HAVASAZ

Life Is Cool Air Conditioning since 1967

CONDENSING UNIT

life is cool

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Introduction

HCUA Series Air Cooled Condensing Unit is the new generation of HAVASAZ units.

HCUA Series have quite and low vibration design and are manufactured to meet the requirements of the severe climatic conditions.

HCUA Series are ideally suited for hotels, high-rise buildings, stores, hospitals and modern cooling applications of modern manufacturing industries and industrial application. Up to 4 compressors and 2 independent refrigerant circuits HCUA units can supply one or2 air handlers.

HCUA units are factory assembled, leak tested, evacuated, internally wired. Every unit is fully tested before delivery and is ready for installation. And include an initial oil charge.

HCUA Series are designed and manufactured in accordance with the HAVASAZ Quality Management System, approved to ISO 9001:2000 and rated in accordance with AHRI 550/590.

HCUA units are available in 60 models covering capacity ranges of 4 to 147 TR (14 to 516kW) in 50 Hz.

General Features

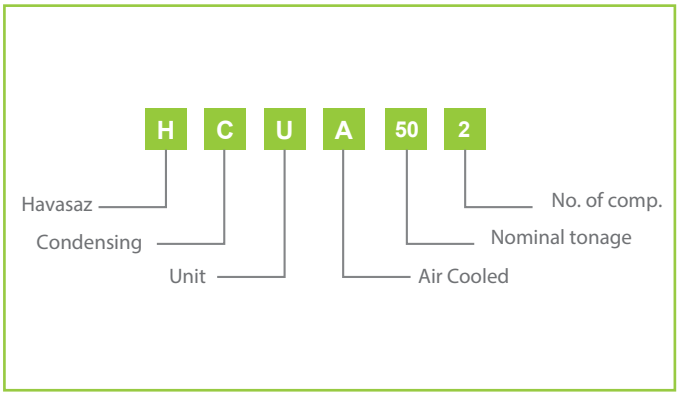
Compressors Operation

HCUA units are equipped with multiple compressors in order to achieve greater operating flexibility (single compressor just use for small capacities).

By cycling individual compressors the system capacity can be modulated with full power savings for the compressors in operation. HAVASAZ used a simply method for reduce starting current. By delay between compressors start.

Wide Operating Range

HCUA units are designed, as standard, to operate at a wide range of ambient temperatures from 95°F (35°C), or lower if optional low ambient operation kit is included, to 125°F (52°C).



Main Component Features

Compressors

Compressors used in HCUA series are fully accessible, semi hermetic, reciprocating type, equipped with an oil sight glass, suction and discharge service valves and crankcase heater. These are refrigerant gas cooled and equipped with an oil pressure lubrication system. The oil pump working in either direction is protected by an oil screen. For protection, all compressors are equipped with oil pressure or oil level control oil level control

The compressors are provided with vibration isolator mounting under the compressors skid and therefore, external to HCUA series, AVM's may be necessary only for critical applications.The compressor motors have inherent thermal protection. This is in addition to other standard safety and protection controls.

Condensers

Condenser coils are manufactured from seamless copper tubes mechanically bonded to aluminum fins to ensure optimum heat transfer. All coils are tested against leakage by air pressure of 1.3 operation pressure. according to the ASME standard section 8, All standard coils are2,3 or 4 rows with 10 or 12 FPI, (3.2 mm) fin spacing, 3/8" (9.5 mm) O.D. tubes.

Condenser fin materials should be matched with site conditions to inhibit coil corrosion and ensure extended equipment's life.

For different application requirements, other optional condenser fin materials are available:

- Copper fins
- Aluminum fins
- Pre coated Aluminum fins. The pre-coated is hydrophobic polyurethane resin .This option provides substantial corrosion protection beyond standard coil construction.
- Heresite Coil Coating. The Heresite is a self-etching high performance modified coat that is specifically designed to coat and protect Aluminum and Copper surfaces. In addition, the coating is ideal for the protection of ferrous and nonferrous materials.

Condensers Fans

Axial, low-noise, water-proof type (IP 54) with safety grid.

Electric motors are directly coupled thus reducing vibrations and whatever trouble of transmission. and they're protected from voltage peaks by magneto-thermic switches installed into the electric panel placed on machine side.

Electrical Notes

1.The minimum recommended disconnect switch is based on 115% of the rated load amps for all loads included in the circuit, per IEC.

2.Minimum fuse size is based upon 150% of the rated load amps for the largest motor plus 100% of the rated load amps for all other loads included in the circuit to avoid nuisance trips at start-up due to lock rotor amps. It is not recommended in applications where brown outs, frequent starting and stopping of the unit, and/or operation at ambient temperatures in excess of 95°F (35°C) is anticipated.

3.Maximum fuse size is based upon 225% of the rated load amps for the largest motor plus 100% of the rated load amps for all other loads included in the circuit, per IEC.

4. Circuit breakers must be UL listed and CSA certified and maximum size is based on 225% of the rated load amps for the largest motor plus 100% of the rated load amps for all other loads included in the circuit. Otherwise, HCUA–type circuit breakers must be used. Maximum HCUA Circuit breaker rating is based on 225% of the rated load amps for the largest motor plus 100% of the rated load amps for all other loads included in the circuit.

5.The "INCOMING WIRE RANGE" is the minimum and maximum wire size that can be accommodated by the unit wiring lugs. The (2) preceding the wire range indicates the number of termination points available per phase of the wire range specified. Actual wire size and number of wires per phase must be determined based on the National Electrical Code, using copper connectors only. Field wiring must also comply with local codes.

6. A ground lug is provided for each compressor system to accommodate a field grounding conductor per IEC. A control circuit grounding lug is also supplied.

7. The supplied disconnect is a "Disconnecting Means" as defined in the per IEC and is intended for isolating the unit for the available power supply to perform maintenance and troubleshooting. This disconnect is not intended to be a Load Break Device.

Casing/Structure

The unit casing in HCUA series is made of zinc coated galvanized steel sheets conforming to JIS-G 3302 and ASTM A653 which is phosphatized and baked after an electrostatic powder coat of approximately 60 microns. This finish and coating can pass a 1000 hour in 5% salt spray testing at 95°F (35°C) and 95% RH as per ASTM B117. HCUA series are assembled on rigid structural galvanized steel painted with electrostatic powder coating. The package is assembled for easy handling during transportation and robust support during installation and operation.

Refrigerant Piping

The refrigeration circuit piping is fabricated from ACR grade copper piping. Each refrigeration circuit includes filter drier, liquid line solenoid valve, and thermostatic expansion valve, sight glass, shut off valve.

After fabrication the refrigeration circuit suction line is insulated closed cell pipe insulation.

System Protection

The following system protection controls will automatically act to insure system reliability and protection of the unit.

- Low suction pressure protection.
- High discharge pressure protection.
- Low oil pressure protection.
- High compressor motor winding temperature protection.
- Compressor internal thermal protection.
- Time delay between stages.

System Control Philosophy

The unit may be enabled or disabled manually or through the use of an external signal from a building automation system.(if any)

Control is based upon return water temperature. How fast the temperature changes is calculated and capacity decisions are based upon the rate. Capacity is never added if the system is moving toward the temperature target at an acceptable rate. The unit will monitor all control functions and stage the compressor to maintain the required operating capacity.

Optional Features

Alternative Condenser Material

Made of copper tubes and alternative fi n material and/or protective coating.

- Copper Fins (CF)

  Pre Coated Aluminum Fins (FAP)
- Aluminum Fins with heresite coat Protection (FAA)
- Copper Fins with heresite Coat Protection (FCA)

IP55 Control Panel (ICP)

Control Panel for special applications to meet IP55 requirements.

Condenser Coil Guard (CGP)

Coil wire mesh guard, in galvanized and painted finish, for condensers. Recommended on ground level installations where coil needs to be protected against vandalism.

Electronic Expansion Valve (EEV)

To provide energy saving benefits over mechanical thermostatic expansion valve (TXV).(installed on AHU instead of thermostatic expansion valve)

Voltage Monitoring Module (VMM)

To prevent HCLA unit operation in the event of phase loss, phase reversal, and under voltage/over voltage on the incoming line voltage.

Marine Paint (MP)

To provide increased corrosion resistant in coastal environments and off shore locations.

Ammeter and Phase Selector Switch (AMPI)

To indicate running Amperes on main incomer/incomers of a condensing unit.

Voltmeter and Selector Switch (VSS)

For incoming line voltage.

Pressure Gauges (SDG)

Suction and discharge and oil pressure indication of each refrigerant circuit.

Note: Some optional items are not applicable, for all sizes/models, consult HAVASAZ.

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Capacity Correction & Limits

Altitude Correction Factor

Correction factors must be applied to standard ratings at altitudes above 2000 ft (610 m) using the following multipliers:

ALTITUDE (ft)	ALTITUDE (m)	CAPACITY MULTIPLIER	COMPRESSOR POWER MULTIPLIER
2000	610	0.99	1.01
4000	1220	0.98	1.02
6000	1830	0.97	1.03
8000	2440	0.96	1.04
10000	3050	0.95	1.05

Fin Material Correction Factors

The unit ratings are based on copper tube and aluminum fins condenser. For alternative condenser material the following factors apply:

Fin Material C.F	AL	CU
	1	1.03

Table No. 2

Why Compressors fail with flood

1 - Refrigerant Flood Back

Refrigerant flood back occurs during the running cycle of the machine. This is where large volumes of liquid refrigerant are returned to the running compressor down through the Suction pipe work, in an uncontrolled manner. Depending on the degree of liquid returning to the compressor, determines as to what damage will occur.

This can often be seen as foaming in the compressors' oil level sight glass.
If liquid is drawn into the cylinder bores, the lubrication to the cylinders and pistons will be washed away causing scoring and overheating in the cylinder, which in turn will lead to small metallic particles contaminating the inside of the machine. This liquid will also dilute the lubricating oil in the compressor sump. As the oil becomes more and more diluted with liquid refrigerant, its ability to lubricate becomes compromised.

When this liquid rich oil is drawn up through the crankshaft to lubricate the bearings, con rods, cylinder walls, etc. due to friction the refrigerant in the oil starts to Flash Off into a vapor, this then prevents the oil being able to lubricate the necessary parts, and typically the main bearing and the con rods, furthest from the oil pick up point, will quickly dry out and then seize

Causes of Liquid Flood Back:

1- Low Evaporator loads
2- Oversized equipment
3- Cold room product distribution (poor air circulation in cold room caused by lights, racking etc.)
4- Faulty evaporator fans
5- Oil logging in evaporator
6- Poor evaporator defrosting or defrost schedules (Iced up evaporator / No air flow / Poor heat transfer)
7- Oversized Expansion Valve Orifice
8- Wrong type expansion valve
9- Expansion valve equalization tube restricted or blocked (Capillary tube? Oil logged? etc.
10- Expansion valve bulb strap loose or bulb in the wrong position on the suction pipe.
11- Superheat setting too low

Preventative measures to avoid Refrigerant Flood back:

1- Expansion Valve duty must be checked for the correct size orifice.

2- Superheat setting must be set for minimum 6-8 Degree ˚K Superheat (Thermostatic). Can be lower if electronic EEV used.

3- Fit correct size Suction Accumulator with proper oil return function.

4- Check and reset Defrost control as necessary.

5- Fully check the system operation or re-commission the plant.

NOTE:

Liquid Flood back very often occurs during LOW LOAD conditions, which tends to be during the night, due to the lack of activity such as Door Openings, product movements, fork truck and the cold room Personnel which all give an increase to the plant duty.

Therefore 24 hour logging of the plant operating conditions will often help to pinpoint plant problems that only occur during the night operation, when the plant is unattended.

2 - Flooded Starts

Flooded starts are probably the major cause of compressor failures. Flooded starts occur when liquid refrigerant has migrated from the system and condensed into the compressor oil. Migration can occur in all systems up to a point, due to the vapor pressure of the refrigerant being greater than the vapor pressure of the oil. It is the refrigerant vapor that migrates and then condenses into the colder compressor oil.

Crankcase heaters can help prevent this problem occurring provided the heater is large enough to raise the oil temperature to at least 10°C above the ambient temperature surrounding the compressor. In cold windy environments the compressor may need an additional belt type crankcase heater plus an insulated jacket to achieve this, and tests should be carried out to confirm that the oil temperature requirements can be satisfied under all ambient temperature conditions.

Long OFF Cycles are also a cause of this problem, especially during the Night, and throughout the Weekends when the plant is least used, and the heat load requirements are minimal.

High temperature rooms often suffer this type of failure due to very short duty cycles and lack of heat load during the winter months.

NOTE:

The longer the OFF cycle, the greater the degree of liquid migration. The colder the oil, the greater the degree of liquid to oil migration that takes place.

Typical Causes of Flooded Start

1- System Overcharge

2- Crankcase Temperature lowers than Evaporator

3- Long Off Cycle times

4- Compressor sited in a cold windy environment

5- Crankcase heater faulty/or of insufficient power to achieve required oil temperature.

6- A, one time pump down control

7- Leaky solenoid valve

Preventative measures required

1- Use a continuous Pump Down control

2- Use a belt type crankcase heater plus insulated bl3) Site the compressor in a warmer ambient area

Selection rules

1- Capabilities are based on Refrigerant R-134A and R-22.

2- Ratings may interpolate, but must not be extrapolated.

3- Ratings shown are at saturated suction temperatures corresponding to pressures at the compressor. In actual practice, suction line pressure drop has the effect of reducing compressor capacity, forcing the compressor to operate at a lower suction pressure to maintain the desired evaporator temperature.

Caution: HAVASAZ strongly recommended considering 450 for 10-20% fresh air to avoiding serious problem for compressor.

Selection Procedure

The air-cooled condensing unit may be selected from the Ratings (tables 4, 8, 12, 16) if the ambient air temperature at the condenser and the saturated suction temperature at the compressor are known. The ambient air temperature is a known design parameter, but the suction temperature at the compressor, in many cases, is known only within certain allowable limits.

The actual compressor operating suction temperature and the overall performance of the system will depend directly upon the choice of the evaporator. Starting with a preliminary evaporator selection at a nominal evaporator temperature and using data supplied by the evaporator manufacturer, enter the ratings tables and select a unit to meet the required cooling load at a suction temperature at least 2°F below the evaporator temperature.The2°F allows for normal suction line loss.

English Example

According to the given data, determine appropriate condensing unit.

Given:

Total Cooling Capacity Required …… 115 MBH

Temperature Air Entering ……..113°F

Evaporator Temperature …… 45°F

Refrigerant …….. R22

(Don't consider piping pressure drop)

From table No.16:

Condensing Unit model ……. HCUA-12-1

Compressor ……FROSCOLD / S12-42Y

Power Input ……10.64 Kw

SI Example

According to the given data, determine appropriate condensing unit.

Given:

Total Cooling Capacity Required ..... 19.5 Kw

Temperature Air Entering .....52 °C

Evaporator Temperature ..... 7.2 °C

Refrigerant R134a

(Don't consider piping pressure drop)

From table No.4:

Condensing Unit model HCUA-9-1

Compressor ..... BITZER / 4TES-9Y

Power Input .....7.97 Kw

Installation Mechanical

General

Unobstructed flow of condenser air is essential to maintain condensing unit capacity and operating efficiency. When determining unit placement, careful consideration must be given to assure a sufficient flow of air across the condenser heat transfer surface. Two detrimental conditions are possible and must be avoided: warm air recirculation and coil starvation. Air recirculation occurs when discharge air from the condenser fans is recycled back to the condenser coil inlet. Coil starvation occurs when free airflow to the condenser is restricted.

Condenser coils and fan discharge must be kept free of snow or other obstructions to permit adequate airflow for satisfactory unit operation. Debris, trash, supplies, etc., should not be allowed to accumulate in the vicinity of the air-cooled unit. Supply air movement may draw debris into the condenser coil, blocking spaces between coil fins and causing coil starvation.

Sound Considerations

- Locate the unit away from sound-sensitive areas.
- Install the optional elastomeric isolators under the Unit.
- Use flexible electrical conduit.
- Seal all wall penetrations.

Note: Consult an acoustical engineer for critical application

Foundation

Provide rigid, non-warping mounting pads or a concrete foundation of sufficient strength and mass to support the applicable operating weight (i.e.,including completed piping, and full operating charges of refrigerant, oil and water). See Table No. 3,7,11,15 for unit operating weights. Once in place, the unit must be level within 1/4" (6.4mm) across the length and width of the unit. The HAVASAZ Company is not responsible for equipment problems resulting from an improperly designed or constructed foundation.

Vibration Isolation

Under certain critical conditions it is recommended that vibration isolators of rubber-in-shear or spring type be installed under the base.

The isolators must be designed for the operating weight of the unit. For operating load points refer to the Dimensional Data.

Correct selection of types of isolators depends upon application and structure. For critical applications or locations, services of a noise and vibration expert are recommended.

Unit Sizing

It is strongly recommended to size the unit for the present load.

Over sizing is cause of increasing power consumption and decrease compressor's life. (Because of more on/off)

Low Ambient Operation

For efficient operation of condensing unit during intermediate seasons, when temperatures may drop to 50°F (10°C), proper operation is controlled by the following:

Based on the high pressure, MCS cycles the required fans ON

&OFF. If unit operation is envisaged at ambient down to 25°F (-4°C) optional Low Ambient Operation kit should be used (option LAO).

This factory installed arrangement requires control valves, receiver and additional refrigerant charge to build up condensing pressure in condenser coil by flooding refrigerant at low ambient season's operation.

Corrosive Atmosphere

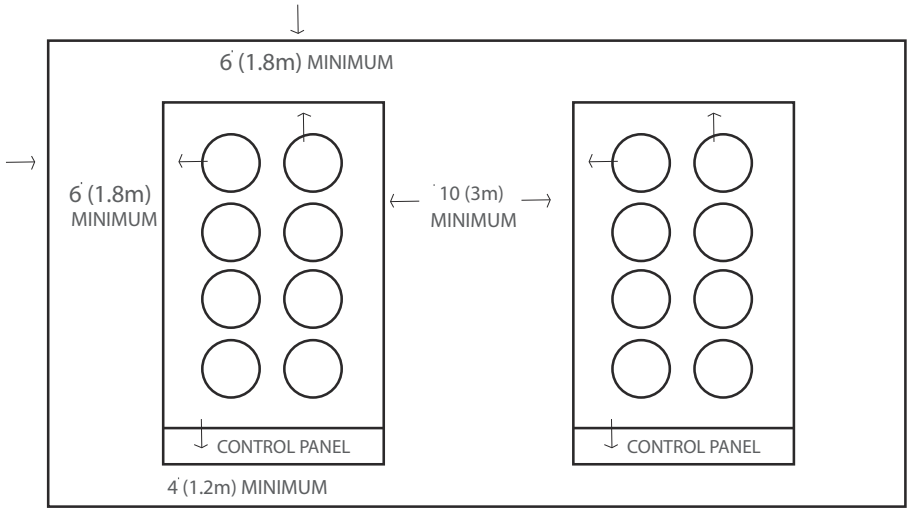
To protect condenser from corrosion in corrosive, saline, dusty and high humid atmosphere, it is recommended to use Pre - Coated Aluminum Fins as the coating offers a high resistance to corrosion and is designed to give maximum performance in severe and highly corrosive environments.

During laboratory testing, pre - coated aluminum passed a 1000 hour, 5% salt spray test at 95°F (35°C) temperature and 95% relative humidity, according to ASTM B - 117.These pre - coated aluminum fi ns are recommended for use in off shore (saline and high humidity) environments, for installations in the desert, refineries, sewage treatment plants and other industrial applications.

Clearances

Provide enough space around the unit to allow the installation and maintenance personnel unrestricted access to all service points. See submittal drawings for the unit dimensions, to provide sufficient clearance for the opening of control panel doors and unit service.

See Figure 1 for minimum clearances. In all cases, local codes which require additional clearances will take precedence over these recommendations.



Nomenclature

CF …….. ……Copper Fins specify

FAP……. Pre Coated Aluminum Fins specify

FAA ……..…..Aluminum Fins with Heresite coat Protection specify

FCA …….. Copper Fins with Heresite Coat Protection specify

ICP ……...IP55 Control Panel

CGP ……....Condenser Coil Guard

EEV……Electronic Expansion Valve

VMM……..Voltage Monitoring Module

MP……..Marine Paint

AMPI……. Ammeter and Phase Selector Switch

VSS……Voltmeter and Selector Switch.

SDG……...Pressure Gauges


REFRIGERANT
134a
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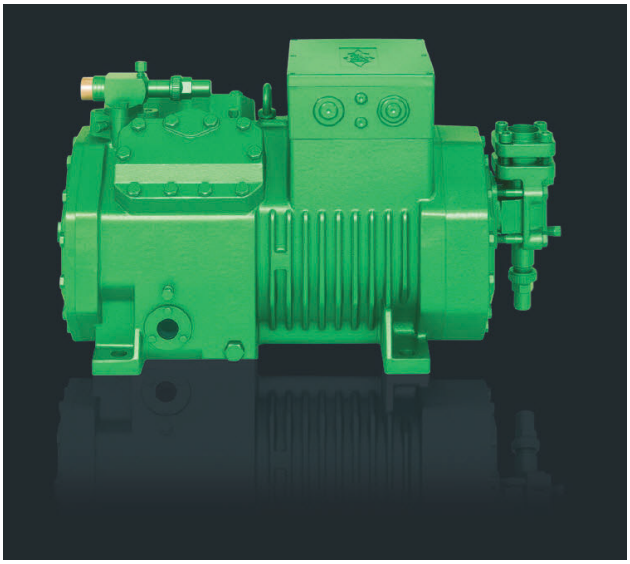
134a



ENGINEERING SPECIFICATIONS - 50 HZ- (R-134a)-Bitzer

Model			HCUA-9-1	HCUA-15-1	HCUA-25-1
Cooling Capacity	Ton of Refrigeration		7.98	8.97	14.17
	KW		28.1	31.6	49.9
Compressor	Type		recp. Compressor		
	Quantity		1	1	1
	Oil Charge	US Gal	0.78	0.78	1.35
		LIT	2.6	2.6	4.5
Condenser Coil	type		Air cooled, 2,3or4 rows, 8,10,12 FPI fin spacing,-Cu tubes, Al fins		
	FaceArea	ft^2	28.4	28.4	28.4
		M^2	2.64	2.64	4.62
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		1	1	2
	Aire Flow RATE	cfm	13530	13250	27200
		l/s	6385.45	6253.3	12836.97
	Size	kw	1.75	1.75	3.5
Refrigrant(R134a)operating charge (approx)	lbs		30.8	50.6	72.6
	kg		14	23	33
Nmber Of Refrigrant Circuit			1	1	1
Unit Operating Weight		lbs	1524.6	1691.8	2131.8
		kg	693	769	969

Model			HCUA-30-1	HCUA-35-1	HCUA-40-1
Cooling Capacity	Ton of Refrigeration		16.53	19.37	24.08
	KW		58.2	68.2	84.8
Compressor	Type		recp. Compressor		
	Quantity		1	1	1
	Oil Charge	US Gal	1.35	1.35	1.42
		LIT	4.5	4.5	4.75
Condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FPI fin spacing,-Cu tubes, Al fins		
	FaceArea	ft^2	49.71	49.71	99.42
		M^2	4.62	4.62	9.24
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		2	2	4
	Aire Flow RATE	cfm	26500	26000	54120
		l/s	12506.61	12270.63	25541.8
	Size	kw	3.5	3.5	7
Refrigrant(R134a)operating charge (approx)	lbs		99	116.6	132
	kg		45	53	60
Nmber Of Refrigrant Circuit			1	1	1
Unit Operating Weight		lbs	2325.4	2523.4	3049.2
		kg	1057	1147	1386

Model			HCUA-50-1-A	HCUA-50-1-B	HCUA-60-1
Cooling Capacity	Ton of Refrigeration		28.63	33.09	38.79
	KW		100.8	116.5	136.6
Compressor	Type		recp. Compressor		
	Quantity		1	1	1
	Oil Charge	US Gal	1.42	1.5	1.5
		LIT	4.75	5	5
Condenser Coil	type		Air cooled, 2,3or4 rows, 8,10,12 FPI fin spacing,-Cu tubes, Al fins		
	FaceArea	ft^2	99.42	99.42	99.42
		M^2	9.24	9.24	9.24
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		4	4	4
	Aire Flow RATE	cfm	53000	53000	52000
		l/s	25013.21	25013.21	24541.27
	Size	kw	7	7	7
Refrigrant(R134a)operating charge (approx)	lbs		165	165	198
	kg		75	75	90
Nmber Of Refrigrant Circuit			1	1	1
Unit Operating Weight		lbs	3440.8	3720.2	4144.8
		kg	1564	1691	1884

* A type units have compressor with 6 cylinders.

* B type units have compressor with 8 cylinders.

Model			HCUA-18-2	HCUA-30-2	HCUA-50-2
Cooling Capacity	Ton of Refrigeration		15.96	17.95	28.34
	KW		56.2	63.2	99.8
Compressor	Type		recp. Compressor		
	Quantity		2	2	2
	Oil Charge	US Gal	1.56	1.56	2.7
		LIT	5.2	5.2	9
Condenser Coil	Type		Air cooled, 2,3or4 rows, 8,10,12 FPI fin spacing,Cu tubes, Al fins		
	FaceArea	ft^2	56.81	56.81	99.42
		M^2	5.28	5.28	9.24
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		2	2	4
	Aire Flow RATE	cfm	27200	30670	27200
		l/s	12836.97	14474.63	12836.97
	Size	kw	3.5	3.5	7
Refrigrant(R134a)operating charge (approx)	lbs		59.4	99	165
	kg		27	45	75
Nmber Of Refrigrant Circuit			2	2	2
Unit Operating Weight		lbs	2664.2	2732.4	3806
		kg	1211	1242	1730

Model			HCUA-60-2	HCUA-70-2	HCUA-80-2
Cooling Capacity	Ton of Refrigeration		33.06	38.74	48.17
	KW		116.4	136.4	169.6
Compressor	Type		recp. Compressor		
	Quantity		1	1	1
	Oil Charge	US Gal	2.7	2.7	2.85
		LIT	9	9	9.5
Condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FPI fin spacing,-Cu tubes, Al fins		
	FaceArea	ft^2	99.42	99.42	149.13
		M^2	9.24	9.24	13.86
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		4	4	6
	Aire Flow RATE	cfm	53000	52000	79500
		l/s	25013.21	24541.27	37519.82
	Size	kw	7	7	10.5
Refrigrant(R134a)operating charge (approx)	lbs		198	231	264
	kg		90	105	120
Nmber Of Refrigrant Circuit			2	2	2
Unit Operating Weight		lbs	4109.6	4424.2	5062.2
		kg	1868	2011	2301

Model			HCUA-100-2-A	HCUA-100-2-B	HCUA-120-2
Cooling Capacity	Ton of Refrigeration		57.08	66.17	77.59
	KW		201	233	273.2
Compressor	Type		recp. Compressor		
	Quantity		1	1	1
	Oil Charge	US Gal	2.85	3.003	3.003
		LIT	9.5	10	10
Condenser Coil	Type		Air cooled, 2,3or4 rows, 8,10,12 FPI fin spacing,-Cu tubes, Al fins		
	FaceArea	ft^2	149.13	198.84	198.84
		M^2	13.86	18.48	18.48
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		6	8	8
	Aire Flow RATE	cfm	78000	106000	103600
		l/s	36811.9	50026.43	48893.76
	Size	kw	10.5	14	14
Refrigrant(R134a)operating charge (approx)	lbs		330	330	396
	kg		150	150	180
Nmber Of Refrigrant Circuit			2	2	2
Unit Operating Weight		lbs	5599	6529.6	7295.2
		kg	2545	2968	3316

* A type units have compressor with 6 cylinders.

* B type units have compressor with 8 cylinders.

CAPACITY RATING(50 HZ)
R-134a

condenser entering air temp.

Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	eva temp (C / F)	95 F(35oC)						104 F(40oC)						113 F(45oC)						122 F(50oC)						125,6 F(52oC)					
				Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	bitzer			KW	MBH	TON				KW	MBH	TON				KW	MBH	TON				KW	MBH	TON				KW	MBH	TON			
HCUA-9-1	4TES-9Y	41.33	1,7 / 35	22.1	75.41	6.29	6.14	28.24	11.04	20.3	69.27	5.77	6.47	26.77	11.52	18.6	63.47	5.29	6.76	25.36	11.96	16.9	57.67	4.81	7.03	23.93	12.36	16.24	55.41	4.62	7.13	23.37	12.51
			4,4 / 40	24.9	84.96	7.08	6.37	31.27	11.39	23	78.48	6.54	6.76	29.76	11.96	21	71.66	5.97	7.11	28.11	12.48	19.16	65.38	5.45	7.43	26.59	12.96	18.42	62.85	5.24	7.55	25.97	13.15
			7,2 / 45	28.1	95.88	7.99	6.59	34.69	11.71	25.9	88.37	7.37	7.04	32.94	12.38	23.8	81.21	6.77	7.45	31.25	13	21.7	74.04	6.17	7.83	29.53	13.57	20.9	71.31	5.94	7.97	28.87	13.78
			10 / 50	31.5	107.48	8.96	6.77	38.27	11.97	29.1	99.29	8.28	7.29	36.39	12.75	26.8	91.45	7.62	7.76	34.56	13.47	24.5	83.60	6.97	8.2	32.7	14.4	23.6	80.53	6.71	8.37	31.97	14.39
HCUA-18-2	(4TES-9Y)*2	(41,33) *2	1,7 / 35	44.2	150.817	12.5711	12.28	56.48	22.08	40.6	138.53	11.5472	12.94	53.54	23.04	37.2	126.932	10.5802	13.52	50.72	23.92	33.8	115.331	9.6132	14.06	47.86	24.72	32.48	110.83	9.23777	14.26	46.74	25.02
			4,4 / 40	49.8	169.925	14.1638	12.74	62.54	22.78	46	156.96	13.083	13.52	59.52	23.92	42	143.3103	11.9454	14.22	56.22	24.96	38.32	130.754	10.8987	14.86	53.18	25.92	36.84	125.70	10.4778	15.1	51.94	26.3
			7,2 / 45	56.2	191.763	15.9841	13.18	69.38	23.42	51.8	176.75	14.7327	14.08	65.88	24.76	47.6	162.4183	13.5381	14.9	62.5	26	43.4	148.087	12.3436	15.66	59.06	27.14	41.8	142.63	11.8885	15.94	57.74	27.56
			10 / 50	63	214.965	17.9181	13.54	76.54	23.94	58.2	198.59	16.5529	14.58	72.78	25.5	53.6	182.8912	15.2446	15.52	69.12	26.94	49	167.195	13.9363	16.4	65.4	28.8	47.2	161.05	13.4243	16.74	63.94	28.78
HCUA-15-1	4PES-15Y	48.5	1,7 / 35	24.7	84.28	7.03	6.95	31.65	14.44	22.7	77.46	6.46	7.3	30	14.85	20.7	70.63	5.89	7.6	28.3	15.21	18.76	64.01	5.34	7.38	26.14	15.5	17.98	61.35	5.11	7.91	25.89	15.59
			4,4 / 40	28	95.54	7.96	7.23	35.23	14.76	25.8	88.03	7.34	7.65	33.45	15.27	23.6	80.53	6.71	8	31.6	15.71	21.4	73.02	6.09	8.3	29.7	16.08	20.6	70.29	5.86	8.4	29	16.21
			7,2 / 45	31.6	107.82	8.99	7.48	39.08	15.06	29.2	99.63	8.30	7.97	37.17	15.66	26.8	91.45	7.62	8.4	35.2	16.2	24.5	83.60	6.97	8.76	33.26	16.67	23.5	80.19	6.68	8.89	32.39	16.84
			10 / 50	35.06	119.63	9.97	7.69	42.75	15.31	33	112.60	9.39	8.26	41.26	16.02	30.4	103.73	8.65	8.76	39.16	16.67	27.8	94.86	7.91	9.2	37	17.24	26.8	91.45	7.62	9.35	36.15	17.45
HCUA-30-2	(4PES-15Y)*2	(48,5) *2	1,7 / 35	49.4	168.56	14.0501	13.9	63.3	28.88	45.4	154.91	12.9124	14.6	60	29.7	41.4	141.263	11.7747	15.2	56.6	30.42	37.52	128.024	10.6712	14.76	52.28	31	35.96	122.70	10.2275	15.82	51.78	31.18
			4,4 / 40	56	191.08	15.9272	14.46	70.46	29.52	51.6	176.07	14.6758	15.3	66.9	30.54	47.2	161.0535	13.4243	16	63.2	31.42	42.8	146.04	12.1729	16.6	59.4	32.16	41.2	140.58	11.7179	16.8	58	32.42
			7,2 / 45	63.2	215.648	17.975	14.96	78.16	30.12	58.4	199.27	16.6098	15.94	74.34	31.32	53.6	182.8912	15.2446	16.8	70.4	32.4	49	167.195	13.9363	17.52	66.52	33.34	47	160.37	13.3675	17.78	64.78	33.68
			10 / 50	70.12	239.26	19.9431	15.38	85.5	30.62	66	225.20	18.7713	16.52	82.52	32.04	60.8	207.4587	17.2924	17.52	78.32	33.34	55.6	189.736	15.8134	18.4	74	34.48	53.6	182.89	15.2446	18.7	72.3	34.9
HCUA-25-1	4HE-25Y-40P	73.7	1,7 / 35	39.6	135.12	11.26	10.87	50.47	21.6	36.7	125.23	10.44	11.5	48.2	22.4	33.8	115.33	9.61	12.08	45.88	23.1	30.9	105.44	8.79	12.6	43.5	23.8	29.7	101.34	8.45	12.79	42.49	24
			4,4 / 40	44.5	151.84	12.66	11.25	55.75	22.1	41.3	140.92	11.75	11.96	53.26	23	38.1	130.00	10.84	12.62	50.72	23.8	34.9	119.08	9.93	13.22	48.12	24.6	33.6	114.65	9.56	13.44	47.04	24.9
			7,2 / 45	49.9	170.27	14.19	11.6	61.5	22.5	46.4	158.32	13.20	12.4	58.8	23.5	42.9	146.38	12.20	13.14	56.04	24.5	39.5	134.78	11.23	13.82	53.32	25.4	38.1	130.00	10.84	14.7	52.8	25.7
			10 / 50	55.9	190.74	15.90	11.91	67.81	22.9	52.1	177.77	14.82	12.8	64.9	24	48.2	164.47	13.71	13.62	61.82	25.1	44.4	151.50	12.63	14.39	58.79	26.2	42.9	146.38	12.20	14.68	57.58	26.6
HCUA-50-2	(4HE-25Y-40P)*2	(73,7)*2	1,7 / 35	79.2	270.242	22.5256	21.74	100.94	43.2	73.4	250.45	20.876	23	96.4	44.8	67.6	230.6613	19.2264	24.16	91.76	46.2	61.8	210.871	17.5768	25.2	87	47.6	59.4	202.68	16.8942	25.58	84.98	48
			4,4 / 40	89	303.681	25.3129	22.5	111.5	44.2	82.6	281.84	23.4926	23.92	106.52	46	76.2	260.0058	21.6724	25.24	101.44	47.6	69.8	238.168	19.8521	26.44	96.24	49.2	67.2	229.30	19.1126	26.88	94.08	49.8
			7,2 / 45	99.8	340.533	28.3845	23.2	123	45	92.8	316.65	26.3936	24.8	117.6	47	85.8	292.7625	24.4027	26.28	112.08	49	79	269.56	22.4687	27.64	106.64	50.8	76.2	260.01	21.6724	29.4	105.6	51.4
			10 / 50	111.8	381.478	31.7975	23.82	135.62	45.8	104.2	355.55	29.6359	25.6	129.8	48	96.4	328.9313	27.4175	27.24	123.64	50.2	88.8	302.999	25.256	28.78	117.58	52.4	85.8	292.76	24.4027	29.36	115.16	53.2
HCUA-30-1	4GE-30Y-40P	84.5	1,7 / 35	46.2	157.64	13.14	12.68	58.88	25.9	42.8	146.04	12.17	13.38	56.18	26.8	39.5	134.78	11.23	14.02	53.52	27.6	36.1	123.18	10.27	14.61	50.71	28.3	34.8	118.74	9.90	14.82	49.62	28.6
			4,4 / 40	51.8	176.75	14.73	13.14	64.94	26.5	48.2	164.47	13.71	13.93	62.13	27.5	44.5	151.84	12.66	14.66	59.16	28.4	40.8	139.22	11.60	15.34	56.14	29.3	39.3	134.10	11.18	15.59	54.89	29.6
			7,2 / 45	58.2	198.59	16.55	13.58	71.78	27	54.2	184.94	15.42	14.47	68.67	28.2	50.1	170.95	14.25	15.29	65.39	29.2	46.1	157.30	13.11	16.06	62.16	30.3	44.5	151.84	12.66	16.36	60.86	30.7
			10 / 50	65.2	222.47	18.54	13.98	79.18	27.5	60.7	207.12	17.26	14.96	75.66	28.8	56.3	192.10	16.01	15.89	72.19	30	51.8	176.75	14.73	16.76	68.56	31.2	50.1	170.95	14.25	17.09	67.19	31.7
HCUA-60-2	(4GE-30Y-40P)*2	(84,5)*2	1,7 / 35	92.4	315.283	26.2799	25.36	117.76	51.8	85.6	292.08	24.3458	26.76	112.36	53.6	79	269.5599	22.4687	28.04	107.04	55.2	72.2	246.357	20.5347	29.22	101.42	56.6	69.6	237.49	19.7952	29.64	99.24	57.2
			4,4 / 40	103.6	353.499	29.4653	26.28	129.88	53	96.4	328.93	27.4175	27.86	124.26	55	89	303.6814	25.3129	29.32	118.32	56.8	81.6	278.431	23.2082	30.68	112.28	58.6	78.6	268.19	22.3549	31.18	109.78	59.2
			7,2 / 45	116.4	397.174	33.1058	27.16	143.56	54	108.4	369.88	30.8305	28.94	137.34	56.4	100.2	341.8974	28.4983	30.58	130.78	58.4	92.2	314.6	26.223	32.12	124.32	60.6	89	303.68	25.3129	32.72	121.72	61.4
			10 / 50	130.4	444.944	37.0876	27.96	158.36	55	121.4	414.24	34.5279	29.92	151.32	57.6	112.6	384.2081	32.025	31.78	144.38	60	103.6	353.499	29.4653	33.52	137.12	62.4	100.2	341.90	28.4983	34.18	134.38	63.4
HCUA-35-1	4FE-35Y-40P	101.8	1,7 / 35	54.2	154.64	12.89	15.6	69.80	29.7	50.3	143.24	11.94	16.48	66.78	30.8	46.4	131.64	10.97	17.27	63.67	31.9	42.6	124.54	10.38	17.97	60.57	32.90	41	117.38	9.78	18.22	59.22	33.30
			4,4 / 40	60.8	171.84	14.32	16.28	77.08	30.6	56.5	159.62	13.30	17.28	73.78	31.9	52.3	147.13	12.26	18.18	70.48	33.2	48.1	136.55	11.38	18.99	67.09	34.40	46.4	134.44	11.21	19.29	65.69	34.80
			7,2 / 45	68.2	232.70	15.94	16.93	85.13	31.5	63.6	178.11	14.85	18.06	81.66	33.1	59	164.81	13.74	19.09	78.09	34.5	54.3	156.69	13.06	20.00	74.30	35.90	52.5	153.96	12.83	20.40	72.90	36.40
			10 / 50	76.4	212.24	17.69	17.53	93.93	32.3	71.3	198.25	16.52	18.79	90.09	34.1	66.2	186.92	15.58	19.96	86.16	35.8	61.2	175.38	14.62	21.00	82.20	37.30	59.1	175.38	14.62	21.40	80.50	37.90
HCUA-70-2	(4FE-35Y-40P)*2	(101,8)*2	1,7 / 35	108.4	309.277	25.7793	31.2	139.6	59.4	100.6	286.48	23.8794	32.96	133.56	61.6	92.8	263.2815	21.9454	34.54	127.34	63.8	85.2	249.087	20.7622	35.94	121.14	65.8	82	234.76	19.5677	36.44	118.44	66.6
			4,4 / 40	121.6	343.672	28.6462	32.56	154.16	61.2	113	319.24	26.6098	34.56	147.56	63.8	104.6	294.2638	24.5279	36.36	140.96	66.4	96.2	273.108	22.7645	37.98	134.18	68.8	92.8	268.88	22.4118	38.58	131.38	69.6
			7,2 / 45	136.4	465.4	31.8771	33.86	170.26	63	127.2	356.23	29.6928	36.12	163.32	66.2	118	329.6137	27.4744	38.18	156.18	69	108.6	313.372	26.1206	40	148.6	71.8	105	307.91	25.6655	40.8	145.8	72.8
			10 / 50	152.8	424.471	35.3811	35.06	187.86	64.6	142.6	396.49	33.0489	37.58	180.18	68.2	132.4	373.8352	31.1604	39.92	172.32	71.6	122.4	350.769	29.2378	42	164.4	74.6	118.2	350.77	29.2378	42.8	161	75.8
HCUA-40-1	6GE-40Y-40P	126.8	1,7 / 35	67.4	229.98	19.17	19.35	86.75	41.3	62.8	214.28	17.86	20.5	83.3	42.7	58.1	198.25	16.52	21.5	79.6	44	53.3	181.87	15.16	22.4	75.7	45.1	51.4	175.38	14.62	22.8	74.2	45.5
			4,4 / 40	75.6	257.96	21.50	20.1	95.7	42.2	70.6	240.90	20.08	21.4	92	43.8	65.4	223.15	18.60	22.5	87.9	45.2	60.2	205.41	17.12	23.6	83.8	46.6	58.1	198.25	16.52	24	82.1	47.1
			7,2 / 45	84.8	289.35	24.12	20.8	105.6	43	79.3	270.58	22.55	22.2	101.5	44.8	73.7	251.48	20.96	23.6	97.3	46.5	68	232.03	19.34	24.7	92.7	48	65.7	224.18	18.69	25.2	90.9	48.6
			10 / 50	94.8	323.47	26.96	21.4	116.2	43.8	88.8	303.00	25.26	23	111.8	45.8	82.7	282.18	23.52	24.5	107.2	47.7	76.5	261.03	21.76	25.8	102.3	49.5	74	252.50	21.05	26.3	100.3	50.1
HCUA-80-2	(6GE-40Y-40P)*2	(126,8)*2	1,7 / 35	134.8	459.958	38.339	38.7	173.5	82.6	125.6	428.57	35.7224	41	166.6	85.4	116.2	396.4918	33.0489	43	159.2	88	106.6	363.735	30.3185	44.8	151.4	90.2	102.8	350.77	29.2378	45.6	148.4	91
			4,4 / 40	151.2	515.917	43.0034	40.2	191.4	84.4	141.2	481.80	40.1593	42.8	184	87.6	130.8	446.3092	37.2014	45	175.8	90.4	120.4	410.823	34.2435	47.2	167.6	93.2	116.2	396.49	33.0489	48	164.2	94.2
			7,2 / 45	169.6	578.701	48.2366	41.6	211.2	86	158.6	541.17	45.1081	44.4	203	89.6	147.4	502.9509	41.9226	47.2	194.6	93	136	464.052	38.6803	49.4	185.4	96	131.4	448.36	37.372	50.4	181.8	97.2
			10 / 50	189.6	646.944	53.9249	42.8	232.4	87.6	177.6	606.00	50.5119	46	223.6	91.6	165.4	564.3696	47.0421	49	214.4	95.4	153	522.059	43.5154	51.6	204.6	99	148	505.00	42.0933	52.6	200.6	100.2
HCUA-50-1-A	6FE-50Y-40P	(151,6)*2	1,7 / 35	79.9	272.63	22.72	23.1	103.00	57.4	73.9	252.16	21.02	24.4	98.30	59.1	68	232.03	19.34	25.4	93.40	60.5	62	206.44	17.63	26.30	88.30	61.70	59.6	210.53	16.95	26.60	86.20	62.10
			4,4 / 40	89.7	306.07	25.51	24	113.70	58.6	83.1	283.55	23.63	25.4	108.50	60.5	76.6	261.37	21.79	26.6	103.20	62.1	70	211.89	19.91	27.60	97.60	63.50	67.4	216.67	19.17	28.00	95.40	64.00
			7,2 / 45	100.8	343.94	28.67	24.9	125.70	59.8	93.5	319.04	26.59	26.4	119.90	61.9	86.3	294.47	24.54	27.8	114.10	63.7	79.1	217.35	22.50	28.90	108.00	65.20	76.2	222.47	21.67	29.40	105.60	65.70
			10 / 50	112.8	384.89	32.08	25.7	138.50	60.9	104.9	357.93	29.84	27.4	132.30	63.1	96.9	330.64	27.56	28.9	125.80	65.1	89	222.13	25.31	30.20	119.20	66.80	85.8	227.93	24.40	30.70	116.50	67.40
HCUA-100-2-A	(6FE-50Y-40P)*2	(151,6)*2	1,7 / 35	159.8	545.262	45.4494	46.2	206	114.8	147.8	504.32	42.0364	48.8	196.6	118.2	136	464.0524	38.6803	50.8	186.8	121	124	412.87	35.2673	52.6	176.6	123.4	119.2	421.06	33.9022	53.2	172.4	124.2
			4,4 / 40	179.4	612.14	51.0239	48	227.4	117.2	166.2	567.10	47.2696	50.8	217	121	153.2	522.7414	43.5722	53.2	206.4	124.2	140	423.789	39.818	55.2	195.2	127	134.8	433.34	38.339	56	190.8	128
			7,2 / 45	201.6	687.889	57.3379	49.8	251.4	119.6	187	638.07	53.1854	52.8	239.8	123.8	172.6	588.9371	49.0899	55.6	228.2	127.4	158.2	434.708	44.9943	57.8	216	130.4	152.4	444.94	43.3447	58.8	211.2	131.4
			10 / 50	225.6	769.781	64.1638	51.4	277	121.8	209.8	715.87	59.6701	54.8	264.6	126.2	193.8	661.2747	55.1195	57.8	251.6	130.2	178	444.262	50.6257	60.4	238.4	133.6	171.6	455.86	48.8055	61.4	233	134.8
HCUA-50-1-B	8GE-50Y-40P	185	1,7 / 35	92.5	315.62	26.31	28.8	121.3	60.3	85.6	292.08	24.35	30	115.6	62	78.8	268.88	22.41	31.1	109.9	63.4	72	245.67	20.48	32	104	64.6	100.4	342.58	28.56	38.4	138.8	73.3
			4,4 / 40	103.8	354.18	29.52	30	133.8	62	96.3	328.59	27.39	31.5	127.8	63.9	88.9	303.34	25.28	32.8	121.7	65.7	81.5	278.09	23.18	34	115.5	67.2	78.6	268.19	22.35	34.4	113	67.8
			7,2 / 45	116.5	397.52	33.13	31.2	147.7	63.5	108.4	369.88	30.83	33	141.4	65.9	100.3	342.24	28.53	34.6	134.9	68	92.2	314.60	26.22	35.9	128.1	69.9	89	303.68	25.31	36.4	125.4	70.6
			10 / 50	130.3	444.60	37.06	32.2	162.5	64.9	121.5	414.58	34.56	34.3	155.8	67.6	112.7	384.55	32.05	36.1	148.8	70.2	103.9	354.52	29.55	37.8	141.7	72.4	100.4	342.58	28.56	38.4	138.8	73.3
HCUA-100-2-B	(8GE-50Y-40P)*2	(185)*2	1,7 / 35	185	631.248	52.6166	57.6	242.6	120.6	171.2	584.16	48.6917	60	231.2	124	157.6	537.7548	44.8237	62.2	219.8	126.8	144	491.35	40.9556	64	208	129.2	200.8	685.16	57.1104	76.8	277.6	146.6
			4,4 / 40	207.6	708.362	59.0444	60	267.6	124	192.6	657.18	54.7782	63	255.6	127.8	177.8	606.6803	50.5688	65.6	243.4	131.4	163	556.18	46.3595	68	231	134.4	157.2	536.39	44.7099	68.8	226	135.6
			7,2 / 45	233	795.031	66.2685	62.4	295.4	127	216.8	739.75	61.661	66	282.8	131.8	200.6	684.4773	57.0535	69.2	269.8	136	184.4	629.2	52.446	71.8	256.2	139.8	178	607.36	50.6257	72.8	250.8	141.2
			10 / 50	260.6	889.206	74.1183	64.4	325	129.8	243	829.15	69.1126	68.6	311.6	135.2	225.4	769.0986	64.1069	72.2	297.6	140.4	207.8	709.045	59.1013	75.6	283.4	144.8	200.8	685.16	57.1104	76.8	277.6	146.6
HCUA-60-1	8FE-60Y-40P	221	1,7 / 35	108.7	370.90	30.92	33.9	142.6	71.6	100.6	343.26	28.61	35.4	136	73.4	92.5	315.62	26.31	36.7	129.2	75	84.5	288.33	24.03	37.8	122.3	76.4	81.2	277.07	23.09	38.1	119.3	76.9
			4,4 / 40	121.9	415.94	34.67	35.3	157.2	73.4	113	385.57	32.14	37.1	150.1	75.7	104.2	355.55	29.64	38.7	142.9	77.7	95.4	325.52	27.13	40	135.4	79.5	91.9	313.58	26.14	40.5	132.4	80.1
			7,2 / 45	136.6	466.10	38.85	36.7	173.3	75.1	127	433.34	36.12	38.8	165.8	77.8	117.4	400.59	33.39	40.7	158.1	80.4	107.8	367.83	30.66	42.3	150.1	82.6	104	354.86	29.58	42.9	146.9	83.4
			10 / 50	152.6	520.69	43.40	37.8	190.4	76.5	142.2	485.21	40.44	40.3	182.5	79.8	131.7	449.38	37.46	42.5	174.2	82.8	121.3	413.89	34.50	44.4	165.7	85.5	117.1	399.56	33.30	45.1	162.2	86.5
HCUA-120-2	(8FE-60Y-40P)*2	(221)*2	1,7 / 35	217.4	741.801	61.8316	67.8	285.2	143.2	201.2	686.52	57.2241	70.8	272	146.8	185	631.2478	52.6166	73.4	258.4	150	169	576.653	48.066	75.6	244.6	152.8	162.4	554.13	46.1889	76.2	238.6	153.8
			4,4 / 40	243.8	831.882	69.3402	70.6	314.4	146.8	226	771.15	64.2776	74.2	300.2	151.4	208.4	711.0921	59.2719	77.4	285.8	155.4	190.8	651.038	54.2662	80	270.8	159	183.8	627.15	52.2753	81	264.8	160.2
			7,2 / 45	273.2	932.199	77.7019	73.4	346.6	150.2	254	866.69	72.2412	77.6	331.6	155.6	234.8	801.1728	66.7804	81.4	316.2	160.8	215.6	735.66	61.3197	84.6	300.2	165.2	208	709.73	59.1581	85.8	293.8	166.8
			10 / 50	305.2	1041.39	86.8032	75.6	380.8	153	284.4	970.42	80.8874	80.6	365	159.6	263.4	898.7603	74.9147	85	348.4	165.6	242.6	827.788	68.9989	88.8	331.4	171	234.2	799.13	66.6098	90.2	324.4	173

ENGINEERING SPECIFICATIONS (50 HZ)											
Condensing Unit MODEL	no.of circuit	comp.oil charge (dm^3)	condenser coil					condenser fan			
			row	fpi	QTY	total heat rejection (kw)	total face area (m2)	size (mm)	QTY	total air flow rate (cfm)	motor power (kw)
HCUA-9-1	1	2.6	2	12	2	38.27	2*1,32	800	1	1*13530	1*1,7
HCUA-15-1	1	2.6	3	10	2	42.75	2*1,32	800	1	1*13250	1*1,7
HCUA-25-1	1	4.5	2	12	2	67.81	2*2,31	800	2	2*13600	2*1,7
HCUA-30-1	1	4.5	3	10	2	79.18	2*2,31	800	2	2*13250	2*1,7
HCUA-35-1	1	4.5	4	10	2	93.93	2*2,31	800	2	2*13000	2*1,7
HCUA-40-1	1	4.75	2	10	4	116.2	4*2,31	800	4	4*13530	4*1,7
HCUA-50(6)-1	1	4.75	3	10	4	138.5	4*2,31	800	4	4*13250	4*1,7
HCUA-50(8)-1	1	5	3	10	4	162.5	4*2,31	800	4	4*13250	4*1,7
HCUA-60-1	1	5	4	10	4	190.4	4*2,31	800	4	4*13000	4*1,7
HCUA-18-2	2	5.2	3	10	4	76.54	4*1,32	800	2	2*13600	2*1,7
HCUA-30-2	2	5.2	3	12	4	85.5	4*1,32	800	2	2*15330	2*1,7
HCUA-50-2	2	9	2	12	4	135.62	4*2,31	800	4	4*13600	4*1,7
HCUA-60-2	2	9	3	10	4	158.36	4*2,31	800	4	4*13250	4*1,7
HCUA-70-2	2	9	4	10	4	187.86	4*2,31	800	4	4*13000	4*1,7
HCUA-80-2	2	9.5	3	10	6	232.4	6*2,31	800	6	6*13250	6*1,7
HCUA-100(6)-2	2	9.5	4	10	6	277	6*2,31	800	6	6*13000	6*1,7
HCUA-100(8)-2	2	10	3	12	8	325	8*2,31	800	8	8*13250	8*1,7
HCUA-120-2	2	10	4	12	8	380.8	8*2,31	800	8	8*12950	8*1,7

ELECTRICAL DATA				
Condensing Unit MODEL	Nominal Comp. power (HP)	MRA (Amp)	LRA (Amp)	MAX POWER (kw)
HCUA-9-1	9	19.9	49	13
HCUA-15-1	15	28.2	81	16
HCUA-25-1	25	44	125	25
HCUA-30-1	30	51.2	141	28
HCUA-35-1	35	61.2	141	35
HCUA-40-1	40	73.9	219	42
HCUA-50(6)-1	50	96.2	226	51
HCUA-50(8)-1	50	92	298	51
HCUA-60-1	60	113	349	63
HCUA-18-2	9*2	39.8	98	26
HCUA-30-2	15*2	56.4	162	32
HCUA-50-2	25*2	88	250	50
HCUA-60-2	30*2	102.4	282	56
HCUA-70-2	35*2	122.4	282	70
HCUA-80-2	40*2	147.8	438	84
HCUA-100(6)-2	50*2	192.4	452	102
HCUA-100(8)-2	50*2	184	596	102
HCUA-120-2	60*2	226		126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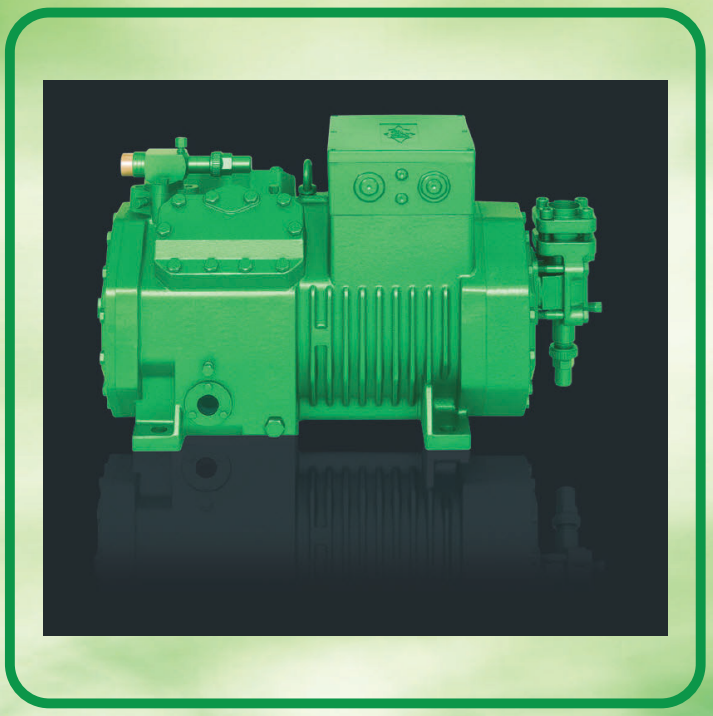

ENGINEERING SPECIFICATIONS - 50 HZ- (R-22)-Bitzer

Model			HCUA-12-1	HCUA-15-1	HCUA-25-1
Cooling Capacity	Ton of Refrigeration		12.10	13.97	21.73
	KW		42.6	49.2	76.5
Compressor	Type		recp. Compressor		
	Quantity		1	1	1
	Oil Charge	US Gal	0.78	0.78	1.35
		LIT	2.6	2.6	4.5
Condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing, Cu tubes, Al fins		
	FaceArea	ft^2	28.406	49.711	56.813
		M^2	2.64	4.62	5.28
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		2	2	2
	Aire Flow RATE	cfm	13530	27060	27060
		l/s	22987.47	45974.94	45974.94
	Size	kw	1.75	3.5	3.5
Refrigrant operating charge (approx)	lbs		39.7	50.7	83.8
	kg		18	23	38
Nmber Of Refrigrant Circuit			1	1	1
Unit Operating Weight		lbs	1717.5	1858.5	2422.9
		kg	779	843	1099

Model			HCUA-30-1	HCUA-35-1	HCUA-40-1
Cooling Capacity	Ton of Refrigeration		25.13	29.96	37.40
	KW		88.5	105.5	131.7
Compressor	Type		recp. Compressor		
	Quantity		1	1	1
	Oil Charge	US Gal	1.35	1.35	1.42
		LIT	4.5	4.5	4.75
Condenser Coil	Type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing, Cu tubes, Al fins		
	FaceArea	ft^2	49.711	99.422	99.422
		M^2	4.62	9.24	9.24
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		2	4	4
	Aire Flow RATE	cfm	25900	26500	52000
		l/s	44004.1	45023.5	88348
	Size	kw	3.5	7	7
Refrigrant operating charge (approx)	lbs		99.2	116.9	132.28
	kg		45	53	60
Nmber Of Refrigrant Circuit			1	1	1
Unit Operating Weight		lbs	2467	2992	3445.9
		kg	1119	1357	1563

Model			HCUA-50-1	HCUA-60-1	HCUA-70-1
Cooling Capacity	Ton of Refrigeration		44.96	52.09	60.21
	KW		158.3	183.4	212
Compressor	Type		recp. Compressor		
	Quantity		1	1	1
	Oil Charge	US Gal	1.42	1.5	1.5
		LIT	4.75	5	5
Condenser Coil	type		Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins		
	FaceArea	ft^2	99.422	149.134	149.134
		M^2	9.24	13.86	13.86
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		4	6	6
	Aire Flow RATE	cfm	51800	79500	77700
		l/s	88008.2	135070.5	132012.3
	Size	kw	7	10.5	10.5
Refrigrant operating charge (approx)	lbs		165.4	198.5	231.49
	kg		75	90	105
Nmber Of Refrigrant Circuit			1	1	1
Unit Operating Weight		lbs	4001.5	4554.8	5064.1
		kg	1815	2066	2297

Model			HCUA-24-2	HCUA-30-2	HCUA-50-2
Cooling Capacity	Ton of Refrigeration		24.20	27.95	43.45
	KW		85.2	98.4	153
Compressor	Type		recp. Compressor		
	Quantity		2	2	2
	Oil Charge	US Gal	1.56	1.56	2.7
		LIT	5.2	5.2	9
Condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins		
	FaceArea		56.81	99.42	99.42
			5.28	9.24	9.24
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		2	4	4
	Aire Flow RATE	cfm	27060	27200	51800
		l/s	12770.9	12836.97	24446.88
	Size	kw	3.5	7	7
Refrigrant operating charge (approx)	lbs		79.2	99	165
	kg		36	45	75
Nmber Of Refrigrant Circuit			2	2	2
Unit Operating Weight		lbs	2952.4	3088.8	4241.6
		kg	1342	1404	1928

Model			HCUA-60-2	HCUA-70-2	HCUA-80-2
Cooling Capacity	Ton of Refrigeration		50.27	59.92	74.69
	KW		177	211	263
Compressor	Type		recp. Compressor		
	Quantity		2	2	2
	Oil Charge	US Gal	2.7	2.7	2.85
		LIT	9	9	9.5
Condenser Coil	Type		Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing, Cu tubes, Al fins		
	FaceArea	ft^2	149.13	149.13	198.84
		M^2	13.86	13.86	18.48
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		6	6	8
	Aire Flow RATE	cfm	79500	79500	106000
		l/s	37519.82	37519.82	50026.43
	Size	kw	10.5	10.5	14
Refrigrant operating charge (approx)	lbs				
	kg		90	105	120
Nmber Of Refrigrant Circuit			2	2	2
Unit Operating Weight		lbs	4404.4	4866.4	5728.8
		kg	2002	2212	2604

Model			HCUA-100-2	HCUA-120-2	HCUA-140-2
Cooling Capacity	Ton of Refrigeration		89.91	104.17	120.42
	KW		316.6	366.8	424
Compressor	Type		recp. Compressor		
	Quantity		2	2	2
	Oil Charge	US Gal	2.85	3.003	3.003
		LIT	9.5	10	10
Condenser Coil	Type		Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins		
	FaceArea		198.84	248.55	298.26
			18.48	23.1	27.72
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		8	10	12
	Aire Flow RATE	cfm	103600	129500	155400
		l/s	48893.76	61117.19	73340.63
	Size	kw	14	17.5	21
Refrigrant operating charge (approx)	lbs		330	396	462
	kg		150	180	210
Nmber Of Refrigrant Circuit			2	2	2
Unit Operating Weight		lbs	6969.6	7906.8	8890.2
		kg	3168	3594	4041

CAPACITY RATING(50 HZ)
R-22

Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	eva.temp (C / F)	condenser entering air temp.																	
				95 F(35oC)						104 F(40oC)						113 F(45oC)					
				Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	bitzer			KW	MBH	TON				KW	MBH	TON				KW	MBH	TON			
HCUA-12-1	4TES-12	41.33	1,7 / 35	34.5	117.72	9.81	9.59	44.09	16.64	32.4	110.55	9.22	10.24	42.64	17.61	30.3	103.39	8.62	10.86	41.16	18.54
			4,4 / 40	38.3	130.69	10.89	9.84	48.14	17.01	36.1	123.18	10.27	10.55	46.65	18.08	33.8	115.33	9.61	11.23	45.03	19.12
			7,2 / 45	42.6	145.36	12.12	10.05	52.65	17.33	40.2	137.17	11.43	10.84	51.04	18.51	37.7	128.64	10.72	11.58	49.28	19.66
			10 / 50	47.2	161.05	13.42	10.22	57.42	17.57	44.6	152.18	12.68	11.08	55.68	18.88	41.9	142.97	11.92	11.89	53.79	20.1
HCUA-24-2	(4TES-12)*2	(41,33)*2	1,7 / 35	69	235.44	19.625	19.18	88.18	33.28	64.8	221.11	18.43	20.48	85.28	35.22	60.6	206.78	17.235	21.72	82.32	37.08
			4,4 / 40	76.6	261.37	21.786	19.68	96.28	34.02	72.2	246.36	20.535	21.1	93.3	36.16	67.6	230.66	19.226	22.46	90.06	38.24
			7,2 / 45	85.2	290.72	24.232	20.1	105.3	34.66	80.4	274.34	22.867	21.68	102.08	37.02	75.4	257.28	21.445	23.16	98.56	39.32
			10 / 50	94.4	322.11	26.849	20.44	114.84	35.14	89.2	304.36	25.37	22.16	111.36	37.76	83.8	285.94	23.834	23.78	107.58	40.2
HCUA-15-1	4PES-15Y	48.5	1,7 / 35	39.7	135.46	11.29	10.97	50.67	19.68	37.1	126.59	10.55	11.67	48.77	20.7	34.6	118.06	9.84	12.33	46.93	21.6
			4,4 / 40	44.2	150.82	12.57	11.27	55.47	20.1	41.4	141.26	11.77	12.05	53.45	21.2	38.7	132.05	11.01	12.78	51.48	22.3
			7,2 / 45	49.2	167.88	13.99	11.53	60.73	20.5	46.2	157.64	13.14	12.4	58.6	21.8	43.3	147.75	12.32	13.21	56.51	23
			10 / 50	54.6	186.30	15.53	11.74	66.34	20.8	51.4	175.38	14.62	12.69	64.09	22.2	48.2	164.47	13.71	13.59	61.79	23.5
HCUA-30-2	(4PES-15)*2	(48,5)*2	1,7 / 35	79.4	270.92	22.582	21.94	101.34	39.36	74.2	253.18	21.104	23.34	97.54	41.4	69.2	236.12	19.681	24.66	93.86	43.2
			4,4 / 40	88.4	301.63	25.142	22.54	110.94	40.2	82.8	282.53	23.549	24.1	106.9	42.4	77.4	264.1	22.014	25.56	102.96	44.6
			7,2 / 45	98.4	335.76	27.986	23.06	121.46	41	92.4	315.28	26.28	24.8	117.2	43.6	86.6	295.49	24.63	26.42	113.02	46
			10 / 50	109.2	372.61	31.058	23.48	132.68	41.6	102.8	350.77	29.238	25.38	128.18	44.4	96.4	328.93	27.418	27.18	123.58	47
HCUA-25-1	4HE-25-40P	73.7	1,7 / 35	62	211.55	17.63	17.19	79.19	30.2	58.3	198.93	16.58	18.39	76.69	31.9	54.6	186.30	15.53	19.53	74.13	33.6
			4,4 / 40	68.9	235.10	19.60	17.62	86.52	30.8	64.8	221.11	18.43	18.94	83.74	32.7	60.8	207.46	17.29	20.2	81	34.6
			7,2 / 45	76.5	261.03	21.76	17.99	94.49	31.3	72.1	246.02	20.51	19.43	91.53	33.5	67.8	231.34	19.28	20.8	88.6	35.6
			10 / 50	84.7	289.01	24.09	18.28	102.98	31.7	80	272.97	22.75	19.85	99.85	34.1	75.3	256.93	21.42	21.4	96.7	36.4
HCUA-50-2	(4HE-25-40P)*2	(73,7)* 2	1,7 / 35	124	423.11	35.267	34.38	158.38	60.4	116.6	397.86	33.163	36.78	153.38	63.8	109	372.61	31.058	39.06	148.26	67.2
			4,4 / 40	137.8	470.19	39.192	35.24	173.04	61.6	129.6	442.21	36.86	37.88	167.48	65.4	122	414.92	34.585	40.4	162	69.2
			7,2 / 45	153	522.06	43.515	35.98	188.98	62.6	144.2	492.03	41.013	38.86	183.06	67	136	462.69	38.567	41.6	177.2	71.2
			10 / 50	169.4	578.02	48.18	36.56	205.96	63.4	160	545.94	45.506	39.7	199.7	68.2	151	513.87	42.833	42.8	193.4	72.8
HCUA-30-1	4GE-30-40P	84.5	1,7 / 35	71.9	245.33	20.45	19.78	91.68	35.5	67.6	230.66	19.23	21.2	88.8	37.6	63.4	216.33	18.03	22.5	85.9	39.6
			4,4 / 40	79.7	271.95	22.67	20.3	100	36.2	75.1	256.25	21.36	21.8	96.9	38.5	70.5	240.56	20.05	23.3	93.8	40.7
			7,2 / 45	88.5	301.98	25.17	20.7	109.2	36.8	83.5	284.91	23.75	22.3	105.8	39.3	78.6	268.19	22.35	24	102.6	41.7
			10 / 50	97.9	334.05	27.84	21	118.9	37.3	92.6	315.97	26.34	22.8	115.4	40	87.2	297.54	24.80	24.6	111.8	42.6
HCUA-60-2	(4GE-30-40P)*2	(84,5)*2	1,7 / 35	143.8	490.67	40.899	39.56	183.36	71	135.2	461.32	38.453	42.4	177.6	75.2	127	432.66	36.064	45	171.8	79.2
			4,4 / 40	159.4	543.9	45.336	40.6	200	72.4	150.2	512.5	42.719	43.6	193.8	77	141	481.11	40.102	46.6	187.6	81.4
			7,2 / 45	177	603.95	50.341	41.4	218.4	73.6	167	569.83	47.497	44.6	211.6	78.6	157	536.39	44.71	48	205.2	83.4
			10 / 50	195.8	668.1	55.688	42	237.8	74.6	185.2	631.93	52.673	45.6	230.8	80	174	595.08	49.602	49.2	223.6	85.2
HCUA-35-1	4FE-35-40P	101.8	1,7 / 35	85.7	292.42	24.37	23.9	109.60	41.6	80.6	275.02	22.92	25.6	106.20	44.3	75.5	257.62	21.47	27.3	102.80	46.8
			4,4 / 40	95.1	324.50	27.05	24.5	119.60	42.5	89.6	305.73	25.48	26.4	116.00	45.5	84.1	286.96	23.92	28.3	112.40	48.3
			7,2 / 45	105.5	359.98	30.01	25	130.50	43.3	99.6	339.85	28.33	27.1	126.70	46.5	93.7	319.72	26.65	29.1	122.80	49.6
			10 / 50	116.8	398.54	33.22	25.4	142.20	43.9	110.4	376.70	31.40	27.7	138.10	47.4	104	354.86	29.58	29.9	133.90	50.8
HCUA-70-2	(4FE-35-40P)*2	(101,8)*2	1,7 / 35	171.4	584.84	48.749	47.8	219.2	83.2	161.2	550.04	45.848	51.2	212.4	88.6	151	515.23	42.947	54.6	205.6	93.6
			4,4 / 40	190.2	648.99	54.096	49	239.2	85	179.2	611.46	50.967	52.8	232	91	168	573.92	47.838	56.6	224.8	96.6
			7,2 / 45	211	719.96	60.011	50	261	86.6	199.2	679.7	56.655	54.2	253.4	93	187	639.44	53.299	58.2	245.6	99.2
			10 / 50	233.6	797.08	66.439	50.8	284.4	87.8	220.8	753.4	62.799	55.4	276.2	94.8	208	709.73	59.158	59.8	267.8	101.6
HCUA-40-1	6GE-40-40P	126.8	1,7 / 35	106.8	364.42	30.38	29.7	136.5	54.6	100.4	342.58	28.56	31.8	132.2	57.3	94	320.74	26.73	33.7	127.7	60
			4,4 / 40	118.6	404.68	33.73	30.4	149	55.6	111.6	380.80	31.74	32.7	144.3	58.6	105	357.25	29.78	34.9	139.6	61.6
			7,2 / 45	131.7	449.38	37.46	31.1	162.8	56.4	124.2	423.79	35.32	33.6	157.8	59.8	117	398.20	33.19	35.9	152.6	63.1
			10 / 50	145.9	497.83	41.50	31.6	177.5	57.1	137.8	470.19	39.19	34.3	172.1	60.8	130	442.56	36.89	36.9	166.6	64.4
HCUA-80-2	(6GE-40-40P)*2	(126,8)*2	1,7 / 35	213.6	728.84	60.751	59.4	273	109.2	200.8	685.16	57.11	63.6	264.4	114.6	188	641.48	53.47	67.4	255.4	120
			4,4 / 40	237.2	809.36	67.463	60.8	298	111.2	223.2	761.59	63.481	65.4	288.6	117.2	209	714.5	59.556	69.8	279.2	123.2
			7,2 / 45	263.4	898.76	74.915	62.2	325.6	112.8	248.4	847.58	70.648	67.2	315.6	119.6	233	796.4	66.382	71.8	305.2	126.2
			10 / 50	291.8	995.67	82.992	63.2	355	114.2	275.6	940.39	78.385	68.6	344.2	121.6	259	885.11	73.777	73.8	333.2	128.8
HCUA-50-1	6FE-50-40P	151.6	1,7 / 35	128.5	438.46	36.55	36	164.50	73.8	120.9	412.53	34.39	38.5	159.40	76.7	113	386.60	32.22	40.9	154.20	79.3
			4,4 / 40	142.6	486.57	40.56	36.9	179.50	74.8	134.3	458.25	38.20	39.6	173.90	77.9	126	430.27	35.86	42.3	168.40	80.8
			7,2 / 45	158.3	540.14	45.02	37.6	195.90	75.7	149.4	509.78	42.49	40.6	190.00	79	141	479.41	39.96	43.6	184.10	82.2
			10 / 50	175.2	597.81	49.83	38.2	213.40	76.3	165.7	565.39	47.13	41.5	207.20	79.9	156	532.64	44.40	44.7	200.80	83.4
HCUA-100-2	(6FE-50-40P)*2	(151,6)*2	1,7 / 35	257	876.92	73.094	72	329	147.6	241.8	825.06	68.771	77	318.8	153.4	227	773.19	64.448	81.8	308.4	158.6
			4,4 / 40	285.2	973.15	81.115	73.8	359	149.6	268.6	916.5	76.394	79.2	347.8	155.8	252	860.54	71.729	84.6	336.8	161.6
			7,2 / 45	316.6	1080.3	90.046	75.2	391.8	151.4	298.8	1019.6	84.983	81.2	380	158	281	958.81	79.92	87.2	368.2	164.4
			10 / 50	350.4	1195.6	99.659	76.4	426.8	152.6	331.4	1130.8	94.255	83	414.4	159.8	312	1065.3	88.794	89.4	401.6	166.8
HCUA-60-1	8GE-60-40P	185	1,7 / 35	150.4	513.19	42.78	44.2	194.6	85.3	141.4	482.48	40.22	47.2	188.6	89.4	133	452.11	37.68	50	182.5	93.6
			4,4 / 40	166	566.42	47.21	45.3	211.3	86.8	156.4	533.66	44.48	48.5	204.9	91.5	147	500.90	41.75	51.7	198.5	96.1
			7,2 / 45	183.4	625.79	52.16	46.2	229.6	88.1	172.9	589.96	49.18	49.8	222.7	93.3	163	554.47	46.22	53.3	215.8	98.5
			10 / 50	202	689.25	57.45	46.9	248.9	89.1	190.5	650.01	54.18	50.9	241.4	94.9	179	611.80	51.00	54.7	234	100.7
HCUA-120-2	(8GE-60-40P)*2	(185)*2	1,7 / 35	300.8	1026.4	85.552	88.4	389.2	170.6	282.8	964.96	80.432	94.4	377.2	178.8	265	904.22	75.37	100	365	187.2
			4,4 / 40	332	1132.8	94.425	90.6	422.6	173.6	312.8	1067.3	88.965	97	409.8	183	294	1001.8	83.504	103.4	397	192.2
			7,2 / 45	366.8	1251.6	104.32	92.4	459.2	176.2	345.8	1179.9	98.35	99.6	445.4	186.6	325	1108.9	92.435	106.6	431.6	197
			10 / 50	404	1378.5	114.9	93.8	497.8	178.2	381	1300	108.36	101.8	482.8	189.8	359	1223.6	101.99	109.4	468	201.4
HCUA-70-1	8FE-70-40P	221	1,7 / 35	172.8	589.62	49.15	55.2	228	102.8	162	552.77	46.08	58.8	220.8	108.1	151	515.23	42.95	62.3	213.3	113.2
			4,4 / 40	191.2	652.40	54.38	56.5	247.7	104.7	179.7	613.16	51.11	60.5	240.2	110.6	168	573.92	47.84	64.3	232.5	116.4
			7,2 / 45	212	723.38	60.30	57.7	269.7	106.4	199.4	680.38	56.71	62.1	261.5	113	187	638.07	53.19	66.3	253.3	119.4
			10 / 50	234	798.44	66.55	58.6	292.6	107.8	221	754.09	62.86	63.4	284.4	115	207	706.32	58.87	68.1	275.1	122.1
HCUA-140-2	(8FE-70-40P)*2	(221*2	1,7 / 35	345.6	1179.2	98.294	110.4	456	205.6	324	1105.5	92.15	117.6	441.6	216.2	302	1030.5	85.893	124.6	426.6	226.4
			4,4 / 40	382.4	1304.8	108.76	113	495.4	209.4	359.4	1226.3	102.22	121	480.4	221.2	336	1147.8	95.677	128.6	465	232.8
			7,2 / 45	424	1446.8	120.59	115.4	539.4	212.8	398.8	1360.8	113.42	124.2	523	226	374	1276.1	106.37	132.6	506.6	238.8
			10 / 50	468	1596.9	133.11	117.2	585.2	215.6	442	1508.2	125.71	126.8	568.8	230	414	1412.6	117.75	136.2	550.2	244.2

ENGINEERING SPECIFICATIONS (50 HZ)											
Condensing Unit MODEL	no.of circuit	comp.oil charge (dm^3)	condenser coil					condenser fan			
			row	fpi	QTY	total heat rejection (kw)	total face area (m2)	size (mm)	QTY	total air flow rate (cfm)	motor power (kw)
HCUA-12-1	1	2.6	4	12	2	57.49	2*1,32	800	1	1*12950	1*1,7
HCUA-15-1	1	2.6	2	10	2	66.34	2*2,31	800	2	2*13530	2*1,7
HCUA-25-1	1	4.5	4	12	4	102.98	4*1,32	800	2	2*12950	2*1,7
HCUA-30-1	1	4.5	4	12	2	118.9	2*2,31	800	2	2*12950	2*1,7
HCUA-35-1	1	4.5	3	10	4	142.5	4*2,31	800	2	4*13250	4*1,7
HCUA-40-1	1	4.75	4	10	4	177.5	4*2,31	800	4	4*13000	4*1,7
HCUA-50-1	1	4.75	4	12	4	213.4	4*2,31	800	4	4*12950	4*1,7
HCUA-60-1	1	5	3	12	6	248.9	6*2,31	800	6	6*13250	6*1,7
HCUA-70-1	1	5	4	12	6	292.6	6*2,31	800	6	6*12950	6*1,7
HCUA-24-2	2	5.2	4	12	4	114.98	4*1,32	800	2	2*12950	2*1,7
HCUA-30-2	2	5.2	2	12	4	132.68	4*2,31	800	4	4*13600	4*1,7
HCUA-50-2	2	9	4	12	4	205.96	4*2,31	800	4	4*12950	4*1,7
HCUA-60-2	2	9	3	10	6	237.8	6*2,31	800	6	6*13250	6*1,7
HCUA-70-2	2	9	3	12	6	285	6*2,31	800	6	6*13250	6*1,7
HCUA-80-2	2	9.5	3	12	8	355	8*2,31	800	8	8*13250	8*1,7
HCUA-100-2	2	9.5	4	12	8	426.8	8*2,31	800	8	8*12950	8*1,7
HCUA-120-2	2	10	4	12	10	497.8	10*2,31	800	10	10*12950	10*1,7
HCUA-140-2	2	10	4	12	12	585.2	12*2,31	800	12	12*12950	12*1,7

ELECTRICAL DATA				
Condensing Unit MODEL	Nominal Comp. power (HP)	MRA (Amp)	LRA (Amp)	MAX POWER (kw)
HCUA-12-1	12	25.1	69	12
HCUA-15-1	15	28.2	81	16
HCUA-25-1	25	44	125	25
HCUA-30-1	30	51.2	141	28
HCUA-35-1	35	62.1	141	35
HCUA-40-1	40	73.9	219	42
HCUA-50-1	50	96.2	226	51
HCUA-60-1	60	113	349	63
HCUA-70-1	70	139	401	78
HCUA-24-2	12*2	50.2	138	24
HCUA-30-2	15*2	56.4	162	32
HCUA-50-2	25*2	88	250	50
HCUA-60-2	30*2	102.4	282	56
HCUA-70-2	35*2	124.2	282	70
HCUA-80-2	40*2	147.8	438	84
HCUA-100-2	50*2	192.4	452	102
HCUA-120-2	60*2	226	698	126
HCUA-140-2	70*2	278	802	156


REFRIGERANT
134a
REFRIGERANT
134a

ENGINEERING SPECIFICATIONS - 50 HZ- (R-134a)-Frascold

Model			HCUA-8-1	HCUA-10-1	HCUA-15-1	HCUA-20-1
Cooling Capacity	Ton of Refrigeration		8.39	9.34	13.21	15.02
	KW		29.53	32.87	46.51	52.88
Compressor	Type		recp. Compressor			
	Quantity		1	1	1	1
	Oil Charge	US Gal	1	1	1.35	1.35
		LIT	3.3	3.3	4.5	4.5
Condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing, Cu tubes, Al fins			
	FaceArea	ft^2	28.4	28.4	49.71	49.71
		M^2	2.64	2.64	4.62	4.62
Condenser Fan	Type		Propeller direct drive 885 RPM			
	Quantity		1	1	2	2
	Aire Flow RATE	cfm	13250	13250	27200	26500
		l/s	6253	6253	12837	12507
	Size	kw	1.75	1.75	3.5	3.5
Refrigrant(R134a)operating charge (approx)	lbs		26.4	33	50.6	66
	kg		12	15	23	30
Nmber Of Refrigrant Circuit			1	1	1	1
Unit Operating Weight		lbs	1522.4	1590.6	1953.6	2145
		kg	692	723	888	975

Model			HCUA-25-1	HCUA-35-1	HCUA-40-1
Cooling Capacity	Ton of Refrigeration		16.92	19.66	23.33
	KW		59.59	69.21	82.16
Compressor	Type		recp. Compressor		
	Quantity		1	1	1
	Oil Charge	US Gal	1.35	1.35	2.25
		LIT	4.5	4.5	7.5
Condenser Coil	Type		Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing, Cu tubes, Al fins		
	FaceArea	ft^2	49.71	49.71	99.42
		M^2	4.62	4.62	9.24
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		2	2	4
	Aire Flow RATE	cfm	26500	26000	54120
		l/s	12507	12271	25542
	Size	kw	3.5	3.5	7
Refrigrant(R134a)operating charge (approx)	lbs		72.6	121	132
	kg		33	55	60
Nmber Of Refrigrant Circuit			1	1	1
Unit Operating Weight		lbs	2200	2569.6	3055.8
		kg	1000	1168	1389

Model			HCUA-50-1	HCUA-50-1	HCUA-60-1
Cooling Capacity	Ton of Refrigeration		42.15	34.23	38.68
	KW		148.41	120.54	136.2
Compressor	Type		recp. Compressor		
	Quantity		1	1	1
	Oil Charge	US Gal	2.4	2.4	2.4
		LIT	8	8	8
Condenser Coil	type		Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing, Cu tubes, Al fins		
	FaceArea	ft^2	99.42	99.42	99.42
		M^2	9.24	9.24	9.24
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		4	4	4
	Aire Flow RATE	cfm	53000	53000	51800
		l/s	25013	25013	24447
	Size	kw	7	7	7
Refrigrant(R134a)operating charge (approx)	lbs		165	165	198
	kg		75	75	90
Nmber Of Refrigrant Circuit			1	1	1
Unit Operating Weight		lbs	3691.6	3621.2	4089.8
		kg	1678	1646	1859

Model			HCUA-16-2	HCUA-20-2	HCUA-30-2	HCUA-40-2
Cooling Capacity	Ton of Refrigeration		16.77	18.67	26.42	30.04
	KW		59.06	65.74	93.02	105.76
Compressor	Type		recp. Compressor			
	Quantity		2	2	2	2
	Oil Charge	US Gal	1.98	1.98	2.7	2.7
		LIT	6.6	6.6	9	9
Condenser Coil	type		Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing, Cu tubes, Al fins			
	FaceArea	ft^2	56.81	56.81	99.42	99.42
		M^2	5.28	5.28	9.24	9.24
Condenser Fan	Type		Propeller direct drive 885 RPM			
	Quantity		2	2	4	4
	Aire Flow RATE	cfm	26500	26000	27200	53000
		l/s	12507	12271	12837	25013
	Size	kw	3.5	3.5	7	7
Refrigrant(R134a)operating charge(approx)	lbs		52.8	66	99	132
	kg		24	30	45	60
Nmber Of Refrigrant Circuit			2	2	2	2
Unit Operating Weight		lbs	2567.4	2985.4	3429.8	3812.6
		kg	1167	1357	1559	1733

Model			HCUA-50-2	HCUA-70-2	HCUA-80-2
Cooling Capacity	Ton of Refrigeration		34.02	39.31	46.67
	KW		119.78	138.42	164.32
Compressor	Type		recp. Compressor		
	Quantity		2	2	2
	Oil Charge	US Gal	2.7	2.7	4.5
		LIT	9	9	15
Condenser Coil	Type		Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing, Cu tubes, Al fins		
	FaceArea	ft^2	99.42	99.42	149.13
		M^2	9.24	9.24	13.86
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		4	4	6
	Aire Flow RATE	cfm	53000	52000	79500
		l/s	25013	24541	37250
	Size	kw	7	7	10.5
Refrigrant(R134a)operating charge(approx)	lbs		165	231	264
	kg		75	105	120
Nmber Of Refrigrant Circuit			2	2	2
Unit Operating Weight		lbs	4006.2	4507.8	5073.2
		kg	1821	2049	2306

Model			HCUA-100-2	HCUA-100-2	HCUA-120-2
Cooling Capacity	Ton of Refrigeration		61.58	68.47	77.36
	KW		216.82	241.08	272.4
Compressor	Type		recp. Compressor		
	Quantity		2	2	2
	Oil Charge	US Gal	4.8	4.8	4.8
		LIT	16	16	16
Condenser Coil	Type		Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing, Cu tubes, Al fins		
	FaceArea	ft^2	149.13	198.84	198.84
		M^2	13.86	18.48	18.48
Condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		6	8	8
	Aire Flow RATE	cfm	77700	106000	104000
		l/s	36670	50026	49083
	Size	kw	10.5	14	14
Refrigrant(R134a)operating charge(approx)	lbs		330	330	330
	kg		150	150	180
Nmber Of Refrigrant Circuit			2	2	2
Unit Operating Weight		lbs	6109.4	6078.6	5229.4
		kg	2777	2763	2377

CAPACITY RATING(50 HZ)
R-134a
condenser entering air temp.

Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	eva.temp (C / F)	95 F(35˚C)						104 F(40˚C)						113 F(45˚C)						122 F(50˚C)						125,6 F(52˚C)					
	FROSCOLD			Actual Capacity KW	Actual Capacity MBH	Actual Capacity TON	Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity KW	Actual Capacity MBH	Actual Capacity TON	Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity KW	Actual Capacity MBH	Actual Capacity TON	Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity KW	Actual Capacity MBH	Actual Capacity TON	Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity KW	Actual Capacity MBH	Actual Capacity TON	Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
HCUA-8-1	S8-42Y	41.32	1,7 / 35	23.32	79.57	6.63	7.31	30.63	12.8	21.66	73.91	6.16	7.67	29.33	13.3	19.97	68.14	5.68	7.94	27.91	13.7	18.25	62.27	5.19	8.14	26.39	14	17.55	59.88	4.99	8.18	25.73	14.1
			4,4 / 40	26.23	89.50	7.46	7.73	33.96	13.4	24.46	83.46	6.96	8.18	32.64	14.1	22.66	77.32	6.44	8.54	31.2	14.6	20.82	71.04	5.92	8.82	29.64	15	20.08	68.52	5.71	8.95	29.03	15.2
			7,2 / 45	29.53	100.76	8.40	8.13	37.66	14	27.64	94.31	7.86	8.7	36.34	14.8	25.71	87.73	7.31	9.16	34.87	15.6	23.75	81.04	6.75	9.53	33.28	16.1	22.96	78.34	6.53	9.65	32.61	16.3
			10 / 50	33.11	112.98	9.42	8.5	41.61	14.5	31.1	106.12	8.85	9.18	40.28	15.6	29.05	99.12	8.26	9.75	38.8	16.5	26.96	91.99	7.67	10.23	37.19	17.2	26.12	89.13	7.43	10.4	36.52	17.5
HCUA-16-2	(S8-42Y)×2	(41,32)×2	1,7 / 35	46.64	159.14	13.265	14.62	61.26	25.6	43.32	147.81	12.321	15.34	58.66	26.6	39.94	136.28	11.359	15.88	55.82	27.4	36.5	124.54	10.381	16.28	52.78	28	35.1	119.77	9.9829	16.36	51.46	28.2
			4,4 / 40	52.46	179	14.92	15.46	67.92	26.8	48.92	166.92	13.914	16.36	65.28	28.2	45.32	154.64	12.89	17.08	62.4	29.2	41.64	142.08	11.843	17.64	59.28	30	40.16	137.03	11.422	17.9	58.06	30.4
			7,2 / 45	59.06	201.52	16.797	16.26	75.32	28	55.28	188.62	15.722	17.4	72.68	29.6	51.42	175.45	14.625	18.32	69.74	31.2	47.5	162.08	13.51	19.06	66.56	32.2	45.92	156.69	13.06	19.3	65.22	32.6
			10 / 50	66.22	225.95	18.834	17	83.22	29	62.2	212.24	17.691	18.36	80.56	31.2	58.1	198.25	16.524	19.5	77.6	33	53.92	183.98	15.336	20.46	74.38	34.4	52.24	178.25	14.858	20.8	73.04	35
HCUA-10-1	S10-52Y	52	1,7 / 35	26.27	89.64	7.47	8.23	34.5	15.2	24.48	83.53	6.96	8.84	33.32	15.9	22.68	77.39	6.45	9.2	31.88	16.6	20.88	71.25	5.94	9.65	30.53	17.3	20.16	68.79	5.73	9.8	29.96	17.6
			4,4 / 40	28.2	96.22	8.02	8.6	36.8	15.7	27.41	93.53	7.80	9.16	36.57	16.6	25.45	86.84	7.24	9.7	35.15	17.4	23.48	80.12	6.68	10.21	33.69	18.2	22.69	77.42	6.45	10.41	33.1	18.5
			7,2 / 45	32.87	112.16	9.35	8.95	41.82	16.2	30.73	104.86	8.74	9.59	40.32	17.2	28.58	97.52	8.13	10.2	38.78	18.2	26.43	90.18	7.52	10.78	37.21	19.1	25.56	87.21	7.27	11	36.56	19.4
			10 / 50	36.68	125.16	10.43	9.27	45.95	16.7	34.33	117.14	9.76	10	44.33	17.8	31.99	109.15	9.10	10.69	42.68	18.9	29.64	101.14	8.43	11.34	40.98	19.9	28.7	97.93	8.16	11.59	40.29	20.3
HCUA-20-2	(S10-52Y)×2	52×2	1,7 / 35	52.54	179.27	14.943	16.46	69	30.4	48.96	167.06	13.925	17.68	66.64	31.8	45.36	154.78	12.901	18.4	63.76	33.2	41.76	142.49	11.877	19.3	61.06	34.6	40.32	137.58	11.468	19.6	59.92	35.2
			4,4 / 40	56.4	192.45	16.041	17.2	73.6	31.4	54.82	187.05	15.592	18.32	73.14	33.2	50.9	173.68	14.477	19.4	70.3	34.8	46.96	160.23	13.356	20.42	67.38	36.4	45.38	154.84	12.907	20.82	66.2	37
			7,2 / 45	65.74	224.31	18.697	17.9	83.64	32.4	61.46	209.71	17.48	19.18	80.64	34.4	57.16	195.04	16.257	20.4	77.56	36.4	52.86	180.37	15.034	21.56	74.42	38.2	51.12	174.43	14.539	22	73.12	38.8
			10 / 50	73.36	250.32	20.865	18.54	91.9	33.4	68.66	234.28	19.528	20	88.66	35.6	63.98	218.31	18.197	21.38	85.36	37.8	59.28	202.27	16.86	22.68	81.96	39.8	57.4	195.86	16.325	23.18	80.58	40.6
HCUA-15-1	V15-71Y	70.77	1,7 / 35	37.21	126.97	10.58	11.43	48.64	21	34.69	118.37	9.87	12	46.69	21.8	32.16	109.73	9.15	12.51	44.67	22.4	29.63	101.10	8.43	12.96	42.59	23.1	31.7	108.17	9.02	15.07	46.77	28.1
			4,4 / 40	41.58	141.88	11.83	12.02	53.6	21.8	38.82	132.46	11.04	12.69	51.51	22.7	36.05	123.01	10.25	13.29	49.34	23.5	33.29	113.59	9.47	13.82	47.11	24.3	35.89	122.46	10.21	15.95	51.84	29.4
			7,2 / 45	46.51	158.70	13.23	12.6	59.11	22.6	43.48	148.36	12.37	13.37	56.85	23.7	40.45	138.02	11.50	14.08	54.53	24.7	37.43	127.72	10.65	14.72	52.15	25.6	40.65	138.70	11.56	16.86	57.51	30.7
			10 / 50	51.85	176.92	14.75	13.13	64.98	23.3	48.55	165.66	13.81	14.03	62.58	24.6	45.25	154.40	12.87	14.85	60.1	25.8	41.95	143.14	11.93	15.59	57.54	27	45.87	156.52	13.05	17.75	63.62	32.1
HCUA-30-1	V15-71Y	70,77×2	1,7 / 35	74.42	253.93	21.166	22.86	97.28	42	69.38	236.73	19.733	24	93.38	43.6	64.32	219.47	18.294	25.02	89.34	44.8	59.26	202.2	16.854	25.92	85.18	46.2	63.4	216.33	18.032	30.14	93.54	56.2
			4,4 / 40	83.16	283.75	23.652	24.04	107.2	43.6	77.64	264.92	22.082	25.38	103.02	45.4	72.1	246.02	20.506	26.58	98.68	47	66.58	227.18	18.936	27.64	94.22	48.6	71.78	244.92	20.415	31.9	103.68	58.8
			7,2 / 45	93.02	317.4	26.456	25.2	118.22	45.2	86.96	296.72	24.733	26.74	113.7	47.4	80.9	276.04	23.009	28.16	109.06	49.4	74.86	255.43	21.291	29.44	104.3	51.2	81.3	277.41	23.123	33.72	115.02	61.4
			10 / 50	103.7	353.84	29.494	26.26	129.96	46.6	97.1	331.32	27.617	28.06	125.16	49.2	90.5	308.8	25.739	29.7	120.2	51.6	83.9	286.28	23.862	31.18	115.08	54	91.74	313.03	26.092	35.5	127.24	64.2
HCUA-20-1	V20-84Y	84	1,7 / 35	41.8	142.63	11.89	13.19	54.99	25.73	38.68	131.98	11.00	13.79	52.47	26.2	35.68	121.75	10.15	14.35	50.03	27	32.81	111.95	9.33	14.87	47.68	27.8	31.7	108.17	9.02	15.07	46.77	28.1
			4,4 / 40	47.01	160.41	13.37	13.81	60.82	26.3	43.59	148.74	12.40	14.49	58.08	27.2	40.29	137.48	11.46	15.13	55.42	28.2	37.12	126.66	10.56	15.73	52.85	29	35.89	122.46	10.21	15.95	51.84	29.4
			7,2 / 45	52.88	180.43	15.04	14.41	67.29	27.1	49.13	167.64	13.97	15.2	64.33	28.3	45.5	155.25	12.94	15.92	61.42	29.3	42.01	143.34	11.95	16.6	58.61	30.3	40.65	138.70	11.56	16.86	57.51	30.7
			10 / 50	59.24	202.14	16.85	14.99	74.23	28	55.14	188.15	15.68	15.87	71.01	29.3	51.18	174.63	14.56	16.69	67.87	30.5	47.36	161.60	13.47	17.45	64.81	31.6	45.87	156.52	13.05	17.87	63.74	32.1
HCUA-40-2	(V20-84Y)×2	84×2	1,7 / 35	83.6	285.26	23.777	26.38	109.98	51.46	77.36	263.96	22.002	27.58	104.94	52.4	71.36	243.49	20.296	28.7	100.06	54	65.62	223.91	18.663	29.74	95.36	55.6	63.4	216.33	18.032	30.14	93.54	56.2
			4,4 / 40	94.02	320.81	26.741	27.62	121.64	52.6	87.18	297.47	24.795	28.98	116.16	54.4	80.58	274.95	22.918	30.26	110.84	56.4	74.24	253.32	21.115	31.46	105.7	58	71.78	244.92	20.415	31.9	103.68	58.8
			7,2 / 45	105.76	360.87	30.08	28.82	134.58	54.2	98.26	335.28	27.947	30.4	128.66	56.6	91	310.51	25.882	31.84	122.84	58.6	84.02	286.69	23.896	33.2	117.22	60.6	81.3	277.41	23.123	33.72	115.02	61.4
			10 / 50	118.48	404.27	33.697	29.98	148.46	56	110.3	376.29	31.365	31.74	142.02	58.6	102.4	349.27	29.113	33.38	135.74	61	94.72	323.2	26.94	34.9	129.62	63.2	91.74	313.03	26.092	35.74	127.48	64.2
HCUA-25-1	V25-93Y	93	1,7 / 35	47.92	163.51	13.63	15.62	63.54	30.4	44.72	152.59	12.72	16.36	61.08	31.3	41.51	141.64	11.81	17.01	58.52	32.2	38.28	130.62	10.89	17.6	55.88	33	36.99	126.22	10.52	17.81	54.8	33.2
			4,4 / 40	53.55	182.72	15.23	16.45	70	31.4	50.05	170.78	14.23	17.31	67.36	32.6	46.54	158.80	13.24	18.8	65.34	33.6	43.02	146.79	12.24	18.77	61.79	34.6	41.61	141.98	11.83	19.03	60.64	34.9
			7,2 / 45	59.89	204.35	17.03	17.26	77.15	32.5	56.07	191.32	15.95	18.27	74.34	33.9	52.23	178.22	14.85	19.17	71.4	35.1	48.38	165.08	13.76	19.99	68.37	36.3	46.83	159.79	13.32	20.33	67.16	36.7
			10 / 50	66.77	227.83	18.99	18.04	84.81	33.5	62.6	213.60	17.80	19.19	81.79	35.1	58.42	199.34	16.62	20.24	78.66	36.6	54.22	185.01	15.42	21.2	75.42	38	52.54	179.27	14.94	21.56	74.1	38.5
HCUA-50-2	(V25-93Y)×2	93×2	1,7 / 35	95.84	327.02	27.258	31.24	127.08	60.8	89.44	305.18	25.438	32.72	122.16	62.6	83.02	283.28	23.612	34.02	117.04	64.4	76.56	261.23	21.775	35.2	111.76	66	73.98	252.43	21.041	35.62	109.6	66.4
			4,4 / 40	107.1	365.44	30.461	32.9	140	62.8	100.1	341.56	28.47	34.62	134.72	65.2	93.08	317.6	26.473	37.6	130.68	67.2	86.04	293.58	24.471	37.54	123.58	69.2	83.22	283.96	23.669	38.06	121.28	69.8
			7,2 / 45	119.78	408.71	34.067	34.52	154.3	65	112.1	382.64	31.894	36.54	148.68	67.8	104.5	356.43	29.71	38.34	142.8	70.2	96.76	330.16	27.52	39.98	136.74	72.6	93.66	319.58	26.638	40.66	134.32	73.4
			10 / 50	133.54	455.66	37.981	36.08	169.62	67	125.2	427.2	35.609	38.38	163.58	70.2	116.8	398.68	33.231	40.48	157.32	73.2	108.4	370.01	30.842	42.4	150.84	76	105.1	358.55	29.886	43.12	148.2	77
HCUA-35-1	Z35-106Y	106	1,7 / 35	55.26	188.56	15.72	14.71	69.97	27.6	51.53	175.83	14.66	15.54	67.07	28.7	47.78	163.03	13.59	16.29	64.07	29.7	44.01	150.17	12.52	16.97	60.98	30.7	42.51	145.05	12.09	17.22	59.73	31
			4,4 / 40	61.82	210.94	17.58	15.37	77.19	28.5	57.74	197.02	16.42	16.33	74.07	29.8	53.64	183.03	15.26	17.2	70.84	31	49.53	169.00	14.09	18	67.53	32.2	47.89	163.41	13.62	18.3	66.19	32.6
			7,2 / 45	69.21	236.15	19.68	16.01	85.22	29.4	64.75	220.94	18.42	17.1	81.85	30.9	60.28	205.68	17.14	18.11	78.39	32.3	55.78	190.33	15.86	19.04	74.82	33.7	53.98	184.19	15.35	19.39	73.37	34.2
			10 / 50	77.23	263.52	21.97	16.58	93.81	30.2	72.38	246.97	20.59	17.83	90.21	31.9	67.5	230.32	19.20	18.99	86.49	33.6	62.61	213.63	17.81	20.6	83.21	35.2	60.65	206.95	17.25	20.46	81.11	35.8
HCUA-70-2	(Z35-106Y)×2	106×2	1,7 / 35	110.52	377.11	31.433	29.42	139.94	55.2	103.1	351.66	29.312	31.08	134.14	57.4	95.56	326.07	27.179	32.58	128.14	59.4	88.02	300.34	25.034	33.94	121.96	61.4	85.02	290.1	24.181	34.44	119.46	62
			4,4 / 40	123.64	421.88	35.165	30.74	154.38	57	115.5	394.04	32.844	32.66	148.14	59.6	107.3	366.06	30.512	34.4	141.68	62	99.06	338.01	28.174	36	135.06	64.4	95.78	326.82	27.241	36.6	132.38	65.2
			7,2 / 45	138.42	472.31	39.369	32.02	170.44	58.8	129.5	441.87	36.832	34.2	163.7	61.8	120.6	411.37	34.289	36.22	156.78	64.6	111.6	380.66	31.729	38.08	149.64	67.4	108	368.38	30.705	38.78	146.74	68.4
			10 / 50	154.46	527.04	43.931	33.16	187.62	60.4	144.8	493.94	41.172	35.66	180.42	63.8	135	460.64	38.396	37.98	172.98	67.2	125.2	427.27	35.614	41.2	166.42	70.4	121.3	413.89	34.499	40.92	162.22	71.6
HCUA-40-1	Z40-126Y	126	1,7 / 35	65.45	223.33	18.61	18.32	83.77	34.8	60.88	207.73	17.32	19.34	80.22	36.1	56.3	192.10	16.01	20.25	76.55	34.4	51.72	176.48	14.71	21.06	72.78	38.5	49.89	170.23	14.19	21.36	71.25	38.9
			4,4 / 40	73.3	250.11	20.85	19.12	92.42	35.8	68.31	233.08	19.43	20.3	88.61	37.5	60.3	205.75	17.15	21.96	82.26	39.77	58.31	198.96	16.58	22.33	80.64	40.3	56.31	192.14	16.02	22.69	79	40.8
			7,2 / 45	82.16	280.34	21.24	19.88	102.04	36.9	76.7	261.71	21.81	21.24	97.94	38.8	71.24	243.08	20.26	22.48	93.72	40.5	65.77	224.42	18.71	23.61	89.38	42.1	63.59	216.98	18.09	24.03	87.62	42.7
			10 / 50	91.77	313.13	26.10	20.55	112.32	37.8	85.83	292.86	24.41	22.1	107.93	40	79.88	272.56	22.72	23.53	103.41	42	73.93	252.26	21.03	24.84	98.77	43.8	71.55	244.14	20.35	25.33	96.88	44.5
HCUA-80-2	(Z40-126Y)×2	126×2	1,7 / 35	130.9	446.65	37.23	36.64	167.54	69.6	121.8	415.46	34.63	38.68	160.44	72.2	112.6	384.21	32.025	40.5	153.1	68.8	103.4	352.95	29.42	42.12	145.56	77	99.78	340.46	28.379	42.72	142.5	77.8
			4,4 / 40	146.6	500.22	41.695	38.24	184.84	71.6	136.6	466.17	38.857	40.6	177.22	75	120.6	411.51	34.3	43.92	164.52	79.54	116.6	397.92	33.168	44.66	161.28	80.6	112.6	384.28	32.031	45.38	158	81.6
			7,2 / 45	164.32	560.68	42.48	39.76	204.08	73.8	153.4	523.42	43.629	42.48	195.88	77.6	142.5	486.16	40.523	44.96	187.44	81	131.5	448.83	37.412	47.22	178.76	84.2	127.2	433.96	36.172	48.06	175.24	85.4
			10 / 50	183.54	626.27	52.201	41.1	224.64	75.6	171.7	585.73	48.823	44.2	215.86	80	159.8	545.13	45.438	47.06	206.82	84	147.9	504.52	42.053	49.68	197.54	87.6	143.1	488.28	40.7	50.66	193.76	89
HCUA-50-1	W50-168Y	168	1,7 / 35	86.36	294.67	24.56	24.67	111.03	50.1	79.83	272.39	22.70	26.03	105.86	51.8	73.3	250.11	20.85	27.22	100.52	53.4	66.81	227.97	19.00	28.23	95.04	54.7	64.23	219.16	18.27	28.58	92.81	55.1
			4,4 / 40	96.75	330.13	27.52	25.62	122.37	25.62	89.67	305.97	25.50	27.16	116.83	53.3	82.59	281.81	23.49	28.53	111.12	55.1	75.55	257.79	21.49	29.71	105.26	56.6	72.74	248.20	20.69	30.14	102.88	57.2
			7,2 / 45	108.41	369.91	30.83	26.52	134.93	52.5	100.7	343.71	28.65	28.26	128.99	54.7	93.06	317.53	26.47	29.82	122.88	56.8	85.42	291.47	24.29	31.19	116.61	58.6	82.38	281.09	23.43	31.69	114.07	59.3
			10 / 50	121	412.87	34.41	27.31	148.31	53.5	112.7	384.58	32.06	29.26	141.97	56	104.4	356.33	29.70	31.03	135.46	58.4	96.17	328.15	27.35	32.6	128.77	60.6	92.88	316.92	26.42	33.17	126.05	61.4
HCUA-100-2	(W50-168Y)×2	168×2	1,7 / 35	172.72	589.35	49.124	49.34	222.06	100.2	159.7	544.78	45.41	52.06	211.72	103.6	146.6	500.22	41.695	54.44	201.04	106.8	133.6	455.93	38.003	56.46	190.08	109.4	128.5	438.32	36.536	57.16	185.62	110.2
			4,4 / 40	193.5	660.25	55.034	51.24	244.74	51.24	179.3	611.93	51.007	54.32	233.66	106.6	165.2	563.62	46.98	57.06	222.24	110.2	151.1	515.58	42.975	59.42	210.52	113.2	145.5	496.4	41.377	60.28	205.76	114.4
			7,2 / 45	216.82	739.82	61.667	53.04	269.86	105	201.5	687.41	57.298	56.52	257.98	109.4	186.1	635.07	52.935	59.64	245.76	113.6	170.8	582.93	48.589	62.38	233.22	117.2	164.8	562.19	46.86	63.38	228.14	118.6
			10 / 50	242	825.74	68.828	54.62	296.62	107	225.4	769.17	64.113	58.52	283.94	112	208.9	712.66	59.403	62.06	270.92	116.8	192.3	656.29	54.704	65.2	257.54	121.2	185.8	633.84	52.833	66.34	252.1	122.8
HCUA-50-1	W50-187Y	187	1,7 / 35	95.06	324.36	27.04	28.83	123.89	55.5	87.86	299.79	24.99	30.24	118.1	57.3	80.86	275.91	23.00	31.51	112.37	59.1	74.09	252.81	21.07	32.66	106.75	60.6	71.45	243.80	20.32	33.09	104.54	61.2
			4,4 / 40	107.06	365.30	30.45	29.81	136.87	56.8	99.2	338.49	28.21	31.45	130.65	59	91.56	312.42	26.04	32.94	124.5	61	84.14	287.10	23.93	34.3	118.44	62.9	81.24	277.20	23.11	34.81	116.05	63.6
			7,2 / 45	120.54	411.30	34.28	30.72	151.26	58	112	382.13	31.85	32.6	144.59	60.6	103.6	353.64	29.48	34.34	137.98	63	95.53	325.96	27.17	35.93	131.46	62.5	92.36	315.15	26.27	36.53	128.89	66.1
			10 / 50	135.14	461.12	38.44	31.49	166.63	59	125.9	429.45	35.80	33.64	159.5	62	116.8	398.54	33.22	35.63	152.43	64.8	108	368.41	30.71	34.47	142.44	67.4	104.5	356.60	29.72	38.17	142.68	68.4
HCUA-100-2	(W50-187Y)×2	187×2	1,7 / 35	190.12	648.72	54.073	57.66	247.78	111	175.7	599.58	49.977	60.48	236.2	114.6	161.7	551.81	45.995	63.02	224.74	118.2	148.2	505.61	42.144	65.32	213.5	121.2	142.9	487.6	40.643	66.18	209.08	122.4
			4,4 / 40	214.12	730.61	60.899	59.62	273.74	113.6	198.4	676.97	56.428	62.9	261.3	118	183.1	624.83	52.082	65.88	249	122	168.3	574.2	47.861	68.6	236.88	125.8	162.5	554.41	46.212	69.62	232.1	127.2
			7,2 / 45	241.08	822.6	68.567	61.44	302.52	116	224	764.25	63.703	65.2	289.18	121.2	207.3	707.27	58.953	68.68	275.96	126	191.1	651.93	54.34	71.86	262.92	125	184.7	630.29	52.537	73.06	257.78	132.2
			10 / 50	270.28	922.24	76.871	62.98	333.26	118	251.7	858.91	71.593	67.28	319	124	233.6	797.08	66.439	71.26	304.86	129.6	215.9	736.82	61.416	68.94	284.88	134.8	209	713.21	59.448	76.34	285.36	136.8
HCUA-60-1	W60-206Y	206	1,7 / 35	107.93	368.27	30.70	30.96	138.89	62.2	100.2	342.00	28.51	32.66	132.89	64.3	92.54	315.76	26.32	34.17	126.71	66.2	84.88	289.62	24.14	35.5	120.38	68	81.82	279.18	23.27	35.98	117.8	68.6
			4,4 / 40	121.22	413.62	34.48	32.26	153.48	63.8	112.9	385.13	32.10	34.18	147.05	66.2	104.5	356.64	29.73	35.92	140.44	65.8	96.2	328.25	27.36	37.46	133.66	70.5	92.88	316.92	26.42	32.02	124.9	71.3
			7,2 / 45	136.2	464.73	38.74	33.51	169.71	65.4	127.2	433.89	36.17	35.69	162.85	68.2	118.1	403.01	33.59	37.66	155.77	70.8	109.1	372.20	31.02	39.44	148.52	73.2	105.5	359.88	30.00	40.9	146.37	74.1
			10 / 50	152.45	520.18	43.36	34.64	187.09	66.8	142.7	486.91	40.59	37.09	179.79	70.1	132.9	453.61	37.81	39.32	172.26	73	123.2	420.31	35.03	41.35	164.53	75.8	119.3	407.04	33.93	42.1	161.39	76.9
HCUA-120-2	(W60-206Y)×2	206×2	1,7 / 35	215.86	736.55	61.394	61.92	277.78	124.4	200.5	684	57.014	65.32	265.78	128.6	185.1	631.52	52.639	68.34	253.42	132.4	169.8	579.25	48.282	71	240.76	136	163.6	558.36	46.542	71.96	235.6	137.2
			4,4 / 40	242.44	827.24	68.953	64.52	306.96	127.6	225.7	770.26	64.204	68.36	294.1	132.4	209	713.28	59.454	71.84	280.88	131.6	192.4	656.5	54.721	74.92	267.32	141	185.8	633.84	52.833	64.04	249.8	142.6
			7,2 / 45	272.4	929.47	77.474	67.02	339.42	130.8	254.3	867.78	72.332	71.38	325.7	136.4	236.2	806.02	67.184	75.32	311.54	141.6	218.2	744.39	62.048	78.88	297.04	146.4	210.9	719.76	59.994	81.8	292.74	148.2
			10 / 50	304.9	1040.4	86.718	69.28	374.18	133.6	285.4	973.83	81.172	74.18	359.58	140.2	265.9	907.22	75.62	78.64	344.52	146	246.4	840.62	70.068	82.7	329.06	151.6	238.6	814.07	67.856	84.2	322.78	153.8

ENGINEERING SPECIFICATIONS (50 HZ)

Condensing Unit MODEL	no.of circuit	comp.oil charge (dm^3)	condenser coil					condenser fan			
			row	fpi	QTY	total heat rejection (kw)	total face area (m2)	size (mm)	QTY	total air flow rate (cfm)	motor power (kw)
HCUA-8-1	1	3.3	3	10	2	41.61	2*1,32	800	1	1*13250	1*1,7
HCUA-10-1	1	3.3	3	12	2	45.95	2*1,32	800	1	1*13250	1*1,7
HCUA-15-1	1	4.5	2	12	2	64.98	2*2,31	800	2	2*13600	2*1.7
HCUA-20-1	1	4.5	3	10	2	74.23	2*2,31	800	2	2*13250	2*1,7
HCUA-25-1	1	4.5	3	10	2	84.81	2*2,31	800	2	2*13250	2*1
HCUA-35-1	1	4.5	4	10	2	93.81	2*2,31	800	2	2*13000	2*1,7
HCUA-40-1	1	7.5	2	10	4	112.32	4*2,31	800	4	4*13530	4*1,7
HCUA-50-1	1	8	3	10	4	148.31	4*2,31	800	4	4*13250	4*1,7
HCUA-50-1	1	8	3	12	4	166.63	4*2,31	800	4	4*13250	4*1,7
HCUA-60-1	1	8	4	12	4	187.09	4*2,31	800	4	4*12950	4*1,7
HCUA-16-2	2	6.6	3	10	4	83.22	4*1,32	800	2	2*13250	2*1,7
HCUA-20-2	2	6.6	4	10	4	91.9	4*1,32	800	2	2*13000	2*1,7
HCUA-30-2	2	9	2	12	4	129.96	4*2,31	800	4	4*13600	4*1.7
HCUA-40-2	2	9	3	10	4	148.46	4*2,31	800	4	4*13250	4*1.7
HCUA-50-2	2	9	3	12	4	169.62	4*2,31	800	4	4*13250	4*1,7
HCUA-70-2	2	9	4	10	4	187.62	4*2,31	800	4	4*13000	4*1,7
HCUA-80-2	2	15	3	10	6	224.64	6*2,31	800	6	6*13250	6*1,7
HCUA-100-2	2	16	4	12	6	296.62	6*2,31	800	6	6*12950	6*1,7
HCUA-100-2	2	16	3	10	8	333.26	8*2,31	800	8	8*13250	8*1,7
HCUA-120-2	2	16	4	10	8	374.18	8*2,31	800	8	8*13000	8*1,7

ELECTRICAL DATA				
Condensing Unit MODEL	Nominal Comp. power (HP)	MRA (Amp)	LRA (Amp)	MAX POWER (KW)
HCUA-8-1	8	20.3	52.7	11.8
HCUA-10-1	10	24.5	59.1	14.9
HCUA-15-1	15	32.2	74.8	19.6
HCUA-20-1	20	46.2	106.6	24.2
HCUA-25-1	25	52.3	118.3	25.8
HCUA-35-1	35	60.2	144.5	35.1
HCUA-40-1	40	71.9	159.2	40.7
HCUA-50-1	50	94.8	258	55.2
HCUA-50-1	50	89.1	259	50.2
HCUA-60-1	60	98.8	326	56.7
HCUA-16-2	8*2	40.6	105.4	23.6
HCUA-20-2	10*2	49	118.2	29.8
HCUA-30-2	15*2	64.4	149.6	39.2
HCUA-40-2	20*2	92.4	213.2	48.4
HCUA-50-2	25*2	104.6	236.6	51.6
HCUA-70-2	35*2	120.4	289	70.2
HCUA-80-2	40*2	143.8	318.4	81.4
HCUA-100-2	50*2	189.6	516	110.4
HCUA-100-2	50*2	178.2	518	100.4
HCUA-120-2	60*2	197.6	652	113.4


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ENGINEERING SPECIFICATIONS - 50 HZ- (R-22)-Frascold

Model			HCUA-12-1	HCUA-15-1	HCUA-25-1	HCUA-30-1
Cooling Capacity	Ton of Refrigeration		11.63	14.26	20.13	24.54
	KW		40.96	50.22	70.89	86.41
Compressor	Type	-	recp. Compressor			
	Quantity		1	1	1	1
	Oil Charge	US Gal	1	1	1.35	1.35
		LIT	3.3	3.3	4.5	4.5
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins			
	FaceArea	ft^2	28.4	49.71	99.42	99.42
		M^2	2.64	4.62	9.24	9.24
condenser Fan	Type		Propeller direct drive 885 RPM			
	Quantity		2	2	2	4
	Aire Flow RATE	cfm	25900	27200	26000	54120
		l/s	12223	12837	12271	25542
	Size	kw	3.5	3.5	3.5	7
Refrigrant(R-22)operating charge (approx)	lbs		39.6	50.6	72.6	99
	kg		18	23	33	45
Nmber Of Refrigrant Circuit			1	1	1	1
Unit Operating Weight		lbs	1659	1811	2262	2644
		kg	754	823	1028	1202

Model			HCUA-32-1	HCUA-35-1	HCUA-40-1
Cooling Capacity	Ton of Refrigeration		26.55	31.09	35.18
	KW		93.47	109.47	123.87
Compressor	Type	-	recp. Compressor		
	Quantity		1	1	1
	Oil Charge	US Gal	1.35	1.35	2.25
		LIT	4.5	4.5	7.5
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins		
	FaceArea	ft^2	99.42	99.42	99.42
		M^2	9.24	9.24	9.24
condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		4	4	4
	Aire Flow RATE	cfm	54400	53000	51800
		l/s	25674	25013	24447
	Size	kw	7	7	7
Refrigrant(R-22)operating charge(approx)	lbs		105.6	116.6	132
	kg		48	53	60
Nmber Of Refrigrant Circuit			1	1	1
Unit Operating Weight		lbs	2739	3027	3300
		kg	1245	1376	1500

Model			HCUA-50-1	HCUA-60-1	HCUA-70-1
Cooling Capacity	Ton of Refrigeration		47.61	53.23	59.17
	KW		167.63	187.43	208.33
Compressor	Type		recp. Compressor		
	Quantity		1	1	1
	Oil Charge	US Gal	2.4	2.4	2.4
		LIT	8	8	8
condenser Coil	Type		Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing, Cu tubes, Al fins		
	FaceArea	ft^2	99.42	149.13	149.13
		M^2	9.24	13.86	13.86
condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		4	6	6
	Aire Flow RATE	cfm	51800	79500	77700
		l/s	24447	37520	36670
	Size	kw	7	10.5	10.5
Refrigrant(R-22)operating charge(approx)	lbs		165	198	231
	kg		75	90	105
Nmber Of Refrigrant Circuit			1	1	1
Unit Operating Weight		lbs	3896	4387	4930
		kg	1771	1994	2241

Model			HCUA-24-2	HCUA-30-2	HCUA-50-2	HCUA-60-2
Cooling Capacity	Ton of Refrigeration		23.27	28.52	40.27	49.08
	KW		81.92	100.44	141.78	172.82
Compressor	Type		recp. Compressor			
	Quantity		2	2	2	2
	Oil Charge	US Gal	1.98	1.98	2.7	2.7
		LIT	6.6	6.6	9	9
condenser Coil	Type		Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing, Cu tubes, Al fins			
	FaceArea	ft^2	56.81	99.42	99.42	99.42
		M^2	5.28	9.24	9.24	9.24
condenser Fan	Type		Propeller direct drive 885 RPM			
	Quantity		2	4	4	4
	Aire Flow RATE	cfm	25900	54400	53000	51800
		l/s	44004	92426	90047	88008
	Size	kw	3.5	7	7	7
Refrigrant(R22)operating charge(approx)	lbs		79.2	99	165	198
	kg		36	45	75	90
Nmber Of Refrigrant Circuit			2	2	2	2
Unit Operating Weight		lbs	2842	3205	3920	4283
		kg	1292	1457	1782	1947

Model			HCUA-64-2	HCUA-70-2	HCUA-80-2
Cooling Capacity	Ton of Refrigeration		53.09	62.18	78.03
	KW		186.94	218.94	274.74
Compressor	Type		recp. Compressor		
	Quantity		2	2	2
	Oil Charge	US Gal	2.7	2.7	4.5
		LIT	9	9	15
condenser Coil	type		Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing, Cu tubes, Al fins		
	FaceArea	ft^2	149.13	149.13	198.84
		M^2	13.86	13.86	18.48
condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		6	6	8
	Aire Flow RATE	cfm	79500	77700	106000
		l/s	135071	132012	180094
	Size	kw	10.5	10.5	14
Refrigrant(R22)operating charge(approx)	lbs		211.2	231	264
	kg		96	105	120
Nmber Of Refrigrant Circuit			2	2	2
Unit Operating Weight		lbs	4737	5282	5632
		kg	2153	2401	2560

Model			HCUA-100-2	HCUA-120-2	HCUA-140-2
Cooling Capacity	Ton of Refrigeration		95.21	106.46	118.33
	KW		335.26	374.86	416.66
Compressor	1		recp. Compressor		
	Quantity		2	2	2
	Oil Charge	US Gal	4.8	4.8	4.8
		LIT	16	16	16
condenser Coil	Type		Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins		
	FaceArea	ft^2	142	142	298.26
		M^2	13.2	13.2	27.72
condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		10	10	12
	Aire Flow RATE	cfm	129500	130000	159000
		l/s	220021	220870	270141
	Size	kw	17.5	17.5	21
Refrigrant(R22)operating charge(approx)	lbs		330	360	462
	kg		150	180	210
Nmber Of Refrigrant Circuit			2	2	2
Unit Operating Weight		lbs	6919	7522	7528
		kg	3145	3419	3422

CAPACITY RATING(50 HZ)

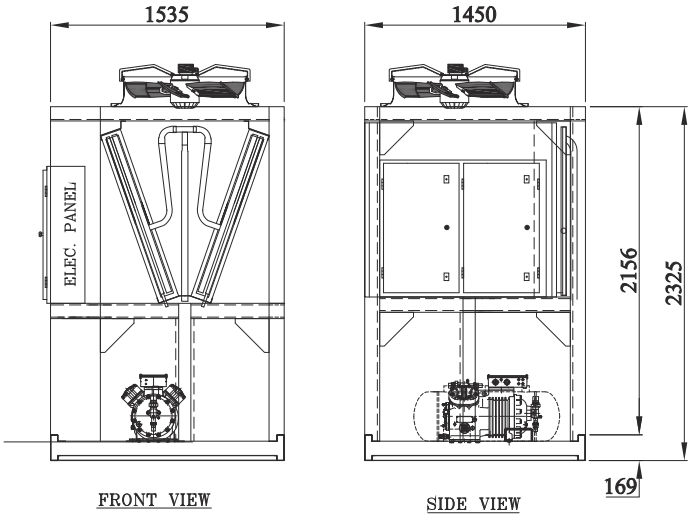
R-22

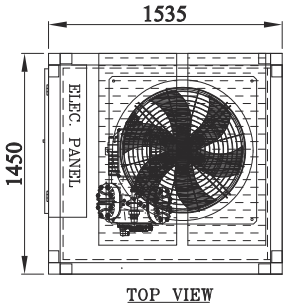
Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	eva.temp (C / F)	condenser entering air temp.																	
				95 F(35˚C)						104 F(40˚C)						113 F(45˚C)					
				Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	FROSCOLD			KW	MBH	TON				KW	MBH	TON				KW	MBH	TON			
HCUA-12-1	S12-42Y	41.32	1,7 / 35	32.77	111.82	9.32	8.669	41.439	15	32.21	109.91	9.16	9.2	41.41	15.9	27.68	94.45	7.87	9.87	37.55	16.9
			4,4 / 40	36.64	125.02	10.42	8.883	45.523	15.4	33.9	115.67	9.64	9.54	43.44	16.3	31.2	106.46	8.87	10.27	41.47	17.5
			7,2 / 45	40.96	139.76	11.65	9.052	50.012	15.6	38.03	129.76	10.82	9.78	47.81	16.7	35.14	119.90	9.99	10.64	45.78	18
			10 / 50	45.59	155.56	12.966	9.16	54.75	15.8	42.47	144.91	12.08	9.99	52.46	17.1	39.39	134.40	11.20	10.95	50.34	18.5
HCUA-24-2	(S12-42Y)×2	(41,32)×2	1,7 / 35	65.54	223.63	18.641	17.34	82.878	30	64.42	219.81	18.322	18.4	82.82	31.8	55.36	188.9	15.745	19.74	75.1	33.8
			4,4 / 40	73.28	250.04	20.842	17.77	91.046	30.8	67.8	231.34	19.283	19.08	86.88	32.6	62.4	212.92	17.747	20.54	82.94	35
			7,2 / 45	81.92	279.52	23.299	18.1	100.024	31.2	76.06	259.53	21.633	19.56	95.62	33.4	70.28	239.81	19.989	21.28	91.56	36
			10 / 50	91.18	311.12	25.933	18.32	109.5	31.6	84.94	289.83	24.158	19.98	104.92	34.2	78.78	268.81	22.406	21.9	100.68	37
HCUA-15-1	S15-52Y	50.43	1,7 / 35	40.56	138.40	11.54	12.18	52.74	23.8	37.84	129.12	10.76	13.18	51.02	25.2	35.07	119.66	9.97	14.36	49.43	26.9
			4,4 / 40	45.11	153.92	12.83	12.48	57.59	24.2	42.16	143.86	11.99	13.63	55.79	25.8	39.17	133.65	11.14	14.95	54.12	27.8
			7,2 / 45	50.22	171.36	14.28	12.71	62.93	24.5	47.02	160.44	13.37	14.01	61.03	26.4	43.78	149.38	12.45	15.48	59.26	28.6
			10 / 50	55.73	190.16	15.85	12.83	68.56	24.7	52.27	178.35	14.87	14.3	66.57	26.8	48.77	166.41	13.87	15.94	64.71	29.3
HCUA-30-2	(S15-52Y)×2	52×2	1,7 / 35	81.12	276.79	23.072	24.36	105.48	47.6	75.68	258.23	21.524	26.36	102.04	50.4	70.14	239.33	19.949	28.72	98.86	53.8
			4,4 / 40	90.22	307.84	25.66	24.96	115.18	48.4	84.32	287.71	23.982	27.26	111.58	51.6	78.34	267.31	22.281	29.9	108.24	55.6
			7,2 / 45	100.44	342.72	28.567	25.42	125.86	49	94.04	320.88	26.746	28.02	122.06	52.8	87.56	298.77	24.903	30.96	118.52	57.2
			10 / 50	111.46	380.32	31.701	25.66	137.12	49.4	104.54	356.71	29.733	28.6	133.14	53.6	97.54	332.82	27.742	31.88	129.42	58.6
HCUA-25-1	V25-71Y	70.77	1,7 / 35	57.66	196.74	16.40	16.38	74.04	31.3	54.31	185.31	15.45	17.8	72.11	33.2	51.07	174.26	14.53	19.54	70.61	35.6
			4,4 / 40	63.91	218.07	18.18	16.72	80.63	31.8	60.29	205.72	17.15	18.29	78.58	33.9	56.8	193.81	16.15	20.18	76.98	36.5
			7,2 / 45	70.89	241.89	20.16	16.93	87.82	32.1	66.99	228.58	19.05	18.68	85.67	34.4	63.21	215.68	17.98	20.74	83.95	37.3
			10 / 50	78.39	267.48	22.295	16.99	95.38	32.1	41.19	140.55	11.72	18.94	60.13	34.8	70.12	239.26	19.94	21.17	91.29	38
HCUA-50-1	(V25-71Y)×2	70.77	1,7 / 35	115.32	393.49	32.799	32.76	148.08	62.6	108.62	370.63	30.893	35.6	144.22	66.4	102.1	348.52	29.05	39.08	141.22	71.2
			4,4 / 40	127.82	436.14	36.354	33.44	161.26	63.6	120.58	411.44	34.295	36.58	157.16	67.8	113.6	387.62	32.309	40.36	153.96	73
			7,2 / 45	141.78	483.77	40.324	33.86	175.64	64.2	133.98	457.16	38.106	37.36	171.34	68.8	126.4	431.36	35.956	41.48	167.9	74.6
			10 / 50	156.78	534.96	44.59	33.98	190.76	64.2	82.38	281.09	23.43	37.88	120.26	69.6	140.2	478.52	39.886	42.34	182.58	76
HCUA-30-1	V30-84Y	83.81	1,7 / 35	70.21	239.57	19.97	19.39	89.6	35.1	65.92	224.93	18.75	21.27	87.19	37.8	61.81	210.90	17.58	23.55	85.36	41.2
			4,4 / 40	77.87	265.70	22.15	19.75	97.62	35.6	73.22	249.84	20.82	21.83	95.05	38.6	68.75	234.59	19.55	24.31	93.06	42.4
			7,2 / 45	86.41	294.84	24.58	19.97	106.38	35.9	81.37	277.65	23.14	22.28	103.65	39.3	76.51	261.06	21.76	24.97	101.48	43.4
			10 / 50	95.59	326.17	27.19	20.01	115.6	35.9	90.15	307.61	25.64	22.56	112.71	39.7	84.88	289.62	24.14	25.49	110.37	44.2
HCUA-60-2	(V30-84Y)×2	84×2	1,7 / 35	140.42	479.13	39.937	38.78	179.2	70.2	131.84	449.86	37.497	42.54	174.38	75.6	123.6	421.81	35.159	47.1	170.72	82.4
			4,4 / 40	155.74	531.41	44.295	39.5	195.24	71.2	146.44	499.68	41.65	43.66	190.1	77.2	137.5	469.17	39.107	48.62	186.12	84.8
			7,2 / 45	172.82	589.69	49.152	39.94	212.76	71.8	162.74	555.29	46.286	44.56	207.3	78.6	153	522.13	43.521	49.94	202.96	86.8
			10 / 50	191.18	652.33	54.374	40.02	231.2	71.8	180.3	615.21	51.28	45.12	225.42	79.4	169.8	579.25	48.282	50.98	220.74	88.4
HCUA-32-1	V32-93Y	93.05	1,7 / 35	76.21	260.04	21.68	22.24	98.45	38.4	70.38	240.15	20.02	24.33	94.71	41.6	65.25	222.64	18.56	26.74	91.99	45.4
			4,4 / 40	84.37	287.88	24.00	22.58	106.95	39	78.95	269.39	22.45	24.97	103.92	42.6	73.38	250.38	20.87	27.65	101.03	46.8
			7,2 / 45	93.47	318.93	26.58	22.8	116.27	39.3	87.62	298.97	24.92	25.43	113.05	43.3	81.61	278.47	23.21	28.36	109.97	47.9
			10 / 50	103.28	352.41	29.37	22.86	126.14	39.4	96.96	330.84	27.58	25.74	122.7	43.8	90.49	308.77	25.74	28.92	119.41	48.8
HCUA-64-2	(V32-93Y)×2	93×2	1,7 / 35	152.42	520.08	43.35	44.48	196.9	76.8	140.76	480.29	40.034	48.66	189.42	83.2	130.5	445.29	37.116	53.48	183.98	90.8
			4,4 / 40	168.74	575.77	47.992	45.16	213.9	78	157.9	538.78	44.909	49.94	207.84	85.2	146.8	500.77	41.741	55.3	202.06	93.6
			7,2 / 45	186.94	637.87	53.168	45.6	232.54	78.6	175.24	597.95	49.841	50.86	226.1	86.6	163.2	556.93	46.422	56.72	219.94	95.8
			10 / 50	206.56	704.81	58.749	45.72	252.28	78.8	193.92	661.68	55.154	51.48	245.4	87.6	181	617.53	51.473	57.84	238.82	97.6
HCUA-35-1	Z35-106Y	106.16	1,7 / 35	88.96	303.54	25.30	23.36	112.32	40.1	83.67	285.49	23.80	25.43	109.1	43.3	78.41	267.55	22.30	28.04	106.45	47.4
			4,4 / 40	98.66	336.64	28.06	23.8	122.46	40.8	92.87	316.89	26.41	26.07	118.94	44.3	87.12	297.27	24.78	28.87	115.99	48.7
			7,2 / 45	109.47	373.53	31.13	24.05	133.52	41.2	103.14	351.93	29.33	26.55	129.69	45.1	96.86	330.50	27.55	29.54	126.4	49.8
			10 / 50	121.08	413.14	34.44	24.08	145.16	41.2	114.18	389.60	32.47	26.8	140.98	45.5	107.3	366.23	30.53	30.02	137.35	50.5
HCUA-70-2	(Z35-106Y)×2	106×2	1,7 / 35	177.92	607.09	50.603	46.72	224.64	80.2	167.34	570.99	47.594	50.86	218.2	86.6	156.8	535.09	44.602	56.08	212.9	94.8
			4,4 / 40	197.32	673.29	56.121	47.6	244.92	81.6	185.74	633.77	52.827	52.14	237.88	88.6	174.2	594.53	49.556	57.74	231.98	97.4
			7,2 / 45	218.94	747.06	62.27	48.1	267.04	82.4	206.28	703.86	58.669	53.1	259.38	90.2	193.7	661	55.097	59.08	252.8	99.6
			10 / 50	242.16	826.29	68.874	48.16	290.32	82.4	228.36	779.2	64.949	53.6	281.96	91	214.7	732.45	61.052	60.04	274.7	101
HCUA-40-1	Z40-126Y	126	1,7 / 35	101.25	345.48	28.80	27.76	129.01	48	94.94	323.95	27.00	30.07	125.01	51.3	88.96	303.54	25.30	33.03	121.99	55.5
			4,4 / 40	111.92	381.89	31.83	28.24	140.16	48.7	105.02	358.34	29.87	30.76	135.78	52.3	98.46	335.96	28.00	33.9	132.36	56.8
			7,2 / 45	123.87	422.66	21.24	28.51	152.38	49.1	116.31	396.87	33.08	31.26	147.57	53	109.1	372.27	31.03	34.6	143.7	57.8
			10 / 50	136.73	466.54	38.89	28.52	165.25	49.1	128.48	438.39	36.54	31.51	159.99	53.4	12.59	42.96	3.58	35.8	48.39	58.5
HCUA-80-2	(Z40-126Y)×2	126×2	1,7 / 35	202.5	690.96	57.594	55.52	258.02	96	189.88	647.9	54.005	60.14	250.02	102.6	177.9	607.09	50.603	66.06	243.98	111
			4,4 / 40	223.84	763.78	63.663	56.48	280.32	97.4	210.04	716.69	59.738	61.52	271.56	104.6	196.9	671.92	56.007	67.8	264.72	113.6
			7,2 / 45	247.74	845.33	42.48	57.02	304.76	98.2	232.62	793.73	66.16	62.52	295.14	106	218.2	744.53	62.059	69.2	287.4	115.6
			10 / 50	273.46	933.09	77.776	57.04	330.5	98.2	256.96	876.79	73.083	63.02	319.98	106.8	25.18	85.918	7.1615	71.6	96.78	117
HCUA-50-1	W50-168Y	168	1,7 / 35	137.13	467.91	39.00	42.14	179.27	74.2	128.28	437.71	36.48	45.59	173.87	79.4	119.8	408.64	34.06	49.26	169.02	85.1
			4,4 / 40	151.49	516.91	43.09	43.11	194.6	75.7	141.79	483.81	40.33	46.91	188.7	81.4	132.4	451.84	37.66	50.9	183.32	87.6
			7,2 / 45	167.63	571.98	47.68	43.84	211.47	76.8	157	535.71	44.65	48.03	205.03	83.2	146.7	500.56	41.72	52.37	199.07	89.9
			10 / 50	185.12	631.66	52.65	44.25	229.37	77.4	173.51	592.04	49.35	48.85	222.36	84.4	162.2	553.55	46.14	53.57	215.8	91.8
HCUA-100-2	(W50-168Y)×2	168×2	1,7 / 35	274.26	935.82	78.003	84.28	358.54	148.4	256.56	875.42	72.969	91.18	347.74	158.8	239.5	817.28	68.123	98.52	338.04	170.2
			4,4 / 40	302.98	1033.8	86.172	86.22	389.2	151.4	283.58	967.62	80.654	93.82	377.4	162.8	264.8	903.67	75.324	101.8	366.64	175.2
			7,2 / 45	335.26	1144	95.353	87.68	422.94	153.6	314	1071.4	89.306	96.06	410.06	166.4	293.4	1001.1	83.447	104.74	398.14	179.8
			10 / 50	370.24	1263.3	105.3	88.5	458.74	154.8	347.02	1184.1	98.697	97.7	444.72	168.8	324.5	1107.1	92.281	107.14	431.6	183.6
HCUA-60-1	W60-187Y	187	1,7 / 35	152.76	521.24	43.45	44.26	197.02	79.9	142.48	486.16	40.52	47.99	190.47	85.2	131	447.06	37.26	51.79	182.81	90.7
			4,4 / 40	169.14	577.13	48.11	45.24	214.38	81.2	157.97	539.02	44.93	49.34	207.31	87.1	147.2	502.20	41.86	53.67	200.85	93.5
			7,2 / 45	187.43	639.54	53.31	45.89	233.32	82.2	175.3	598.15	49.86	50.37	225.67	88.6	163.5	557.99	46.51	55.06	218.59	95.6
			10 / 50	207.1	706.66	58.90	46.09	253.19	82.5	193.96	661.82	55.16	51	244.96	89.5	181.2	618.18	51.53	56.07	237.24	91.1
HCUA-120-2	(W60-187Y)×2	187×2	1,7 / 35	305.52	1042.5	86.894	88.52	394.04	159.8	284.96	972.33	81.047	95.98	380.94	170.4	262	894.12	74.528	103.58	365.62	181.4
			4,4 / 40	338.28	1154.3	96.212	90.48	428.76	162.4	315.94	1078	89.858	98.68	414.62	174.2	294.4	1004.4	83.72	107.34	401.7	187
			7,2 / 45	374.86	1279.1	106.62	91.78	466.64	164.4	350.6	1196.3	99.716	100.7	451.34	177.2	327.1	1116	93.02	110.12	437.18	191.2
			10 / 50	414.2	1413.3	117.8	92.18	506.38	165	387.92	1323.6	110.33	102	489.92	179	362.3	1236.4	103.05	112.14	474.48	182.2
HCUA-70-1	W70-206Y	206	1,7 / 35	171.51	585.22	48.78	48.74	220.25	89.7	160.46	547.51	45.64	53.51	213.97	96.4	149.9	511.62	42.65	58.88	208.82	104.1
			4,4 / 40	189.01	644.93	53.76	49.38	238.39	90.6	176.99	603.92	50.34	54.61	231.6	98	165.5	564.68	47.07	60.45	225.94	106.4
			7,2 / 45	208.33	710.85	59.25	49.56	257.89	90.8	195.24	666.19	55.53	55.27	250.51	98.9	182.7	623.23	51.95	61.6	244.25	108.1
			10 / 50	228.87	780.94	65.09	49.18	278.05	90.3	214.64	732.38	61.05	55.4	270.04	99.1	200.9	685.54	57.14	62.23	263.14	109.1
HCUA-140-2	(W70-206Y)×2	206×2	1,7 / 35	343.02	1170.4	97.56	97.48	440.5	179.4	320.92	1095	91.274	107	427.94	192.8	299.9	1023.2	85.29	117.76	417.64	208.2
			4,4 / 40	378.02	1289.9	107.51	98.76	476.78	181.2	353.98	1207.8	100.68	109.2	463.2	196	331	1129.4	94.135	120.9	451.88	212.8
			7,2 / 45	416.66	1421.7	118.5	99.12	515.78	181.6	390.48	1332.4	111.06	110.5	501.02	197.8	365.3	1246.5	103.9	123.2	488.5	216.2
			10 / 50	457.74	1561.9	130.19	98.36	556.1	180.6	429.28	1464.8	122.09	110.8	540.08	198.2	401.8	1371.1	114.28	124.46	526.28	218.2

ENGINEERING SPECIFICATIONS (50 HZ)											
Condensing Unit MODEL	no.of circuit	comp.oil charge (dm^3)	condenser coil					condenser fan			
			row	fpi	QTY	total heat rejection (kw)	total face area (m2)	size (mm)	QTY	total air flow rate (cfm)	motor power (kw)
HCUA-12-1	1	3.3	4	12	2	54.75	2*1,32	800	2	2*12950	2*1,7
HCUA-15-1	1	3.3	2	12	2	68.56	2*2,31	800	2	2*13600	2*1,7
HCUA-25-1	1	4.5	4	10	2	95.38	2*2,31	800	2	2*13000	2*1.7
HCUA-30-1	1	4.5	2	10	4	115.6	4*2,31	800	4	4*13530	4*1,7
HCUA-32-1	1	4.5	2	12	4	126.14	4*2,31	800	4	4*13600	4*1,7
HCUA-35-1	1	4.5	3	10	4	145.16	4*2,31	800	4	4*13250	4*1,7
HCUA-40-1	1	7.5	3	12	4	165.25	4*2,31	800	4	4*12950	4*1,7
HCUA-50-1	1	8	4	12	4	229.37	4*2,31	800	4	4*12950	4*1,7
HCUA-60-1	1	8	3	10	6	253.19	6*2,31	800	6	6*13250	6*1,7
HCUA-70-1	1	8	4	12	6	278.05	6*2,31	800	6	6*12950	6*1,7
HCUA-24-2	2	6.6	4	12	4	109.5	4*1,32	800	2	2*12950	2*1,7
HCUA-30-2	2	6.6	2	12	4	137.12	4*2,31	800	4	4*13600	4*1,7
HCUA-50-2	2	9	3	12	4	190.76	4*2,31	800	4	4*13250	4*1.7
HCUA-60-2	2	9	4	12	4	231.2	4*2,31	800	4	4*12950	4*1,7
HCUA-64-2	2	9	3	12	6	252.28	6*2,31	800	6	6*13250	6*1,7
HCUA-70-2	2	9	4	12	6	290.32	6*2,31	800	6	6*12950	6*1,7
HCUA-80-2	2	15	3	10	8	330.5	8*2,31	800	8	8*13250	8*1,7
HCUA-100-2	2	16	3	12	10	458.74	10*1,32	800	10	10*12950	10*1,7
HCUA-120-2	2	16	4	10	10	506.38	10*1,32	800	10	10*13000	10*1,7
HCUA-140-2	2	16	3	10	12	556.1	12*2,31	800	12	12*13250	12*1,7

ELECTRICAL DATA				
Condensing Unit MODEL	Nominal Comp. power (HP)	MRA (Amp)	LRA (Amp)	MAX POWER (KW)
HCUA-12-1	12	22.4	59.1	12.9
HCUA-15-1	15	32.4	74.8	17.8
HCUA-25-1	25	43.5	118.3	23.6
HCUA-30-1	30	49.2	132.6	28.4
HCUA-32-1	32	53.1	144.5	30.9
HCUA-35-1	35	60.2	144.5	35.1
HCUA-40-1	40	71.9	159.2	40.7
HCUA-50-1	50	94.8	258	55.2
HCUA-60-1	60	103.5	326	59.9
HCUA-70-1	70	116.8	390	66.8
HCUA-24-2	12*2	44.8	118.2	25.8
HCUA-30-2	15*2	64.8	149.6	35.6
HCUA-50-2	25*2	87	236.6	47.2
HCUA-60-2	30*2	98.4	265.2	56.8
HCUA-64-2	32*2	106.2	289	61.8
HCUA-70-2	35*2	120.4	289	70.2
HCUA-80-2	40*2	143.8	318.4	81.4
HCUA-100-2	50*2	189.6	516	110.4
HCUA-120-2	60*2	207	652	119.8
HCUA-140-2	70*2	233.6	780	133.6

Dimension (R-134)-FRASCOLD





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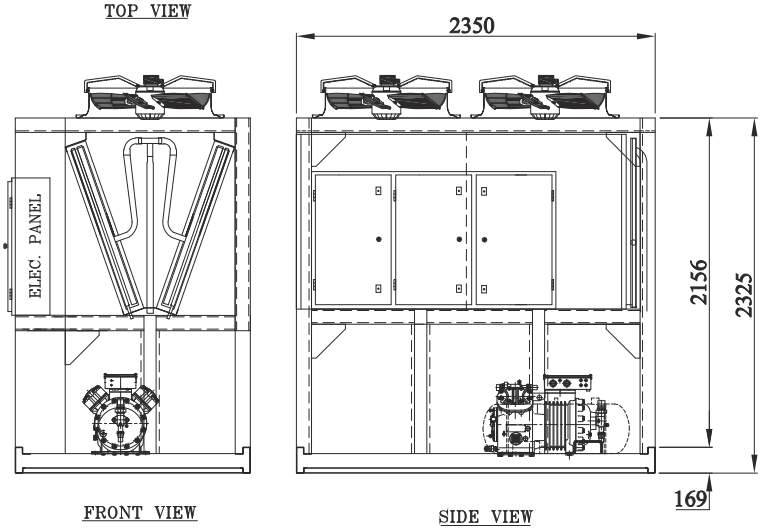

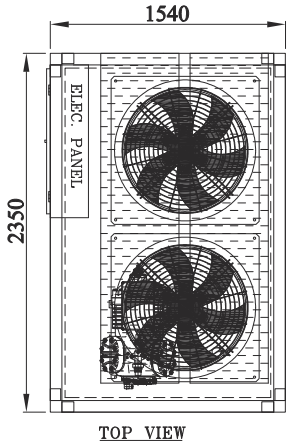

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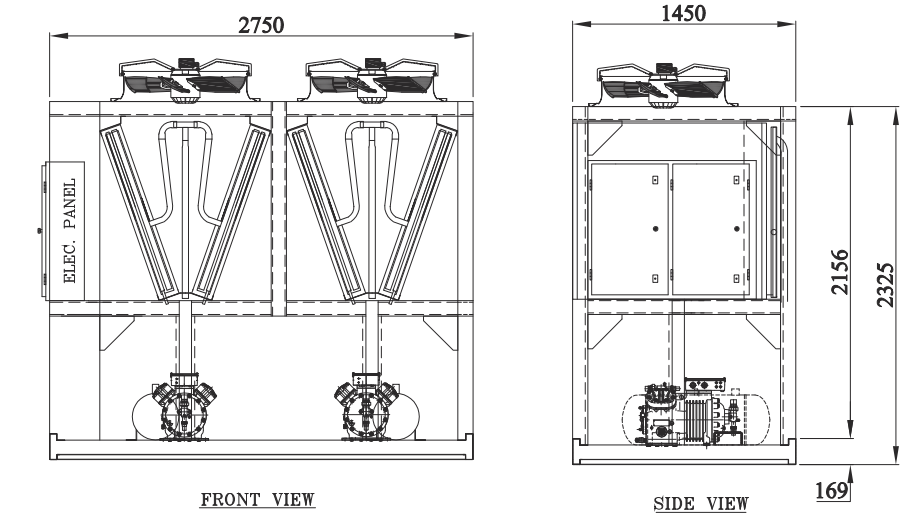

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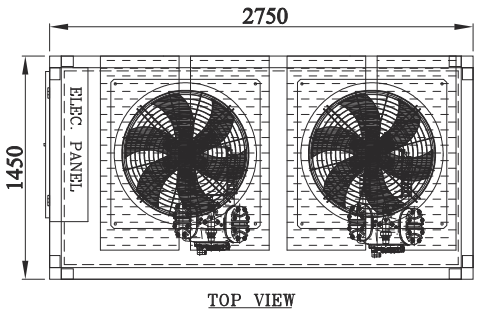

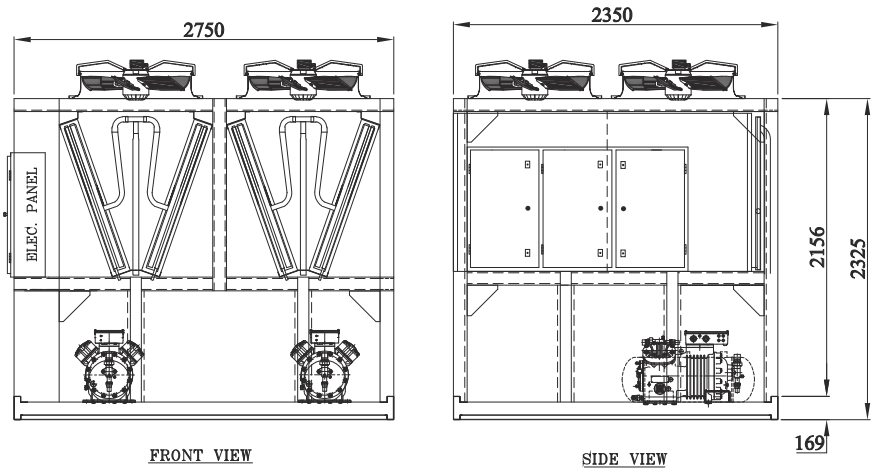

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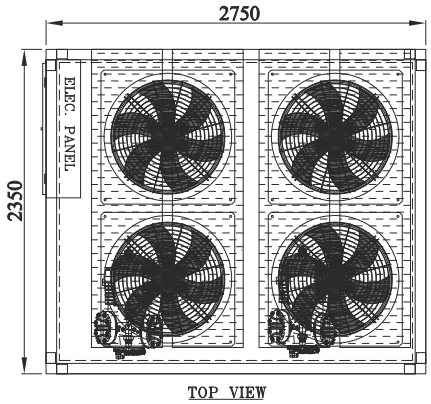
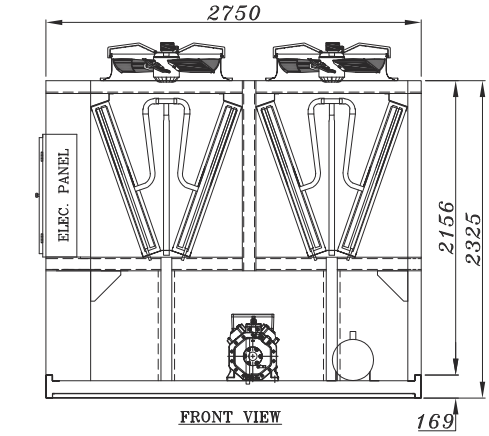
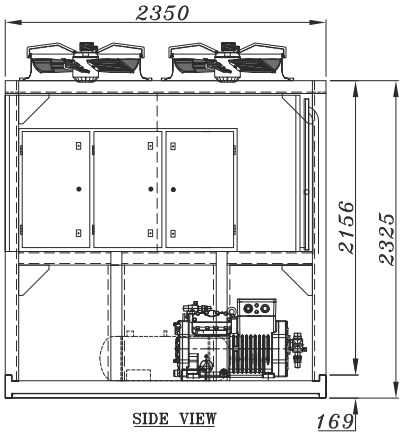
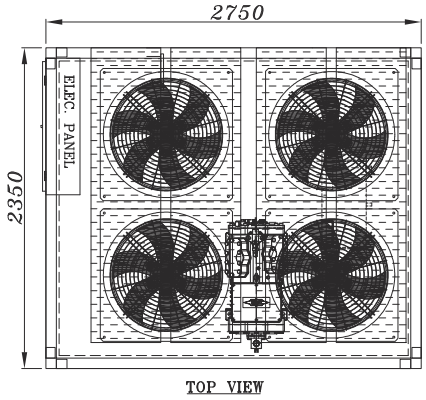
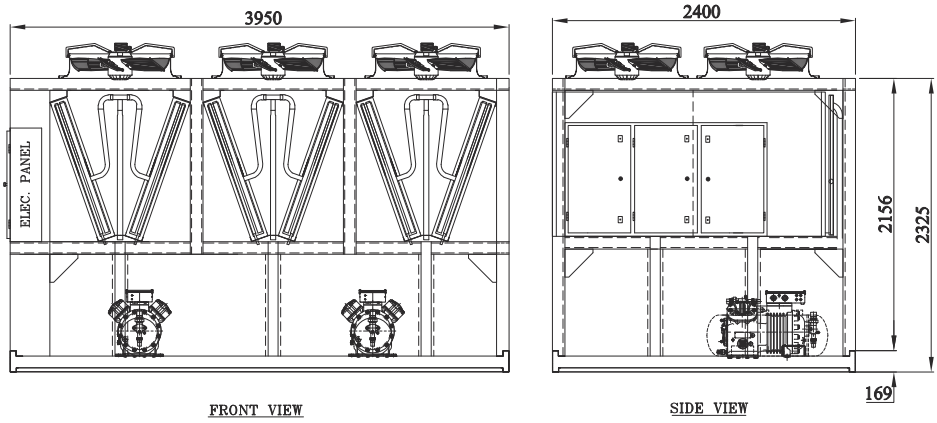


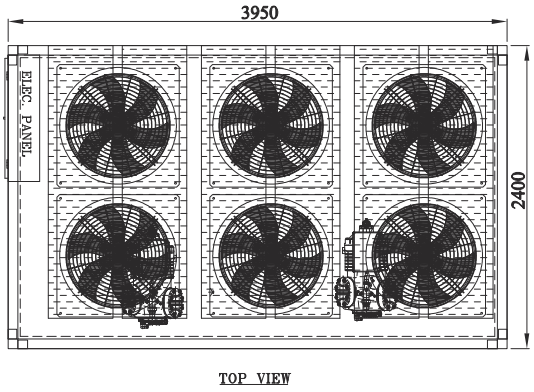




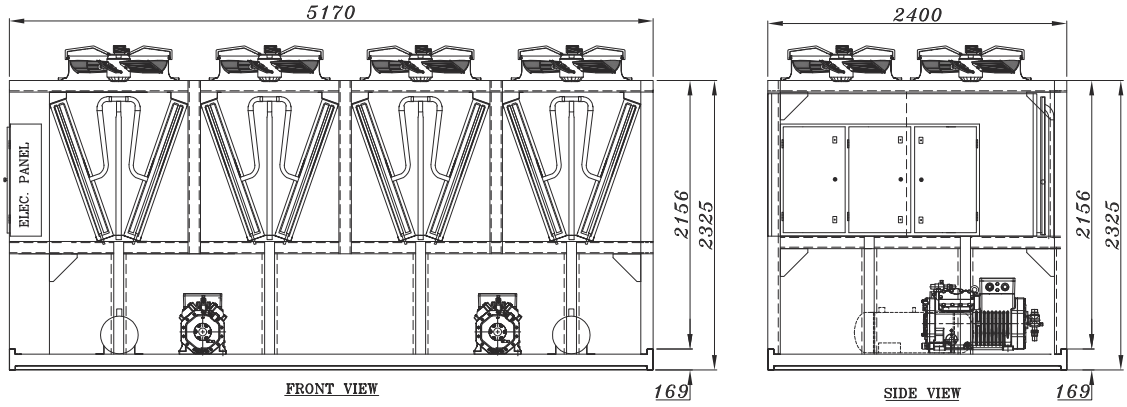


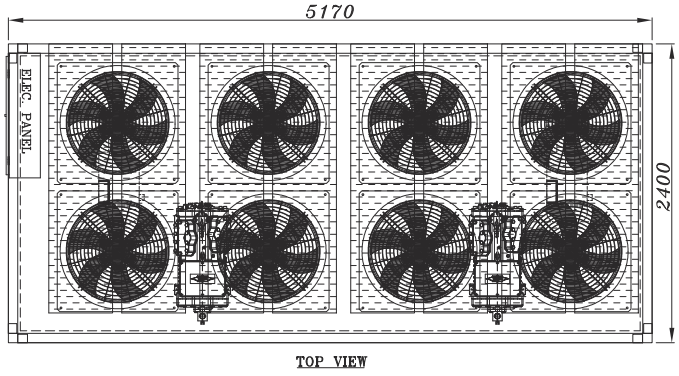
HCUA 40-50,6-50,8-60(1)





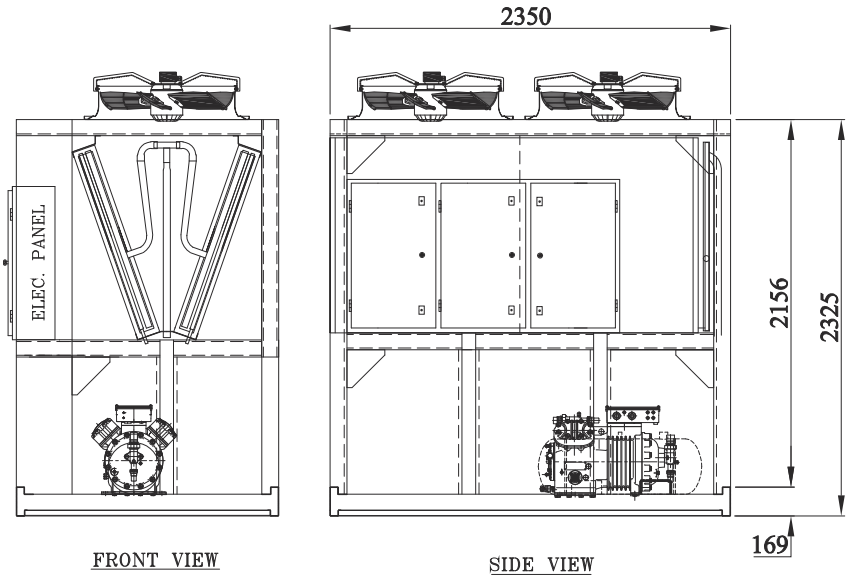
HCUA 80-100,6(2)



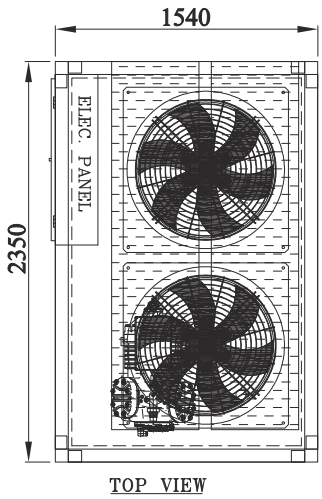


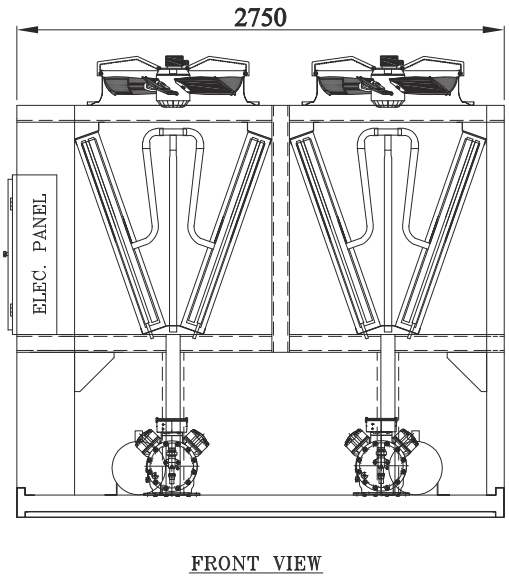
HCUA 100,8-120(2)

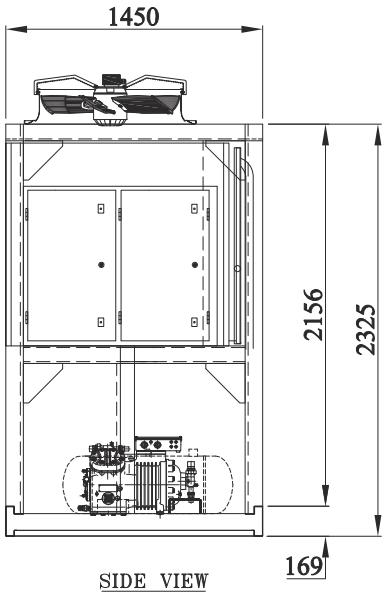
Dimension(R-22)-FRASCOLD

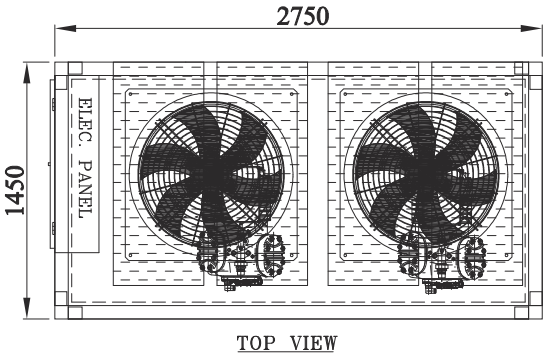


HCUA 12-15-25(1)

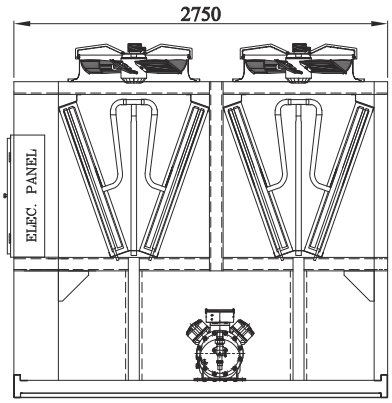




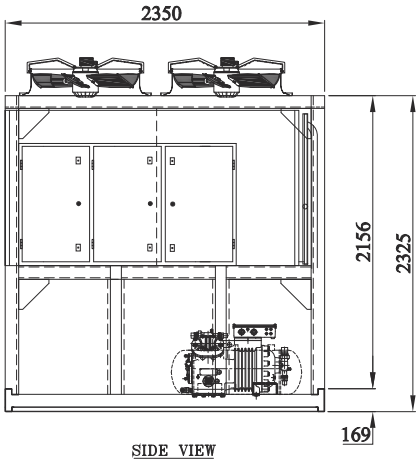




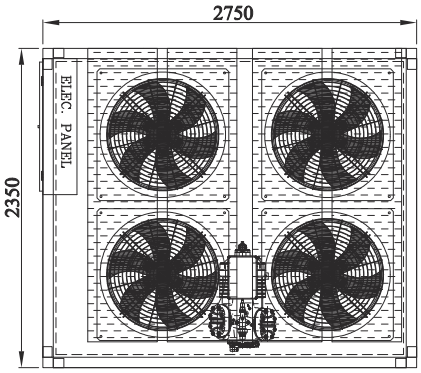
HCUA 24(2)



FRONT VIEW

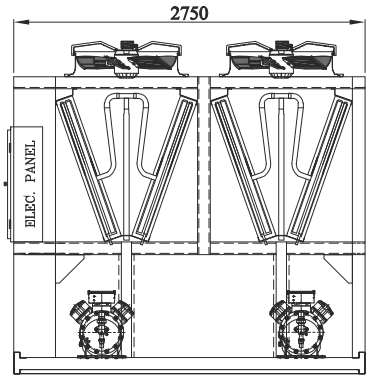


SIDE VIEW

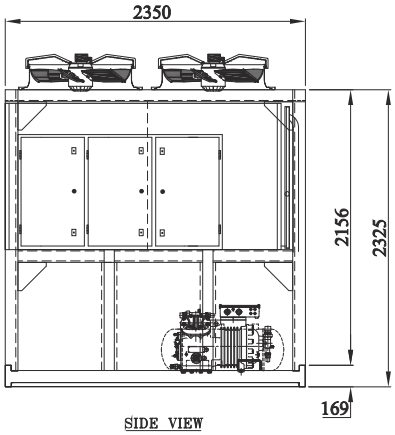


TOP VIEW

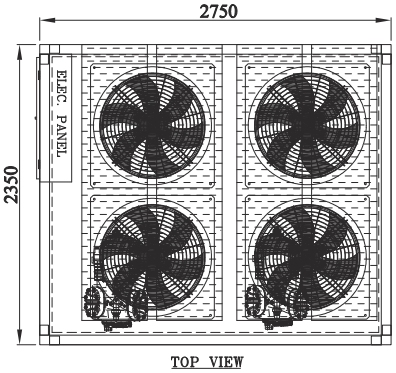
HCUA 30-32-35-40-50(1)



FRONT VIEW

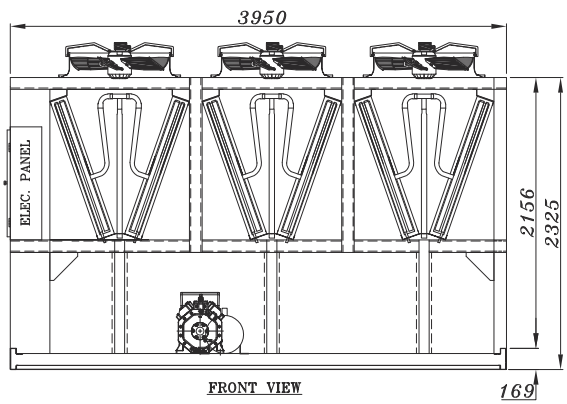


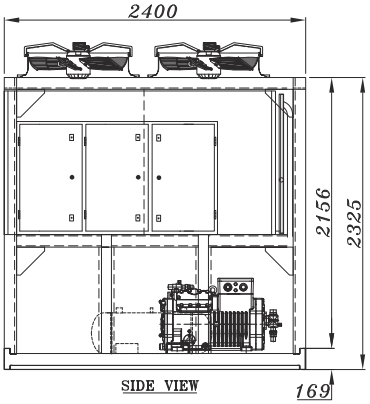
SIDE VIEW

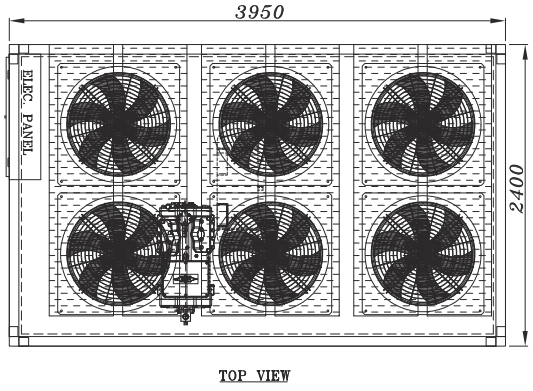


TOP VIEW

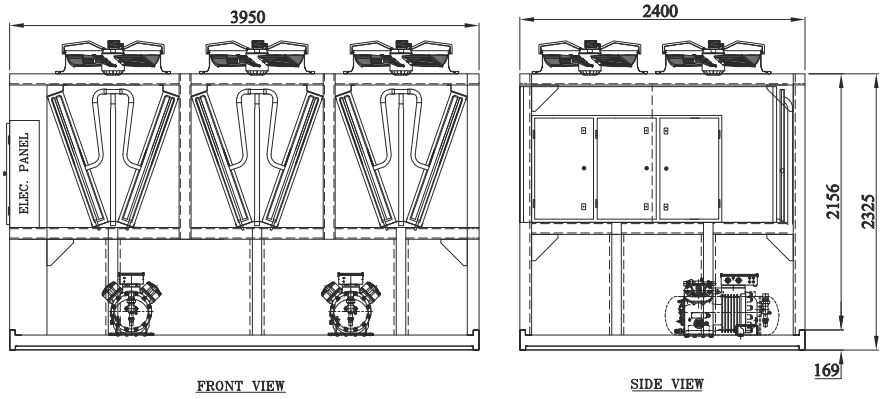
HCUA-30-50-60(2)

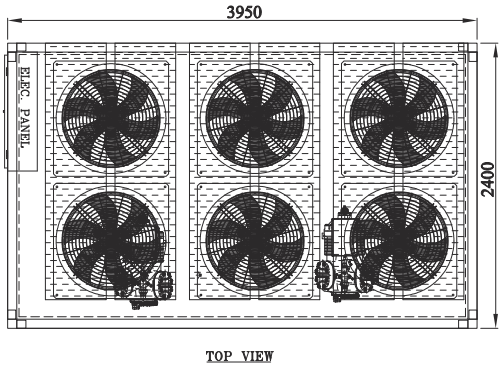




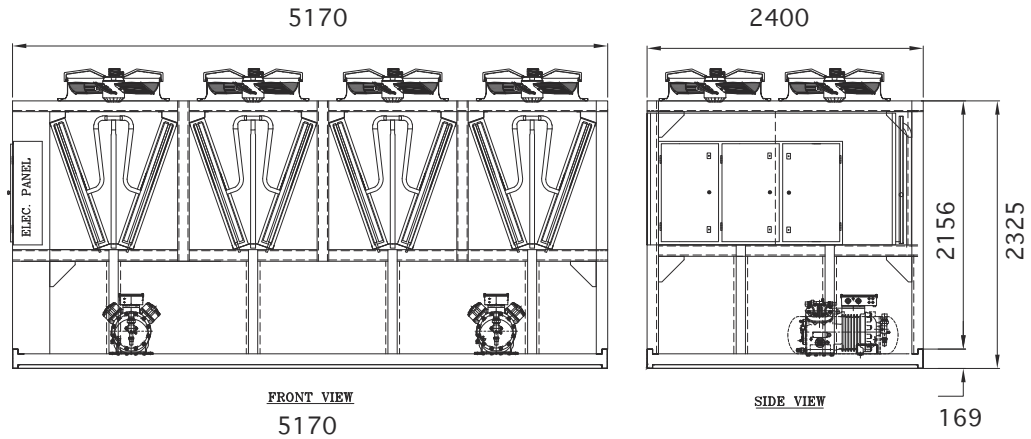


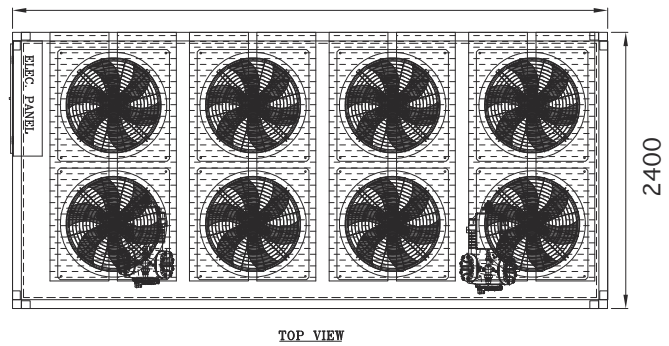
HCUA 70(1)
HCUA 60(1)



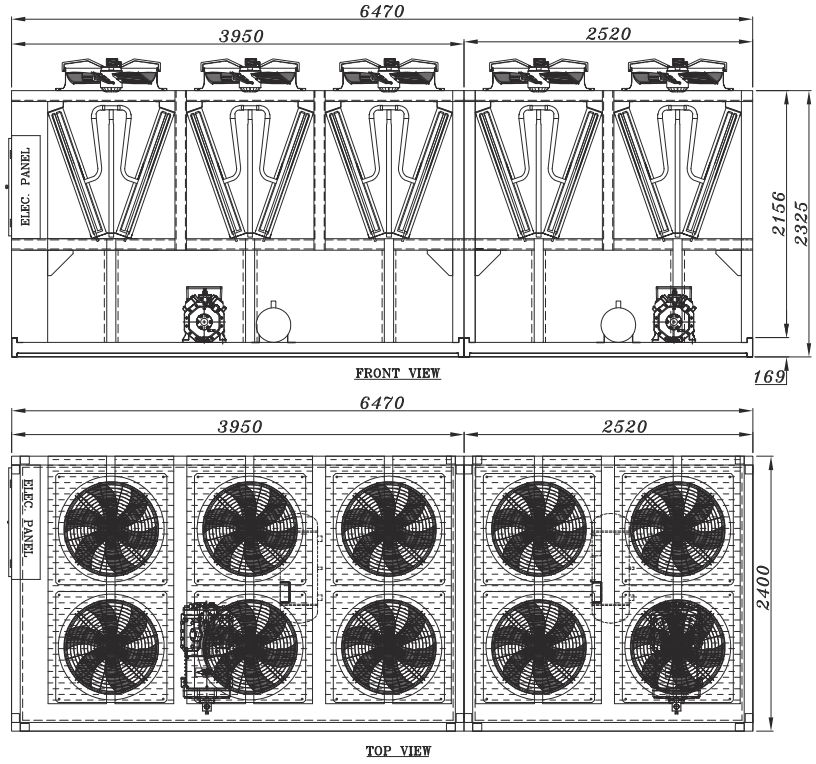


HCUA 64-70(2)

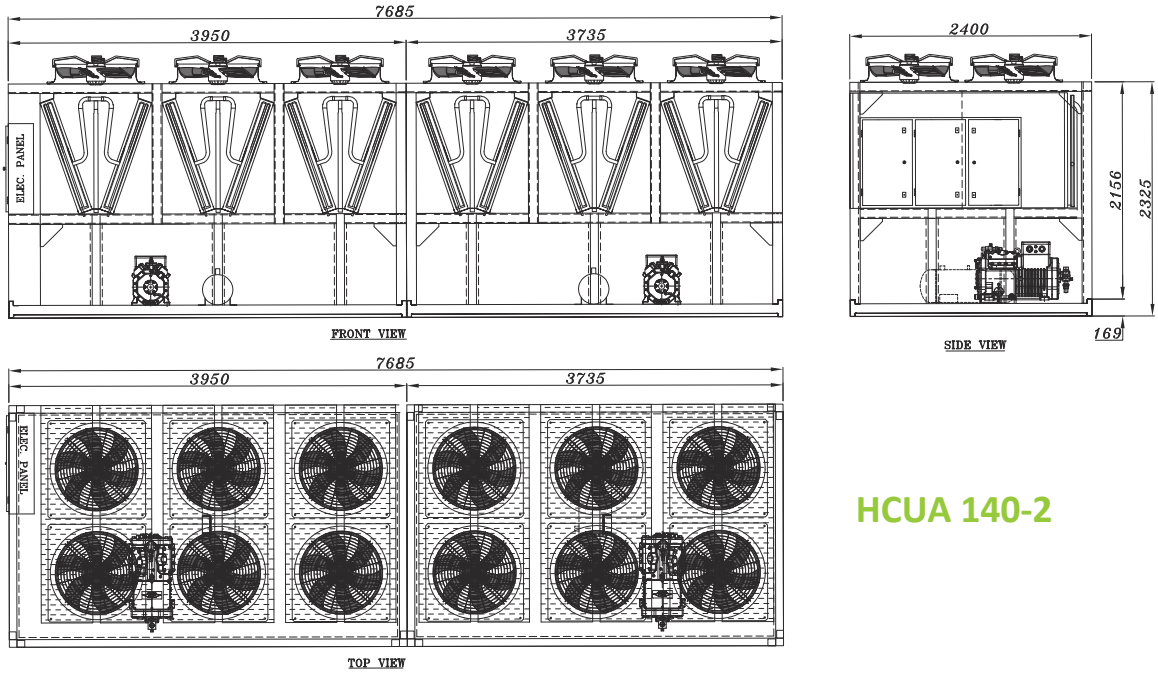




HCUA 80(2)

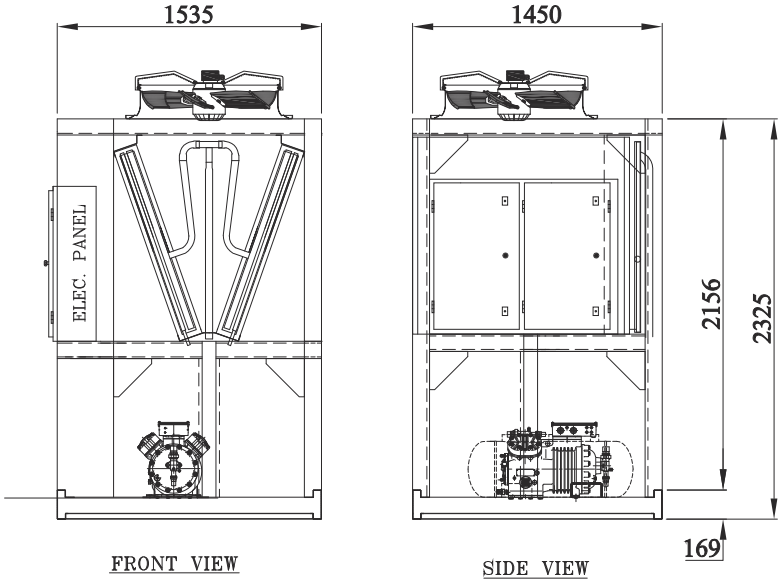


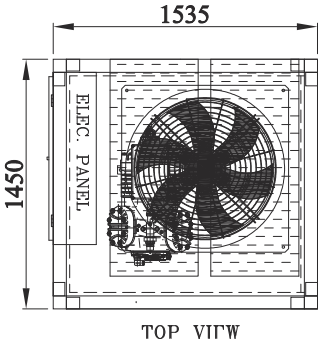
HCUA 100 -120(2)



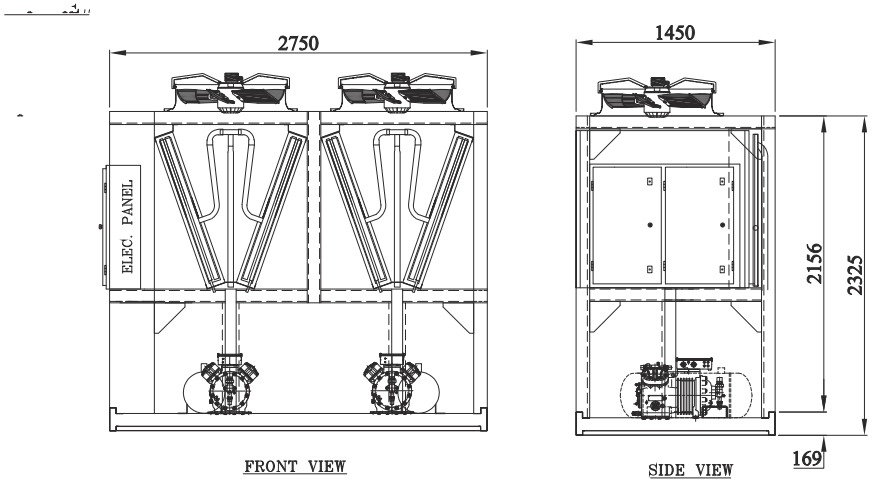
HCUA 140-2

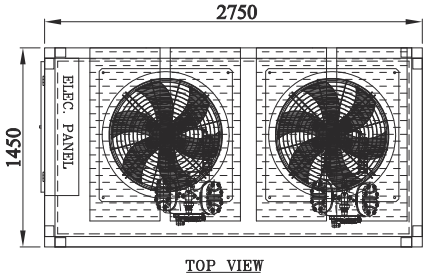
Dimension (R-134a)-BITZER



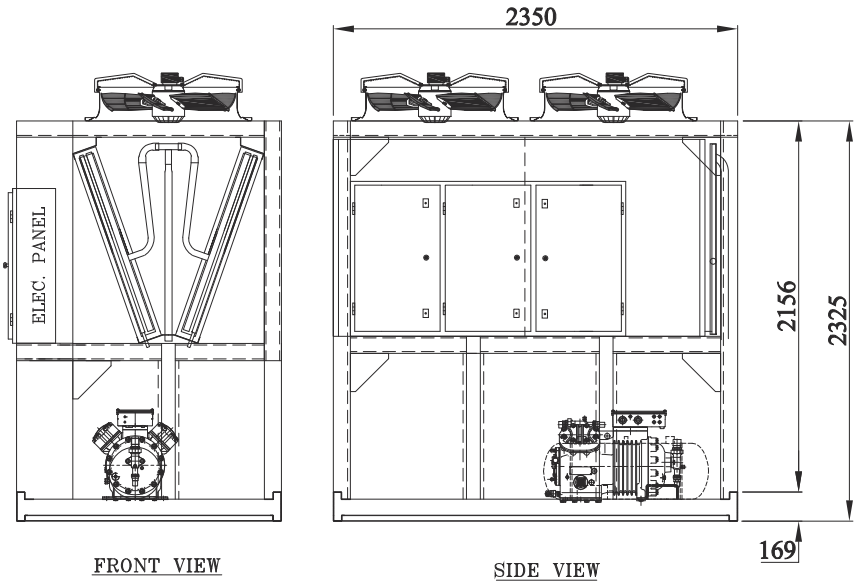


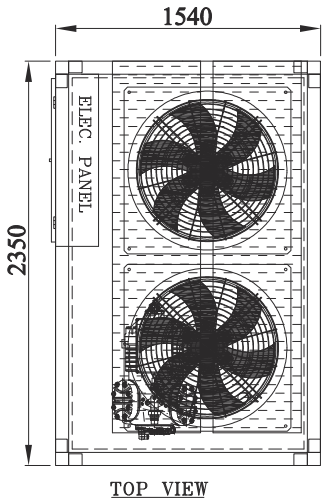
HCUA 9-15(1)



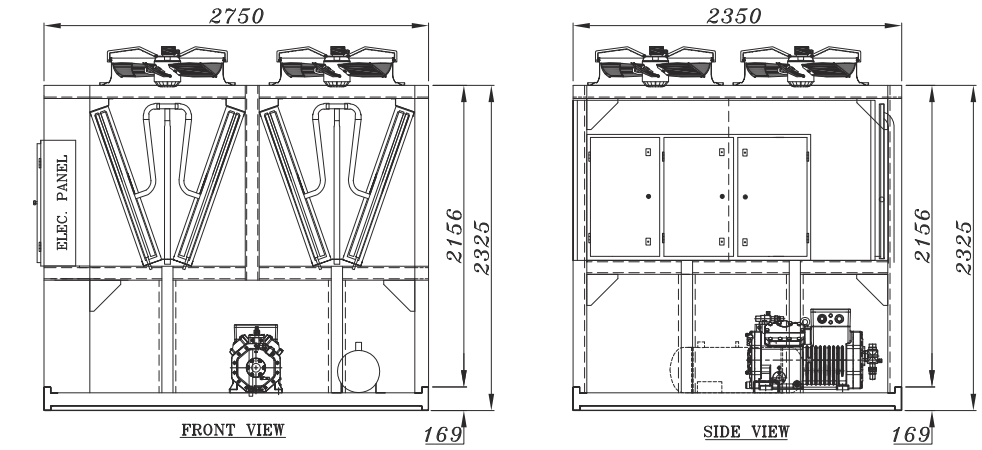


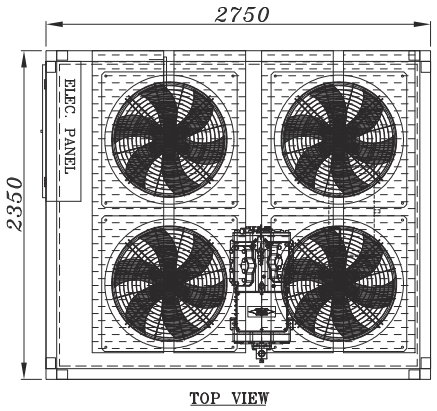
HCUA 18-30(2)



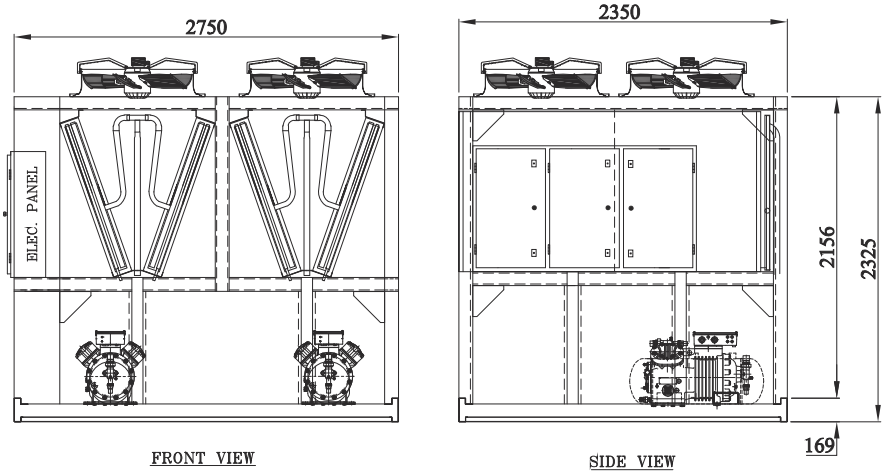


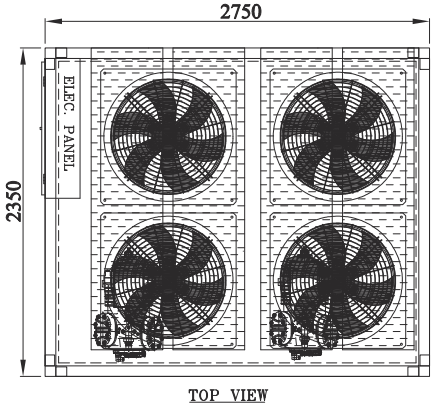
HCUA 25-30-35(1)



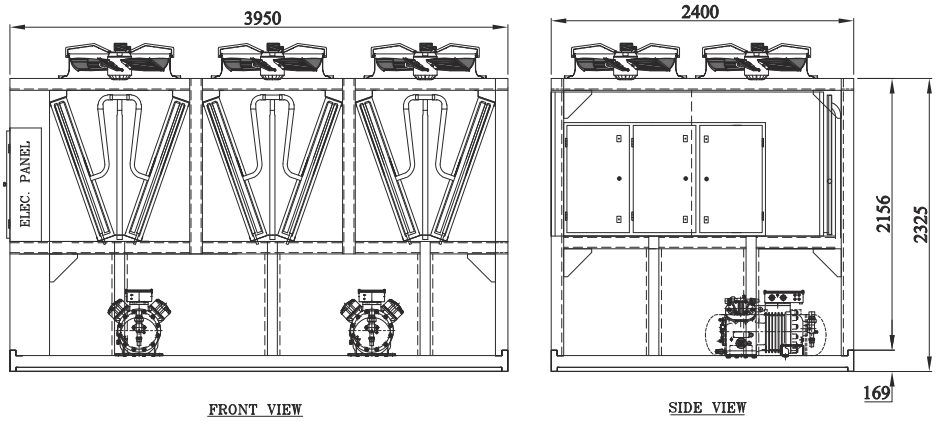


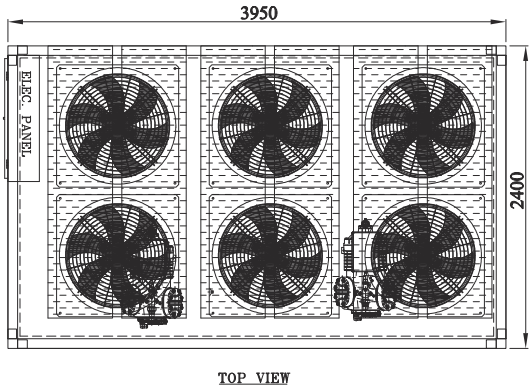
HCUA 40-50,6-50,8-60(1)



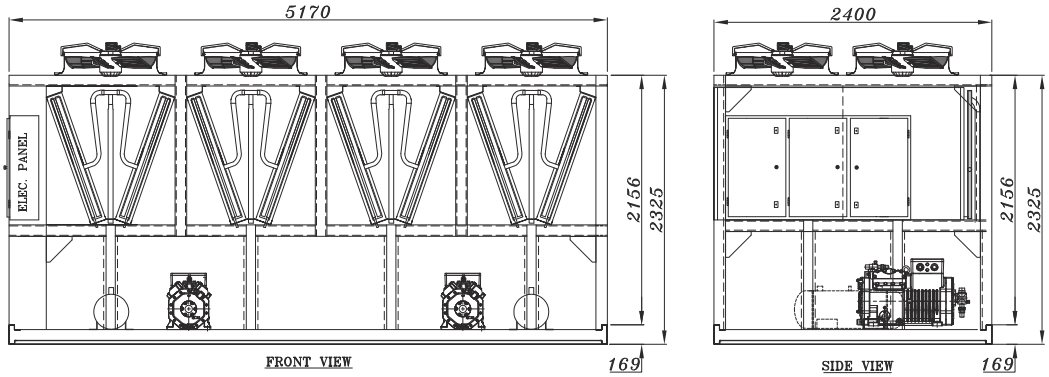


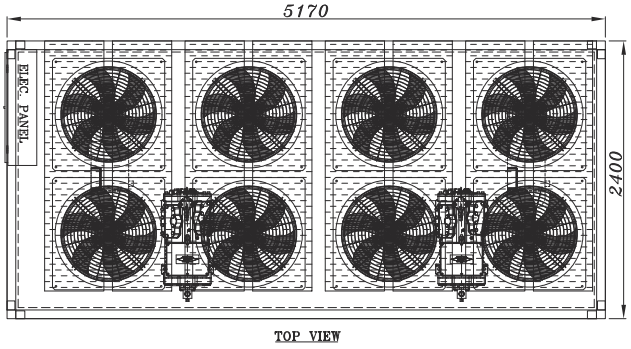
HCUA 50-60(2)
HCUA 70(2)





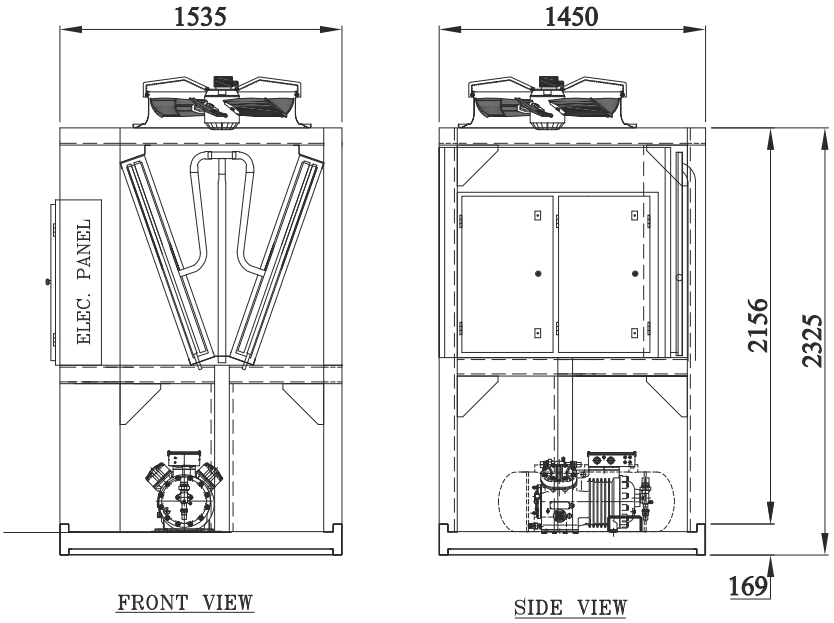
HCUA 80-100,6(2)



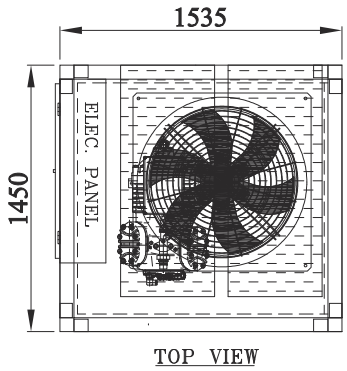


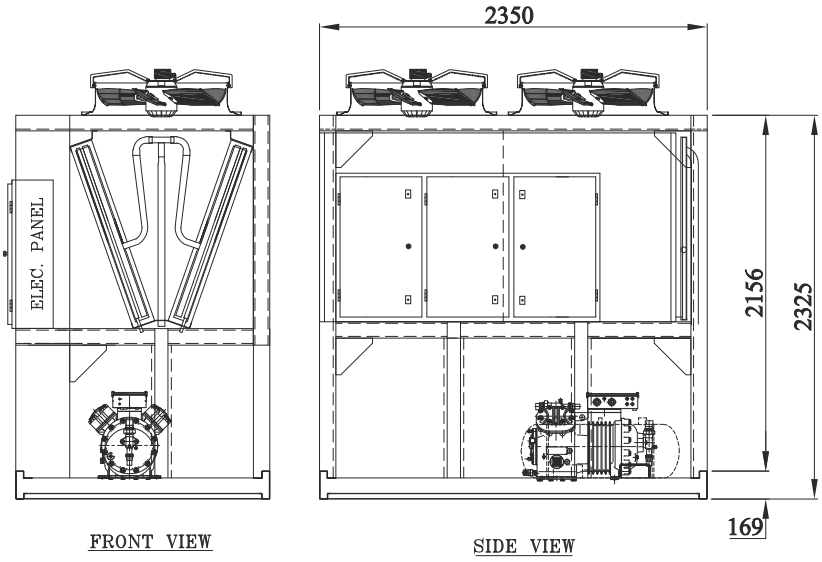
HCUA 100,8-120(2)

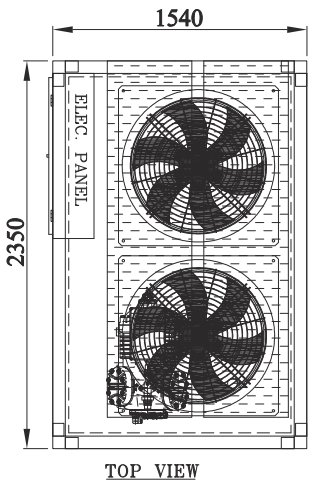
Dimension (R-22)-BITZER



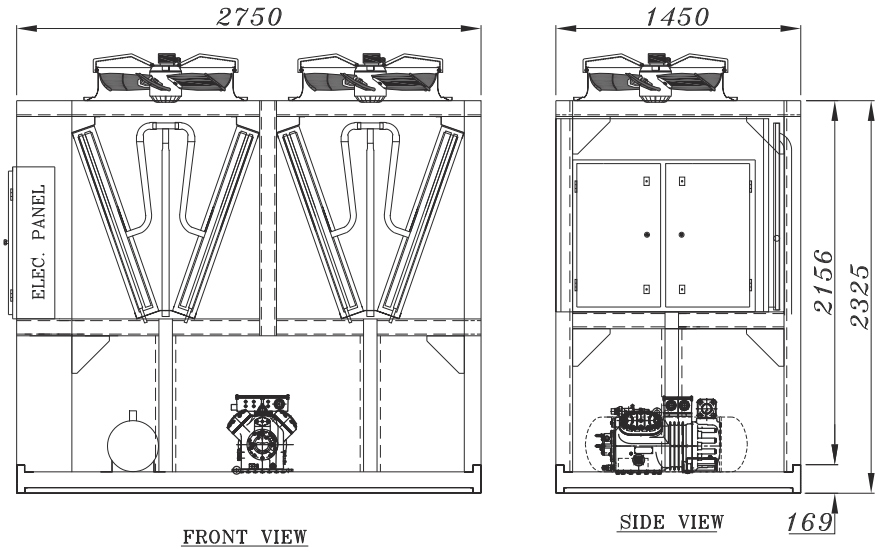
HCUA 12(1)

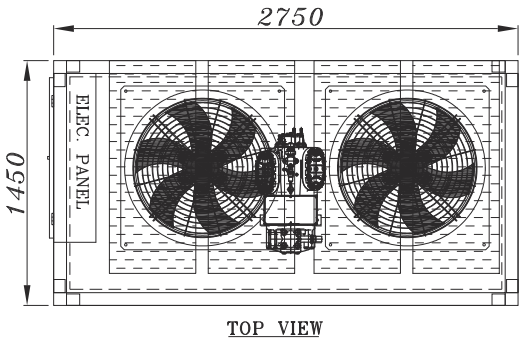




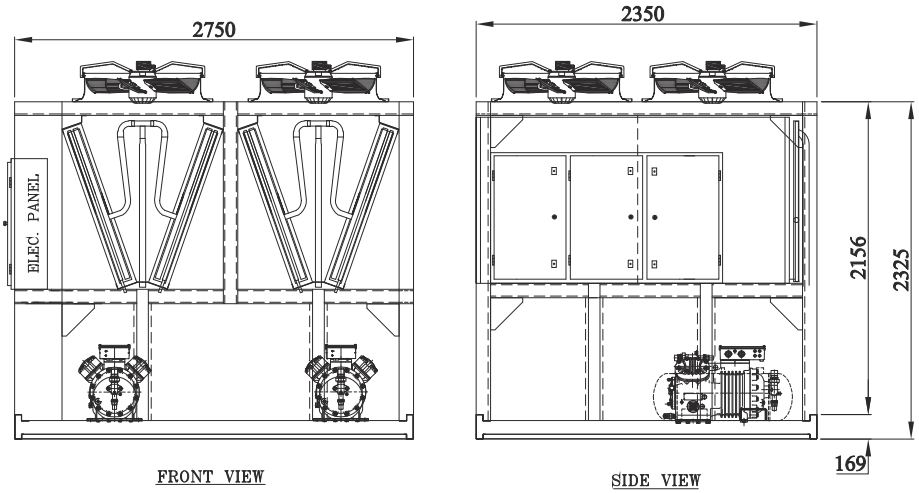


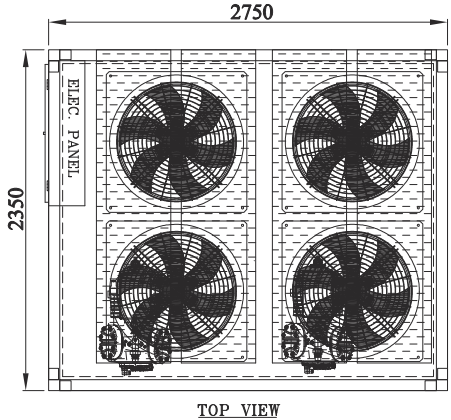
HCUA 15-30(1)



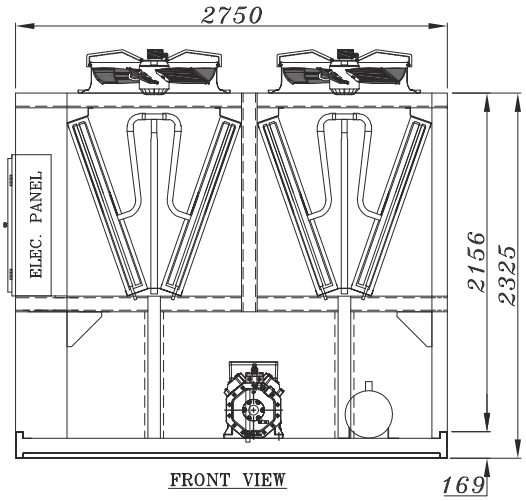


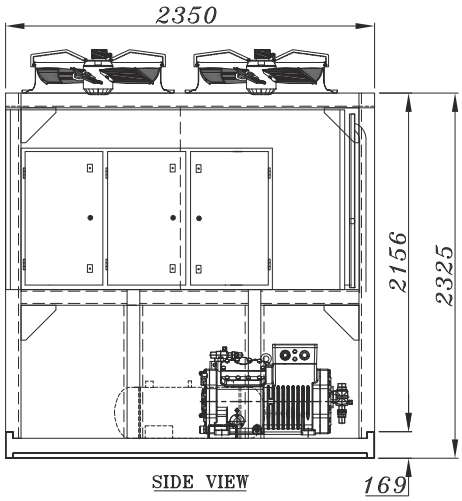
HCUA 25(1)

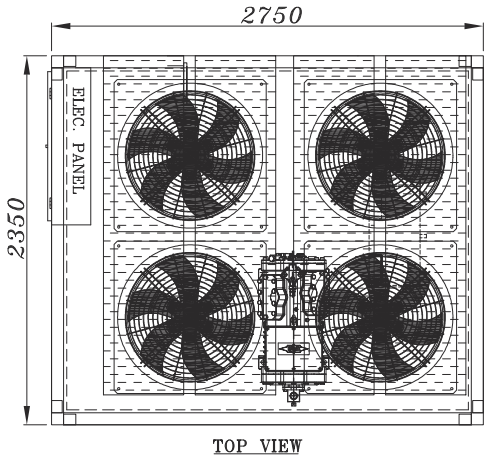




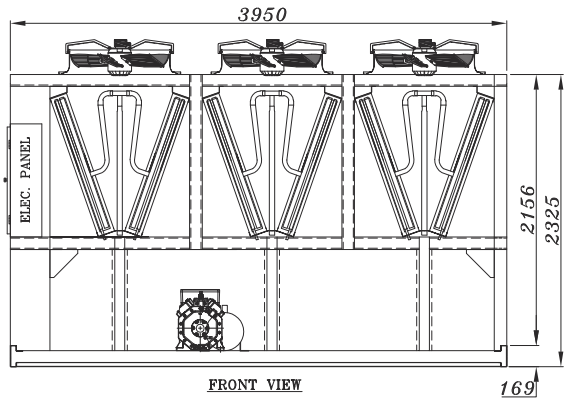
HCUA 24-30-50(2)

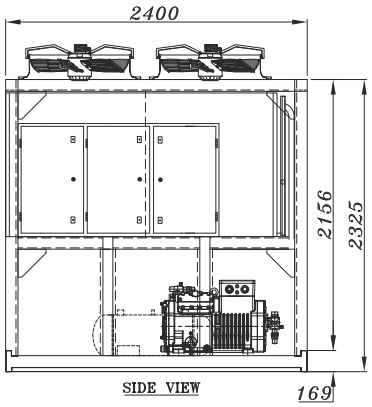


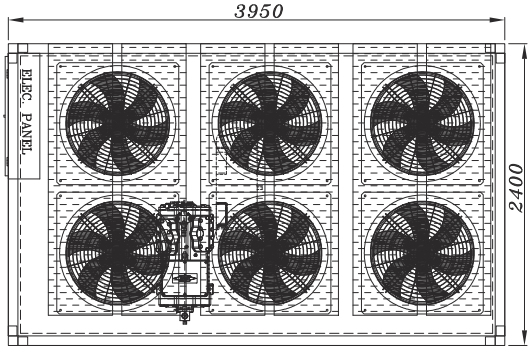




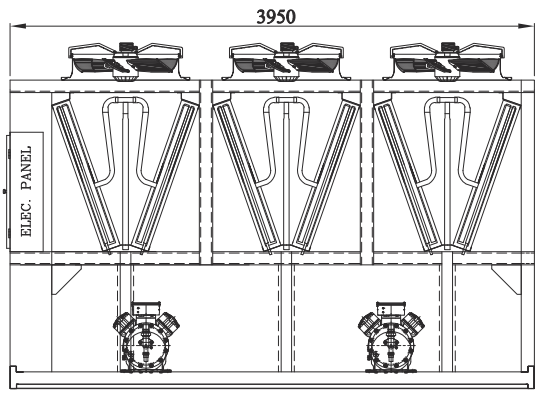
HCUA 35-40-50(1)

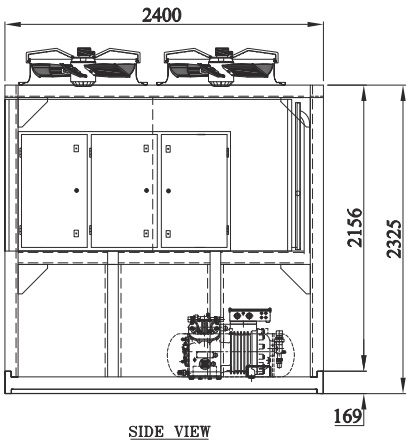


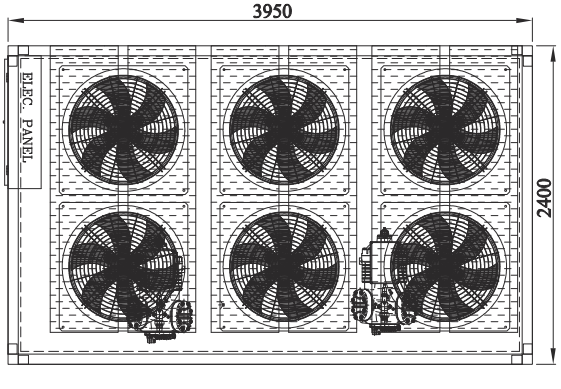




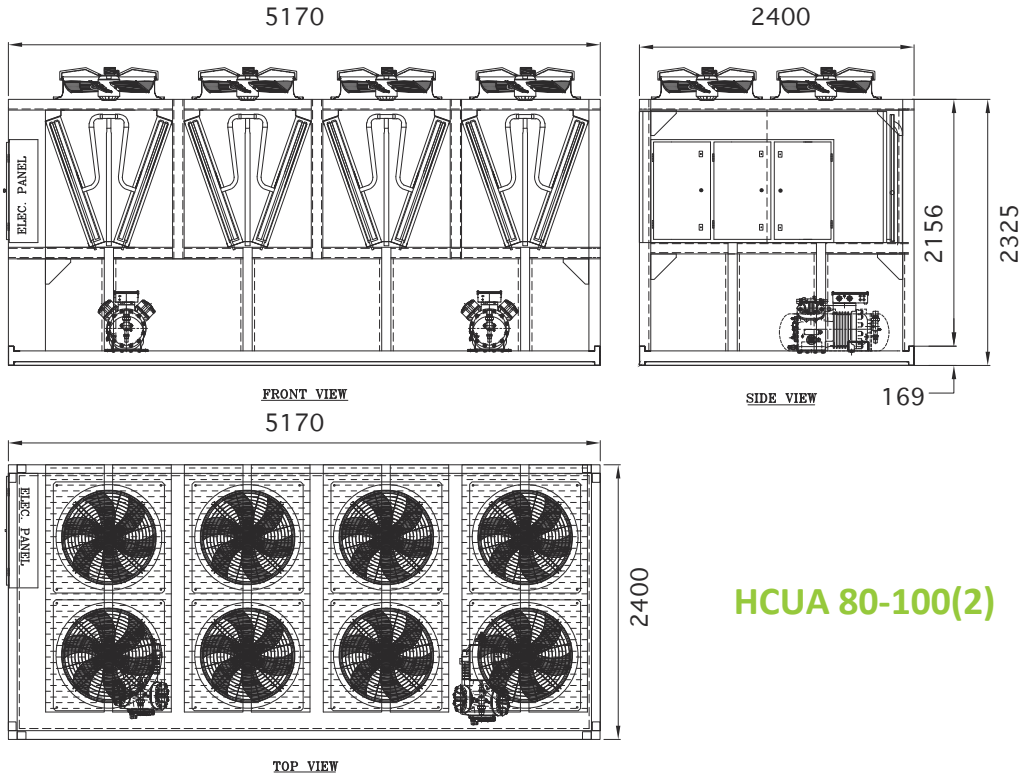
HCUA 60-70(1)



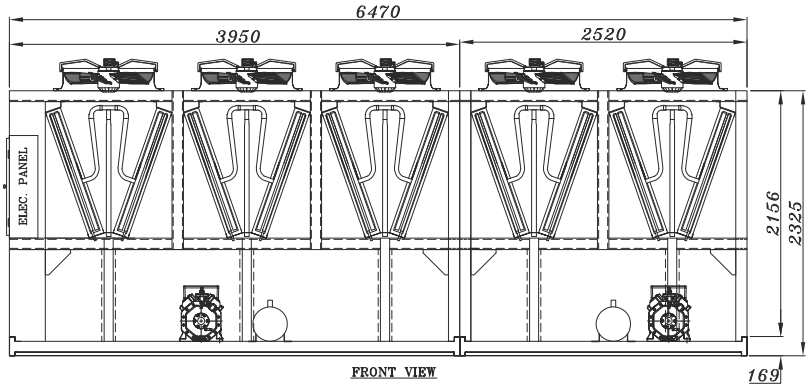


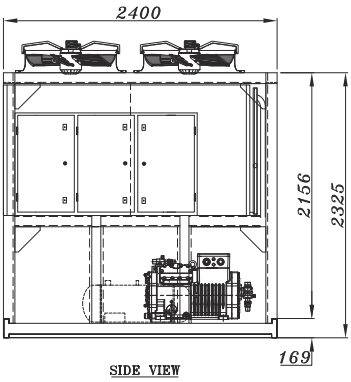


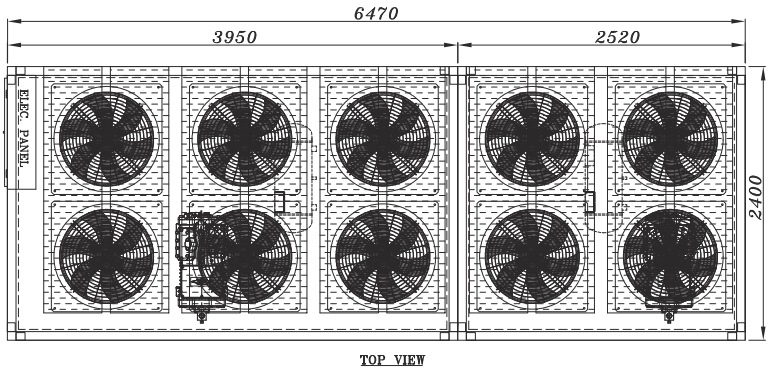
HCUA 60-70(2)


5170
2400
ELEC. PANEL
2156
2325
FRONT VIEW
SIDE VIEW
169
5170
ELEC. PANEL
2400
TOP VIEW

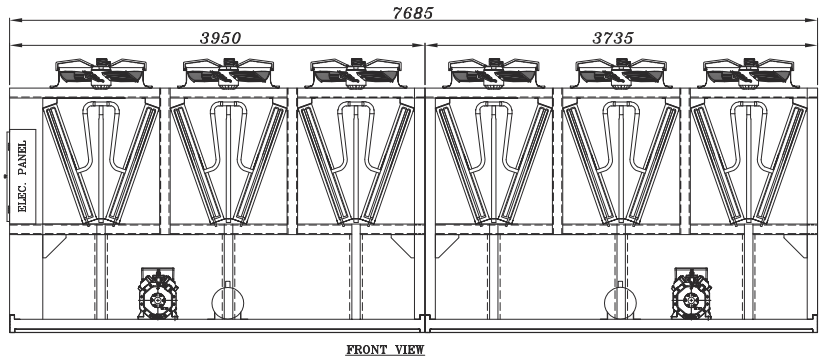
HCUA 80-100(2)

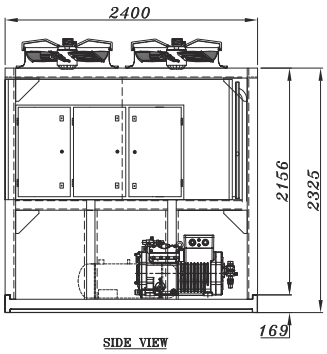


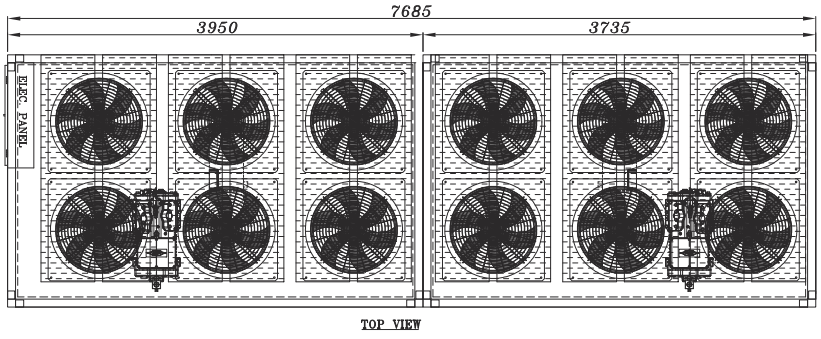




HCUA 120-2







HCUA 140-2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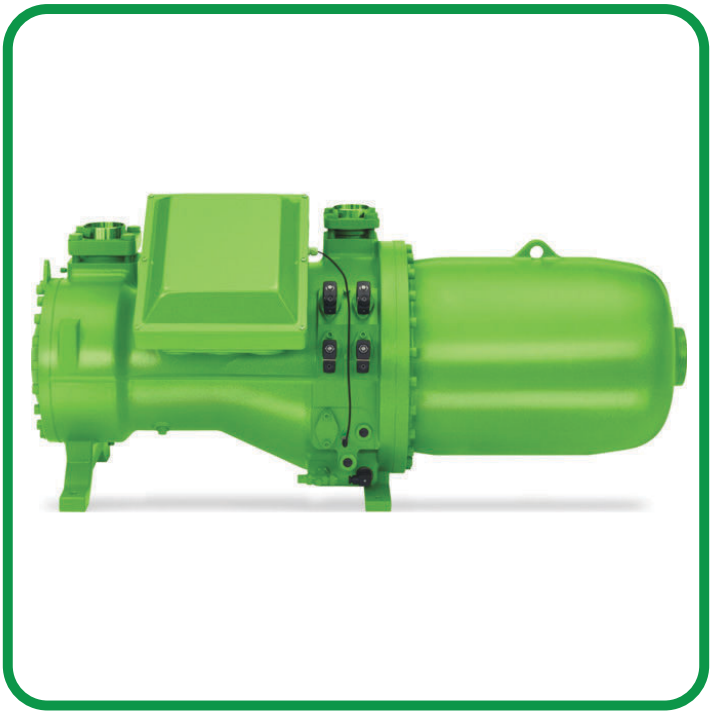


ENGINEERING SPECIFICATIONS-50 HZ (R-22)-BITZER

Model			HCUA-50-1	HCUA-60-1	HCUA-70-1	HCUA-80-1	HCUA-90-1	HCUA-100-1
Cooling Capacity	Ton of Refrigeration		37.82	47.46	55.16	63.69	76.77	85.02
	KW		133	166.9	194	224	270.00	299
Compressor	Type	-	Compact Screw Compressor CSH Series					
	Quantity		1	1	1	1	1	1
	Oil Charge	US Gal	2.51	2.51	3.96	3.96	3.96	3.96
		LIT	9.5	9.5	15	15	15	15
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins					
	FaceArea		99.42	149.13	149.13	198.84	198.84	198.84
			9.24	13.86	13.86	18.48	18.48	18.48
condenser Fan	Type		Propeller direct drive 885 RPM					
	Quantity		4	6	6	8	8	8
	Aire Flow RATE	cfm	51577	77365	77365	100807	103154	98461
		l/s	24444	36666	36666	47776	48888	46664
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-22)operating charge (approx)	lbs		165.3	198.36	231.42	264.48	297.54	330.6
	kg		75	90	105	120	135.00	150
Nmber Of Refrigrant Circuit			1	1	1	1	1	1
Unit Operating Weight(approx)		lbs	3306	3967	4849	5400	5642	5841
		kg	1500	1800	2200	2450	2560.00	2650

Model			HCUA-110-1 CSH7593-110	HCUA-110-1 CSH8553-110	HCUA-125-1	HCUA-140-1	HCUA-160-1
Cooling Capacity	Ton of Refrigeration		96.96	91.84	104.64	123.12	138.48
	KW		341	323	368	433	487
Compressor	Type	-	Compact Screw Compressor CSH Series				
	Quantity		1	1	1	1	1
	Oil Charge	US Gal	3.96	5.81	5.81	5.81	5.02
		LIT	15	22	22	22	19
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins				
	FaceArea		248.56	248.56	248.56	298.27	347.98
			23.1	23.1	23.1	27.72	32.34
condenser Fan	Type		Propeller direct drive 885 RPM				
	Quantity		10	10	10	12	14.00
	Aire Flow RATE	cfm	123083	128944	123083	147692	172307
		l/s	58333	61111	58333	69996	81662.00
	Size	kw	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-22)operating charge (approx)	lbs		363.7	363.7	412.1	462.8	529.0
	kg		165	165	187	210	240.00
Nmber Of Refrigrant Circuit			1	1	1	1	1.00
Unit Operating Weight(approx)		lbs	7383	7934	8155	9257	10028
		kg	3350	3600	3700	4200	4550.00

Model			HCUA-100-2	HCUA-120-2	HCUA-140-2	HCUA-160-2	HCUA-180-2	HCUA-200-2
Cooling Capacity	Ton of Refrigeration		75.64	94.91	110.33	127.39	153.55	170.04
	KW		266.00	333.80	388.00	448.00	540.00	598.00
Compressor	Type	-	Compact Screw Compressor CSH Series					
	Quantity		2	2	2	2	2	2
	Oil Charge	US Gal	5.02	5.02	7.93	7.93	7.93	7.93
		LIT	19	19	30	30	30	30
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins					
	FaceArea		198.84	248.56	298.27	347.98	397.69	447.40
			18.48	23.1	27.72	32.34	36.96	41.58
condenser Fan	Type		Propeller direct drive 885 RPM					
	Quantity		8	10	12	14	16	18
	Aire Flow RATE	cfm	103154	128944	154731	180519	206307	232096
		l/s	48888	61111	73332	85554	97776	109998
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-22)operating charge (approx)	lbs		165.3	198.36	231.42	264.48	297.54	330.6
	kg		75	90	105	120	135	150
Nmber Of Refrigrant Circuit			2	2	2	2	2.00	2
Unit Operating Weight(approx)		lbs	6171	7714	9587	10469	11240	12893
		kg	2800	3500	4350	4750	5100	5850

Model			HCUA-220-2 CSH7593-110	HCUA-220-2 CSH8553-110	HCUA-250-2	HCUA-280-2	HCUA-320-2
Cooling Capacity	Ton of Refrigeration		193.92	183.69	209.28	246.24	276.95
	KW		682.00	646.00	736.00	866.00	974.00
Compressor	Type	-	Compact Screw Compressor CSH Series				
	Quantity		2	2	2	2	2
	Oil Charge	US Gal	7.93	11.62	11.62	11.62	10.04
		LIT	30	44	44	44	38
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins				
	FaceArea		497.11	447.40	497.11	596.53	646.25
			46.2	41.58	46.2	55.44	60.06
condenser Fan	Type		Propeller direct drive 885 RPM				
	Quantity		20	18	20	24	26.00
	Aire Flow RATE	cfm	246153	221537	246153	295383	319998
		l/s	116660	104994	116660	139992	151658.00
	Size	kw	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-22)operating charge (approx)	lbs		363.7	363.7	412.1	462.8	529.0
	kg		165	165	187	210	240.00
Nmber Of Refrigrant Circuit			2	2	2	2	2.00
Unit Operating Weight(approx)		lbs	14216	14767	15759	17522	19065
		kg	6450	6700	7150	7950	8650.00

CAPACITY RATING(50 HZ)
R-22

Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	eva.temp (C / F)	Condenser Entering Air Temp. 95 F(35oC) Actual Capacity KW	MBH	TON	Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	104 F(40oC) Actual Capacity KW	MBH	TON	Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	113 F(45oC) Actual Capacity KW	MBH	TON	Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	Bitzer																				
HCUA-50-1	CSH6553-50	137	1,7 / 35	109.2	372.61	31.05	32.8	140.2	71.7	102.5	349.75	29.15	36.1	136.8	76.5	98.4	335.76	27.98	38.3	136.7	79.7
			4,4 / 40	120.5	411.16	34.26	33.6	152.1	72.8	113.3	386.60	32.22	37.1	148.5	77.9	109	371.92	30.99	39.4	148.4	81.2
			7,2 / 45	133	453.82	37.82	34.3	165.2	73.9	125.4	427.88	35.66	38.1	161.4	79.4	120.8	412.19	34.35	40.5	161.3	82.9
			10 / 50	146.5	499.88	41.66	34.9	179.1	74.8	138.4	472.24	39.35	39.1	175.2	80.9	133.6	455.86	37.99	41.6	175.2	84.6
HCUA-60-1	CSH6563-60	170	1,7 / 35	137	467.46	38.96	40.8	175.5	92.1	128.6	438.80	36.57	44.8	171.2	97.8	123.5	421.40	35.12	47.5	171	101.7
			4,4 / 40	151.1	515.58	42.96	41.7	190.4	93.4	142.3	485.55	40.46	46	185.8	99.5	136.8	466.78	38.90	48.8	185.6	103.6
			7,2 / 45	166.9	569.49	47.46	42.6	207	94.7	157.4	537.07	44.76	47.3	202	101.4	151.7	517.62	43.14	50.3	202	105.7
			10 / 50	183.8	627.15	52.26	43.4	224	95.8	173.7	592.69	49.39	48.6	219	103.2	167.6	571.88	47.66	51.7	219.3	107.8
HCUA-70-1	CSH7553-70	197	1,7 / 35	159.6	544.58	45.38	49.2	206	105.1	147.7	503.97	42.00	54	199.2	112	140	477.70	39.81	57.2	197.2	116.6
			4,4 / 40	175.9	600.20	50.02	50.2	223	106.6	163.3	557.20	46.43	55.1	216	113.5	155.2	529.57	44.13	58.3	213.5	118.1
			7,2 / 45	194	661.96	55.16	51.3	242	108.1	180.7	616.58	51.38	56.3	234	115.2	172.2	587.57	48.96	59.5	231.7	119.8
			10 / 50	213	726.79	60.57	52.5	262	109.8	199.4	680.38	56.70	57.6	254	117.1	190.4	649.67	54.14	60.8	251.2	121.7
HCUA-80-1	CSH7563-80	227	1,7 / 35	184.8	630.57	52.55	55.3	237	122.9	170.5	581.77	48.48	60.6	228	130.5	161.3	550.38	45.86	64	225.3	135.5
			4,4 / 40	204	696.08	58.01	56.5	257	124.6	188.4	642.85	53.57	61.8	247	132.2	178.7	609.75	50.81	65.2	243.9	137.2
			7,2 / 45	224	764.32	63.69	57.9	279	126.6	208	709.73	59.14	63.2	268	134.3	198	675.61	56.30	66.6	264.6	139.3
			10 / 50	247	842.80	70.23	59.5	302	128.9	230	784.79	65.40	64.9	291	136.8	219	747.26	62.27	68.3	287.3	141.7
HCUA-90-1	CSH7573-90	258	1,7 / 35	223	760.91	63.41	63.8	284	133.8	208	709.73	59.14	70	274	142.8	197.8	674.92	56.24	74.1	271.9	149.1
			4,4 / 40	245	835.98	69.66	65	306	135.5	229	781.38	65.12	71.3	296	144.8	218	743.85	61.99	75.4	293.4	151
			7,2 / 45	270	921.28	76.77	66.3	332	137.5	252	859.86	71.65	72.7	321	147	241	822.33	68.53	76.9	317.9	153.2
			10 / 50	296	1010.00	84.17	67.8	359	139.6	277	945.17	78.76	74.4	347	149.5	266	907.63	75.64	78.5	344.5	155.7
HCUA-100-1	CSH7583-100	295	1,7 / 35	246	839.39	69.95	73	315	148.5	229	781.38	65.12	80.2	306	159.2	219	747.26	62.27	85.2	304.2	166.7
			4,4 / 40	271	924.69	77.06	74.1	341	150.1	253	863.27	71.94	81	330	160.5	242	825.74	68.81	85.9	327.9	167.7
			7,2 / 45	299	1020.23	85.02	75.4	369	152	280	955.40	79.62	81.8	357	161.6	268	914.46	76.20	86.4	354.4	168.5
			10 / 50	329	1122.60	93.55	76.8	400	154.1	308	1050.94	87.58	82.5	385	162.6	295	1006.58	83.88	86.6	381.6	168.9
HCUA-110-1	CSH7593-110	336	1,7 / 35	280	955.40	79.62	83.3	359	173	261	890.57	74.21	91.5	348	185.2	249	849.63	70.80	97.1	346.1	193.7
			4,4 / 40	309	1054.35	87.86	84.6	380	174.9	288	982.70	81.89	92.8	376	186.7	275	938.34	78.19	97.9	372.9	194.9
			7,2 / 45	341	1163.54	96.96	86	421	177.1	318	1085.06	90.42	93.3	406	188	305	1040.71	86.73	98.5	403.5	195.8
			10 / 50	375	1279.56	106.63	87.6	456	179.4	351	1197.66	99.81	94.1	439	189.1	336	1146.48	95.54	98.8	434.8	196.2
HCUA-110-1	CSH8553-110	315	1,7 / 35	265	904.22	75.35	76.3	337	165	245	835.98	69.66	84.4	326	177	233	795.03	66.25	90	323	185.4
			4,4 / 40	292	996.35	83.03	78	366	167.5	271	0.00	77.06	85.8	352	179.1	258	880.33	73.36	91.3	349.3	187.3
			7,2 / 45	323	1102.12	91.84	80.2	398	170.8	300	1023.65	85.30	87.5	383	182	286	975.87	81.32	93	379	189.9
			10 / 50	356	1214.73	101.23	83.2	433	175.2	331	1129.42	94.12	90.2	416	185.6	316	1078.24	89.85	95.2	411.2	193.2
HCUA-125-1	CSH8563-125	359	1,7 / 35	302	1030.47	85.87	87	384	183.8	280	955.40	79.62	96.2	371	197.5	266	907.63	75.64	102.6	368.6	207
			4,4 / 40	333	1136.25	94.69	88.9	417	186.6	309	1054.35	87.86	97.8	402	199.9	294	1003.17	83.60	104.1	398.1	209.2
			7,2 / 45	368	1255.67	104.64	91.5	454	190.4	342	1166.96	97.25	100	436	203.1	326	1112.36	92.70	106	432	212.1
			10 / 50	406	1385.33	115.44	94.8	494	195.4	377	1286.38	107.20	102.8	474	207.3	360	1228.37	102.36	108.5	468.5	215.9
HCUA-140-1	CSH8573-140	410	1,7 / 35	360	1228.37	102.36	106.5	461	221.3	335	1143.07	95.26	115.9	445	235.5	319	1088.48	90.71	122.1	441.1	244.4
			4,4 / 40	395	1347.80	112.32	108.8	497	224.8	369	1259.08	104.92	118.2	481	238.9	352	1201.08	100.09	124.4	476.4	248.4
			7,2 / 45	433	1477.46	123.12	111.5	538	228.8	407	1388.75	115.73	120.8	521	242.4	390	1330.74	110.89	126.9	516.9	252.4
			10 / 50	474	1617.36	134.78	114.5	581	233.4	448	1528.64	127.39	123.6	564	247.4	430	1467.22	122.27	129.8	559.8	256.4
HCUA-160-1	CSH8583-160	470	1,7 / 35	402	1371.68	114.31	113.4	509	239	375	1279.56	106.63	124	492	255.8	357	1218.14	101.51	131	488	266.8
			4,4 / 40	442	1508.17	125.68	116.3	551	243.5	414	1412.63	117.72	126.8	534	260.8	395	1347.80	112.32	133.8	528.8	271.8
			7,2 / 45	487	1661.72	138.48	119.5	598	248.7	458	1562.76	130.23	130	580	265.8	439	1497.93	124.83	137	576	276.8
			10 / 50	534	1822.09	151.84	123.2	649	254.8	503	1715.14	142.93	132.4	632	270.8	485	1654.89	137.91	140.4	625.4	281.8

CAPACITY RATING(50 HZ)
R-22

Condensing Unit MODEL	Comp. brand	Compressor displac-ment (m3/hr)	eva.temp (C / F)	Condenser Entering Air Temp. 95 F(35oC) Actual Capacity KW	MBH	TON	Power Input	requierd Heat Rejection	Current (amp.)	104 F(40oC) Actual Capacity KW	MBH	TON	Power Input	requierd Heat Rejection	Current (amp.)	113 F(45oC) Actual Capacity KW	MBH	TON	Power Input	requierd Heat Rejection (KW)	Current (amp.)
	Bitzer																				
HCUA-100-2	CSH6553-50	2*137	1,7 / 35	218.4	745.21	62.10	65.6	280.4	143.4	205	699.49	58.29	72.2	273.6	153	196.8	671.51	55.96	76.6	273.4	159.4
			4,4 / 40	241	822.33	68.53	67.2	304.2	145.6	226.6	773.19	64.43	74.2	297	155.8	218	743.85	61.99	78.8	296.8	162.4
			7,2 / 45	266	907.63	75.64	68.6	330.4	147.8	250.8	855.77	71.31	76.2	322.8	158.8	241.6	824.38	68.70	81	322.6	165.8
			10 / 50	293	999.76	83.31	69.8	358.2	149.6	276.8	944.48	78.71	78.2	350.4	161.8	267.2	911.73	75.98	83.2	350.4	169.2
HCUA-120-2	CSH6563-60	2*170	1,7 / 35	274	934.93	77.91	81.6	351	176.8	257.2	877.60	73.13	89.6	342.4	188.2	247	842.80	70.23	95	342	196
			4,4 / 40	302.2	1031.15	85.93	83.4	380.8	179.4	284.6	971.10	80.92	92	371.6	191.6	273.6	933.56	77.80	97.6	371.2	199.8
			7,2 / 45	333.8	1138.98	94.91	85.2	414	182	314.8	1074.14	89.51	94.6	404	195.4	303.4	1035.25	86.27	100.6	404	204
			10 / 50	367.6	1254.31	104.53	86.8	448	184.2	347.4	1185.38	98.78	97.2	438	199	335.2	1143.75	95.31	103.4	438.6	208.2
HCUA-140-2	CSH7553-70	2*197	1,7 / 35	319.2	1089.16	90.76	98.4	412	210.2	295.4	1007.95	84.00	108	398.4	224	280	955.40	79.62	114.4	394.4	233.2
			4,4 / 40	351.8	1200.39	100.03	100.4	446	213.2	326.6	1114.41	92.87	110.2	432	227	310.4	1059.13	88.26	116.6	427	236.2
			7,2 / 45	388	1323.91	110.33	102.6	484	216.2	361.4	1233.15	102.76	112.6	468	230.4	344.4	1175.14	97.93	119	463.4	239.6
			10 / 50	426	1453.58	121.13	105	524	219.6	398.8	1360.77	113.40	115.2	508	234.2	380.8	1299.35	108.28	121.6	502.4	243.4
HCUA-160-2	CSH7563-80	2*227	1,7 / 35	369.6	1261.13	105.09	110.6	474	238.4	341	1163.54	96.96	121.2	456	253.6	322.6	1100.76	91.73	128	450.6	263.6
			4,4 / 40	408	1392.16	116.01	113	514	241.8	376.8	1285.70	107.14	123.6	494	257	357.4	1219.50	101.62	130.4	487.8	267
			7,2 / 45	448	1528.64	127.39	115.8	558	245.8	416	1419.45	118.29	126.4	536	261.2	396	1351.21	112.60	133.2	529.2	271.2
			10 / 50	494	1685.60	140.47	119	604	250.4	460	1569.59	130.80	129.8	582	266.2	438	1494.52	124.54	136.6	574.6	276
HCUA-180-2	CSH7573-90	2*258	1,7 / 35	446	1521.82	126.82	127.6	568	267.6	416	1419.45	118.29	140	548	285.6	395.6	1349.85	112.49	148.2	543.8	298.2
			4,4 / 40	490	1671.95	139.33	130	612	271	458	1562.76	130.23	142.6	592	289.6	436	1487.70	123.97	150.8	586.8	302
			7,2 / 45	540	1842.56	153.55	132.6	664	275	504	1719.72	143.31	145.4	642	294	482	1644.66	137.05	153.8	635.8	306.4
			10 / 50	592	2019.99	168.33	135.6	718	279.2	554	1890.33	157.53	148.8	694	299	532	1815.26	151.27	157	689	311.4
HCUA-200-2	CSH7583-100	2*295	1,7 / 35	492	1678.78	139.90	146	630	304.4	458	1562.76	130.23	160.4	612	325.8	438	1494.52	124.54	170.4	608.4	340.8
			4,4 / 40	542	1849.39	154.11	148.2	682	307.6	506	1726.55	143.88	162	660	328.4	484	1651.48	137.62	171.8	655.8	342.8
			7,2 / 45	598	2040.47	170.04	150.8	738	311.4	560	1910.80	159.23	163.6	714	330.6	536	1828.91	152.41	172.8	708.8	344.4
			10 / 50	658	2245.19	187.10	153.6	800	315.6	616	2101.88	175.16	165	770	332.6	590	2013.17	167.76	173.2	763.2	345.2
HCUA-220-2	CSH7593-110	2*336	1,7 / 35	560	1910.80	159.23	166.6	718	346	522	1781.14	148.43	183	696	370.4	498	1699.25	141.60	194.2	692.2	387.4
			4,4 / 40	618	2108.71	175.73	169.2	760	349.8	576	1965.40	163.78	185.6	752	373.4	550	1876.68	156.39	195.8	745.8	389.8
			7,2 / 45	682	2327.09	193.92	172	842	354.2	636	2170.13	180.84	186.6	812	376	610	2081.41	173.45	197	807	391.6
			10 / 50	750	2559.11	213.26	175.2	912	358.8	702	2395.33	199.61	188.2	878	378.2	672	2292.96	191.08	197.6	869.6	392.4
HCUA-220-2	CSH8553-110	2*315	1,7 / 35	530	1808.44	150.70	152.6	674	322.6	490	1671.95	139.33	168.8	652	346.6	466	1590.06	132.50	180	646	363.4
			4,4 / 40	584	1992.70	166.06	156	732	327.6	542	0.00	154.11	171.6	704	350.8	516	1760.67	146.72	182.6	698.6	367.2
			7,2 / 45	646	2204.25	183.69	160.4	796	334.2	600	2047.29	170.61	175	766	356.6	572	1951.75	162.65	186	758	372.4
			10 / 50	712	2429.45	202.45	166.4	866	343	662	2258.84	188.24	180.4	832	363.8	632	2156.48	179.71	190.4	822.4	379
HCUA-250-2	CSH8563-125	2*359	1,7 / 35	604	2060.94	171.74	174	768	367.6	560	1910.80	159.23	192.4	742	395	532	1815.26	151.27	205.2	737.2	414
			4,4 / 40	666	2272.49	189.37	177.8	834	373.2	618	2108.71	175.73	195.6	804	399.8	588	2006.34	167.19	208.2	796.2	418.4
			7,2 / 45	736	2511.34	209.28	183	908	380.8	684	2333.91	194.49	200	872	406.2	652	2224.72	185.39	212	864	424.2
			10 / 50	812	2770.67	230.89	189.6	988	390.8	754	2572.76	214.40	205.6	948	414.6	720	2456.75	204.73	217	937	431.8
HCUA-280-2	CSH8573-140	2*410	1,7 / 35	720	2456.75	204.73	213	922	442.6	670	2286.14	190.51	231.8	890	471	638	2176.95	181.41	244.2	882.2	488.8
			4,4 / 40	790	2695.60	224.63	217.6	994	449.6	738	2518.17	209.85	236.4	962	477.8	704	2402.15	200.18	248.8	952.8	496.8
			7,2 / 45	866	2954.92	246.24	223	1076	457.6	814	2777.49	231.46	241.6	1042	484.8	780	2661.48	221.79	253.8	1033.8	504.8
			10 / 50	948	3234.72	269.56	229	1162	466.8	896	3057.29	254.77	247.2	1128	494.8	860	2934.45	244.54	259.6	1119.6	512.8
HCUA-320-2	CSH8583-160	2*470	1,7 / 35	804	2743.37	228.61	226.8	1018	470.6	750	2559.11	213.26	248	984	504.2	714	2436.28	203.02	262	976	526.2
			4,4 / 40	884	3016.34	251.36	232.6	1102	479.6	828	2825.26	235.44	253.6	1068	514.2	790	2695.60	224.63	267.6	1057.6	536.2
			7,2 / 45	974	3323.43	276.95	239	1196	490	916	3125.53	260.46	260	1160	524.2	878	2995.87	249.65	274	1152	546.2
			10 / 50	1068	3644.18	303.68	246.4	1298	502.2	1010	3446.27	287.19	266.8	1258	534.2	970	3309.79	275.81	280.8	1250.8	556.2

ENGINEERING SPECIFICATIONS (50 HZ)(R22)											
Condensing Unit MODEL	no.of circuit	comp.oil charge (dm^3)	condenser coil					condenser fan			
			row	fpi	QTY	total heat rejection (kw)	total face area (m2)	size (mm)	QTY	total air flow rate (cfm)	motor power (kw)
HCUA-50-1	1	9.5	4	10	4	179.1	4*2.31	800	4	4*12948	4*1.7
HCUA-60-1	1	9.5	3	10	6	224	6*2.31	800	6	6*12948	6*1.7
HCUA-70-1	1	15	4	10	6	262	6*2.31	800	6	6*12948	6*1.7
HCUA-80-1	1	15	3	12	8	302	8*2.31	800	8	8*12654	8*1.7
HCUA-90-1	1	15	4	10	8	359	8*2.31	800	8	8*12948	8*1.7
HCUA-100-1	1	15	4	12	8	400	8*2.31	800	8	8*12360	8*1.7
HCUA-110-1 CSH7593-110	1	15	4	12	10	456	10*2.31	800	10	10*12360	10*1.7
HCUA-110-1 CSH8553-110	1	22	4	10	10	433	10*2.31	800	10	10*12948	10*1.7
HCUA-125-1	1	22	4	12	10	494	10*2.31	800	10	10*12360	10*1.7
HCUA-140-1	1	22	4	12	12	581	12*2.31	800	12	12*12360	12*1.7
HCUA-160-1	1	19	4	12	14	649	14*2.31	800	14	14*12360	14*1.7
HLCA-100-2	2	19	4	10	8	358.2	8*2.31	800	8	8*12948	8*1.7
HLCA-120-2	2	19	4	10	10	448	10*2.31	800	10	10*12948	10*1.7
HLCA-140-2	2	30	4	10	12	524	12*2.31	800	12	12*12948	12*1.7
HLCA-160-2	2	30	4	10	14	604	14*2.31	800	14	14*12948	14*1.7
HLCA-180-2	2	30	4	10	16	718	16*2.31	800	16	16*12948	16*1.7
HLCA-200-2	2	30	4	10	18	800	18*2.31	800	18	18*12948	18*1.7
HLCA-220-2 CSH7593-110	2	30	4	12	20	912	20*2.31	800	20	20*12360	20*1.7
HLCA-220-2 CSH8553-110	2	44	4	12	18	866	18*2.31	800	18	18*12360	18*1.7
HLCA-250-2	2	44	4	12	20	988	20*2.31	800	20	20*12360	20*1.7
HLCA-280-2	2	44	4	12	24	1162	24*2.31	800	24	24*12360	24*1.7
HLCA-320-2	2	38	4	12	26	1298	26*2.31	800	26	26*12360	26*1.7

ELECTRICAL DATA (R-22)				
Chiller MODEL	Nominal Comp. power (HP)	MRA (Amp)	LRA (Amp)	MAX CONSE POWER (kw)
HLCA-50-1	50	84.6	218/411	58.8
HLCA-60-1	60	107.8	269/508	75.2
HLCA-70-1	70	121.7	290/485	88.2
HLCA-80-1	80	141.7	350/585	101.6
HLCA-90-1	90	155.7	423/686	109.6
HLCA-100-1	100	168.9	479/790	115.6
HLCA-110-1 CSH7593-110	110	196.2	516/887	129
HLCA-110-1 CSH8553-110	110	193.2	520/801	129
HLCA-125-1	125	215.9	612/943	149
HLCA-140-1	140	256.4	665/1023	170.4
HLCA-160-1	160	281.8	729/1114	183.8
HLCA-100-2	2*50	169.2	2*(218/411)	117.6
HLCA-120-2	2*60	208.2	2*(269/508)	147
HLCA-140-2	2*70	243.4	2*(290/485)	176.4
HLCA-160-2	2*80	276	2*(350/585)	199.8
HLCA-180-2	2*90	311.4	2*(423/686)	219.2
HLCA-200-2	2*100	345.2	2*(479/790)	234.6
HLCA-220-2 CSH7593-110	2*110	392.4	2*(516/887)	258
HLCA-220-2 CSH8553-110	2*110	379	2*(520/801)	254.6
HLCA-250-2	2*125	431.8	2*(612/943)	298
HLCA-280-2	2*140	512.8	2*(665/1023)	340.8
HLCA-320-2	2*160	556.2	2*(729/1114)	364.2


REFRIGERANT
134a
REFRIGERANT
134a

ENGINEERING SPECIFICATIONS-50 HZ (134 a)-BITZER

Model			HCUA-35-1	HCUA-40-1	HCUA-50-1 (137)	HCUA-50-1 (195)	HCUA-50-1 (197)	HCUA-60-1 (170)
Cooling Capacity	Ton of Refrigeration		26.50	32.93	26.22	38.07	37.73	32.90
	KW		93.2	115.8	92.2	133.9	132.7	115.7
Compressor	Type	-	Compact Screw Compressor CSH Series					
	Quantity		1	1	1	1	1	1
	Oil Charge	US Gal	2.51	2.51	2.51	2.51	3.96	2.51
		LIT	9.5	9.5	9.5	9.5	15	9.5
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins					
	FaceArea		149.13	198.84	149.13	149.13	198.84	198.84
			13.86	18.48	13.86	13.86	18.48	18.48
condenser Fan	Type		Propeller direct drive 885 RPM					
	Quantity		2	4	2	4	4	4
	Aire Flow RATE	cfm	24615	52750	24615	51577	51577	52750
		l/s	11666	25000	11666	24444	24444	25000
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		115.7	132.2	165.3	165.3	165.3	198.4
	kg		52.5	60	75	75	75	90
Nmber Of Refrigrant Circuit			1	1	1	1	1	1
Unit Operating Weight(approx)		lbs	2645	3802	3196	3857	4188	3526
		kg	1200	1725	1450	1750	1900	1600

Model			HCUA-60-1 (220)	HCUA-60-1 (227)	HCUA-70-1 (197)	HCUA-70-1 (258)	HCUA-80-1 (227)	HCUA-80-1 (295)
Cooling Capacity	Ton of Refrigeration		42.94	44.44	38.22	51.07	44.22	58.86
	KW		151	156.3	134.4	179.6	155.5	207
Compressor	Type	-	Compact Screw Compressor CSH Series					
	Quantity		1	1	1	1	1	1
	Oil Charge	US Gal	2.51	3.96	3.96	3.96	3.96	3.96
		LIT	9.5	15	15	15	15	15
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins					
	FaceArea		198.84	248.56	198.84	248.56	248.56	298.27
			18.48	23.1	18.48	23.1	23.1	27.72
condenser Fan	Type		Propeller direct drive 885 RPM					
	Quantity		4	4	4	4	4	6
	Aire Flow RATE	cfm	50403.68	50403.68	51576.84	49230.52	50403.68	77365.26
		l/s	23888	23888	24444	23332	23888	36666
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		198.4	198.4	231.4	231.4	264.5	264.5
	kg		90	90	105	105	120	120
Nmber Of Refrigrant Circuit			1	1	1	1	1	1
Unit Operating Weight(approx)		lbs	3967	4408	4408	4518	4408	5290
		kg	1800	2000	2000	2050	2000	2400

Model			HCUA-80-1 (315)	HCUA-90-1 (258)	HCUA-90-1 (336)	HCUA-90-1 (359)	HCUA-100-1 (295)	HCUA-110-1 (336)
Cooling Capacity	Ton of Refrigeration		61.70	50.84	67.11	71.09	58.86	67.11
	KW		217	178.8	236	250	207	236
Compressor	Type	-	Compact Screw Compressor CSH Series					
	Quantity		1	1	1	1	1	1
	Oil Charge	US Gal	5.81	3.96	3.96	5.81	3.96	3.96
		LIT	22	15	15	22	15	15
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins					
	FaceArea		298.27	248.56	347.98	347.98	298.27	347.98
			27.72	23.1	32.34	32.34	27.72	32.34
condenser Fan	Type		Propeller direct drive 885 RPM					
	Quantity		6	4	6	6	6	6
	Aire Flow RATE	cfm	75606	49231	75606	77365	77365	75606
		l/s	35832	23332	35832	36666	36666	35832
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		264.5	297.5	297.5	297.5	330.6	363.7
	kg		120	135	135	135	150	165
Nmber Of Refrigrant Circuit			1	1	1	1	1	1
Unit Operating Weight(approx)		lbs	6061	4518	5400	6392	5400	5576
		kg	2750	2050	2450	2900	2450	2530

Model			HCUA-110-1 (315)	HCUA-110-1 (410)	HCUA-125-1 (359)	HCUA-125-1 (470)	HCUA-140-1 (410)	HCUA-140-1 (535)
Cooling Capacity	Ton of Refrigeration		63.12	83.88	71.94	92.41	83.03	105.21
	KW		222	295	253	325	292	370
Compressor	Type	-	Compact Screw Compressor CSH Series					
	Quantity		1	1	1	1	1	1
	Oil Charge	US Gal	5.81	5.81	5.81	5.02	5.81	5.02
		LIT	22	22	22	19	22	19
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins					
	FaceArea		347.98	397.69	347.98	447.40	347.98	497.11
			32.34	36.96	32.34	41.58	32.34	46.2
condenser Fan	Type		Propeller direct drive 885 RPM					
	Quantity		6	8	6	8	8	8
	Aire Flow RATE	cfm	75606	100807	77365	100807	100807	98461
		l/s	35832	47776	36666	47776	47776	46664
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		363.7	363.7	412.1	412.1	462.8	462.8
	kg		165	165	187	187	210	210
Nmber Of Refrigrant Circuit			1	1	1	1	1	1
Unit Operating Weight(approx)		lbs	6392	7163	6612	7383	7383	7824
		kg	2900	3250	3000	3350	3350	3550

Model			HCUA-160-1 (470)	HCUA-160-1 (615)	HCUA-210-1 (615)
Cooling Capacity	Ton of Refrigeration		90.42	124.54	123.41
	KW		318	438	434
Compressor	Type	-	Compact Screw Compressor CSH Series		
	Quantity		1	1	1
	Oil Charge	US Gal	5.02	7.93	7.93
		LIT	19	30	30
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins		
	FaceArea		497.11	596.53	596.53
			46.2	55.44	55.44
condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		8	10	10
	Aire Flow RATE	cfm	100807	123083	123083
		l/s	47776	58333	58333
	Size	kw	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		529.0	529.0	694.3
	kg		240	240	315
Nmber Of Refrigrant Circuit			1	1	1
Unit Operating Weight(approx)		lbs	7383	10689	10689
		kg	3350	4850	4850

Model			HCUA-70-2	HCUA-80-2	HCUA-100-2 (2*137)	HCUA-100-2 (2*195)	HCUA-100-2 (2*197)	HCUA-120-2 (2*170)
Cooling Capacity	Ton of Refrigeration		53.00	65.85	52.43	76.15	75.47	65.80
	KW		186.40	231.60	184.40	267.80	265.40	231.40
Compressor	Type	-	Compact Screw Compressor CSH Series					
	Quantity		2	2	2	2	2	2
	Oil Charge	US Gal	5.02	5.02	5.02	5.02	7.93	5.02
		LIT	19	19	19	19	30	19
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins					
	FaceArea		99.42	149.13	99.42	149.13	149.13	149.13
			9.24	13.86	9.24	13.86	13.86	13.86
condenser Fan	Type		Propeller direct drive 885 RPM					
	Quantity		4	6	4	6	6	6
	Aire Flow RATE	cfm	49231	75606	49231	73846	73846	75606
		l/s	23332	35832	23332	34998	34998	35832
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		231.4	264.5	330.6	330.6	330.6	396.7
	kg		105.0	120.0	150.0	150.0	150.0	180.0
Nmber Of Refrigrant Circuit			2	2	2	2	2	2
Unit Operating Weight(approx)		lbs	5069	5730	5290	6392	7053	6061
		kg	2300	2600	2400	2900	3200	2750

Model			HCUA-120-2 (2*220)	HCUA-120-2 (2*227)	HCUA-140-2 (2*197)	HCUA-140-2 (2*258)	HCUA-160-2 (2*227)	HCUA-160-2 (2*295)
Cooling Capacity	Ton of Refrigeration		85.87	88.89	76.43	102.14	88.43	117.72
	KW		302.00	312.60	268.80	359.20	311.00	414.00
Compressor	Type	-	Compact Screw Compressor CSH Series					
	Quantity		2	2	2	2	2	2
	Oil Charge	US Gal	5.02	7.93	7.93	7.93	7.93	7.93
		LIT	19	30	30	30	30	30
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins					
	FaceArea		198.84	198.84	149.13	198.84	198.84	248.56
			18.48	18.48	13.86	18.48	18.48	23.1
condenser Fan	Type		Propeller direct drive 885 RPM					
	Quantity		8	8	6	8	8	10
	Aire Flow RATE	cfm	100807	100807	73846	98461	100807	128944
		l/s	47776	47776	34998	46664	47776	61111
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		396.7	396.7	462.8	462.8	529.0	529.0
	kg		180.0	180.0	210.0	210.0	240.0	240.0
Nmber Of Refrigrant Circuit			2	2	2	2	2	2
Unit Operating Weight(approx)		lbs	7163	7824	7604	8485	8045	10138
		kg	3250	3550	3450	3850	3650	4600

Model			HCUA-160-2 (2*315)	HCUA-180-2 (2*258)	HCUA-180-2 (2*336)	HCUA-180-2 (2*359)	HCUA-200-2 (2*295)	HCUA-220-2 (2*336)
Cooling Capacity	Ton of Refrigeration		123.41	101.68	134.21	142.17	117.72	134.21
	KW		434.00	357.60	472.00	500.00	414.00	472.00
Compressor	Type	-	Compact Screw Compressor CSH Series					
	Quantity		2	2	2	2	2	2
	Oil Charge	US Gal	11.62	7.93	7.93	11.62	7.93	7.93
		LIT	44	30	30	44	30	30
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins					
	FaceArea		248.56	198.84	248.56	298.27	248.56	298.27
			23.1	18.48	23.1	27.72	23.1	27.72
condenser Fan	Type		Propeller direct drive 885 RPM					
	Quantity		10	8	10	12	10	12
	Aire Flow RATE	cfm	123083	98461	123083	154731	128944	151211
		l/s	58333	46664	58333	73332	61111	71664
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		529.0	595.1	595.1	595.1	661.2	727.3
	kg		240.0	270.0	270.0	270.0	300.0	330.0
Nmber Of Refrigrant Circuit			2	2	2	2	2	2
Unit Operating Weight(approx)		lbs	11902	8485	10359	12673	10138	11020
		kg	5400	3850	4700	5750	4600	5000

Model			HCUA-220-2 (2*315)	HCUA-220-2 (2*410)	HCUA-250-2 (2*359)	HCUA-250-2 (2*470)	HCUA-280-2 (2*410)	HCUA-280-2 (2*535)
Cooling Capacity	Ton of Refrigeration		126.25	167.76	143.88	184.82	166.06	210.42
	KW		444.00	590.00	506.00	650.00	584.00	740.00
Compressor	Type	-	Compact Screw Compressor CSH Series					
	Quantity		2	2	2	2	2	2
	Oil Charge	US Gal	11.62	11.62	11.62	10.04	11.62	10.04
		LIT	44	44	44	38	44	38
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins					
	FaceArea		248.56	347.98	298.27	347.98	347.98	397.69
			23.1	32.34	27.72	32.34	32.34	36.96
condenser Fan	Type		Propeller direct drive 885 RPM					
	Quantity		10	14	12	14	14	16
	Aire Flow RATE	cfm	123083	180519	154731	172307	180519	196922
		l/s	58333	85554	73332	81662	85554	93328
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		727.3	727.3	824.3	824.3	925.7	925.7
	kg		330.0	330.0	374.0	374.0	420.0	420.0
Nmber Of Refrigrant Circuit			2	2	2	2	2	2
Unit Operating Weight(approx)		lbs	12122	14216	13334	14436	14326	15428
		kg	5500	6450	6050	6550	6500	7000

Model			HCUA-320-2 (2*470)	HCUA-320-2 (2*615)	HCUA-410-2 (2*615)
Cooling Capacity	Ton of Refrigeration		180.84	249.09	246.81
	KW		636.00	876.00	868.00
Compressor	Type	-	Compact Screw Compressor CSH Series		
	Quantity		2	2	2
	Oil Charge	US Gal	10.04	15.80	16.00
		LIT	38	60	60
condenser Coil	type	-	Air cooled, 2,3or4 rows, 8,10,12 FP fin spacing,Cu tubes, Al fins		
	FaceArea		347.98	497.11	447.40
			32.34	46.2	41.58
condenser Fan	Type		Propeller direct drive 885 RPM		
	Quantity		14	20	18
	Aire Flow RATE	cfm	172307	246153	221537
		l/s	81662	116660	104994
	Size	kw	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		1057.9	1057.9	1388.5
	kg		480.0	480.0	630.0
Nmber Of Refrigrant Circuit			2	2	2
Unit Operating Weight(approx)		lbs	15428	19836	19836
		kg	7000	9000	9000

CAPACITY RATING(50 HZ)R-134a

Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	eva.temp (C / F)	condenser entering air temp. 95 F(35°C)						104 F(40°C)						113 F(45°C)						122 F(50°C)						131 F(52°C)					
	Bitzer			Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
				KW	MBH	TON				KW	MBH	TON				KW	MBH	TON				KW	MBH	TON				KW	MBH	TON			
HCUA-35-1	CSH6553-35Y	137	1,7 / 35	74.4	253.86	21.16	20.9	95.2	46.2	68.8	234.76	19.56	22.9	91.7	49	63	214.97	17.91	25.2	88.1	52.2	56.8	193.81	16.15	27.8	84.6	55.9	---	---	---	---	---	---
			4,4 / 40	83.2	283.89	23.66	21.2	104.5	46.7	77.3	263.76	21.98	23.2	100.5	49.5	71	242.26	20.19	25.5	96.5	52.7	64.3	219.40	18.28	28.1	92.5	56.4	---	---	---	---	---	---
			7,2 / 45	93.2	318.01	26.50	21.6	114.8	47.2	86.8	296.17	24.68	23.6	110.4	50	80	272.97	22.75	25.9	105.9	53.3	72.8	248.40	20.70	28.5	101.4	57	---	---	---	---	---	---
			10 / 50	104	354.86	29.57	22	126	47.7	97.1	331.32	27.61	24	121.1	50.6	89.9	306.75	25.56	26.3	116.1	53.8	82.1	280.14	23.34	28.9	111	57.5	---	---	---	---	---	---
HCUA-40-1	CSH6563-40Y	170	1,7 / 35	92.7	316.31	26.36	25.9	118.6	60.6	86.1	293.79	24.48	28.3	114.5	64.1	79.4	270.92	22.58	31.2	110.6	68.2	72.6	247.72	20.64	34.7	107.3	73.3	---	---	---	---	---	---
			4,4 / 40	103.5	353.16	29.43	26.4	130	61.4	96.4	328.93	27.41	28.8	125.3	64.8	89.1	304.02	25.34	31.7	120.8	68.9	81.7	278.77	23.23	35.1	116.8	73.9	---	---	---	---	---	---
			7,2 / 45	115.8	395.13	32.93	27.1	142.8	62.3	108	368.51	30.71	29.4	137.4	65.6	100.1	341.56	28.46	32.2	132.3	69.6	91.9	313.58	26.13	35.6	127.5	74.5	---	---	---	---	---	---
			10 / 50	129.1	440.51	36.71	27.7	156.8	63.2	120.6	411.51	34.29	30	150.6	66.5	111.9	381.82	31.82	32.8	144.7	70.4	103.1	351.79	29.32	36	139.1	75.2	---	---	---	---	---	---
HCUA-50-1	CSH6553-50Y	137	1,7 / 35	73.9	252.16	21.01	20.6	94.5	48.1	68.6	234.07	19.51	22.8	91.4	50.6	63	214.97	17.91	25.2	88.2	53.9	57.1	194.83	16.24	27.9	85	57.5	54.7	186.64	15.55	29.1	83.7	59
			4,4 / 40	82.5	281.50	23.46	21	103.5	48.5	76.8	262.05	21.84	23.2	100	51.2	70.8	241.58	20.13	25.6	96.4	54.4	64.4	219.74	18.31	28.3	92.7	58	61.8	210.87	17.57	29.5	91.2	59.6
			7,2 / 45	92.2	314.60	26.22	21.4	113.6	49	86	293.44	24.45	23.6	109.6	51.8	79.5	271.27	22.61	26.1	105.6	55	72.7	248.06	20.67	28.8	101.5	58.6	69.8	238.17	19.85	29.9	99.8	60.2
			10 / 50	102.7	350.43	29.20	21.9	124.5	49.6	96.1	327.91	27.33	24.1	120.1	52.4	89.1	304.02	25.34	26.5	115.6	55.6	81.7	278.77	23.23	29.2	110.9	59.3	78.6	268.19	22.35	30.4	109	60.9
HCUA-50-1	CSH6583-50Y	195	1,7 / 35	107.2	365.78	30.48	28.6	135.8	65.8	99.4	339.17	28.26	31.4	130.8	69.7	91.4	311.87	25.99	34.6	126	74.3	83.3	284.23	23.69	38.2	121.5	79.6	---	---	---	---	---	---
			4,4 / 40	119.7	408.43	34.04	29.1	148.8	66.5	111.3	379.77	31.65	31.9	143.2	70.4	102.6	350.09	29.17	35.1	137.7	75	93.7	319.72	26.64	38.7	132.5	80.3	---	---	---	---	---	---
			7,2 / 45	133.9	456.89	38.07	29.6	163.5	67.2	124.7	425.50	35.46	32.4	157.2	71.2	115.3	393.42	32.78	35.6	150.9	75.8	105.6	360.32	30.03	39.2	144.9	81	---	---	---	---	---	---
			10 / 50	149.3	509.43	42.45	30.2	149.3	68	139.3	475.31	39.61	33	172.4	72	129.1	440.51	36.71	36.2	165.3	76.6	118.6	404.68	33.72	39.8	158.4	81.9	---	---	---	---	---	---
HCUA-50-1	CSH7553-50Y	197	1,7 / 35	104.9	357.93	29.83	30	134.9	67.7	96.8	330.30	27.52	33.1	129.9	72.1	88.3	301.29	25.11	36.7	125	77.3	79.7	271.95	22.66	40.7	120.4	83.2	---	---	---	---	---	---
			4,4 / 40	117.9	402.29	33.52	30.6	148.5	68.5	109	371.92	30.99	33.7	142.7	73	99.8	340.53	28.38	37.3	137	78.1	90.3	308.12	25.68	41.3	131.6	84	---	---	---	---	---	---
			7,2 / 45	132.7	452.79	37.73	31.3	163.9	69.5	122.9	419.35	34.95	34.4	157.3	74	112.8	384.89	32.07	37.9	150.7	79.1	102.4	349.40	29.12	41.9	144.4	85	---	---	---	---	---	---
			10 / 50	148.8	507.73	42.31	32.1	180.8	70.6	138.1	471.22	39.27	35.2	173.3	75.1	127.1	433.68	36.14	38.7	165.7	80.2	115.7	394.79	32.90	42.7	158.4	86.1	---	---	---	---	---	---
HCUA-60-1	CSH6563-60Y	170	1,7 / 35	92.7	316.31	26.36	25.6	118.3	64.7	86.1	293.79	24.48	28.3	114.4	68.1	79.1	269.90	22.49	31.3	110.4	71.9	71.7	244.65	20.39	34.6	106.4	76.4	68.7	234.41	19.53	36.1	104.7	78.3
			4,4 / 40	103.5	353.16	29.43	26	129.6	65.3	96.4	328.93	27.41	28.8	125.1	68.7	88.8	303.00	25.25	31.8	120.6	72.6	80.9	276.04	23.00	35.1	116	77	77.6	264.78	22.07	36.6	114.2	79
			7,2 / 45	115.7	394.79	32.90	26.6	142.2	65.9	108	368.51	30.71	29.3	137.3	69.3	99.9	340.87	28.41	32.3	132.2	73.3	91.3	311.53	25.96	35.7	127	77.8	87.7	299.25	24.94	37.1	124.8	79.7
			10 / 50	128.8	439.48	36.62	27.1	155.9	66.6	120.6	411.51	34.29	29.9	150.4	70.1	111.8	381.48	31.79	32.9	144.7	74	102.6	350.09	29.17	36.3	138.8	78.6	98.7	336.78	28.06	37.7	136.5	80.5
HCUA-60-1	CSH6593-60Y	220	1,7 / 35	120.9	412.53	34.38	32	152.9	72.8	112.1	382.50	31.88	147.2	35.1	77	103.1	351.79	29.32	38.7	141.8	81.8	93.9	320.40	26.70	42.7	136.6	87.4	---	---	---	---	---	---
			4,4 / 40	135.1	460.98	38.42	32.5	167.6	73.5	125.6	428.57	35.71	35.6	161.2	77.7	115.8	395.13	32.93	39.2	155	82.6	105.8	361.01	30.08	43.2	149	88.2	---	---	---	---	---	---
			7,2 / 45	151	515.23	42.94	33.1	184.1	74.3	140.7	480.09	40.01	36.2	176.9	78.5	130.1	443.92	36.99	39.8	169.9	83.4	119.1	406.39	33.87	43.8	163	89	---	---	---	---	---	---
			10 / 50	168.4	574.61	47.88	33.7	202	75.2	157.2	536.39	44.70	36.9	194.1	79.4	145.6	496.81	41.40	40.5	186.1	84.3	133.8	456.55	38.05	44.5	178.2	89.9	---	---	---	---	---	---
HCUA-60-1	CSH7563-60Y	227	1,7 / 35	123.7	422.08	35.17	34.5	158.2	76.2	114.1	389.33	32.44	38.2	152.3	81.1	104.3	355.89	29.66	42.3	146.5	86.8	94.2	321.42	26.79	46.9	141.1	93.3	---	---	---	---	---	---
			4,4 / 40	139	474.29	39.52	35.2	174.2	77.2	128.5	438.46	36.54	38.8	167.4	82.1	117.7	401.61	33.47	42.9	160.6	87.8	106.7	364.08	30.34	47.6	154.2	94.3	---	---	---	---	---	---
			7,2 / 45	156.3	533.32	44.44	36	192.3	78.3	144.9	494.42	41.20	39.6	184.5	83.2	133	453.82	37.82	43.7	176.7	88.8	120.9	412.53	34.38	48.3	169.2	95.4	---	---	---	---	---	---
			10 / 50	175.2	597.81	49.82	37	212	79.5	162.8	555.50	46.29	40.5	203	84.4	149.8	511.14	42.59	44.6	194.4	90.1	136.5	465.76	38.81	49.2	185.7	96.7	---	---	---	---	---	---
HCUA-70-1	CSH7553-70Y	197	1,7 / 35	106.4	363.05	30.25	30.2	136.6	71.6	98.3	335.41	27.95	33.3	131.6	75.8	90	307.09	25.59	36.9	126.8	80.6	81.5	278.09	23.17	40.9	122.3	86.1	78.1	266.49	22.21	42.6	120.7	88.5
			4,4 / 40	119.5	407.75	33.98	30.8	150.3	72.4	110.7	377.73	31.48	33.9	144.6	76.5	101.6	346.67	28.89	37.4	139	81.4	92.3	314.94	26.25	41.4	133.7	86.9	88.5	301.98	25.16	43.1	131.6	89.3
			7,2 / 45	134.4	458.59	38.22	31.4	165.8	73.2	124.8	425.84	35.49	34.5	159.3	77.4	114.8	391.71	32.64	38	152.8	82.2	104	354.86	29.57	42	146.5	87.7	100.4	342.58	28.55	43.7	144.1	90
			10 / 50	150.7	514.21	42.85	32.1	182.8	74.2	140.2	478.38	39.87	35.2	175.4	78.3	129.3	441.19	36.77	38.6	167.9	83	118.1	402.97	33.58	42.6	160.7	88.5	113.5	387.28	32.27	44.3	157.8	90.9
HCUA-70-1	CSH7573-70Y	258	1,7 / 35	142.2	485.21	40.43	39.3	181.4	83.9	131.2	447.67	37.31	43.4	174.6	89.6	119.9	409.12	34.09	48	167.9	96.1	108.4	369.88	30.82	53.3	161.7	103.5	---	---	---	---	---	---
			4,4 / 40	159.7	544.92	45.41	40.1	199.7	84.9	147.7	503.97	42.00	44.1	191.9	90.7	135.4	462.01	38.50	48.8	184.1	97.2	122.7	418.67	34.89	54	176.8	104.6	---	---	---	---	---	---
			7,2 / 45	179.6	612.82	51.07	41	221	86.3	166.5	568.12	47.34	45	212	92	152.9	521.72	43.48	49.7	203	98.5	139	474.29	39.52	54.9	194	105.9	---	---	---	---	---	---
			10 / 50	201	685.84	57.15	42	243	87.7	187	638.07	53.17	46	233	93.4	172.2	587.57	48.96	50.7	223	99.8	157	535.71	44.64	55.9	213	107.2	---	---	---	---	---	---
HCUA-80-1	CSH7563-80Y	227	1,7 / 35	123.2	420.38	35.03	34	157.2	77.8	113.5	387.28	32.27	37.4	150.8	82.4	103.5	353.16	29.43	41.2	144.6	87.8	93.4	318.69	26.56	45.5	138.8	93.9	89.4	305.05	25.42	47.3	136.7	96.6
			4,4 / 40	138.4	472.24	39.35	34.7	173	78.7	127.7	435.73	36.31	38	165.7	83.3	116.8	398.54	33.21	41.8	158	88.6	105.7	360.66	30.06	46	151.7	94.7	101.2	345.31	28.78	47.9	149.1	97.3
			7,2 / 45	155.5	530.59	44.22	35.5	191	79.8	143.9	491.01	40.92	38.8	182.6	84.4	131.9	450.06	37.51	42.5	174.4	89.6	119.7	408.43	34.04	46.7	166.3	95.6	114.8	391.71	32.64	48.5	163.2	98.2
			10 / 50	174.3	594.74	49.56	36.4	211	81.1	161.6	551.40	45.95	39.6	201	85.6	148.4	506.36	42.20	43.3	191.7	90.8	135	460.64	38.39	47.4	182.4	96.7	129.6	442.21	36.85	49.2	178.8	99.3
HCUA-80-1	CSH7583-80Y	295	1,7 / 35	165.2	563.69	46.97	44.5	210	100	153.7	524.45	43.70	49.1	203	106.5	141.4	482.48	40.21	54.4	195.8	114.2	128.6	438.80	36.57	60.8	189.4	123.4	---	---	---	---	---	---
			4,4 / 40	184.8	630.57	52.55	45.5	230	101.4	172.3	587.91	48.99	50	222	107.8	159.1	542.87	45.24	55.3	214	115.5	145.2	495.44	41.29	61.6	207	124.6	---	---	---	---	---	---
			7,2 / 45	207	706.32	58.86	46.6	253	102.9	193.4	659.91	54.99	51	244	109.3	179.1	611.12	50.93	56.2	235	78.4	164	559.59	46.63	62.4	226	125.8	---	---	---	---	---	---
			10 / 50	231	788.21	65.68	47.7	279	104.6	216	737.02	61.42	52	268	110.8	201	685.84	57.15	57.1	258	118.1	184.5	629.54	52.46	63.2	248	126.9	---	---	---	---	---	---
HCUA-80-1	CSH8553-80Y	315	1,7 / 35	173.4	591.67	49.31	47.8	221	99	161.8	552.09	46.01	52.9	215	106.2	149.7	510.80	42.57	58.8	208	114.7	137.3	468.49	39.04	65.6	203	124.5	---	---	---	---	---	---
			4,4 / 40	194	661.96	55.16	48.7	243	100.3	181.5	619.31	51.61	53.7	235	107.5	168.5	574.95	47.91	59.6	228	115.9	155.1	529.22	44.10	66.5	222	125.8	---	---	---	---	---	---
			7,2 / 45	217	740.44	61.70	49.7	267	101.6	204	696.08	58.01	54.7	258	108.8	189.8	647.63	53.97	60.6	250	117.3	175.3	598.15	49.85	67.4	243	127.2	---	---	---	---	---	---
			10 / 50	242	825.74	68.81	50.7	293	103.1	228	777.97	64.83	55.7	284	110.3	213	726.79	60.57	61.6	275	118.7	197.4	673.56	56.13	68.4	266	128.6	---	---	---	---	---	---
HCUA-90-1	CSH7573-90Y	258	1,7 / 35	142.4	485.89	40.49	39.2	181.6	83.8	132.1	450.75	37.56	43.2	175.3	89.2	121.4	414.24	34.52	47.4	169.1	95.6	110.3	376.36	31.36	52.8	163.1	102.8	105.9	361.35	30.11	55	160.8	106
			4,4 / 40	159.4	543.90	45.32	39.9	199.3	84.7	148.2	505.68	42.14	43.9	192.1	90.2	136.5	465.76	38.81	48.4	184.9	96.5	124.4	424.47	35.37	53.5	177.9	103.8	119.5	407.75	33.98	55.6	175.2	107
			7,2 / 45	178.8	610.09	50.84	40.6	219	85.8	166.4	567.78	47.32	44.6	211	91.2	153.6	524.11	43.68	49.1	203	97.6	140.4	479.07	39.92	54.2	194.6	104.9	135	460.64	38.39	56.4	191.3	108
			10 / 50	199.7	681.41	56.78	41.5	241	86.9	186.3	635.68	52.97	45.4	232	92.4	172.3	587.91	48.99	49.9	222	98.7	157.8	538.44	44.87	55	213	106	151.9	518.31	43.19	57.1	209	109.1
HCUA-90-1	CSH7593-90Y	336	1,7 / 35	188.2	642.17	53.51	50.7	239	107.3	175	597.13	49.76	55.9	231	114.7	161.1	549.70	45.81	62	223	123.6	146.5	499.88	41.66	69.2	216	134.4	---	---	---	---	---	---
			4,4 / 40	210	716.55	59.71	51.8	262	108.9	196.3	669.81	55.82	57	253	116.3	181.2	618.28	51.52	63	244	125.1	165.4	564.37	47.03	70.2	236	135.8	---	---	---	---	---	---
			7,2 / 45	236	805.27	67.11	53.1	289	110.7	220	750.67	62.56	58.1	278	118	204	696.08	58.01	64	268	126.7	186.8	637.39	53.12	71.1	258	137.2	---	---	---	---	---	---
			10 / 50	263	897.40	74.78	54.4	317	112.5	247	842.80	70.23	59.3	306	119.7	229	781.38	65.12	65.1	294	128.2	210	716.55	59.71	72	282	138.5	---	---	---	---	---	---
HCUA-90-1	CSH8563-90Y	359	1,7 / 35	199.8	681.75	56.81	54.5	254	111.9	186.4	636.02	53.00	60.3	247	120.5	172.6	588.94	49.08	67	240	130.2	158.3	540.14	45.01	74.8	233	142.5	---	---	---	---	---	---
			4,4 / 40	223	760.91	63.41	55.5	279	113.4	209	713.14	59.43	61.3	270	122	194.2	662.64	55.22	68	262	132.1	178.9	610.43	50.87	75.8	255	144	---	---	---	---	---	---
			7,2 / 45	250	853.04	71.09	56.6	307	115	235	801.86	66.82	62.4	297	123.6	219	747.26	62.27	69.1	288	133.8	202	689.25	57.44	76.8	279	145.7	---	---	---	---	---	---
			10 / 50	279	951.99	79.33	57.8	337	116.8	263	897.40	74.78	63.5	326	125.4	245	835.98	69.66	70.2	316	135.4	227	774.56	64.55	78	305	147.4	---	---	---	---	---	---
HCUA-100-1	CSH7583-100Y	295	1,7 / 35	165.7	565.39	47.12	45.4	211	101.5	154.6	527.52	43.96	50.1	205	107.9	142.9	487.60	40.63	55.4	198.3	115.3	130.9	446.65	37.22	61.2	192.1	123.6	125.9	429.59	35.80	63.7	189.7	127.3
			4,4 / 40	185.1	631.59	52.63	46.3	231	102.7	172.9	589.96	49.16	51	224	109.1	160.2	546.63	45.55	56.2	216	116.5	146.9	501.24	41.77	62	209	124.8	141.5	482.82	40.23	64.5	206	128.5
			7,2 / 45	207	706.32	58.86	47.4	254	104.1	193.6	660.59	55.05	51.9	246	110.4	179.7	613.16	51.10	57.1	237	117.8	165.2	563.69	46.97	62.9	228	126.1	159.2	543.21	45.27	64.4	225	129.8
			10 / 50	231	788.21	65.68	48.5	279	105.6	216	737.02	61.42	53	269	111.9	201	685.84	57.15	58.1	259	119.1	185	631.25	52.60	63.8	249	127.5	178.5	609.07	50.76	66.3	254	131.1
HCUA-110-1	CSH7593-110Y	336	1,7 / 35	188.8	644.21	53.68	51.5	240	112.8	175.9	600.20	50.02	56.7	233	119.8	162.5	554.47	46.21	62.6	225	128.1	148.7	507.39	42.28	69.5	218	137.9	143.1	488.28	40.69	72.4	216	142.2
			4,4 / 40	211	719.96	60.00	52.5	263	114.1	196.8	671.51	55.96	57.6	254	121.1	182.1	621.35	51.78	63.5	246	129.4	167	569.83	47.49	70.3	237	139.2	160.8	548.67	45.72	73.3	234	143.5
			7,2 / 45	236	805.27	67.11	53.6	290	115.7	221	754.09	62.84	58.7	279	122.6	204	696.08	58.01	64.6	269	130.9	187.7	640.46	53.37	71.3	259	140.6	181	617.60	51.47	74.3	255	144.9
			10 / 50	263	897.40	74.78	54.9	318	117.5	246	839.39	69.95	59.9	306	124.3	229	781.38	65.12	65.7	294	132.5	210	716.55	59.71	72.4	283	142.2	203	692.67	57.72	75.4	278	146.5
HCUA-110-1	CSH8553-110Y	315	1,7 / 35	178.6	609.41	50.78	48.2	227	109.8	166.4	567.78	47.32	53.3	220	116.8	153.7	524.45	43.70	59.1	213	125	140.5	479.41	39.95	65.7	206	134.6	135.1	460.98	38.42	68.6	204	138.8
			4,4 / 40	199.1	679.36	56.61	48.9	248	110.9	185.9	634.32	52.86	54	240	117.8	172.1	587.23	48.94	59.8	232	126.1	157.8	538.44	44.87	66.5	224	135.7	151.9	518.31	43.19	69.4	221	139.9
			7,2 / 45	222	757.50	63.12	49.8	272	112	208	709.73	59.14	54.9	263	119	192.8	657.86	54.82	60.7	253	127.3	177.3	604.97	50.41	67.3	245	136.9	170.9	583.14	48.59	70.2	241	141.2
			10 / 50	247	842.80	70.23	50.8	298	113.4	232	791.62	65.97	55.8	287	120.3	215	733.61	61.13	61.6	277	128.6	198.6	677.65	56.47	68.2	267	138.2	191.6	653.77	54.48	71.1	263	142.5
HCUA-110-1	CSH8573-110Y	410	1,7 / 35	235	801.86	66.82	61.9	297	136.5	219	747.26	62.27	68.5	287	146	201	685.84	57.15	76.1	277	157.3	183.6	626.47	52.21	84.9	269	170.4	---	---	---	---	---	---
			4,4 / 40	263	897.40	74.78	63	326	138.1	245	835.98	69.66	69.6	314	147.7	226	771.15	64.26	77.2	303	159	207	706.32	58.86	86.1	293	172.1	---	---	---	---	---	---
			7,2 / 45	295	1,006.58	83.88	64.3	359	140	275	938.34	78.19	70.8	346	149.5	254	866.69	72.22	78.5	332	160.8	232	791.62	65.97	87.3	320	173.9	---	---	---	---	---	---
			10 / 50	329	1,122.60	93.55	65.7	395	142	307	1,047.53	87.29	72.2	379	151.5	284	969.05	80.75	79.7	364	162.7	261	890.57	74.21	88.6	349	175.8	---	---	---	---	---	---
HCUA-125-1	CSH8563-125Y	359	1,7 / 35	204	696.08	58.01	54.9	258	123.6	189.7	647.28	53.94	60.7	250	131.3	175.2	597.81	49.82	67.3	242	140.5	160.1	546.29	45.52	74.9	235	151.3	154	525.47	43.79	78.2	232	156.1
			4,4 / 40	227	774.56	64.55	55.8	283	124.7	212	723.38	60.28	61.6	273	132.5	196.1	669.12	55.76	68.2	264	141.7	179.8	613.50	51.13	75.7	256	152.6	173.1	590.64	49.22	79	252	157.4
			7,2 / 45	253	863.27	71.94	56.8	310	126	237	808.68	67.39	62.5	299	133.8	220	750.67	62.56	69.1	289	143.1	202	689.25	57.44	76.7	279	153.9	194.8	664.69	55.39	80	275	158.8
			10 / 50	282	962.23	80.19	57.9	340	127.5	264	900.81	75.07	63.6	328	135.3	246	839.39	69.95	70.2	316	144.6	226	771.15	64.26	77.7	304	155.4	218	743.85	61.99	81	299	160.2
HCUA-125-1	CSH8583-125Y	470	1,7 / 35	260	887.16	73.93	69.6	329	151.1	242	825.74	68.81	77	319	161.7	223	760.91	63.41	85.6	309	174.3	205	699.49	58.29	95.5	300	189	---	---	---	---	---	---
			4,4 / 40	290	989.52	82.46	70.9	361	152.9	271	924.69	77.06	78.2	349	163.6	251	856.45	71.37	86.8	338	176.2	230	784.79	65.40	96.8	327	190.9	---	---	---	---	---	---
			7,2 / 45	325	1,108.95	92.41	72.3	397	155	303	1,033.88	86.16	79.6	383	165.6	282	962.23	80.19	88.2	370	178.2	259	883.75	73.65	98.1	358	193	---	---	---	---	---	---
			10 / 50	362	1,235.20	102.93	73.8	436	157.2	339	1,156.72	96.39	81.1	420	167.8	315	1,074.83	89.57	89.6	405	180.3	291	992.94	82.74	99.6	391	195.1	---	---	---	---	---	---
HCUA-140-1	CSH8573-140Y	410	1,7 / 35	235	801.86	66.82	62.7	298	143.6	219	747.26	62.27	69.3	288	152.7	202	689.25	57.44	76.9	279	163.3	185	631.25	52.60	85.5	270	175.7	177.9	607.02	50.58	89.3	267	181.2
			4,4 / 40	262	893.98	74.50	63.7	326	144.9	245	835.98	69.66	70.3	315	154	226	771.15	64.26	77.9	304	164.7	208	709.73	59.14	86.5	294	177.2	200	682.43	56.87	90.3	290	182.7
			7,2 / 45	292	996.35	83.03	64.9	357	146.5	273	931.52	77.63	71.4	345	155.5	254	866.69	72.22	78.9	333	166.3	233	795.03	66.25	87.6	321	178.8	225	767.73	63.98	91.4	316	184.3
			10 / 50	325	1,108.95	92.41	66.1	325	148.2	305	1,040.71	86.73	72.6	377	157.2	284	969.05	80.75	80.1	364	167.9	261	890.57	74.21	88.8	350	180.5	252	859.86	71.65	92.6	345	186
HCUA-140-1	CSH8593-140Y	535	1,7 / 35	296	1,010.00	84.17	79.2	375	166.6	275	938.34	78.19	87.6	363	178.8	254	866.69	72.22	97.4	352	193.1	233	795.03	66.25	108.7	342	209.9	---	---	---	---	---	---
			4,4 / 40	330	1,126.01	93.83	80.7	411	168.7	308	1,050.94	87.58	89.1	397	180.9	285	972.46	81.04	98.8	384	195.2	262	893.98	74.50	110.2	372	212	---	---	---	---	---	---
			7,2 / 45	370	1,262.50	105.21	82.3	452	171.1	345	1,177.19	98.10	90.7	436	183.2	321	1,095.30	91.27	100.4	421	197.6	295	1,006.58	83.88	111.7	407	214.4	---	---	---	---	---	---
			10 / 50	412	1,405.81	117.15	84	496	173.6	386	1,317.09	109.76	92.3	478	185.7	359	1,224.96	102.08	102	461	200	331	1,129.42	94.12	113.3	445	216.8	---	---	---	---	---	---
HCUA-160-1	CSH8583-160Y	470	1,7 / 35	254	866.69	72.22	70.1	324	151.5	237	808.68	67.39	77.5	314	162.1	219	747.26	62.27	86.1	305	174.7	201	685.84	57.15	96	297	189.7	---	---	---	---	---	---
			4,4 / 40	284	969.05	80.75	71.4	356	153.3	265	904.22	75.35	78.8	344	163.9	246	839.39	69.95	87.4	333	176.6	227	774.56	64.55	97.3	324	191.6	---	---	---	---	---	---
			7,2 / 45	318	1,085.06	90.42	72.8	391	155.4	297	1,013.41	84.45	80.2	378	166	277	945.17	78.76	88.7	365	178.7	255	870.10	72.51	98.6	354	193.7	---	---	---	---	---	---
			10 / 50	355	1,211.31	100.94	74.4	429	157.5	333	1,136.25	94.69	81.7	414	168.1	310	1,057.77	88.15	90.2	400	180.8	287	979.29	81.61	100	387	195.9	---	---	---	---	---	---
HCUA-160-1	CSH9563-160Y	615	1,7 / 35	351	1,197.66	99.81	93.1	444	192.2	326	1,112.36	92.70	102.8	429	206.8	300	1,023.65	85.30	414	414	223.3	273	931.52	77.63	125.7	399	242	---	---	---	---	---	---
			4,4 / 40	392	1,337.56	111.46	94.3	486	194.1	365	1,245.43	103.79	104.1	469	208.7	337	1,149.89	95.82	115.1	452	225.4	307	1,047.53	87.29	127.2	435	244	---	---	---	---	---	---
			7,2 / 45	438	1,494.52	124.54	95.5	534	195.9	409	1,395.57	116.30	105.4	514	210.6	378	1,289.79	107.48	116.5	495	227.5	346	1,180.60	98.38	128.7	475	246	---	---	---	---	---	---
			10 / 50	488	1,665.13	138.76	96.6	585	197.5	457	1,559.33	129.95	106.5	563	212.5	425	1,449.54	120.28	117.8	541	229.4	389	1,327.33	110.61	130.1	519	248	---	---	---	---	---	---
HCUA-210-1	CSH9563-210Y	615	1,7 / 35	348	1,187.43	98.95	92.6	441	201.5	324	1,105.54	92.13	102.2	426	214.6	298	1,016.82	84.73	112.9	411	229.8	272	928.10	77.34	124.9	397	247	262	893.98	74.50	130	392	255
			4,4 / 40	389	1,327.33	110.61	93.9	483	203.3	362	1,235.20	102.93	103.4	466	216.4	335	1,143.07	95.26	114.2	449	231.6	307	1,047.53	87.29	126.2	433	249	295	1,006.58	83.88	131.3	427	257
			7,2 / 45	434	1,480.87	123.41	93.5	530	205.2	406	1,385.33	115.44	104.7	511	218.2	376	1,282.97	106.91	115.4	492	233.4	345	1,177.19	98.10	127.4	473	251	333	1,136.25	94.69	132.6	466	259
			10 / 50	484	1,651.48	137.62	96.8	581	207.3	453	1,545.70	128.81	106.1	559	220.2	421	1,436.52	119.71	116.7	538	235.3	388	1,323.91	110.33	128.7	516	253	374	1,276.14	106.35	133.9	508	260

Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	eva.temp (C / F)	95 F(35°C)						104 F(40°C)						113 F(45°C)						122 F(50°C)						131 F(52°C)					
CAPACITY RATING(50 HZ) R-134a — condenser entering air temp.				Actual Capacity			Power Input	requierd Heat Rejection	Current (amp.)	Actual Capacity			Power Input	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input	requierd Heat Rejection	Current (amp.)	Actual Capacity			Power Input	requierd Heat Rejection	Current (amp.)
	Bitzer			KW	MBH	TON				KW	MBH	TON				KW	MBH	TON				KW	MBH	TON				KW	MBH	TON			
HCUA-70-2	CSH6553-35Y	2*137	1,7 / 35	148.8	507.73	42.311	41.8	190.4	92.4	137.6	469.51	39.126	45.8	183.4	98	126	429.93	35.827	50.4	176.2	104.4	113.6	387.62	32.302	55.6	169.2	111.8	---	---	---	---	---	---
			4,4 / 40	166.4	567.78	47.315	42.4	209	93.4	154.6	527.52	43.960	46.4	201	99	142	484.53	40.377	51	193	105.4	128.6	438.80	36.567	56.2	185	112.8	---	---	---	---	---	---
			7,2 / 45	186.4	636.02	53.002	43.2	229.6	94.4	173.6	592.35	49.362	47.2	220.8	100	160	545.94	45.495	51.8	211.8	106.6	145.6	496.81	41.401	57	202.8	114	---	---	---	---	---	---
			10 / 50	208	709.73	59.144	44	252	95.4	194.2	662.64	55.220	48	242.2	101.2	179.8	613.50	51.125	52.6	232.2	107.6	164.2	560.28	46.689	57.8	222	115	---	---	---	---	---	---
HCUA-80-2	CSH6563-40Y	2*170	1,7 / 35	185.4	632.61	52.718	51.8	237.2	113.8	172.2	587.57	48.964	56.6	229	120.8	158.8	541.85	45.154	62.4	221.2	129	145.2	495.44	41.287	69.4	214.6	139.2	---	---	---	---	---	---
			4,4 / 40	207	706.32	58.859	52.8	260	115.4	192.8	657.86	54.822	57.6	250.6	122.2	178.2	608.05	50.670	63.4	241.6	130.4	163.4	557.55	46.462	70.2	233.6	140.4	---	---	---	---	---	---
			7,2 / 45	231.6	790.25	65.854	54.2	285.6	117.2	216	737.02	61.419	58.8	274.8	123.8	200.2	683.11	56.926	64.4	264.6	131.8	183.8	627.15	52.263	71.2	255	141.6	---	---	---	---	---	---
			10 / 50	258.2	881.02	73.418	55.4	313.6	119	241.2	823.01	68.584	60	301.2	125.6	223.8	763.64	63.636	65.6	289.4	133.4	206.2	703.59	58.632	72	278.2	143	---	---	---	---	---	---
HCUA-100-2	CSH6553-50Y	2*137	1,7 / 35	147.8	504.32	42.026	41.2	189	96.2	137.2	468.15	39.012	45.6	182.8	101.2	126	429.93	35.827	50.4	176.4	107.8	114.2	389.67	32.472	55.8	170	115	109.4	373.29	31.107	58.2	167.4	118
			4,4 / 40	165	563.00	46.917	42	207	97	153.6	524.11	43.675	46.4	200	102.4	141.6	483.16	40.263	51.2	192.8	108.8	128.8	439.48	36.624	56.6	185.4	116	123.6	421.74	35.145	59	182.4	119.2
			7,2 / 45	184.4	629.20	52.433	42.8	227.2	98	172	586.89	48.907	47.2	219.2	103.6	159	542.53	45.211	52.2	211.2	110	145.4	496.13	41.344	57.6	203	117.2	139.6	476.34	39.695	59.8	199.6	120.4
			10 / 50	205.4	700.86	58.404	43.8	249	99.2	192.2	655.82	54.651	48.2	240.2	104.8	178.2	608.05	50.670	53	231.2	111.2	163.4	557.55	46.462	58.4	221.8	118.6	157.2	536.39	44.699	60.8	218	121.8
HCUA-100-2	CSH6583-50Y	2*195	1,7 / 35	214.4	731.56	60.964	57.2	271.6	124.2	198.8	678.34	56.528	62.8	261.6	132	182.8	623.74	51.978	69.2	252	141.2	166.6	568.46	47.372	76.4	243	151.8	---	---	---	---	---	---
			4,4 / 40	239.4	816.87	68.072	58.2	297.6	125.6	222.6	759.54	63.295	63.8	286.4	133.4	205.2	700.17	58.348	70.2	275.4	142.6	187.4	639.44	53.286	77.4	265	153.2	---	---	---	---	---	---
			7,2 / 45	267.8	913.77	76.148	59.2	327	127	249.4	850.99	70.916	64.8	314.4	135	230.6	786.84	65.570	71.2	301.8	144.2	211.2	720.65	60.054	78.4	289.8	154.6	---	---	---	---	---	---
			10 / 50	298.6	1018.87	84.905	60.4	298.6	128.6	278.6	950.62	79.219	66	344.8	136.6	258.2	881.02	73.418	72.4	330.6	145.8	237.2	809.36	67.447	79.6	316.8	156.4	---	---	---	---	---	---
HCUA-100-2	CSH7553-50Y	2*197	1,7 / 35	209.8	715.87	59.656	60	269.8	128	193.6	660.59	55.049	66.2	259.8	136.8	176.6	602.59	50.215	73.4	250	147.2	159.4	543.90	45.325	81.4	240.8	159	---	---	---	---	---	---
			4,4 / 40	235.8	804.58	67.049	61.2	297	129.6	218	743.85	61.987	67.4	285.4	138.6	199.6	681.07	56.755	74.6	274	148.8	180.6	616.23	51.353	82.6	263.2	160.6	---	---	---	---	---	---
			7,2 / 45	265.4	905.58	75.465	62.6	327.8	131.6	245.8	838.71	69.892	68.8	314.6	140.6	225.6	769.78	64.148	75.8	301.4	150.8	204.8	698.81	58.234	83.8	288.8	162.6	---	---	---	---	---	---
			10 / 50	297.6	1015.46	84.621	64.2	361.6	133.8	276.2	942.44	78.536	70.4	346.6	142.8	254.2	867.37	72.280	77.4	331.4	153	231.4	789.57	65.797	85.4	316.8	164.8	---	---	---	---	---	---
HCUA-120-2	CSH6563-60Y	2*170	1,7 / 35	185.4	632.61	52.718	51.2	236.6	122	172.2	587.57	48.964	56.6	228.8	128.8	158.2	539.80	44.983	62.6	220.8	136.4	143.4	489.30	40.775	69.2	212.8	145.4	137.4	468.83	39.069	72.2	209.4	149.2
			4,4 / 40	207	706.32	58.859	52	259.2	123.2	192.8	657.86	54.822	57.6	250.2	130	177.6	606.00	50.500	63.6	241.2	137.8	161.8	552.09	46.007	70.2	232	146.6	155.2	529.57	44.130	73.2	228.4	150.6
			7,2 / 45	231.4	789.57	65.797	53.2	284.4	124.4	216	737.02	61.419	58.6	274.6	131.2	199.8	681.75	56.812	64.6	264.4	139.2	182.6	623.06	51.921	71.4	254	148.2	175.4	598.49	49.874	74.2	249.6	152
			10 / 50	257.6	878.97	73.247	54.2	311.8	125.8	241.2	823.01	68.584	59.8	300.8	132.8	223.6	762.96	63.580	65.8	289.4	140.6	205.2	700.17	58.348	72.6	277.6	149.8	197.4	673.56	56.130	75.4	273	153.6
HCUA-120-2	CSH6593-60Y	2*220	1,7 / 35	241.8	825.06	68.755	64	305.8	145.6	224.2	765.00	63.750	294.4	70.2	154	206.2	703.59	58.632	77.4	283.6	163.6	187.8	640.80	53.400	85.4	273.2	174.8	---	---	---	---	---	---
			4,4 / 40	270.2	921.96	76.830	65	335.2	147	251.2	857.13	71.427	71.2	322.4	155.4	231.6	790.25	65.854	78.4	310	165.2	211.6	722.01	60.167	86.4	298	176.4	---	---	---	---	---	---
			7,2 / 45	302	1030.47	85.872	66.2	368.2	148.6	281.4	960.18	80.015	72.4	353.8	157	260.2	887.84	73.987	79.6	339.8	166.8	238.2	812.77	67.731	87.6	326	178	---	---	---	---	---	---
			10 / 50	336.8	1149.21	95.767	67.4	404	150.4	314.4	1072.78	89.398	73.8	388.2	158.8	291.2	993.62	82.801	81	372.2	168.6	267.6	913.09	76.091	89	356.4	179.8	---	---	---	---	---	---
HCUA-120-2	CSH7563-60Y	2*227	1,7 / 35	247.4	844.17	70.347	69	316.4	152.4	228.2	778.65	64.888	76.4	304.6	162.2	208.6	711.77	59.314	84.6	293	173.6	188.4	642.85	53.571	93.8	282.2	186.6	---	---	---	---	---	---
			4,4 / 40	278	948.58	79.048	70.4	348.4	154.4	257	876.92	73.077	77.6	334.8	164.2	235.4	803.22	66.935	85.8	321.2	175.6	213.4	728.15	60.679	95.2	308.4	188.6	---	---	---	---	---	---
			7,2 / 45	312.6	1066.64	88.886	72	384.6	156.6	289.8	988.84	82.403	79.2	369	166.4	266	907.63	75.636	87.4	353.4	177.6	241.8	825.06	68.755	96.6	338.4	190.8	---	---	---	---	---	---
			10 / 50	350.4	1195.62	99.634	74	424	159	325.6	1111.00	92.583	81	406	168.8	299.6	1022.28	85.190	89.2	388.8	180.2	273	931.52	77.626	98.4	371.4	193.4	---	---	---	---	---	---
HCUA-140-2	CSH7553-70Y	2*197	1,7 / 35	212.8	726.11	60.509	60.4	273.2	135.8	196.6	670.83	55.902	66.6	263.2	144.2	180	614.19	51.182	73.8	253.6	153.8	163	556.18	46.348	81.8	244.6	164.8	156.2	532.98	44.415	85.2	241.4	169.6
			4,4 / 40	239	815.50	67.958	61.6	300.6	137.4	221.4	755.45	62.954	67.8	289.2	145.6	203.2	693.35	57.779	74.8	278	155.4	184.6	629.88	52.490	82.8	267.4	166.4	177	603.95	50.329	86.2	263.2	171.2
			7,2 / 45	268.8	917.19	76.432	62.8	331.6	139	249.6	851.67	70.973	69	318.6	147.4	229.6	783.43	65.286	76	305.6	157	208	709.73	59.144	84	293	168	200.8	685.16	57.096	87.4	288.2	172.6
			10 / 50	301.4	1028.42	85.702	64.2	365.6	141	280.4	956.77	79.730	70.4	350.8	149.2	258.6	882.38	73.532	77.2	335.8	158.6	236.2	805.95	67.162	85.2	321.4	169.6	227	774.56	64.546	88.6	315.6	174.4
HCUA-140-2	CSH7573-70Y	2*258	1,7 / 35	284.4	970.42	80.868	78.6	362.8	167.8	262.4	895.35	74.612	86.8	349.2	179.2	239.8	818.23	68.186	96	335.8	192.2	216.8	739.75	61.646	106.6	323.4	207	---	---	---	---	---	---
			4,4 / 40	319.4	1089.84	90.820	80.2	399.4	169.8	295.4	1007.95	83.996	88.2	383.8	181.4	270.8	924.01	77.001	97.6	368.2	194.4	245.4	837.34	69.778	108	353.6	209.2	---	---	---	---	---	---
			7,2 / 45	359.2	1225.64	102.137	82	442	172.6	333	1136.25	94.687	90	424	184	305.8	1043.44	86.953	99.4	406	197	278	948.58	79.048	109.8	388	211.8	---	---	---	---	---	---
			10 / 50	402	1371.68	114.307	84	486	175.4	374	1276.14	106.345	92	466	186.8	344.4	1175.14	97.928	101.4	446	199.6	314	1071.42	89.284	111.8	426	214.4	---	---	---	---	---	---
HCUA-160-2	CSH7563-80Y	2*227	1,7 / 35	246.4	840.75	70.063	68	314.4	155.6	227	774.56	64.546	74.8	301.6	164.8	207	706.32	58.859	82.4	289.2	175.6	186.8	637.39	53.116	91	277.6	187.8	178.8	610.09	50.841	94.6	273.4	193.2
			4,4 / 40	276.8	944.48	78.707	69.4	346	157.4	255.4	871.46	72.622	76	331.4	166.6	233.6	797.08	66.423	83.6	316	177.2	211.4	721.33	60.111	92	303.4	189.4	202.4	690.62	57.551	95.8	298.2	194.6
			7,2 / 45	311	1061.18	88.431	71	382	159.6	287.8	982.02	81.834	77.6	365.2	168.8	263.8	900.13	75.010	85	348.8	179.2	239.4	816.87	68.072	93.4	332.6	191.2	229.6	783.43	65.286	97	326.4	196.4
			10 / 50	348.6	1189.48	99.123	72.8	422	162.2	323.2	1102.81	91.900	79.2	402	171.2	296.8	1012.73	84.394	86.6	383.4	181.6	270	921.28	76.773	94.8	364.8	193.4	259.2	884.43	73.702	98.4	357.6	198.6
HCUA-160-2	CSH7583-80Y	2*295	1,7 / 35	330.4	1127.37	93.948	89	420	192.6	307.4	1048.89	87.408	98.2	406	205.6	282.8	964.96	80.413	108.8	391.6	221	257.2	877.60	73.134	121.6	378.8	239.4	---	---	---	---	---	---
			4,4 / 40	369.6	1261.13	105.094	91	460	195.4	344.6	1175.83	97.985	100	444	208.2	318.2	1085.75	90.479	110.6	428	223.6	290.4	990.89	82.574	123.2	414	241.8	---	---	---	---	---	---
			7,2 / 45	414	1412.63	117.719	93.2	506	198.4	386.8	1319.82	109.985	102	488	211.2	358.2	1222.23	101.852	112.4	470	149.4	328	1119.19	93.265	124.8	452	244.2	---	---	---	---	---	---
			10 / 50	462	1576.41	131.367	95.4	558	201.8	432	1474.05	122.837	104	536	214.2	402	1371.68	114.307	114.2	516	228.8	369	1259.08	104.923	126.4	496	246.4	---	---	---	---	---	---
HCUA-160-2	CSH8553-80Y	2*315	1,7 / 35	346.8	1183.33	98.611	95.6	442	190.6	323.6	1104.17	92.014	105.8	430	205	299.4	1021.60	85.133	117.6	416	222	274.6	936.98	78.081	131.2	406	241.6	---	---	---	---	---	---
			4,4 / 40	388	1323.91	110.326	97.4	486	193.2	363	1238.61	103.217	107.4	470	207.6	337	1149.89	95.824	119.2	456	224.4	310.2	1058.45	88.204	133	444	244.2	---	---	---	---	---	---
			7,2 / 45	434	1480.87	123.406	99.4	534	195.8	408	1392.16	116.013	109.4	516	210.2	379.6	1295.25	107.937	121.2	500	227.2	350.6	1196.30	99.691	134.8	486	247	---	---	---	---	---	---
			10 / 50	484	1651.48	137.623	101.4	586	198.8	456	1555.94	129.661	111.4	568	213.2	426	1453.58	121.131	123.2	550	230	394.8	1347.12	112.259	136.8	532	249.8	---	---	---	---	---	---
HCUA-180-2	CSH7573-90Y	2*258	1,7 / 35	284.8	971.78	80.981	78.4	363.2	167.6	264.2	901.49	75.124	86.4	350.6	178.4	242.8	828.47	69.039	94.8	338.2	191.2	220.6	752.72	62.727	105.6	326.2	205.6	211.8	722.69	60.224	110	321.6	212
			4,4 / 40	318.8	1087.79	90.649	79.8	398.6	169.4	296.4	1011.36	84.280	87.8	384.2	180.4	273	931.52	77.626	96.8	369.8	193	248.8	848.94	70.745	107	355.8	207.6	239	815.50	67.958	111.2	350.4	214
			7,2 / 45	357.6	1220.18	101.682	81.2	438	171.6	332.8	1135.56	94.630	89.2	422	182.4	307.2	1048.21	87.351	98.2	406	195.2	280.8	958.13	79.844	108.4	389.2	209.8	270	921.28	76.773	112.8	382.6	216
			10 / 50	399.4	1362.81	113.567	83	482	173.8	372.6	1271.37	105.947	90.8	464	184.8	344.6	1175.83	97.985	99.8	444	197.4	315.6	1076.87	89.739	110	426	212	303.8	1036.61	86.384	114.2	418	218.2
HCUA-180-2	CSH7593-90Y	2*336	1,7 / 35	376.4	1284.33	107.027	101.4	478	207.2	350	1194.25	99.521	111.8	462	222	322.2	1099.39	91.616	124	446	239.8	293	999.76	83.313	138.4	432	261.4	---	---	---	---	---	---
			4,4 / 40	420	1433.10	119.425	103.6	524	210.4	392.6	1339.61	111.634	114	506	225.2	362.4	1236.56	103.047	126	488	242.8	330.8	1128.74	94.061	140.4	472	264.2	---	---	---	---	---	---
			7,2 / 45	472	1610.53	134.211	106.2	578	214	440	1501.35	125.112	116.2	556	228.6	408	1392.16	116.013	128	536	246	373.6	1274.78	106.231	142.2	516	267	---	---	---	---	---	---
			10 / 50	526	1794.79	149.565	108.8	634	217.6	494	1685.60	140.466	118.6	612	232	458	1562.76	130.230	130.2	588	249	420	1433.10	119.425	144	564	269.6	---	---	---	---	---	---
HCUA-180-2	CSH8563-90Y	2*359	1,7 / 35	399.6	1363.50	113.624	109	508	223.8	372.8	1272.05	106.004	120.6	494	241	345.2	1177.87	98.156	134	480	260.4	316.6	1080.29	90.024	149.6	466	285	---	---	---	---	---	---
			4,4 / 40	446	1521.82	126.818	111	558	226.8	418	1426.28	118.856	122.6	540	244	388.4	1325.28	110.440	136	524	264.2	357.8	1220.87	101.739	151.6	510	288	---	---	---	---	---	---
			7,2 / 45	500	1706.08	142.173	113.2	614	230	470	1603.71	133.642	124.8	594	247.2	438	1494.52	124.543	138.2	576	267.6	404	1378.51	114.875	153.6	558	291.4	---	---	---	---	---	---
			10 / 50	558	1903.98	158.665	115.6	674	233.6	526	1794.79	149.565	127	652	250.8	490	1671.95	139.329	140.4	632	270.8	454	1549.12	129.093	156	610	294.8	---	---	---	---	---	---
HCUA-200-2	CSH7583-100Y	2*295	1,7 / 35	331.4	1130.79	94.232	90.8	422	195.6	309.2	1055.04	87.919	100.2	410	208.4	285.8	975.19	81.266	110.8	396.6	223.2	261.8	893.30	74.442	122.4	384.2	239.8	251.8	859.18	71.598	127.4	379.4	247.2
			4,4 / 40	370.2	1263.18	105.265	92.6	462	198	345.8	1179.92	98.327	102	448	210.8	320.4	1093.25	91.104	112.4	432	225.6	293.8	1002.49	83.541	124	418	242.2	283	965.64	80.470	129	412	249.6
			7,2 / 45	414	1412.63	117.719	94.8	508	200.8	387.2	1321.18	110.098	103.8	492	213.4	359.4	1226.33	102.194	114.2	474	228.2	330.4	1127.37	93.948	125.8	456	244.8	318.4	1086.43	90.535	128.8	450	252.2
			10 / 50	462	1576.41	131.367	97	558	203.8	432	1474.05	122.837	106	538	216.4	402	1371.68	114.307	116.2	518	230.8	370	1262.50	105.208	127.6	498	247.6	357	1218.14	101.511	132.6	508	254.8
HCUA-220-2	CSH7593-110Y	2*336	1,7 / 35	377.6	1288.43	107.369	103	480	225.6	351.8	1200.39	100.033	113.4	466	239.6	325	1108.95	92.412	125.2	450	256.2	297.4	1014.77	84.564	139	436	275.8	286.2	976.56	81.380	144.8	432	284.4
			4,4 / 40	422	1439.93	119.994	105	526	228.2	393.6	1343.02	111.918	115.2	508	242.2	364.2	1242.71	103.558	127	492	258.8	334	1139.66	94.971	140.6	474	278.4	321.6	1097.35	91.445	146.6	468	287
			7,2 / 45	472	1610.53	134.211	107.2	580	231.4	442	1508.17	125.680	117.4	558	245.2	408	1392.16	116.013	129.2	538	261.8	375.4	1280.92	106.743	142.6	518	281.2	362	1235.20	102.933	148.6	510	289.8
			10 / 50	526	1794.79	149.565	109.8	636	235	492	1678.78	139.898	119.8	612	248.6	458	1562.76	130.230	131.4	588	265	420	1433.10	119.425	144.8	566	284.4	406	1385.33	115.444	150.8	556	293
HCUA-220-2	CSH8553-110Y	2*315	1,7 / 35	357.2	1218.82	101.568	96.4	454	212.2	332.8	1135.56	94.630	106.6	440	226.2	307.4	1048.89	87.408	118.2	426	242.6	281	958.81	79.901	131.4	412	261.8	270.2	921.96	76.830	137.2	408	270.2
			4,4 / 40	398.2	1358.72	113.226	97.8	496	214.4	371.8	1268.64	105.719	108	480	228.2	344.2	1174.46	97.872	119.6	464	244.8	315.6	1076.87	89.739	133	448	264	303.8	1036.61	86.384	138.8	442	272.4
			7,2 / 45	444	1514.99	126.249	99.6	544	216.6	416	1419.45	118.288	109.8	526	230.6	385.6	1315.73	109.643	121.4	506	247.2	354.6	1209.95	100.829	134.6	490	266.4	341.8	1166.27	97.189	140.4	482	275
			10 / 50	494	1685.60	140.466	101.6	596	219.4	464	1583.24	131.936	111.6	574	233.2	430	1467.22	122.268	123.2	554	249.8	397.2	1355.31	112.942	136.4	534	269	383.2	1307.54	108.961	142.2	526	277.6
HCUA-220-2	CSH8573-110Y	2*410	1,7 / 35	470	1603.71	133.642	123.8	594	265.6	438	1494.52	124.543	137	574	284.6	402	1371.68	114.307	152.2	554	307.2	367.2	1252.94	104.411	169.8	538	333.4	---	---	---	---	---	---
			4,4 / 40	526	1794.79	149.565	126	652	268.8	490	1671.95	139.329	139.2	628	288	452	1542.29	128.524	154.4	606	310.6	414	1412.63	117.719	172.2	586	336.8	---	---	---	---	---	---
			7,2 / 45	590	2013.17	167.764	128.6	718	272.6	550	1876.68	156.390	141.6	692	291.6	508	1733.37	144.447	157	664	314.2	464	1583.24	131.936	174.6	640	340.4	---	---	---	---	---	---
			10 / 50	658	2245.19	187.099	131.4	790	276.6	614	2095.06	174.588	144.4	758	295.6	568	1938.10	161.508	159.4	728	318	522	1781.14	148.428	177.2	698	344.2	---	---	---	---	---	---
HCUA-250-2	CSH8563-125Y	2*359	1,7 / 35	408	1392.16	116.013	109.8	516	247.2	379.4	1294.57	107.880	121.4	500	262.6	350.4	1195.62	99.634	134.6	484	281	320.2	1092.57	91.047	149.8	470	302.6	308	1050.94	87.578	156.4	464	312.2
			4,4 / 40	454	1549.12	129.093	111.6	566	249.4	424	1446.75	120.562	123.2	546	265	392.2	1338.25	111.520	136.4	528	283.4	359.6	1227.01	102.250	151.4	512	305.2	346.2	1181.29	98.440	158	504	314.8
			7,2 / 45	506	1726.55	143.879	113.6	620	252	474	1617.36	134.780	125	598	267.6	440	1501.35	125.112	138.2	578	286.2	404	1378.51	114.875	153.4	558	307.8	389.6	1329.37	110.781	160	550	317.6
			10 / 50	564	1924.45	160.371	115.8	680	255	528	1801.62	150.134	127.2	656	270.6	492	1678.78	139.898	140.4	632	289.2	452	1542.29	128.524	155.4	608	310.8	436	1487.70	123.974	162	598	320.4
HCUA-250-2	CSH8583-125Y	2*470	1,7 / 35	520	1774.32	147.859	139.2	658	294.8	484	1651.48	137.623	154	638	316	446	1521.82	126.818	171.2	618	341.2	410	1398.98	116.581	191	600	370.6	---	---	---	---	---	---
			4,4 / 40	580	1979.05	164.920	141.8	722	298.4	542	1849.39	154.115	156.4	698	319.8	502	1712.90	142.741	173.6	676	345	460	1569.59	130.799	193.6	654	374.4	---	---	---	---	---	---
			7,2 / 45	650	2217.90	184.824	144.6	794	302.6	606	2067.76	172.313	159.2	766	323.8	564	1924.45	160.371	176.4	740	349	518	1767.49	147.291	196.2	716	378.6	---	---	---	---	---	---
			10 / 50	724	2470.40	205.866	147.6	872	307	678	2313.44	192.786	162.2	840	328.2	630	2149.65	179.137	179.2	810	353.2	582	1985.87	165.489	199.2	782	382.8	---	---	---	---	---	---
HCUA-280-2	CSH8573-140Y	2*410	1,7 / 35	470	1603.71	133.642	125.4	596	279.8	438	1494.52	124.543	138.6	576	298	404	1378.51	114.875	153.8	558	319.2	370	1262.50	105.208	171	540	344	355.8	1214.04	101.170	178.6	534	355
			4,4 / 40	524	1787.97	148.997	127.4	652	282.4	490	1671.95	139.329	140.6	630	300.6	452	1542.29	128.524	155.8	608	322	416	1419.45	118.288	173	588	347	400	1364.86	113.738	180.6	580	358
			7,2 / 45	584	1992.70	166.057	129.8	714	285.6	546	1863.03	155.252	142.8	690	303.6	508	1733.37	144.447	157.8	666	325.2	466	1590.06	132.505	175.2	642	350.2	450	1535.47	127.955	182.8	632	361.2
			10 / 50	650	2217.90	184.824	132.2	650	289	610	2081.41	173.450	145.2	754	307	568	1938.10	161.508	160.2	728	328.4	522	1781.14	148.428	177.6	700	353.6	504	1719.72	143.310	185.2	690	364.6
HCUA-280-2	CSH8593-140Y	2*535	1,7 / 35	592	2019.99	168.332	158.4	750	333.2	550	1876.68	156.390	175.2	726	357.6	508	1733.37	144.447	194.8	704	386.2	466	1590.06	132.505	217.4	684	419.8	---	---	---	---	---	---
			4,4 / 40	660	2252.02	187.668	161.4	822	337.4	616	2101.88	175.157	178.2	794	361.8	570	1944.93	162.077	197.6	768	390.4	524	1787.97	148.997	220.4	744	424	---	---	---	---	---	---
			7,2 / 45	740	2524.99	210.415	164.6	904	342.2	690	2354.38	196.198	181.4	872	366.4	642	2190.60	182.549	200.8	842	395.2	590	2013.17	167.764	223.4	814	428.8	---	---	---	---	---	---
			10 / 50	824	2811.61	234.300	168	992	347.2	772	2634.18	219.514	184.6	956	371.4	718	2449.92	204.160	204	922	400	662	2258.84	188.236	226.6	890	433.6	---	---	---	---	---	---
HCUA-320-2	CSH8583-160Y	2*470	1,7 / 35	508	1733.37	144.447	140.2	648	295.6	474	1617.36	134.780	155	628	316.8	438	1494.52	124.543	172.2	610	342	402	1371.68	114.307	192	594	372	---	---	---	---	---	---
			4,4 / 40	568	1938.10	161.508	142.8	712	299.2	530	1808.44	150.703	157.6	688	320.4	492	1678.78	139.898	174.8	666	345.8	454	1549.12	129.093	194.6	648	375.8	---	---	---	---	---	---
			7,2 / 45	636	2170.13	180.843	145.6	782	303.4	594	2026.82	168.901	160.4	756	324.6	554	1890.33	157.527	177.4	730	350	510	1740.20	145.016	197.2	708	380	---	---	---	---	---	---
			10 / 50	710	2422.63	201.885	148.8	858	307.6	666	2272.49	189.374	163.4	828	328.8	620	2115.53	176.294	180.4	800	354.2	574	1958.57	163.214	200	774	384.4	---	---	---	---	---	---
HCUA-320-2	CSH9563-160Y	2*615	1,7 / 35	702	2395.33	199.610	186.2	888	384.4	652	2224.72	185.393	205.6	858	413.6	600	2047.29	170.607	828	828	446.6	546	1863.03	155.252	251.4	798	484	---	---	---	---	---	---
			4,4 / 40	784	2675.13	222.926	188.6	972	388.2	730	2490.87	207.572	208.2	938	417.4	674	2299.79	191.649	230.2	904	450.8	614	2095.06	174.588	254.4	870	488	---	---	---	---	---	---
			7,2 / 45	876	2989.04	249.086	191	1068	391.8	818	2791.14	232.594	210.8	1028	421.2	756	2579.59	214.965	233	990	455	692	2361.21	196.767	257.4	950	492	---	---	---	---	---	---
			10 / 50	976	3330.26	277.521	193.2	1170	395	914	3118.71	259.891	213	1126	424.6	846	2886.68	240.556	235.6	1082	458.8	778	2654.65	221.220	260.2	1038	496	---	---	---	---	---	---
HCUA-420-2	CSH9563-210Y	2*615	1,7 / 35	696	2374.86	197.904	185.2	882	395.6	648	2211.07	184.256	204.4	852	421.8	596	2033.64	169.470	225.8	822	452.2	544	1856.21	154.684	249.8	794	486.6	524	1787.97	148.997	260	784	502.6
			4,4 / 40	778	2654.65	221.220	187.8	966	399.2	724	2470.40	205.866	206.8	932	425.4	670	2286.14	190.511	228.4	898	455.8	614	2095.06	174.588	252.4	866	490.6	590	2013.17	167.764	262.6	854	506.6
			7,2 / 45	868	2961.75	246.811	187	1060	403	812	2770.67	230.888	209.4	1022	429	752	2565.94	213.827	230.8	984	459.4	690	2354.38	196.198	254.8	946	494.6	666	2272.49	189.374	265.2	932	510.6
			10 / 50	968	3302.96	275.246	193.6	1162	407.2	906	3091.41	257.617	212.2	1118	433	842	2873.03	239.418	233.4	1076	463.2	776	2647.85	220.652	257.4	1032	498.6	748	2552.29	212.690	267.8	1016	512.6

ENGINEERING SPECIFICATIONS (50 HZ) (R-134a)											
condensing unit MODEL	no.of circuit	comp.oil charge (dm^3)	condenser coil					condenser fan			
			row	fpi	QTY	total heat rejection (kw)	total face area (m2)	size (mm)	QTY	total air flow rate (cfm)	motor power (kw)
HCUA-35-1	1	9.5	2	12	4	126	4*2.31	800	4	4*12360	4*1.7
HCUA-40-1	1	9.5	3	12	4	156.8	4*2.31	800	4	4*13243	4*1.7
HCUA-50-1 (139)	1	9.5	3	12	4	124.5	4*2.31	800	4	2*12360	4*1.7
HCUA-50-1 (195)	1	9.5	3	10	4	149.3	4*2.31	800	4	4*12948	4*1.7
HCUA-50-1 (197)	1	15	4	10	4	180.8	4*2.31	800	4	4*12948	4*1.7
HCUA-60-1 (170)	1	9.5	3	12	4	155.9	4*2.31	800	4	4*13243	4*1.7
HCUA-60-1 (220)	1	9.5	4	12	4	202	4*2.31	800	4	4*12654	4*1.7
HCUA-60-1 (227)	1	15	3	10	6	212	6*2.31	800	6	6*12654	6*1.7
HCUA-70-1 (197)	1	15	4	10	4	182.8	4*2.31	800	4	4*12948	4*1.7
HCUA-70-1 (258)	1	15	3	12	6	243	6*2.31	800	6	6*12360	6*1.7
HCUA-80-1 (227)	1	15	3	10	6	211	6*2.31	800	6	6*12654	6*1.7
HCUA-80-1 (295)	1	15	4	12	6	279	6*2.31	800	6	6*12948	6*1.7
HCUA-80-1 (315)	1	22	4	12	6	293	6*2.31	800	6	6*12654	6*1.7
HCUA-90-1 (258)	1	15	3	12	6	241	6*2.31	800	6	4*12360	4*1.7
HCUA-90-1 (336)	1	15	3	12	8	317	8*2.31	800	8	8*12654	8*1.7

ENGINEERING SPECIFICATIONS (50 HZ) (R-134a)											
condensing unit MODEL	no.of circuit	comp.oil charge (dm^3)	condenser coil					condenser fan			
			row	fpi	QTY	total heat rejection	total face area (m2)	size (mm)	QTY	total air flow rate (cfm)	motor power (kw)
HCUA-90-1 (359)	1	22	3	10	8	337	8*2.31	800	8	8*12948	8*1.7
HCUA-100-1 (295)	1	15	4	12	6	279	6*2.31	800	6	8*12948	8*1.7
HCUA-110-1 (336)	1	15	3	12	8	318	8*2.31	800	8	8*12654	8*1.7
HCUA-110-1 (315)	1	22	4	12	6	298	6*2.31	800	6	6*12654	6*1.7
HCUA-110-1 (410)	1	22	4	12	8	395	8*2.31	800	8	8*12654	8*1.7
HCUA-125-1 (359)	1	22	3	12	8	340	8*2.31	800	8	8*12948	8*1.7
HCUA-125-1 (470)	1	19	4	10	10	436	10*2.31	800	10	10*12654	10*1.7
HCUA-140-1 (410)	1	22	3	12	8	325	8*2.31	800	8	8*12654	8*1.7
HCUA-140-1 (535)	1	19	4	12	10	496	10*2.31	800	10	10*12360	10*1.7
HCUA-160-1 (470)	1	19	3	12	10	429	10*2.31	800	10	10*12654	10*1.7
HCUA-160-1 (615)	1	30	4	12	12	585	12*2.31	800	12	12*12360	12*1.7
HCUA-210-1 (615)	1	30	4	12	12	581	12*2.31	800	12	12*12360	12*1.7
HCUA-70-2	2	19	4	10	6	252	6*2.31	800	6	6*12360	6*1.7
HCUA-80-2	2	19	3	12	8	313.6	8*2.31	800	8	8*12654	8*1.7
HCUA-100-2 (2*137)	2	19	3	12	6	249	6*2.31	800	6	6*12360	6*1.7

ENGINEERING SPECIFICATIONS (50 HZ) (R-134a)											
condensing unit MODEL	no.of circuit	comp.oil charge (dm^3)	condenser coil					condenser fan			
			row	fpi	QTY	total heat rejection	total face area (m2)	size (mm)	QTY	total air flow rate (cfm)	motor power (kw)
HCUA-100-2 (2*195)	2	19	4	12	6	298.6	6*2.31	800	6	6*12360	6*1.7
HCUA-100-2 (2*197)	2	30	4	10	8	361.6	8*2.31	800	8	8*12360	8*1.7
HCUA-120-2 (2*170)	2	19	3	12	8	311.8	8*2.31	800	8	8*12654	8*1.7
HCUA-120-2 (2*220)	2	19	4	12	8	404	8*2.31	800	8	8*12654	8*1.7
HCUA-120-2 (2*227)	2	30	3	10	10	424	10*2.31	800	10	10*12654	10*1.7
HCUA-140-2 (2*197)	2	30	4	10	8	365.6	8*2.31	800	8	8*12360	8*1.7
HCUA-140-2 (2*258)	2	30	4	12	10	486	10*2.31	800	10	10*12360	10*1.7
HCUA-160-2 (2*227)	2	30	3	10	10	422	10*2.31	800	10	10*12654	10*1.7
HCUA-160-2 (2*295)	2	30	4	12	12	558	12*2.31	800	12	12*12948	12*1.7
HCUA-160-2 (2*315)	2	44	4	12	12	586	12*2.31	800	12	12*12360	12*1.7
HCUA-180-2 (2*258)	2	30	4	12	10	482	10*2.31	800	10	10*12360	10*1.7
HCUA-180-2 (2*336)	2	30	4	12	14	634	14*2.31	800	14	14*12360	14*1.7
HCUA-180-2 (2*359)	2	44	4	12	14	674	12*2.31	800	14	14*12948	14*1.7
HCUA-200-2 (2*295)	2	30	4	12	12	558	12*2.31	800	12	12*12948	12*1.7
HCUA-220-2 (2*336)	2	30	4	12	14	636	14*2.31	800	14	14*12654	14*1.7

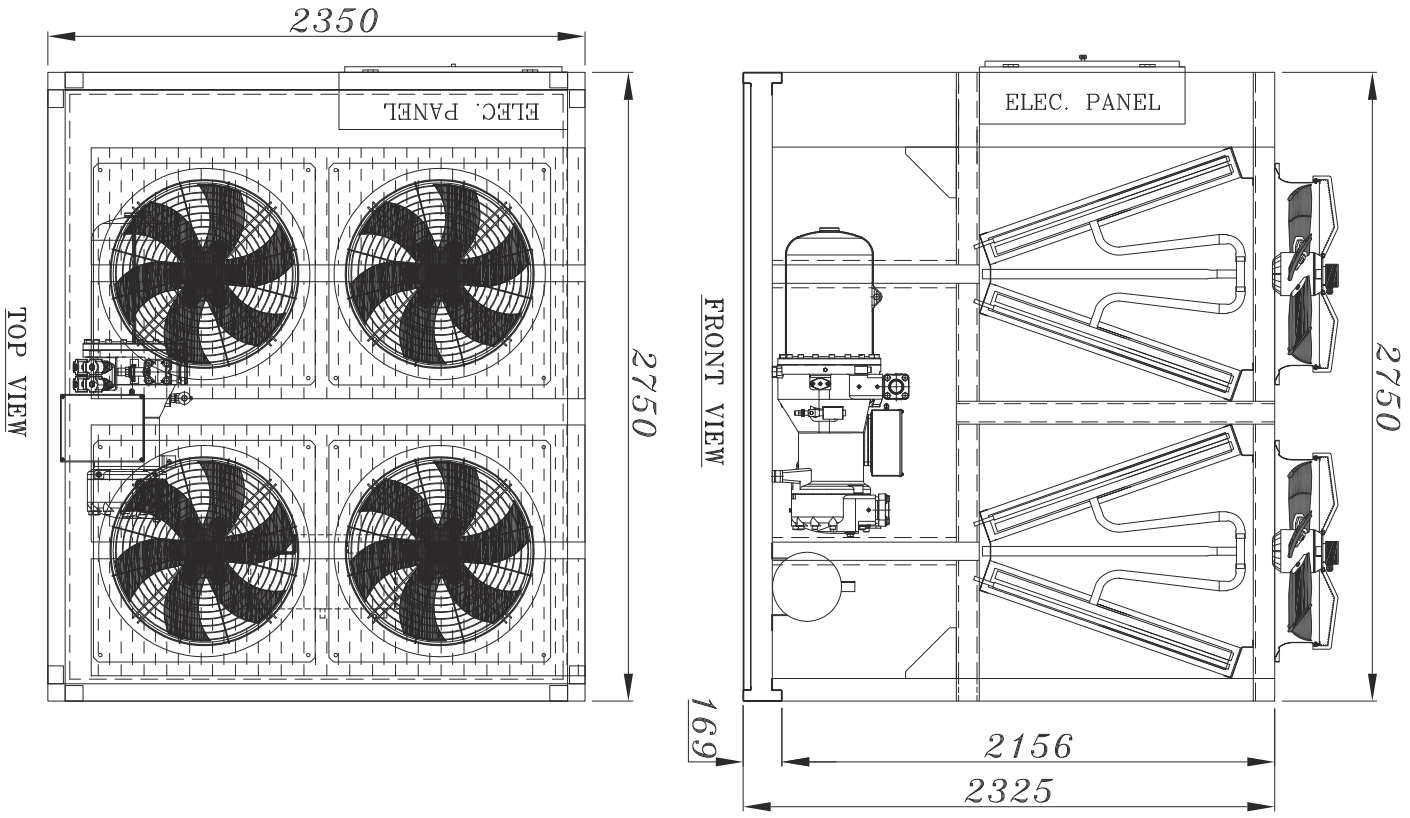
ENGINEERING SPECIFICATIONS (50 HZ) (R-134a)											
condensing unit MODEL	no.of circuit	comp.oil charge (dm^3)	condenser coil					condenser fan			
			row	fpi	QTY	total heat rejection	total face area (m2)	size (mm)	QTY	total air flow rate (cfm)	motor power (kw)
HCUA-220-2 (2*315)	2	44	3	12	14	596	14*2.31	800	14	14*12360	14*1.7
HCUA-220-2 (2*410)	2	44	4	12	16	790	16*2.31	800	16	16*12948	16*1.7
HCUA-250-2 (2*359)	2	44	4	12	14	680	14*2.31	800	14	14*12948	14*1.7
HCUA-250-2 (2*470)	2	38	4	12	18	872	18*2.31	800	18	18*12360	18*1.7
HCUA-280-2 (2*410)	2	44	4	12	14	650	14*2.31	800	14	14*12948	14*1.7
HCUA-280-2 (2*535)	2	38	4	12	20	992	20*2.31	800	20	20*12360	20*1.7
HCUA-320-2 (2*470)	2	38	3	12	20	858	20*2.31	800	20	20*12360	20*1.7
HCUA-320-2 (2*615)	2	60	4	12	24	1170	24*2.31	800	24	24*12360	24*1.7
HCUA-420-2 (2*615)	2	60	4	12	24	1162	24*2.31	800	24	24*12360	24*1.7

ELECTRICAL DATA (R-134a)				
chiller MODEL	Nominal Comp. power (HP)	MRA (Amp)	LRA (Amp) (D/DD)	MAX CONSE POWER (kw)
HCUA-35-1	35	59.2	153/305	37.4
HCUA-40-1	40	77.5	182/338	47.8
HCUA-50-1 (139)	50	60.9	218/411	55.4
HCUA-50-1 (195)	50	84.2	218/411	57.8
HCUA-50-1 (197)	50	88.7	206/355	58.8
HCUA-60-1 (170)	60	80.5	269/508	71.8
HCUA-60-1 (220)	60	92.4	269/508	62.8
HCUA-60-1 (227)	60	99.6	267/449	71.8
HCUA-70-1 (197)	70	90.9	290/485	84.8
HCUA-70-1 (258)	70	110.5	290/485	84.8
HCUA-80-1 (227)	80	99.3	350/585	94.8
HCUA-80-1 (295)	80	130.9	350/585	98.2
HCUA-80-1 (315)	80	133.1	394/606	98.2
HCUA-90-1 (258)	90	109.1	423/686	102.8
HCUA-90-1 (336)	90	143.2	423/686	106.2
HCUA-90-1 (359)	90	152.7	439/675	106.2
HCUA-100-1 (295)	100	131.1	479/790	112.2

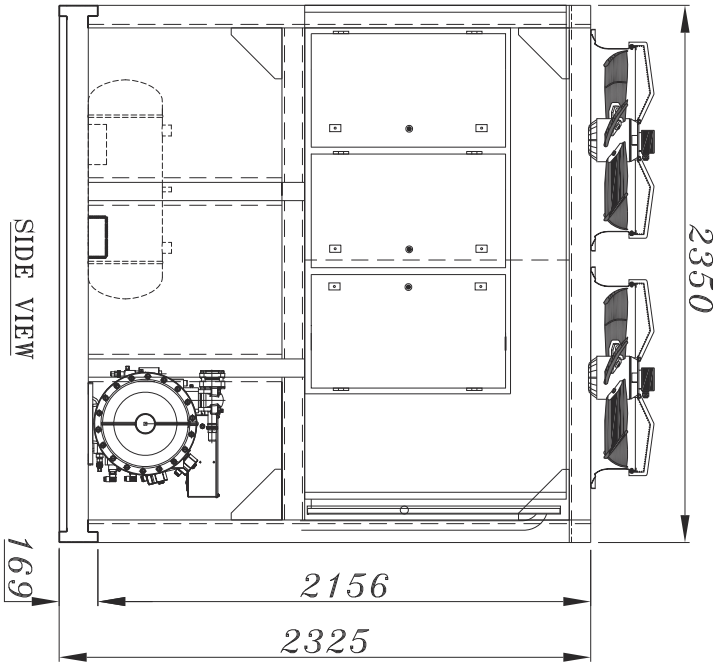
ELECTRICAL DATA (R-134a)				
chiller MODEL	Nominal Comp. power (HP)	MRA (Amp)	LRA (Amp)	MAX CONSE POWER (kw)
HCUA-110-1 (336)	110	146.5	516/887	122.2
HCUA-110-1 (315)	110	142.5	520/801	122.2
HCUA-110-1 (410)	110	181.7	520/801	123.6
HCUA-125-1 (359)	125	160.2	612/943	142.2
HCUA-125-1 (470)	125	201.7	612/943	133.6
HCUA-140-1 (410)	140	186	665/1023	163.6
HCUA-140-1 (535)	140	224.3	665/1023	144.6
HCUA-160-1 (470)	160	202.7	729/1114	173.6
HCUA-160-1 (615)	160	256	436/1364	172
HCUA-210-1 (615)	210	260	586/1853	263
HCUA-70-2	2*35	118.4	2*(153/305)	74.8
HCUA-80-2	2*40	147.6	2*(182/338)	92.2
HCUA-100-2 (2*137)	2*50	121.8	2*(218/411)	110.8
HCUA-100-2 (2*195)	2*50	161	2*(218/411)	112.2
HCUA-100-2 (2*197)	2*50	170	2*(206/355)	114.2
HCUA-120-2 (2*170)	2*60	153.6	2*(269/508)	140.2
HCUA-120-2 (2*220)	2*60	184.8	2*(269/508)	125.6

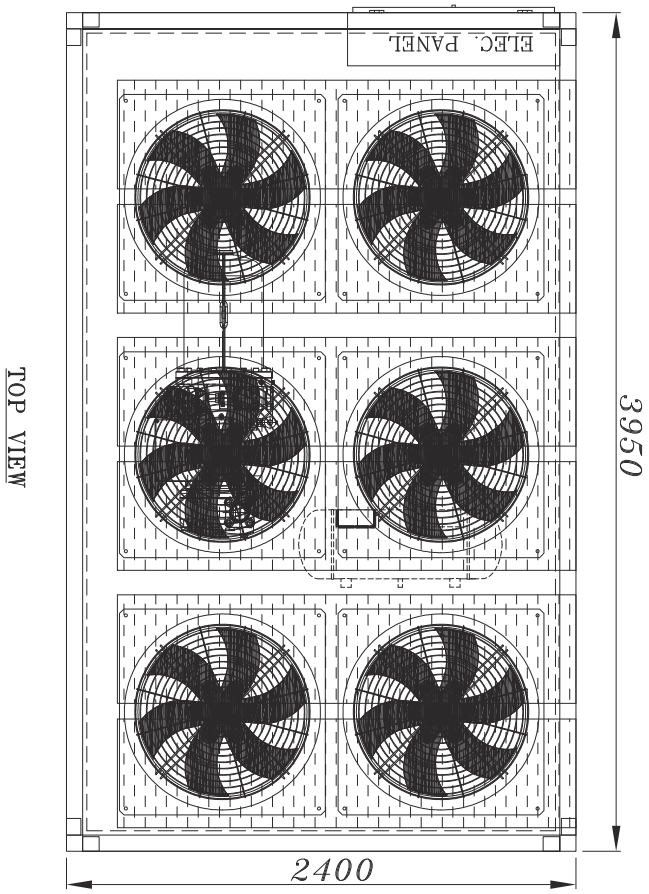
ELECTRICAL DATA (R-134a)				
chiller MODEL	Nominal Comp. power (HP)	MRA (Amp)	LRA (Amp)	MAX CONSE POWER (kw)
HCUA-120-2 (2*227)	2*60	199.2	2*(267/449)	143.6
HCUA-140-2 (2*197)	2*70	174.4	2*(290/485)	166.2
HCUA-140-2 (2*258)	2*70	221	2*(290/485)	169.6
HCUA-160-2 (2*227)	2*80	198.6	2*(350/585)	189.6
HCUA-160-2 (2*295)	2*80	254.4	2*(350/585)	193
HCUA-160-2 (2*315)	2*80	258.8	2*(394/606)	193
HCUA-180-2 (2*258)	2*90	218.2	2*(423/686)	205.6
HCUA-180-2 (2*336)	2*90	279	2*(423/686)	209
HCUA-180-2 (2*359)	2*90	305.4	2*(439/675)	212.4
HCUA-200-2 (2*295)	2*100	254.8	2*(479/790)	221
HCUA-220-2 (2*336)	2*110	293	2*(516/887)	244.4
HCUA-220-2 (2*315)	2*110	277.6	2*(520/801)	241
HCUA-220-2 (2*410)	2*110	356	2*(520/801)	243.8
HCUA-250-2 (2*359)	2*125	320.4	2*(612/943)	284.4
HCUA-250-2 (2*470)	2*125	396	2*(612/943)	263.8
HCUA-280-2 (2*410)	2*140	364.6	2*(665/1023)	323.8
HCUA-280-2 (2*535)	2*140	448.6	2*(665/1023)	289.2
HCUA-320-2 (2*470)	2*160	398	2*(729/1114)	343.8
HCUA-320-2 (2*615)	2*160	512	2*(436/1364)	344
HCUA-420-2 (2*615)	2*210	512.6	2*(586/1853)	522.6

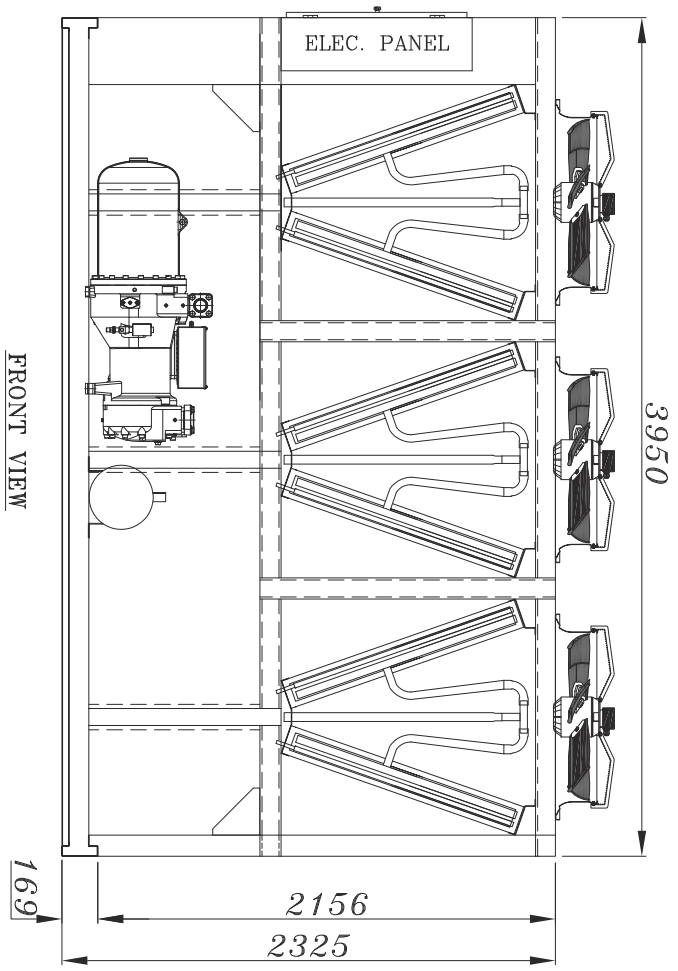
Dimensions (R-22)-BITZER



HCUA-50-1

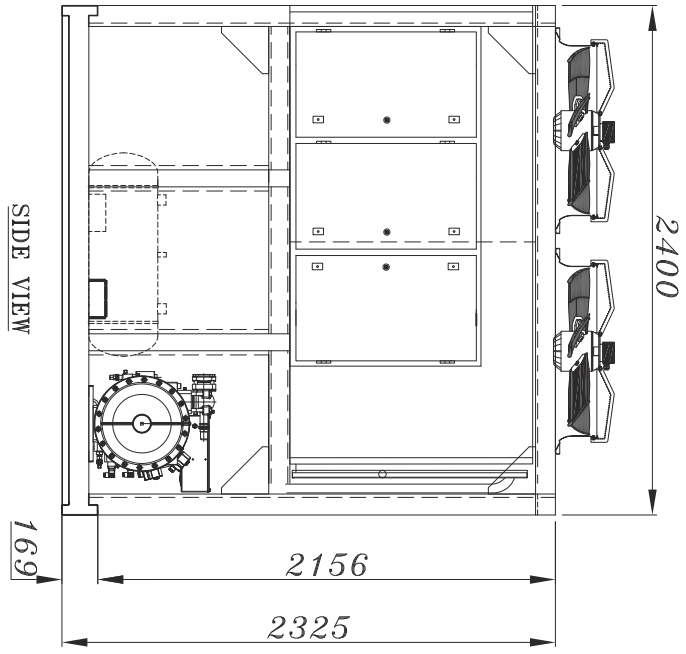


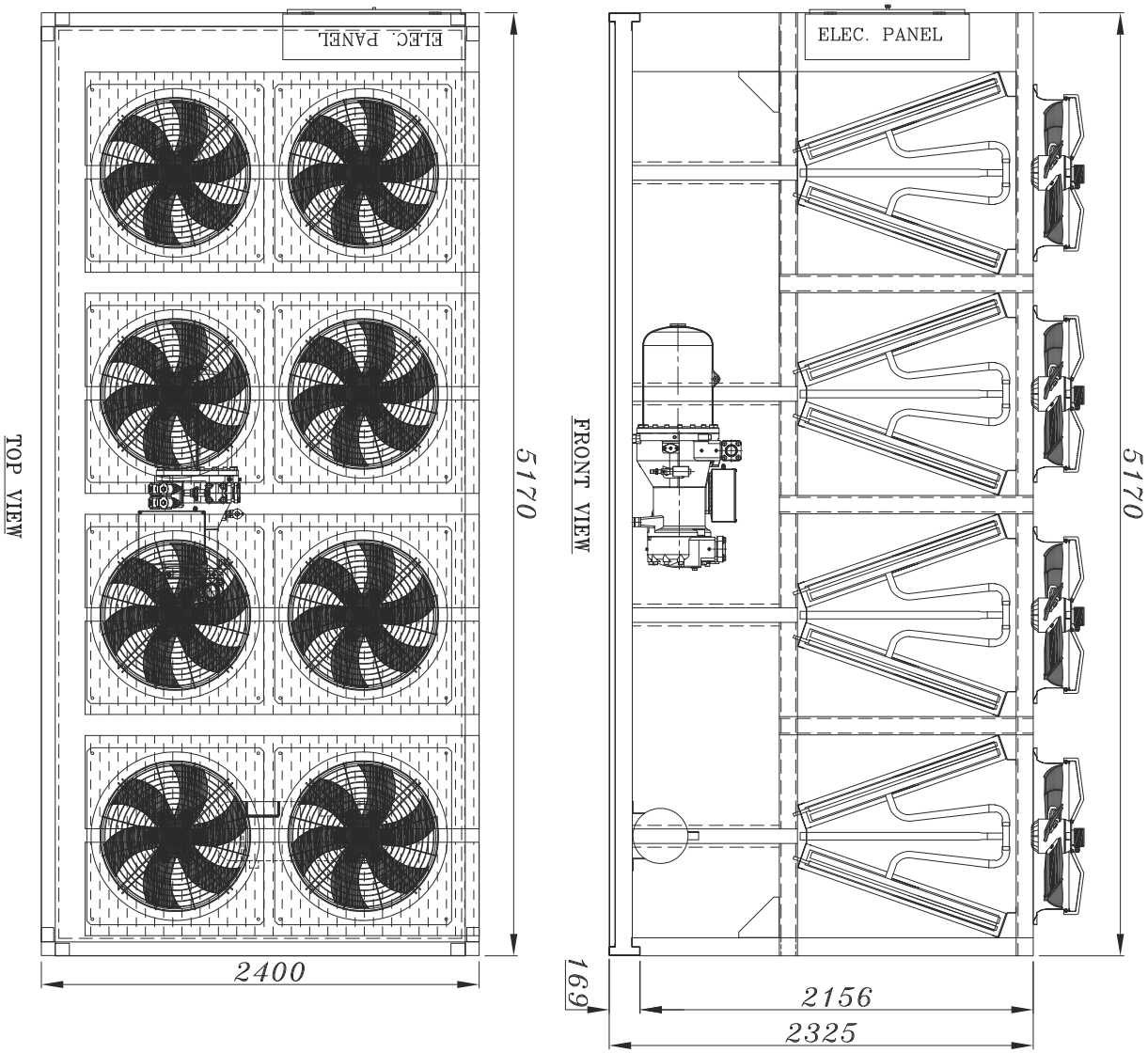




HCUA-60-1

HCUA-70-1

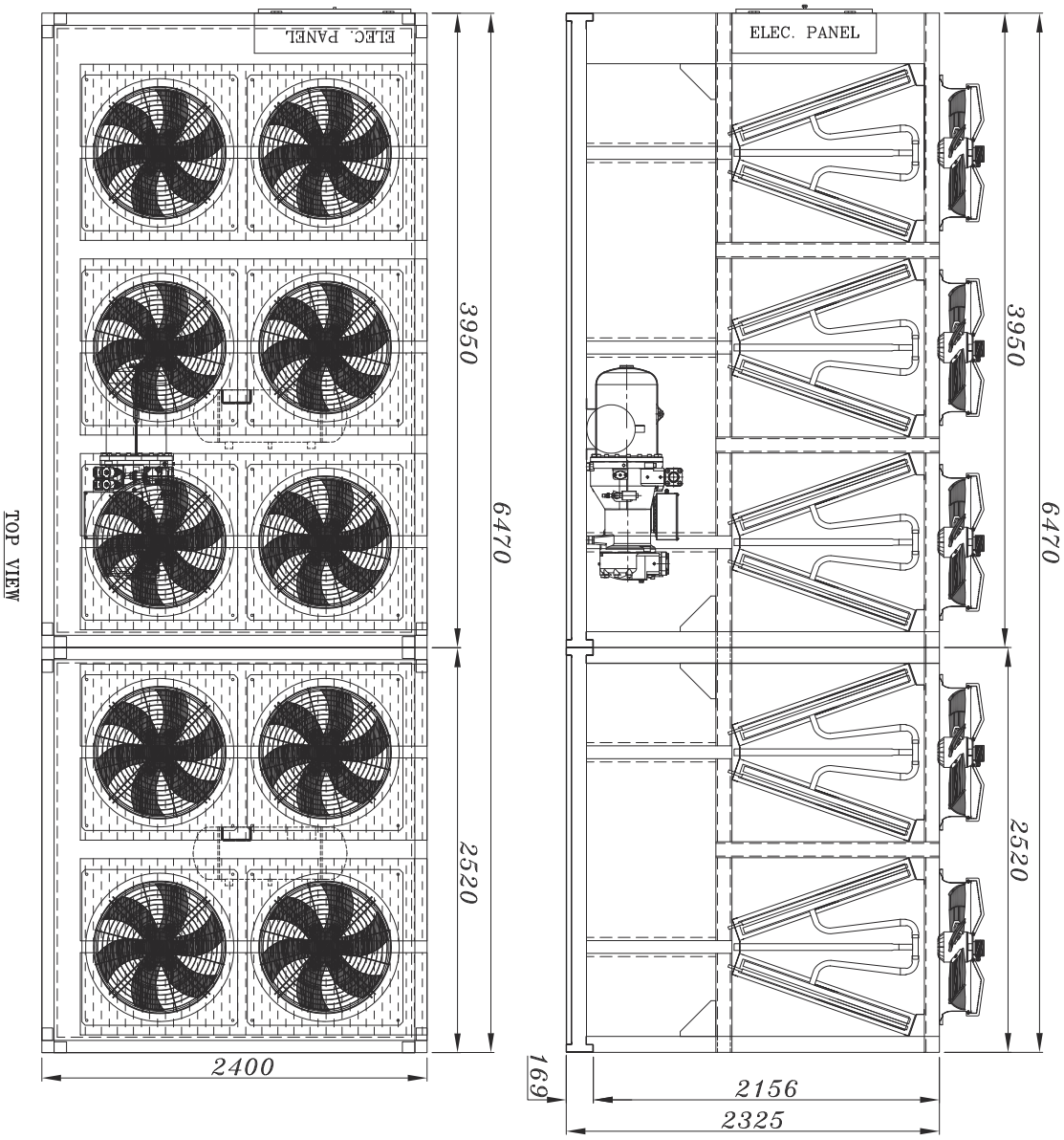


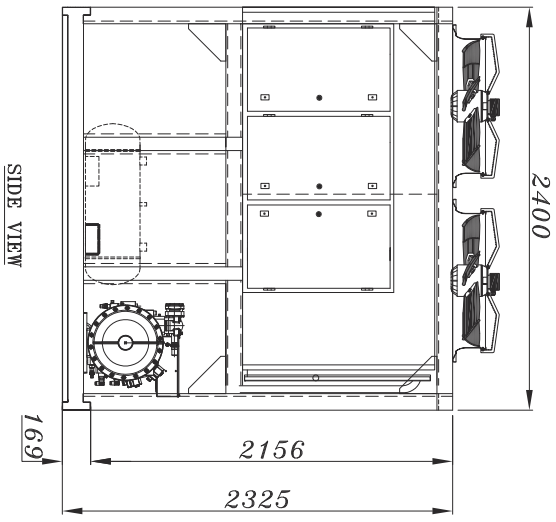


HCUA-100-1

HCUA-90-1

HCUA-80-1

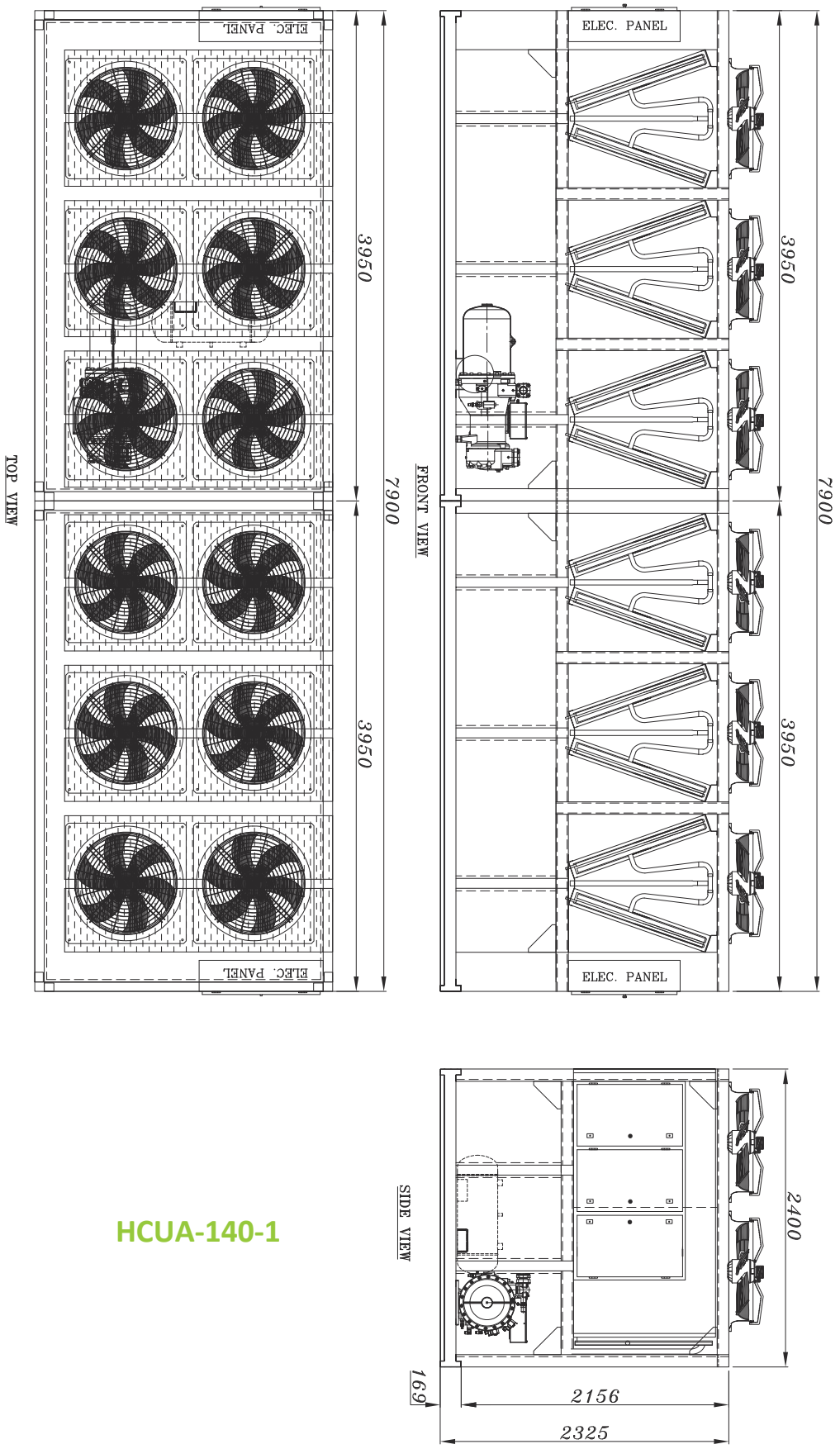




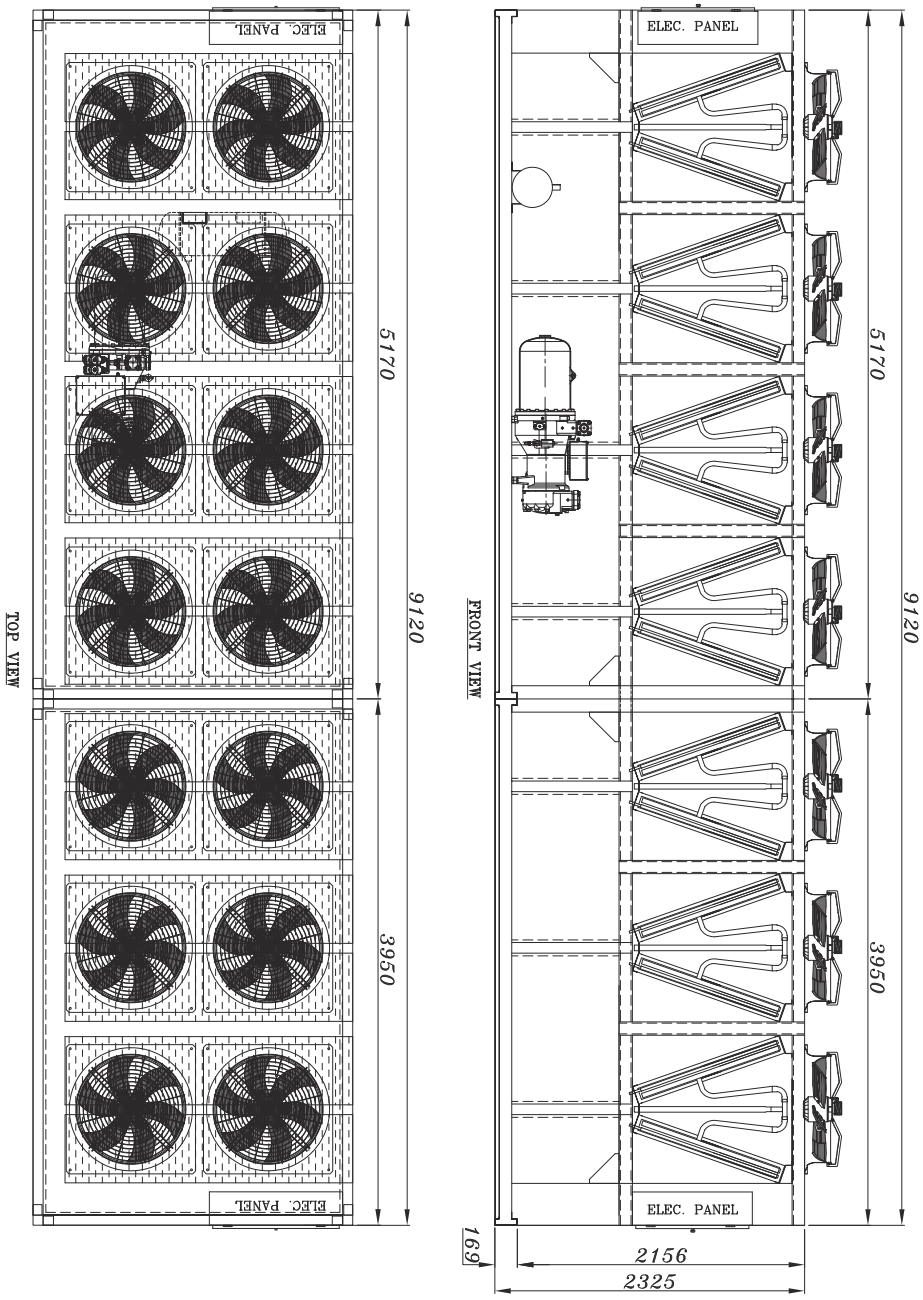
HCUA-125-1

HCUA-110-1(CSH7593-110)

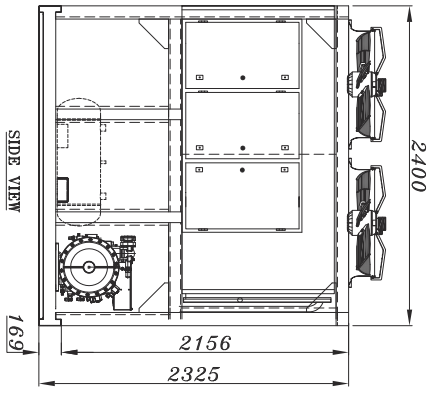
HCUA-110-1(CSH7553-110)

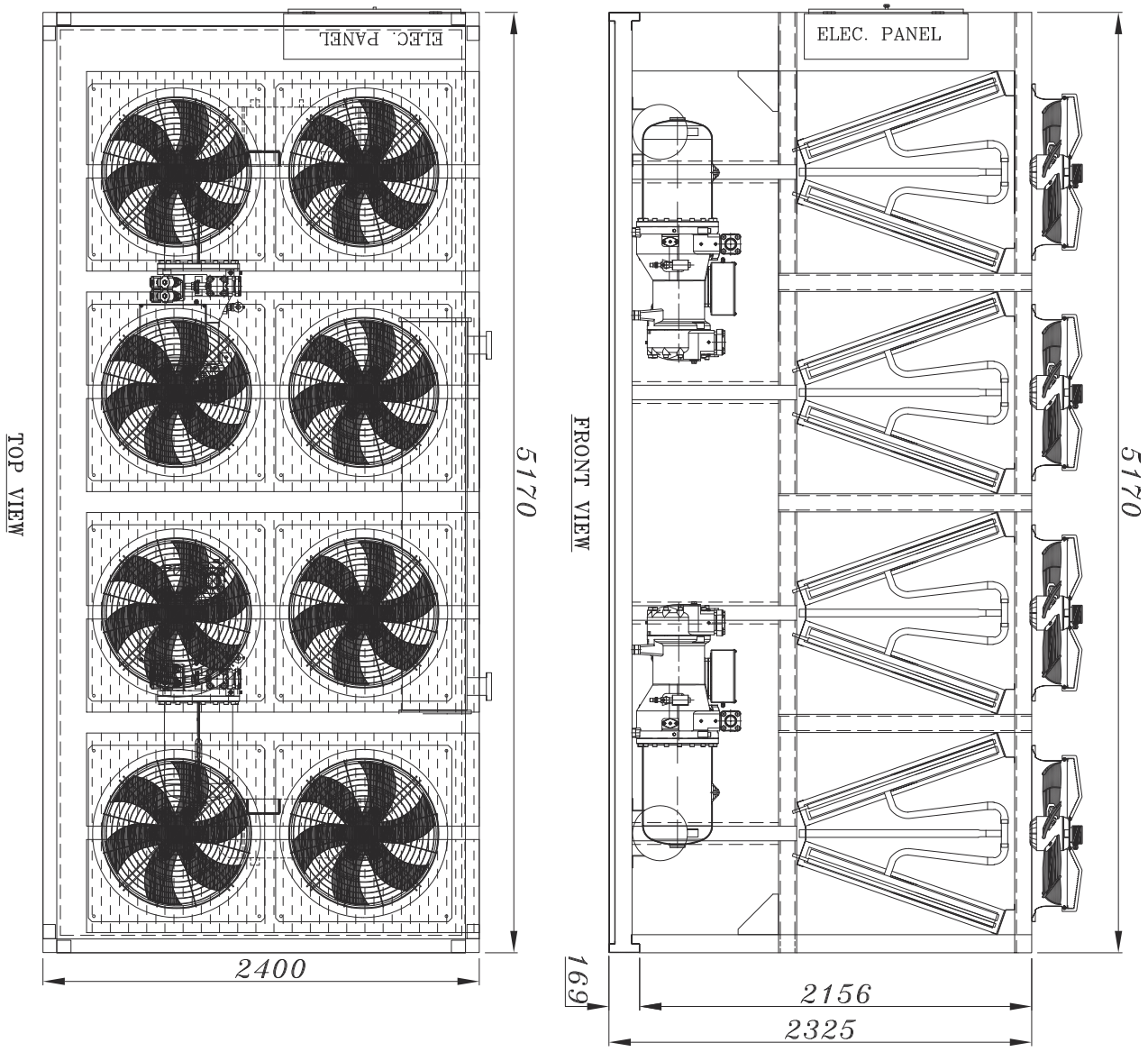

TOP VIEW
ELEC. PANEL
ELEC. PANEL
3950
3950
7900
FRONT VIEW
ELEC. PANEL
ELEC. PANEL
3950
3950
7900
SIDE VIEW
2400
169
2156
2325

HCUA-140-1

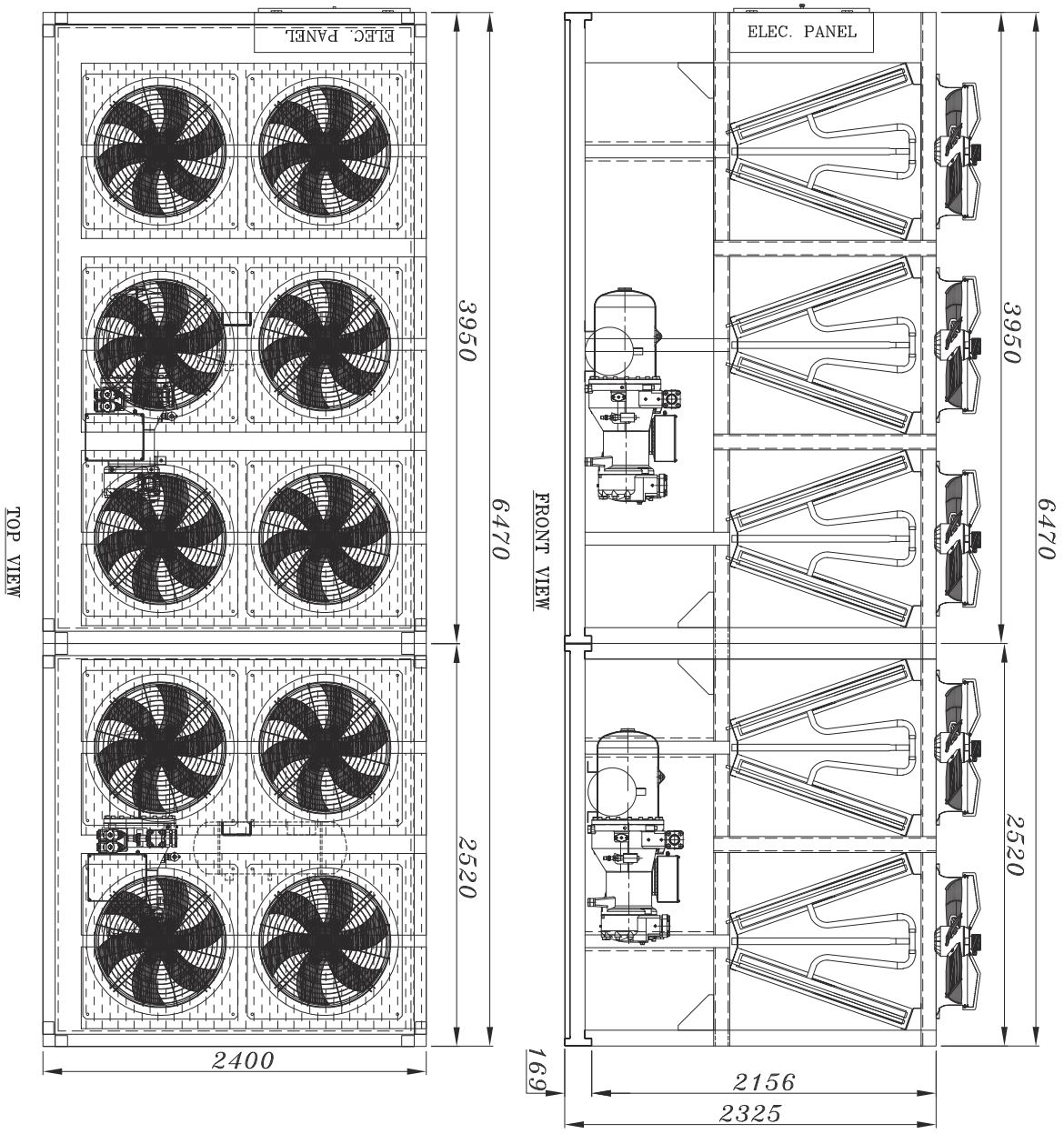

TOP VIEW
ELEC. PANEL
ELEC. PANEL
5170
3950
9120
FRONT VIEW
ELEC. PANEL
ELEC. PANEL
5170
3950
9120
169
2156
2325

HCUA-160-1

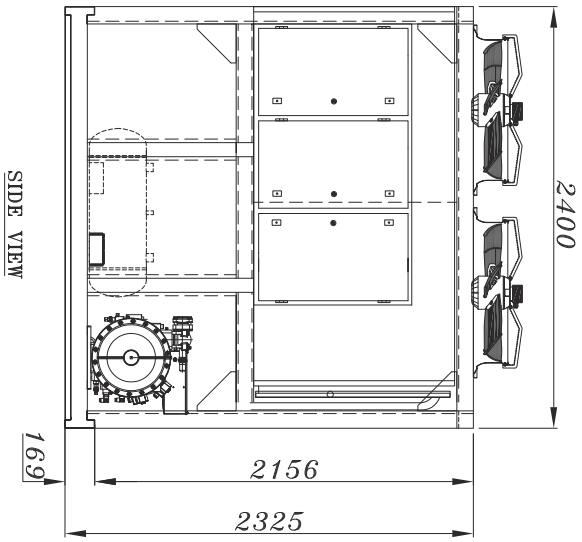

SIDE VIEW
2400
169
2156
2325

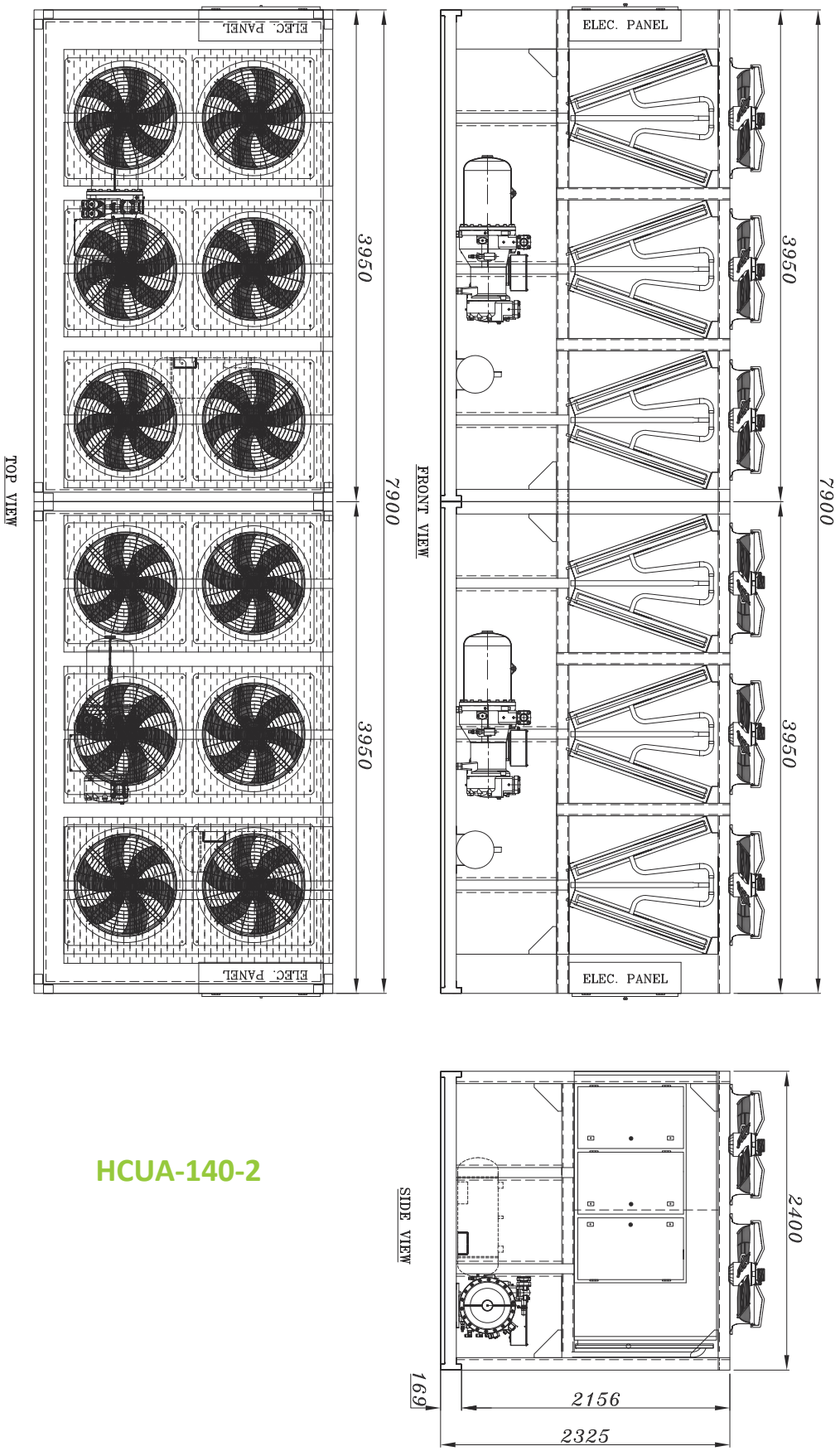

TOP VIEW
ELEC. PANEL
5170
2400
FRONT VIEW
ELEC. PANEL
5170
169
2156
2325
SIDE VIEW
2400
169
2156
2325

HCUA-100-2

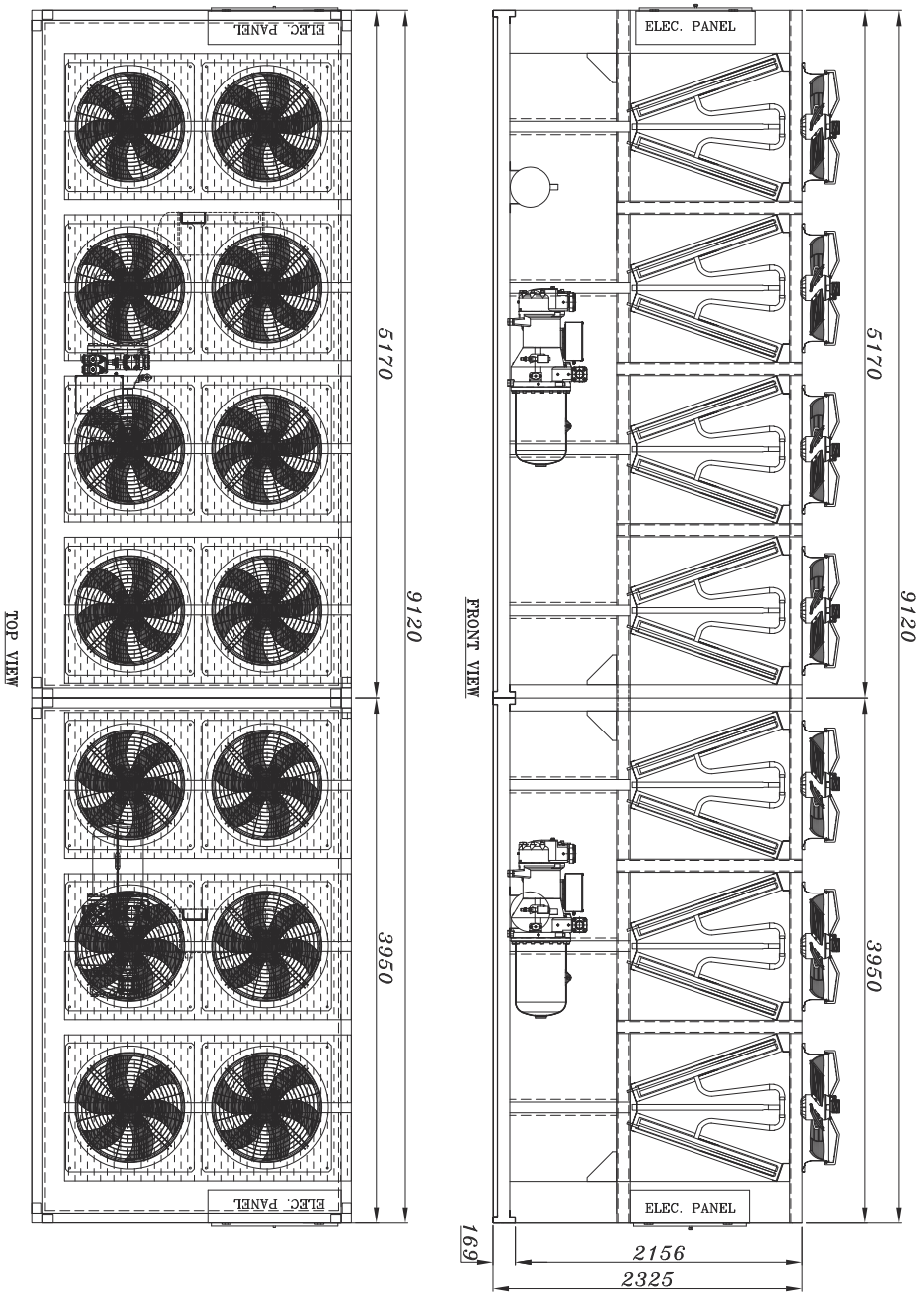


HCUA-120-2

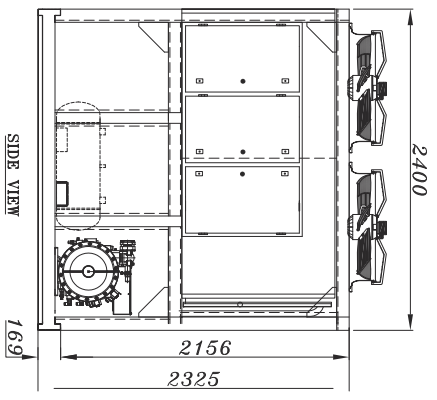


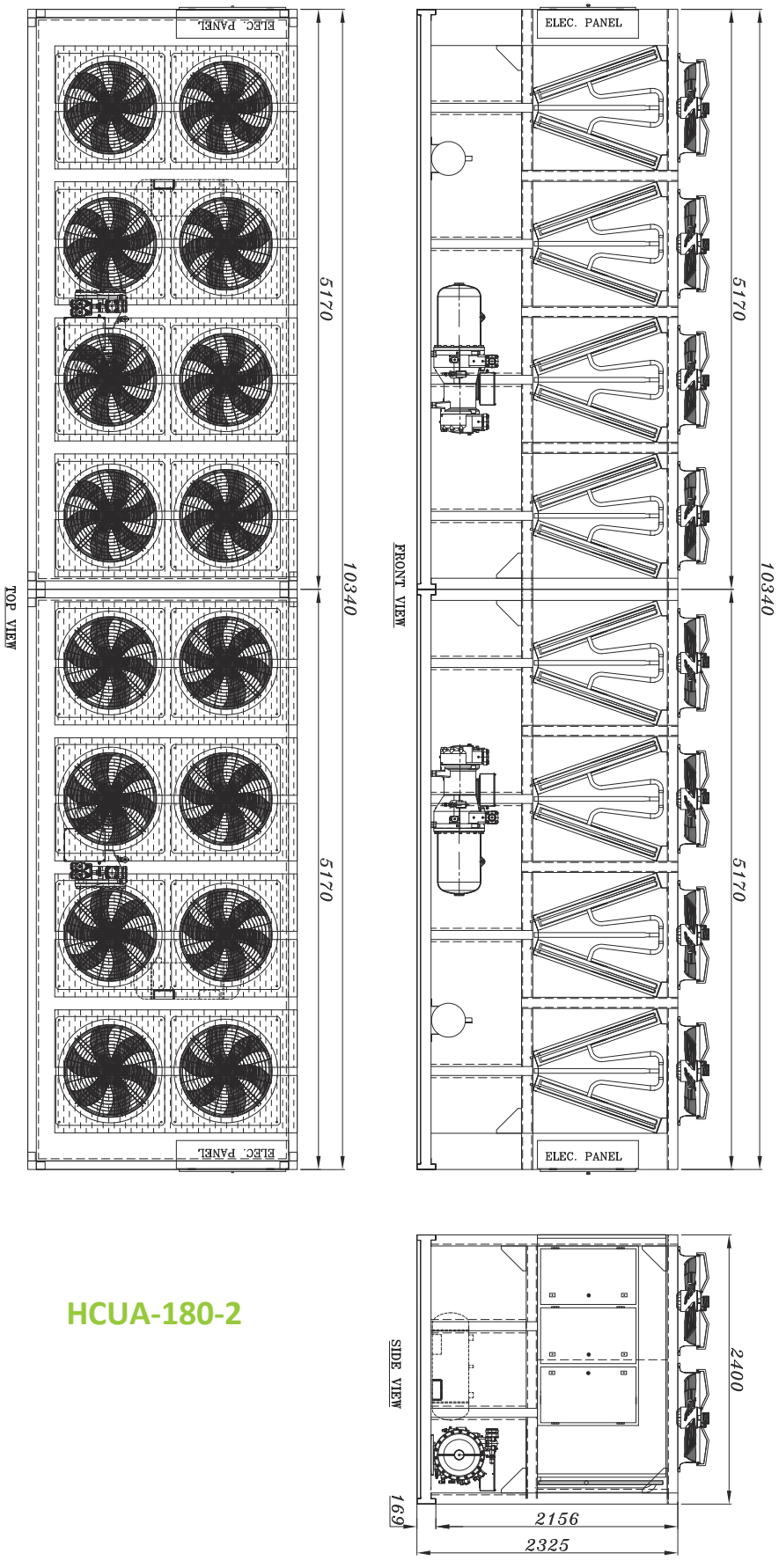

TOP VIEW
ELEC. PANEL
ELEC. PANEL
3950
3950
7900
FRONT VIEW
ELEC. PANEL
ELEC. PANEL
3950
3950
7900
SIDE VIEW
2400
169
2156
2325

HCUA-140-2

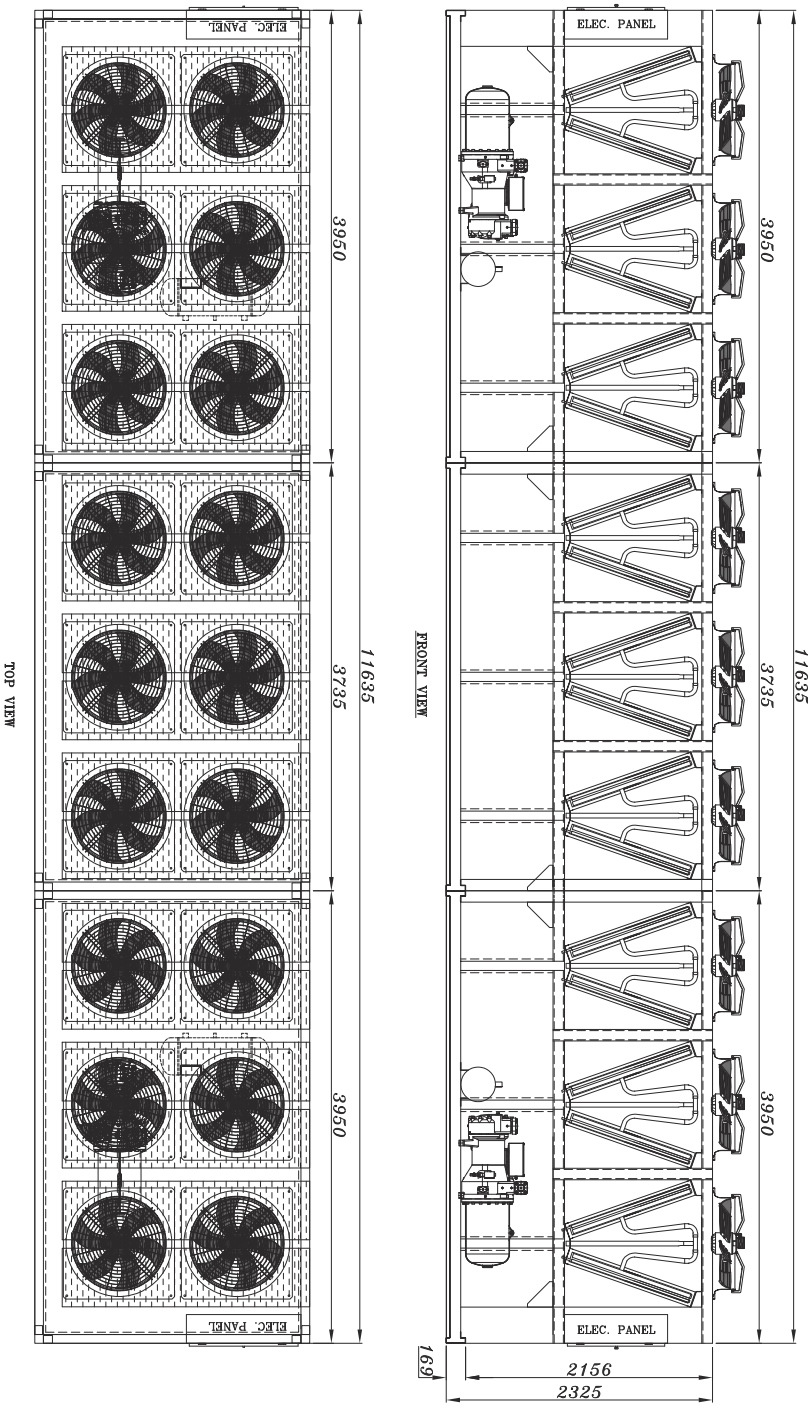


HCUA-160-2

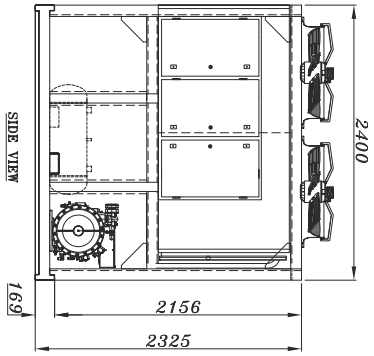


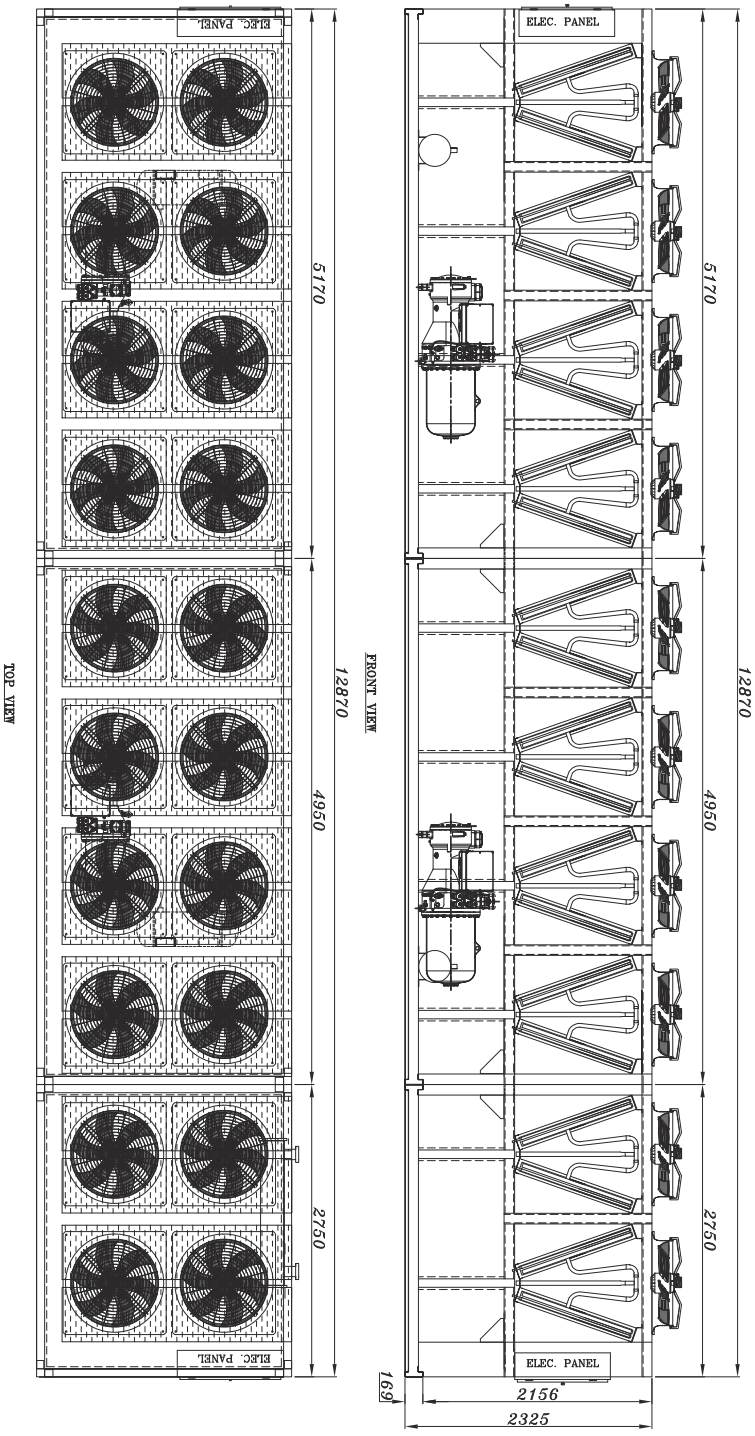

TOP VIEW
ELEC. PANEL
5170
5170
10340
FRONT VIEW
ELEC. PANEL
ELEC. PANEL
5170
5170
10340
SIDE VIEW
2400
169
2156
2325

HCUA-180-2



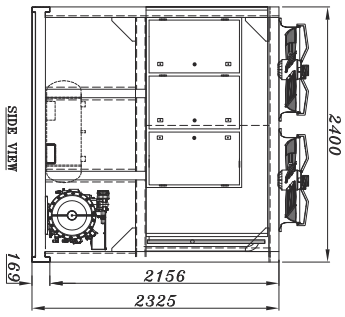
HCUA-200-2
HCU-220-2 (CSH8553-110)

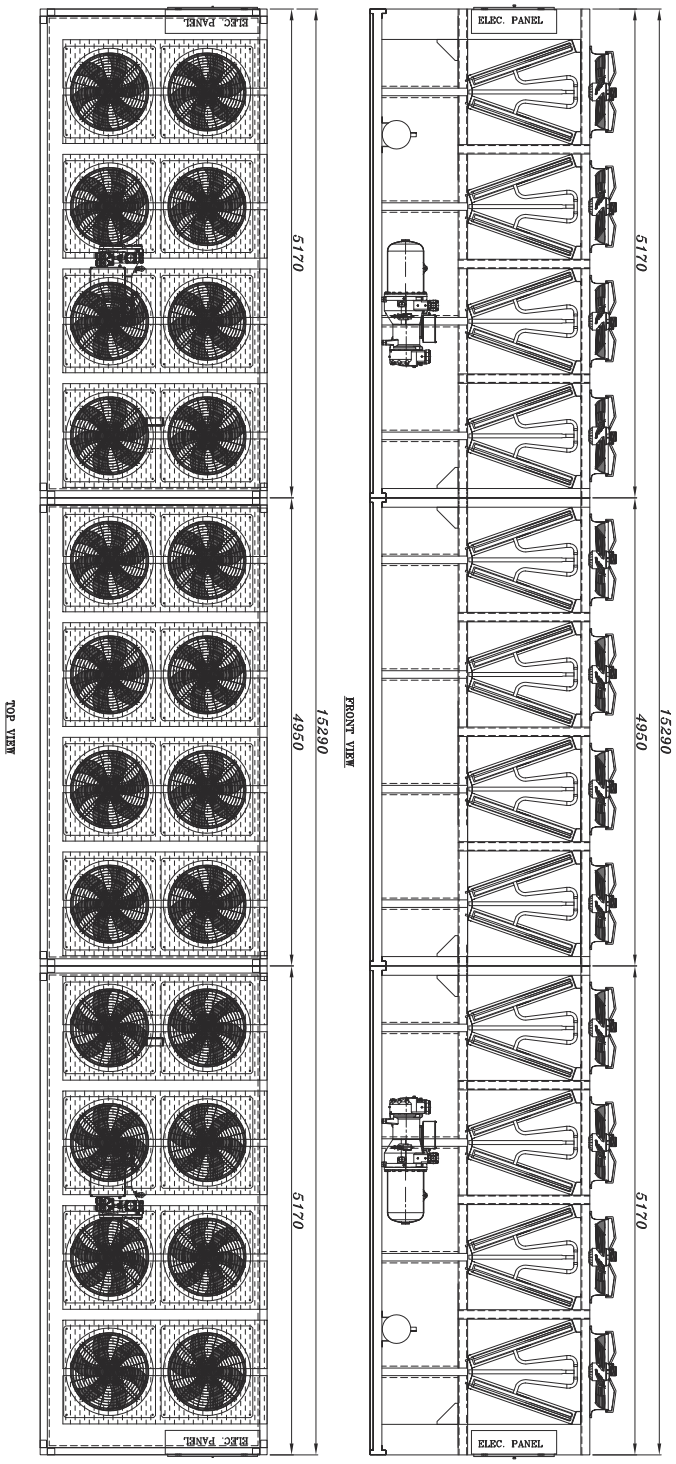




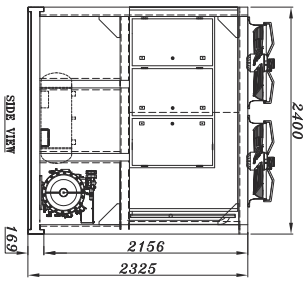
HCU-220-2 (CSH7593-110)

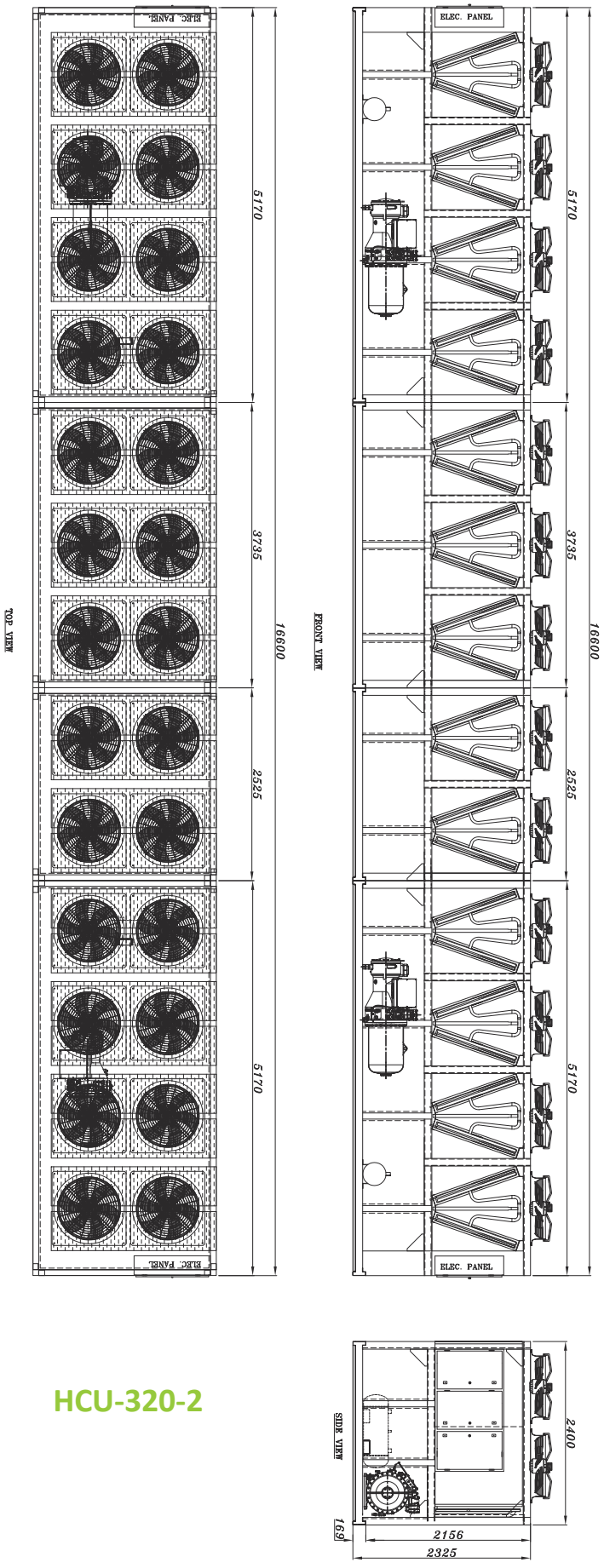
HCU-250-2





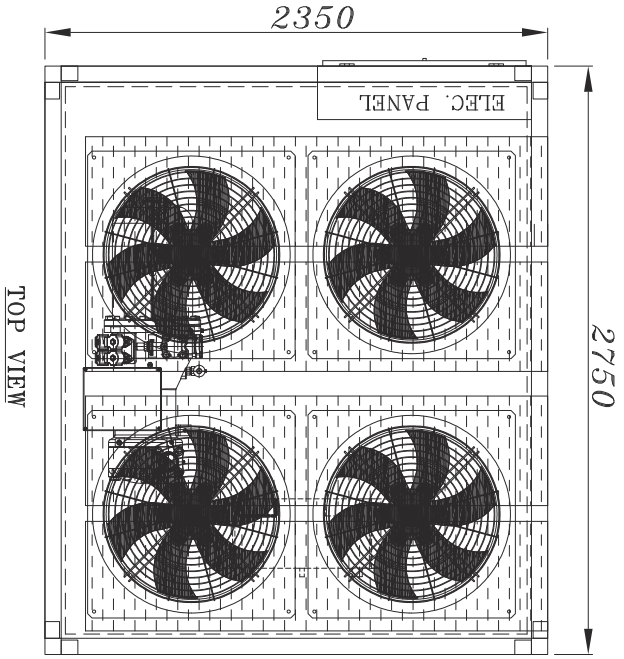
HCU-280-2

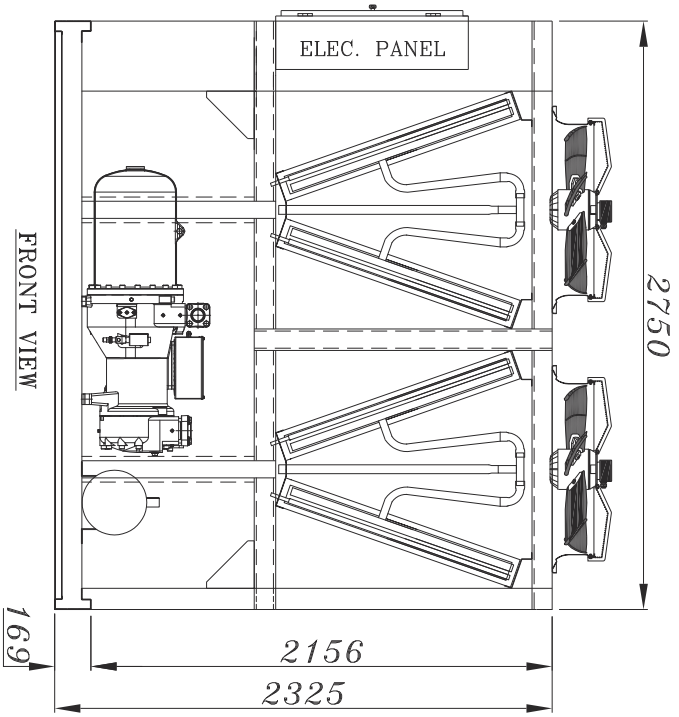



TOP VIEW
ELEC. PANEL
5170
3735
2525
5170
16600
FRONT VIEW
ELEC. PANEL
5170
3735
2525
5170
16600
SIDE VIEW
2400
169
2156
2325

HCU-320-2

Dimensions(R-134)-BITZER





HCU-35-1

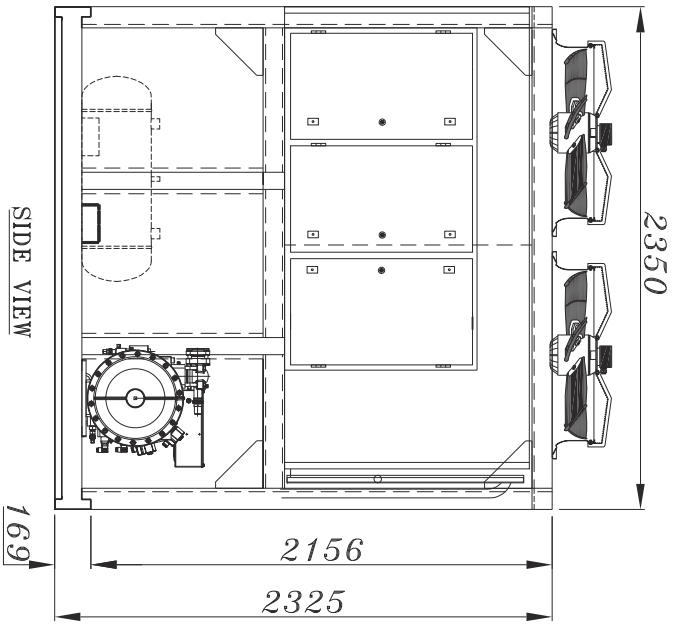
HCU-40-1

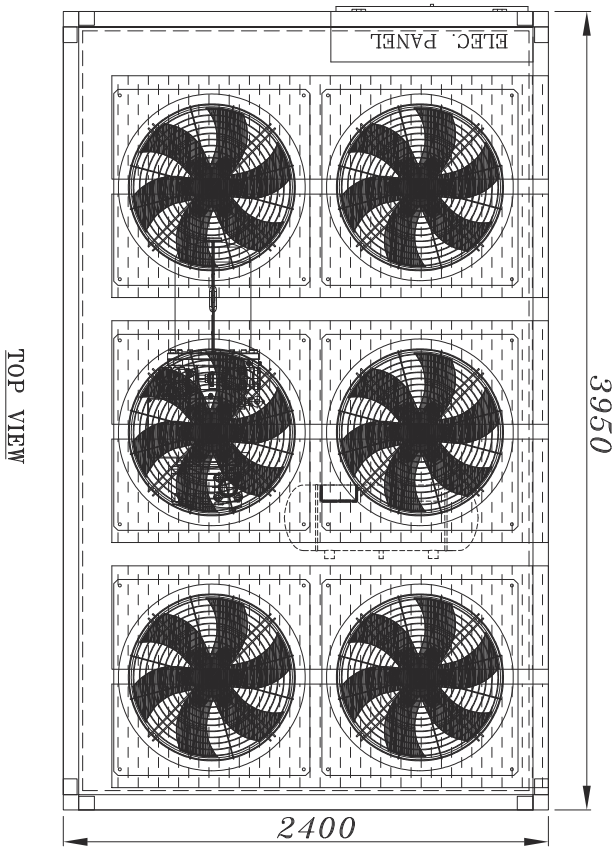
HCU-50-1

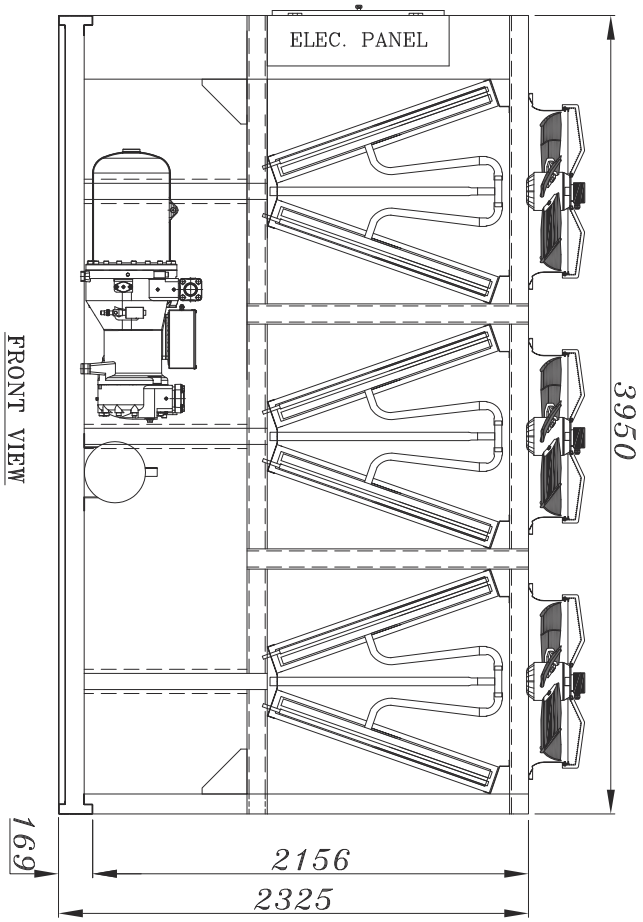
HCU-50-1(139-195-197)

HCU-60-1(170-220)

HCU-70-1(197)







HCU-60-1(227)

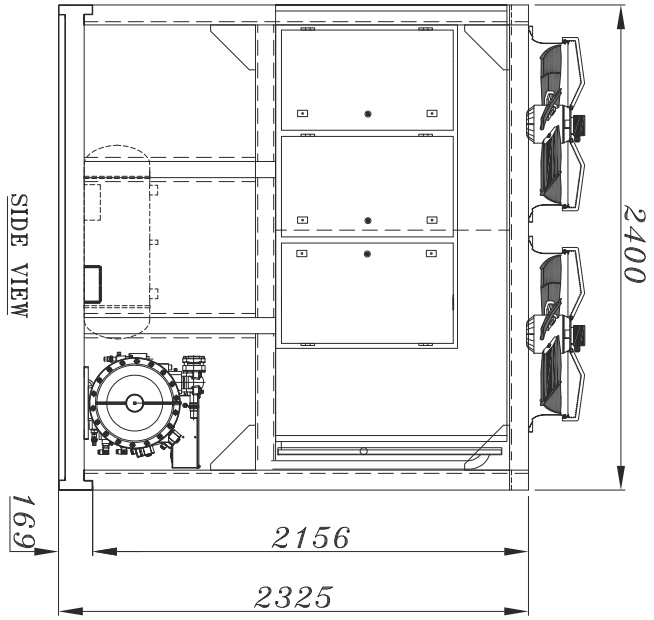
HCU-70-1(258)

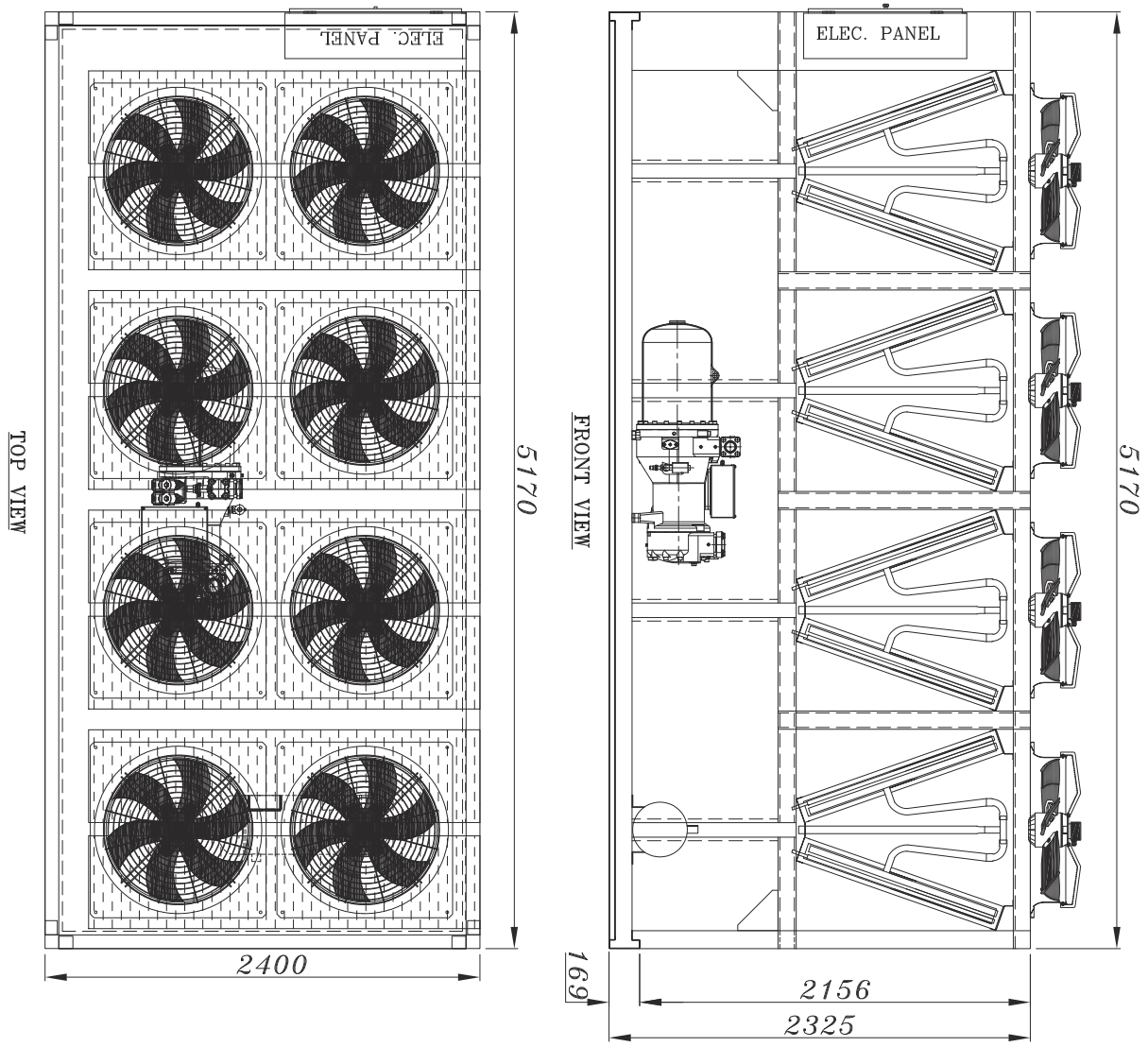
HCU-80-1(227-295-315)

HCU-90-1(258)

HCU-100-1(295)

HCU-110-1(315)





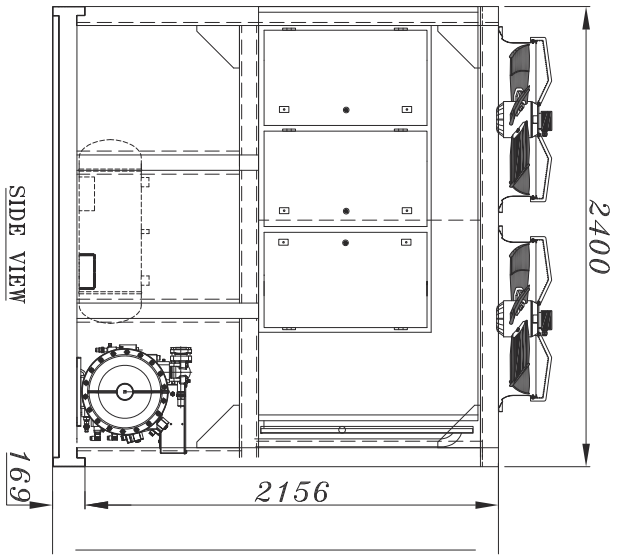
HCU-90-1(336-359)

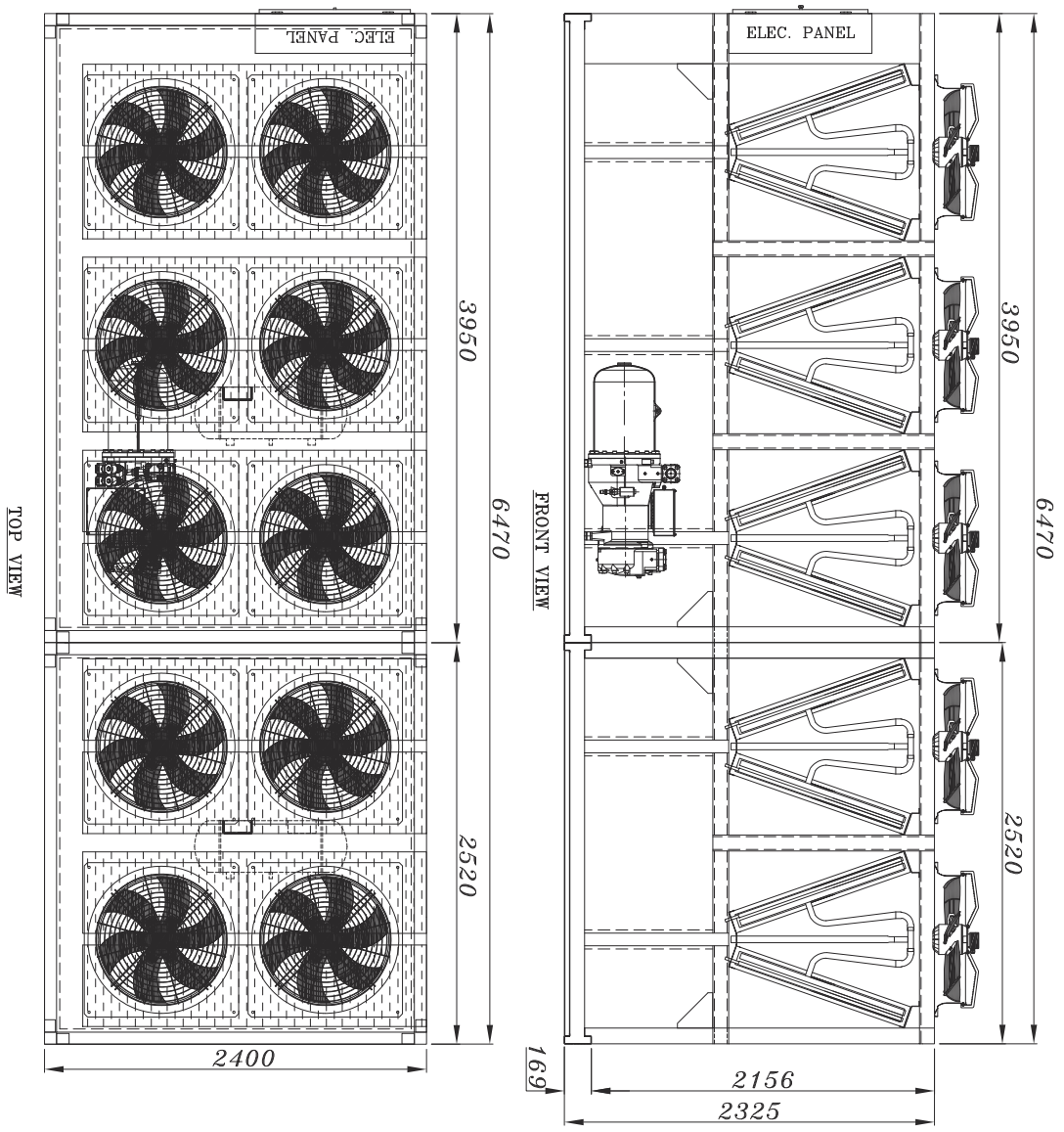
HCU-110-1(336-410)

HCU-125-1(359)

HCU-125-1(359)

HCU-140-1(410)

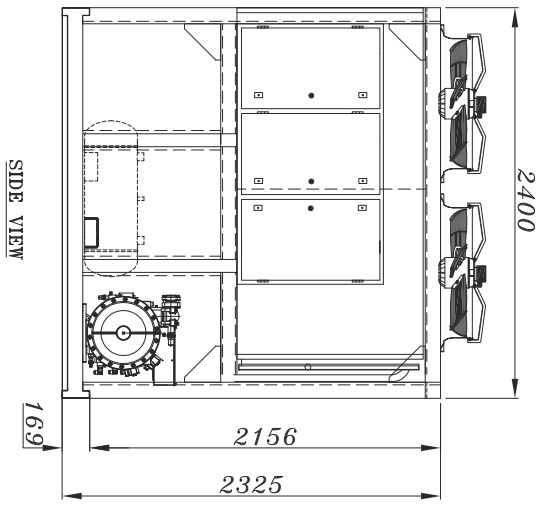


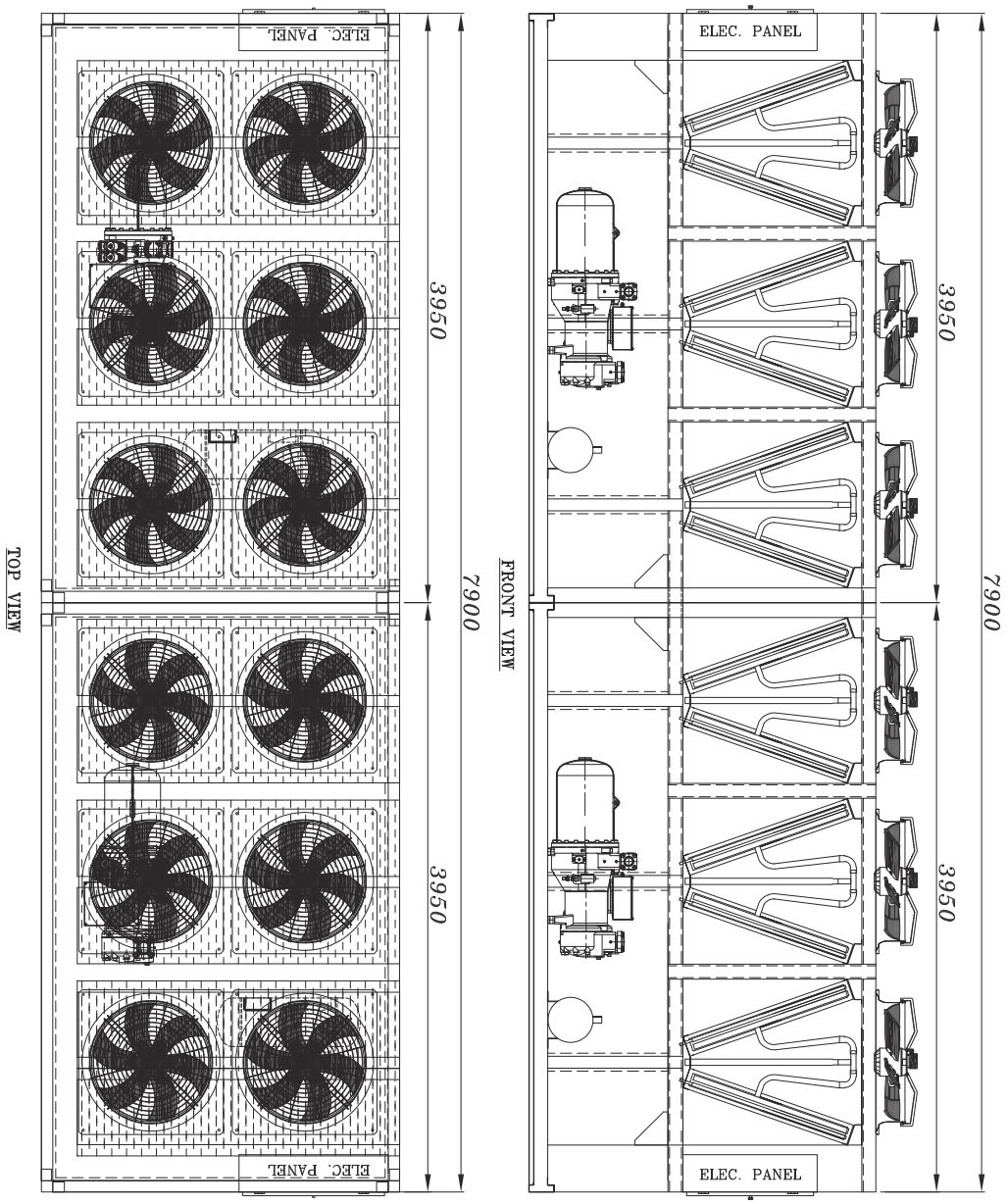


HCU-125-1(470)

HCU-140-1(535)

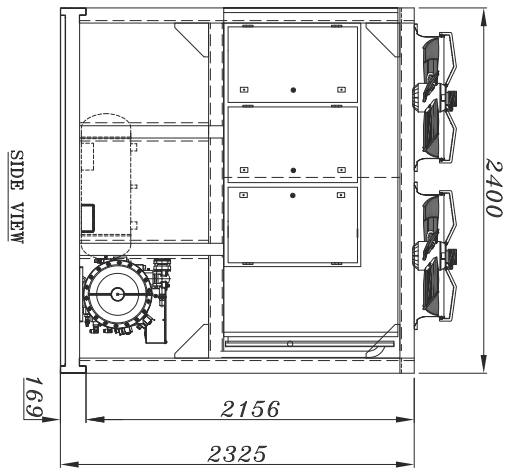
HCU-165-1(470)

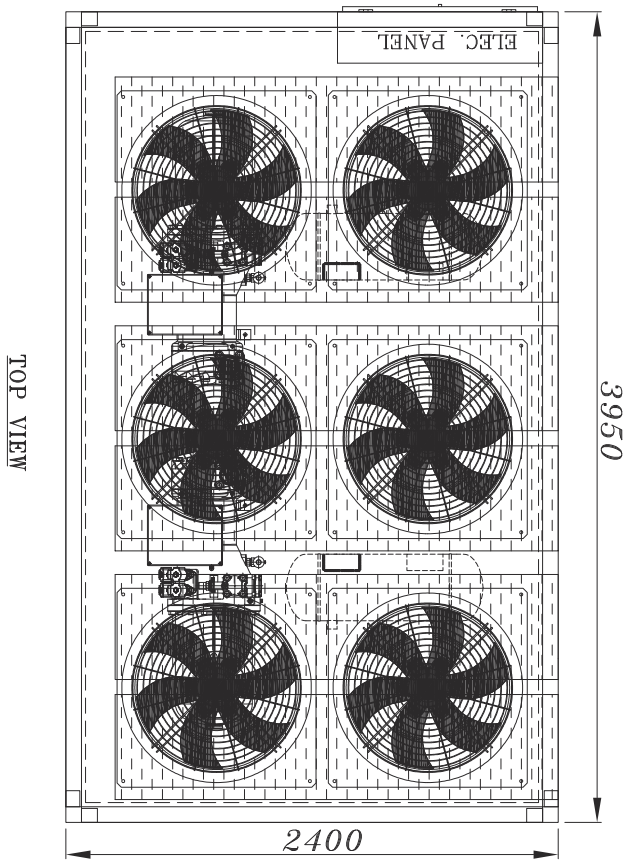


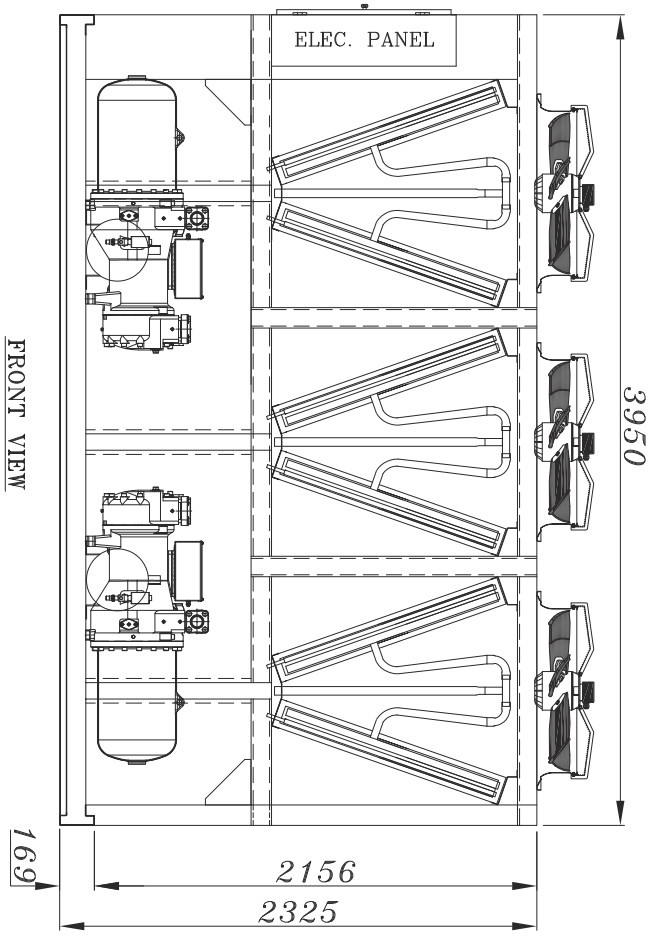


HCU-160-1(615)

HCU-210-1(615)



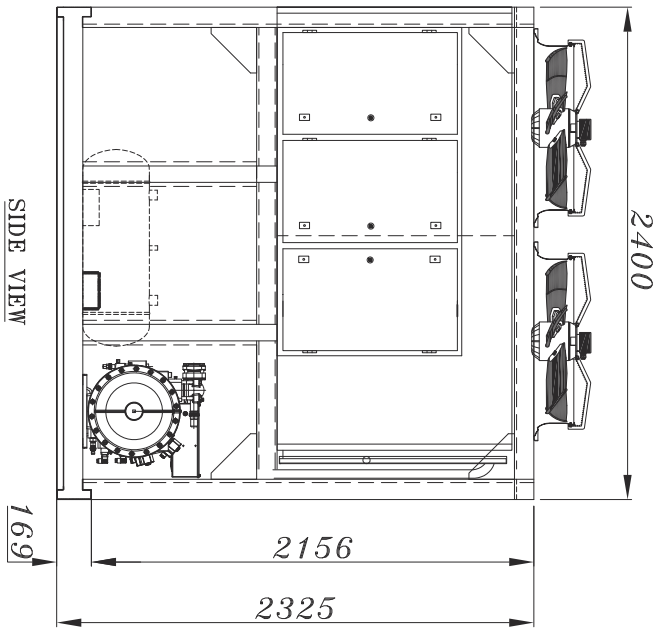


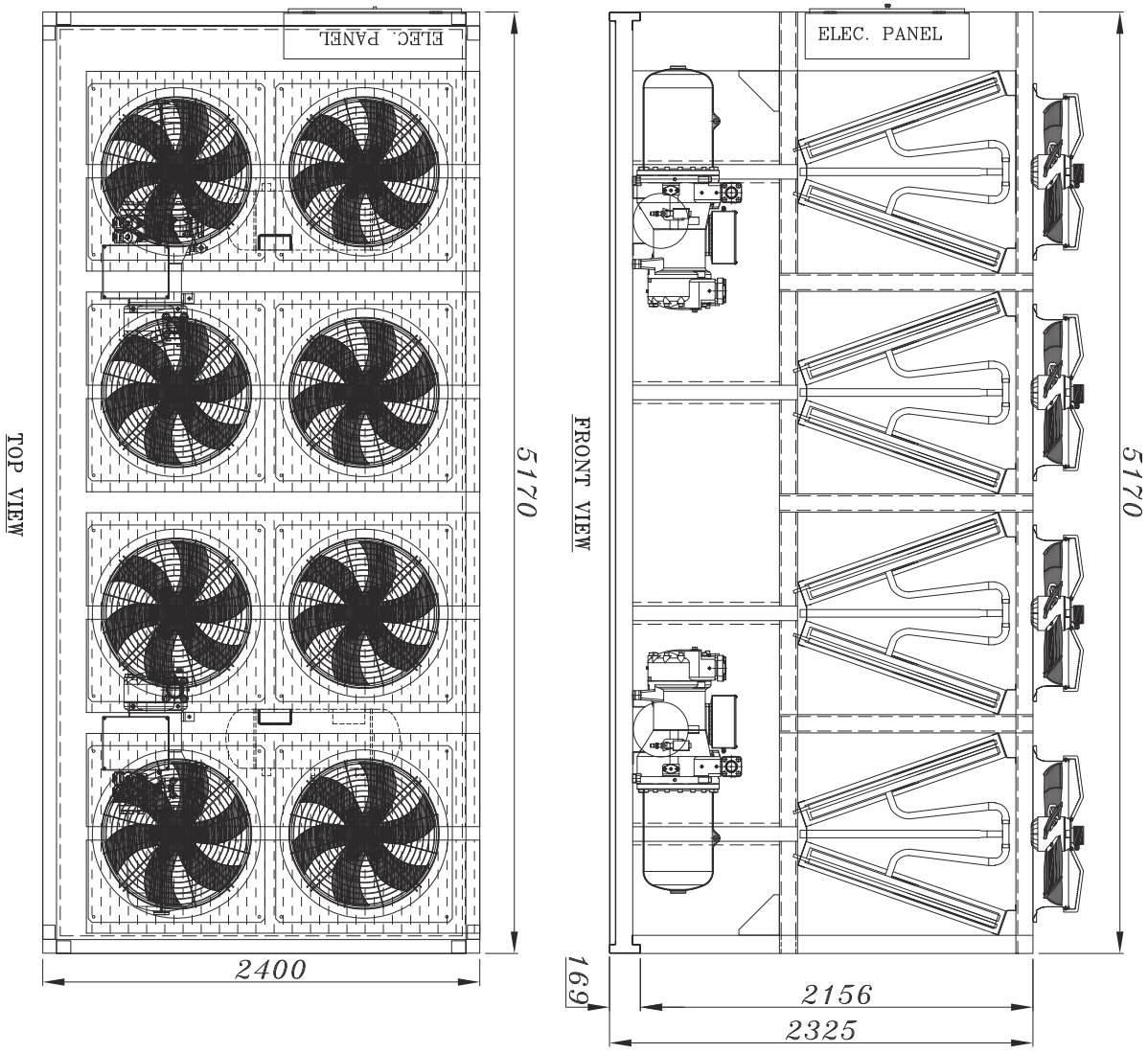


HCUA-70-2

HCUA-100-2 (2*137)

HCUA-100-2 (2*195)



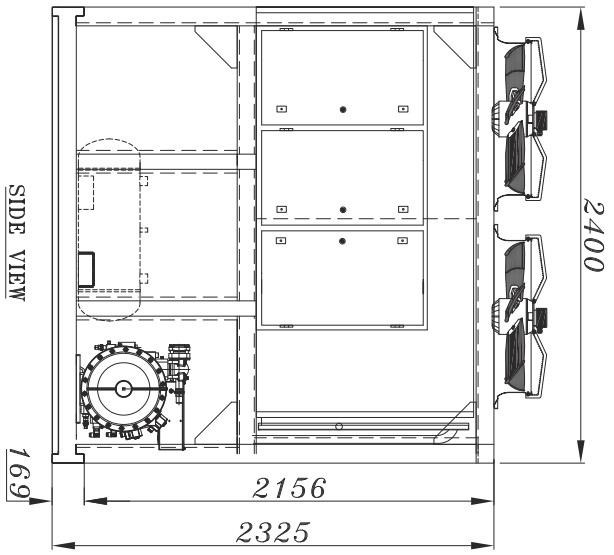


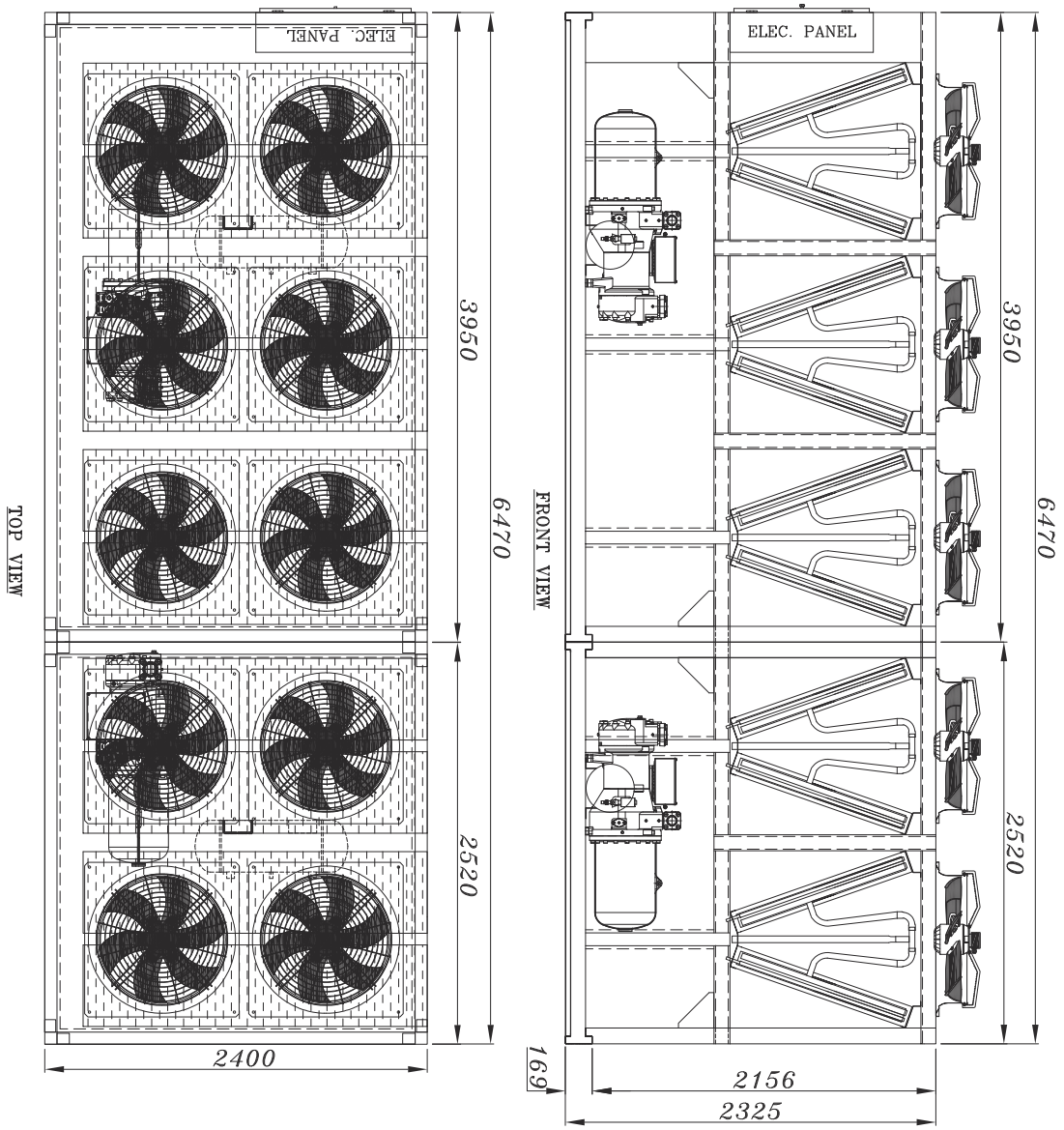
HCUA-80-2

HCUA-100-2 (2*197)

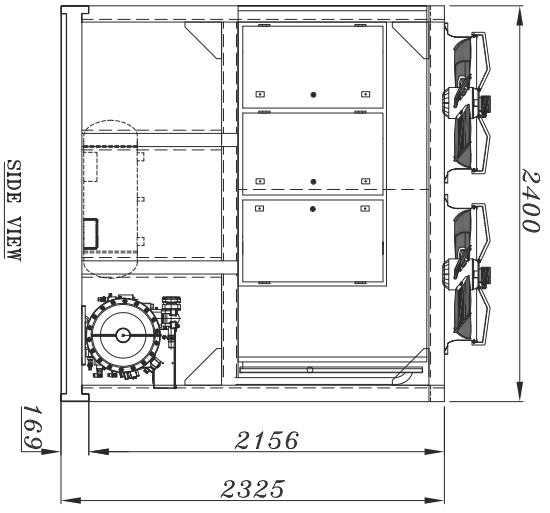
HCUA-120-2 (2*170-220)

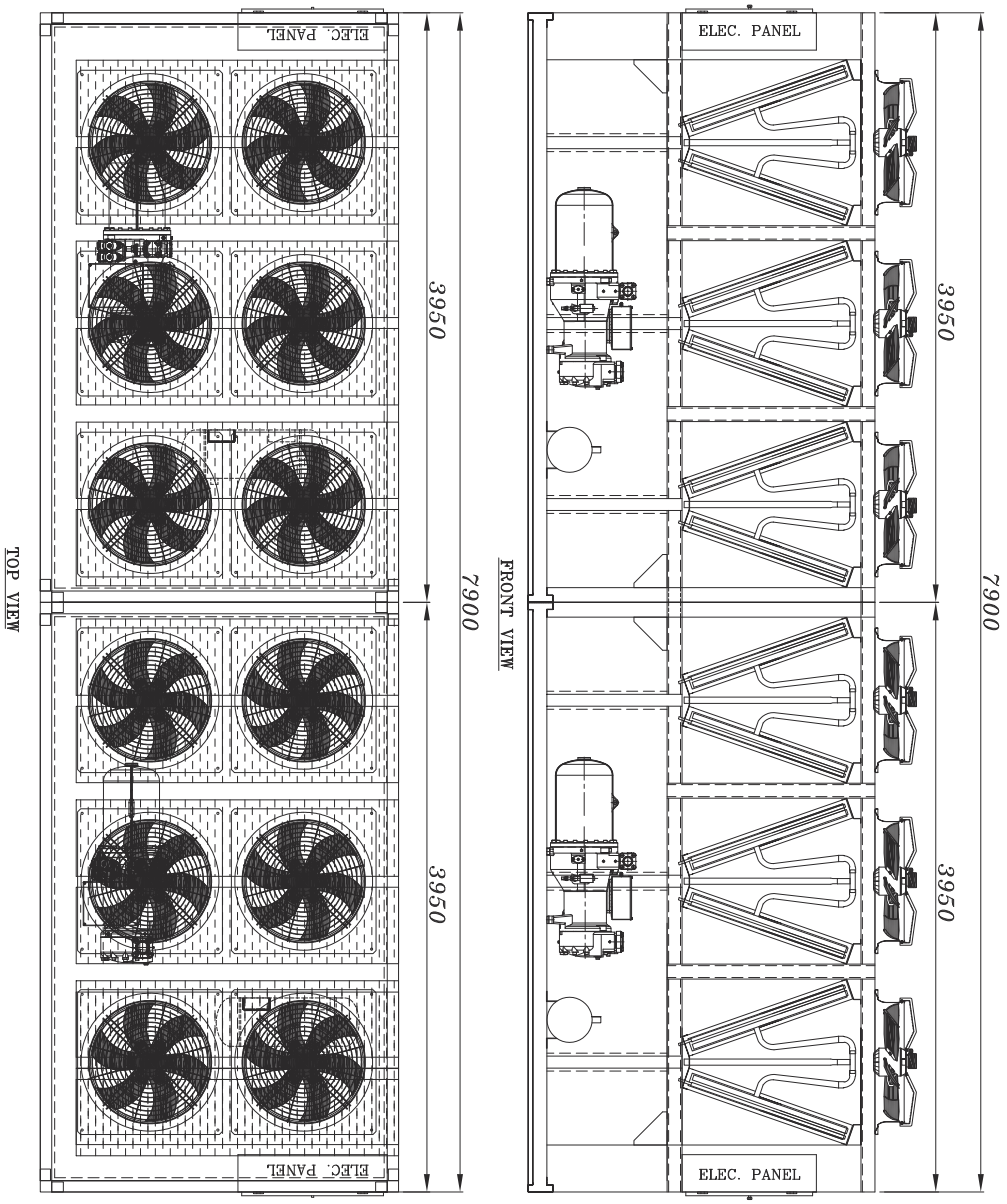
HCUA-140-2 (2*197)

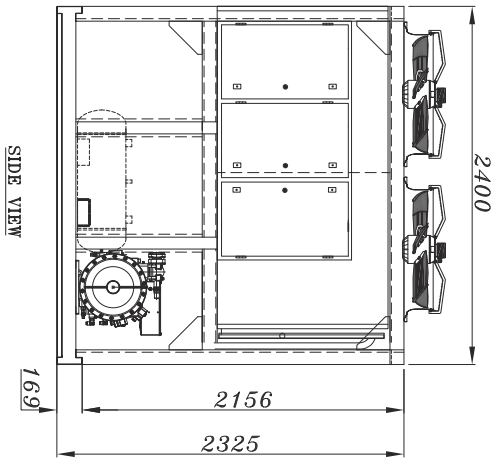




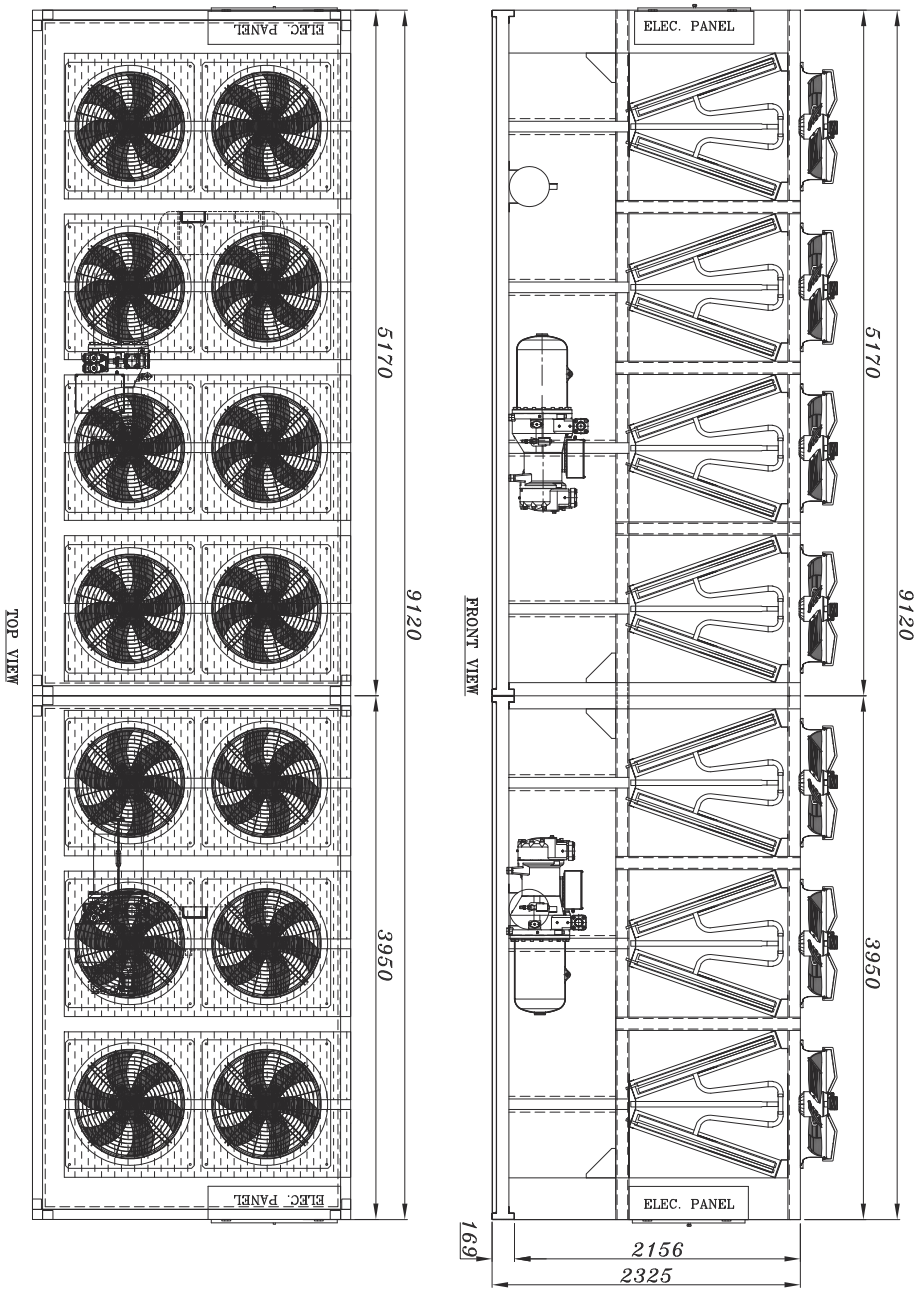
HCUA-120-2 (2*227)
HCUA-140-2 (2*258)
HCUA-160-2 (2*227)
HCUA-180-2 (2*258)



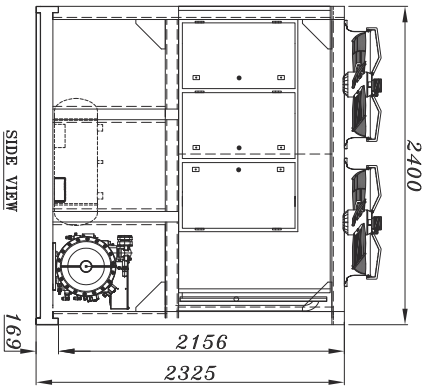


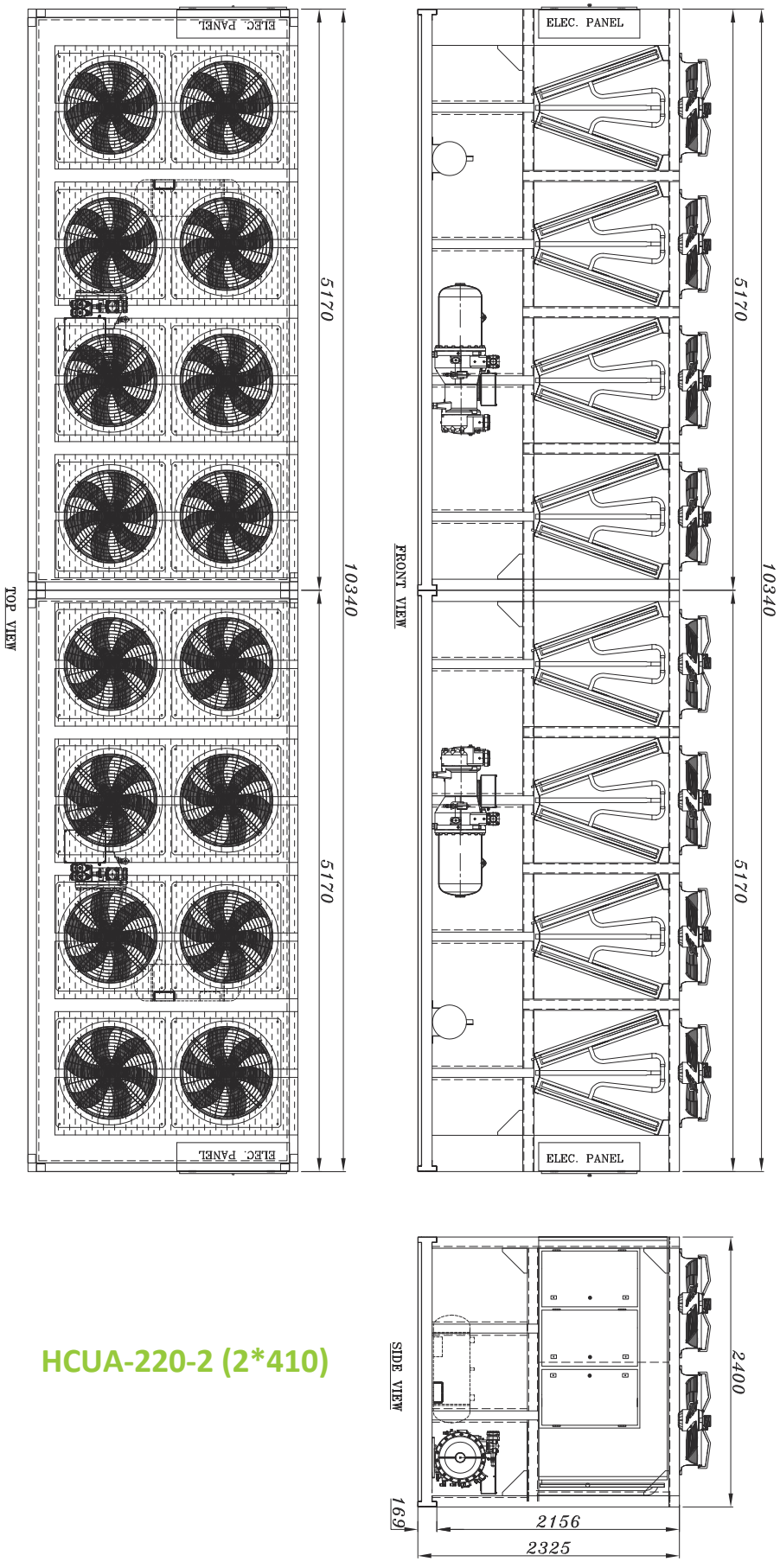


HCUA-160-2 (2*295,315)
HCUA-200-2 (2*295)

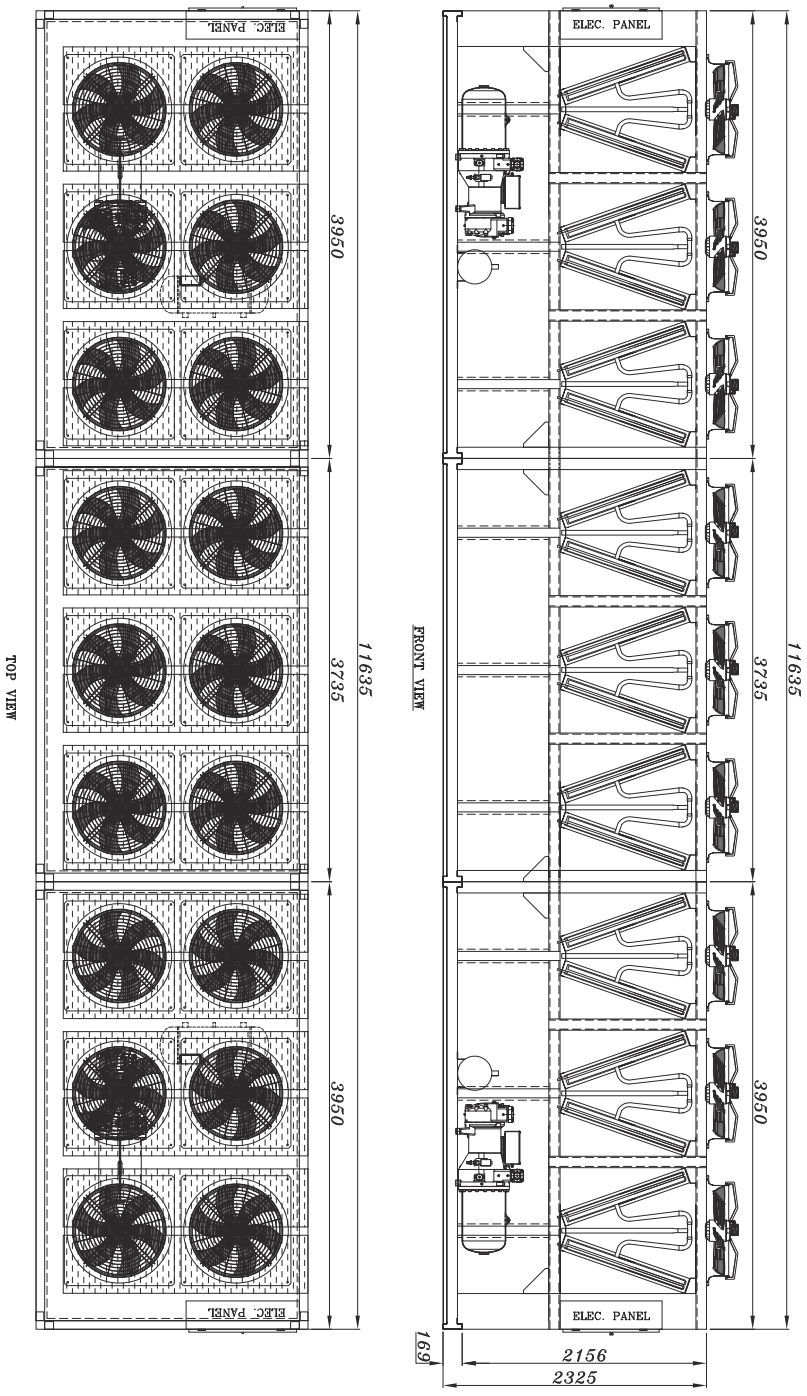


HCUA-180-2 (2*336,359)
HCUA-220-2 (2*315,336)
HCUA-250-2 (2*359)
HCUA-220-2 (2*315,336)
HCUA-280-2 (2*410)

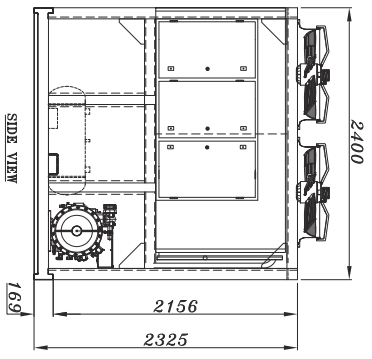


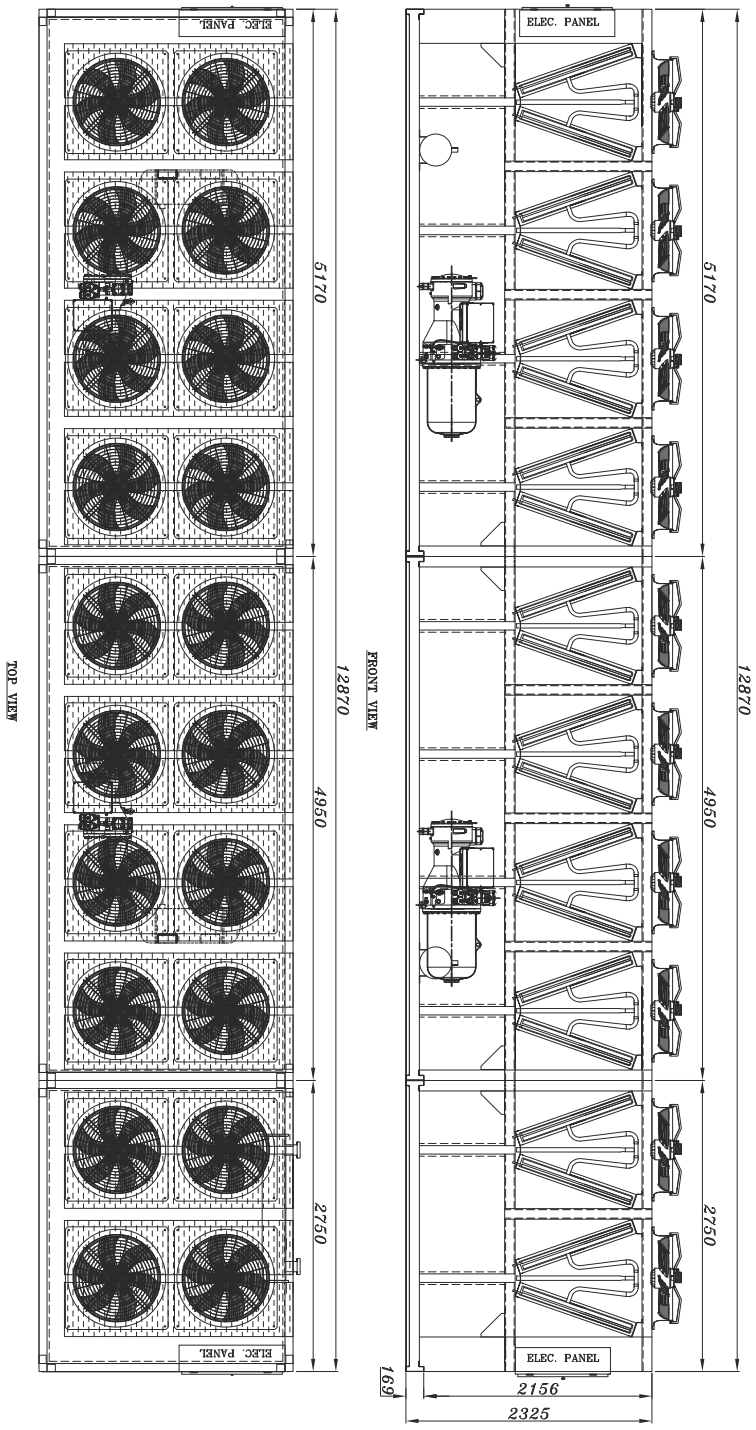


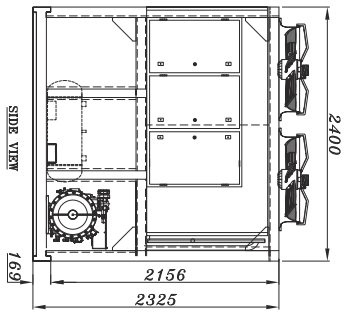
HCUA-220-2 (2*410)



HCUA-250-2 (2*470)

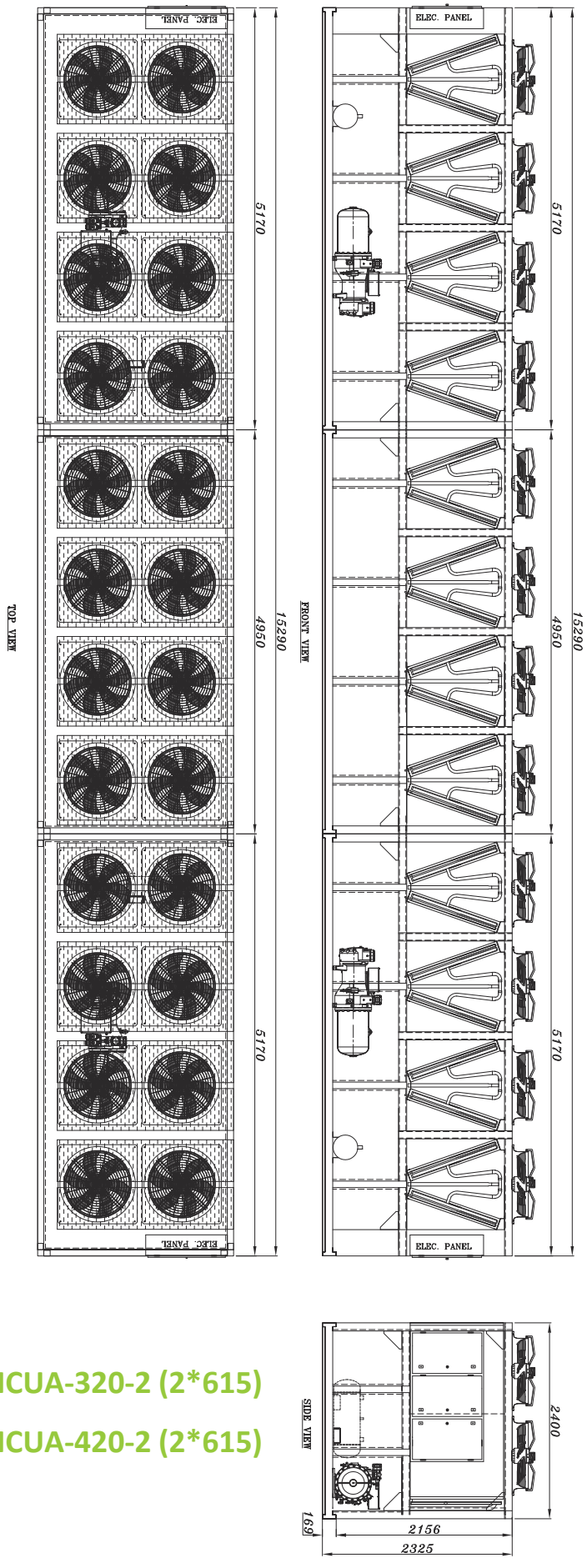






HCUA-280-2 (2*535)

HCUA-320-2 (2*470)



HCUA-320-2 (2*615)

HCUA-420-2 (2*615)


DuPont
Freon 22
DuPont
Freon 22
DuPont
Freon 22


Copeland Scroll

ENGINEERING SPECIFICATIONS-50 HZ (R-22)-COPELAND

Model			HCUA-5-1	HCUA-6-1	HCUA-7-1	HCUA-8-1	HCUA-9-1	HCUA-10-1
Cooling Capacity	Ton of Refrigeration		4.45	5.40	6.08	7.19	8.08	9.47
	KW		15.65	19	21.4	25.3	28.4	33.3
Compressor	Type	-	Copeland Scroll					
	Quantity		1	1	1	1	1	1
	Oil Charge	US Gal	0.45	0.48	0.48	0.71	0.90	0.90
		LIT	1.7	1.8	1.8	2.7	3.4	3.4
condenser Coil	type	-	Air-cooled 2 or 3 or 4or rows, copper tubes aluminum fins					
	FaceArea		14.20	14.20	28.41	28.41	28.41	28.41
			1.32	1.32	2.64	2.64	2.64	2.64
condenser Fan	Type		Propeller direct drive 885 rpm					
	Quantity		1	1	1	1	1	1
	Aire Flow RATE	cfm	129433	12354	13530	13530	12943	12943
		l/s	61111	5833	6388	6388	6111	6111
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-22)operating charge (approx)	lbs		16.53	19.836	23.142	26.448	29.754	33.06
	kg		7.5	9	10.5	12	13.5	15
Nmber Of Refrigrant Circuit			1	1		1	1	1
Unit Operating Weight(approx)		lbs	1433	1234	1234	1322	1322	1322
		kg	650	560	560	600	600	600

Model			HCUA-12-1	HCUA-13-1	HCUA-15-1	HCUA-20-1	HCUA-25-1	HCUA-30-1
Cooling Capacity	Ton of Refrigeration		10.86	11.77	14.02	18.17	22.78	27.89
	KW		38.2	41.4	49.3	63.9	80.1	98.1
Compressor	Type	-	Copeland Scroll					
	Quantity		1	1	1	1	1	1
	Oil Charge	US Gal	0.90	0.90	1.03	1.24	1.80	1.66
		LIT	3.4	3.4	3.9	4.7	6.8	6.3
condenser Coil	type	-	Air-cooled 2 or 3 or 4or rows, copper tubes aluminum fins					
	FaceArea		28.41	49.71	49.71	49.71	99.42	99.42
			2.64	4.62	4.62	4.62	9.24	9.24
condenser Fan	Type		Propeller direct drive 885 rpm					
	Quantity		1	2	2	2	4	4
	Aire Flow RATE	cfm	12354	26475	26475	25297	25297	25297
		l/s	5833	12500	12500	11944	11944	11944
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-22)operating charge (approx)	lbs		39.67	42.98	49.59	66.12	82.65	99.18
	kg		18	19.5	22.5	30	37.5	45
Nmber Of Refrigrant Circuit			1	1	1	1	1	1
Unit Operating Weight(approx)		lbs	1433	1433	1763	2094	2094	2975
		kg	650	650	800	950	950	1350

Model			HCUA-20-2	HCUA-24-2	HCUA-26-2	HCUA-30-2	HCUA-40-2	HCUA-50-2	HCUA-60-2
Cooling Capacity	Ton of Refrigeration		18.94	21.72	23.54	28.04	36.34	45.55	55.79
	KW		66.60	76.40	82.80	98.60	127.80	160.20	196.20
Compressor	Type	-		Copeland Scroll					
	Quantity		2	2	2	2	2	2	2
	Oil Charge	US Gal	1.80	1.80	1.80	2.06	2.48	3.59	3.33
		LIT	6.8	6.8	6.8	7.8	9.4	13.6	12.6
condenser Coil	type	-		Air-cooled 2 or 3 or 4or rows, copper tubes aluminum fins					
	FaceArea		56.81	56.81	99.42	99.42	99.42	149.13	149.13
			5.28	5.28	9.24	9.24	9.24	13.86	13.86
condenser Fan	Type			Propeller direct drive 885 rpm					
	Quantity		2	2	4	4	4	6	6
	Aire Flow RATE	cfm	25886	24709	52950	52950	50595	77659	77659
		l/s	12222	11666	25000	25000	23888	36666	36666
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-22) operating charge (approx)	lbs		66.12	79.34	85.96	99.18	132.24	165.30	198.36
	kg		30	36	39	45	60	75	90
Nmber Of Refrigrant Circuit			2	2	2	2	2	2	2
Unit Operating Weight(approx)		lbs	1873	1873	1873	2645	3196	3306	4077
		kg	850	850	850	1200	1450	1500	1850

Model			HCUA-20-4	HCUA-24-4	HCUA-28-4	HCUA-32-4	HCUA-36-4	HCUA-40-4
Cooling Capacity	Ton of Refrigeration		17.80	21.61	24.34	28.78	32.30	37.87
	KW		62.60	76.00	85.60	101.20	113.60	133.20
Compressor	Type	-	Copeland Scroll					
	Quantity		4	4	4	4	4	4
	Oil Charge	US Gal	1.80	1.90	1.90	2.85	3.59	3.59
		LIT	6.8	7.2	7.2	10.8	13.6	13.6
condenser Coil	type	-	Air-cooled 2 or 3 or 4or rows, copper tubes aluminum fins					
	FaceArea		56.81	99.42	99.42	99.42	99.42	99.42
			5.28	9.24	9.24	9.24	9.24	9.24
condenser Fan	Type		Propeller direct drive 885rpm					
	Quantity		2	4	4	4	4	4
	Aire Flow RATE	cfm	24709	49417	52950	51772	51772	51772
		l/s	11666	23332	25000	24444	24444	24444
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-22)operating charge (approx)	lbs		66.12	79.34	92.57	105.79	119.02	132.24
	kg		30	36	42	48	54	60
Nmber Of Refrigrant Circuit			2	2	2	2	2	2
Unit Operating Weight(approx)		lbs	1873	2094	2094	2865	2865	3086
		kg	850	950	950	1300	1300	1400

Model			HCUA-48-4	HCUA-52-4	HCUA-60-4	HCUA-80-4	HCUA-100-4	HCUA-120-4
Cooling Capacity	Ton of Refrigeration		43.45	47.09	56.07	72.68	91.10	111.58
	KW		152.80	165.60	197.20	255.60	320.40	392.40
Compressor	Type	-	Copeland Scroll					
	Quantity		4	4	4	4	4	4
	Oil Charge	US Gal	3.59	3.59	4.12	4.97	7.19	6.66
		LIT	13.6	13.6	15.6	18.8	27.2	25.2
condenser Coil	type	-	Air-cooled 2 or 3 or 4or rows, copper tubes aluminum fins					
	FaceArea		99.42	149.13	149.13	198.84	248.56	298.27
			9.24	13.86	13.86	18.48	23.1	27.72
condenser Fan	Type		Propeller direct drive 885 rpm					
	Quantity		4	6	6	8	10	12
	Aire Flow RATE	cfm	49417	77659	77659	101190	126487	148252
		l/s	23332	36666	36666	47776	59720	69996
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-22)operating charge (approx)	lbs		158.69	171.91	198.36	264.48	330.60	396.72
	kg		72	78	90	120	150	180
Nmber Of Refrigrant Circuit			2	2	2	2	2	2
Unit Operating Weight(approx)		lbs	3086	3416	3967	5179	5510	6061
		kg	1400	1550	1800	2350	2500	2750

CAPACITY RATING(50 HZ) R-22																					
Condensing Unit MODEL	Comp. brand	Com-pressor displac-ment (m3/hr)	eva. temp (C / F)	condenser entering air temp.																	
				95 F(35°C)						104 F(40°C)						113 F(45°C)					
				Actual Capacity			Power Input (KW)	requierd Heat Rejec-tion (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejec-tion (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejec-tion (KW)	Current (amp.)
	Copeland			KW	MBH	TON				KW	MBH	TON				KW	MBH	TON			
HCUA-5-1	ZR61KCE-TFD	14.4	1,7 / 35	12.58	42.92	3.58	3.57	16.15	7.25	12.05	41.12	3.43	3.96	16.01	7.68	11.3	38.56	3.21	4.4	15.7	8.21
			4,4 / 40	14.2	48.45	4.04	3.61	17.81	7.31	13.4	45.72	3.81	4	17.4	7.74	12.6	42.99	3.58	4.43	17.03	8.25
			7,2 / 45	15.65	53.40	4.45	3.68	19.33	7.39	14.8	50.50	4.21	4.05	18.85	7.82	13.95	47.60	3.97	4.48	18.43	8.32
			10 / 50	17.2	58.69	4.89	3.76	20.96	7.51	16.3	55.62	4.63	4.13	20.43	7.92	15.4	52.55	4.38	4.55	19.95	8.41
HCUA-6-1	ZR72KCE-TFD	17.1	1,7 / 35	15.7	53.57	4.46	4.3	20	7.8	14.85	50.67	4.22	4.78	19.63	8.5	13.9	47.43	3.95	5.31	19.21	9.3
			4,4 / 40	17.25	58.86	4.90	4.31	21.56	7.81	16.35	55.79	4.65	4.78	21.13	8.5	15.35	52.38	4.36	5.3	20.65	9.29
			7,2 / 45	19	64.83	5.40	4.32	23.32	7.82	18	61.42	5.12	4.78	22.78	8.51	16.95	57.84	4.82	5.31	22.26	9.3
			10 / 50	20.8	70.97	5.91	4.33	25.13	7.85	19.75	67.39	5.62	4.79	24.54	8.53	18.65	63.64	5.30	5.31	23.96	9.31
HCUA-7-1	ZR81KCE-TFD	18.8	1,7 / 35	17.7	60.40	5.03	4.75	22.45	9.51	16.7	56.98	4.75	5.27	21.97	10.16	15.65	53.40	4.45	5.85	21.5	10.92
			4,4 / 40	19.51	66.57	5.55	4.77	24.28	4.08	18.45	62.95	5.25	5.29	23.74	10.2	17.3	59.03	4.92	5.87	23.17	10.96
			7,2 / 45	21.4	73.02	6.08	4.8	26.2	9.59	20.4	69.61	5.80	5.32	25.72	10.24	19.2	65.51	5.46	5.9	25.1	11
			10 / 50	23.5	80.19	6.68	4.84	28.34	9.64	22.4	76.43	6.37	5.35	27.75	10.29	21.2	72.34	6.03	5.93	27.13	11.05
HCUA-8-1	ZR94KCE-TFD	22.1	1,7 / 35	20.7	70.63	5.89	5.47	26.17	10.62	19.45	66.37	5.53	6.1	25.55	11.54	18.1	61.76	5.15	6.83	24.93	12.63
			4,4 / 40	22.8	77.80	6.48	5.49	28.29	10.65	21.6	73.70	6.14	6.11	27.71	11.56	20.2	68.93	5.74	6.82	27.02	12.63
			7,2 / 45	25.3	86.33	7.19	5.53	30.83	10.69	23.9	81.55	6.80	6.13	30.03	11.59	22.5	76.77	6.40	6.83	29.33	12.65
			10 / 50	27.9	95.20	7.93	5.57	33.47	10.76	26.4	90.08	7.51	6.17	32.57	11.64	24.9	84.96	7.08	6.85	31.75	12.68
HCUA-9-1	ZR108KCE-TFD	24.9	1,7 / 35	23.5	80.19	6.68	6.1	29.6	11.67	22.2	75.75	6.31	6.78	28.98	12.65	20.9	71.31	5.94	7.59	28.49	13.83
			4,4 / 40	25.8	88.03	7.34	6.13	31.93	11.73	24.5	83.60	6.97	6.81	31.31	12.69	23.1	78.82	6.57	7.6	30.7	13.85
			7,2 / 45	28.4	96.91	8.08	6.18	34.58	11.8	27	92.13	7.68	6.85	33.85	12.74	25.5	87.01	7.25	7.62	33.12	13.88
			10 / 50	31.2	106.46	8.87	6.25	37.45	11.88	29.7	101.34	8.45	6.9	36.6	12.81	28.1	95.88	7.99	7.65	35.75	13.92
HCUA-10-1	ZR125KCE-TFD	29.1	1,7 / 35	27.6	94.18	7.85	7.23	34.83	13.5	26.2	89.40	7.45	8.08	34.28	14.58	24.6	83.94	6.99	9.07	33.67	15.85
			4,4 / 40	30.3	103.39	8.62	7.26	37.56	13.55	28.8	98.27	8.19	8.11	36.91	14.62	27.2	92.81	7.73	9.09	36.29	15.88
			7,2 / 45	33.3	113.62	9.47	7.31	40.61	13.61	31.7	108.17	9.01	8.15	39.85	14.68	30	102.36	8.53	9.11	39.11	15.92
			10 / 50	36.5	124.54	10.38	7.37	43.87	13.68	34.8	118.74	9.90	8.2	43	14.74	33	112.60	9.38	9.15	42.15	15.97
HCUA-12-1	ZR144KCE-TFD	33.2	1,7 / 35	31.6	107.82	8.99	8.15	39.75	14.77	29.8	101.68	8.47	9.09	38.89	16.13	27.8	94.86	7.90	10.15	37.95	17.7
			4,4 / 40	34.8	118.74	9.90	8.2	43	14.84	32.8	111.92	9.33	9.13	41.93	16.18	30.7	104.75	8.73	10.2	40.9	17.74
			7,2 / 45	38.2	130.34	10.86	8.28	46.48	14.95	36.1	123.18	10.26	9.18	45.28	16.26	33.9	115.67	9.64	10.2	44.1	17.79
			10 / 50	41.8	142.63	11.89	8.38	50.18	15.09	39.6	135.12	11.26	9.26	48.86	16.37	37.3	127.27	10.61	10.25	47.55	17.87
HCUA-13-1	ZR160KCE-TFD	36.4	1,7 / 35	34.2	116.70	9.72	9.19	43.39	17.07	32	109.19	9.10	10.15	42.15	18.57	29.6	101.00	8.42	11.3	40.9	20.33
			4,4 / 40	37.6	128.30	10.69	9.26	46.86	17.14	35.5	121.13	10.09	10.2	45.7	18.61	33	112.60	9.38	11.35	44.35	20.35
			7,2 / 45	41.4	141.26	11.77	9.32	50.72	17.25	39.2	133.76	11.15	10.3	49.5	18.68	36.7	125.23	10.44	11.4	48.1	20.38
			10 / 50	45.4	154.91	12.91	9.36	54.76	17.41	43.1	147.06	12.26	10.35	53.45	18.75	40.6	138.53	11.54	11.45	52.05	20.45
HCUA-15-1	ZR190KCE-TFD	43.3	1,7 / 35	40.4	137.85	11.49	11.1	51.5	22.26	37.9	129.32	10.78	12.3	50.2	23.86	35.1	119.77	9.98	13.7	48.8	25.7
			4,4 / 40	44.6	152.18	12.68	11.15	55.75	22.32	42	143.31	11.94	12.35	54.35	23.91	39.2	133.76	11.15	13.75	52.95	25.76
			7,2 / 45	49.3	168.22	14.02	11.25	60.55	22.38	46.6	159.01	13.25	12.4	59	23.96	43.6	148.77	12.40	13.75	57.35	25.81
			10 / 50	54.3	185.28	15.44	11.3	65.6	22.4	51.5	175.73	14.64	12.45	63.95	24.01	48.3	164.81	13.73	13.8	62.1	25.85
HCUA-20-1	ZR250KCE-TWD	56.6	1,7 / 35	52.8	180.16	15.01	14.5	67.3	25.25	50.1	170.95	14.25	16.05	66.15	27.3	47.1	160.71	13.39	17.8	64.9	29.71
			4,4 / 40	58.1	198.25	16.52	14.6	72.7	25.35	55.2	188.35	15.70	16.1	71.3	27.39	52.1	177.77	14.81	17.9	70	29.79
			7,2 / 45	63.9	218.04	18.17	14.65	78.55	25.45	60.9	207.80	17.32	16.2	77.1	27.48	57.7	196.88	16.41	17.95	75.65	29.88
			10 / 50	70.3	239.87	19.99	14.75	85.05	25.56	67	228.61	19.05	16.25	83.25	27.57	63.6	217.01	18.08	18	81.6	29.96
HCUA-25-1	ZR310KCE-TWD	71.4	1,7 / 35	65.5	223.50	18.62	17.9	83.4	32.56	61.8	210.87	17.57	19.95	81.75	35.11	57.9	197.56	16.46	22.2	80.1	38.15
			4,4 / 40	72.4	247.04	20.59	18.05	90.45	32.7	68.5	233.73	19.48	20	88.5	35.21	64.3	219.40	18.28	22.3	86.6	38.2
			7,2 / 45	80.1	273.31	22.78	18.25	98.35	32.88	75.9	258.98	21.58	20.2	96.1	35.34	71.5	243.97	20.33	22.4	93.9	38.29
			10 / 50	88.3	301.29	25.11	18.5	106.8	33.09	83.9	286.28	23.86	20.4	104.3	35.49	79.3	270.58	22.55	22.6	101.9	38.38
HCUA-30-1	ZR380KCE-TWD	87.5	1,7 / 35	81.5	278.09	23.17	21.9	103.4	38.77	77.4	264.10	22.01	24.2	101.6	41.92	72.9	248.75	20.73	26.9	99.8	45.59
			4,4 / 40	89.3	304.70	25.39	22.1	111.4	39.11	85.1	290.37	24.20	24.4	109.5	42.24	80.4	274.34	22.86	27	107.4	45.87
			7,2 / 45	98.1	334.73	27.89	22.4	120.5	39.52	93.5	319.04	26.59	24.6	118.1	42.63	88.7	302.66	25.22	27.2	115.9	46.23
			10 / 50	107.5	366.81	30.57	22.7	130.2	39.99	102.5	349.75	29.15	24.9	127.4	43.07	97.4	332.34	27.70	27.5	124.9	46.64

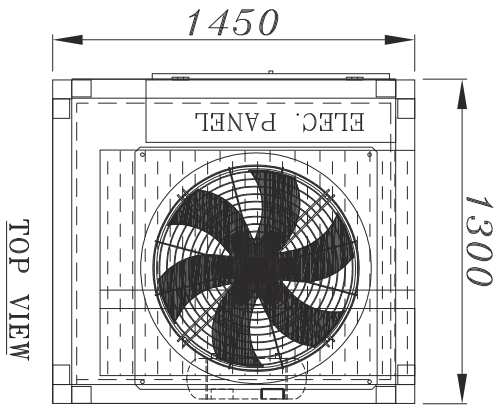
CAPACITY RATING(50 HZ) R-22																				
Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	eva.temp (C / F)	condenser entering air temp.																
				95 F(35°C)						104 F(40°C)						113 F(45°C)					
				Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Cur-rent (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	Copeland			KW	MBH	TON				KW	MBH	TON				KW	MBH	TON			
HCUA-20-2	ZR125KCE-TFD	2*29.1	1,7 / 35	55.2	188.35	15.70	14.46	69.66	27	52.4	178.80	14.90	16.16	68.56	29.16	49.2	167.88	13.99	18.14	67.34	31.7
			4,4 / 40	60.6	206.78	17.23	14.52	75.12	27.1	57.6	196.54	16.38	16.22	73.82	29.24	54.4	185.62	15.47	18.18	72.58	31.76
			7,2 / 45	66.6	227.25	18.94	14.62	81.22	27.22	63.4	216.33	18.03	16.3	79.7	29.36	60	204.73	17.06	18.22	78.22	31.84
			10 / 50	73	249.09	20.76	14.74	87.74	27.36	69.6	237.49	19.79	16.4	86	29.48	66	225.20	18.77	18.3	84.3	31.94
HCUA-24-2	ZR144KCE-TFD	2*33.2	1,7 / 35	63.2	215.65	17.97	16.3	79.5	29.54	59.6	203.36	16.95	18.18	77.78	32.26	55.6	189.72	15.81	20.3	75.9	35.4
			4,4 / 40	69.6	237.49	19.79	16.4	86	29.68	65.6	223.84	18.65	18.26	83.86	32.36	61.4	209.51	17.46	20.4	81.8	35.48
			7,2 / 45	76.4	260.69	21.72	16.56	92.96	29.9	72.2	246.36	20.53	18.36	90.56	32.52	67.8	231.34	19.28	20.4	88.2	35.58
			10 / 50	83.6	285.26	23.77	16.76	100.36	30.18	79.2	270.24	22.52	18.52	97.72	32.74	74.6	254.55	21.21	20.5	95.1	35.74
HCUA-26-2	ZR160KCE-TFD	2*36.4	1,7 / 35	68.4	233.39	19.45	18.38	86.78	34.14	64	218.38	18.20	20.3	84.3	37.14	59.2	202.00	16.83	22.6	81.8	40.66
			4,4 / 40	75.2	256.59	21.38	18.52	93.72	34.28	71	242.26	20.19	20.4	91.4	37.22	66	225.20	18.77	22.7	88.7	40.7
			7,2 / 45	82.8	282.53	23.54	18.64	101.44	34.5	78.4	267.51	22.29	20.6	99	37.36	73.4	250.45	20.87	22.8	96.2	40.76
			10 / 50	90.8	309.82	25.82	18.72	109.52	34.82	86.2	294.13	24.51	20.7	106.9	37.5	81.2	277.07	23.09	22.9	104.1	40.9
HCUA-30-2	ZR190KCE-TFD	2*43.3	1,7 / 35	80.8	275.70	22.98	22.2	103	44.52	75.8	258.64	21.55	24.6	100.4	47.72	70.2	239.53	19.96	27.4	97.6	51.4
			4,4 / 40	89.2	304.36	25.36	22.3	111.5	44.64	84	286.62	23.88	24.7	108.7	47.82	78.4	267.51	22.29	27.5	105.9	51.52
			7,2 / 45	98.6	336.44	28.04	22.5	121.1	44.76	93.2	318.01	26.50	24.8	118	47.92	87.2	297.54	24.79	27.5	114.7	51.62
			10 / 50	108.6	370.56	30.88	22.6	131.2	44.8	103	351.45	29.29	24.9	127.9	48.02	96.6	329.61	27.47	27.6	124.2	51.7
HCUA-40-2	ZR250KCE-TWD	2*56.6	1,7 / 35	105.6	360.32	30.03	29	134.6	50.5	100.2	341.90	28.49	32.1	132.3	54.6	94.2	321.42	26.79	35.6	129.8	59.42
			4,4 / 40	116.2	396.49	33.04	29.2	145.4	50.7	110.4	376.70	31.39	32.2	142.6	54.78	104.2	355.55	29.63	35.8	140	59.58
			7,2 / 45	127.8	436.07	36.34	29.3	157.1	50.9	121.8	415.60	34.63	32.4	154.2	54.96	115.4	393.76	32.81	35.9	151.3	59.76
			10 / 50	140.6	479.75	39.98	29.5	170.1	51.12	134	457.23	38.10	32.5	166.5	55.14	127.2	434.03	36.17	36	163.2	59.92
HCUA-50-2	ZR310KCE-TWD	2*71.4	1,7 / 35	131	446.99	37.25	35.8	166.8	65.12	123.6	421.74	35.15	39.9	163.5	70.22	115.8	395.13	32.93	44.4	160.2	76.3
			4,4 / 40	144.8	494.08	41.17	36.1	180.9	65.4	137	467.46	38.96	40	177	70.42	128.6	438.80	36.57	44.6	173.2	76.4
			7,2 / 45	160.2	546.63	45.55	36.5	196.7	65.76	151.8	517.96	43.16	40.4	192.2	70.68	143	487.94	40.66	44.8	187.8	76.58
			10 / 50	176.6	602.59	50.22	37	213.6	66.18	167.8	572.56	47.71	40.8	208.6	70.98	158.6	541.17	45.10	45.2	203.8	76.76
HCUA-60-2	ZR380KCE-TWD	2*87.5	1,7 / 35	163	556.18	46.35	43.8	206.8	77.54	154.8	528.20	44.02	48.4	203.2	83.84	145.8	497.49	41.46	53.8	199.6	91.18
			4,4 / 40	178.6	609.41	50.78	44.2	222.8	78.22	170.2	580.75	48.40	48.8	219	84.48	160.8	548.67	45.72	54	214.8	91.74
			7,2 / 45	196.2	669.46	55.79	44.8	241	79.04	187	638.07	53.17	49.2	236.2	85.26	177.4	605.32	50.44	54.4	231.8	92.46
			10 / 50	215	733.61	61.13	45.4	260.4	79.98	205	699.49	58.29	49.8	254.8	86.14	194.8	664.69	55.39	55	249.8	93.28

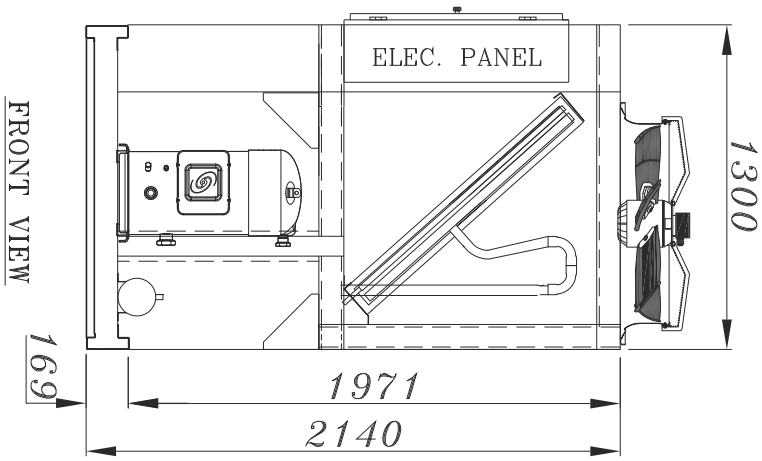
CAPACITY RATING(50 HZ) R-22																				
Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	eva.temp (C / F)	condenser entering air temp.																
				95 F(35°C)						104 F(40°C)						113 F(45°C)					
				Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	Copeland			KW	MBH	TON				KW	MBH	TON				KW	MBH	TON			
HCUA-20-4	ZR61KCE-TFD	4*14.4	1,7 / 35	50.32	171.70	14.31	14.28	64.6	29	48.2	164.47	13.71	15.84	64.04	30.72	45.2	154.23	12.85	17.6	62.8	32.84
			4,4 / 40	56.8	193.81	16.15	14.44	71.24	29.24	53.6	182.89	15.24	16	69.6	30.96	50.4	171.97	14.33	17.72	68.12	33
			7,2 / 45	62.6	213.60	17.80	14.72	77.32	29.56	59.2	202.00	16.83	16.2	75.4	31.28	55.8	190.40	15.87	17.92	73.72	33.28
			10 / 50	68.8	234.76	19.56	15.04	83.84	30.04	65.2	222.47	18.54	16.52	81.72	31.08	61.6	210.19	17.52	18.2	79.8	33.64
HCUA-24-4	ZR72KCE-TFD	4*17.1	1,7 / 35	62.8	214.28	17.86	17.2	80	31.2	59.4	202.68	16.89	19.12	78.52	34	55.6	189.72	15.81	21.24	76.84	37.2
			4,4 / 40	69	235.44	19.62	17.24	86.24	31.24	65.4	223.15	18.60	19.12	84.52	34	61.4	209.51	17.46	21.2	82.6	37.16
			7,2 / 45	76	259.32	21.61	17.28	93.28	31.28	72	245.67	20.47	19.12	91.12	34.04	67.8	231.34	19.28	21.24	89.04	37.2
			10 / 50	83.2	283.89	23.66	17.32	100.52	31.4	79	269.56	22.46	19.16	98.16	34.12	74.6	254.55	21.21	21.24	95.84	37.24
HCUA-28-4	ZR81KCE-TFD	4*18.8	1,7 / 35	70.8	241.58	20.13	19	89.8	38.04	66.8	227.93	18.99	21.08	87.88	40.64	62.6	213.60	17.80	23.4	86	43.68
			4,4 / 40	78.04	266.28	22.19	19.08	97.12	16.32	73.8	251.82	20.98	21.16	94.96	40.8	69.2	236.12	19.68	23.48	92.68	43.84
			7,2 / 45	85.6	292.08	24.34	19.2	104.8	38.36	81.6	278.43	23.20	21.28	102.88	40.96	76.8	262.05	21.84	23.6	100.4	44
			10 / 50	94	320.74	26.73	19.36	113.36	38.56	89.6	305.73	25.48	21.4	111	41.16	84.8	289.35	24.11	23.72	108.52	44.2
HCUA-32-4	ZR94KCE-TFD	4*22.1	1,7 / 35	82.8	282.53	23.54	21.88	104.68	42.48	77.8	265.47	22.12	24.4	102.2	46.16	72.4	247.04	20.59	27.32	99.72	50.52
			4,4 / 40	91.2	311.19	25.93	21.96	113.16	42.6	86.4	294.81	24.57	24.44	110.84	46.24	80.8	275.70	22.98	27.28	108.08	50.52
			7,2 / 45	101.2	345.31	28.78	22.12	123.32	42.76	95.6	326.20	27.18	24.52	120.12	46.36	90	307.09	25.59	27.32	117.32	50.6
			10 / 50	111.6	380.80	31.73	22.28	133.88	43.04	105.6	360.32	30.03	24.68	130.28	46.56	99.6	339.85	28.32	27.4	127	50.72
HCUA-36-4	ZR108KCE-TFD	4*24.9	1,7 / 35	94	320.74	26.73	24.4	118.4	46.68	88.8	303.00	25.25	27.12	115.92	50.6	83.6	285.26	23.77	30.36	113.96	55.32
			4,4 / 40	103.2	352.13	29.34	24.52	127.72	46.92	98	334.39	27.87	27.24	125.24	50.76	92.4	315.28	26.27	30.4	122.8	55.4
			7,2 / 45	113.6	387.62	32.30	24.72	138.32	47.2	108	368.51	30.71	27.4	135.4	50.96	102	348.04	29.00	30.48	132.48	55.52
			10 / 50	124.8	425.84	35.49	25	149.8	47.52	118.8	405.36	33.78	27.6	146.4	51.24	112.4	383.53	31.96	30.6	143	55.68
HCUA-40-4	ZR125KCE-TFD	2*29.1	1,7 / 35	110.4	376.70	31.39	28.92	139.32	54	104.8	357.59	29.80	32.32	137.12	58.32	98.4	335.76	27.98	36.28	134.68	63.4
			4,4 / 40	121.2	413.55	34.46	29.04	150.24	54.2	115.2	393.08	32.76	32.44	147.64	58.48	108.8	371.24	30.94	36.36	145.16	63.52
			7,2 / 45	133.2	454.50	37.87	29.24	162.44	54.44	126.8	432.66	36.05	32.6	159.4	58.72	120	409.46	34.12	36.44	156.44	63.68
			10 / 50	146	498.17	41.51	29.48	175.48	54.72	139.2	474.97	39.58	32.8	172	58.96	132	450.40	37.53	36.6	168.6	63.88
HCUA-48-4	ZR144KCE-TFD	4*33.2	1,7 / 35	126.4	431.30	35.94	32.6	159	59.08	119.2	406.73	33.89	36.36	155.56	64.52	111.2	379.43	31.62	40.6	151.8	70.8
			4,4 / 40	139.2	474.97	39.58	32.8	172	59.36	131.2	447.67	37.31	36.52	167.72	64.72	122.8	419.01	34.92	40.8	163.6	70.96
			7,2 / 45	152.8	521.38	43.45	33.12	185.92	59.8	144.4	492.71	41.06	36.72	181.12	65.04	135.6	462.69	38.56	40.8	176.4	71.16
			10 / 50	167.2	570.51	47.54	33.52	200.72	60.36	158.4	540.48	45.04	37.04	195.44	65.48	149.2	509.09	42.42	41	190.2	71.48
HCUA-52-4	ZR160KCE-TFD	4*36.4	1,7 / 35	136.8	466.78	38.90	36.76	173.56	68.28	128	436.76	36.40	40.6	168.6	74.28	118.4	404.00	33.67	45.2	163.6	81.32
			4,4 / 40	150.4	513.19	42.77	37.04	187.44	68.56	142	484.53	40.38	40.8	182.8	74.44	132	450.40	37.53	45.4	177.4	81.4
			7,2 / 45	165.6	565.05	47.09	37.28	202.88	69	156.8	535.03	44.59	41.2	198	74.72	146.8	500.90	41.74	45.6	192.4	81.52
			10 / 50	181.6	619.65	51.64	37.44	219.04	69.64	172.4	588.25	49.02	41.4	213.8	75	162.4	554.13	46.18	45.8	208.2	81.8
HCUA-60-4	ZR190KCE-TFD	4*43.3	1,7 / 35	161.6	551.40	45.95	44.4	206	89.04	151.6	517.28	43.11	49.2	200.8	95.44	140.4	479.07	39.92	54.8	195.2	102.8
			4,4 / 40	178.4	608.73	50.73	44.6	223	89.28	168	573.24	47.77	49.4	217.4	95.64	156.8	535.03	44.59	55	211.8	103.04
			7,2 / 45	197.2	672.88	56.07	45	242.2	89.52	186.4	636.02	53.00	49.6	236	95.84	174.4	595.08	49.59	55	229.4	103.24
			10 / 50	217.2	741.12	61.76	45.2	262.4	89.6	206	702.90	58.58	49.8	255.8	96.04	193.2	659.23	54.94	55.2	248.4	103.4
HCUA-80-4	ZR250KCE-TWD	4*56.6	1,7 / 35	211.2	720.65	60.05	58	269.2	101	200.4	683.79	56.98	64.2	264.6	109.2	188.4	642.85	53.57	71.2	259.6	118.84
			4,4 / 40	232.4	792.98	66.08	58.4	290.8	101.4	220.8	753.40	62.78	64.4	285.2	109.56	208.4	711.09	59.26	71.6	280	119.16
			7,2 / 45	255.6	872.15	72.68	58.6	314.2	101.8	243.6	831.20	69.27	64.8	308.4	109.92	230.8	787.52	65.63	71.8	302.6	119.52
			10 / 50	281.2	959.50	79.96	59	340.2	102.24	268	914.46	76.20	65	333	110.28	254.4	868.05	72.34	72	326.4	119.84
HCUA-100-4	ZR310KCE-TWD	4*71.4	1,7 / 35	262	893.98	74.50	71.6	333.6	130.24	247.2	843.48	70.29	79.8	327	140.44	231.6	790.25	65.85	88.8	320.4	152.6
			4,4 / 40	289.6	988.16	82.35	72.2	361.8	130.8	274	934.93	77.91	80	354	140.84	257.2	877.60	73.13	89.2	346.4	152.8
			7,2 / 45	320.4	1,093.25	91.10	73	393.4	131.52	303.6	1,035.93	86.33	80.8	384.4	141.36	286	975.87	81.32	89.6	375.6	153.16
			10 / 50	353.2	1,205.17	100.43	74	427.2	132.36	335.6	1,145.12	95.43	81.6	417.2	141.96	317.2	1,082.33	90.19	90.4	407.6	153.52
HCUA-120-4	ZR380KCE-TWD	4*87.5	1,7 / 35	326	1,112.36	92.70	87.6	413.6	155.08	309.6	1,056.40	88.03	96.8	406.4	167.68	291.6	994.98	82.92	107.6	399.2	182.36
			4,4 / 40	357.2	1,218.82	101.57	88.4	445.6	156.44	340.4	1,161.50	96.79	97.6	438	168.96	321.6	1,097.35	91.45	108	429.6	183.48
			7,2 / 45	392.4	1,338.93	111.58	89.6	482	158.08	374	1,276.14	106.35	98.4	472.4	170.52	354.8	1,210.63	100.89	108.8	463.6	184.92
			10 / 50	430	1,467.22	122.27	90.8	520.8	159.96	410	1,398.98	116.58	99.6	509.6	172.28	389.6	1,329.37	110.78	110	499.6	186.56

ENGINEERING SPECIFICATIONS (50 HZ) (R-22)											
chiller MODEL	no.of circuit	comp.oil charge (dm^3)	condenser coil					condenser fan			
			row	fpi	QTY	total heat rejection (kw)	total face area (m2)	size (mm)	QTY	total air flow rate (cfm)	motor power (kw)
HCUA-5-1	1	1.7	3	12	1	20.96	1.32	800	1	12948	1.7
HCUA6-1	1	1.8	4	12	1	25.13	1.32	800	1	12360	1.7
HCUA-7-1	1	1.8	2	10	2	28.34	2*1.32	800	1	13537	1.7
HCUA-8-1	1	2.7	2	12	2	33.47	2*1.32	800	1	13537	1.7
HCUA-9-1	1	3.4	3	10	2	37.45	2*1.32	800	1	12948	1.7
HCUA-10-1	1	3.4	3	12	2	43.87	2*1.32	800	1	12948	1.7
HCUA-12-1	1	3.4	4	12	2	50.18	2*1.32	800	1	12360	1.7
HCUA-13-1	1	3.4	2	10	2	54.76	2*2.31	800	2	2*13243	2*1.7
HCUA-15-1	1	3.9	2	12	2	65.6	2*2.31	800	2	2*13243	2*1.7
HCUA-20-1	1	4.7	3	12	2	85.05	2*2.31	800	2	2*12654	2*1.7
HCUA-25-1	1	6.8	2	10	4	106.8	4*2.31	800	4	4*13243	4*1.7
HCUA-30-1	1	6.3	2	12	4	130.2	4*2.31	800	4	4*13243	4*1.7
HCUA-20-2	2	6.8	3	12	4	87.74	4*1.32	800	2	2*22000	2*1.7
HCUA-24-2	2	6.8	4	12	4	100.36	4*1.32	800	4	2*21000	2*1.7
HCUA-26-2	2	6.8	2	10	4	109.52	4*2.31	800	4	4*22500	4*1.7
HCUA-30-2	2	7.8	2	12	4	131.2	4*2.31	800	4	4*22500	4*1.7
HCUA-40-2	2	9.4	3	12	4	170.1	4*2.31	800	4	4*21500	4*1.7
HCUA-50-2	2	13.6	3	10	6	213.6	6*2.31	800	6	6*22000	6*1.7
HCUA-60-2	2	12.6	4	10	6	260.4	6*2.31	800	6	6*22000	6*1.7
HCUA-20-4	4	6.8	3	12	4	83.84	4*1.32	800	2	2*21000	2*1.7
HCUA-24-4	4	7.2	4	12	4	100.52	4*2.31	800	4	4*21000	4*1.7
HCUA-28-4	4	7.2	2	12	4	113.36	4*2.31	800	4	4*22500	4*1.7
HCUA-32-4	4	10.8	3	10	4	133.88	4*2.31	800	4	4*22000	4*1.7
HCUA-36-4	4	13.6	3	10	4	149.8	4*2.31	800	4	4*22000	4*1.7
HCUA-40-4	4	13.6	4	10	4	175.48	4*2.31	800	4	4*22000	4*1.7
HCUA-48-4	4	13.6	4	12	4	200.72	4*2.31	800	4	4*21000	4*1.7
HCUA-52-4	4	13.6	3	10	6	219.04	6*2.31	800	6	6*22000	6*1.7
HCUA-60-4	4	15.6	4	10	6	262.4	6*2.31	800	6	6*22000	6*1.7
HCUA-80-4	4	18.8	3	12	8	340.2	8*2.31	800	8	8*21500	8*1.7
HCUA-100-4	4	27.2	3	12	10	427.2	10*2.31	800	10	10*21500	10*1.7
HCUA-120-4	4	25.2	4	10	12	520.8	12*2.31	800	12	12*21000	12*1.7

ELECTRICAL DATA (R-22)				
chiller MODEL	*Nominal Comp. power (HP)*	*MRA (Amp)*	*LRA (Amp)*	*MAX CONSE POWER (kw)*
HCUA-5-1	5	12.11	65.5	
HCUA6-1	6	13.01	74	
HCUA-7-1	7	14.75	101	
HCUA-8-1	8	16.38	95	
HCUA-9-1	9	17.62	111	
HCUA-10-1	10	19.67	118	
HCUA-12-1	12	21.57	118	
HCUA-13-1	13	27.85	140	
HCUA-15-1	15	33.25	174	
HCUA-20-1	20	37.36	225	
HCUA-25-1	25	53.18	272	
HCUA-30-1	30	61.44	310	
HCUA-20-2	2*10	39.34	236	
HCUA-24-2	2*12	50.54	236	
HCUA-26-2	2*13	55.7	280	
HCUA-30-2	2*15	66.5	348	
HCUA-40-2	2*20	74.72	450	
HCUA-50-2	2*25	98.96	544	
HCUA-60-2	2*30	115.48	620	
HCUA-20-4	4*5	41.04	262	
HCUA-24-4	4*6	52.04	296	
HCUA-28-4	4*7	59	404	
HCUA-32-4	4*8	65.52	380	
HCUA-36-4	4*9	70.48	444	
HCUA-40-4	4*10	78.68	472	
HCUA-48-4	4*12	86.28	472	
HCUA-52-4	4*13	104	560	
HCUA-60-4	4*15	125.6	696	
HCUA-80-4	4*20	149.44	900	
HCUA-100-4	4*25	190.52	1088	
HCUA-120-4	4*30	230.96	1240	

Dimensions (R-22)-COPPELAND





HCUA-5-1

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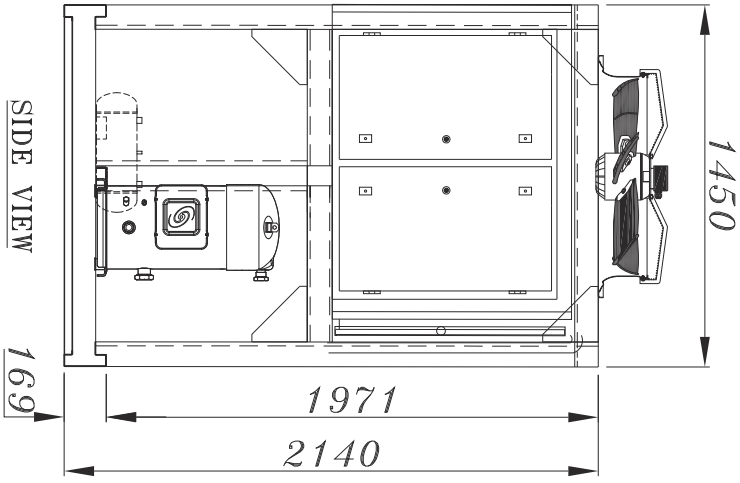
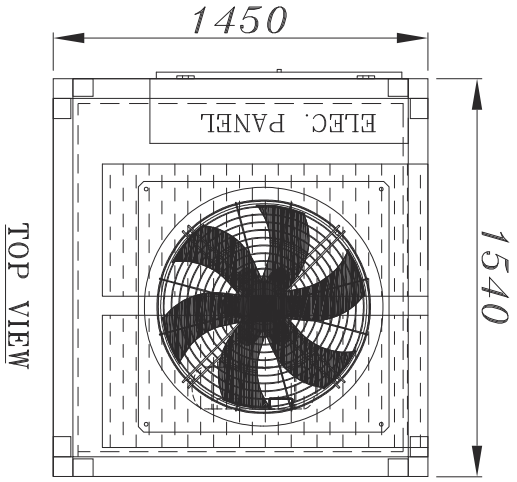
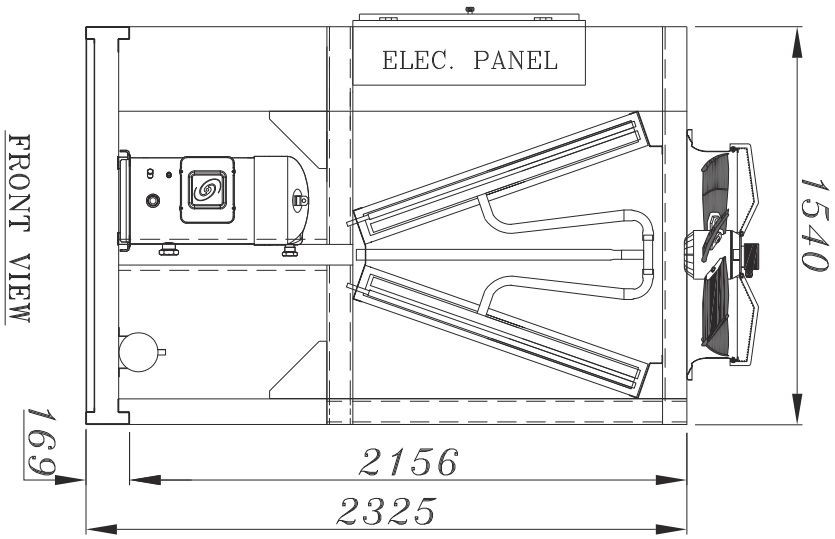






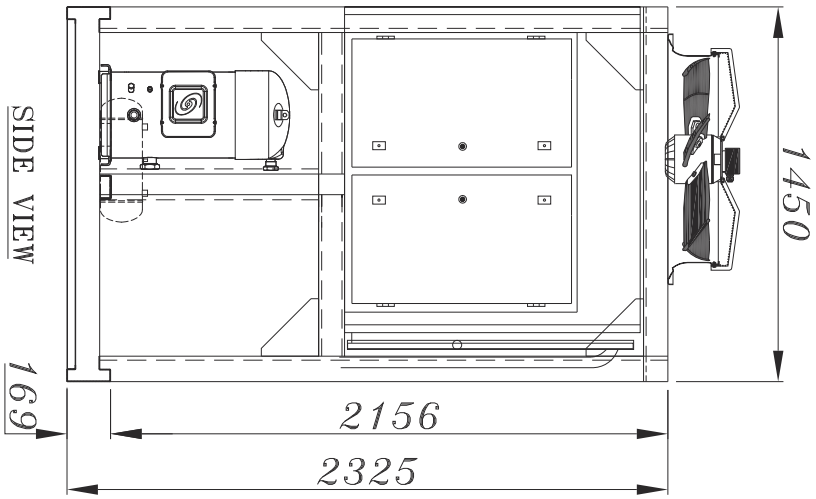
HCUA-7-1

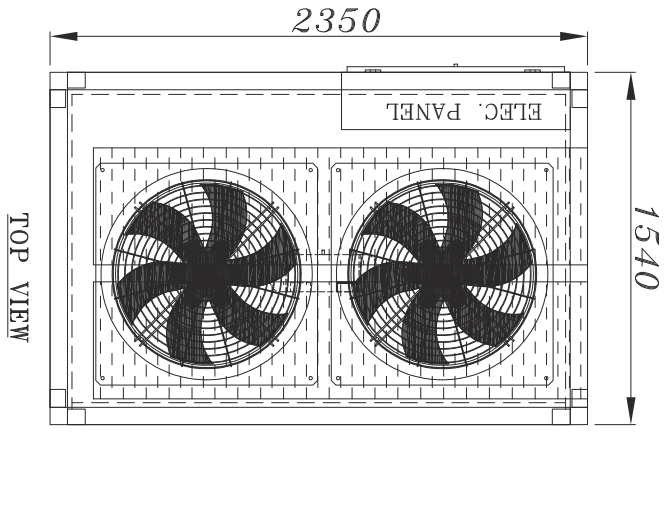
HCUA-8-1

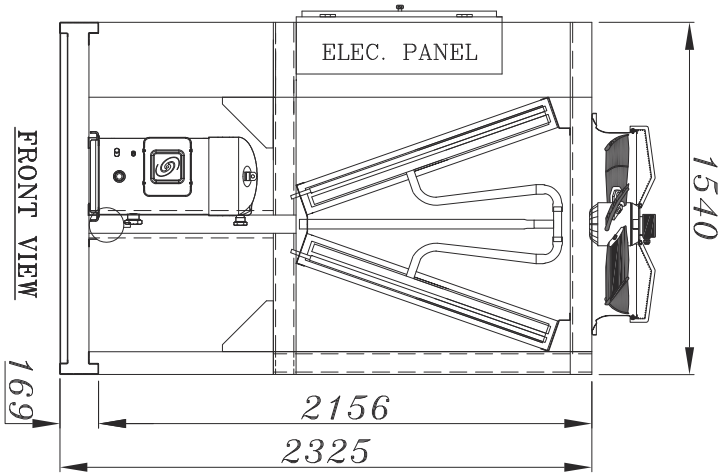
HCUA-9-1

HCUA-10-1

HCUA-12-1



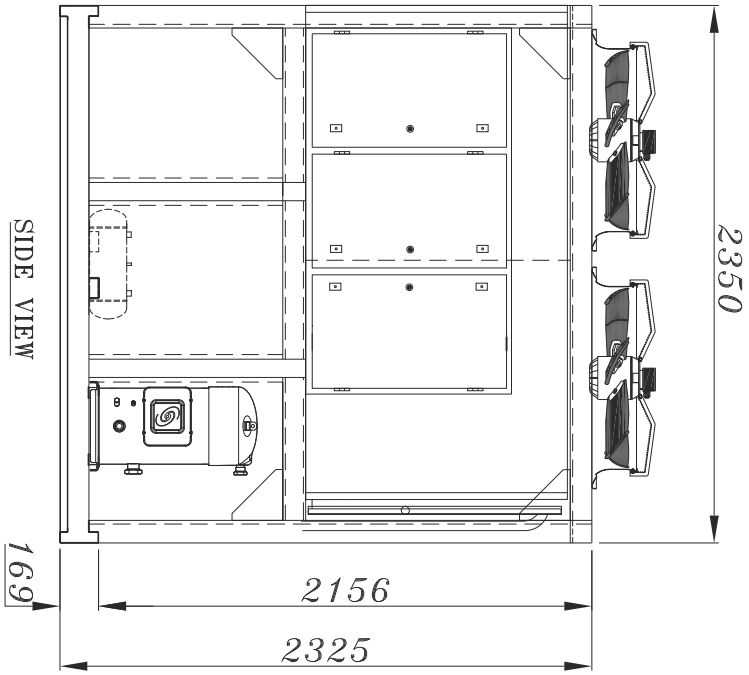


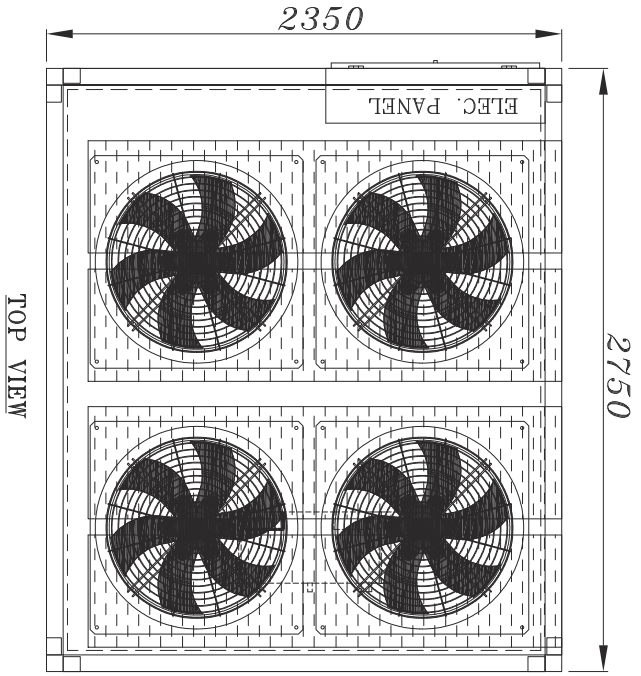


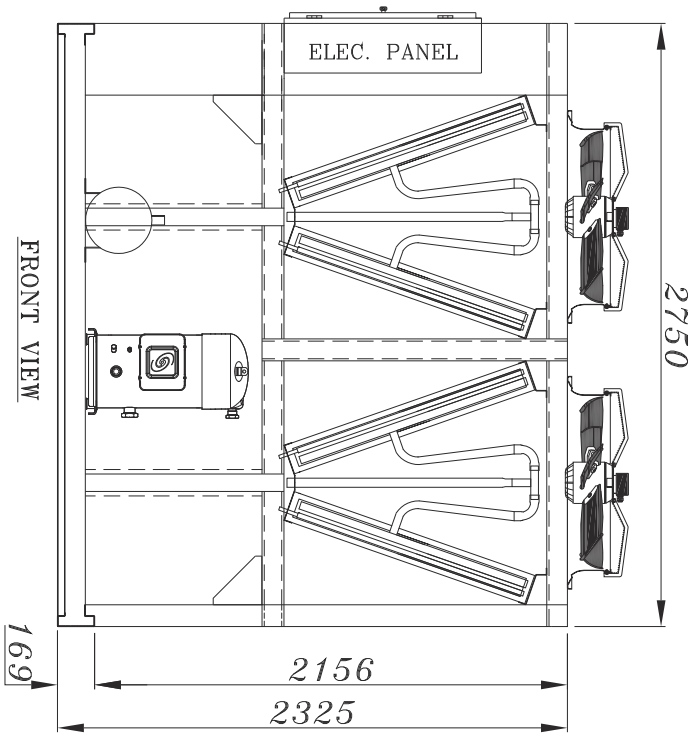
HCUA-13-1

HCUA-15-1

HCUA-20-1

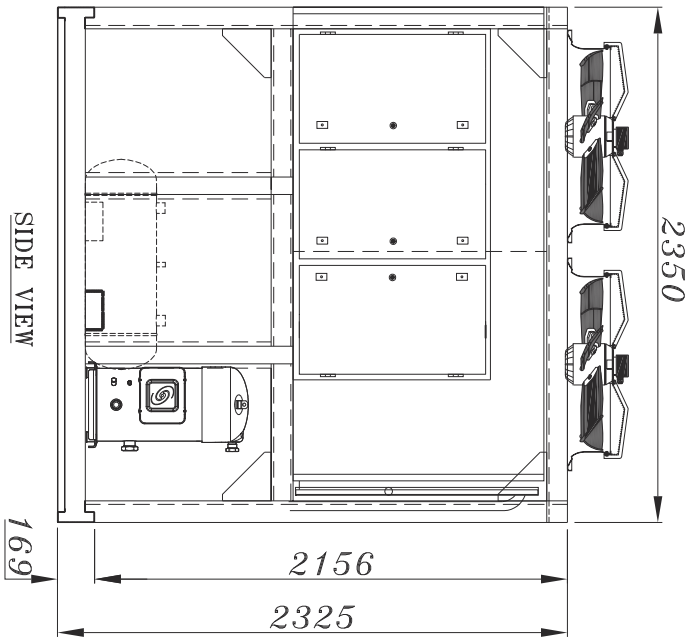


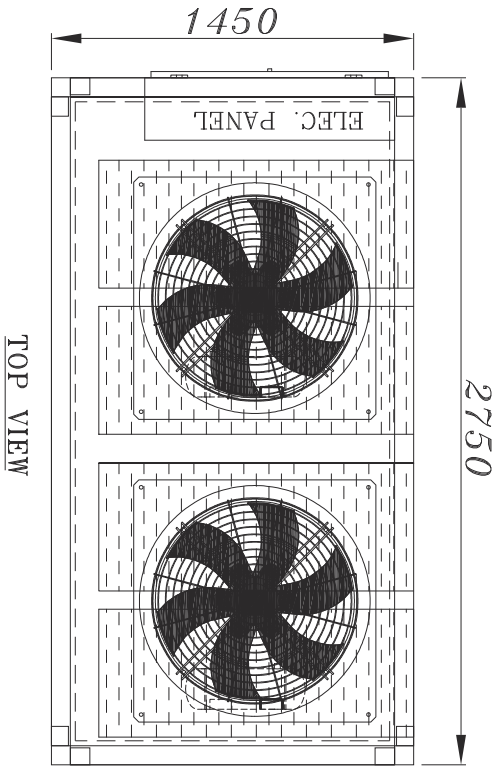




HCUA-25-1

HCUA-30-1

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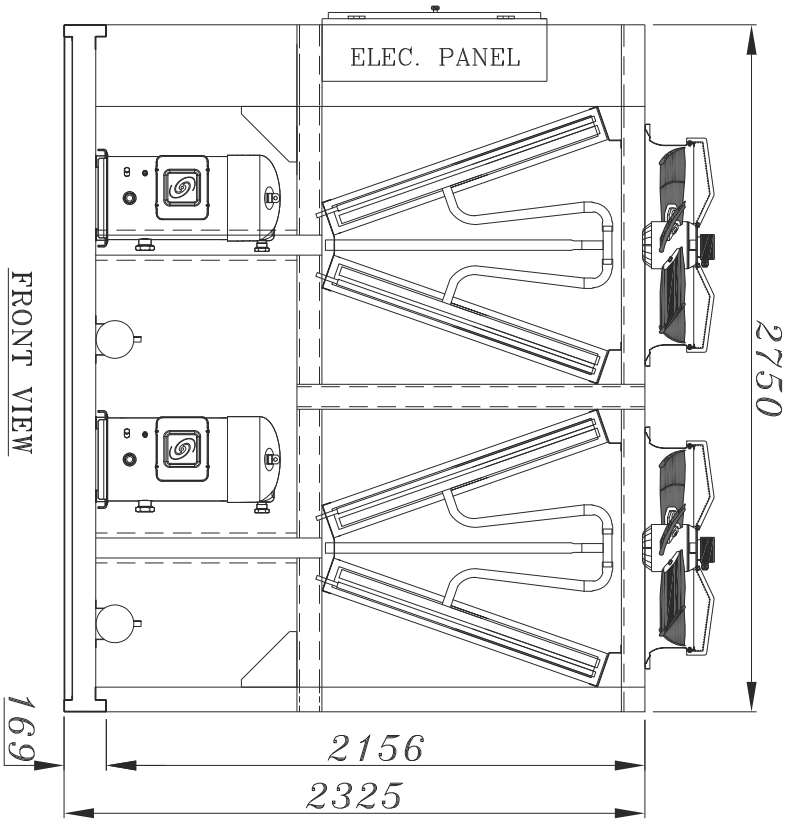
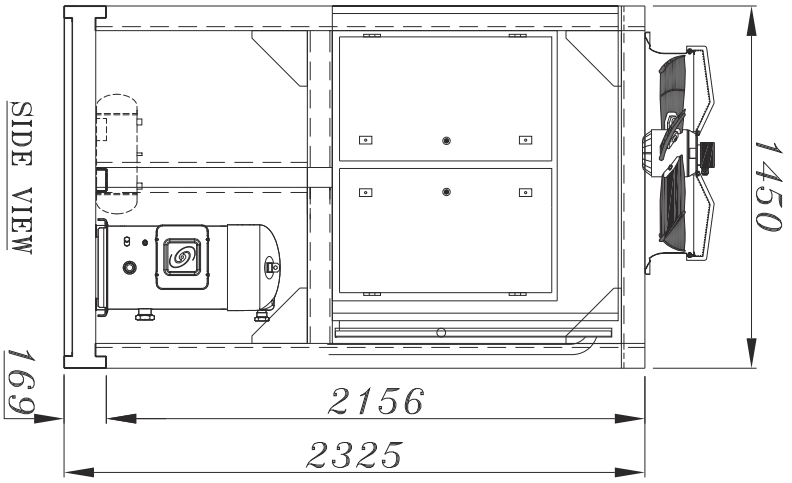
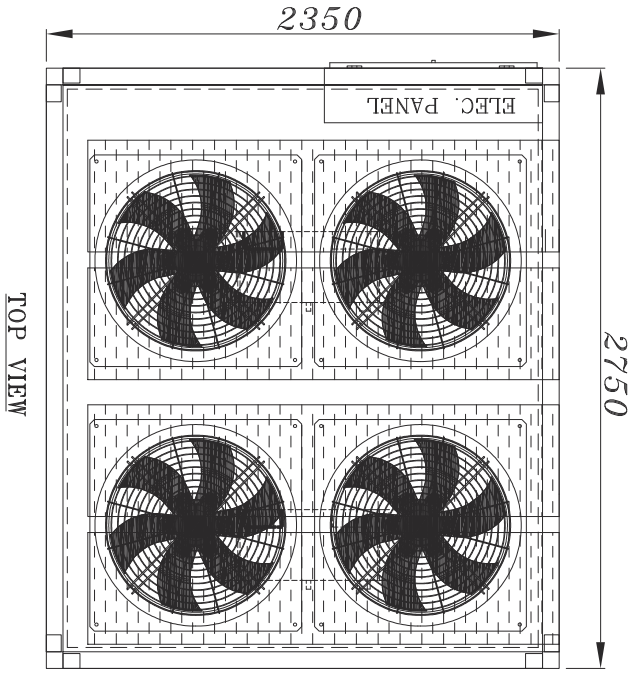
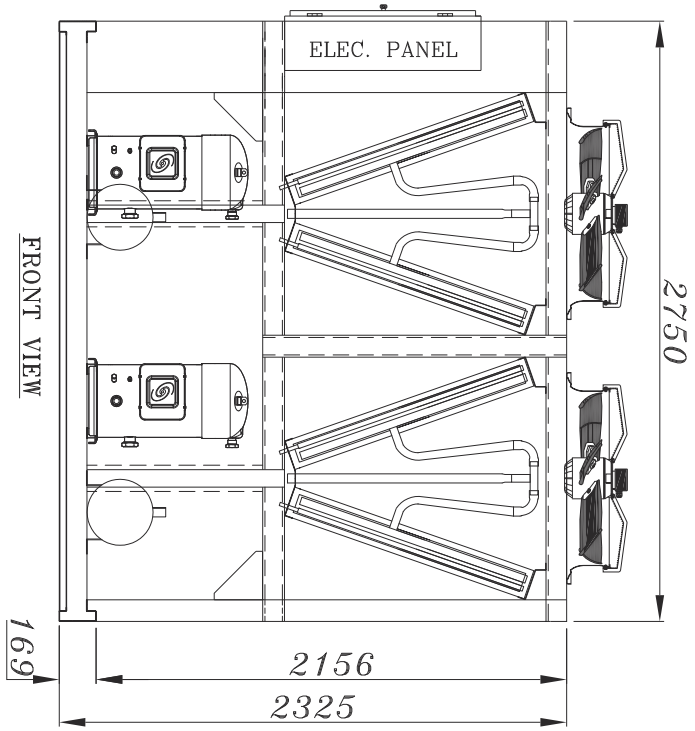
ELEC. PANEL
2750
TOP VIEW


ELEC. PANEL
FRONT VIEW
2750
169
2156
2325

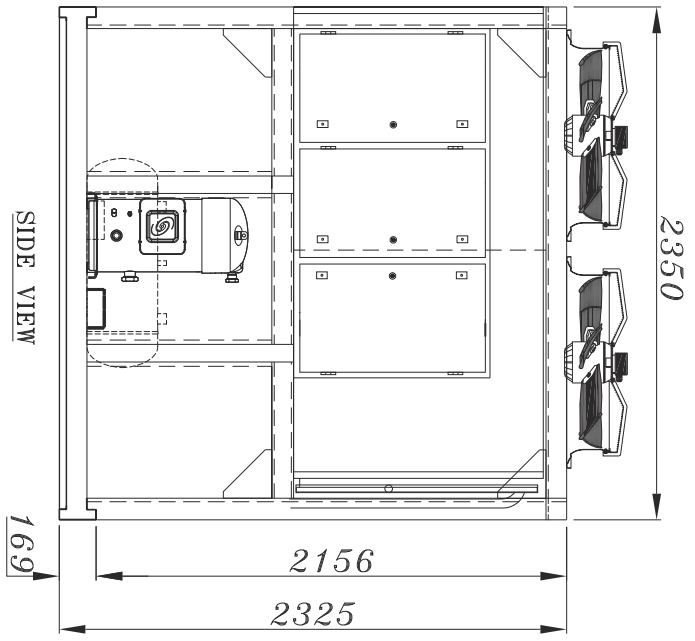
HCUA-20-2

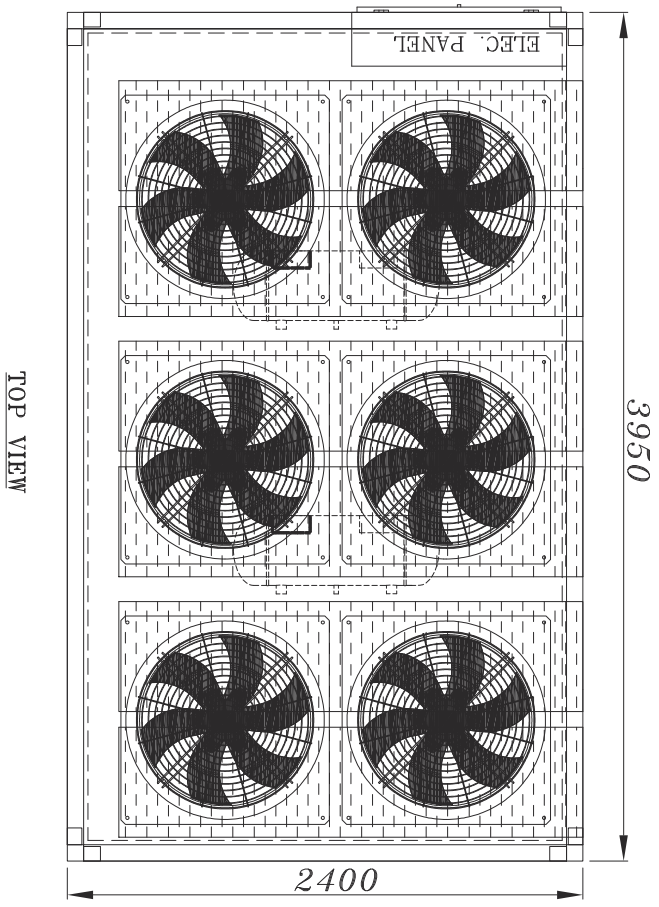

SIDE VIEW
1450
169
2156
2325

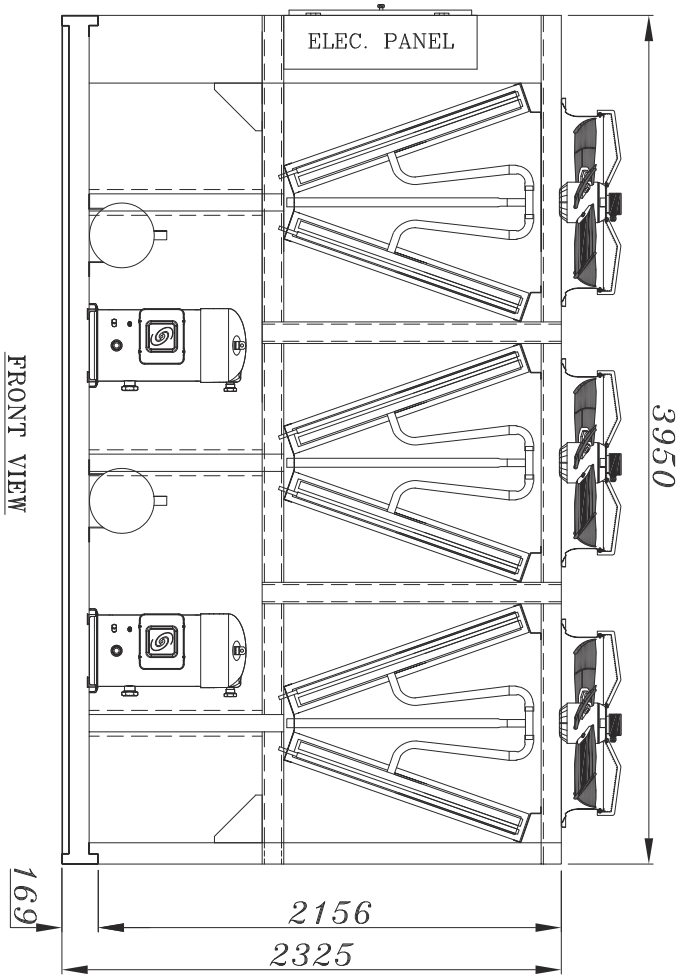




HCUA-24-2
HCUA-26-2
HCUA-30-2
HCUA-40-2

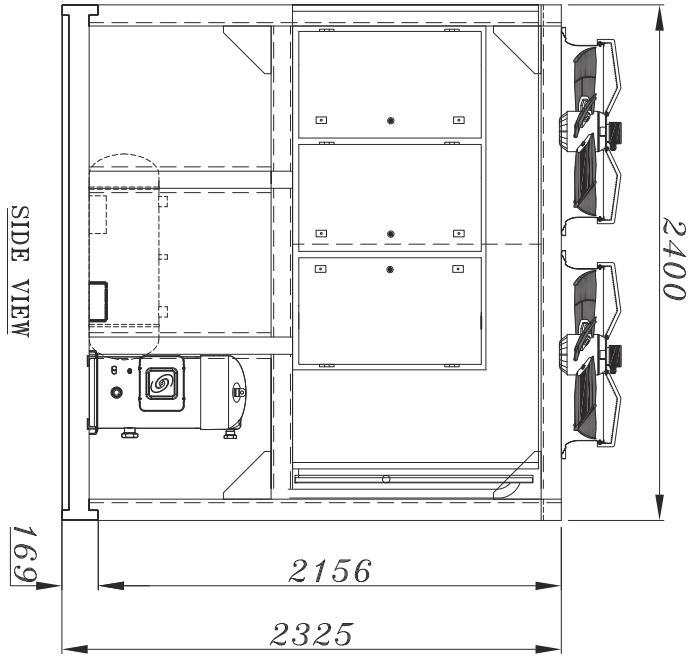


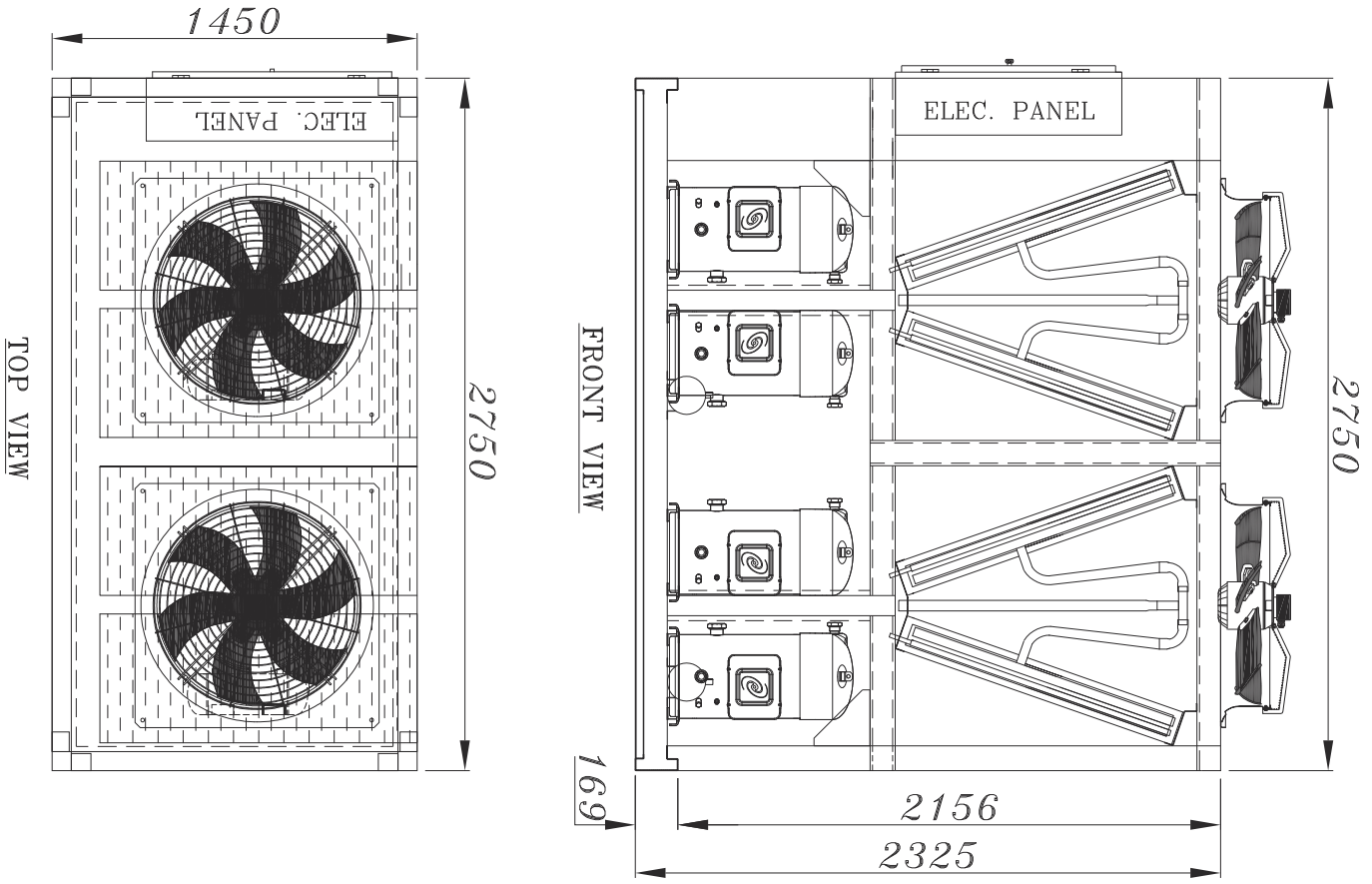




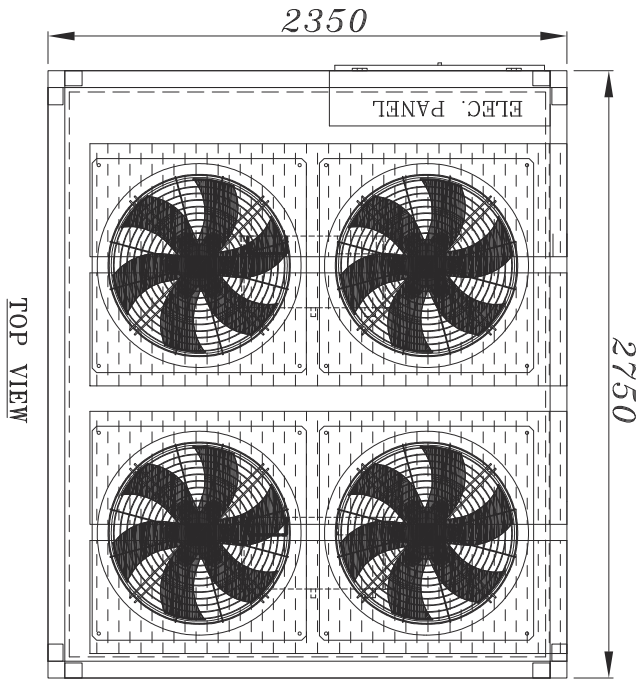
HCUA-50-2

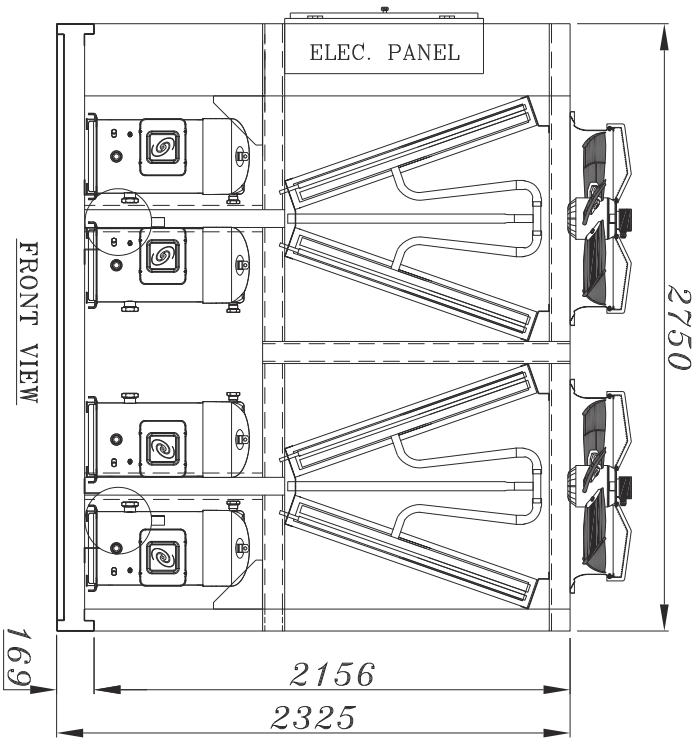
HCUA-60-2




1450
ELEC. PANEL
TOP VIEW
2750
FRONT VIEW
ELEC. PANEL
2750
169
2156
2325
SIDE VIEW
1450
169
2156
2325

HCUA-20-4





HCUA-24-4

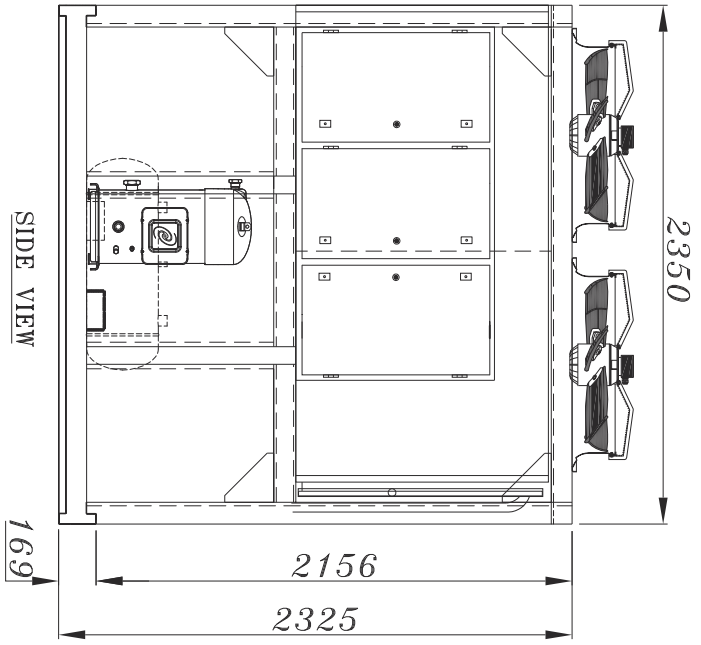
HCUA-28-4

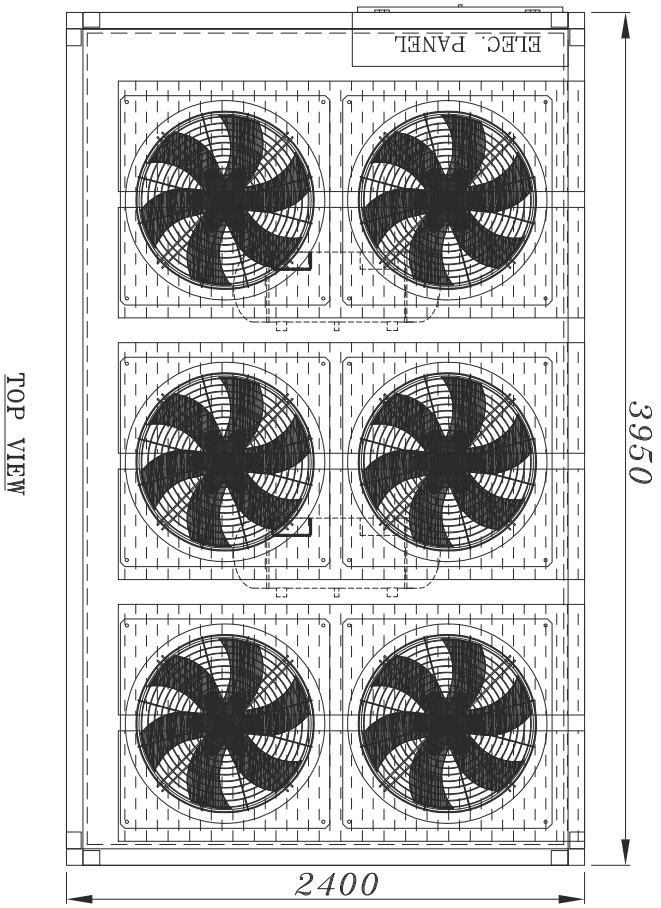
HCUA-32-4

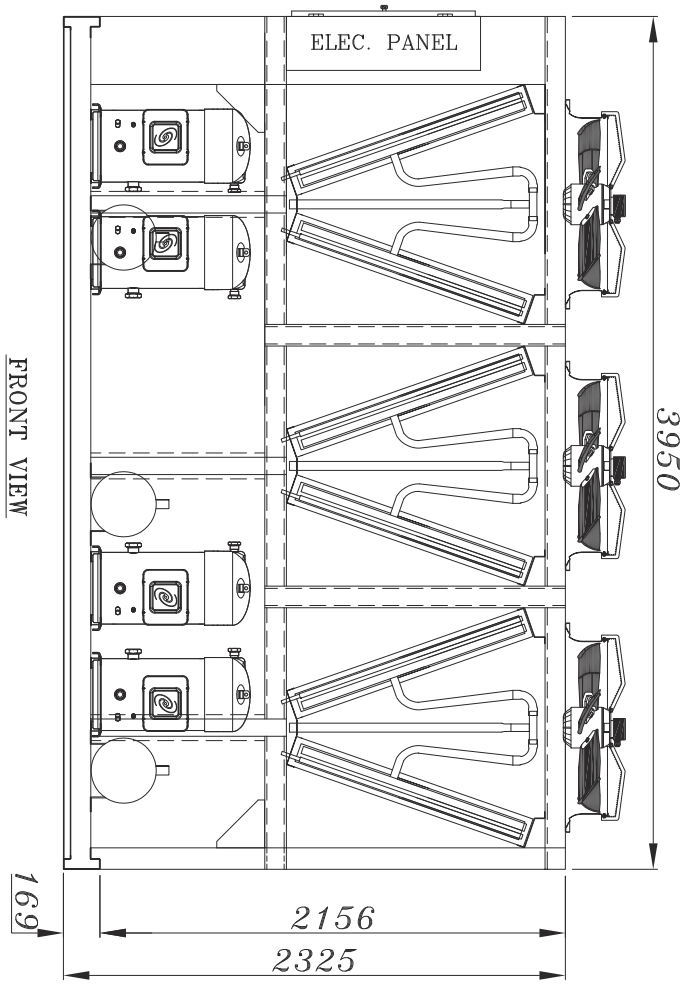
HCUA-36-4

HCUA-40-4

HCUA-48-4

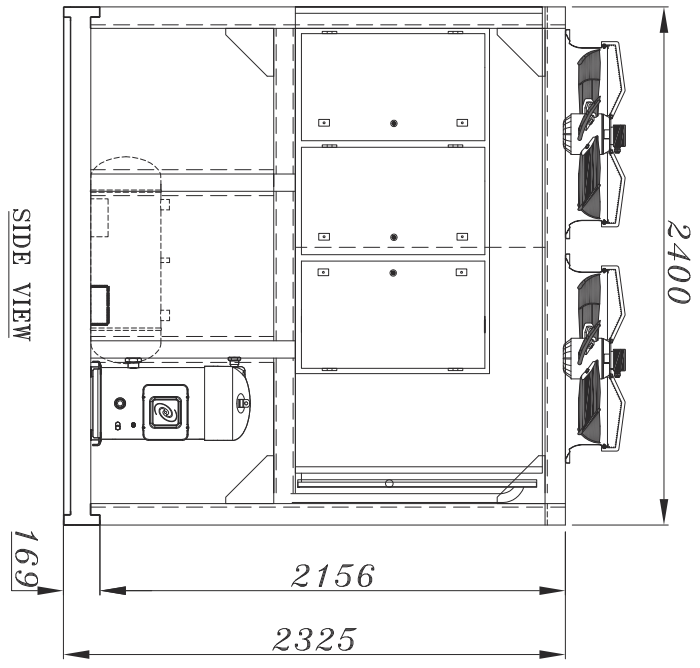


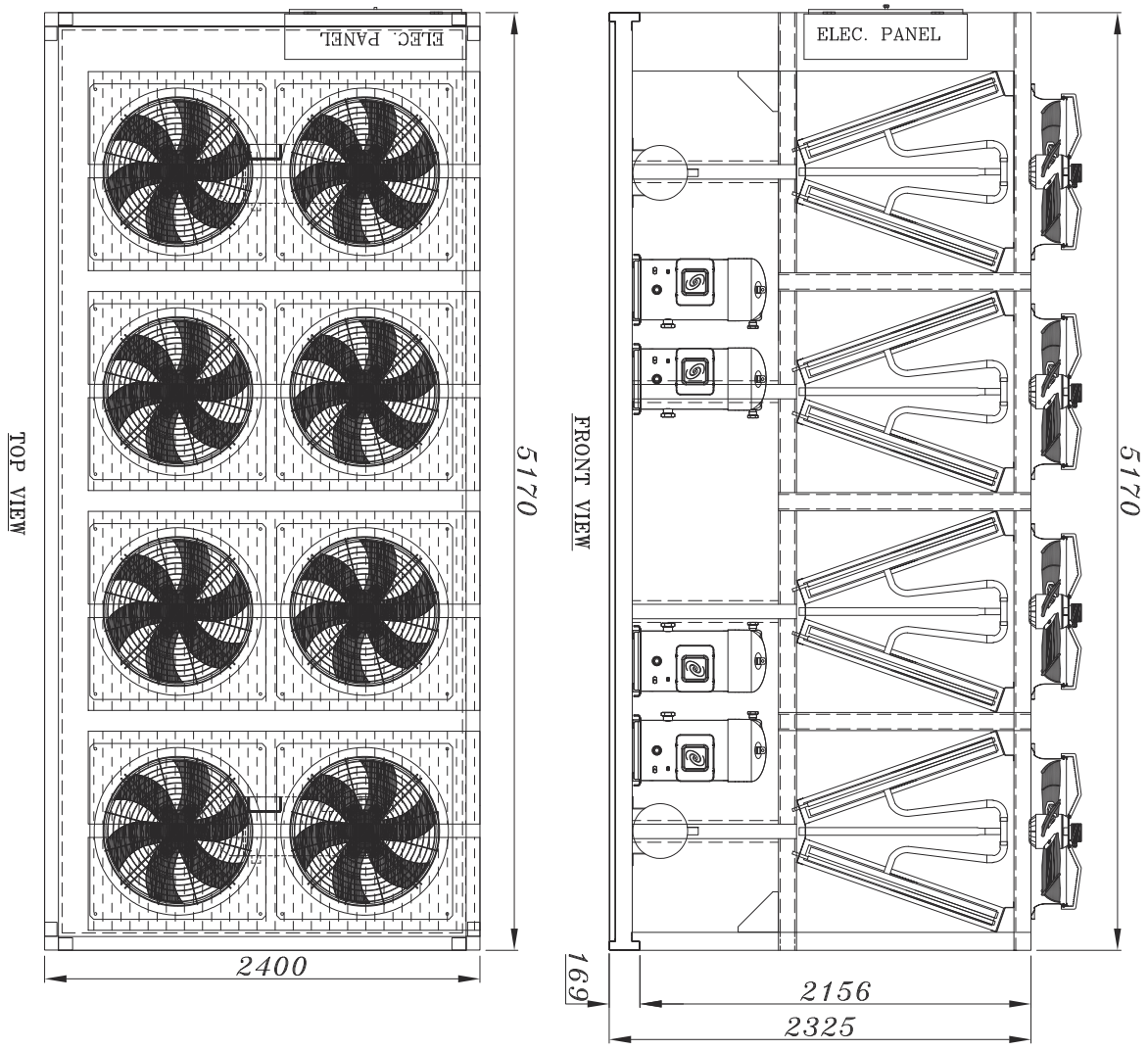




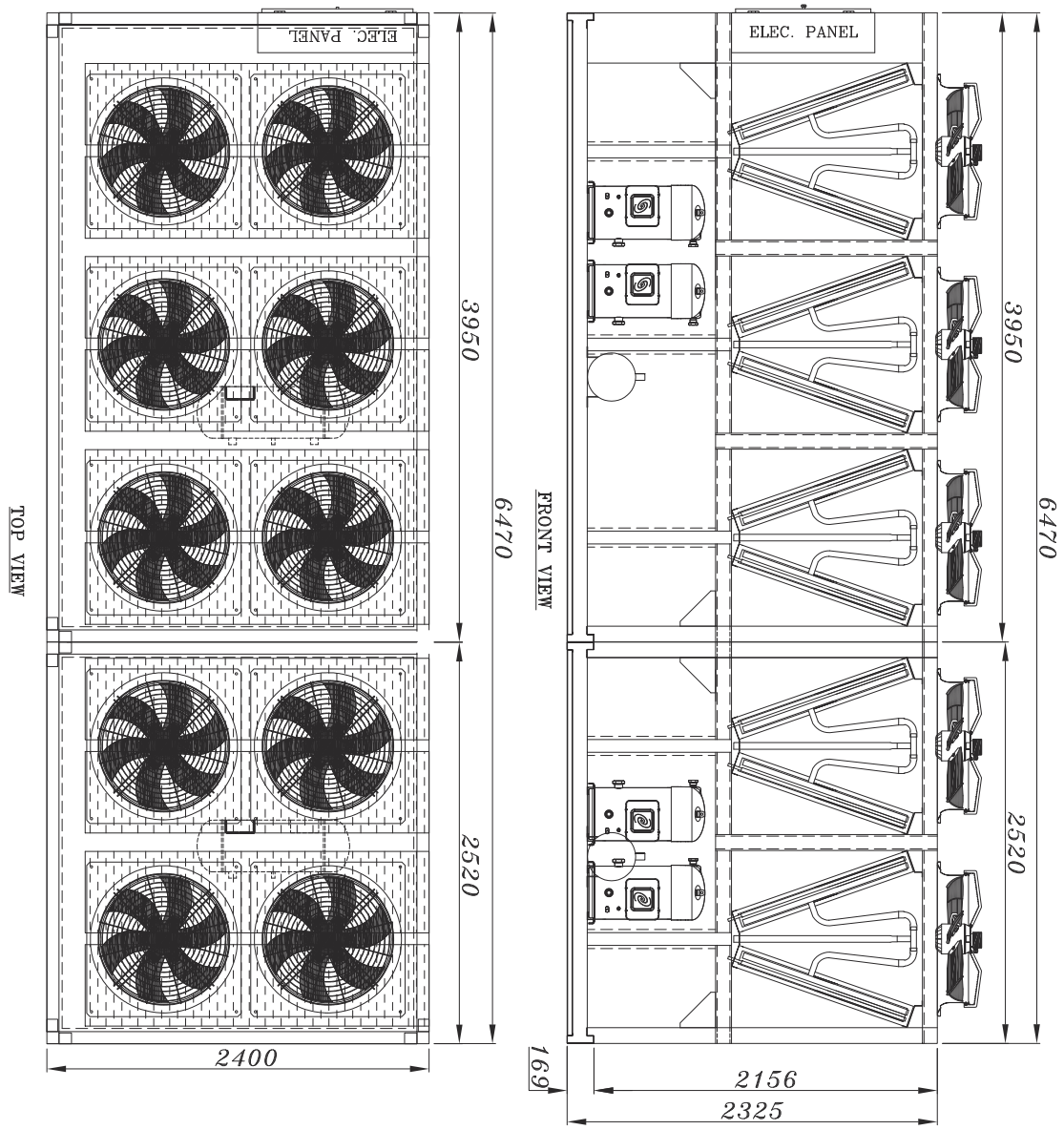
HCUA-52-4

HCUA-60-4

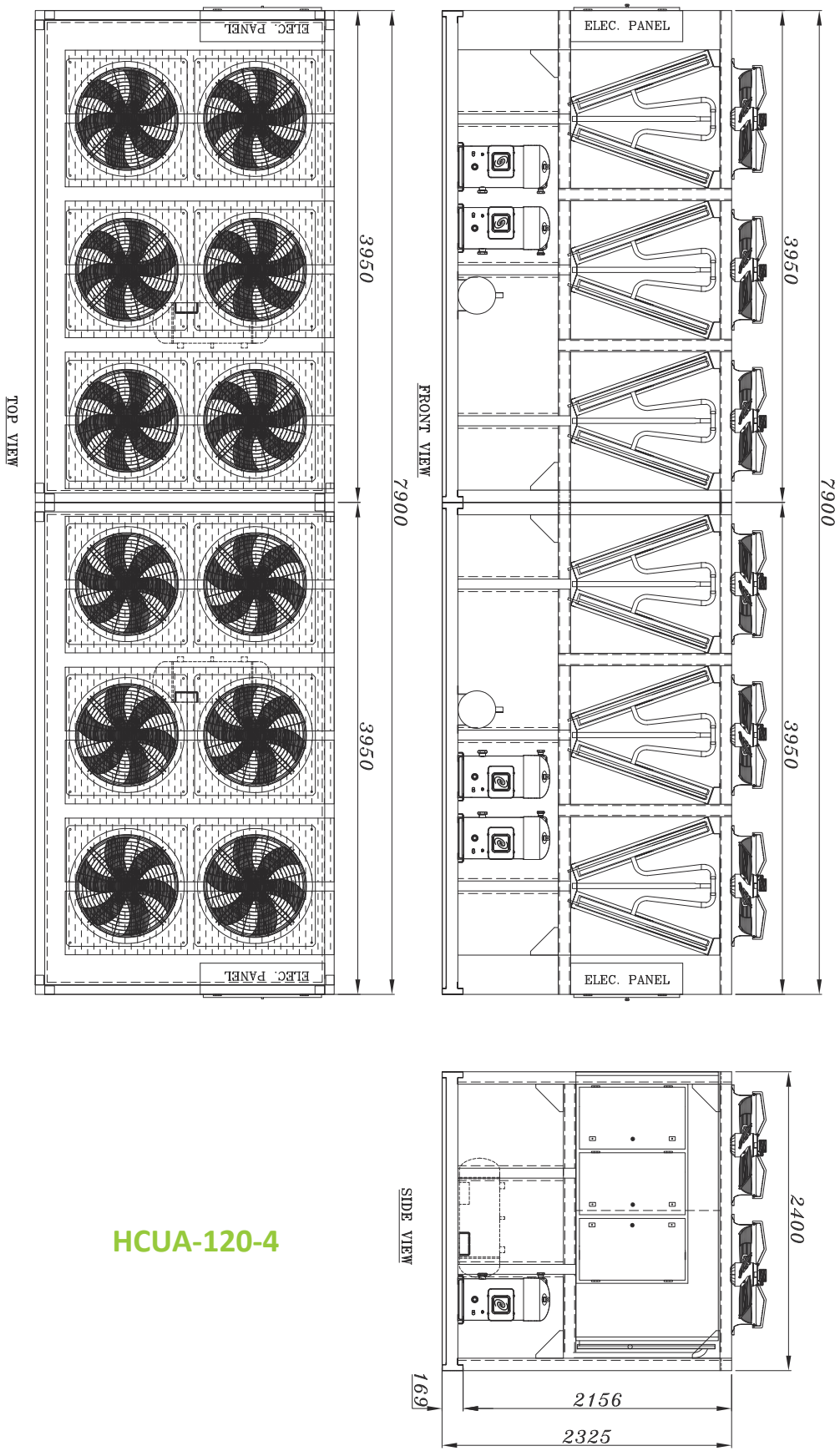



TOP VIEW
ELEC. PANEL
5170
2400
FRONT VIEW
ELEC. PANEL
5170
169
2156
2325
SIDE VIEW
2400
169
2156
2325

HCUA-80-4


TOP VIEW
ELEC. PANEL
3950
2520
6470
2400
FRONT VIEW
ELEC. PANEL
3950
2520
6470
169
2156
2325
SIDE VIEW
2400
169
2156
2325

HCUA-100-4


TOP VIEW
ELEC. PANEL
3950
3950
7900
FRONT VIEW
ELEC. PANEL
ELEC. PANEL
3950
3950
7900
SIDE VIEW
2400
169
2156
2325

HCUA-120-4


REFRIGERANT
134a
REFRIGERANT
134a


Copeland Scroll

ENGINEERING SPECIFICATIONS-50 HZ (R-134a)-COPELAND

Model			HCUA-5-1	HCUA-6-1	HCUA-7-1	HCUA-8-1	HCUA-9-1	HCUA-10-1
Cooling Capacity	Ton of Refrigeration		3.04	3.63	4.04	4.82	5.40	6.31
	KW		10.7	12.75	14.2	16.95	19	22.2
Compressor	Type	-	Copeland Scroll					
	Quantity		1	1	1	1	1	1
	Oil Charge	US Gal	0.45	0.48	0.48	0.71	0.90	0.90
		LIT	1.7	1.8	1.8	2.7	3.4	3.4
condenser Coil	type	-	Air-cooled 2 or 3 or 4or rows, copper tubes aluminum fins					
	FaceArea		14.20	14.20	14.20	14.20	28.41	28.41
			1.32	1.32	1.32	1.32	2.64	2.64
condenser Fan	Type		Propeller direct drive 720 rpm				Propeller direct drive 885 rpm	
	Quantity		1	1	1	1	1	1
	Aire Flow RATE	cfm	10001	9412	8824	8707	13530	13530
		l/s	4722	4444	4166	4111	6388	6388
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		16.53	19.836	23.142	26.448	29.754	33.06
	kg		7.5	9	10.5	12	13.5	15
Nmber Of Refrigrant Circuit			1	1		1	1	1
Unit Operating Weight(approx)		lbs	1433	1234	1234	1322	1322	1322
		kg	650	560	560	600	600	600

Model			HCUA-12-1	HCUA-13-1	HCUA-15-1	HCUA-20-1	HCUA-25-1	HCUA-30-1
Cooling Capacity	Ton of Refrigeration		7.17	7.76	9.30	12.17	15.07	18.97
	KW		25.2	27.3	32.7	42.8	53	66.7
Compressor	Type	-	Copeland Scroll					
	Quantity		1	1	1	1	1	1
	Oil Charge	US Gal	0.90	0.90	1.03	1.24	1.80	1.66
		LIT	3.4	3.4	3.9	4.7	6.8	6.3
condenser Coil	type	-	Air-cooled 2 or 3 or 4or rows, copper tubes aluminum fins					
	FaceArea		28.41	28.41	28.41	49.71	49.71	49.71
			2.64	2.64	2.64	4.62	4.62	4.62
condenser Fan	Type		Propeller direct drive 885 rpm					
	Quantity		1	1	1	2	2	2
	Aire Flow RATE	cfm	13238	12943	12943	26475	25886	25886
		l/s	6250	6111	6111	12500	12222	12222
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		39.672	42.978	49.59	66.12	82.65	99.18
	kg		18	19.5	22.5	30	37.5	45
Nmber Of Refrigrant Circuit			1	1	1	1	1	
Unit Operating Weight(approx)		lbs	1433	1433	1763	2094	2094	2975
		kg	650	650	800	950	950	1350

Model			HCUA-20-2	HCUA-24-2	HCUA-26-2	HCUA-30-2	HCUA-40-2	HCUA-50-2	HCUA-60-2
Cooling Capacity	Ton of Refrigeration		12.62	14.33	15.53	18.60	24.34	30.14	37.93
	KW		44.40	50.40	54.60	65.40	85.60	106.00	133.40
Compressor	Type	-	Copeland Scroll						
	Quantity		2	2	2	2	2	2	2
	Oil Charge	US Gal	1.80	1.80	1.80	2.06	2.48	3.59	3.33
		LIT	6.8	6.8	6.8	7.8	9.4	13.6	12.6
condenser Coil	type	-	Air-cooled 2 or 3 or 4or rows, copper tubes aluminum fins						
	FaceArea		56.81	56.81	56.81	56.81	99.42	99.42	99.42
			5.28	5.28	5.28	5.28	9.24	9.24	9.24
condenser Fan	Type		Propeller direct drive 885 rpm						
	Quantity		2	2	2	2	4	4	4
	Aire Flow RATE	cfm	28158	28158	26937	26937	55100	53875	53875
		l/s	12776	12776	12222	12222	25000	24444	24444
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		66.12	79.344	85.956	99.18	132.24	165.3	198.36
	kg		30	36	39	45	60	75	90
Nmber Of Refrigrant Circuit			2	2	2	2	2	2	2
Unit Operating Weight(approx)		lbs	1873	1873	1873	2645	3196	3306	4077
		kg	850	850	850	1200	1450	1500	1850

Model			HCUA-36-4	HCUA-40-4	HCUA-48-4	HCUA-52-4	HCUA-60-4	HCUA-80-4	HCUA-100-4	HCUA-120-4
Cooling Capacity	Ton of Refrigeration		21.61	25.25	28.66	31.05	37.19	48.68	60.28	75.86
	KW		76.00	88.80	100.80	109.20	130.80	171.20	212.00	266.80
Compressor	Type	-	Copeland Scroll							
	Quantity		4	4	4	4	4	4	4	4
	Oil Charge	US Gal	3.59	3.59	3.59	3.59	4.12	4.97	7.19	6.66
		LIT	13.6	13.6	13.6	13.6	15.6	18.8	27.2	25.2
condenser Coil	type	-	Air-cooled 2 or 3 or 4or rows, copper tubes aluminum fins							
	FaceArea		99.42	99.42	99.42	99.42	99.42	149.13	149.13	198.84
			9.24	9.24	9.24	9.24	9.24	13.86	13.86	18.48
condenser Fan	Type		Propeller direct drive 885 rpm							
	Quantity		4	4	4	4	4	6	6	8
	Aire Flow RATE	cfm	52950	52950	51772	51772	49417	79425	75892	103545
		l/s	25000	25000	24444	24444	23332	37500	35832	48888
	Size	kw	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Refrigrant(R-134a)operating charge (approx)	lbs		119.016	132.24	158.688	171.912	198.36	264.48	330.6	396.72
	kg		54	60	72	78	90	120	150	180
Nmber Of Refrigrant Circuit			2	2	2	2	2	2	2	2
Unit Operating Weight(approx)		lbs	2865	3086	3086	3416	3967	5179	5510	6061
		kg	1300	1400	1400	1550	1800	2350	2500	2750

CAPACITY RATING(50 HZ)
R-134a

Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	eva.temp (C / F)	Condenser entering air temp					
				95 F(35°C)					
				Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	Copeland			KW	MBH	TON			
HCUA-5-1	ZR61KCE-TFD	14.4	1,7 / 35	8.58	29.28	2.44	2.43	11.01	5.61
			4,4 / 40	9.59	32.72	2.73	2.44	12.03	5.62
			7,2 / 45	10.7	36.51	3.04	2.46	13.16	5.63
			10 / 50	11.95	40.78	3.40	2.48	14.43	5.64
HCUA-6-1	ZR72KCE-TFD	17.1	1,7 / 35	10.2	34.80	2.90	2.89	13.09	5.9
			4,4 / 40	11.4	38.90	3.24	2.9	14.3	5.9
			7,2 / 45	12.75	43.50	3.63	2.91	15.66	5.92
			10 / 50	14.25	48.62	4.05	2.92	17.17	5.94
HCUA-7-1	ZR81KCE-TFD	18.8	1,7 / 35	11.45	39.07	3.26	3.23	14.68	7.77
			4,4 / 40	12.75	43.50	3.63	3.25	16	7.79
			7,2 / 45	14.2	48.45	4.04	3.27	17.47	7.82
			10 / 50	15.8	53.91	4.49	3.29	19.09	7.85
HCUA-8-1	ZR94KCE-TFD	22.1	1,7 / 35	13.6	46.41	3.87	3.87	17.47	9.62
			4,4 / 40	15.2	51.86	4.32	3.89	19.09	9.6
			7,2 / 45	16.95	57.84	4.82	3.89	20.84	9.65
			10 / 50	18.85	64.32	5.36	3.88	22.73	9.51
HCUA-9-1	ZR108KCE-TFD	24.9	1,7 / 35	15.25	52.04	4.34	4.32	19.57	10.49
			4,4 / 40	17.05	58.18	4.85	4.34	21.39	10.44
			7,2 / 45	19	64.83	5.40	4.34	23.34	10.38
			10 / 50	21.1	72.00	6.00	5.05	26.15	10.31
HCUA-10-1	ZR125KCE-TFD	29.1	1,7 / 35	17.85	60.91	5.08	5.05	22.9	11.7
			4,4 / 40	19.9	67.90	5.66	5.07	24.97	11.72
			7,2 / 45	22.2	75.75	6.31	5.08	27.28	11.74
			10 / 50	24.7	84.28	7.02	5.06	29.76	11.76
HCUA-12-1	ZR144KCE-TFD	33.2	1,7 / 35	20.9	71.31	5.94	5.62	26.52	10.88
			4,4 / 40	22.9	78.14	6.51	5.63	28.53	10.94
			7,2 / 45	25.2	85.99	7.17	5.66	30.86	11.01
			10 / 50	27.6	94.18	7.85	5.71	33.31	11.11
HCUA-13-1	ZR160KCE-TFD	36.4	1,7 / 35	22.5	76.77	6.40	6.19	28.69	12.63
			4,4 / 40	24.8	84.62	7.05	6.24	31.04	12.68
			7,2 / 45	27.3	93.15	7.76	6.28	33.58	12.76
			10 / 50	29.9	102.02	8.50	6.31	36.21	12.88
HCUA-15-1	ZR190KCE-TFD	43.3	1,7 / 35	26.8	91.45	7.62	7.51	34.31	16.98
			4,4 / 40	29.6	101.00	8.42	7.55	37.15	17.03
			7,2 / 45	32.7	111.58	9.30	7.59	40.29	17.07
			10 / 50	36	122.84	10.24	7.63	43.63	17.12
HCUA-20-1	ZR250KCE-TWD	56.6	1,7 / 35	34.4	117.38	9.78	9.97	44.37	19.97
			4,4 / 40	38.3	130.69	10.89	10	48.3	20.01
			7,2 / 45	42.8	146.04	12.17	10.1	52.9	20.07
			10 / 50	47.7	162.76	13.56	10.15	57.85	20.13
HCUA-25-1	ZR310KCE-TWD	71.4	1,7 / 35	42.5	145.02	12.08	12.45	54.95	24.99
			4,4 / 40	47.4	161.74	13.48	12.5	59.9	25.04
			7,2 / 45	53	180.84	15.07	12.55	65.55	25.11
			10 / 50	59	201.32	16.78	12.65	71.65	25.19
HCUA-30-1	ZR380KCE-TWD	87.5	1,7 / 35	53.8	183.57	15.30	15.3	69.1	31.26
			4,4 / 40	59.9	204.39	17.03	15.4	75.3	31.4
			7,2 / 45	66.7	227.59	18.97	15.5	82.2	31.54
			10 / 50	74	252.50	21.04	15.65	89.65	31.66

CAPACITY RATING(50 HZ)
R-134a

Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	condenser entering air temp.											
			122 F(50°C)						131 F(52°C)					
			Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	Copeland		KW	MBH	TON				KW	MBH	TON			
HCUA-5-1	ZR61KCE-TFD	14.4	7.05	24.06	2.00	3.34	10.39	6.76	6.84	23.34	1.94	3.49	10.33	6.96
			7.9	26.96	2.25	3.35	11.25	6.78	7.67	26.17	2.18	3.5	11.17	6.98
			8.87	30.27	2.52	3.36	12.23	6.8	8.61	29.38	2.45	3.51	12.12	7
			9.93	33.88	2.82	3.38	13.31	6.81	9.64	32.89	2.74	3.53	13.17	7.01
HCUA-6-1	ZR72KCE-TFD	17.1	8.16	27.84	2.32	4.08	12.24	7.46	7.88	26.89	2.24	4.27	12.15	7.73
			9.18	31.32	2.61	4.07	13.25	7.45	8.87	30.27	2.52	4.27	13.14	7.72
			10.35	35.32	2.94	4.07	14.42	7.44	10	34.12	2.84	4.26	14.26	7.71
			11.6	39.58	3.30	4.07	15.67	7.44	11.25	38.39	3.20	4.26	15.51	7.71
HCUA-7-1	ZR81KCE-TFD	18.8	9.36	31.94	2.66	4.5	13.86	9.19	9.07	30.95	2.58	4.7	13.77	9.43
			10.45	35.66	2.97	4.5	14.95	9.2	10.15	34.63	2.89	4.71	14.86	9.45
			11.7	39.92	3.33	4.52	16.22	9.22	11.4	38.90	3.24	4.73	16.13	9.47
			13.1	44.70	3.72	4.55	17.65	9.25	12.7	43.33	3.61	4.75	17.45	9.49
HCUA-8-1	ZR94KCE-TFD	22.1	10.85	37.02	3.09	5.23	16.08	11.03	10.5	35.83	2.99	5.43	15.93	11.27
			12.2	41.63	3.47	5.25	17.45	11.05	11.75	40.09	3.34	5.46	17.21	11.28
			13.7	46.75	3.90	5.26	18.96	11.04	13.25	45.21	3.77	5.47	18.72	11.28
			15.3	52.21	4.35	5.25	20.55	11.01	14.8	50.50	4.21	5.46	20.26	11.26
HCUA-9-1	ZR108KCE-TFD	24.9	12.15	41.46	3.45	5.85	18	12.32	11.75	40.09	3.34	6.08	17.83	12.62
			13.65	46.58	3.88	5.87	19.52	12.29	13.2	45.04	3.75	6.11	19.31	12.6
			15.35	52.38	4.36	5.88	21.23	12.24	14.8	50.50	4.21	6.12	20.92	12.56
			17.15	58.52	4.88	5.87	23.02	12.17	16.6	56.64	4.72	6.1	22.7	12.49
HCUA-10-1	ZR125KCE-TFD	29.1	14.2	48.45	4.04	6.81	21.01	13.51	13.7	46.75	3.90	7.08	20.78	13.8
			15.95	54.42	4.54	6.84	22.79	13.56	15.4	52.55	4.38	7.11	22.51	13.86
			17.9	61.08	5.09	6.85	24.75	13.6	17.3	59.03	4.92	7.12	24.42	13.91
			20	68.24	5.69	6.83	26.83	13.64	19.4	66.20	5.52	7.11	26.51	13.95
HCUA-12-1	ZR144KCE-TFD	33.2	16.45	56.13	4.68	7.8	24.25	13.78	15.8	53.91	4.49	8.1	23.9	14.26
			18.25	62.27	5.19	7.8	26.05	13.8	17.55	59.88	4.99	8.1	25.65	14.28
			20.2	68.93	5.74	7.77	27.97	13.83	19.45	66.37	5.53	8.08	27.53	14.31
			22.2	75.75	6.31	7.74	29.94	13.88	21.4	73.02	6.08	8.04	29.44	14.35
HCUA-13-1	ZR160KCE-TFD	36.4	17.55	59.88	4.99	8.58	26.13	16.54	16.7	56.98	4.75	9.02	25.72	17.2
			19.8	67.56	5.63	8.56	28.36	16.55	19	64.83	5.40	8.98	27.98	17.2
			22.2	75.75	6.31	8.57	30.77	16.56	21.4	73.02	6.08	8.97	30.37	17.21
			24.8	84.62	7.05	5.58	30.38	16.58	23.9	81.55	6.80	8.97	32.87	17.23
HCUA-15-1	ZR190KCE-TFD	43.3	21.1	72.00	6.00	10.3	31.4	21.22	20.1	68.58	5.72	10.75	30.85	21.92
			23.7	80.87	6.74	10.3	34	21.27	22.7	77.46	6.45	10.75	33.45	21.98
			26.6	90.76	7.56	10.35	36.95	21.31	25.6	87.35	7.28	10.8	36.4	22.02
			29.6	101.00	8.42	10.35	39.95	21.34	28.6	97.59	8.13	10.8	39.4	22.06
HCUA-20-1	ZR250KCE-TWD	56.6	28.3	96.56	8.05	13.65	41.95	24.32	27.5	93.83	7.82	14.25	41.75	25.06
			31.7	108.17	9.01	13.7	45.4	24.38	30.8	105.09	8.76	14.3	45.1	25.12
			35.6	121.47	10.12	13.75	49.35	24.43	34.6	118.06	9.84	14.35	48.95	25.17
			39.8	135.80	11.32	13.85	53.65	24.48	38.7	132.05	11.00	14.4	53.1	25.22
HCUA-25-1	ZR310KCE-TWD	71.4	35.1	119.77	9.98	17.1	52.2	30.44	34.1	116.35	9.70	17.85	51.95	31.36
			39.4	134.44	11.20	17.15	56.55	30.51	38.3	130.69	10.89	17.9	56.2	31.44
			44.2	150.82	12.57	17.25	61.45	30.58	43	146.72	12.23	18	61	31.5
			49.4	168.56	14.05	17.35	66.75	30.64	48	163.78	13.65	18.1	66.1	31.57
HCUA-30-1	ZR380KCE-TWD	87.5	44.6	152.18	12.68	20.7	65.3	37.93	43.4	148.09	12.34	21.5	64.9	39.05
			49.9	170.27	14.19	20.8	70.7	38.15	48.5	165.49	13.79	21.7	70.2	39.8
			55.88	190.67	15.89	21	76.88	38.39	54.3	185.28	15.44	21.9	76.2	39.53
			62.2	212.24	17.69	21.2	83.4	38.64	60.6	206.78	17.23	39.79	100.39	39.79

CAPACITY RATING(50 HZ)
R-134a

Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	condenser entering air temp.											
			104 F(40°C)						113 F(45°C)					
			Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	Copeland		KW	MBH	TON				KW	MBH	TON			
HCUA-5-1	ZR61KCE-TFD	14.4	8.09	27.60	2.30	2.7	10.79	5.93	7.58	25.86	2.16	3	10.58	6.31
			9.04	30.85	2.57	2.71	11.75	5.94	8.48	28.94	2.41	3.01	11.49	6.33
			10.1	34.46	2.87	2.73	12.83	5.95	9.5	32.42	2.70	3.03	12.53	6.34
			11.3	38.56	3.21	2.75	14.05	5.96	10.6	36.17	3.01	3.05	13.65	6.35
HCUA-6-1	ZR72KCE-TFD	17.1	9.54	32.55	2.71	3.24	12.78	6.33	8.85	30.20	2.52	3.63	12.48	6.84
			10.7	36.51	3.04	3.24	13.94	6.33	9.94	33.92	2.83	3.63	13.57	6.84
			12	40.95	3.41	3.25	15.25	6.34	11.15	38.05	3.17	3.63	14.78	6.84
			13.4	45.72	3.81	3.26	16.66	6.35	12.5	42.65	3.55	3.63	16.13	6.85
HCUA-7-1	ZR81KCE-TFD	18.8	10.75	36.68	3.06	3.6	14.35	8.17	10.5	35.83	2.99	4.03	14.53	8.63
			12	40.95	3.41	3.62	15.62	8.18	11.25	38.39	3.20	4.04	15.29	8.65
			13.4	45.72	3.81	3.64	17.04	8.21	12.55	42.82	3.57	4.06	16.61	8.67
			14.9	50.84	4.24	3.67	18.57	8.24	14	47.77	3.98	4.08	18.08	8.7
HCUA-8-1	ZR94KCE-TFD	22.1	12.7	43.33	3.61	4.28	16.98	10.03	11.8	40.26	3.36	4.74	16.54	10.5
			14.2	48.45	4.04	4.3	18.5	10.02	13.2	45.04	3.75	4.76	17.96	10.5
			15.9	54.25	4.52	4.31	20.21	9.99	14.8	50.50	4.21	4.76	19.56	10.48
			17.7	60.40	5.03	4.29	21.99	9.94	16.55	56.47	4.71	4.75	21.3	10.44
HCUA-9-1	ZR108KCE-TFD	24.9	14.25	48.62	4.05	4.79	19.04	11.01	13.2	45.04	3.75	5.3	18.5	11.62
			15.95	54.42	4.54	4.81	20.76	10.97	14.8	50.50	4.21	5.32	20.12	11.59
			17.8	60.74	5.06	4.81	22.61	10.91	16.6	56.64	4.72	5.32	21.92	11.53
			19.85	67.73	5.64	4.8	24.65	10.83	18.5	63.12	5.26	5.31	23.81	11.45
HCUA-10-1	ZR125KCE-TFD	29.1	16.65	56.81	4.73	5.59	22.24	12.23	15.45	52.72	4.39	6.18	21.63	12.83
			18.6	63.47	5.29	5.61	24.21	12.25	17.3	59.03	4.92	6.2	23.5	12.87
			20.8	70.97	5.91	5.62	26.42	12.28	19.4	66.20	5.52	6.21	25.61	12.9
			23.2	79.16	6.60	5.6	28.8	12.29	21.6	73.70	6.14	6.29	27.89	12.92
HCUA-12-1	ZR144KCE-TFD	33.2	19.55	66.71	5.56	6.32	25.87	11.71	18.05	61.59	5.13	7.05	25.1	12.68
			21.5	73.36	6.11	6.31	27.81	11.75	19.95	68.07	5.67	7.04	26.99	12.7
			23.7	80.87	6.74	6.31	30.01	11.8	22	75.07	6.26	7.02	29.02	12.75
			26	88.72	7.39	6.32	32.32	11.88	24.2	82.57	6.88	7.01	31.21	12.8
HCUA-13-1	ZR160KCE-TFD	36.4	21.1	72.00	6.00	6.85	27.95	13.74	19.4	66.20	5.52	7.63	27.03	15.04
			23.3	79.50	6.63	6.89	30.19	13.77	21.7	74.04	6.17	7.65	29.35	15.06
			25.8	88.03	7.34	6.93	32.73	13.82	24.1	82.23	6.85	7.68	31.78	15.08
			28.4	96.91	8.08	6.97	35.37	13.9	26.7	91.10	7.59	7.72	34.42	15.13
HCUA-15-1	ZR190KCE-TFD	43.3	25.1	85.64	7.14	8.33	33.43	18.2	23.2	79.16	6.60	9.25	32.45	19.6
			27.8	94.86	7.90	8.36	36.16	18.24	25.9	88.37	7.36	9.28	35.18	19.65
			30.9	105.44	8.79	8.39	39.29	18.25	28.8	98.27	8.19	9.3	38.1	19.65
			34.1	116.35	9.70	8.42	42.52	18.32	32	109.19	9.10	9.33	41.33	19.72
HCUA-20-1	ZR250KCE-TWD	56.6	32.4	110.55	9.21	11.05	43.45	21.21	30.3	103.39	8.62	12.3	42.6	22.65
			36.2	123.52	10.29	11.1	47.3	21.25	33.9	115.67	9.64	12.35	46.25	22.7
			40.4	137.85	11.49	11.2	51.6	21.3	38	129.66	10.81	12.4	50.4	22.75
			45.1	153.89	12.82	11.25	56.35	21.36	42.5	145.02	12.08	12.45	54.95	22.8
HCUA-25-1	ZR310KCE-TWD	71.4	40.1	136.83	11.40	13.8	53.9	26.54	37.6	128.30	10.69	15.35	52.95	28.35
			44.8	152.86	12.74	13.85	58.65	26.6	42.1	143.65	11.97	15.4	57.5	28.41
			50.1	170.95	14.25	13.95	64.05	26.66	47.1	160.71	13.39	15.5	62.6	28.47
			55.9	190.74	15.89	14.05	69.95	26.73	52.7	179.82	14.98	15.6	68.3	28.54
HCUA-30-1	ZR380KCE-TWD	87.5	50.8	173.34	14.44	16.9	67.7	33.18	47.7	162.76	13.56	18.65	66.35	35.39
			56.7	193.47	16.12	17.05	73.75	33.35	53.3	181.87	15.16	18.85	72.15	35.59
			63.2	215.65	17.97	17.2	80.4	33.53	59.5	203.02	16.92	19	78.5	35.8
			70.2	239.53	19.96	17.3	87.5	33.71	66.3	226.23	18.85	19.15	85.45	36.01

CAPACITY RATING(50 HZ)
R134-a

Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	eva.temp (C / F)	condenser entering air temp.											
				95 F(35°C)						104 F(40°C)					
				Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	Copeland			KW	MBH	TON				KW	MBH	TON			
HCUA2-20-	ZR125KCE-TFD	29.1*2	35 / 1,7	35.7	121.81	10.15	10.1	45.8	23.4	33.3	113.62	9.47	11.18	44.48	24.46
			40 / 4,4	39.8	135.80	11.32	10.14	49.94	23.44	37.2	126.93	10.58	11.22	48.42	24.5
			45 / 7,2	44.4	151.50	12.62	10.16	54.56	23.48	41.6	141.95	11.83	11.24	52.84	24.56
			50 / 10	49.4	168.56	14.05	10.12	59.52	23.52	46.4	158.32	13.19	11.2	57.6	24.58
HCUA2-24-	ZR144KCE-TFD	33.2*2	35 / 1,7	41.8	142.63	11.89	11.24	53.04	21.76	39.1	133.42	11.12	12.64	51.74	23.42
			40 / 4,4	45.8	156.28	13.02	11.26	57.06	21.88	43	146.72	12.23	12.62	55.62	23.5
			45 / 7,2	50.4	171.97	14.33	11.32	61.72	22.02	47.4	161.74	13.48	12.62	60.02	23.6
			50 / 10	55.2	188.35	15.70	11.42	66.62	22.22	52	177.43	14.79	12.64	64.64	23.76
HCUA2-26-	ZR160KCE-TFD	36.4*2	35 / 1,7	45	153.55	12.80	12.38	57.38	25.26	42.2	143.99	12.00	13.7	55.9	27.48
			40 / 4,4	49.6	169.24	14.10	12.48	62.08	25.36	46.6	159.01	13.25	13.78	60.38	27.54
			45 / 7,2	54.6	186.30	15.53	12.56	67.16	25.52	51.6	176.07	14.67	13.86	65.46	27.64
			50 / 10	59.8	204.05	17.00	12.62	72.42	25.76	56.8	193.81	16.15	13.94	70.74	27.8
HCUA2-30-	ZR190KCE-TFD	43.3*2	35 / 1,7	53.6	182.89	15.24	15.02	68.62	33.96	50.2	171.29	14.27	16.66	66.86	36.4
			40 / 4,4	59.2	202.00	16.83	15.1	74.3	34.06	55.6	189.72	15.81	16.72	72.32	36.48
			45 / 7,2	65.4	223.15	18.60	15.18	80.58	34.14	61.8	210.87	17.57	16.78	78.58	36.5
			50 / 10	72	245.67	20.47	15.26	87.26	34.24	68.2	232.71	19.39	16.84	85.04	36.64
HCUA2-40-	ZR250KCE-TWD	56.6*2	35 / 1,7	68.8	234.76	19.56	19.94	88.74	39.94	64.8	221.11	18.43	22.1	86.9	42.42
			40 / 4,4	76.6	261.37	21.78	20	96.6	40.02	72.4	247.04	20.59	22.2	94.6	42.5
			45 / 7,2	85.6	292.08	24.34	20.2	105.8	40.14	80.8	275.70	22.98	22.4	103.2	42.6
			50 / 10	95.4	325.52	27.13	20.3	115.7	40.26	90.2	307.78	25.65	22.5	112.7	42.72
HCUA2-50-	ZR310KCE-TWD	71.4*2	35 / 1,7	85	290.03	24.17	24.9	109.9	49.98	80.2	273.65	22.80	27.6	107.8	53.08
			40 / 4,4	94.8	323.47	26.96	25	119.8	50.08	89.6	305.73	25.48	27.7	117.3	53.2
			45 / 7,2	106	361.69	30.14	25.1	131.1	50.22	100.2	341.90	28.49	27.9	128.1	53.32
			50 / 10	118	402.63	33.55	25.3	143.3	50.38	111.8	381.48	31.79	28.1	139.9	53.46
HCUA2-60-	ZR380KCE-TWD	87.5*2	35 / 1,7	107.6	367.15	30.60	30.6	138.2	62.52	101.6	346.67	28.89	33.8	135.4	66.36
			40 / 4,4	119.8	408.78	34.06	30.8	150.6	62.8	113.4	386.94	32.24	34.1	147.5	66.7
			45 / 7,2	133.4	455.18	37.93	31	164.4	63.08	126.4	431.30	35.94	34.4	160.8	67.06
			50 / 10	148	505.00	42.08	31.3	179.3	63.32	140.4	479.07	39.92	34.6	175	67.42

Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	condenser entering air temp.																	
			113 F(45°C)						122 F(50°C)						131 F(52°C)					
			Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	Copeland		KW	MBH	TON				KW	MBH	TON				KW	MBH	TON			
HCUA2-20-	ZR125KCE-TFD	29.1*2	30.9	105.44	8.79	12.36	43.26	25.66	28.4	96.91	8.08	13.62	42.02	27.02	27.4	93.49	7.79	14.16	41.56	27.6
			34.6	118.06	9.84	12.4	47	25.74	31.9	108.85	9.07	13.68	45.58	27.12	30.8	105.09	8.76	14.22	45.02	27.72
			38.8	132.39	11.03	12.42	51.22	25.8	35.8	122.15	10.18	13.7	49.5	27.2	34.6	118.06	9.84	14.24	48.84	27.82
			43.2	147.40	12.28	12.58	55.78	25.84	40	136.49	11.37	13.66	53.66	27.28	38.8	132.39	11.03	14.22	53.02	27.9
HCUA2-24-	ZR144KCE-TFD	33.2*2	36.1	123.18	10.26	14.1	50.2	25.36	32.9	112.26	9.35	15.6	48.5	27.56	31.6	107.82	8.99	16.2	47.8	28.52
			39.9	136.14	11.35	14.08	53.98	25.4	36.5	124.54	10.38	15.6	52.1	27.6	35.1	119.77	9.98	16.2	51.3	28.56
			44	150.13	12.51	14.04	58.04	25.5	40.4	137.85	11.49	15.54	55.94	27.66	38.9	132.73	11.06	16.16	55.06	28.62
			48.4	165.15	13.76	14.02	62.42	25.6	44.4	151.50	12.62	15.48	59.88	27.76	42.8	146.04	12.17	16.08	58.88	28.7
HCUA2-26-	ZR160KCE-TFD	36.4*2	38.8	132.39	11.03	15.26	54.06	30.08	35.1	119.77	9.98	17.16	52.26	33.08	33.4	113.97	9.50	18.04	51.44	34.4
			43.4	148.09	12.34	15.3	58.7	30.12	39.6	135.12	11.26	17.12	56.72	33.1	38	129.66	10.81	17.96	55.96	34.4
			48.2	164.47	13.71	15.36	63.56	30.16	44.4	151.50	12.62	17.14	61.54	33.12	42.8	146.04	12.17	17.94	60.74	34.42
			53.4	182.21	15.18	15.44	68.84	30.26	49.6	169.24	14.10	11.16	60.76	33.16	47.8	163.10	13.59	17.94	65.74	34.46
HCUA2-30-	ZR190KCE-TFD	43.3*2	46.4	158.32	13.19	18.5	64.9	39.2	42.2	143.99	12.00	20.6	62.8	42.44	40.2	137.17	11.43	21.5	61.7	43.84
			51.8	176.75	14.73	18.56	70.36	39.3	47.4	161.74	13.48	20.6	68	42.54	45.4	154.91	12.91	21.5	66.9	43.96
			57.6	196.54	16.38	18.6	76.2	39.3	53.2	181.53	15.13	20.7	73.9	42.62	51.2	174.70	14.56	21.6	72.8	44.04
			64	218.38	18.20	18.66	82.66	39.44	59.2	202.00	16.83	20.7	79.9	42.68	57.2	195.17	16.26	21.6	78.8	44.12
HCUA2-40-	ZR250KCE-TWD	56.6*2	60.6	206.78	17.23	24.6	85.2	45.3	56.6	193.13	16.09	27.3	83.9	48.64	55	187.67	15.64	28.5	83.5	50.12
			67.8	231.34	19.28	24.7	92.5	45.4	63.4	216.33	18.03	27.4	90.8	48.76	61.6	210.19	17.52	28.6	90.2	50.24
			76	259.32	21.61	24.8	100.8	45.5	71.2	242.95	20.25	27.5	98.7	48.86	69.2	236.12	19.68	28.7	97.9	50.34
			85	290.03	24.17	24.9	109.9	45.6	79.6	271.61	22.63	27.7	107.3	48.96	77.4	264.10	22.01	28.8	106.2	50.44
HCUA2-50-	ZR310KCE-TWD	71.4*2	75.2	256.59	21.38	30.7	105.9	56.7	70.2	239.53	19.96	34.2	104.4	60.88	68.2	232.71	19.39	35.7	103.9	62.72
			84.2	287.30	23.94	30.8	115	56.82	78.8	268.88	22.41	34.3	113.1	61.02	76.6	261.37	21.78	35.8	112.4	62.88
			94.2	321.42	26.79	31	125.2	56.94	88.4	301.63	25.14	34.5	122.9	61.16	86	293.44	24.45	36	122	63
			105.4	359.64	29.97	31.2	136.6	57.08	98.8	337.12	28.09	34.7	133.5	61.28	96	327.57	27.30	36.2	132.2	63.14
HCUA2-60-	ZR380KCE-TWD	87.5*2	95.4	325.52	27.13	37.3	132.7	70.78	89.2	304.36	25.36	41.4	130.6	75.86	86.8	296.17	24.68	43	129.8	78.1
			106.6	363.74	30.31	37.7	144.3	71.18	99.8	340.53	28.38	41.6	141.4	76.3	97	330.98	27.58	43.4	140.4	79.6
			119	406.05	33.84	38	157	71.6	111.76	381.34	31.78	42	153.76	76.78	108.6	370.56	30.88	43.8	152.4	79.06
			132.6	452.45	37.70	38.3	170.9	72.02	124.4	424.47	35.37	42.4	166.8	77.28	121.2	413.55	34.46	79.58	200.78	79.58

CAPACITY RATING(50 HZ)
R134-a

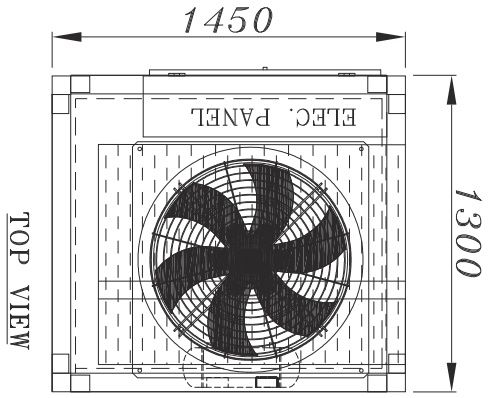
Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	eva.temp (C / F)	95 F(35°C)						104 F(40°C)					
				Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	Copeland			KW	MBH	TON				KW	MBH	TON			
HCUA-36-4	ZR108KCE-TFD	4*24.9	1,7 / 35	61	208.14	17.35	17.28	78.28	41.96	57	194.49	16.21	19.16	76.16	44.04
			4,4 / 40	68.2	232.71	19.39	17.36	85.56	41.76	63.8	217.70	18.14	19.24	83.04	43.88
			7,2 / 45	76	259.32	21.61	17.36	93.36	41.52	71.2	242.95	20.25	19.24	90.44	43.64
			10 / 50	84.4	287.99	24.00	20.2	104.6	41.24	79.4	270.92	22.58	19.2	98.6	43.32
HCUA-40-4	ZR125KCE-TFD	2*29.1	1,7 / 35	71.4	243.63	20.30	20.2	91.6	46.8	66.6	227.25	18.94	22.36	88.96	48.92
			4,4 / 40	79.6	271.61	22.63	20.28	99.88	46.88	74.4	253.86	21.16	22.44	96.84	49
			7,2 / 45	88.8	303.00	25.25	20.32	109.12	46.96	83.2	283.89	23.66	22.48	105.68	49.12
			10 / 50	98.8	337.12	28.09	20.24	119.04	47.04	92.8	316.65	26.39	22.4	115.2	49.16
HCUA-48-4	ZR144KCE-TFD	4*33.2	1,7 / 35	83.6	285.26	23.77	22.48	106.08	43.52	78.2	266.83	22.24	25.28	103.48	46.84
			4,4 / 40	91.6	312.55	26.05	22.52	114.12	43.76	86	293.44	24.45	25.24	111.24	47
			7,2 / 45	100.8	343.94	28.66	22.64	123.44	44.04	94.8	323.47	26.96	25.24	120.04	47.2
			10 / 50	110.4	376.70	31.39	22.84	133.24	44.44	104	354.86	29.57	25.28	129.28	47.52
HCUA-52-4	ZR160KCE-TFD	4*36.4	1,7 / 35	90	307.09	25.59	24.76	114.76	50.52	84.4	287.99	24.00	27.4	111.8	54.96
			4,4 / 40	99.2	338.49	28.21	24.96	124.16	50.72	93.2	318.01	26.50	27.56	120.76	55.08
			7,2 / 45	109.2	372.61	31.05	25.12	134.32	51.04	103.2	352.13	29.34	27.72	130.92	55.28
			10 / 50	119.6	408.09	34.01	25.24	144.84	51.52	113.6	387.62	32.30	27.88	141.48	55.6
HCUA-60-4	ZR190KCE-TFD	4*43.3	1,7 / 35	107.2	365.78	30.48	30.04	137.24	67.92	100.4	342.58	28.55	33.32	133.72	72.8
			4,4 / 40	118.4	404.00	33.67	30.2	148.6	68.12	111.2	379.43	31.62	33.44	144.64	72.96
			7,2 / 45	130.8	446.31	37.19	30.36	161.16	68.28	123.6	421.74	35.15	33.56	157.16	73
			10 / 50	144	491.35	40.95	30.52	174.52	68.48	136.4	465.42	38.78	33.68	170.08	73.28
HCUA-80-4	ZR250KCE-TWD	4*56.6	1,7 / 35	137.6	469.51	39.13	39.88	177.48	79.88	129.6	442.21	36.85	44.2	173.8	84.84
			4,4 / 40	153.2	522.74	43.56	40	193.2	80.04	144.8	494.08	41.17	44.4	189.2	85
			7,2 / 45	171.2	584.16	48.68	40.4	211.6	80.28	161.6	551.40	45.95	44.8	206.4	85.2
			10 / 50	190.8	651.04	54.25	40.6	231.4	80.52	180.4	615.55	51.30	45	225.4	85.44
HCUA-100-4	ZR310KCE-TWD	4*71.4	1,7 / 35	170	580.07	48.34	49.8	219.8	99.96	160.4	547.31	45.61	55.2	215.6	106.16
			4,4 / 40	189.6	646.94	53.91	50	239.6	100.16	179.2	611.46	50.95	55.4	234.6	106.4
			7,2 / 45	212	723.38	60.28	50.2	262.2	100.44	200.4	683.79	56.98	55.8	256.2	106.64
			10 / 50	236	805.27	67.11	50.6	286.6	100.76	223.6	762.96	63.58	56.2	279.8	106.92
HCUA-120-4	ZR380KCE-TWD	4*87.5	1,7 / 35	215.2	734.29	61.19	61.2	276.4	125.04	203.2	693.35	57.78	67.6	270.8	132.72
			4,4 / 40	239.6	817.55	68.13	61.6	301.2	125.6	226.8	773.88	64.49	68.2	295	133.4
			7,2 / 45	266.8	910.36	75.86	62	328.8	126.16	252.8	862.59	71.88	68.8	321.6	134.12
			10 / 50	296	1,010.00	84.17	62.6	358.6	126.64	280.8	958.13	79.84	69.2	350	134.84

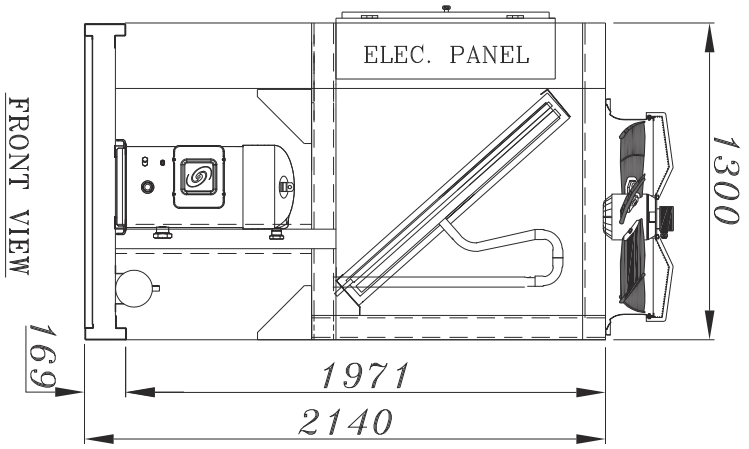
Condensing Unit MODEL	Comp. brand	Compressor displacment (m3/hr)	condenser entering air temp.																
			113 F(45°C)						122 F(50°C)						131 F(52°C)					
			Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)	Actual Capacity			Power Input (KW)	requierd Heat Rejection (KW)	Current (amp.)
	Copeland		KW	MBH	TON				KW	MBH	TON				KW	MBH	TON			
HCUA-36-4	ZR108KCE-TFD	4*24.9	52.8	180.16	15.01	21.2	74	46.48	48.6	165.83	13.82	23.4	72	49.28	47	160.37	13.36	24.32	71.32	50.48
			59.2	202.00	16.83	21.28	80.48	46.36	54.6	186.30	15.53	23.48	78.08	49.16	52.8	180.16	15.01	24.44	77.24	50.4
			66.4	226.57	18.88	21.28	87.68	46.12	61.4	209.51	17.46	23.52	84.92	48.96	59.2	202.00	16.83	24.48	83.68	50.24
			74	252.50	21.04	21.24	95.24	45.8	68.6	234.07	19.51	23.48	92.08	48.68	66.4	226.57	18.88	24.4	90.8	49.96
HCUA-40-4	ZR125KCE-TFD	2*29.1	61.8	210.87	17.57	24.72	86.52	51.32	56.8	193.81	16.15	27.24	84.04	54.04	54.8	186.99	15.58	28.32	83.12	55.2
			69.2	236.12	19.68	24.8	94	51.48	63.8	217.70	18.14	27.36	91.16	54.24	61.6	210.19	17.52	28.44	90.04	55.44
			77.6	264.78	22.07	24.84	102.44	51.6	71.6	244.31	20.36	27.4	99	54.4	69.2	236.12	19.68	28.48	97.68	55.64
			86.4	294.81	24.57	25.16	111.56	51.68	80	272.97	22.75	27.32	107.32	54.56	77.6	264.78	22.07	28.44	106.04	55.8
HCUA-48-4	ZR144KCE-TFD	4*33.2	72.2	246.36	20.53	28.2	100.4	50.72	65.8	224.52	18.71	31.2	97	55.12	63.2	215.65	17.97	32.4	95.6	57.04
			79.8	272.29	22.69	28.16	107.96	50.8	73	249.09	20.76	31.2	104.2	55.2	70.2	239.53	19.96	32.4	102.6	57.12
			88	300.27	25.02	28.08	116.08	51	80.8	275.70	22.98	31.08	111.88	55.32	77.8	265.47	22.12	32.32	110.12	57.24
			96.8	330.30	27.52	28.04	124.84	51.2	88.8	303.00	25.25	30.96	119.76	55.52	85.6	292.08	24.34	32.16	117.76	57.4
HCUA-52-4	ZR160KCE-TFD	4*36.4	77.6	264.78	22.07	30.52	108.12	60.16	70.2	239.53	19.96	34.32	104.52	66.16	66.8	227.93	18.99	36.08	102.88	68.8
			86.8	296.17	24.68	30.6	117.4	60.24	79.2	270.24	22.52	34.24	113.44	66.2	76	259.32	21.61	35.92	111.92	68.8
			96.4	328.93	27.41	30.72	127.12	60.32	88.8	303.00	25.25	34.28	123.08	66.24	85.6	292.08	24.34	35.88	121.48	68.84
			106.8	364.42	30.37	30.88	137.68	60.52	99.2	338.49	28.21	22.32	121.52	66.32	95.6	326.20	27.18	35.88	131.48	68.92
HCUA-60-4	ZR190KCE-TFD	4*43.3	92.8	316.65	26.39	37	129.8	78.4	84.4	287.99	24.00	41.2	125.6	84.88	80.4	274.34	22.86	43	123.4	87.68
			103.6	353.50	29.46	37.12	140.72	78.6	94.8	323.47	26.96	41.2	136	85.08	90.8	309.82	25.82	43	133.8	87.92
			115.2	393.08	32.76	37.2	152.4	78.6	106.4	363.05	30.25	41.4	147.8	85.24	102.4	349.40	29.12	43.2	145.6	88.08
			128	436.76	36.40	37.32	165.32	78.88	118.4	404.00	33.67	41.4	159.8	85.36	114.4	390.35	32.53	43.2	157.6	88.24
HCUA-80-4	ZR250KCE-TWD	4*56.6	121.2	413.55	34.46	49.2	170.4	90.6	113.2	386.26	32.19	54.6	167.8	97.28	110	375.34	31.28	57	167	100.24
			135.6	462.69	38.56	49.4	185	90.8	126.8	432.66	36.05	54.8	181.6	97.52	123.2	420.38	35.03	57.2	180.4	100.48
			152	518.65	43.22	49.6	201.6	91	142.4	485.89	40.49	55	197.4	97.72	138.4	472.24	39.35	57.4	195.8	100.68
			170	580.07	48.34	49.8	219.8	91.2	159.2	543.21	45.27	55.4	214.6	97.92	154.8	528.20	44.02	57.6	212.4	100.88
HCUA-100-4	ZR310KCE-TWD	4*71.4	150.4	513.19	42.77	61.4	211.8	113.4	140.4	479.07	39.92	68.4	208.8	121.76	136.4	465.42	38.78	71.4	207.8	125.44
			168.4	574.61	47.88	61.6	230	113.64	157.6	537.75	44.81	68.6	226.2	122.04	153.2	522.74	43.56	71.6	224.8	125.76
			188.4	642.85	53.57	62	250.4	113.88	176.8	603.27	50.27	69	245.8	122.32	172	586.89	48.91	72	244	126
			210.8	719.28	59.94	62.4	273.2	114.16	197.6	674.24	56.19	69.4	267	122.56	192	655.13	54.59	72.4	264.4	126.28
HCUA-120-4	ZR380KCE-TWD	4*87.5	190.8	651.04	54.25	74.6	265.4	141.56	178.4	608.73	50.73	82.8	261.2	151.72	173.6	592.35	49.36	86	259.6	156.2
			213.2	727.47	60.62	75.4	288.6	142.36	199.6	681.07	56.76	83.2	282.8	152.6	194	661.96	55.16	86.8	280.8	159.2
			238	812.09	67.67	76	314	143.2	223.52	762.68	63.56	84	307.52	153.56	217.2	741.12	61.76	87.6	304.8	158.12
			265.2	904.90	75.41	76.6	341.8	144.04	248.8	848.94	70.75	84.8	333.6	154.56	242.4	827.11	68.93	159.16	401.56	159.16

ENGINEERING SPECIFICATIONS (50 HZ) (R-134a)											
chiller MODEL	no.of circuit	comp.oil charge (dm^3)	condenser coil					condenser fan			
			row	fpi	QTY	total heat rejection (kw)	total face area (m2)	size (mm)	QTY	total air flow rate (cfm)	motor power (kw)
HCUA-5-1	1	1.7	2	8	1	14.43	1.32	800	1	10005	1.19
HCUA6-1	1	1.8	2	10	1	17.17	1.32	800	1	9417	1.19
HCUA-7-1	1	1.8	2	12	1	19.09	1.32	800	1	8828	1.19
HCUA-8-1	1	2.7	4	10	1	22.73	1.32	800	1	8710	1.19
HCUA-9-1	1	3.4	2	10	2	26.15	2*1.32	800	1	13537	1.7
HCUA-10-1	1	3.4	2	12	2	29.76	2*1.32	800	1	13537	1.7
HCUA-12-1	1	3.4	2	12	2	33.31	2*1.32	800	1	13243	1.7
HCUA-13-1	1	3.4	3	10	2	36.21	2*1.32	800	1	12948	1.7
HCUA-15-1	1	3.9	3	12	2	43.63	2*1.32	800	1	12948	1.7
HCUA-20-1	1	4.7	2	12	2	57.85	2*2.31	800	2	13243	2*1.7
HCUA-25-1	1	6.8	3	10	2	71.65	2*2.31	800	2	2*12948	2*1.7
HCUA-30-1	1	6.3	4	10	2	89.65	2*2.31	800	2	2*12948	2*1.7
HCUA-20-2	2	6.8	2	10	4	59.52	4*1.32	800	2	2*13537	2*1.7
HCUA-24-2	2	6.8	2	12	4	66.62	4*1.32	800	2	2*13537	2*1.7
HCUA-26-2	2	6.8	3	10	4	72.42	4*1.32	800	2	2*12948	2*1.7
HCUA-30-2	2	7.8	3	12	4	87.26	4*1.32	800	2	2*12948	2*1.7
HCUA-40-2	2	9.4	2	12	4	115.7	4*2.31	800	4	4*13243	4*1.7
HCUA-50-2	2	13.6	3	10	4	143.3	4*2.31	800	4	4*12948	4*1.7
HCUA-60-2	2	12.6	4	10	4	179.3	4*2.31	800	4	4*12948	4*1.7
HCUA-36-4	2	13.6	2	10	4	104.6	4*2.31	800	4	4*13243	4*1.7
HCUA-40-4	2/4	13.6	2	12	4	119.04	4*2.31	800	4	4*13243	4*1.7
HCUA-48-4	2/4	13.6	3	10	4	133.24	4*2.31	800	4	4*12948	4*1.7
HCUA-52-4	2/4	13.6	3	10	4	144.84	4*2.31	800	4	4*12948	4*1.7
HCUA-60-4	2/4	15.6	4	10	4	174.52	4*2.31	800	4	4*12360	4*1.7
HCUA-80-4	2	18.8	2	12	6	231.4	6*2.31	800	6	6*12654	6*1.7
HCUA-100-4	2	27.2	4	12	6	286.6	6*2.31	800	6	6*12360	6*1.7
HCUA-120-4	2	25.2	4	10	8	358.6	8*2.31	800	8	8*12948	8*1.7

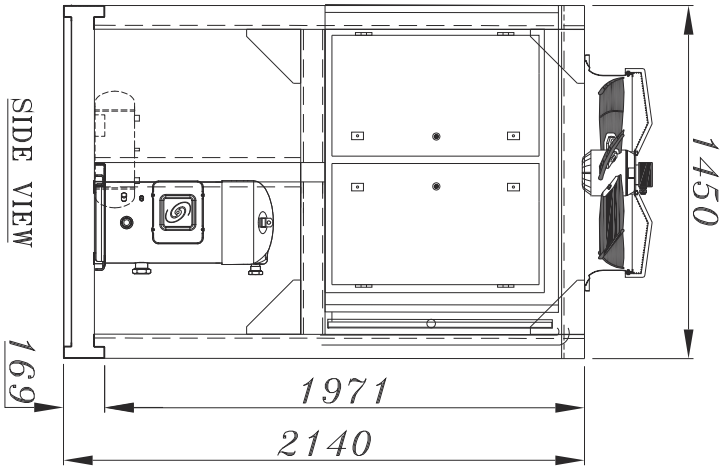
ELECTRICAL DATA (R-134a)				
chiller MODEL	Nominal Comp. power (HP)	MRA (Amp)	LRA (Amp)	RATE CONSE POWER (kw)
HCUA-5-1	5	9.06	65.5	5.0
HCUA6-1	6	9.76	74	5.2
HCUA-7-1	7	11.54	101	6.0
HCUA-8-1	8	13.31	95	6.7
HCUA-9-1	9	16.19	111	9.3
HCUA-10-1	10	17.65	118	10.0
HCUA-12-1	12	18.05	118	10.2
HCUA-13-1	13	20.93	140	11.5
HCUA-15-1	15	25.76	174	13.8
HCUA-20-1	20	32.62	225	18.7
HCUA-25-1	25	38.97	272	21.7
HCUA-30-1	30	47.19	310	25.6
HCUA-20-2	2*10	35.3	236	20.0
HCUA-24-2	2*12	36.1	236	20.4
HCUA-26-2	2*13	41.86	280	23.1
HCUA-30-2	2*15	51.52	348	27.6
HCUA-40-2	2*20	65.24	450	37.5
HCUA-50-2	2*25	77.94	544	43.5
HCUA-60-2	2*30	94.38	620	51.2
HCUA-36-4	4*9	64.76	444	37.3
HCUA-40-4	4*10	70.6	472	40.0
HCUA-48-4	4*12	72.2	472	40.8
HCUA-52-4	4*13	83.72	560	46.2
HCUA-60-4	4*15	103.04	696	55.3
HCUA-80-4	4*20	123.08	900	68.1
HCUA-100-4	4*25	148.48	1088	80.1
HCUA-120-4	4*30	188.76	1240	102.4

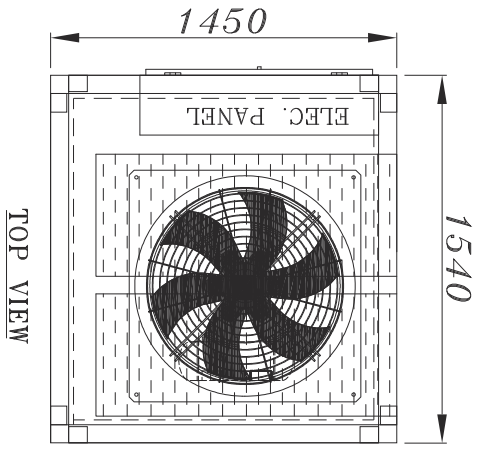
Dimensions (R-134)-COPELAND

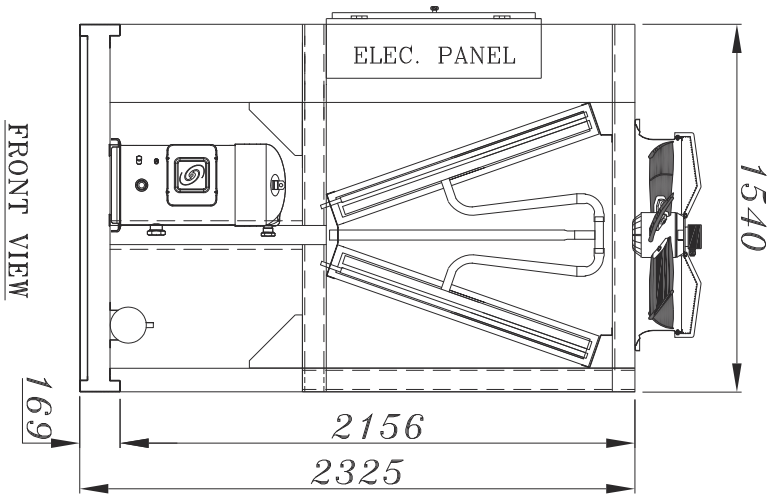




HCUA-5-1
HCUA-6-1
HCUA-7-1
HCUA-8-1







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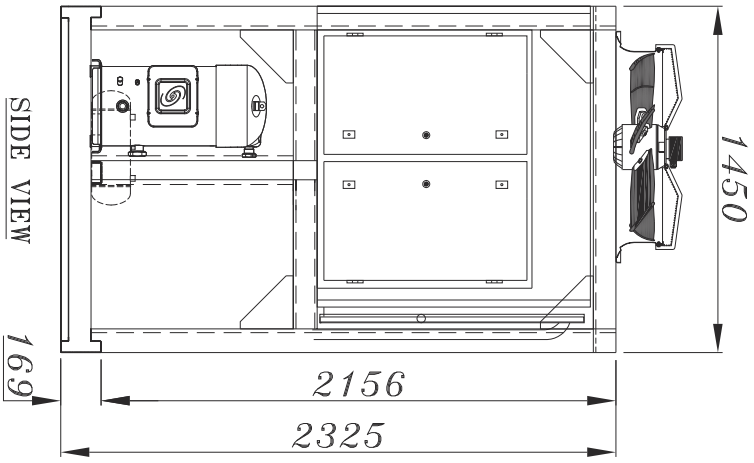
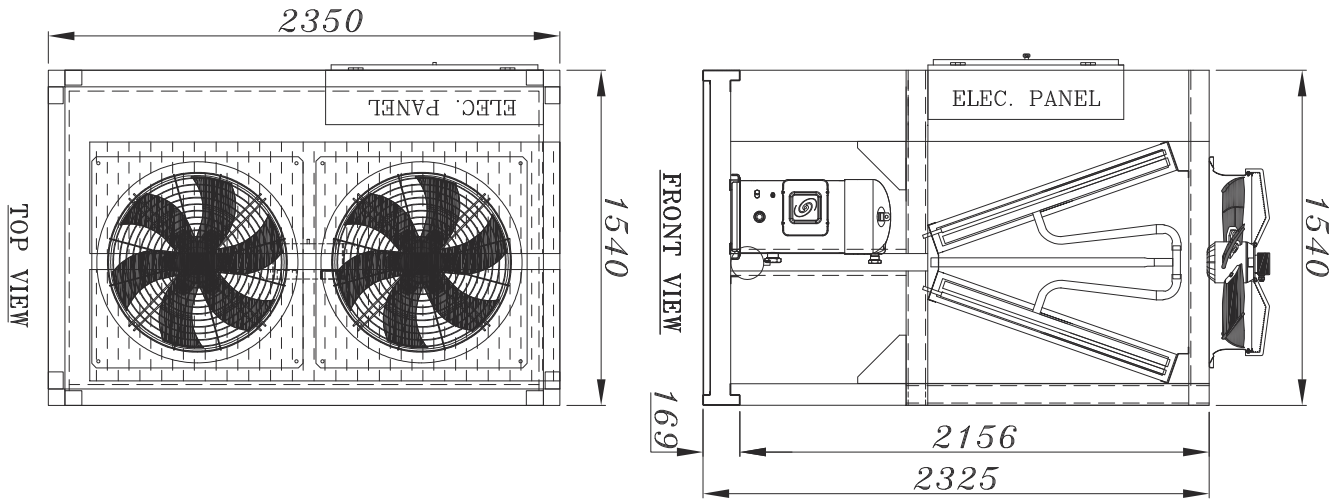
HCUA-10-1
HCUA-12-1
HCUA-13-1
HCUA-15-1





HCUA-20-1
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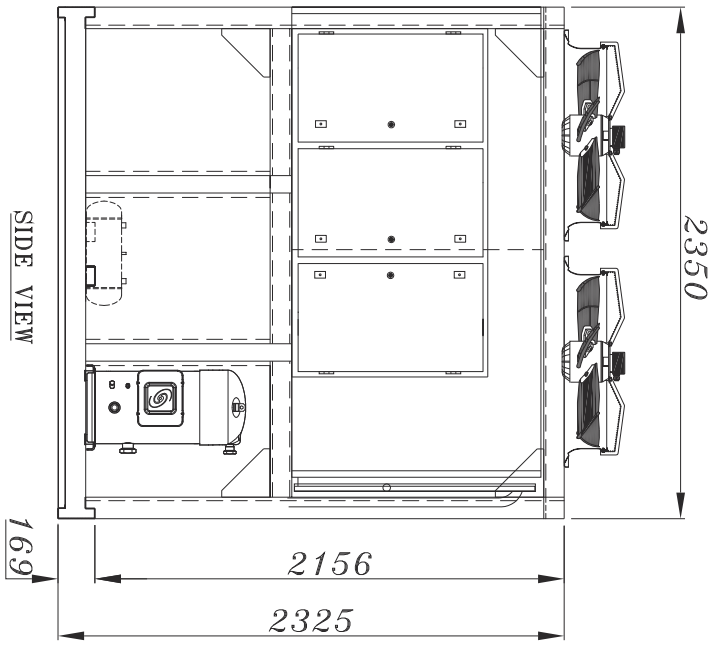
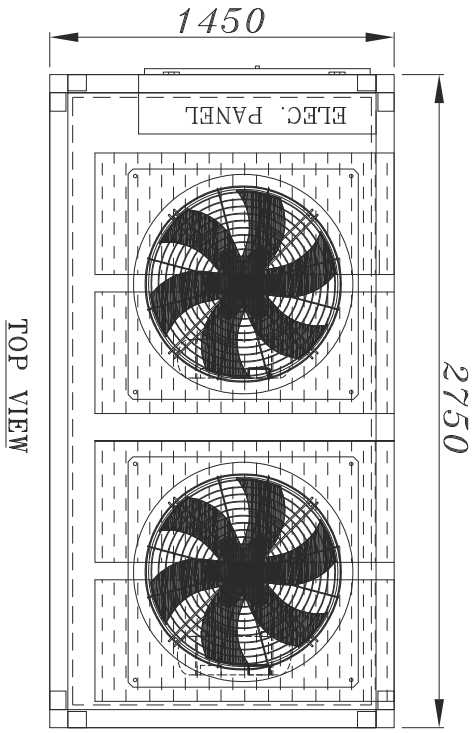
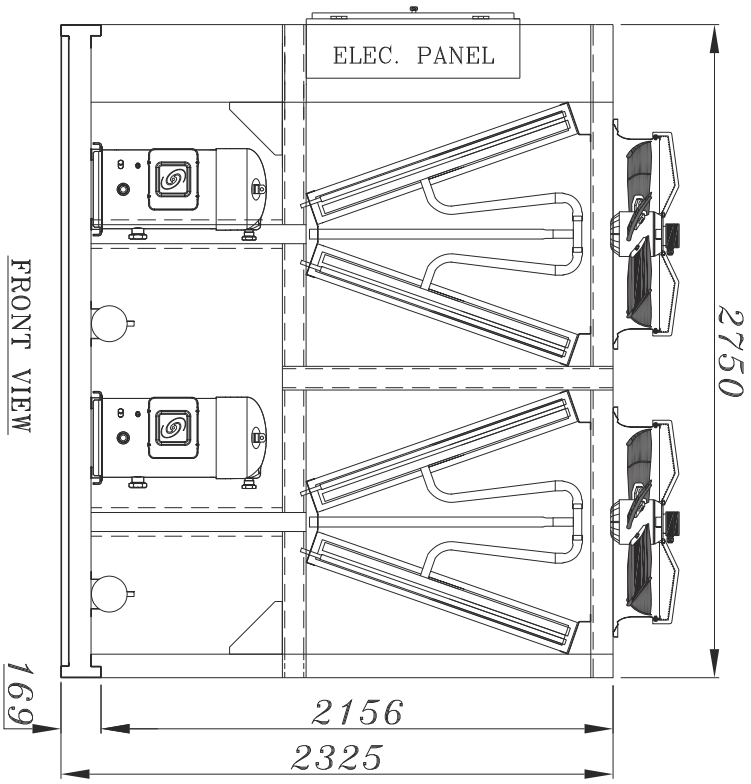
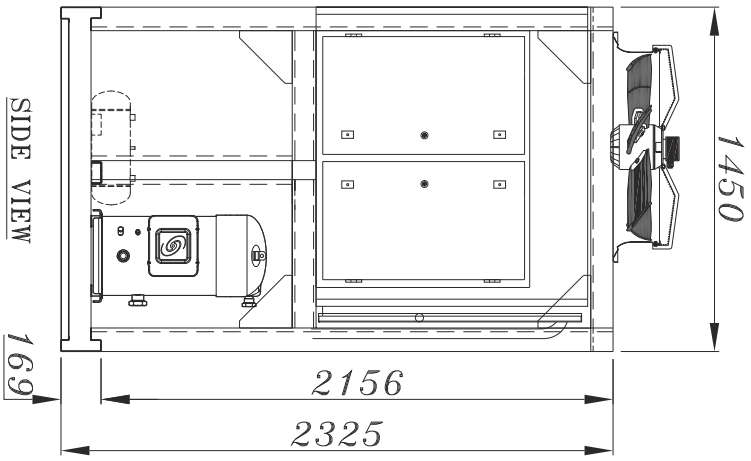
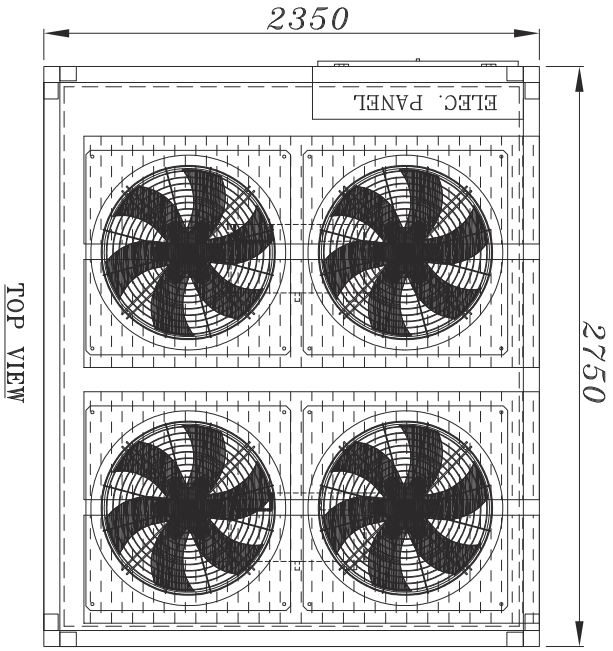


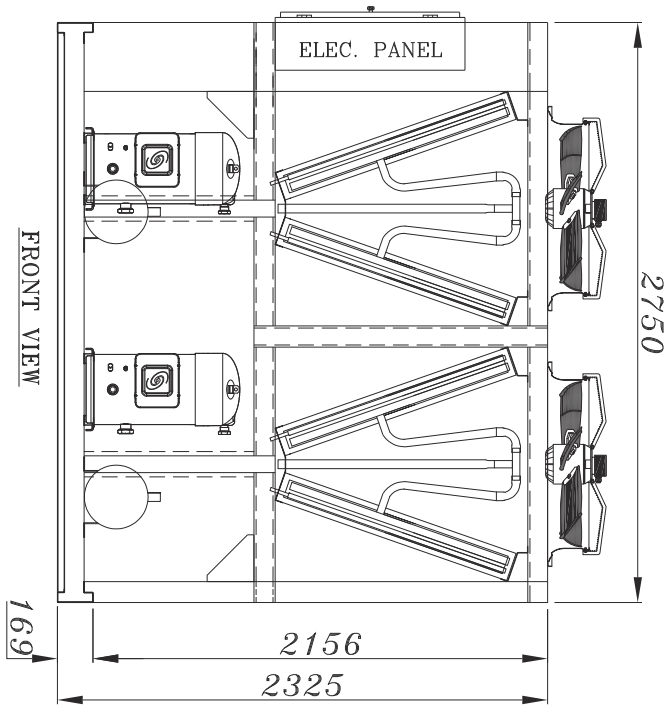




HCUA-20-2
HCUA-24-2
HCUA-26-2
HCUA-30-2







HCUA-40-2
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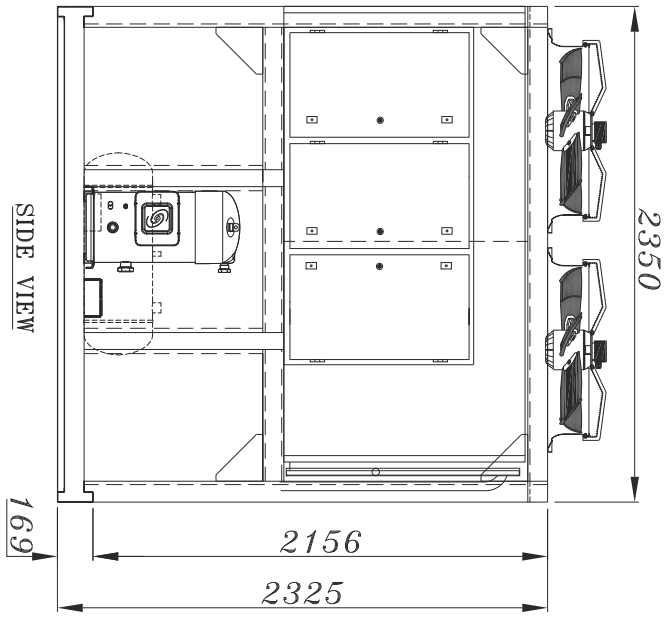
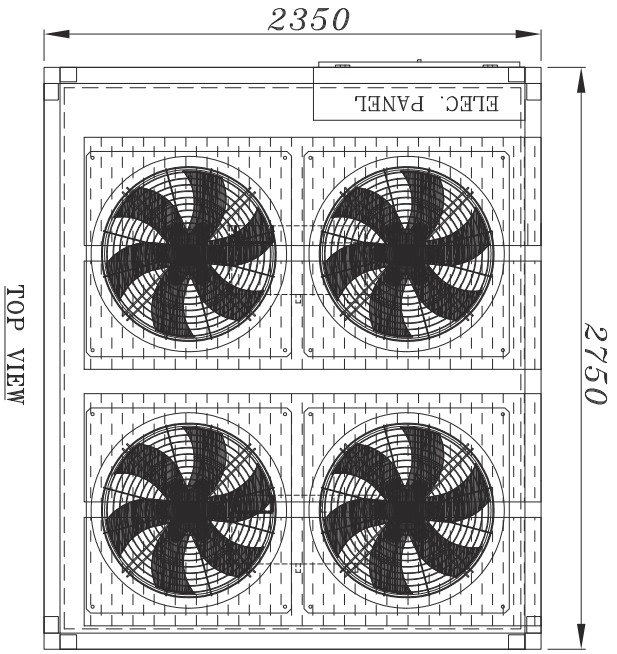
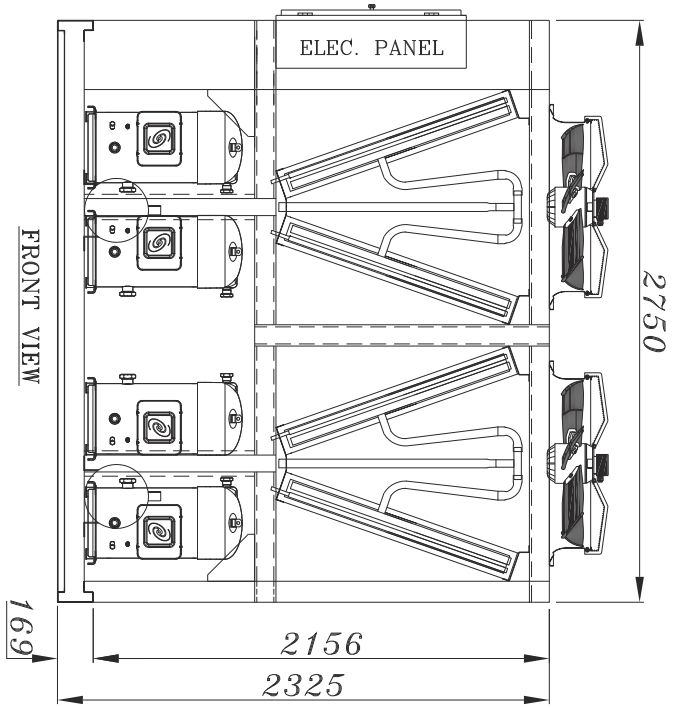
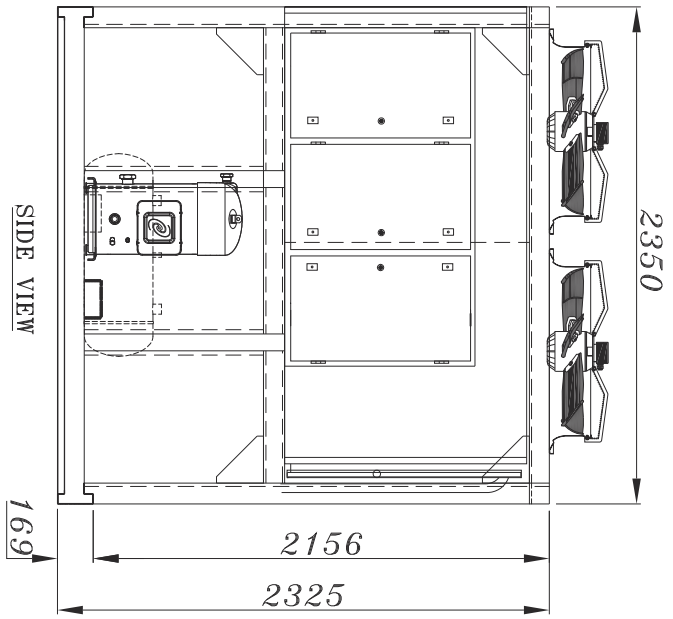
HCUA-60-2

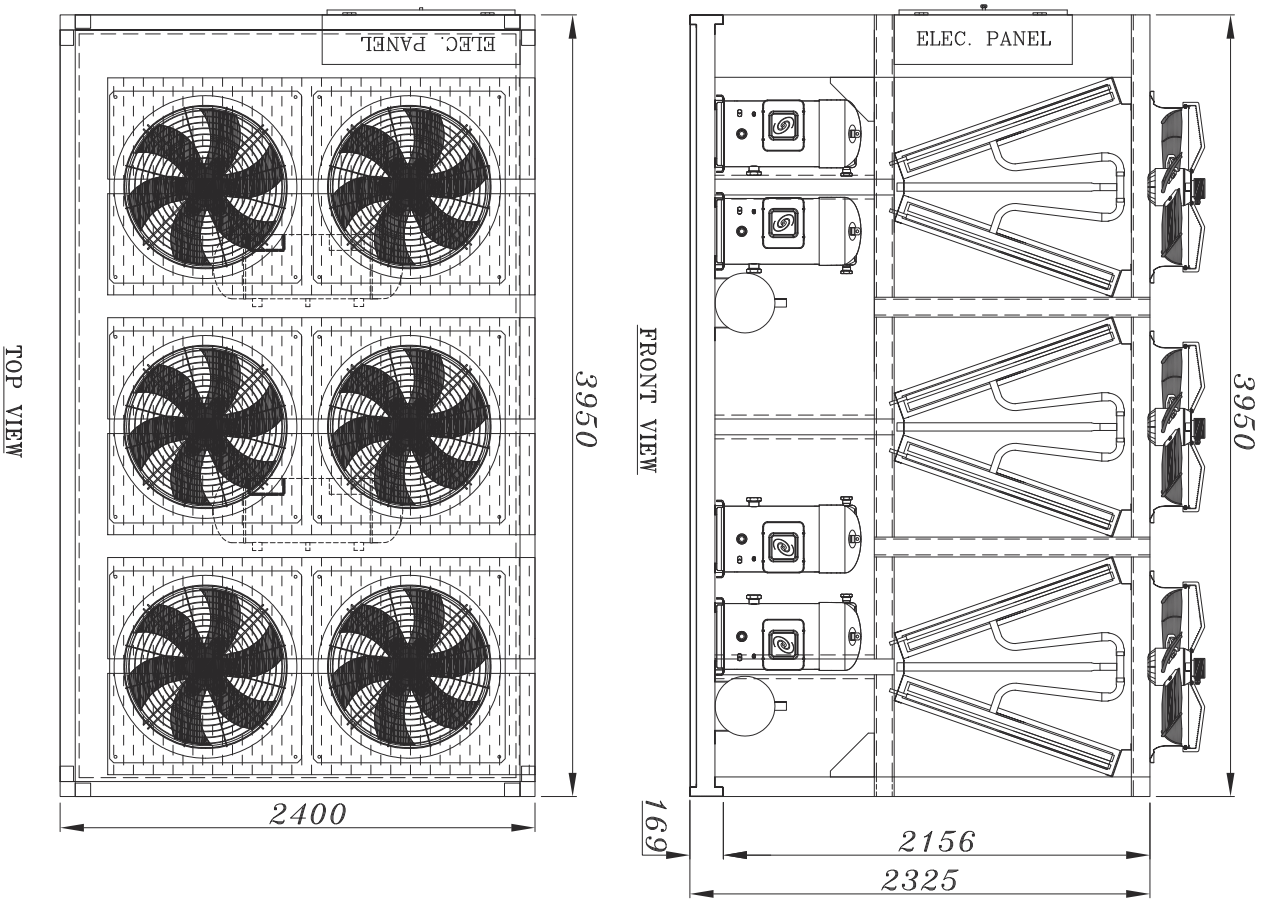




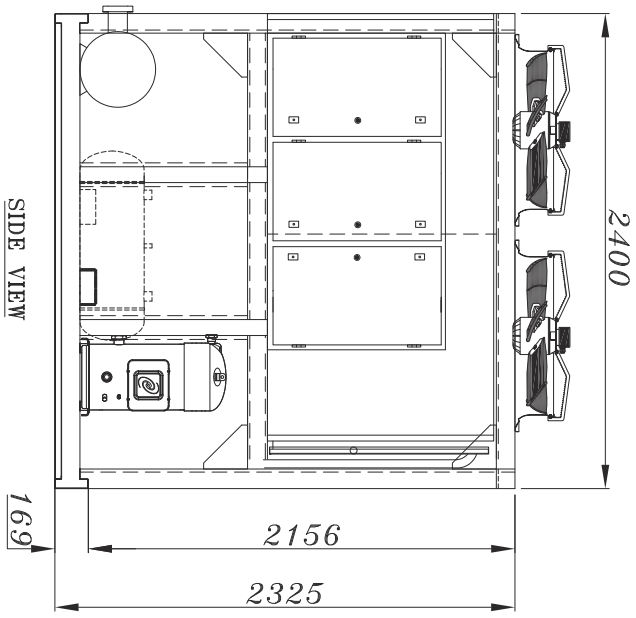


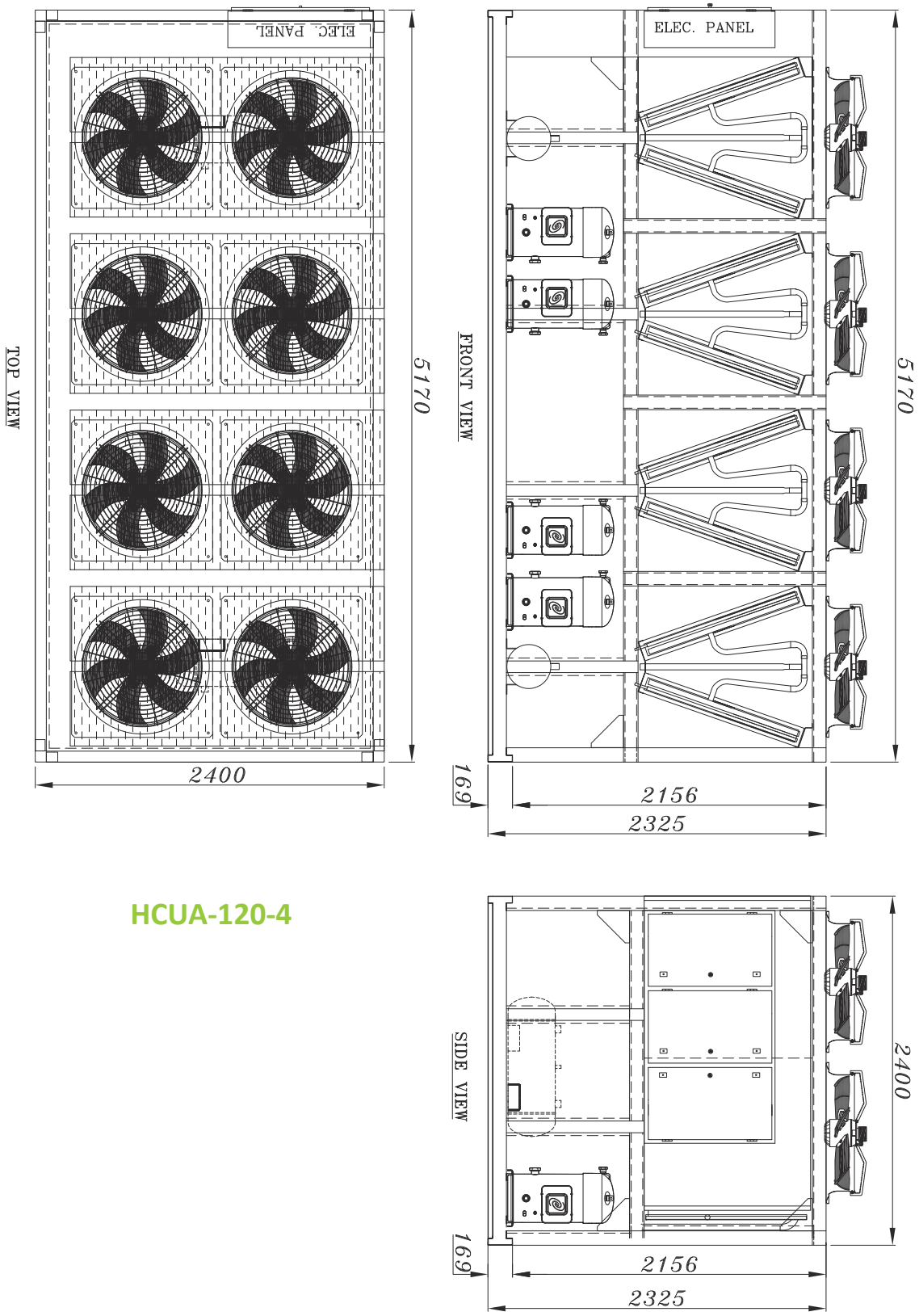
HCUA-36-4
HCUA-40-4
HCUA-48-4
HCUA-52-4
HCUA-60-4





HCUA-80-4
HCUA-100-4




TOP VIEW
ELEC. PANEL
5170
2400
FRONT VIEW
ELEC. PANEL
5170
169
2156
2325
SIDE VIEW
2400
169
2156
2325

HCUA-120-4

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Life Is Cool Air Conditioning since 1967

شرکت هواساز 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 Frasscold,bitzer,copeland , Carrier,refcomp از نوع Scroll , Screw , Reciprocating
مبدلهای Shell & Tube مارک رادیران و Compact Plate Heat Exchanger مارک Danfoss

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