

PRODUCT SPECIFICATION

COMPRESSOR MODEL

CS11K6ME-TFD-XXXXX

Emerson Climate Technologies (India) Private Limited
Karad - 415 110
INDIA

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

DVM				01	F45-1019-0148 EN No.	A4 18.10.2019
Prepared by	Checked by	Verified by	Approved by	Page No.	CS11K6ME-TFD-XXXXX DOCUMENT No.	

PRODUCT SPECIFICATION**MODEL: CS11K6ME-TFD-XXXXX****A) MODEL DESCRIPTION**

Model Name	CS11K6ME-TFD-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	380-420 V, 50 Hz, 3 Phase 460 V, 60 Hz, 3 Phase
Compressor Cooling	Fan: 400 ft ³ / minute
Typical Application	Cold Room Application

B) PERFORMANCE SPECIFICATION @ RATED CONDITION

Specification	Unit	ARI		EN12900	
		50 Hz	60 Hz	50 Hz	60 Hz
Cooling Capacity	Btu / hr	9200	11009	9570	11452
	kcal / hr	2318	2774	2412	2886
	W	2696	3226	2805	3356
Input Power	W	1475	1776	1435	1789
Input Current	A	2.93	2.92	2.8	2.75
EER = $\frac{\text{Cooling Capacity}}{\text{Input Power}}$	Btu / W-hr	6.24	6.20	6.67	6.40
	kcal / W-hr	1.57	1.56	1.68	1.61
	W / W	1.83	1.82	1.95	1.88

Note: Above Performance Parameters are Nominal Values & subject to \pm 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	380 @ 50Hz 460 @ 60 Hz	380 @ 50Hz 460 @ 60 Hz

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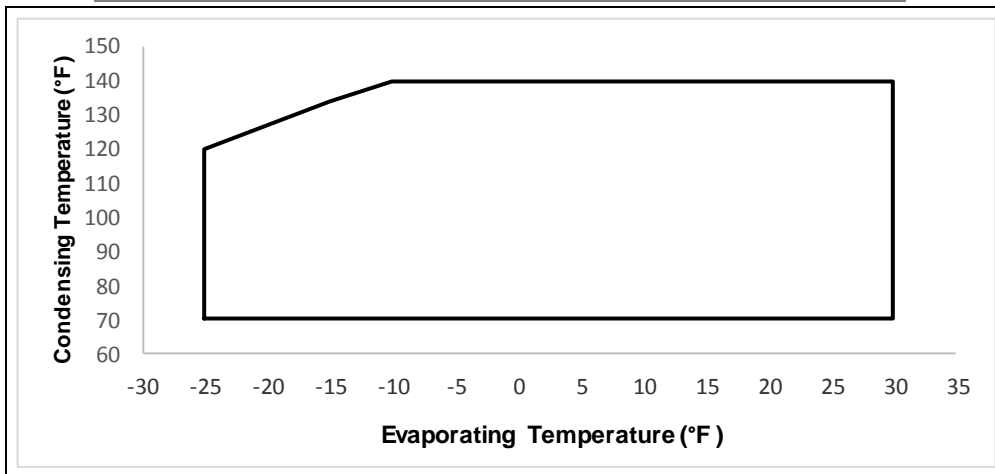
D) MECHANICAL SPECIFICATIONS

Parameter	Unit	Value
Number of Cylinders	Number	Two (2)
Displacement	cm ³ (inch ³) / rev	44.28 (2.702)
Net Weight	kg	29.5
Approximate Shipping Weight	kg	30.0
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	342 To 462, 50Hz 361 To 506, 60 Hz
Motor Circuit	---	Three Phase
Electrical Accessories	---	
➤ Start Capacitor	μF @ VAC	N/A
➤ Run Capacitor	μF @ VAC	N/A
➤ Relay	---	N/A
➤ Over Load Protector	---	Internal
Lock Rotor Ampere (LRA)	A	28 @ 420 V @ 50Hz 28 @ 460 V @ 60Hz
Maximum Continuous Current (MCC)	A	5.9
High Potential Test	(kV/second/mA)	2.3 / 1 / 5.5 ± 0.5

F) OPERATING ENVELOPE 50Hz & 60Hz



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PRODUCT SPECIFICATION**MODEL : CS11K6ME-TFD-XXXXX****G) PERFORMANCE TABLES**

Return Gas Temp.	4.4 °C (40 °F)	Voltage	380V, 50 Hz, 3 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	(°F)	-31.7	-26.1	-23.3	-20.6	-17.8	-15.0	-12.2	-9.4	-6.7	-3.9	-1.1	c1	15337.649335788600
		-25	-15	-10	-5	0	5	10	15	20	25	30	c2	621.496142845369
21.1	70	4616	6629	7894	9336	10962	12776	14783	16989	19397	22014	24844	c3	29.143202042626
26.7	80	3965	5791	6933	8235	9701	11337	13146	15135	17309	19671	22228	c4	6.409542696558
32.2	90	3235	4888	5916	7084	8397	9861	11481	13261	15206	17322	19613	c5	-4.476673177325
37.8	100	2463	3958	4879	5920	7089	8389	9825	11403	13128	15004	17036	c6	-1.759658271870
43.3	110	1690	3041	3861	4784	5814	6958	8218	9602	11113	12757	14538	c7	0.006618355221
48.9	120	952	2175	2902	3713	4613	5606	6699	7895	9200	10619	12156	c8	-0.037775810604
54.4	130	---	1397	2039	2746	3522	4374	5305	6321	7427	8628	9929	c9	0.007284548231
60.0	140	---	---	1312	1921	2582	3298	4076	4919	5834	6824	7895	c10	0.006433348317

J) INPUT POWER (W)

Condensing Temperature		Evaporating Temperature											Coefficients	
°C	(°F)	-31.7	-26.1	-23.3	-20.6	-17.8	-15.0	-12.2	-9.4	-6.7	-3.9	-1.1	c1	1176.213355450940
		-25	-15	-10	-5	0	5	10	15	20	25	30	c2	7.166434066028
21.1	70	704	860	926	985	1038	1085	1127	1164	1198	1229	1257	c3	-10.019207614591
26.7	80	717	880	950	1013	1070	1122	1169	1212	1252	1288	1323	c4	-0.153977752317
32.2	90	730	900	975	1043	1105	1162	1215	1264	1310	1353	1394	c5	-0.005073473054
37.8	100	737	917	997	1070	1138	1202	1261	1316	1369	1419	1468	c6	0.157827473605
43.3	110	736	927	1012	1092	1166	1236	1302	1365	1425	1483	1540	c7	0.000845417007
48.9	120	737	928	1017	1104	1185	1262	1336	1407	1475	1542	1607	c8	0.000574937804
54.4	130	---	929	1018	1103	1192	1277	1359	1438	1515	1590	1665	c9	0.000645003613
60.0	140	---	---	1019	1105	1200	1280	1366	1454	1541	1626	1711	c10	-0.000614202973

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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PRODUCT SPECIFICATION**MODEL : CS11K6ME-TFD-XXXXX****K) PERFORMANCE TABLES**

Return Gas Temp.	4.4 °C (40 °F)	Voltage	460V, 60 Hz, 3 Phase
Sub - cooling	0 °C (0 °F)	Compressor Cooling	400 ft3 / minute
Ambient Temperature	35 °C (95 °F)	Refrigerant	R-404A

L) 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	18351.879843488500
	(°F)	-25	-15	-10	-5	0	5	10	15	20	25	30	c2	743.690966756441
21.1	70	5524	7933	9446	11172	13117	15288	17690	20329	23212	26343	29729	c3	34.916752136016
26.7	80	4745	6930	8297	9854	11609	13566	15731	18112	20712	23539	26599	c4	7.669686717060
32.2	90	3871	5849	7079	8477	10049	11800	13738	15868	18196	20728	23469	c5	-5.356786562317
37.8	100	2948	4737	5838	7085	8483	10038	11757	13646	15709	17954	20386	c6	-2.105986214889
43.3	110	2022	3639	4620	5725	6958	8326	9835	11490	13298	15265	17397	c7	0.007924724022
48.9	120	1139	2602	3472	4443	5520	6709	8016	9447	11009	12707	14546	c8	-0.045204619798
54.4	130	---	1672	2440	3285	4215	5234	6348	7564	8888	10325	11881	c9	0.008716614777
60.0	140	---	---	1569	2299	3089	3947	4877	5886	6981	8166	9448	c10	0.007699046365

M) 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	1411.326134152720
	(°F)	-25	-15	-10	-5	0	5	10	15	20	25	30	c2	8.587690830297
21.1	70	848	1035	1114	1186	1249	1306	1357	1402	1443	1480	1514	c3	-11.919978117502
26.7	80	864	1059	1144	1220	1289	1351	1408	1460	1507	1551	1593	c4	-0.185085384911
32.2	90	879	1084	1174	1256	1331	1400	1463	1522	1577	1629	1679	c5	-0.005351925643
37.8	100	887	1104	1200	1289	1371	1447	1518	1585	1648	1709	1767	c6	0.188693369287
43.3	110	888	1116	1219	1315	1404	1489	1568	1644	1716	1786	1854	c7	0.001017883277
48.9	120	890	1120	1225	1329	1427	1520	1609	1694	1776	1856	1935	c8	0.000688580305
54.4	130	---	1125	1214	1330	1435	1537	1636	1731	1824	1915	2005	c9	0.000773793524
60.0	140	---	---	1220	1335	1440	1540	1645	1751	1855	1958	2060	c10	-0.000735545653

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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PRODUCT SPECIFICATION**MODEL : CS11K6ME-TFD-XXXXX****N) MECHANICAL SPECIFICATIONS**

Parameter	Unit	Value
Cylinder Bore Diameter	cm (inch)	4.21 (1.656)
Crank - Shaft Eccentricity	cm (inch)	0.796 (0.313)
Crank - Shaft Stroke	cm (inch)	1.593 (0.627)
Approximate Internal Free Volume (Without Oil)	cm ³ (inch ³)	6,700 (409)
Maximum Residual Moisture	mg	300
Maximum Internal Solid Residue / Impurities	mg	40

P) ELECTRICAL SPECIFICATIONS

Parameter	Unit	Value	
Motor Type	---	2 Pole, Induction, Three Phase	
Nominal Motor Speed	rpm	2,850 @ 50 Hz 3500 @ 60 Hz	
Nominal Motor Winding Resistance (@ 25 °C)	Main	Ω	7.3 To 8.5
	Aux.	Ω	-----
Nominal Motor Output Power	kW	1.85	
Max. Allowable Motor Winding Temp.	°F (°C)	266 (130) B Class Insulation	
Relay			
Type	---	N/A	
Make - Part Number	---	N/A	
Pick Up (Maximum)	V	N/A	
Drop Out (Minimum)	V	N/A	
Maximum Voltage Rating of Coils	V	N/A	
Over Load Protector			
Type	---	Internal	
Part Number		34HM-200-56	
Disc Opening Temperature	°F (°C)	212 To 230 (100 To 110)	
Disc Closing Temperature	°F (°C)	126 To 158 (52 To 70)	
1 st Cycle Trip Current	A	18	
1 st 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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PRODUCT SPECIFICATION**MODEL: CS11K6ME-TFD-XXXXX****Q) PERFORMANCE SPECIFICATIONS**

Parameter	Unit	Value
Bare Compressor Sound	dB(A)	75.0 Maximum
Bare Compressor Vibration	µm	130.0 Maximum
Compressor Discharge Pulse	psi	10.0 Maximum

R) 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)	462, 50Hz 506, 60Hz	5.13 (73)	31.70 (451)	--	46 (115)
Blocked Fan	380, 50Hz 460, 60Hz	6.7 (95)	30.58 (435)	--	35(95)
Low Voltage Start: Unequalised	342, 50Hz 361, 60Hz	8 (114)	25.3(360)	65(149)	--
Equalised	342, 50Hz 361, 60Hz	14.3 (203)	14.3(203)	65(149)	
Low Voltage Run	342, 50Hz 361, 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.

S) 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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