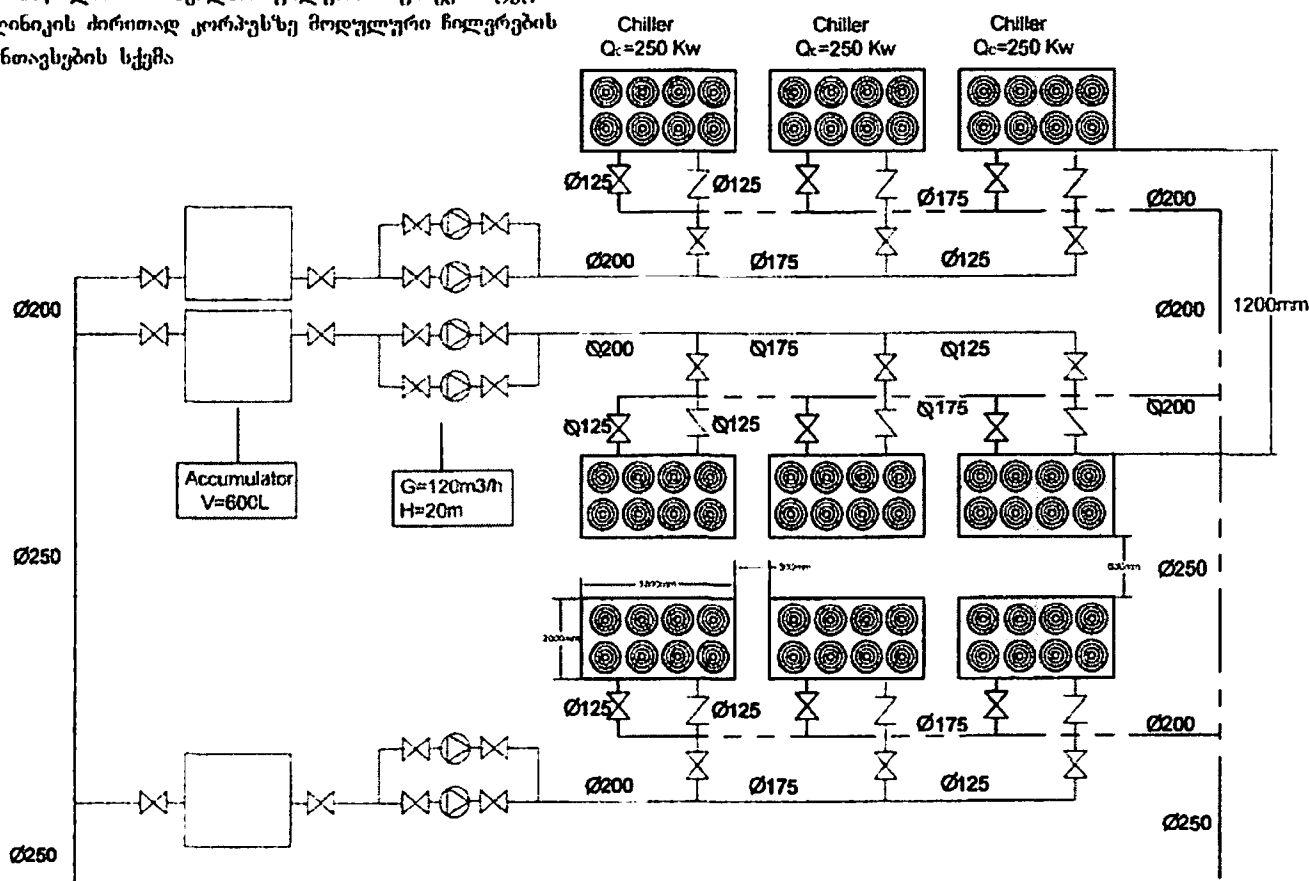


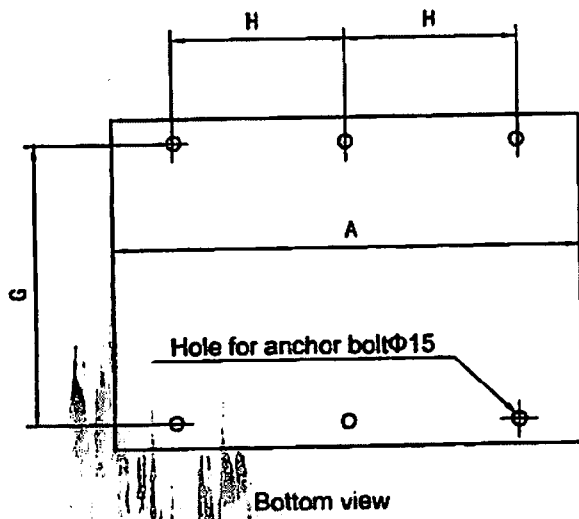
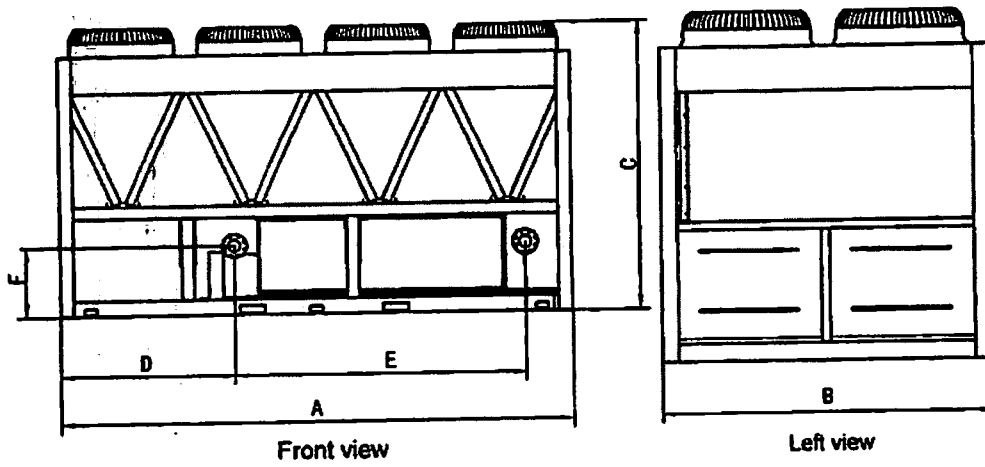
ზუგდიდის მუნიციპალიტეტის სოფელ რუხში მშენებარე  
 220 საწოლიანი მრავალპროფილური საუნივერსიტეტო  
 კლინიკის ძირითად კორპუსზე მოდულური ჩილერების  
 განთავსების სქემა



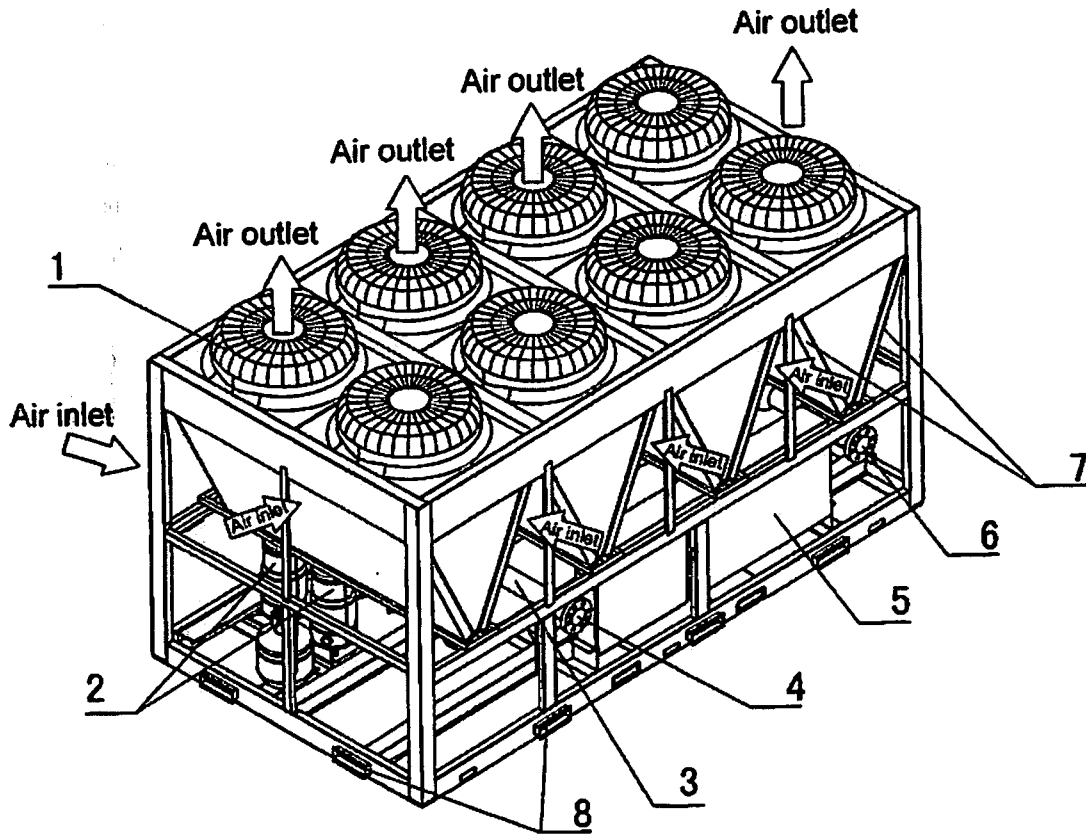
შენიშვნა: დანარსენი მილსადენი და ელემენტარების ძირითადი სქემა უცვლელია

შ.პ.ს. "შედაპროექტი"

250kW module

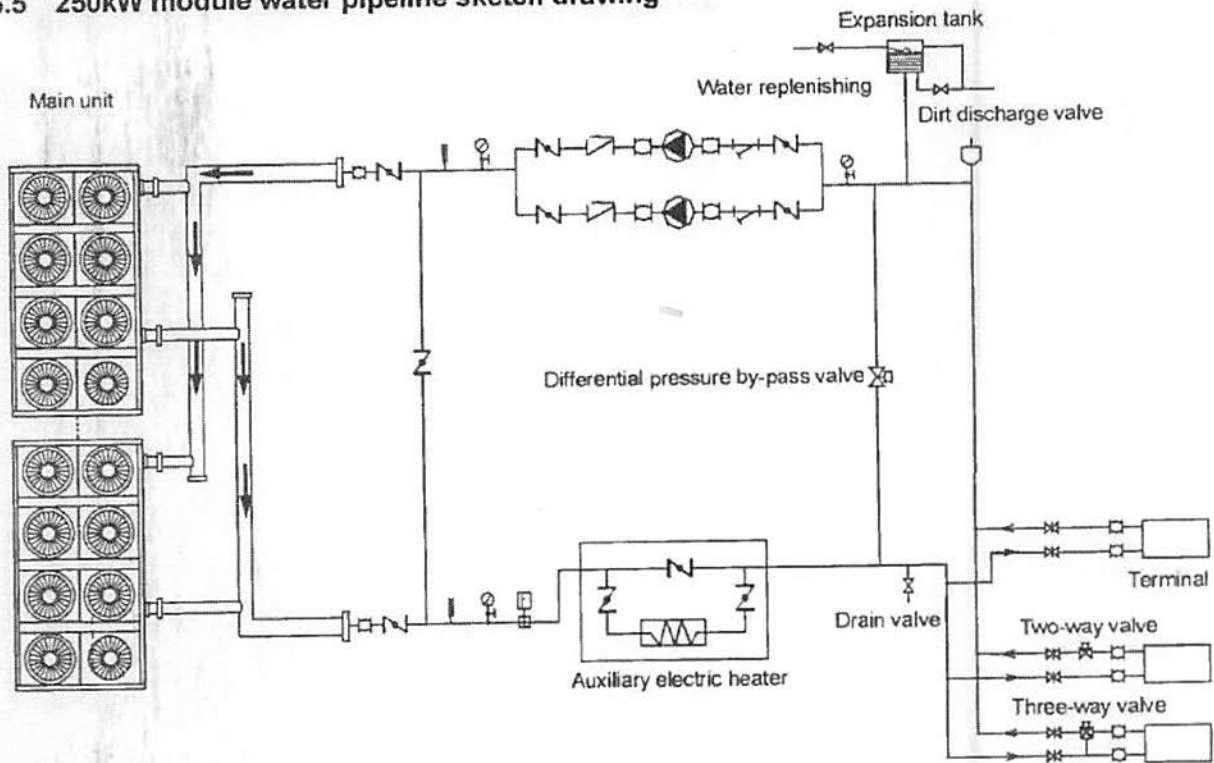


Model	unit	A	B	C	D	E	F	G	H
MGBT-F250WRN1	Mm	3800	2000	2130	1235	2156	573	1888	1551
	inch	149.6	78.74	83.86	48.62	84.88	22.56	74.33	61.06



No.	Name
1	Top cover
2	Compressor
3	Evaporator
4	Water outlet
5	Electric control box
6	Water inlet
7	Condenser
8	Transportation guard plate (Be removed off after installation)

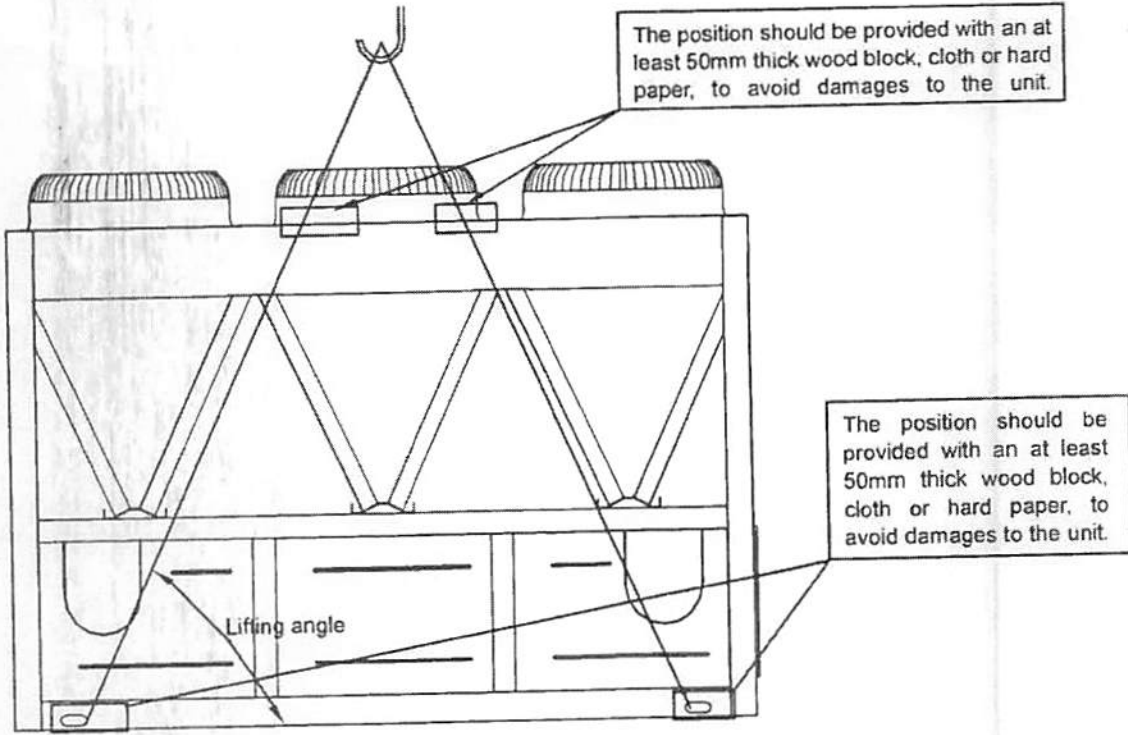
6.5 250kW module water pipeline sketch drawing



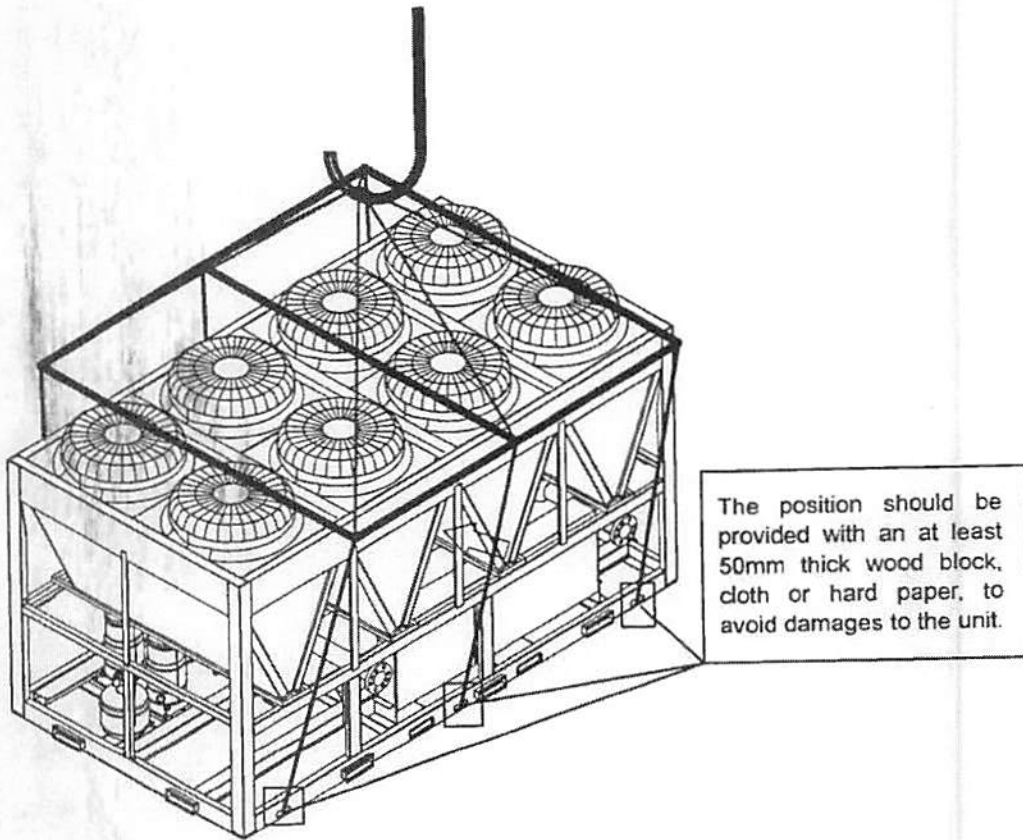
The table below describes the symbols.

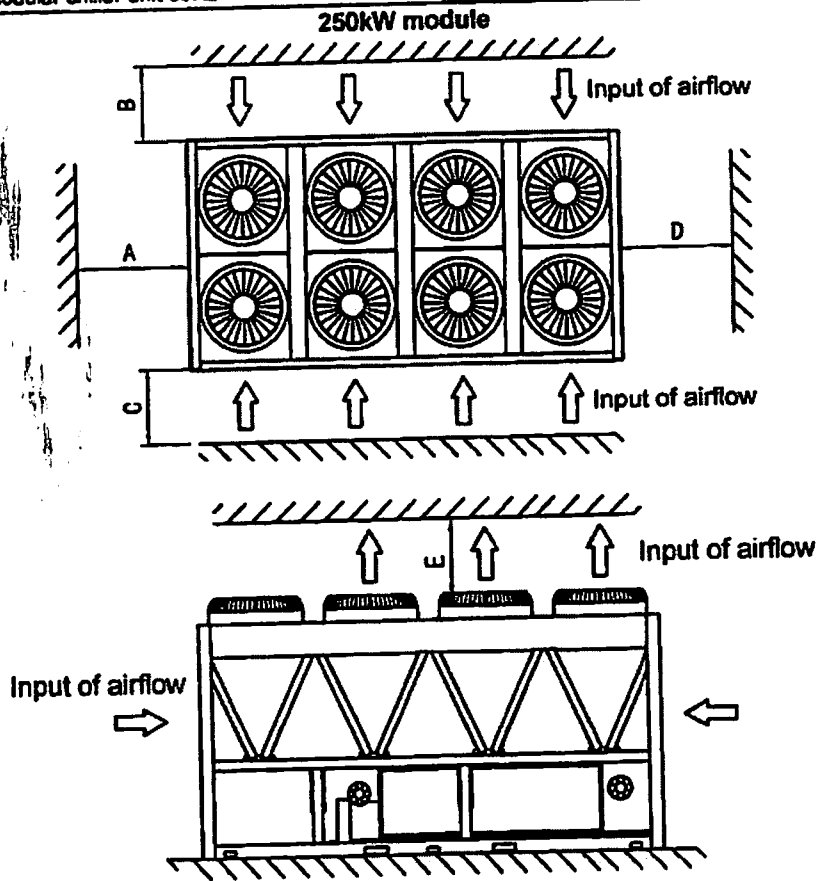
Symbol	Symbol explanation	Symbol	Symbol explanation
	Stop valve		Y-shaped filter
	Pressure gauge		Thermometer
	Water flow switch		Circulating pump
	Gate valve		Check valve
	Flexible joint		Automatic discharge valve

200kW module



250kW module





The recommend space parameter

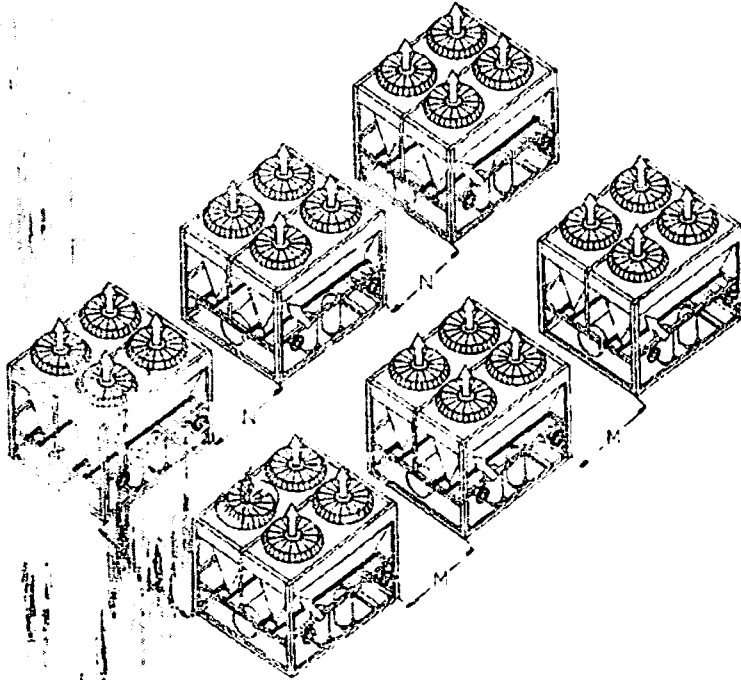
Module	Installation space (mm)				
MGB-F200W/RN1	≥2000	≥2000	≥2000	≥1500	≥8000
MGBT-F250W/RN1				≥2000	

• Space requirements for parallel installation of multiple modular units.

To avoid back flow of the air in the condenser and operational faults of the unit, the parallel installation of multiple modular units can follow the direction A and D as shown in the figure above, the spaces between the unit and the obstacle are given in the figure above, and the space between adjacent modular units should not be less than 300mm; the installation can also follow the direction B and C as shown in the figure above, the spaces between the unit and the obstacle are given in the figure above, and the space between

adjacent modular units should not be less than 600mm; the installation can also follow the direction combination of A and D, and B and C. the spaces between the unit and the obstacle are given in the figure above, the space between adjacent modular units in the direction A and D should not be less than 300mm, and the space between adjacent modular units in the direction B and C should not be less than 600mm.

If the spaces mentioned above cannot be met, the air passing from the unit to the coils may be restricted, or back flow of air discharge may occur, and the performance of the unit may be affected, or the unit may fail to operate.

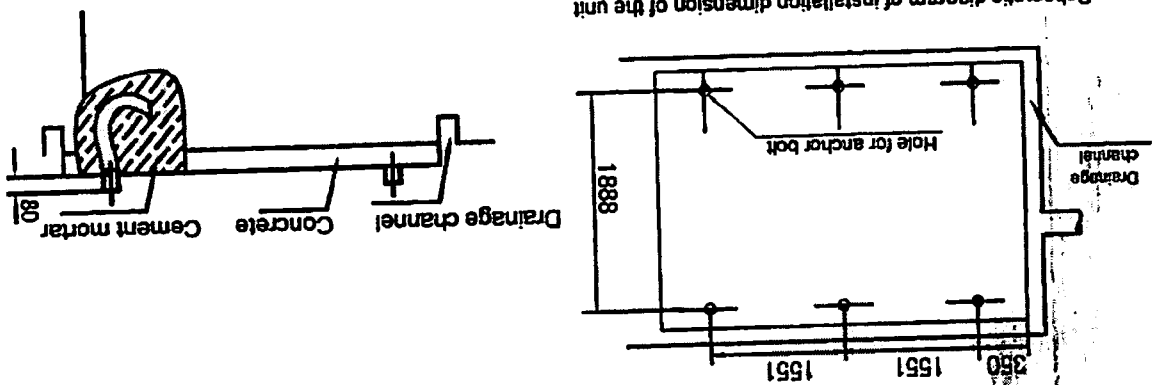


No	Model	Max unit combined quantity	L(mm)	M(mm)	N(mm)
1	MGB-F(D)25WRN1	16	≥600	≥300	≥300
2	MGB-F(D)30WRN1	16	≥600	≥300	≥300
3	MGCSL-F30WRN1	1	≥600	≥300	≥300
4	MGCSL-D30WRN1	1	≥600	≥300	≥300
5	MGB-F55WRN1	16	≥600	≥300	≥300
6	MGB-F60WRN1	16	≥600	≥300	≥300
7	MGB-F65WRN1	16	≥600	≥300	≥300
8	MGB-D65WRN1	16	≥600	≥300	≥300
9	MGBL-F65WRN1	16	≥600	≥300	≥300
10	MGBL-D65WRN1	16	≥600	≥300	≥300
11	MGB-F130WRN1	8	≥600	≥300	≥300
12	MGBL-F130WRN1	8	≥600	≥300	≥300
13	MGB-F200WRN1	5	≥600	≥300	≥300
14	MGBT-F250WRN1	8	≥600	≥300	≥300

### 12.1.3 Installation Foundation

- The unit should be located on the horizontal foundation, the ground floor or the roof which can bear operating weight of the unit and the weight of maintenance personnel. Refer to the operating weight parameters in specification table.
- If the unit is located so high that it is inconvenient for maintenance personnel to conduct maintenance, the suitable scaffold can be provided around the unit.
- The scaffold must be able to bear the weight of maintenance personnel and maintenance facilities.

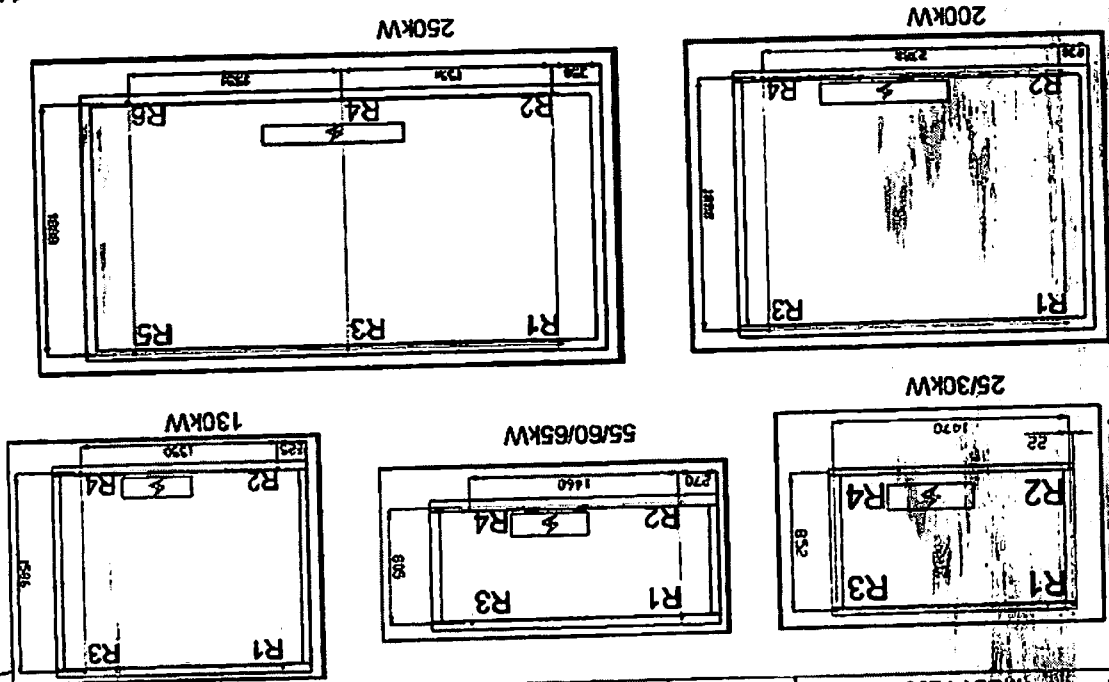
250kW module



Load distribution

No	Model	R1	R2	R3	R4	R5	R6
1	MGB-F25W/RN1	81	81	81	139	112	112
2	MGB-D25W/RN1	81	81	81	139	112	112
3	MGB-F30W/RN1	81	81	81	139	112	112
4	MGB-D30W/RN1	81	81	81	139	112	112
5	MGCSL-F30W/RN1	90	77	77	157	131	131
6	MGCSL-D30W/RN1	90	77	77	157	131	131
7	MGB-F55W/RN1	170	180	180	145	155	155
8	MGB-F60W/RN1	170	180	180	145	155	155
9	MGB-F65W/RN1	170	180	180	145	155	155
10	MGB-D65W/RN1	180	190	190	145	155	155
11	MGBL-F65W/RN1	170	180	180	145	155	155
12	MGBL-D65W/RN1	170	180	180	145	155	155
13	MGB-F130W/RN1	350	340	295	285	285	285
14	MGBL-F130W/RN1	350	340	295	285	285	285
15	MGB-F200W/RN1	567	433	567	433	433	433
16	MGBT-F250W/RN1	373	344	487	462	539	395

2.6 T@10W





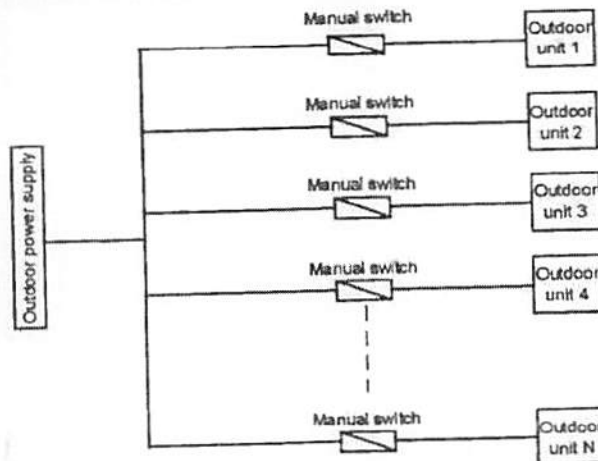
## 12.3.2 Power supply specification

Model	Items	Outdoor power supply			Wiring
		Power supply	Manual switch	Fuse	
MGB-F25W/RN1 MGB-F30W/RN1		380~415V 3Ph~50Hz	50A	36A	10mm <sup>2</sup> (<30m)
MGB-D25W/RN1 MGB-D30W/RN1		380~415V 3Ph~50Hz	50A	36A	10mm <sup>2</sup> (<30m)
MGCSL-F30W/RN1 MGCSL-D30W/RN1		380~415V 3Ph~50Hz	50A	36A	10mm <sup>2</sup> (<30m)
MGB-F55W/RN1 MGB-F60W/RN1 MGB-F65W/RN1		380~400V 3Ph~50Hz	125A	100A	16mm <sup>2</sup> (<20m)
MGB-D65W/RN1		380~415V 3Ph~50Hz	150A	100A	16mm <sup>2</sup> (<20m)
MGBL-F65W/RN1		380~400V 3Ph~50Hz	150A	100A	16mm <sup>2</sup> (<20m)
MGBL-D65W/RN1		380~415V 3Ph~50Hz	150A	100A	16mm <sup>2</sup> (<20m)
MGB-F130W/RN1 MGBL-F130W/RN1		380~400V 3Ph~50Hz	250A	200A	Base on the actual distance of the wire, more than 35 mm <sup>2</sup> for each module
MGB-F200W/RN1		380~400V 3Ph~50Hz	400A	300A	According to the actual distance of wiring, 70mm <sup>2</sup> or larger for each unit.
MGBT-F250W/RN1		380~400V 3Ph~50Hz	450A	350A	According to the actual distance of wiring, 185mm <sup>2</sup> or larger for each unit.

## 12.3.3 Requirements of wiring connection

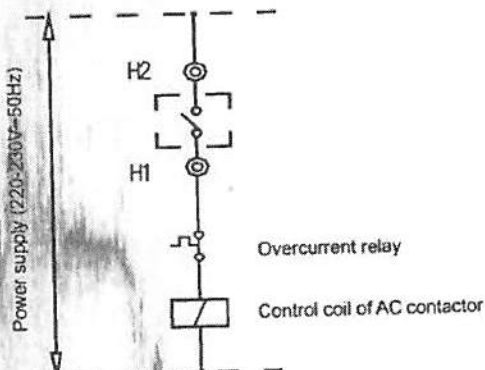
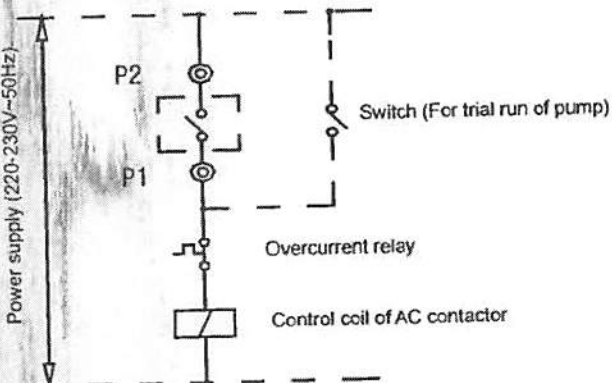
- No additional control components are required in the electric cabinet (such as relay, and so on), and the power supply and control wires not connected with the electric cabinet are not allowed to go through the electric box. Otherwise, electromagnetic interference may cause failure of the unit and control components and even damages to them, which thus lead to protective failure.
- All cables led to the electrical box should be supported independently but by the electric box.
- The strong current wires generally pass the electrical box, and 220V alternating current may also pass the control board, so wiring connection should conform to the principle of separation of strong current and weak current, and the wires of power supply should be kept more than 100 mm away from the control wires.
- Only use 380-415V 3Ph 50Hz rated power supply for the unit, and the maximum allowable range of voltage is 342V-418V.
- All electric wires must conform to local wiring connection norm. The suitable cables should be connected to power supply terminal through wiring connection holes at the bottom of the electric cabinet. According to Chinese standard, the user is responsible for providing voltage and current protection for the input power supply of the unit.
- All power supplies connected to the unit must pass one manual switch, to ensure that the voltages on all nodes of electric circuit of the unit are released when the switch is cut off.
- The cables of correct specification must be used to supply power for the unit. The unit should use independent power supply, and the unit is not allowed to use the same power supply together with other electric devices, to avoid over-load danger. The fuse or manual switch of the power supply should be compatible with working voltage and current of the unit. In case of parallel connection of multiple modules, the requirements of wiring connection mode and configuration parameters for the unit are shown in the following figure.
- Some connection ports in the electric box are switch signals, for which the user needs to provide power, and the rate voltage of the power should be 220-230V AC. The user must be aware that all power supplies they provided should be obtained through power circuit breakers (provided by the user), to ensure that all voltages on the nodes of the provided power supply circuit are released when the circuit breakers are cut off.

- All inductive components provided by the user (such as coils of contactor, relay, and so on) must be suppressed with standard resistance-capacitance suppressors, to avoid electromagnetic interference, thus leading to failure of the unit and its controller and even damages to them.
- All weak current wires led to the electric box must apply shielded wires, which must be provided with grounding wires. The shield wires and power supply wires should be laid separately, to avoid electromagnetic interference.
- The unit must be provided with grounding wires, which are not allowed to be connected with the grounding wires of gas fuel pipelines, water pipelines, lightning conductors or telephones. Improper earth connection may cause electric shock, so please check whether earth connection of the unit is firm or not frequently.

**Notice:**

- 1) 25/30kW module max 16 modular units can be combined.
- 2) 55/60/65kW module max 16 modular units can be combined.
- 3) 130kW module max 8 modular units can be combined.
- 4) 200kW module max 5 modular units can be combined.
- 5) 250kW module max 8 modular units can be combined.

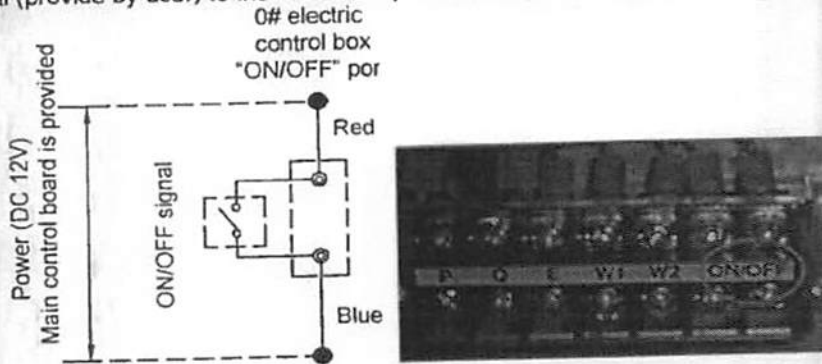
12.3.4 Wiring steps

Step	Content
1	Check the unit and ensure that it is connected with grounding wires correctly, to avoid leakage, and the grounding devices should be mounted in strict accordance with the requirements of electrical engineering rules. The grounding wires can prevent electric shock.
2	The control box of the main power switch must be mounted in a proper position.
3	Wiring connection holes of the main power should be provided with glue cushion.
4	The main power and neutral wires and grounding wires of power supply are led into the electric box of the unit.
5	The wires of the main power must pass the bonding clamp.
6	Wires should be connected firmly to the connection terminals L1, L2, L3, N and PE.
7	Phase sequences must be consistent when the wires of the main power.
8	The main power should be located out of easy reach of non-professional maintenance personnel, to avoid mal-operation and improve safety.
9	Connection of control wires of water flow switches: the wire leads (prepared by the user) of water flow switches are connected to the connection terminals W1 and W2 of the main unit.
10	Connection of control wires of auxiliary electric heaters: the control wires of AC contactor of the auxiliary electric heater must pass the connection terminals H1 and H2 of the main unit, as shown.
10	 <p>The diagram shows a vertical power supply line labeled 'Power supply (220-230V-50Hz)'. It connects to terminal H2, then through a switch to terminal H1. Below H1, the circuit passes through an 'Overcurrent relay' and then to the 'Control coil of AC contactor'.</p>
11	<p>Connection of control wires of pump: the control wires of AC contactor of the pump must pass the connection terminals P1 and P2 of the main unit, as shown</p>  <p>The diagram shows a vertical power supply line labeled 'Power supply (220-230V-50Hz)'. It connects to terminal P2, then through a switch to terminal P1. Below P1, the circuit passes through an 'Overcurrent relay' and then to the 'Control coil of AC contactor'. A separate switch labeled 'Switch (For trial run of pump)' is shown connected to the line between P2 and P1.</p>
12	The connection way of the wired controller connects with every signal wires from package units: signal wires P, Q, E are connected in the same way of main wires connection method and accordingly connect to the terminals P, Q, E in the wired controller.

Note: (For the module with KJR-120A/MBE)

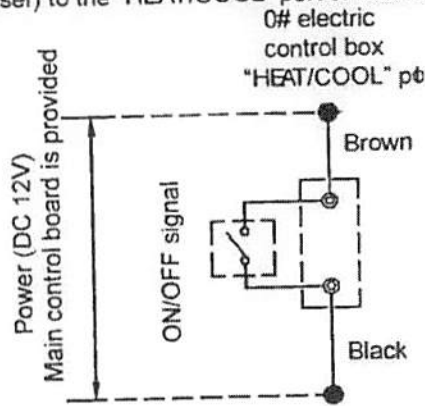
①. Wiring of "ON/OFF" weak electric port

Corresponding parallel connect the "ON/OFF" port of the main unit's electric control box, then, connect the "ON/OFF" signal (provide by user) to the "ON/OFF" port of main unit as follows.



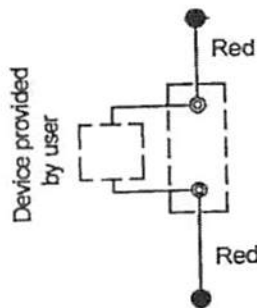
②. Remote mode selection: Wiring of "HEAT/COOL" weak electric port

Corresponding parallel connect the "HEAT/COOL" port of the main unit's electric control box, then, connect the "ON/OFF" signal (provide by user) to the "HEAT/COOL" port of main unit as follows.



③. Wiring of "ALARM" port

Connect the device provided by user to the "ALARM" ports of the module units as follows.



If the unit is operating normally, the ALARM port is closed, otherwise, the ALARM port is not closed.