PRODUCT SPECIFICATION

COMPRESSOR MODEL

CS14K6ME-PFV-XXXXX

Copeland (India) Private Limited

INDIA

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

DVM				01	F45-0720-0056 EN No.	A2 02.07.2020
Prepared by	Checked by Sunil Sutar	Verified by Abhijit Kulkarni	Approved by Manoj Chiplunkar	Page No.	**CS14K6ME-PFV-XXXXX** DOCUMENT No.	

PRODUCT SPECIFICATION

MODEL : CS14K6ME-PFV-XXXXX

SPECIFICATION

A) MODEL DESCRIPTION

Model Name	**CS14K6ME-PFV-XXXXX**
Compressor Type	Reciprocating, Connecting Rod Type
Application Group	Medium Temperature
Evaporating Temperature Range	(-)31.7 °C To 1.1 °C Or (-)25°F To 30 °F
Refrigerant	R-404A
Rated Voltage	200-220 V,50 Hz, 1 Phase 208-230 V,60 Hz, 1 Phase
Compressor Cooling	Fan: 400 ft^3 / minute
Typical Application	Cold Room Application

B) PERFORMANCE SPECIFICATION @ RATED CONDITION

Parameter	**Unit**	**ARI-MBP**	
		50Hz	**60Hz**
Cooling Capacity	Btu / h	11700	14100
	kcal / h	2948	3553
	W	3426	4129
Input Power	W	1875	2250
Input Current	A	9.8	10.0
EER = Cooling Capacity / Input Power	Btu / W-h	6.24	6.27
	kcal / W-h	1.57	1.58
	W / W	1.83	1.83

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

C) RATING CONDITIONS

Parameter	**Unit**	**ARI-MBP**
Evaporating Temperature	°C (°F)	-6.7 (20)
Condensing Temperature	°C (°F)	48.9 (120)
Ambient Temperature	°C (°F)	35 (95)
Sub-cooled Liquid Temp	°C (°F)	48.9 (120)
Return Gas Temperature	°C (°F)	4.4 (40)
Test Voltage	V	200 @ 50Hz
		230 @ 60Hz

PRODUCT SPECIFICATION

MODEL : CS14K6ME-PFV-XXXXX

SPECIFICATION

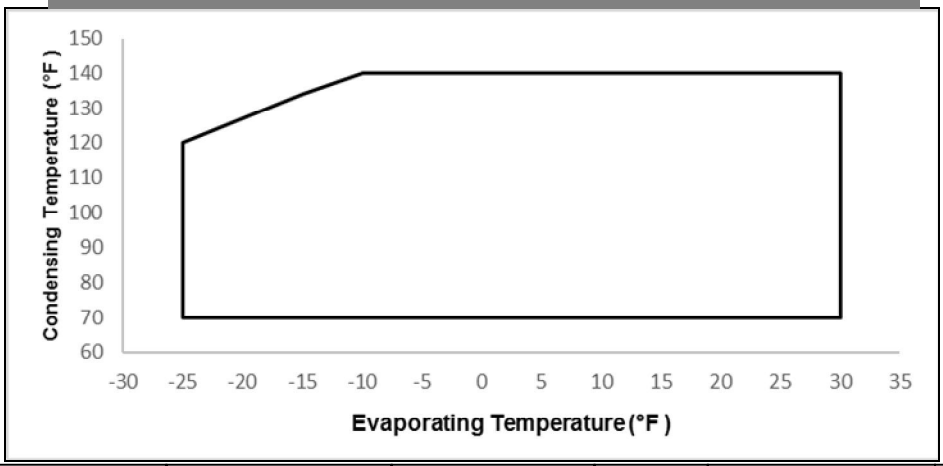
D) MECHANICAL SPECIFICATIONS

Parameter	Unit	Value
Number of Cylinders	Number	Two (2)
Displacement	cm^3 ($inch^3$) / rev	51.47 (3.141)
Net Weight	Kg (Lbs)	32.5
Approximate Shipping Weight	Kg (Lbs)	33.1
Oil Charge	cm^3 (Oz)	1,330 (45)
Oil Type	Refrigeration Grade	POE
IPRV (Pressure Differential)	kg/cm^2 (psig)	31.64 / 38.67 (450 / 550)
Crank - Case Heater	W @ V	40 @ 240 for CS14K6ME-PFV-XX5 40 @ 480 for CS14K6ME-PFV-XX6

E) ELECTRICAL SPECIFICATIONS

Parameter	Unit	Value
Operating Voltage Range	V	180 TO 242 50Hz 197 TO 253 60Hz
Motor Circuit	---	CSCR
Electrical Accessories	---	
➢ Start Capacitor	µF @ V AC	189-227 @ 330
➢ Run Capacitor	µF @ V AC	36 @ 440
➢ Relay	---	Potential
➢ Over Load Protector	---	Internal
Locked Rotor Ampere (LRA)	A	77A @ 50Hz & 77A @ 60Hz
Maximum Continuous Current (MCC)	A	21.5
High Potential Test	(kV / second / mA)	1.85 / 1 / 5.5 ± 0.5

F) OPERATING ENVELOP @ 50 Hz & 60 Hz, 1 Phase



PRODUCT SPECIFICATION

MODEL: CS14K6ME-PFV-XXXXX

PERFORMANCE TABLES

Superheating	4.4 °C (40 °F)	**Voltage**	200 V, 50 Hz, 1 Phase
Sub - cooling	0 °C (0 °F)	**Compressor Cooling**	400 ft^3 / minute
Ambient Temperature	35 °C (95 °F)	**Refrigerant**	R404A

COOLING CAPACITY (Btu / h)

Condensing Temperature		Evaporating Temperature											Coefficients	
°C		-31.7	-26.1	-23.3	-20.6	-17.8	-15.0	-12.2	-9.4	-6.7	-3.9	-1.1	c1	37387.3032598893
	(°F)	-25	-15	-10	-5	0	5	10	15	20	25	30	c2	556.9129542131
21.1	70	5768	8488	10080	11756	13637	15658	17817	20108	22439	24979	27639	c3	-555.2864127391
26.7	80	4648	7174	8649	10202	11942	13810	15803	17916	20063	22400	24846	c4	4.4801736696
32.2	90	3788	6111	7466	8891	10487	12199	14024	15956	17917	20049	22277	c5	-2.0076520056
37.8	100	3084	5188	6416	7705	9149	10695	12342	14084	15850	17768	19768	c6	3.9218672873
43.3	110	2491	4368	4574	6615	7903	9282	10748	12297	13866	15567	17338	c7	-0.0053590723
48.9	120	1916	3550	4506	5510	6632	7834	9111	10458	11700	13294	14827	c8	-0.0243913535
54.4	130	---	2691	3503	4358	5313	6335	7419	8562	9715	10961	12252	c9	-0.0059071344
60	140	---	---	2349	3045	3823	4656	5539	6467	7403	8409	9450	c10	-0.0119117859

INPUT POWER (W)

Condensing Temperature		Evaporating Temperature											Coefficients	
°C		-31.7	-26.1	-23.3	-20.6	-17.8	-15.0	-12.2	-9.4	-6.7	-3.9	-1.1	c1	1208.8209988608
	(°F)	-25	-15	-10	-5	0	5	10	15	20	25	30	c2	-19.9500052916
21.1	70	962	1119	1193	1259	1321	1375	1419	1451	1470	1475	1464	c3	-4.4670515725
26.7	80	938	1118	1205	1285	1363	1434	1496	1549	1588	1616	1629	c4	-0.3504061487
32.2	90	917	1115	1214	1306	1398	1485	1564	1634	1692	1741	1776	c5	0.5574185295
37.8	100	892	1107	1215	1319	1424	1524	1619	1706	1782	1850	1906	c6	0.1349387062
43.3	110	862	1089	1206	1319	1435	1548	1656	1758	1850	1935	2010	c7	-0.0020397674
48.9	120	820	1058	1182	1302	1428	1552	1672	1788	1875	1996	2089	c8	0.0026568210
54.4	130	---	1009	1138	1265	1399	1532	1663	1791	1909	2026	2135	c9	-0.0015398962
60	140	---	---	1070	1202	1342	1483	1624	1762	1892	2022	2145	c10	-0.0006869230

INPUT CURRENT (A)

Condensing Temperature		Evaporating Temperature											Coefficients	
°C		-31.7	-26.1	-23.3	-20.6	-17.8	-15.0	-12.2	-9.4	-6.7	-3.9	-1.1	c1	8.6035107165
	(°F)	-25	-15	-10	-5	0	5	10	15	20	25	30	c2	-0.1170777420
21.1	70	5.2	6.0	6.3	6.7	7.0	7.2	7.5	7.6	7.7	7.7	7.6	c3	-0.0840610177
26.7	80	5.0	5.9	6.3	6.7	7.1	7.5	7.8	8.1	8.3	8.4	8.5	c4	-0.0020883765
32.2	90	4.8	5.8	6.3	6.8	7.3	7.7	8.1	8.5	8.8	9.0	9.2	c5	0.0031884508
37.8	100	4.7	5.8	6.3	6.8	7.4	7.9	8.4	8.8	9.2	9.6	9.9	c6	0.0012215833
43.3	110	4.6	5.7	6.3	6.8	7.4	8.0	8.6	9.1	9.6	10.0	10.4	c7	-0.0000109809
48.9	120	4.5	5.6	6.2	6.8	7.4	8.0	8.6	9.2	9.8	10.3	10.8	c8	0.0000174651
54.4	130	---	5.4	6.0	6.6	7.3	7.9	8.6	9.2	9.9	10.5	11.1	c9	-0.0000098084
60	140	---	---	5.6	6.3	7.0	7.7	8.4	9.1	9.7	10.4	11.1	c10	-0.0000050358

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.

PRODUCT SPECIFICATION

MODEL: CS14K6ME-PFV-XXXXX

PERFORMANCE TABLES

Superheating	4.4 °C (40 °F)	**Voltage**	230 V, 60 Hz, 1 Phase
Sub - cooling	0 °C (0 °F)	**Compressor Cooling**	400 ft^3 / minute
Ambient Temperature	35 °C (95 °F)	**Refrigerant**	R404A

COOLING CAPACITY (Btu / h)

Condensing Temperature		Evaporating Temperature											Coefficients	
°C		-31.7	-26.1	-23.3	-20.6	-17.8	-15.0	-12.2	-9.4	-6.7	-3.9	-1.1	c1	30203.3556737351
	(°F)	-25	-15	-10	-5	0	5	10	15	20	25	30	c2	740.5415202107
21.1	70	6483	9429	11236	13175	15380	17770	20336	23065	25842	28861	32012	c3	-289.2001261916
26.7	80	5043	8362	10021	11800	13820	16008	18353	20843	23372	26117	28974	c4	6.1581921617
32.2	90	4883	7357	8873	10497	12340	14332	16463	18722	21010	23488	26060	c5	-4.2773890087
37.8	100	4100	6345	7719	9189	10854	12650	14566	16592	18639	20848	23134	c6	1.4598444669
43.3	110	3308	5333	5699	7893	9386	10992	12702	14502	16315	18263	20270	c7	-0.0143764079
48.9	120	2446	4255	5357	6531	7852	9269	10770	12345	14100	15607	17334	c8	-0.0356963517
54.4	130	---	3119	4091	5123	6279	7512	8812	10167	11516	12947	14401	c9	0.0031242162
60	140	---	---	2697	3586	4577	5627	6725	7860	8979	10155	11334	c10	-0.0050084716

INPUT POWER (W)

Condensing Temperature		Evaporating Temperature											Coefficients	
°C		-31.7	-26.1	-23.3	-20.6	-17.8	-15.0	-12.2	-9.4	-6.7	-3.9	-1.1	c1	431.2005886664
	(°F)	-25	-15	-10	-5	0	5	10	15	20	25	30	c2	-23.0957943888
21.1	70	1105	1271	1352	1427	1499	1561	1613	1652	1674	1680	1665	c3	20.2852788980
26.7	80	1108	1301	1399	1490	1581	1664	1738	1800	1846	1878	1891	c4	-0.3688852883
32.2	90	1097	1314	1426	1533	1640	1742	1836	1919	1987	2043	2081	c5	0.6368649368
37.8	100	1071	1310	1434	1555	1678	1797	1909	2012	2101	2180	2243	c6	-0.0571584423
43.3	110	1030	1286	1422	1554	1691	1825	1954	2075	2183	2282	2368	c7	-0.0030623255
48.9	120	972	1242	1387	1530	1679	1827	1971	2109	2250	2353	2459	c8	0.0028455776
54.4	130	---	1178	1330	1482	1641	1801	1958	2111	2252	2388	2513	c9	-0.0016532237
60	140	---	---	1248	1406	1575	1745	1914	2080	2235	2388	2531	c10	-0.0002093982

INPUT CURRENT (A)

Condensing Temperature		Evaporating Temperature											Coefficients	
°C		-31.7	-26.1	-23.3	-20.6	-17.8	-15.0	-12.2	-9.4	-6.7	-3.9	-1.1	c1	6.8774829768
	(°F)	-25	-15	-10	-5	0	5	10	15	20	25	30	c2	-0.1010475066
21.1	70	5.5	6.3	6.7	7.0	7.4	7.6	7.8	8.0	8.1	8.1	8.0	c3	-0.0153266906
26.7	80	5.4	6.3	6.7	7.1	7.5	7.9	8.2	8.4	8.6	8.7	8.8	c4	-0.0020253904
32.2	90	5.2	6.2	6.7	7.2	7.6	8.1	8.4	8.8	9.1	9.3	9.5	c5	0.0027900594
37.8	100	5.1	6.2	6.7	7.2	7.7	8.2	8.7	9.1	9.5	9.9	10.2	c6	0.0004979727
43.3	110	4.9	6.1	6.6	7.2	7.8	8.3	8.9	9.4	9.8	10.3	10.7	c7	-0.0000070413
48.9	120	4.7	5.9	6.5	7.1	7.7	8.3	8.9	9.5	10.0	10.6	11.1	c8	0.0000161334
54.4	130	---	5.7	6.3	7.0	7.6	8.3	8.9	9.6	10.2	10.8	11.4	c9	-0.0000078132
60	140	---	---	6.1	6.7	7.4	8.1	8.8	9.5	10.1	10.8	11.5	c10	-0.0000025920

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.

PRODUCT SPECIFICATION

MODEL : CS14K6ME-PFV-XXXXX

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M) MECHANICAL SPECIFICATIONS

Parameter	Unit	Value
Cylinder Bore Diameter	cm (inch)	4.21 (1.656)
Crank - Shaft Eccentricity	cm (inch)	0.93 (0.365)
Crank - Shaft Stroke	cm (inch)	1.85 (0.729)
Approximate Internal Free Volume (Without Oil)	cm^3 ($inch^3$)	7000 (427)
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 @ 50Hz, 3,500 @ 60Hz
Nominal Motor Winding Resistance (@ 25 °C)	Main	Ω	1.16 To 1.34
	Aux.	Ω	3.96 To 4.56
Nominal Motor Output Power		kW	1.96
Max. Allowable Motor Winding Temp.		°F (°C)	266 (130) B Class Insulation
Relay			
Type		---	Potential
Part Number		---	Hongli : HLR3800-6H3C-1
Pick Up (Maximum)		V	195 To 215
Drop Out (Minimum)		V	80 To 110
Maximum Voltage Rating of Coils		V	430
Over Load Protector			
Type		---	Internal
Part Number			5DN-0484-78
Disc Opening Temperature		°F (°C)	239 To 257 (115 To 125)
Disc Closing Temperature		°F (°C)	126 To 158 (52.2 To 70)
1st Cycle Trip Current		A	53
1st Cycle Trip On Time		second	2 To 10
Terminal Fused Cluster		---	¼" Quick connector
Wire Material		---	Hermetic Grade Round Enameled
Wire Enamel Designation & Construction		---	H Class, Dual Coated

PRODUCT SPECIFICATION

MODEL: CS14K6ME-PFV-XXXXX

P) PERFORMANCE SPECIFICATIONS

Parameter	Unit	Value
Bare Compressor Sound	dBA	80.0 Maximum
Bare Compressor Vibration	µm	85 Maximum
Compressor Discharge Pulse	psi	5.0 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)	242,50Hz 253,60Hz	5.13 (73)	31.70 (451)	--	46 (115)
Blocked Fan	200,50Hz 230,60Hz	6.7 (95)	30.58 (435)	--	35(95)
Low Voltage Start: Equalised	180,50Hz 197,60Hz	8 (114) 14.3 (203)	25.3(360) 14.3(203)	65(149) 65(149)	--
Low Voltage Run	180,50Hz 197,60Hz	5.13 (73)	31.70 (451)	--	46 (115)

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)	46 (115)
Maximum Discharge Line Temperature	°C (°F)	135 (275)
Maximum Return Gas Temperature	°C (°F)	43 (109)

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

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DVM	Sutar	AKulkarni	M.D.Chiplunkar	07	F45-0720-0056 EN No.	A2 02.07.2020
Prepared by	Checked by Sunil Sutar	Verified by Abhijit Kulkarni	Approved by Manoj Chiplunkar	Page No.	**CS14K6ME-PFV-XXXXX** DOCUMENT No.	