

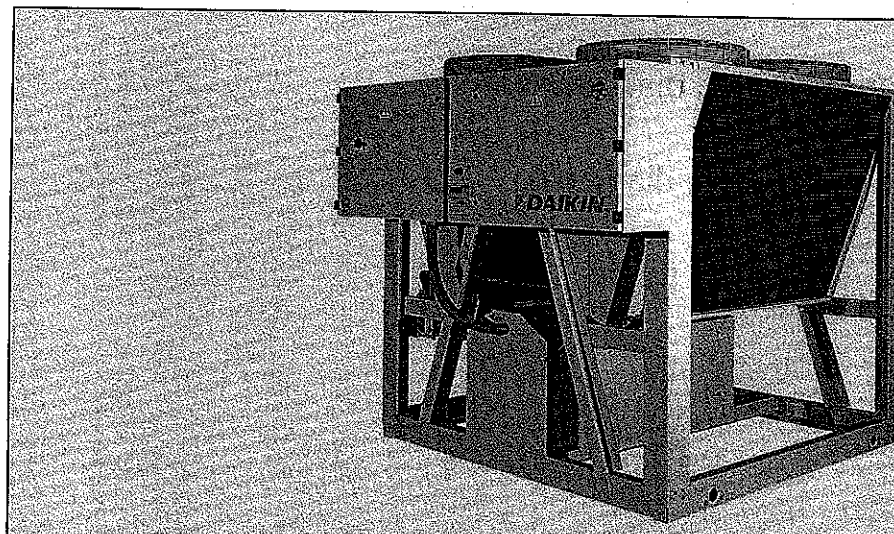
1 Features



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- Daikin single screw compressor
- All components optimised for use with R-407C refrigerant
- Electronic DDC controller
- Modular format
- Standard operating range down to -15°C ambient
- High quality, anti-corrosion treated components as standard
- Moisture indicator as standard
- Victaulic joints as standard
- Chilled water temperatures down to 4°C (down to -10°C with ZL option and glycol)
- Optional BMS and DDCN connection available
- Double refrigeration circuits (from 160hp on)
- Pre-mounted, 5 inch piping for easier field connection



Specifications



NOMINAL CAPACITY, CAPACITY STEPS and NOMINAL INPUT

			EUWA*40LZ	EUWA*50LZ	EUWA*60LZ	EUWA*80LZ	EUWA*100LZ
NOMINAL CAPACITY	Cooling	kW	97	129	155	205	274
CAPACITY STEPS		%	100 - 74 - 48 - 0	100 - 74 - 47 - 0		100 - 74 - 48 - 0	
NOMINAL INPUT	Cooling	kW	42	55	66	87	112

TECHNICAL SPECIFICATIONS

			EUWA*40LZ	EUWA*50LZ	EUWA*60LZ	EUWA*80LZ	EUWA*100LZ	
	Unit	H	mm	2,160	2,160	2,160	2,165	2,165
		W	mm	2,340	2,340	2,340	4,280	4,280
		D	mm	2,238	2,238	2,238	2,238	2,238
Machine weight		kg	1,346	1,610	1,637	2,833	2,565	
Operation weight		kg	1,354	1,623	1,653	2,853	2,592	
			Polyester painted galvanised steel plate					
			Ivory white / Munsell code 5Y7.5/1					
	Sound pressure	dB(A)	-	-	-	-	-	
	Sound power	dB(A)	91	94	95	95	98	
	Air flow rate	m³/min	960	960	960	1,920	1,920	
	Speed	rpm	750	900	900	750	900	
	Type		Direct drive propeller					
	Qty.		4	4	4	8	8	
	No. of motors x output	W	4 x 500	4 x 1,200	4 x 1,200	8 x 500	8 x 1,200	
	Discharge		Vertical					
	Type		Brased plate heat exchanger, one per circuit					
	Qty x model		1 x AC120EQ-NP80	1 x AC120EQ-NP120	1 x AC120EQ-NP156	1 x AC250EQ-NP96	1 x AC250EQ-NP128	
	Minimum water volume in the system	l	1,100	1,450	1,780	2,351	3,050	
	Water flow rate (min/max)	l/min	140/560	185/740	220/890	185/735	390/1,570	
	Nominal water pressure drop	kPa	37	35	32	29	29	
	Insulation material		PVC nitril foam					
	Type		Cross fin coil / Hi-X tubes and chromate coated waffle louver fins					
	Rows x stages x fin pitch	mm	2 x 50 x 2	3 x 50 x 2	3 x 50 x 2	2 x 50 x 2	3 x 50 x 2	
	Face area	m²	8.4	8.4	8.4	16.8	16.8	
	Refrigerant type		R-407C					
	Refrigerant charge	kg	32	49	49	80	97	
	No. of circuits		1	1	1	1	1	
	Refrigerant control		Thermostatic expansion valve					
	Type		Semi-hermetic single screw					
	Qty x model	Y1	1 x ZHC3LSFYE	1 x ZHC5LSFYE	1 x ZHC5LLFYE	1 x ZHC7SLFYE	1 x ZHC7LLFYE	
	No. of compressors		1	1	1	1	1	
	Speed	rpm	2,880	2,880	2,880	2,880	2,880	
	Refrigerant oil type		FVC68D					
	Refrigerant oil charge	l	7.5	10	10	13	13	
	Crankcase heater	W	1 x 150	1 x 150	1 x 150	1 x 150	1 x 150	
	Evap. water in/outlet		Flexible coupling 3"					
	Evaporator water drain		Field installation	Field installation	Field installation	1/4"G	1/4"G	
	Relief device outlet		Compressor: 1"NPT	Compressor: 1"NPT	Compressor: 1"NPT	Compressor: 1"NPT	Compressor: 2 x 1"NPT	
SAFETY DEVICES			Double TÜV approved high pressure switches / Low pressure protection / Pressure relief valve on compressor / Compressor motor thermal protector / Compressor motor overcurrent relay / Discharge temperature controller / Freeze-up protection / Recycling and guard timer / Digital display controller with electronic temperature control / Reverse phase protector					

2 Specifications


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NOMINAL CAPACITY, CAPACITY STEPS and NOMINAL INPUT

UNITS			EUWA*120LZ	EUWA*160LZ	EUWA*180LZ	EUWA*200LZ
NOMINAL CAPACITY (1)	Cooling	kW	313	419	479	539
CAPACITY STEPS		%	100-74-48-36-0	100-87-74-61-48-24-0	100-89-74-63-48-27-0 (100hp compressor leads)	100-87-74-61-48-24-0
NOMINAL INPUT	Cooling	kW	141	171	202	232

TECHNICAL SPECIFICATIONS

UNITS				EUWA*120LZ	EUWA*160LZ	EUWA*180LZ	EUWA*200LZ
DIMENSIONS	Unit	H	mm	2,165	2,165	2,165	2,165
		W	mm	4,280	5,906	5,906	5,906
		D	mm	2,238	2,238	2,238	2,238
WEIGHT	Machine weight	kg	3,404	5,002	5,044	5,086	
	Operation weight	kg	3,438	5,076	5,125	5,174	
MATERIAL				Polyester painted galvanised steel plate			
COLOUR				Ivory white / Munsell code 5Y7.5/1			
SOUND LEVEL (2)	Sound pressure	dB(A)	—	—	—	—	
	Sound power	dB(A)	99	100	101	102	
FAN	Air flow rate	m ³ /min	1,920	2,880	2,880	2,880	
	Speed	rpm	900	900	900	900	
	Type		Direct drive propeller				
	Qty x model		8	12	12	12	
	No. of motors x output	W	8 x 1,200	12 x 1,200	12 x 1,200	12 x 1,200	
	Discharge		Vertical				
WATER HEAT EXCHANGER	Type		Brased plate heat exchanger, one per circuit				
	Qty x model		1 x AC250EQ-NP162	1 x AC250EQ-NP96	1 x AC250Q-NP128/ 1 x AC250EQ-NP96	AC250EQ-NP128	
	Minimum water volume in the system	l	2,700	2,400	3,090	3,090	
	Water flow rate (min/max)	l/min	450/1,800	600/2,400	690/2,750	770/3,090	
	Nominal water pressure drop	kPa	28	36	37	39	
	Insulation material		PVC nitril foam				
AIR HEAT EXCHANGER	Type		Cross fin coil / Hi-X tubes and chromate coated waffle louvre fins				
	Rows x stages x fin pitch	mm	3 x 50 x 2	3 x 50 x 2	3 x 50 x 2	3 x 50 x 2	
	Face area	m ²	16.8	25.2	25.2	25.2	
REFRIGERANT CIRCUIT	Refrigerant type		R-407C				
	Refrigerant charge	kg	97	2 x 79	71 + 79	2 x 71	
	No. of circuits		1	2	2	2	
	Refrigerant control		Thermostatic expansion valve				
COMPRESSOR	Type		Semi-hermetic single screw				
	Qty x model	Y1	1 x ZHC9LLFYE	2 x ZHC7SLFYE	1 x ZHC7LLFYE/1 x ZHC7SLFYE	2 x ZHC7LLFYE	
	No. of compressors		1	2	2	2	
	Speed	rpm	2,880	2,880	2,880	2,880	
	Refrigerant oil type		FVC68D				
	Refrigerant oil charge	l	13	2 x 13	2 x 13	2 x 13	
	Crankcase heater	W	1 x 150	2 x 150	2 x 150	2 x 150	
PIPING CONNECTIONS	Evap. water in/outlet		Flexible coupling 3"	Flexible coupling 5"			
	Evaporator water drain		1/4"G				
	Relief device outlet		Compressor: 2 x 1"NPT	Compressor: 2 x (1"NPT)	Compressor: 1 x (1"NPT) + 1 x (2 x 1"NPT)	Compressor: 2 x (2 x 1"NPT)	
SAFETY DEVICES			Double TÜV approved high pressure switches / Low pressure protection / Pressure relief valve on compressor / Compressor motor thermal protector / Compressor motor overcurrent relay / Discharge temperature controller / Freeze-up protection / Recycling and guard timer / Digital display controller with electronic temperature control / Reverse phase protector				



ELECTRICAL SPECIFICATIONS								
UNITS			EUWA*40LZ	EUWA*50LZ	EUWA*60LZ	EUWA*80LZ	EUWA*100LZ	
POWER SUPPLY			Y1	Y1	Y1	Y1	Y1	
NOMINAL DISTRIBUTION SYSTEM VOLTAGE	Phase		3~	3~	3~	3~	3~	
	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	158	193	250	248	316
	Nominal running current	Cooling	A	78	97	110	154	191
	Maximum running current		A	112	135	160	221	277
	Recommended fuses according to IEC standard 269-2		aM	3 x 125gL	3 x 160gL	3 x 160gL	3 x 250gL	3 x 300gL
COMPRESSOR	Phase		3~	3~	3~	3~	3~	
	Voltage	V	400	400	400	400	400	
	Starting current	A	158	193	250	248	316	
	Nominal running current	A	65	81	94	125	160	
	Maximum running current	A	99	119	144	195	247	
	Starting method		Star-delta					
	Recommended fuses		Factory installed					
CONTROL CIRCUIT	Phase		1~					
	Voltage	V	230					
	Recommended fuses		Factory installed					

2 Specifications



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ELECTRICAL SPECIFICATIONS							
UNITS			EUWA*120LZ	EUWA*160LZ	EUWA*180LZ	EUWA*200LZ	
POWER SUPPLY			Y1	Y1	Y1	Y1	
NOMINAL DISTRIBUTION SYSTEM VOLTAGE	Phase		3~	3~	3~	3~	
	Frequency	Hz	50	50	50	50	
	Voltage	V	400	400	400	400	
	Voltage tolerance	%	± 10	± 10	± 10	± 10	
UNIT	Starting current		A	289	248	316/248	316
	Nominal running current	Cooling	A	239	297	331	365
	Maximum running current		A	341	434	486	541
	Recommended fuses according to IEC standard 269-2		aM	3 x 400gL	2x(3x315gL)(=std); 3x500gL(=op52)	3x400gL + (3x315gL)(=std); 3x500gL (=op52)	2x(3x400gL)(=std); 3x630gL (=op52)
COMPRESSOR	Phase		3~	3~	3~	3~	
	Voltage	V	400	400	400	400	
	Starting current		A	289	248	316 / 248	316
	Nominal running current		A	208	125	159 / 125	159
	Maximum running current		A	310	195	247 / 195	247
	Starting method		Star-delta				
	Recommended fuses		Factory installed				
CONTROL CIRCUIT	Phase		1~	1~	1~	1~	
	Voltage	V	230	230	230	230	
	Recommended fuses		Factory installed				

NOTES

- 1 Nominal cooling capacity is based on the following conditions: evaporator: 12°C/7°C; ambient: 35°C.
- 2 The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value, depending on the distance and acoustic environment.
The sound power level is an absolute value indicating the "power" which a sound source generates.
- 3 Please note that data for EUWA*40/50/80/100/120LZ are preliminary !

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Capacity tables

3-1

Cooling capacities for air conditioning applications



AMBIENT TEMPERATURE (°C)		15		20		25		30		35		40		43	
LWE (°C)	MODEL	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
4	40	116	30	110	32	103	35	96	38	87	41	79	45	60	37
	50	152	41	145	43	136	46	127	49	116	53	105	57	98	59
	60	183	48	173	51	163	55	153	59	141	64	129	69	95	53
	80	232	64	222	67	211	72	199	77	186	84	171	91	162	96
	100	316	81	300	86	283	92	266	99	249	108	231	118	177	98
	120	358	99	342	107	325	115	306	125	287	136	197	119	186	125
	160	467	125	449	132	429	141	406	152	380	165	353	180	335	190
	180	538	143	515	152	491	164	465	178	436	194	356	179	339	190
7	200	610	161	582	173	553	187	523	204	492	223	359	179	344	189
	40	126	31	120	33	113	36	105	39	97	42	88	46	67	38
	50	168	42	159	45	150	48	140	51	129	55	118	59	89	49
	60	198	50	188	53	178	57	167	62	155	66	143	72	105	55
	80	253	66	243	70	231	75	218	81	205	87	189	95	180	100
	100	344	84	327	89	310	95	292	103	274	112	255	122	197	101
	120	387	104	370	111	352	120	333	130	313	141	215	123	205	130
	160	511	130	492	138	470	147	446	158	419	171	391	186	291	143
10	180	586	149	562	159	536	171	509	185	479	202	393	185	335	169
	200	661	168	632	180	602	195	571	212	539	232	394	184	378	195
	40	138	32	131	35	124	37	115	40	107	44	97	48	75	39
	50	183	44	175	47	165	50	155	53	143	57	131	61	100	50
	60	214	52	204	55	193	59	182	64	170	69	122	54	116	56
	80	275	69	264	73	252	78	238	84	224	91	208	98	198	104
	100	373	88	355	93	337	99	319	107	299	116	280	126	217	104
	120	417	108	400	116	381	125	361	135	340	146	235	127	224	134
16	160	556	136	536	144	513	153	488	165	461	178	432	194	322	148
	180	634	156	609	166	582	178	554	193	524	210	431	192	368	175
	200	713	176	683	188	652	203	620	221	586	241	431	191	414	202
	40	162	35	155	37	146	40	138	43	128	47	97	40	92	42
	50	216	49	206	51	196	54	185	58	173	62	130	52	123	54
	60	245	56	235	60	224	64	212	69	199	74	145	58	138	61
	80	320	75	308	80	294	85	280	91	264	99	248	107	175	83
	100	433	96	414	101	394	108	374	116	354	125	270	105	184	80
	120	481	119	462	127	441	136	420	146	397	157	276	136	265	143
	160	649	150	627	158	603	168	576	180	547	194	402	152	387	159
	180	735	172	707	183	678	196	648	211	540	191	453	180	437	189
	200	820	195	787	208	754	224	719	242	533	189	505	207	487	218

SYMBOLS

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

italic : preliminary

NOTES

- Cooling capacity (CAP)**
 CAP = Cool. Cap. from table (kW)
 NOTE: Capacity is for chilled water range Dt = 3-8°C
- Power input (PI)**
 PI = Power input from table (kW)
 NOTE: Power input is total input: compressor + fans + control circuit + pumps
- Water flow rate (WFR)**
 $WFR = (860 \times CAP) / (60 \times Dt)$ (l/min)
 CAP = From above calculation
 Dt = Chilled water temperature rise within 3-8°C
 NOTE: WFR should always be within the limits
- Water pressure drop through the evaporator (PDw)**
 PDw = Water pressure drop from water pressure drop curve at above calculated WFR.
- CAP and PI are according to the Eurovent rating standard 6/C/003-96.
- Min. water volume system applicable at nominal conditions

3 Capacity tables

3-2 Cooling capacities with glycol for process cooling application



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AMBIENT TEMPERATURE (°C)		15		20		25		30		35		40		43	
LWE (°C)	MODEL	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	40	73	26	69	28	64	30	59	33	53	36	Out of operation range			
	50	95	35	90	37	84	40	76	43	68	46				
	60	117	42	109	45	102	48	93	52	83	56				
	80	144	54	137	57	129	60	120	65	109	71				
	100	196	69	184	73	172	79	159	86	147	95				
	120	244	80	233	86	220	94	206	103	190	112				
	160	285	105	272	111	256	119	238	130	217	142				
	180	337	120	320	129	301	140	280	153	258	168				
-5	200	390	135	368	146	346	160	322	176	298	195	57	41	52	43
	40	87	28	83	29	77	32	71	34	65	38	75	52	69	55
	50	115	37	109	39	101	42	94	45	85	49	92	64	85	67
	60	139	44	131	47	122	50	113	54	103	59	121	82	113	87
	80	173	57	166	60	156	64	146	69	134	75	164	108	155	115
	100	234	73	221	77	207	83	193	90	179	99	205	129	194	137
	120	283	84	270	91	256	99	240	108	223	118	246	163	230	173
	160	345	110	331	117	313	125	293	136	271	149	290	194	239	173
0	180	405	126	385	135	364	146	341	160	317	176	334	225	247	174
	200	464	143	440	154	415	167	389	184	362	203	370	243	265	181
	40	103	29	98	31	92	33	85	36	78	39	93	55	86	57
	50	136	39	129	41	121	44	112	47	103	51	112	67	82	51
	60	163	46	154	49	145	53	134	57	124	62	148	87	139	92
	80	205	61	196	64	186	68	175	73	162	80	198	113	188	120
	100	275	77	261	82	246	88	230	95	214	104	239	136	227	137
	120	323	90	309	97	293	105	276	114	258	124	303	171	286	181
2	160	411	117	395	124	375	133	354	144	330	157	353	203	293	181
	180	477	134	456	144	433	155	408	169	381	185	403	235	299	181
	200	543	152	517	163	490	177	462	194	433	213	475	244	321	185
	40	110	30	104	32	98	34	91	37	84	40	100	56	93	59
	50	145	40	138	42	129	45	120	48	111	52	120	68	88	52
	60	172	47	164	51	154	54	143	59	132	63	160	89	150	94
	80	218	62	209	66	199	70	187	75	174	82	212	116	202	122
	100	293	79	277	84	262	90	246	97	229	106	253	139	238	137
	120	340	92	325	99	309	107	291	117	273	127	328	175	310	185
	160	439	121	421	127	402	136	380	147	355	160	379	207	316	185
	180	507	138	485	147	461	159	436	173	409	189	431	240	321	185
	200	576	156	549	167	521	181	492	198	462	218				

SYMBOLS

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

italic : preliminary

NOTES

- Cooling capacity (CAP)**
CAP = Cool. Cap. from table (kW)
NOTE: Capacity is for chilled water range Dt = 3-8°C
- Power input (PI)**
PI = Power input from table (kW)
NOTE: Power input is total input: compressor + fans + control circuit + pumps
- Water flow rate (WFR)**
WFR = (860 x CAP)/(60 x Dt) (l/min)
CAP = From above calculation
Dt = Chilled water temperature rise within 3-8°C
NOTE: WFR should always be within the limits
- Water pressure drop through the evaporator (PDw)**
PDw = Water pressure drop from water pressure drop curve at above calculated WFR.
- CAP and PI are according to the Eurovent rating standard 6/C/003-96.
- Min. water volume system applicable at nominal conditions

Capacity tables

Cooling capacities with glycol for process cooling application



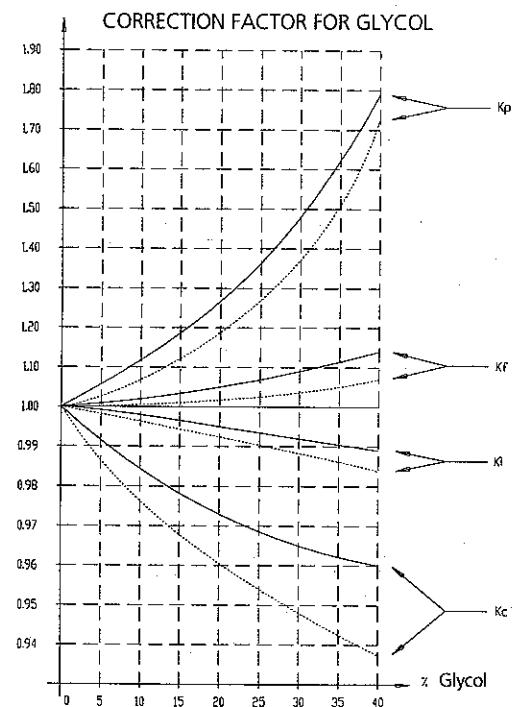
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Glycol concentration

	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



Legend

- Ethylene glycol
- - - Propylene glycol
- K_c Correction on cooling capacity
- K_i Correction on power input
- K_f Correction on flow rate
- K_p Correction on pressure drop

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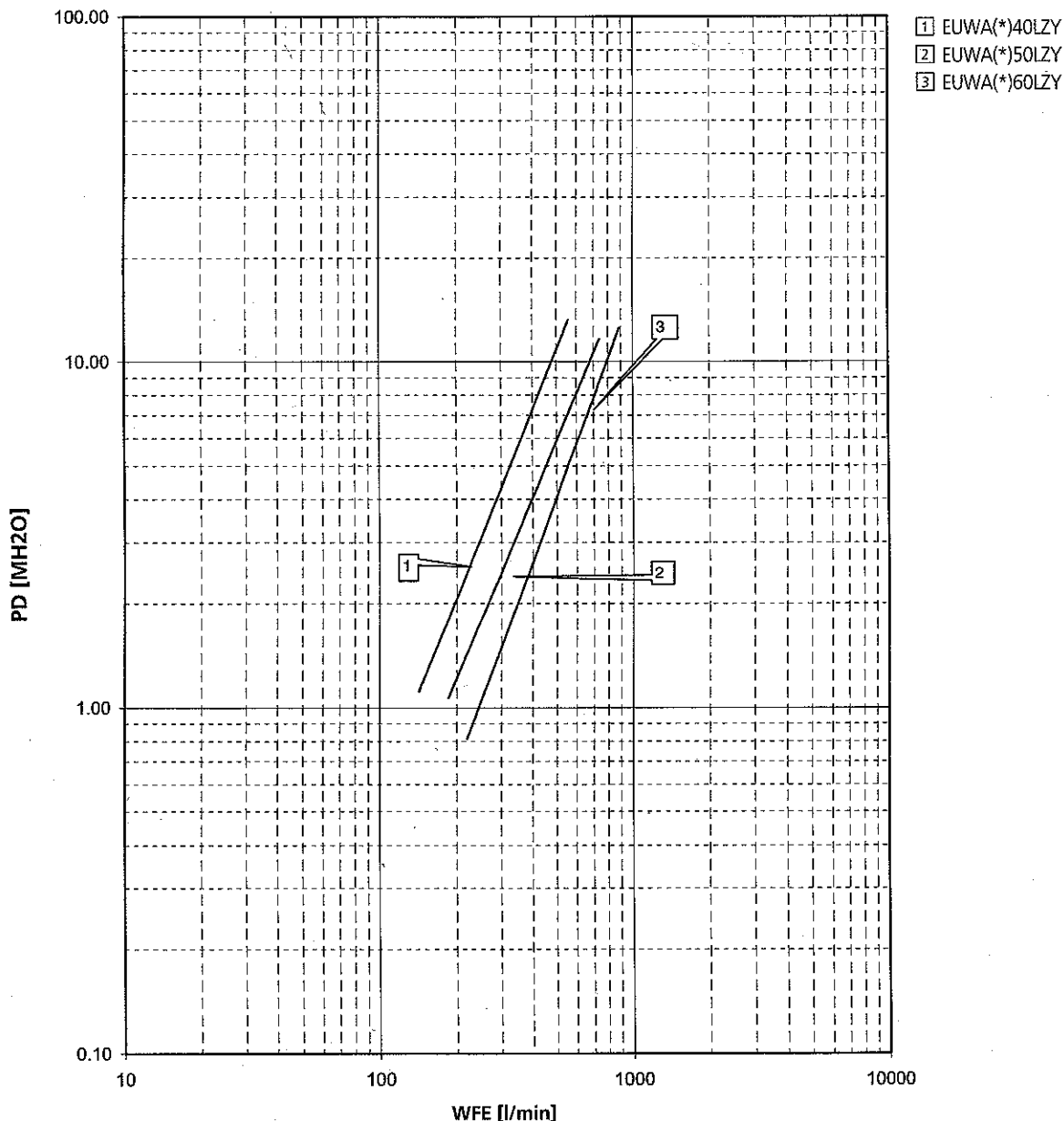
4 Water pressure drop curve



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EUWA*40-60LZ



SYMBOLS

PD: Pressure drop through evaporator
WFE: Evaporator waterflow rate

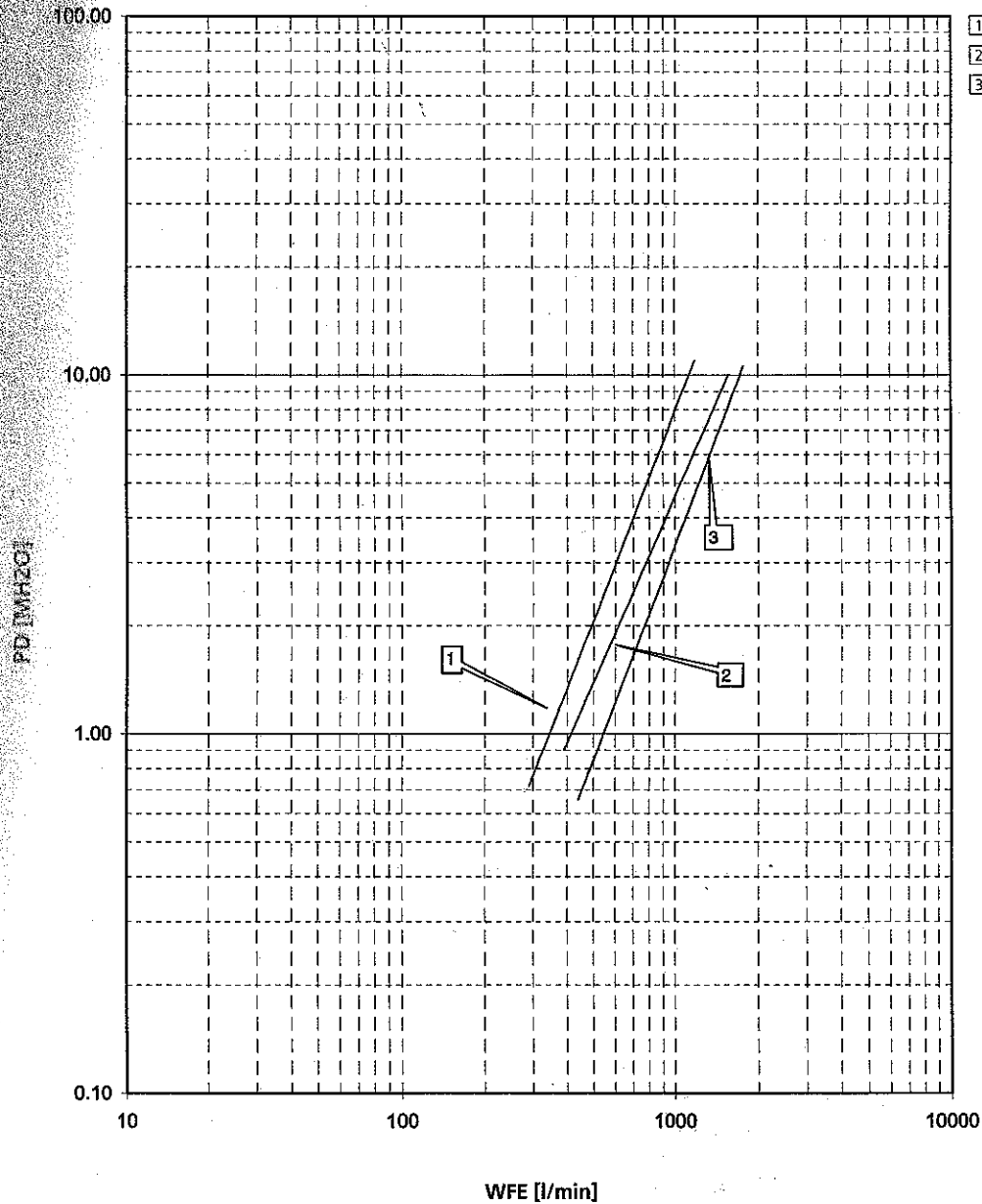
Warning: Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW53379-2A

Water pressure drop curve



EUWA*80-120LZ



- 1 EUWA(*)80LZY (preliminary)
- 2 EUWA(*)100LZY
- 3 EUWA(*)120LZY (preliminary)

SYMBOLS

PD: Pressure drop through evaporator
WFE: Evaporator waterflow rate

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

4TW53409-2A

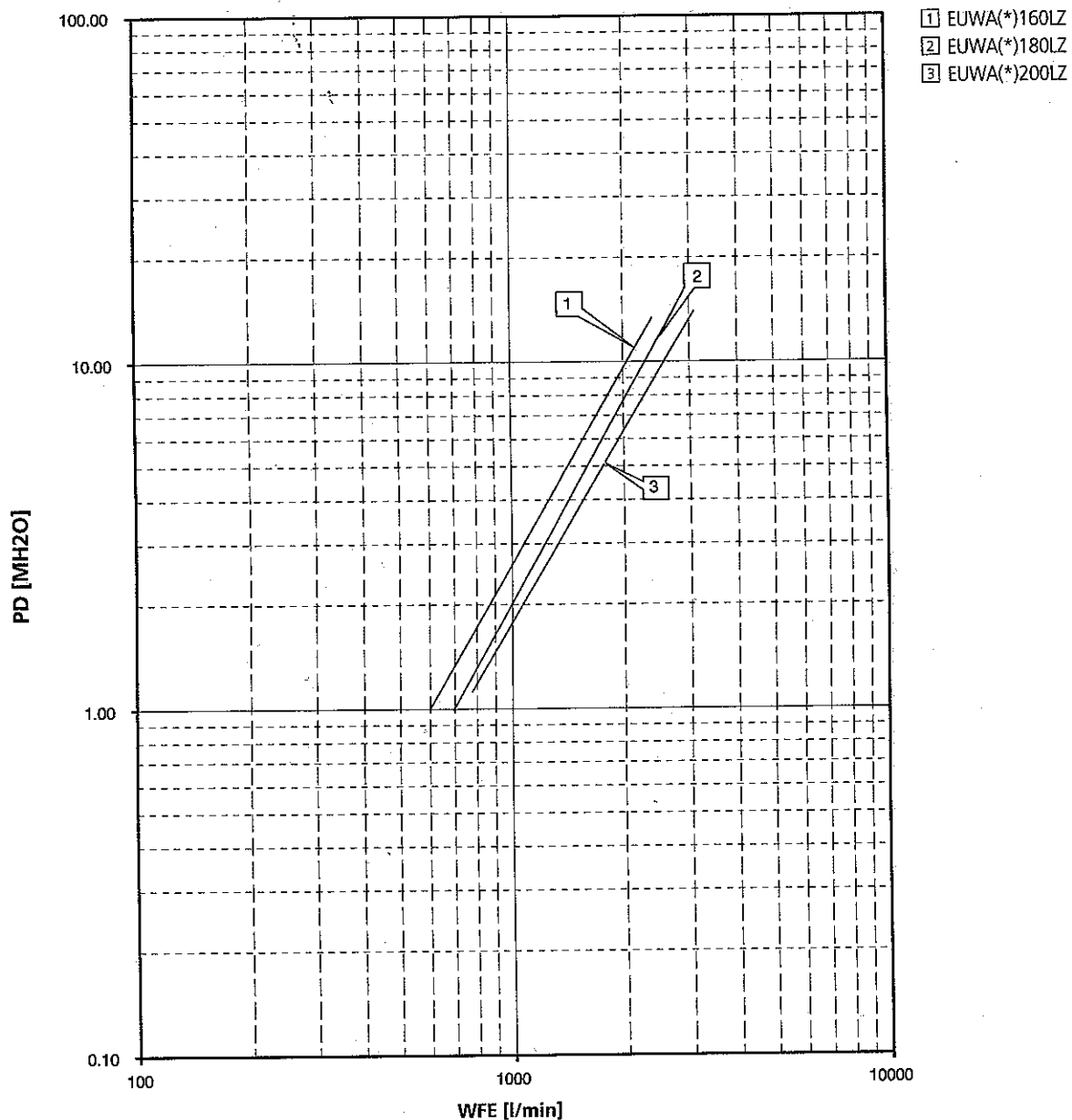
4 Water pressure drop curve



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EUWA*160-200LZ



SYMBOLS

PD: Pressure drop through evaporator
WFE: Evaporator waterflow rate

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



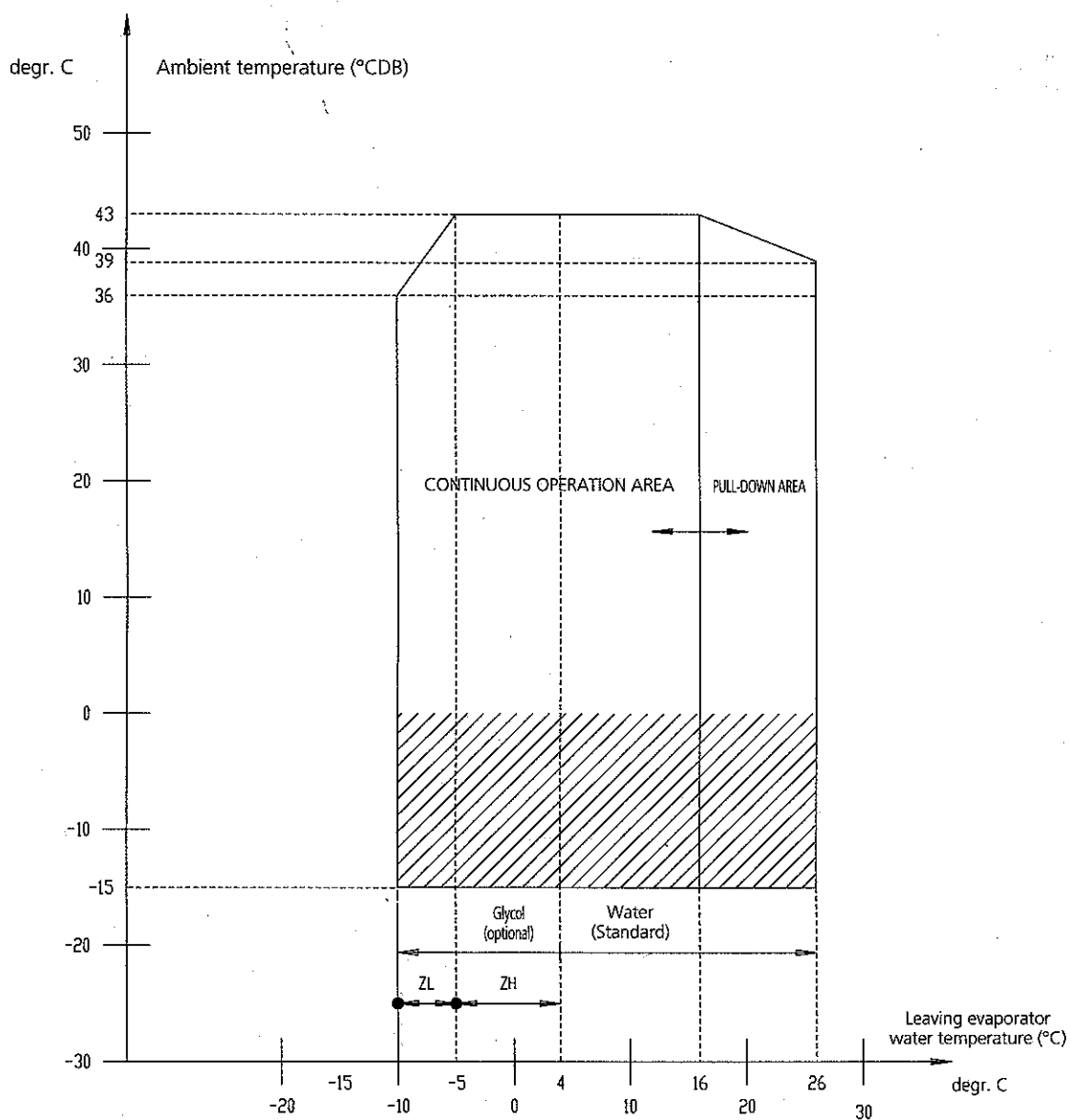
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Operation range

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EUWA*40-200LZ

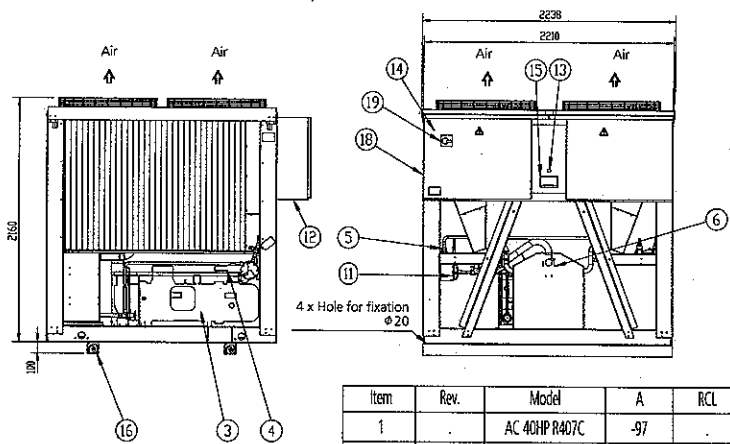


Protect the water circuit against freezing by:
 - or heater tape (Optional for EUWA(B), (M), (S), (K), (Q), ()
 (Standard for EUWA(T))
 - or filling up the system with a glycol solution

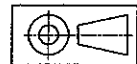
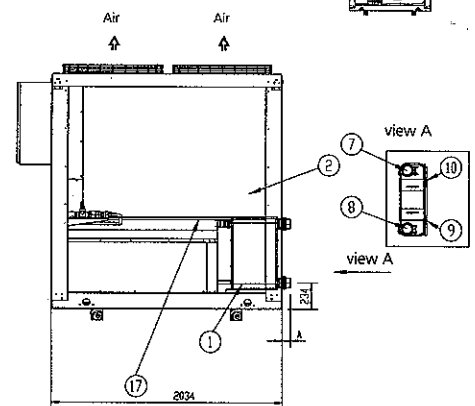
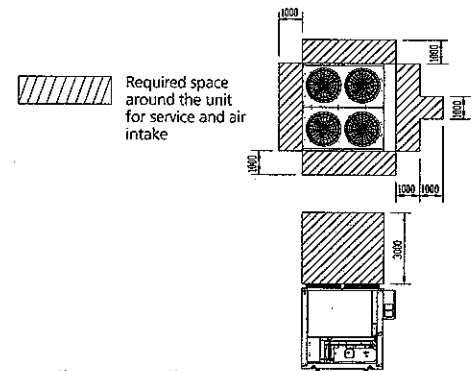
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Item	Rev.	Model	A	RCL
1	.	AC 40HP R407C	-97	.
2	.	AC 50HP R407C	-12	.
3	.	AC 60HP R407C	74	.



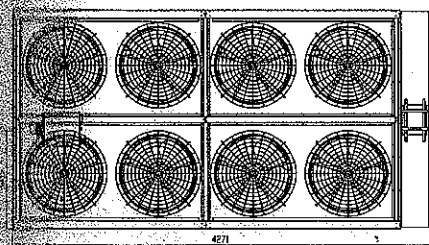
3TW53374-1A

- | | | | |
|----|-----------------------------------|----|---------------------------------|
| 1 | Evaporator | 11 | Drier |
| 2 | Condenser | 12 | Power supply intake |
| 3 | Compressor | 13 | Emergency stop |
| 4 | Discharge stop valve | 14 | Switch box |
| 5 | Liquid stop valve | 15 | Digital display control (DDC) |
| 6 | Suction stop valve (optional) | 16 | Transport beam |
| 7 | Chilled water in | 17 | Ambient temperature sensor |
| 8 | Chilled water out | 18 | Field wiring intake |
| 9 | Leaving water temperature sensor | 19 | Main isolator switch (optional) |
| 10 | Entering water temperature sensor | | |

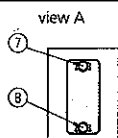
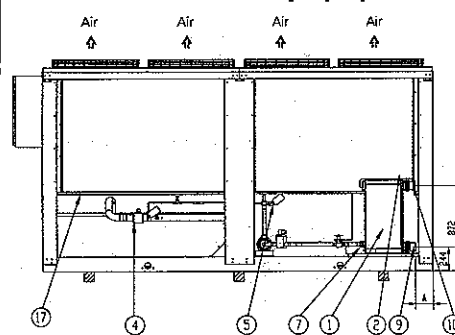
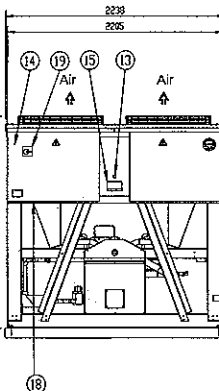
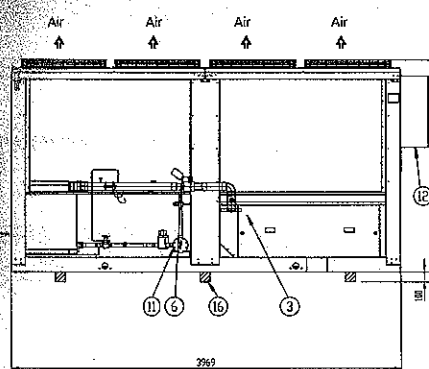
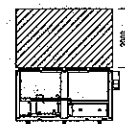
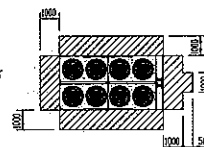
Dimensional drawings



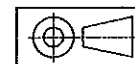
EUWA*80-100-120LZ



Required space around the unit for service and air intake



Model	A	RCL
AC 80HP R407C	273	
AC 100HP R407C	182	
AC 120HP R407C	88	

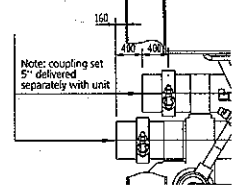


3TW53404-1A

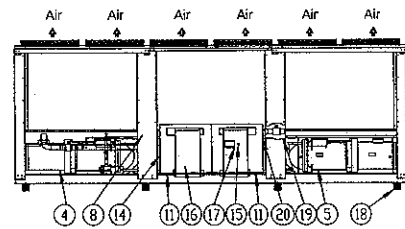
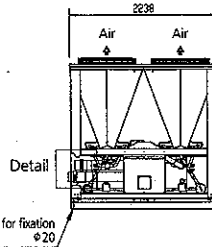
- 1 Evaporator
- 2 Condenser
- 3 Compressor
- 4 Discharge stop valve
- 5 Liquid stop valve
- 6 Suction stop valve (optional)
- 7 Chilled water in
- 8 Chilled water out
- 9 Leaving water temperature sensor
- 10 Entering water temperature sensor

- 11 Drier
- 12 Power supply intake
- 13 Emergency stop
- 14 Switch box
- 15 Digital display control (DDC)
- 16 Transport beam
- 17 Ambient temperature sensor
- 18 Field wiring intake
- 19 Main isolator switch (optional)

Detail (scale 1/12.5)



Technical drawing of a 2x3 grid of circular fans. The grid is enclosed in a rectangular frame. The horizontal dimension is labeled as 590 and the vertical dimension is labeled as 520. Each fan is represented by a circle with internal radial lines indicating the fan blades.



Model	Chilled water in	Chilled water out
AC 160HP R407C	Flexible joint 5"	Flexible joint 5"
AC 180HP R407C	Flexible joint 5"	Flexible joint 5"
AC 200HP R407C	Flexible joint 5"	Flexible joint 5"



3TW52094-1D

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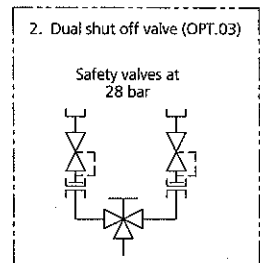
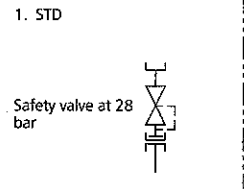
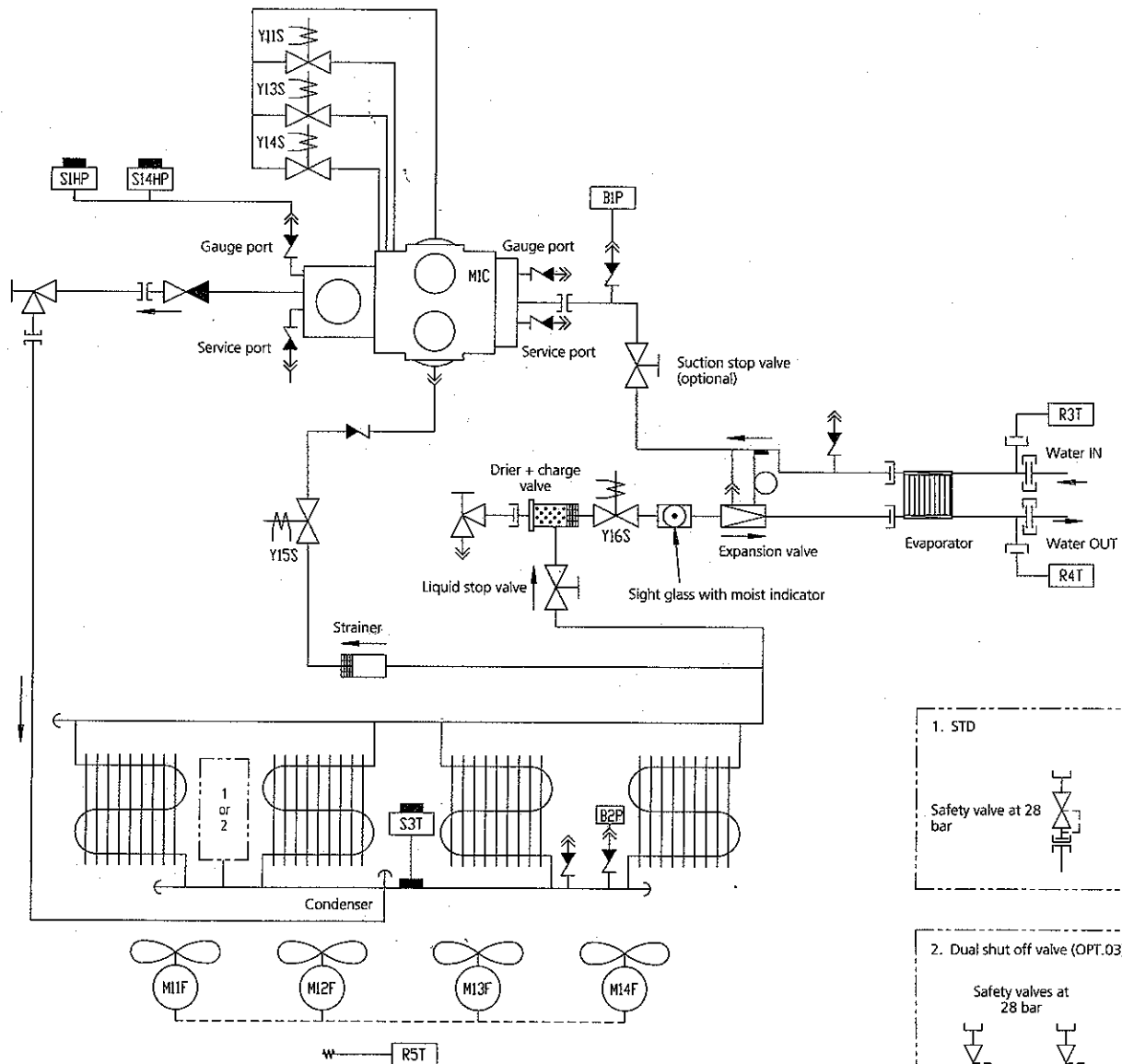
7

Piping diagrams

2

7

EUWA*40-50-60LZY



- M11F Fan motor
- M12F Fan motor
- M13F Fan motor
- M14F Fan motor
- M1C Compressor motor 1
- S1HP High pressure switch
- S14HP High pressure switch
- S3T Discharge temperature controller
- R3T Inlet water evap. temp. sensor
- R4T Outlet water evap. temp. sensor
- RST Ambient temperature sensor
- B1P Low pressure transmitter
- B2P High pressure transmitter
- Y11S Unloader solenoid valve
- Y13S Unloader solenoid valve
- Y14S Unloader solenoid valve
- Y15S Liquid injection solenoid valve
- Y16S Liquid line solenoid valve

- ↔ Check valve
- ↗ Flare connection
- ⌵ Screw connection
- ⌵ Flange connection
- × Pinched pipe
- Spinned pipe

3TW53375-1

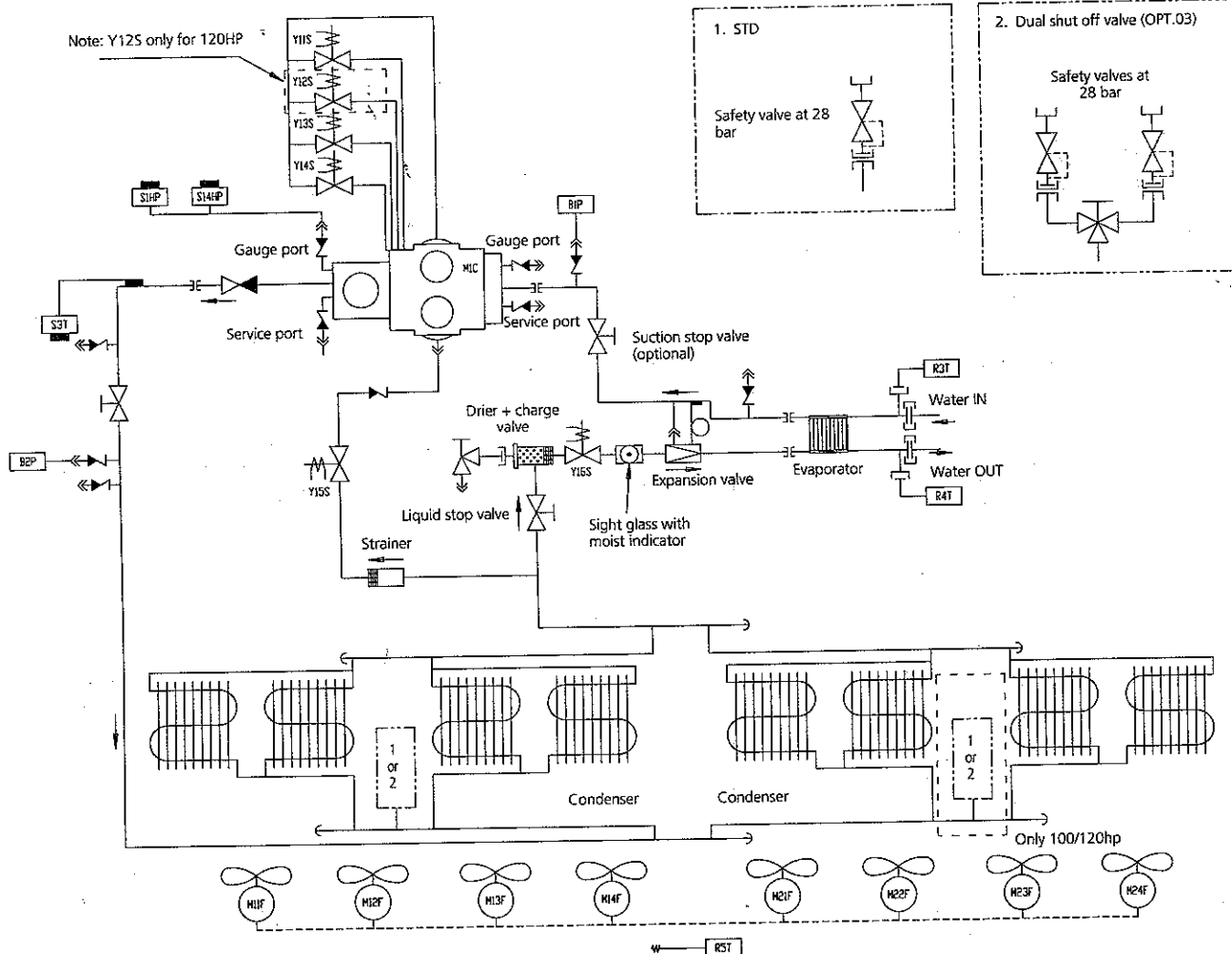
7 Piping diagrams



2

7

EUWA*80-100-120LZY



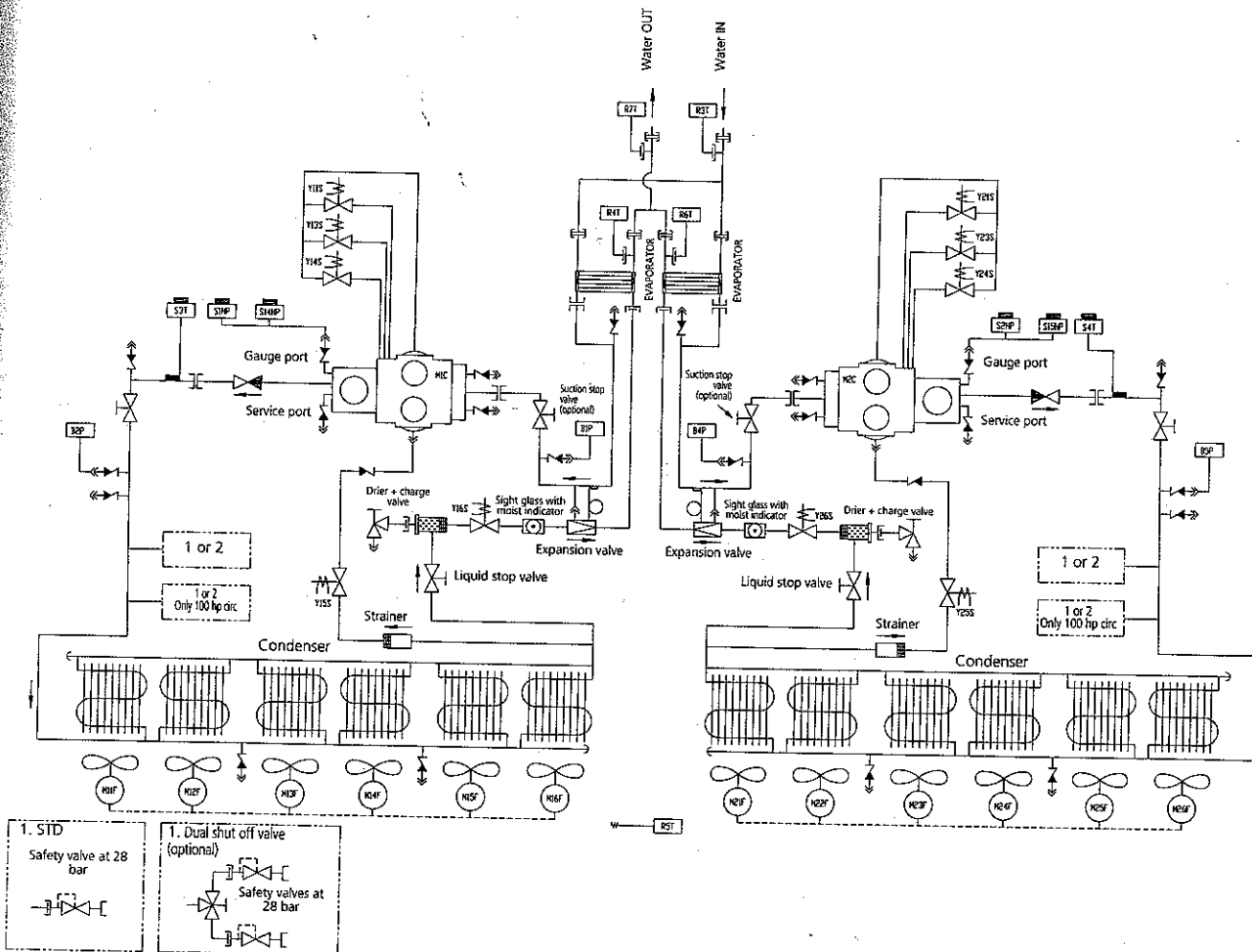
- | | |
|----------|----------------------------------|
| M11F-18F | Condenser fan motor |
| M1C | Compressor motor |
| S11HP | High pressure switch |
| S14HP | High pressure switch |
| S3T | Discharge temperature controller |
| R3T | Inlet water evap. temp. sensor |
| R4T | Outlet water evap. temp. sensor |
| R5T | Ambient temperature sensor |
| B1P | Low pressure transmitter |
| B2P | High pressure transmitter |
| Y11-14S | Unloader solenoid valve |
| Y15S | Liquid injection solenoid valve |
| Y16S | Liquid line solenoid valve |

- | | |
|---|-------------------|
| ↔ | Check valve |
| ↗ | Flare connection |
| ⌵ | Screw connection |
| ⌵ | Flange connection |
| × | Pinched pipe |
| → | Spinned pipe |

3TW53405-1

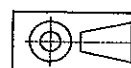
Piping diagrams

EUWA*160-180-200LZY



M11,16F
M21,26F
M1C,M2C
S1,2HP
S14,15HP
S3,4T
R3T
R4T
R6T
R7T
RST
B1,4P
B2,5P
Y11,12,13,14S
Y21,22,23,24S
Y15,25S
Y16,26S

Condenser fan motor
Condenser fan motor
Compressor motor
High pressure switch
High pressure switch
Discharge temperature controller
Inlet water evap. temp. sensor
Outlet water evap. temp. sensor
Outlet water evap. temp. sensor
Mixed outlet water temp. sensor
Ambient temperature sensor
Low pressure transmitter
High pressure transmitter
Unloader solenoid valve
Unloader solenoid valve
Liquid injection solenoid valve
Liquid line solenoid valve

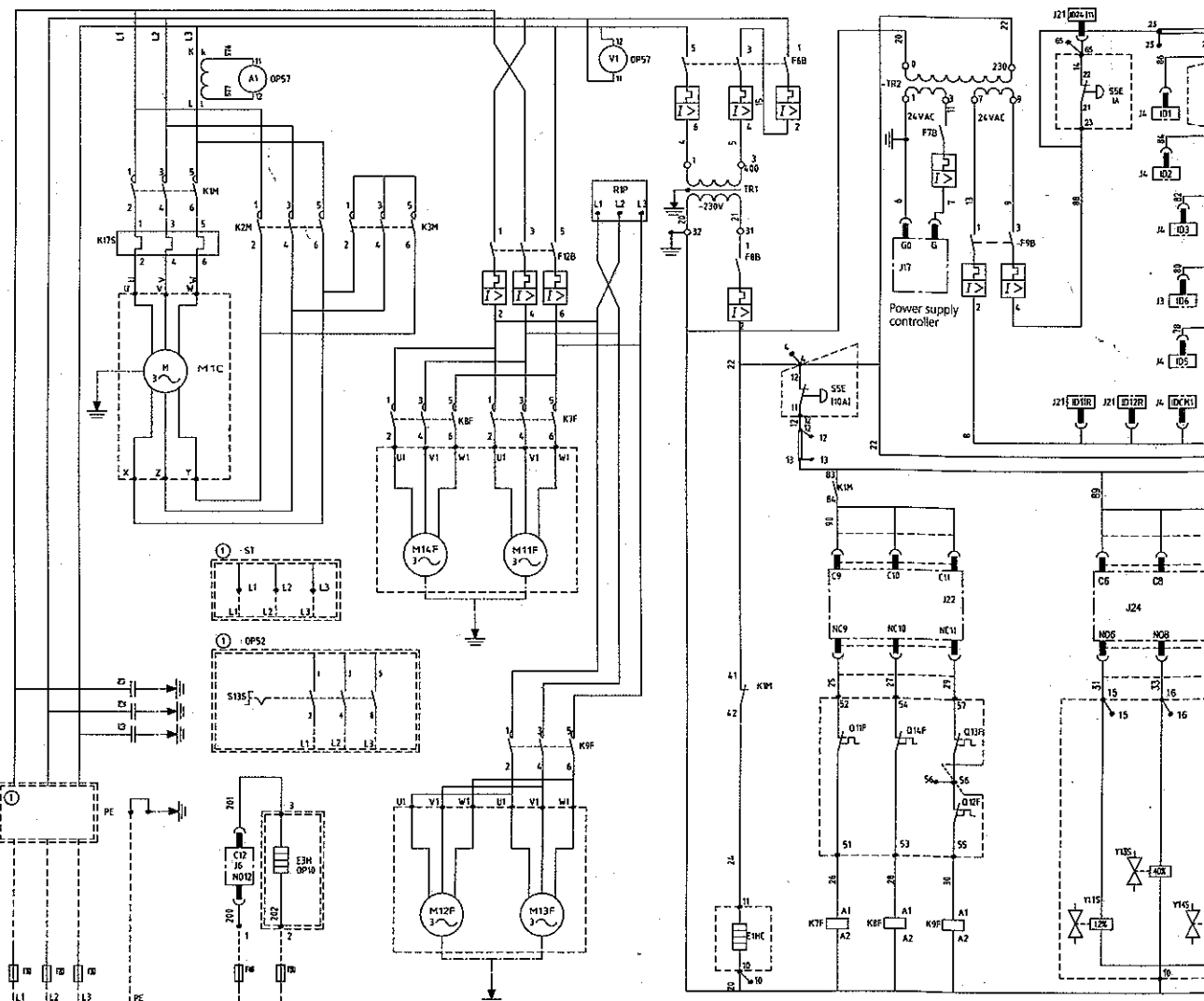


3TW53155-1

Wiring diagrams



EUWA*40-50-60LZ



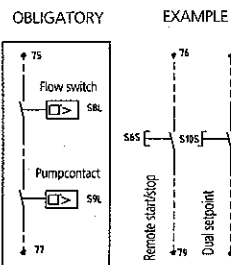
Power supply
3~50Hz 400V

Power supply
1~50Hz 230V

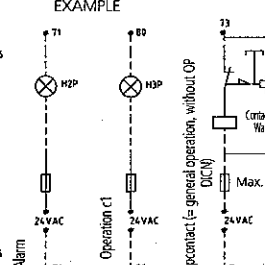
NOTES TO GO THROUGH BEFORE STARTING THE UNIT

- (1) 1, L2, L3: Main terminals
- (2) 1-65: Terminals on main rail
- (3) 71-81: Terminal on field rail
- (4) 197-199: Terminal on field rail for BMS-connection
- (5) U-Z: Main terminals in compressor switchbox
- (6) A-N: Other terminals in compressor switchbox
- (7) = Earth wiring
- (8) = Wire number 13
- (9) = Terminal number 13
- (10) = Field supply
- (11) = Option
- (12) = Not mounted in switchbox
- (13) = PCB board

(9) Input terminals for field wiring



(10) Output terminals for field wiring

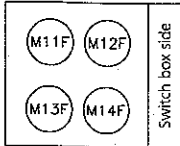


Fuses + overcurrent	40HP	50HP	60HP
F1U/F2U/F3U	3x125A	3x160A	3x160A
F4U/F5U	2A	2A	2A
F6B	1.4A	1.4A	1.4A
F7B	1A	1A	1A
F8B	1.6A	1.6A	1.6A
F9B	1A	1A	1A
F12B	15A	15A	15A
K17S	S8	69	84

(11) Recommended fuses gL/gG (aM also admitted) according to IEC standard 269-2 (F1U, F2U, F3U = gL/gG, F4U, F5U = gL/gG)

- (12) OPTIONAL
- OP10 = Evaporator heatptape
- OP52 = Main isolator switch
- OP57 = A-meter, V-meter
- EKAC.60A = Address card kit for BMS-connections
- DICN

Top view of unit



Front view of unit

- (13) Analog inputs
- J2 (B1-AVSS): Ambient t° measure
- J2 (B2-AVSS): Evaporator inlet t° me
- J2 (B3-AVSS): Evaporator outlet t° m
- J2 (B5-AVSS): Current
- J2 (B6-AVSS): Voltage
- J1 (B7)-J1 (+24V): High pressure
- J1 (B7)-J1 (+24V): Low pressure

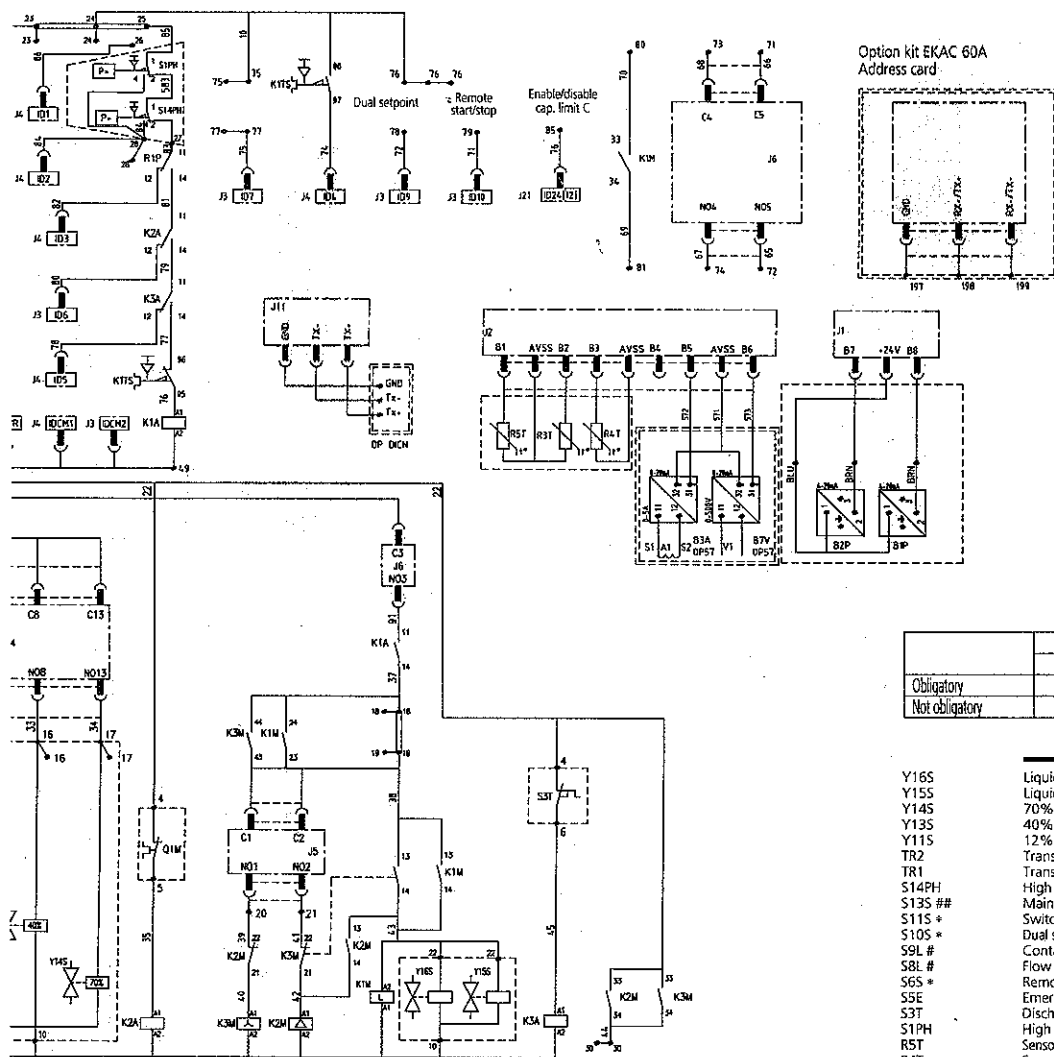
Digital inputs

- J4 (D1-DCM1): Low pressure switch
- J4 (D2-DCM1): High pressure switch
- J4 (D3-DCM1): Reverse phase protector
- J4 (D4-DCM1): Overcurrent relay
- J4 (D5-DCM1): Discharge thermal protector
- J4 (D6-DCM2): Compressor motor thermal protection
- J3 (D7-DCM2): Flow switch
- J3 (D8-DCM2): Controller bypass
- J3 (D9-DCM2): Dual setpoint
- J3 (D10-DCM1): Remote start/stop
- J21 (D2301) J1 (D111R): Emergency stop
- J21 (D2301) J2 (D12R): Enabled/disabled 0m

Digital outputs (relays)

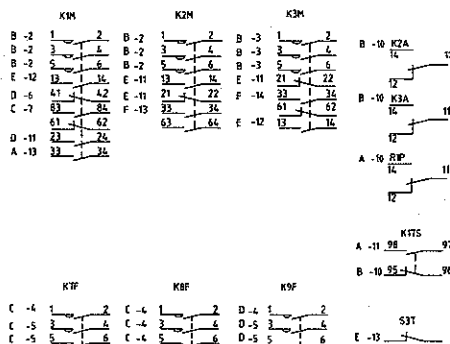
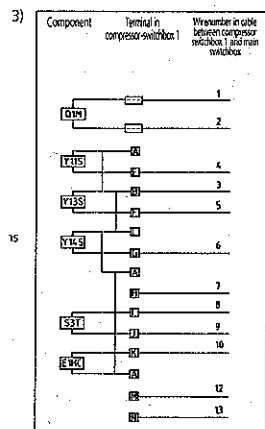
- J24 (C6-NO6): 12%
- J24 (C7-NO7): 25%
- J24 (C8-NO8): 40%
- J24 (C13-NO13): 70%
- J22 (C9-NO9-NC9): Fanstep 1
- J22 (C10-NO10-NC10): Fanstep 2
- J22 (C11-NO11-NC11): Fanstep 3
- J5 (C1-NO1): Compressor star
- J5 (C2-NO2): Compressor delta
- J5 (C3-NO3): Compressor ON
- J6 (C4-NO4): Pump contact
- J6 (C5-NO5): Alarm indication
- J6 (C12-NO12): Evaporator heater

10 11 12 13 14 15 16



	Field supply	
	Not poss. as option	Poss. as option
Obligatory	#	##
Not obligatory	*	**

Connections inside the compressor switchbox 1

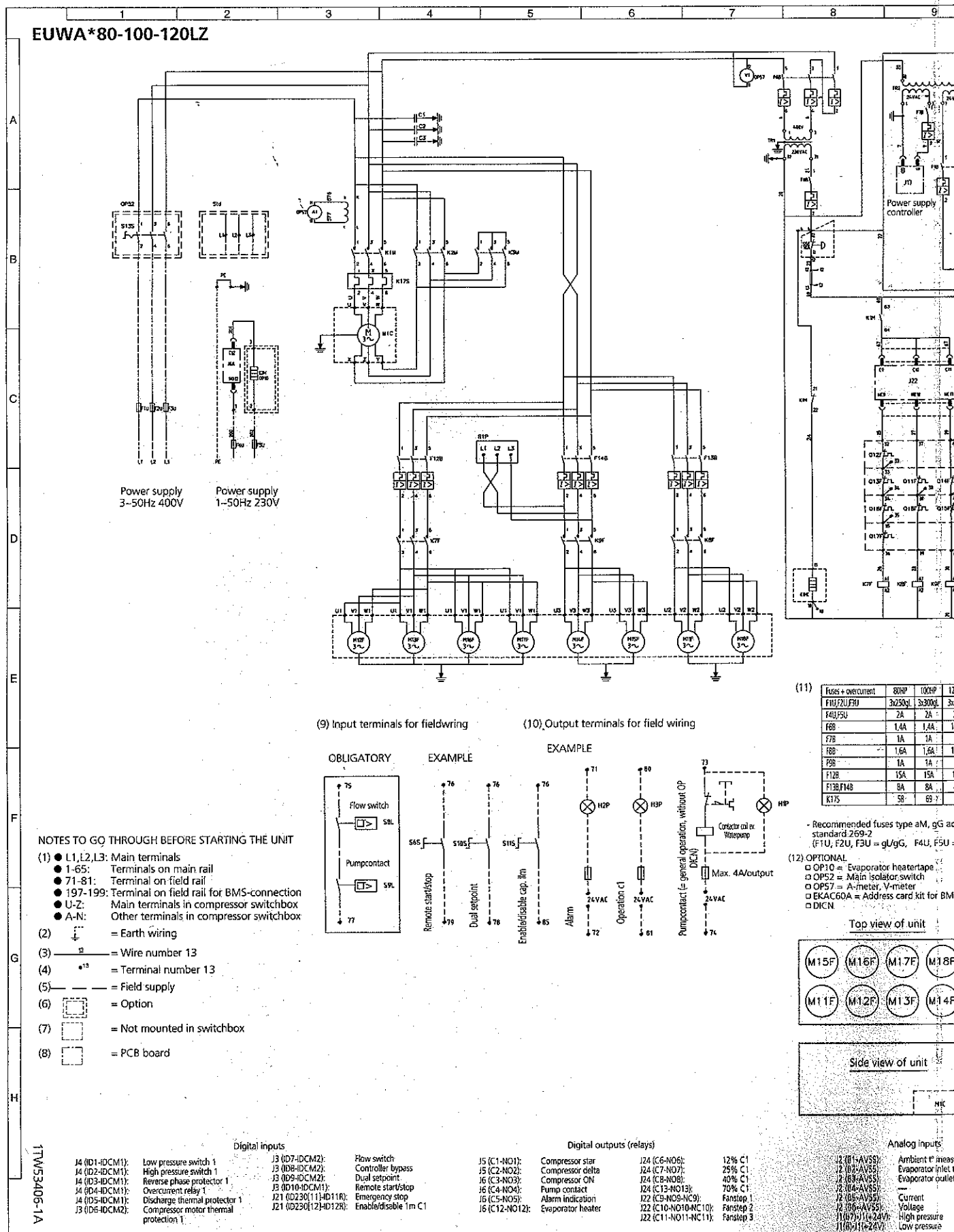


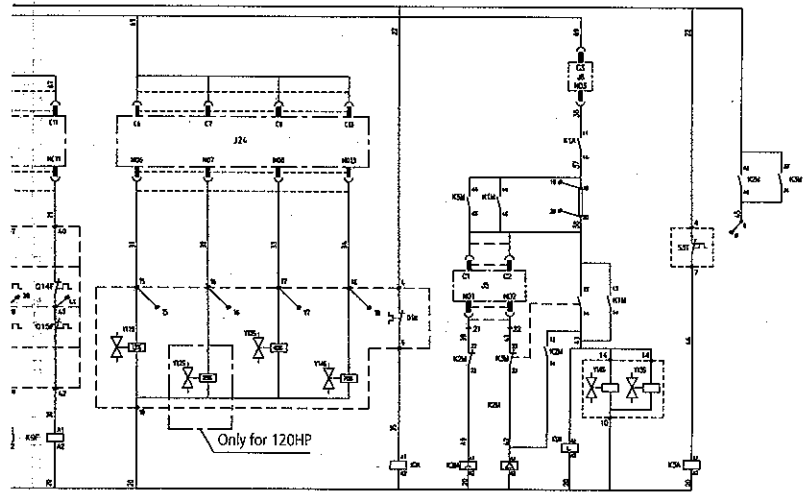
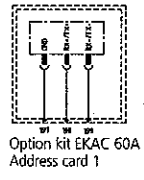
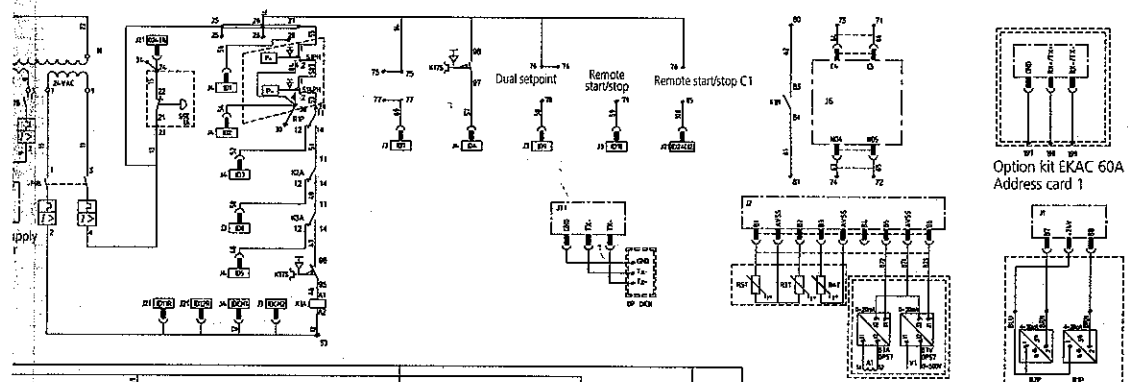
4" measurement
inlet 1" measurement
outlet 1" measurement

essure
essure

- Y16S Liquid line solenoid valve
- Y15S Liquid injection valve of the compressor
- Y14S 70% capacity step for compressor
- Y13S 40% capacity step for compressor
- Y11S 12% capacity step for compressor
- TR2 Transfo supply controller + digital inputs
- TR1 Transfo control circuit
- S14PH High pressure switch
- S13S ## Main isolator switch
- S11S * Switch that disables cap. lim. of the circuit when closed
- S10S * Dual setpoint selection switch
- S9L # Contact that closes if the pump is working
- S8L # Flow switch
- S6S * Remote start/stop switch
- S5E Emergency stop push button
- S3T Discharge thermal protector
- S1PH High pressure switch
- R5T Sensor for ambient temperature
- R4T Sensor for evaporator outlet water temperature
- R3T Sensor for evaporator inlet water temperature
- R1P Reverse phase protector
- Q1M Thermal protector compressor motor
- Q11F-Q14F Thermal protectors fan motors
- PE Main earth terminal
- M1C Compressor motor
- M11F-M14F Fan motors
- L1,L2,L3 Main supply terminals
- K3A Auxiliary relay for discharge thermal protector
- K2A Auxiliary relay compressor thermal protector
- K1A Auxiliary relay for safeties
- K17S Overcurrent relay
- K7F-K9F Fancontactor
- K3M Star contactor
- K2M Delta contactor
- K1M Linecontactor
- J17 Controller PCB power supply
- J1,2 Controller PCB analog inputs
- J5,6,22,24 Controller PCB relay outputs
- J3,4,21 Controller PCB digital inputs
- H3P * Indication lamp operation compressor
- H2P * Indication lamp alarm
- H1P * Indication lamp general operation
- F12B Autofuse for fanmotors
- F9B Autofuse for secondary of TR2 (not earthed circuit)
- F8B Autofuse for secondary of TR1
- F7B Autofuse for secondary of TR2 (earthed circuit)
- F6B Autofuse for primary of TR1
- F4U,F5U # Fuses for evaporator heater
- F1U,F2U,F3U # Main fuses
- E3H ** Evaporator heater
- E1HC Crankcase heater compressor
- C1,C3 Capacitor
- B7V (V1) ** Transmitter (voltage)
- B3A ** Transmitter (current)
- B2P Transmitter (high pressure)
- B1P Transmitter (low pressure)
- A1 ** Current transformer

8 Wiring diagrams

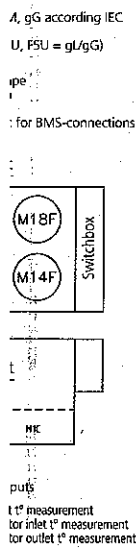
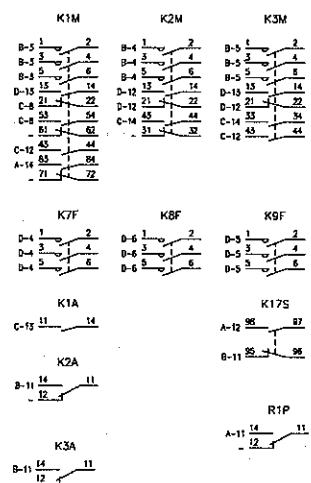
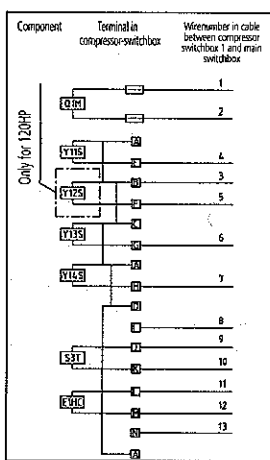




	Field supply	
	Not poss. as option	Poss. as option
Obligatory	#	##
Not obligatory	*	**

100HP	120HP
3000A	3x350A
2A	2A
1.6A	1.6A
1A	1A
1.6A	1.6A
1A	1A
15A	15A
8A	8A
69	84

Connections inside the compressor switchbox



1" measurement
for inlet 1" measurement
for outlet 1" measurement

- Y165 Liquid line solenoid valve
- Y155 Liquid injection valve of the compressor
- Y145 70% capacity step for compressor
- Y135 40% capacity step for compressor
- Y125 25% capacity step for compressor
- Y115 12% capacity step for compressor
- TR2 Transfo supply controller + digital inputs
- TR1 Transfo control circuit
- S14PH High pressure switch
- S135 ## Main isolator switch
- S115 * Switch that disables cap. lim. of the circuit when closed
- S105 * Dual setpoint selection switch
- S9L # Contact that closes if the pump is working
- S8L # Flow switch
- S65 * Remote start/stop switch
- S5E Emergency stop push button
- S3T Discharge thermal protector
- S1PH High pressure switch
- R5T Sensor for ambient temperature
- R4T Sensor for evaporator outlet water temperature
- R3T Sensor for evaporator inlet water temperature
- R1P Reverse phase protector
- Q1M Thermal protector compressor motor
- Q11F-Q18F Thermal protectors fan motors
- PE Main earth terminal
- M1C Compressor motor
- M11F-M14F Fan motors
- L1, L2, L3 Main supply terminals
- K3A Auxiliary relay for discharge thermal protector
- K2A Auxiliary relay compressor thermal protector
- K1A Auxiliary relay for safeties
- K17S Overcurrent relay
- K9F Fancontactor
- K8F Fancontactor
- K7F Fancontactor
- K3M Star contactor
- K2M Delta contactor
- K1M Linecontactor
- J22, J24 Controller PCB relay outputs PCB board
- J1, J2 Controller PCB analog inputs PCB board
- J17 Controller PCB power supply PCB board
- J11 Connection between PCB
- J5, J6 Controller PCB relay outputs PCB board
- J3, J4, J21 Controller PCB digital inputs PCB board
- H3P * Indication lamp operation compressor 1
- H2P * Indication lamp alarm
- H1P * Indication lamp general operation
- F12-13-148 Autofuse for fanmotors
- F98 Autofuse for secondary of TR2
- F88 Autofuse for secondary of TR1
- F78 Autofuse for secondary of TR2 (earthed circuit)
- F68 Autofuse for primary of TR1
- F4U, F5U # Fuses for evaporator heater circuit 1
- F1U, F2U, F3U # Main fuses
- E3H, E4H ** Evaporator heater
- E1HC Crankcase heater compressor
- C1..C3 Capacitor
- B7V (V1) ** Transmitter (voltage)
- B3A ** Transmitter (current)
- B2P Transmitter (high pressure)
- B1P Transmitter (low pressure)
- A1 ** Current transformer