

**Gplus**



چیلر اسکرال ماژولار دور ثابت جی پلاس  
Modular Air-Cooled Fixed Scroll Chiller



[www.havayesh.com](http://www.havayesh.com)

021-73092

## Features

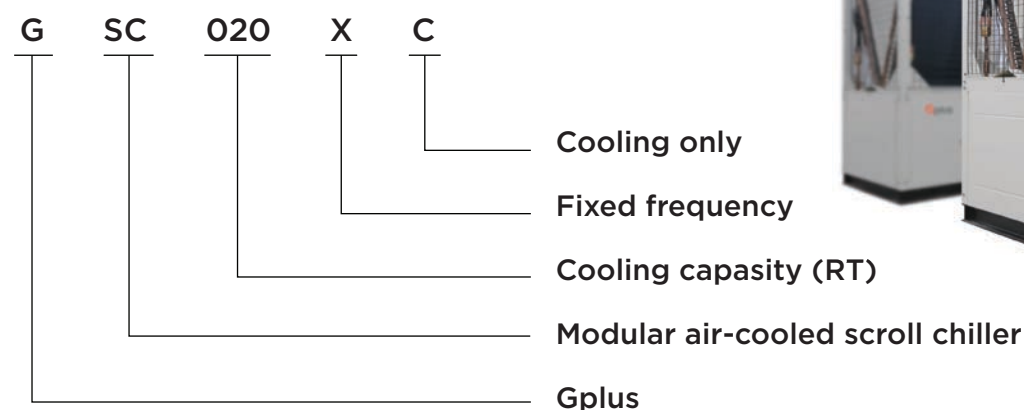
- Operation Range +5°C to +48°C
- Available cooling capacities 20RT and 40RT
- Shell and Tube Heat Exchanger
- Electronic Expansion Valve
- Environmental Friendly Refrigerant - R410a
- Equipped with two scroll compressors
- Dual-circuit refrigeration
- Module 16 units to expand capacities
- Automatic support function in case of failure in each module
- Compact design and less occupied area
- CE Standard
- Touch screen display

## Modular Air-Cooled Scroll Chiller

The modular air-cooled chiller unit is a central air conditioning using the air as cold and the water as refrigerant carrier, which can be integrated with various air side units such as fan coil unit, air handling unit to form a central air conditioning system.

Gplus constantly launches new environment-friendly modular units, which improves the structures, systems and programs based on original products, and designs special series of comfortable and technological units. The environment-friendly modular unit has complete functions and various specifications, with basic modules of any combination available for different models, including 66 kW, 100 kW, 130 kW, and at most 16 modules can be connected in parallel, providing combination products of 66 kW ~ 2080 kW. The unit is easy to install with a system without cooling tower, with simple pipelines, moderate cost, short construction period, allowing staged investment, widely applied in such commercial, industrial and civil buildings as villas, hotels, hospitals, office buildings, restaurants, supermarkets, movie theaters.

## Nomenclature



## R410A Classical Modular Unit

The new generation of Gplus modular air-cooled unit is based on 20 years of experience in R&D and design, which is greatly improved in aspects of the structure, system and microcomputer control technology, providing wider operation range of refrigeration and heating, and higher adaptability to applications with requirements on comfort and technology.





## High Efficiency, Energy Saving And Environmental Protection

The water chiller unit is certified by CE, providing EER up to 3.1 The environment-friendly refrigerant R410A is stable and nontoxic with excellent performance and zero ODP (ozone-depletion potential), doing no harm to the ozone layer.



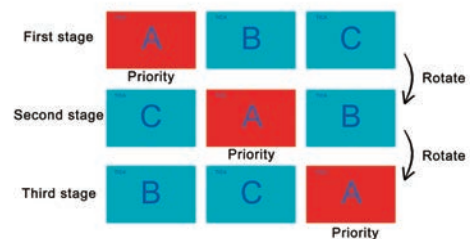
## Excellent Capacity

Units of the same model or different models can be combined freely. Each group can combine up to 16 modules.



## Free master Module Design

Any single unit can operate as the master once connected with the wired controller. It overcomes the problem that the whole system would fail to work properly when the fixed master unit malfunctions.



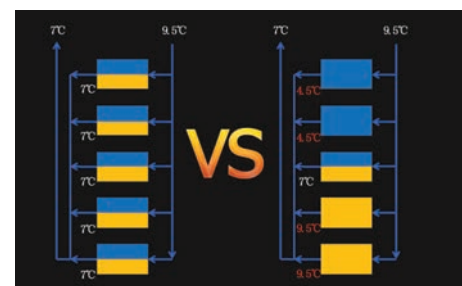
## Intelligent Air Volume Regulation

The shared duct system is adopted to greatly expand the operating rang. The single-module unit can automatically increase or reduce fans based on the ambient temperature to achieve optimal matching between air volume and load and deliver outstanding performance.



## Intelligent Energy Regulation Technology

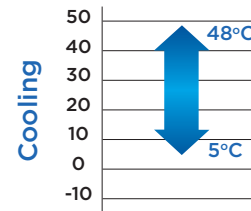
Unique intelligent energy regulation technology in multi-module combination ensures that each module loads or unloads a refrigerant circuit before loading or unloading other refrigerant circuits in the single module, thereby providing higher efficiency, stability and IPLV.





## Low Ambient Cooling

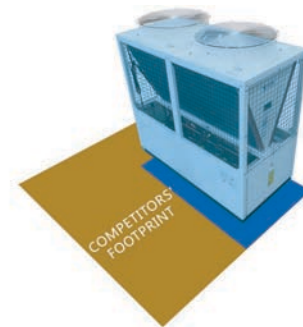
5°C ~ 48°C



## Compact Design And Less Occupied Area

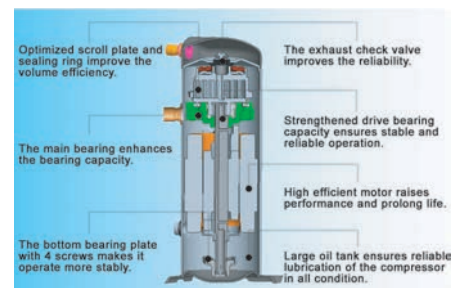
Unique and compact structure results small size, occupied area and significant reductions in installation space and cost; the unit is compact and easy to install.

A 130KW unit covers floor space of only 2.42m<sup>2</sup>, 50% reduction compared to its equivalents.



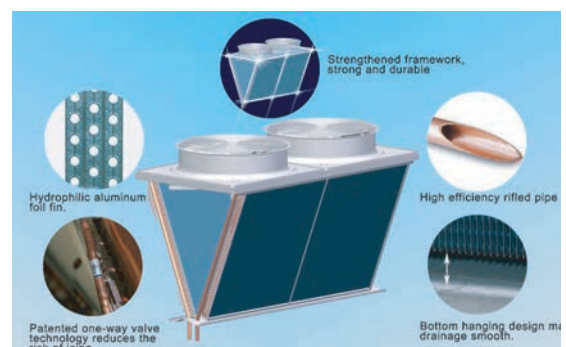
## Famous Hermetic Scroll Compressor

Unit adopt famous brand hermetic scroll compressor, which is high-efficient, energy saving and operates stably, with low noise, slight vibration and long service life.



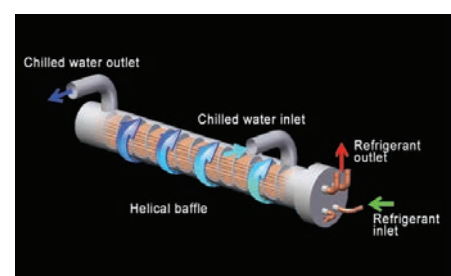
## V-Shaped Condenser

The v-shaped condenser has used an integral reinforcing metal frame, internal thread, providing higher structural stability and corrosion resistance; with heat exchange efficiency improved through full use of heat exchange area, low tendency to dust accumulation, low loss of pressure, smoother drainage and higher reliability.



## Efficient Shell And Tube Heat Exchanger

The waterside efficient shell and internal thread heat exchanger is helical baffle type, with better heat transfer performance and higher resistance to freezing than plate heat exchanger, lower water resistance and lower requirements for water quality.



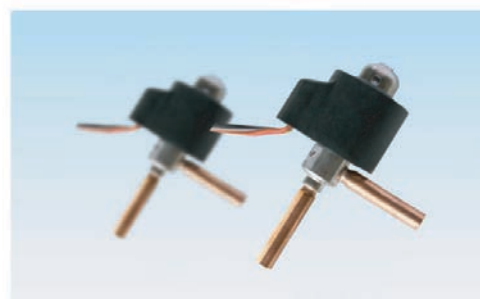
## Saw-shaped Impeller

Compared to plastic impellers, the saw-shaped impellers provide large air volume, high durability and high air supply efficiency with low noise



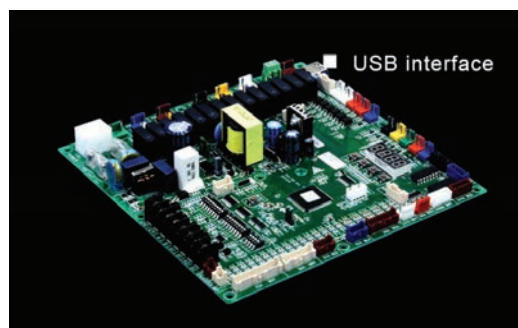
## High Precision Electronic Expansion Valve

The electronic expansion valve achieves 480 regulating range, fully improve the optimum efficiency of each component and ensure the optimum condition of system operation pressure and temperature.



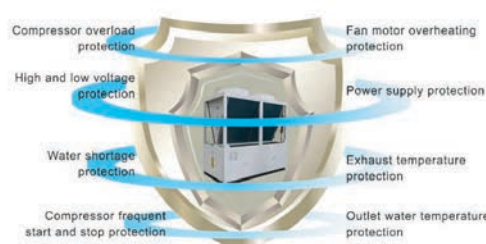
## Self-developed Microcomputer Control Panel

Gplus control panel is fully upgraded based on original control panels with years of experience in R&D and design, which combines more functions including phase sequence detection, current detection, RS-485 communication interface, delivering stronger performance, utility, standardization, convenience and universality. The USB interface is also provided to facilitate late-stage maintenance and upgrade of control function. The panel is supplemented by Gplus developed control program which offers full operation control and multiple safety protection functions.



## Multiple Protection Functions, Providing Safety And Stability

The unit has multiple safety protection functions which ensure safety and stable operation of the unit and systems. The water flow switch and multiple anti-freezing program designs protect the unit and system in an all-round way.



## Specifications

Model			GSC020XC	GSC040XC
Cooling capacity	kW		66	130
	RT		18.8	37
Capacity adjustment	%		0-50-100	
Power supply*	-		380-415V 3N-50HZ	
Power input	Cooling	kW	21.29	41.9
Running current		A	37.9	77
FLA		A	50	100
Refrigerant	Type	-	R410A	
Compressor	Type	-	Hermetic scroll	
	Quantity	-	2	
Water side heat exchanger	Type	-	High-efficient shell and tube heat exchanger	
	Water flow	m <sup>3</sup> /h	11.4	22.4
	Pressure drop	kPa	45	45
	Pipe connection dimension	-	DN65 (flanged joint)	
Air side heat exchanger	Type	-	High-efficient aluminum fin-copper tube heat exchanger	
	Fan type	-	Axial Fan	
	Quantity of fans	-	2	
	Total fan air flow	m <sup>3</sup> /h	28000	48000
Sound pressure level		dB(A)	70	74
Dimension	Unit(LxWxH)	mm	2200*860*2000	2200*1100*2205
	Package(LxWxH)	mm	2240*900*2000	2240*1140*2205
Net weight		kg	570	850
Gross weight		kg	630	950
Operating weight		kg	689	1039

Note:

- The nominal cooling capacity and nominal cooling input power are tested at the rated water flow, water outlet temperature of 7°C, and outdoor dry-bulb temperature of 35°C.
- The operating range is 5°C to 48°C for cooling.
- As a separate item, control accessory box contains a wired controller, a wired controller communication cable, user manual, and temperature sensor. The configuration is subject to changes, so please refer to actual unit upon delivery.

## Combined Capacity Parameter Table

model and modular quantity	GSC020XC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Cooling capacity	kW	66	132	198	264	330	396	462	528	594	660	726	792	858	924	990	1056
Water flow volume	m <sup>3</sup> /h	11.4	22.8	34.2	45.6	57	68.4	79.8	91.2	102.6	114	125.4	136.8	148.2	159.6	171	182.4

model and modular quantity	GSC040XC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Cooling capacity	kW	130	260	390	520	650	780	910	1040	1170	1300	1430	1560	1690	1820	1950	2080
Water flow volume	m <sup>3</sup> /h	22.4	44.8	67.2	89.6	112	134.4	156.8	179.2	179.2	224	246.4	268.8	291.2	313.6	336	358.4

Model	Cooling capacity	Compressor Number	Circulation loop	Main Board Number	Maximum Combination Number	Maximum Combination Capacity
GSC020XC	66	2	2	1	16	1040
GSC040XC	130	2	2	1	16	2080

Note:

- Nominal cooling operating conditions: leaving water temperature 7°C ambient temperature 35°C.
- In actual use, the cooling/heating loss should be considered after the installation of the system piping, pump, valve, dirt, ect. about 6%
- For other working conditions or capacity parameters, please contact goldiran offices for cooling ambient condition under 5°C.
- There will be no further notice if the parameters changes due to product optimization.
- The unit of the same model or different models can be combined freely. Each system can combine up to 16 modules.
- The controllers need to be ordered separately, including wired controller, communication line, IOM, temperature sensor. Manufacturer reserves the right to make change to above specification without prior. please refer to the factory configuration when purchasing.



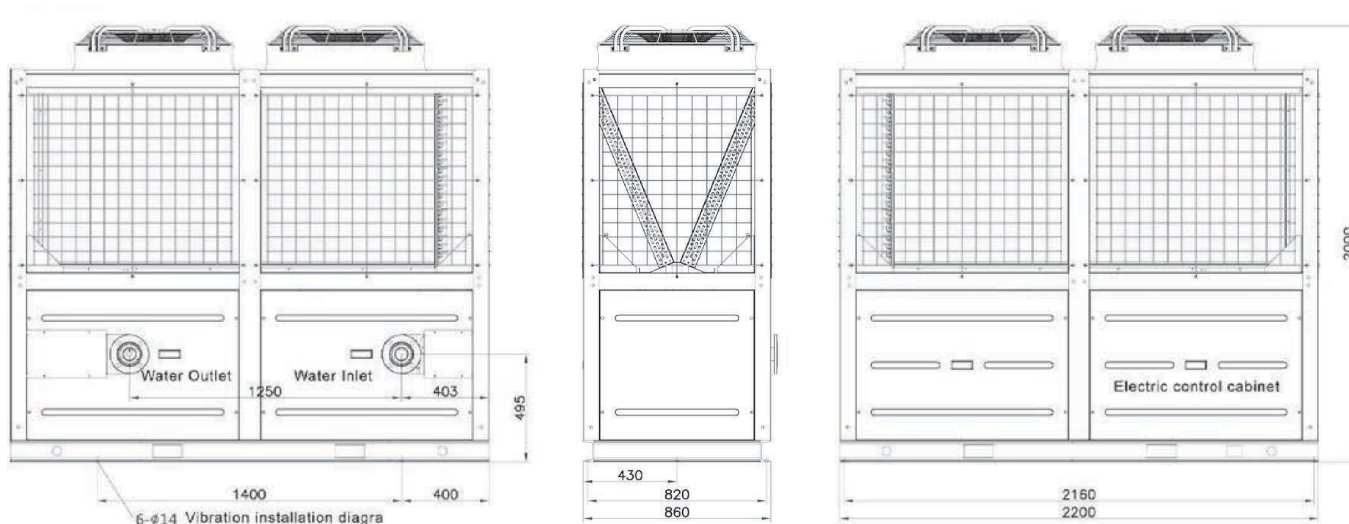
## Cooling capacity Correction Factor

Leaving Water Temperature °C	Ambient Temperature C																	
	5		10		15		20		25		30		35		40		48	
	Cooling	Power input	Cooling	Power input	Cooling	Power input	Cooling	Power input	Cooling	Power input	Cooling	Power input	Cooling	Power input	Cooling	Power input	Cooling	Power input
5	1.06	0.72	1.08	0.73	1.09	0.71	1.09	0.78	1.04	0.84	0.99	0.90	0.93	0.97	0.87	1.01	0.80	1.08
7	1.14	0.75	1.16	0.76	1.17	0.74	1.16	0.81	1.11	0.87	1.06	0.93	1.00	1.00	0.94	1.04	0.87	1.11
9	1.21	0.78	1.23	0.79	1.24	0.77	1.23	0.84	1.18	0.90	1.13	0.96	1.07	1.03	1.01	1.07	0.94	1.14
12	1.28	0.81	1.30	0.82	1.31	0.80	1.30	0.87	1.25	0.93	1.20	0.99	1.14	1.06	1.08	1.10	1.01	1.17
15	1.35	0.84	1.37	0.85	1.38	0.83	1.37	0.90	1.32	0.96	1.27	1.02	1.21	1.09	1.15	1.13	1.08	1.20

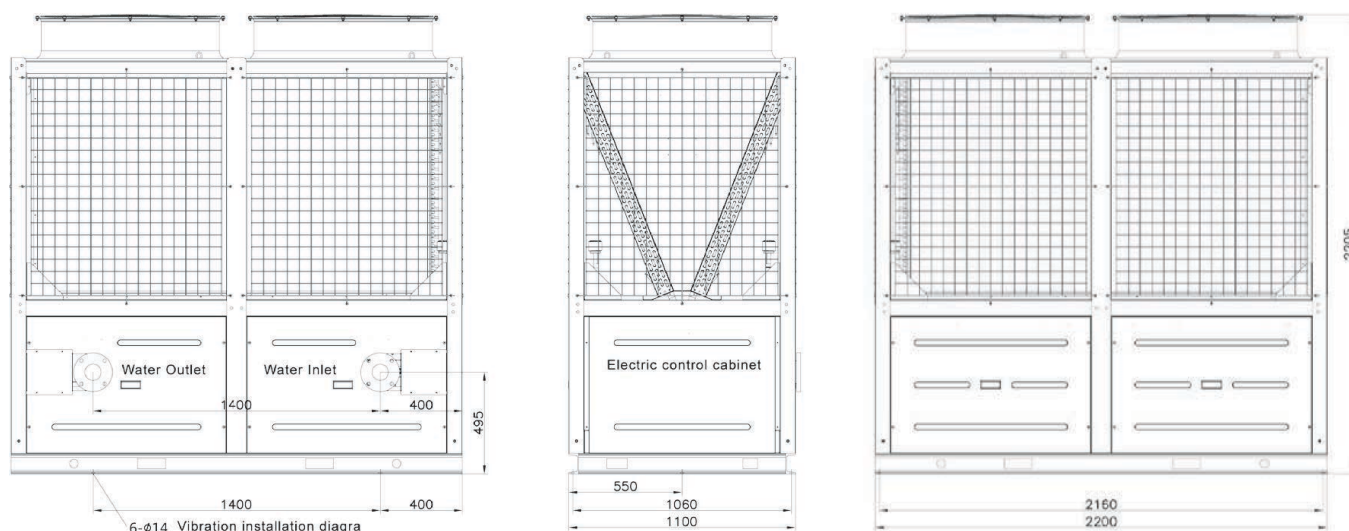
Note: Above Correction Factor adapt to GSC020/040XC.

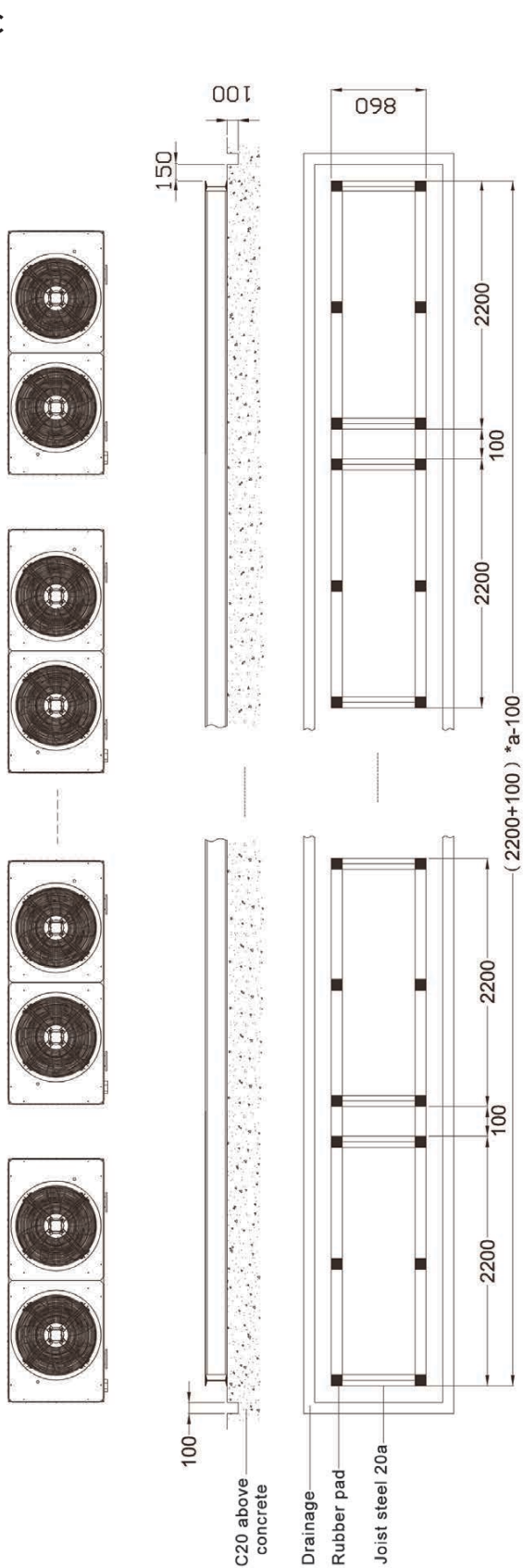
## Unit Dimention (mm)

### GSC020XC

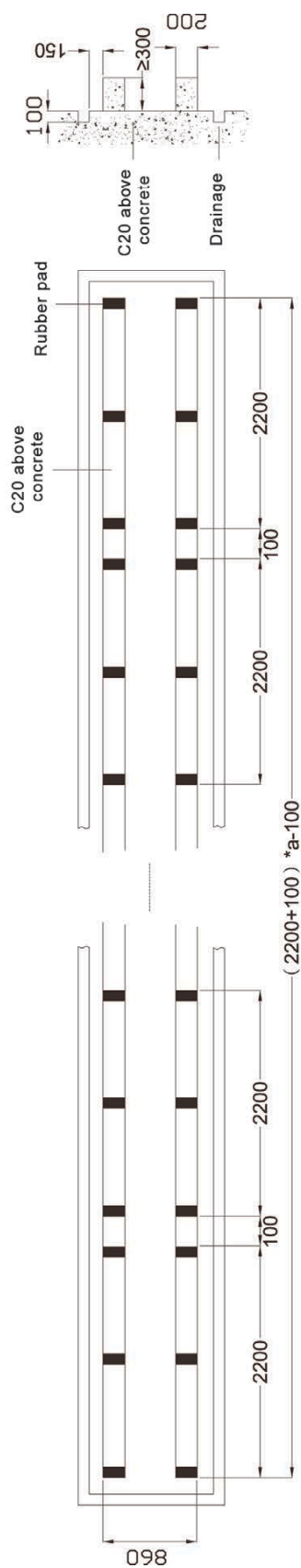


### GSC040XC

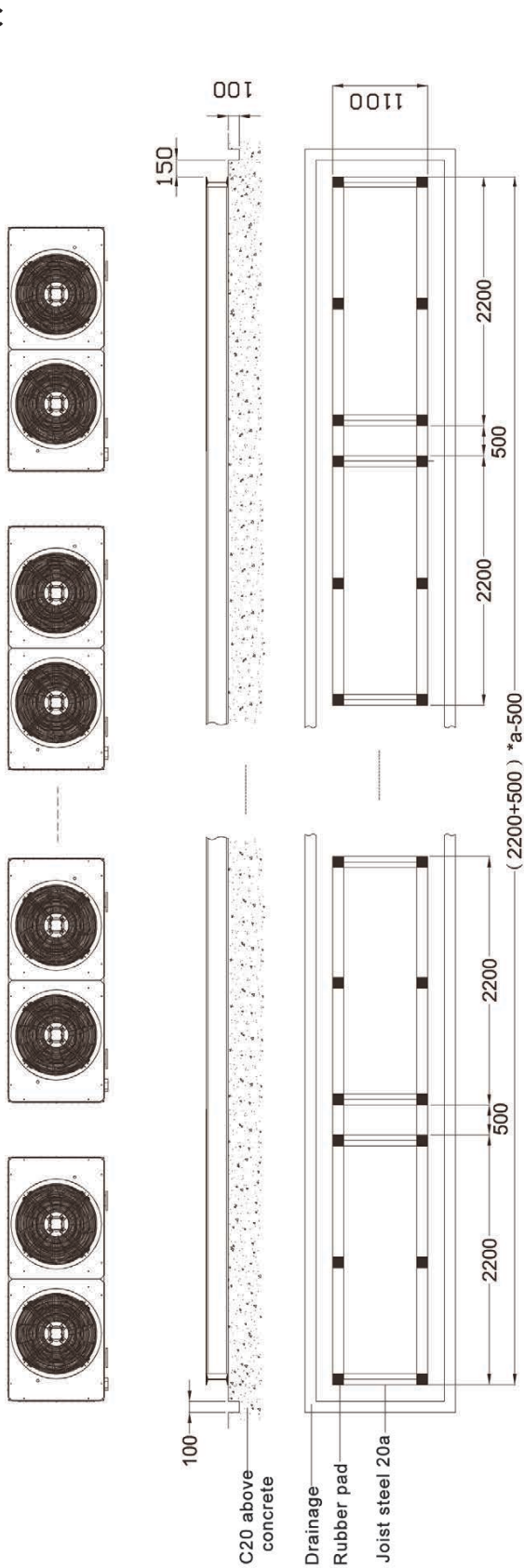




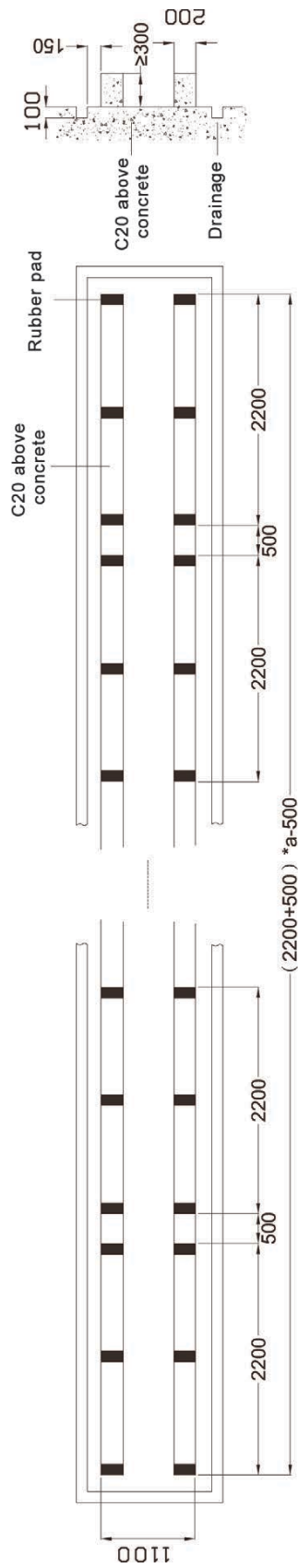
a. Joist steel foundation diagram



b. Concrete foundation diagram



a. Joist steel foundation diagram



b. Concrete foundation diagram





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