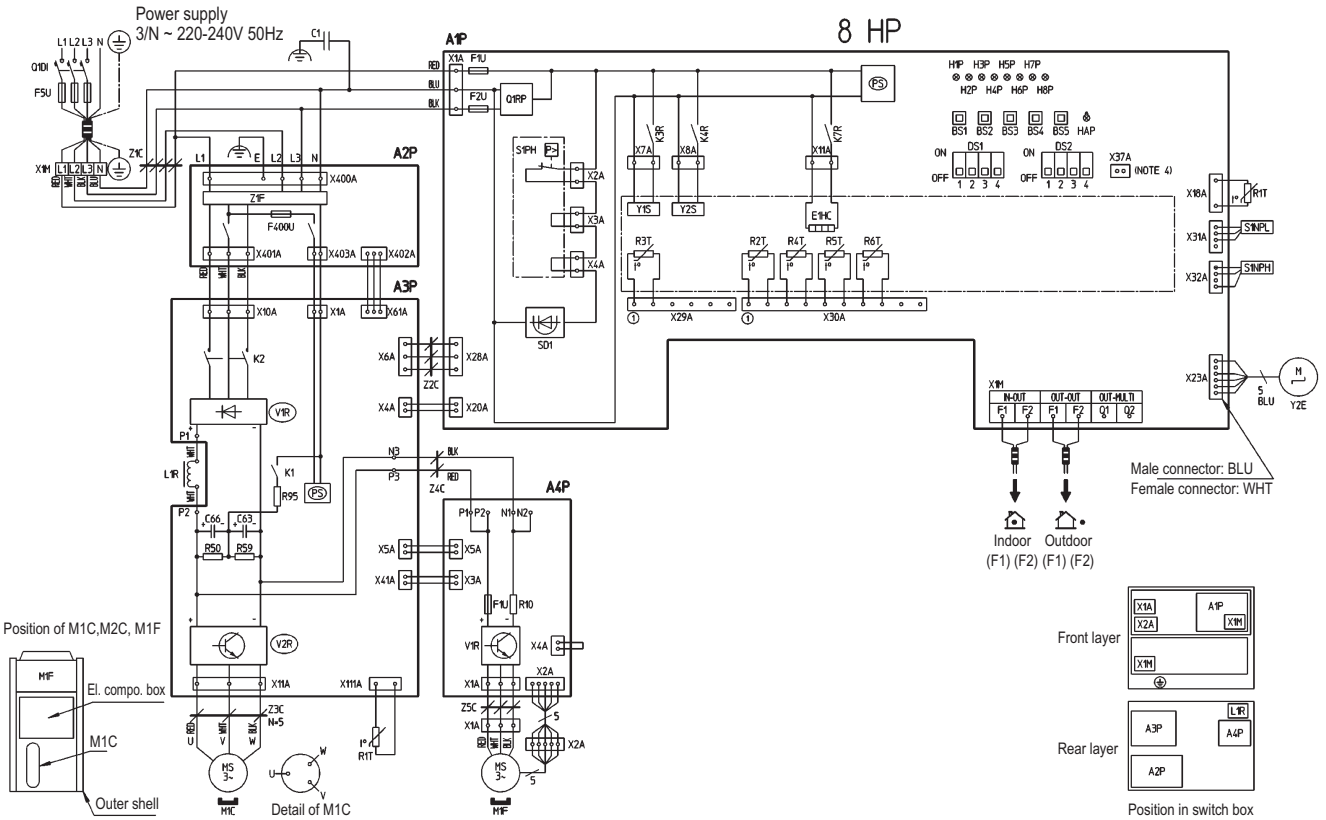
1. X1M: Terminal; X2M: Field wiring terminal for high voltage; X3M: Field wiring terminal for low voltage; X4M: Factory wiring terminal for low voltage
2. ——— : Earth wiring; - - - - - - - : Field supply; └┈┈┘ : Option; └┈┈┘ : Wiring depending on model; └ ─ ─ ┘ : Not mounted in switch box; └──┘ : PCB; 1: Several wiring possibilities
3. 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

EWAQ16BA



A1P-A4P	Printed circuit board		HAP	Pilotlamp (service monitor - green)		R50, R59	Resistor
	A1P: Main	A4P: Fan	K1	Magnetic relay		R95	Resistor (current limiting)
	A2P: Noise filter		K2	Magnetic contactor (M1C)		S1NPH	Pressure sensor (high)
	A3P: Inverter		K3R~K7R	K3R: Y1S	K7R: E1HC	S1NPL	Pressure sensor (low)
BS1~BS5	Push button switch			K4R: Y2S		S1PH	Pressure switch (high)
	(Mode, set, return, test, reset)		L1R	Reactor		SD1	Safety devices input
C1	Capacitor		M1C	Motor (Compressor)		V1R	Power module (A4P)
C63,C66	Capacitor		M1F	Motor (Fan)		V1R, V2R	Power module (A3P)
DS1, DS2	Dip switch		PS	Switching power supply (A1P, A3P)		X1A, X2A	Connector (M1F)
E1HC	Crankcase heater		Q1RP	Phase reversal detect circuit		X1M	Terminal strip (power supply)
F1U	Fuse (250V, 8A Ⓑ) (A4P)		Q1DI	Earth leakage breaker		X1M	Terminal strip (Control) (A1P)
F1U, F2U	Fuse (250V, 3.15A Ⓣ) (A1P)		R1T~R6T	Thermistor		Y2E	Electronic expansion valve (subcool)
F5U	Field fuse			R1T: AIR (A1P)	R4T: Heat exch. deicer	Y1S~Y2S	Solenoid valve
F400U	Fuse (250V, 6.3A Ⓣ) (A2P)			R1T: FIN (A3P)	R5T: Heat exch. outlet		Y1S: Hot gas
H1P~H8P	Pilotlamp (service monitor - orange)			R2T: Suction	R6T: Liquid pipe		Y2S: Oil return
	[H2P] Prepare, Test -------- Flickering			R3T: M1C Discharge		Z1C~5C	Noise filter (ferrite core)
	Malfunction detection --- Light up		R10	Resistor (current sensor) (A4P)		Z1F	Noise filter (With surge absorber)

2TW27316-1

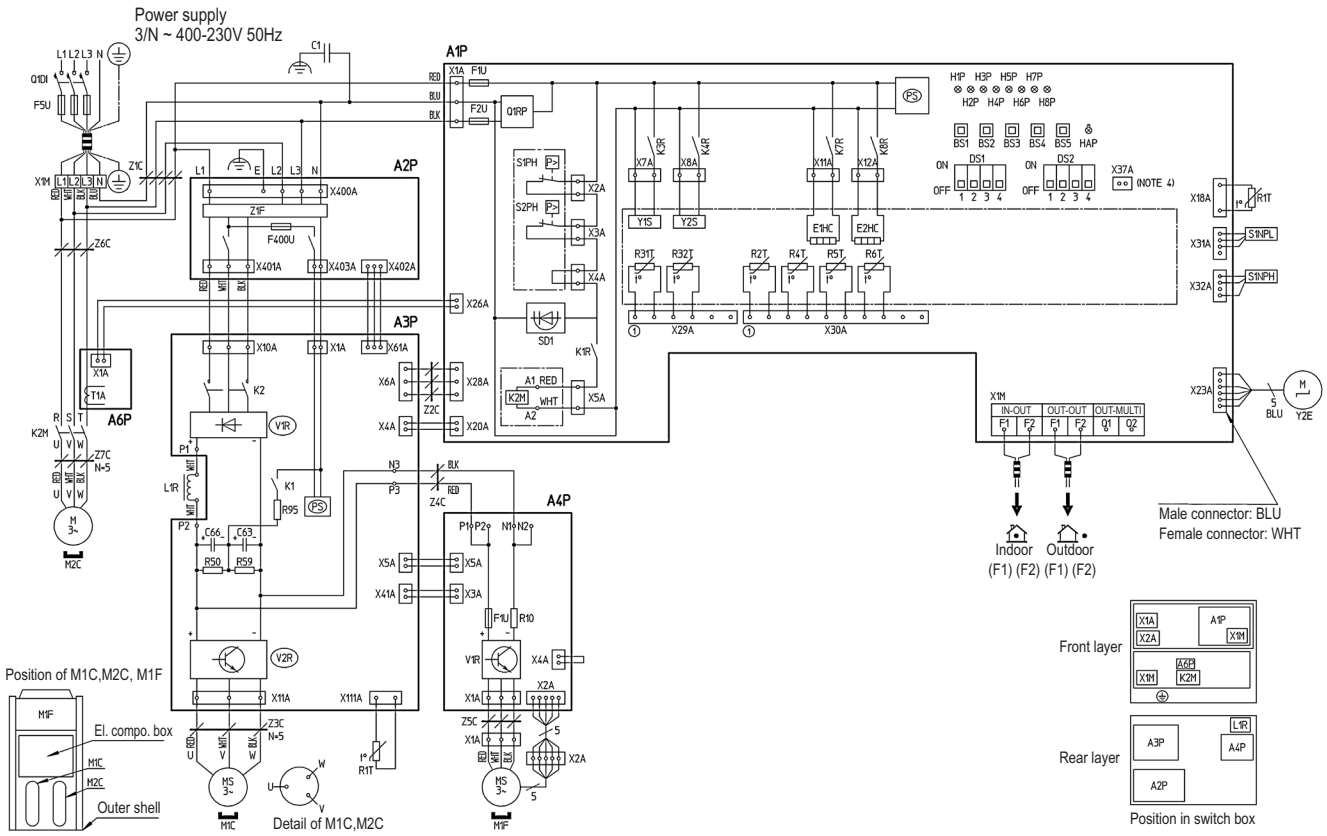
NOTES

1. This wiring diagram only applies to the outdoor unit
2. ▬▮▮▮▬ : field wiring, ▭ : indication of parts outside switchbox
3. ▭▭▭▭ : terminal strip, ⊙⊙ : connector, –o– : terminal, ⏚ Protective earth (screw)
4. When using the option adapter, refer to the installation manual
5. 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.
6. Do not operate the unit by short-circuiting protection device S1PH
7. 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

EWAQ21,40BA



A1P-A6P	Printed circuit board		K2	Magnetic contactor (M1C)		S1NPH	Pressure sensor (high)
	A1P: Main	A4P: Fan	K2M	Magnetic contactor (M2C)		S1NPL	Pressure sensor (low)
	A2P: Noise filter	A6P: Current sensor	K1R	Magnetic relais (K2M)		S1PH,S2PH	Pressure switch (high)
	A3P: Inverter		K3R~K8R	K3R: Y1S	K7R: E1HC	T1A	Current sensor (A6P)
BS1~BS5	Push button switch			K4R: Y2S	K8R: E2HC	SD1	Safety devices input
	(Mode, set, return, test, reset)		L1R	Reactor		V1R	Power module (A4P)
C1	Capacitor		M1C, M2C	Motor (Compressor)		V1R, V2R	Power module (A3P)
C63,C66	Capacitor		M1F	Motor (Fan)		X1A, X2A	Connector (M1F)
DS1, DS2	Dip switch		PS	Switching power supply (A1P, A3P)		X1M	Terminal strip (power supply)
E1HC, E2HC	Crankcase heater		Q1RP	Phase reversal detect circuit		X1M	Terminal strip (Control) (A1P)
F1U	Fuse (250V, 8A Ⓑ) (A4P)		Q1DI	Earth leakage breaker		Y2E	Electronic expansion valve (subcool)
F1U, F2U	Fuse (250V, 3.15A Ⓣ) (A1P)		R10	Resistor (current sensor) (A4P)		Y1S~Y2S	Solenoid valve
F5U	Field fuse		R50, R59	Resistor			Y1S: Hot gas
F400U	Fuse (250V, 6.3A Ⓣ) (A2P)		R95	Resistor (current limiting)			Y2S: Oil return
H1P~H8P	Pilotlamp (service monitor - orange)		R1T~R6T R31T, R32T	Thermistor		Z1C~Z7C	Noise filter (ferrite core)
	[H2P] Prepare, Test -------- Flickering			R1T: AIR (A1P)	R4T: Heat exch. deicer	Z1F	Noise filter (With surge absorber)
	Malfunction detection --- Light up			R1T: FIN (A3P)	R5T: Heat exch. outlet		
HAP	Pilotlamp (service monitor - green)			R2T: Suction	R6T: Liquid pipe		
K1	Magnetic relay			R31T: M1C Discharge	R32T: M2C discharge		

2TW27326-1

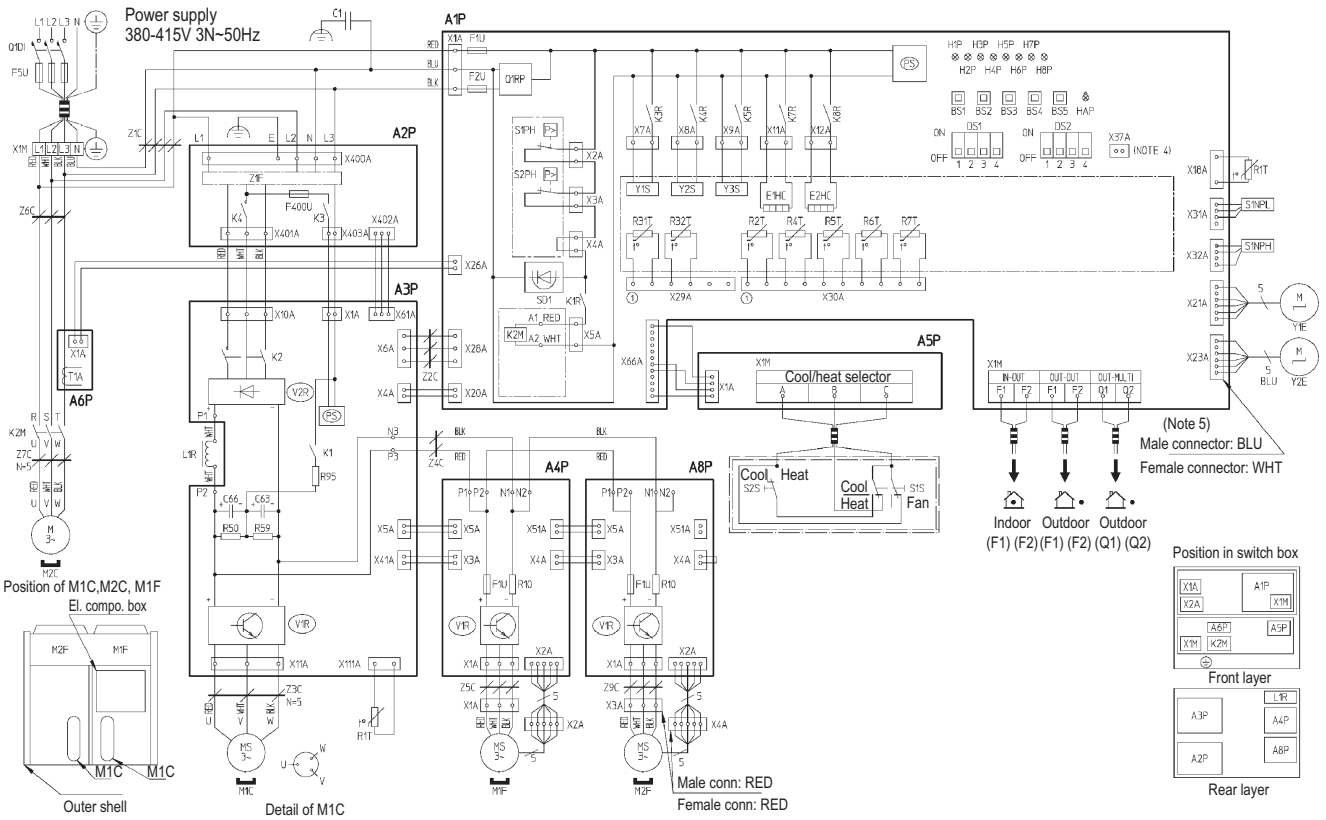
NOTES

1. This wiring diagram only applies to the outdoor unit
2. ▬▮▮▮▬ : field wiring, ▭ : indication of parts outside switchbox
3. ▭▭▭▭ : terminal strip, ⊡ : connector, –○– : terminal, ⏚ Protective earth (screw)
4. When using the option adapter, refer to the installation manual
5. 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.
6. Do not operate the unit by short-circuiting protection device S1PH
7. 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

EWA-YQ25,50BA



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

2TW31476-1

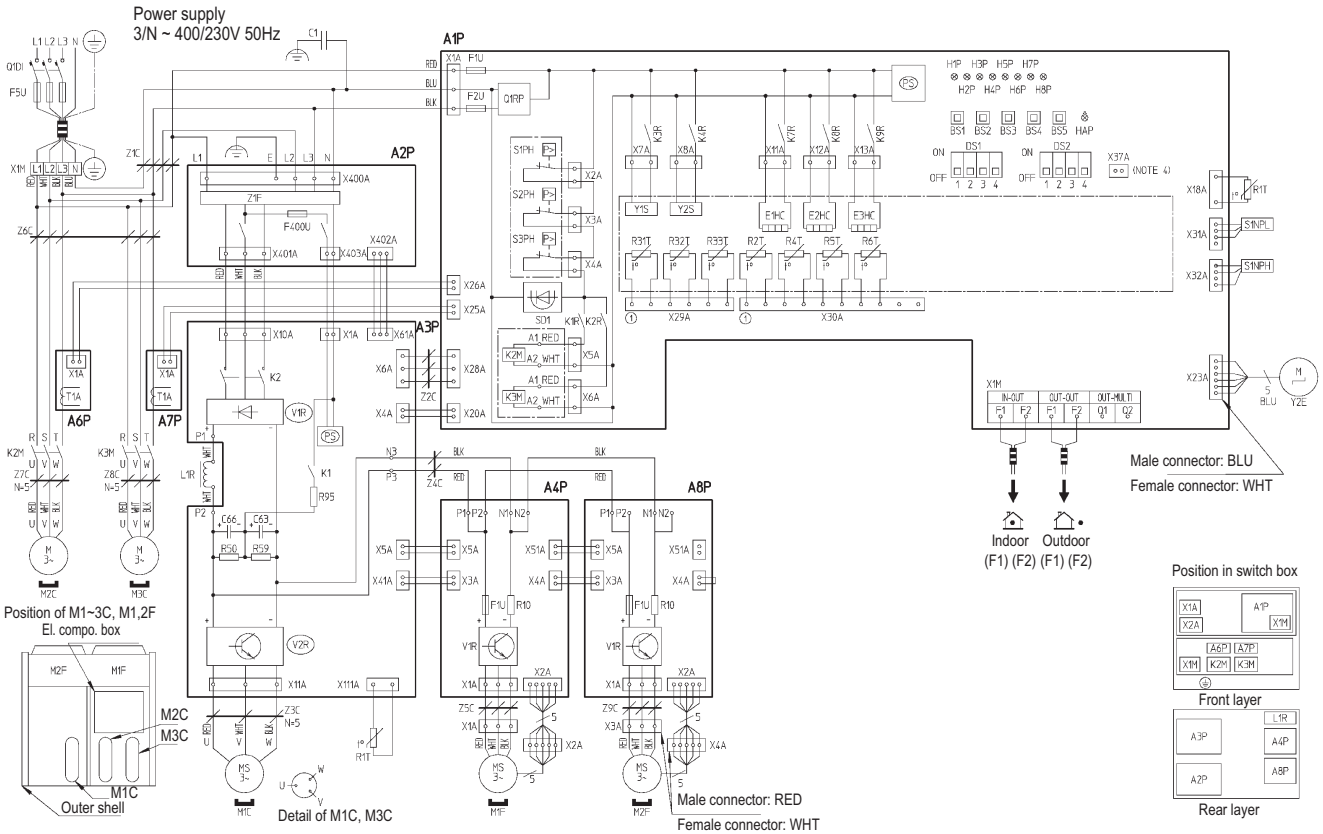
NOTES

1. This wiring diagram only applies to the outdoor unit
2. ▬▯▬ : field wiring
3. ▭▭▭ : terminal strip, ⊙⊙ : connector, –o– : terminal, ⏚ Protective earth (screw)
4. When using the option adapter, refer to the installation manual
5. 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.
6. Do not operate the unit by short-circuiting protection device S1PH
7. 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

EWAQ32,64BA



A1P-A7P	Printed circuit board		K2	Magnetic contactor (M1C)		R50, R59	Resistor
	A1P: Main	A4P, A8P: Fan	K2H, K3H	Magnetic contactor (M2C, M3C)		R95	Resistor (current limiting)
	A2P: Noise filter	A6P, A7P: Current sensor	K1R, K2R	Magnetic relais (K2M, K3M)		S1NPH	Pressure sensor (high)
	A3P: Inverter		K3R~K9R	K3R: Y1S	K8R: E2HC	S1NPL	Pressure sensor (low)
BS1~BS5	Push button switch			K4R: Y2S	K9R: E3HC	S1PH, S2PH	Pressure switch (high)
	(Mode, set, return, test, reset)			K7R: E1HC		T1A	Current sensor (A6P, A7P)
C1	Capacitor		L1R	Reactor		SD1	Safety devices input
C63,C66	Capacitor		M1C~M3C	Motor (Compressor)		V1R	Power module (A4P, A8P)
DS1, DS2	Dip switch		M1F, M2F	Motor (Fan)		V1R, V2R	Power module (A3P)
E1HC~E3HC	Crankcase heater		PS	Switching power supply (A1P, A3P)		X1A, X4A	Connector (M1F, M2F)
F1U	Fuse (250V, 8A Ⓑ) (A4P,A8P)		Q1RP	Phase reversal detect circuit		X1M	Terminal strip (power supply)
F1U, F2U	Fuse (250V, 3.15A Ⓣ) (A1P)		Q1DI	Earth leakage breaker		X1M	Terminal strip (control) (A1P)
F5U	Field fuse		R10	Resistor (current sensor) (A4P, A8P)		Y2E	Electronic expansion valve (subcool)
F400U	Fuse (250V, 6.3A Ⓣ) (A2P)		R1T~R6T R31T~R33T	Thermistor		Y1S~Y2S	Solenoid valve
H1P~H8P	Pilotlamp (service monitor - orange)			R1T: AIR (A1P)	R33T: M3C discharge		Y1S: Hot gas
	[H2P] Prepare, Test -------- Flickering			R1T: FIN (A3P)	R4T: Heat exch. deicer		Y2S: Oil return
	Malfunction detection --- Light up			R2T: Suction	R5T: Heat exch. outlet	Z1C~Z5C	Noise filter (ferrite core)
HAP	Pilotlamp (service monitor - green)			R31T: M1C Discharge	R6T: Liquid pipe	Z1F	Noise filter (With surge absorber)
K1	Magnetic relay			R32T: M2C Discharge			

2TW27346-1

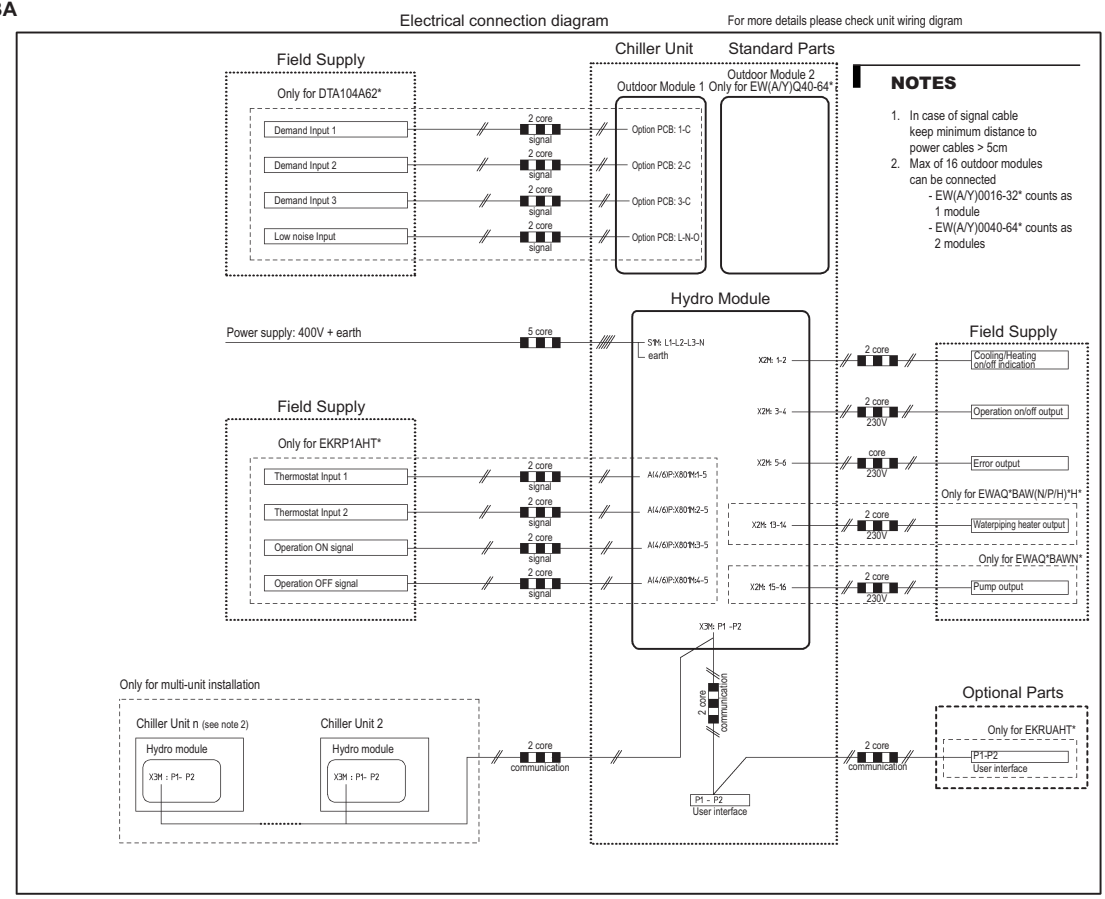
NOTES

1. This wiring diagram only applies to the outdoor unit
2. ▬▮▮▮▬ : field wiring, ▭ : indication of parts outside switchbox
3. ▭▭▭▭ : terminal strip, ⊡ : connector, –○– : terminal, ⏚ Protective earth (screw)
4. When using the option adapter, refer to the installation manual
5. 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.
6. Do not operate the unit by short-circuiting protection device S1PH
7. 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

EWA/YQ-BA



3TW60726-2

9 Sound data

9 - 1 Sound Power Spectrum

EWA/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

EWA/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)	
ITEMS TO BE CONTROLLED	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)	[mg$CaCo_3$/l]	below 100	below 50	below 50	below 50	below 50	below 50	below 50	below 50	below 50	scale
	Total hardness	[mg$CaCo_3$/l]	below 200	below 70	below 70	below 70	below 70	below 70	below 70	below 70	below 70	scale
	Calcium hardness	[mg$CaCo_3$/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

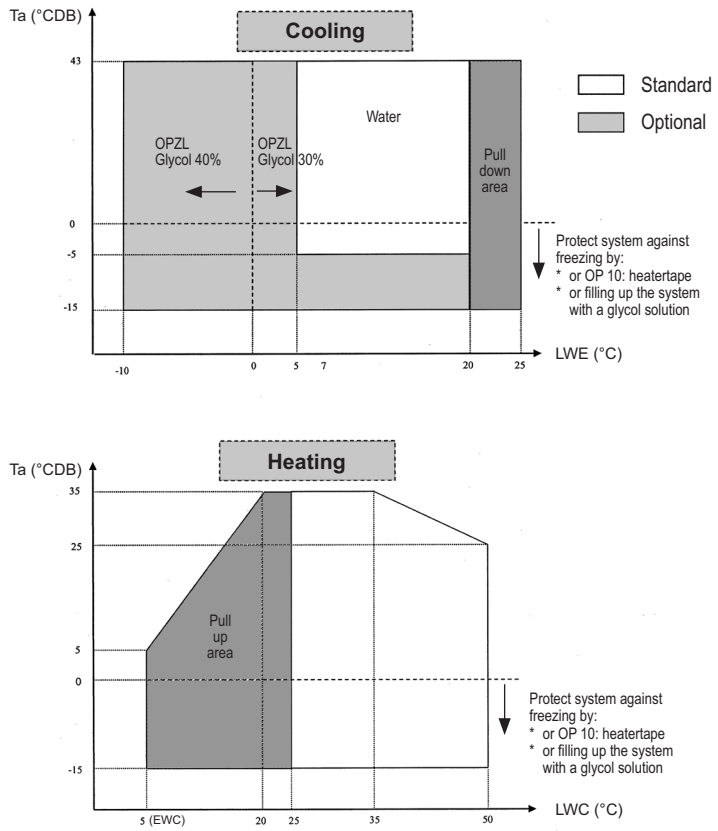
1. Names, definitions and units are according to JIS K 0101. Units and figures between brackets ar old units published as reference only.
2. In case of using heated water (more than 40°C), corrosion is generally noticeable.
   Especially when the iron material is in direct contact with water without any protection shields, it is desireable to give the valid measures for corrosion. e.g. chemical measure,...
3. 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.
4. Supply water is considered drink water, industrial water and ground water except for genuine water, neutral water and soft water.
5. The above mantioned items are representable items in corrosion and scale cases.

3TW50179-1

11 Operation range

11 - 1 Operation Range

EWA/YQ-BA



SYMBOLS

Ta: Ambient temperature dry bulb (°C)
EWC: Leaving water evaporator temperature (°C)
LWC: Leaving water condenser temperature (°C)

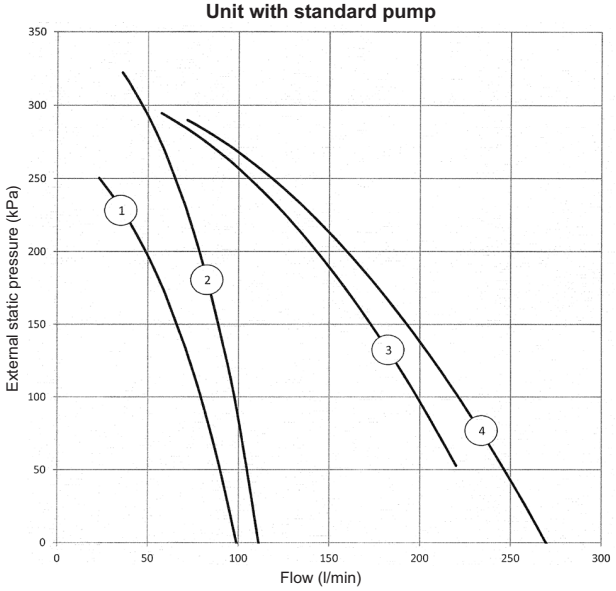
4TW60713-1

12 Hydraulic performance

12 - 1 Static Pressure Drop Unit

EWA/YQ-BA

Unit with standard pump



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

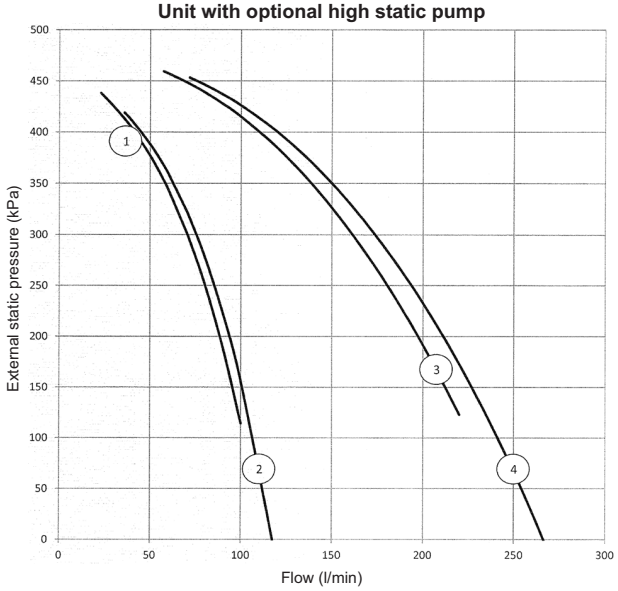
4TW60719-3 (1)

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

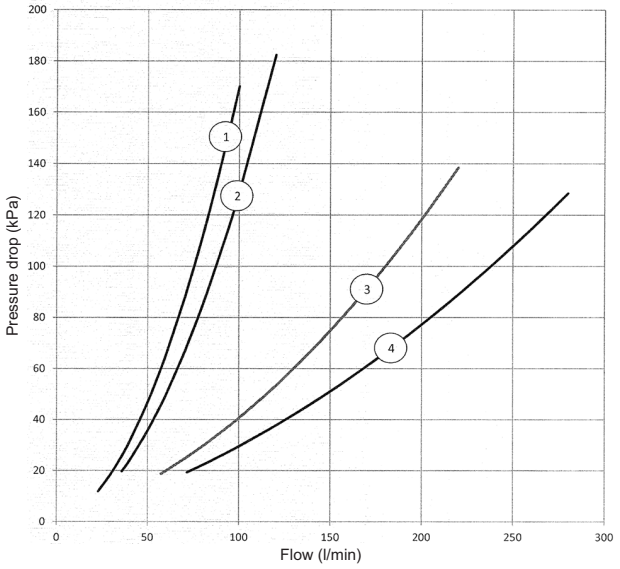
4TW60719-3 (2)

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.

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