

# PRODUCT SPECIFICATION

COMPRESSOR MODEL

**CS10K6ME-TFM-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
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**PRODUCT SPECIFICATION****MODEL: CS10K6ME-TFM-XXXXX****A) MODEL DESCRIPTION**

<b>Model Name</b>	<b>CS10K6ME-TFM-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	380-420 V, 50Hz, 3 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	8450	8790
	kcal / hr	2129	2215
	W	2476	2576
Input Power	W	1380	1333
Input Current	A	2.8	2.6
EER = $\frac{\text{Cooling Capacity}}{\text{Input Power}}$	Btu / W-hr	6.12	6.59
	kcal / W-hr	1.54	1.66
	W / W	1.79	1.93

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	400	400

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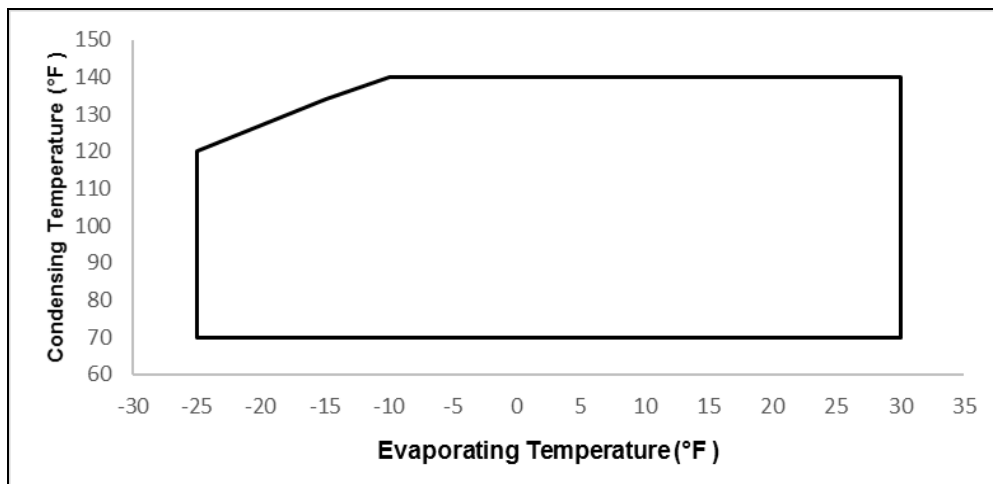
## D) MECHANICAL SPECIFICATIONS

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	29.5
Approximate Shipping Weight	kg	30.0
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 V

## E) ELECTRICAL SPECIFICATIONS

Parameter	Unit	Value
Operating Voltage Range	V	342 To 462
Motor Circuit	---	3 Phase
Electrical Accessories	---	
➤ Start Capacitor	μF @ V AC	N/A
➤ Run Capacitor	μF @ V AC	N/A
➤ Relay	---	N/A
➤ Over Load Protector	---	Internal
Locked Rotor Ampere (LRA)	A	20
Maximum Continuous Current (MCC)	A	5.1
High Potential Test	(kV / second / mA)	2.3 / 1 / 5.5 ± 0.5

## F) OPERATING ENVELOPE @ 400 V, 50 Hz, 3 Phase



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**PRODUCT SPECIFICATION****MODEL : CS10K6ME-TFM-XXXXX****G) PERFORMANCE TABLES**

<b>Return Gas Temp.</b>	4.4 °C ( 40 °F )	<b>Voltage</b>	400V, 50 Hz, 3 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	14084.704565037700
	( °F )	-25	-15	-10	-5	0	5	10	15	20	25	30	c2	570.819471422507
21.1	70	4240	6089	7250	8575	10068	11734	13578	15604	17816	20219	22819	c3	26.824784183419
26.7	80	3642	5319	6368	7564	8910	10412	12075	13902	15898	18068	20416	c4	5.887140878383
32.2	90	2971	4490	5433	6506	7713	9057	10545	12180	13967	15910	18014	c5	-4.111636991404
37.8	100	2263	3636	4481	5438	6511	7705	9024	10474	12058	13781	15648	c6	-1.616549113682
43.3	110	1552	2793	3546	4394	5340	6390	7549	8819	10207	11717	13353	c7	0.006078954619
48.9	120	874	1997	2665	3410	4237	5149	6153	7252	8450	9753	11165	c8	-0.034698559249
54.4	130	--	1283	1873	2522	3235	4017	4873	5806	6822	7925	9119	c9	0.006691171923
60.0	140	--	--	1204	1764	2371	3029	3743	4518	5358	6268	7252	c10	0.005909289039

**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	1564.824222296440
	( °F )	-25	-15	-10	-5	0	5	10	15	20	25	30	c2	1.298419650685
21.1	70	660	807	868	923	972	1016	1054	1088	1119	1146	1170	c3	-22.369187802644
26.7	80	657	811	877	937	991	1040	1084	1125	1162	1196	1229	c4	-0.171542283873
32.2	90	665	825	895	960	1019	1074	1124	1171	1215	1257	1297	c5	0.118012482959
37.8	100	677	845	919	988	1052	1112	1168	1222	1272	1321	1369	c6	0.259794846645
43.3	110	689	864	942	1016	1085	1150	1212	1272	1329	1385	1441	c7	0.000790606588
48.9	120	696	877	960	1038	1112	1183	1250	1316	1380	1443	1506	c8	0.000868317020
54.4	130	--	880	967	1049	1128	1204	1277	1349	1420	1490	1560	c9	-0.000070807539
60.0	140	--	--	970	1050	1128	1209	1288	1366	1443	1520	1597	c10	-0.000873637727

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 : CS10K6ME-TFM-XXXXX****M) MECHANICAL SPECIFICATIONS**

Parameter	Unit	Value
Cylinder Bore Diameter	cm (inch)	4.207 (1.6564)
Crank - Shaft Eccentricity	cm (inch)	0.734 (0.289)
Crank - Shaft Stroke	cm (inch)	1.468 (0.575)
Approximate Internal Free Volume (Without Oil)	cm <sup>3</sup> (inch <sup>3</sup> )	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, Three Phase
Nominal Motor Speed	rpm	2,850
Nominal Motor Winding Resistance (@ 25 °C)	Ω	7.3 To 8.5
Nominal Motor Output Power	kW	1.53
Max. Allowable Motor Winding Temp.	°F (°C)	266 (130) B Class Insulation
Relay		
Type	---	N/A
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(100To 110)
Disc Closing Temperature	°F (°C)	126 To 158 (52 To 70)
1 <sup>st</sup> Cycle Trip Current	A	18
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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## P) PERFORMANCE SPECIFICATIONS

Parameter	Unit	Value
Bare Compressor Sound	dBA	73.0 Maximum
Bare Compressor Vibration	µm	130.0 Maximum
Compressor Discharge Pulse	psi	2.5 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)
Overload (High Load)	462	5.13 (73)	31.70 (451)	--	46 (115)
Blocked Fan	400	6.7 (95)	30.58 (435)	--	35 (95)
Low Voltage Start:					
Unequalised	342	8 (114)	25.3 (360)	65 (149)	--
Equalised	342	14.3 (203)	14.3 (203)	65 (149)	
Low Voltage Run	342	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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