

# PRODUCT SPECIFICATION

COMPRESSOR MODEL

**CS10K6ME-PFZ-XXXXX**

**Emerson Climate Technologies (India) Private Limited**  
**INDIA**

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

DVM				01	F45-0520-0038 EN No.	A4 29.05.2020
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## A) MODEL DESCRIPTION

<b>Model Name</b>	<b>CS10K6ME-PFZ-XXXXX</b>
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 <sup>3</sup> / minute
Typical Application	Cold Room Application

## B) PERFORMANCE SPECIFICATION @ RATED CONDITION

Specification	Unit	ARI	EN12900
Cooling Capacity	Btu / hr	8500	8840
	kcal / hr	2142	2228
	W	2491	2591
Input Power	W	1416	1359
Input Current	A	6.9	6.5
EER = $\frac{\text{Cooling Capacity}}{\text{Input Power}}$	Btu / W-hr	6.00	6.50
	kcal / W-hr	1.51	1.64
	W / W	1.76	1.91

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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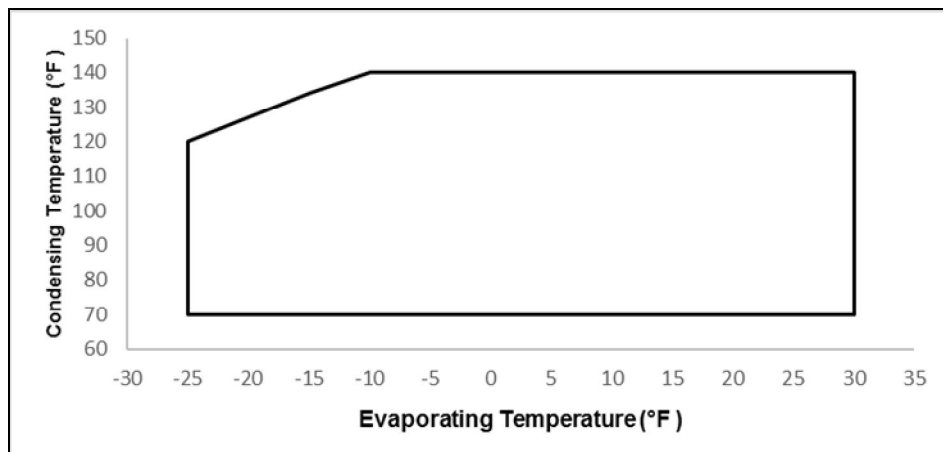
## D) MECHANICAL SPECIFICATIONS

Parameter	Unit	Value
Number of Cylinders	Number	Two (2)
Displacement	cm <sup>3</sup> (inch <sup>3</sup> ) / rev	40.80 (2.490)
Net Weight	kg	29.8
Approximate Shipping Weight	kg	33.1
Oil Charge	cm <sup>3</sup> (Oz)	1,330 (45)
Oil Type	Refrigeration Grade	POE
IPRV (Pressure Differential)	kg/cm <sup>2</sup> (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	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

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



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## G) PERFORMANCE TABLES

<b>Return Gas Temp.</b>	4.4 °C ( 40 °F )	<b>Voltage</b>	230V, 50 Hz, 1 Phase
<b>Sub - cooling</b>	0 °C ( 0 °F)	<b>Compressor Cooling</b>	400 ft3 / minute
<b>Ambient Temperature</b>	35 °C ( 95 °F)	<b>Refrigerant</b>	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	13046.13076
	( °F )	-25	-15	-10	-5	0	5	10	15	20	25	30	c2	569.3739606
21.1	70	4351	6155	7316	8652	10166	11861	13739	15802	18053	20494	23128	c3	65.42373336
26.7	80	3774	5388	6430	7632	8997	10526	12222	14089	16127	18340	20729	c4	5.916124098
32.2	90	3039	4555	5482	6553	7771	9138	10656	12328	14157	16144	18293	c5	-3.951243821
37.8	100	2323	3708	4522	5466	6540	7747	9091	10572	12195	13960	15871	c6	-2.029401745
43.3	110	1610	2825	3604	4422	5356	6407	7579	8873	10292	11838	13514	c7	0.005201722
48.9	120	945	2028	2777	3474	4271	5169	6172	7281	8500	9830	11275	c8	-0.034054937
54.4	130	--	1333	1907	2673	3336	4084	4921	5849	6871	7989	9205	c9	0.005550534
60.0	140	--	--	1278	1821	2418	3204	3879	4629	5457	6365	7355	c10	0.007284519

## 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	1130.768171673880
	( °F )	-25	-15	-10	-5	0	5	10	15	20	25	30	c2	7.185899905725
21.1	70	678	827	890	947	997	1042	1083	1119	1151	1181	1208	c3	-9.627470896842
26.7	80	691	846	913	974	1029	1078	1123	1164	1202	1237	1270	c4	-0.145955428035
32.2	90	702	866	937	1002	1062	1117	1167	1214	1258	1299	1338	c5	-0.012250049722
37.8	100	709	881	958	1028	1093	1154	1211	1264	1314	1362	1409	c6	0.151675685959
43.3	110	707	890	972	1049	1120	1187	1250	1310	1368	1424	1478	c7	0.000810962226
48.9	120	708	891	977	1060	1138	1212	1283	1350	1416	1480	1542	c8	0.000532102591
54.4	130	---	892	980	1061	1143	1225	1304	1380	1454	1527	1599	c9	0.000659975674
60.0	140	---	---	981	1062	1145	1226	1311	1396	1479	1561	1643	c10	-0.000591286426

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 <sup>3</sup> (inch <sup>3</sup> )	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		15HM-1708-78 OR 5DN-0708-78
Disc Opening Temperature	°F (°C)	239 To 257 (115 To 125)
Disc Closing Temperature	°F (°C)	140 To 172 (60 To 77)
1 <sup>st</sup> Cycle Trip Current	A	42
1 <sup>st</sup> 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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Emerson Classification: Internal

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### P) PERFORMANCE SPECIFICATIONS

Parameter	Unit	Value
Bare Compressor Sound	dBA	78 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	V	kg/cm <sup>2</sup> (psig)	kg/cm <sup>2</sup> (psig)	°C (°F)	°C (°F)
Test					
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	198	8 (114)	25.3(360)	65(149)	--
Equalised	198	14.3 (203)	14.3(203)	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.

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