PRODUCT SPECIFICATION

COMPRESSOR MODEL

CS13K6ME-TFM-XXXXX

Emerson Climate Technologies (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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A) MODEL DESCRIPTION

Model Name	**CS13K6ME-TFM-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, 50Hz, 3 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	11590	11985
	kcal / hr	2921	3020
	W	3397	3512
Input Power	W	1815	1700
Input Current	A	3.7	3.5
$EER = \frac{\text{Cooling Capacity}}{\text{Input Power}}$	Btu / W-hr	6.39	7.05
	kcal / W-hr	1.61	1.78
	W / W	1.87	2.07

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	400	400

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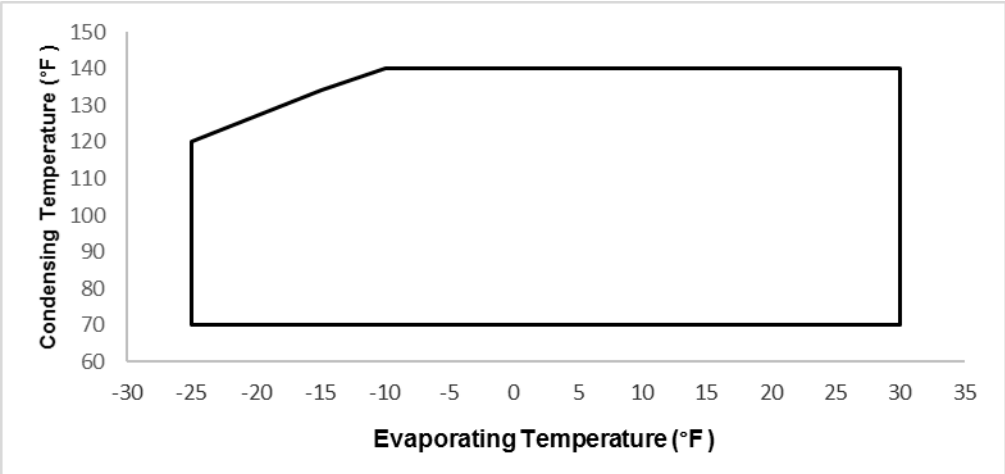
D) MECHANICAL SPECIFICATIONS

Parameter	Unit	Value
Number of Cylinders	Number	Two (2)
Displacement	cm^3 ($inch^3$) / rev	51.47 (3.141)
Net Weight	kg	30.0
Approximate Shipping Weight	kg	30.6
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
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	28
Maximum Continuous Current (MCC)	A	6.1
High Potential Test	(kV / second / mA)	2.3 / 1 / 5.5 ± 0.5

F) OPERATING ENVELOP @ 400 V, 50 Hz, 3 Phase



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G) PERFORMANCE TABLES

Return Gas Temp.	4.4 °C (40 °F)	**Voltage**	400V, 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		**-31.7**	**-26.1**	**-23.3**	**-20.6**	**-17.8**	**-15.0**	**-12.2**	**-9.4**	**-6.7**	**-3.9**	**-1.1**	**c1**	25581.322808463900
	(°F)	**-25**	**-15**	**-10**	**-5**	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**c2**	583.980761174484
21.1	**70**	5769	8450	10020	11746	13631	15679	17892	20274	22827	25555	28461	**c3**	-171.038959296503
26.7	**80**	4771	7253	8701	10292	12029	13914	15950	18142	20490	23000	25673	**c4**	5.199878842135
32.2	**90**	3852	6124	7447	8898	10481	12198	14053	16049	18188	20474	22910	**c5**	-2.383357533462
37.8	**100**	3022	5074	6266	7573	8997	10542	12211	14006	15931	17988	20182	**c6**	-0.105821124608
43.3	**110**	2290	4112	5169	6326	7587	8954	10431	12021	13727	15552	17498	**c7**	0.004021130226
48.9	**120**	1665	3248	4164	5167	6259	7445	8726	10105	11590	13174	14868	**c8**	-0.027868514393
54.4	**130**	---	2491	3262	4105	5024	6022	7102	8267	9520	10863	12301	**c9**	-0.004882952788
60.0	**140**	---	---	2471	3150	3891	4697	5571	6516	7535	8631	9807	**c10**	0.001577853408

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**	1444.697599032410
	(°F)	**-25**	**-15**	**-10**	**-5**	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**c2**	8.685602364046
21.1	**70**	866	1057	1138	1210	1275	1333	1384	1431	1472	1510	1544	**c3**	-12.254074039027
26.7	**80**	882	1081	1167	1245	1315	1379	1437	1489	1538	1583	1625	**c4**	-0.188976684666
32.2	**90**	896	1106	1198	1281	1358	1428	1493	1553	1609	1662	1713	**c5**	-0.004058419499
37.8	**100**	905	1127	1224	1315	1398	1476	1549	1617	1682	1743	1803	**c6**	0.192964445619
43.3	**110**	904	1138	1243	1341	1433	1519	1600	1677	1751	1822	1892	**c7**	0.001040706164
48.9	**120**	905	1139	1250	1356	1456	1551	1641	1728	1815	1894	1974	**c8**	0.000703644334
54.4	**130**	---	1140	1251	1357	1464	1569	1669	1766	1861	1954	2046	**c9**	0.000782828072
60.0	**140**	---	---	1253	1358	1465	1567	1679	1787	1893	1998	2102	**c10**	-0.000750468118

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)	4.207(1.6564)
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, Three Phase
Nominal Motor Speed	rpm	2,850
Nominal Motor Winding Resistance (@ 25 °C	Ω	4.59 To 5.29
Nominal Motor Output Power	kW	2.25
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 (100 To 110)
Disc Closing Temperature	°F (°C)	126 To 158 (52 To 70)
1st Cycle Trip Current	A	18
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	75.0 Maximum
Bare Compressor Vibration	µm	130.0 Maximum
Compressor Discharge Pulse	psi	2.75Maximum

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)	462	5.13 (73)	31.70 (451)	--	46 (115)
Blocked Fan	400	6.7 (95)	30.58 (435)	--	35 (95)
Low Voltage Start: Unequalised Equalised	 342 342	 8 (114) 14.3 (203)	 25.3 (360) 14.3 (203)	 65 (149) 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.