



FOCUSED ON APPLICATION HVAC



Unit information		
Chiller Model	CA1-120-4210	
Width:	2,250.00 mm	88.58 in
Length:	3,600.00 mm	141.73 in
Height:	2,460.00 mm	96.85 in
Shipping Weight:	4,120.00 Kgs	9,083.04 Lbs
Operating Weight:	4,170.00 Kgs	9,193.28 Lbs
Capacity Control	Stepless Control	
Refrigerant:	R134a	
Refrigerant(Ckt1 / Ckt2):	140.00 Kgs	---
Starting Control:	Y-Δ	



Performance Information(Cooling Condition)		
Cooling Capacity:	430.00 Kw	120.00 Tons
Entering Water Temp:	12.00 °C	53.60 °F
Leaving Water Temp:	7.00 °C	44.60 °F
Ambient Temperatura (DB):	35.00 °C	95.00 °F
Water Flow (Max):	74.00 m <sup>3</sup> /hr	325.81 Gpm
Input Power (Electrical):	133.90 Kw	
IPLV/NPLV (W/W - Btu /w):	4.02 EER (W/W)	13.73 EER (Btu/w)
COP (W/W - Btu /w):	3.21 EER (W/W)	10.96 EER (Btu/w)

Compressor Information	
Brand:	Bitzer
Model:	CSH8583-160Y-40D
Type Compressor:	Semi-Hermetic Screw
Maximal Amperaje Control:	236.00 Amperes
Quantity:	1.00 Piece
Oil Model ( by compressor):	BSE170 668.70 Oz
Capacity Regulating Range:	25.0% - 100.0 %

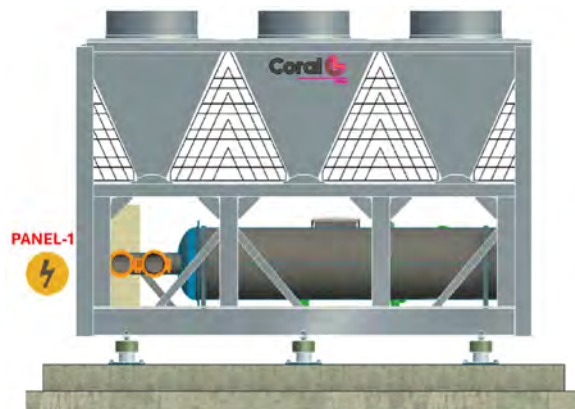
Water Side Heat Exchanger Information		
Fluid Type:	Fresh Water	
Nozzle Type:	Victaulic Couping	
Water Volume:	71.00 Lts	18.76 Galons
Heat Exchanger Type:	Flooded Shell-and-Tube	
Fouling Factor:	0.018 m <sup>2</sup> .K/kW	0.1021 ft <sup>2</sup> .F/Btu
Nozzle Size(DN):	150.00 mm	6.00 in
Water Pressure Drop:	70.00 kPa	23.42 ft CA
Design Pressure of Water Side (Max):	1.00 MPa	145.04 Psi

Air Side Heat Exchanger Information		
Type:	Fine-Tube	
Fan Quantity:	6.00 Units	
Air Flow	147,000.00 m <sup>3</sup> /hr	86,520.82 Cfm
Fan Power Input	2.20 Kw/Unit	13.20 Kw Total

Electrical Conections		
Amperaje	Electrical Circuit 1	Electrical Circuit 2
Maximum operating current (MCA):	268.00 Amp	---
Maximum Overcurrent Protection (MOCP):	400.00 Amp	---

Electrical Information	
Power Supply:	460Volts / 3 Phases / 60 Hertz
Voltaje Range:	440 Volts 480 Volts
Rating Current (A):	188.00 Amp
Max. Starting Current (A):	371.00 Amp
Maximum operating current (A)	268.00 Amp

Electrical Panel	Electrical Circuit 1	Electrical Circuit 2
Point Conection Electrical:	Panel E-1	N/A



- \* Garantía 2 Años en partes y en compresores
- \* Resortes anti-vibratorios

- \* Refrigerante Ecologico
- \* Conexiones de Tuberia ranurada (Victaulic)



### IPLV/NPLV Points (SI)

Load %	Cooling Capacity (Kw)	Input Power (Kw)	Cooling kW/Ton	Cooling COP (w/w)	Evap. WPD (kPa)	DBT (°C)	EEWT (°C)	ELWT (°C)
100	430.00 Kw	133.90 Kw	0.9828 Kw/Tons	3.21 W/W	70.00 kPa	35.00 °C	12.00 °C	7.00 °C
75	323.00 Kw	82.80 Kw	0.8090 Kw/Tons	3.90 W/W	70.00 kPa	27.00 °C	10.80 °C	7.00 °C
50	215.00 Kw	49.80 Kw	0.7310 Kw/Tons	4.32 W/W	70.00 kPa	19.00 °C	9.50 °C	7.00 °C
25	107.50 Kw	31.20 Kw	0.9160 Kw/Tons	3.45 W/W	70.00 kPa	19.00 °C	8.20 °C	7.00 °C

$$IPLV.SI/NPLV.SI=0.01*A+0.42*B+0.45*C+0.12*D=4.024$$

A=EER At 100%; B=EER At 75%; C=EER At 50%; D=EER At 25%;

Soft in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Using Vapor Compression Cycle , which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI).

### IPLV/NPLV Points (IP)

Load %	Cooling Capacity (Tons)	Input Power (Kw)	Cooling kW/Ton	Cooling COP (Btu/w-h)	Evap. WPD (ft CA)	DBT (°F)	EEWT (°F)	ELWT (°F)
100	122.38 Tons	133.90 Kw	0.9828 Kw/Tons	10.97 EER (Btu/w-h)	23.42 ft CA	95.00 °F	53.60 °F	44.60 °F
75	91.93 Tons	82.80 Kw	0.8090 Kw/Tons	13.32 EER (Btu/w-h)	23.42 ft CA	80.60 °F	51.44 °F	44.60 °F
50	61.19 Tons	49.80 Kw	0.7310 Kw/Tons	14.74 EER (Btu/w-h)	23.42 ft CA	66.20 °F	49.10 °F	44.60 °F
25	30.59 Tons	31.20 Kw	0.9160 Kw/Tons	11.77 EER (Btu/w-h)	23.42 ft CA	66.20 °F	46.76 °F	44.60 °F

$$IPLV.SI/NPLV.SI=0.01*A+0.42*B+0.45*C+0.12*D=4.024$$

A=EER At 100%; B=EER At 75%; C=EER At 50%; D=EER At 25%;

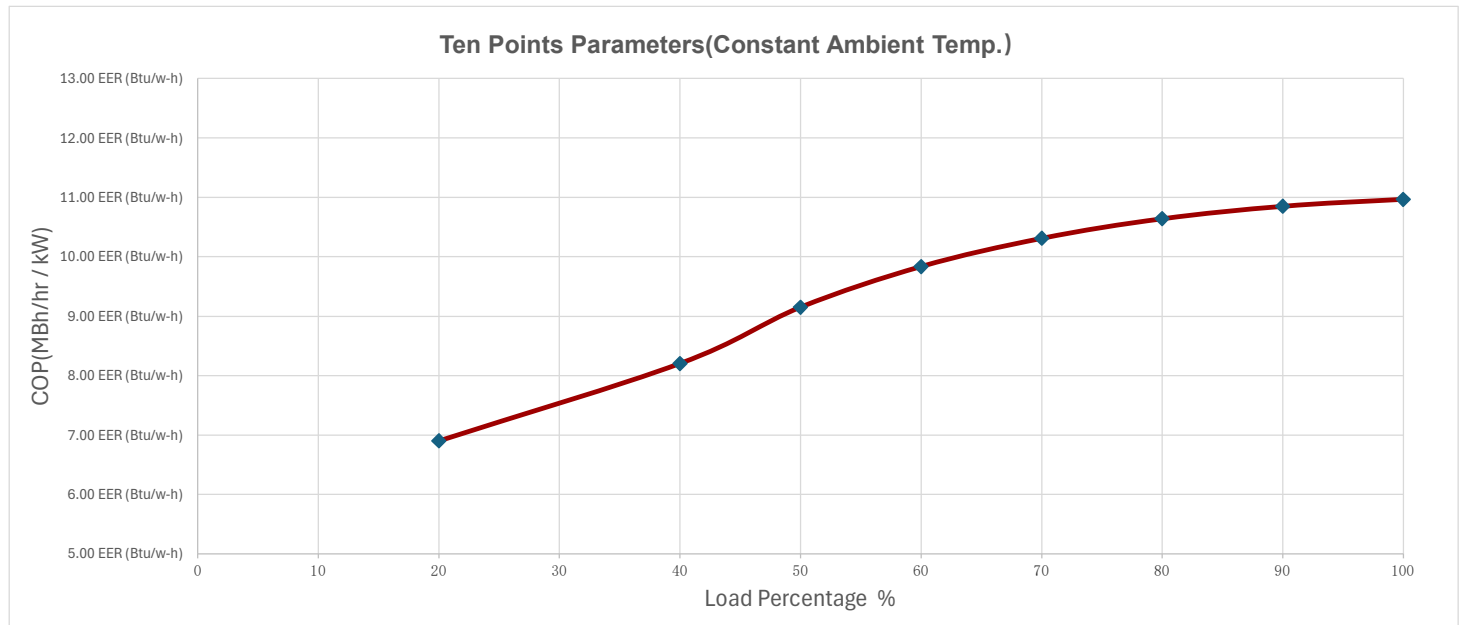
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### Ten Points Parameters(Constant Ambient Temp.)

Load %	Cooling Capacity (Tons)	Input Power (Kw)	Cooling kW/Ton	Cooling COP (Btu/w-h)	Evap. WPD (ft CA)	DBT (°F)	EEWT (°F)	ELWT (°F)
100	122.38 Tons	133.90 Kw	0.9828 Kw/Tons	10.97 EER (Btu/w-h)	23.42 ft CA	95.00 °F	53.60 °F	44.60 °F
90	110.14 Tons	121.80 Kw	0.9933 Kw/Tons	10.85 EER (Btu/w-h)	23.42 ft CA	95.00 °F	52.70 °F	44.60 °F
80	97.90 Tons	110.40 Kw	1.0129 Kw/Tons	10.64 EER (Btu/w-h)	23.42 ft CA	95.00 °F	51.80 °F	44.60 °F
70	85.66 Tons	99.70 Kw	1.0454 Kw/Tons	10.31 EER (Btu/w-h)	23.42 ft CA	95.00 °F	50.90 °F	44.60 °F
60	73.43 Tons	89.60 Kw	1.0958 Kw/Tons	9.84 EER (Btu/w-h)	23.42 ft CA	95.00 °F	50.00 °F	44.60 °F
50	61.19 Tons	80.30 Kw	1.1776 Kw/Tons	9.15 EER (Btu/w-h)	23.42 ft CA	95.00 °F	49.10 °F	44.60 °F
40	48.95 Tons	71.60 Kw	1.3138 Kw/Tons	8.20 EER (Btu/w-h)	23.42 ft CA	95.00 °F	48.20 °F	44.60 °F
20	36.71 Tons	63.80 Kw	1.5609 Kw/Tons	6.91 EER (Btu/w-h)	23.42 ft CA	95.00 °F	47.30 °F	44.60 °F

For single COMP chiller, the 10% and 20% load are out of running range, so the data is only for reference;For double COMP chiller, the 10% load are out of running range, so the data is only for reference

Chiller Model: CA1-120-4210

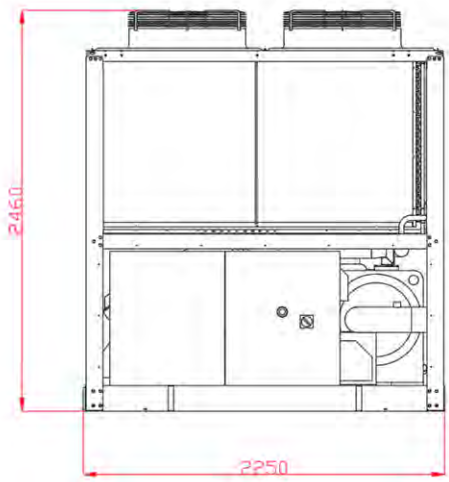
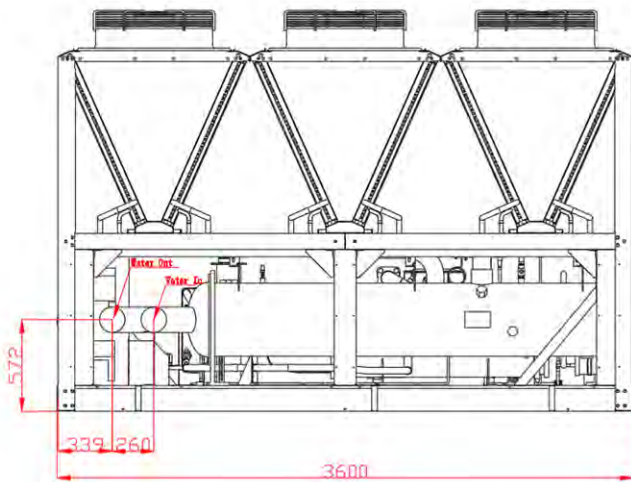
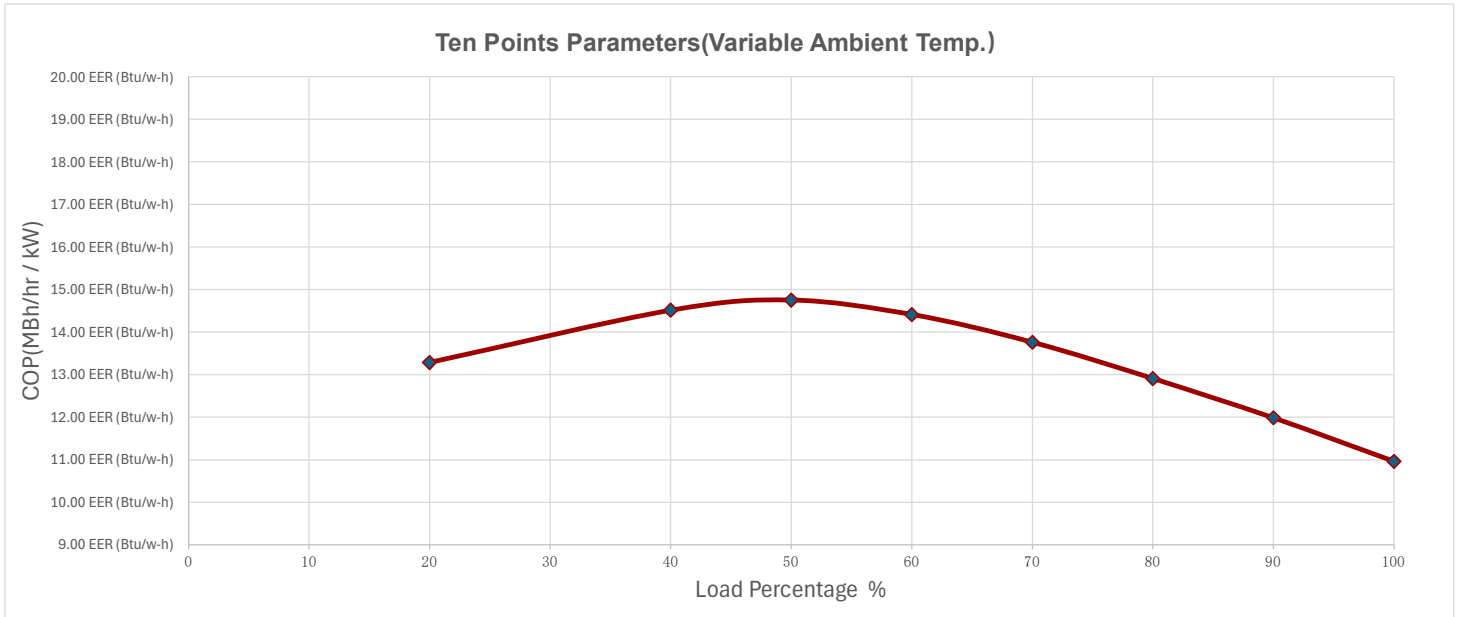


## Ten Points Parameters(Variable Ambient Temp.)

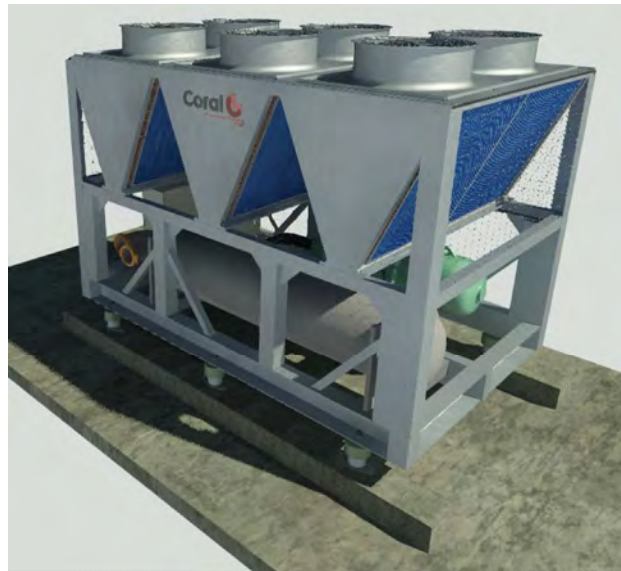
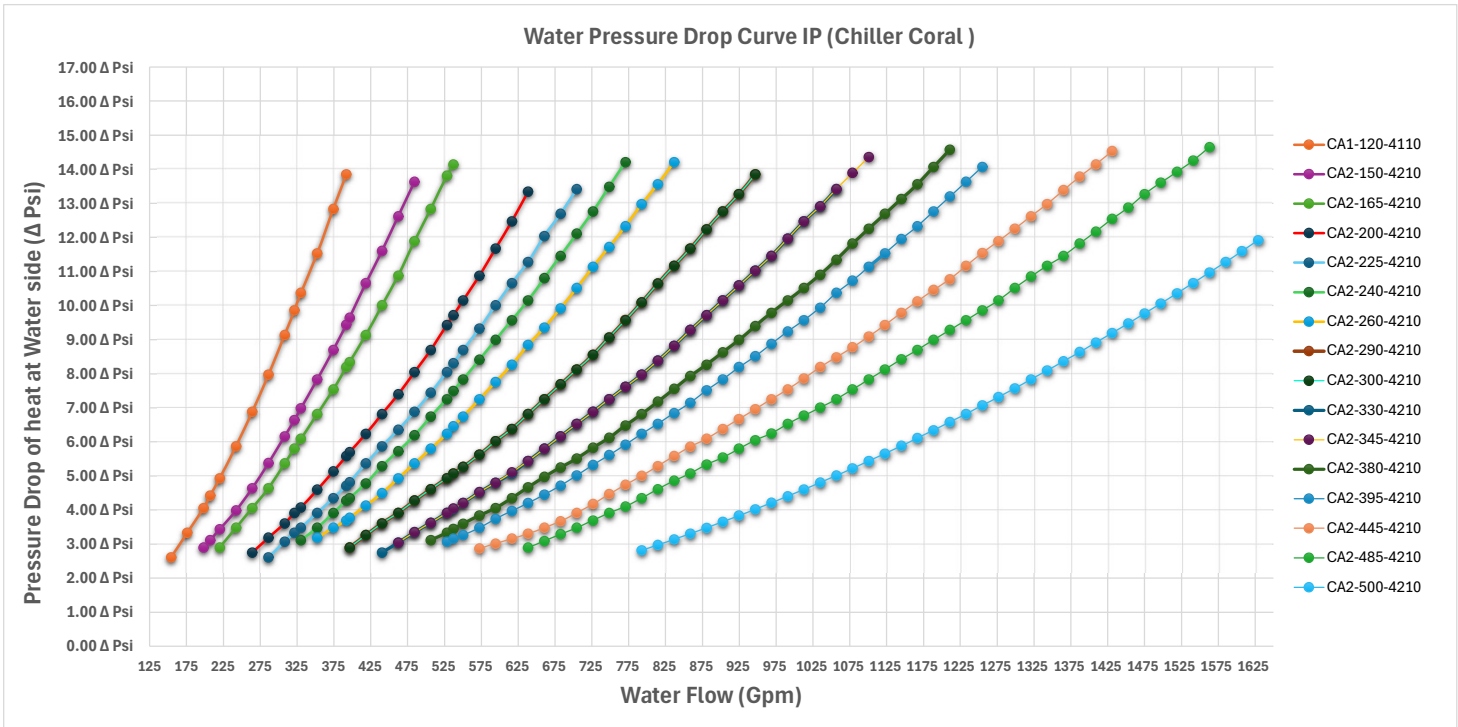
Load %	Cooling Capacity (Tons) (Single Compressor)	Input Power (Kw)	Cooling kW/Ton	Cooling COP (Btu/w-h)	Evap. WPD (ft CA)	DBT (°F)	EEWT (°F)	ELWT (°F)
100	122.38 Tons	133.90 Kw	0.9548 Kw/Tons	10.96 EER (Btu/w-h)	23.42 ft CA	95.00 °F	53.60 °F	44.60 °F
90	110.14 Tons	110.40 Kw	0.8738 Kw/Tons	11.99 EER (Btu/w-h)	23.42 ft CA	89.24 °F	52.70 °F	44.60 °F
80	97.90 Tons	90.90 Kw	0.8101 Kw/Tons	12.91 EER (Btu/w-h)	23.42 ft CA	83.48 °F	51.80 °F	44.60 °F
70	85.66 Tons	74.60 Kw	0.7579 Kw/Tons	13.76 EER (Btu/w-h)	23.42 ft CA	77.72 °F	50.90 °F	44.60 °F
60	73.43 Tons	61.10 Kw	0.7260 Kw/Tons	14.41 EER (Btu/w-h)	23.42 ft CA	71.96 °F	50.00 °F	44.60 °F
50	61.19 Tons	49.80 Kw	0.7092 Kw/Tons	14.75 EER (Btu/w-h)	23.42 ft CA	66.20 °F	49.10 °F	44.60 °F
40	48.95 Tons	40.50 Kw	0.7223 Kw/Tons	14.51 EER (Btu/w-h)	23.42 ft CA	60.44 °F	48.20 °F	44.60 °F
20	36.71 Tons	33.20 Kw	0.7846 Kw/Tons	13.29 EER (Btu/w-h)	23.42 ft CA	55.40 °F	47.30 °F	44.60 °F

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Dimension Model: CA1-120-4210	Length	Width	Height
	3,600.00 mm	2,250.00 mm	2,460.00 mm



## CA1-120-4210

Cooling Capacity:	430.00 Kw	120.00 Tons
Water Flow (Max):	74.00 m <sup>3</sup> /hr	325.81 Gpm
Width:	2,250.00 mm	88.58 in
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Height:	2,460.00 mm	96.85 in
Fan Quantity:	6.00 Units	
Nozzle Size(DN):	150.00 mm	6.00 in
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