

# PRODUCT SPECIFICATION

COMPRESSOR MODEL

**KCJ513HAG-SXXXH**

BILL OF MATERIALS

**S420H, S320H**

**Emerson Climate Technologies (India) Private Limited**  
Karad Dhebewadi Road  
Karad - 415 110  
INDIA

Note: Sales compressor drawing number and compressor model name are the same.

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**PRODUCT SPECIFICATION****MODEL : KCJ513HAG-SXXXH****A) MODEL DESCRIPTION**

<b>Model Name</b>	<b>KCJ513HAG-SXXXH</b>
<b>Compressor Type</b>	Reciprocating, Connecting Rod Type
<b>Application Group</b>	High / Medium Temperature (HBP / CBP)
<b>Evaporating Temperature Range</b>	(-)17.8 °C To 12.8 °C Or 0 °F To 55 °F
<b>Refrigerant</b>	R134a
<b>Rated Voltage</b>	220-230 V, 50 / 60 Hz, 1 Phase
<b>Compressor Cooling</b>	Fan : 350 ft <sup>3</sup> / minute
<b>Typical Application</b>	Water Cooler
<b>Certifications &amp; Approvals</b>	- - -

**B) PERFORMANCE SPECIFICATION @ RATED CONDITION**

<b>Parameter</b>	<b>Unit</b>	<b>HBP 50 Hz</b>	<b>HBP 60 Hz</b>
Cooling Capacity	Btu / h	12300	14300
	kcal / h	3100	3604
	W	3604	4190
	Nominal HP	1.20	1.20
Input Power	W	1374	1682
Input Current	A	6.5	7.4
EER = $\frac{\text{Cooling Capacity}}{\text{Input Power}}$	Btu / W-h	8.95	8.50
	kcal / W-h	2.25	2.14
	W / W	2.62	2.49

Note: Above Performance Parameters are Nominal Values & subject to  $\pm$  5% variation.

**C) RATING CONDITIONS**

<b>Parameter</b>	<b>Unit</b>	<b>HBP @ ASRE/T</b>	<b>CBP @ ASRE/T</b>
Evaporating Temperature	°C (°F)	7.2 (45)	-6.7 (20)
Condensing Temperature	°C (°F)	54.4 (130)	54.4 (130)
Ambient Temperature	°C (°F)	35 (95)	35 (95)
Sub-cooled Liquid Temperature	°C (°F)	46.1 (115)	46.1 (115)
Return Gas Temperature	°C (°F)	35 (95)	35 (95)
Test Voltage	V	220/230	220/230

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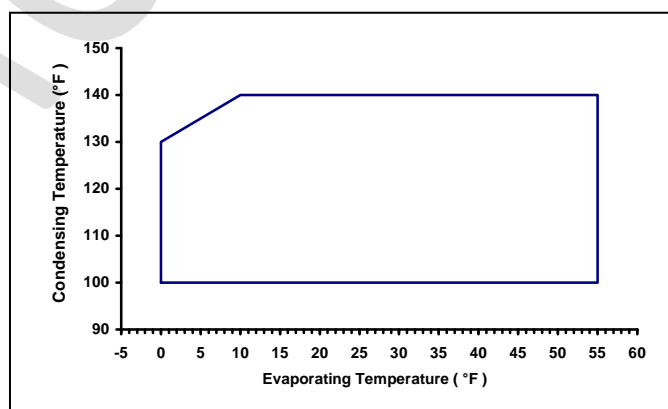
**PRODUCT SPECIFICATION****MODEL : KCJ513HAG-S4XXH****D) MECHANICAL SPECIFICATIONS**

Parameter	Unit	Value
Number of Cylinders	Number	One (1)
Displacement	cm <sup>3</sup> (inch <sup>3</sup> ) / rev	38.04 (2.321)
Net Weight	kg	22.7
Approximate Shipping Weight	kg	-----
Oil Charge	cm <sup>3</sup> (Oz)	890 (30)
Oil Type	Refrigeration Grade	POE

\*\* Recommended only for Heat Pump Application.

**E) ELECTRICAL SPECIFICATIONS**

Parameter	Unit	Value
Operating Voltage Range	V	198 To 264 @ 50 Hz 207 To 253 @ 60 Hz
Motor Circuit	---	PSC
Electrical Accessories	---	
➤ Start Capacitor	μF @ V AC	-----
➤ Run Capacitor	μF @ V AC	36 @ 440
➤ Relay	---	-----
➤ Over Load Protector	---	Internal
Locked Rotor Ampere (LRA)	A	39
Maximum Continuous Current (MCC)	A	11.5
High Potential Test	(kV / second / mA)	1.85 / 1 / 5.5 ± 0.5

**F) OPERATING ENVELOPE @ 220-230 V, 50/60 Hz, 1 Phase**

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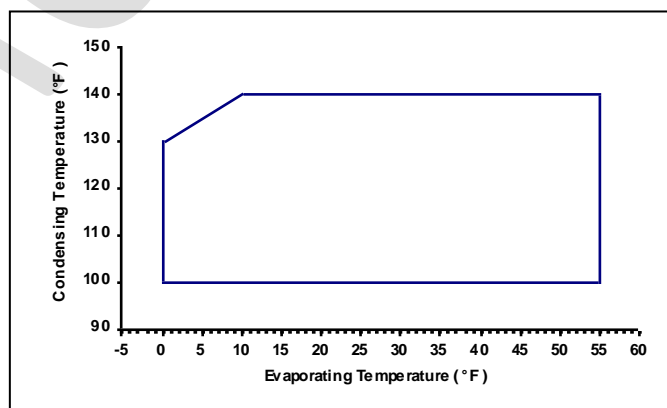
**PRODUCT SPECIFICATION****MODEL : KCJ513HAG-S3XXH****G) MECHANICAL SPECIFICATIONS**

Parameter	Unit	Value
Number of Cylinders	Number	One (1)
Displacement	cm <sup>3</sup> (inch <sup>3</sup> ) / rev	38.04 (2.321)
Net Weight	kg	22.5
Approximate Shipping Weight	kg	-----
Oil Charge	cm <sup>3</sup> (Oz)	890 (30)
Oil Type	Refrigeration Grade	POE
IPRV (Pressure Differential)	kg/cm <sup>2</sup> (psig)	N/A
** Crank - Case Heater	W @ V	N/A

\*\* Recommended only for Heat Pump Application.

**H) ELECTRICAL SPECIFICATIONS**

Parameter	Unit	Value
Operating Voltage Range	V	198 To 264 @ 50 Hz 207 To 253 @ 60 Hz
Motor Circuit	---	CSCR
Electrical Accessories	---	
➤ Start Capacitor	μF @ V AC	80-100 @ 230
➤ Run Capacitor	μF @ V AC	36 @ 440
➤ Relay	---	AC85001 or HLR3800-6H3C-1
➤ Over Load Protector	---	Internal
Locked Rotor Ampere (LRA)	A	39
Maximum Continuous Current (MCC)	A	11.5
High Potential Test	(kV / second / mA)	1.85 / 1 / 5.5 ± 0.5

**J) OPERATING ENVELOPE @ 220-230 V, 50/60 Hz, 1 Phase**

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**PRODUCT SPECIFICATION****MODEL : KCJ513HAG-S4XXH****M) MECHANICAL SPECIFICATIONS**

Parameter	Unit	Value
Cylinder Bore Diameter	cm (inch)	4.178(1.6452)
Crank - Shaft Eccentricity	cm (inch)	1.386(0.546)
Crank - Shaft Stroke	cm (inch)	2.773(1.092)
Approximate Internal Free Volume (Without Oil)	cm <sup>3</sup> (inch <sup>3</sup> )	-----
Maximum Residual Moisture	mg	30
Maximum Internal Solid Residue / Impurities	mg	30

**N) ELECTRICAL SPECIFICATIONS**

Parameter	Unit	Value
Motor Type	---	2 Pole, Induction, Single Phase
Nominal Motor Speed	rpm	2,900 @ 50 Hz, 3,450 @ 60 Hz
Nominal Motor Winding Resistance (@ 25 °C)	Main	Ω 2.20 To 2.40
	Aux.	Ω 4.00 To 5.00
Nominal Motor Output Power	kW	1.10 @ 50 Hz 1.25 @ 60 Hz
Max. Allowable Motor Winding Temp.	°F (°C)	266 (130) B Class Insulation
Relay		
Type	---	-----
Part Number	---	-----
Pick Up (Maximum)	V	-----
Drop Out (Minimum)	V	-----
Maximum Voltage Rating of Coils	V	----
Over Load Protector		
Type	---	Internal
Part Number		3HM-191-110
Disc Opening Temperature	°F	275 ± 9
Disc Closing Temperature	°F	156 ± 20
1 <sup>st</sup> Cycle Trip Current	A	27
1 <sup>st</sup> Cycle Trip On Time	second	5 To 15
Terminal Fused Cluster	---	¼" Quick connector
Copper Wire Material	---	Hermetic Grade Round Enameled
Copper Wire Enamel Designation & Construction	---	H Class, Dual Coated

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**PRODUCT SPECIFICATION****MODEL : KCJ513HAG-S3XXH****K) MECHANICAL SPECIFICATIONS**

Parameter	Unit	Value
Cylinder Bore Diameter	cm (inch)	4.178(1.6452)
Crank - Shaft Eccentricity	cm (inch)	1.386(0.546)
Crank - Shaft Stroke	cm (inch)	2.773(1.092)
Approximate Internal Free Volume (Without Oil)	cm <sup>3</sup> (inch <sup>3</sup> )	-----
Maximum Residual Moisture	mg	30
Maximum Internal Solid Residue / Impurities	mg	30

**L) ELECTRICAL SPECIFICATIONS**

Parameter	Unit	Value
Motor Type	---	2 Pole, Induction, Single Phase
Nominal Motor Speed	rpm	2,900 @ 50 Hz, 3,450 @ 60 Hz
Nominal Motor Winding Resistance (@ 25 °C)	Main	Ω 2.20 To 2.40
	Aux.	Ω 4.00 To 5.00
Nominal Motor Output Power	kW	1.10 @ 50 Hz 1.25 @ 60 Hz
Max. Allowable Motor Winding Temp.	°F (°C)	266 (130) B Class Insulation
Relay		
Type	---	Potential
Part Number	---	AC85001 or HLR3800-6H3C-1
Pick Up (Maximum)	V	195 To 215
Drop Out (Minimum)	V	80 To 100
Maximum Voltage Rating of Coils	V	430
Over Load Protector		
Type	---	Internal
Part Number		3HM-191-110
Disc Opening Temperature	°F	275 ± 9
Disc Closing Temperature	°F	156 ± 20
1 <sup>st</sup> Cycle Trip Current	A	27
1 <sup>st</sup> Cycle Trip On Time	second	5 To 15
Terminal Fused Cluster	---	¼" Quick connector
Copper Wire Material	---	Hermetic Grade Round Enameled
Copper Wire Enamel Designation & Construction	---	H Class, Dual Coated

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