PRODUCT SPECIFICATION

COMPRESSOR MODEL

CR24K6M-PFZ-XXXXX

Copeland (India) Private Limited
Karad Dhebewadi Road
Karad - 415 110
INDIA

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

SC1				01	F45-0914-0606 EN No.	A6 20.09.2014
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MODEL : CR24K6M-PFZ-XXXXX

SPECIFICATION

A) MODEL DESCRIPTION

Model Name	**CR24K6M-PFZ-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**	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	ARI
Cooling Capacity	Btu / hr	19,800
	kcal / hr	4,990
	W	5,803
	Nominal HP	1.65
Input Power	W	1,950
Input Current	A	9.5
$EER = \frac{\text{Cooling Capacity}}{\text{Input Power}}$	Btu / W-hr	10.15
	kcal / W-hr	2.56
	W / W	2.98

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	220

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D) MECHANICAL SPECIFICATIONS

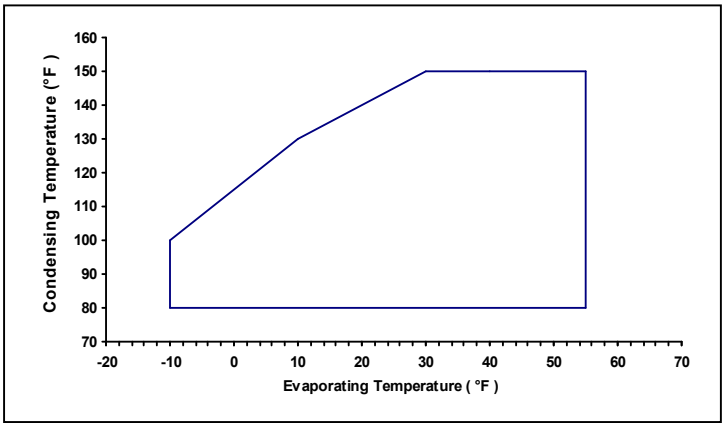
Parameter	Unit	Value
Number of Cylinders	Number	Two (2)
Displacement	cm^3 ($inch^3$) / rev	44.28 (2.702)
Net Weight	kg	29.8
Approximate Shipping Weight	kg	31.5
Oil Charge	cm^3 (Oz)	1,330 (45)
Oil Type	Refrigeration Grade	Mineral
IPRV (Pressure Differential)	kg/cm^2 (psig)	31.64 / 38.67 (450 / 550)
** 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	198 To 264
Motor Circuit	---	PSC / CSCR
Electrical Accessories	---	
➢ Start Capacitor	µF @ V AC	150 - 200 @ 230
➢ Run Capacitor	µF @ V AC	36 @ 370
➢ Relay	---	Potential
➢ Over Load Protector	---	Internal
Locked Rotor Ampere (LRA)	A	61
Maximum Continuous Current (MCC)	A	13.5
High Potential Test	(kV / second / mA)	1.85 / 1 / 5.5 ± 0.5

F) OPERATING ENVELOP @ 220 V, 50 Hz, 1 Phase



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G) PERFORMANCE TABLES

Superheating	11 °C (20 °F)	**Voltage**	220 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	26400
											c2	561
°C		-23.3	-17.8	-12.2	-6.7	-1.1	4.4	7.2	10.0	12.8	c3	-343
	(°F)	-10	0	10	20	30	40	45	50	55	c4	3.82
37.8	100	3200	6300	9600	14000	18250	23500	26500	29600	32700	c5	-2.89
43.3	110	--	5200	8400	12200	16550	21400	24250	26900	30300	c6	1.98
48.9	120	--	--	7200	10700	14700	19300	22000	24700	27800	c7	0.01650
54.4	130	--	--	6000	9300	13100	17200	19800	22400	25200	c8	-0.01920
60.0	140	--	--	--	7800	11500	15200	17600	20100	22700	c9	0.00563
65.6	150	--	--	--	6000	9800	13400	15500	17750	20200	c10	-0.00559

J) INPUT POWER (W)

Condensing Temperature		Evaporating Temperature									Coefficients	
											c1	3580
											c2	-0.923
°C		-23.3	-17.8	-12.2	-6.7	-1.1	4.4	7.2	10.0	12.8	c3	-70.80
	(°F)	-10	0	10	20	30	40	45	50	55	c4	-0.293
37.8	100	815	1000	1180	1290	1465	1540	1585	1610	1640	c5	0.243
43.3	110	--	1050	1215	1360	1540	1670	1695	1745	1775	c6	0.629
48.9	120	--	--	1230	1440	1615	1765	1825	1885	1945	c7	-0.00105
54.4	130	--	--	1255	1500	1680	1865	1950	2020	2090	c8	0.002410
60.0	140	--	--	--	1525	1730	1945	2070	2140	2240	c9	-0.000597
65.6	150	--	--	--	1560	1750	2000	2120	2200	2320	c10	-0.00179

K) INPUT CURRENT (A)

Condensing Temperature		Evaporating Temperature									Coefficients	
											c1	42.9470664
											c2	0.15713812
°C		-23.3	-17.8	-12.2	-6.7	-1.1	4.4	7.2	10.0	12.8	c3	-0.9877277
	(°F)	-10	0	10	20	30	40	45	50	55	c4	-0.0029267
37.8	100	5.4	5.9	6.3	6.9	7.4	7.9	8.1	8.4	8.5	c5	-0.0007640
43.3	110		6.2	6.6	7.0	7.6	8.2	8.5	8.8	9.0	c6	0.00844661
48.9	120			6.9	7.4	7.9	8.6	8.9	9.3	9.7	c7	-5.375E-06
54.4	130			7.4	7.7	8.3	9.0	9.5	9.9	10.3	c8	3.2662E-05
60.0	140				8.0	8.5	9.3	9.8	10.3	10.8	c9	-3.423E-06
65.6	150				8.0	8.5	9.4	9.9	10.5	11.1	c10	-2.278E-05

L) MASS FLOW RATE (lbs / hr)

Condensing Temperature		Evaporating Temperature									Coefficients	
											c1	362
											c2	5.72
°C		-23.3	-17.8	-12.2	-6.7	-1.1	4.4	7.2	10.0	12.8	c3	-5.55
	(°F)	-10	0	10	20	30	40	45	50	55	c4	0.0307
37.8	100	45	86	130	187	240	305	342	380	417	c5	-0.0213
43.3	110	--	74	118	169	227	289	326	359	402	c6	0.0409
48.9	120	--	--	106	155	210	273	309	344	385	c7	0.000193
54.4	130	--	--	93	142	197	254	291	327	365	c8	-0.000109
60.0	140	--	--	--	125	182	236	272	308	346	c9	0.0000789
65.6	150	--	--	--	102	164	220	253	287	325	c10	-0.000129

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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SPECIFICATION CONFIDENTIAL

L) MECHANICAL SPECIFICATIONS

Parameter	Unit	Value
Cylinder Bore Diameter	cm (inch)	4.21 (1.656)
Crank - Shaft Eccentricity	cm (inch)	0.80 (0.314)
Crank - Shaft Stroke	cm (inch)	1.59 (0.627)
Approximate Internal Free Volume (Without Oil)	cm^3 ($inch^3$)	6500 (397)
Maximum Residual Moisture	mg	300
Maximum Internal Solid Residue / Impurities	mg	40

M) 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	3.91 To 4.49
Nominal Motor Output Power		kW	1.57
Max. Allowable Motor Winding Temp.		°F (°C)	266 (130) B Class Insulation
Relay			
Type		---	Potential
Part Number		---	Annapurna - AC85004 or GE - 3ARR3CT3P5 or Electrica - RVA-3F6D
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-0793-78
Disc Opening Temperature		°F (°C)	239 To 257 (115 To 125)
Disc Closing Temperature		°F (°C)	140 To 170 (60 To 77)
1st Cycle Trip Current		A	44
1st Cycle Trip On Time		second	1 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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N) PERFORMANCE SPECIFICATIONS

Parameter	Unit	Value
Bare Compressor Sound	dBA	72.0 Maximum
Bare Compressor Vibration	µm	75.0 Maximum
Compressor Discharge Pulse	psi	2.5 Maximum

P) TEST CONDITIONS

Parameter / Unit / Test	Voltage	Suction Pressure	Discharge Pressure	Top Shell Temperature	Ambient Temperature
	V	kg/cm^2 (psig)	kg/cm^2 (psig)	°C (°F)	°C (°F)
Overload (High Load)	220	6.50 (92.43)	30 (426.6)	--	55 (131)
Blocked Fan	220	6.33 (90)	28.12 (400)	--	--
Low Voltage Start : Equalised	198	11.9 ± 0.5 (169)	11.9 ± 0.5 (169)	62 (143.6)	--
Low Voltage Run	198	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.

Q) 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.