



Air Cooled Mini Chiller



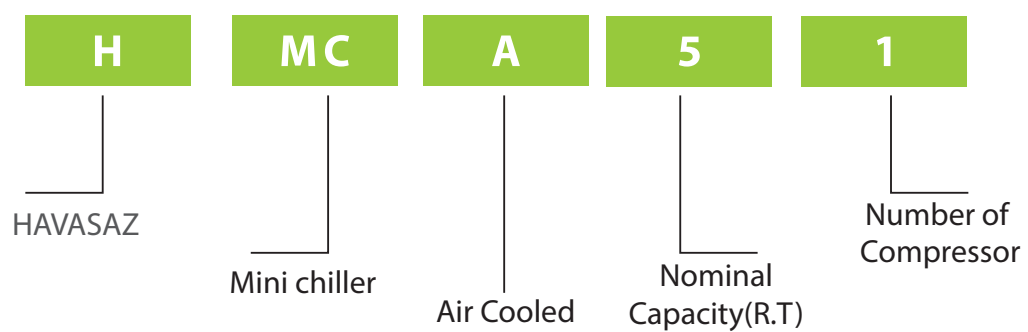
Air cooled mini chiller

HMCA-2.4 to 11 TR

Cooling Capacity From 8.3 to 38.4 Kw

50 Hz – CFC – R22 Refrigerant

Nomenclature



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Introduction

HAVASAZ Mfg. with five decades experience In the air conditioning industry desined a new generation of home & office mini air- cooled chiller.

Providing the features such as high efficiency, low noise, compactness, simple operation, safety running, easy installation and maintenance etc., the unit is widely equipped in plant, station, hotel, villa, office building, top-level apartment as well as process cooling application.

Features

Superior Performance

Extensive research work coupled with world leading manufacturing technology has resulted the new design with superb performance and high efficiency.

Stringent quality control and component selection ensure performance and reliability. Major components are rigorously tested and qualified prior to usage in the machine.

Every machine design has passed many hours of rigorous testing to ensure the machine reliability, durability and quality. Scroll compressor brings much higher energy efficiency. High efficiency heat exchanger ensures strenuous exertion of equipment capacity. Dedicated water pump particularly designed for air conditioning engineering is operating steadily with minimum vibration and noise.

M4AC080C/CR To M4AC150C/CR units are designed with double independent refrigerating system, greater energy saving is achieved by only one compressor on duty under part load condition.

Simple To Operate

The machine is complete with intelligent microprocessor controller and temperature sensor to automatically control the operation to its optimum condition, making it very simple to operate. All temperature settings are finished before shipment. The only thing for user to do is to start the unit by pressing the ON/OFF button after ensuring unit proper function, then every operation can be automatically performed by the unit itself.

Either wireless remote controller or wired remote controller is ready for choosing to meet satisfactory indoor unit control, both compatible with the unit.

Friendly Installation

The machine has been designed with friendly installation in mind such that easy refrigeration charging or no copper pipe brazing is required on site.

Threaded fitting is provided for easy water piping connection on site.

Safety Control

Protection devices such as dual pressure protection and overload protection etc. is provided to ensure unit operating within safety condition range. The microprocessor-based controller automatically directs system on or off by processing the water temperature feedback. If the water temperature falls to unacceptable low point, the controller automatically shut off the system to prevent hydraulic system internal freeze for unit safety operation. Meanwhile, the microprocessor-based controller automatically monitors every component operating status and malfunction, and feedback it to indoor controller to greatly ease the work of status monitor and troubleshooting.

All Weather

The cabinet is made of electro galvanized mild steel sheet, coated with baked after an electrostatic powder coat of approximately 60 microns. This finish and coating can pass a1000 hour in 5% salt spray testing at 95 F and 95% RH as per ASTM B117 which provide units extra durability in all climates against sun, rain, wind and corrosion.

Space saving (small footprint) design of the machine eliminates large installation area requirement, no need for equipment room.

The machine uses high quality parts to ensure durability in various climate conditions.

Simple To Maintain

The simple design of the machine allows for maximum serviceability. All components are with reach of the maintenance personnel upon open up of the servicing panel. If emergency shutoff occurs, the microprocessor -based controller will indicates the fault cause to quicken and ease troubleshooting.

General Specification

Compressor

HAVASAZ Chillers HMCA-2.4-1 to HMCA-11-1 are equipped with highly efficient, reliable and silence scroll compressors.

Air-Cooler Condenser

The air-cooled condenser coil consists of staggered rows of 3/8" O.D. seamless copper tube,

mechanically expanded into die formed aluminum fins to ensure optimum heat exchange capability.

Condenser Fan Motor

To achieve the high air change requirement, the unit is equip with the high air flow propeller fan. The fan is direct driven by weatherproof motor to ensure reliable continuous operation.

Evaporator

The heat exchanger is made of stainless steel plates closely arranged and brazed together to ensure high heat exchange efficiency. The complete heat exchanger is insulated with thermal insulation closed cell rubber foam to give optimum thermal insulation.

Refrigerant Circuit

The refrigerant circuit is factory brazed and evacuated before accurately charged with CFC R22 to ensure optimum operating requirement. To ensure flawless continuous operation, each refrigerant circuit is equipped with a carefully sized capillary tube.

Additional Safety Protection

The units are equipped with intelligently designed safety control to ensure continuous safe operation. High and low pressure switch is provided to prevent the compressor damage resulting from both abnormally high discharge head pressure and low pressure due to insufficient gas. The compressors are provided with crank case heater to prevent liquid migration during the off cycle and also to ease the startup of the unit.

The standard electronic controller provides accurate water temperature control in the circuit by closely monitoring and reacting to the input from the water entering temperature, water leaving temperature .

Flow switch is provided in the unit to protect against damage to the water pump.

Anti freeze is provided in the unit to protect against evaporator water freezing.

Controller

The controller accomplishes its control function with its built-in microprocessor. Parameters have been factory set before shipment.

Engineering and Physical Data

Engineering and Physical Data General Data - R22 Cooling only				
MODEL			HMCA-2.4-1	HLMC-3.4-1
NOMINAL COOLING CAPACITY	W		8280	12200
	Ton		2.35	3.40
NOMINAL TOTAL INPUT POWER	W		3000	4500
NOMINAL RUNNING CURRENT	A		8	12
POWER SOURCE	V/Ph/Hz		380-420 / 3 / 50	
REFRIGERANT TYPE			R22	
CONTROL			TXV	
UNIT DIMENSION	HEIG	mm	802	1400
	WIDT	mm	1180	1180
	DEPT	mm	460	460
UNIT WEIGHT	kg		120	170
SOUND PRESSURE LEVEL	dBA		55	57
EVAPORATOR				
NOMINAL WATER FLOW	GPM		5.64	8.16
CONDENSER FAN				
TYPE/DRIVE			PROPELLER / DIRECT	
QUANTITY			1	2
HYDRAULIC KIT				
PUMP	TYPE		HIGH	
	MAX. WATER OPER. PRESSURE	kPa / psi	1000/145	
	WATER FLOW RATE	GPM	5.64	8.16
PIPING	INSTALLATION PIPE	mm/in	32/1	
	HEAD	m	9.2	9.5
COMPRESSOR				
TYPE			SCROLL	SCROLL
STAGE OF CAPACITY CONTROL (KW)			0 - 100%	0 - 100%
REFRIGERANT				
CHARGING MASS	kg		2.35	3.40

Engineering and Physical Data

General Data - R22 Cooling only

MODEL			HMCA-5-1	HLMC-6,5-1
NOMINAL COOLING CAPACITY	W		16900	22500
	Ton		4.8	6.4
NOMINAL TOTAL INPUT POWER	W		6000	7500
NOMINAL RUNNING CURRENT	A		17	17.6
POWER SOURCE	V/Ph/Hz		380-420 / 3 / 50	
REFRIGERANT TYPE			R22	
CONTROL			TXV	
UNIT DIMENSION	HEIGHT	mm	1400	1450
	WIDTH	mm	1180	1320
	DEPTH	mm	460	460
UNIT WEIGHT	kg		210	250
SOUND PRESSURE LEVEL	dBA		62	64
EVAPORATOR				
NOMINAL WATER FLOW	GPM		11.52	15.36
CONDENSER FAN				
TYPE/DRIVE			PROPELLER / DIRECT	
QUANTITY			2	2
HYDRAULIC KIT				
PUMP	TYPE		HIGH HEAD CIRCULATOR	
	MAX. WATER OPER.	kPa / psi	1000/145	
	WATER FLOW RATE	GPM	11.52	15.36
PIPING	INSTALLATION PIPE	mm/in	32/1	40/ 1 1/4
	HEAD	m	9.6	9.7
COMPRESSOR				
TYPE			SCROLL	SCROLL
STAGE OF CAPACITY CONTROL (KW)			0 - 100%	0 - 100%
REFRIGERANT				
CHARGING MASS	kg		4.80	6.40

Engineering and Physical Data

General Data - R22 Cooling only

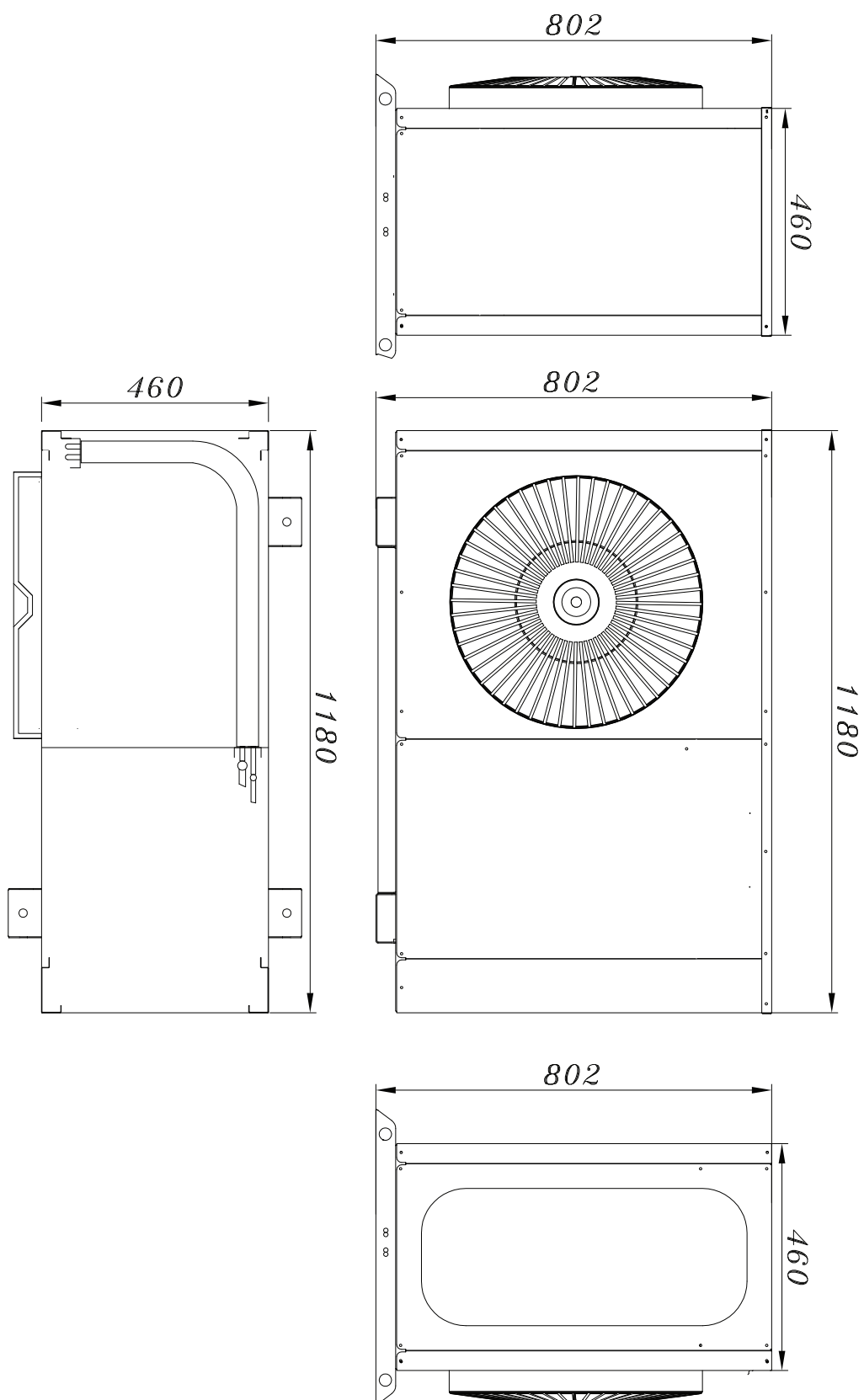
MODEL			HMCA-7,5-1	HLMC-9-1
NOMINAL COOLING CAPACITY	W		26500	32400
	Ton		7.53	9.2
NOMINAL TOTAL INPUT POWER	W		9000	11300
NOMINAL RUNNING CURRENT	A		31	33
POWER SOURCE	V/Ph/Hz		380-420 / 3 / 50	
REFRIGERANT TYPE			R22	
CONTROL			TXV	
UNIT DIMENSION	HEIGHT	mm	1450	1475
	WIDTH	mm	1320	1520
	DEPTH	mm	460	710
UNIT WEIGHT	kg		300	400
SOUND PRESSURE LEVEL	dBA		61	69
EVAPORATOR				
NOMINAL WATER FLOW	GPM		18.07	22.08
CONDENSER FAN				
TYPE/DRIVE			PROPELLER / DIRECT	
QUANTITY			2	2
HYDRAULIC KIT				
PUMP	TYPE		HIGH HEAD CIRCULATOR	
	MAX. WATER OPER. PRESSURE	kPa / psi	1000/145	
	WATER FLOW RATE	GPM	18.072	22.08
PIPING	INSTALLATION PIPE	mm/in	40/ 1 1/4	50/ 1 1/2
	HEAD	m	21	19.5
COMPRESSOR				
TYPE			SCROLL	SCROLL
STAGE OF CAPACITY CONTROL (KW)			0 - 100%	0 - 100%
REFRIGERANT				
CHARGING MASS	kg		7.53	9.20

Engineering and Physical Data

General Data - R22 Cooling only

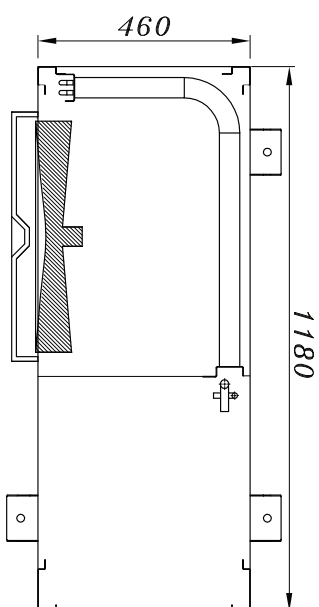
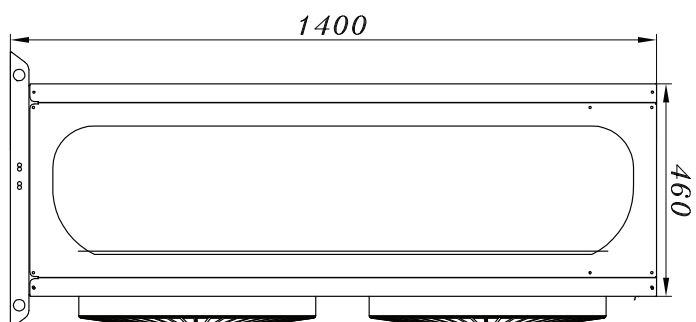
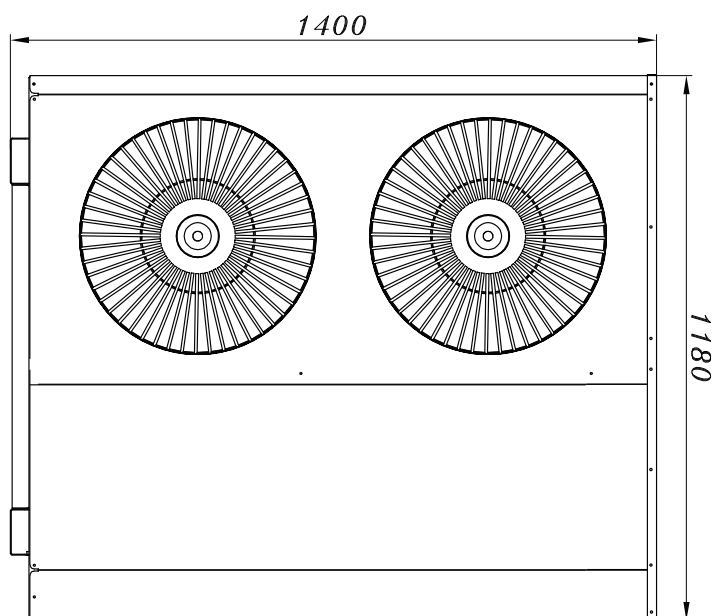
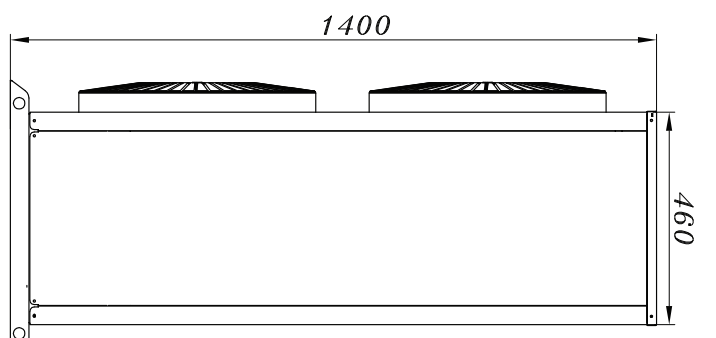
MODEL			HMCA-11-1
NOMINAL COOLING CAPACITY	W		38400
	Ton		10.90
NOMINAL TOTAL INPUT POWER	W		14000
NOMINAL RUNNING CURRENT	A		38
POWER SOURCE	V/Ph/Hz		380-420 / 3 / 50
REFRIGERANT TYPE			R22
CONTROL			TXV
UNIT DIMENSION	HEIGHT	mm	1475
	WIDTH	mm	1520
	DEPTH	mm	710
UNIT WEIGHT	kg		450
SOUND PRESSURE LEVEL	dBA		70
EVAPORATOR			
NOMINAL WATER FLOW	GPM		26.16
CONDENSER FAN			
TYPE/DRIVE			PROPELLER / DIRECT
QUANTITY			2
HYDRAULIC KIT			
PUMP	TYPE		HIGH HEAD CIRCULATOR
	MAX. WATER OPER.	kPa / psi	1000/145
	WATER FLOW RATE	GPM	26.16
PIPING	INSTALLATION PIPE	mm/in	40/ 1 1/4
	HEAD	m	17
COMPRESSOR			
TYPE			SCROLL
STAGE OF CAPACITY CONTROL (KW)			0 - 100%
REFRIGERANT			
CHARGING MASS	kg		10.90

Dimension

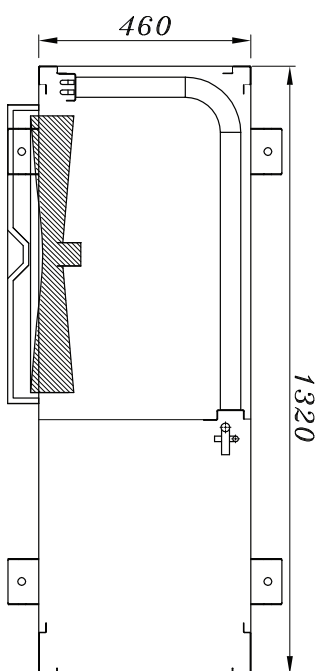
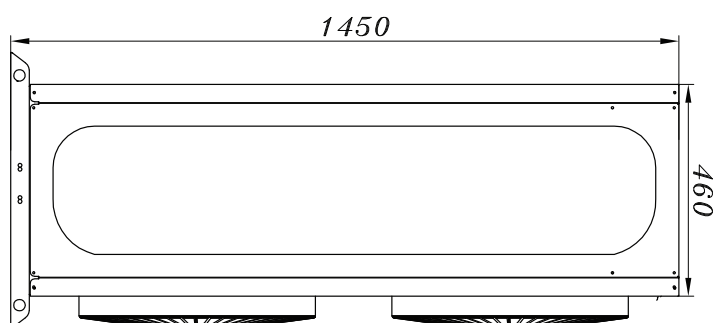
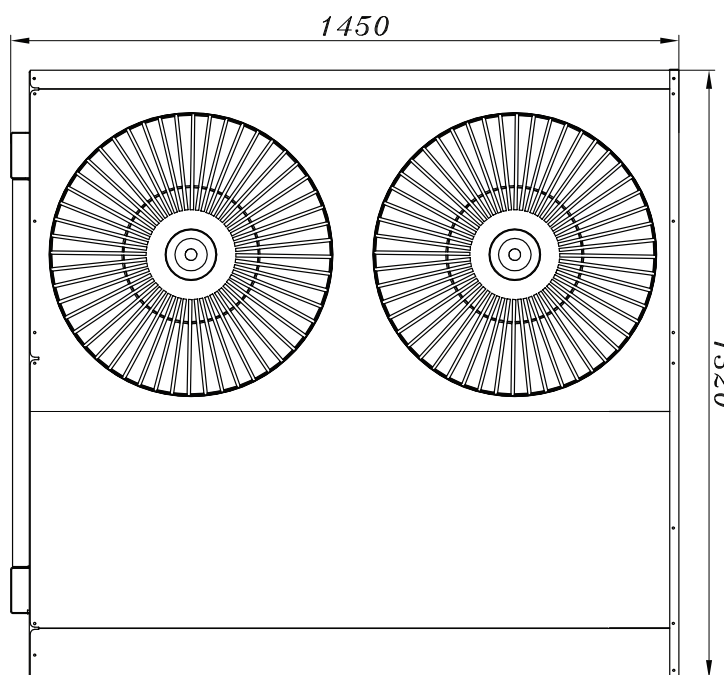
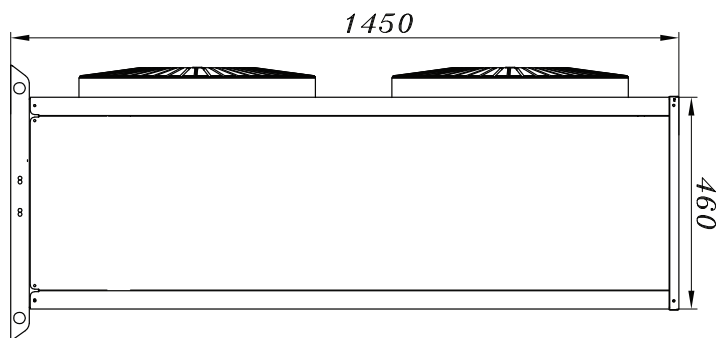


MODEL : HMCA-2.4-1

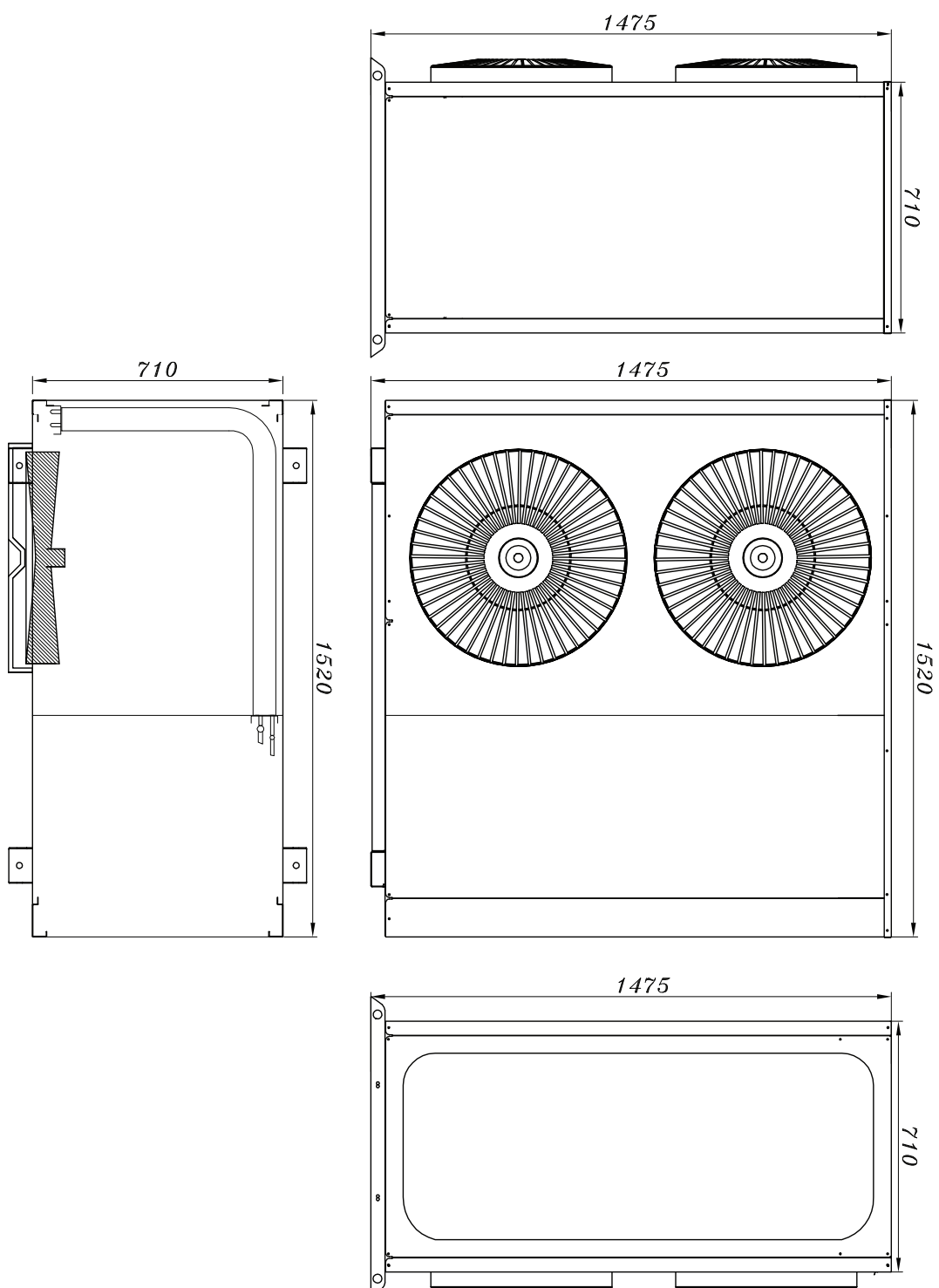
MODEL: HMCA-3.4-1 , HMCA-5-1



MODEL : HMCA-6.5-1 , HMCA-7.5-1



MODEL : HMCA-9-1 , HMCA-11-1





شرکت هوا ساز همیشه سعی بر آن دارد با استفاده از قطعات و متریال مرغوب نیاز مشتریان خود را برآورده سازد که در ذیل به معرفی برخی از مشارکت کنندگان در تامین قطعات این شرکت می پردازیم :

مرغوب ترین قطعات و اجزاء :

انواع کویل های Cu/Cu , Cu/hydrophilic Al Heresite Coating
کمپرسورهای Scroll , Screw , Reciprocating از نوع Frasscold, bitzer, copeland , Carrier, refcomp
مبدل های Shell & Tube مارک رادیران و Compact Plate Heat Exchanger مارک Danfoss



دفتر فروش : تهران - خیابان شهید بهشتی - خیابان سرافراز - پلاک ۵۵ - مجتمع دریای نور

تلفن : ۸۸۷۵۴۹۱۰ فکس : ۸۸۷۵۴۹۱۱

کارخانه : کیلومتر ۱۹ جاده قدیم کرج - منطقه صنعتی اسماعیل آباد - خیابان اول - پلاک ۶

تلفن : ۴۶۸۸۱۹۶۵-۷۵ فکس : ۴۶۸۴۳۲۹۲

