PRODUCT SPECIFICATION

COMPRESSOR MODEL

CS16K6ME-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.

DVM				01	F45-1218-0254 EN No.	A2 27.12.2018
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SPECIFICATION

A) MODEL DESCRIPTION

Model Name	**CS16K6ME-PFZ-XXXXX**
Compressor Type	Reciprocating, Connecting Rod Type
Application Group	Medium Temp.
Evaporating Temperature Range	(-)31.7 °C To (-)1.1 °C Or (-)25 °F To 30 °F
Refrigerant	R-404A
Rated Voltage & Circuit	220-240 V, 50Hz, 1 Phase,
Compressor Cooling	Fan: 400 ft^3 / minute
Typical Application	Cold Room Application

B) PERFORMANCE SPECIFICATION @ RATED CONDITION

Specification	**Unit**	**ARI**	**EN12900**
Cooling Capacity	Btu / hr	13790	14290
	kcal / hr	3475	3601
	W	4041	4188
Input Power	W	2260	2085
Input Current	A	11.3	10.6
$EER = \frac{\text{Cooling Capacity}}{\text{Input Power}}$	Btu / W-hr	6.10	6.85
	kcal / W-hr	1.54	1.73
	W / W	1.79	2.01

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

C) RATING CONDITIONS

Parameter	**Unit**	**ARI**	**EN12900**
Evaporating Temperature	°C (°F)	-6.7 (20)	-10(14)
Condensing Temperature	°C (°F)	48.9 (120)	45 (113)
Ambient Temperature	°C (°F)	35 (95)	35 (95)
Sub cooled Liquid Temp.	°C (°F)	48.9 (120)	45 (113)
Return Gas Temperature	°C (°F)	4.4 (40)	20 (68)
Test Voltage	V	230	230

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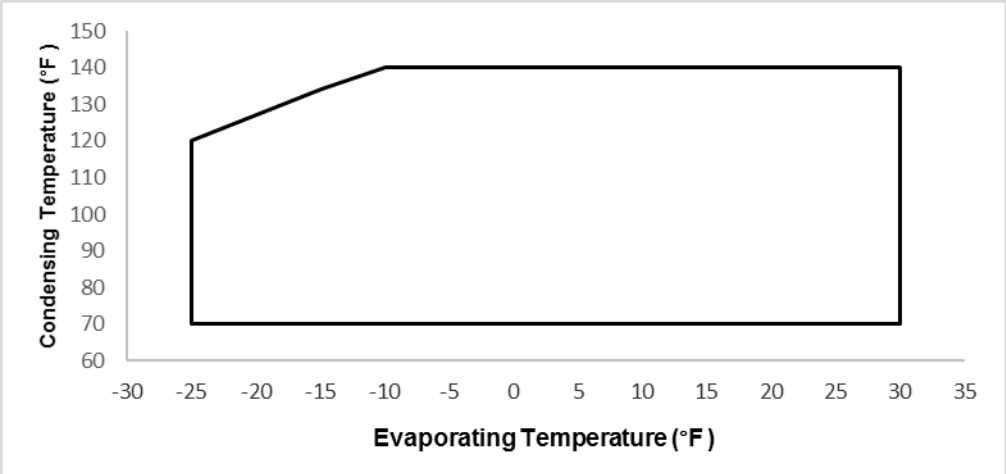
D) MECHANICAL SPECIFICATIONS

Parameter	Unit	Value
Number of Cylinders	Number	Two (2)
Displacement	cm^3 ($inch^3$) / rev	57.70 (3.521)
Net Weight	kg	32.5
Approximate Shipping Weight	kg	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	35 @ 240

E) ELECTRICAL SPECIFICATIONS

Parameter	Unit	Value
Operating Voltage Range	V	198 To 264
Motor Circuit	---	CSCR
Electrical Accessories	---	
➢ Start Capacitor	µF @ V AC	150-200 @ 230
➢ Run Capacitor	µF @ V AC	45 @ 370
➢ Relay	---	Potential
➢ Over Load Protector	---	Internal
Locked Rotor Ampere (LRA)	A	85
Maximum Continuous Current (MCC)	A	21.3
High Potential Test	(kV / second / mA)	1.85 / 1 / 5.5 ± 0.5

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



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G) PERFORMANCE TABLES

Return Gas Temp.	4.4 °C (40 °F)	**Voltage**	230V, 50 Hz, 1 Phase
Sub - cooling	0 °C (0 °F)	**Compressor Cooling**	400 ft3 / minute
Ambient Temperature	35 °C (95 °F)	**Refrigerant**	R-404A

H) 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**	30700.043304099900
	(°F)	**-25**	**-15**	**-10**	**-5**	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**c2**	713.270566776419
21.1	**70**	7041	10129	11937	13940	16149	18576	21235	24137	27297	30725	34435	**c3**	-218.692742862110
26.7	**80**	5935	8738	10385	12214	14236	16464	18910	21588	24510	27688	31135	**c4**	6.153005495752
32.2	**90**	4901	7412	8894	10545	12376	14401	16632	19081	21762	24686	27867	**c5**	-3.319400821435
37.8	**100**	3942	6153	7467	8937	10574	12392	14404	16621	19057	21723	24634	**c6**	0.108174982863
43.3	**110**	3062	4967	6109	7394	8833	10441	12230	14211	16398	18804	21441	**c7**	0.016793187269
48.9	**120**	2266	3858	4823	5919	7158	8552	10114	11856	13790	15932	18291	**c8**	-0.025396830397
54.4	**130**	---	2828	3614	4518	5552	6728	8060	9559	11238	13111	15189	**c9**	-0.003619149220
60.0	**140**	---	---	2486	3194	4019	4974	6072	7324	8745	10345	12139	**c10**	0.000661638827

J) 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**	1340.839778135050
	(°F)	**-25**	**-15**	**-10**	**-5**	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**c2**	5.720088995919
21.1	**70**	1088	1325	1427	1518	1601	1675	1741	1800	1852	1900	1942	**c3**	1.512254842424
26.7	**80**	1110	1355	1462	1560	1650	1731	1806	1874	1937	1995	2050	**c4**	-0.278650241857
32.2	**90**	1130	1384	1497	1601	1698	1787	1871	1948	2022	2091	2157	**c5**	0.133903960568
37.8	**100**	1147	1411	1529	1640	1744	1841	1934	2021	2104	2185	2263	**c6**	0.046055392554
43.3	**110**	1161	1434	1558	1676	1787	1892	1993	2090	2184	2276	2366	**c7**	0.001037984333
48.9	**120**	1169	1452	1582	1706	1825	1939	2049	2156	2260	2363	2465	**c8**	0.001538645463
54.4	**130**	---	1464	1600	1731	1857	1979	2098	2215	2330	2445	2559	**c9**	0.000099636693
60.0	**140**	---	---	1611	1749	1882	2013	2141	2268	2394	2520	2646	**c10**	-0.000208726453

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)	1.04 (0.409)
Crank - Shaft Stroke	cm (inch)	2.08 (0.817)
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
Nominal Motor Winding Resistance (@ 25 °C)	Main	Ω	0.90 To 1.02
	Aux.	Ω	3.25 To 3.75
Nominal Motor Output Power		kW	2.28
Max. Allowable Motor Winding Temp.		°F (°C)	266 (130) B Class Insulation
Relay			
Type		---	Potential
Part Number		---	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			15HM-1899-78
Disc Opening Temperature		°F (°C)	221 To 239 (105 To 115)
Disc Closing Temperature		°F (°C)	126 To 158 (52 To 70)
1st Cycle Trip Current		A	56
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

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P) PERFORMANCE SPECIFICATIONS

Parameter	Unit	Value
Bare Compressor Sound	dBA	77.0 Maximum
Bare Compressor Vibration	µm	110.0 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)	264	5.13 (73)	31.70 (451)	--	46 (115)
Blocked Fan	230	6.7 (95)	30.58 (435)	--	35 (95)
Low Voltage Start: Unequalised Equalised	 198 198	 8 (114) 14.3 (203)	 25.3 (360) 14.3 (203)	 65 (149) 65 (149)	 -- --
Low Voltage Run	198	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.