PRODUCT SPECIFICATION

COMPRESSOR MODEL

CR22K6M-PF1-XXXXX

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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A) MODEL DESCRIPTION

Model Name	**CR22K6M-PF1-XXXXX**
Compressor Type	Reciprocating, Connecting Rod Type
Application Group	High Temperature (HBP)
Evaporating Temperature Range	(-)23.3 °C To 12.8 °C Or (-)10 °F To 55 °F
Refrigerant	R-22
Rated Voltage	220-240 V, 50 Hz, 1 Phase
Compressor Cooling	Fan : 400 ft^3 / minute
Typical Application	Air - Conditioning, Heat Pump
***Certifications & Approvals**	ISI, EN60335-2-34, UL (File No. SA12060)

* The Electrical Accessories are provided for reference and not included in the scope of Certification.

B) PERFORMANCE SPECIFICATION @ RATED CONDITION

Parameter	Unit	ASRE/T	ARI
Cooling Capacity	Btu / hr	19,000	18,500
	kcal / hr	4,788	4,662
	W	5,563	5,417
	Nominal HP	---	1.83
Input Power	W	1,750	1,750
Input Current	A	8.4	8.4
$EER = \frac{\text{Cooling Capacity}}{\text{Input Power}}$	Btu / W-hr	10.86	10.57
	kcal / W-hr	2.74	2.66
	W / W	3.18	3.10

Note: Above Performance Parameters are Nominal Values & subject to ± 5% variation.

C) RATING CONDITIONS

Parameter	Unit	ARI
Evaporating Temperature	°C (°F)	7.2 ± 0.5 (45)
Condensing Temperature	°C (°F)	54.4 ± 1 (130)
Ambient Temperature	°C (°F)	35 ± 1 (95)
Sub-cooled Liquid Temperature	°C (°F)	46 ± 1 (115)
Return Gas Temperature	°C (°F)	18.3 ± 1 (65)
Test Voltage	V	230

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D) MECHANICAL SPECIFICATIONS

Parameter	Unit	Value
Number of Cylinders	Number	Two (2)
Displacement	cm^3 ($inch^3$) / rev	40.80 (2.490)
Net Weight	kg	29.8
Approximate Shipping Weight	kg	33.1
Oil Charge	cm^3 (Oz)	1,330 (45)
Oil Type	Refrigeration Grade	Mineral
IPRV (Pressure Differential)	kg/cm^2 (psig)	31.64 / 38.67 (450 / 550)
** Crank - Case Heater	W @ V	35 @ 240 Wherever Applicable

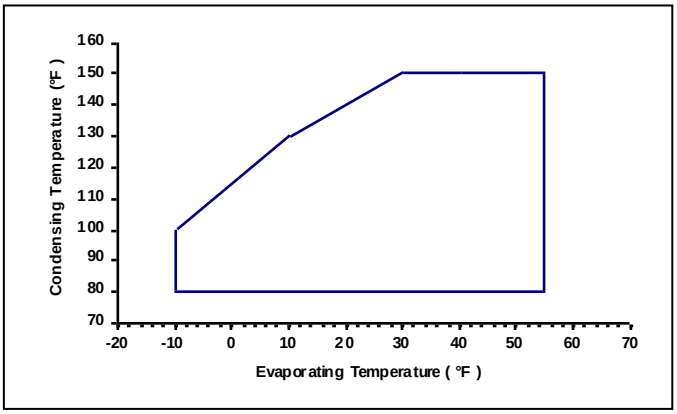
** Recommended only for Heat Pump Application.

E) ELECTRICAL SPECIFICATIONS

Parameter	Unit	Value
Operating Voltage Range	V	180 To 260
Motor Circuit	---	*PSC / **CSCR
Electrical Accessories	---	
➢ Start Capacitor	µF @ V AC	80 - 100 @ 230
➢ Run Capacitor	µF @ V AC	36 @ 440
➢ Relay	---	Potential
➢ Over Load Protector	---	Internal
Locked Rotor Ampere (LRA)	A	54
Maximum Continuous Current (MCC)	A	13.5
High Potential Test	(kV / second / mA)	1.85 1 / 5.5 ± 0.5

* Recommended For Equal Pressure (169 psig) Condition & Minimum Terminal Voltage Of 180 V.
** Recommended For Hard Start & Unequal Pressure Condition.

F) OPERATING ENVELOP @ 230 V, 50 Hz, 1 Phase



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G) PERFORMANCE TABLES

Superheating	11 °C (20 °F)	**Voltage**	230 V, 50 Hz, 1 Phase
Sub - cooling	8.3 °C (15 °F)	**Compressor Cooling**	400 ft^3 / minute
Ambient Temperature	35 °C (95 °F)	**-**	-

H) COOLING CAPACITY (Btu / hr)

Condensing Temperature		**Evaporating Temperature**									**Coefficients**	
											c1	18200
											c2	315
°C		**-23.3**	**-17.8**	**-12.2**	**-6.7**	**-1.1**	**4.4**	**7.2**	**10.0**	**12.8**	**c3**	-149
	(°F)	**-10**	**0**	**10**	**20**	**30**	**40**	**45**	**50**	**55**	**c4**	2.92
37.8	**100**	2280	5950	9370	12900	16900	21800	24600	27800	31400	**c5**	0.686
43.3	**110**	-	4830	8200	11600	15400	19900	22600	25600	29000	**c6**	0.419
48.9	**120**	-	-	7020	10300	13900	18100	20600	23400	26500	**c7**	0.06090
54.4	**130**	-	-	5800	8920	12300	16200	18500	21100	24000	**c8**	-0.04200
60.0	**140**	-	-	-	7520	10600	14200	16300	18700	21400	**c9**	-0.00348
65.5	**150**	-	-	-	6050	8920	12200	14100	16300	18700	**c10**	-0.00151

J) INPUT POWER (W)

Condensing Temperature		**Evaporating Temperature**									**Coefficients**	
											c1	-521.0
											c2	11.30
°C		**-23.3**	**-17.8**	**-12.2**	**-6.7**	**-1.1**	**4.4**	**7.2**	**10.0**	**12.8**	**c3**	22.80
	(°F)	**-10**	**0**	**10**	**20**	**30**	**40**	**45**	**50**	**55**	**c4**	-0.41600
37.8	**100**	795	950	1095	1223	1329	1410	1439	1460	1471	**c5**	0.06810
43.3	**110**	-	1003	1151	1290	1415	1522	1566	1604	1635	**c6**	-0.07610
48.9	**120**	-	-	1188	1338	1481	1613	1673	1728	1777	**c7**	-0.00084
54.4	**130**	-	-	1206	1366	1527	1683	1750	1829	1897	**c8**	0.00361
60.0	**140**	-	-	-	1374	1551	1731	1820	1908	1995	**c9**	-0.00030
65.5	**150**	-	-	-	1361	1554	1758	1861	1966	2070	**c10**	-0.00005

K) INPUT CURRENT (A)

Condensing Temperature		**Evaporating Temperature**									**Coefficients**	
											c1	52.5970505
											c2	0.11786135
°C		**-23.3**	**-17.8**	**-12.2**	**-6.7**	**-1.1**	**4.4**	**7.2**	**10.0**	**12.8**	**c3**	-1.2206509
	(°F)	**-10**	**0**	**10**	**20**	**30**	**40**	**45**	**50**	**55**	**c4**	-0.0053826
37.8	**100**	4.9	5.7	6.1	6.3	6.4	6.4	6.88	7.04	7.24	**c5**	0.00009132
43.3	**110**	-	5.8	6.2	6.4	6.5	6.7	7.25	7.55	7.90	**c6**	0.01031033
48.9	**120**	-	-	6.3	6.5	6.8	7.1	7.76	8.19	8.69	**c7**	0.00001062
54.4	**130**	-	-	6.4	6.7	6.9	7.4	8.40	8.79	9.43	**c8**	0.00004439
60.0	**140**	-	-	-	6.7	7.1	7.6	8.53	9.19	9.96	**c9**	-0.0000077
65.5	**150**	-	-	-	6.6	7	7.7	8.46	9.21	10.12	**c10**	-0.0000280

L) MASS FLOW RATE (lbs/hr)

Condensing Temperature		**Evaporating Temperature**									**Coefficients**	
											c1	262.0
											c2	2.560
°C		**-23.3**	**-17.8**	**-12.2**	**-6.7**	**-1.1**	**4.4**	**7.2**	**10.0**	**12.8**	**c3**	-3.190
	(°F)	**-10**	**0**	**10**	**20**	**30**	**40**	**45**	**50**	**55**	**c4**	0.0133
37.8	**100**	32	82	127	172	222	283	318	357	401	**c5**	0.0289
43.3	**110**	-	69	116	161	211	269	304	342	385	**c6**	0.0215
48.9	**120**	-	-	104	150	199	256	289	326	367	**c7**	0.000799
54.4	**130**	-	-	90	136	185	240	272	308	348	**c8**	-0.000367
60.0	**140**	-	-	-	121	167	221	252	287	326	**c9**	-0.0000763
65.5	**150**	-	-	-	103	149	201	230	264	301	**c10**	-0.0000762

Note: 1. Nominal Performance Values (± 5%) based on 24 h of 'run in'. Subject to change without notice.
2. Compressor is intended to be operated in the range of condensing & evaporating temperatures where performance values are specified in above tables.

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M) MECHANICAL SPECIFICATIONS

Parameter	Unit	Value
Cylinder Bore Diameter	cm (inch)	4.21 (1.656)
Crank - Shaft Eccentricity	cm (inch)	0.73 (0.290)
Crank - Shaft Stroke	cm (inch)	1.47 (0.580)
Approximate Internal Free Volume (Without Oil)	cm^3 ($inch^3$)	6,500 (397)
Maximum Residual Moisture	mg	300
Maximum Internal Solid Residue / Impurities	mg	40

N) ELECTRICAL SPECIFICATIONS

Parameter		Unit	Value
Motor Type		---	2 Pole, Induction, Single Phase
Nominal Motor Speed		rpm	2,900
Nominal Motor Winding Resistance (@ 25 °C)	Main	Ω	1.46 To 1.68
	Aux.	Ω	4.00 To 4.70
Nominal Motor Output Power		kW	1.4
Max. Allowable Motor Winding Temp.		°F (°C)	266 (130) B Class Insulation
Relay			
Type		---	Potential
Part Number		---	GE: 3ARR3CT 3P5 or Electrica : RVA-3F 6D or HLR3800–3F3C-4
Pick Up (Maximum)		V	165 To 185
Drop Out (Minimum)		V	65 To 95
Maximum Voltage Rating of Coils		V	330
Over Load Protector			
Type		---	Internal
Part Number			5DN-0708-78 OR 15HM-1708-78
Disc Opening Temperature		°F (°C)	239 To 257 (115 To 125)
Disc Closing Temperature		°F (°C)	140 To 172 (60 To 77)
1st Cycle Trip Current		A	42
1st Cycle Trip On Time		second	2 To 10
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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P) PERFORMANCE SPECIFICATIONS

Parameter	Unit	Value
Bare Compressor Sound	dBA	68.0 Maximum
Bare Compressor Vibration	µm	75.0 Maximum
Compressor Discharge Pulse	psi	2.0 Maximum

Q) TEST CONDITIONS

Parameter	Voltage	Suction Pressure	Discharge Pressure	Top Shell Temperature	Ambient Temperature
Unit / Test	V	kg/cm^2 (psig)	kg/cm^2 (psig)	°C (°F)	°C (°F)
Overload (High Load)	230	6.50 (92.43)	30 (426.6)	--	55 (131)
Blocked Fan	230	6.33 (90)	28.12 (400)	--	--
Low Voltage Start : Equalised (PSC) Unequalised (CSCR)	 180 180	 11.9 (169) 8.4 (119)	 11.9 (169) 18.9 (269)	 62 (143.6) 62 (143.6)	 -- --
Low Voltage Run	180	6.50 (92.43)	30 (426.6)	--	55 (131)

Note: Above test conditions are only for reference. Refer operating envelop and maximum allowable discharge line temperature for safe operation of compressor.

R) REFERENCE APPLICATION DETAIL CONDITIONS

Parameter	Unit	Value
Maximum Allowable Ambient Temperature	°C (°F)	55 (131)
Maximum Discharge Line Temperature	°C (°F)	129.4 (265)
Maximum Return Gas Temperature	°C (°F)	27 (80.6)

Note: Application Details are the guidelines for safe operation of compressor.