

PRODUCT SPECIFICATION

COMPRESSOR MODEL

CR62KQM-TFD-XXXXX (@50HZ)

BILL OF MATERIAL

201, 202, 203, 233, 233DM

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	F45-0219-0017 EN No.	A10 09.02.2019
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PRODUCT SPECIFICATION**MODEL: CR53KQM-TFD-XXXXX****A) MODEL DESCRIPTION**

Model Name	CR62KQM-TFD-XXXXX
Compressor Type	Reciprocating, Connecting Rod Type
Application Group	High Temperature (HBP)
Evaporating Temperature Range	(-)23.3 °C To 12.8 °C Or (-)10 °F To 55 °F
Refrigerant	R-22
Rated Voltage	380-420 V, 50 Hz, 3 Phase
Compressor Cooling	Fan: 400 ft ³ / minute
Typical Application	Air - Conditioning, Heat Pump
*Certifications & Approvals	UL (File No. SA12060)

* The Electrical Accessories are provided for reference and not included in the scope of Certification.

B) PERFORMANCE SPECIFICATION @ RATED CONDITION

Parameter	Unit	ASRE / T	ARI
Cooling Capacity	Btu / h	52,800	51,500
	kcal / h	13,306	12,978
	W	15,461	15,093
	Nominal HP	5	5
Input Power	W	5,100	5,100
Input Current	A	8.8	8.8
EER = $\frac{\text{Cooling Capacity}}{\text{Input Power}}$	Btu / W-h	10.35	10.1
	kcal / W-h	2.61	2.54
	W / W	3.03	2.96

Note: Above Performance Parameters are Nominal Values & subject to $\pm 5\%$ variation.

C) RATING CONDITIONS

Parameter	Unit	ASRE / T	ARI
Evaporating Temperature	°C (°F)	7.2 $\pm$ 0.5 (45)	7.2 $\pm$ 0.5 (45)
Condensing Temperature	°C (°F)	54.4 $\pm$ 1 (130)	54.4 $\pm$ 1 (130)
Ambient Temperature	°C (°F)	35 $\pm$ 1 (95)	35 $\pm$ 1 (95)
Sub-cooled Liquid Temperature	°C (°F)	46 $\pm$ 1 (115)	46 $\pm$ 1 (115)
Return Gas Temperature	°C (°F)	35 $\pm$ 1 (95)	18.3 $\pm$ 1 (65)
Test Voltage	V	380	380

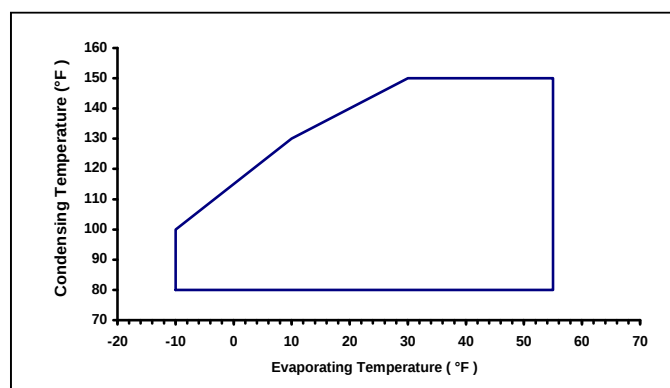
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PRODUCT SPECIFICATION**MODEL : CR62KQM-TFD-XXXXX****D) MECHANICAL SPECIFICATIONS**

Parameter	Unit	Value
Number of Cylinders	Number	Two (2)
Displacement	cm ³ (inch ³) / rev	101.92 (6.220)
Net Weight	kg	36.2
Approximate Shipping Weight	kg	37.5
Oil Charge	cm ³ (Oz)	1,330 (45)
Oil Type	Refrigeration Grade	Mineral
IPRV (Pressure Differential)	kg/cm ² (psig)	31.65 / 38.68 (450 / 550)
*Crank - case Heater (Refer note on page No. 6)	W @ V	40 @ 240 For CR62KQM-TFD-X02 40 @ 480 For CR62KQM-TFD-X03

E) ELECTRICAL SPECIFICATIONS

Parameter	Unit	Value
Operating Voltage Range	V	342 To 462
Motor Circuit	---	Three 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	55 @ 420 V (65 @ 480 v)
Maximum Continuous Current (MCC)	A	16
High Potential Test	(kV / second / mA)	2.3 / 1 / 5.5 ± 0.5

F) OPERATING ENVELOPE @ 380 V, 50 Hz, 3 Phase

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PRODUCT SPECIFICATION**MODEL: CR62KQM-TFD-XXXXX****G) PERFORMANCE TABLES**

Superheating	11 °C (20 °F)	Voltage	380 V, 50 Hz, 3 Phase
Sub - cooling	8.3 °C (15 °F)	Compressor Cooling	400 ft ³ / minute
Ambient Temperature	35 °C (95 °F)	-	-

H) COOLING CAPACITY (Btu / h)

Condensing Temperature		Evaporating Temperature									Coefficients	
											C1	
°C		-23.3	-17.8	-12.2	-6.7	-1.1	4.4	7.2	10.0	12.8	c2	-15650.642053308400
(°F)		-10	0	10	20	30	40	45	50	55	c3	479.130500299880
37.8	100	16152	21393	28130	35704	45073	56057	61851	68464	75661	c4	1209.818423020280
43.3	110	-	20011	26381	33788	42772	53074	58924	65280	72145	c5	9.369868406386
48.9	120	-	-	24546	31559	39974	49927	55522	61567	68085	c6	3.596664697830
54.4	130	-	-	22674	29299	37430	46650	51500	57795	63996	c7	-11.686815879405
60.0	140	-	-	-	26971	34726	43447	48562	53723	59802	c8	0.032589620108
65.6	150	-	-	-	-	32171	40936	45028	50167	55179	c9	-0.040558051061
											c10	-0.024560393675
												0.033077691571

J) INPUT POWER (W)

Condensing Temperature		Evaporating Temperature									Coefficients	
											c1	
°C		-23.3	-17.8	-12.2	-6.7	-1.1	4.4	7.2	10.0	12.8	c2	4887.224910098070
(°F)		-10	0	10	20	30	40	45	50	55	c3	9.602960786142
37.8	100	2687	3000	3265	3456	3579	3589	3553	3485	3379	c4	-100.926801707894
43.3	110	-	3196	3530	3789	3977	4073	4083	4062	4005	c5	-0.436404632457
48.9	120	-	-	3774	4108	4377	4552	4609	4636	4626	c6	-0.187944851742
54.4	130	-	-	3990	4396	4742	5002	5100	5172	5213	c7	1.238384478288
60.0	140	-	-	-	4663	5089	5432	5575	5692	5782	c8	-0.002915118265
65.6	150	-	-	-	-	5212	5868	5977	6140	6280	c9	0.002053766604
											c10	0.003789501330
												-0.004181759212

K) INPUT CURRENT (A)

Condensing Temperature		Evaporating Temperature									Coefficients	
											c1	
°C		-23.3	-17.8	-12.2	-6.7	-1.1	4.4	7.2	10.0	12.8	c2	1.502721015166
(°F)		-10	0	10	20	30	40	45	50	55	c3	0.113527753205
37.8	100	6.1	6.3	6.6	7.0	7.4	7.8	8.0	8.2	8.3	c4	0.065028992809
43.3	110	-	6.5	6.8	7.2	7.6	8.1	8.3	8.5	8.7	c5	-0.000951438066
48.9	120	-	-	6.9	7.3	7.8	8.3	8.6	8.8	9.1	c6	-0.001140448396
54.4	130	-	-	6.9	7.3	7.9	8.5	8.8	9.1	9.4	c7	-0.000120774164
60.0	140	-	-	-	7.3	7.9	8.6	9.0	9.3	9.7	c8	-0.000009535000
65.6	150	-	-	-	-	7.9	8.7	9.1	9.5	10.0	c9	0.000016842838
											c10	0.000002603607
												-0.000000537197

L) MASS FLOW RATE (lbs/hr)

Condensing Temperature		Evaporating Temperature									Coefficients	
											c1	
°C		-23.3	-17.8	-12.2	-6.7	-1.1	4.4	7.2	10.0	12.8	c2	
(°F)		-10	0	10	20	30	40	45	50	55	c3	
37.8	100	Under Evolution									c4	
43.3	110										c5	
48.9	120										c6	
54.4	130										c7	
60.0	140										c8	
65.6	150										c9	
											c10	

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 : CR62KQM-TFD-XXXXX****M) MECHANICAL SPECIFICATIONS**

Parameter	Unit	Value
Cylinder Bore Diameter	cm (inch)	4.98 (1.960)
Crank - Shaft Eccentricity	cm (inch)	1.30 (0.515)
Crank - Shaft Stroke	cm (inch)	2.60 (1.030)
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	2,900
Nominal Motor Winding Resistance (@ 25 °C)	Main	Ω 2.76 To 3.08
	Aux.	Ω ---
Nominal Motor Output Power	kW	4.2
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		37HM-527-14
Disc Opening Temperature	°F (°C)	230 To 248 (110 To 120)
Disc Closing Temperature	°F (°C)	152 To 158 (52 To 70)
1 st Cycle Trip Current	A	37
1 st Cycle Trip On Time	second	2 To 10
Terminal Fused Cluster	---	Screw Type Connector
Wire Material	---	Hermetic Grade Round Enameled
Wire Enamel Designation & Construction	---	H Class, Dual Coated

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PRODUCT SPECIFICATION**MODEL: CR62KQM-TFD-XXXXX****P) SOUND & VIBRATION SPECIFICATIONS**

Parameter	Unit	Value	
		Average	Maximum
Bare Compressor Sound	dBA	78	83
Bare Compressor Vibration	µm	90	150
Compressor Discharge Pulse	psi	10	10

Q) TEST CONDITIONS

Parameter	Voltage	Suction Pressure	Discharge Pressure	Top Shell Temperature	Ambient Temperature
Test	V	kg/cm ² (psig)	kg/cm ² (psig)	°C (°F)	°C (°F)
Overload (High Load)	380	6.50 (92.43)	30 (426.6)	--	55 (131)
Blocked Fan	380	6.33 (90)	28.12 (400)	--	--
Low Voltage Start: Equalised	342	11.9 ± 0.5 (169)	11.9 ± 0.5 (169)	62 (143.6)	--
Low Voltage Run	342	6.50 (92.43)	30 (426.6)	--	55 (131)

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)	55 (131)
Maximum Discharge Line Temperature	°C (°F)	129.4 (265)
Maximum Return Gas Temperature	°C (°F)	27 (80.6)

** For system Charge more than 6 lbs, use of appropriate sized Accumulator is recommended. Selected Accumulator shall be validated with suitable tests such as Low Ambient tests etc. (Ref Application Engineering Bulletin AE4-1329)

Crankcase Heater

* The Crankcase heater must be switched on 12 Hrs before first start

* Crankcase heater should be kept continuously energized even during shut down period, irrespective of duration of shut down. Refer Page No 3 for Voltage Rating.

Note: Application details are the guidelines for safe operation of compressor.

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