

R134a

ECO COOLER

CONDENSING UNITS

50Hz

10 kW – 575 kW

2021

ECO COOLER

AIR CONDITIONER

MULTI STAGE EVAPORATIVE COOLING





Special Public places
Commercial, Office, Hospital, Restaurant,
Coffee shop & Etc .

ECO COOLER
AIR CONDITIONER

AIR CONDITIONER

EcoChiller

Air-cooled chiller

With screw/ Scroll compressor

Capacity from 10 RT (us) to 511 RT (us)

TECHNOLOGY
HIGH EFFICIENCY

R407C | R134A



Microchannel



COP= 5.25



COOLED CHILLER

of units within a range of cooling capacity 10-510 RT .

-vanized steel sheets coated by a 200-micron thick PVC layer.

Blue, gold, Heresite or hydrophilic coating and/or microchannel

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INTRODUCTION

Eco Cooler Air cooled condensing units **ECHA** series designed to be suitable for gulf harsh environment with optimum performance, high efficiency, low power consumption, easy installation and low noise operations.

ECHA series condensing units were designed to provide central cooling for commercial and industrial applications with the high reliability utilizing the environment friendly R-134a refrigerant.

ECHA series are available from 2.9 TR (10 kW) to 164.3 TR (575 kW).

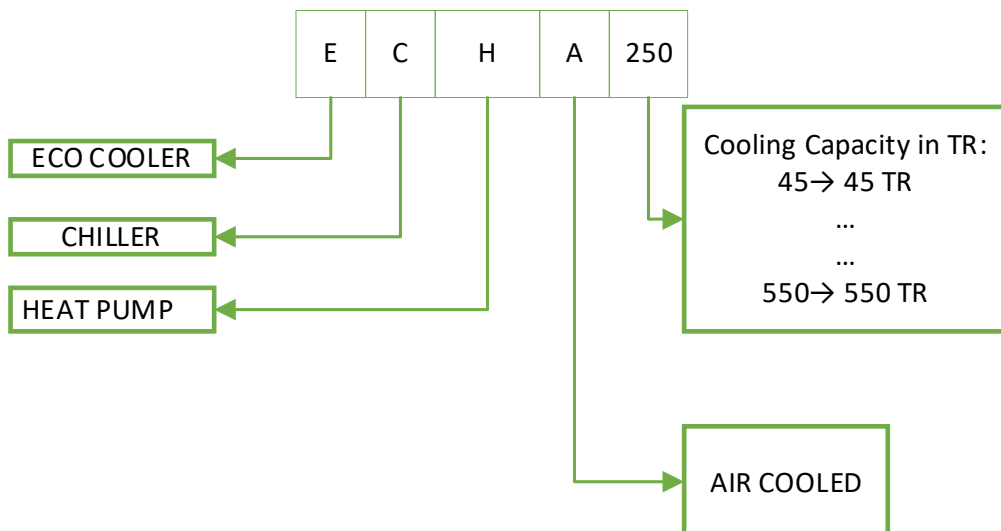
Models are in two categories of STANDARD and HIGH EFFICIENT conditions.

In STANDARD models the temperature difference between condensing and ambient temperature (condenser split) is 20 °C / 36 °F.

In HIGH EFFICIENT models the temperature difference between condensing and ambient temperature (condenser split) is 12 °C / 21.6 °F.

STANDARD models are more compact than HIGH EFFICIENT models and are suitable for moderate temperatures.

NOMENCLATURE



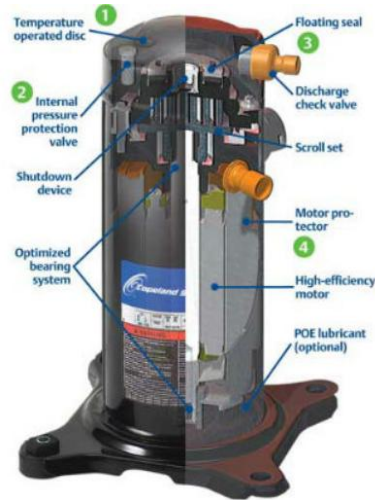
OUT STANDING FEATURES

- Designed to conform to ASHRAE 15 1994 (Safety Code for Mechanical Refrigeration).
- Performance Data are rated in accordance to ARI standard 550/590 98.
- Painted panel Salt Spray test in accordance to ASTM B 117 Salt Spray (Fog) Testing.
- Steel sheet panels lock forming quality conforming to ASTM A 653 Commercial weight G 90.
- Control panel design is equivalent to NEMA 4 (IP55 Weather proof and dust free).
- Internal power Connection High Voltage & control wire cables identification & markers As per NEC standard
- Compressors and Fan motors circuit breakers are having thermal protection. Single point power connection.
- Complete wired control panel with advanced microprocessor controller Matching with Building Management System.
- Compressors are part winding start.
- Low noise aerodynamic design condenser fan, direct drive with rolled for venture design to eliminate short circuiting of airflow.
- All fans are propeller type with aerodynamic design, top discharge & provided with protective grill.
- All fan motors are Totally Enclosed Air over (TEAO) type with class "F" winding insulation , ball bearings & inherent thermal protection of automatic reset.
- Economizer operation is a standard feature for selected models to optimize cooling capacity.
- Electronic expansion valve as standard accessories.
- Liquid injection valve
- Easy service accessibility

STANDARD SPECIFICATIONS

SEMI HERMETIC SCROLL COMPRESSOR

All compressors are semi-hermetic of Copeland ZR Series that are chosen for various reasons: lower sound, High efficiency and reliability, compatibility with heat pump applications and ease of design. Copeland Scroll™ ZR compressors for R407C & R134a is the broadest range on the market for air conditioning and process cooling applications. Used in the air conditioning industry for water chillers, roof-tops and close control unit applications, Scroll compressors are now the most used compression technology replacing reciprocating due to its undeniable superiority. Several, fully qualified, multiple compressor assemblies (tandem and trio) allow the use of Copeland Scroll™ into large capacity systems replacing, for example, screw compressors for air cooled chillers up to 500kW to deliver higher system Seasonal Efficiency (ESEER)



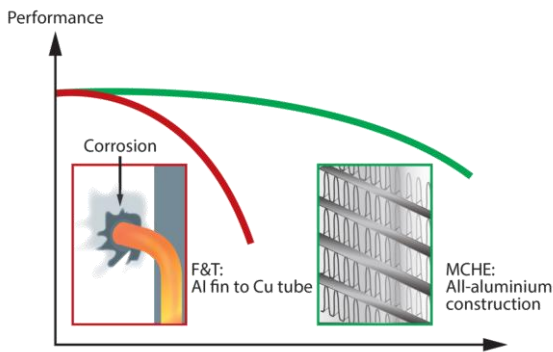
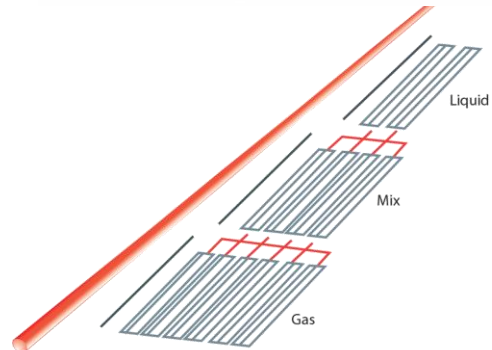
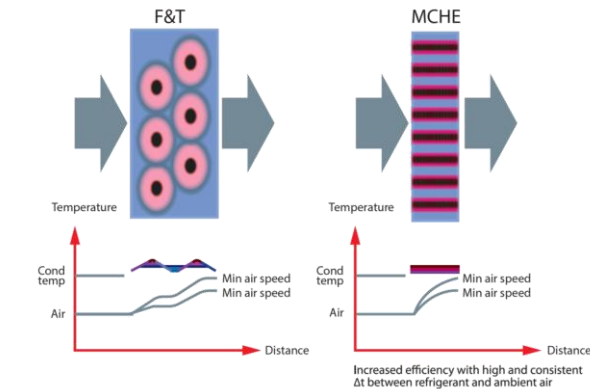
STANDARD SPECIFICATIONS

CONDENSERS COIL

The coils are built up seamless copper tubes and mechanically bonded to scientifically designed aluminum fins for maximum heat transfer efficiency. The assembled coils are factory leak tested under water at a pressure of 450 psig for quality and leak free unit. They also undergo dry chemical cleaning after Manufacturing for optimum system cleanness.

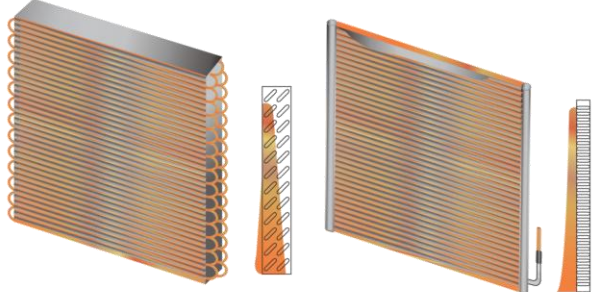
Micro Channel

- Greater refrigerant-side heat transfer efficiency
- Greater air-side heat transfer efficiency
- Lower hold-up volumes and refrigerant charge
- Compact design and light weight
- Better corrosion characteristic
- Lower noisy levels
- Brazed tube to fin joint
- Easy cleaning



F&T
dust removal difficult - heat transfer loss
high risk of damage during cleaning

MCHE
dust removal easy
immediate performance recovery



STANDARD SPECIFICATIONS

CONDENSER FAN MOTOR

All condenser fan motors are totally enclosed air over type (TEAO) with class "F" winding insulation and ball bearings for high ambient application. The motors shall be three phase with inherent thermal protection of automatic reset type.

UNIT CASING

The unit casing are perfectly designed to eliminate the corrosion problem usually associated with outdoor equipment. The casing sheet metal is fabricated from hot dipped heavy gauge (G90), zinc coating and zero spangle galvanized steel, oven-baked powder coated.



CONTROL PANEL

The control panel design is equivalent to NEMA 4 (IP55) with hinged door for easy access ensuring dust and weatherproof construction. Internal power and control wiring is neatly routed, adequately anchored and all wires identified with cable markers as per NEC standards applicable to HVAC industry. The control voltage is 240V-1Ph-50Hz. The electrical controls used in the control panel are UL approved which are reliable in operation at high ambient conditions (Up to 70°C) for a long period.



STANDARD SPECIFICATIONS

REFRIGERATION PIPE LINE

- **INDEPENDENT REFRIGERATION CIRCUIT PER COMPRESSOR**
- **LIQUID LINE ELECTRONIC EXPANSION VALVE:** Used to regulate the refrigerant flow to the water cooler and maintain a constant Superheat and load optimization.
- **LIQUID LINE REPLACEABLE CORE TYPE FILTER DRIER:** Refrigerant circuits are kept free of harmful moisture, sludge, acids and oil contaminating particles by the filter drier.
- **LIQUID LINE MOISTURE INDICATOR SIGHT GLASS:** Installed in the liquid line. An easy-to-read color indicator shows moisture contents and provides a mean for checking the system refrigerant charge.
- **LIQUID LINE SOLENOID VALVE:** Closes when the compressor is off to prevent any liquid refrigerant from accumulating in the water cooler during the off cycle.
- **LIQUID AND DISCHARGE LINES SHUT OFF VALVE:**
- **FULLY CHARGED UNIT WITH R-407C REFRIGERANT:**
- **DISCHARGE, SUCTION LIQUID LINE PIPES:** All hard copper pipes and minimize pipe brazed joints which in turn increases the system reliability.
- **LIQUID INJECTION KIT:** For cooling the compressor in high ambient temperature.
- **CONDENSER COIL GUARD:** Protect the condenser from damage.

MICROPROCESSOR CONTROL

The advanced microprocessor controller is designed with the latest technology to give the best performance of the chiller and to ensure its efficiency and reliability. It is not only monitoring the digital and analogue inputs but also responds very quickly to any problem before and during the operation of the chiller. The user friendly display is a very effective tool for troubleshooting with its multi linked back illuminated 128 x 64 pixel LCD panel.

It shows all the required data of the chiller while it is running and keep all the faults in the alarm history. The push buttons on the display board allows accessing to the operating conditions, control set points & alarm history.

The controller is capable to communicate with the building management system (BMS) open protocols like BacNet, LON, Modbus through optional gateway interfaces. It also can be connected to a GSM gateway to send up to 3 mobiles an SMS messages whenever an alarm take place indicating all details of the alarms and showing the location and the name of the chiller.

The microprocessor controller is especially designed to withstand the high ambient temperature; it can withstand more than 70 degree C without any ventilating or cooling.

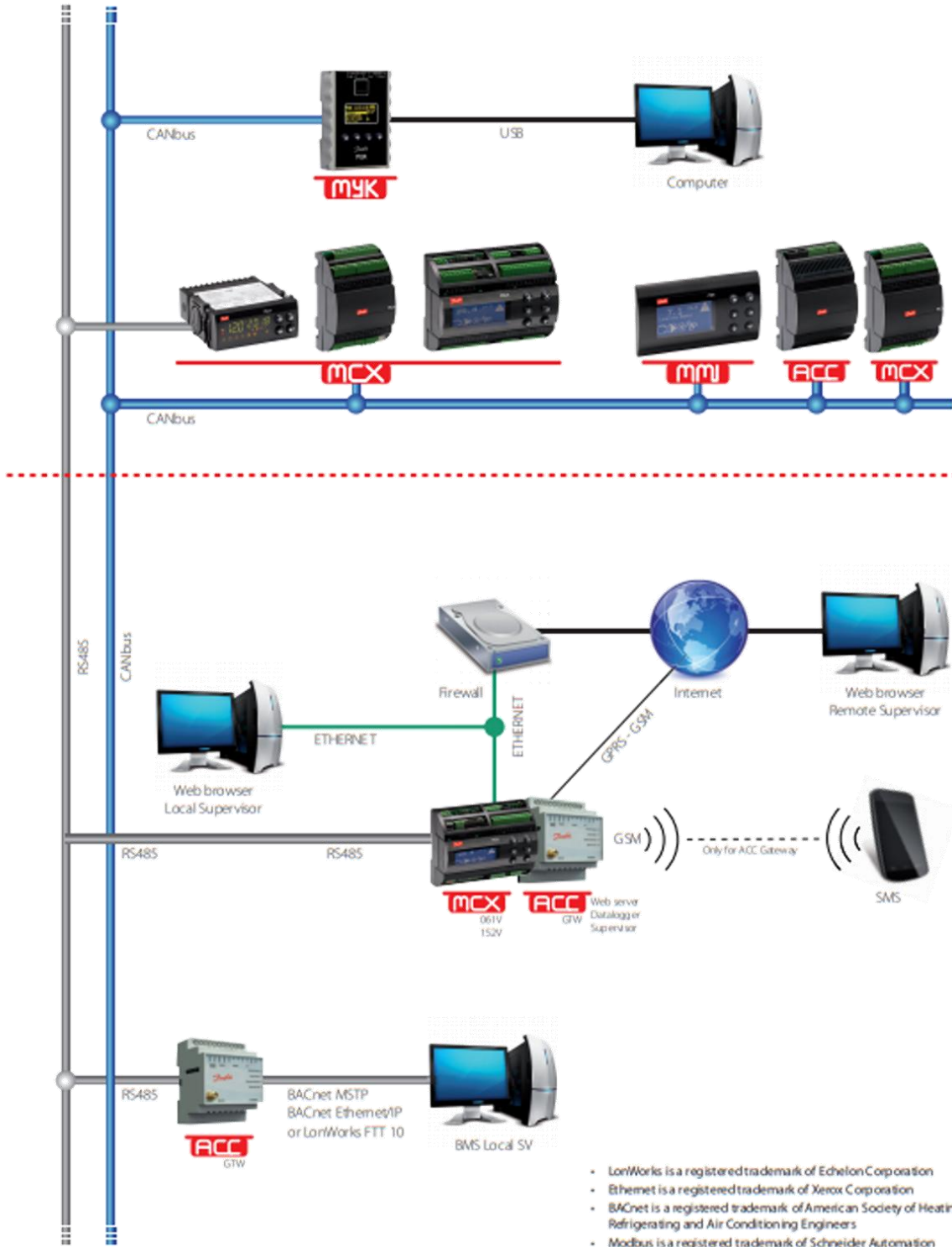
The microprocessor controller consists of the following hardware:

- **User Interface Display Board:** Provided with simple push buttons (6 Nos) on the display board and menu driven software to access operating conditions, control set points and history that are clearly displayed on the LCD panel (62 x 34 mm.)
- **Master Board:** This controls up to two compressor system. It has 20 digital input, 18 digital output, 12 analog input and 4 analog output.
- **Auxiliary Boards:**

Required for controlling an additional two or more compressors.

- **Temperature control:** The user can select the temperature control based on either leaving water temperature or returning water temperature. The software will control system using a Proportional Integral Derivative (PID) for precise control logic.
- **Electronic expansion valve control.**
- **Stepless control.**
- **Adaptive control algorithm.**
- **Economizer control.**
- **Compressors hour equalization.**
- **Condenser Fan hour equalization**
- **Software update through PC programming or hardware key.**
- **Suction temperature sensor.**

MICROPROCESSOR CONTROL



OPTIONAL FEATURES

- **WATER FLOW SWITCH:** Paddle type field adjustable flow switch for water cooler circuits, Interlock into safety circuits so that the unit will remain off unit water flow is determine.
- **UNIT MOUNTING SPRING ISOLATORS:** This housed spring assemblies have a neoprene friction pad on the bottom to prevent vibration transmission.
- **ASME CODE STAMPED:** For shell and tube liquid coolers
- **PRESSURE GAUGES:** Suction & discharge pressure gauges
- **COMPRESSOR/COOLER GUARD:** protects the compressor from vandalism
- **COMPRESSOR ENCLOSURE BOX (SOUNDATTENUATOR):** reduces the compressor operating noise and keeps the compressor clean.
- **FLANGED TYPE COOLER CONNECTION:** Easy on-site piping connections.
- **COPPER FINS/TUBES CONDENSER COILS:** For seashore salty corrosive environments.
- **PRE-COATED ALUMINUM FINS CONDENSER COILS (MHG):** For seashore or acid corrosive environments.
- **COATED COPPER/ALUMINUM FINS CONDENSER COILS:** For seashore or acid corrosive environments
- **EXTERNAL OVER LOAD RELAY:** Overload relay can be provided for Condenser fan Motor
- **BUILDING MANAGEMENT SYSTEM (BMS):** MODBUS, BACNET, and LON protocol
- **Remote Monitoring / SMS Controller communications:** This system based on GSM/GPRS gateway , allows to store chiller data on a GSM gateway with status , alarm history and other site information. It is possible to send up to 3 mobile phones an SMS messages once an alarm occurs showing name of the chiller ,location ,details and time of alarm.

ELECTRICAL

- **NON-FUSED MAIN DISCONNECT SWITCHES:** De-energize power supply during servicing/repair works as well as with door interlock.
- **COOLER HEATER TAPE:** Prevent freezing up of water on low ambient.
- **GROUND CURRENT PROTECTION:** Additional protection for compressor in the case of abnormal current leakage.

PHYSICAL DATA (STANDARD)

UNIT MODEL (ECHA)	COOLING CAPACITY*		COMPRESSOR	QUANTITY (NO.)	REFRIGERANT	CONDENSER-TYPE	TOTAL AREA, (Sq. Ft)	TOTAL AREA, (Sq. m)	CONDENSER FAN	QUANTITY (NO.)	AIR FLOW (CFM)	AIR FLOW (m³/h)	EXPANSION DEVICE	GENERAL	REFRIGERATION CIRCUITS(NO.)
	RT	KW													
03	3.2	11.2	SEMI-HERMETIC SCROLL	1	R-134a	MICROCHANNEL	10.8	1.0	PROPELLER DIRECT DRIVEN (AXIAL)	1	5800	9860	THERMOSTATIC & ELECTRICAL		1
04	4.1	14.4		1			10.8	1.0		1	5800	9860			1
05	5.6	19.6		1			10.8	1.0		1	5800	9860			1
07	6.9	24.2		1			10.8	1.0		1	5800	9860			1
010	9.6	33.7		2			10.8	1.0		1	5800	9860			1
012	12.6	44.0		2			21.5	2.0		1	13000	22100			1
015	16.6	58.0		2			21.5	2.0		1	13000	22100			1
020	20.7	72.6		3			21.5	2.0		1	13000	22100			1
025	24.2	84.7		3			21.5	2.0		1	13000	22100			1
030	28.9	101.1		6			32.3	3.0		2	18800	31960			2
035	33.2	116.2		4			32.3	3.0		2	18800	31960			2
040	41.5	145.2		6			43.0	4.0		2	26000	44200			2
045	44.7	156.4		8			43.0	4.0		2	26000	44200			2
050	49.7	174.0		6			64.6	6.0		3	39000	66300			2
055	55.3	193.6		8			64.6	6.0		3	39000	66300			2
060	62.9	220.0		10			64.6	6.0		3	39000	66300			2
065	66.3	232.0		8			64.6	6.0		3	39000	66300			2
070	69.1	242.0		10			64.6	6.0		3	39000	66300			2
075	82.8	289.8		10			86.1	8.0		4	52000	88400			2
080	82.8	289.8		10			86.1	8.0		4	52000	88400			2
085	82.8	289.8		10			86.1	8.0		4	52000	88400			2
090	97.3	340.6		6			86.1	8.0		4	52000	88400			2
095	97.3	340.6		6			86.1	8.0		4	52000	88400			2
0100	98.7	345.5		6			107.6	10.0		5	65000	110500			2
0105	106.0	371.0		8			107.6	10.0		5	65000	110500			2
0110	106.0	371.0		8			107.6	10.0		5	65000	110500			2
0115	106.0	371.0		8			107.6	10.0		5	65000	110500			2
0120	121.7	426.0		8			107.6	10.0		5	65000	110500			2
0125	131.6	460.6		8			129.1	12.0		6	78000	132600			2
0130	132.5	463.8		10			129.1	12.0		6	78000	132600			2
0135	132.5	463.8		10			129.1	12.0		6	78000	132600			2
0140	132.5	463.8		10			129.1	12.0		6	78000	132600			2
0145	132.5	463.8		10			129.1	12.0		6	78000	132600			2
0150	164.5	575.8		10			172.2	16.0		8	104000	176800			2
0155	164.5	575.8		10			172.2	16.0		8	104000	176800			2
0160	164.5	575.8		10			172.2	16.0		8	104000	176800			2
0165	164.5	575.8		10			172.2	16.0		8	104000	176800			2

*Capacity rating are based on Standard ARI-550/590 conditions of:

- 95 °F (35 °C) ambient/
- 44 °F (6.7 °C) Leaving Chilled Water Temperature
- 10 °F (5.5 °C) Inlet-Outlet Water Temperature Difference
- 0.0001 ft². h.°F /Btu (0.018 m².°C/kW) Fouling Factor

PHYSICAL DATA (HIGH EFFICIENT)

UNIT MODEL (ECHA)	COOLING CAPACITY*		COMPRESSOR	QUANTITY (NO.)	REFRIGERANT	CONDENSER-TYPE	TOTAL AREA (Sq. Ft)	TOTAL AREA (Sq.m)	CONDENSER FAN	QUANTITY (NO.)	AIR FLOW (CFM)	AIR FLOW (m³/h)	EXPANSION MODEL	GENERAL	REFRIGERATION CIRCUITS(NO.)
	RT	kW													
03	3.0	10.5	SEMI-HERMETIC SCROLL	1	R-134a	MICROCHANNEL	10.8	1.0	PROPELLER DIRECT DRIVEN (AXIAL)	1	5800	9860	THERMOSTATIC & ELECTRICAL		1
04	4.0	13.9		1			10.8	1.0		1	5800	9860			1
05	5.3	18.5		1			10.8	1.0		1	5800	9860			1
07	6.9	24.2		1			10.8	1.0		1	5800	9860			1
010	10.5	36.9		2			21.5	2.0		1	13000	22100			1
012	12.4	43.2		2			21.5	2.0		1	13000	22100			1
015	15.4	53.9		2			21.5	2.0		1	13000	22100			1
020	21.1	73.8		4			32.3	3.0		2	18800	31960			2
025	24.7	86.4		4			43.0	4.0		2	26000	44200			2
030	30.9	108.0		4			43.0	4.0		2	26000	44200			2
035	36.8	128.8		4			64.6	6.0		3	39000	66300			2
040	42.0	147.0		6			64.6	6.0		3	39000	66300			2
045	46.3	162.1		6			64.6	6.0		3	39000	66300			2
050	49.4	172.9		8			86.1	8.0		4	52000	88400			2
055	55.2	193.2		6			86.1	8.0		4	52000	88400			2
060	61.7	216.0		8			86.1	8.0		4	52000	88400			2
065	70.0	245.0		10			107.6	10.0		5	65000	110500			2
070	70.0	245.0		10			107.6	10.0		5	65000	110500			2
075	73.6	257.6		8			107.6	10.0		5	65000	110500			2
080	77.1	270.0		10			107.6	10.0		5	65000	110500			2
085	92.0	322.0		10			129.1	12.0		6	78000	132600			2
090	92.0	322.0		10			129.1	12.0		6	78000	132600			2
095	92.0	322.0		10			129.1	12.0		6	78000	132600			2
0100	108.5	379.8		6			172.2	16.0		8	104000	176800			2
0105	108.5	379.8		6			172.2	16.0		8	104000	176800			2
0110	108.5	379.8		6			172.2	16.0		8	104000	176800			2
0115	116.8	408.8		8			172.2	16.0		8	104000	176800			2
0120	116.8	408.8		8			172.2	16.0		8	104000	176800			2
0125	116.8	408.8		8			172.2	16.0		8	104000	176800			2
0130	144.7	506.5		8			215.2	20.0		10	130000	221000			2
0135	144.7	506.5		8			215.2	20.0		10	130000	221000			2
0140	144.7	506.5		8			215.2	20.0		10	130000	221000			2
0145	144.7	506.5		8			215.2	20.0		10	130000	221000			2
0150	146.0	511.0		10			215.2	20.0		10	130000	221000			2

*Capacity rating are based on Standard ARI-550/590 conditions of:

- 95 °F (35 °C) ambient/
- 44 °F (6.7 °C) Leaving Chilled Water Temperature
- 10 °F (5.5 °C) Inlet-Outlet Water Temperature Difference
- 0.0001 ft². h. °F /Btu (0.018 m².°C/kW) Fouling Factor

PERFORMANCE DATA TABLES-SI SYSTEM (STANDARD)

LEAVING CHILLED WATER TEMP (LOWT)	UNIT SIZE (VAPORATING TEMP 7.2)	29.4 °C				35 °C				40.6 °C				46.1 °C				51.7 °C			
		AMBIENT TEMPERATURE				AMBIENT TEMPERATURE				AMBIENT TEMPERATURE				AMBIENT TEMPERATURE				AMBIENT TEMPERATURE			
		CAP (kW)	COMP (kW)	EER(kw/kw)	WATER FLOW(m³/h)	CAP (kW)	COMP (kW)	EER(kw/kw)	WATER FLOW(m³/h)	CAP (kW)	COMP (kW)	EER(kw/kw)	WATER FLOW(m³/h)	CAP (kW)	COMP (kW)	EER(kw/kw)	WATER FLOW(m³/h)	CAP (kW)	COMP (kW)	EER(kw/kw)	WATER FLOW(m³/h)
6.7 °C	ECHA-03	12.1	3.2	3.2	1.9	11.2	3.6	2.7	1.7	10.3	4.1	2.2	1.6	9.3	4.7	1.8	1.5	8.4	5.4	1.4	1.3
	ECHA-04	15.6	4.2	3.3	2.4	14.4	4.7	2.7	2.2	13.0	5.4	2.2	2.0	11.6	6.1	1.8	1.8	10.1	6.9	1.4	1.6
	ECHA-05	21.0	5.4	3.6	3.3	19.6	6.0	3.0	3.0	18.0	6.8	2.5	2.8	16.5	7.6	2.0	2.6	14.8	8.5	1.6	2.3
	ECHA-07	26.2	6.9	3.5	4.1	24.2	7.8	2.9	3.8	22.2	8.8	2.4	3.5	20.0	9.9	1.9	3.1	17.7	11.2	1.5	2.7
	ECHA-010	35.9	9.3	3.7	5.6	33.7	10.4	3.1	5.2	31.3	11.7	2.6	4.9	28.7	13.1	2.1	4.5	26.0	14.7	1.7	4.0
	ECHA-012	47.6	12.5	3.3	7.4	44.0	14.0	2.7	6.8	40.0	15.7	2.2	6.2	35.7	17.4	1.8	5.6	31.1	19.0	1.5	4.8
	ECHA-015	62.4	17.0	3.3	9.7	58.0	19.1	2.7	9.0	53.2	21.5	2.3	8.3	48.2	24.1	1.8	7.5	43.0	27.2	1.5	6.7
	ECHA-020	78.6	20.7	3.4	12.2	72.6	23.3	2.9	11.3	66.6	26.3	2.3	10.4	59.9	29.6	1.9	9.3	53.0	33.6	1.5	8.2
	ECHA-025	93.6	25.5	3.4	14.6	84.7	28.6	2.8	13.2	79.8	32.3	2.3	12.4	72.3	36.2	1.9	11.3	64.5	40.8	1.5	10.0
	ECHA-030	107.7	27.9	3.5	16.8	101.1	31.3	3.0	15.7	93.9	35.1	2.5	14.6	86.1	39.4	2.1	13.4	78.0	44.1	1.7	12.1
	ECHA-035	124.8	34.0	3.4	19.4	116.2	38.2	2.8	18.1	106.4	43.0	2.3	16.6	96.4	48.2	1.9	15.0	86.0	54.4	1.5	13.4
	ECHA-040	157.2	41.5	3.4	24.5	145.2	46.6	2.9	22.6	133.2	52.5	2.3	20.7	119.7	59.3	1.9	18.6	105.9	67.2	1.5	16.5
	ECHA-045	168.0	43.0	3.6	26.2	156.4	48.2	3.0	24.3	144.0	54.1	2.5	22.4	131.6	60.7	2.0	20.5	118.0	68.2	1.6	18.4
	ECHA-050	187.2	51.1	3.3	29.1	174.0	57.2	2.7	27.1	159.6	64.5	2.3	24.8	144.6	72.3	1.8	22.5	129.0	81.6	1.5	20.1
	ECHA-055	209.6	55.3	3.4	32.6	193.6	62.1	2.8	30.1	177.6	70.0	2.3	27.6	159.6	79.0	1.9	24.8	141.2	89.6	1.5	22.0
	ECHA-060	238.0	62.3	3.5	37.0	220.0	70.2	2.9	34.2	200.0	78.6	2.4	31.1	178.5	87.0	1.9	27.8	155.5	95.1	1.5	24.2
	ECHA-065	249.6	68.1	3.4	38.9	232.0	76.3	2.8	36.1	212.8	86.0	2.3	33.1	192.8	96.4	1.9	30.0	172.0	108.8	1.5	26.8
	ECHA-070	262.0	69.1	3.5	40.8	242.0	77.6	2.9	37.7	222.0	87.5	2.4	34.6	199.5	98.8	1.9	31.1	176.5	112.0	1.5	27.5
	ECHA-075	312.0	85.1	3.3	48.6	289.8	95.4	2.8	45.1	266.0	107.5	2.3	41.4	241.0	120.5	1.9	37.5	215.0	136.0	1.5	33.5
	ECHA-080	312.0	85.1	3.3	48.6	289.8	95.4	2.8	45.1	266.0	107.5	2.3	41.4	241.0	120.5	1.9	37.5	215.0	136.0	1.5	33.5
	ECHA-085	312.0	85.1	3.3	48.6	289.8	95.4	2.8	45.1	266.0	107.5	2.3	41.4	241.0	120.5	1.9	37.5	215.0	136.0	1.5	33.5
	ECHA-090	369.6	99.6	3.4	57.5	340.6	111.3	2.8	53.0	321.6	124.2	2.4	50.1	296.4	139.2	2.0	46.1	270.0	155.4	1.6	42.0
	ECHA-095	369.6	99.6	3.4	57.5	340.6	111.3	2.8	53.0	321.6	124.2	2.4	50.1	296.4	139.2	2.0	46.1	270.0	155.4	1.6	42.0
	ECHA-0100	369.6	99.6	3.4	57.5	345.5	111.3	2.8	53.8	321.6	124.2	2.4	50.1	296.4	139.2	2.0	46.1	270.0	155.4	1.6	42.0
	ECHA-0105	397.6	109.2	3.3	61.9	371.0	122.0	2.8	57.7	344.0	137.6	2.3	53.5	314.4	155.2	1.9	48.9	284.0	176.0	1.5	44.2
	ECHA-0110	397.6	109.2	3.3	61.9	371.0	122.0	2.8	57.7	344.0	137.6	2.3	53.5	314.4	155.2	1.9	48.9	284.0	176.0	1.5	44.2
	ECHA-0115	397.6	109.2	3.3	61.9	371.0	122.0	2.8	57.7	344.0	137.6	2.3	53.5	314.4	155.2	1.9	48.9	284.0	176.0	1.5	44.2
	ECHA-0120	492.8	132.8	3.4	76.7	426.0	148.4	2.7	66.3	428.8	165.6	2.4	66.7	395.2	185.6	2.0	61.5	360.0	207.2	1.7	56.0
	ECHA-0125	492.8	132.8	3.4	76.7	460.6	148.4	2.9	71.7	428.8	165.6	2.4	66.7	395.2	185.6	2.0	61.5	360.0	207.2	1.6	56.0
	ECHA-0130	497.0	136.5	3.3	77.4	463.8	152.5	2.8	72.2	430.0	172.0	2.3	66.9	393.0	194.0	1.9	61.2	355.0	220.0	1.5	55.3
	ECHA-0135	497.0	136.5	3.3	77.4	463.8	152.5	2.8	72.2	430.0	172.0	2.3	66.9	393.0	194.0	1.9	61.2	355.0	220.0	1.5	55.3
	ECHA-0140	497.0	136.5	3.3	77.4	463.8	152.5	2.8	72.2	430.0	172.0	2.3	66.9	393.0	194.0	1.9	61.2	355.0	220.0	1.5	55.3
	ECHA-0145	497.0	136.5	3.3	77.4	463.8	152.5	2.8	72.2	430.0	172.0	2.3	66.9	393.0	194.0	1.9	61.2	355.0	220.0	1.5	55.3
	ECHA-0150	616.0	166.0	3.4	95.9	575.8	185.5	2.8	89.6	536.0	207.0	2.4	83.4	494.0	232.0	2.0	76.9	450.0	259.0	1.6	70.0
	ECHA-0155	616.0	166.0	3.4	95.9	575.8	185.5	2.8	89.6	536.0	207.0	2.4	83.4	494.0	232.0	2.0	76.9	450.0	259.0	1.6	70.0
	ECHA-0160	616.0	166.0	3.4	95.9	575.8	185.5	2.8	89.6	536.0	207.0	2.4	83.4	494.0	232.0	2.0	76.9	450.0	259.0	1.6	70.0
	ECHA-0165	616.0	166.0	3.4	95.9	575.8	185.5	2.8	89.6	536.0	207.0	2.4	83.4	494.0	232.0	2.0	76.9	450.0	259.0	1.6	70.0

1- ECHA Condensing Units are rated based on Standard ARI-550/590-98 conditions of: 5.5 °C Inlet/Outlet Water Temperature Difference and 0.018 m².°C/kW Fouling Factor

2- Direct interpolation is permissible. Do not extrapolate.

3- Power input (kW) is for compressor only.

4- Energy Efficiency Ratio (EER) is for the overall unit, refer to electrical data for fan power input.

PERFORMANCE DATA TABLES-ENGLISH SYSTEM (STANDARD)

LEAVING CHILLED WATER TEMP (LCWT)	UNIT SIZE	85 °F				95 °F				105 °F				115 °F				125 °F			
		AMBIENT TEMPERATURE				AMBIENT TEMPERATURE				AMBIENT TEMPERATURE				AMBIENT TEMPERATURE				AMBIENT TEMPERATURE			
		CAP (TONS)	COMP. (kW)	EER(kw/kw)	WATER FLOW (GPM)	CAP (TONS)	COMP. (kW)	EER(kw/kw)	WATER FLOW (GPM)	CAP (TONS)	COMP. (kW)	EER(kw/kw)	WATER FLOW (GPM)	CAP (TONS)	COMP. (kW)	EER(kw/kw)	WATER FLOW (GPM)	CAP (TONS)	COMP. (kW)	EER(kw/kw)	WATER FLOW (GPM)
44 °F	ECHA-03	3.4	3.2	3.2	8.3	3.2	3.6	2.7	7.6	2.9	4.1	2.2	7.0	2.7	4.7	1.8	6.4	2.4	5.4	1.4	5.7
	ECHA-04	4.4	4.2	3.3	10.7	4.1	4.7	2.7	9.8	3.7	5.4	2.2	8.9	3.3	6.1	1.8	8.0	2.9	6.9	1.4	6.9
	ECHA-05	6.0	5.4	3.6	14.4	5.6	6.0	3.0	13.4	5.1	6.8	2.5	12.3	4.7	7.6	2.0	11.3	4.2	8.5	1.6	10.1
	ECHA-07	7.5	6.9	3.5	18.0	6.9	7.8	2.9	16.6	6.3	8.8	2.4	15.2	5.7	9.9	1.9	13.7	5.0	11.2	1.5	12.1
	ECHA-010	10.3	9.3	3.7	24.6	9.6	10.4	3.1	23.1	8.9	11.7	2.6	21.5	8.2	13.1	2.1	19.7	7.4	14.7	1.7	17.8
	ECHA-012	13.6	12.5	3.3	32.6	12.6	14.0	2.7	30.2	11.4	15.7	2.2	27.4	10.2	17.4	1.8	24.5	8.9	19.0	1.5	21.3
	ECHA-015	17.8	17.0	3.3	42.8	16.6	19.1	2.7	39.8	15.2	21.5	2.3	36.5	13.8	24.1	1.8	33.1	12.3	27.2	1.5	29.5
	ECHA-020	22.5	20.7	3.4	53.9	20.7	23.3	2.9	49.8	19.0	26.3	2.3	45.7	17.1	29.6	1.9	41.0	15.1	33.6	1.5	36.3
	ECHA-025	26.7	25.5	3.4	64.2	24.2	28.6	2.8	58.1	22.8	32.3	2.3	54.7	20.7	36.2	1.9	49.6	18.4	40.8	1.5	44.2
	ECHA-030	30.8	27.9	3.5	73.9	28.9	31.3	3.0	69.3	26.8	35.1	2.5	64.4	24.6	39.4	2.1	59.0	22.3	44.1	1.7	53.5
	ECHA-035	35.7	34.0	3.4	85.6	33.2	38.2	2.8	79.7	30.4	43.0	2.3	73.0	27.5	48.2	1.9	66.1	24.6	54.4	1.5	59.0
	ECHA-040	44.9	41.5	3.4	107.8	41.5	46.6	2.9	99.6	38.1	52.5	2.3	91.3	34.2	59.3	1.9	82.1	30.3	67.2	1.5	72.6
	ECHA-045	48.0	43.0	3.6	115.2	44.7	48.2	3.0	107.2	41.1	54.1	2.5	98.7	37.6	60.7	2.0	90.2	33.7	68.2	1.6	80.9
	ECHA-050	53.5	51.1	3.3	128.4	49.7	57.2	2.7	119.3	45.6	64.5	2.3	109.4	41.3	72.3	1.8	99.2	36.9	81.6	1.5	88.5
	ECHA-055	59.9	55.3	3.4	143.7	55.3	62.1	2.8	132.8	50.7	70.0	2.3	121.8	45.6	79.0	1.9	109.4	40.3	89.6	1.5	96.8
	ECHA-060	68.0	62.3	3.5	163.2	62.9	70.2	2.9	150.9	57.1	78.6	2.4	137.1	51.0	87.0	1.9	122.4	44.4	95.1	1.5	106.6
	ECHA-065	71.3	68.1	3.4	171.2	66.3	76.3	2.8	159.1	60.8	86.0	2.3	145.9	55.1	96.4	1.9	132.2	49.1	108.8	1.5	117.9
	ECHA-070	74.9	69.1	3.5	179.7	69.1	77.6	2.9	165.9	63.4	87.5	2.4	152.2	57.0	98.8	1.9	136.8	50.4	112.0	1.5	121.0
	ECHA-075	89.1	85.1	3.3	213.9	82.8	95.4	2.8	198.7	76.0	107.5	2.3	182.4	68.9	120.5	1.9	165.3	61.4	136.0	1.5	147.4
	ECHA-080	89.1	85.1	3.3	213.9	82.8	95.4	2.8	198.7	76.0	107.5	2.3	182.4	68.9	120.5	1.9	165.3	61.4	136.0	1.5	147.4
	ECHA-085	89.1	85.1	3.3	213.9	82.8	95.4	2.8	198.7	76.0	107.5	2.3	182.4	68.9	120.5	1.9	165.3	61.4	136.0	1.5	147.4
	ECHA-090	105.6	99.6	3.4	253.4	97.3	111.3	2.8	233.5	91.9	124.2	2.4	220.5	84.7	139.2	2.0	203.2	77.1	155.4	1.6	185.1
	ECHA-095	105.6	99.6	3.4	253.4	97.3	111.3	2.8	233.5	91.9	124.2	2.4	220.5	84.7	139.2	2.0	203.2	77.1	155.4	1.6	185.1
	ECHA-0100	105.6	99.6	3.4	253.4	98.7	111.3	2.8	236.9	91.9	124.2	2.4	220.5	84.7	139.2	2.0	203.2	77.1	155.4	1.6	185.1
	ECHA-0105	113.6	109.2	3.3	272.6	106.0	122.0	2.8	254.4	98.3	137.6	2.3	235.9	89.8	155.2	1.9	215.6	81.1	176.0	1.5	194.7
	ECHA-0110	113.6	109.2	3.3	272.6	106.0	122.0	2.8	254.4	98.3	137.6	2.3	235.9	89.8	155.2	1.9	215.6	81.1	176.0	1.5	194.7
	ECHA-0115	113.6	109.2	3.3	272.6	106.0	122.0	2.8	254.4	98.3	137.6	2.3	235.9	89.8	155.2	1.9	215.6	81.1	176.0	1.5	194.7
	ECHA-0120	140.8	132.8	3.4	337.9	121.7	148.4	2.7	292.1	122.5	165.6	2.4	294.0	112.9	185.6	2.0	271.0	102.9	207.2	1.7	246.9
	ECHA-0125	140.8	132.8	3.4	337.9	131.6	148.4	2.9	315.8	122.5	165.6	2.4	294.0	112.9	185.6	2.0	271.0	102.9	207.2	1.6	246.9
	ECHA-0130	142.0	136.5	3.3	340.8	132.5	152.5	2.8	318.0	122.9	172.0	2.3	294.9	112.3	194.0	1.9	269.5	101.4	220.0	1.5	243.4
	ECHA-0135	142.0	136.5	3.3	340.8	132.5	152.5	2.8	318.0	122.9	172.0	2.3	294.9	112.3	194.0	1.9	269.5	101.4	220.0	1.5	243.4
	ECHA-0140	142.0	136.5	3.3	340.8	132.5	152.5	2.8	318.0	122.9	172.0	2.3	294.9	112.3	194.0	1.9	269.5	101.4	220.0	1.5	243.4
	ECHA-0145	142.0	136.5	3.3	340.8	132.5	152.5	2.8	318.0	122.9	172.0	2.3	294.9	112.3	194.0	1.9	269.5	101.4	220.0	1.5	243.4
	ECHA-0150	176.0	166.0	3.4	422.4	164.5	185.5	2.8	394.8	153.1	207.0	2.4	367.5	141.1	232.0	2.0	338.7	128.6	259.0	1.6	308.6
	ECHA-0155	176.0	166.0	3.4	422.4	164.5	185.5	2.8	394.8	153.1	207.0	2.4	367.5	141.1	232.0	2.0	338.7	128.6	259.0	1.6	308.6
	ECHA-0160	176.0	166.0	3.4	422.4	164.5	185.5	2.8	394.8	153.1	207.0	2.4	367.5	141.1	232.0	2.0	338.7	128.6	259.0	1.6	308.6
	ECHA-0165	176.0	166.0	3.4	422.4	164.5	185.5	2.8	394.8	153.1	207.0	2.4	367.5	141.1	232.0	2.0	338.7	128.6	259.0	1.6	308.6

1- ECHA Condensing Units are rated based on Standard ARI-550/590-98 conditions of: 10 °F Inlet/Outlet Water Temperature Difference and 0.0001 ft². h.°F /Btu Fouling Factor

2- Direct interpolation is permissible. Do not extrapolate.

3- Power input (kW) is for compressor only.

4- Energy Efficiency Ratio (EER) is for the overall unit, refer to electrical data for fan power input.

PERFORMANCE DATA TABLES-SI SYSTEM (HIGH EFFICIENT)

LEAVING CHILLED WATER TEMP (LOW)	UNIT SIZE	29.4 °C				35 °C				40.6 °C				46.1 °C				51.7 °C			
		AMBIENT TEMPERATURE				AMBIENT TEMPERATURE				AMBIENT TEMPERATURE				AMBIENT TEMPERATURE				AMBIENT TEMPERATURE			
		CAP (kW)	COMP. (kW)	EER	WATER FLOW(m³/h)	CAP (kW)	COMP (kW)	EER	WATER FLOW(m³/h)	CAP (kW)	COMP (kW)	EER	WATER FLOW(m³/h)	CAP (kW)	COMP (kW)	EER	WATER FLOW(m³/h)	CAP (kW)	COMP (kW)	EER	WATER FLOW(m³/h)
6.7 °C	ECHA-03	11.1	2.3	4.0	1.7	10.5	2.6	3.4	1.6	9.8	2.9	2.9	1.5	9.1	3.2	2.4	1.4	8.4	3.6	2.0	1.3
	ECHA-04	14.7	3.0	4.1	2.3	13.9	3.4	3.5	2.2	13.0	3.9	3.0	2.0	12.1	4.3	2.5	1.9	11.1	4.9	2.0	1.7
	ECHA-05	19.6	4.0	4.4	3.0	18.5	4.4	3.7	2.9	17.4	5.0	3.2	2.7	16.2	5.6	2.7	2.5	15.0	6.2	2.2	2.3
	ECHA-07	26.1	5.2	4.5	4.1	24.2	5.9	3.8	3.8	22.8	6.7	3.2	3.5	20.9	7.5	2.6	3.3	18.8	8.3	2.1	2.9
	ECHA-010	39.1	7.9	3.9	6.1	36.9	8.9	3.4	5.7	34.7	9.9	2.9	5.4	32.3	11.1	2.4	5.0	29.9	12.5	2.1	4.7
	ECHA-012	45.8	9.2	4.1	7.1	43.2	10.2	3.5	6.7	40.4	11.5	3.0	6.3	37.4	12.9	2.5	5.8	34.3	14.4	2.1	5.3
	ECHA-015	57.4	11.8	4.1	8.9	53.9	13.2	3.5	8.4	50.2	14.7	3.0	7.8	46.2	16.6	2.5	7.2	41.8	18.7	2.0	6.5
	ECHA-020	78.2	15.8	4.2	12.2	73.8	17.7	3.6	11.5	69.4	19.8	3.1	10.8	64.6	22.2	2.6	10.1	59.8	25.0	2.2	9.3
	ECHA-025	91.6	18.3	4.1	14.3	86.4	20.5	3.5	13.5	80.8	22.9	3.0	12.6	74.8	25.7	2.5	11.6	68.6	28.8	2.1	10.7
	ECHA-030	114.8	23.6	4.1	17.9	108.0	26.3	3.5	16.8	100.4	29.5	3.0	15.6	92.4	33.2	2.5	14.4	83.6	37.4	2.0	13.0
	ECHA-035	136.8	29.1	3.9	21.3	128.8	32.4	3.3	20.0	120.0	36.3	2.8	18.7	110.8	40.8	2.4	17.2	100.8	45.8	1.9	15.7
	ECHA-040	156.6	31.4	4.1	24.4	147.0	35.5	3.5	22.9	136.8	40.0	3.0	21.3	125.4	44.9	2.4	19.5	112.8	50.0	2.0	17.6
	ECHA-045	172.2	35.4	4.1	26.8	162.1	39.5	3.5	25.2	150.6	44.2	3.0	23.4	138.6	49.8	2.5	21.6	125.4	56.2	2.0	19.5
	ECHA-050	183.2	36.6	4.1	28.5	172.9	41.0	3.5	26.9	161.6	45.8	3.0	25.2	149.6	51.4	2.5	23.3	137.2	57.7	2.1	21.4
	ECHA-055	205.2	43.7	3.9	31.9	193.2	48.7	3.4	30.1	180.0	54.4	2.9	28.0	166.2	61.2	2.4	25.9	151.2	68.7	2.0	23.5
	ECHA-060	229.6	47.2	4.1	35.7	216.0	52.7	3.5	33.6	200.8	59.0	3.0	31.3	184.8	66.4	2.5	28.8	167.2	74.9	2.0	26.0
	ECHA-065	261.0	52.4	4.1	40.6	245.0	59.1	3.5	38.1	228.0	66.7	3.0	35.5	209.0	74.9	2.4	32.5	188.0	83.3	2.0	29.3
	ECHA-070	261.0	52.4	4.1	40.6	245.0	59.1	3.5	38.1	228.0	66.7	3.0	35.5	209.0	74.9	2.4	32.5	188.0	83.3	2.0	29.3
	ECHA-075	273.6	58.2	4.0	42.6	257.6	64.9	3.4	40.1	240.0	72.6	2.9	37.4	221.6	81.6	2.4	34.5	201.6	91.6	2.0	31.4
	ECHA-080	287.0	59.0	4.1	44.7	270.0	65.8	3.5	42.0	251.0	73.7	3.0	39.1	231.0	83.0	2.5	36.0	209.0	93.6	2.0	32.5
	ECHA-085	342.0	72.8	4.0	53.2	322.0	81.1	3.4	50.1	300.0	90.7	2.9	46.7	277.0	102.0	2.4	43.1	252.0	114.5	2.0	39.2
	ECHA-090	342.0	72.8	4.0	53.2	322.0	81.1	3.4	50.1	300.0	90.7	2.9	46.7	277.0	102.0	2.4	43.1	252.0	114.5	2.0	39.2
	ECHA-095	342.0	72.8	4.0	53.2	322.0	81.1	3.4	50.1	300.0	90.7	2.9	46.7	277.0	102.0	2.4	43.1	252.0	114.5	2.0	39.2
	ECHA-0100	403.2	84.9	4.0	62.8	379.8	94.8	3.4	59.1	356.4	105.9	2.9	55.5	332.4	118.5	2.5	51.7	307.2	132.6	2.1	47.8
	ECHA-0105	403.2	84.9	4.0	62.8	379.8	94.8	3.4	59.1	356.4	105.9	2.9	55.5	332.4	118.5	2.5	51.7	307.2	132.6	2.1	47.8
	ECHA-0110	403.2	84.9	4.0	62.8	379.8	94.8	3.4	59.1	356.4	105.9	2.9	55.5	332.4	118.5	2.5	51.7	307.2	132.6	2.1	47.8
	ECHA-0115	434.4	93.2	3.9	67.6	408.8	104.0	3.4	63.6	383.2	116.0	2.9	59.6	356.0	130.4	2.4	55.4	328.0	147.2	2.0	51.1
	ECHA-0120	434.4	93.2	3.9	67.6	408.8	104.0	3.4	63.6	383.2	116.0	2.9	59.6	356.0	130.4	2.4	55.4	328.0	147.2	2.0	51.1
	ECHA-0125	434.4	93.2	3.9	67.6	408.8	104.0	3.4	63.6	383.2	116.0	2.9	59.6	356.0	130.4	2.4	55.4	328.0	147.2	2.0	51.1
	ECHA-0130	537.6	113.2	4.0	83.7	506.5	126.4	3.4	78.8	475.2	141.2	2.9	74.0	443.2	158.0	2.5	69.0	409.6	176.8	2.1	63.8
	ECHA-0135	537.6	113.2	4.0	83.7	506.5	126.4	3.4	78.8	475.2	141.2	2.9	74.0	443.2	158.0	2.5	69.0	409.6	176.8	2.1	63.8
	ECHA-0140	537.6	113.2	4.0	83.7	506.5	126.4	3.4	78.8	475.2	141.2	2.9	74.0	443.2	158.0	2.5	69.0	409.6	176.8	2.1	63.8
	ECHA-0145	537.6	113.2	4.0	83.7	506.5	126.4	3.4	78.8	475.2	141.2	2.9	74.0	443.2	158.0	2.5	69.0	409.6	176.8	2.1	63.8
	ECHA-0150	543.0	116.5	3.9	84.5	511.0	130.0	3.4	79.5	479.0	145.0	2.9	74.6	445.0	163.0	2.4	69.3	410.0	184.0	2.0	63.8

- 1- ECHA Condensing Units are rated based on Standard ARI-550/590-98 conditions of: 5.5 °C Inlet/Outlet Water Temperature Difference and 0.018 m².°C/kW Fouling Factor
- 2- Direct interpolation is permissible. Do not extrapolate.
- 3- Power input (kW) is for compressor only.
- 4- Energy Efficiency Ratio (EER) is for the overall unit, refer to electrical data for fan power input.

PERFORMANCE DATA TABLES-ENGLISH SYSTEM (HIGH EFFICIENT)

LEAVING CHILLED WATER TEMP (LCWT)	UNIT SIZE	85 °F				95 °F				105 °F				115 °F				125 °F			
		AMBIENT TEMPRATURE				AMBIENT TEMPERATURE				AMBIENT TEMPERATURE				AMBIENT TEMPERATURE				AMBIENT TEMPERATURE			
		CAP.(TONS)	COMP.(kW)	EER	WATER FLOW(GPM)	CAP.(TONS)	COMP.(kW)	EER	WATER FLOW (GPM)	CAP.(TONS)	COMP.(kW)	EER	WATER FLOW (GPM)	CAP.(TONS)	COMP.(kW)	EER	WATER FLOW (GPM)	CAP.(TONS)	COMP.(kW)	EER	WATERBLOW (GPM)
44 °F	ECHA-03	3.2	2.3	4.0	7.6	3.0	2.6	3.4	7.2	2.8	2.9	2.9	6.7	2.6	3.2	2.4	6.2	2.4	3.6	2.0	5.8
	ECHA-04	4.2	3.0	4.1	10.1	4.0	3.4	3.5	9.5	3.7	3.9	3.0	8.9	3.4	4.3	2.5	8.3	3.2	4.9	2.0	7.6
	ECHA-05	5.6	4.0	4.4	13.4	5.3	4.4	3.7	12.6	5.0	5.0	3.2	11.9	4.6	5.6	2.7	11.1	4.3	6.2	2.2	10.3
	ECHA-07	7.5	5.2	4.5	17.9	6.9	5.9	3.8	16.6	6.5	6.7	3.2	15.6	6.0	7.5	2.6	14.3	5.4	8.3	2.1	12.9
	ECHA-010	11.2	7.9	3.9	26.8	10.5	8.9	3.4	25.3	9.9	9.9	2.9	23.8	9.2	11.1	2.4	22.1	8.5	12.5	2.1	20.5
	ECHA-012	13.1	9.2	4.1	31.4	12.4	10.2	3.5	29.6	11.5	11.5	3.0	27.7	10.7	12.9	2.5	25.6	9.8	14.4	2.1	23.5
	ECHA-015	16.4	11.8	4.1	39.4	15.4	13.2	3.5	37.0	14.3	14.7	3.0	34.4	13.2	16.6	2.5	31.7	11.9	18.7	2.0	28.7
	ECHA-020	22.3	15.8	4.2	53.6	21.1	17.7	3.6	50.6	19.8	19.8	3.1	47.6	18.5	22.2	2.6	44.3	17.1	25.0	2.2	41.0
	ECHA-025	26.2	18.3	4.1	62.8	24.7	20.5	3.5	59.3	23.1	22.9	3.0	55.4	21.4	25.7	2.5	51.3	19.6	28.8	2.1	47.0
	ECHA-030	32.8	23.6	4.1	78.7	30.9	26.3	3.5	74.1	28.7	29.5	3.0	68.8	26.4	33.2	2.5	63.4	23.9	37.4	2.0	57.3
	ECHA-035	39.1	29.1	3.9	93.8	36.8	32.4	3.3	88.3	34.3	36.3	2.8	82.3	31.7	40.8	2.4	76.0	28.8	45.8	1.9	69.1
	ECHA-040	44.7	31.4	4.1	107.4	42.0	35.5	3.5	100.8	39.1	40.0	3.0	93.8	35.8	44.9	2.4	86.0	32.2	50.0	2.0	77.3
	ECHA-045	49.2	35.4	4.1	118.1	46.3	39.5	3.5	111.1	43.0	44.2	3.0	103.3	39.6	49.8	2.5	95.0	35.8	56.2	2.0	86.0
	ECHA-050	52.3	36.6	4.1	125.6	49.4	41.0	3.5	118.6	46.2	45.8	3.0	110.8	42.7	51.4	2.5	102.6	39.2	57.7	2.1	94.1
	ECHA-055	58.6	43.7	3.9	140.7	55.2	48.7	3.4	132.5	51.4	54.4	2.9	123.4	47.5	61.2	2.4	114.0	43.2	68.7	2.0	103.7
	ECHA-060	65.6	47.2	4.1	157.4	61.7	52.7	3.5	148.1	57.4	59.0	3.0	137.7	52.8	66.4	2.5	126.7	47.8	74.9	2.0	114.7
	ECHA-065	74.6	52.4	4.1	179.0	70.0	59.1	3.5	168.0	65.1	66.7	3.0	156.3	59.7	74.9	2.4	143.3	53.7	83.3	2.0	128.9
	ECHA-070	74.6	52.4	4.1	179.0	70.0	59.1	3.5	168.0	65.1	66.7	3.0	156.3	59.7	74.9	2.4	143.3	53.7	83.3	2.0	128.9
	ECHA-075	78.2	58.2	4.0	187.6	73.6	64.9	3.4	176.6	68.6	72.6	2.9	164.6	63.3	81.6	2.4	152.0	57.6	91.6	2.0	138.2
	ECHA-080	82.0	59.0	4.1	196.8	77.1	65.8	3.5	185.1	71.7	73.7	3.0	172.1	66.0	83.0	2.5	158.4	59.7	93.6	2.0	143.3
	ECHA-085	97.7	72.8	4.0	234.5	92.0	81.1	3.4	220.8	85.7	90.7	2.9	205.7	79.1	102.0	2.4	189.9	72.0	114.5	2.0	172.8
	ECHA-090	97.7	72.8	4.0	234.5	92.0	81.1	3.4	220.8	85.7	90.7	2.9	205.7	79.1	102.0	2.4	189.9	72.0	114.5	2.0	172.8
	ECHA-095	97.7	72.8	4.0	234.5	92.0	81.1	3.4	220.8	85.7	90.7	2.9	205.7	79.1	102.0	2.4	189.9	72.0	114.5	2.0	172.8
	ECHA-0100	115.2	84.9	4.0	276.5	108.5	94.8	3.4	260.4	101.8	105.9	2.9	244.4	95.0	118.5	2.5	227.9	87.8	132.6	2.1	210.7
	ECHA-0105	115.2	84.9	4.0	276.5	108.5	94.8	3.4	260.4	101.8	105.9	2.9	244.4	95.0	118.5	2.5	227.9	87.8	132.6	2.1	210.7
	ECHA-0110	115.2	84.9	4.0	276.5	108.5	94.8	3.4	260.4	101.8	105.9	2.9	244.4	95.0	118.5	2.5	227.9	87.8	132.6	2.1	210.7
	ECHA-0115	124.1	93.2	3.9	297.9	116.8	104.0	3.4	280.3	109.5	116.0	2.9	262.8	101.7	130.4	2.4	244.1	93.7	147.2	2.0	224.9
	ECHA-0120	124.1	93.2	3.9	297.9	116.8	104.0	3.4	280.3	109.5	116.0	2.9	262.8	101.7	130.4	2.4	244.1	93.7	147.2	2.0	224.9
	ECHA-0125	124.1	93.2	3.9	297.9	116.8	104.0	3.4	280.3	109.5	116.0	2.9	262.8	101.7	130.4	2.4	244.1	93.7	147.2	2.0	224.9
	ECHA-0130	153.6	113.2	4.0	368.6	144.7	126.4	3.4	347.3	135.8	141.2	2.9	325.9	126.6	158.0	2.5	303.9	117.0	176.8	2.1	280.9
	ECHA-0135	153.6	113.2	4.0	368.6	144.7	126.4	3.4	347.3	135.8	141.2	2.9	325.9	126.6	158.0	2.5	303.9	117.0	176.8	2.1	280.9
	ECHA-0140	153.6	113.2	4.0	368.6	144.7	126.4	3.4	347.3	135.8	141.2	2.9	325.9	126.6	158.0	2.5	303.9	117.0	176.8	2.1	280.9
	ECHA-0145	153.6	113.2	4.0	368.6	144.7	126.4	3.4	347.3	135.8	141.2	2.9	325.9	126.6	158.0	2.5	303.9	117.0	176.8	2.1	280.9
	ECHA-0150	155.1	116.5	3.9	372.3	146.0	130.0	3.4	350.4	136.9	145.0	2.9	328.5	127.1	163.0	2.4	305.1	117.1	184.0	2.0	281.1

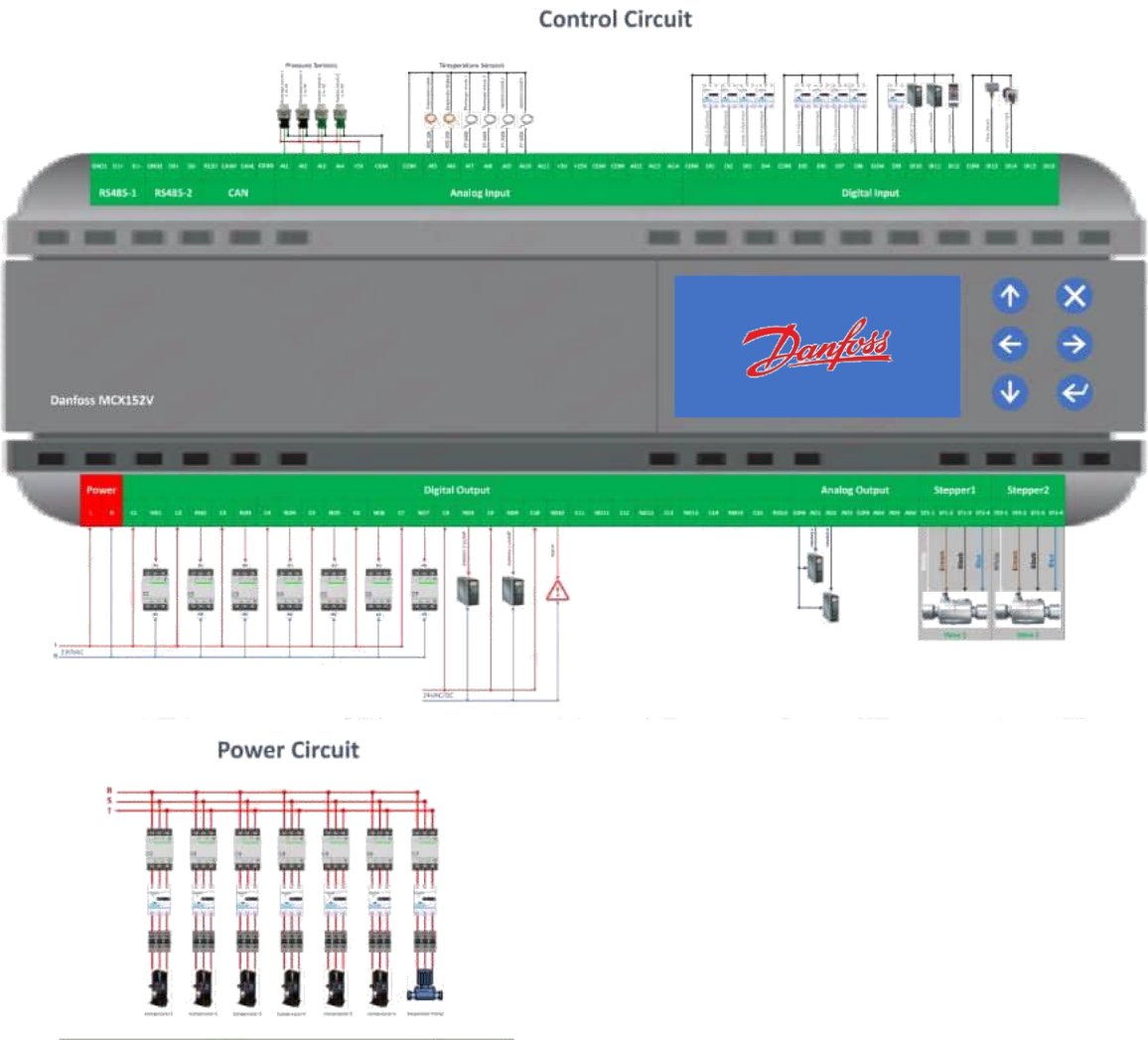
1- ECHA Condensing Units are rated based on Standard ARI-550/590-98 conditions of: 10 °F Inlet/Outlet Water Temperature Difference and 0.0001 ft². h.°F /Btu Fouling Factor

2- Direct interpolation is permissible. Do not extrapolate.

3- Power input (kW) is for compressor only.

4- Energy Efficiency Ratio (EER) is for the overall unit, refer to electrical data for fan power input.

TYPICAL WIRING DIAGRAM



. NOTE .

A large rectangular area with rounded corners, filled with horizontal blue lines, intended for writing notes. The lines are evenly spaced and cover the entire area, providing a template for handwritten text.

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