Chillers

Technical Data

Small inverter chiller

EEDEN13-430

EWAQ/EWYQ-BA*

DAIKIN

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Small inverter chiller

EEDEN13-430

EWAQ/EWYQ-BA*

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TABLE OF CONTENTS

EWAQ-BAWN

1 Features

- Inverter chiller
- High efficiency with leader-of-class ESEER (up to 4.75)
- Minimal starting currents and short payback times
- No buffertank required for standard applications
- Daikin scroll compressor
- Large operation range (ambient temperature up to 43ºC)
- Digital remote controller

INVERTER

2 Specifications

2-1 Technical Specifications					EWAQ016 BAWN	EWAQ021 BAWN	EWAQ025 BAWN	EWAQ032 BAWN	EWAQ040 BAWN	EWAQ050 BAWN	EWAQ064 BAWN
Cooling capacity	Nom.			kW	17.4 (1)	21.7 (1)	25.8 (1)	32.3 (1)	43.4 (1)	51.8 (1)	64.5 (1)
	Max.			kW	20.6 (1)	25.7 (1)	30.6 (1)	38.3 (1)	51.4 (1)	61.4 (1)	76.5 (1)
Capacity control	Method				Inverter controlled						
	Minimum capacity			%	25						
	Maximum capacity			%	120						
Power input	Cooling	Nom.		kW	5.60 (1)	7.25 (1)	9.29 (1)	13.0 (1)	14.7 (1)	18.8 (1)	26.4 (1)
EER					3.11 (1)	2.99 (1)	2.78 (1)	2.48 (1)	2.95 (1)	2.76 (1)	2.44 (1)
ESEER					4.33	4.08	3.85	3.39	4.19	3.96	3.64
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	Material			Brass						
		Diameter perforations		mm	0.6						
	Water volume			l	1.9			2.9	3.8		5.7
	Water flow rate	Min.		l/min	23			36	46		72
	Nominal water flow	Cooling		l/min	50 (1)	62 (1)	74 (1)	93 (1)	124 (1)	148 (1)	185 (1)
	Maximum water flow	Cooling		l/min	75	93	111	139	187	223	277
	Nominal water pressure drop	Cooling	Total	kPa	20	30	42	30		42	30
	Insulation material				Nitrile rubber based elastomeric foam						
	Model	Type			ACH70-40H			ACH70-60H	ACH70-40H		ACH70-60H
Air heat exchanger	Length			mm	1,778			2,088	1,778		2,088
	Type				Hi-XSS (8)						
	Rows	Quantity			2						
	Stages	Quantity			54						
	Fin pitch			mm	2.0						
	Passes	Quantity			18			21	18		21
	Face area			m²	2.112			2.481	2.112		2.481
	Empty tubeplate hole				0						
	Fin	Type			Non-symmetric waffle louvre						
		Treatment			Hydrophylic and anti-corrosion resistant						
Fan	Quantity				1			2			4
	Type				Axial						
	Air flow rate	Cooling	Nom.	m³/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
	Position				Vertical						
	Drive				Direct drive						
Fan motor 2	Output			W	-			350	750		350
Fan motor 3	Output			W	-						350

2 Specifications

2-1 Technical Specifications					EWAQ016 BAWN	EWAQ021 BAWN	EWAQ025 BAWN	EWAQ032 BAWN	EWAQ040 BAWN	EWAQ050 BAWN	EWAQ064 BAWN
Fan motor 4	Output			W	-						350
Sound power level	Cooling	Nom.		dBA	78			80	81		83
Compressor	Type				Hermetically sealed scroll compressor						
	Quantity				1	2		3	4		6
	Motor (INV)	Crankcase heater		W	33						
		Model			Inverter						
		Quantity			1				2		
	Motor (ON-OFF)	Crankcase heater		W	-	33					
		Model			-	ON/OFF					
		Quantity			0	1		2			4
Operation range	Water side	Cooling	Min.	ºCDB	5						
			Max.	ºCDB	20						
	Air side	Cooling	Min.	ºCDB	-5						
			Max.	ºCDB	43						
Refrigerant	Type				R-410A						
	Charge			kg	7.6			9.6	15.2		19.2
	Control				Electronic expansion valve						
	Circuits	Quantity			1						
Water circuit	Piping connections diameter			inch	1-1/4" (female)				2" (female)		
	Piping			inch	1-1/4"				1-1/2"		
	Drain valve / fill valve				Yes						
	Shut off valve				Yes						
	Nominal water pressure drop	Cooling		kPa	44 (6)	66 (6)	92 (6)	106 (6)	53 (6)	71 (6)	67 (6)
	Total water volume			l	3.2 (3)			4.2 (3)	5.8 (3)		7.7 (3)
	Minimum water volume in the system for cooling			l	33 (4)				66 (4)		
	Air purge valve				Yes						
	flowswitch				yes						
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						
PED	Category				Category II						
	Most critical part	Name			Accumulator						
		Ps*V		Bar*l	335			385	335		385

2 Specifications

2-2 Electrical Specifications				EWAQ016 BAWN	EWAQ021 BAWN	EWAQ025 BAWN	EWAQ032 BAWN	EWAQ040 BAWN	EWAQ050 BAWN	EWAQ064 BAWN
Power supply	Name			W1						
	Phase			3N~						
	Frequency		Hz	50						
	Voltage		V	400						
	Voltage range	Min.	%	-10						
		Max.	%	10						
Unit	Maximum starting current		A	0 (8)	77.7	78.7	88.7	99.8	101.9	120.7
	Current	Zmax	Text	-	0.27		0.24	0.25		0.22
	Maximum running current		A	22.2	25.3	26.4	35.2	47.4	49.6	67.2
	Minimum Ssc value			1,141	853		840	1,706		1,679
	Recommended fuses			25	32		40	50	63	80
Cable requirements	Power supply	Required number of conductors		4 + GND						
	Remote control	Quantity of wires		2						
		Maximum running current		Minimum cable section 0,75 mm²						
	Cooling/Heating output	Quantity of wires		2						
		Maximum running current	A	0.3						
	Operation ON/OFF output	Quantity of wires		2						
		Maximum running current	A	0.3						
	Error output	Quantity of wires		2						
		Maximum running current	A	0.3						
	Pump ON/OFF output	Quantity of wires		2						
		Maximum running current	A	0.3						

Notes

(1) Condition: Ta 35ºC - LWE 7ºC (DT = 5ºC)

(2) Capacity, Power Input, EER, COP, ESEER according EN14511-2011

(3) Including piping + PHE; excluding expansion vessel

(4) Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(5) Excluding the water volume in the unit. This volume will guarantee suficient defrost energy for all applications, however, this volume can be multiplied by 0,66 if the heating sepoint is ≥ 45º C (eg. Fan coils)

(6) This is PD between inlet & outlet connections of unit. It includes the water side heat exchanger pressure drop.

(7) This is ESP between inlet & outlet connections of unit. It consists out of pump SP minus all internal PD's.

(8) No peak current because of inverter compressor

(9) In accordance with EN/IEC 61000-3-11, respectively EN/IEC 61000-3-12, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys ≤ Zmax, respectively Ssc ≥ minimum Ssc value.

(10) EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(11) EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current \> 16A and ≤ 75A per phase

(12) Ssc: Short-circuit power

(13) Zsys: system impedance

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

3 Options

3 - 1 Options

EWA/YQ-BA

Option availability

		EW(A/Y)Q*BA								DIGIT				
Reference	Description	016	021	025	032	040	050	064	Availability	11	12	13	14	Numeric optioncodes
-	Standard hydraulic package Filter, shut-off valves, drain/fill valve, automatic air purge Flowswitch	○	○	○	○	○	○	○	Factory mounted	N				-
OPSP	Additional hydraulic components: pump, expansion vessel, safety valve, pressure gauge	○	○	○	○	○	○	○	Factory mounted	P				78
OPHP	= OPSP but pump with higher static pressure	○	○	○	○	○	○	○	Factory mounted	H				79
OP10	Heatertape for freeze prevention during winter standstill	○	○	○	○	○	○	○	Factory mounted			H		57
OPZL	Low leaving water operation down to -10°C	○	○	○	○	○	○	○	Factory mounted		B			08b
EKRP1AHT*	Demand PCB with additional inputs for: Remote ON/OFF Remote cooling/heating Remote thermo ON/OFF	○	○	○	○	○	○	○	KIT					
EKRUAHT*	Additional remote user interface	○	○	○	○	○	○	○	KIT					
BHGP26A1	Digital pressure gauges	○	○	○	○	○	○	○	KIT					
DTA104A62	External control adapter for: Demand control Low noise control	○	○	○	○	○	○	○	KIT					

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING N-models Maximum Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
5	016	20.6	5.84	20.6	6.49	20.6	7.50	20.6	8.71	20.0	9.40
	021	25.7	7.48	25.7	8.22	25.7	9.08	25.7	9.99	25.7	11.8
	025	28.8	9.07	28.6	9.98	28.6	10.8	27.9	11.5	26.7	12.7
	032	38.3	12.9	38.3	14.9	37.8	16.7	36.6	18.3	31.1	16.5
	040	51.4	15.4	51.4	16.6	51.4	18.5	51.4	20.8	51.4	24.7
	050	55.5	17.7	56.4	19.7	55.9	21.4	54.4	22.8	51.7	25.2
	064	75.4	26.5	74.3	29.5	73.2	32.8	70.5	35.9	60.4	32.9
7	016	20.6	5.13	20.6	5.66	20.6	6.44	20.6	7.47	20.6	8.78
	021	25.7	6.92	25.7	7.59	25.7	8.39	25.7	9.25	25.7	10.7
	025	30.6	8.98	30.6	10.3	30.6	11.3	30.6	12.7	28.8	13.6
	032	38.3	11.8	38.3	13.7	38.3	16.1	38.3	18.3	31.9	15.8
	040	51.4	14.1	51.4	15.4	51.4	17.0	51.4	19.1	51.4	22.2
	050	61.4	18.5	61.4	21.1	61.4	23.3	61.4	27.2	56.1	27.0
	064	76.5	25.2	76.5	28.8	76.5	33.2	76.5	39.1	61.5	31.0
10	016	20.6	4.58	20.6	4.99	20.6	5.64	20.6	6.39	20.6	7.20
	021	25.7	6.32	25.7	6.99	25.7	7.72	25.7	8.52	25.7	9.53
	025	30.6	8.18	30.6	9.49	30.6	10.6	30.6	11.5	29.6	12.3
	032	38.3	10.7	38.3	12.3	38.3	14.6	38.3	16.4	32.8	14.6
	040	51.4	12.5	51.4	13.9	51.4	15.4	51.4	17.2	51.4	19.5
	050	61.4	16.4	61.4	19.0	61.4	21.3	61.4	23.3	59.0	25.5
	064	76.5	22.8	76.5	25.8	76.5	30.4	76.5	34.9	64.0	29.1
15	016	20.6	3.68	20.6	4.25	20.6	4.80	20.6	5.40	20.6	6.11
	021	25.7	5.38	25.7	6.03	25.7	6.73	25.7	7.45	25.7	8.20
	025	30.6	6.66	30.6	7.70	30.6	8.84	30.6	9.77	30.6	10.7
	032	38.3	9.25	38.3	10.6	38.3	12.1	38.3	13.9	33.9	12.7
	040	51.4	10.6	51.4	11.9	51.4	13.3	51.4	14.8	51.4	16.4
	050	61.4	13.6	61.4	15.6	61.4	17.9	61.4	19.6	61.4	21.8
	064	76.5	19.4	76.5	21.6	76.5	24.8	76.5	28.6	66.6	25.3
18	016	20.6	3.35	20.6	3.78	20.6	4.31	20.6	4.91	20.6	5.55
	021	25.7	4.91	25.7	5.53	25.7	6.29	25.7	7.01	25.7	7.73
	025	30.6	6.04	30.6	6.97	30.6	8.06	30.6	8.98	30.6	9.83
	032	38.3	8.33	38.3	9.56	38.3	10.9	38.3	12.6	34.9	11.8
	040	51.4	9.83	51.4	11.1	51.4	12.5	51.4	13.8	51.4	15.4
	050	61.4	12.3	61.4	14.1	61.4	16.4	61.4	18.4	61.4	20.0
	064	76.5	17.5	76.5	19.5	76.5	22.5	76.5	26.2	69.2	23.9

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING N-models Nominal Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
5	016	17.4	4.10	17.4	4.66	17.4	5.33	17.4	6.07	17.4	6.84
	021	21.7	5.53	21.7	6.06	21.7	6.79	21.7	7.66	21.7	8.69
	025	25.8	7.26	25.8	8.09	25.8	8.93	25.8	10.0	25.8	11.7
	032	32.3	9.66	32.3	11.0	32.3	12.3	32.2	14.3	31.3	16.3
	040	43.4	11.1	43.4	12.3	43.4	13.9	43.4	15.8	43.4	17.9
	050	51.8	14.9	51.8	16.5	51.8	18.4	51.8	20.7	51.8	24.4
	064	64.5	19.5	64.5	22.1	64.5	25.1	64.5	29.4	60.8	32.6
7	016	17.4	3.83	17.4	4.33	17.4	4.94	17.4	5.60	17.4	6.35
	021	21.7	5.26	21.7	5.83	21.7	6.50	21.7	7.25	21.7	8.08
	025	25.8	6.81	25.8	7.62	25.8	8.45	25.8	9.29	25.8	10.5
	032	32.3	9.22	32.3	10.3	32.3	11.5	32.3	13.0	32.0	15.6
	040	43.4	10.6	43.4	11.6	43.4	13.0	43.4	14.7	43.4	16.5
	050	51.8	13.8	51.8	15.5	51.8	17.1	51.8	18.8	51.8	22.0
	064	64.5	18.4	64.5	20.8	64.5	23.3	64.5	26.4	64.5	31.2
10	016	17.4	3.38	17.4	3.82	17.4	4.33	17.4	5.03	17.4	5.71
	021	21.7	4.91	21.7	5.44	21.7	6.00	21.7	6.73	21.7	7.54
	025	25.8	6.07	25.8	7.03	25.8	7.60	25.8	8.63	25.8	9.60
	032	32.3	8.28	32.3	9.47	32.3	10.5	32.3	12.0	32.3	14.2
	040	43.4	9.73	43.4	10.8	43.4	12.0	43.4	13.4	43.4	15.0
	050	51.8	12.2	51.8	14.0	51.8	15.5	51.8	17.2	51.8	19.5
	064	64.5	16.7	64.5	19.2	64.5	21.4	64.5	24.7	64.5	29.1
15	016	17.4	2.61	17.4	3.08	17.4	3.52	17.4	4.06	17.4	4.65
	021	21.7	4.03	21.7	4.65	21.7	5.17	21.7	5.81	21.7	6.53
	025	25.8	5.30	25.8	5.94	25.8	6.76	25.8	7.55	25.8	8.28
	032	32.3	6.88	32.3	7.84	32.3	8.95	32.3	10.1	32.3	11.5
	040	43.4	8.06	43.4	9.40	43.4	10.5	43.4	11.7	43.4	13.2
	050	51.8	10.6	51.8	11.9	51.8	13.5	51.8	14.9	51.8	16.5
	064	64.5	13.8	64.5	15.8	64.5	18.1	64.5	20.3	64.5	23.8
18	016	17.4	2.33	17.4	2.74	17.4	3.15	17.4	3.65	17.4	4.22
	021	21.7	3.46	21.7	4.09	21.7	4.66	21.7	5.22	21.7	5.88
	025	25.8	5.00	25.8	5.55	25.8	6.32	25.8	7.04	25.8	7.78
	032	32.3	6.35	32.3	7.23	32.3	8.17	32.3	9.27	32.3	10.5
	040	43.4	6.94	43.4	8.21	43.4	9.30	43.4	10.4	43.4	11.9
	050	51.8	9.71	51.8	11.0	51.8	12.6	51.8	14.0	51.8	15.4
	064	64.5	12.5	64.5	14.4	64.5	16.6	64.5	18.6	64.5	21.0

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011

3TW60722-4A

4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING - OPZL N-models Maximum Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	016	13.0	6.18	13.0	6.72	12.8	7.37	12.4	7.92	11.8	8.48
	021	18.3	8.21	18.2	8.66	17.7	9.40	17.0	10.1	16.0	11.1
	025	18.6	8.57	18.5	9.01	18.1	9.78	17.3	10.4	16.3	11.5
	032	26.1	12.3	25.3	13.6	23.4	15.0	21.5	16.4	17.5	14.4
	040	36.2	15.7	35.7	17.1	34.7	18.6	33.2	19.9	31.3	21.9
	050	36.6	16.1	36.3	17.7	35.3	19.2	33.9	20.6	32.0	22.6
	064	50.6	24.0	48.7	26.6	45.0	29.4	41.6	32.5	33.4	27.8
-5	016	15.9	6.51	15.8	6.99	15.5	7.65	14.9	8.21	14.1	8.78
	021	21.7	8.71	21.6	8.99	21.1	9.76	20.3	10.4	19.2	11.5
	025	22.0	8.62	21.9	9.34	21.5	10.1	20.5	10.8	19.4	11.8
	032	30.2	12.7	29.9	14.1	28.3	15.6	25.9	17.2	23.4	18.0
	040	42.7	16.2	42.4	17.8	41.2	19.3	39.5	20.6	37.4	22.7
	050	43.2	16.7	43.0	18.4	41.9	19.9	40.3	21.3	38.1	23.4
	064	58.7	24.9	57.9	27.7	54.4	30.6	50.4	33.5	41.3	30.6

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011
3. Usage of glycol and other anti-freeze
   Correction factors for CC and PI are applicable according to type and concentration of the used anti-freeze

3TW60722-1A

4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING - OPZL N-models Nominal Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	016	13.1	6.20	13.1	6.74	12.9	7.38	12.5	7.93	11.9	8.50
	021	18.7	7.98	18.5	8.68	17.9	9.42	17.2	10.1	16.2	11.1
	025	18.7	8.28	18.6	9.02	18.1	9.79	17.4	10.4	16.4	11.4
	032	26.4	12.3	25.5	13.6	23.6	15.0	21.7	16.4	17.6	14.4
	040	36.6	15.8	36.1	17.2	35.0	18.7	33.5	20.0	31.6	22.0
	050	39.0	16.4	38.7	17.9	37.8	19.5	36.5	20.9	32.0	22.6
	064	51.1	24.1	49.2	26.6	45.5	29.5	42.1	32.3	33.8	27.7
-5	016	16.1	6.53	16.1	7.01	15.7	7.67	15.1	8.23	14.3	8.80
	021	21.7	8.31	21.7	9.02	21.4	9.8	20.5	10.5	19.4	11.5
	025	22.2	8.65	22.1	9.36	21.6	10.1	20.7	10.8	19.6	11.8
	032	30.4	12.7	30.2	14.2	28.6	15.7	26.2	17.2	23.7	18.1
	040	43.4	16.4	42.9	17.8	41.7	19.3	40.0	20.7	37.8	22.8
	050	43.7	17.0	43.4	18.4	42.3	20.0	40.7	21.3	38.5	23.4
	064	59.3	25.0	58.5	27.8	55.0	30.7	50.4	33.8	42.4	30.8

SYMBOLS

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

NOTES

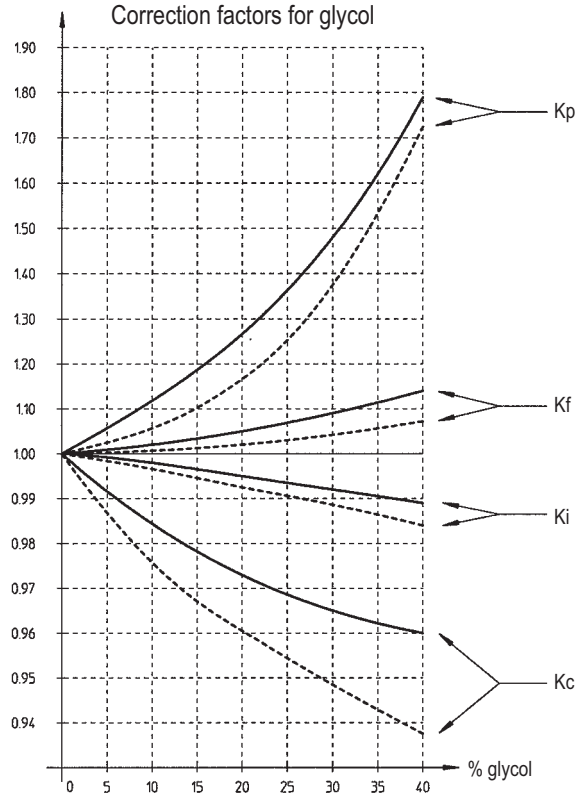
1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011
3. Usage of glycol and other anti-freeze
   Correction factors for CC and PI are applicable according to type and concentration of the used anti-freeze

3TW60722-4A

4 Capacity tables

4 - 2 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:

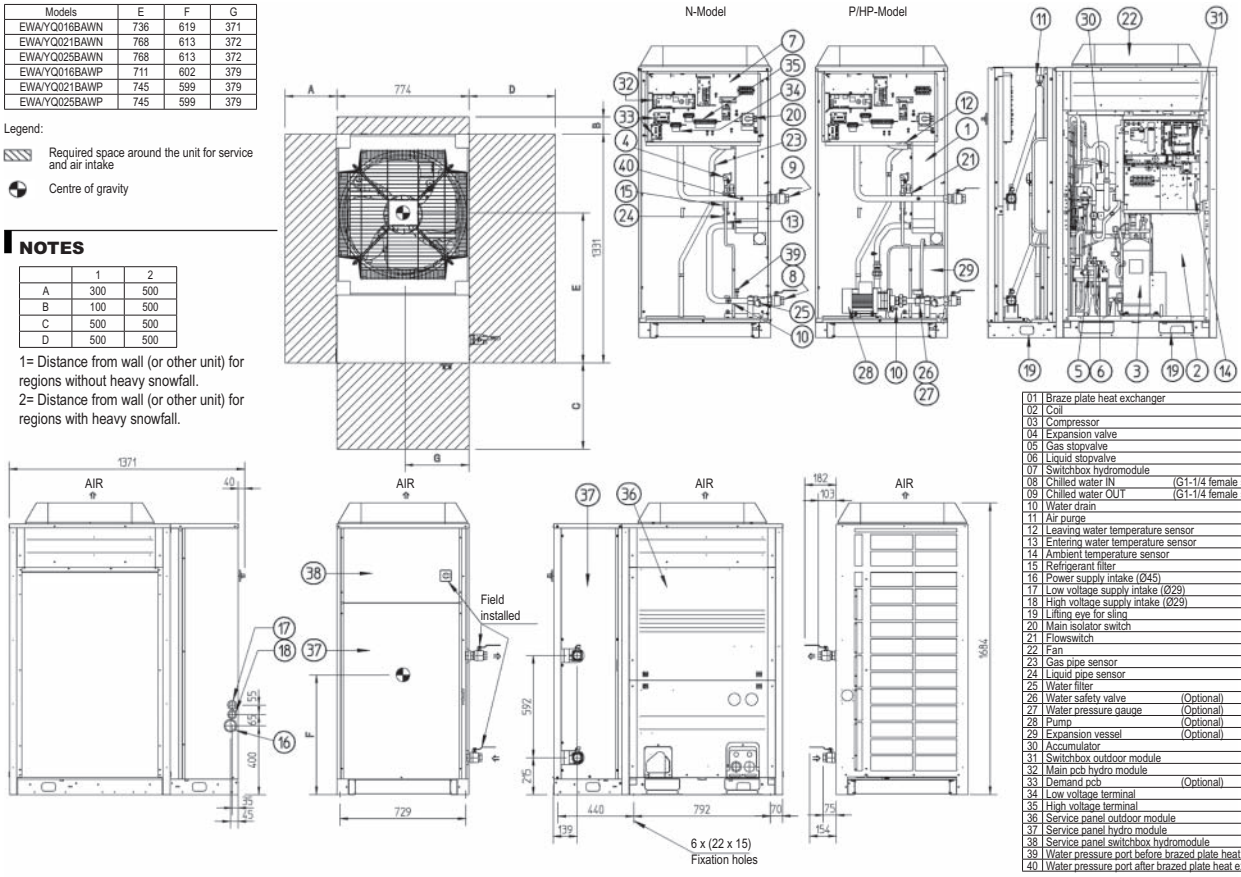
Required space around the unit for service and air intake

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	(G1-1/4 female shutoff valve)
09	Chilled water OUT	(G1-1/4 female 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	

3TW60724-1A

EWA/YQ32BA

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

Legend:

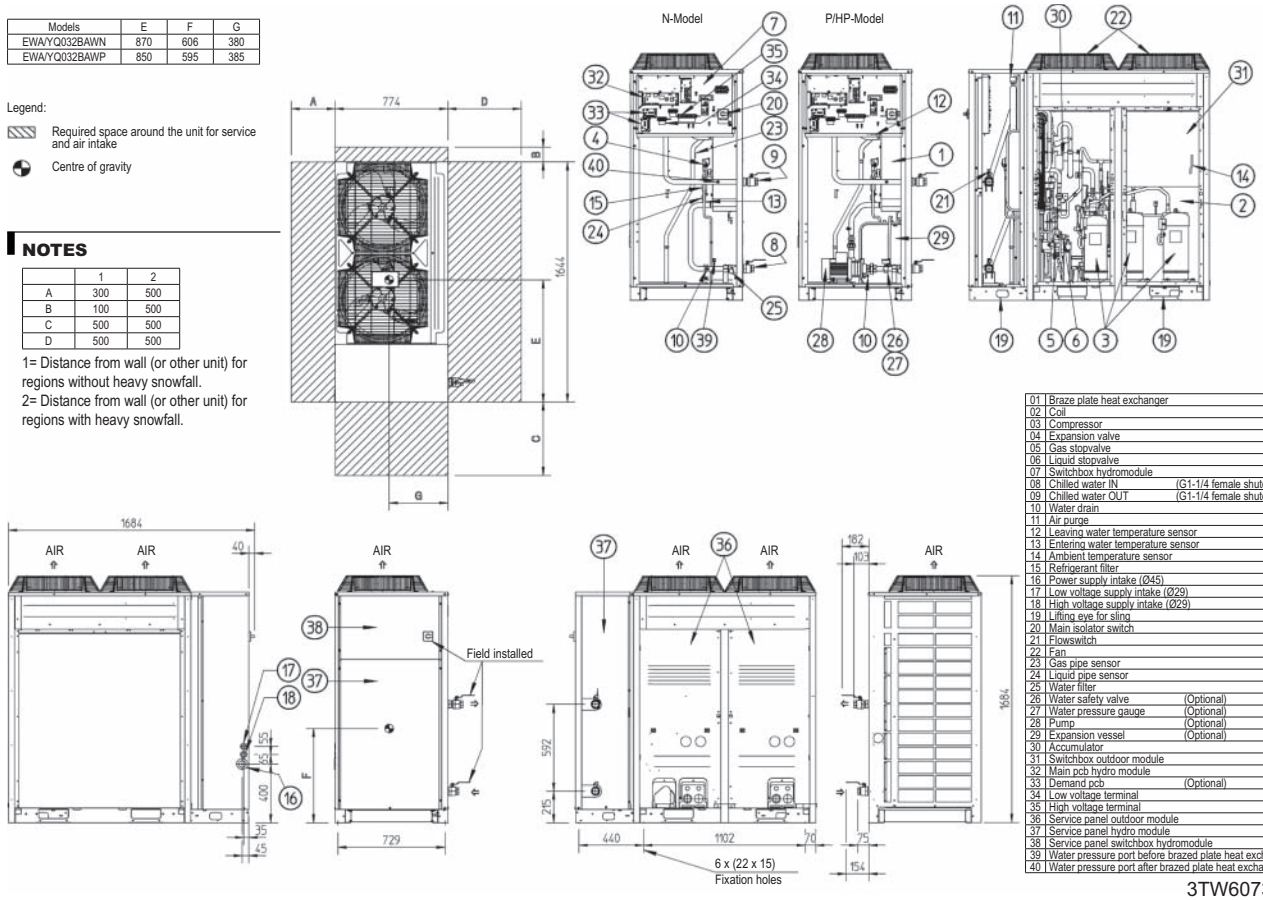
Required space around the unit for service and air intake

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	(G1-1/4 female shutoff valve)
09	Chilled water OUT	(G1-1/4 female 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	

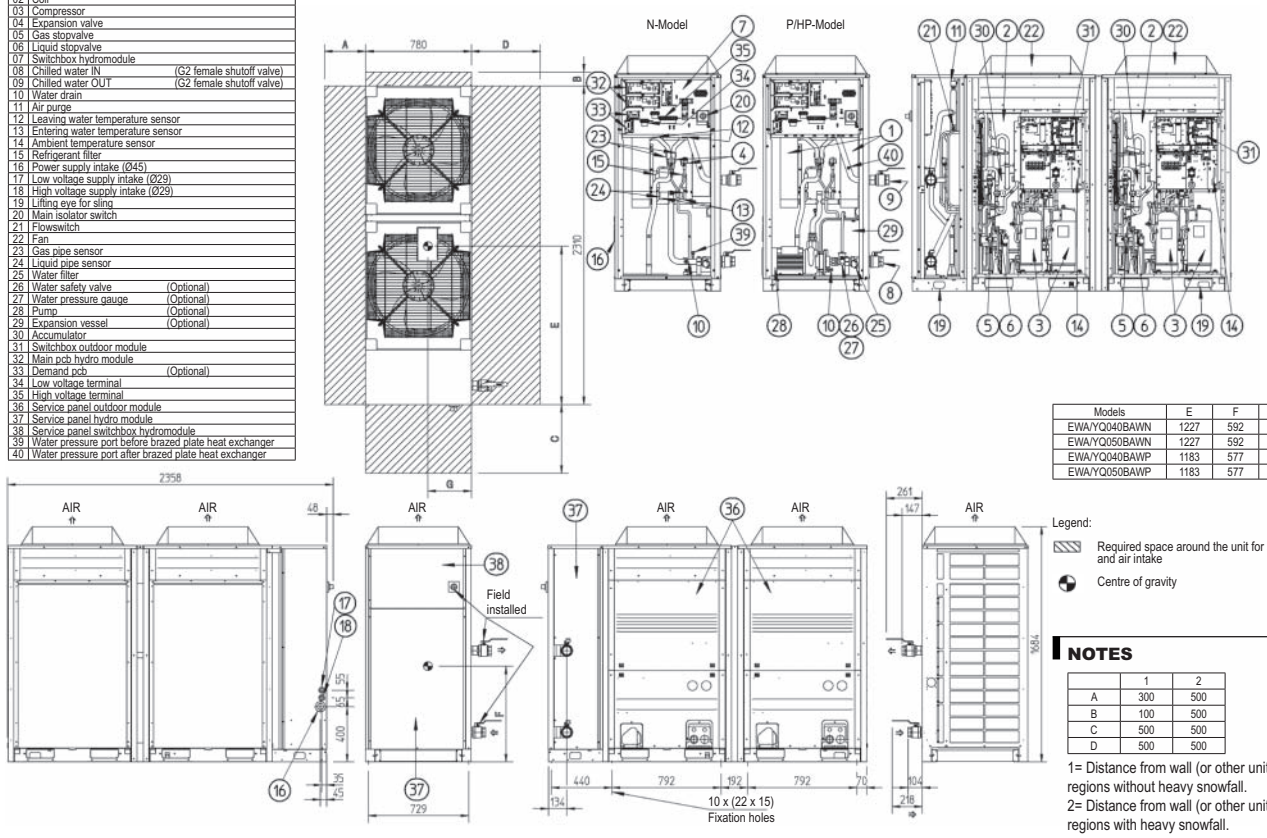
3TW60734-1A

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	(G2 female shutoff valve)
09	Chilled water OUT	(G2 female 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

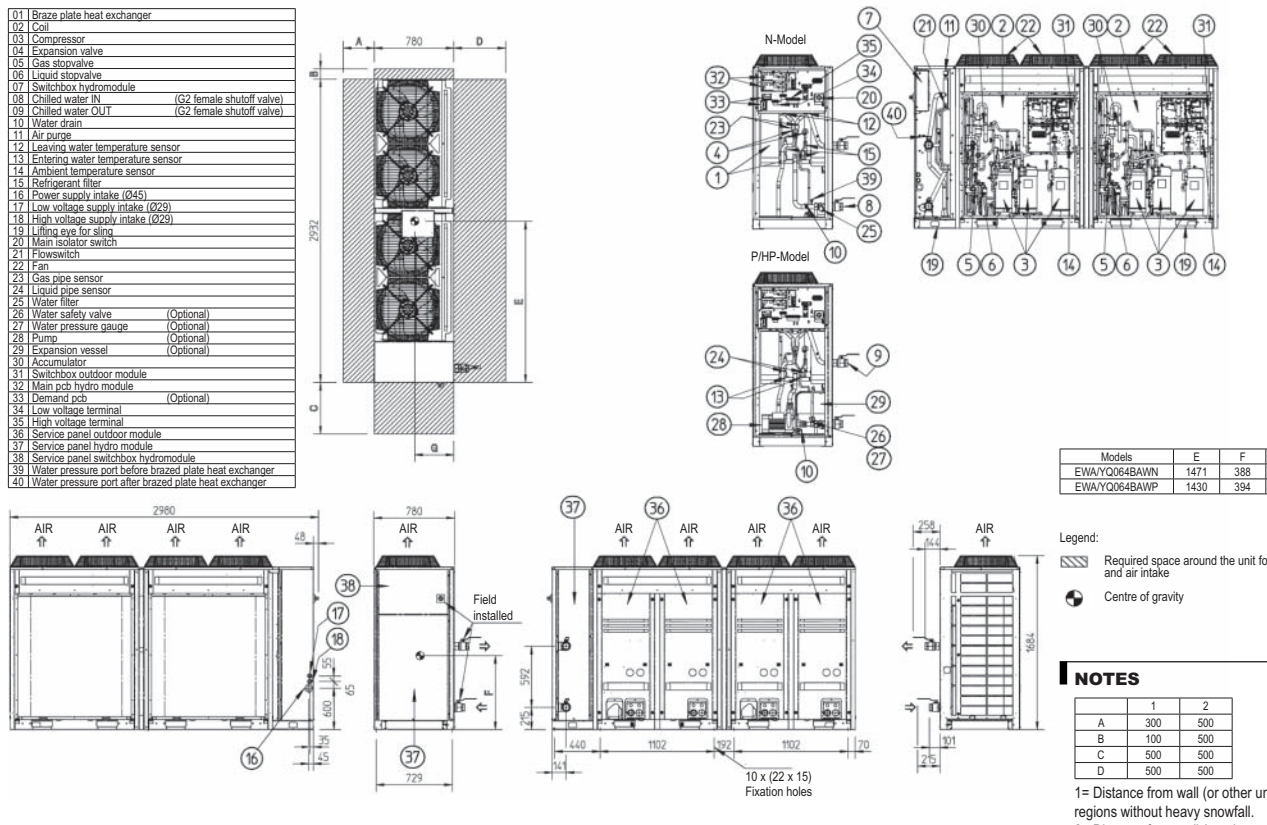
	1	2
A	300	500
B	100	500
C	500	500
D	500	500

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

3TW60754-1A

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	(G2 female shutoff valve)
09	Chilled water OUT	(G2 female 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.

3TW60774-1A

6 Piping diagrams

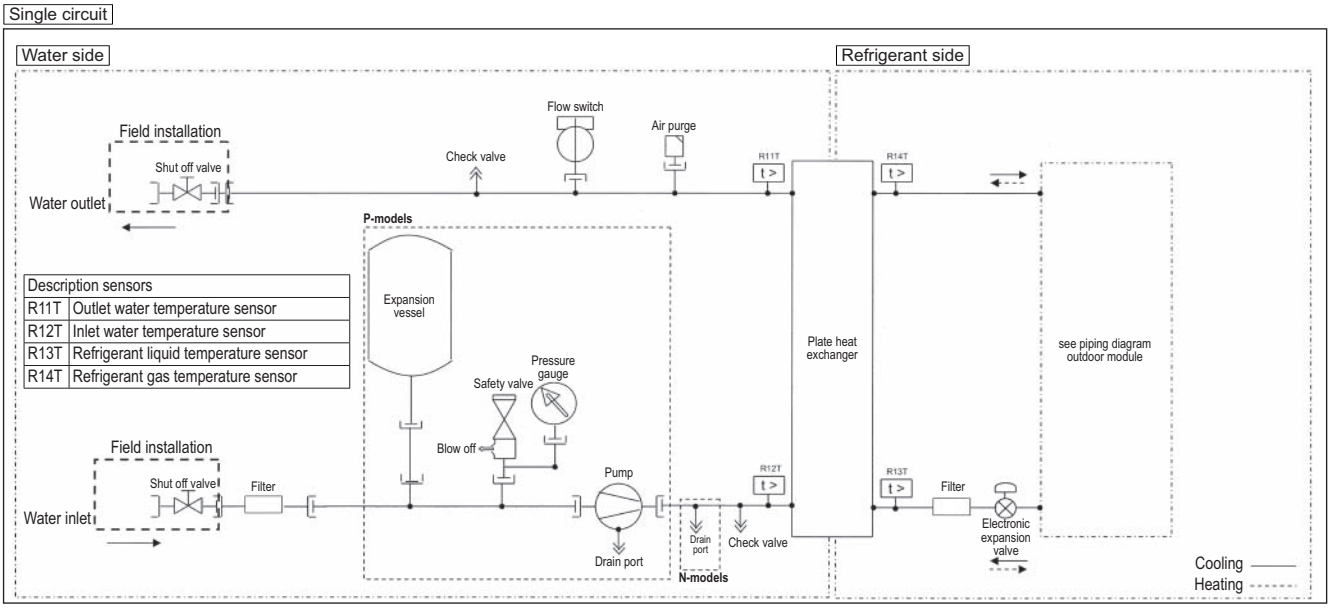
6 - 1 Piping Diagrams

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

Overview

Outdoor module piping diagram		Small inverter chiller - Outdoor module combination						
		Single circuit				Double circuit		
		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

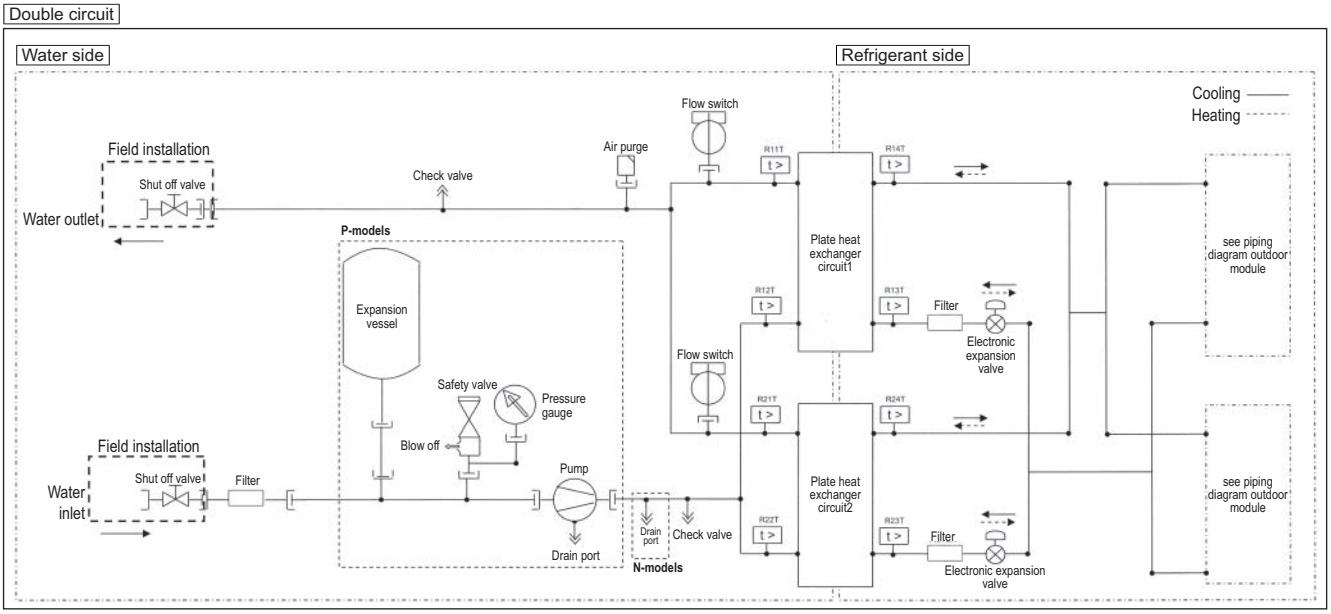


Check valve | Flare conn. | Screw conn. | Flange conn. | Pinched pipe | Spinned pipe

3TW60715-1(1)

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

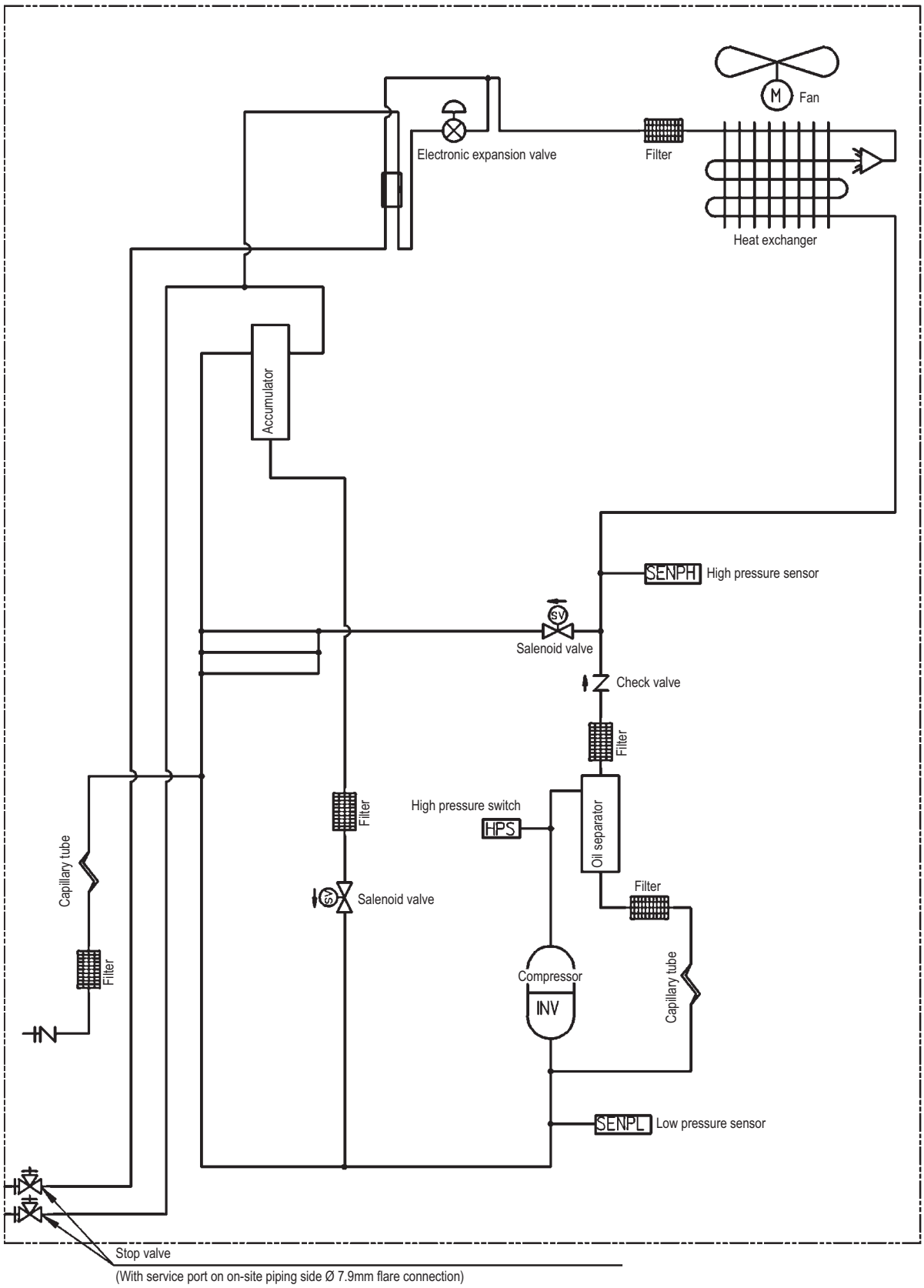
Check valve | Flare conn. | Screw conn. | Flange conn. | Pinched pipe | Spinned pipe

3TW60715-1(2)

6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ16BA

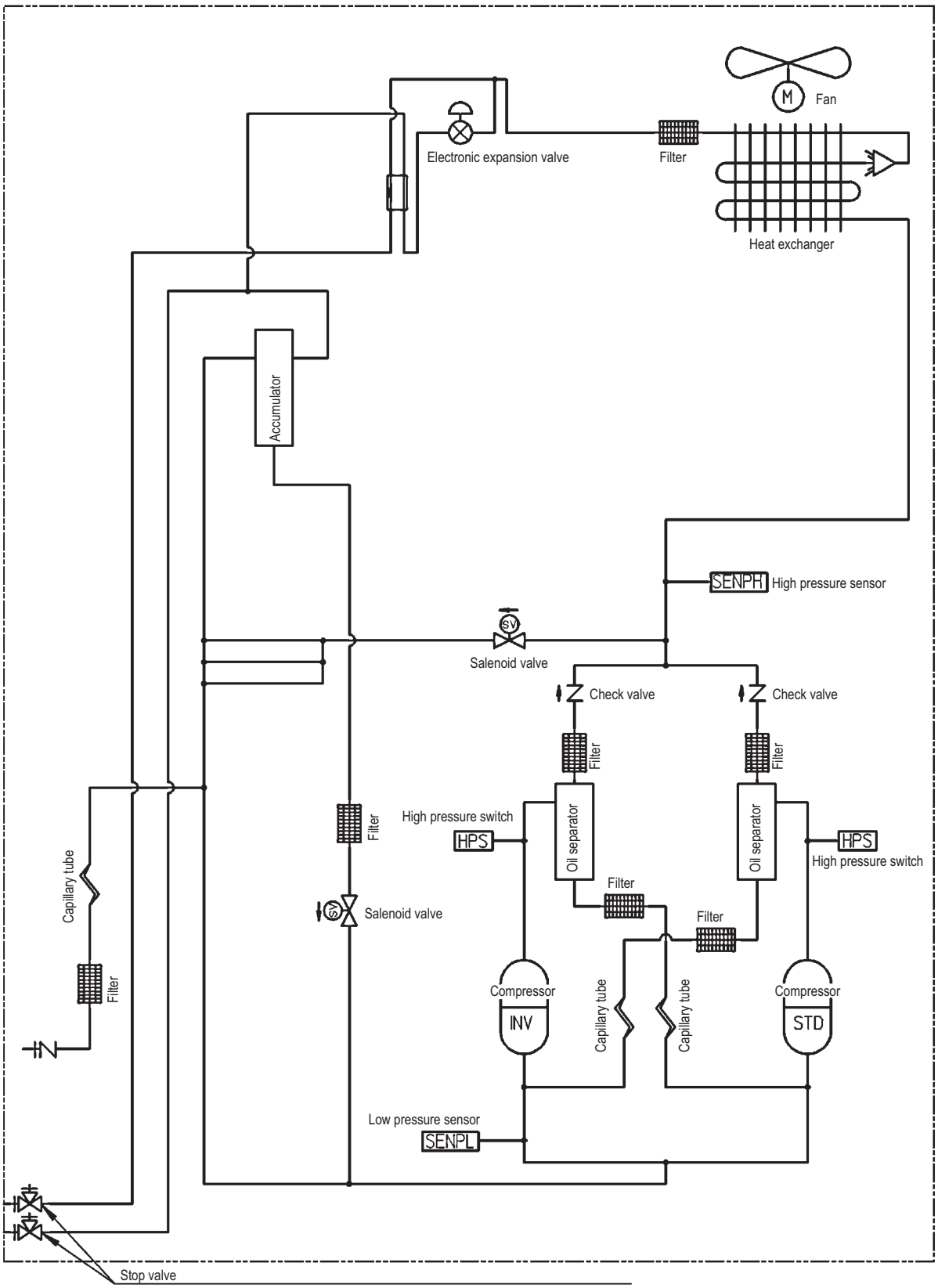


4TW27315-1A

6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ21,40BA

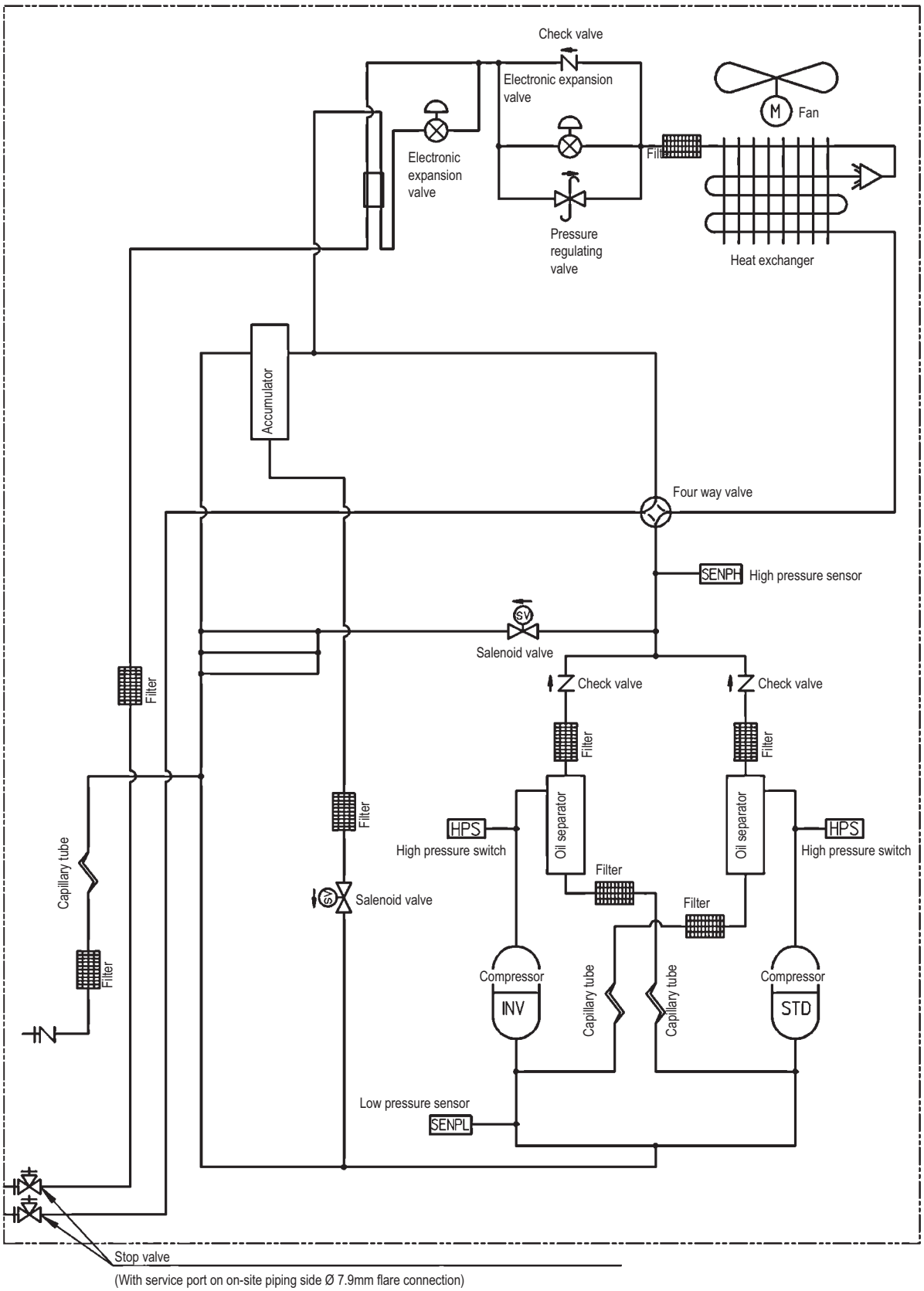


4TW27325-1A

6 Piping diagrams

6 - 1 Piping Diagrams

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

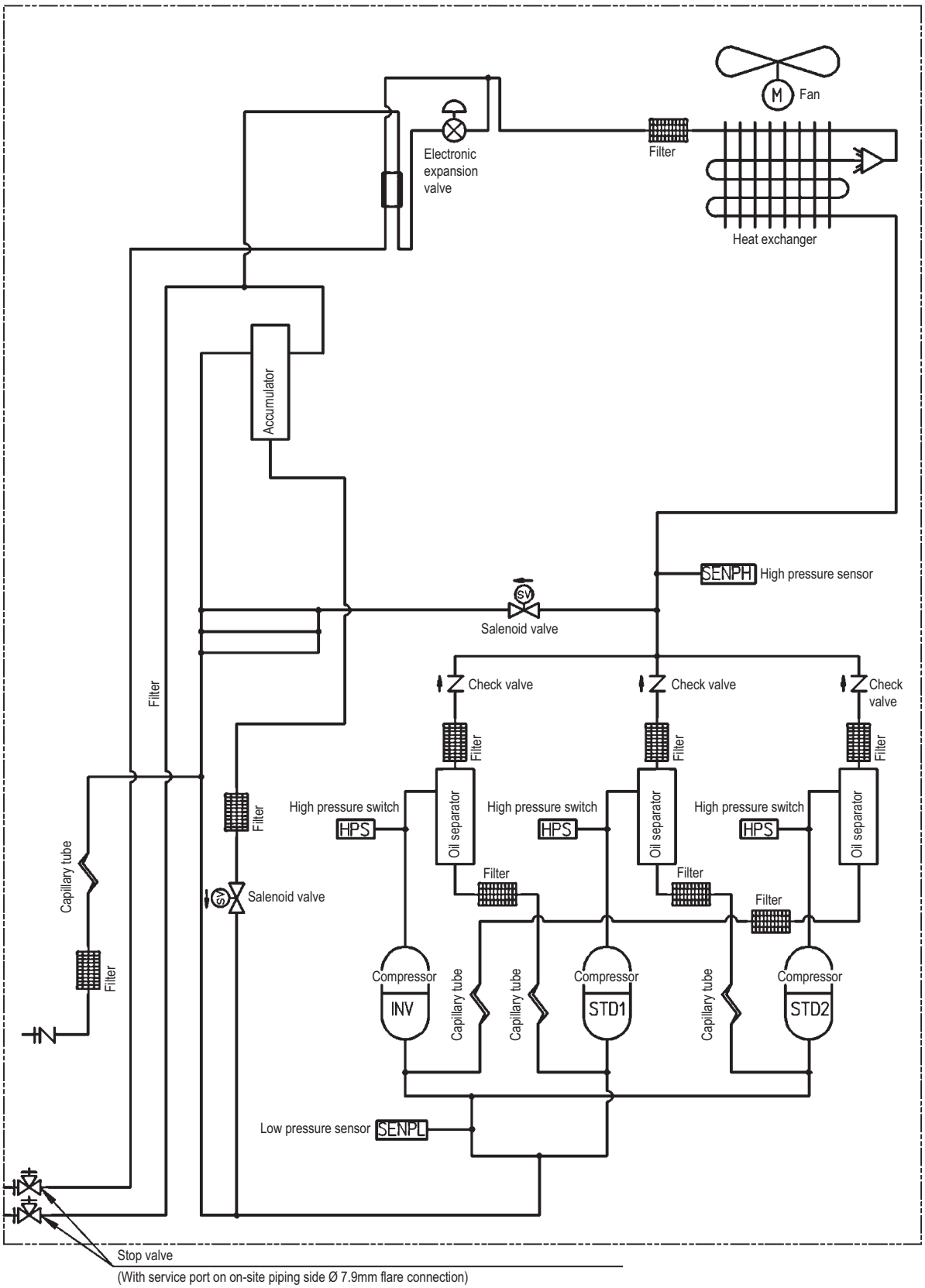


4TW27255-1

6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ32,64BA



4TW27345-1A

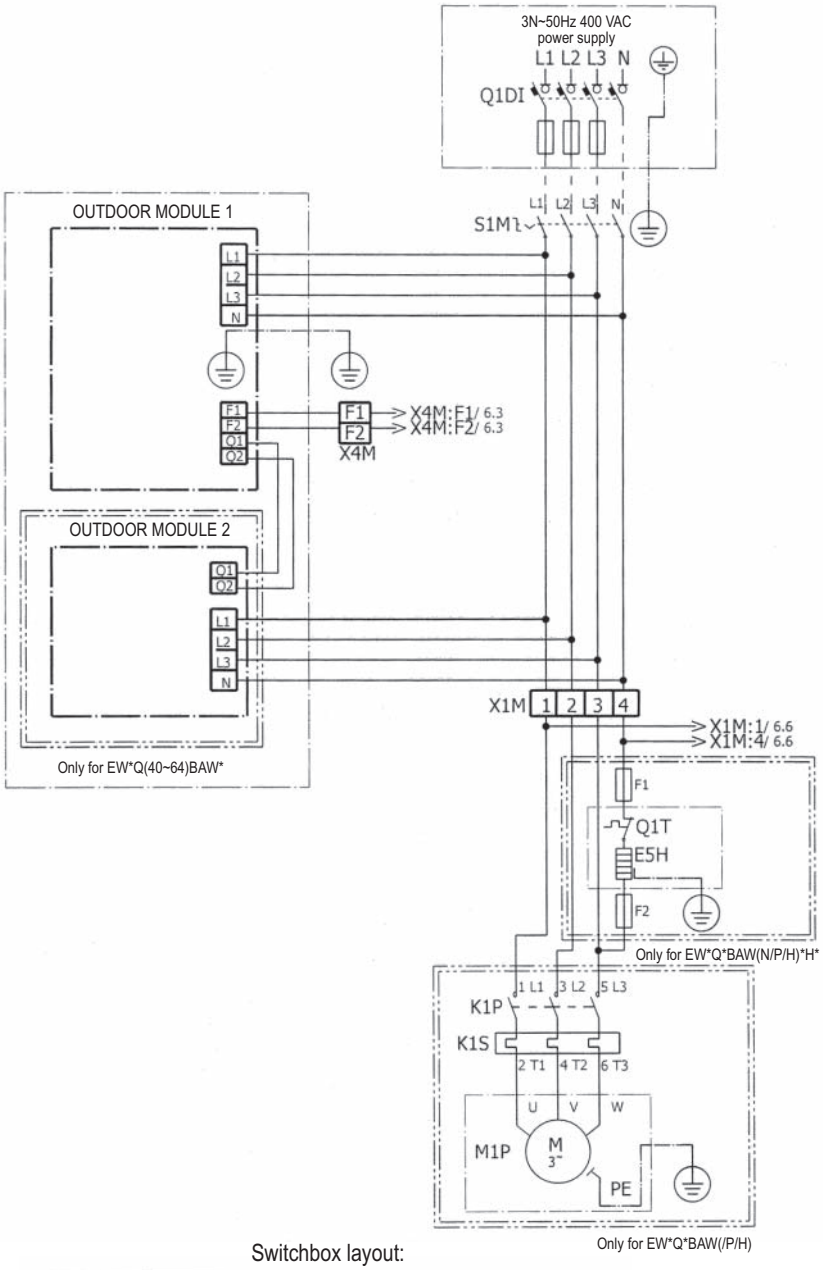
7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

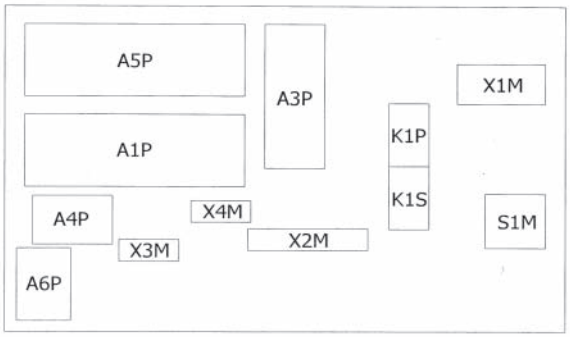
EWA/YQ-BA

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		Termnial strip
X801M (A*P)	*	PCB terminal strip
Z1F-Z2F (A*P)		Noise filter

* : Field installed option # : Field supplied



Switchbox layout:



4TW60726-1B

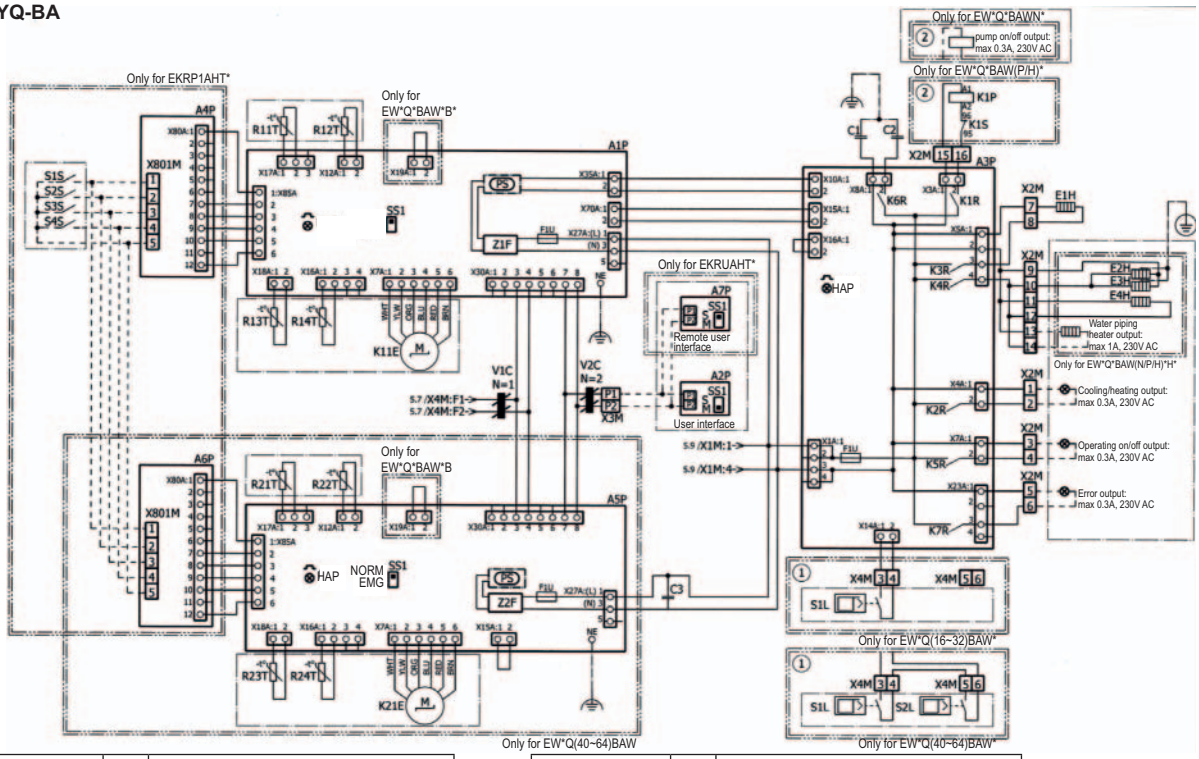
NOTES

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; -**/12.2: Connection ** continues on page 12 column 2; ① Several wiring possibilities
3. User installed optons:
   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

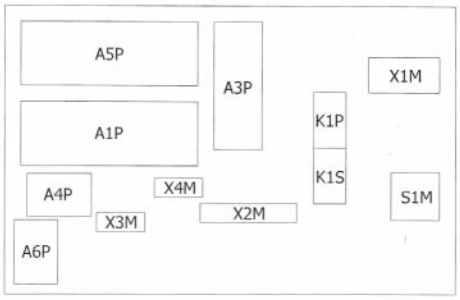
EWA/YQ-BA



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		Termnial strip
X801M (A*P)	*	PCB terminal strip
Z1F-Z2F (A*P)		Noise filter

* : Field installed option # : Field supplied

Switchbox layout:



4TW60726-1B

NOTES

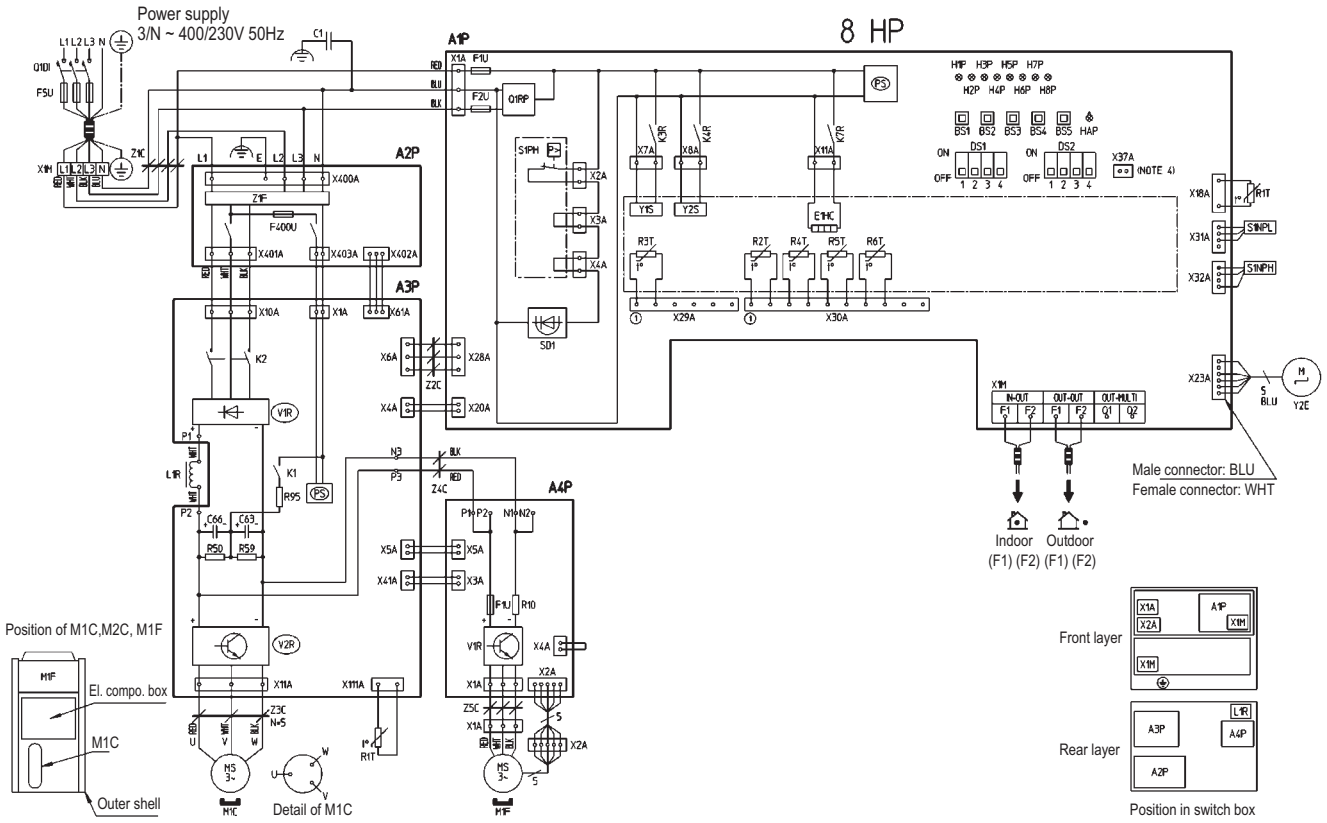
1. X1M: Terminal; X2M: Field wiring terminal for high voltage; X3M: Field wiring terminal for low voltage; X4M: Factory wiring terminal for low voltage
2. ——: Earth wiring; - - - - - -: Field supply; [ ]: Option; [ ]: Wiring depending on model; [ ]: Not mounted in switch box; [ ]: PCB; -**/12.2: Connection ** continues on page 12 column 2; ① Several wiring possibilities
3. User installed optons:

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

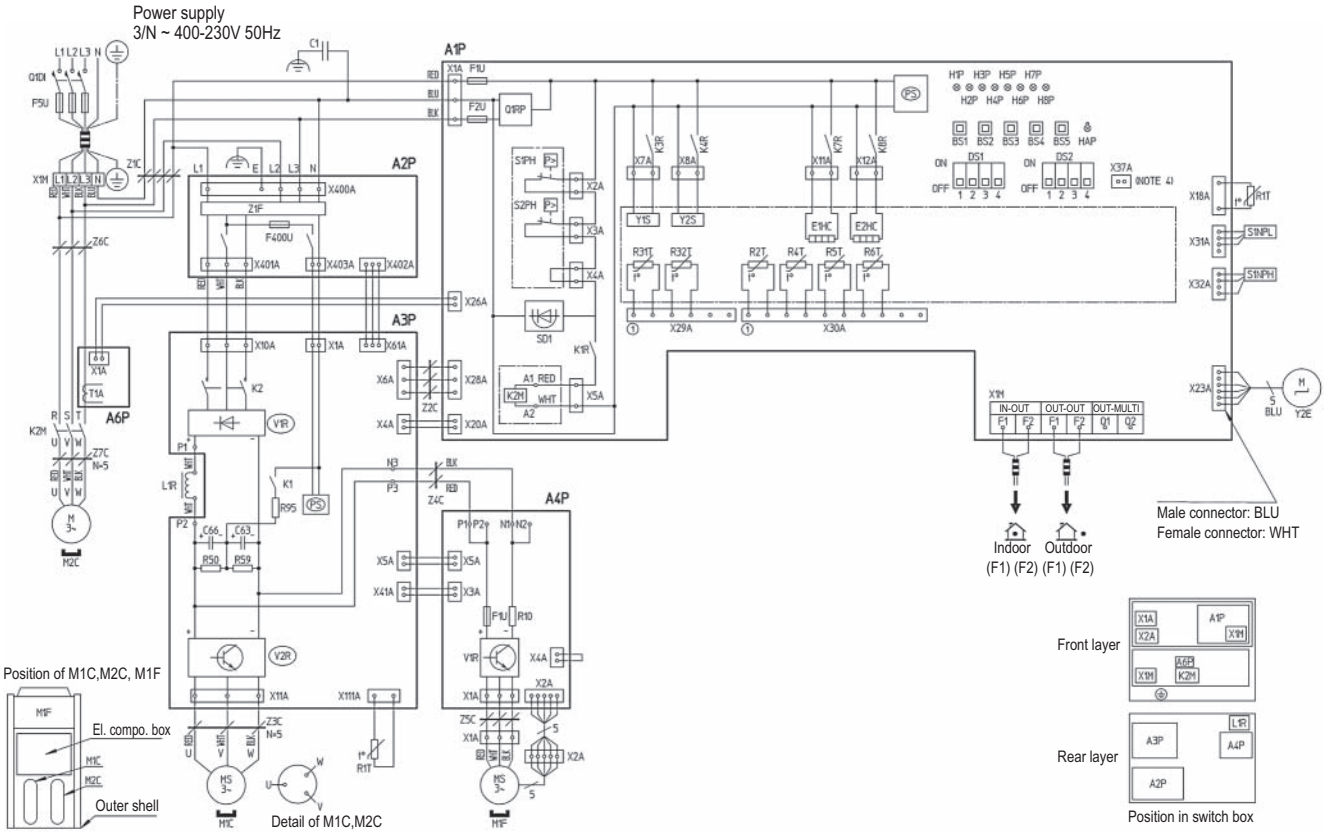
NOTES

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

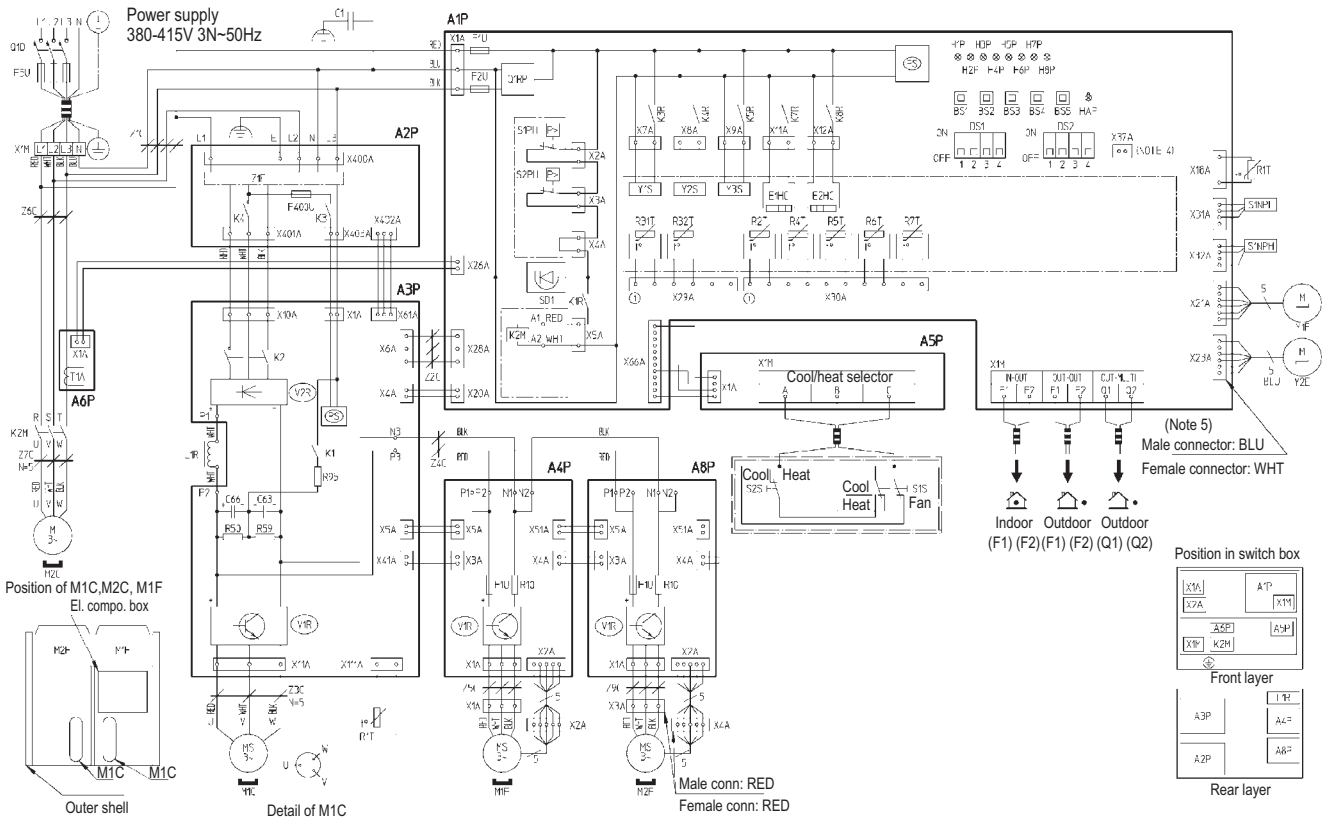
NOTES

1. This wiring diagram only applies to the outdoor unit
2. ▬▮▮▬: field wiring, ▭: indication of parts outside switchbox
3. ▭▭▭▭: terminal strip, ⊡⊡: connector, –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

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

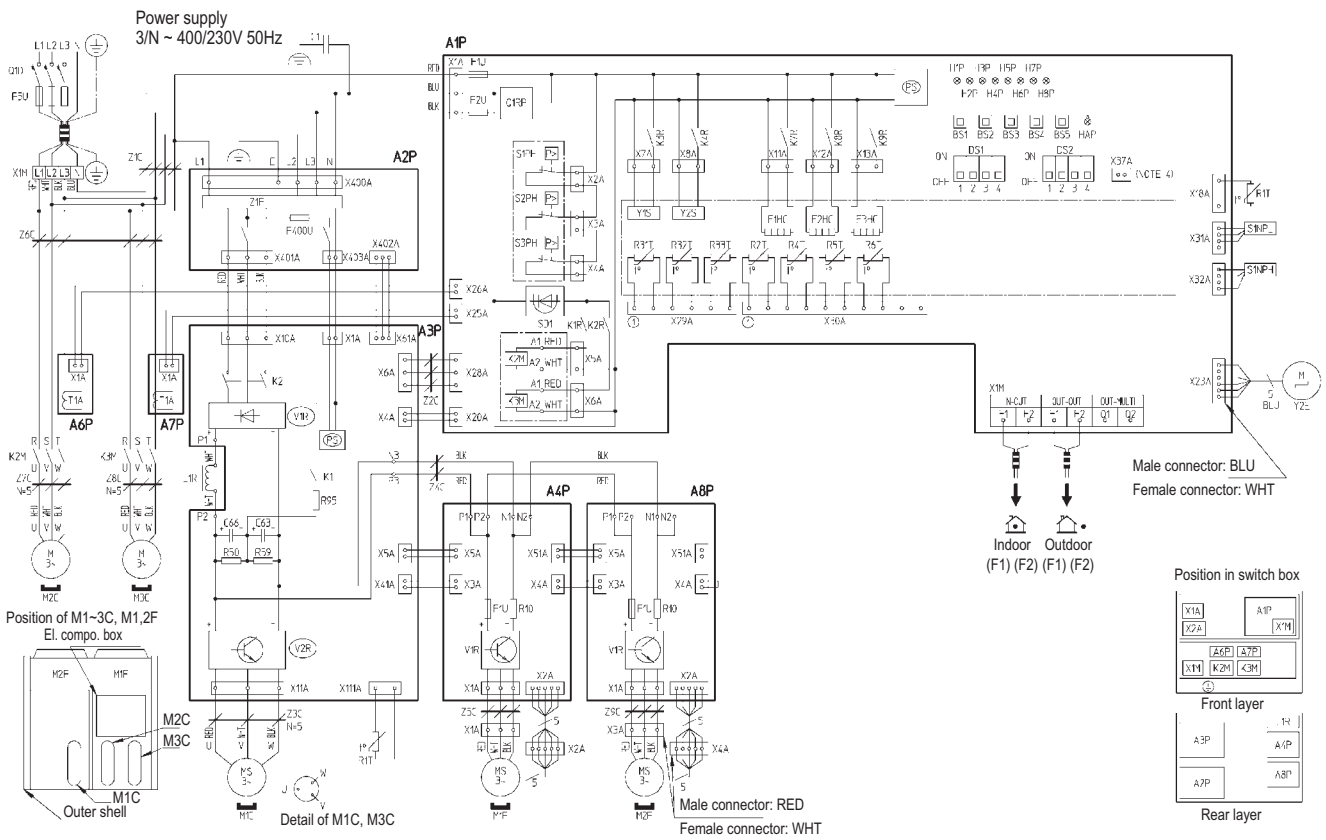
NOTES

1. This wiring diagram only applies to the outdoor unit
2. ▬▮▮▮▬ : field wiring
3. ☐☐☐☐ : terminal strip, ⊡ : connector, –○– : 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

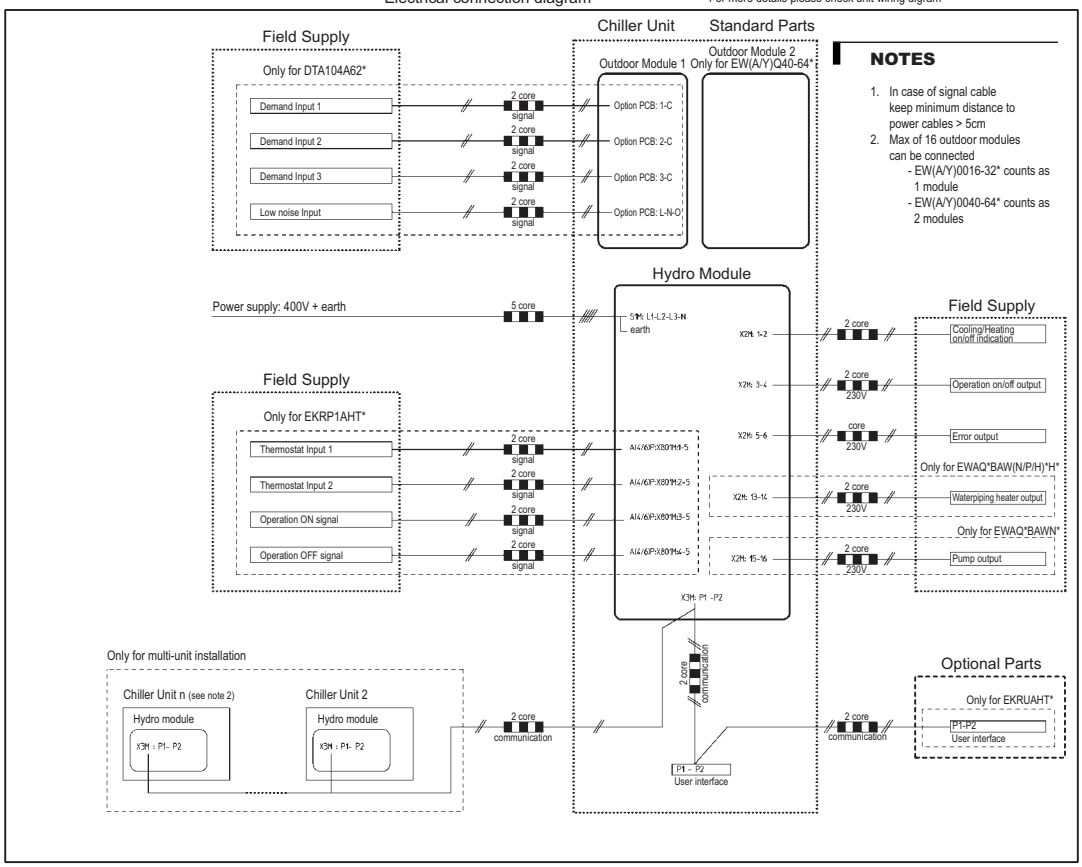
8 External connection diagrams

8 - 1 External Connection Diagrams

EWA/YQ-BA

Electrical connection diagram

For more details please check unit wiring digram



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	77	73	66	60	53	78
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	80	76	69	63	56	81
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

4TW60717-1A

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

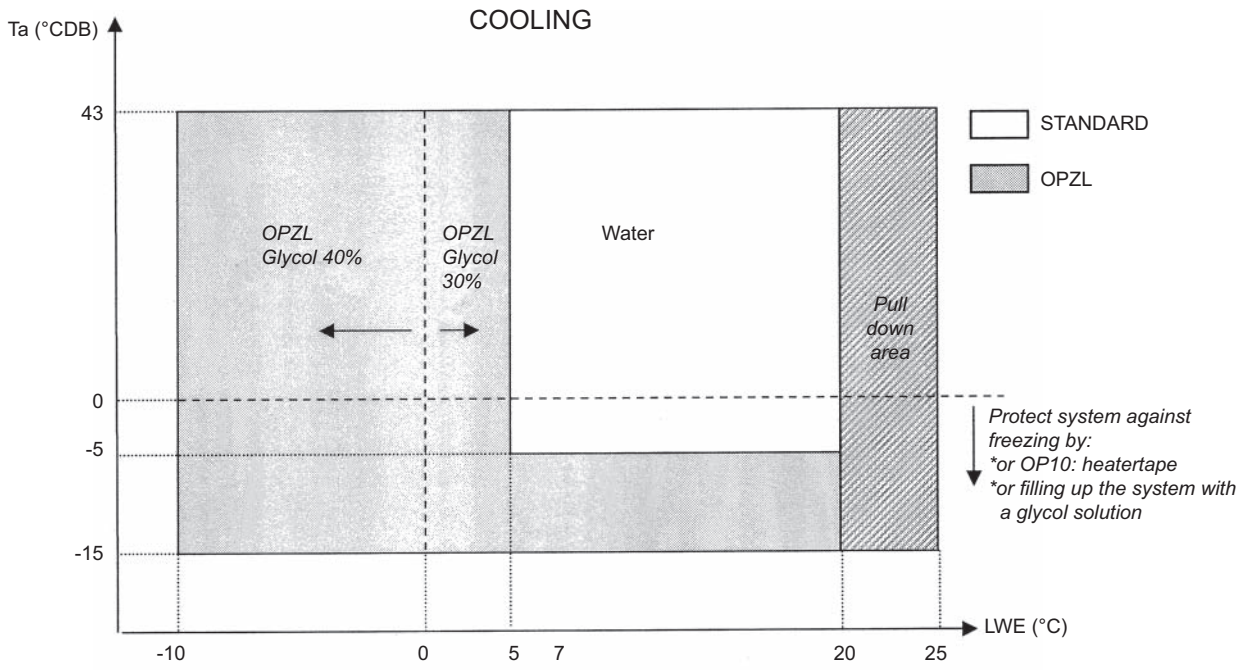
1. Names, definitions and units are according to JIS K 0101. Units and figures between brackets ar old units published as reference only.
2. In case of using heated water (more than 40°C), corrosion is generally noticeable.
   Especially when the iron material is in direct contact with water without 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

EWAQ-BA



SYMBOLS

Ta : Ambient temperature dry bulb (°C)
LWE : Leaving water eveaporator temperature (°C)
LWC : Leaving water condenser temperature (°C)
EWC : Entering water

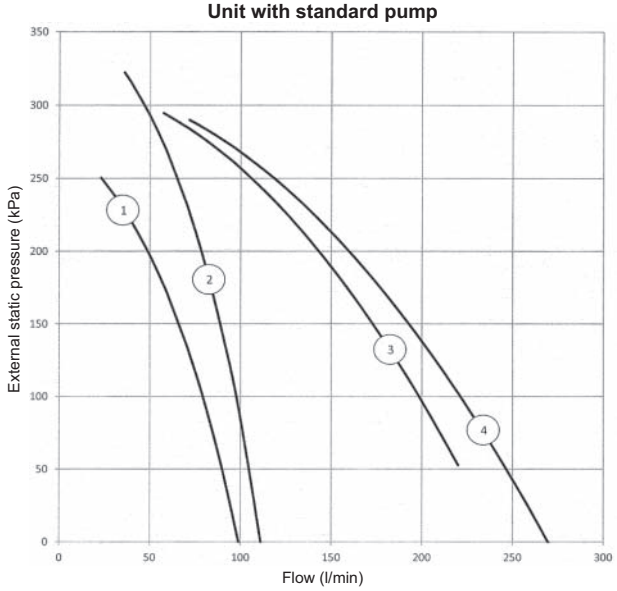
4TW60713-1B

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

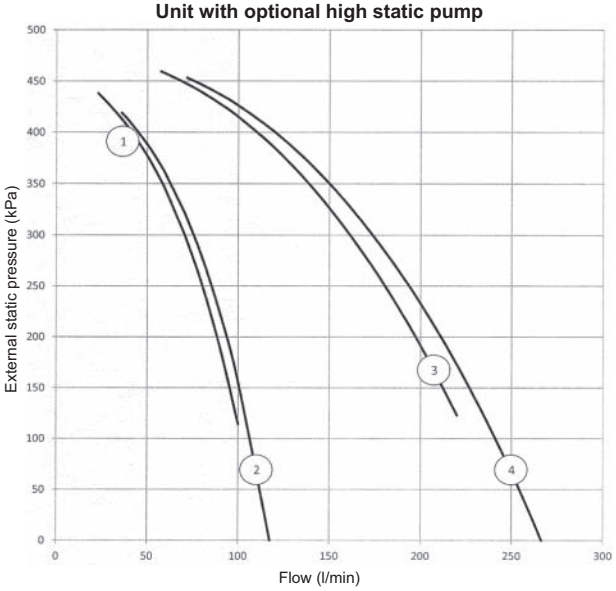
4TW60719-3 (1)

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

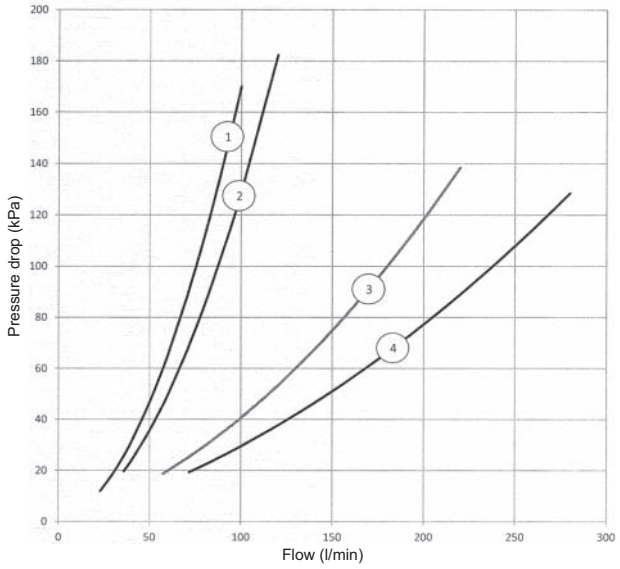
4TW60719-3 (2)

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.

TABLE OF CONTENTS

EWAQ-BAWP

1 Features

- Inverter chiller
- High efficiency with leader-of-class ESEER (up to 4.75)
- Minimal starting currents and short payback times
- No buffertank required for standard applications
- Daikin scroll compressor
- Large operation range (ambient temperature up to 43ºC)
- Digital remote controller

INVERTER

2 Specifications

2-1 Technical Specifications					EWAQ016 BAWP	EWAQ021 BAWP	EWAQ025 BAWP	EWAQ032 BAWP	EWAQ040 BAWP	EWAQ050 BAWP	EWAQ064 BAWP
Cooling capacity	Nom.			kW	16.6 (1)	20.7 (1)	24.7 (1)	30.9 (1)	41.5 (1)	49.7 (1)	62.3 (1)
	Max.			kW	19.8 (1)	24.7 (1)	29.5 (1)	36.9 (1)	49.5 (1)	59.3 (1)	74.3 (1)
Capacity control	Method				Inverter controlled						
	Minimum capacity			%	25						
	Maximum capacity			%	120						
Power input	Cooling	Nom.		kW	5.80 (1)	7.59 (1)	9.74 (1)	13.5 (1)	15.4 (1)	19.7 (1)	27.4 (1)
EER					2.86 (1)	2.73 (1)	2.54 (1)	2.29 (1)	2.69 (1)	2.52 (1)	2.27 (1)
ESEER					4.21	4.18	4.04	3.62	4.24	4.12	3.78
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	Material			Brass						
		Diameter perforations		mm	0.6						
	Water volume			l	1.9			2.9	3.8		5.7
	Water flow rate	Min.		l/min	23			36	46		72
	Nominal water flow	Cooling		l/min	50 (1)	62 (1)	74 (1)	93 (1)	124 (1)	148 (1)	185 (1)
	Maximum water flow	Cooling		l/min	75	93	111	139	187	223	277
	Nominal water pressure drop	Cooling	Total	kPa	20	30	42	30		42	30
	Insulation material				Nitrile rubber based elastomeric foam						
	Model	Type			ACH70-40H			ACH70-60H	ACH70-40H		ACH70-60H
Air heat exchanger	Length			mm	1,778			2,088	1,778		2,088
	Type				Hi-XSS (8)						
	Rows	Quantity			2						
	Stages	Quantity			54						
	Fin pitch			mm	2.0						
	Passes	Quantity			18			21	18		21
	Face area			m²	2.112			2.481	2.112		2.481
	Empty tubeplate hole				0						
	Fin	Type			Non-symmetric waffle louvre						
		Treatment			Hydrophylic and anti-corrosion resistant						
Fan	Quantity				1			2			4
	Type				Axial						
	Air flow rate	Cooling	Nom.	m³/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
	Position				Vertical						
	Drive				Direct drive						
Fan motor 2	Output			W	-			350	750		350
Fan motor 3	Output			W	-						350

2 Specifications

2-1 Technical Specifications					EWAQ016 BAWP	EWAQ021 BAWP	EWAQ025 BAWP	EWAQ032 BAWP	EWAQ040 BAWP	EWAQ050 BAWP	EWAQ064 BAWP
Fan motor 4	Output			W	-						350
Sound power level	Cooling	Nom.		dBA	78			80	81		83
Compressor	Type				Hermetically sealed scroll compressor						
	Quantity				1	2		3	4		6
	Motor (INV)	Crankcase heater		W	33						
		Model			Inverter						
		Quantity			1				2		
	Motor (ON-OFF)	Crankcase heater		W	-	33					
		Model			-	ON/OFF					
		Quantity			0	1		2			4
Operation range	Water side	Cooling	Min.	ºCDB	5						
			Max.	ºCDB	20						
	Air side	Cooling	Min.	ºCDB	-5						
			Max.	ºCDB	43						
Refrigerant	Type				R-410A						
	Charge			kg	7.6			9.6	15.2		19.2
	Control				Electronic expansion valve						
	Circuits	Quantity			1						
Water circuit	Piping connections diameter			inch	1-1/4" (female)				2" (female)		
	Piping			inch	1-1/4"				1-1/2"		
	Drain valve / fill valve				Yes						
	Shut off valve				Yes						
	Nominal water pressure drop	Cooling		kPa	44 (6)	66 (6)	92 (6)	106 (6)	53 (6)	71 (6)	67 (6)
	Total water volume			l	3.2 (3)			4.2 (3)	5.8 (3)		7.7 (3)
	Minimum water volume in the system for cooling			l	33 (4)				66 (4)		
	Air purge valve				Yes						
	flowswitch				yes						
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						
PED	Category				Category II						
	Most critical part	Name			Accumulator						
		Ps*V		Bar*l	335			385	335		385

2 Specifications

2-2 Electrical Specifications				EWAQ016 BAWP	EWAQ021 BAWP	EWAQ025 BAWP	EWAQ032 BAWP	EWAQ040 BAWP	EWAQ050 BAWP	EWAQ064 BAWP
Power supply	Name			W1						
	Phase			3N~						
	Frequency		Hz	50						
	Voltage		V	400						
	Voltage range	Min.	%	-10						
		Max.	%	10						
Unit	Maximum starting current		A	0 (8)	77.7	78.7	88.7	99.8	101.9	120.7
	Current	Zmax	Text	-	0.27		0.24	0.25		0.22
	Maximum running current		A	22.2	25.3	26.4	35.2	47.4	49.6	67.2
	Minimum Ssc value			1,141	853		840	1,706		1,679
	Recommended fuses			25	32		40	50	63	80
Cable requirements	Power supply	Required number of conductors		4 + GND						
	Remote control	Quantity of wires		2						
		Maximum running current		Minimum cable section 0,75 mm²						
	Cooling/Heating output	Quantity of wires		2						
		Maximum running current	A	0.3						
	Operation ON/OFF output	Quantity of wires		2						
		Maximum running current	A	0.3						
	Error output	Quantity of wires		2						
		Maximum running current	A	0.3						
	Pump ON/OFF output	Quantity of wires		2						
		Maximum running current	A	0.3						

Notes

(1) Condition: Ta 35ºC - LWE 7ºC (DT = 5ºC)

(2) Capacity, Power Input, EER, COP, ESEER according EN14511-2011

(3) Including piping + PHE; excluding expansion vessel

(4) Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(5) Excluding the water volume in the unit. This volume will guarantee suficient defrost energy for all applications, however, this volume can be multiplied by 0,66 if the heating sepoint is ≥ 45º C (eg. Fan coils)

(6) This is PD between inlet & outlet connections of unit. It includes the water side heat exchanger pressure drop.

(7) This is ESP between inlet & outlet connections of unit. It consists out of pump SP minus all internal PD's.

(8) No peak current because of inverter compressor

(9) In accordance with EN/IEC 61000-3-11, respectively EN/IEC 61000-3-12, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys ≤ Zmax, respectively Ssc ≥ minimum Ssc value.

(10) EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(11) EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current \> 16A and ≤ 75A per phase

(12) Ssc: Short-circuit power

(13) Zsys: system impedance

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

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3 Options

3 - 1 Options

EWA/YQ-BA

Option availability

		EW(A/Y)Q*BA								DIGIT				
Reference	Description	016	021	025	032	040	050	064	Availability	11	12	13	14	Numeric optioncodes
-	Standard hydraulic package Filter, shut-off valves, drain/fill valve, automatic air purge Flowswitch	○	○	○	○	○	○	○	Factory mounted	N				-
OPSP	Additional hydraulic components: pump, expansion vessel, safety valve, pressure gauge	○	○	○	○	○	○	○	Factory mounted	P				78
OPHP	= OPSP but pump with higher static pressure	○	○	○	○	○	○	○	Factory mounted	H				79
OP10	Heatertape for freeze prevention during winter standstill	○	○	○	○	○	○	○	Factory mounted			H		57
OPZL	Low leaving water operation down to -10°C	○	○	○	○	○	○	○	Factory mounted		B			08b
EKRP1AHT*	Demand PCB with additional inputs for: Remote ON/OFF Remote cooling/heating Remote thermo ON/OFF	○	○	○	○	○	○	○	KIT					
EKRUAHT*	Additional remote user interface	○	○	○	○	○	○	○	KIT					
BHGP26A1	Digital pressure gauges	○	○	○	○	○	○	○	KIT					
DTA104A62	External control adapter for: Demand control Low noise control	○	○	○	○	○	○	○	KIT					

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING P-models Maximum Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
5	016	19.8	6.04	19.8	6.69	19.8	7.70	19.8	8.91	19.2	9.60
	021	24.7	7.82	24.7	8.56	24.7	9.42	24.7	10.3	24.7	12.1
	025	27.7	9.52	27.5	10.43	27.5	11.3	26.8	12.0	25.6	13.2
	032	36.9	13.4	36.9	15.4	36.4	17.2	35.2	18.8	29.7	17.0
	040	49.5	16.1	49.5	17.3	49.5	19.2	49.5	21.5	49.5	25.4
	050	53.4	18.6	54.3	20.6	53.8	22.3	52.3	23.7	49.6	26.1
	064	73.2	27.5	72.1	30.5	71.0	33.8	68.3	36.9	58.2	33.9
7	016	19.8	5.33	19.8	5.86	19.8	6.64	19.8	7.67	19.8	8.98
	021	24.7	7.26	24.7	7.93	24.7	8.73	24.7	9.59	24.7	11.0
	025	29.5	9.43	29.5	10.8	29.5	11.8	29.5	13.2	27.7	14.1
	032	36.9	12.3	36.9	14.2	36.9	16.6	36.9	18.8	30.5	16.3
	040	49.5	14.8	49.5	16.1	49.5	17.7	49.5	19.8	49.5	22.9
	050	59.3	19.4	59.3	22.0	59.3	24.2	59.3	28.1	54.0	27.9
	064	74.3	26.2	74.3	29.8	74.3	34.2	74.3	40.1	59.3	32.0
10	016	19.8	4.78	19.8	5.19	19.8	5.84	19.8	6.59	19.8	7.40
	021	24.7	6.66	24.7	7.33	24.7	8.06	24.7	8.86	24.7	9.87
	025	29.5	8.63	29.5	9.94	29.5	11.1	29.5	12.0	28.5	12.8
	032	36.9	11.2	36.9	12.8	36.9	15.1	36.9	16.9	31.4	15.1
	040	49.5	13.2	49.5	14.6	49.5	16.1	49.5	17.9	49.5	20.2
	050	59.3	17.3	59.3	19.9	59.3	22.2	59.3	24.2	56.9	26.4
	064	74.3	23.8	74.3	26.8	74.3	31.4	74.3	35.9	61.8	30.1
15	016	19.8	3.88	19.8	4.45	19.8	5.00	19.8	5.60	19.8	6.31
	021	24.7	5.72	24.7	6.37	24.7	7.07	24.7	7.79	24.7	8.54
	025	29.5	7.11	29.5	8.15	29.5	9.29	29.5	10.2	29.5	11.2
	032	36.9	9.80	36.9	11.1	36.9	12.6	36.9	14.4	32.5	13.2
	040	49.5	11.3	49.5	12.6	49.5	14.0	49.5	15.5	49.5	17.1
	050	59.3	14.5	59.3	16.5	59.3	18.8	59.3	20.5	59.3	22.7
	064	74.3	20.4	74.3	22.6	74.3	25.8	74.3	29.6	64.4	26.3
18	016	19.8	3.55	19.8	3.98	19.8	4.51	19.8	5.11	19.8	5.75
	021	24.7	5.25	24.7	5.87	24.7	6.63	24.7	7.35	24.7	8.07
	025	29.5	6.49	29.5	7.42	29.5	8.51	29.5	9.43	29.5	10.3
	032	36.9	8.88	36.9	10.1	36.9	11.4	36.9	13.1	33.5	12.3
	040	49.5	10.5	49.5	11.8	49.5	13.2	49.5	14.5	49.5	16.1
	050	59.3	13.2	59.3	15.0	59.3	17.3	59.3	19.3	59.3	20.9
	064	74.3	18.5	74.3	20.5	74.3	23.5	74.3	27.2	67.0	24.9

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING P-models Nominal Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
5	016	16.6	4.30	16.6	4.86	16.6	5.53	16.6	6.27	16.6	7.04
	021	20.7	5.87	20.7	6.40	20.7	7.13	20.7	8.00	20.7	9.03
	025	24.7	7.71	24.7	8.54	24.7	9.38	24.7	10.5	24.7	12.2
	032	30.9	10.21	30.9	11.5	30.9	12.8	30.8	14.8	29.9	16.9
	040	41.5	11.8	41.5	13.0	41.5	14.6	41.5	16.5	41.5	18.6
	050	49.7	15.7	49.7	17.3	49.7	19.3	49.7	21.6	49.7	25.2
	064	62.3	20.5	62.3	23.1	62.3	26.1	62.3	30.4	58.5	33.6
7	016	16.6	4.03	16.6	4.53	16.6	5.14	16.6	5.80	16.6	6.55
	021	20.7	5.60	20.7	6.17	20.7	6.84	20.7	7.59	20.7	8.42
	025	24.7	7.26	24.7	8.07	24.7	8.90	24.7	9.74	24.7	11.0
	032	30.9	9.77	30.9	10.9	30.9	12.1	30.9	13.5	30.6	16.1
	040	41.5	11.3	41.5	12.2	41.5	13.7	41.5	15.4	41.5	17.2
	050	49.7	14.6	49.7	16.3	49.7	18.0	49.7	19.7	49.7	22.9
	064	62.3	19.4	62.3	21.8	62.3	24.3	62.3	27.4	62.3	32.2
10	016	16.6	3.58	16.6	4.02	16.6	4.53	16.6	5.23	16.6	5.91
	021	20.7	5.25	20.7	5.78	20.7	6.34	20.7	7.07	20.7	7.88
	025	24.7	6.52	24.7	7.48	24.7	8.05	24.7	9.08	24.7	10.0
	032	30.9	8.83	30.9	10.0	30.9	11.1	30.9	12.5	30.9	14.7
	040	41.5	10.4	41.5	11.4	41.5	12.6	41.5	14.0	41.5	15.7
	050	49.7	13.0	49.7	14.8	49.7	16.4	49.7	18.1	49.7	20.4
	064	62.3	17.7	62.3	20.2	62.3	22.4	62.3	25.7	62.3	30.1
15	016	16.6	2.81	16.6	3.28	16.6	3.72	16.6	4.26	16.6	4.85
	021	20.7	4.37	20.7	4.99	20.7	5.51	20.7	6.15	20.7	6.87
	025	24.7	5.75	24.7	6.39	24.7	7.21	24.7	8.00	24.7	8.73
	032	30.9	7.43	30.9	8.39	30.9	9.50	30.9	10.6	30.9	12.1
	040	41.5	8.71	41.5	10.0	41.5	11.1	41.5	12.4	41.5	13.8
	050	49.7	11.4	49.7	12.8	49.7	14.3	49.7	15.8	49.7	17.3
	064	62.3	14.8	62.3	16.8	62.3	19.1	62.3	21.3	62.3	24.8
18	016	16.6	2.53	16.6	2.94	16.6	3.35	16.6	3.85	16.6	4.42
	021	20.7	3.80	20.7	4.43	20.7	5.00	20.7	5.56	20.7	6.22
	025	24.7	5.45	24.7	6.00	24.7	6.77	24.7	7.49	24.7	8.23
	032	30.9	6.90	30.9	7.78	30.9	8.72	30.9	9.82	30.9	11.0
	040	41.5	7.59	41.5	8.86	41.5	9.95	41.5	11.1	41.5	12.6
	050	49.7	10.6	49.7	11.9	49.7	13.4	49.7	14.9	49.7	16.2
	064	62.3	13.5	62.3	15.4	62.3	17.6	62.3	19.6	62.3	22.0

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011

3TW60722-4A

4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING - OPZL P-models Maximum Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	016	12.2	6.38	12.2	6.92	12.0	7.57	11.6	8.12	11.0	8.68
	021	17.3	8.55	17.2	9.00	16.7	9.74	16.0	10.4	15.0	11.4
	025	17.5	9.02	17.4	9.46	17.0	10.2	16.2	10.9	15.2	12.0
	032	24.7	12.8	23.9	14.1	22.0	15.5	20.1	16.9	16.1	14.9
	040	34.3	16.4	33.8	17.8	32.8	19.3	31.3	20.6	29.4	22.6
	050	34.5	17.0	34.2	18.6	33.2	20.1	31.8	21.5	29.9	23.5
	064	48.4	25.0	46.5	27.6	42.8	30.4	39.4	33.5	31.2	28.8
-5	016	15.1	6.71	15.0	7.19	14.7	7.85	14.1	8.41	13.3	8.98
	021	20.7	9.05	20.6	9.33	20.1	10.1	19.3	10.7	18.2	11.8
	025	20.9	9.07	20.8	9.79	20.4	10.6	19.4	11.3	18.3	12.3
	032	28.8	13.2	28.5	14.6	26.9	16.1	24.5	17.7	22.0	18.5
	040	40.8	16.9	40.5	18.5	39.3	20.0	37.6	21.3	35.5	23.4
	050	41.1	17.6	40.9	19.3	39.8	20.8	38.2	22.2	36.0	24.3
	064	56.5	25.9	55.7	28.7	52.2	31.6	48.2	34.5	39.1	31.6

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011
3. Usage of glycol and other anti-freeze
   Correction factors for CC and PI are applicable according to type and concentration of the used anti-freeze

3TW60722-1A

4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING - OPZL P-models Nominal Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	016	12.3	6.40	12.3	6.94	12.1	7.58	11.7	8.13	11.1	8.70
	021	17.7	8.32	17.5	9.02	16.9	9.76	16.2	10.4	15.2	11.4
	025	17.6	8.73	17.5	9.47	17.0	10.24	16.3	10.9	15.3	11.9
	032	25.0	12.9	24.1	14.2	22.2	15.6	20.3	17.0	16.2	14.9
	040	34.7	16.4	34.3	17.8	33.2	19.3	31.7	20.6	29.8	22.6
	050	36.9	17.3	36.6	18.8	35.7	20.4	34.4	21.8	29.9	23.5
	064	48.9	25.1	47.0	27.6	43.3	30.5	39.9	33.3	31.6	28.7
-5	016	15.3	6.73	15.3	7.21	14.9	7.87	14.3	8.43	13.5	9.00
	021	20.7	8.65	20.7	9.36	20.4	10.1	19.5	10.8	18.4	11.8
	025	21.1	9.10	21.0	9.81	20.5	10.6	19.6	11.3	18.5	12.3
	032	29.0	13.3	28.9	14.7	27.2	16.2	24.8	17.7	22.3	18.6
	040	41.5	17.1	41.0	18.5	39.8	20.0	38.1	21.3	36.0	23.4
	050	41.6	17.8	41.4	19.3	40.3	20.8	38.6	22.2	36.4	24.3
	064	57.1	26.0	56.3	28.8	52.8	31.7	48.2	34.8	40.2	31.8

SYMBOLS

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

NOTES

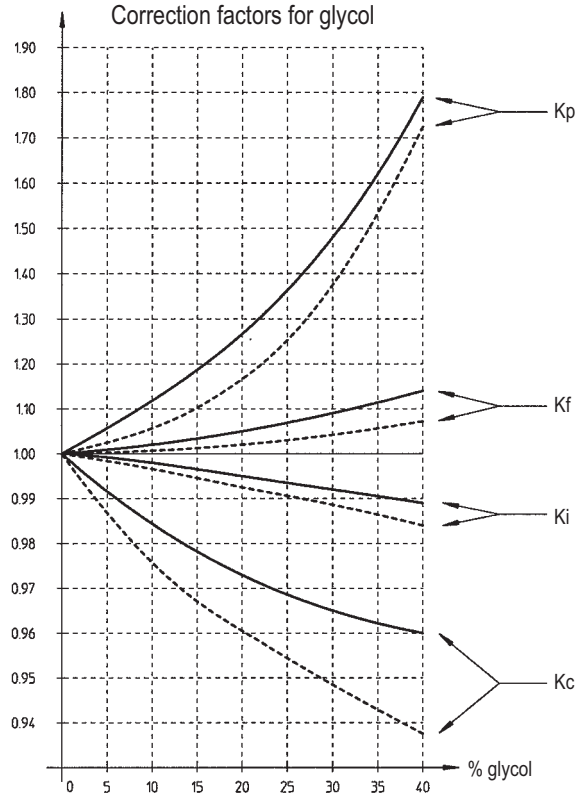
1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011
3. Usage of glycol and other anti-freeze
   Correction factors for CC and PI are applicable according to type and concentration of the used anti-freeze

3TW60722-4A

4 Capacity tables

4 - 2 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:

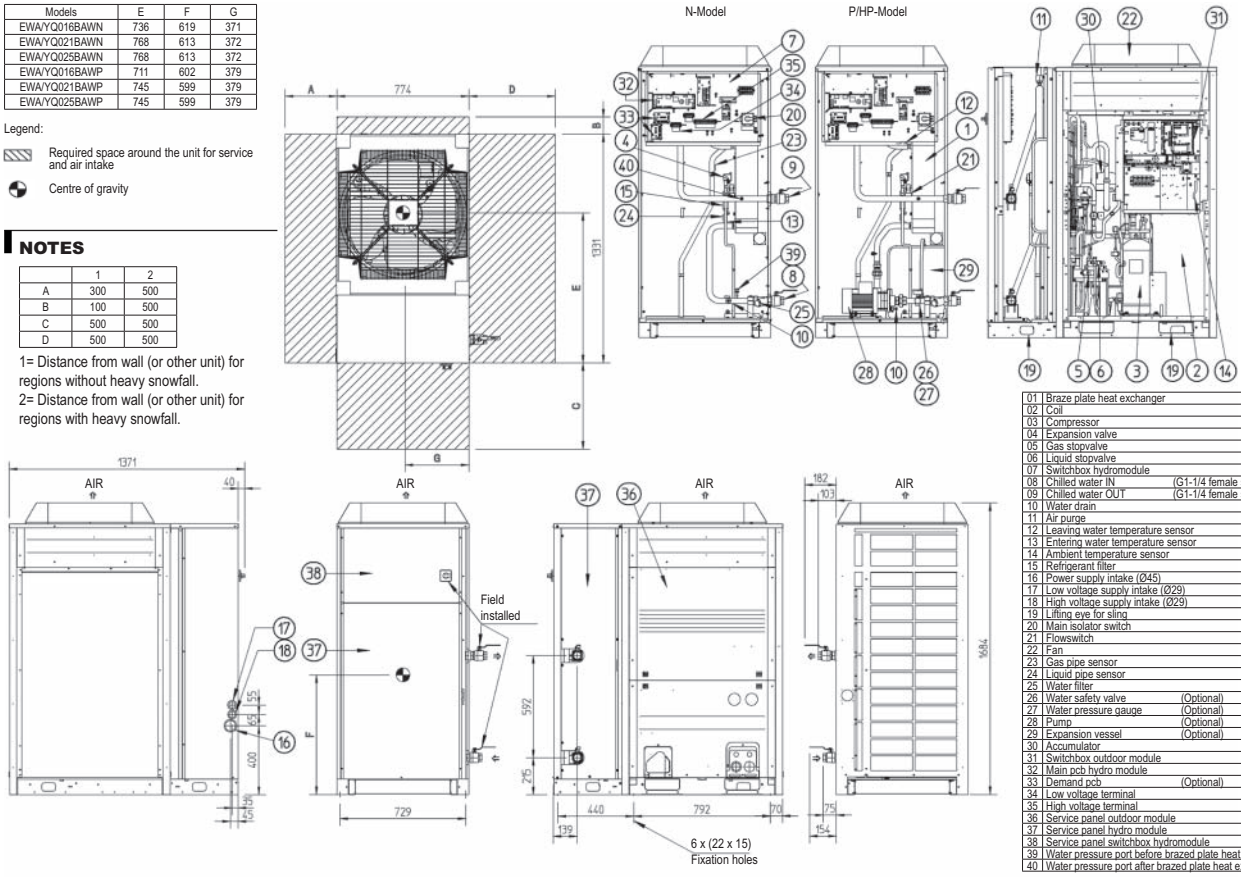
Required space around the unit for service and air intake

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	(G1-1/4 female shutoff valve)
09	Chilled water OUT	(G1-1/4 female 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	

3TW60724-1A

EWA/YQ32BA

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

Legend:

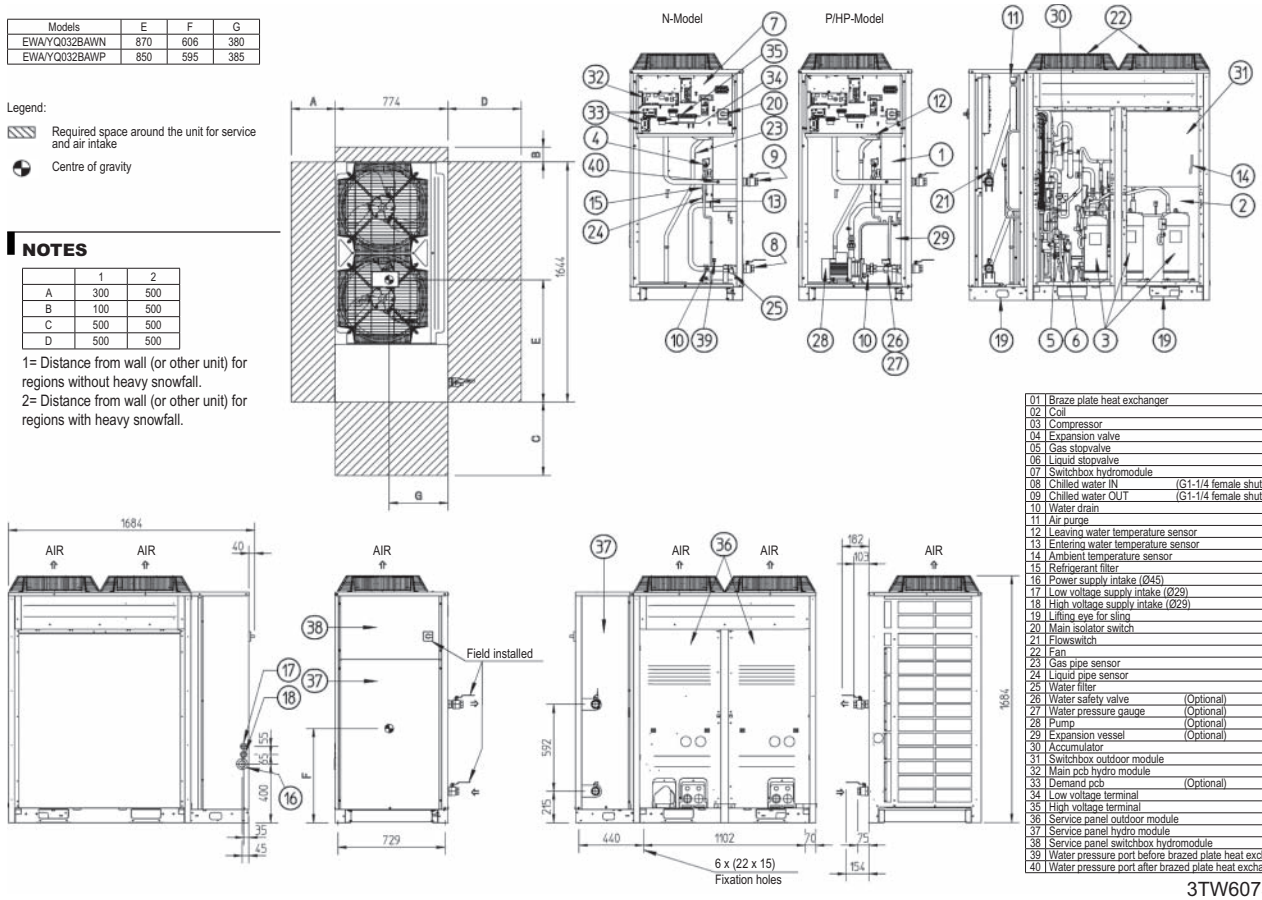
Required space around the unit for service and air intake

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	(G1-1/4 female shutoff valve)
09	Chilled water OUT	(G1-1/4 female 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	

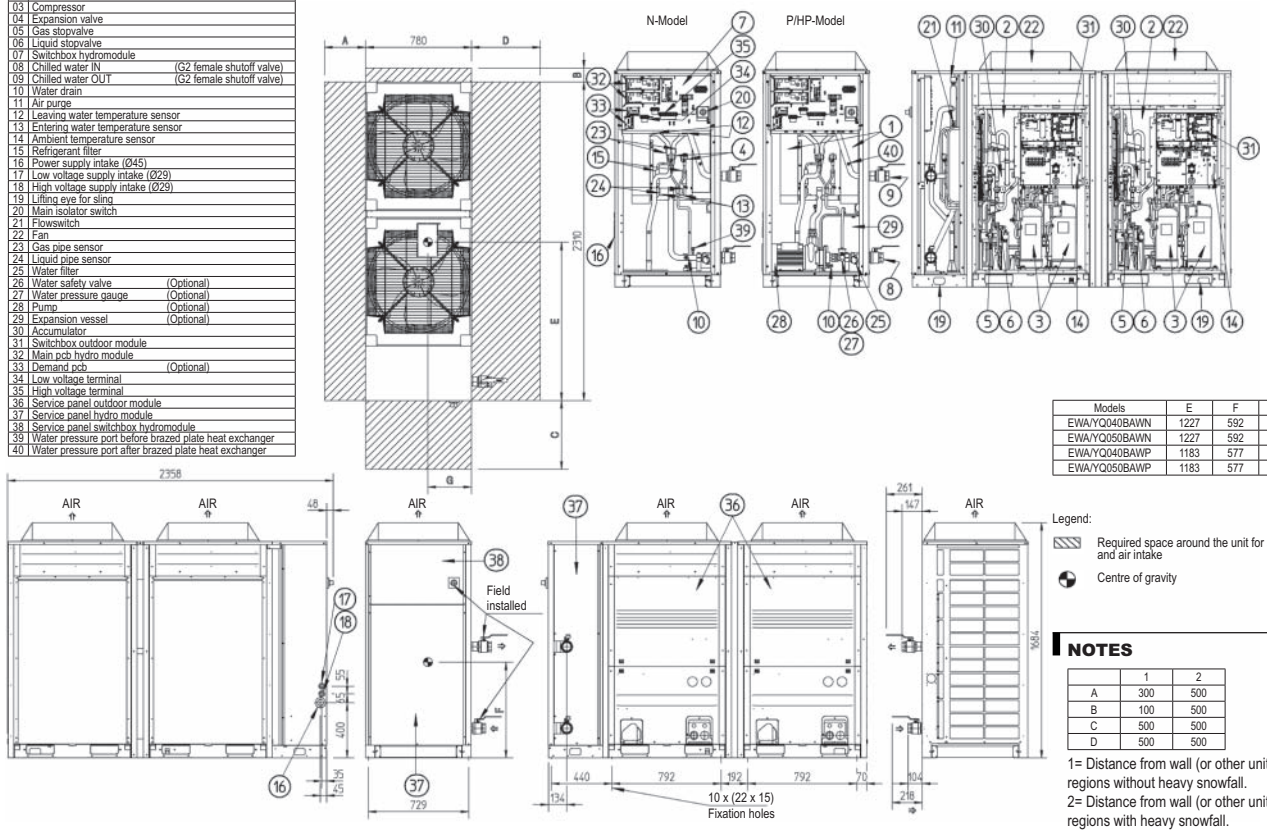
3TW60734-1A

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	(G2 female shutoff valve)
09	Chilled water OUT	(G2 female 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

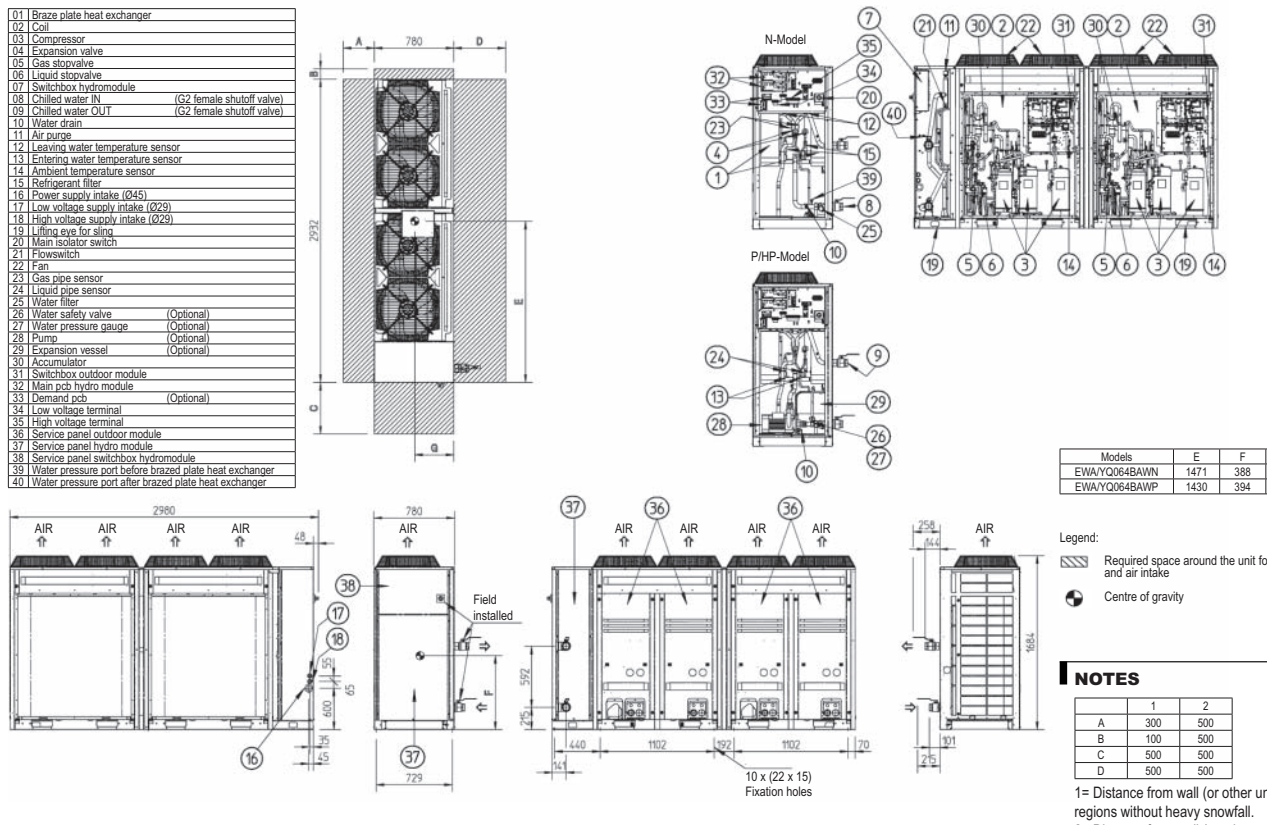
	1	2
A	300	500
B	100	500
C	500	500
D	500	500

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

3TW60754-1A

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	(G2 female shutoff valve)
09	Chilled water OUT	(G2 female 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.

3TW60774-1A

6 Piping diagrams

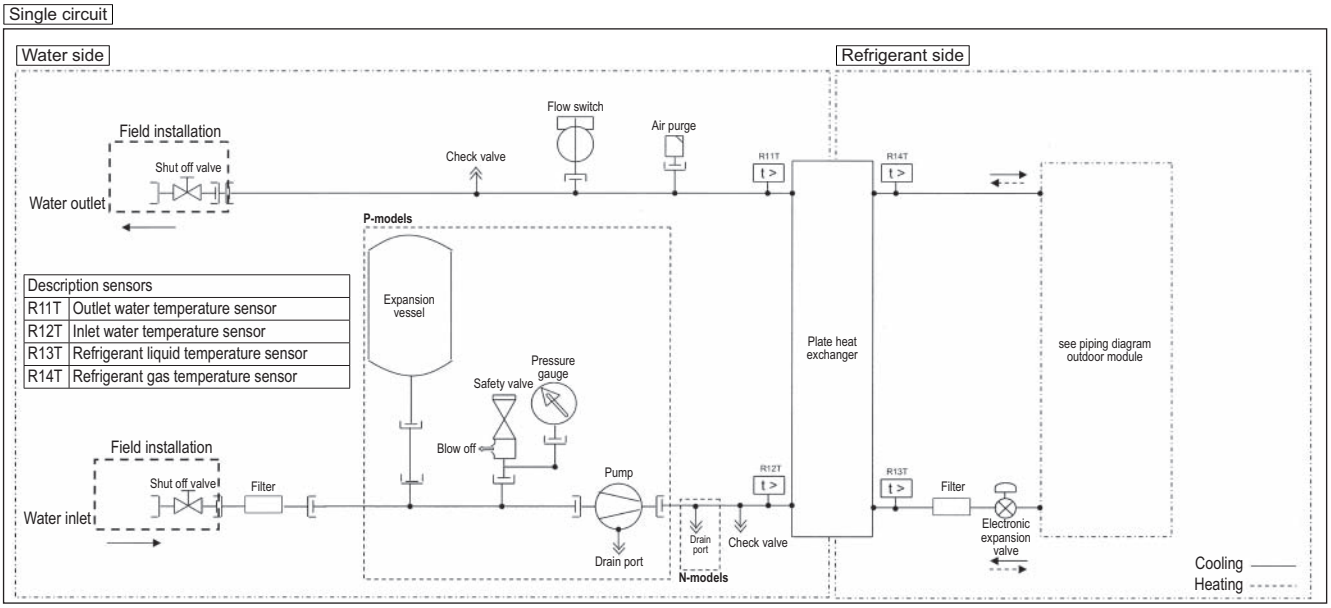
6 - 1 Piping Diagrams

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

Overview

Outdoor module piping diagram		Small inverter chiller - Outdoor module combination						
		Single circuit				Double circuit		
		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



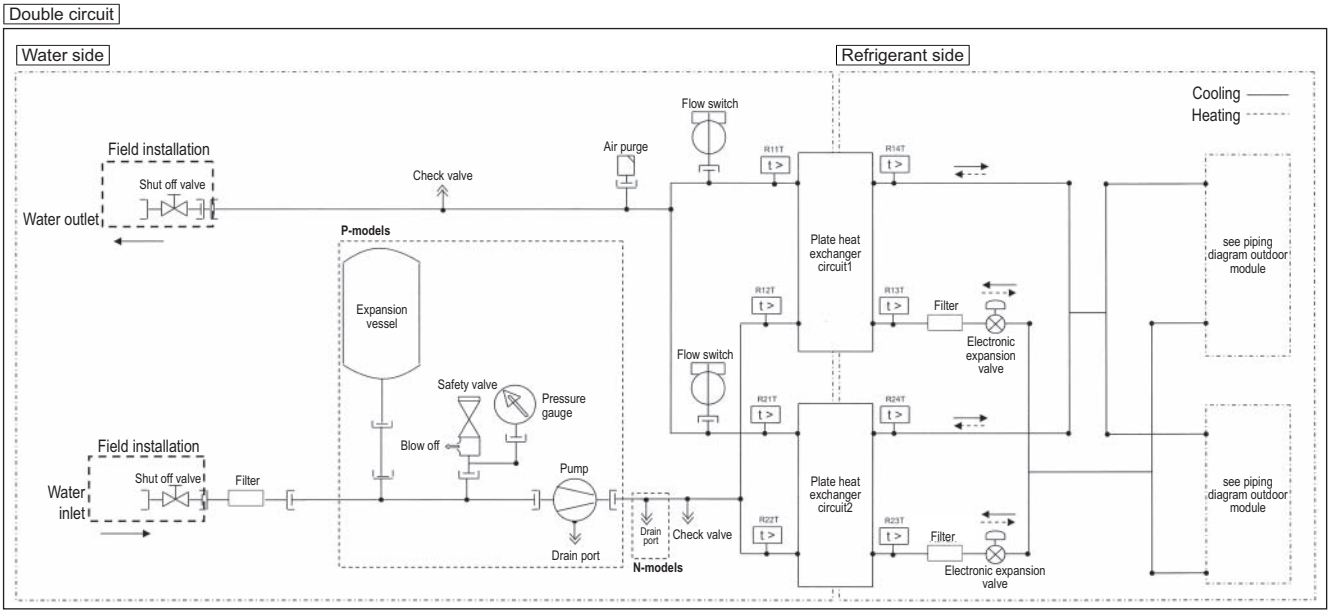
Description sensors	
R11T	Outlet water temperature sensor
R12T	Inlet water temperature sensor
R13T	Refrigerant liquid temperature sensor
R14T	Refrigerant gas temperature sensor

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

3TW60715-1(1)

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

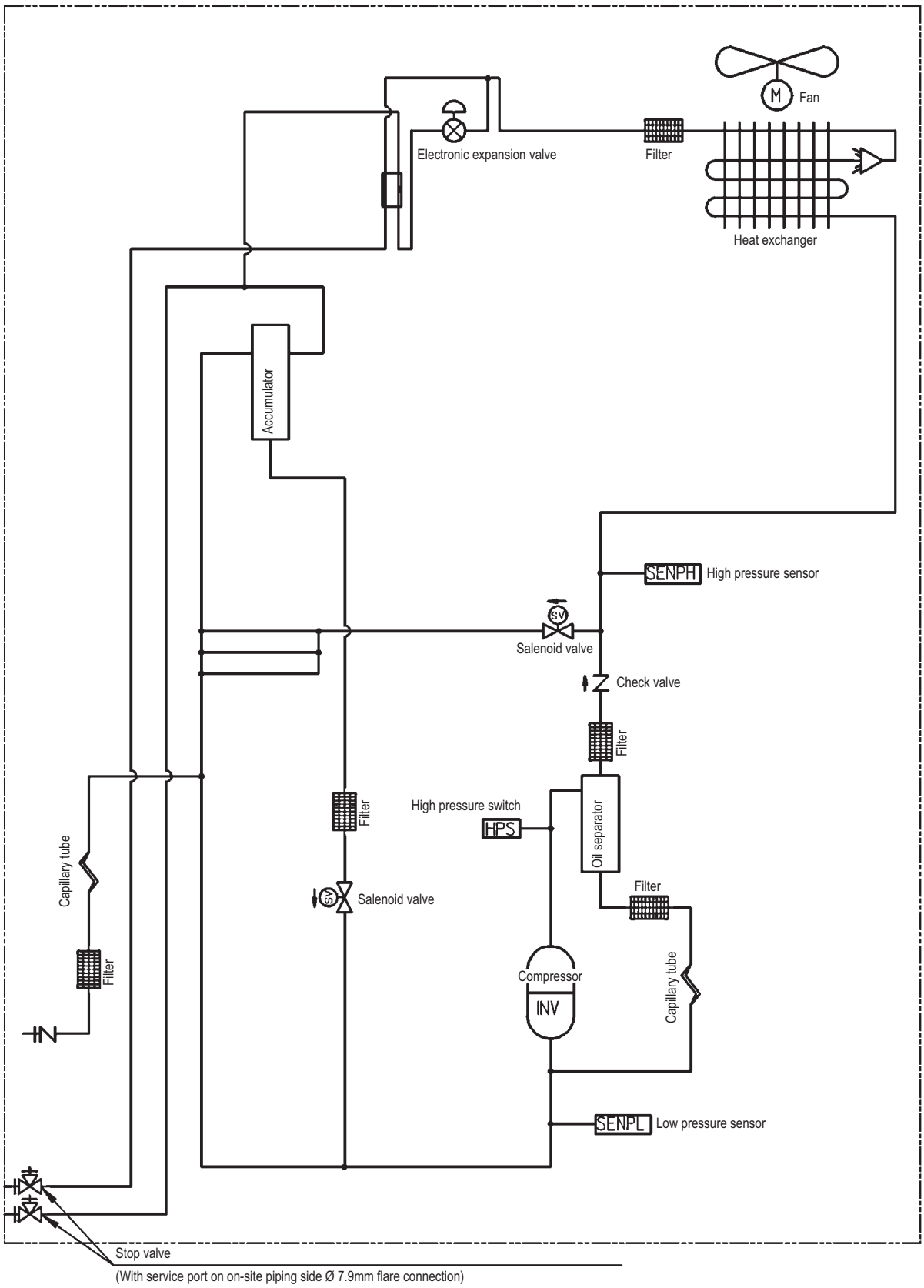
Check valve | Flare conn. | Screw conn. | Flange conn. | Pinched pipe | Spinned pipe

3TW60715-1(2)

6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ16BA

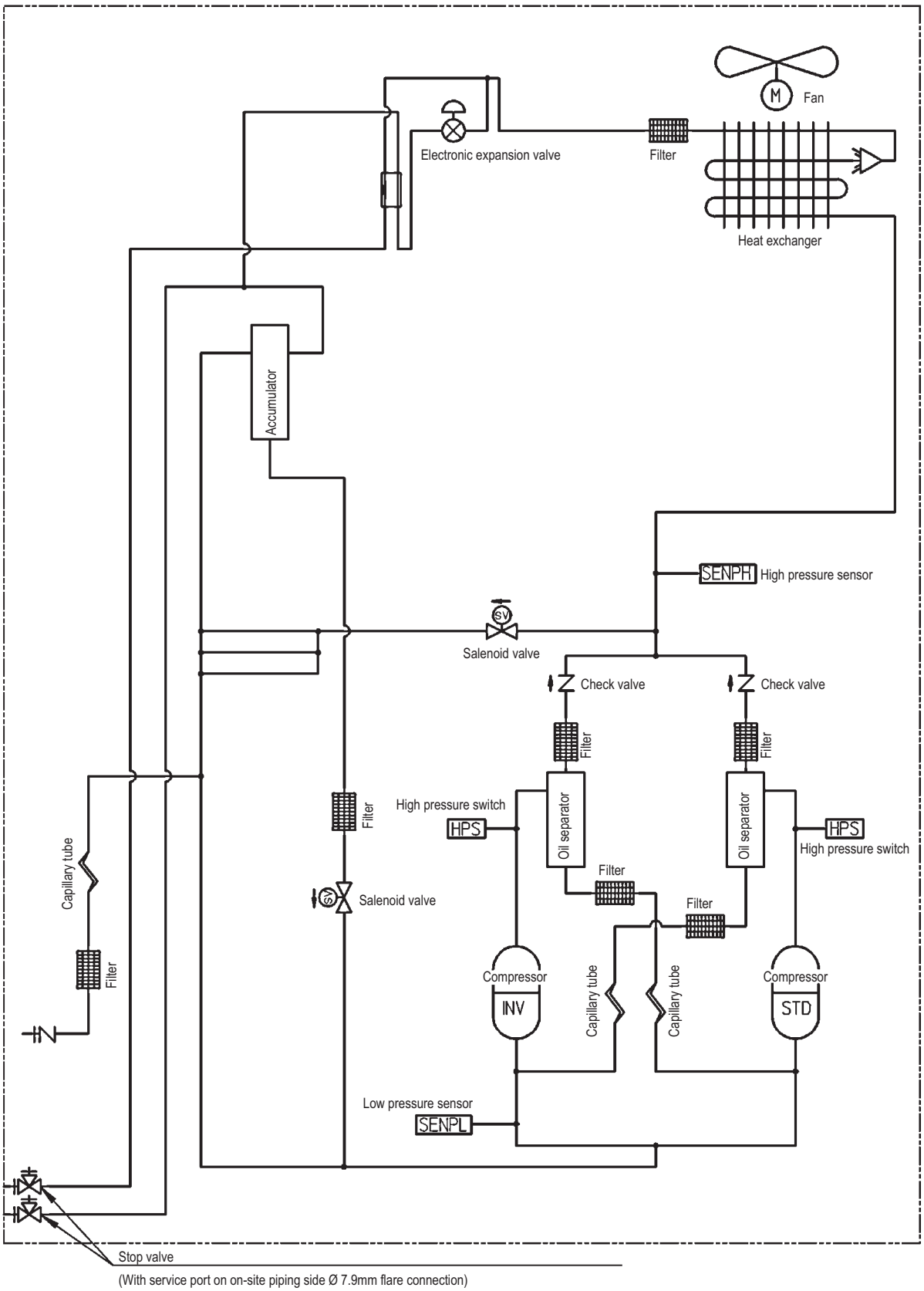


4TW27315-1A

6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ21,40BA

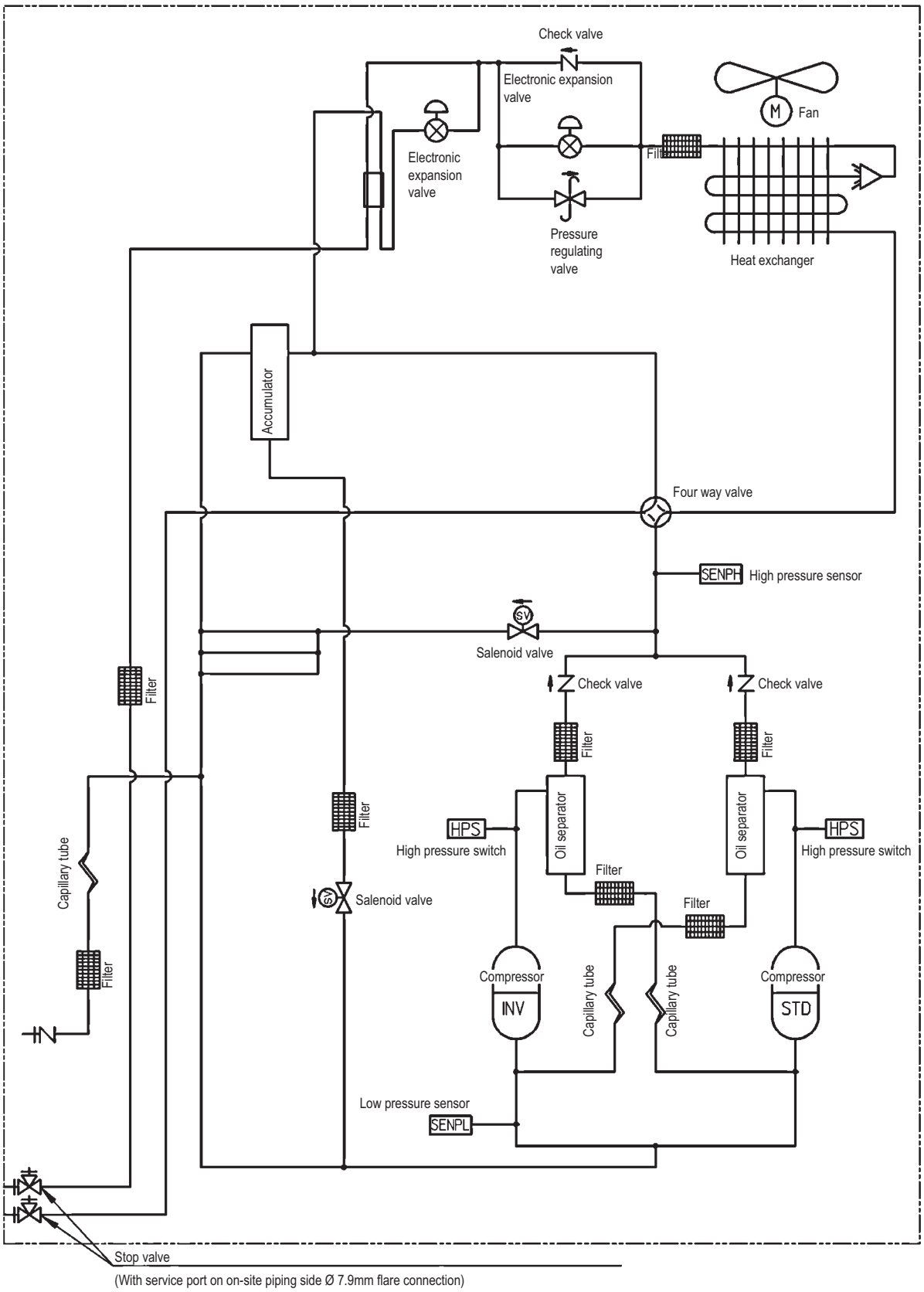


4TW27325-1A

6 Piping diagrams

6 - 1 Piping Diagrams

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

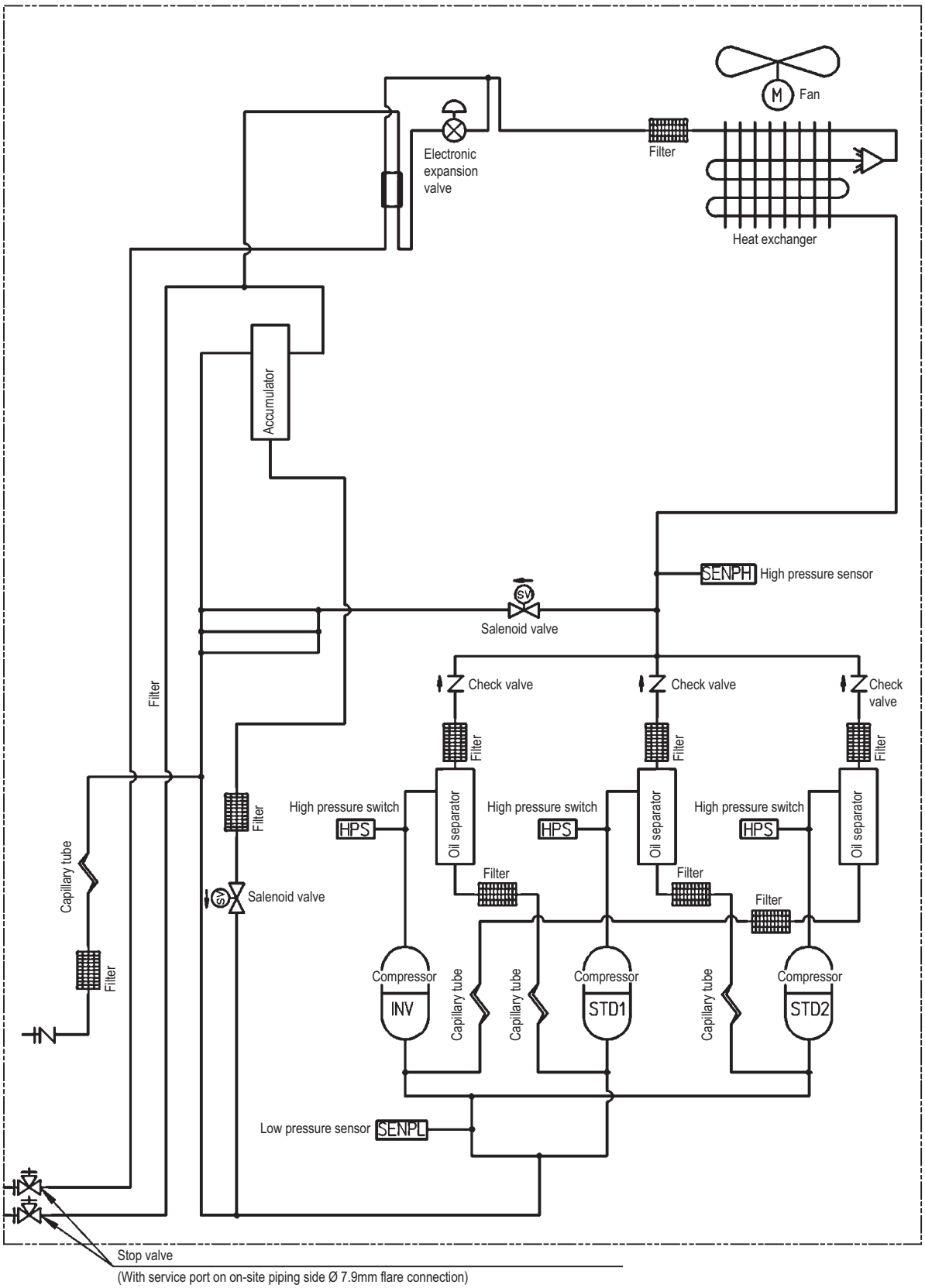


4TW27255-1

6 Piping diagrams

6 - 1 Piping Diagrams

EWAQ32,64BA



4TW27345-1A

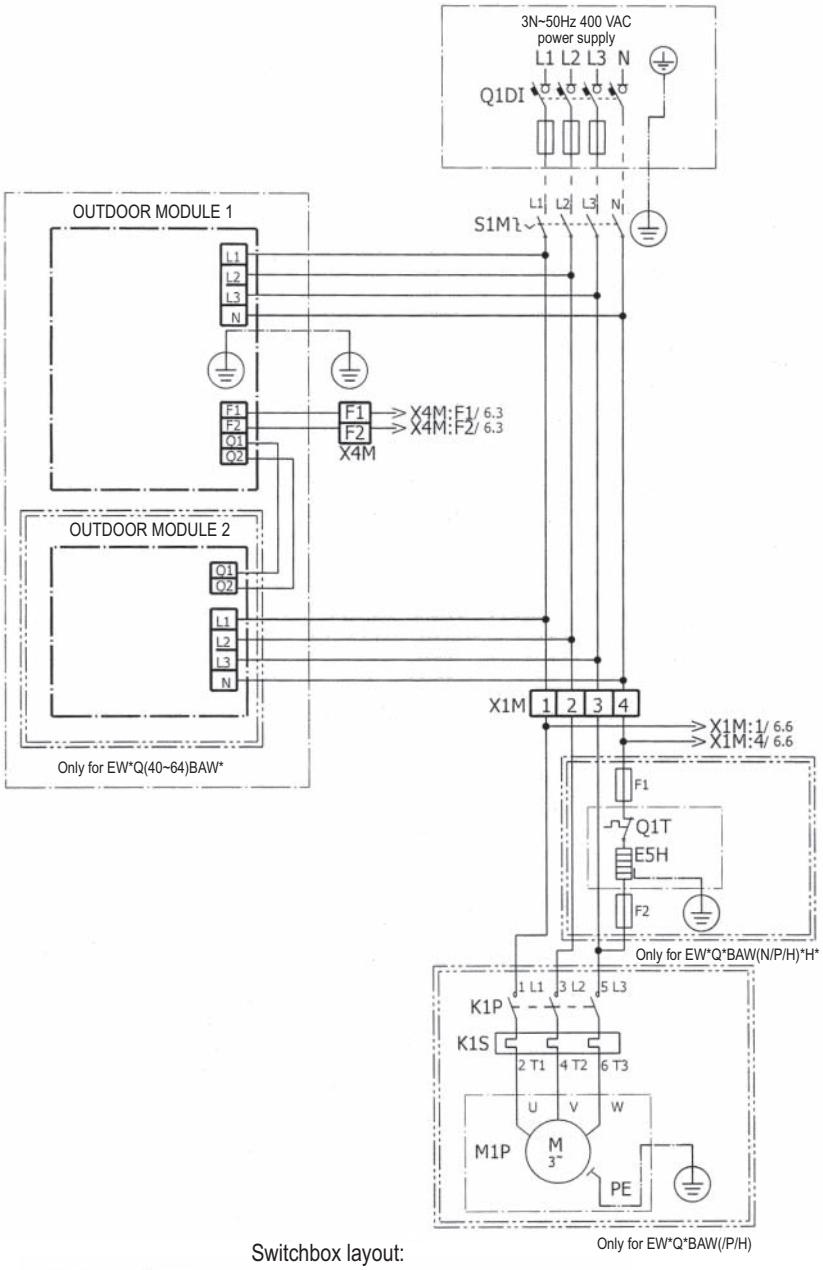
7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

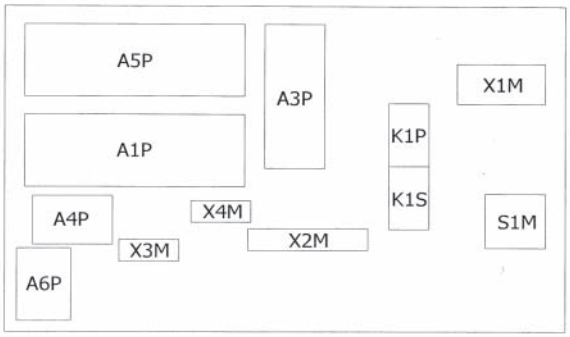
EWA/YQ-BA

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		Termnial strip
X801M (A*P)	*	PCB terminal strip
Z1F-Z2F (A*P)		Noise filter

* : Field installed option # : Field supplied



Switchbox layout:



4TW60726-1B

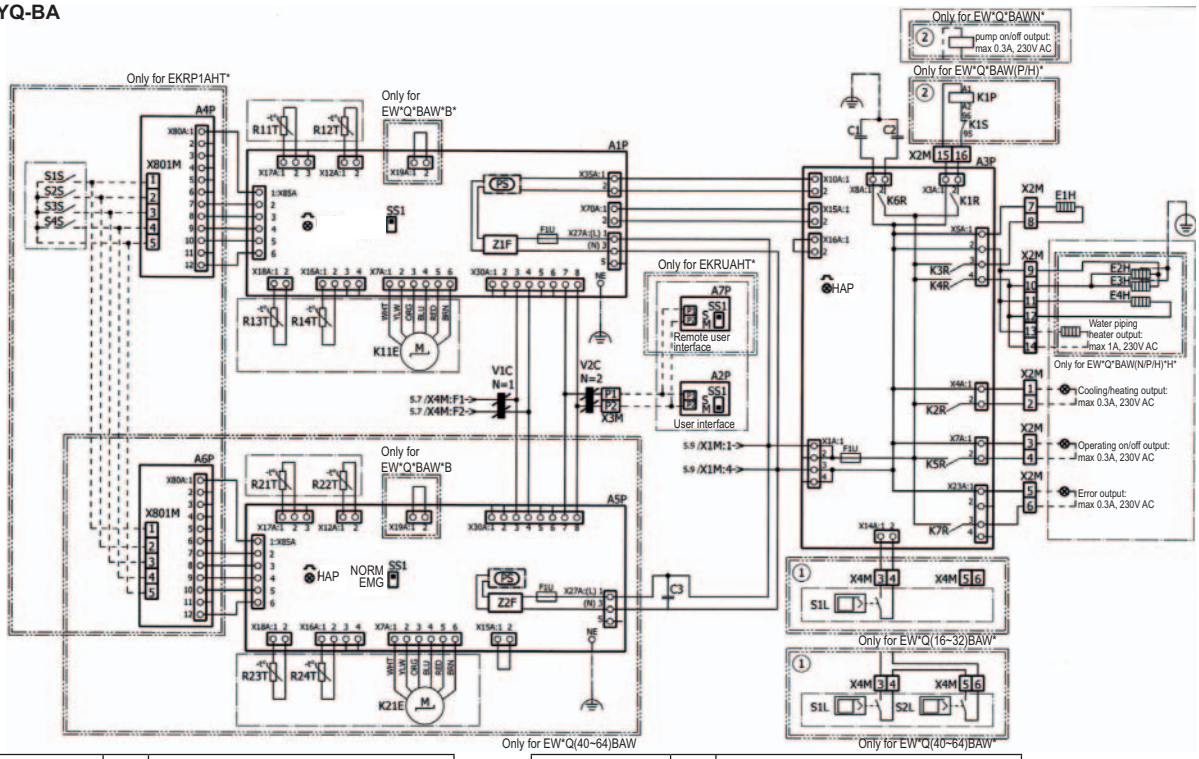
NOTES

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; -**/12.2: Connection ** continues on page 12 column 2; ① Several wiring possibilities
3. User installed optons:
   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

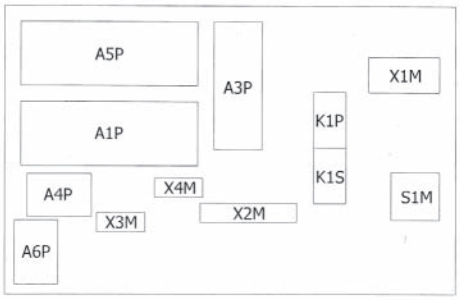
EWA/YQ-BA



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		Termnial strip
X801M (A*P)	*	PCB terminal strip
Z1F-Z2F (A*P)		Noise filter

* : Field installed option # : Field supplied

Switchbox layout:



4TW60726-1B

NOTES

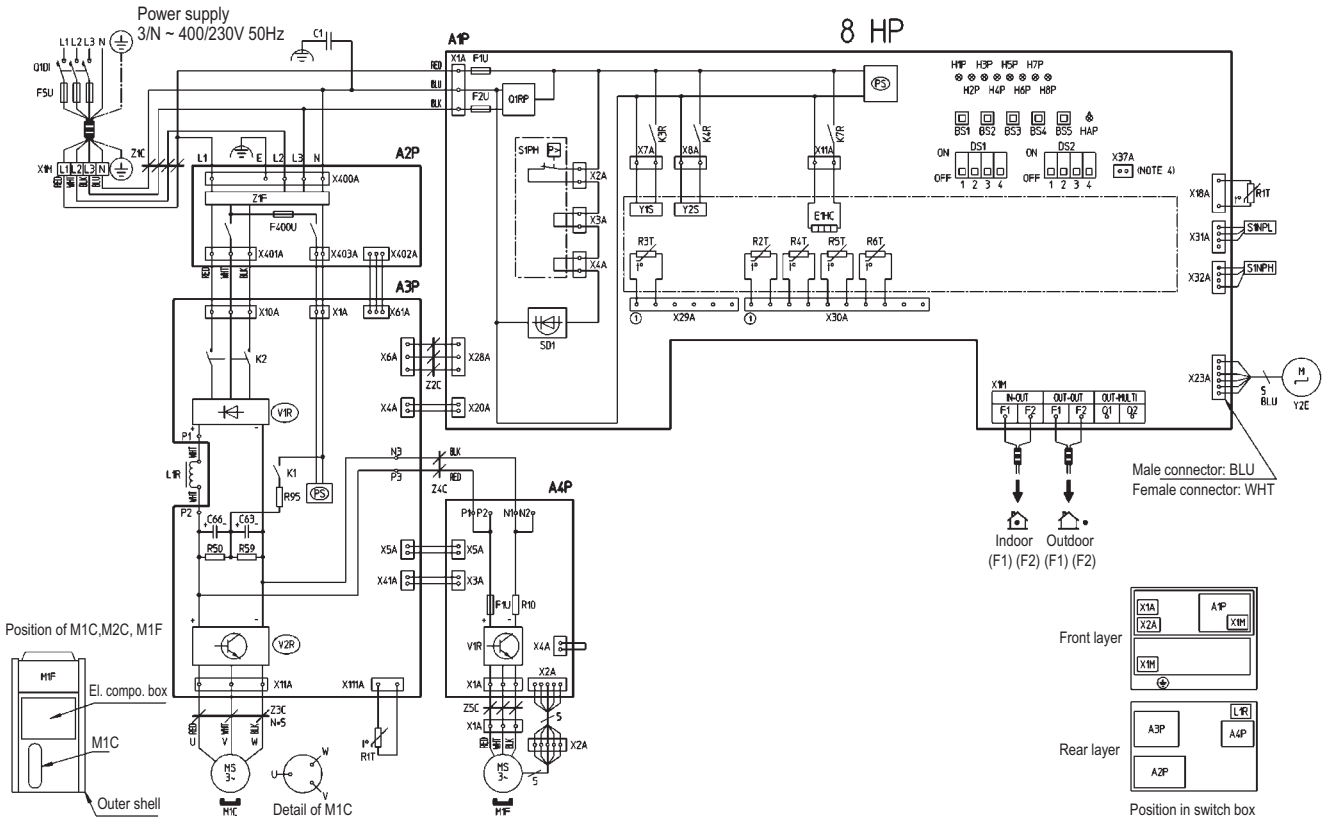
1. X1M: Terminal; X2M: Field wiring terminal for high voltage; X3M: Field wiring terminal for low voltage; X4M: Factory wiring terminal for low voltage
2. ——: Earth wiring; - - - - - -: Field supply; [ ]: Option; [ ]: Wiring depending on model; [ ]: Not mounted in switch box; [ ]: PCB; -**/12.2: Connection ** continues on page 12 column 2; ① Several wiring possibilities
3. User installed optons:

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

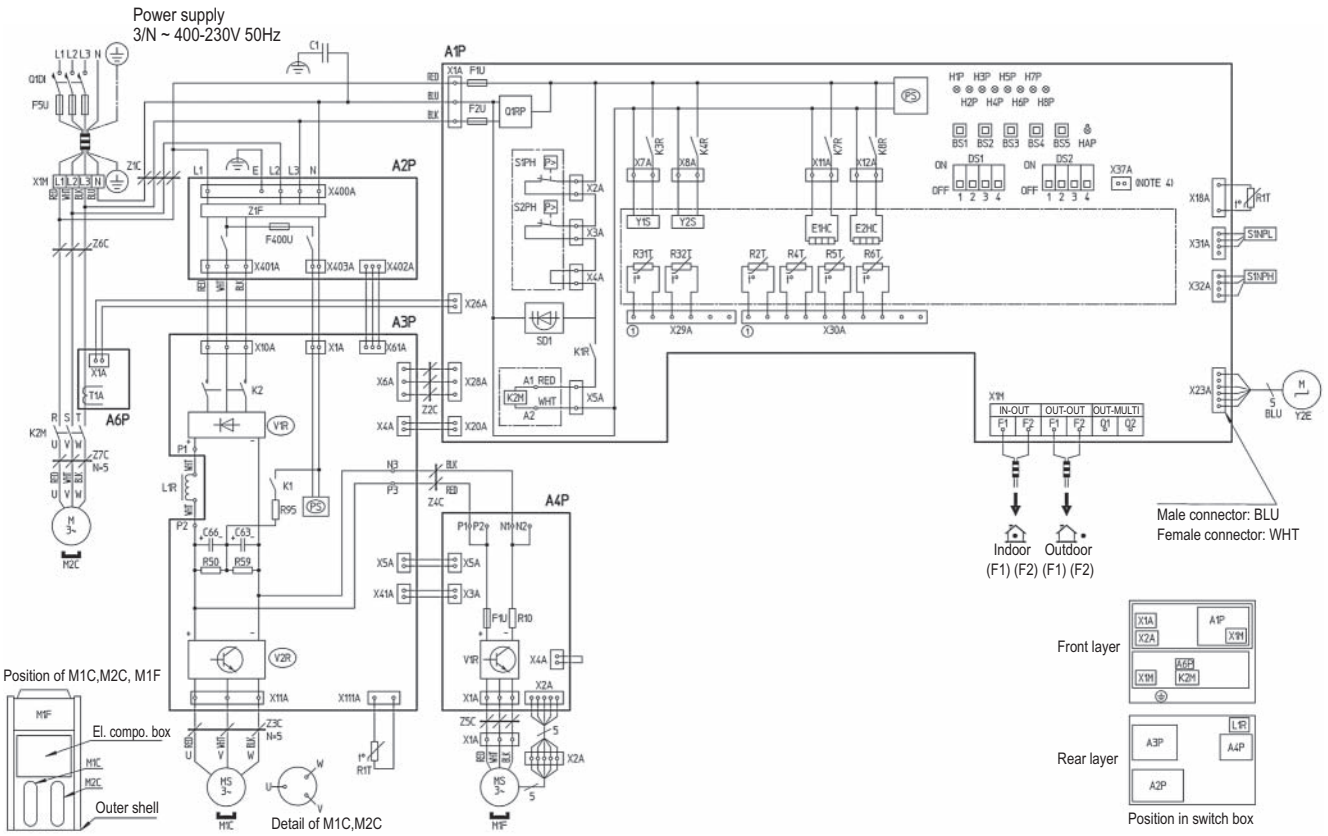
NOTES

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

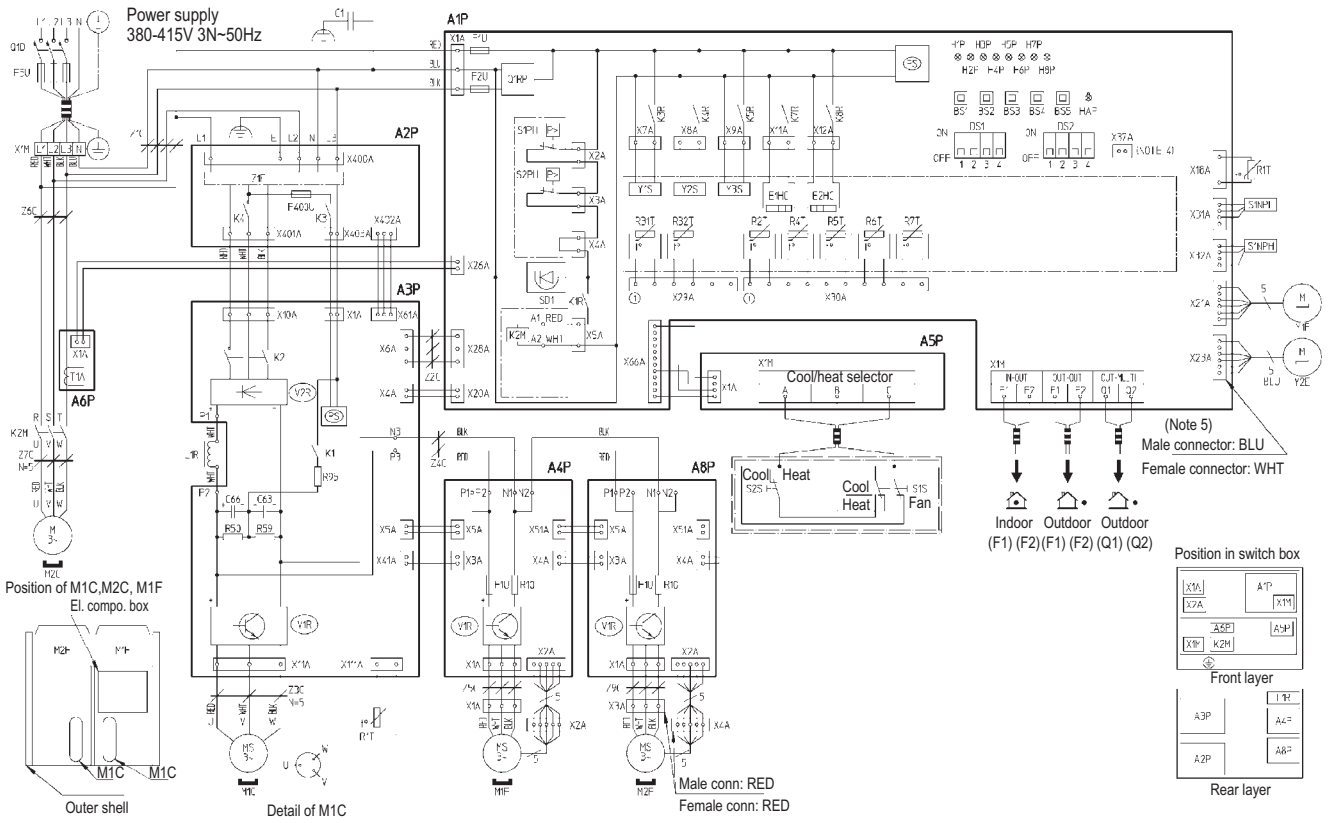
NOTES

1. This wiring diagram only applies to the outdoor unit
2. ▬▮▮▬: field wiring, ▭: indication of parts outside switchbox
3. ▭▭▭▭: terminal strip, ⊙⊙: connector, –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

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

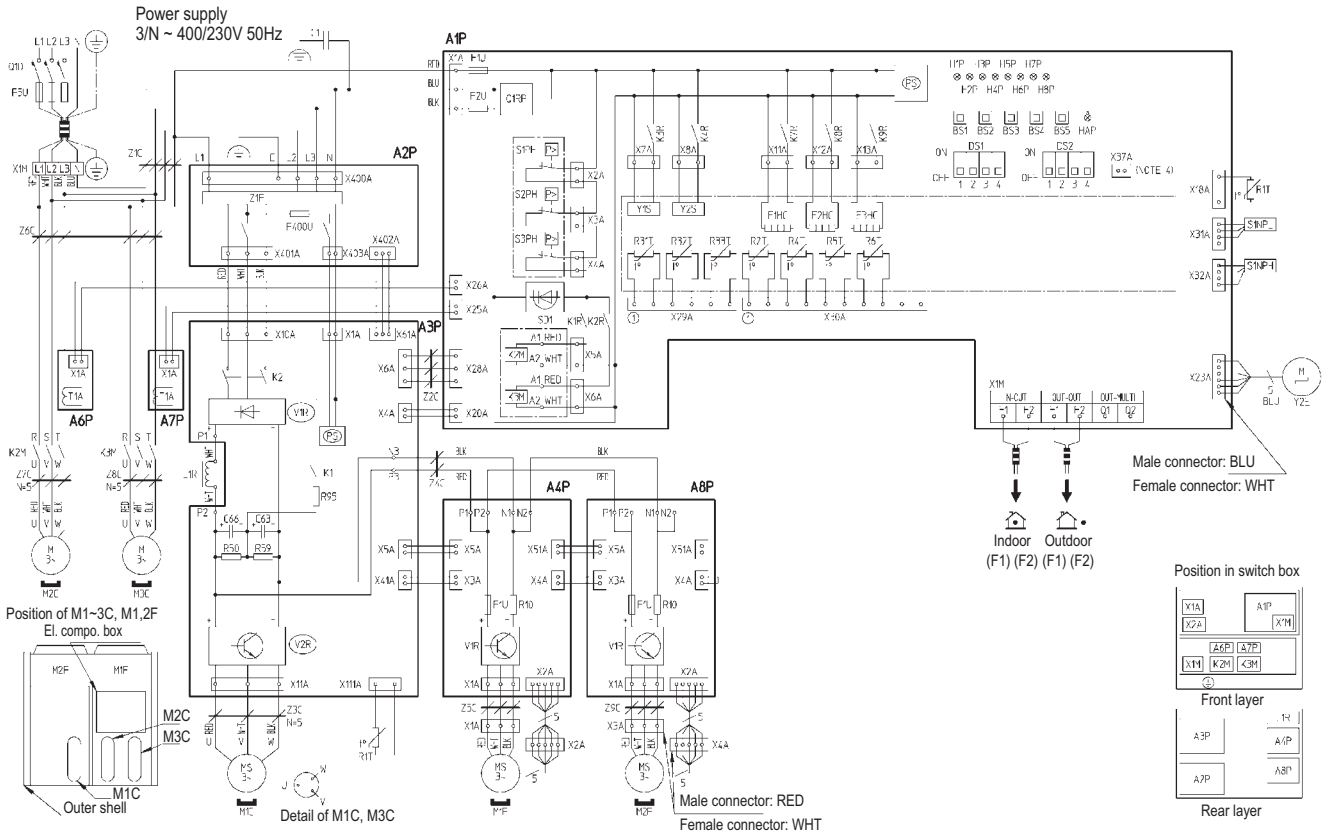
NOTES

1. This wiring diagram only applies to the outdoor unit
2. ▬▮▮▮▬ : field wiring
3. ☐☐☐☐ : terminal strip, ⊡ : connector, –○– : 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

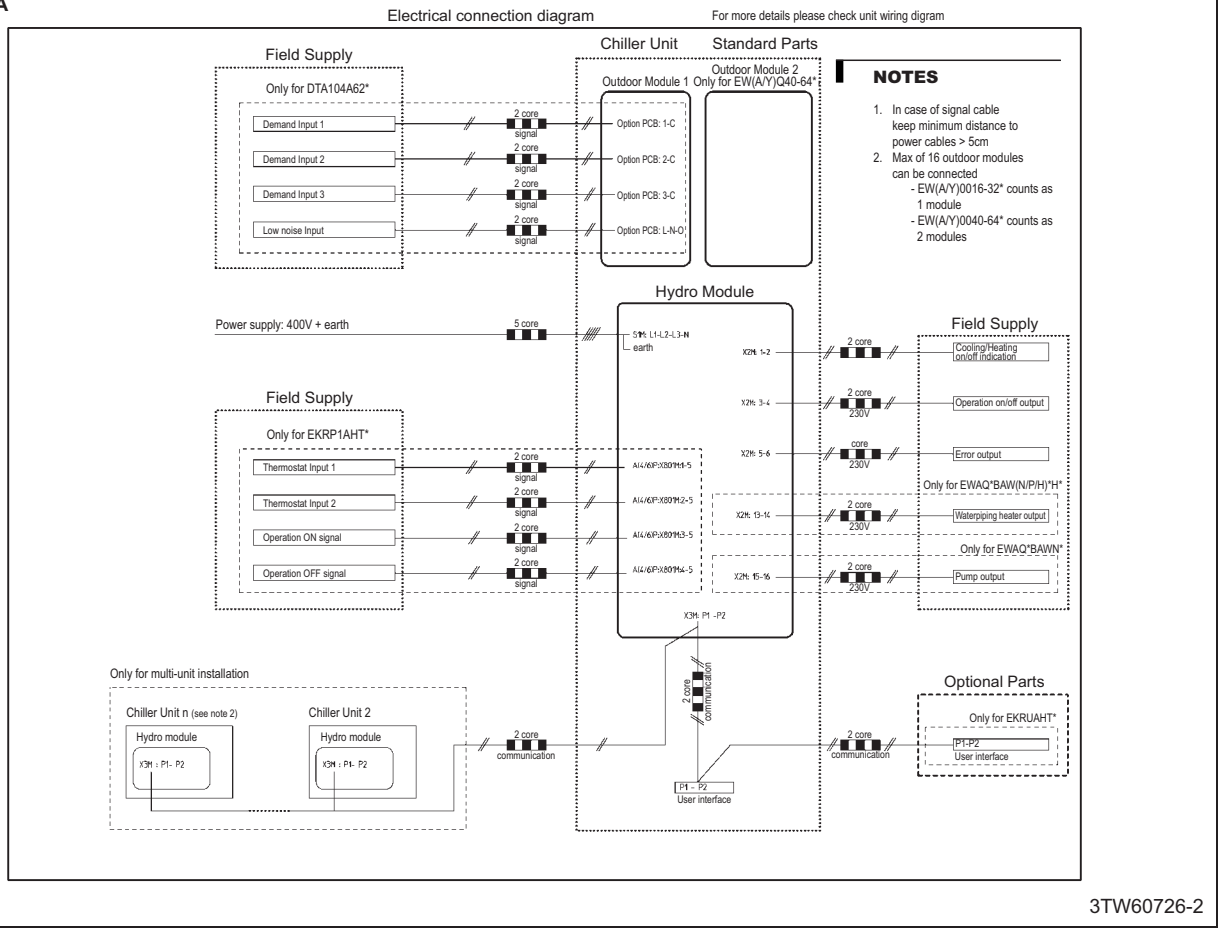
NOTES

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	77	73	66	60	53	78
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	80	76	69	63	56	81
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

4TW60717-1A

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

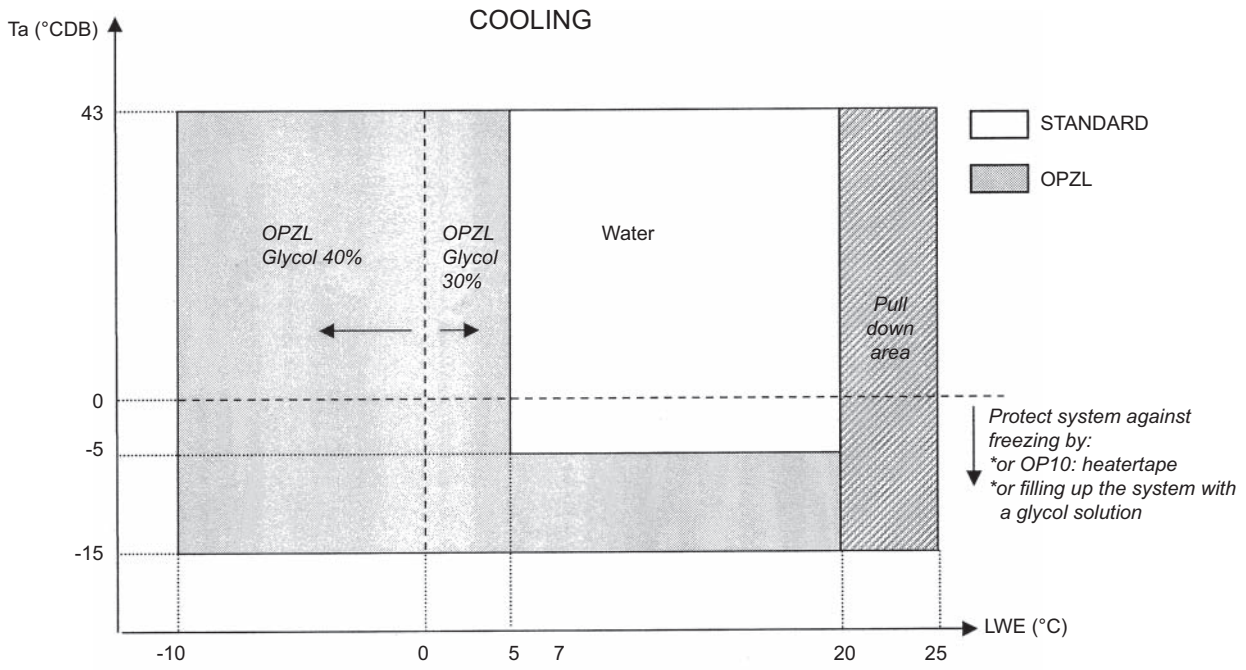
1. Names, definitions and units are according to JIS K 0101. Units and figures between brackets ar old units published as reference only.
2. In case of using heated water (more than 40°C), corrosion is generally noticeable.
   Especially when the iron material is in direct contact with water without 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

EWAQ-BA



SYMBOLS

Ta : Ambient temperature dry bulb (°C)
LWE : Leaving water eveaporator temperature (°C)
LWC : Leaving water condenser temperature (°C)
EWC : Entering water

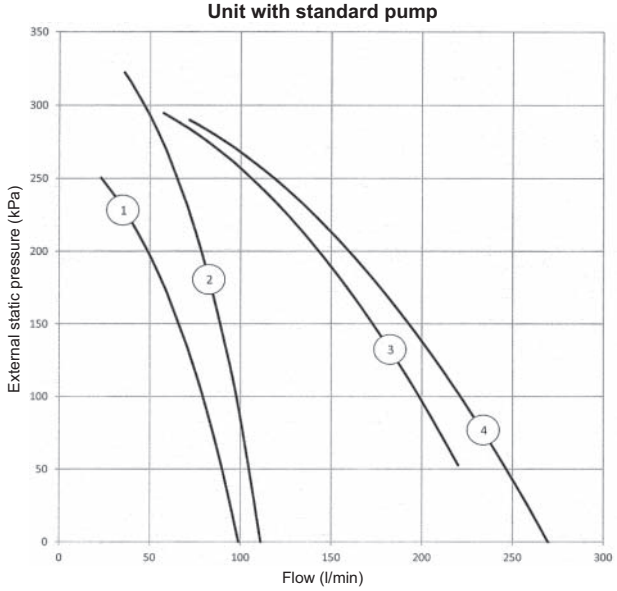
4TW60713-1B

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

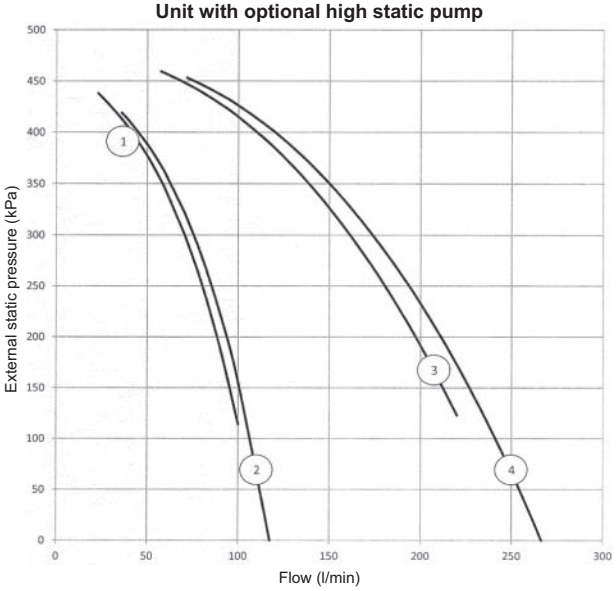
4TW60719-3 (1)

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

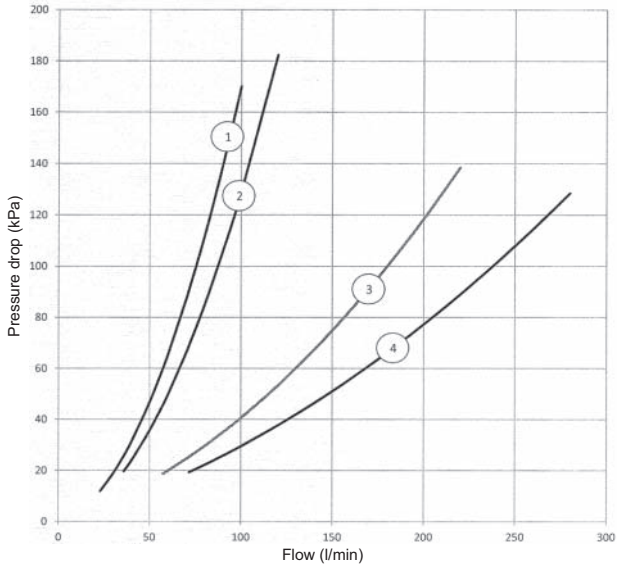
4TW60719-3 (2)

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.

TABLE OF CONTENTS

EWYQ-BAWN

1 Features

- Inverter chiller
- High efficiency with leader-of-class ESEER (up to 4.75)
- Minimal starting currents and short payback times
- No buffertank required for standard applications
- Daikin scroll compressor
- Large operation range (ambient temperature up to 43ºC)
- Digital remote controller

2 Specifications

2-1 Technical Specifications					EWYQ016 BAWN	EWYQ021 BAWN	EWYQ025 BAWN	EWYQ032 BAWN	EWYQ040 BAWN	EWYQ050 BAWN	EWYQ064 BAWN
Cooling capacity	Nom.			kW	17.4 (1)	21.7 (1)	25.8 (1)	32.3 (1)	43.4 (1)	51.8 (1)	64.5 (1)
	Max.			kW	20.6 (1)	25.7 (1)	30.6 (1)	38.3 (1)	51.4 (1)	61.4 (1)	76.5 (1)
Heating capacity	Nom.			kW	16.2 (2)	20.3 (2)	24.6 (2)	30.7 (2)	40.6 (2)	49.0 (2)	61.5 (2)
	Max.			kW	19.4 (2)	24.3 (2)	29.4 (2)	36.7 (2)	48.6 (2)	58.6 (2)	73.5 (2)
Capacity control	Method				Inverter controlled						
	Minimum capacity			%	25						
	Maximum capacity			%	120						
Power input	Cooling	Nom.		kW	5.60 (1)	7.25 (1)	9.29 (1)	13.0 (1)	14.7 (1)	18.8 (1)	26.4 (1)
	Heating	Nom.		kW	5.53 (2)	7.10 (2)	8.91 (2)	10.6 (2)	14.0 (2)	17.6 (2)	20.7 (2)
EER					3.11 (1)	2.99 (1)	2.78 (1)	2.48 (1)	2.95 (1)	2.76 (1)	2.44 (1)
ESEER					4.33	4.08	3.85	3.39	4.19	3.96	3.64
COP					2.93 (2)	2.86 (2)	2.76 (2)	2.90 (2)		2.78 (2)	2.97 (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		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	Material			Brass						
		Diameter perforations		mm	0.6						
	Water volume			l	1.9			2.9	3.8		5.7
	Water flow rate	Min.		l/min	23			36	46		72
	Nominal water flow	Cooling		l/min	50 (1)	62 (1)	74 (1)	93 (1)	124 (1)	148 (1)	185 (1)
		Heating		l/min	46	58	71	88	116	140	176
	Maximum water flow	Cooling		l/min	75	93	111	139	187	223	277
		Heating		l/min	70	87	106	132	175	211	264
	Nominal water pressure drop	Cooling	Total	kPa	20	30	42	30		42	30
	Insulation material				Nitrile rubber based elastomeric foam						
	Model	Type			ACH70-40H			ACH70-60H	ACH70-40H		ACH70-60H
Air heat exchanger	Length			mm	1,778			2,088	1,778		2,088
	Type				Hi-XSS (8)						
	Rows	Quantity			2						
	Stages	Quantity			54						
	Fin pitch			mm	2.0						
	Passes	Quantity			18			21	18		21
	Face area			m²	2.112			2.481	2.112		2.481
	Empty tubeplate hole				0						
	Fin	Type			Non-symmetric waffle louvre						
		Treatment			Hydrophylic and anti-corrosion resistant						
Fan	Quantity				1			2			4
	Type				Axial						
	Air flow rate	Cooling	Nom.	m³/min	171	185		233	370		466
		Heating	Nom.	m³/min	171	185		233	370		466
	Discharge direction				Vertical						
	External static pressure	Max.		Pa	78						

2 Specifications

2-1 Technical Specifications					EWYQ016 BAWN	EWYQ021 BAWN	EWYQ025 BAWN	EWYQ032 BAWN	EWYQ040 BAWN	EWYQ050 BAWN	EWYQ064 BAWN
Fan motor	Model				Brushless DC motor						
	Output			W	750			350	750		350
	Quantity				1			2			4
	Position				Vertical						
	Drive				Direct drive						
Fan motor 2	Output			W	-			350	750		350
Fan motor 3	Output			W	-						350
Fan motor 4	Output			W	-						350
Sound power level	Cooling	Nom.		dBA	78			80	81		83
Compressor	Type				Hermetically sealed scroll compressor						
	Quantity				1	2		3	4		6
	Motor (INV)	Crankcase heater		W	33						
		Model			Inverter						
		Quantity			1				2		
	Motor (ON-OFF)	Crankcase heater		W	-	33					
		Model			-	ON/OFF					
		Quantity			0	1		2			4
Operation range	Water side	Cooling	Min.	ºCDB	5						
			Max.	ºCDB	20						
		Heating	Min.	ºCDB	25						
			Max.	ºCDB	50						
	Air side	Cooling	Min.	ºCDB	-5						
			Max.	ºCDB	43						
		Heating	Min.	ºCDB	-15						
			Max.	ºCDB	35						
Refrigerant	Type				R-410A						
	Charge			kg	7.6			9.6	15.2		19.2
	Control				Electronic expansion valve						
	Circuits	Quantity			1						
Water circuit	Piping connections diameter			inch	1-1/4" (female)				2" (female)		
	Piping			inch	1-1/4"				1-1/2"		
	Drain valve / fill valve				Yes						
	Shut off valve				Yes						
	Nominal water pressure drop	Cooling		kPa	44 (7)	66 (7)	92 (7)	106 (7)	53 (7)	71 (7)	67 (7)
	Total water volume			l	3.2 (4)			4.2 (4)	5.8 (4)		7.7 (4)
	Minimum water volume in the system for cooling			l	33 (5)				66 (5)		
	Minimum water volume in the system for heating			l	76 (6)			110 (6)	152 (6)		220 (6)
	Air purge valve				Yes						
	flowswitch				yes						
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						
PED	Category				Category II						
	Most critical part	Name			Accumulator						
		Ps*V		Bar*l	335			385	335		385

2 Specifications

2-2 Electrical Specifications				EWYQ016 BAWN	EWYQ021 BAWN	EWYQ025 BAWN	EWYQ032 BAWN	EWYQ040 BAWN	EWYQ050 BAWN	EWYQ064 BAWN
Power supply	Name			W1						
	Phase			3N~						
	Frequency		Hz	50						
	Voltage		V	400						
	Voltage range	Min.	%	-10						
		Max.	%	10						
Unit	Maximum starting current		A	0 (9)	77.7	78.7	88.7	99.8	101.9	120.7
	Current	Zmax	Text	-	0.27		0.24	0.25		0.22
	Maximum running current		A	22.2	25.3	26.4	35.2	47.4	49.6	67.2
	Minimum Ssc value			1,141	853		840	1,706		1,679
	Recommended fuses			25	32		40	50	63	80
Cable requirements	Power supply	Required number of conductors		4 + GND						
	Remote control	Quantity of wires		2						
		Maximum running current		Minimum cable section 0,75 mm²						
	Cooling/Heating output	Quantity of wires		2						
		Maximum running current	A	0.3						
	Operation ON/OFF output	Quantity of wires		2						
		Maximum running current	A	0.3						
	Error output	Quantity of wires		2						
		Maximum running current	A	0.3						
	Pump ON/OFF output	Quantity of wires		2						
		Maximum running current	A	0.3						

Notes

(1) Condition: Ta 35ºC - LWE 7ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(3) Capacity, Power Input, EER, COP, ESEER according EN14511-2011

(4) Including piping + PHE; excluding expansion vessel

(5) Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(6) Excluding the water volume in the unit. This volume will guarantee suficient defrost energy for all applications, however, this volume can be multiplied by 0,66 if the heating sepoint is ≥ 45º C (eg. Fan coils)

(7) This is PD between inlet & outlet connections of unit. It includes the water side heat exchanger pressure drop.

(8) This is ESP between inlet & outlet connections of unit. It consists out of pump SP minus all internal PD's.

(9) No peak current because of inverter compressor

(10) In accordance with EN/IEC 61000-3-11, respectively EN/IEC 61000-3-12, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys ≤ Zmax, respectively Ssc ≥ minimum Ssc value.

(11) EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(12) EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current \> 16A and ≤ 75A per phase

(13) Ssc: Short-circuit power

(14) Zsys: system impedance

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

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3 Options

3 - 1 Options

EWA/YQ-BA

Option availability

		EW(A/Y)Q*BA								DIGIT				
Reference	Description	016	021	025	032	040	050	064	Availability	11	12	13	14	Numeric optioncodes
-	Standard hydraulic package Filter, shut-off valves, drain/fill valve, automatic air purge Flowswitch	○	○	○	○	○	○	○	Factory mounted	N				-
OPSP	Additional hydraulic components: pump, expansion vessel, safety valve, pressure gauge	○	○	○	○	○	○	○	Factory mounted	P				78
OPHP	= OPSP but pump with higher static pressure	○	○	○	○	○	○	○	Factory mounted	H				79
OP10	Heatertape for freeze prevention during winter standstill	○	○	○	○	○	○	○	Factory mounted			H		57
OPZL	Low leaving water operation down to -10°C	○	○	○	○	○	○	○	Factory mounted		B			08b
EKRP1AHT*	Demand PCB with additional inputs for: Remote ON/OFF Remote cooling/heating Remote thermo ON/OFF	○	○	○	○	○	○	○	KIT					
EKRUAHT*	Additional remote user interface	○	○	○	○	○	○	○	KIT					
BHGP26A1	Digital pressure gauges	○	○	○	○	○	○	○	KIT					
DTA104A62	External control adapter for: Demand control Low noise control	○	○	○	○	○	○	○	KIT					

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING N-models Maximum Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
5	016	20.6	5.84	20.6	6.49	20.6	7.50	20.6	8.71	20.0	9.40
	021	25.7	7.48	25.7	8.22	25.7	9.08	25.7	9.99	25.7	11.8
	025	28.8	9.07	28.6	9.98	28.6	10.8	27.9	11.5	26.7	12.7
	032	38.3	12.9	38.3	14.9	37.8	16.7	36.6	18.3	31.1	16.5
	040	51.4	15.4	51.4	16.6	51.4	18.5	51.4	20.8	51.4	24.7
	050	55.5	17.7	56.4	19.7	55.9	21.4	54.4	22.8	51.7	25.2
	064	75.4	26.5	74.3	29.5	73.2	32.8	70.5	35.9	60.4	32.9
7	016	20.6	5.13	20.6	5.66	20.6	6.44	20.6	7.47	20.6	8.78
	021	25.7	6.92	25.7	7.59	25.7	8.39	25.7	9.25	25.7	10.7
	025	30.6	8.98	30.6	10.3	30.6	11.3	30.6	12.7	28.8	13.6
	032	38.3	11.8	38.3	13.7	38.3	16.1	38.3	18.3	31.9	15.8
	040	51.4	14.1	51.4	15.4	51.4	17.0	51.4	19.1	51.4	22.2
	050	61.4	18.5	61.4	21.1	61.4	23.3	61.4	27.2	56.1	27.0
	064	76.5	25.2	76.5	28.8	76.5	33.2	76.5	39.1	61.5	31.0
10	016	20.6	4.58	20.6	4.99	20.6	5.64	20.6	6.39	20.6	7.20
	021	25.7	6.32	25.7	6.99	25.7	7.72	25.7	8.52	25.7	9.53
	025	30.6	8.18	30.6	9.49	30.6	10.6	30.6	11.5	29.6	12.3
	032	38.3	10.7	38.3	12.3	38.3	14.6	38.3	16.4	32.8	14.6
	040	51.4	12.5	51.4	13.9	51.4	15.4	51.4	17.2	51.4	19.5
	050	61.4	16.4	61.4	19.0	61.4	21.3	61.4	23.3	59.0	25.5
	064	76.5	22.8	76.5	25.8	76.5	30.4	76.5	34.9	64.0	29.1
15	016	20.6	3.68	20.6	4.25	20.6	4.80	20.6	5.40	20.6	6.11
	021	25.7	5.38	25.7	6.03	25.7	6.73	25.7	7.45	25.7	8.20
	025	30.6	6.66	30.6	7.70	30.6	8.84	30.6	9.77	30.6	10.7
	032	38.3	9.25	38.3	10.6	38.3	12.1	38.3	13.9	33.9	12.7
	040	51.4	10.6	51.4	11.9	51.4	13.3	51.4	14.8	51.4	16.4
	050	61.4	13.6	61.4	15.6	61.4	17.9	61.4	19.6	61.4	21.8
	064	76.5	19.4	76.5	21.6	76.5	24.8	76.5	28.6	66.6	25.3
18	016	20.6	3.35	20.6	3.78	20.6	4.31	20.6	4.91	20.6	5.55
	021	25.7	4.91	25.7	5.53	25.7	6.29	25.7	7.01	25.7	7.73
	025	30.6	6.04	30.6	6.97	30.6	8.06	30.6	8.98	30.6	9.83
	032	38.3	8.33	38.3	9.56	38.3	10.9	38.3	12.6	34.9	11.8
	040	51.4	9.83	51.4	11.1	51.4	12.5	51.4	13.8	51.4	15.4
	050	61.4	12.3	61.4	14.1	61.4	16.4	61.4	18.4	61.4	20.0
	064	76.5	17.5	76.5	19.5	76.5	22.5	76.5	26.2	69.2	23.9

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING N-models Nominal Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
5	016	17.4	4.10	17.4	4.66	17.4	5.33	17.4	6.07	17.4	6.84
	021	21.7	5.53	21.7	6.06	21.7	6.79	21.7	7.66	21.7	8.69
	025	25.8	7.26	25.8	8.09	25.8	8.93	25.8	10.0	25.8	11.7
	032	32.3	9.66	32.3	11.0	32.3	12.3	32.2	14.3	31.3	16.3
	040	43.4	11.1	43.4	12.3	43.4	13.9	43.4	15.8	43.4	17.9
	050	51.8	14.9	51.8	16.5	51.8	18.4	51.8	20.7	51.8	24.4
	064	64.5	19.5	64.5	22.1	64.5	25.1	64.5	29.4	60.8	32.6
7	016	17.4	3.83	17.4	4.33	17.4	4.94	17.4	5.60	17.4	6.35
	021	21.7	5.26	21.7	5.83	21.7	6.50	21.7	7.25	21.7	8.08
	025	25.8	6.81	25.8	7.62	25.8	8.45	25.8	9.29	25.8	10.5
	032	32.3	9.22	32.3	10.3	32.3	11.5	32.3	13.0	32.0	15.6
	040	43.4	10.6	43.4	11.6	43.4	13.0	43.4	14.7	43.4	16.5
	050	51.8	13.8	51.8	15.5	51.8	17.1	51.8	18.8	51.8	22.0
	064	64.5	18.4	64.5	20.8	64.5	23.3	64.5	26.4	64.5	31.2
10	016	17.4	3.38	17.4	3.82	17.4	4.33	17.4	5.03	17.4	5.71
	021	21.7	4.91	21.7	5.44	21.7	6.00	21.7	6.73	21.7	7.54
	025	25.8	6.07	25.8	7.03	25.8	7.60	25.8	8.63	25.8	9.60
	032	32.3	8.28	32.3	9.47	32.3	10.5	32.3	12.0	32.3	14.2
	040	43.4	9.73	43.4	10.8	43.4	12.0	43.4	13.4	43.4	15.0
	050	51.8	12.2	51.8	14.0	51.8	15.5	51.8	17.2	51.8	19.5
	064	64.5	16.7	64.5	19.2	64.5	21.4	64.5	24.7	64.5	29.1
15	016	17.4	2.61	17.4	3.08	17.4	3.52	17.4	4.06	17.4	4.65
	021	21.7	4.03	21.7	4.65	21.7	5.17	21.7	5.81	21.7	6.53
	025	25.8	5.30	25.8	5.94	25.8	6.76	25.8	7.55	25.8	8.28
	032	32.3	6.88	32.3	7.84	32.3	8.95	32.3	10.1	32.3	11.5
	040	43.4	8.06	43.4	9.40	43.4	10.5	43.4	11.7	43.4	13.2
	050	51.8	10.6	51.8	11.9	51.8	13.5	51.8	14.9	51.8	16.5
	064	64.5	13.8	64.5	15.8	64.5	18.1	64.5	20.3	64.5	23.8
18	016	17.4	2.33	17.4	2.74	17.4	3.15	17.4	3.65	17.4	4.22
	021	21.7	3.46	21.7	4.09	21.7	4.66	21.7	5.22	21.7	5.88
	025	25.8	5.00	25.8	5.55	25.8	6.32	25.8	7.04	25.8	7.78
	032	32.3	6.35	32.3	7.23	32.3	8.17	32.3	9.27	32.3	10.5
	040	43.4	6.94	43.4	8.21	43.4	9.30	43.4	10.4	43.4	11.9
	050	51.8	9.71	51.8	11.0	51.8	12.6	51.8	14.0	51.8	15.4
	064	64.5	12.5	64.5	14.4	64.5	16.6	64.5	18.6	64.5	21.0

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING - OPZL N-models Maximum Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	016	13.0	6.18	13.0	6.72	12.8	7.37	12.4	7.92	11.8	8.48
	021	18.3	8.21	18.2	8.66	17.7	9.40	17.0	10.1	16.0	11.1
	025	18.6	8.57	18.5	9.01	18.1	9.78	17.3	10.4	16.3	11.5
	032	26.1	12.3	25.3	13.6	23.4	15.0	21.5	16.4	17.5	14.4
	040	36.2	15.7	35.7	17.1	34.7	18.6	33.2	19.9	31.3	21.9
	050	36.6	16.1	36.3	17.7	35.3	19.2	33.9	20.6	32.0	22.6
	064	50.6	24.0	48.7	26.6	45.0	29.4	41.6	32.5	33.4	27.8
-5	016	15.9	6.51	15.8	6.99	15.5	7.65	14.9	8.21	14.1	8.78
	021	21.7	8.71	21.6	8.99	21.1	9.76	20.3	10.4	19.2	11.5
	025	22.0	8.62	21.9	9.34	21.5	10.1	20.5	10.8	19.4	11.8
	032	30.2	12.7	29.9	14.1	28.3	15.6	25.9	17.2	23.4	18.0
	040	42.7	16.2	42.4	17.8	41.2	19.3	39.5	20.6	37.4	22.7
	050	43.2	16.7	43.0	18.4	41.9	19.9	40.3	21.3	38.1	23.4
	064	58.7	24.9	57.9	27.7	54.4	30.6	50.4	33.5	41.3	30.6

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011
3. Usage of glycol and other anti-freeze
   Correction factors for CC and PI are applicable according to type and concentration of the used anti-freeze

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING - OPZL N-models Nominal Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	016	13.1	6.20	13.1	6.74	12.9	7.38	12.5	7.93	11.9	8.50
	021	18.7	7.98	18.5	8.68	17.9	9.42	17.2	10.1	16.2	11.1
	025	18.7	8.28	18.6	9.02	18.1	9.79	17.4	10.4	16.4	11.4
	032	26.4	12.3	25.5	13.6	23.6	15.0	21.7	16.4	17.6	14.4
	040	36.6	15.8	36.1	17.2	35.0	18.7	33.5	20.0	31.6	22.0
	050	39.0	16.4	38.7	17.9	37.8	19.5	36.5	20.9	32.0	22.6
	064	51.1	24.1	49.2	26.6	45.5	29.5	42.1	32.3	33.8	27.7
-5	016	16.1	6.53	16.1	7.01	15.7	7.67	15.1	8.23	14.3	8.80
	021	21.7	8.31	21.7	9.02	21.4	9.8	20.5	10.5	19.4	11.5
	025	22.2	8.65	22.1	9.36	21.6	10.1	20.7	10.8	19.6	11.8
	032	30.4	12.7	30.2	14.2	28.6	15.7	26.2	17.2	23.7	18.1
	040	43.4	16.4	42.9	17.8	41.7	19.3	40.0	20.7	37.8	22.8
	050	43.7	17.0	43.4	18.4	42.3	20.0	40.7	21.3	38.5	23.4
	064	59.3	25.0	58.5	27.8	55.0	30.7	50.4	33.8	42.4	30.8

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011
3. Usage of glycol and other anti-freeze
   Correction factors for CC and PI are applicable according to type and concentration of the used anti-freeze

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4 Capacity tables

4 - 2 Heating Capacity Tables

EWYQ-BA

HEATING N-models Nominal Performance table

Tamb (°CDB)		-15		-10		-7		-2		2		7		15	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
30	016	13.8	6.56	16.0	6.78	16.2	6.20	16.2	5.07	16.2	4.50	16.2	3.77	16.2	2.90
	021	17.3	7.48	19.9	7.66	20.3	7.23	20.3	6.30	20.3	5.64	20.3	5.15	20.3	4.01
	025	19.4	8.66	22.2	8.88	24.0	9.01	24.6	8.08	24.6	7.16	24.6	6.21	24.6	5.49
	032	29.4	12.4	30.7	11.5	30.7	10.5	30.7	9.29	30.7	8.44	30.7	7.28	30.7	5.93
	040	34.5	14.8	39.7	15.2	40.6	14.3	40.6	12.4	40.6	11.1	40.6	10.1	40.6	7.85
	050	38.7	17.0	44.3	17.5	47.8	17.7	49.0	15.9	49.0	14.0	49.0	12.1	49.0	10.7
	064	58.8	24.4	61.5	22.5	61.5	20.6	61.5	18.1	61.5	16.4	61.5	14.1	61.5	11.4
35	016	14.2	7.25	16.2	7.48	16.17	6.79	16.2	5.63	16.2	5.05	16.2	4.25	16.2	3.33
	021	17.2	8.23	19.7	8.42	20.3	8.11	20.3	7.03	20.3	6.33	20.3	5.78	20.3	4.53
	025	19.6	9.54	22.2	9.77	23.9	9.90	24.6	9.03	24.6	8.01	24.6	7.00	24.6	5.91
	032	29.6	13.7	30.7	12.8	30.7	11.7	30.7	10.4	30.7	9.49	30.7	8.18	30.7	6.71
	040	34.4	16.3	39.3	16.7	40.6	16.1	40.6	13.9	40.6	12.5	40.6	11.4	40.6	8.89
	050	39.0	18.8	44.2	19.3	47.5	19.5	49.0	17.8	49.0	15.7	49.0	13.7	49.0	11.5
	064	59.3	27.0	61.5	25.2	61.5	22.9	61.5	20.3	61.5	18.5	61.5	15.9	61.5	13.0
40	016	14.4	7.97	16.2	8.21	16.2	7.49	16.2	6.31	16.2	5.65	16.2	4.87	16.2	3.81
	021	17.1	9.11	19.5	9.31	20.3	9.16	20.3	8.03	20.3	7.20	20.3	6.32	20.3	5.32
	025	19.5	10.5	22.0	10.8	23.5	10.9	24.6	10.2	24.6	9.07	24.6	7.94	24.6	6.58
	032	29.7	15.2	30.7	14.2	30.7	12.9	30.7	11.7	30.7	10.6	30.7	9.25	30.7	7.62
	040	34.2	18.1	38.9	18.5	40.6	18.2	40.6	15.9	40.6	14.2	40.6	12.5	40.6	10.5
	050	38.9	20.8	43.8	21.3	46.9	21.5	49.0	20.1	49.0	17.9	49.0	15.6	49.0	12.9
	064	59.5	30.0	61.5	27.9	61.5	25.4	61.5	22.9	61.5	20.8	61.5	18.1	61.5	14.8
45	016	14.4	8.74	16.0	8.99	16.2	8.47	16.2	7.16	16.2	6.39	16.2	5.53	16.2	4.39
	021	17.0	10.1	19.2	10.3	20.3	10.3	20.3	9.04	20.3	8.18	20.3	7.10	20.3	6.06
	025	19.3	11.6	21.6	11.9	23.1	12.0	24.6	11.5	24.6	10.3	24.6	8.91	24.6	7.56
	032	29.6	16.9	30.7	15.9	30.7	14.7	30.7	13.3	30.7	12.4	30.7	10.6	30.7	8.68
	040	33.9	20.1	38.3	20.5	40.6	20.5	40.6	17.9	40.6	16.2	40.6	14.0	40.6	12.0
	050	38.4	23.0	43.0	23.5	46.0	23.8	49.0	22.8	49.0	20.3	49.0	17.6	49.0	14.8
	064	59.3	33.4	61.5	31.3	61.5	28.9	61.5	26.1	61.5	24.3	61.5	20.7	61.5	16.9
50	016	14.1	9.56	15.6	9.82	15.9	9.24	16.1	8.10	16.2	7.39	16.2	6.39	16.2	5.08
	021	16.8	11.3	17.1	10.3	17.2	10.3	17.4	8.71	17.6	8.06	17.9	7.21	18.3	5.96
	025	17.6	11.9	18.1	10.9	18.3	10.3	18.6	9.34	18.8	8.59	18.6	7.65	19.4	6.56
	032	26.3	16.5	26.4	15.1	26.6	14.3	27.0	12.8	27.1	11.6	27.4	10.3	27.6	8.69
	040	33.5	22.4	34.2	20.4	34.4	20.4	34.8	17.3	35.2	16.0	35.8	14.3	36.5	11.8
	050	35.0	23.6	36.1	21.5	36.5	20.4	37.0	18.4	37.3	16.9	37.1	15.0	38.6	12.8
	064	52.6	32.5	52.9	29.8	53.3	28.2	54.0	25.1	54.3	22.7	54.9	20.2	55.2	16.9

SYMBOLS

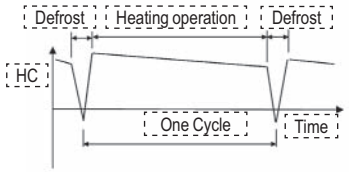
HC: Heating Capacity (kW)
PI: Power Input (kW)
LWC: Leaving Water Condenser temperature (°C)
Tamb: Ambient temperature dry bulb (°C)

NOTES

1. Heating Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for heated water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011
3. 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:



4. 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.

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4 Capacity tables

4 - 2 Heating Capacity Tables

EWYQ-BA

HEATING N-models Maximum Performance table

Tamb (°CDB)		-15		-10		-7		-2		2		7		15	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
30	016	13.7	6.52	16.0	6.73	17.4	6.85	19.4	6.81	19.4	5.78	19.4	4.78	19.4	3.65
	021	17.2	7.43	19.8	7.60	21.4	7.70	24.3	7.91	24.3	6.99	24.3	6.09	24.3	5.26
	025	19.4	8.60	22.2	8.82	23.9	8.94	27.0	9.13	29.4	9.26	29.4	7.92	29.4	6.42
	032	29.3	12.3	33.4	12.6	36.0	12.8	36.7	11.4	36.7	10.3	36.7	9.23	36.7	7.42
	040	34.4	14.7	39.6	15.0	42.8	15.2	48.6	15.7	48.6	13.8	48.6	12.0	48.6	10.4
	050	38.6	16.9	44.2	17.4	47.7	17.6	53.7	18.0	58.6	18.2	58.6	15.6	58.6	12.6
	064	58.6	24.2	66.8	24.8	72.0	25.2	73.5	22.4	73.5	20.2	73.5	18.0	73.5	14.4
35	016	14.2	7.19	16.2	7.42	17.48	7.54	19.4	7.57	19.4	6.51	19.4	5.44	19.4	4.79
	021	17.2	8.17	19.6	8.35	21.2	8.46	23.9	8.62	24.3	7.90	24.3	6.84	24.3	5.75
	025	19.5	9.47	22.1	9.70	23.8	9.82	26.6	10.0	28.9	10.1	29.4	8.97	29.4	7.28
	032	29.5	13.6	33.4	13.9	35.9	14.1	36.7	12.8	36.7	11.5	36.7	10.3	36.7	8.34
	040	34.3	16.2	39.2	16.5	42.4	16.8	47.8	17.1	48.6	15.6	48.6	13.5	48.6	11.3
	050	38.8	18.7	44.1	19.1	47.4	19.4	53.1	19.8	57.7	20.0	58.6	17.7	58.6	14.3
	064	59.1	26.7	66.8	27.4	71.8	27.8	73.5	25.1	73.5	22.6	73.5	20.1	73.5	16.2
40	016	14.4	7.92	16.2	8.15	17.4	8.28	19.4	8.48	19.4	7.39	19.4	6.15	19.4	4.88
	021	17.1	9.05	19.4	9.23	20.9	9.34	23.5	9.52	24.3	8.96	24.3	7.84	24.3	6.45
	025	19.5	10.5	21.9	10.7	23.5	10.8	24.7	10.1	28.4	11.2	29.4	10.2	29.4	8.31
	032	29.6	15.1	33.2	15.4	35.6	15.6	36.7	14.4	36.7	13.0	36.7	11.6	36.7	9.50
	040	34.2	17.9	38.8	18.3	41.8	18.5	47.0	18.9	48.6	17.8	48.6	15.5	48.6	12.7
	050	38.8	20.7	43.6	21.1	46.8	21.4	49.2	20.0	56.6	22.0	58.6	20.1	58.6	16.3
	064	59.3	29.7	66.5	30.4	71.2	30.8	73.5	28.4	73.5	25.6	73.5	22.7	73.5	18.6
45	016	14.4	8.69	16.0	8.93	17.1	9.06	19.0	9.26	19.4	8.45	19.4	7.03	19.4	5.64
	021	17.0	10.1	19.1	10.2	20.6	10.4	23.1	10.5	24.3	10.2	24.3	8.97	24.3	7.40
	025	19.3	11.6	21.6	11.8	23.0	11.9	25.6	12.1	27.7	12.3	29.4	11.7	29.4	9.51
	032	29.5	16.8	32.9	17.1	35.2	17.3	36.7	16.3	36.7	14.7	36.7	13.2	36.7	10.9
	040	33.9	20.0	38.2	20.3	41.1	20.6	46.1	20.9	48.6	20.3	48.6	17.8	48.6	14.6
	050	38.4	22.9	42.9	23.3	45.9	23.6	51.1	24.0	55.3	24.3	58.6	23.2	58.6	18.7
	064	59.1	33.1	65.9	33.8	70.4	34.2	73.5	32.2	73.5	29.0	73.5	25.9	73.5	21.4
50	016	14.1	9.50	15.6	9.75	16.6	9.89	17.0	8.86	17.4	8.06	17.6	7.06	18.0	5.79
	021	16.7	11.2	18.1	10.8	18.3	10.2	18.5	9.25	18.7	8.49	18.4	7.48	19.2	6.40
	025	18.6	12.6	18.9	11.5	19.2	10.8	19.5	9.82	19.8	9.04	20.1	8.14	20.6	7.17
	032	27.1	17.1	27.7	15.7	28.1	15.0	28.2	13.5	28.5	12.3	28.8	10.8	28.9	9.09
	040	33.4	22.3	36.1	21.5	36.5	20.3	37.0	18.3	37.3	16.8	36.8	14.8	38.3	12.6
	050	37.0	24.9	37.7	22.7	38.3	21.3	38.9	19.4	39.4	17.8	40.0	16.0	41.1	14.1
	064	54.3	33.8	55.5	31.0	56.2	29.6	56.5	26.6	57.1	24.2	57.6	21.3	57.9	17.7

SYMBOLS

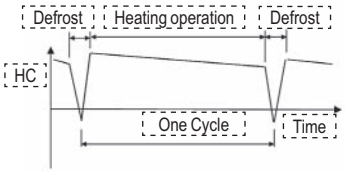
HC: Heating Capacity (kW)
PI: Power Input (kW)
LWC: Leaving Water Condenser temperature (°C)
Tamb: Ambient temperature dry bulb (°C)

NOTES

1. Heating Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for heated water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011
3. 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:



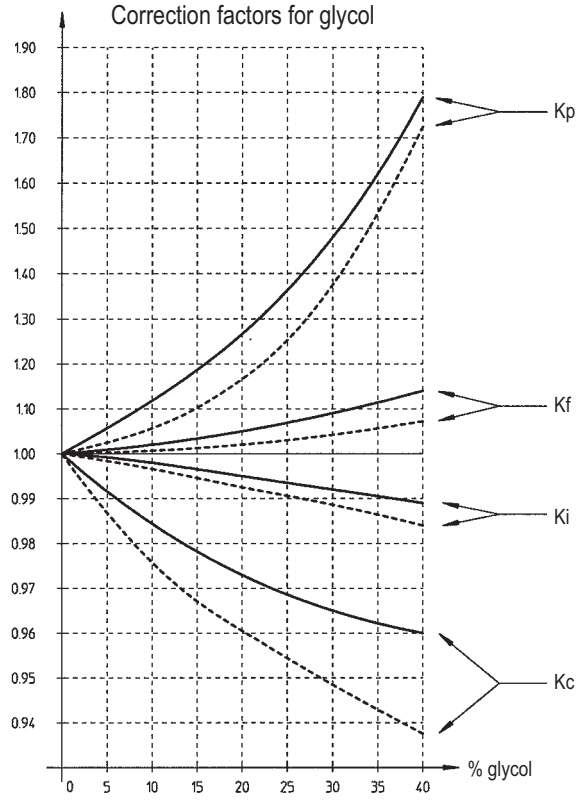
4. In case the surface of the heat exchanger is covered with snow, heating capacity drops temporarily although it differs with outdoor temperature (°CDB), relative humidity (RH) and frosting volume.

3TW60722-1A

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:

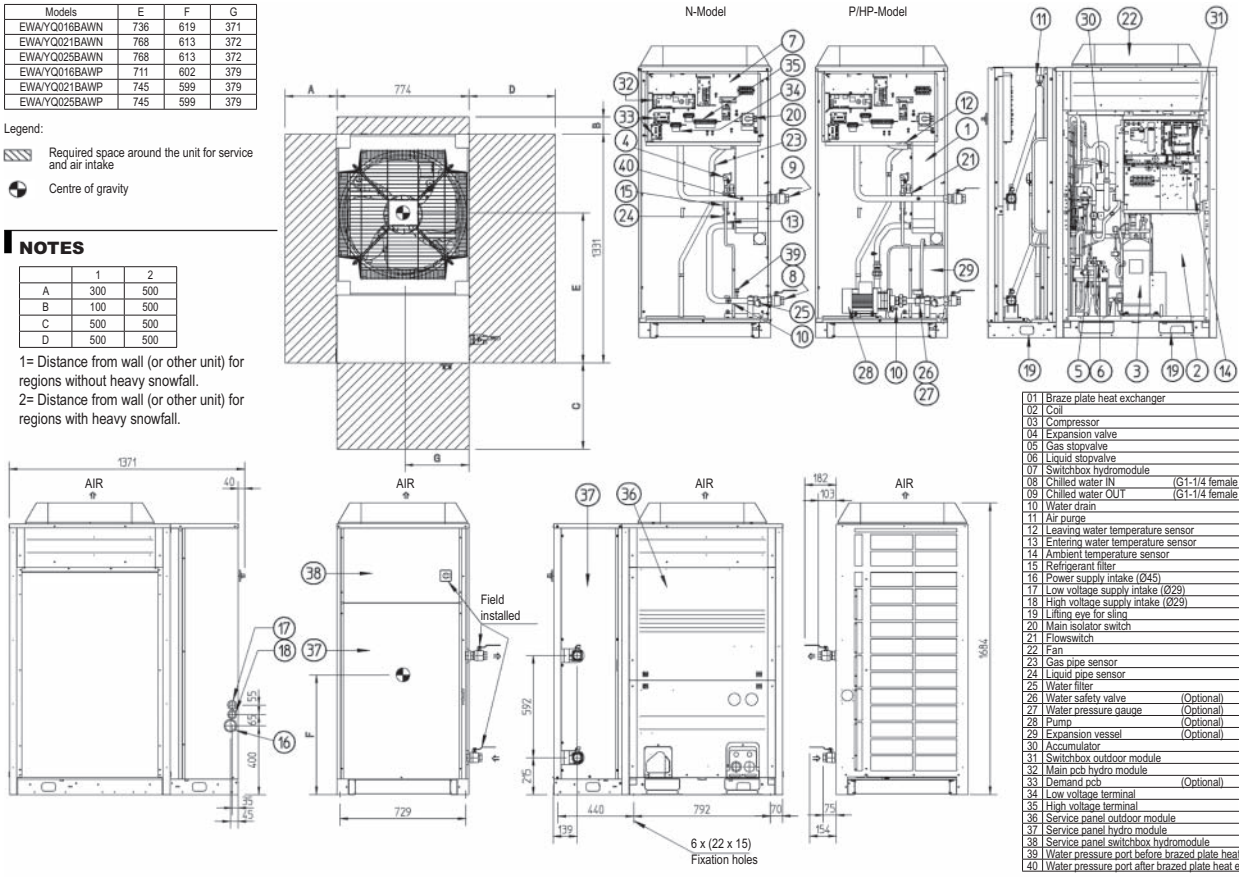
Required space around the unit for service and air intake

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	(G1-1/4 female shutoff valve)
09	Chilled water OUT	(G1-1/4 female 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	

3TW60724-1A

EWA/YQ32BA

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

Legend:

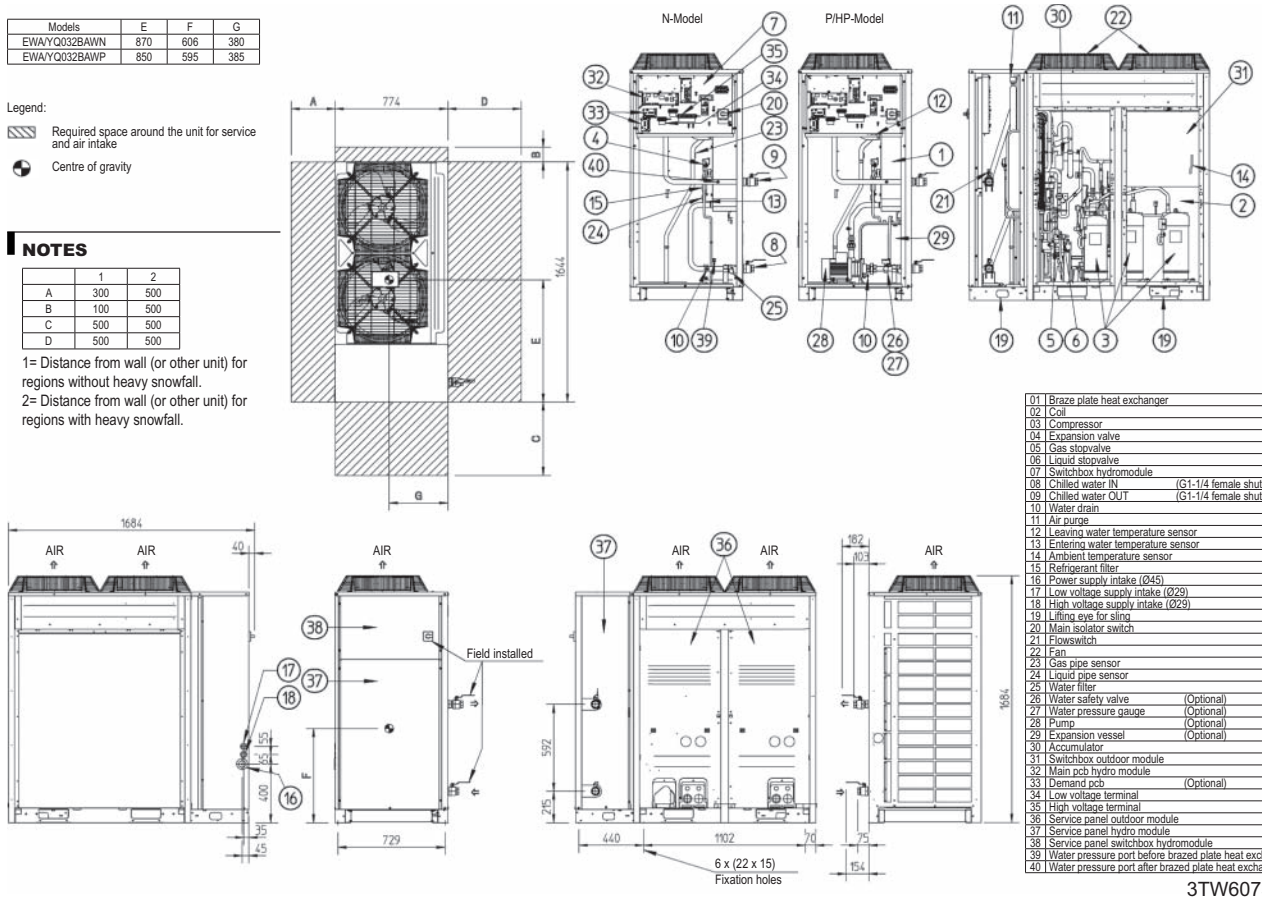
Required space around the unit for service and air intake

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	(G1-1/4 female shutoff valve)
09	Chilled water OUT	(G1-1/4 female 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	

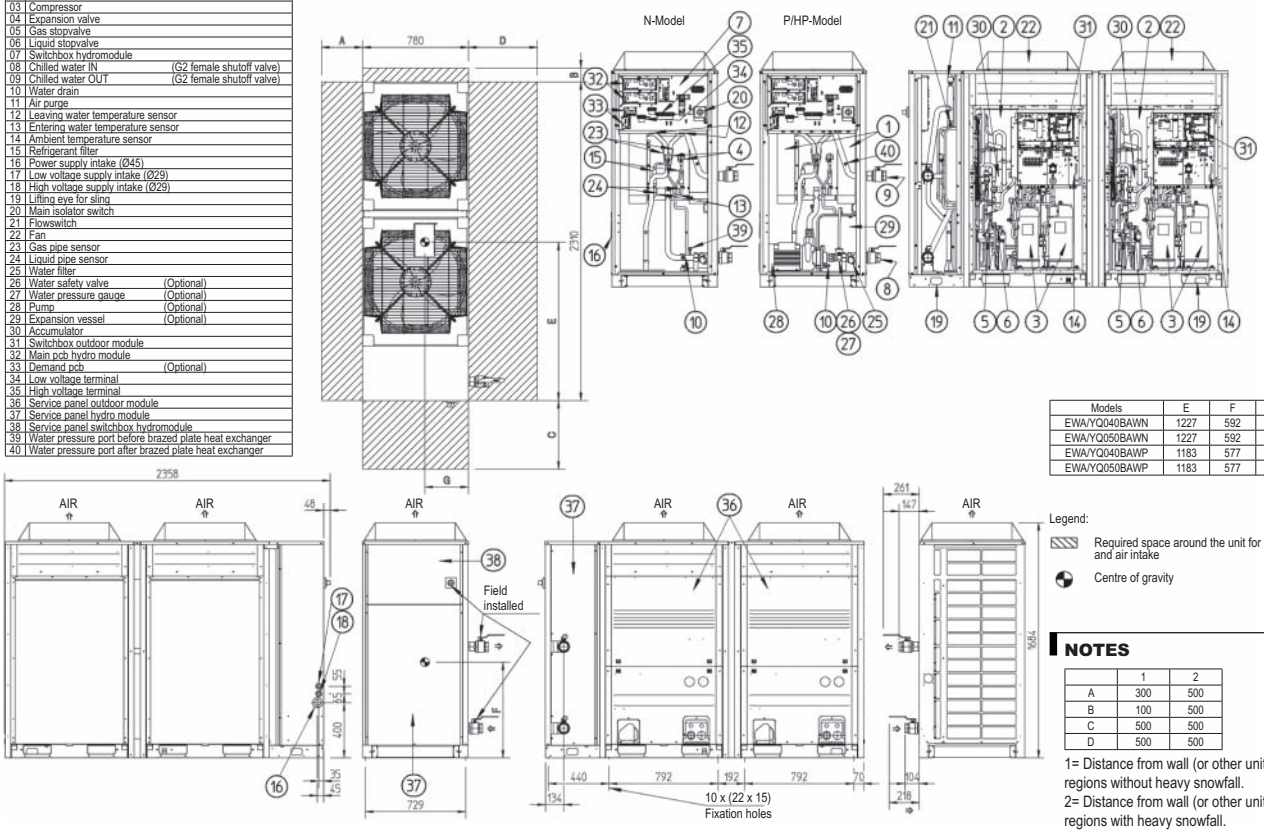
3TW60734-1A

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	(G2 female shutoff valve)
09	Chilled water OUT	(G2 female 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

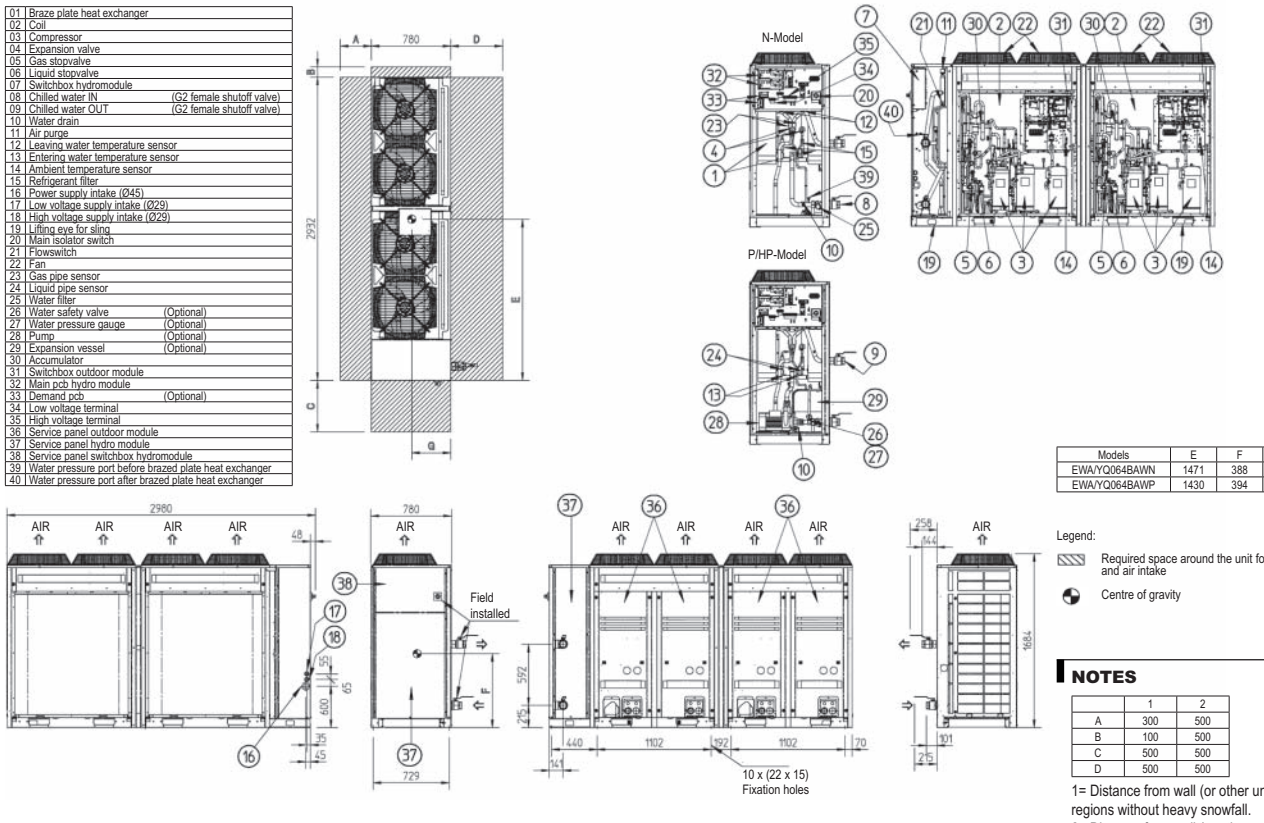
	1	2
A	300	500
B	100	500
C	500	500
D	500	500

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

3TW60754-1A

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	(G2 female shutoff valve)
09	Chilled water OUT	(G2 female 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.

3TW60774-1A

6 Piping diagrams

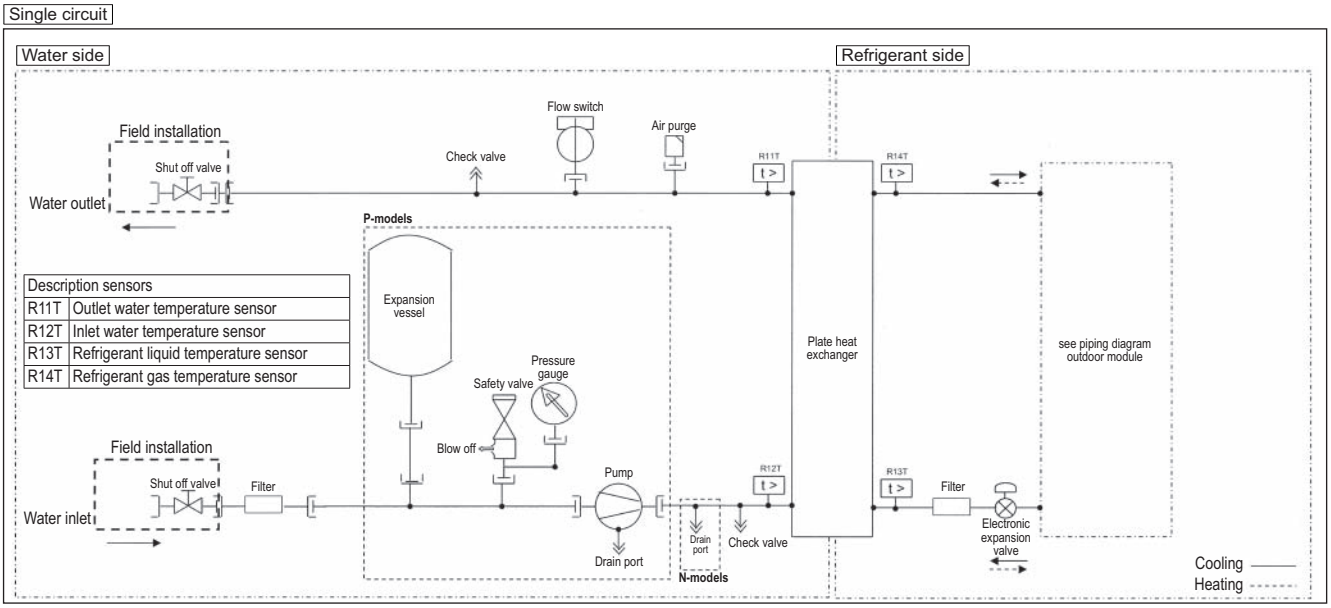
6 - 1 Piping Diagrams

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

Overview

Outdoor module piping diagram		Small inverter chiller - Outdoor module combination						
		Single circuit				Double circuit		
		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



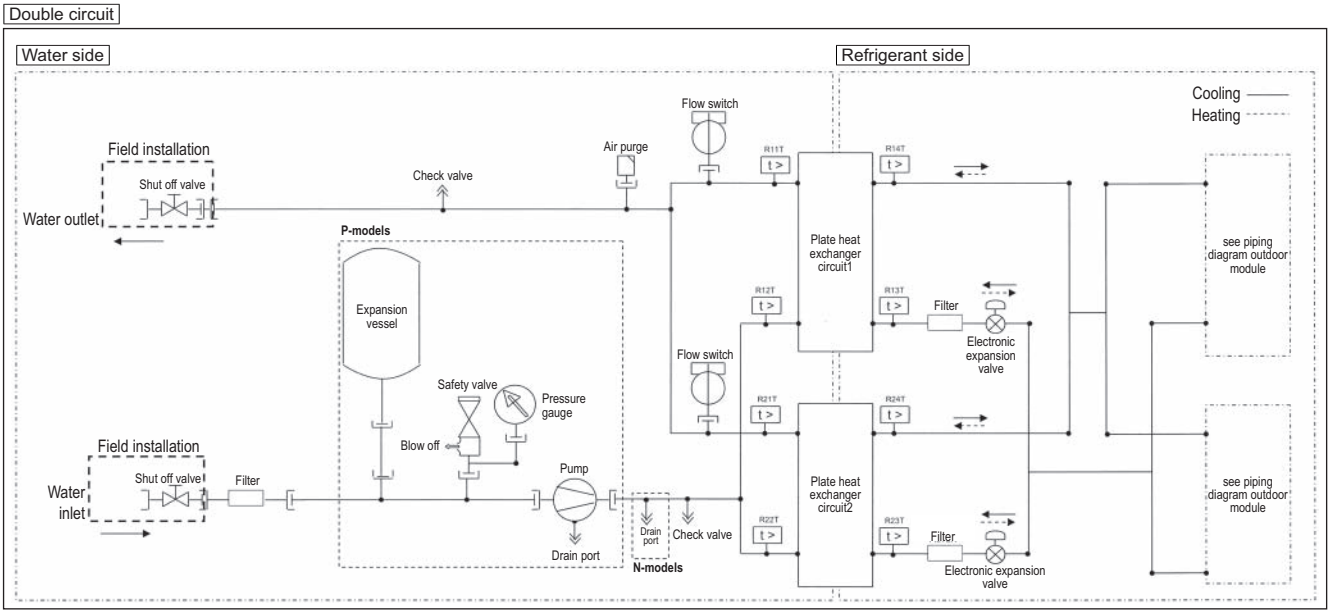
Description sensors	
R11T	Outlet water temperature sensor
R12T	Inlet water temperature sensor
R13T	Refrigerant liquid temperature sensor
R14T	Refrigerant gas temperature sensor

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

3TW60715-1(1)

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

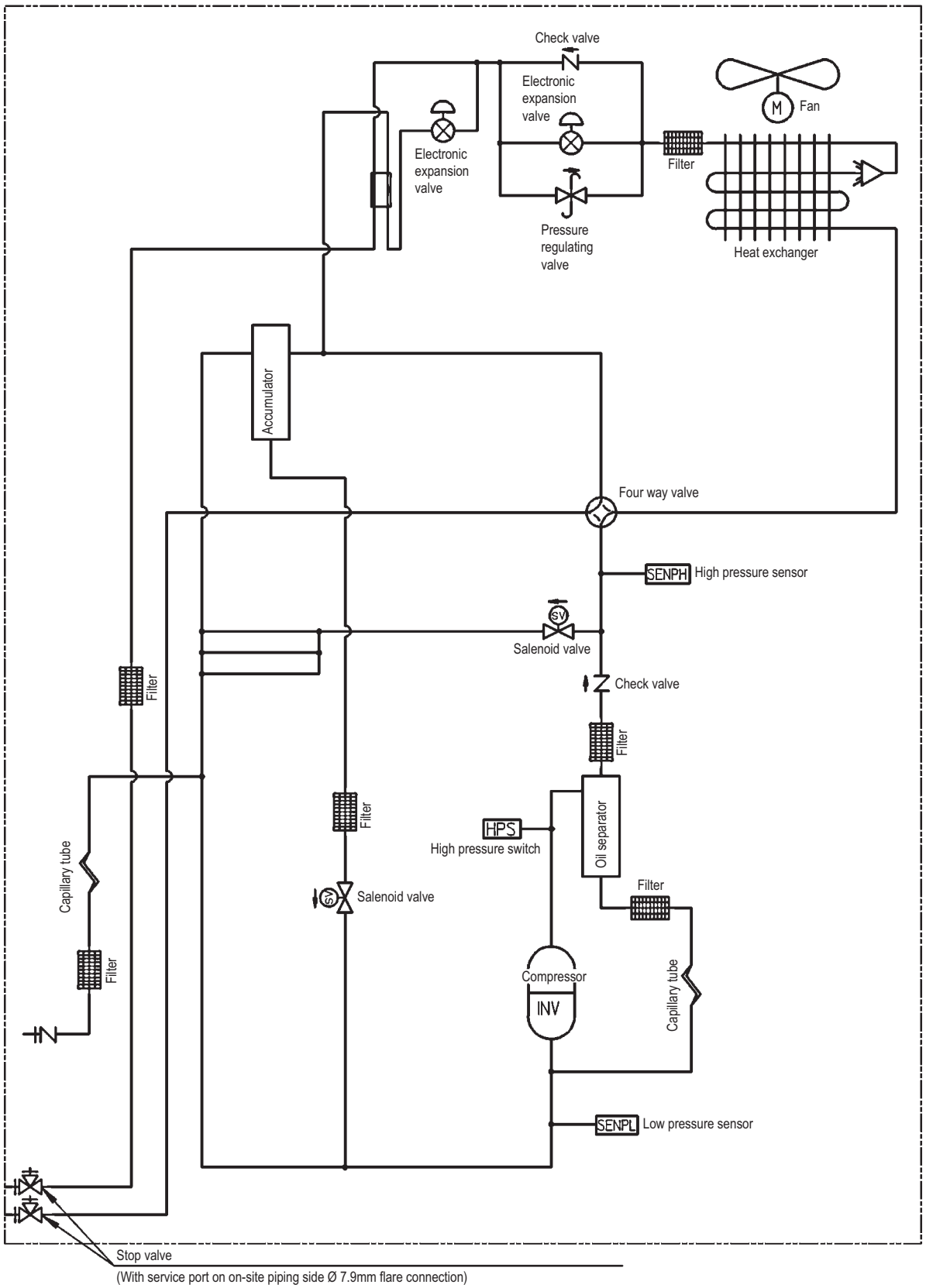
Check valve | Flare conn. | Screw conn. | Flange conn. | Pinched pipe | Spinned pipe

3TW60715-1(2)

6 Piping diagrams

6 - 1 Piping Diagrams

EWYQ16BA

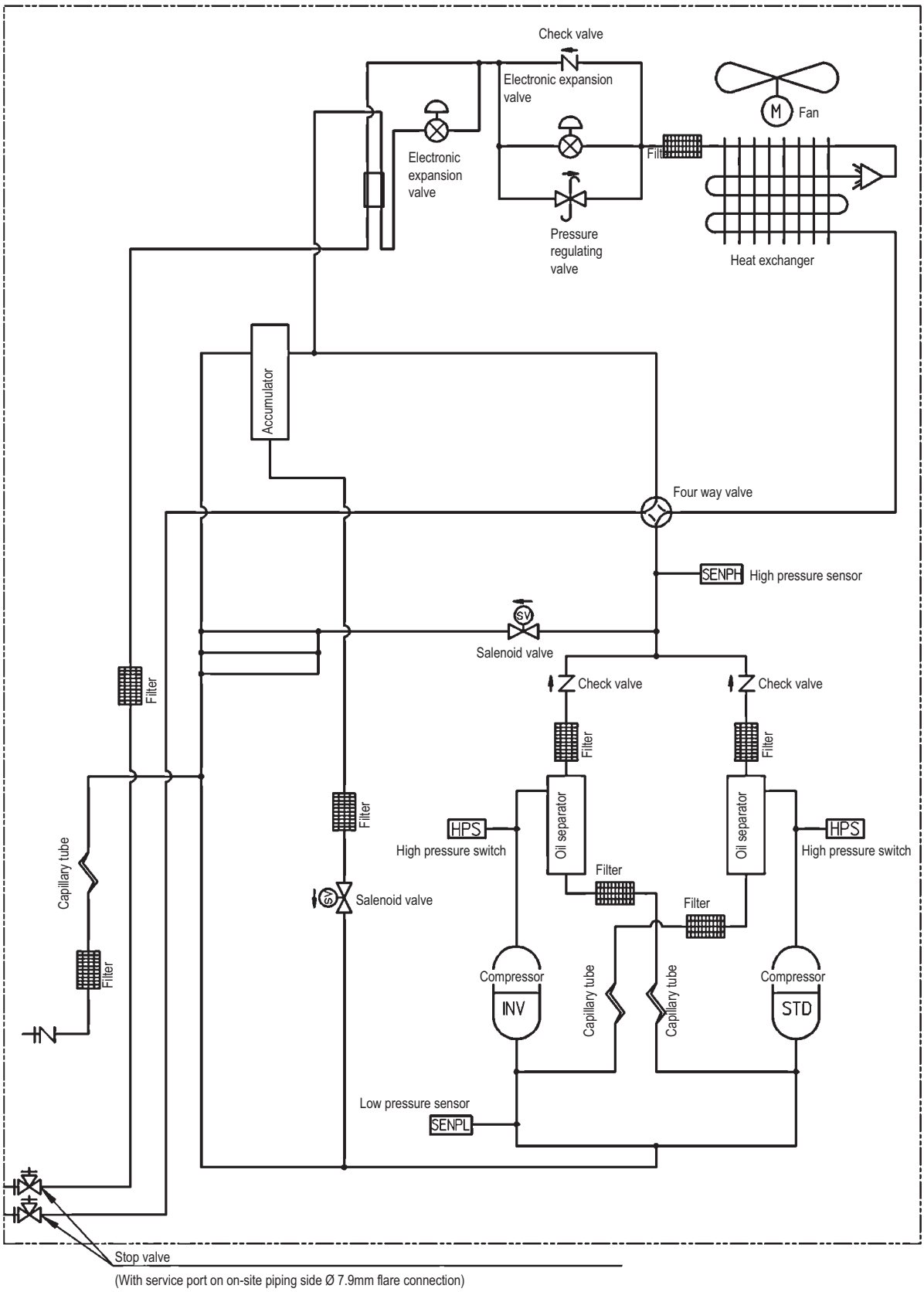


4TW27245-1

6 Piping diagrams

6 - 1 Piping Diagrams

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

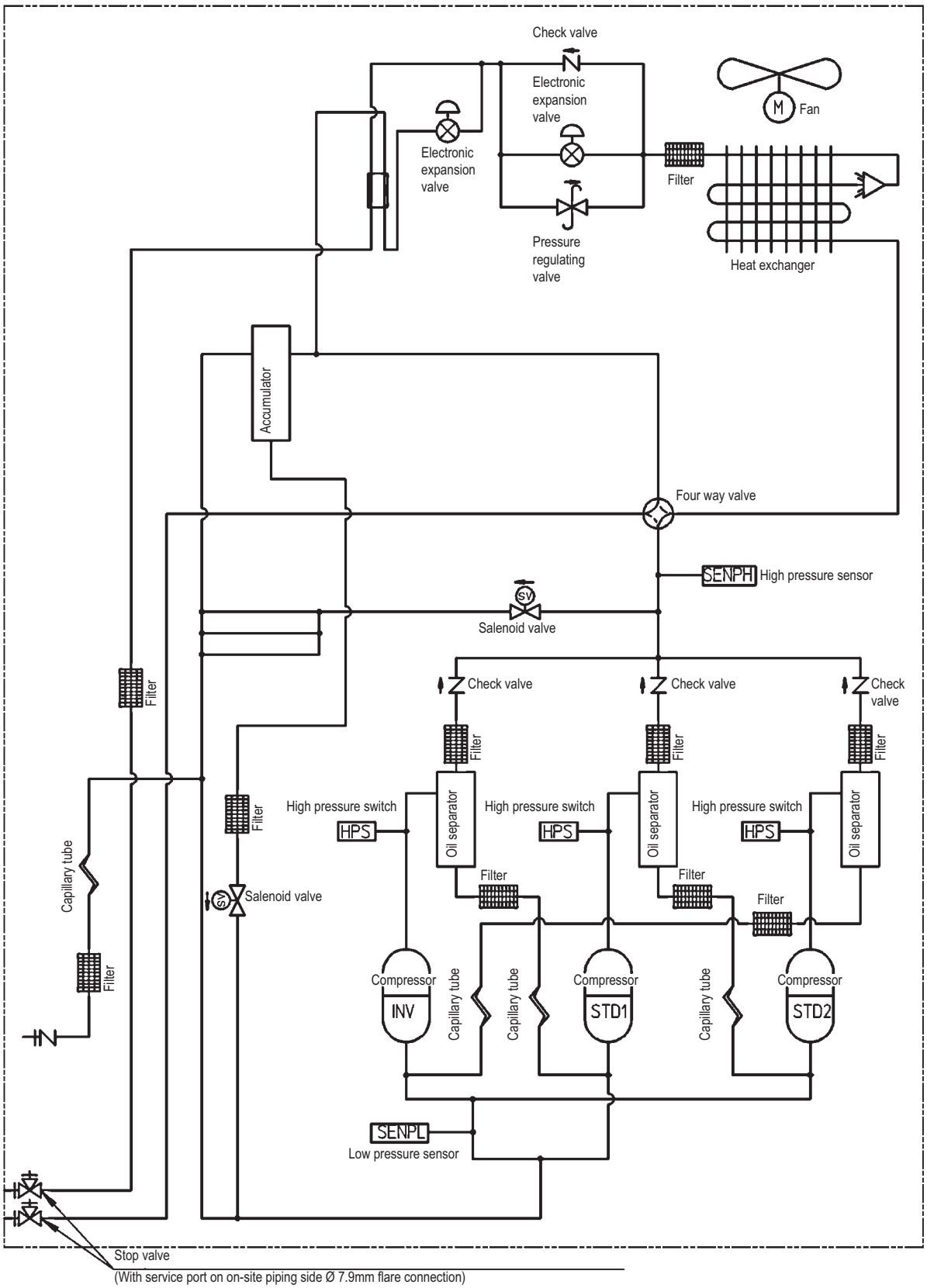


4TW27255-1

6 Piping diagrams

6 - 1 Piping Diagrams

EWYQ32,64BA



4TW27275-1

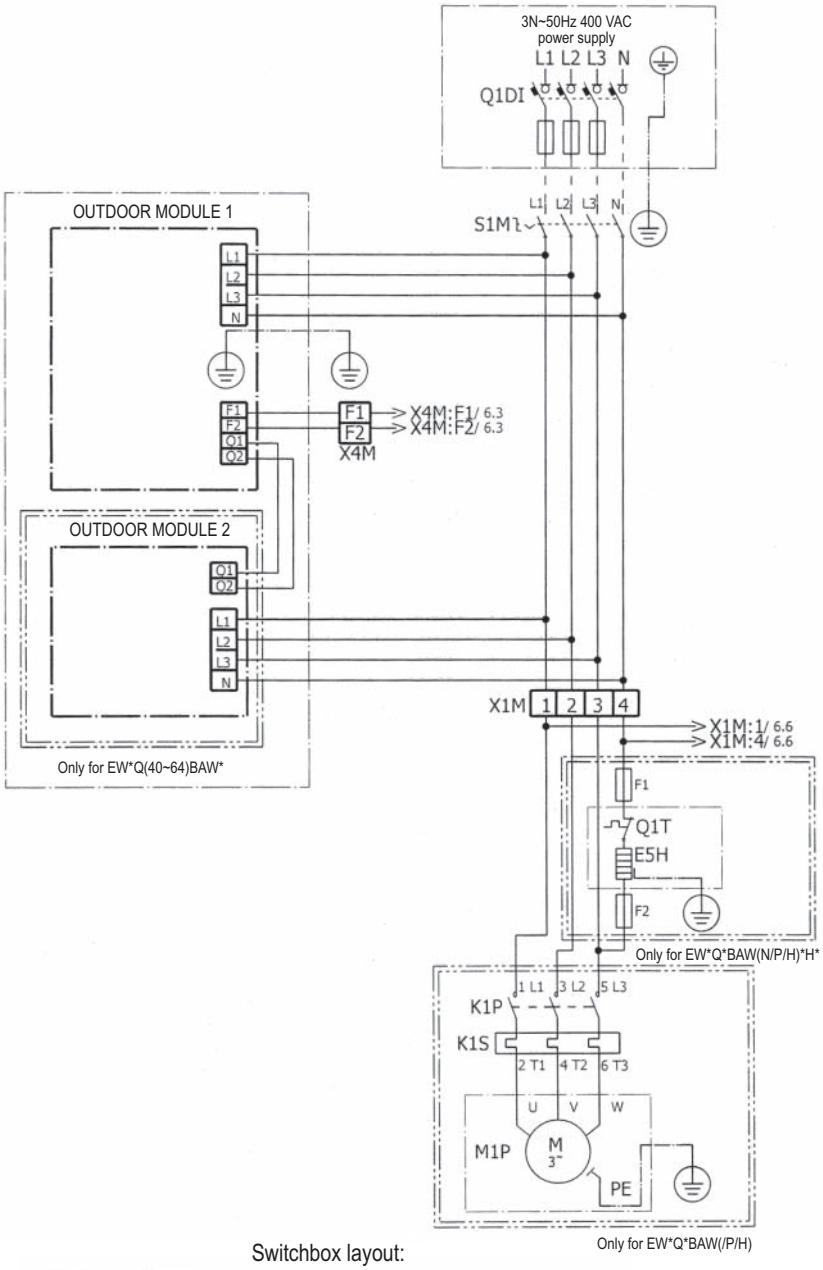
7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

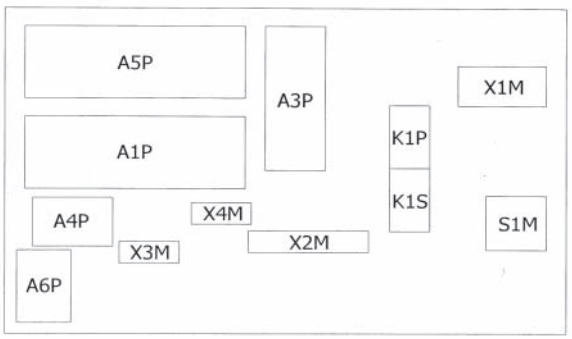
EWA/YQ-BA

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		Termnial strip
X801M (A*P)	*	PCB terminal strip
Z1F-Z2F (A*P)		Noise filter

* : Field installed option # : Field supplied



Switchbox layout:



4TW60726-1B

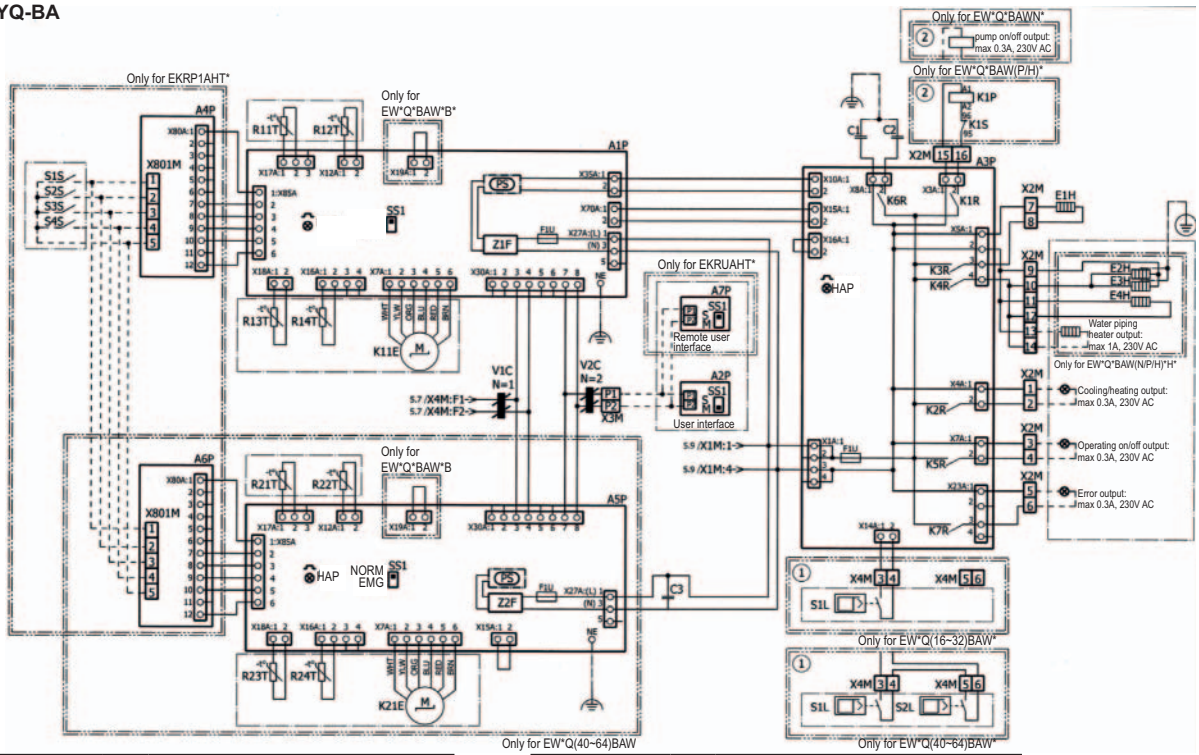
NOTES

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; -**/12.2: Connection ** continues on page 12 column 2; ① Several wiring possibilities
3. User installed optons:
   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

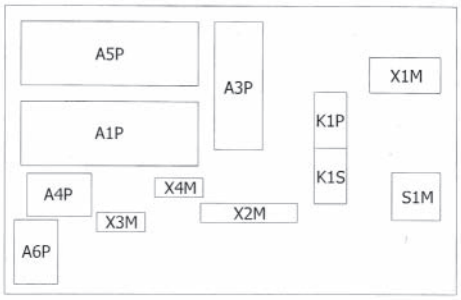
EWA/YQ-BA



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		Termnial strip
X801M (A*P)	*	PCB terminal strip
Z1F-Z2F (A*P)		Noise filter

* : Field installed option # : Field supplied

Switchbox layout:



4TW60726-1B

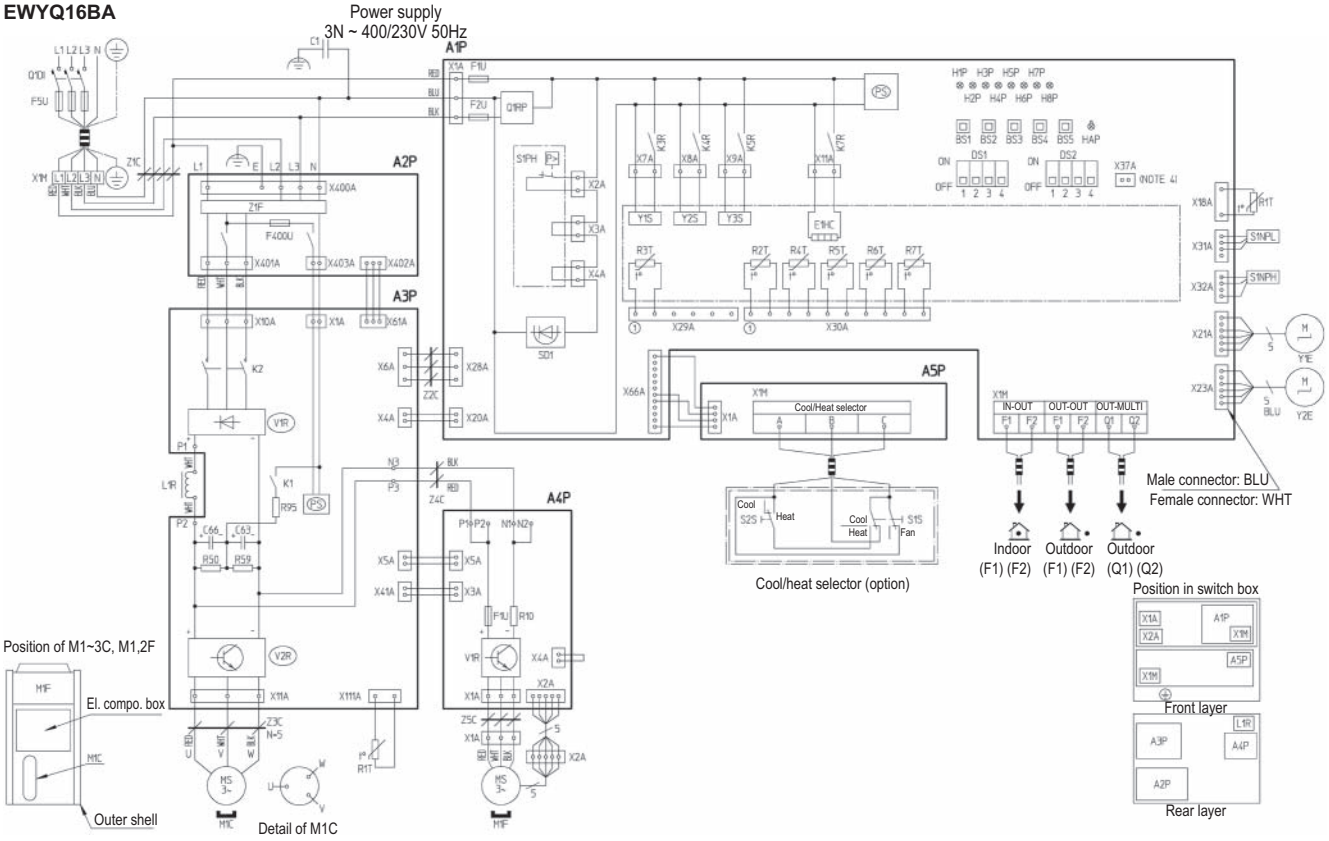
NOTES

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; -**/12.2: Connection ** continues on page 12 column 2; ① Several wiring possibilities
3. User installed optons:
   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

EWYQ16BA



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
	A3P: Inverter			R2T: Suction	R6T: Liquid pipe
BS1~BS5	Push button switch (Mode, set, return, test, reset)			R3T: M1C Discharge	R7T: Accumulator
			R50, R59	Resistor	
C1	Capacitor		R95	Resistor (current limiting)	
C63,C66	Capacitor		S1NPH	Pressure sensor (high)	
DS1, DS2	Dip switch		S1NPL	Pressure sensor (low)	
E1HC	Crankcase heater		S1PH	Pressure switch (high)	
F1U	Fuse (250V, 8A Ⓑ) (A4P)		SD1	Safety devices input	
F1U, F2U	Fuse (250V, 3.15A Ⓣ) (A1P)		V1R	Power module (A4P)	
F5U	Field fuse		V1R, V2R	Power module (A3P)	
F400U	Fuse (250V, 6.3A Ⓣ) (A2P)		X1A~X2A	Connector (M1F)	
H1P~H8P	Pilotlamp (service monitor - orange) [H2P] Prepare, Test---------- Flickering Malfunction detection ---------- Light up		X1M	Terminal strip (power supply)	
			X1M	Terminal strip (control) (A1P)	
			X1M	Terminal strip (A5P)	
HAP	Pilotlamp (service monitor - green)		Y1E	Electronic expansion valve (main)	
K1	Magnetic relay		Y2E	Electronic expansion valve (subcool)	
K2	Magnetic contactor (M1C)		Y1S~Y3S	Solenoid valve	
K3R~K7R	K3R: Y1S	K5R: Y3S		Y1S: Hot gas	Y3S: 4 way valve
	K4R: Y2S	K7R: E1HC		Y2S: Oil return	
L1R	Reactor		Z1C~5C	Noise filter (ferrite core)	
M1C	Motor (Compressor)		Z1F	Noise filter (With surge absorber)	
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

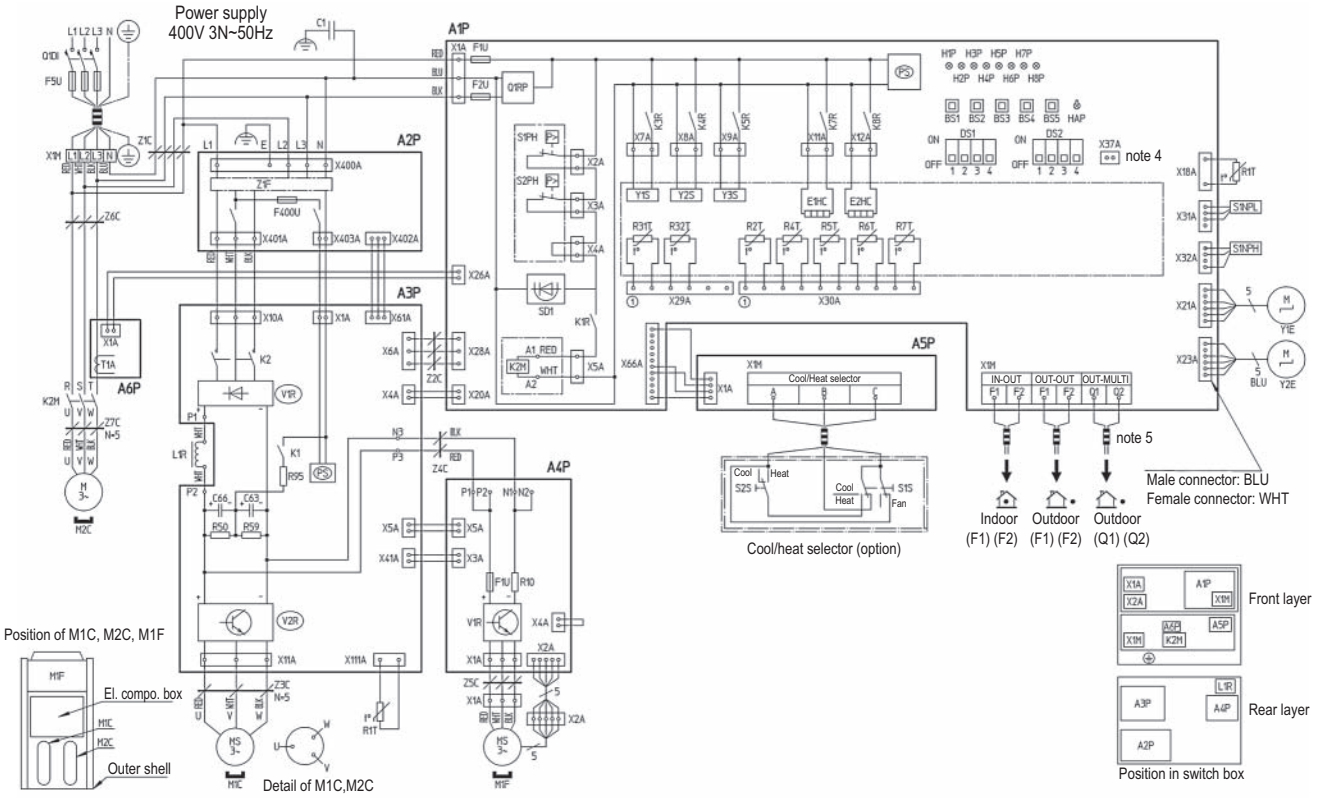
NOTES

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, outdoor-multi transmission Q1-Q2 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

EWYQ21,40BA



A1P-A6 P	Printed circuit board		Q1DI	Earth leakage breaker	
	A1P: Main	A4P: Fan	R10	Resistor (current sensor) (A4P)	
	A2P: Noise filter	A5P: ABC I/P	R1T~R7T R31T,R32T	Thermistor	
	A3P: Inverter	A6P: Current sensor		R1T: AIR (A1P)	R4T: Heat exch. deicer
BS1~BS5	Push button switch (Mode, set, return, test, reset)			R1T: FIN (A3P)	R5T: Heat exch. outlet
C1	Capacitor			R2T: Suction	R6T: Liquid pipe
C63,C66	Capacitor			R31T: M1C Discharge	R7T: Accumulator
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) [H2P] Prepare, Test---------- Flickering Malfunction detection ---------- Light up		V1R	Power module (A4P)	
			V1R, V2R	Power module (A3P)	
			X1A,X2A	Connector (M1F)	
			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 relais (K2M)		Y1S~Y3S	Solenoid valve	
K3R~K8R	K3R: Y1S	K7R: E1HC		Y1S: Hot gas	Y3S: 4 way valve
	K4R: Y2S	K8R: E2HC		Y2S: Oil return	
	K5R: Y3S		Z1C~Z7C	Noise filter (ferrite core)	
L1R	Reactor		Z1F	Noise filter (With surge absorber)	
M1C,M2C	Motor (Compressor)				
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

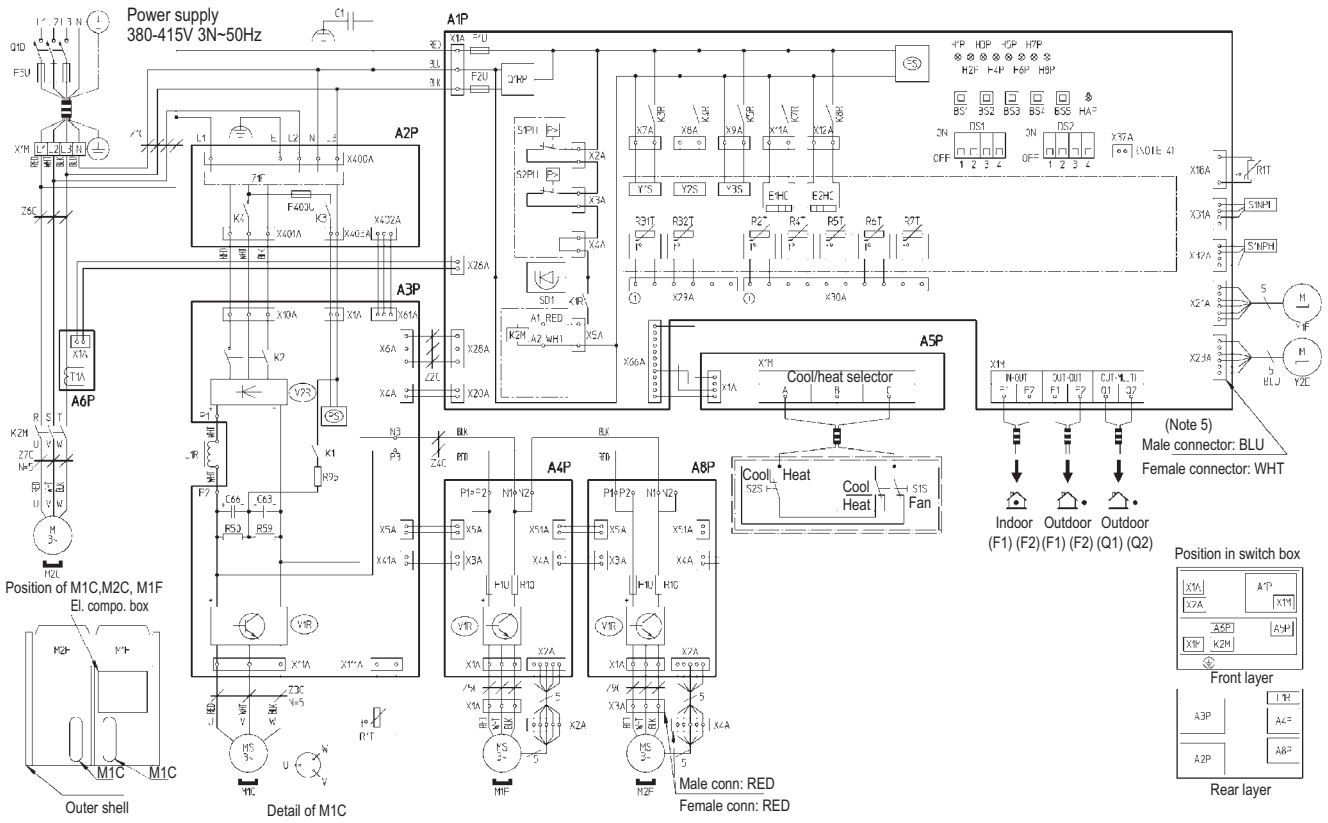
NOTES

1. This wiring diagram only applies to the outdoor unit
2. ▬▮▮▮▬ : field wiring,
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, outdoor-multi transmission Q1-Q2 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

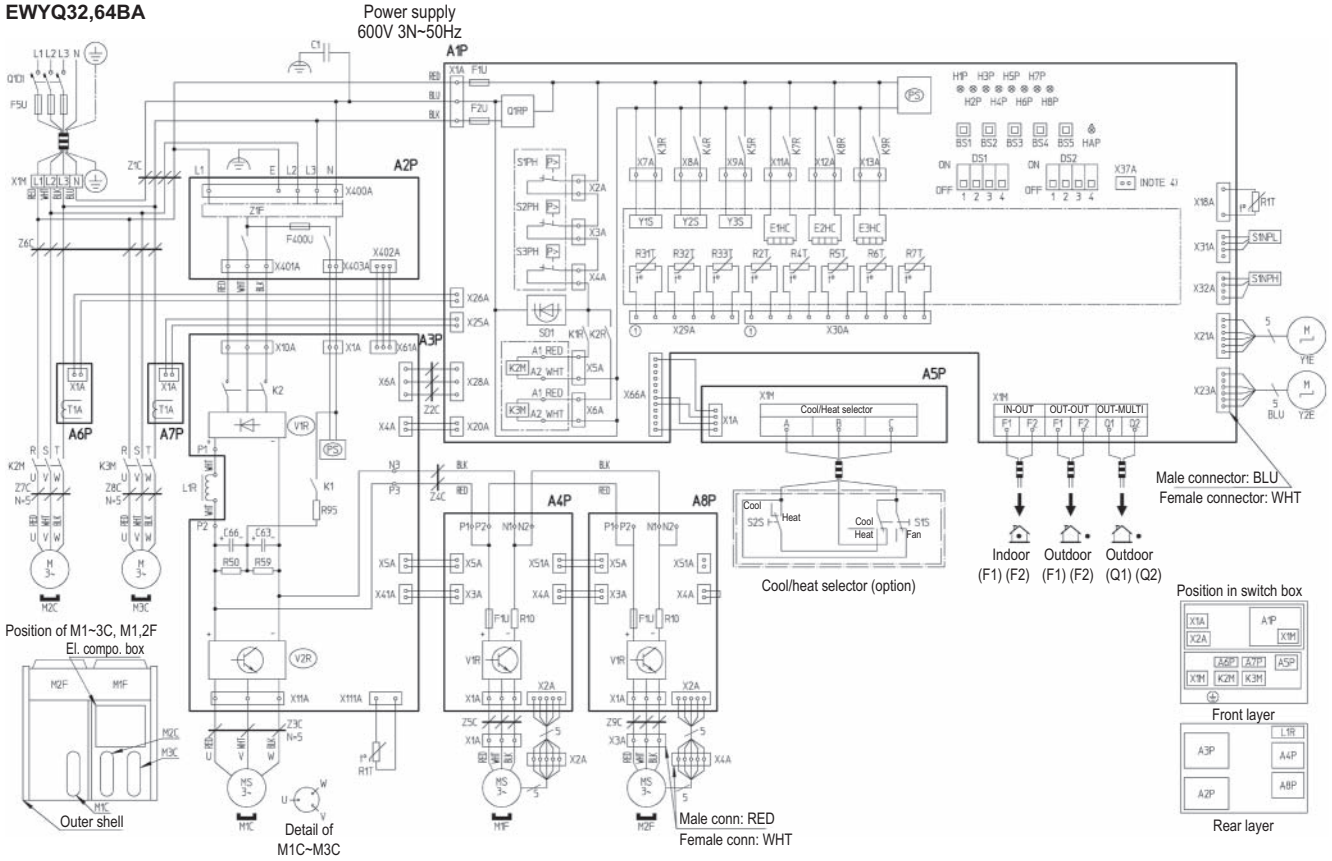
NOTES

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

EWYQ32,64BA



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
	A3P: Inverter	A6P, A7P: Current sensor		R2T: Suction	R5T: Heat exch. outlet
BS1~BS5	Push button switch (Mode, set, return, test, reset)			R31T: M1C Discharge	R6T: Liquid pipe
				R32T: M1C Discharge	R7T: Accumulator
C1	Capacitor		R50, R59	Resistor	
C63,C66	Capacitor		R95	Resistor (current limiting)	
DS1, DS2	Dip switch		S1NPH	Pressure sensor (high)	
E1HC~E3HC	Crankcase heater		S1NPL	Pressure sensor (low)	
F1U	Fuse (250V, 8A Ⓑ) (A4P)		S1PH~S3PH	Pressure switch (high)	
F1U, F2U	Fuse (250V, 3.15A Ⓣ) (A1P)		T1A	Current sensor (A6P, A7P)	
F5U	Field fuse		SD1	Safety devices input	
F400U	Fuse (250V, 6.3A Ⓣ) (A2P)		V1R	Power module (A4P, A8P)	
H1P~H8P	Pilotlamp (service monitor - orange) [H2P] Prepare, Test---------- Flickering Malfunction detection ---------- Light up		V1R, V2R	Power module (A3P)	
			X1A~X4A	Connector (M1F)	
HAP	Pilotlamp (service monitor - green)		X1M	Terminal strip (power supply)	
K1	Magnetic relay		X1M	Terminal strip (control) (A1P)	
K2	Magnetic contactor (M1C)		X1M	Terminal strip (A5P)	
K2M, K3M	Magnetic contactor (M2C, M3C)		Y1E	Electronic expansion valve (main)	
K1R, K2R	Magnetic relais (K2M, K3M)		Y2E	Electronic expansion valve (subcool)	
K3R~K9R	K3R: Y1S	K7R: E1HC	Y1S~Y3S	Solenoid valve	
	K4R: Y2S	K8R: E2HC		Y1S: Hot gas	Y3S: 4 way valve
	K5R: Y3S	K9R: E3HC		Y2S: Oil return	
L1R	Reactor		Z1C~Z9C	Noise filter (ferrite core)	
M1C~M2C	Motor (Compressor)		Z1F	Noise filter (With surge absorber)	
M1F, M2F	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)	
Q1DI	Earth leakage breaker				
R10	Resistor (current sensor) (A4P, A8P)				

2TW27276-1A

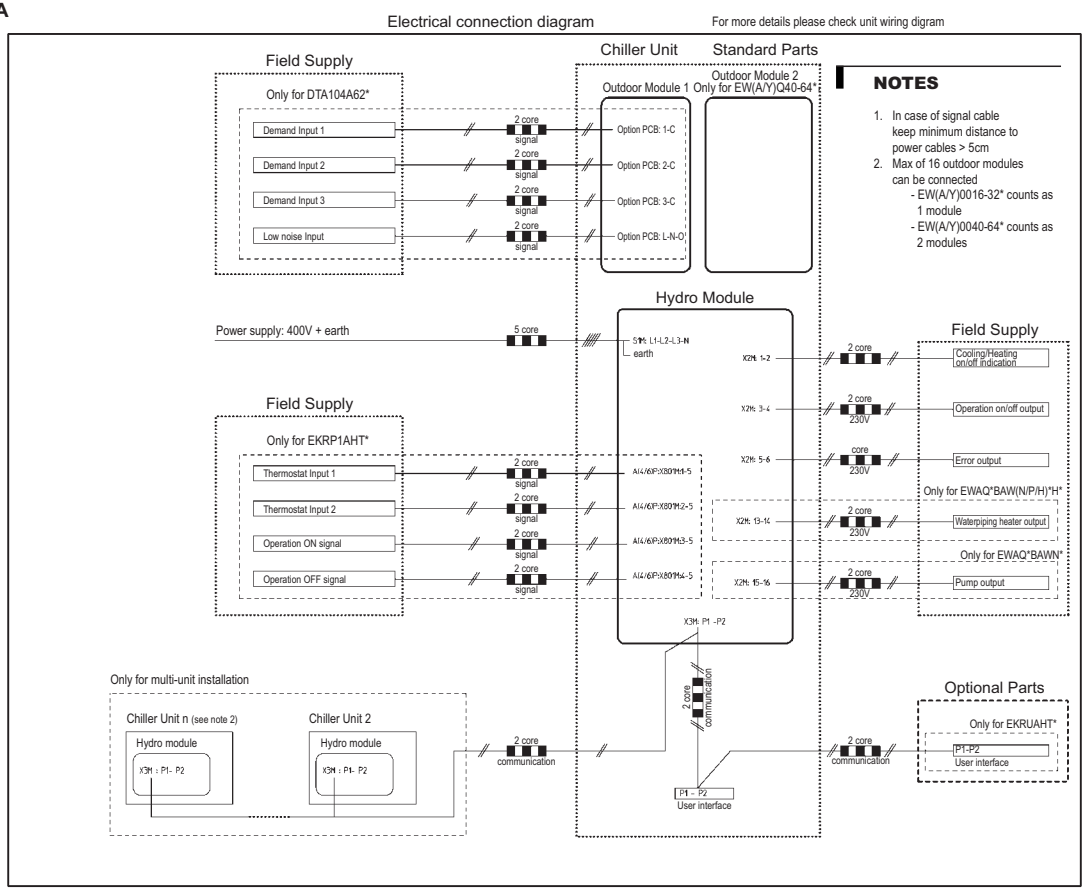
NOTES

1. This wiring diagram only applies to the outdoor unit
2. ▬▮▮▮▬ : field wiring,
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	77	73	66	60	53	78
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	80	76	69	63	56	81
EW(A/Y)Q064BAW*	87	83	83	78	71	66	65	83

3
9

NOTES

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

4TW60717-1A

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.

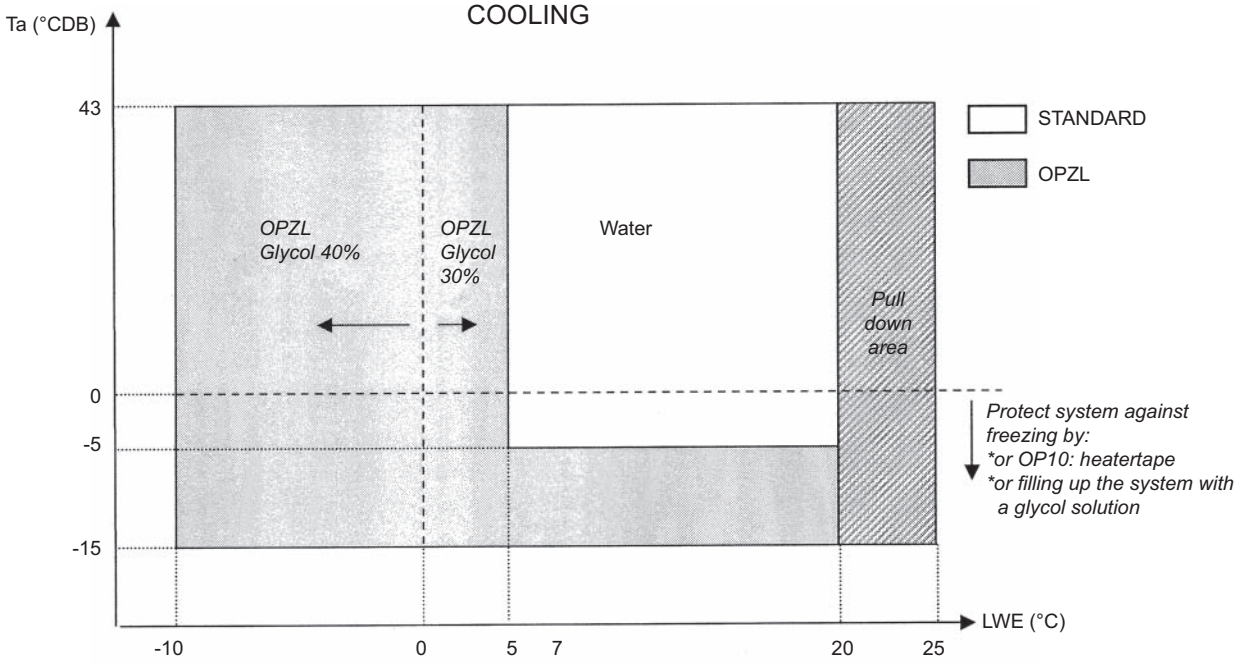
3TW50179-1

11 Operation range

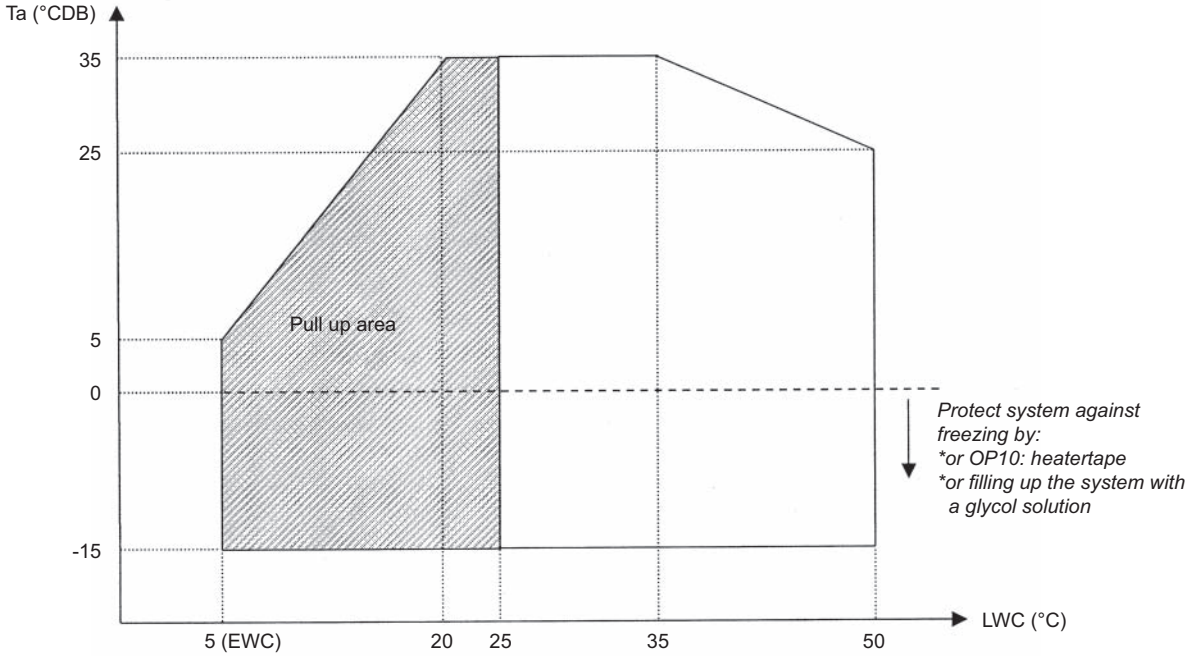
11 - 1 Operation Range

EWYQ-BA

COOLING



HEATING



SYMBOLS

Ta : Ambient temperature dry bulb (°C)
LWE : Leaving water eveaporator temperature (°C)
LWC : Leaving water condenser temperature (°C)
EWC : Entering water

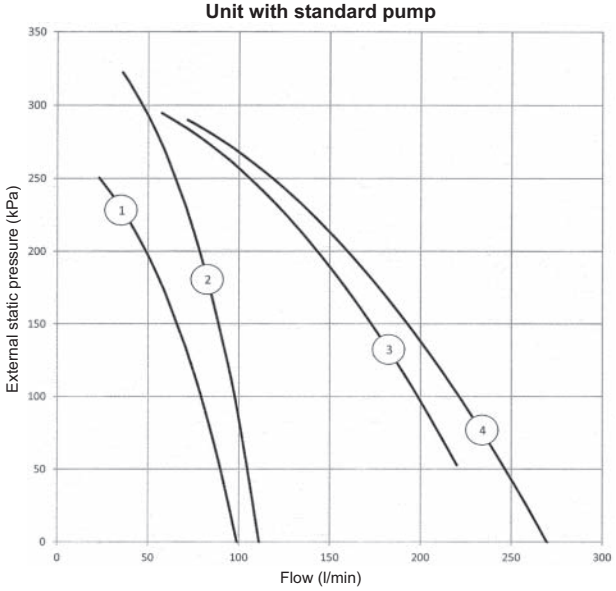
4TW60713-1B

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

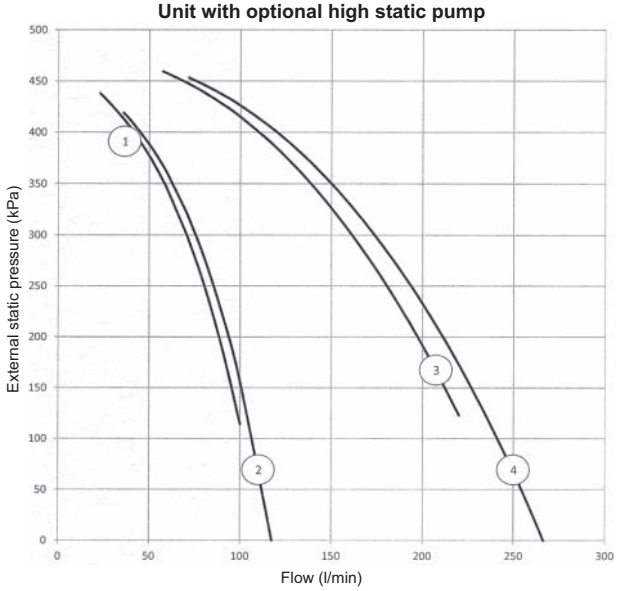
4TW60719-3 (1)

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

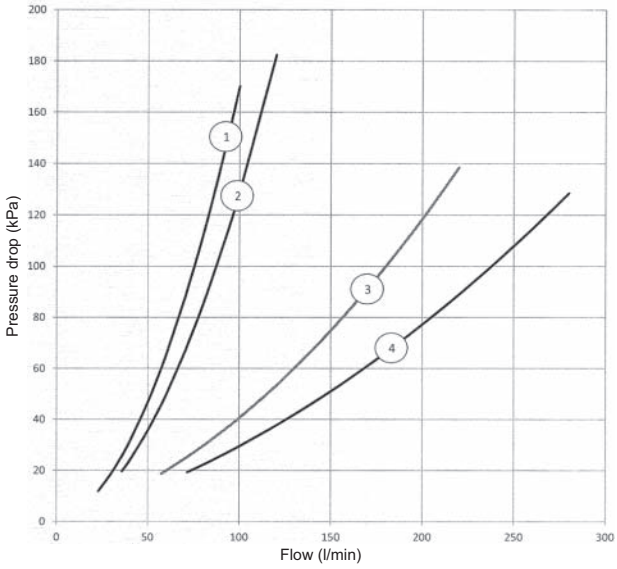
4TW60719-3 (2)

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.

TABLE OF CONTENTS

EWYQ-BAWP

1 Features

- Inverter chiller
- High efficiency with leader-of-class ESEER (up to 4.75)
- Minimal starting currents and short payback times
- No buffertank required for standard applications
- Daikin scroll compressor
- Large operation range (ambient temperature up to 43ºC)
- Digital remote controller

2 Specifications

2-1 Technical Specifications					EWYQ016 BAWP	EWYQ021 BAWP	EWYQ025 BAWP	EWYQ032 BAWP	EWYQ040 BAWP	EWYQ050 BAWP	EWYQ064 BAWP
Cooling capacity	Nom.			kW	16.6 (1)	20.7 (1)	24.7 (1)	30.9 (1)	41.5 (1)	49.7 (1)	62.3 (1)
	Max.			kW	19.8 (1)	24.7 (1)	29.5 (1)	36.9 (1)	49.5 (1)	59.3 (1)	74.3 (1)
Heating capacity	Nom.			kW	17.0 (2)	21.3 (2)	25.7 (2)	32.1 (2)	42.5 (2)	51.1 (2)	63.7 (2)
	Max.			kW	20.2 (2)	25.3 (2)	30.5 (2)	38.1 (2)	50.5 (2)	60.7 (2)	75.7 (2)
Capacity control	Method				Inverter controlled						
	Minimum capacity			%	25						
	Maximum capacity			%	120						
Power input	Cooling	Nom.		kW	5.80 (1)	7.59 (1)	9.74 (1)	13.5 (1)	15.4 (1)	19.7 (1)	27.4 (1)
	Heating	Nom.		kW	5.73 (2)	7.44 (2)	9.36 (2)	11.1 (2)	14.7 (2)	18.5 (2)	21.7 (2)
EER					2.86 (1)	2.73 (1)	2.54 (1)	2.29 (1)	2.69 (1)	2.52 (1)	2.27 (1)
ESEER					4.21	4.18	4.04	3.62	4.24	4.12	3.78
COP					2.97 (2)	2.86 (2)	2.75 (2)	2.89 (2)		2.76 (2)	2.94 (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		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	Material			Brass						
		Diameter perforations		mm	0.6						
	Water volume			l	1.9			2.9	3.8		5.7
	Water flow rate	Min.		l/min	23			36	46		72
	Nominal water flow	Cooling		l/min	50 (1)	62 (1)	74 (1)	93 (1)	124 (1)	148 (1)	185 (1)
		Heating		l/min	46	58	71	88	116	140	176
	Maximum water flow	Cooling		l/min	75	93	111	139	187	223	277
		Heating		l/min	70	87	106	132	175	211	264
	Nominal water pressure drop	Cooling	Total	kPa	20	30	42	30		42	30
	Insulation material				Nitrile rubber based elastomeric foam						
	Model	Type			ACH70-40H			ACH70-60H	ACH70-40H		ACH70-60H
Air heat exchanger	Length			mm	1,778			2,088	1,778		2,088
	Type				Hi-XSS (8)						
	Rows	Quantity			2						
	Stages	Quantity			54						
	Fin pitch			mm	2.0						
	Passes	Quantity			18			21	18		21
	Face area			m²	2.112			2.481	2.112		2.481
	Empty tubeplate hole				0						
	Fin	Type			Non-symmetric waffle louvre						
		Treatment			Hydrophylic and anti-corrosion resistant						
Fan	Quantity				1			2			4
	Type				Axial						
	Air flow rate	Cooling	Nom.	m³/min	171	185		233	370		466
		Heating	Nom.	m³/min	171	185		233	370		466
	Discharge direction				Vertical						
	External static pressure	Max.		Pa	78						

2 Specifications

2-1 Technical Specifications					EWYQ016 BAWP	EWYQ021 BAWP	EWYQ025 BAWP	EWYQ032 BAWP	EWYQ040 BAWP	EWYQ050 BAWP	EWYQ064 BAWP
Fan motor	Model				Brushless DC motor						
	Output			W	750			350	750		350
	Quantity				1			2			4
	Position				Vertical						
	Drive				Direct drive						
Fan motor 2	Output			W	-			350	750		350
Fan motor 3	Output			W	-						350
Fan motor 4	Output			W	-						350
Sound power level	Cooling	Nom.		dBA	78			80	81		83
Compressor	Type				Hermetically sealed scroll compressor						
	Quantity				1	2		3	4		6
	Motor (INV)	Crankcase heater		W	33						
		Model			Inverter						
		Quantity			1				2		
	Motor (ON-OFF)	Crankcase heater		W	-	33					
		Model			-	ON/OFF					
		Quantity			0	1		2			4
Operation range	Water side	Cooling	Min.	ºCDB	5						
			Max.	ºCDB	20						
		Heating	Min.	ºCDB	25						
			Max.	ºCDB	50						
	Air side	Cooling	Min.	ºCDB	-5						
			Max.	ºCDB	43						
		Heating	Min.	ºCDB	-15						
			Max.	ºCDB	35						
Refrigerant	Type				R-410A						
	Charge			kg	7.6			9.6	15.2		19.2
	Control				Electronic expansion valve						
	Circuits	Quantity			1						
Water circuit	Piping connections diameter			inch	1-1/4" (female)				2" (female)		
	Piping			inch	1-1/4"				1-1/2"		
	Drain valve / fill valve				Yes						
	Shut off valve				Yes						
	Nominal water pressure drop	Cooling		kPa	44 (7)	66 (7)	92 (7)	106 (7)	53 (7)	71 (7)	67 (7)
	Total water volume			l	3.2 (4)			4.2 (4)	5.8 (4)		7.7 (4)
	Minimum water volume in the system for cooling			l	33 (5)				66 (5)		
	Minimum water volume in the system for heating			l	76 (6)			110 (6)	152 (6)		220 (6)
	Air purge valve				Yes						
	flowswitch				yes						
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						
PED	Category				Category II						
	Most critical part	Name			Accumulator						
		Ps*V		Bar*l	335			385	335		385

2 Specifications

2-2 Electrical Specifications				EWYQ016 BAWP	EWYQ021 BAWP	EWYQ025 BAWP	EWYQ032 BAWP	EWYQ040 BAWP	EWYQ050 BAWP	EWYQ064 BAWP
Power supply	Name			W1						
	Phase			3N~						
	Frequency		Hz	50						
	Voltage		V	400						
	Voltage range	Min.	%	-10						
		Max.	%	10						
Unit	Maximum starting current		A	0 (9)	77.7	78.7	88.7	99.8	101.9	120.7
	Current	Zmax	Text	-	0.27		0.24	0.25		0.22
	Maximum running current		A	22.2	25.3	26.4	35.2	47.4	49.6	67.2
	Minimum Ssc value			1,141	853		840	1,706		1,679
	Recommended fuses			25	32		40	50	63	80
Cable requirements	Power supply	Required number of conductors		4 + GND						
	Remote control	Quantity of wires		2						
		Maximum running current		Minimum cable section 0,75 mm²						
	Cooling/Heating output	Quantity of wires		2						
		Maximum running current	A	0.3						
	Operation ON/OFF output	Quantity of wires		2						
		Maximum running current	A	0.3						
	Error output	Quantity of wires		2						
		Maximum running current	A	0.3						
	Pump ON/OFF output	Quantity of wires		2						
		Maximum running current	A	0.3						

Notes

(1) Condition: Ta 35ºC - LWE 7ºC (DT = 5ºC)

(2) Condition: Ta DB/WB 7ºC/6ºC - LWC 45ºC (Dt=5ºC)

(3) Capacity, Power Input, EER, COP, ESEER according EN14511-2011

(4) Including piping + PHE; excluding expansion vessel

(5) Excluding water volume in the unit. In most applications this minimum water volume will have a satisfying result. In critical processes or in rooms with a high heat load though, extra water volume might be required. Refer to operation range for more info.

(6) Excluding the water volume in the unit. This volume will guarantee suficient defrost energy for all applications, however, this volume can be multiplied by 0,66 if the heating sepoint is ≥ 45º C (eg. Fan coils)

(7) This is PD between inlet & outlet connections of unit. It includes the water side heat exchanger pressure drop.

(8) This is ESP between inlet & outlet connections of unit. It consists out of pump SP minus all internal PD's.

(9) No peak current because of inverter compressor

(10) In accordance with EN/IEC 61000-3-11, respectively EN/IEC 61000-3-12, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with Zsys ≤ Zmax, respectively Ssc ≥ minimum Ssc value.

(11) EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(12) EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current \> 16A and ≤ 75A per phase

(13) Ssc: Short-circuit power

(14) Zsys: system impedance

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

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3 Options

3 - 1 Options

EWA/YQ-BA

Option availability

		EW(A/Y)Q*BA								DIGIT				
Reference	Description	016	021	025	032	040	050	064	Availability	11	12	13	14	Numeric optioncodes
-	Standard hydraulic package Filter, shut-off valves, drain/fill valve, automatic air purge Flowswitch	○	○	○	○	○	○	○	Factory mounted	N				-
OPSP	Additional hydraulic components: pump, expansion vessel, safety valve, pressure gauge	○	○	○	○	○	○	○	Factory mounted	P				78
OPHP	= OPSP but pump with higher static pressure	○	○	○	○	○	○	○	Factory mounted	H				79
OP10	Heatertape for freeze prevention during winter standstill	○	○	○	○	○	○	○	Factory mounted			H		57
OPZL	Low leaving water operation down to -10°C	○	○	○	○	○	○	○	Factory mounted		B			08b
EKRP1AHT*	Demand PCB with additional inputs for: Remote ON/OFF Remote cooling/heating Remote thermo ON/OFF	○	○	○	○	○	○	○	KIT					
EKRUAHT*	Additional remote user interface	○	○	○	○	○	○	○	KIT					
BHGP26A1	Digital pressure gauges	○	○	○	○	○	○	○	KIT					
DTA104A62	External control adapter for: Demand control Low noise control	○	○	○	○	○	○	○	KIT					

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING P-models Maximum Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
5	016	19.8	6.04	19.8	6.69	19.8	7.70	19.8	8.91	19.2	9.60
	021	24.7	7.82	24.7	8.56	24.7	9.42	24.7	10.3	24.7	12.1
	025	27.7	9.52	27.5	10.43	27.5	11.3	26.8	12.0	25.6	13.2
	032	36.9	13.4	36.9	15.4	36.4	17.2	35.2	18.8	29.7	17.0
	040	49.5	16.1	49.5	17.3	49.5	19.2	49.5	21.5	49.5	25.4
	050	53.4	18.6	54.3	20.6	53.8	22.3	52.3	23.7	49.6	26.1
	064	73.2	27.5	72.1	30.5	71.0	33.8	68.3	36.9	58.2	33.9
7	016	19.8	5.33	19.8	5.86	19.8	6.64	19.8	7.67	19.8	8.98
	021	24.7	7.26	24.7	7.93	24.7	8.73	24.7	9.59	24.7	11.0
	025	29.5	9.43	29.5	10.8	29.5	11.8	29.5	13.2	27.7	14.1
	032	36.9	12.3	36.9	14.2	36.9	16.6	36.9	18.8	30.5	16.3
	040	49.5	14.8	49.5	16.1	49.5	17.7	49.5	19.8	49.5	22.9
	050	59.3	19.4	59.3	22.0	59.3	24.2	59.3	28.1	54.0	27.9
	064	74.3	26.2	74.3	29.8	74.3	34.2	74.3	40.1	59.3	32.0
10	016	19.8	4.78	19.8	5.19	19.8	5.84	19.8	6.59	19.8	7.40
	021	24.7	6.66	24.7	7.33	24.7	8.06	24.7	8.86	24.7	9.87
	025	29.5	8.63	29.5	9.94	29.5	11.1	29.5	12.0	28.5	12.8
	032	36.9	11.2	36.9	12.8	36.9	15.1	36.9	16.9	31.4	15.1
	040	49.5	13.2	49.5	14.6	49.5	16.1	49.5	17.9	49.5	20.2
	050	59.3	17.3	59.3	19.9	59.3	22.2	59.3	24.2	56.9	26.4
	064	74.3	23.8	74.3	26.8	74.3	31.4	74.3	35.9	61.8	30.1
15	016	19.8	3.88	19.8	4.45	19.8	5.00	19.8	5.60	19.8	6.31
	021	24.7	5.72	24.7	6.37	24.7	7.07	24.7	7.79	24.7	8.54
	025	29.5	7.11	29.5	8.15	29.5	9.29	29.5	10.2	29.5	11.2
	032	36.9	9.80	36.9	11.1	36.9	12.6	36.9	14.4	32.5	13.2
	040	49.5	11.3	49.5	12.6	49.5	14.0	49.5	15.5	49.5	17.1
	050	59.3	14.5	59.3	16.5	59.3	18.8	59.3	20.5	59.3	22.7
	064	74.3	20.4	74.3	22.6	74.3	25.8	74.3	29.6	64.4	26.3
18	016	19.8	3.55	19.8	3.98	19.8	4.51	19.8	5.11	19.8	5.75
	021	24.7	5.25	24.7	5.87	24.7	6.63	24.7	7.35	24.7	8.07
	025	29.5	6.49	29.5	7.42	29.5	8.51	29.5	9.43	29.5	10.3
	032	36.9	8.88	36.9	10.1	36.9	11.4	36.9	13.1	33.5	12.3
	040	49.5	10.5	49.5	11.8	49.5	13.2	49.5	14.5	49.5	16.1
	050	59.3	13.2	59.3	15.0	59.3	17.3	59.3	19.3	59.3	20.9
	064	74.3	18.5	74.3	20.5	74.3	23.5	74.3	27.2	67.0	24.9

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING P-models Nominal Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
5	016	16.6	4.30	16.6	4.86	16.6	5.53	16.6	6.27	16.6	7.04
	021	20.7	5.87	20.7	6.40	20.7	7.13	20.7	8.00	20.7	9.03
	025	24.7	7.71	24.7	8.54	24.7	9.38	24.7	10.5	24.7	12.2
	032	30.9	10.21	30.9	11.5	30.9	12.8	30.8	14.8	29.9	16.9
	040	41.5	11.8	41.5	13.0	41.5	14.6	41.5	16.5	41.5	18.6
	050	49.7	15.7	49.7	17.3	49.7	19.3	49.7	21.6	49.7	25.2
	064	62.3	20.5	62.3	23.1	62.3	26.1	62.3	30.4	58.5	33.6
7	016	16.6	4.03	16.6	4.53	16.6	5.14	16.6	5.80	16.6	6.55
	021	20.7	5.60	20.7	6.17	20.7	6.84	20.7	7.59	20.7	8.42
	025	24.7	7.26	24.7	8.07	24.7	8.90	24.7	9.74	24.7	11.0
	032	30.9	9.77	30.9	10.9	30.9	12.1	30.9	13.5	30.6	16.1
	040	41.5	11.3	41.5	12.2	41.5	13.7	41.5	15.4	41.5	17.2
	050	49.7	14.6	49.7	16.3	49.7	18.0	49.7	19.7	49.7	22.9
	064	62.3	19.4	62.3	21.8	62.3	24.3	62.3	27.4	62.3	32.2
10	016	16.6	3.58	16.6	4.02	16.6	4.53	16.6	5.23	16.6	5.91
	021	20.7	5.25	20.7	5.78	20.7	6.34	20.7	7.07	20.7	7.88
	025	24.7	6.52	24.7	7.48	24.7	8.05	24.7	9.08	24.7	10.0
	032	30.9	8.83	30.9	10.0	30.9	11.1	30.9	12.5	30.9	14.7
	040	41.5	10.4	41.5	11.4	41.5	12.6	41.5	14.0	41.5	15.7
	050	49.7	13.0	49.7	14.8	49.7	16.4	49.7	18.1	49.7	20.4
	064	62.3	17.7	62.3	20.2	62.3	22.4	62.3	25.7	62.3	30.1
15	016	16.6	2.81	16.6	3.28	16.6	3.72	16.6	4.26	16.6	4.85
	021	20.7	4.37	20.7	4.99	20.7	5.51	20.7	6.15	20.7	6.87
	025	24.7	5.75	24.7	6.39	24.7	7.21	24.7	8.00	24.7	8.73
	032	30.9	7.43	30.9	8.39	30.9	9.50	30.9	10.6	30.9	12.1
	040	41.5	8.71	41.5	10.0	41.5	11.1	41.5	12.4	41.5	13.8
	050	49.7	11.4	49.7	12.8	49.7	14.3	49.7	15.8	49.7	17.3
	064	62.3	14.8	62.3	16.8	62.3	19.1	62.3	21.3	62.3	24.8
18	016	16.6	2.53	16.6	2.94	16.6	3.35	16.6	3.85	16.6	4.42
	021	20.7	3.80	20.7	4.43	20.7	5.00	20.7	5.56	20.7	6.22
	025	24.7	5.45	24.7	6.00	24.7	6.77	24.7	7.49	24.7	8.23
	032	30.9	6.90	30.9	7.78	30.9	8.72	30.9	9.82	30.9	11.0
	040	41.5	7.59	41.5	8.86	41.5	9.95	41.5	11.1	41.5	12.6
	050	49.7	10.6	49.7	11.9	49.7	13.4	49.7	14.9	49.7	16.2
	064	62.3	13.5	62.3	15.4	62.3	17.6	62.3	19.6	62.3	22.0

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011

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4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING - OPZL P-models Maximum Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	016	12.2	6.38	12.2	6.92	12.0	7.57	11.6	8.12	11.0	8.68
	021	17.3	8.55	17.2	9.00	16.7	9.74	16.0	10.4	15.0	11.4
	025	17.5	9.02	17.4	9.46	17.0	10.2	16.2	10.9	15.2	12.0
	032	24.7	12.8	23.9	14.1	22.0	15.5	20.1	16.9	16.1	14.9
	040	34.3	16.4	33.8	17.8	32.8	19.3	31.3	20.6	29.4	22.6
	050	34.5	17.0	34.2	18.6	33.2	20.1	31.8	21.5	29.9	23.5
	064	48.4	25.0	46.5	27.6	42.8	30.4	39.4	33.5	31.2	28.8
-5	016	15.1	6.71	15.0	7.19	14.7	7.85	14.1	8.41	13.3	8.98
	021	20.7	9.05	20.6	9.33	20.1	10.1	19.3	10.7	18.2	11.8
	025	20.9	9.07	20.8	9.79	20.4	10.6	19.4	11.3	18.3	12.3
	032	28.8	13.2	28.5	14.6	26.9	16.1	24.5	17.7	22.0	18.5
	040	40.8	16.9	40.5	18.5	39.3	20.0	37.6	21.3	35.5	23.4
	050	41.1	17.6	40.9	19.3	39.8	20.8	38.2	22.2	36.0	24.3
	064	56.5	25.9	55.7	28.7	52.2	31.6	48.2	34.5	39.1	31.6

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011
3. Usage of glycol and other anti-freeze
   Correction factors for CC and PI are applicable according to type and concentration of the used anti-freeze

3TW60722-1A

4 Capacity tables

4 - 1 Cooling Capacity Tables

EWAQ/EWYQ-BA

COOLING - OPZL P-models Nominal Performance table

Tamb (°C)		20		25		30		35		40	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	016	12.3	6.40	12.3	6.94	12.1	7.58	11.7	8.13	11.1	8.70
	021	17.7	8.32	17.5	9.02	16.9	9.76	16.2	10.4	15.2	11.4
	025	17.6	8.73	17.5	9.47	17.0	10.24	16.3	10.9	15.3	11.9
	032	25.0	12.9	24.1	14.2	22.2	15.6	20.3	17.0	16.2	14.9
	040	34.7	16.4	34.3	17.8	33.2	19.3	31.7	20.6	29.8	22.6
	050	36.9	17.3	36.6	18.8	35.7	20.4	34.4	21.8	29.9	23.5
	064	48.9	25.1	47.0	27.6	43.3	30.5	39.9	33.3	31.6	28.7
-5	016	15.3	6.73	15.3	7.21	14.9	7.87	14.3	8.43	13.5	9.00
	021	20.7	8.65	20.7	9.36	20.4	10.1	19.5	10.8	18.4	11.8
	025	21.1	9.10	21.0	9.81	20.5	10.6	19.6	11.3	18.5	12.3
	032	29.0	13.3	28.9	14.7	27.2	16.2	24.8	17.7	22.3	18.6
	040	41.5	17.1	41.0	18.5	39.8	20.0	38.1	21.3	36.0	23.4
	050	41.6	17.8	41.4	19.3	40.3	20.8	38.6	22.2	36.4	24.3
	064	57.1	26.0	56.3	28.8	52.8	31.7	48.2	34.8	40.2	31.8

SYMBOLS

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

NOTES

1. Cooling Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for chilled water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011
3. Usage of glycol and other anti-freeze
   Correction factors for CC and PI are applicable according to type and concentration of the used anti-freeze

3TW60722-4A

4 Capacity tables

4 - 2 Heating Capacity Tables

EWYQ-BA

HEATING P-models Maximum Performance table

Tamb (°CDB)		-15		-10		-7		-2		2		7		15	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
30	016	14.6	6.72	16.8	6.93	18.2	7.05	20.2	7.01	20.2	5.98	20.2	4.98	20.2	3.85
	021	18.2	7.77	20.8	7.94	22.4	8.04	25.3	8.25	25.3	7.33	25.3	6.43	25.3	5.60
	025	20.5	9.05	23.3	9.27	25.0	9.39	28.1	9.58	30.5	9.71	30.5	8.37	30.5	6.87
	032	30.7	12.9	34.8	13.2	37.4	13.4	38.1	12.0	38.1	10.8	38.1	9.77	38.1	7.96
	040	36.3	15.3	41.5	15.7	44.7	15.9	50.5	16.3	50.5	14.5	50.5	12.7	50.5	11.0
	050	40.6	17.8	46.2	18.2	49.8	18.5	55.8	18.8	60.7	19.1	60.7	16.4	60.7	13.4
	064	60.8	25.2	69.0	25.8	74.2	26.2	75.7	23.4	75.7	21.2	75.7	19.0	75.7	15.4
35	016	15.0	7.39	17.0	7.62	18.33	7.74	20.2	7.77	20.2	6.71	20.2	5.64	20.2	4.99
	021	18.2	8.51	20.6	8.69	22.2	8.80	24.9	8.96	25.3	8.24	25.3	7.18	25.3	6.09
	025	20.6	9.92	23.2	10.1	24.9	10.3	27.7	10.5	30.0	10.6	30.5	9.42	30.5	7.73
	032	30.9	14.1	34.8	14.5	37.3	14.7	38.1	13.3	38.1	12.0	38.1	10.8	38.1	8.88
	040	36.2	16.8	41.1	17.2	44.2	17.4	49.7	17.7	50.5	16.3	50.5	14.2	50.5	12.0
	050	40.9	19.5	46.2	20.0	49.5	20.2	55.2	20.6	59.8	20.9	60.7	18.5	60.7	15.1
	064	61.4	27.7	69.0	28.4	74.0	28.8	75.7	26.2	75.7	23.6	75.7	21.1	75.7	17.2
40	016	15.2	8.12	17.0	8.35	18.2	8.48	20.2	8.68	20.2	7.59	20.2	6.35	20.2	5.08
	021	18.1	9.39	20.4	9.57	21.9	9.68	24.5	9.86	25.3	9.30	25.3	8.18	25.3	6.79
	025	20.6	10.9	23.0	11.1	24.6	11.3	25.8	10.6	29.5	11.6	30.5	10.6	30.5	8.76
	032	31.0	15.6	34.6	16.0	37.0	16.2	38.1	15.0	38.1	13.5	38.1	12.1	38.1	10.0
	040	36.0	18.6	40.6	18.9	43.6	19.2	48.8	19.5	50.5	18.4	50.5	16.2	50.5	13.4
	050	40.9	21.5	45.7	22.0	48.9	22.2	51.3	20.9	58.7	22.9	60.6	21.0	60.7	17.2
	064	61.5	30.7	68.7	31.4	73.4	31.8	75.7	29.4	75.7	26.6	75.7	23.7	75.7	19.6
45	016	15.2	8.89	16.9	9.13	17.9	9.26	19.8	9.46	20.2	8.65	20.2	7.23	20.2	5.84
	021	18.0	10.4	20.1	10.6	21.6	10.7	24.1	10.9	25.3	10.6	25.3	9.31	25.3	7.74
	025	20.4	12.0	22.7	12.2	24.1	12.4	26.7	12.6	28.8	12.7	30.5	12.2	30.5	9.96
	032	30.9	17.3	34.3	17.7	36.6	17.9	38.1	16.9	38.1	15.3	38.1	13.7	38.1	11.5
	040	35.7	20.6	40.1	21.0	42.9	21.2	47.9	21.6	50.5	20.9	50.5	18.4	50.5	15.3
	050	40.4	23.7	45.0	24.2	48.0	24.4	53.1	24.8	57.3	25.1	60.7	24.0	60.7	19.6
	064	61.3	34.1	68.1	34.8	72.6	35.2	75.7	33.2	75.7	30.0	75.7	26.9	75.7	22.5
50	016	15.0	9.70	16.5	9.95	17.5	10.1	17.9	9.06	18.2	8.26	18.5	7.26	18.8	5.99
	021	17.7	11.6	19.1	11.2	19.3	10.6	19.5	9.59	19.7	8.83	19.4	7.82	20.2	6.74
	025	19.7	13.0	20.0	11.9	20.3	11.2	20.6	10.3	20.9	9.49	21.2	8.59	21.7	7.62
	032	28.5	17.6	29.1	16.3	29.5	15.6	29.6	14.1	29.9	12.9	30.2	11.4	30.3	9.63
	040	35.3	22.9	38.0	22.1	38.4	20.9	38.8	19.0	39.2	17.5	38.7	15.4	40.2	13.3
	050	39.0	25.8	39.8	23.6	40.4	22.1	41.0	20.2	41.5	18.7	42.0	16.9	43.1	14.9
	064	56.5	34.8	57.7	32.0	58.4	30.6	58.7	27.6	59.3	25.2	59.8	22.3	60.1	18.7

SYMBOLS

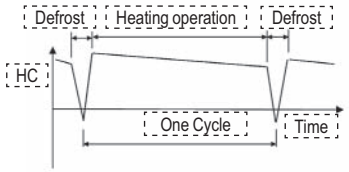
HC: Heating Capacity (kW)
PI: Power Input (kW)
LWC: Leaving Water Condenser temperature (°C)
Tamb: Ambient temperature dry bulb (°C)

NOTES

1. Heating Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for heated water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011
3. 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:



4. 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.

3TW60722-1A

4 Capacity tables

4 - 2 Heating Capacity Tables

EWYQ-BA

HEATING P-models Nominal Performance table

Tamb (°CDB)		-15		-10		-7		-2		2		7		15	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
30	016	14.7	6.76	16.9	6.98	17.0	6.40	17.0	5.27	17.0	4.70	17.0	3.97	17.0	3.10
	021	18.3	7.82	20.9	8.00	21.3	7.57	21.3	6.64	21.3	5.98	21.3	5.49	21.3	4.35
	025	20.5	9.11	23.3	9.33	25.1	9.46	25.7	8.53	25.7	7.61	25.7	6.66	25.7	5.94
	032	30.8	12.9	32.1	12.0	32.1	11.1	32.1	9.83	32.1	8.99	32.1	7.82	32.1	6.48
	040	36.3	15.4	41.5	15.8	42.5	14.9	42.5	13.1	42.5	11.8	42.5	10.8	42.5	8.50
	050	40.7	17.9	46.4	18.3	49.9	18.6	51.1	16.7	51.1	14.9	51.1	13.0	51.1	11.6
	064	61.0	25.4	63.7	23.5	63.7	21.6	63.7	19.1	63.7	17.5	63.7	15.1	63.7	12.4
35	016	15.1	7.45	17.0	7.68	17.02	6.99	17.0	5.83	17.0	5.25	17.0	4.45	17.0	3.53
	021	18.2	8.57	20.7	8.76	21.3	8.45	21.3	7.37	21.3	6.67	21.3	6.12	21.3	4.87
	025	20.7	9.99	23.3	10.2	25.0	10.3	25.7	9.48	25.7	8.46	25.7	7.45	25.7	6.36
	032	31.0	14.2	32.1	13.4	32.1	12.2	32.1	10.9	32.1	10.0	32.1	8.72	32.1	7.25
	040	36.3	16.9	41.2	17.3	42.5	16.7	42.5	14.5	42.5	13.1	42.5	12.0	42.5	9.54
	050	41.0	19.7	46.3	20.1	49.6	20.4	51.1	18.6	51.1	16.6	51.1	14.6	51.1	12.4
	064	61.5	28.0	63.7	26.2	63.7	23.9	63.7	21.3	63.7	19.5	63.7	16.9	63.7	14.0
40	016	15.3	8.17	17.0	8.41	17.0	7.69	17.0	6.51	17.0	5.85	17.0	5.07	17.0	4.01
	021	18.1	9.45	20.5	9.65	21.3	9.50	21.3	8.37	21.3	7.54	21.3	6.66	21.3	5.66
	025	20.6	11.0	23.1	11.2	24.6	11.4	25.7	10.6	25.7	9.52	25.7	8.39	25.7	7.03
	032	31.1	15.8	32.1	14.7	32.1	13.4	32.1	12.2	32.1	11.2	32.1	9.79	32.1	8.16
	040	36.1	18.7	40.7	19.1	42.5	18.8	42.5	16.5	42.5	14.9	42.5	13.1	42.5	11.1
	050	40.9	21.7	45.8	22.1	49.0	22.4	51.1	20.9	51.1	18.7	51.1	16.5	51.1	13.7
	064	61.7	31.0	63.7	29.0	63.7	26.4	63.7	23.9	63.7	21.9	63.7	19.1	63.7	15.8
45	016	15.3	8.94	16.9	9.19	17.0	8.67	17.0	7.36	17.0	6.59	17.0	5.73	17.0	4.59
	021	18.0	10.5	20.2	10.7	21.3	10.7	21.3	9.38	21.3	8.52	21.3	7.44	21.3	6.40
	025	20.4	12.1	22.7	12.3	24.2	12.5	25.7	12.0	25.7	10.8	25.7	9.36	25.7	8.01
	032	31.0	17.5	32.1	16.4	32.1	15.2	32.1	13.8	32.1	12.9	32.1	11.1	32.1	9.22
	040	35.8	20.8	40.1	21.2	42.5	21.1	42.5	18.6	42.5	16.8	42.5	14.7	42.5	12.6
	050	40.5	23.9	45.1	24.4	48.0	24.6	51.1	23.7	51.1	21.2	51.1	18.5	51.1	15.7
	064	61.5	34.4	63.7	32.3	63.7	30.0	63.7	27.1	63.7	25.3	63.7	21.7	63.7	17.9
50	016	15.0	9.76	16.5	10.0	16.7	9.44	16.9	8.30	17.0	7.59	17.0	6.59	17.0	5.28
	021	17.8	11.6	18.1	10.6	18.2	10.6	18.4	9.05	18.6	8.40	18.9	7.55	19.3	6.30
	025	18.7	12.4	19.2	11.3	19.4	10.8	19.7	9.79	19.9	9.04	19.7	8.10	20.5	7.01
	032	27.7	17.0	27.8	15.7	28.0	14.9	28.4	13.3	28.5	12.1	28.8	10.9	29.0	9.23
	040	35.3	23.1	36.1	21.0	36.3	21.0	36.6	17.9	37.1	16.6	37.6	14.9	38.4	12.4
	050	37.0	24.5	38.2	22.4	38.6	21.2	39.0	19.3	39.4	17.8	39.1	15.9	40.6	13.7
	064	54.8	33.5	55.1	30.8	55.5	29.2	56.3	26.1	56.6	23.7	57.1	21.2	57.4	17.9

SYMBOLS

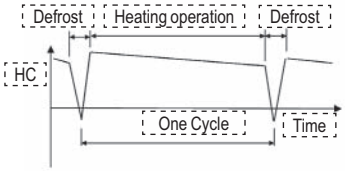
HC: Heating Capacity (kW)
PI: Power Input (kW)
LWC: Leaving Water Condenser temperature (°C)
Tamb: Ambient temperature dry bulb (°C)

NOTES

1. Heating Capacity (CAP)
   Capacity is according to EN 14511:2011 and valid for heated water range Dt = 3 - 8°C
2. Power input (kW)
   Power input is total input according to EN 14511:2011
3. 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:



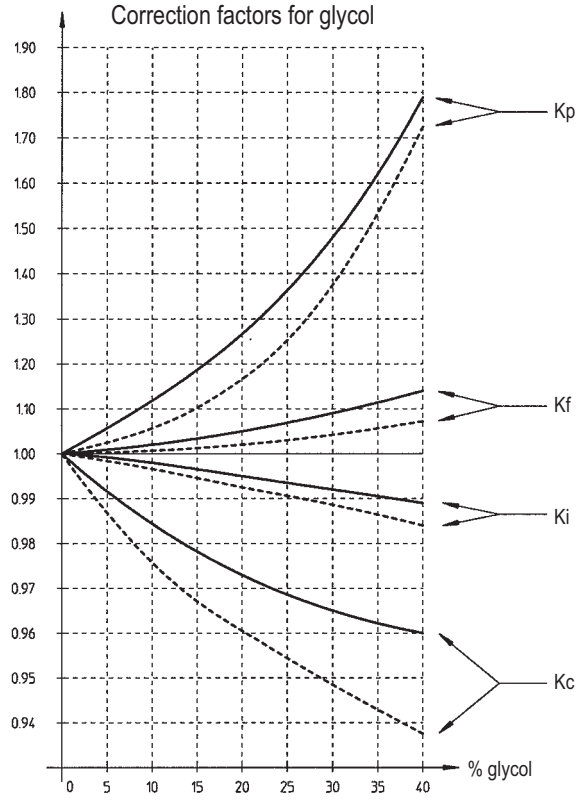
4. In case the surface of the heat exchanger is covered with snow, heating capacity drops temporarily although it differs with outdoor temperature (°CDB), relative humidity (RH) and frosting volume.

3TW60722-4A

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:

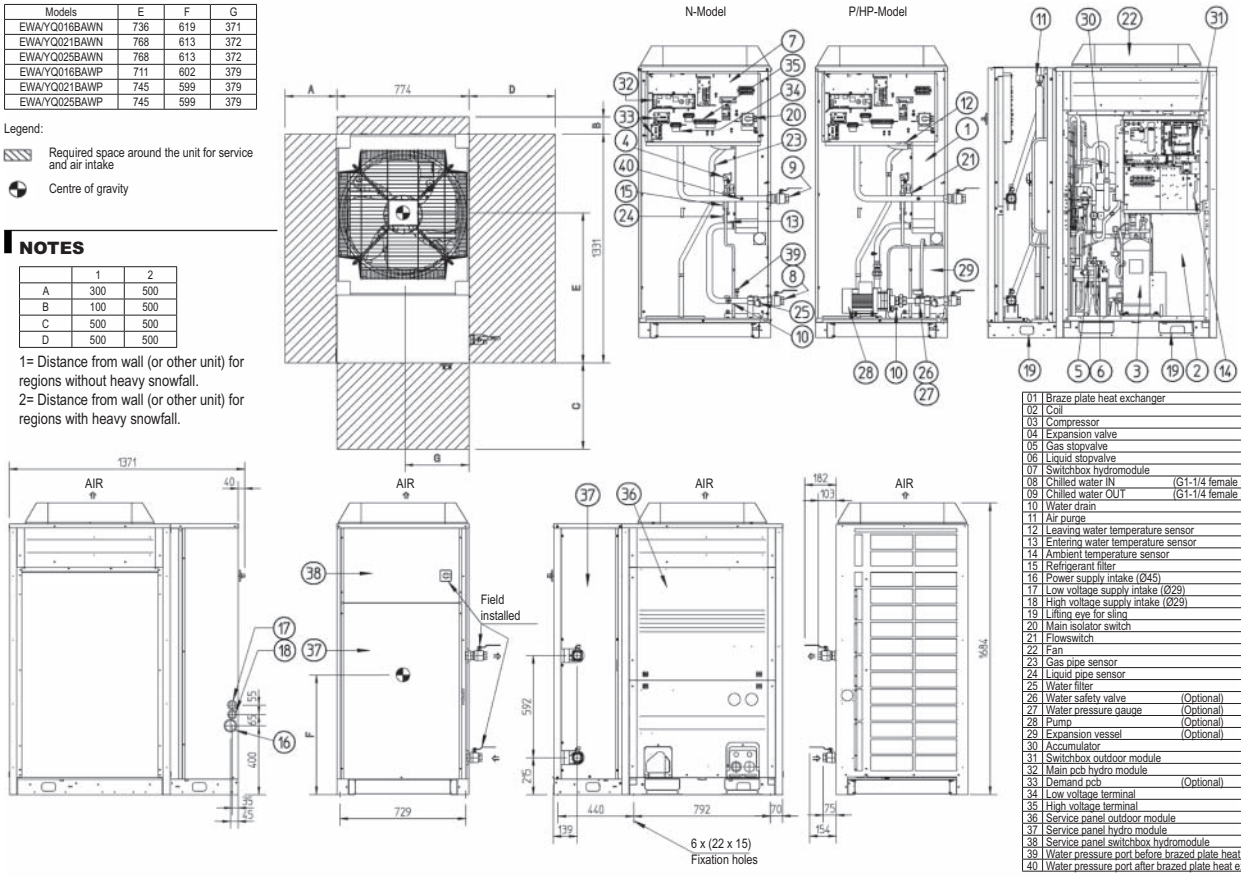
Required space around the unit for service and air intake

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	(G1-1/4 female shutoff valve)
09	Chilled water OUT	(G1-1/4 female 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	

3TW60724-1A

EWA/YQ32BA

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

Legend:

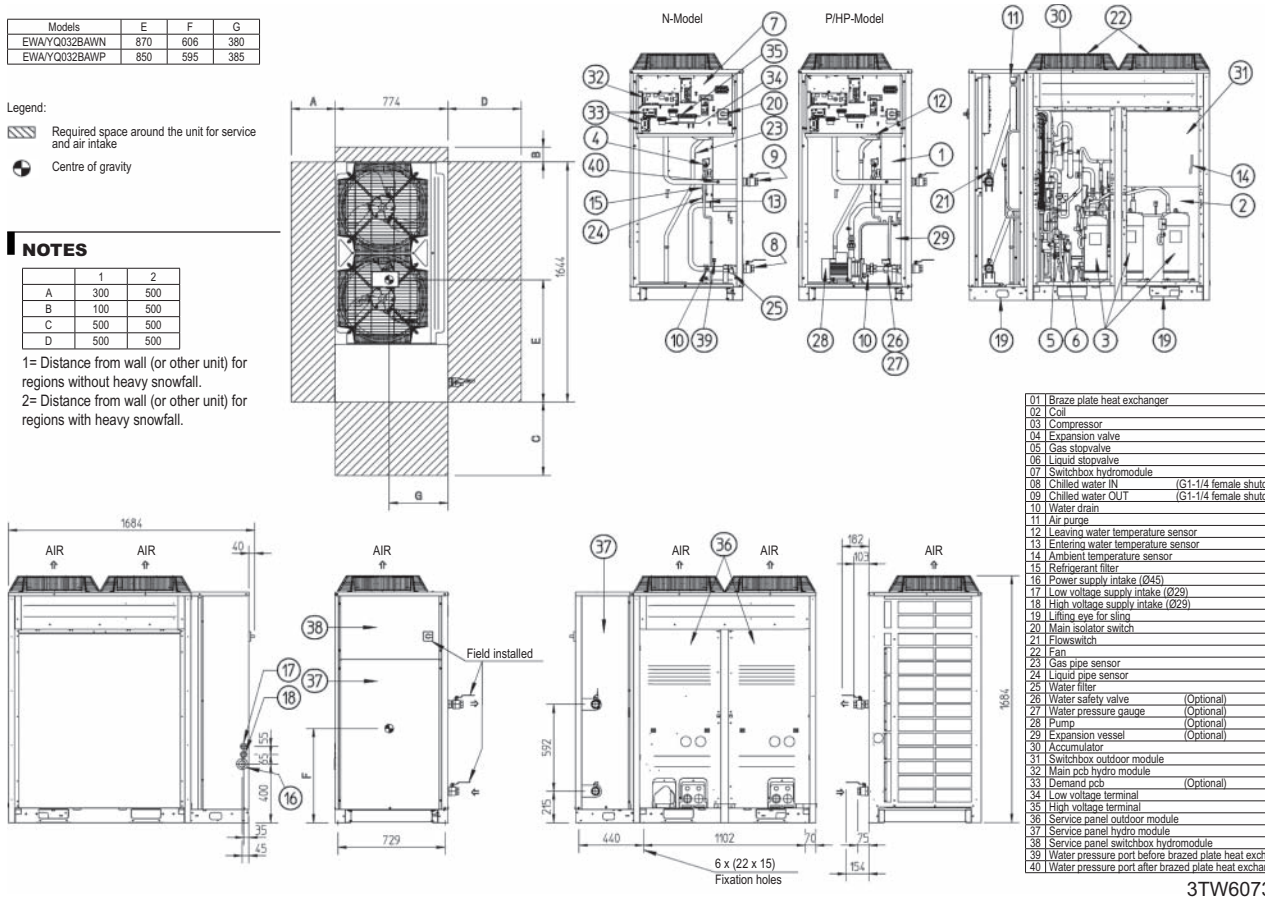
Required space around the unit for service and air intake

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	(G1-1/4 female shutoff valve)
09	Chilled water OUT	(G1-1/4 female 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	

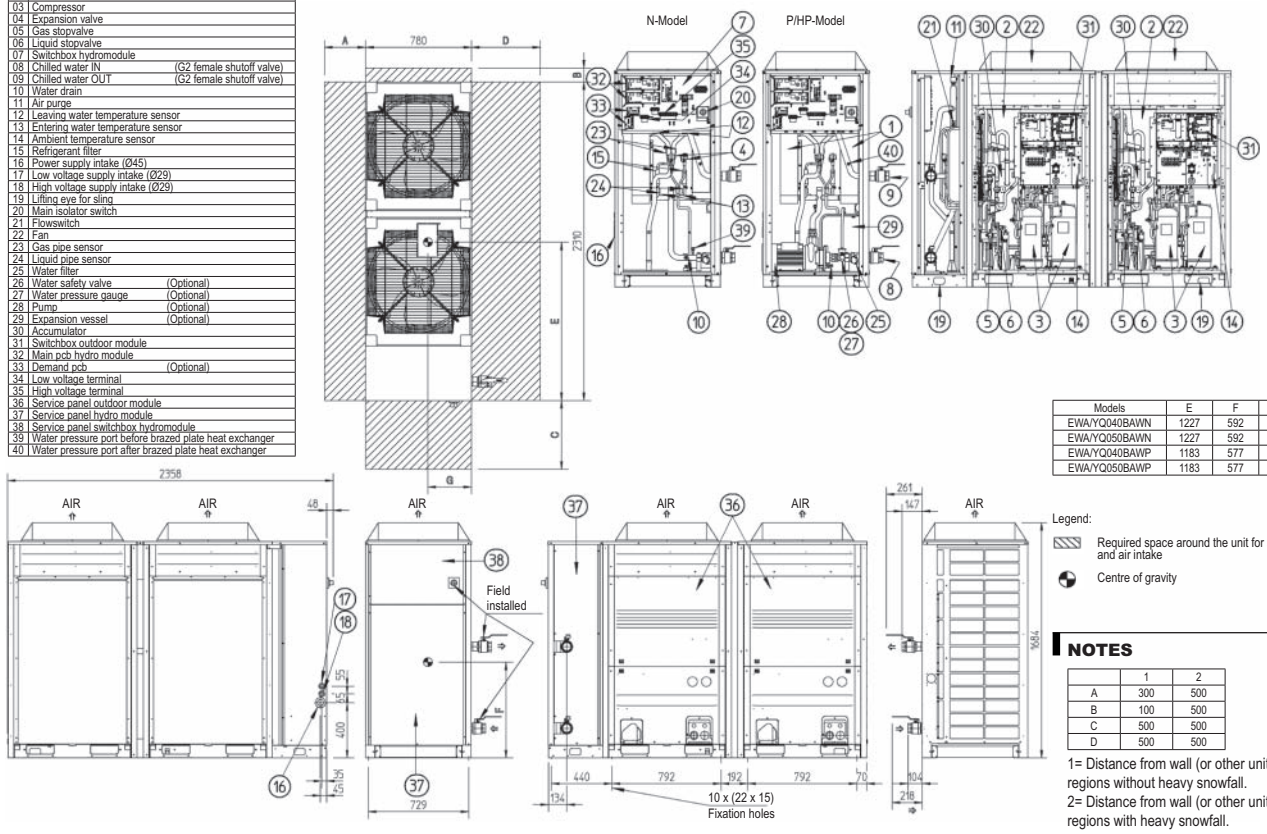
3TW60734-1A

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	(G2 female shutoff valve)
09	Chilled water OUT	(G2 female 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

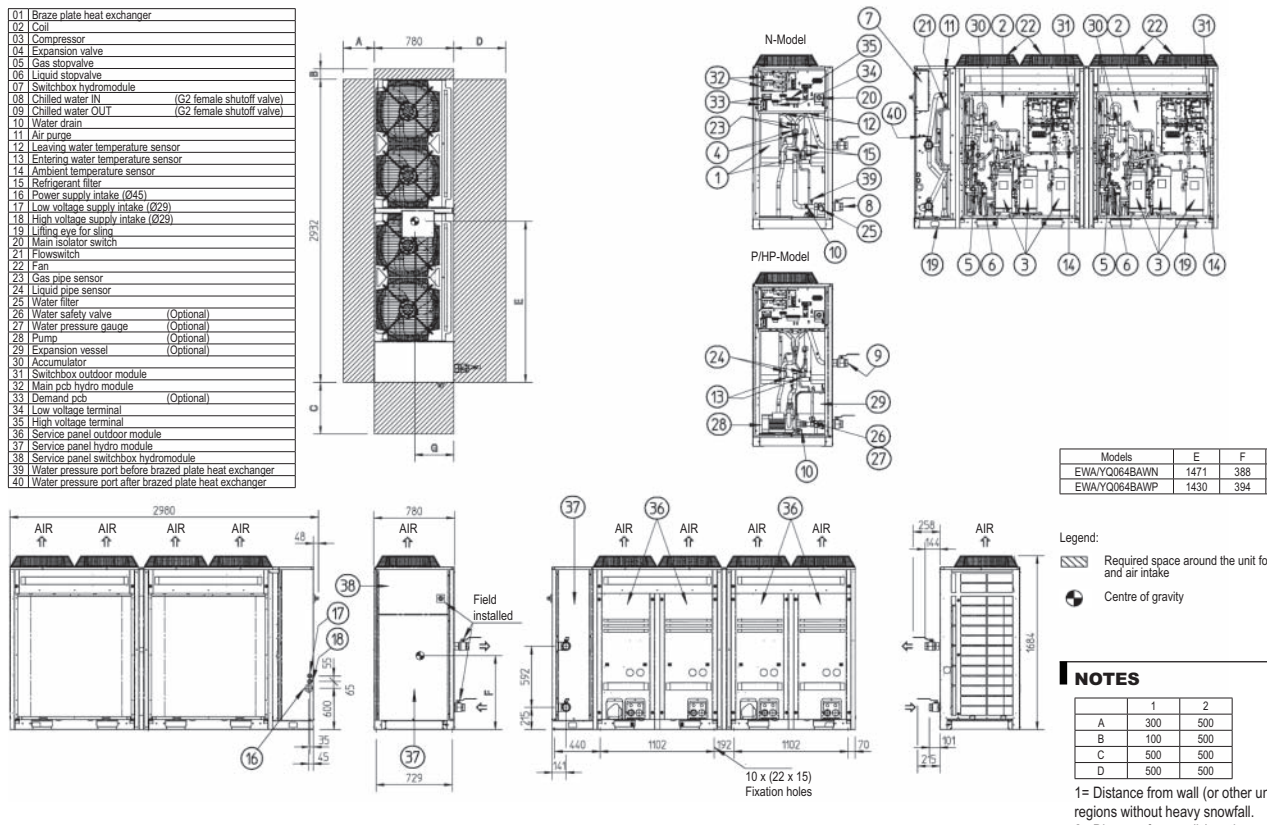
	1	2
A	300	500
B	100	500
C	500	500
D	500	500

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

3TW60754-1A

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	(G2 female shutoff valve)
09	Chilled water OUT	(G2 female 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.

3TW60774-1A

6 Piping diagrams

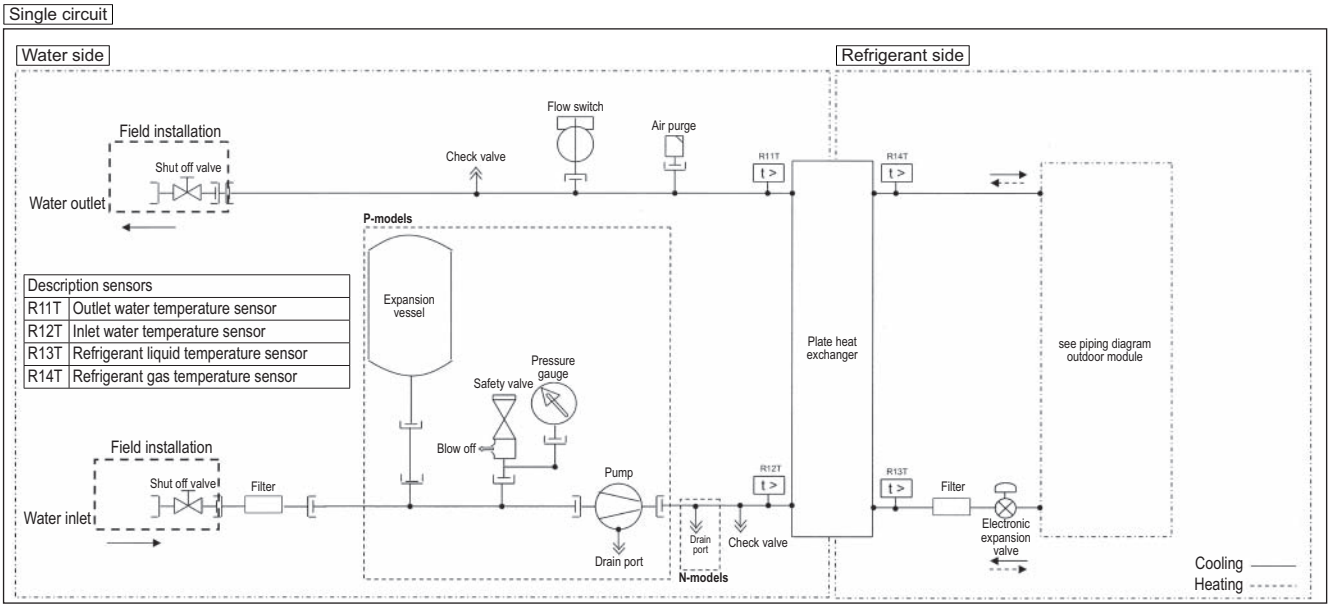
6 - 1 Piping Diagrams

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

Overview

Outdoor module piping diagram		Small inverter chiller - Outdoor module combination						
		Single circuit				Double circuit		
		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



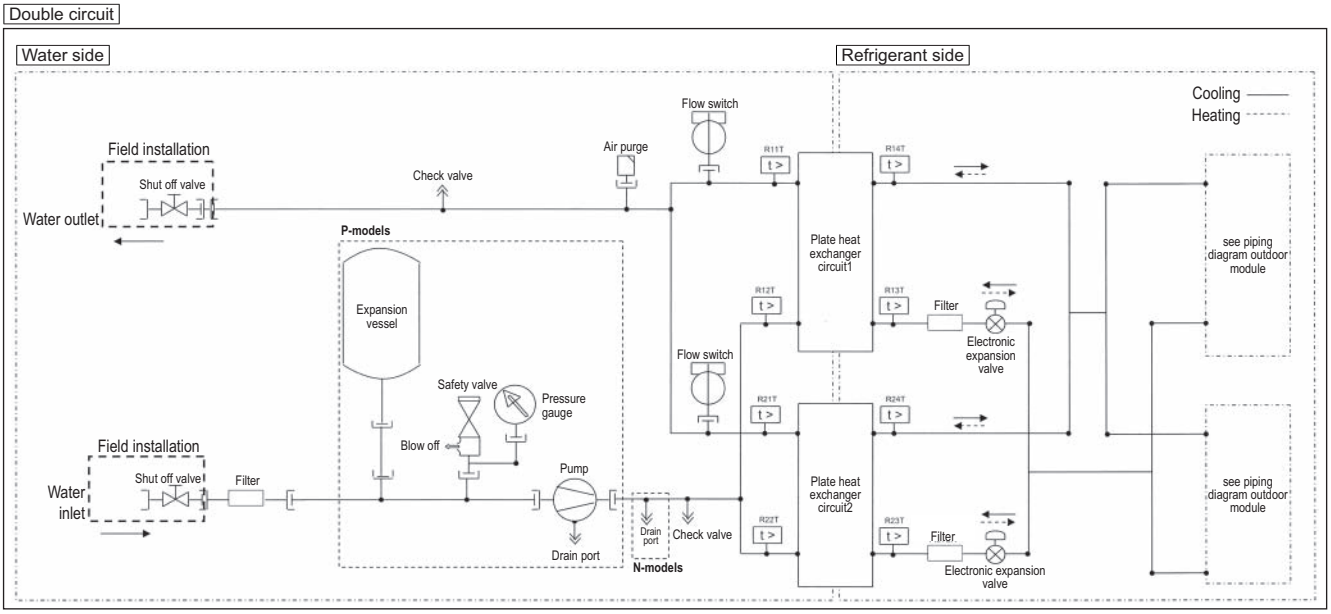
Description sensors	
R11T	Outlet water temperature sensor
R12T	Inlet water temperature sensor
R13T	Refrigerant liquid temperature sensor
R14T	Refrigerant gas temperature sensor

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

3TW60715-1(1)

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

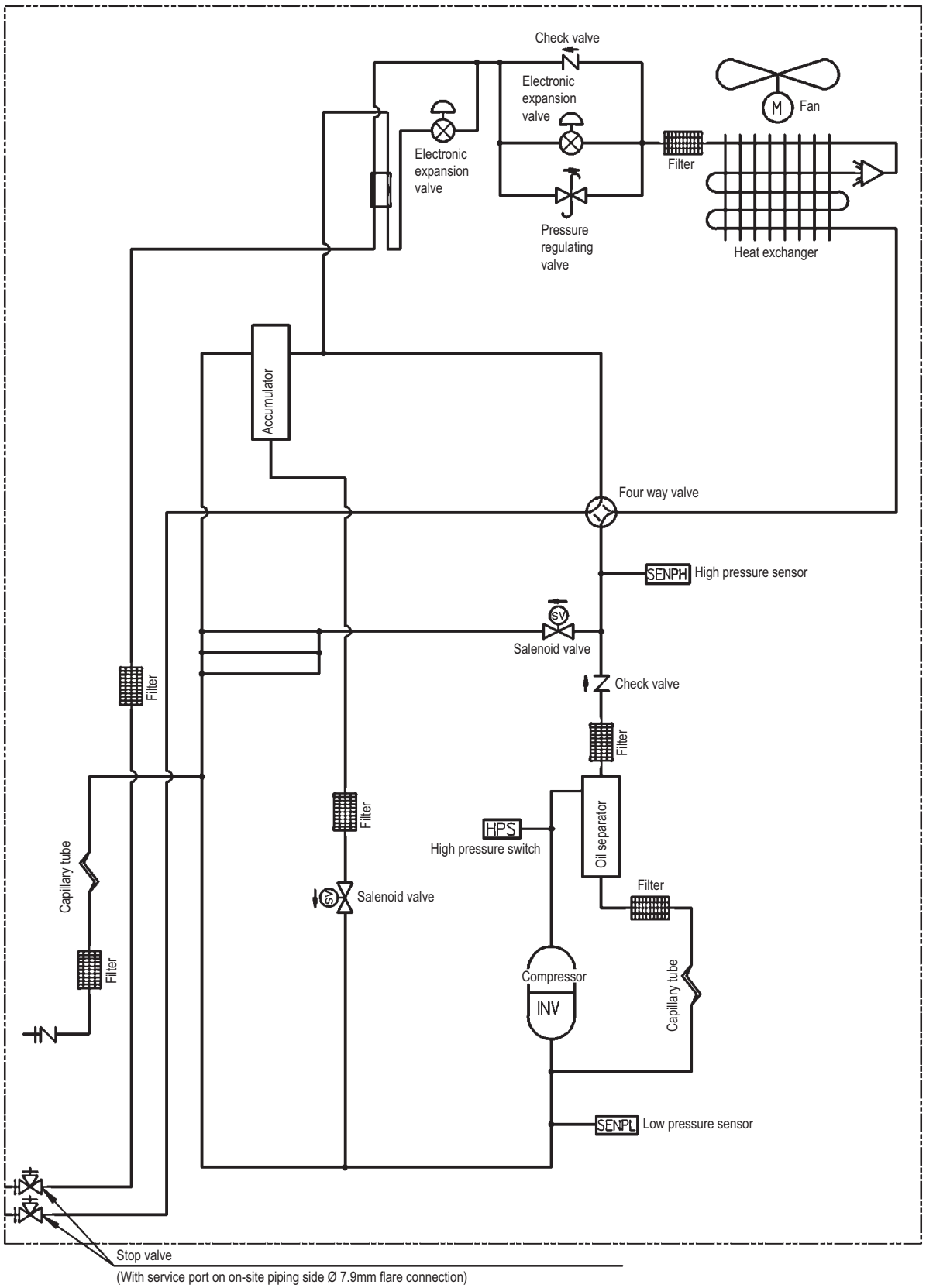
Check valve | Flare conn. | Screw conn. | Flange conn. | Pinched pipe | Spinned pipe

3TW60715-1(2)

6 Piping diagrams

6 - 1 Piping Diagrams

EWYQ16BA

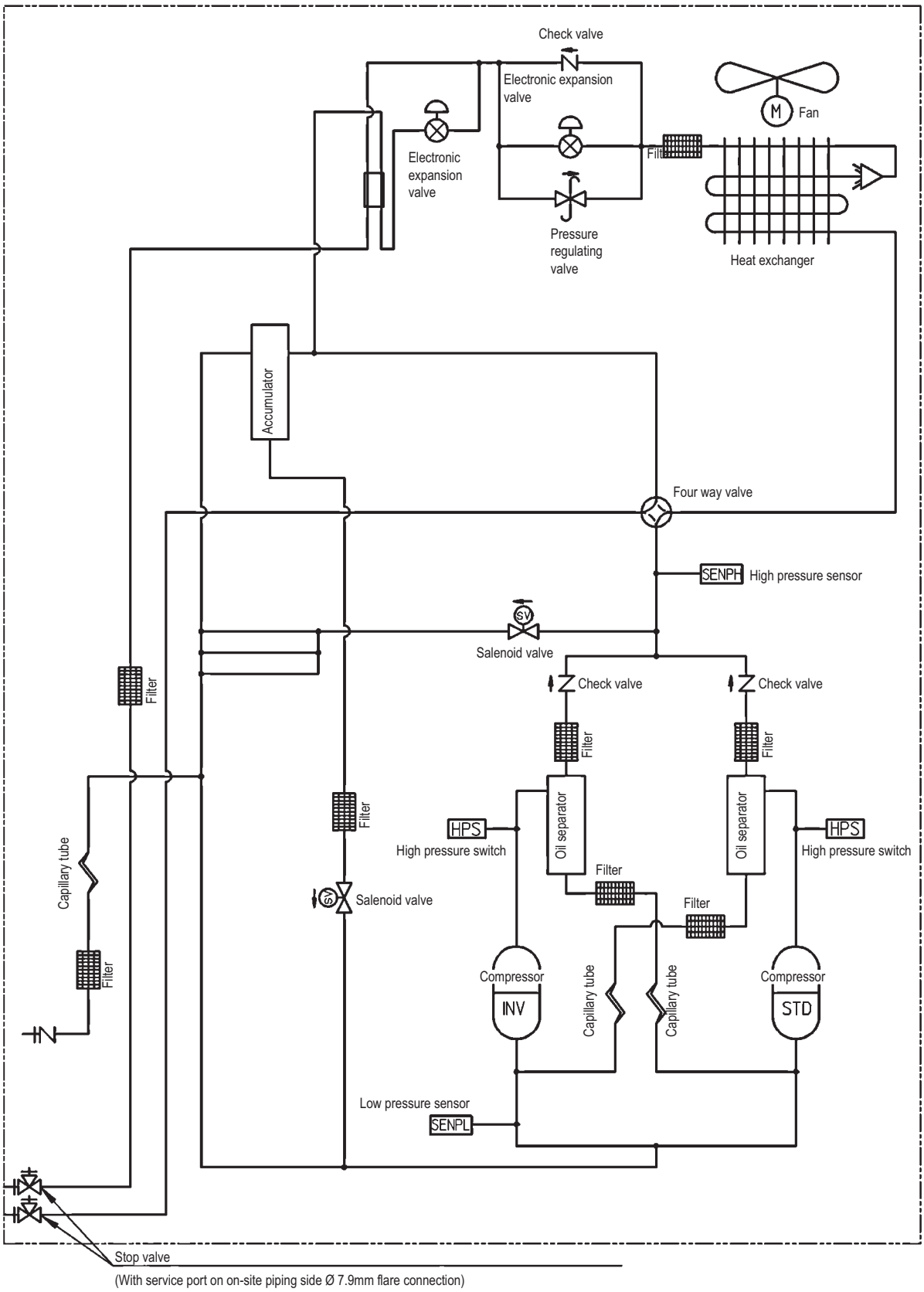


4TW27245-1

6 Piping diagrams

6 - 1 Piping Diagrams

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

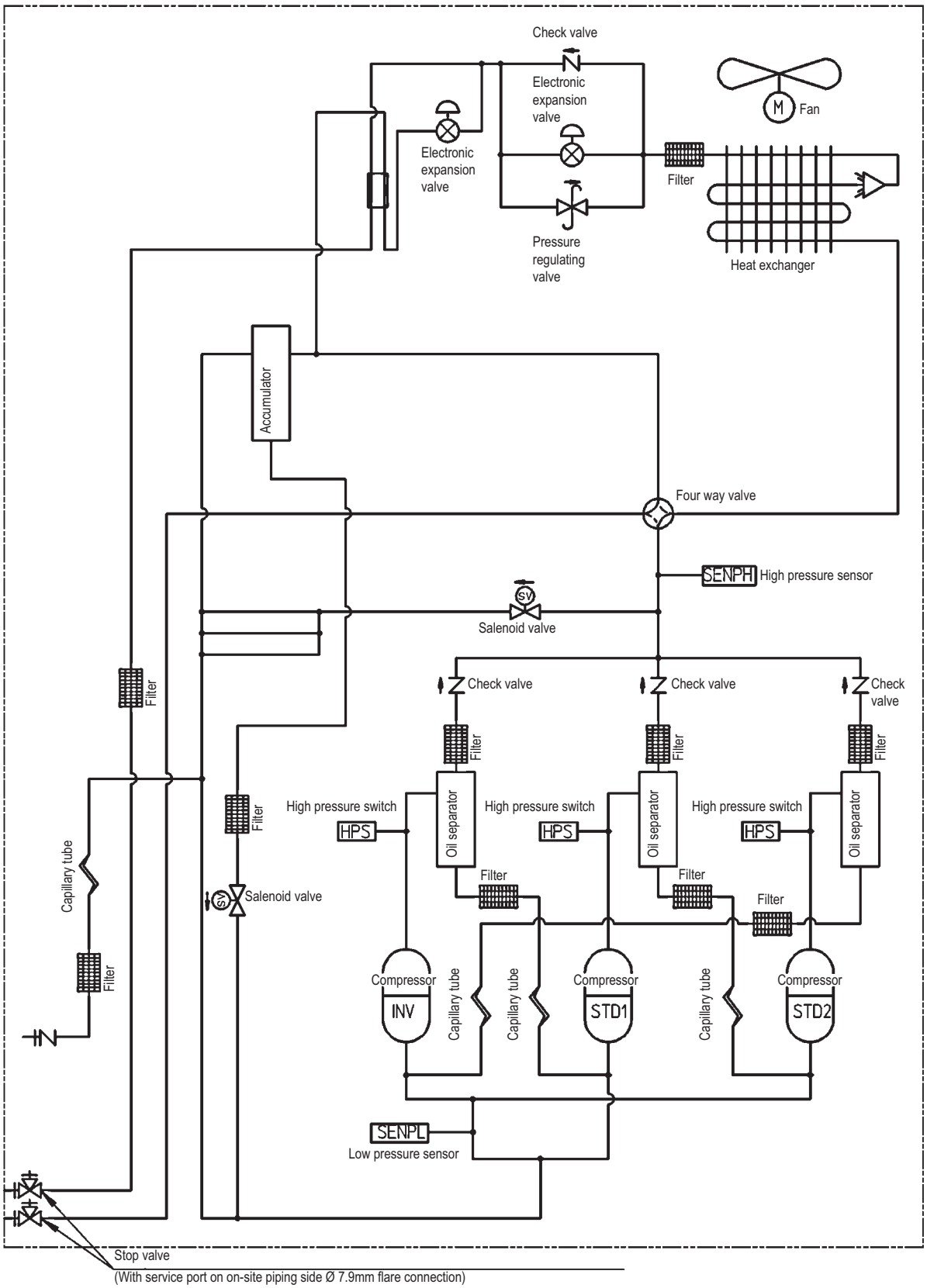


4TW27255-1

6 Piping diagrams

6 - 1 Piping Diagrams

EWYQ32,64BA



4TW27275-1

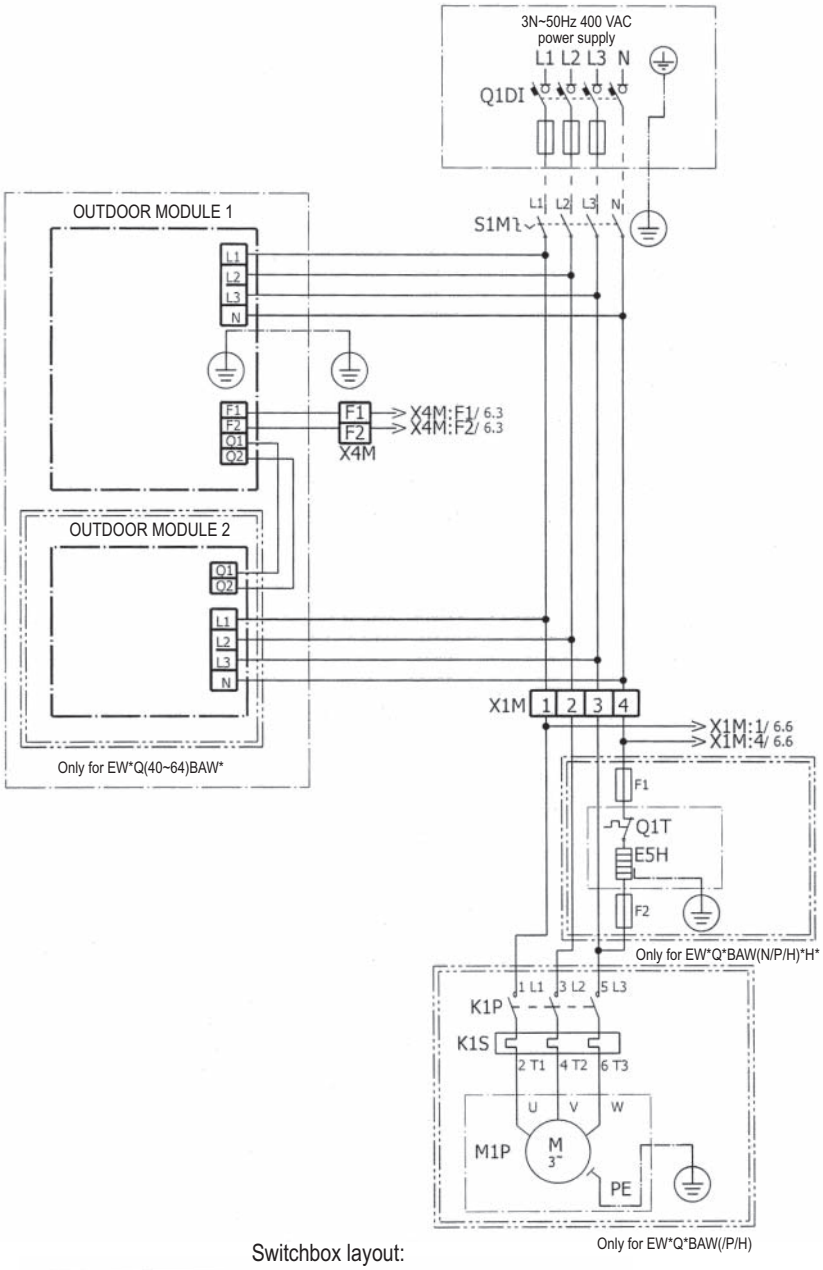
7 Wiring diagrams

7 - 1 Wiring Diagrams - Three Phase

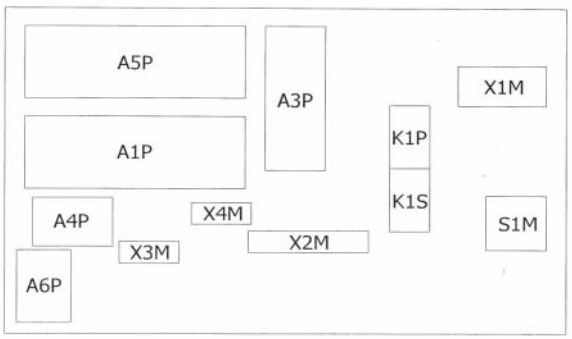
EWA/YQ-BA

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		Termnial strip
X801M (A*P)	*	PCB terminal strip
Z1F-Z2F (A*P)		Noise filter

* : Field installed option # : Field supplied



Switchbox layout:



4TW60726-1B

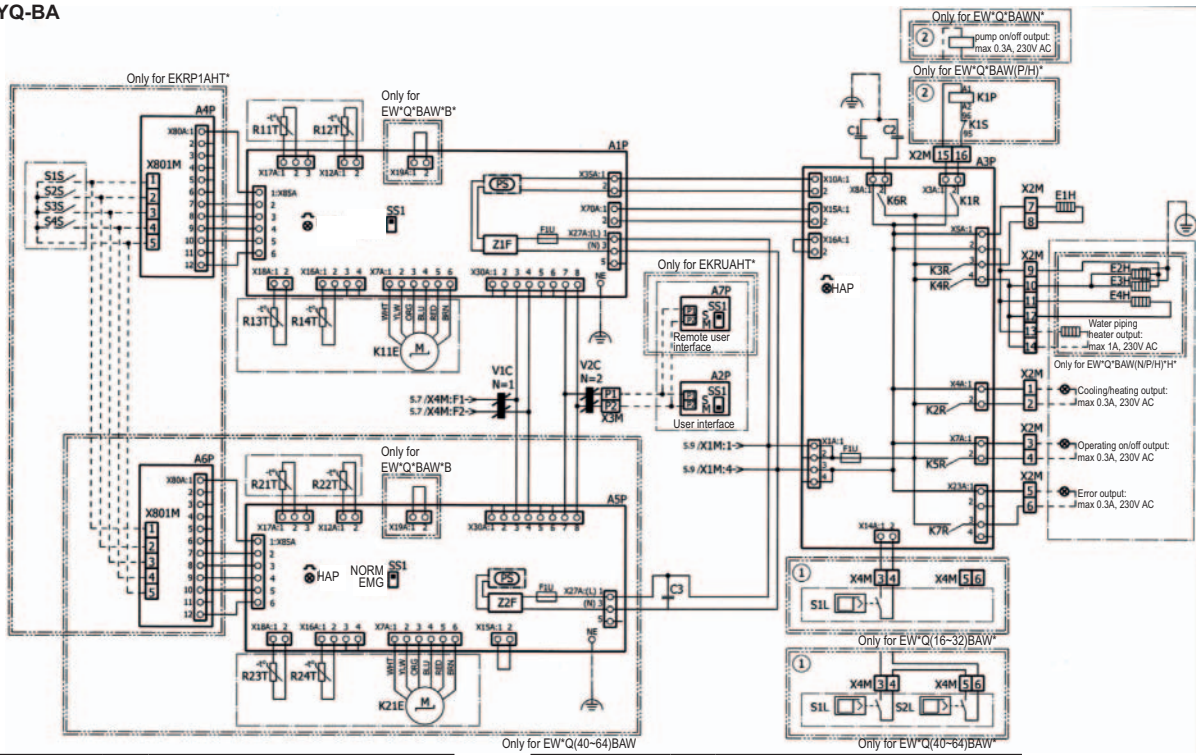
NOTES

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; -**/12.2: Connection ** continues on page 12 column 2; ① Several wiring possibilities
3. User installed optons:
   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

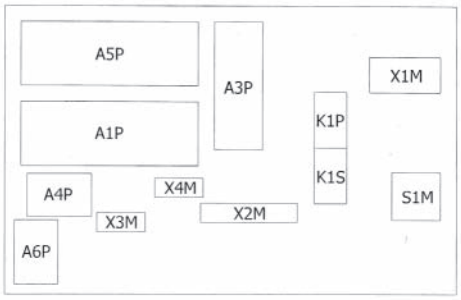
EWA/YQ-BA



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		Termnial strip
X801M (A*P)	*	PCB terminal strip
Z1F-Z2F (A*P)		Noise filter

* : Field installed option # : Field supplied

Switchbox layout:



4TW60726-1B

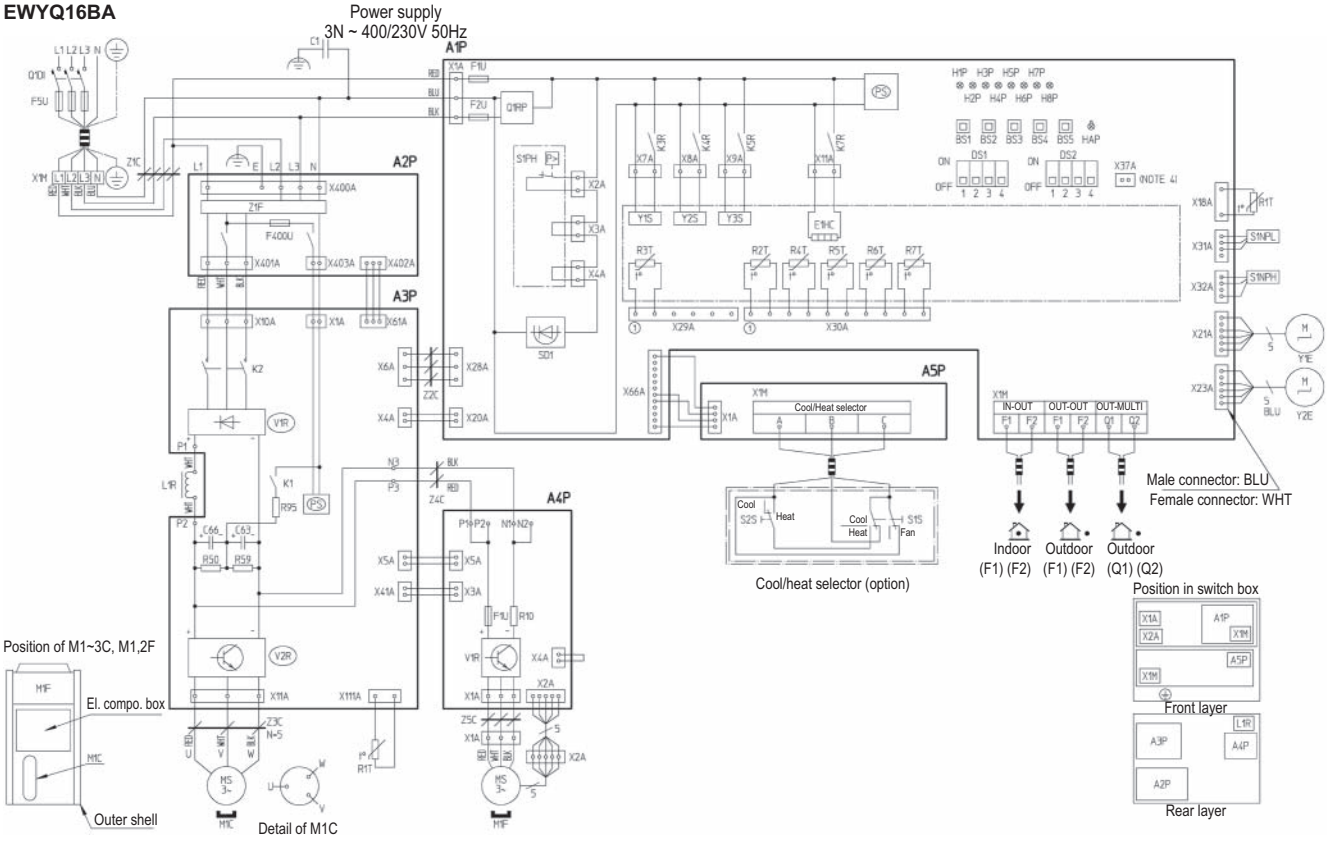
NOTES

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; -**/12.2: Connection ** continues on page 12 column 2; ① Several wiring possibilities
3. User installed optons:
   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

EWYQ16BA



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
	A3P: Inverter			R2T: Suction	R6T: Liquid pipe
BS1~BS5	Push button switch (Mode, set, return, test, reset)			R3T: M1C Discharge	R7T: Accumulator
			R50, R59	Resistor	
C1	Capacitor		R95	Resistor (current limiting)	
C63,C66	Capacitor		S1NPH	Pressure sensor (high)	
DS1, DS2	Dip switch		S1NPL	Pressure sensor (low)	
E1HC	Crankcase heater		S1PH	Pressure switch (high)	
F1U	Fuse (250V, 8A Ⓑ) (A4P)		SD1	Safety devices input	
F1U, F2U	Fuse (250V, 3.15A Ⓣ) (A1P)		V1R	Power module (A4P)	
F5U	Field fuse		V1R, V2R	Power module (A3P)	
F400U	Fuse (250V, 6.3A Ⓣ) (A2P)		X1A~X2A	Connector (M1F)	
H1P~H8P	Pilotlamp (service monitor - orange) [H2P] Prepare, Test---------- Flickering Malfunction detection ---------- Light up		X1M	Terminal strip (power supply)	
			X1M	Terminal strip (control) (A1P)	
			X1M	Terminal strip (A5P)	
HAP	Pilotlamp (service monitor - green)		Y1E	Electronic expansion valve (main)	
K1	Magnetic relay		Y2E	Electronic expansion valve (subcool)	
K2	Magnetic contactor (M1C)		Y1S~Y3S	Solenoid valve	
K3R~K7R	K3R: Y1S	K5R: Y3S		Y1S: Hot gas	Y3S: 4 way valve
	K4R: Y2S	K7R: E1HC		Y2S: Oil return	
L1R	Reactor		Z1C~5C	Noise filter (ferrite core)	
M1C	Motor (Compressor)		Z1F	Noise filter (With surge absorber)	
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

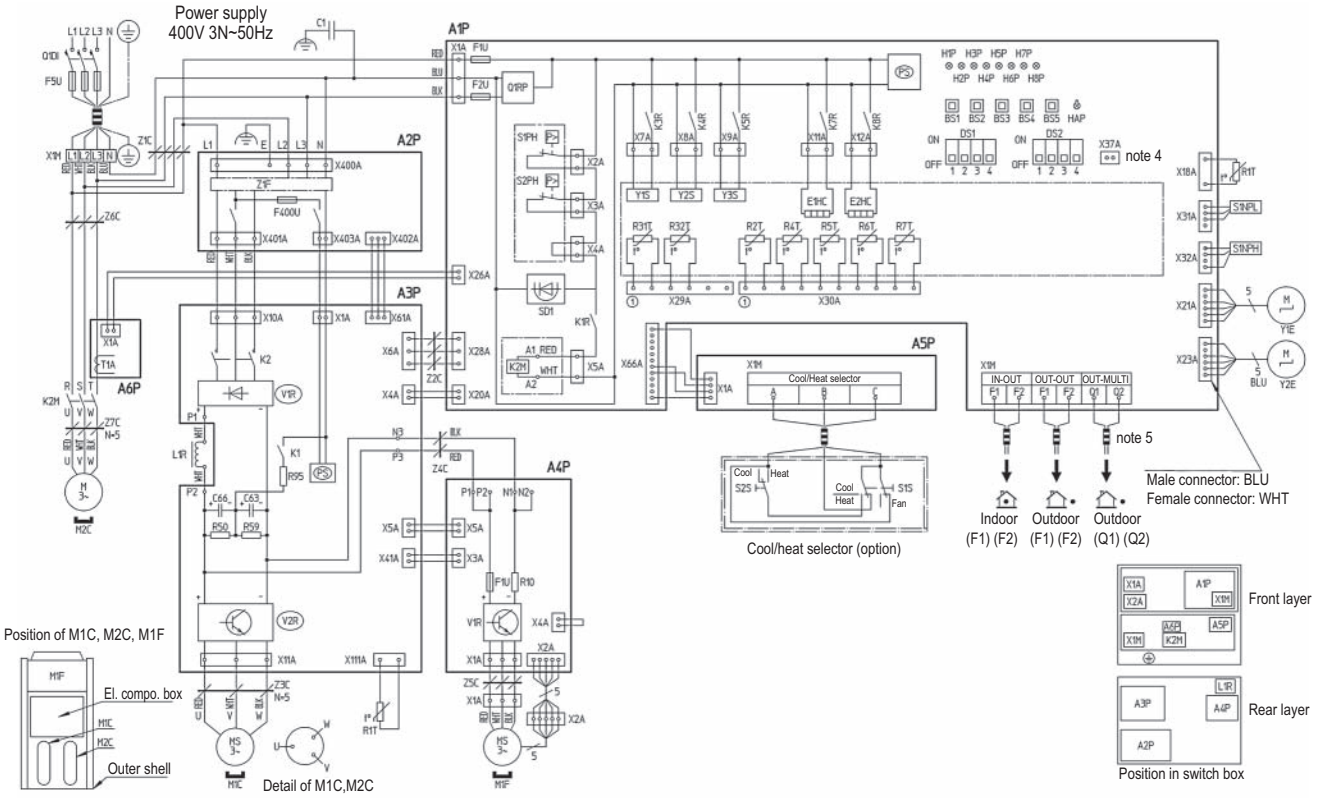
NOTES

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, outdoor-multi transmission Q1-Q2 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

EWYQ21,40BA



A1P-A6 P	Printed circuit board		Q1DI	Earth leakage breaker	
	A1P: Main	A4P: Fan	R10	Resistor (current sensor) (A4P)	
	A2P: Noise filter	A5P: ABC I/P	R1T~R7T R31T,R32T	Thermistor	
	A3P: Inverter	A6P: Current sensor		R1T: AIR (A1P)	R4T: Heat exch. deicer
BS1~BS5	Push button switch (Mode, set, return, test, reset)			R1T: FIN (A3P)	R5T: Heat exch. outlet
C1	Capacitor			R2T: Suction	R6T: Liquid pipe
C63,C66	Capacitor			R31T: M1C Discharge	R7T: Accumulator
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) [H2P] Prepare, Test---------- Flickering Malfunction detection ---------- Light up		V1R	Power module (A4P)	
			V1R, V2R	Power module (A3P)	
			X1A,X2A	Connector (M1F)	
			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 relais (K2M)		Y1S~Y3S	Solenoid valve	
K3R~K8R	K3R: Y1S	K7R: E1HC		Y1S: Hot gas	Y3S: 4 way valve
	K4R: Y2S	K8R: E2HC		Y2S: Oil return	
	K5R: Y3S		Z1C~Z7C	Noise filter (ferrite core)	
L1R	Reactor		Z1F	Noise filter (With surge absorber)	
M1C,M2C	Motor (Compressor)				
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

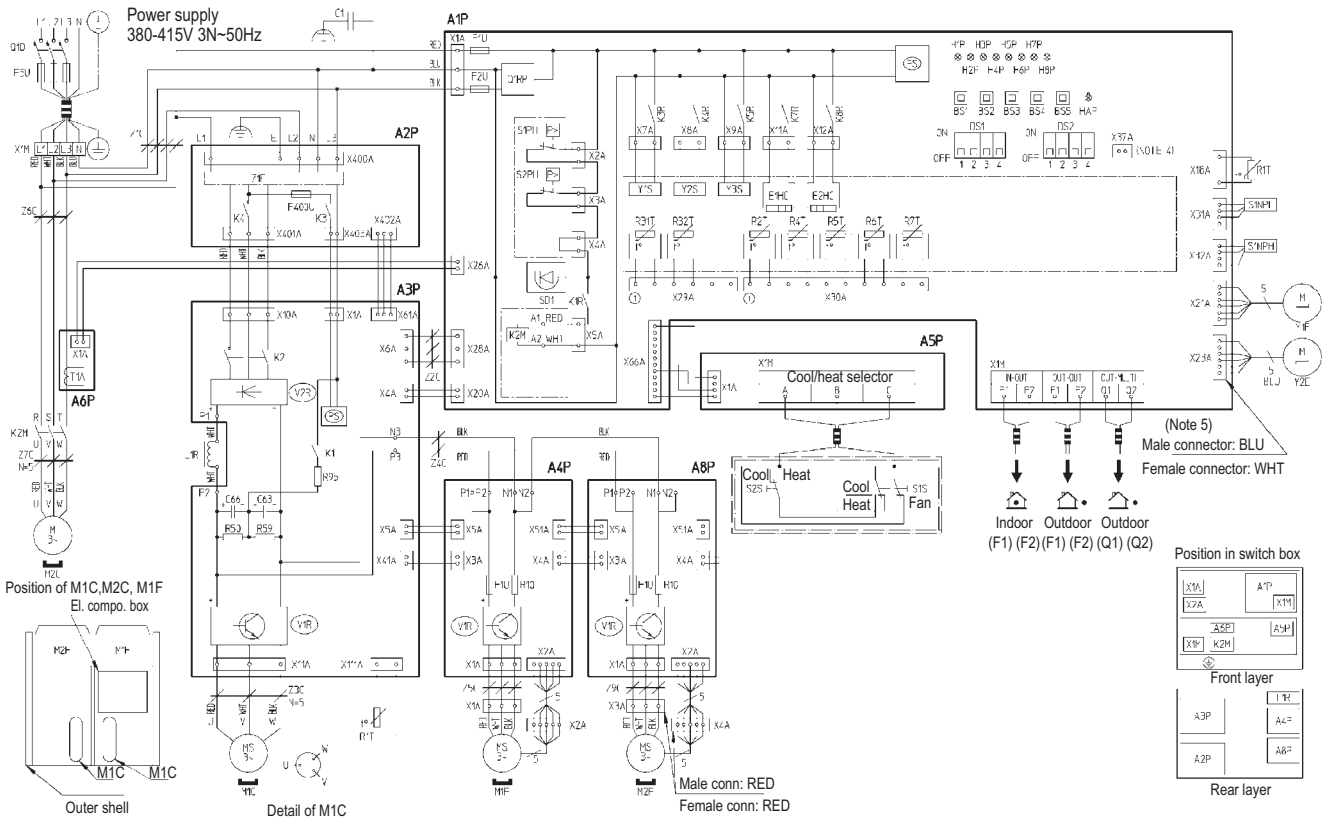
NOTES

1. This wiring diagram only applies to the outdoor unit
2. ▬▮▮▮▬ : field wiring,
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, outdoor-multi transmission Q1-Q2 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

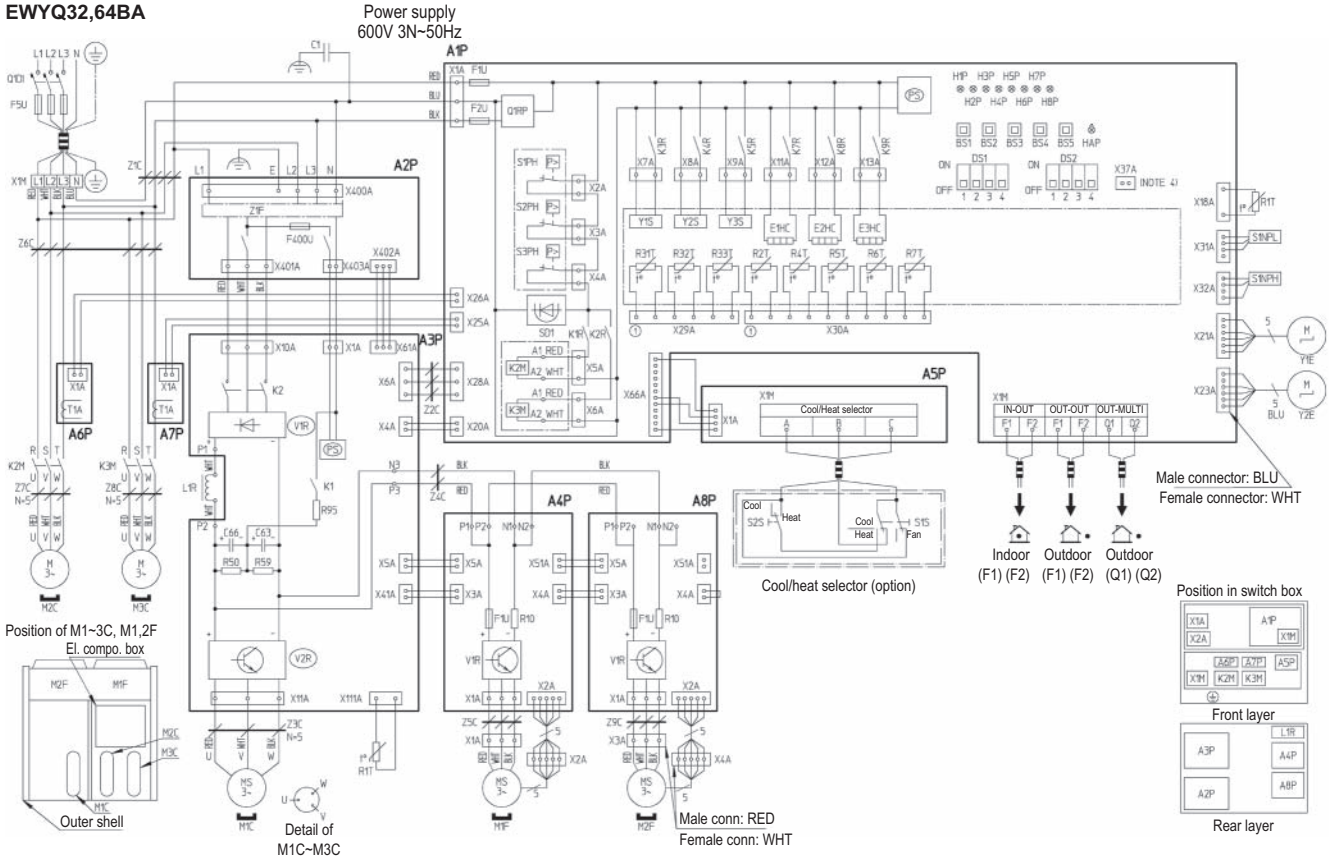
NOTES

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

EWYQ32,64BA



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
	A3P: Inverter	A6P, A7P: Current sensor		R2T: Suction	R5T: Heat exch. outlet
BS1~BS5	Push button switch (Mode, set, return, test, reset)			R31T: M1C Discharge	R6T: Liquid pipe
				R32T: M1C Discharge	R7T: Accumulator
C1	Capacitor		R50, R59	Resistor	
C63,C66	Capacitor		R95	Resistor (current limiting)	
DS1, DS2	Dip switch		S1NPH	Pressure sensor (high)	
E1HC~E3HC	Crankcase heater		S1NPL	Pressure sensor (low)	
F1U	Fuse (250V, 8A Ⓑ) (A4P)		S1PH~S3PH	Pressure switch (high)	
F1U, F2U	Fuse (250V, 3.15A Ⓣ) (A1P)		T1A	Current sensor (A6P, A7P)	
F5U	Field fuse		SD1	Safety devices input	
F400U	Fuse (250V, 6.3A Ⓣ) (A2P)		V1R	Power module (A4P, A8P)	
H1P~H8P	Pilotlamp (service monitor - orange) [H2P] Prepare, Test---------- Flickering Malfunction detection ---------- Light up		V1R, V2R	Power module (A3P)	
			X1A~X4A	Connector (M1F)	
HAP	Pilotlamp (service monitor - green)		X1M	Terminal strip (power supply)	
K1	Magnetic relay		X1M	Terminal strip (control) (A1P)	
K2	Magnetic contactor (M1C)		X1M	Terminal strip (A5P)	
K2M, K3M	Magnetic contactor (M2C, M3C)		Y1E	Electronic expansion valve (main)	
K1R, K2R	Magnetic relais (K2M, K3M)		Y2E	Electronic expansion valve (subcool)	
K3R~K9R	K3R: Y1S	K7R: E1HC	Y1S~Y3S	Solenoid valve	
	K4R: Y2S	K8R: E2HC		Y1S: Hot gas	Y3S: 4 way valve
	K5R: Y3S	K9R: E3HC		Y2S: Oil return	
L1R	Reactor		Z1C~Z9C	Noise filter (ferrite core)	
M1C~M2C	Motor (Compressor)		Z1F	Noise filter (With surge absorber)	
M1F, M2F	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)	
Q1DI	Earth leakage breaker				
R10	Resistor (current sensor) (A4P, A8P)				

2TW27276-1A

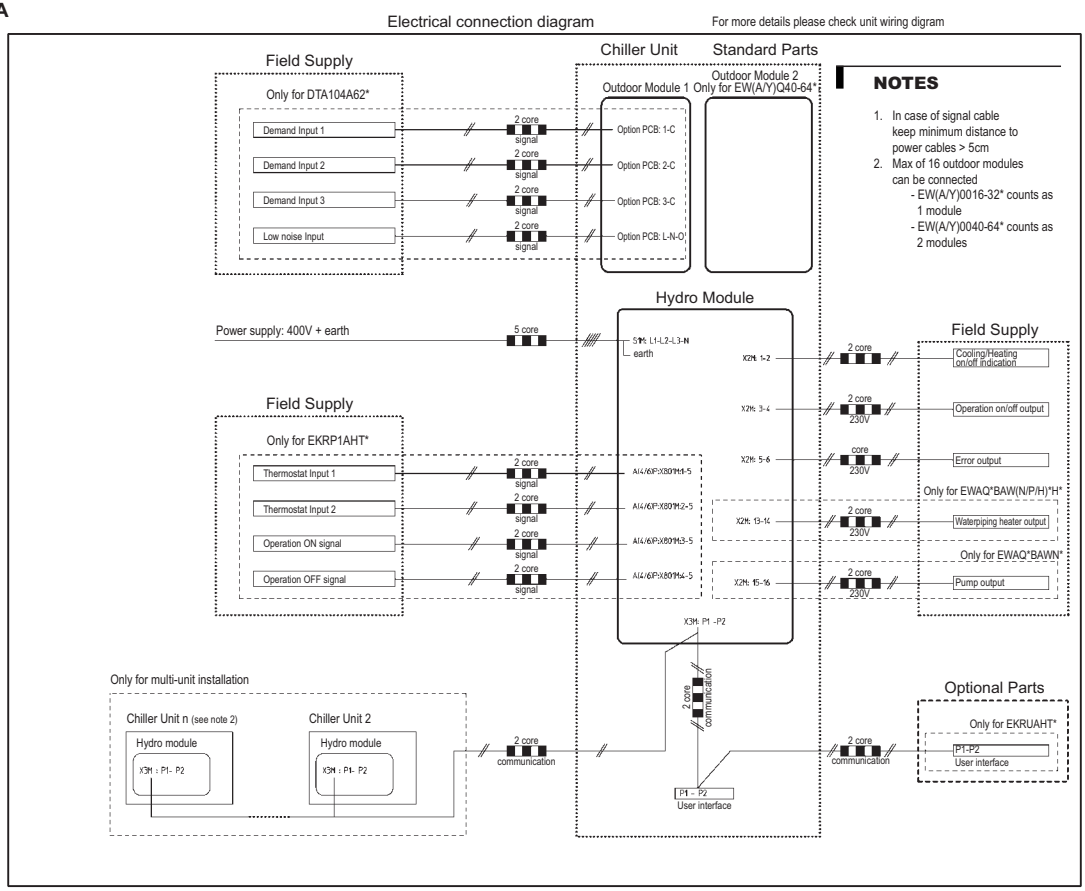
NOTES

1. This wiring diagram only applies to the outdoor unit
2. ▬▮▮▮▬ : field wiring,
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	77	73	66	60	53	78
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	80	76	69	63	56	81
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

4TW60717-1A

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.

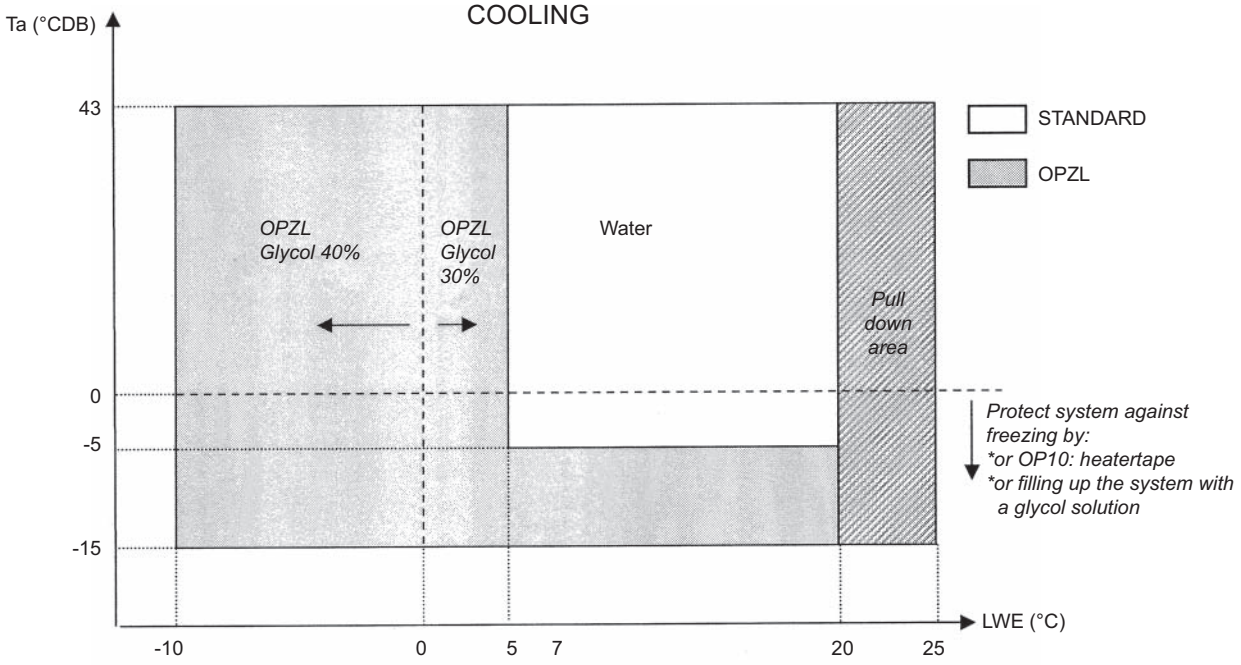
3TW50179-1

11 Operation range

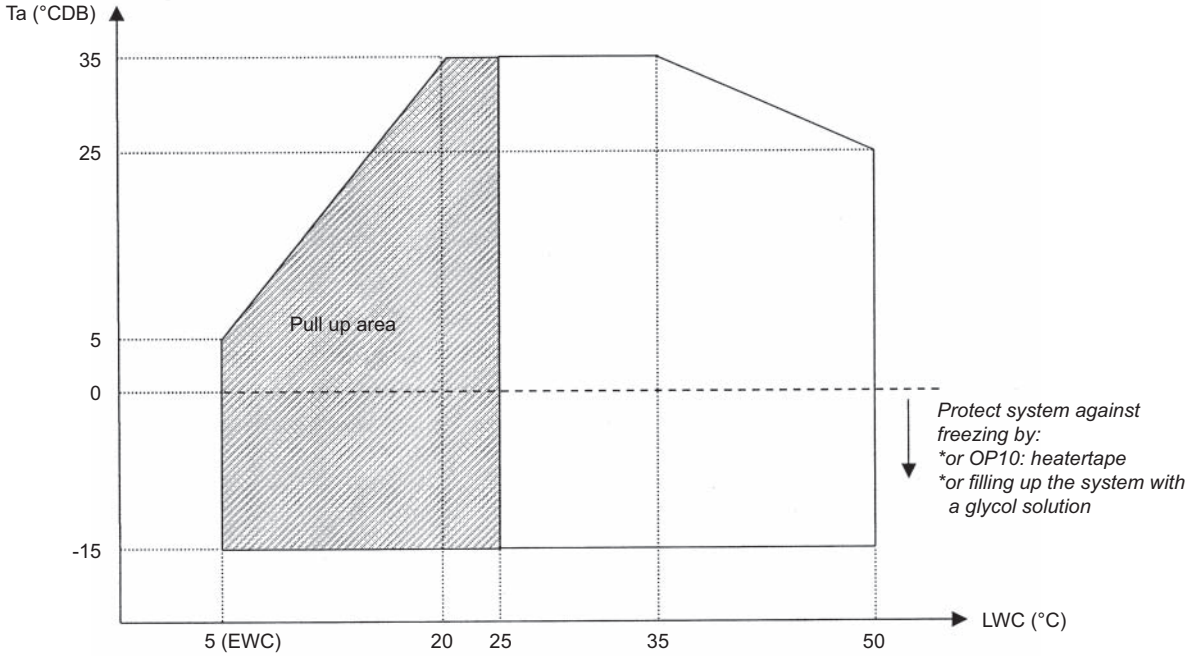
11 - 1 Operation Range

EWYQ-BA

COOLING



HEATING



SYMBOLS

Ta : Ambient temperature dry bulb (°C)
LWE : Leaving water eveaporator temperature (°C)
LWC : Leaving water condenser temperature (°C)
EWC : Entering water

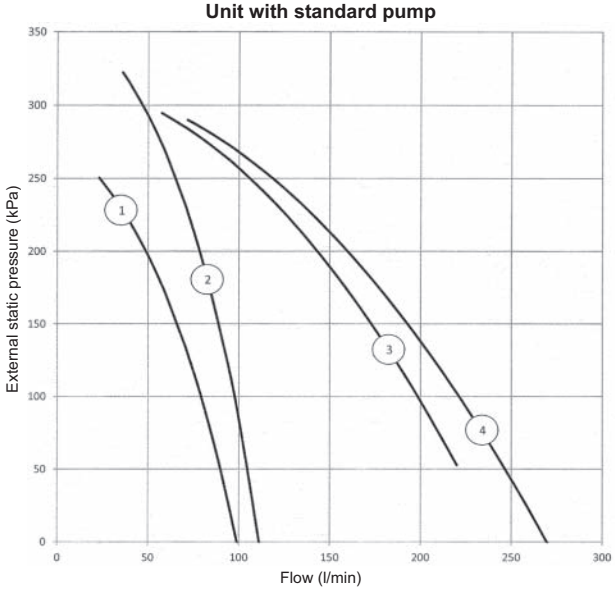
4TW60713-1B

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

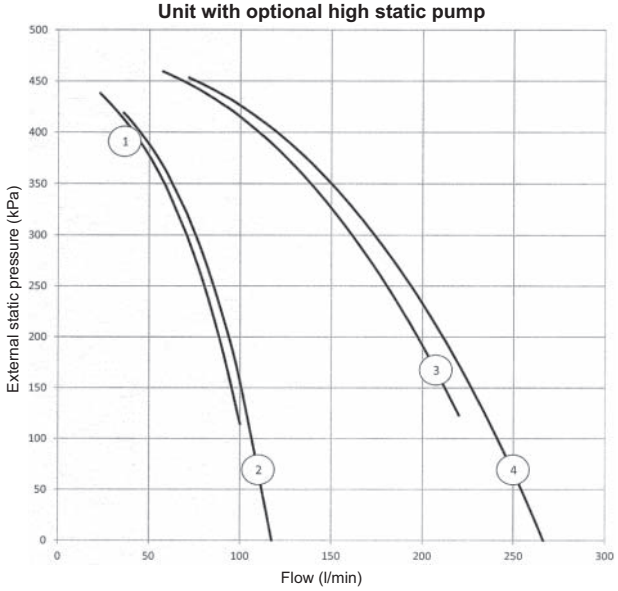
4TW60719-3 (1)

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

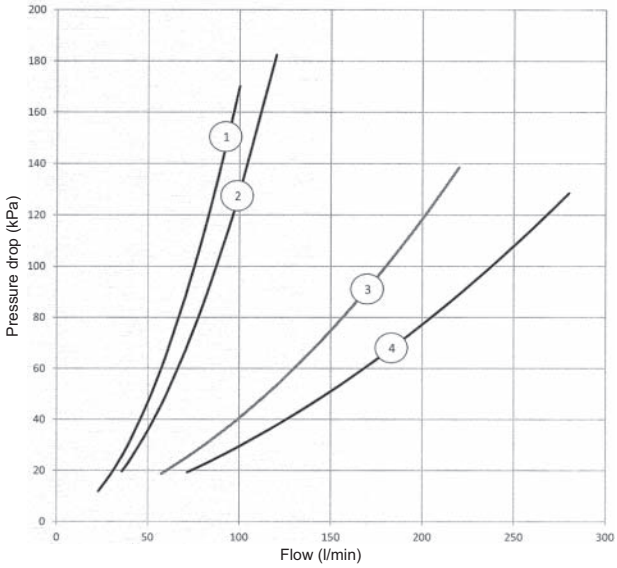
4TW60719-3 (2)

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.

Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.

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