



FOCUSED ON APPLICATION HVAC



Unit information		
Chiller Model	CA2-445-4210	
Width:	2,250.00 mm	88.58 in
Length:	11,970.00 mm	471.26 in
Height:	2,520.00 mm	99.21 in
Shipping Weight:	11,630.00 Kgs	25,639.76 Lbs
Operating Weight:	11,820.00 Kgs	26,058.64 Lbs
Capacity Control	Stepless Control	
Refrigerant:	R134a	
Refrigerant(Ckt1 / Ckt2):	275.00 Kgs	275.00 Kgs
Starting Control:	Y-Δ	

Performance Information(Cooling Condition)		
Cooling Capacity:	1,566.00 Kw	445.00 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):	269.00 m³/hr	1,184.37 Gpm
Input Power (Electrical):	469.60 Kw	
IPLV/NPLV (W/W - Btu /w):	4.75 EER (W/W)	16.22 EER (Btu/w)
COP (W/W - Btu /w):	3.33 EER (W/W)	11.37 EER (Btu/w)

Compressor Information		
Brand:	Bitzer	
Model:	CSH9593-300Y-40D	
Type Compressor:	Semi-Hermetic Screw	
Maximal Amperaje Control:	402.00 Amperes	
Quantity:	2.00 Piece	
Oil Model (by compressor):	BSE170	1,055.90 Oz
Capacity Regulating Range:	25.0% - 100.0 %	

Water Side Heat Exchanger Information		
Fluid Type:	Fresh Water	
Nozzle Type:	Victaulic Couping	
Water Volume:	286.00 Lts	75.55 Galons
Heat Exchanger Type:	Flooded Shell-and-Tube	
Fouling Factor:	0.018 m².K/kW	0.1021 ft².F/Btu
Nozzle Size(DN):	200.00 mm	8.00 in
Water Pressure Drop:	72.00 kPa	24.09 ft CA
Design Pressure of Water Side (Max):	1.00 MPa	145.04 Psi

Air Side Heat Exchanger Information		
Type:	Fine-Tube	
Fan Quantity:	20.00 Units	
Air Flow	450,000.00 m³/hr	264,859.65 Cfm
Fan Power Input	2.20 Kw/Unit	44.00 Kw Total

Electrical Conections		
Amperaje	Electrical Circuit 1	Electrical Circuit 2
Maximum operating current (MCA):	455.00 Amp	455.00 Amp
Maximum Overcurrent Protection (MOCP):	630.00 Amp	630.00 Amp

Electrical Information		
Power Supply:	460Volts / 3 Phases / 60 Hertz	
Voltaje Range:	440 Volts	480 Volts
Rating Current (A):	660.00 Amp	
Max. Starting Current (A):	1,260.00 Amp	
Maximum operating current (A)	910.00 Amp	

Electrical Panel	Electrical Circuit 1	Electrical Circuit 2
Point Conection Electrical:	Panel E-1	Panel E-2



- * 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	1,567.00 Kw	469.60 Kw	0.9458 Kw/Tons	3.34 W/W	68.00 kPa	35.00 °C	12.20 °C	7.00 °C
75	1,175.00 Kw	290.80 Kw	0.7811 Kw/Tons	4.04 W/W	68.00 kPa	27.00 °C	10.90 °C	7.00 °C
50	784.00 Kw	146.00 Kw	0.5877 Kw/Tons	5.37 W/W	68.00 kPa	19.00 °C	9.60 °C	7.00 °C
25	391.80 Kw	76.80 Kw	0.6186 Kw/Tons	5.10 W/W	68.00 kPa	19.00 °C	8.30 °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	445.97 Tons	469.60 Kw	0.9458 Kw/Tons	11.40 EER (Btu/w-h)	22.75 ft CA	95.00 °F	53.96 °F	44.60 °F
75	334.40 Tons	290.80 Kw	0.7811 Kw/Tons	13.80 EER (Btu/w-h)	22.75 ft CA	80.60 °F	51.62 °F	44.60 °F
50	223.13 Tons	146.00 Kw	0.5877 Kw/Tons	18.34 EER (Btu/w-h)	22.75 ft CA	66.20 °F	49.28 °F	44.60 °F
25	111.51 Tons	76.80 Kw	0.6186 Kw/Tons	17.42 EER (Btu/w-h)	22.75 ft CA	66.20 °F	46.94 °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%;

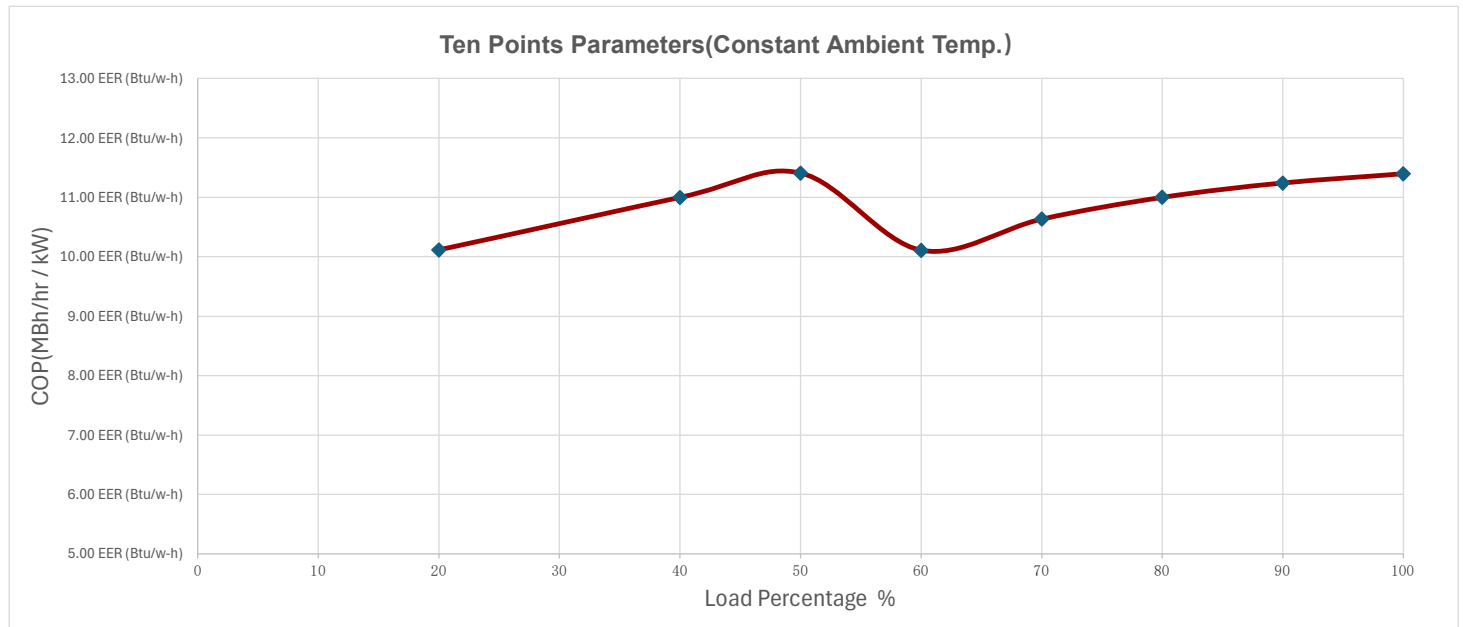
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Ten Points Parameters(Constant Ambient Temp.)

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	445.97 Tons	469.60 Kw	0.9458 Kw/Tons	11.40 EER (Btu/w-h)	22.75 ft CA	95.00 °F	53.96 °F	44.60 °F
90	401.28 Tons	428.40 Kw	0.9589 Kw/Tons	11.24 EER (Btu/w-h)	22.75 ft CA	95.00 °F	53.06 °F	44.60 °F
80	356.89 Tons	389.30 Kw	0.9798 Kw/Tons	11.00 EER (Btu/w-h)	22.75 ft CA	95.00 °F	51.98 °F	44.60 °F
70	312.20 Tons	352.30 Kw	1.0135 Kw/Tons	10.63 EER (Btu/w-h)	22.75 ft CA	95.00 °F	51.08 °F	44.60 °F
60	267.52 Tons	317.50 Kw	1.0662 Kw/Tons	10.11 EER (Btu/w-h)	22.75 ft CA	95.00 °F	50.18 °F	44.60 °F
50	223.13 Tons	234.80 Kw	0.9449 Kw/Tons	11.41 EER (Btu/w-h)	22.75 ft CA	95.00 °F	49.28 °F	44.60 °F
40	178.44 Tons	194.70 Kw	0.9800 Kw/Tons	11.00 EER (Btu/w-h)	22.75 ft CA	95.00 °F	48.38 °F	44.60 °F
20	133.76 Tons	158.70 Kw	1.0657 Kw/Tons	10.11 EER (Btu/w-h)	22.75 ft CA	95.00 °F	47.48 °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: CA2-445-4210

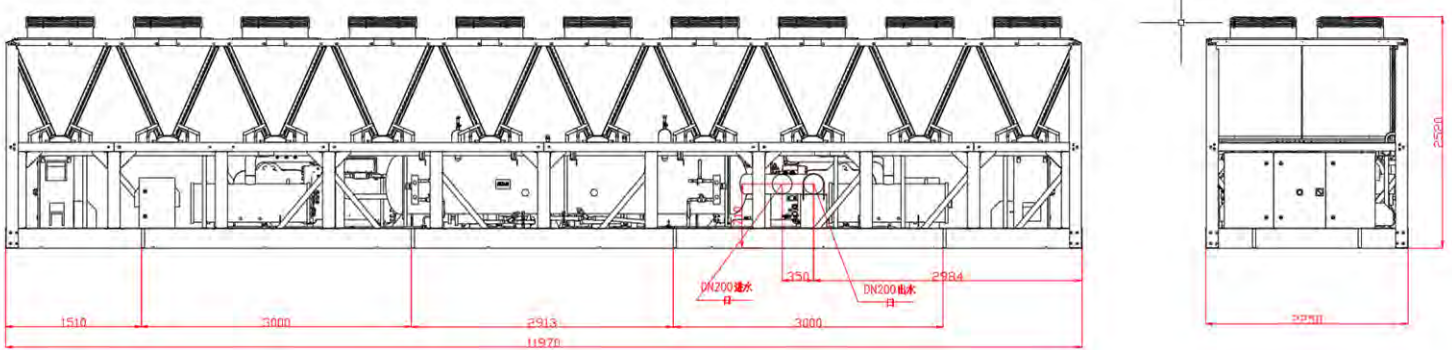
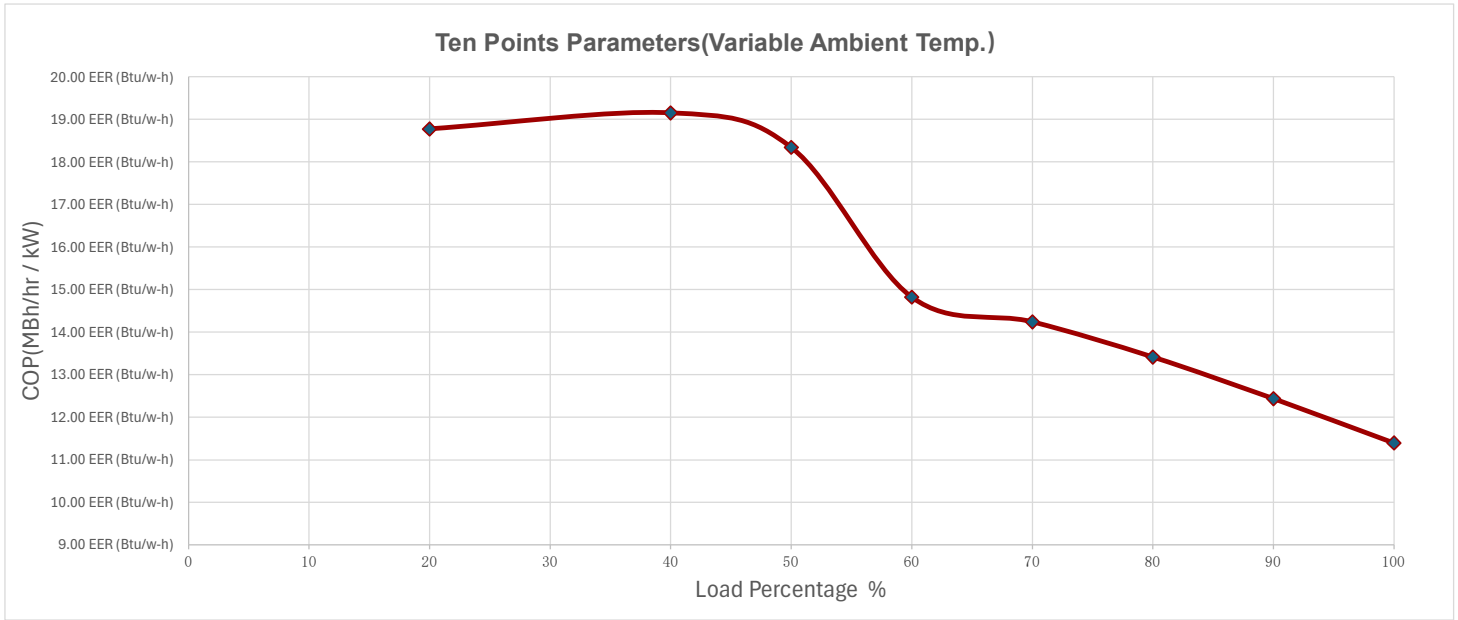


Ten Points Parameters(Variable Ambient Temp.)

Load %	Cooling Capacity (Tons) (Dual Compressor)	Input Power (Kw)	Cooling kW/Ton	Cooling COP (Btu/w-h)	Evap. WPD (ft CA)	DBT (°F)	EEWT (°F)	ELWT (°F)
100	445.97 Tons	469.60 Kw	0.9458 Kw/Tons	11.40 EER (Btu/w-h)	22.75 ft CA	95.00 °F	53.96 °F	44.60 °F
90	401.28 Tons	387.20 Kw	0.8667 Kw/Tons	12.44 EER (Btu/w-h)	22.75 ft CA	89.24 °F	53.06 °F	44.60 °F
80	356.89 Tons	319.30 Kw	0.8036 Kw/Tons	13.41 EER (Btu/w-h)	22.75 ft CA	83.48 °F	51.98 °F	44.60 °F
70	312.20 Tons	263.10 Kw	0.7569 Kw/Tons	14.24 EER (Btu/w-h)	22.75 ft CA	77.72 °F	51.08 °F	44.60 °F
60	267.52 Tons	216.60 Kw	0.7272 Kw/Tons	14.82 EER (Btu/w-h)	22.75 ft CA	71.96 °F	50.18 °F	44.60 °F
50	223.13 Tons	146.00 Kw	0.5877 Kw/Tons	18.34 EER (Btu/w-h)	22.75 ft CA	66.20 °F	49.28 °F	44.60 °F
40	178.44 Tons	111.80 Kw	0.5627 Kw/Tons	19.15 EER (Btu/w-h)	22.75 ft CA	60.44 °F	48.38 °F	44.60 °F
20	133.76 Tons	85.50 Kw	0.5741 Kw/Tons	18.77 EER (Btu/w-h)	22.75 ft CA	55.40 °F	47.48 °F	44.60 °F

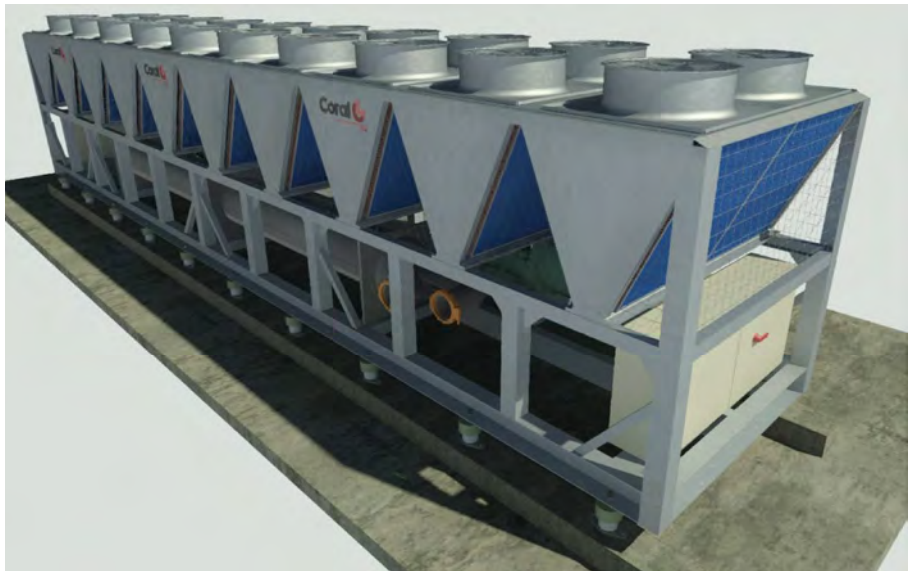
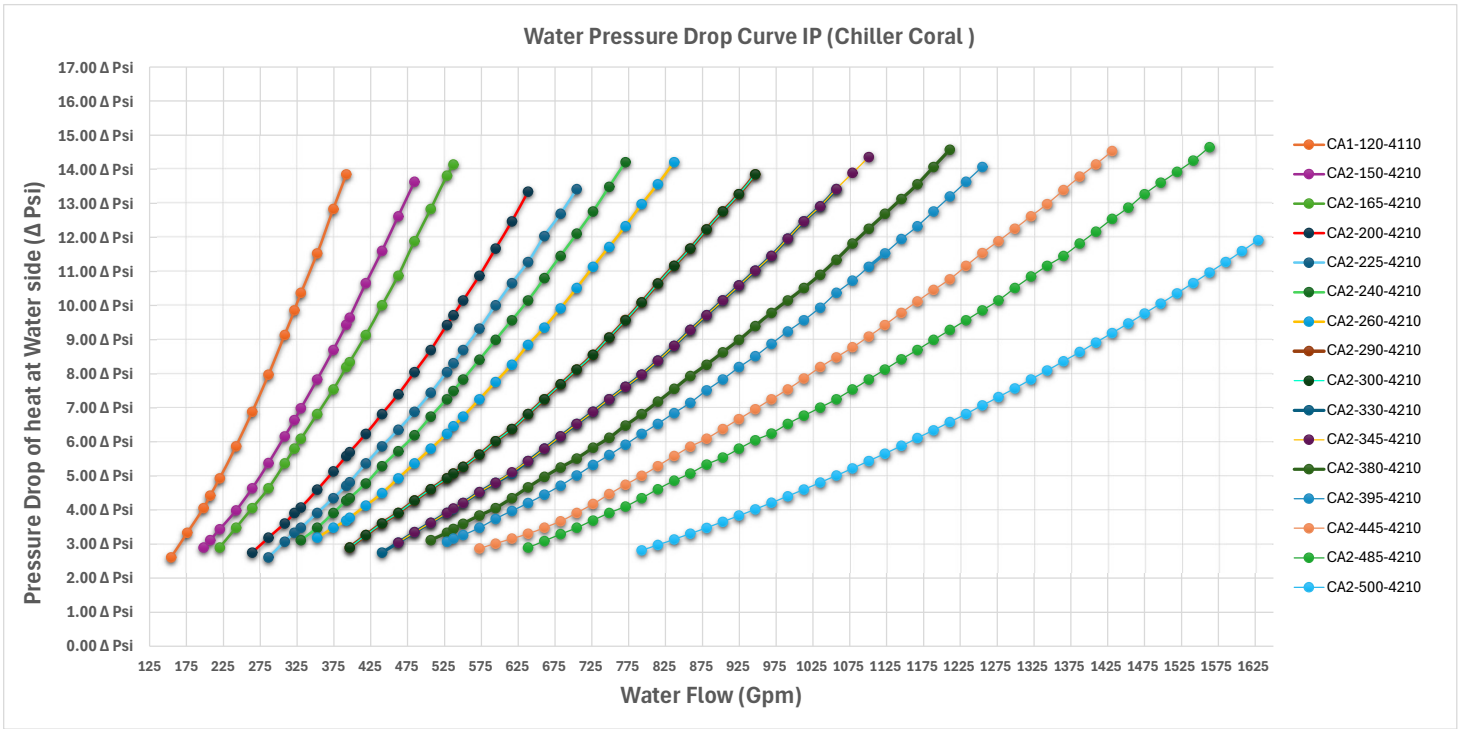
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Chiller Model: CA2-445-4210



Dimension Model: CA2-445-4210	Length	Width	Height
	11,970.00 mm	2,250.00 mm	2,520.00 mm





CA2-445-4210		
Cooling Capacity:	1,566.00 Kw	445.00 Tons
Water Flow (Max):	269.00 m ³ /hr	1,184.37 Gpm
Width:	2,250.00 mm	88.58 in
Length:	11,970.00 mm	471.26 in
Height:	2,520.00 mm	99.21 in
Fan Quantity:	20.00 Units	
Nozzle Size(DN):	200.00 mm	8.00 in
Operating Weight:	11,820.00 Kgs	26,058.64 Lbs