

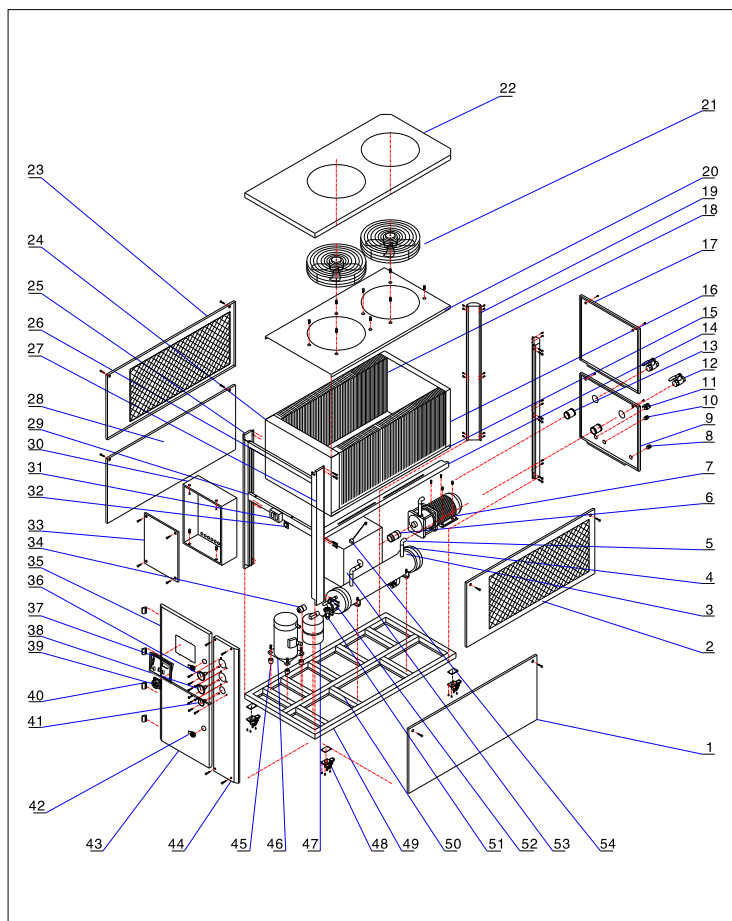
2.8 SIC-20A~30A Parts List

NO.	Name	No. of the materiel		
		SIC-20A-P	SIC-25A-P	SIC-30A-P
1	Thick head screw M6×45	YW63064500000	YW63064500000	YW63064500000
2	Screw M4×5	YW62040500000	YW62040500000	YW62040500000
3	Pressure gauge (Oil) MF-15	YW85601800000	YW85601800000	YW85601800000
4	Pressure gauge (Oil) MF-35	YW85603800000	YW85603800000	YW85603800000
5	Pressure gauge 0-10kg	YW85001000100	YW85001000100	YW85001000100
6	Surface board	-	-	-
7	Control box dowel	YW00717100000	YW00717100000	YW00717100000
8	Lower panel	-	-	-
9	Upper panel	-	-	-
10	Long pin lock	YW00000000100	YW00000000100	YW00000000100
11	Control base board	-	-	-
12	Flat head screw M6×10	YW62061000000	YW62061000000	YW62061000000
13	Control box	-	-	-
14	Pressure controller	YE90083000100	YE90083000100	YE90083000100
15	Anti-freeze switch	YW85071100000	YW85071100000	YW85071100000
16	Plastic protective cover	YR40000400300	YR40000400300	YR40000400300
17	Hinge	YW06203100400	YW06203100400	YW06203100400
18	Side plate	-	-	-
19	Rear plate	-	-	-
20	Galvanized three-way water tube 1/2"	YW51001200000	YW51001200000	YW51001200000
21	Copper ball valve 4"	YW50010200100	YW50010200100	YW50010200100
22	Flat gate Valve 1"	YW50000101000	YW50000101000	YW50000101000
23	Galvanized three-way water tubes 2"×1"	YW52020100000	YW52020100000	YW52250100000
24	Inner hexagon socket cap screw M10×40	YW61104000000	YW61104000000	YW61104000000
25	Fan	-	-	-
26	Back pressing plate	-	-	-
27	Front pressing plate	-	-	-

NO.	Name	No. of the materiel		
		SIC-20A-P	SIC-25A-P	SIC-30A-P
28	Fan cover 1	-	-	-
29	Support beam 1	-	-	-
30	Out hexagonal screw M8 × 20	YW60082000300	YW60082000300	YW60082000300
31	Fan cover 2	-	-	-
32	Top plate on condenser	-	-	-
33	Side plate on condenser	-	-	-
34	Condenser	YW86020000100	YW86025000100	YW86030000000
35	Side plate on condenser	-	-	-
36	Water tank cover	-	-	-
37	Water tank	-	-	-
38	Liquid reservoir	YW85080500000	YW85100800000	YW85121000100
39	Compressor	YM70134400000	YM70124000000	YM70154400000
40	Evaporator	YW87020000000	YW87020000000	YW87030000000
41	Water pump	-	-	-
42	Expansion valve	YW85000800000	YW85001000200	YW85001200000
43	Housing	-	-	-

*Indicates latent wearing parts: **Indicates latent wearing parts and it's suggested to back them up.

2.9 SIC-40A~50A Assembly Drawing



2.10 SIC-40A~50A Parts List

NO.	Name	No. of the materiel		
		SIC-40A-P	SIC-45A-P	SIC-50A-P
1	Right below board	-	-	-
2	Right up board	-	-	-
3	The evaporator	-	-	-
4	Galvanization water pipe	YS50230600000	YS50330600000	YS50330600000
5	Elbow of the water pipe	YW53000300100	YW53000300100	YW53000300100
6	The rubber pipe*	YR60600300000	YR60600300000	YR60600300000
7	The pump*	YM21040000000	YM21040000000	YM21040000000
8	The compensate stretch	YW57300200000	YW57300200000	YW57300200000
9	Back below board	-	-	-
10	The direct connection	YW51002500000	YW51000300000	YW51000300000
11	Ball valve*	YW50030800100	YW50030800100	YW50010000000
12	Ball valve*	YW50015000000	YW50015000000	YW50030000000
13	Water pipe direct connection	YW51002500000	BH10030300010	BH10030300010
14	Middle side beam	-	-	-
15	Fan cover baseboard	-	-	-
16	Fan cover back board	-	-	-
17	Back top board	-	-	-
18	The condenser	YW86040000100	YW86045000000	-
19	Back standing column	-	-	-
20	Fan cover board	-	-	-
21	Outer rotor fan	YM60750600000	YM60750600000	YM60750600000
22	Cover	-	-	-
23	Left top board	-	-	-
24	Fan cover front board	-	-	-
25	Left standing column	-	-	-
26	Control box top beam	-	-	-
27	Right front standing column	-	-	-

NO.	Name	No. of the materiel		
		SIC-40A-P	SIC-45A-P	SIC-50A-P
28	Left below board	-	-	-
29	Control box below beam	-	-	-
30	Control box	BH52004000250	BH52006000050	BH52000300150
31	High and low pressure controller	YE90083000100	YE90083000100	YE90083000100
32	Adjustable anti-freeze switch	YW85071100000	YW85071100000	YW85071100000
33	Control base board	-	-	-
34	Drying filter	YW85030700000 YW85016500000	YW85030700000	YW85030700000
35	Top door board	-	-	-
36	High pressure meter	YW85603500000	YW85603500000	YW85603500000
37	Control panel	YR01004400000	YR01004400000	YR01004400000
38	Low pressure meter	BH12151500110	BH12151500110	BH12151500110
39	Main power switch	YE41161200000	YE41161200000	YE41161200000
40	Hinge	YW06203100400	YW06203100400	YW06203100400
41	Water pressure meter	YW85001000100	YW85001000100	YW85001000100
42	Door lock	-	-	-
43	Left below door board	-	-	-
44	Meter board fixing board	-	-	-
45	Anti-vibrate leg for the compressor	-	-	-
46	Compressor*	YM70154400000 YM70134400000	YM70154400000	YM70124000000
47	Storage bin	YW85141200000 YW85121000100	YW85121000100	YW85121000100
48	Castor	-	-	-
49	Bottom frame	-	-	-
50	Below beam	-	-	-
51	Heat expansion valve	YW85001000200 YW85001500000	YW85001500000	YW85001200000
52	liquid filling thimble valve	YW85010400100	YW85010400100	YW85010400100
53	Stainless water tank	-	-	-
54	Floating ball valve*	YW59010000000	YW59010000000	YW59010000000

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2.11 The Major Parts and Their Functions

Compressor

- 1) Compress and transport the refrigeration steam and produce the low pressure in the evaporator and the high pressure in the condenser, so the compressor is the heart of the whole system.
- 2) The compressors of our company are the two types of scroll and piston.
- 3) The power of the generic compressors is 25 to 30 percent of the ice water machine's refrigeration capacity.



Condenser

- 1) The condenser is the equipment which output heat and it can discharge the heat absorbed by the cooling agent in the evaporator and the heat converted by the compressor by consuming the power to the cooling medium.
- 2) Our company adopt the air cooled condenser with ferrule(Tube-fin style).



Dry filter

- 1) The functions of the dry filter are: clean the impurity in the cooling agent, absorb the free water content in the freon, and prevent the narrow section (especially the valve port of the heat expansion valve) of the pipe from forming ice jam.
- 2) The size of the filter is usually chosen according to the pipe diameter of the cooling agent pipe.
- 3) The dry filter is installed in front of the heat expansion valve to maintain the strictness of the valve.



The heat expansion valve

- 1) The heat expansion valve is used to take the effect of throttle and pressure relief, and also adjust the flow quantity of the cooling agent going into the evaporator.
- 2) The heat expansion valve is usually installed in front of the evaporator.



Evaporator

- 1) The evaporator is the equipment which output the refrigerating capacity, in which the cooling agent absorb the heated of the cooled objects and gain the aim of refrigeration.
- 2) The evaporators of our company are the type of Tube-in-shell style.



High and low pressure controller

- 1) The high and low pressure controllers are used to control the working pressure of the compressor suction port and outlet port.
- 2) The pressure of the high pressure controller is set to 25 bar, and pressure of the low pressure controller is set to 2 bar.
- 3) Give an alarm when the pressure of the compressor outlet port is higher than 25 bar or the pressure of the compressor suction port is lower than 2 bar.



Liquid tank

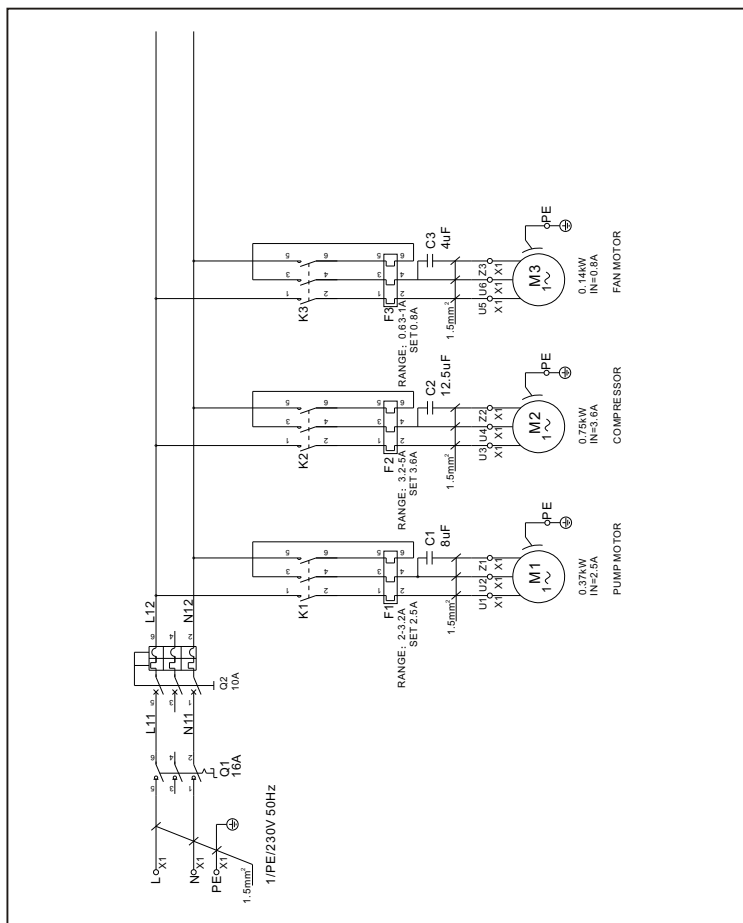
- 1) The liquid tank is used to store the liquid cooling agent from the condenser and make sure that the heat transfer area of the condenser can be made full use of.
- 2) The liquid tank is installed in the pipe between the condenser and the dry filter.



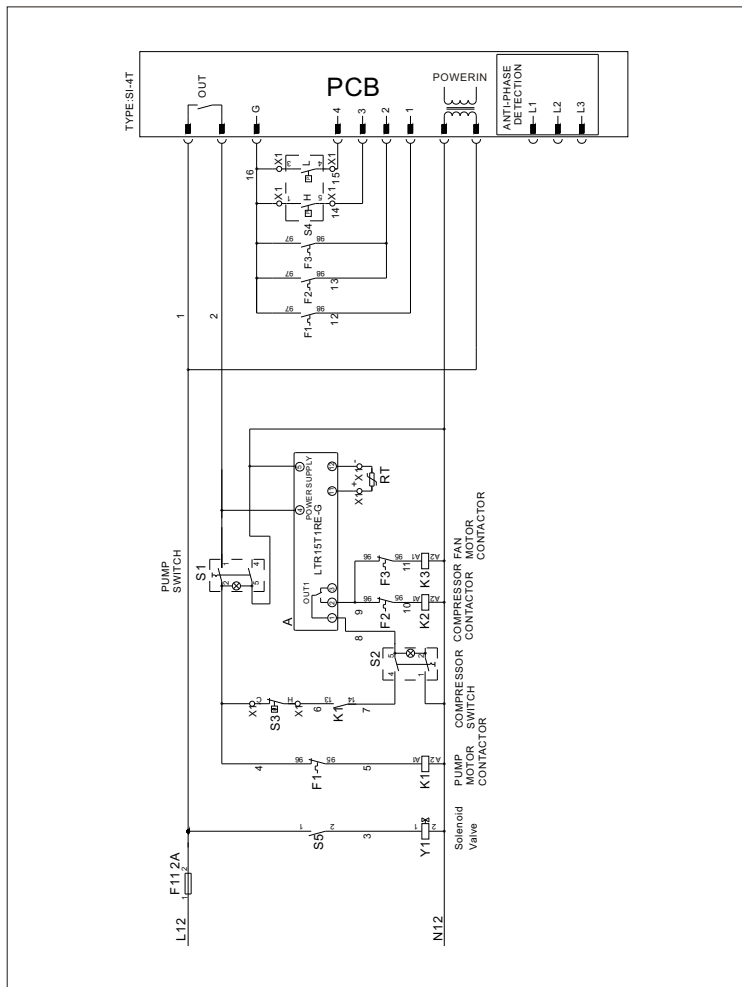
2.13 Electrical Circuit

2.13.1 SIC-1A (400V)

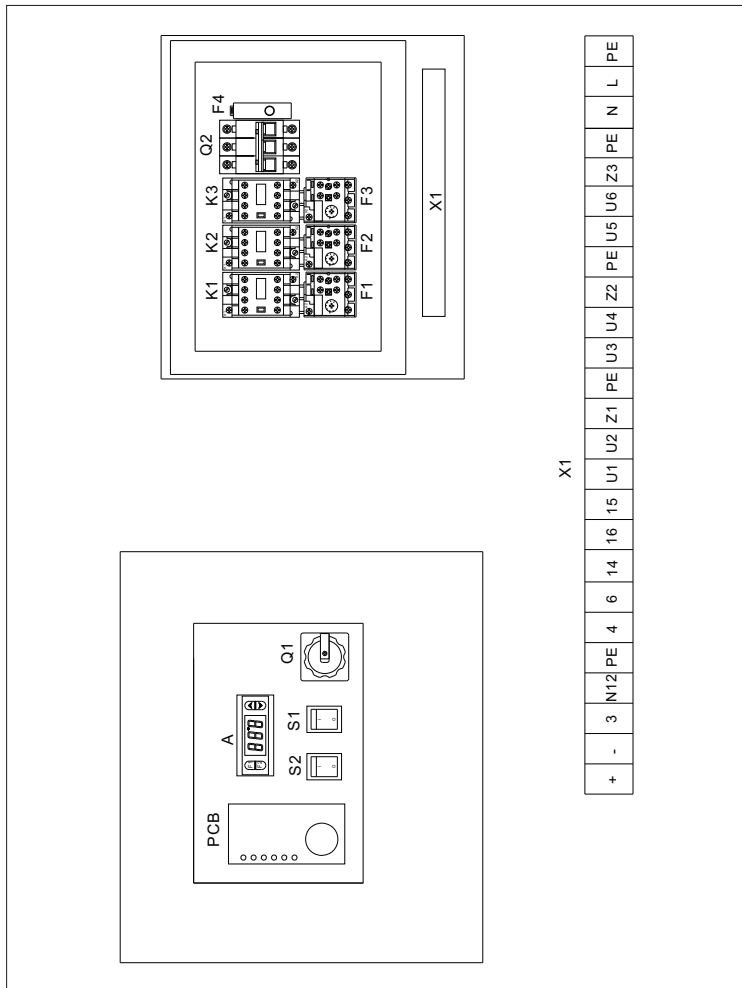
Main Electrical Circuit



Control Circuit



Electrical Components Layout



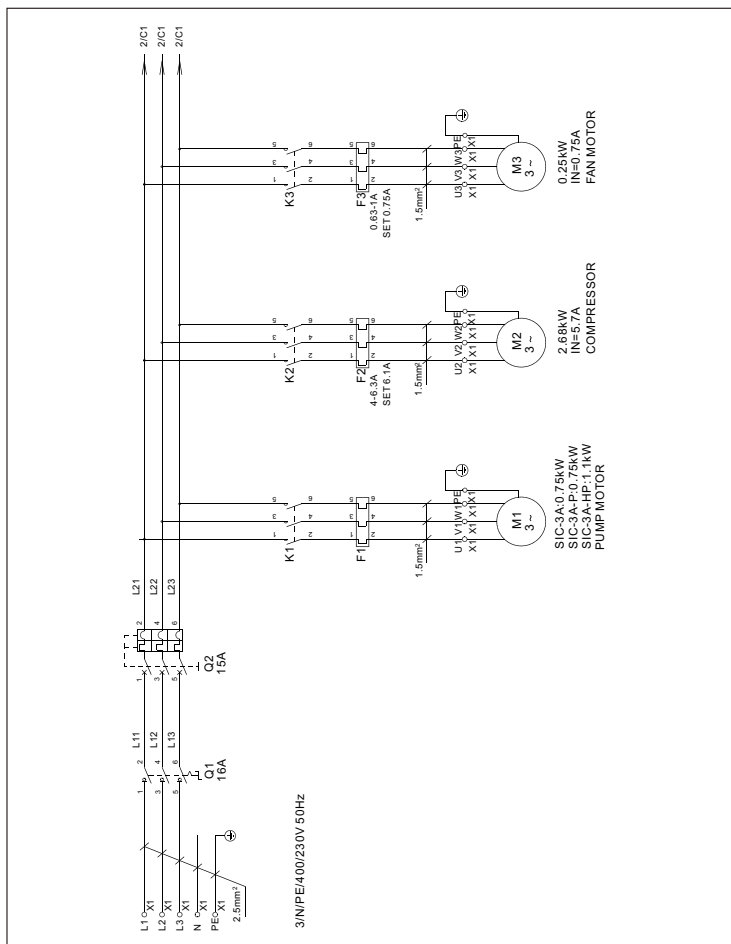
Electrical Components List

NO.	Symbol	Name	Specifications	Part No.
1	Q2	Breaker	10A	YE40631000000
2	Q1	Main power switch	16A	YE10200300000
3	K1	Contactor	230VAC 50Hz	YE00301000000
4	K2	Contactor	230VAC 50Hz	YE00300000000
5	K3	Contactor	230VAC 50Hz	YE00300000000
6	A	Temp. Controller	230VAC 50/60Hz	YE85001500000
7	RT	Thermal resistance	PTC 1000	-
8	F1	Overheat relay	2~3.2A	YE90450100000
9	F2	Overheat relay	3.2~5A	YE01032500000
10	F3	Overheat relay	0.63~1A	YE01063100000
11	F4	Fuse	2A	YE41001000000
12	S1,S2	Alternative switch	250V~10(5)A 4P WH	YE01025400300
13	S3	Anti-freeze switch	250V~16(4)	-
14	S4	High and low pressure switch	H:5-30bar L:0.7-6bar	YE90083000100
15	PCB	Control board	400/230VAC	YE80011100200
16	X1	Terminal block	32A	-
17		Terminal block	-	-
18	M1	Pump motor	220-240V 0.37kW	-
19	M2	Compressor	220V 50Hz 0.75kW	-
20	M3	Fan motor	220V 50Hz0.14kW	-

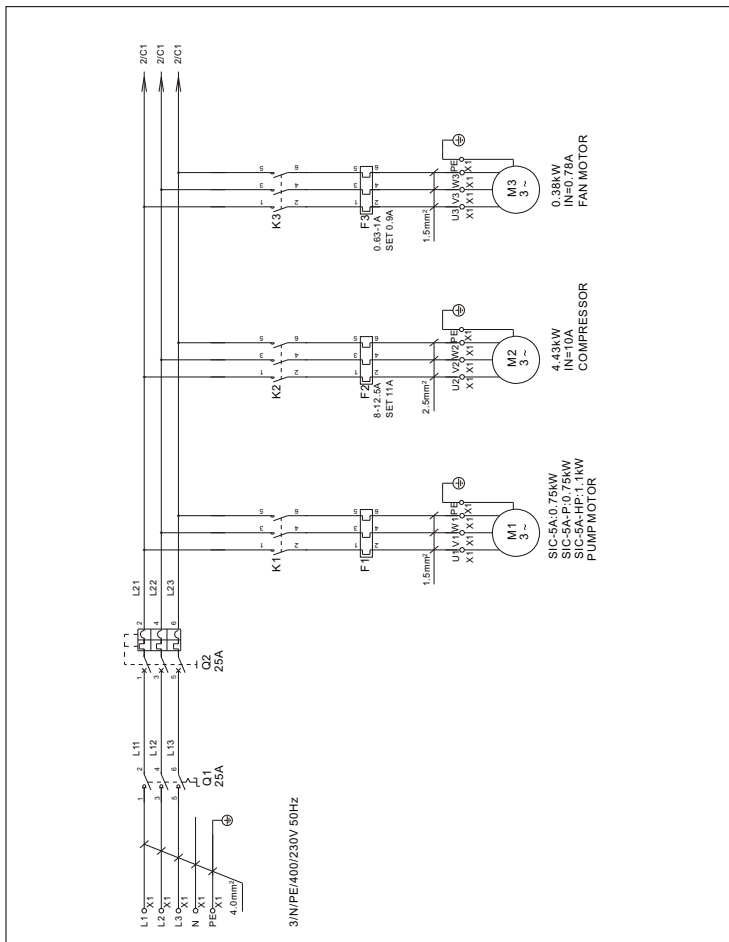
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2.14 SIC-3A/5A (400V)

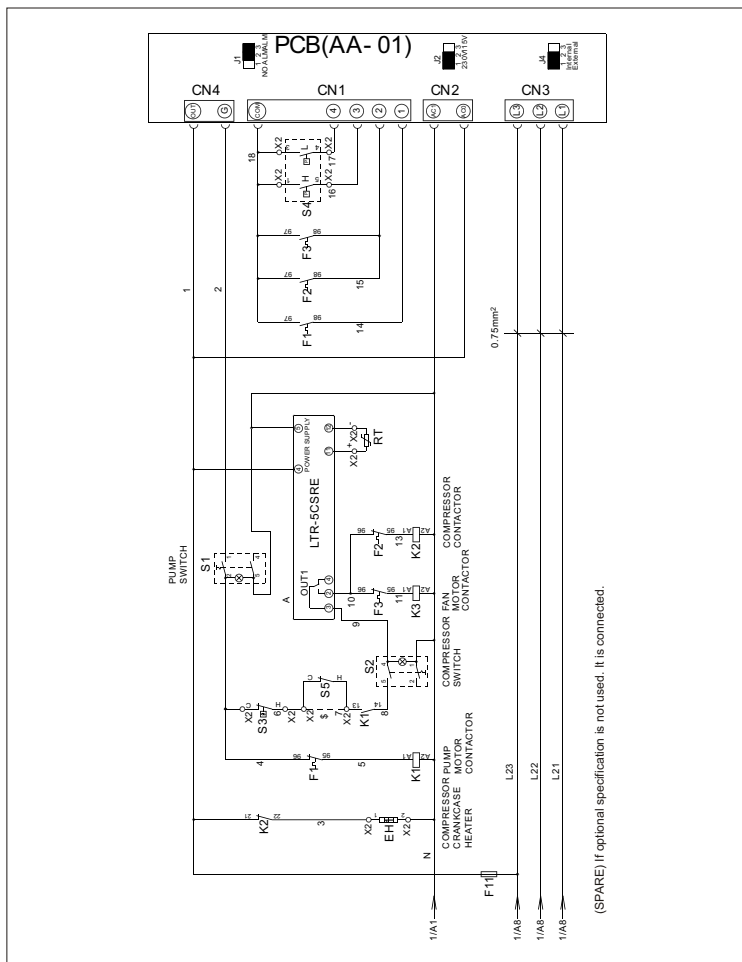
SIC-3A Main Electrical Circuit



SIC-5A Main Electrical Circuit

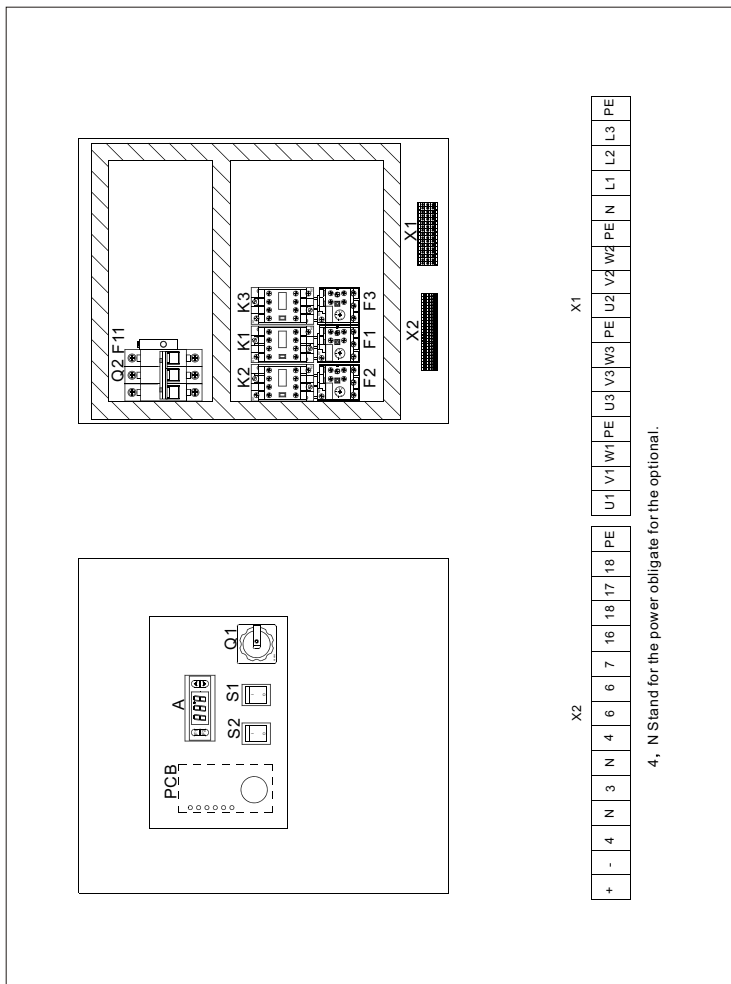


Control Circuit



(SPARE) If optional specification is not used, it is connected.

Electrical Components Layout



SIC-3A Electrical Components List

No.	Symbol	Name	Specifications	Parts number
1	Q1	Main switch	16A	YE10200300000
2	Q2	Circuit breaker	15A	YE40601500000
3	K1	Contactor	230VAC 50/60Hz	YE00301000000
4	K2	Contactor	230VAC 50/60Hz	YE00310100000
5	K3	Contactor	230VAC 50/60Hz	YE00300000000
6	A	Temperature controller	230VAC 50/60Hz 2W	YE85000500000
7	RT	Thermistor	----	----
8	F1	Overload relay	----	YE01162500000
9	F2	Overload relay	4~6.3A	YE01046300100
10	F3	Overload relay	0.63~1A	YE01063100000
11	F11	Fuse	2A	YE41001000000
12	S1 S2	Control switch	250V~ 10(5)A 4PWH	YE10210400000
13	S3	Anti-frozen switch	250V~ 16(4)A	YW85071100000
14	S4	HI-LO pressure switch	H:5-30bar L:-0.7-6bar	YE90083000100
15	PCB	Control board	230V 50Hz	YE80000100000
16	X1	Terminal board	----	YE61250000000
17		Terminal board	----	YE61253500000
18	X2	Terminal board	----	YE61250000000
19		Terminal board	----	YE61253500000
20	M1	Pump motor	400V 50Hz	----
21	M2	Compressor	400V 50Hz 2.68kW	----
22	M3	Fan motor	400V 50Hz 0.25kW	----
23	EH1	Compressor crankcase heater	230V 50/60Hz 35W	----

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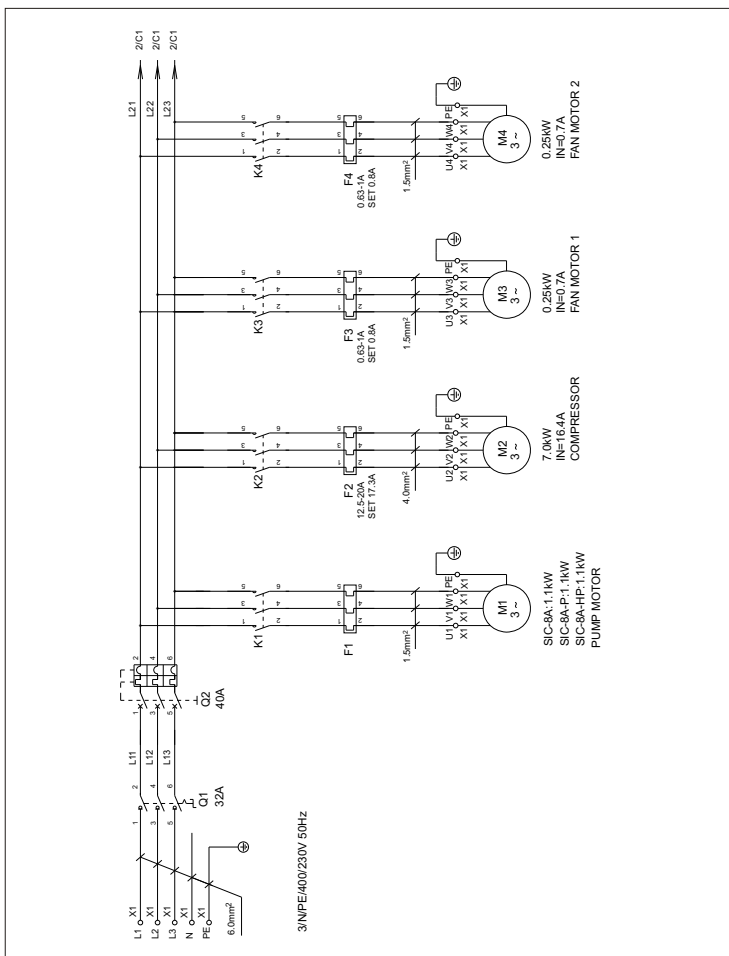
SIC-5A Electrical Components List

No.	Symbol	Name	Specificatons	Parts number
1	Q1	Main switch	25A	YE10210300000
2	Q2	Circuit breaker	25A	YE40602500000
3	K1	Contactora	230VAC 50/60Hz	YE00301000000
4	K2	Contactora	230VAC 50/60Hz	YE00321100000
5	K3	Contactora	230VAC 50/60Hz	YE00300000000
6	A	Temperature controller	230VAC 50/60Hz2W	YE85000500000
7	RT	Thermistor	----	----
8	F1	Overload relay	----	YE01162500000
9	F2	Overload relay	8~12.5A	YE01812500100
10	F3	Overload relay	0.63~1A	YE01063100000
11	F11	Fuse	2A	YE41001000000
12	S1 S2	Control switch	250V ~ 10(5)A 4PWH	YE10210400000
13	S3	Anti-frozen switch	250V ~ 16(4)A	YW85071100000
14	S4	HI-LO pressure switch	H:5-30bar L:-0.7-6bar	YE90083000100
15	PCB	Control board	230V 50Hz	YE80000100000
16	X1	Terminal board	----	YE61250000000
17		Terminal board	----	YE61253500000
18		Terminal board	----	YE61040000000
19		Terminal board	----	YE61043500000
20	X2	Terminal board	----	YE61250000000
21		Terminal board	----	YE61253500000
22	M1	Pump motor	400V 50Hz	----
23	M2	Compressor	400V 50Hz 4.43kW	----
24	M3	Fan motor	400V 50Hz 0.34kW	----
25	EH1	Compressor crankcase heater	230V 50/60Hz 35W	----

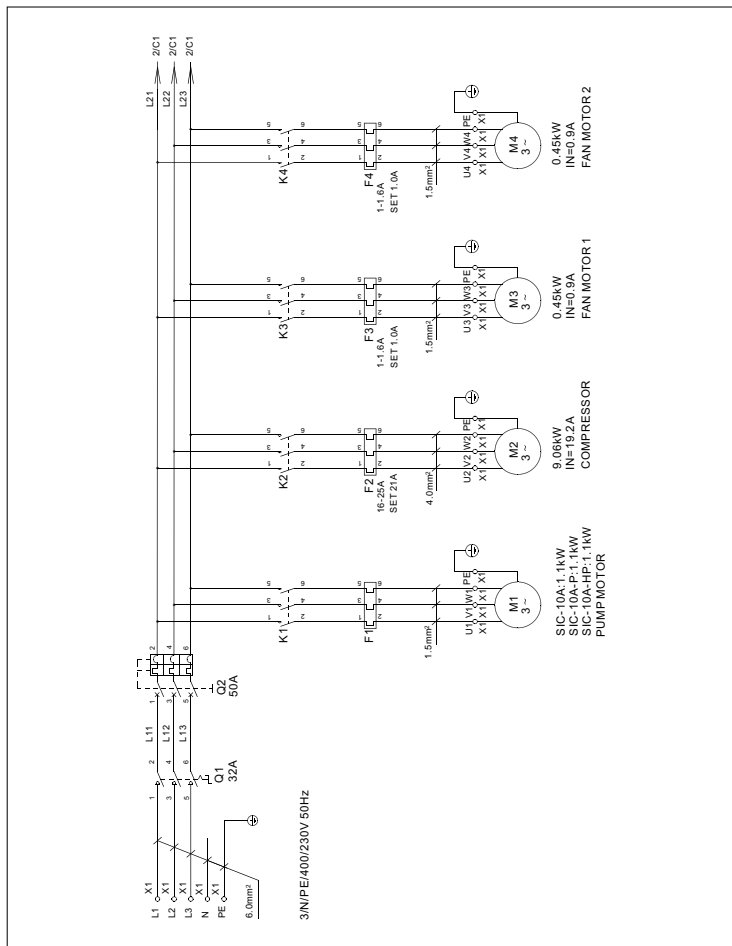
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2.15 SIC-8A/10A/12.5A (400V)

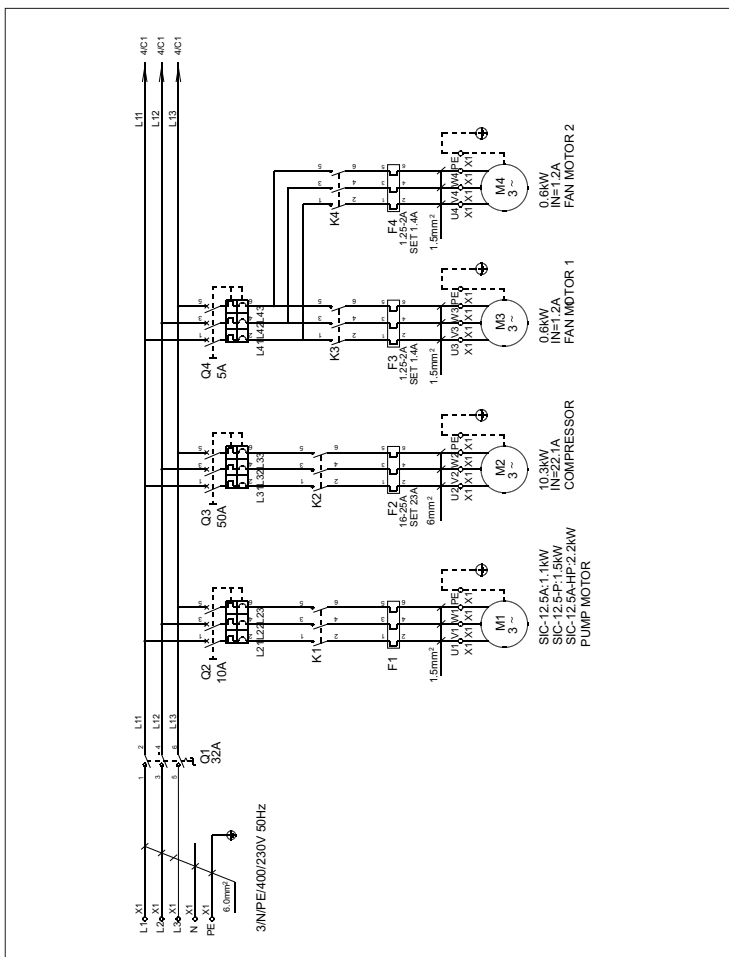
SIC-8A Main Electrical Circuit



SIC-10A Main Electrical Circuit



SIC-12.5A Main Electrical Circuit



Control Circuit

