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## EUW5-72HZ

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\* Please note that all data are preliminary !

# 1

## Features



- One of the smallest units in the market
- Optimised design for use with R-407C
- Special Daikin R-407C scroll compressor
- Extremely small footprint and modular design
- Control on evaporator or condensor side is possible
- Compatible with hydraulic module

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## 2 Specifications



NOMINAL CAPACITY, CAPACITY STEPS and NOMINAL INPUT							
UNITS			EUW5HZ	EUW8HZ	EUW10HZ	EUW12HZ	EUW16HZ
NOMINAL CAPACITY	Cooling	kW	13.0	21.5	27.5	32.5	43.0
CAPACITY STEPS			1	1	1	1	2
NOMINAL INPUT	Cooling	kW	3.71	5.80	7.80	9.10	11.2

TECHNICAL SPECIFICATIONS								
UNITS				EUW5HZ	EUW8HZ	EUW10HZ	EUW12HZ	EUW16HZ
DIMENSIONS	Unit	H	mm	600	600	600	600	600
		W	mm	600	600	600	600	600
		D	mm	600	600	600	600	1,200
WEIGHT	Machine weight		kg	113	150	160	167	300
MATERIAL				Polyester painted steel plate				
COLOUR				Ivory white / Munsell code 5Y7.5/1				
SOUND LEVEL	Sound pressure		dB(A)	–	–	–	–	–
	Sound power		dB(A)	64	64	64	64	67
WATER HEAT EXCHANGER	Type			Brased plate heat exchanger				
	Qty			1	1	1	1	1
	Minimum water volume in the system		l	62	103	134	155	205
	Water flow range (min/max)		l/min	19/68	31/115	39/144	47/155	60/229
	Insulation material			Polyethylene foam				
AIR HEAT EXCHANGER	Type			Brased plate heat exchanger				
	Qty			1	1	1	1	1
	Water flow range (min/max)		m <sup>2</sup>	24/87	39/147	51/186	60/229	78/295
REFRIGERANT CIRCUIT	Refrigerant type			R-407C				
	Refrigerant charge		kg	1.2	2	2.3	2.7	4,6
	No. of circuits			1	1	1	1	2
	Refrigerant control			Thermostatic expansion valve				
COMPRESSOR	Type x qty			Hermetically sealed scroll				
	No. of compressors			1	1	1	1	2
	Speed		rpm	2,900	2,900	2,900	2,900	2,900
	Refrigerant oil type			FVC68D				
	Refrigerant oil charge		l	1.5	2.7	2.7	2.7	2 x 2.7
PIPING CONNECTIONS	Evap. water in/outlet			MBSP 1"				MBSP 1.5"
	Condenser water in/outlet			MBSP 1"				MBSP 1.5"
	Evaporator water drain			Field installation				
	Relief device outlet			Field installation				
SAFETY DEVICES				High pressure switch / Low pressure switch / Freeze-up protection / Reverse phase protector / Discharge temperature protection / Compressor motor overcurrent / Anti recycling timer / Guard timer				

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## 2 Specifications



NOMINAL CAPACITY, CAPACITY STEPS and NOMINAL INPUT							
UNITS			EUW20HZ	EUW24HZ	EUW32HZ	EUW36HZ	EUW40HZ
NOMINAL CAPACITY	Cooling	kW	55.0	65.0	86.0	98.0	110
CAPACITY STEPS			2	2	4	4	4
NOMINAL INPUT	Cooling	kW	15.6	18.3	22.4	26.8	31.2

TECHNICAL SPECIFICATIONS								
UNITS				EUW20HZ	EUW24HZ	EUW32HZ	EUW36HZ	EUW40HZ
DIMENSIONS	Unit	H	mm	600	600	1,200	1,200	1,200
		W	mm	600	600	600	600	600
		D	mm	1,200	1,200	1,200	1,200	1,200
WEIGHT	Machine weight		kg	320	334	600	620	640
MATERIAL				Polyester painted steel plate				
COLOUR				Ivory white / Munsell code 5Y7.5/1				
SOUND LEVEL	Sound pressure		dB(A)	–	–	–	–	–
	Sound power		dB(A)	67	67	70	70	70
WATER HEAT EXCHANGER	Type			Brased plate heat exchanger				
	Qty			1	1	2	2	2
	Minimum water volume in the system		l	268	311	205	258	268
	Water flow range (min/max)		l/min	79/279	93/311	123/459	140/508	158/558
	Insulation material			Polyethylene foam				
AIR HEAT EXCHANGER	Type			Brased plate heat exchanger				
	Qty			1	1	2	2	2
	Water flow range (min/max)		m²	101/319	119/459	155/590	179/654	202/717
REFRIGERANT CIRCUIT	Refrigerant type			R-407C				
	Refrigerant charge		kg	4.6	5.6	8.8	9.0	9.2
	No. of circuits			2	2	4	4	4
	Refrigerant control			Thermostatic expansion valve				
COMPRESSOR	Type x qty			Hermetically sealed scroll				
	No. of compressors			2	2	4	4	4
	Speed		rpm	2,900	2,900	2,900	2,900	2,900
	Refrigerant oil type			FVC68D				
	Refrigerant oil charge		l	2 x 2.7	2 x 2.7	4 x 2.7	4 x 2.7	4 x 2.7
PIPING CONNECTIONS	Evap. water in/outlet			MBSP 1.5"		2 x 2 x MBSP 1.5"		
	Condenser water in/outlet			MBSP 1.5"		2 x 2 x MBSP 1.5"		
	Evaporator water drain			Field installation				
	Relief device outlet			Field installation				
SAFETY DEVICES				High pressure switch / Low pressure switch / Freeze-up protection / Reverse phase protector / Discharge temperature protection / Compressor motor overcurrent / Anti recycling timer / Guard timer				

## 2 Specifications



NOMINAL CAPACITY, CAPACITY STEPS and NOMINAL INPUT						
UNITS			EUW44HZ	EUW48HZ	EUW52HZ	EUW56HZ
NOMINAL CAPACITY	Cooling	kW	120	130	141	153
CAPACITY STEPS			4	4	6	6
NOMINAL INPUT	Cooling	kW	33.9	36.6	38.0	42.4

TECHNICAL SPECIFICATIONS								
UNITS				EUW44HZ	EUW48HZ	EUW52HZ	EUW56HZ	
DIMENSIONS	Unit	H	mm	1,200	1,200	1,800	1,800	
		W	mm	600	600	600	600	
		D	mm	1,200	1,200	1,200	1,200	
WEIGHT	Machine weight		kg	654	664	920	940	
MATERIAL				Polyester painted steel plate				
COLOUR				Ivory white / Munsell code 5Y7.5/1				
SOUND LEVEL	Sound pressure		dB(A)	–	–	–	–	
	Sound power		dB(A)	70	70	72	72	
WATER HEAT EXCHANGER	Type			Brased plate heat exchanger				
	Qty			2	2	3	3	
	Minimum water volume in the system		l	311	311	205	205	
	Water flow range (min/max)			l/min	172/573	186/621	202/738	219/787
	Insulation material			Polyethylene foam				
AIR HEAT EXCHANGER	Type			Brased plate heat exchanger				
	Qty			2	2	3	3	
	Water flow range (min/max)			m <sup>2</sup>	221/848	239/918	257/948	280/1,012
REFRIGERANT CIRCUIT	Refrigerant type			R-407C				
	Refrigerant charge			kg	9.4	9.6	13.4	13.6
	No. of circuits			4	4	6	6	
	Refrigerant control			Thermostatic expansion valve				
COMPRESSOR	Type x qty			Hermetically sealed scroll				
	No. of compressors			4	4	6	6	
	Speed		rpm	2,900	2,900	2,900	2,900	
	Refrigerant oil type			FVC68D				
	Refrigerant oil charge			l	4 x 2.7	4 x 2.7	4 x 2.7	4 x 2.7
PIPING CONNECTIONS	Evap. water in/outlet			2 x 2 x MBSP 1.5"		3 x 2 x MBSP 1.5"		
	Condenser water in/outlet			2 x 2 x MBSP 1.5"		3 x 2 x MBSP 1.5"		
	Evaporator water drain			Field installation				
	Relief device outlet			Field installation				
SAFETY DEVICES				High pressure switch / Low pressure switch / Freeze-up protection / Reverse phase protector / Discharge temperature protection / Compressor motor overcurrent / Anti recycling timer / Guard timer				

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## 2 Specifications



NOMINAL CAPACITY, CAPACITY STEPS and NOMINAL INPUT						
UNITS			EUW60HZ	EUW64HZ	EUW68HZ	EUW72HZ
NOMINAL CAPACITY	Cooling	kW	165	175	185	195
CAPACITY STEPS			6	6	6	6
NOMINAL INPUT	Cooling	kW	46.8	49.5	52.2	54.9

TECHNICAL SPECIFICATIONS							
UNITS				EUW60HZ	EUW64HZ	EUW68HZ	EUW72HZ
DIMENSIONS	Unit	H	mm	1,800	1,800	1,800	1,800
		W	mm	600	600	600	600
		D	mm	1,200	1,200	1,200	1,200
WEIGHT	Machine weight	kg		960	974	988	1,002
MATERIAL				Polyester painted steel plate			
COLOUR				Ivory white / Munsell code 5Y7.5/1			
SOUND LEVEL	Sound pressure	dB(A)		–	–	–	–
	Sound power	dB(A)		72	72	72	72
WATER HEAT EXCHANGER	Type			Brased plate heat exchanger			
	Qty			3	3	3	3
	Minimum water volume in the system	l		258	258	258	311
	Water flow range (min/max)	l/min		237/837	251/906	265/957	280/1,009
	Insulation material			Polyethylene foam			
AIR HEAT EXCHANGER	Type			Brased plate heat exchanger			
	Qty			3	3	3	3
	Water flow range (min/max)	m <sup>2</sup>		304/1,076	322/1,162	340/1,227	358/1,293
REFRIGERANT CIRCUIT	Refrigerant type			R-407C			
	Refrigerant charge	kg		13.8	14.0	14.2	14.4
	No. of circuits			6	6	6	6
	Refrigerant control			Thermostatic expansion valve			
COMPRESSOR	Type x qty			Hermetically sealed scroll			
	No. of compressors			6	6	6	6
	Speed	rpm		2,900	2,900	2,900	2,900
	Refrigerant oil type			FVC68D			
	Refrigerant oil charge	l		4 x 2.7	4 x 2.7	4 x 2.7	4 x 2.7
PIPING CONNECTIONS	Evap. water in/outlet			3 x 2 x MBSP 1.5"			
	Condenser water in/outlet			3 x 2 x MBSP 1.5"			
	Evaporator water drain			Field installation			
	Relief device outlet			Field installation			
SAFETY DEVICES				High pressure switch / Low pressure switch / Freeze-up protection / Reverse phase protector / Discharge temperature protection / Compressor motor overcurrent / Anti recycling timer / Guard timer			

## 2 Specifications



ELECTRICAL SPECIFICATIONS								
UNITS			EUW5HZ	EUW8HZ	EUW10HZ	EUW12HZ	EUW16HZ	
POWER SUPPLY			W1	W1	W1	W1	W1	
NOMINAL DISTRIBUTION SYSTEM VOLTAGE	Phase		3N~	3N~	3N~	3N~	3N~	
	Frequency	Hz	50	50	50	50	50	
	Voltage	V	400	400	400	400	400	
	Voltage tolerance	%	± 10	± 10	± 10	± 10	± 10	
UNIT	Starting current		A	49	79	109	129	93
	Nominal running current		A	6.6	10.4	13.1	15.0	20.8
	Maximum running current		A	8	14	18	20	28
	Recommended fuses according to IEC standard 269-2		aM	3 x 16	3 x 20	3 x 25	3 x 25	3 x 35
COMPRESSOR	Phase		3~	3~	3~	3~	3~	
	Voltage	V	400	400	400	400	400	
	Starting current		A	49	79	109	129	79
	Nominal running current		A	6.6	10.4	13.1	15.0	10.4
	Maximum running current		A	8	14	18	20	14
	Starting method		Direct on line					

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ELECTRICAL SPECIFICATIONS								
UNITS			EUW20HZ	EUW24HZ	EUW32HZ	EUW36HZ	EUW40HZ	
POWER SUPPLY			W1	W1	W1	W1	W1	
NOMINAL DISTRIBUTION SYSTEM VOLTAGE	Phase		3N~	3N~	3N~	3N~	3N~	
	Frequency	Hz	50	50	50	50	50	
	Voltage	V	400	400	400	400	400	
	Voltage tolerance	%	± 10	± 10	± 10	± 10	± 10	
UNIT	Starting current		A	127	149	121	155	163
	Nominal running current		A	26.2	30	41.6	47	52.4
	Maximum running current		A	36	40	56	64	72
	Recommended fuses according to IEC standard 269-2		aM	3 x 40	3 x 50	3 x 63	3 x 63	3 x 80
COMPRESSOR	Phase		3~	3~	3~	3~	3~	
	Voltage	V	400	400	400	400	400	
	Starting current		A	109	129	79	79/109	109
	Nominal running current		A	13.1	15.0	10.4	10.4/13.1	13.1
	Maximum running current		A	18	20	14	14/18	18
	Starting method		Direct on line					

## 2 Specifications



ELECTRICAL SPECIFICATIONS						
UNITS			EUW44HZ	EUW48HZ	EUW52HZ	EUW56HZ
POWER SUPPLY			W1	W1	W1	W1
NOMINAL DISTRIBUTION SYSTEM VOLTAGE	Phase		3N~	3N~	3N~	3N~
	Frequency	Hz	50	50	50	50
	Voltage	V	400	400	400	400
	Voltage tolerance	%	± 10	± 10	± 10	± 10
UNIT	Starting current		185	189	183	191
	Nominal running current		56.2	60	67.8	47
	Maximum running current		76	80	92	100
	Recommended fuses according to IEC standard 269-2		3 x 80	3 x 80	3 x 100	3 x 100
COMPRESSOR	Phase		3~	3~	3~	3~
	Voltage	V	400	400	400	400
	Starting current		109/129	129	79/109	79/109
	Nominal running current		13.1/15	15	10.4/13.1	10.4/13.1
	Maximum running current		18/20	20	14/18	14/18
	Starting method		Direct on line			

ELECTRICAL SPECIFICATIONS						
UNITS			EUW60HZ	EUW64HZ	EUW68HZ	EUW72HZ
POWER SUPPLY			W1	W1	W1	W1
NOMINAL DISTRIBUTION SYSTEM VOLTAGE	Phase		3N~	3N~	3N~	3N~
	Frequency	Hz	50	50	50	50
	Voltage	V	400	400	400	400
	Voltage tolerance	%	± 10	± 10	± 10	± 10
UNIT	Starting current		199	221	225	229
	Nominal running current		78.6	82.4	90	108
	Maximum running current		108	112	120	126
	Recommended fuses according to IEC standard 269-2		3 x 125	3 x 125	3 x 125	3 x 125
COMPRESSOR	Phase		3~	3~	3~	3~
	Voltage	V	400	400	400	400
	Starting current		109	109/129	109/129	129
	Nominal running current		13.1	13.1/15	13.1/15	15
	Maximum running current		18	18/20	18/20	20
	Starting method		Direct on line			



# 3 Capacity tables

## 3-1 Cooling / heating capacities for air conditioning applications



LEAVING WATER CONDENSER		20			25			30			35		
LWE	MODEL	CC	HC	PI	CC	HC	PI	CC	HC	PI	CC	HC	PI
4	5	13.8	16.5	2.85	13.2	16.3	3.11	12.6	16.1	3.40	11.9	15.8	3.74
	8	22.4	25.8	4.11	21.5	25.7	4.58	20.6	25.6	5.11	19.6	25.4	5.68
	10	26.5	32.2	5.72	26.3	32.8	6.26	25.7	33.1	6.91	25.0	33.2	7.69
	12	30.8	37.9	6.69	30.8	38.5	7.35	30.5	39.0	8.12	29.7	39.3	8.97
	16	44.8	51.6	8.2	43.1	51.5	9.2	41.1	51.1	10.2	39.1	50.8	11.4
	20	52.9	64.4	11.4	52.5	65.5	12.5	51.5	66.2	13.8	49.9	66.4	15.4
7	24	61.5	75.9	13.4	61.7	77.0	14.7	61.0	78.0	16.2	59.5	78.5	17.9
	5	15.1	17.8	2.92	14.5	17.4	3.15	13.8	17.1	3.42	13.0	16.7	3.74
	8	23.8	27.4	4.31	23.3	27.5	4.73	22.8	27.5	5.23	21.5	27.2	5.84
	10	28.9	34.5	5.81	28.5	35.0	6.37	28.1	35.4	7.03	27.5	35.5	7.76
	12	32.2	40.2	6.83	32.9	40.8	7.51	32.9	41.5	8.27	32.5	41.8	9.10
	16	47.6	54.8	8.6	46.5	55.1	9.5	45.6	55.0	10.5	43.0	54.5	11.7
10	20	57.7	68.9	11.6	57.1	70.1	12.7	56.2	70.8	14.1	54.9	71.0	15.5
	24	64.5	80.4	13.7	65.8	81.5	15.0	65.8	83.0	16.5	65.0	83.7	18.2
	5	15.8	18.3	2.92	15.6	18.2	3.19	15.0	18.2	3.49	14.5	18.0	3.79
	8	25.2	28.7	4.32	25.1	29.0	4.77	24.7	29.1	5.29	23.9	29.0	5.86
	10	30.3	35.9	5.85	30.2	36.5	6.42	29.9	36.9	7.08	29.3	37.2	7.83
	12	35.3	42.5	6.96	35.7	43.1	7.64	35.5	43.7	8.41	34.7	44.0	9.26
14	16	50.3	57.4	8.6	50.2	58.0	9.5	49.3	58.2	10.6	47.8	58.0	11.7
	20	60.6	71.9	11.7	60.4	72.9	12.8	59.8	73.8	14.2	58.7	74.4	15.7
	24	70.5	85.1	13.9	71.3	86.2	15.3	71.1	87.5	16.8	69.5	88.1	18.5
	5	15.8	19.1	2.94	16.1	19.3	3.25	16.2	19.7	3.57	16.1	19.8	3.86
	8	26.9	30.5	4.34	27.1	30.9	4.83	26.9	31.3	5.36	26.3	31.4	5.89
	10	31.7	37.9	5.91	31.8	38.4	6.48	31.7	39.0	7.14	31.4	39.5	7.92
16	12	38.5	45.7	7.14	38.6	46.3	7.82	38.4	46.7	8.60	37.5	47.0	9.47
	16	53.8	61.0	8.7	54.2	61.8	9.7	53.9	62.6	10.7	52.6	62.7	11.8
	20	63.4	75.7	11.8	63.6	76.7	13.0	63.4	77.9	14.3	62.8	78.9	15.8
	24	77.0	91.3	14.3	77.3	92.6	15.6	76.7	93.4	17.2	75.1	94.0	18.9
	5	16.3	19.6	2.94	16.6	19.9	3.26	16.6	20.2	3.59	16.3	20.3	3.88
	8	27.7	31.3	4.35	28.0	31.7	4.84	27.9	32.1	5.37	27.4	32.3	5.91
20	10	32.4	38.2	5.92	32.4	38.7	6.51	32.3	39.3	7.19	32.0	39.9	7.95
	12	39.2	47.0	7.19	39.5	47.6	7.88	39.4	48.1	8.67	38.6	48.5	9.56
	16	55.4	62.6	8.7	55.9	63.4	9.7	55.8	64.3	10.7	54.7	64.6	11.8
	20	64.8	76.4	11.8	64.9	77.4	13.0	64.6	78.6	14.4	64.0	79.8	15.9
	24	78.4	94.0	14.4	79.0	95.2	15.8	78.7	96.2	17.3	77.3	97.1	19.1
	5	16.3	20.5	2.96	16.7	20.8	3.28	17.0	21.0	3.61	17.1	21.3	3.93
24	8	29.2	32.9	4.38	29.5	33.4	4.87	29.5	33.8	5.40	29.0	34.1	5.94
	10	32.9	38.8	5.96	32.9	39.4	6.58	32.8	40.0	7.27	32.6	40.8	8.03
	12	41.0	49.6	7.29	41.0	50.2	8.00	40.8	50.9	8.81	40.4	51.7	9.74
	16	58.5	65.9	8.8	58.9	66.7	9.7	58.9	67.6	10.8	58.1	68.2	11.9
	20	65.8	77.7	11.9	65.7	78.8	13.2	65.5	80.1	14.5	65.2	81.6	16.1
	24	81.9	99.2	14.6	82.0	100.5	16.0	81.7	101.7	17.6	80.8	103.4	19.5

### SYMBOLS

CC	: Cooling capacity (kW)
HC	: Heating capacity (kW)
PI	: Power input (kW)
LWE	: Leaving Water Evaporator (°C)
LWC	: Leaving water condenser (°C)

### NOTES

- Cooling capacity (CAP)**  
CAP = Cooling capacity from table (kW)  
Capacity is for chilled water range Dt = 2~5°C
- Power input (PC)**  
PI = Power input from table (kW)  
Power input is total input kW: compressor + control circuit + pumps (kW)
- Water flow rate (WFR)**  
 $WFR = (860 \times CAP) / (60 \times Dt)$  (l/min)  
CAP = From above calculation  
Dt = Chilled water temperature rise within 2-5°C  
WFR should always be within the limits
- No pumps are supplied with the unit, so the added power input for the pumps is calculated as  $(WFR \times Dp) / 0.3$  as fixed by 6/C/003 (Dp = pressure drop from pressure drop curves). This is for cooled and cooling water.
- Heating capacity has been calculated as follows:  
CC + PI x 0.97

Shows nominal cooling capacities

# 3 Capacity tables

## 3-1 Cooling / heating capacities for air conditioning applications



LEAVING WATER CONDENSER		40			45			50			55		
LWE	MODEL	CC	HC	PI	CC	HC	PI	CC	HC	PI	CC	HC	PI
4	5	11.2	15.5	4.07	10.5	15.2	4.46	9.7	14.9	4.87	8.9	14.5	5.37
	8	18.4	25.0	6.32	17.3	24.6	7.00	16.1	24.1	7.74	14.9	23.6	8.53
	10	24.0	33.2	8.48	22.8	32.9	9.40	21.4	32.5	10.41	19.8	31.8	11.61
	12	28.4	39.2	9.95	26.7	38.8	11.03	24.7	38.1	12.20	22.6	37.2	13.45
	16	36.9	50.0	12.6	34.5	49.1	14.0	32.1	48.1	15.5	29.7	47.1	17.1
	20	48.0	66.4	17.0	45.5	65.9	18.8	42.8	64.9	20.8	39.5	63.6	23.2
7	24	56.8	78.4	19.9	53.5	77.6	22.1	49.4	76.2	24.4	45.1	74.3	26.9
	5	12.1	16.4	4.09	11.3	16.1	4.49	10.6	15.9	4.94	9.9	15.5	5.42
	8	20.3	26.8	6.38	19.0	26.1	7.04	17.5	25.3	7.75	16.0	24.2	8.66
	10	26.4	35.5	8.60	25.0	35.3	9.52	23.5	34.9	10.53	22.2	34.1	11.63
	12	30.9	41.9	10.12	29.1	41.5	11.19	26.8	40.7	12.38	24.3	39.4	13.55
	16	40.7	53.6	12.8	38.0	52.2	14.1	35.0	50.5	15.5	31.9	48.4	17.3
10	20	52.7	71.0	17.2	50.1	70.6	19.0	47.1	69.7	21.1	44.3	68.1	23.3
	24	61.9	83.8	20.2	58.2	83.0	22.4	53.6	81.4	24.8	48.6	78.9	27.1
	5	13.8	17.9	4.19	13.0	17.6	4.59	12.1	17.3	5.04	11.1	16.7	5.46
	8	22.7	28.7	6.47	21.3	28.1	7.15	19.6	27.2	7.88	17.8	26.2	8.69
	10	28.5	37.4	8.65	27.4	37.3	9.57	26.2	37.0	10.58	24.9	36.3	11.70
	12	33.5	44.0	10.24	31.7	43.7	11.29	29.2	43.1	12.44	26.9	42.2	13.63
14	16	45.5	57.3	12.9	42.7	56.1	14.3	39.3	54.5	15.8	35.6	52.3	17.4
	20	57.0	74.7	17.3	54.9	74.5	19.1	52.4	73.9	21.2	49.8	72.7	23.4
	24	67.0	88.1	20.5	63.4	87.5	22.6	58.4	86.2	24.9	53.8	84.3	27.3
	5	15.6	19.9	4.31	14.9	19.6	4.73	13.9	19.2	5.18	12.8	18.3	5.51
	8	25.3	31.2	6.59	23.9	30.7	7.30	22.2	29.9	8.06	20.2	28.8	8.74
	10	30.8	39.8	8.72	30.1	39.9	9.64	29.1	39.8	10.64	28.0	39.4	11.79
16	12	36.5	46.9	10.39	35.0	46.7	11.41	33.1	46.3	12.52	30.8	45.8	13.74
	16	50.6	62.3	13.2	47.9	61.3	14.6	44.4	59.8	16.1	40.5	57.6	17.5
	20	61.7	79.6	17.4	60.1	79.8	19.3	58.3	79.5	21.3	56.1	78.7	23.6
	24	73.0	93.8	20.8	70.0	93.4	22.8	66.3	92.6	25.0	61.6	91.6	27.5
	5	16.0	20.5	4.33	15.5	20.3	4.74	14.6	19.9	5.19	13.9	19.2	5.52
	8	26.5	32.2	6.61	25.2	31.8	7.31	23.5	31.1	8.07	21.6	30.1	8.76
20	10	31.5	40.3	8.78	30.8	40.6	9.70	30.0	40.6	10.71	29.2	40.4	11.82
	12	37.5	48.6	10.47	36.0	48.5	11.49	33.6	48.2	12.59	31.6	47.7	13.84
	16	52.9	64.4	13.2	50.4	63.6	14.6	47.1	62.3	16.1	43.1	60.1	17.5
	20	63.0	80.7	17.6	61.7	81.1	19.4	60.0	81.2	21.4	58.3	80.8	23.6
	24	75.0	97.3	20.9	71.9	97.1	23.0	67.3	96.3	25.2	63.2	95.4	27.7
	5	17.1	21.6	4.36	16.8	21.7	4.77	16.3	21.5	5.21	15.7	20.8	5.56
24	8	28.5	34.3	6.63	27.5	34.1	7.34	26.3	33.6	8.10	24.7	32.6	8.81
	10	32.3	41.4	8.90	32.0	41.9	9.83	31.6	42.2	10.84	31.1	42.5	11.89
	12	39.8	52.1	10.63	38.9	52.1	11.65	37.9	51.8	12.74	36.7	51.3	14.04
	16	56.9	68.6	13.3	55.0	68.2	14.7	52.5	67.2	16.2	49.4	65.1	17.6
	20	64.7	82.8	17.8	64.0	83.8	19.7	63.2	84.5	21.7	62.2	85.0	23.8
	24	79.5	104.1	21.3	77.8	104.3	23.3	75.8	103.6	25.5	73.4	102.7	28.1

### SYMBOLS

CC	: Cooling capacity (kW)
HC	: Heating capacity (kW)
PI	: Power input (kW)
LWE	: Leaving Water Evaporator (°C)
LWC	: Leaving water condenser (°C)

### NOTES

- Cooling capacity (CAP)**  
CAP = Cooling capacity from table (kW)  
Capacity is for chilled water range Dt = 2~5°C
- Power input (PC)**  
PI = Power input from table (kW)  
Power input is total input kW: compressor + control circuit + pumps (kW)
- Water flow rate (WFR)**  
 $WFR = (860 \times CAP) / (60 \times Dt)$  (l/min)  
CAP = From above calculation  
Dt = Chilled water temperature rise within 2-5°C  
WFR should always be within the limits
- No pumps are supplied with the unit, so the added power input for the pumps is calculated as  $(WFR \times Dp) / 0.3$  as fixed by 6/C/003 (Dp = pressure drop from pressure drop curves). This is for cooled and cooling water.
- Heating capacity has been calculated as follows:  
CC + PI x 0.97

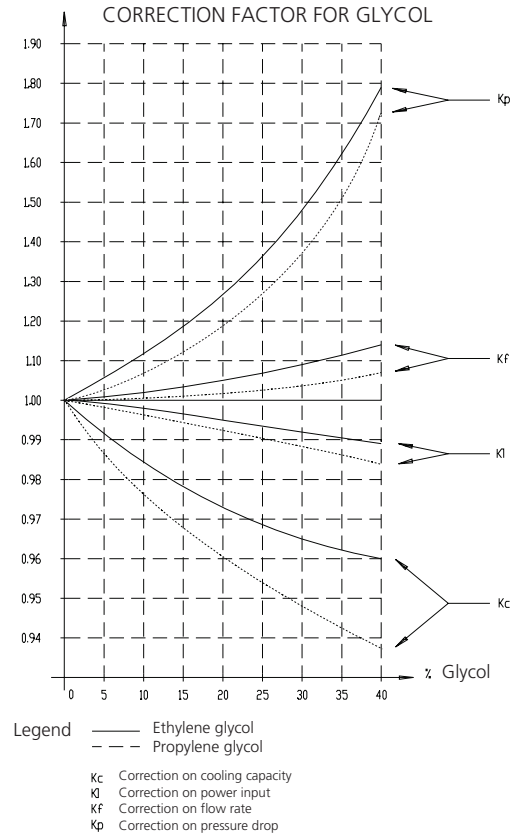
## 3 Capacity tables

### 3-2 Cooling capacities with glycol for process cooling application



Required glycol concentration

Type	Concentration (wt%)	0	10	20	30	40
Ethylene glycol	Freezing point °C	0	-4	-9	-16	-23
	Minimum LWE °C	4	2	0	-5	-11
Propylene glycol	Freezing point °C	0	-3	-7	-13	-22
	Minimum LWE °C	4	3	-2	-4	-10



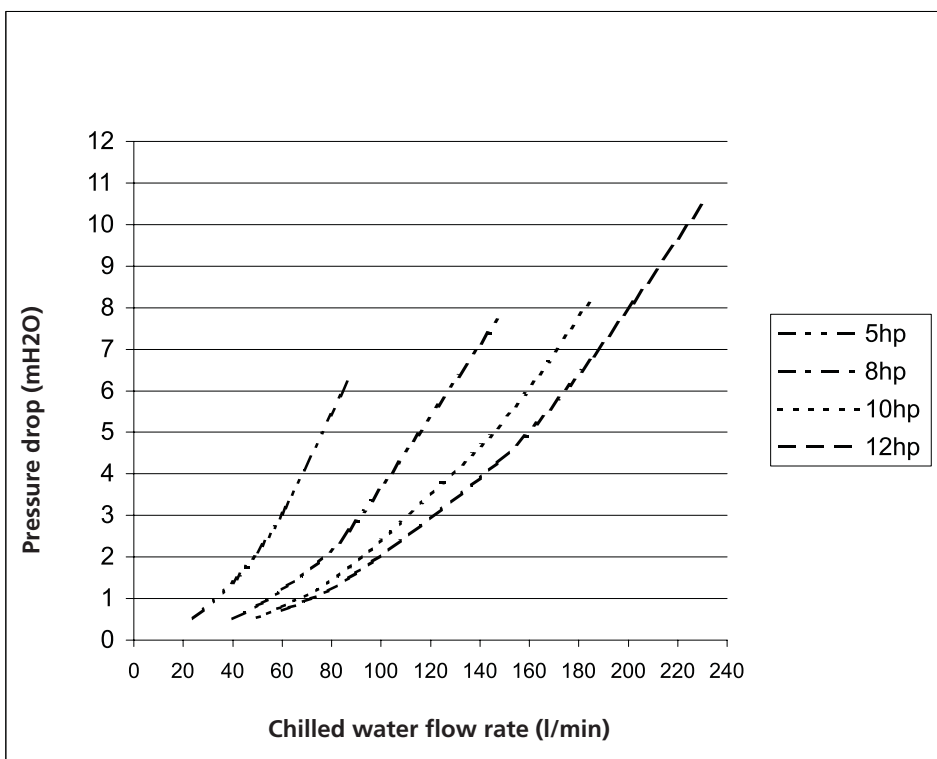
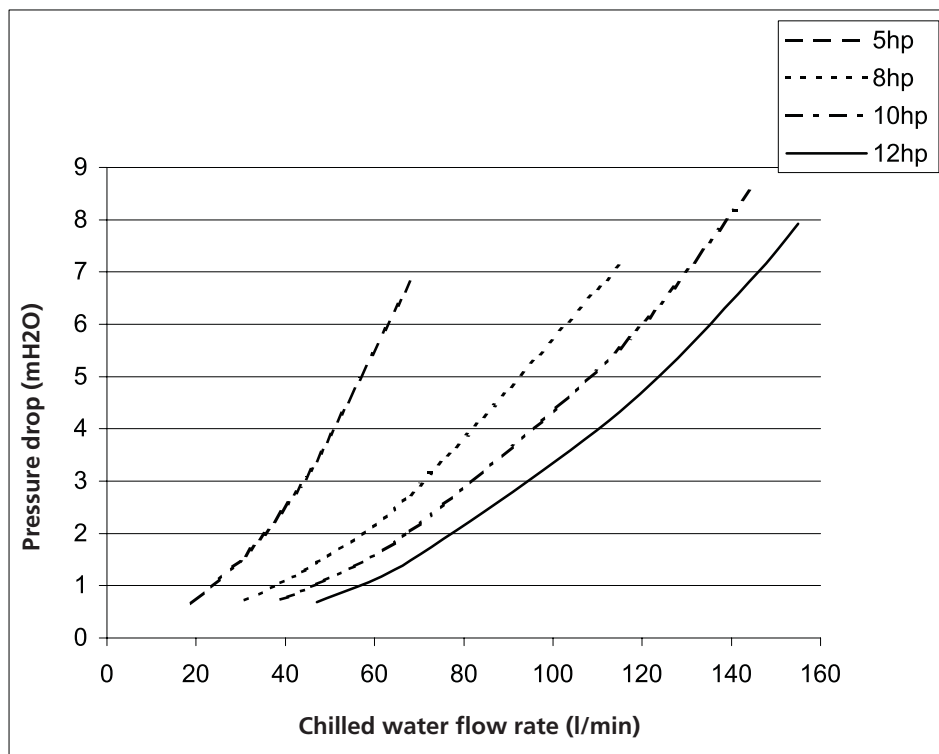
4TW50689-8



## 4 Water pressure drop curve

### 4-1 Pressure drop evaporator / condenser

EUW5-12HZ



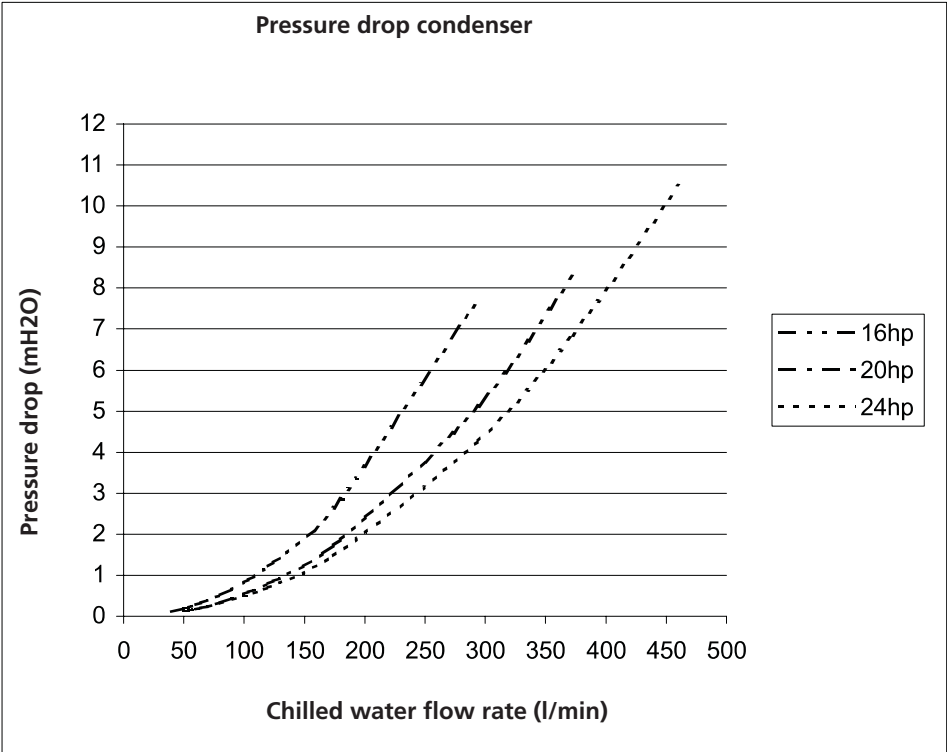
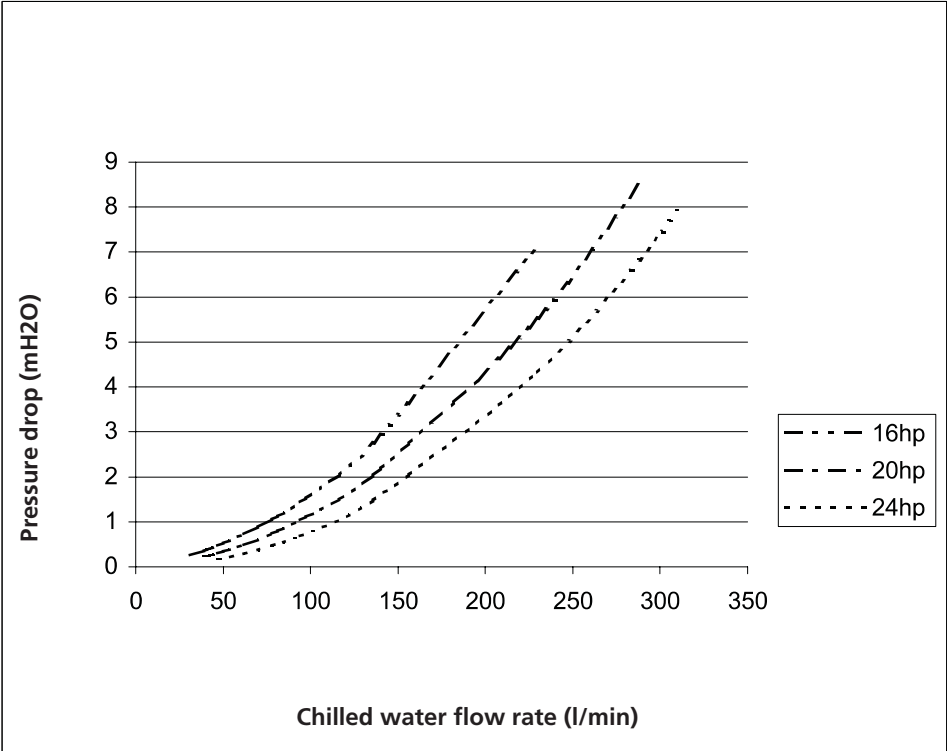


# 4 Water pressure drop curve

## 4-1 Pressure drop evaporator / condenser

7  
4  
4-1

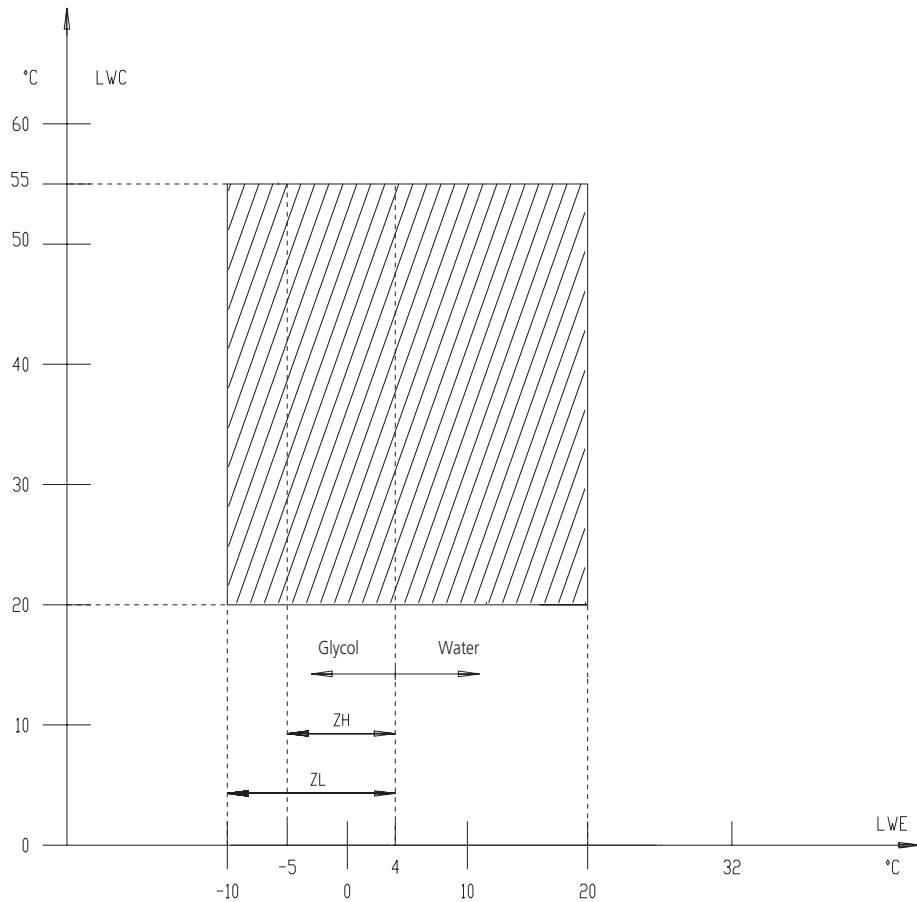
EUW16-24HZ



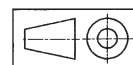
## 5 Operation range



EUW5-72HZ



LWE = Leaving Water Evaporator (°C)  
LWC = Leaving Water Condenser

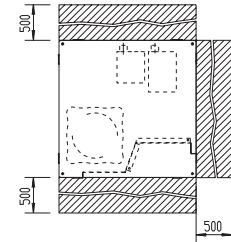
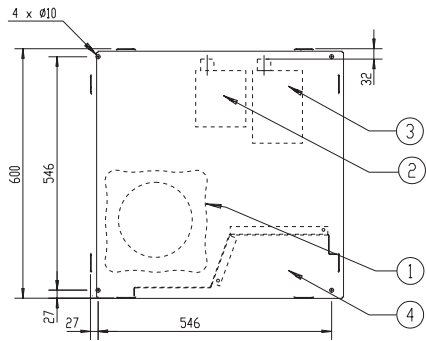


4TW53473-1

## 6 Dimensional drawings

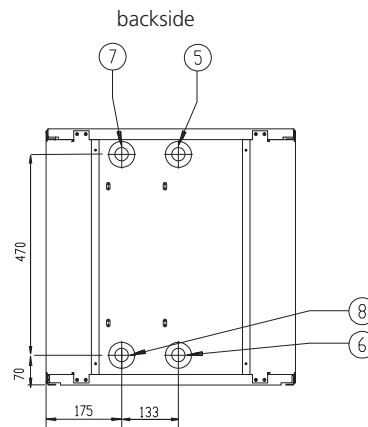
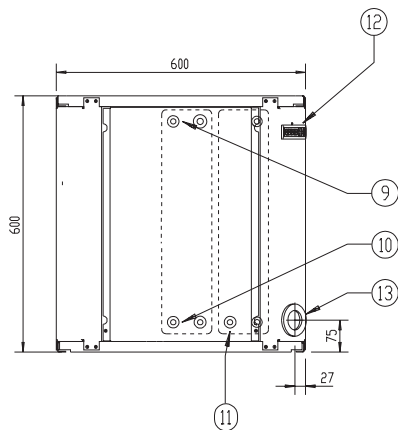


### EUW5-12HZ

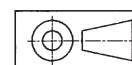


Required service space around the unit

Scale 1/18



- 1 Compressor
- 2 Evaporator
- 3 Condenser
- 4 Switchbox
- 5 Chilled water in (G 1")
- 6 Chilled water out (G 1")
- 7 Condenser water out (G 1")
- 8 Condenser water in (G 1")
- 9 Evaporator entering water temperature sensor
- 10 Freeze up sensor
- 11 Condensor entering water temperature
- 12 Digital display controller
- 13 Power supply intake (φ 48)

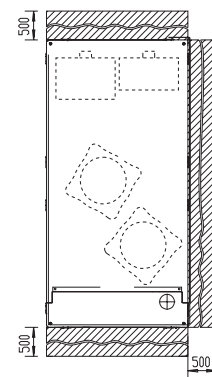
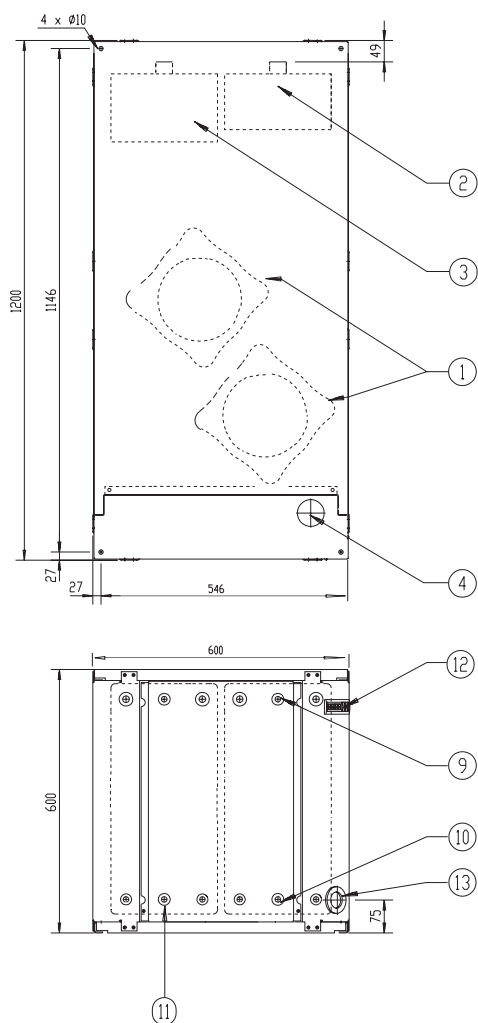


3TW53474-1

## 6 Dimensional drawings

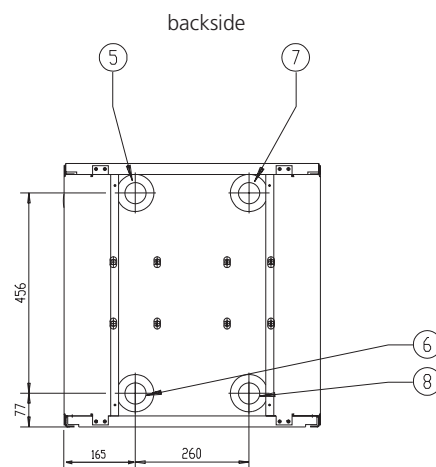


### EUW16-24HZ

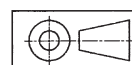


Required service space around the unit

Scale 1/18



- 1 Compressor
- 2 Evaporator
- 3 Condenser
- 4 Switchbox
- 5 Chilled water in (G 1"-1/2)
- 6 Chilled water out (G 1"-1/2)
- 7 Condenser water out (G 1"-1/2)
- 8 Condenser water in (G 1"-1/2)
- 9 Evaporator entering water temperature sensor
- 10 Freeze up sensor
- 11 Condenser entering water temperature
- 12 Digital display controller
- 13 Power supply intake ( $\phi$  48)



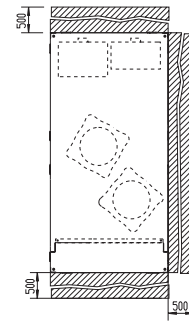
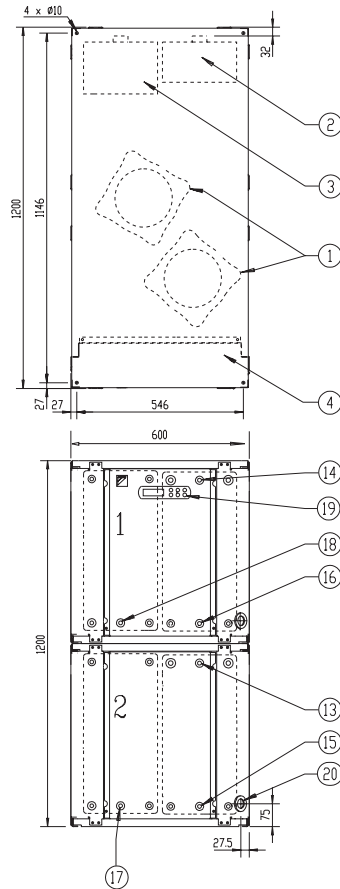
3TW53474-2



## 6 Dimensional drawings

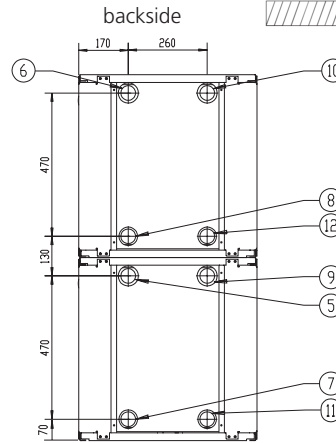


### EUW32-48HZ

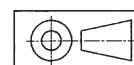


Required service space around the unit

Scale 1/18



- |                                     |   |
|-------------------------------------|---|
| 1 Compressor                        | 13 Evaporator entering water temperature sensor 1 |
| 2 Evaporator                        | 14 Evaporator entering water temperature sensor 2 |
| 3 Condenser                         | 15 Freeze up sensor 1                             |
| 4 Switchbox                         | 16 Freeze up sensor 2                             |
| 5 Chilled water in 1 (G 1"-1/2)     | 17 Condensor entering water temperature 1         |
| 6 Chilled water in 2 (G 1"-1/2)     | 18 Condensor entering water temperature 2         |
| 7 Chilled water out 1 (G 1"-1/2)    | 19 Digital display controller                     |
| 8 Chilled water out 2 (G 1"-1/2)    | 20 Power supply intake (φ 48)                     |
| 9 Condenser water out 1 (G 1"-1/2)  |   |
| 10 Condenser water out 2 (G 1"-1/2) |   |
| 11 Condenser water in 1 (G 1"-1/2)  |   |
| 12 Condenser water in 2 (G 1"-1/2)  |   |

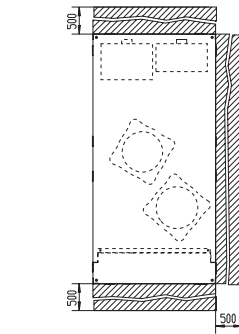
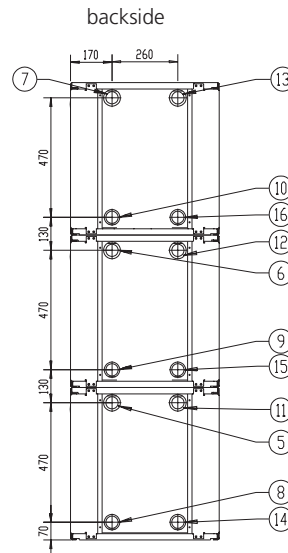
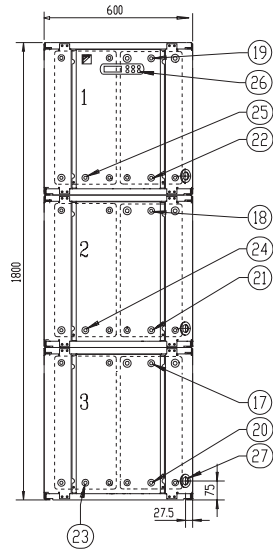
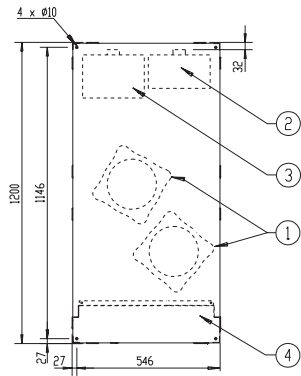


3TW53474-3

## 6 Dimensional drawings



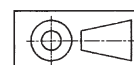
### EUW52-72HZ



Required service space around the unit

Scale 1/18

- |                                     |   |
|-------------------------------------|---|
| 1 Compressor                        | 17 Evaporator entering water temperature sensor 1 |
| 2 Evaporator                        | 18 Evaporator entering water temperature sensor 2 |
| 3 Condenser                         | 19 Evaporator entering water temperature sensor 3 |
| 4 Switchbox                         | 20 Freeze up sensor 1                             |
| 5 Chilled water in 1 (G 1"-1/2)     | 21 Freeze up sensor 2                             |
| 6 Chilled water in 2 (G 1"-1/2)     | 22 Freeze up sensor 3                             |
| 7 Chilled water in 3 (G 1"-1/2)     | 23 Condenser entering water temperature 1         |
| 8 Chilled water out 1 (G 1"-1/2)    | 24 Condenser entering water temperature 2         |
| 9 Chilled water out 2 (G 1"-1/2)    | 25 Condenser entering water temperature 3         |
| 10 Chilled water out 3 (G 1"-1/2)   | 26 Digital display controller                     |
| 11 Condenser water out 1 (G 1"-1/2) | 27 Power supply intake (Ø 48)                     |
| 12 Condenser water out 2 (G 1"-1/2) |   |
| 13 Condenser water out 3 (G 1"-1/2) |   |
| 14 Condenser water in 1 (G 1"-1/2)  |   |
| 15 Condenser water in 2 (G 1"-1/2)  |   |
| 16 Condenser water in 3 (G 1"-1/2)  |   |

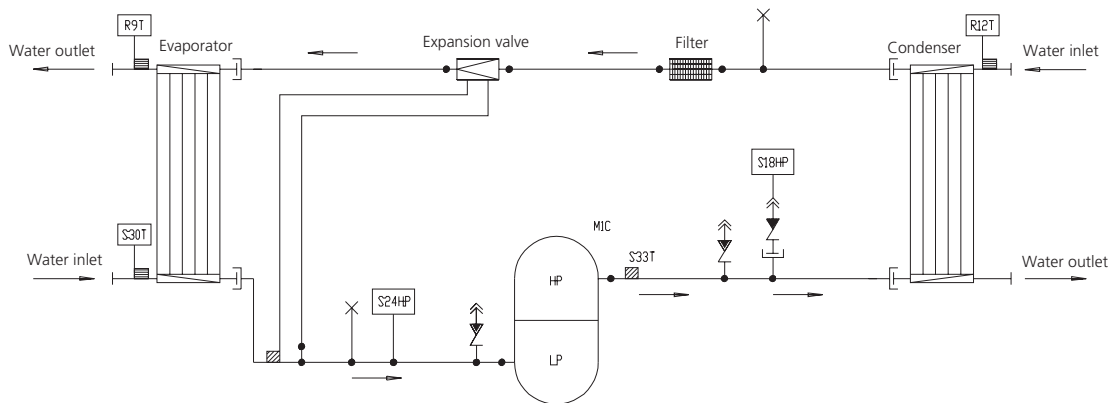


3TW53474-4

# 7 Piping diagrams



## EUW5-12HZ



M1C Compressor motor 1  
 R9T Outlet water evap. temp. sensor  
 R12T Inlet water cond. temp. sensor  
 S18HP High pressure switch  
 S24T Low pressure switch  
 S30T Freeze-up protection  
 S33T Discharge temperature controller

↔ Check valve  
 ← Flare connection  
 — Screw connection  
 — Flange connection  
 X Pinched pipe  
 → Spinned pipe

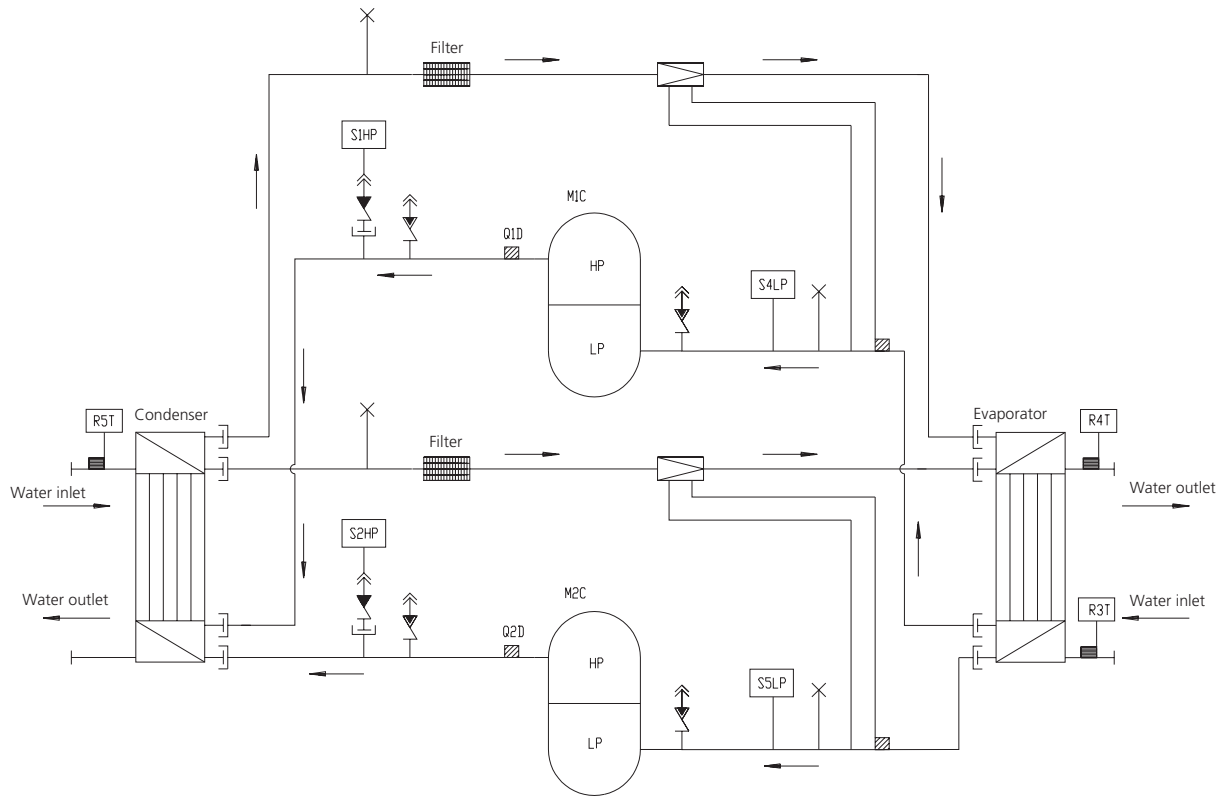


3TW53475-1

# 7 Piping diagrams

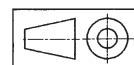


## EUW16-24HZ



M1-2C Compressor motor  
 R4T Freeze-up protection  
 R5T Inlet water cond. temp. sensor  
 S1HP High pressure switch  
 S2HP High pressure switch  
 S4LP Low pressure switch  
 S5LP Low pressure switch  
 R3T Inlet water evap. temp. sensor  
 Q1D Discharge temperature controller  
 Q2D Discharge temperature controller

↔ Check valve  
 ↗ Flare connection  
 ⌵ Screw connection  
 ⌵ Flange connection  
 X Pinched pipe  
 → Spinned pipe

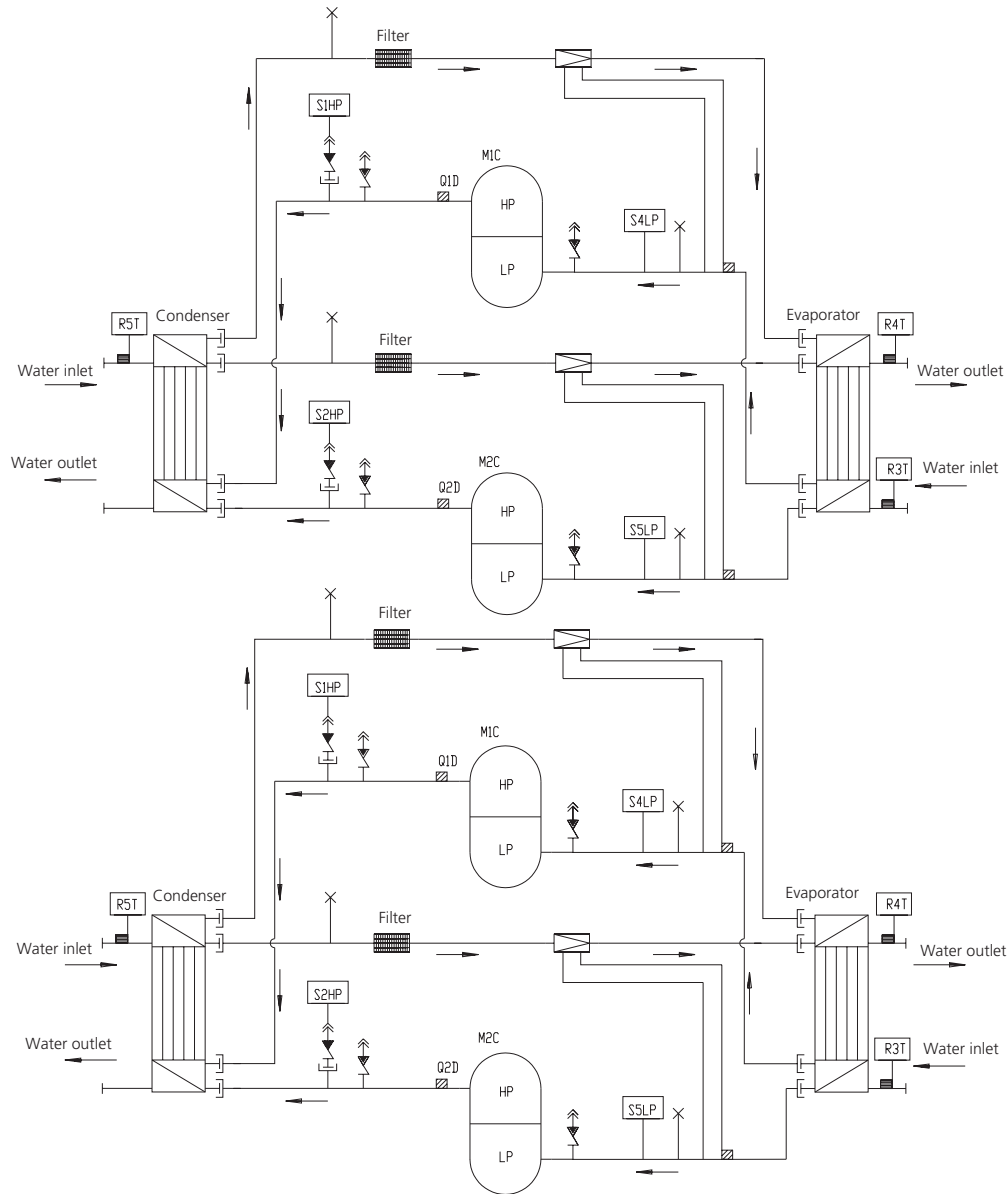


3TW53475-2

# 7 Piping diagrams

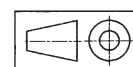


## EUW32-48HZ



M1C-M2C Compressor motor  
 R4T Freeze-up protection  
 R5T Inlet water cond. temp. sensor  
 S1HP High pressure switch  
 S2HP High pressure switch  
 S4LP Low pressure switch  
 S5LP Low pressure switch  
 R3T Inlet water evap. temp. sensor  
 Q1D Discharge temperature controller  
 Q2D Discharge temperature controller

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

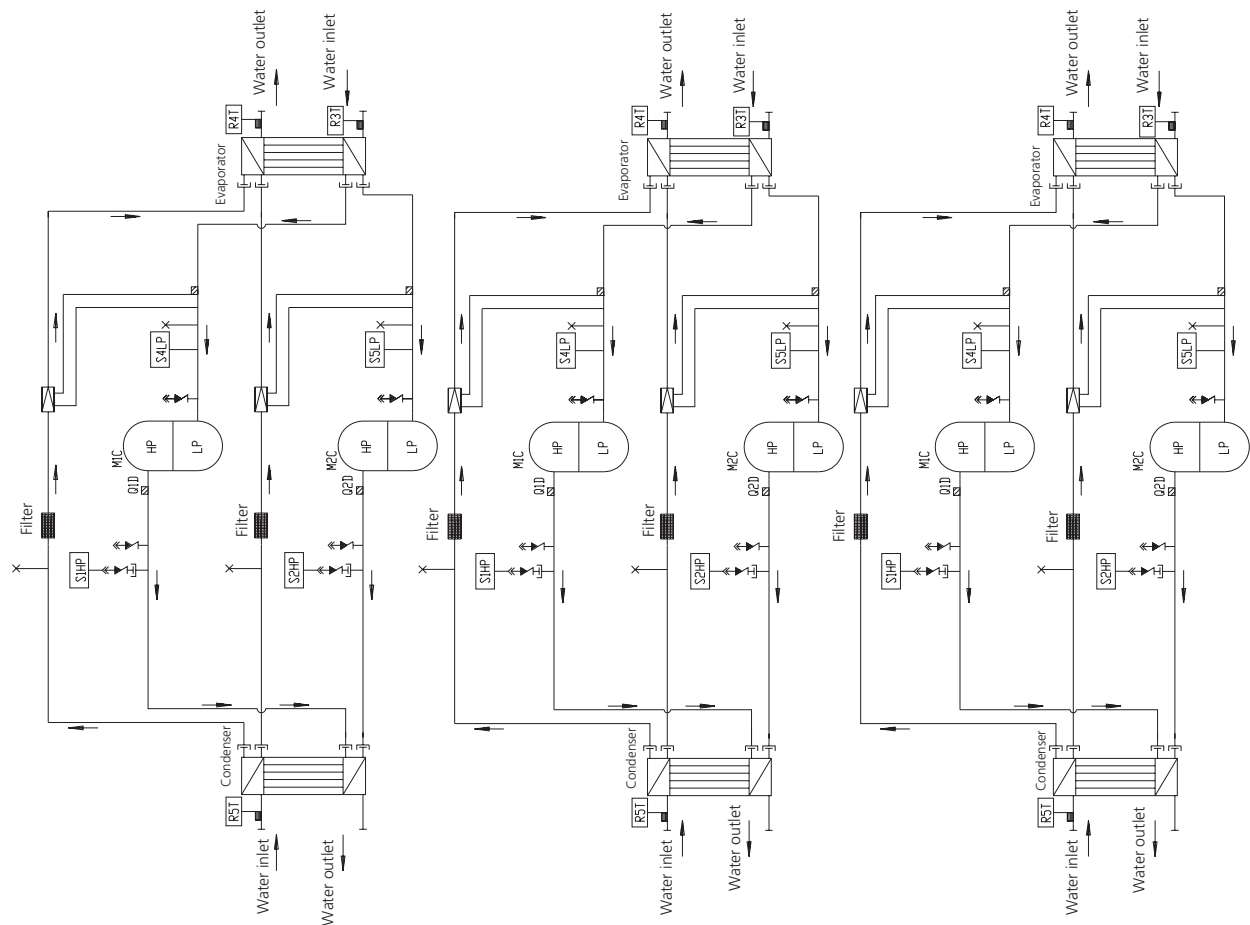


3TW53475-3

# 7 Piping diagrams

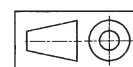


## EUW52-72HZ



M1C-M2C Compressor motor  
 R4T Freeze-up protection  
 R5T Inlet water cond. temp. sensor  
 S1HP High pressure switch  
 S2HP High pressure switch  
 S4LP Low pressure switch  
 S5LP Low pressure switch  
 R3T Inlet water evap. temp. sensor  
 Q1D Discharge temperature controller  
 Q2D Discharge temperature controller

↔ Check valve  
 ↗ Flare connection  
 ⌵ Screw connection  
 ⌵ Flange connection  
 X Pinched pipe  
 → Spinned pipe



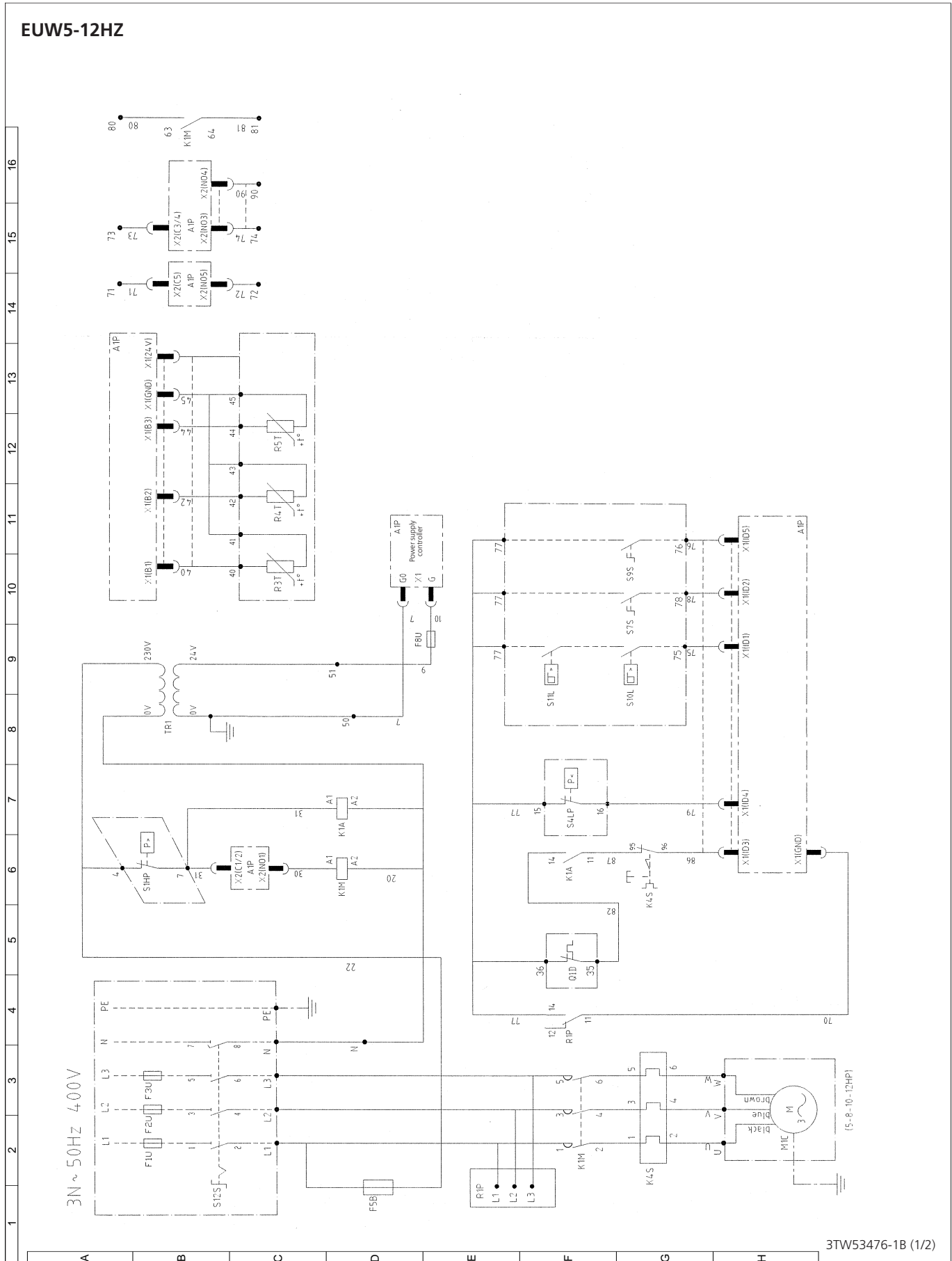
3TW53475-4

# 8 Wiring diagrams



7

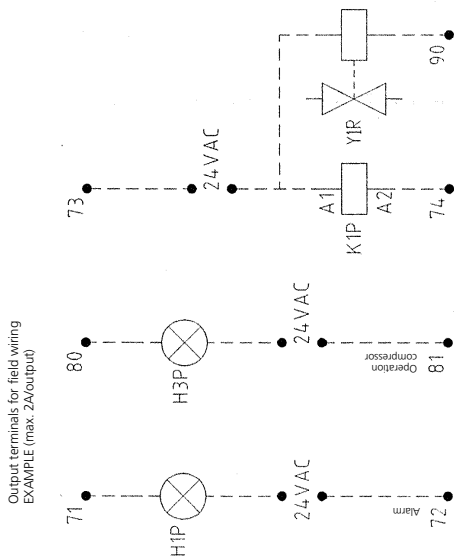
8





# 8 Wiring diagrams

## EUW5-12HZ

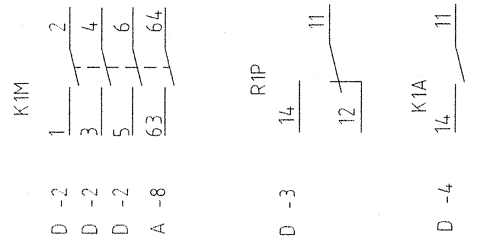


	Not standard included	
	Not pos. as option	Pos. as option
Obligatory	#	##
Not obligatory	*	**

	400V				
	Fuses + overcurrent	5HP	8HP	10HP	12HP
F1U/F2U/F3U		16gG	20gG	25gG	25gG
F5B		14gG	14gG	14gG	14gG
F8U		315mA	315mA	315mA	315mA
K4S		8A	14A	18A	20A

Recommended fuses gL/gG (aM also admitted)  
according to IEC standard 269-2  
(F1U/F2U/F3U = gL/gG)

On page 1



### NOTES

- (1) ● Terminal 1
- (2) — Wire 2
- (3) - - - - - Field wiring, to be in accordance with the local electrical regulations
- (4) — — — — — Earth wiring
- (5) [ ] Option
- (6) [ ] PCB-display
- (7) [ ] Outside switchbox
- (8) If compressor rotates reversely, it may be damaged.

- Connector in terminal unit for digital inputs, analog inputs, analog outputs and for power supply controller (A1P)  
Connector for digital output (A1P)  
Solenoid valve for injection line  
Reversing valve  
Transfo 230V > 24V for supply of controllers  
Main solenoid switch  
Contact that closes if the pump is working  
Flow switch  
Switch for remote cooling / heating selection  
Switch for remote start/stop  
Low pressure switch  
High pressure switch  
Cond. inlet temperature sensor  
Evaporator outlet water temperature sensor  
Evaporator inlet water temperature sensor  
Reversing phase protector  
Discharge pressure protector  
Main solenoid switch  
Sensor for casing temperature of compressor  
Pump protector  
Auxiliary contact for high pressure  
Overcurrent relay  
Compressor contactor  
Indication lamp alarm  
Surge proof fuse  
Fuse for the control circuit  
Main fuses for the unit  
PCB: terminal unit

- X1  
X2  
Y1S  
Y1R  
TR1  
S12S #  
S11L #  
S10L #  
S9S #  
S7S  
S4P  
S1HP  
RST  
R4T  
R3T  
R1P  
Q1D  
R  
M1C  
K1P  
K1A  
K5  
K1M  
H3P #  
H1P #  
F8U  
F5B  
F1U/F2U/F3U #  
A1P
- A1P: Digital inputs  
X1 (D1-GND): Flow switch  
X1 (D2-GND): Remote cooling/heating selection  
X1 (D3-GND): High pressure switch + discharge protector + overcurrent  
X1 (D4-GND): Low pressure switch  
X1 (D5-GND): Remote On/Off
- A1P: Digital outputs (relays)  
X2 (C1/2-NO1): Compressor ON  
X2 (C1/2-NO2): Voltage free contact for pump  
X2 (C3/4-NO3): Voltage free contact for reversing valve  
X2 (C3/4-NO4): Alarm voltage free contact  
X2 (C5-NO5): Alarm voltage free contact
- A1P: Analog inputs  
X1 (B1-GND): Evaporator inlet water t°  
X1 (B2-GND): Evaporator outlet water t°  
X1 (B3-GND): Cond. inlet water t°

3TW53476-1B (2/2)



# 8

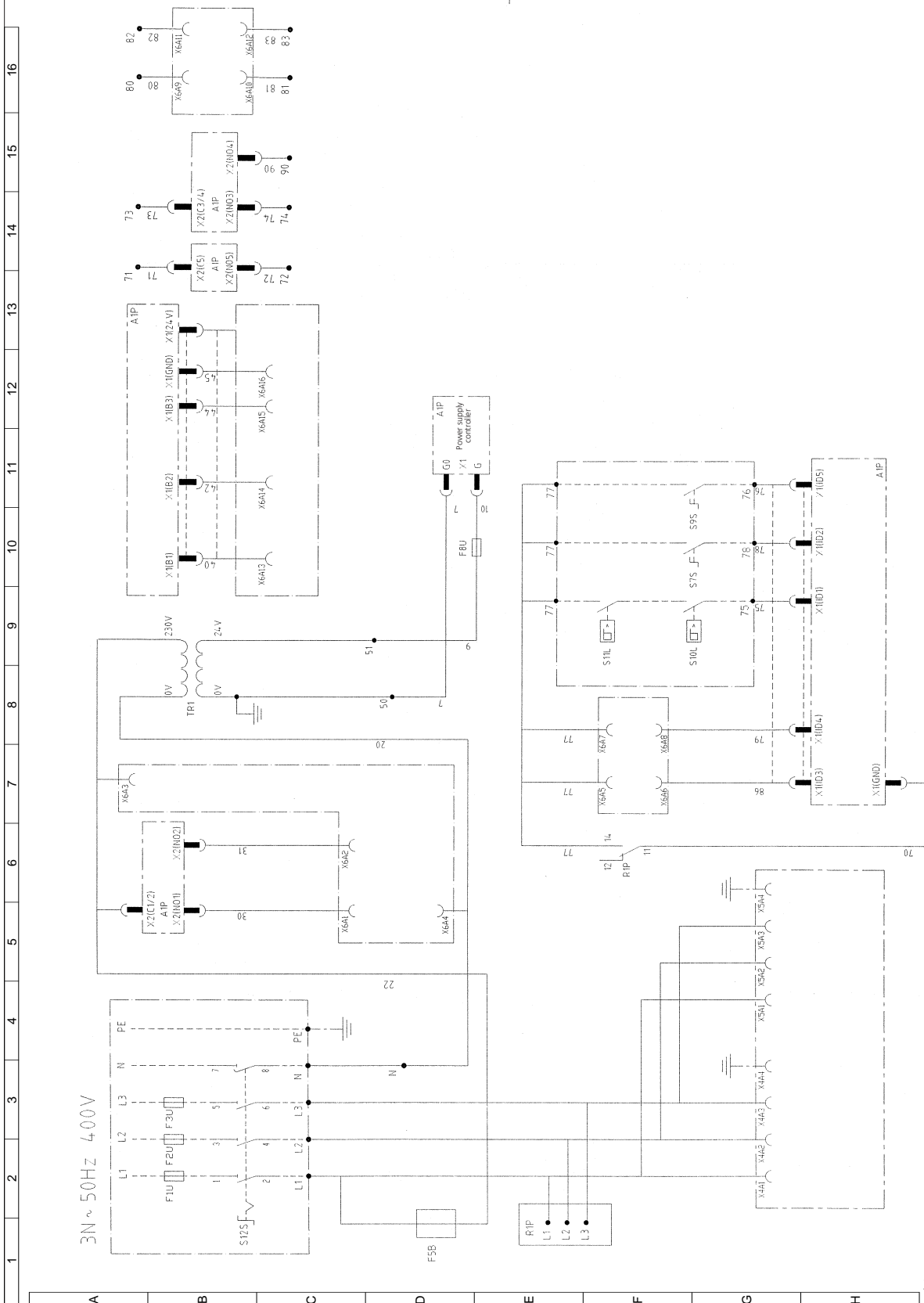
## Wiring diagrams



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EUW16-24HZ (Wiring diagram control box)

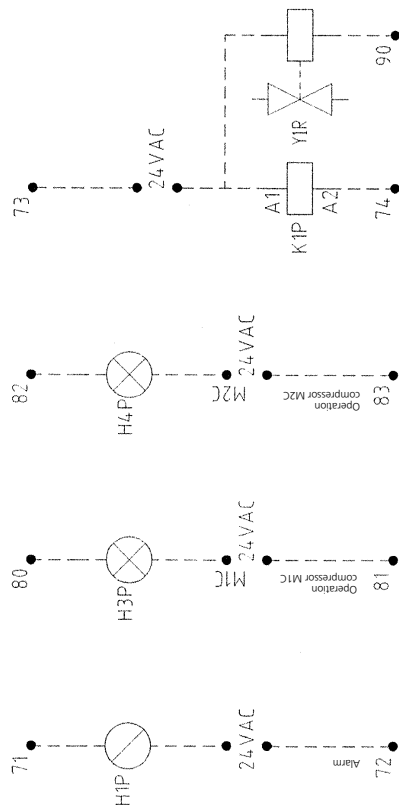


# 8 Wiring diagrams



## EUW16-24HZ (Wiring diagram control box)

Output terminals for field wiring  
EXAMPLE (max. 2A/output)



Fuses + overcurrent	16HP	20HP	24HP
F1U/F2U/F3U	35gG	40gG	50gG
F5B	1AgG	1AgG	1AgG
F8U	315mA	315mA	315mA

- Recommended fuses gG/gG (aM also admitted) according to IEC standard 269-2 (F1U/F2U/F3U = gG/gG)
- Switchbox might only be used together with control switchbox for WC16-72HP

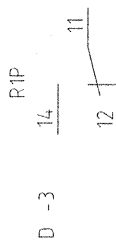
Not obligatory	Not pos. as option	Pos. as option
Not obligatory	#	##
	*	**

On page 1

- NOTES
- (1) ● Terminal 1
  - (2) — Wire 2
  - (3) - - - - - Field wiring, to be in accordance with the local electrical regulations
  - (4) — — — — — Earth wiring
  - (5) [ ] Option
  - (6) [ ] PCB-display
  - (7) [ ] Outside switchbox
  - (8) If compressor rotates reversely, it may be damaged.

- A1P: Digital inputs
- X1 (I1-GND): Flow switch
  - X1 (I2-GND): Remote cooling/heating selection
  - X1 (I3-GND): High pressure switch + discharge protector + overcurrent
  - X1 (I4-GND): High pressure switch
  - X1 (I5-GND): Remote On/Off
- A1P: Digital outputs (relays)
- X2 (C1/2-NO1): Compressor M1C on
  - X2 (C1/2-NO2): Compressor M2C on
  - X2 (C3/4-NO3): Voltage free contact for pump
  - X2 (C3/4-NO4): Voltage free contact for reversing valve
  - X2 (C5-NO5): Alarm voltage free contact
- A1P: Analog inputs
- X1 (B1-GND): Evaporator inlet water t°
  - X1 (B2-GND): Evaporator outlet water t°
  - X1 (B3-GND): Cond. inlet water t°

- X4A X4M/XSA
- X1 Interconnection connector main < Control switchbox (16)
  - X2 Interconnection connector main < Control switchbox (24)
  - X3 Connector in terminal unit for digital inputs, analog inputs, analog outputs and for power supply controller (A1P)
  - X4 Connector for digital output (A1P)
  - X5 Solenoid valve for injection line
  - X6 Reversing valve
  - X7 Transo 220V > 24V for supply of controllers
  - X8 Main exchanger switch
  - X9 Contact that closes if the pump is working
  - X10 Switch
  - X11 Switch for remote start/stop
  - X12 Switch for remote cooling/heating selection
  - X13 Remote pressure protector
  - X14 Main earth terminal
  - X15 Sensor for cooling temperature of compressor
  - X16 Sensor for cooling temperature of compressor
  - X17 Pump protector
  - X18 Indication lamp operation compressor
  - X19 Indication lamp alarm
  - X20 Surge proof fuse
  - X21 Fuse for the control circuit
  - X22 Main fuses for the unit
  - X23 PCB: terminal unit



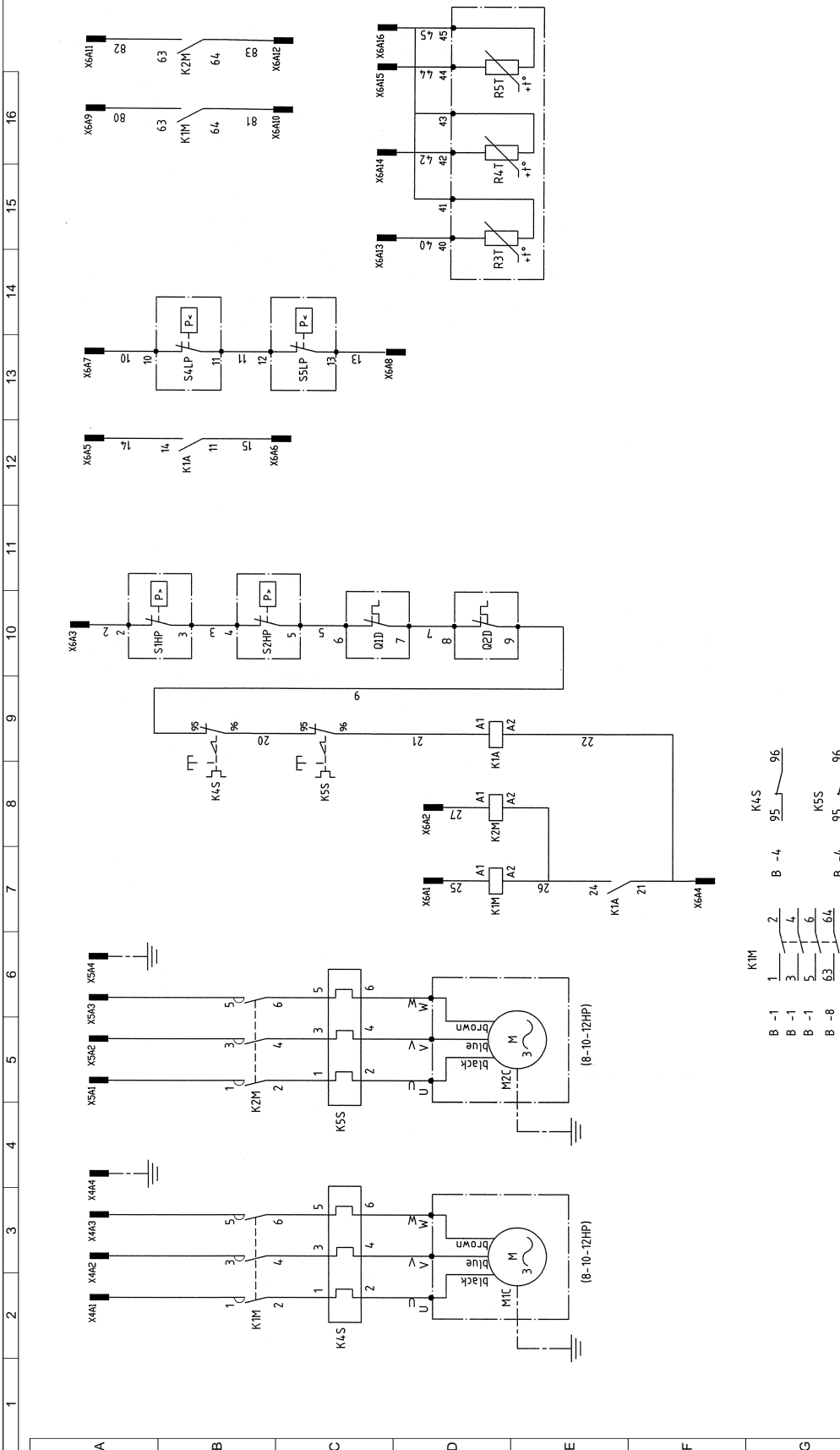
3TW53476-1B (2/2)

# 8

## Wiring diagrams



EUW16-72HZ (Wiring diagram main switch box)



Interconnection connector main ↔ Control switchbox (1/8)  
 Low pressure switch  
 High pressure switch  
 Cond. inlet temperature sensor  
 Evaporator inlet water temperature sensor  
 Discharge thermal protector MTC  
 Compressor motor  
 Compressor relay MTC  
 Compressor MTC contactor  
 Compressor MTC contactor

X6A XAA/XSA  
 S4LP/S5LP  
 RST  
 R4T  
 R3T  
 Q2D  
 Q2D  
 MTC  
 K1A  
 K1A  
 K5S  
 K5S  
 K2M  
 K1M

	400V	10HP	12HP
Fuses + overcurrent	8HP	10HP	12HP
K4S	14A	18A	20A
K5S	14A	18A	20A

- Recommended fuses gL/gG (aM also admitted) according to IEC standard 269-2 (F1U/F2U/F3U = gL/gG)  
 - Switchbox might only be used together with control switchbox for:  
 WC 16-20-24HP  
 WC 32-48HP  
 WC 52-72HP

	400V	10HP	12HP
Fuses + overcurrent	8HP	10HP	12HP
K4S	14A	18A	20A
K5S	14A	18A	20A

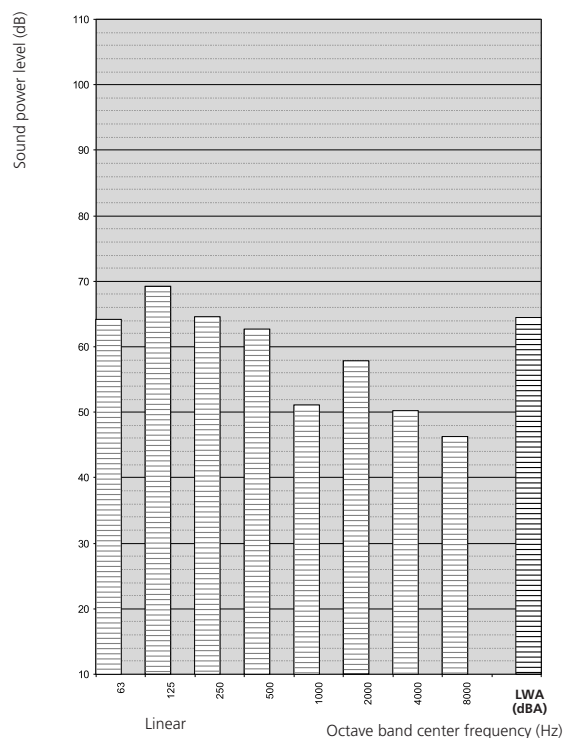
NOTES  
 (1) ● Terminal 1  
 (2) ○ Wire 2  
 (3) ----- Field wiring, to be in accordance with the local electrical regulations  
 (4) --- Earth wiring  
 (5) [ ] Outside switchbox  
 (6) If compressor rotates reversely, it may be damaged.

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# 9 Sound power spectrum

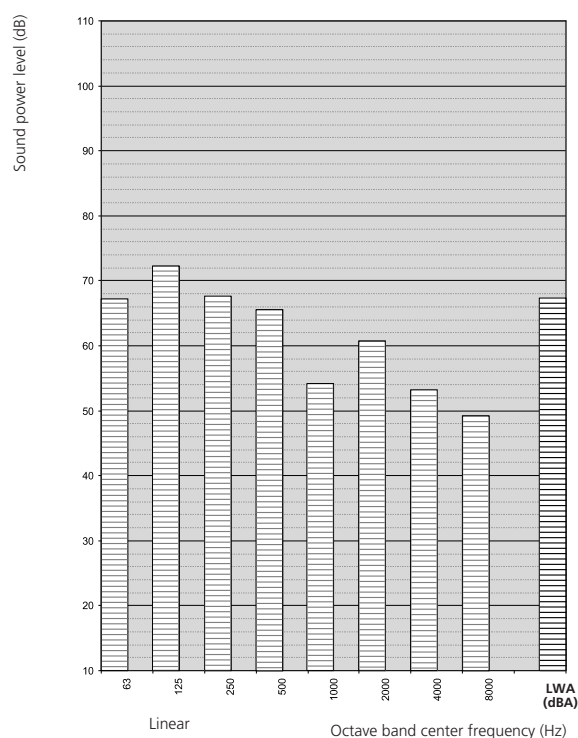


EUW5-12HZ



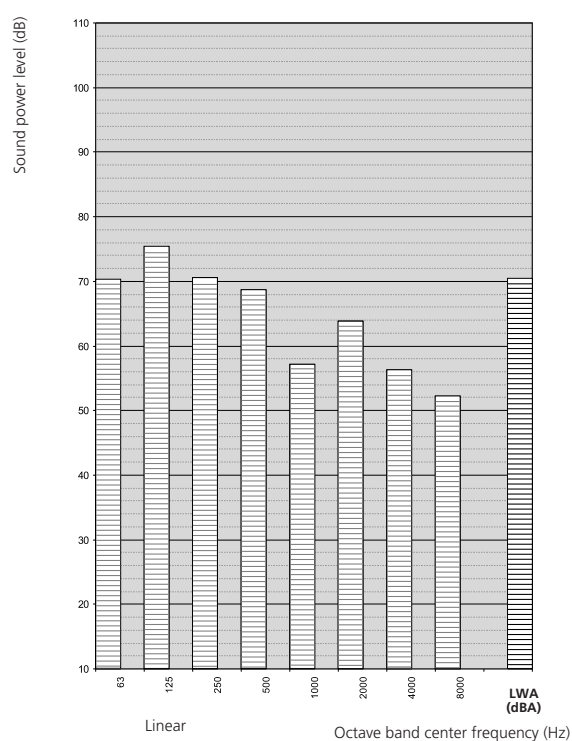
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EUW16-24HZ



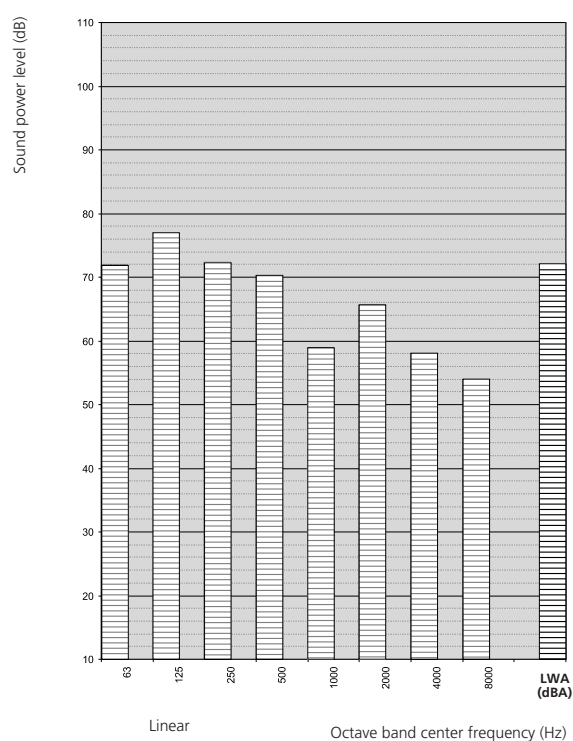
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EUW32-48HZ



4TW53477-3

EUW52-72HZ



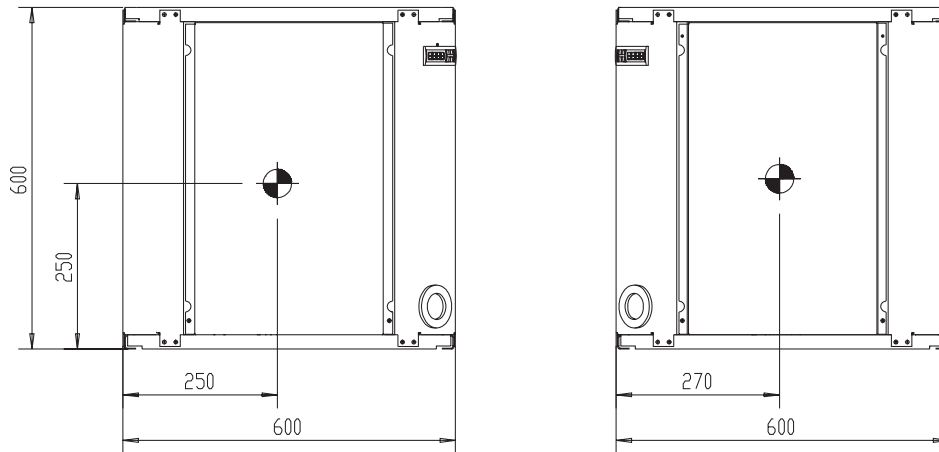
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# 10 Installation

## 10-1 Centre of gravity



EUW5-12HZ



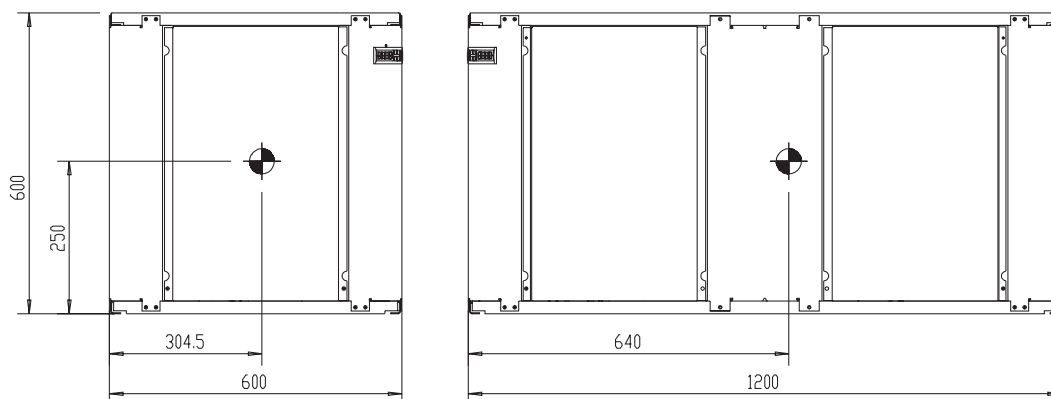
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EUW16-24HZ



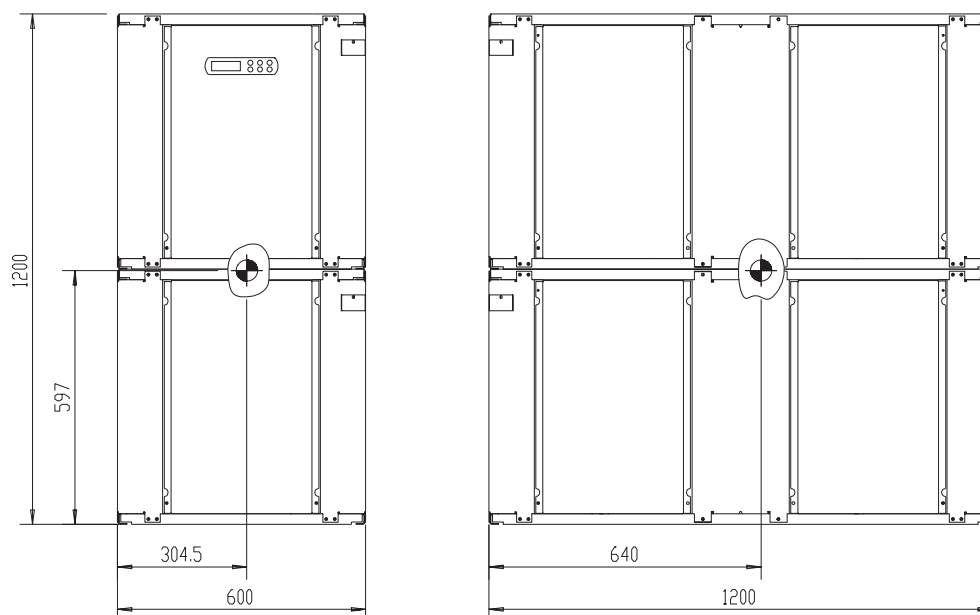
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# 10 Installation

## 10-1 Centre of gravity

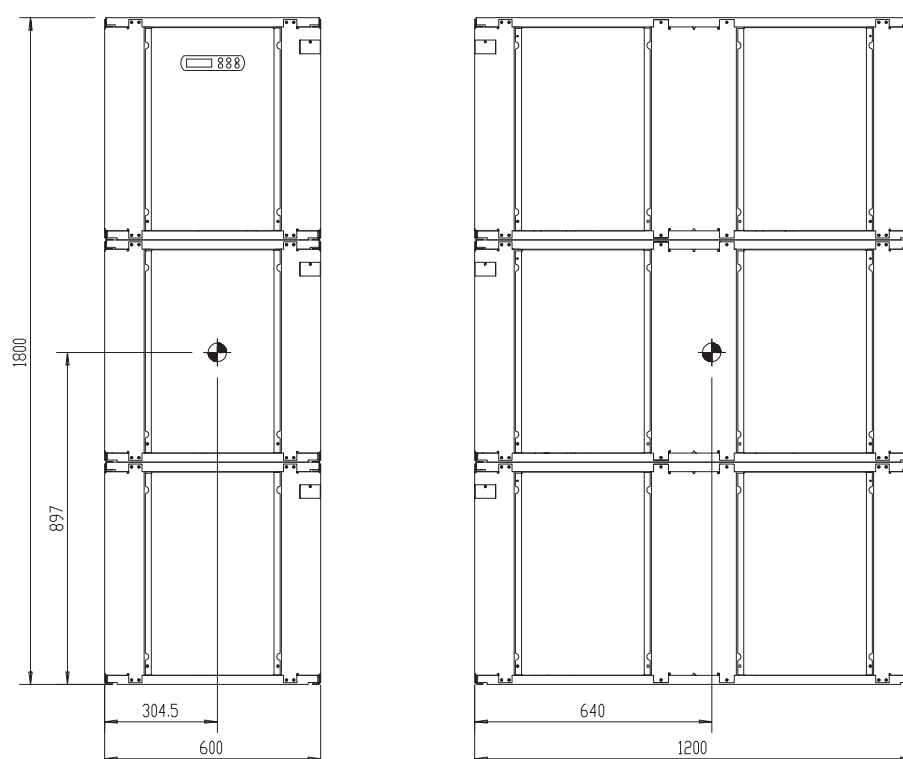


### EUW32-48HZ



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### EUW52-72HZ



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