

PRODUCT SPECIFICATION

COMPRESSOR MODEL

CS13K6ME-PFZ-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.	CS13K6ME-PFZ-XXXXX DOCUMENT No.	

PRODUCT SPECIFICATION**MODEL: CS13K6ME-PFZ-XXXXX****A) MODEL DESCRIPTION**

Model Name	CS13K6ME-PFZ-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	220-240 V, 50Hz, 1 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	11600	12065
	kcal / hr	2923	3040
	W	3400	3536
Input Power	W	1910	1827
Input Current	A	9.3	9.0
EER = $\frac{\text{Cooling Capacity}}{\text{Input Power}}$	Btu / W-hr	6.07	6.60
	kcal / W-hr	1.53	1.66
	W / W	1.78	1.94

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	230	230

DVM				02	F45-1019-0148 EN No.	A4 18.10.2019
Prepared by	Checked by	Verified by	Approved by	Page No.	CS13K6ME-PFZ-XXXXX DOCUMENT No.	

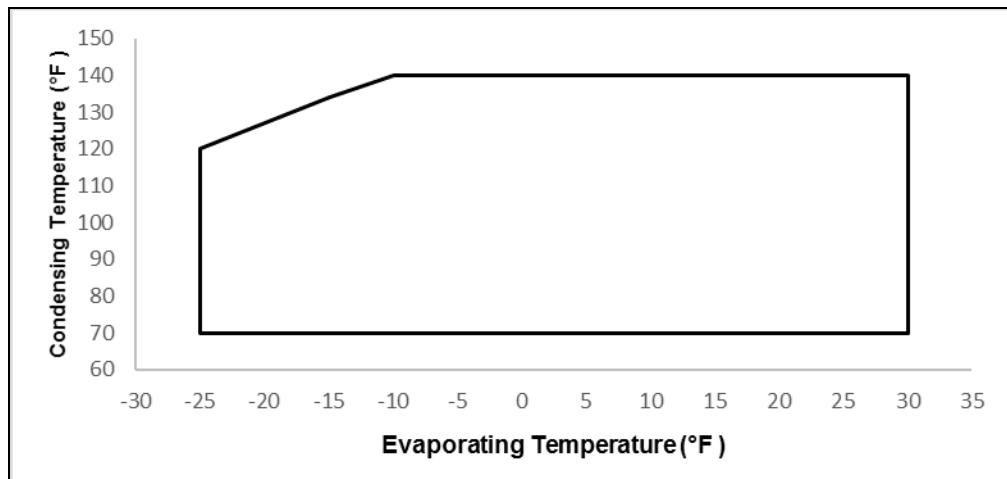
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PRODUCT SPECIFICATION**MODEL : CS13K6ME-PFZ-XXXXX****D) MECHANICAL SPECIFICATIONS**

Parameter	Unit	Value
Number of Cylinders	Number	Two (2)
Displacement	cm ³ (inch ³) / rev	51.47 (3.141)
Net Weight	kg	32.5
Approximate Shipping Weight	kg	33.1
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	198 To 264
Motor Circuit	---	CSCR
Electrical Accessories	---	
➤ Start Capacitor	μF @ V AC	150 - 200 @ 230
➤ Run Capacitor	μF @ V AC	45 @ 440
➤ Relay	---	Potential
➤ Over Load Protector	---	Internal
Locked Rotor Ampere (LRA)	A	72
Maximum Continuous Current (MCC)	A	17.8
High Potential Test	(kV / second / mA)	1.85 / 1 / 5.5 ± 0.5

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

DVM				03	F45-1019-0148 EN No.	A4 18.10.2019
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PRODUCT SPECIFICATION**MODEL : CS13K6ME-PFZ-XXXXX****G) PERFORMANCE TABLES**

Return Gas Temp.	4.4 °C (40 °F)	Voltage	230V, 50 Hz, 1 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	24409.229788401100
(°F)		-25	-15	-10	-5	0	5	10	15	20	25	30	c2	582.111648129916
21.1	70	5735	8375	9944	11678	13576	15638	17863	20250	22798	25506	28374	c3	-137.572820338917
26.7	80	4771	7203	8649	10247	11996	13897	15947	18147	20495	22991	25634	c4	5.061132409769
32.2	90	3873	6086	7403	8860	10455	12188	14059	16066	18209	20487	22898	c5	-2.269440704140
37.8	100	3056	5039	6222	7532	8967	10528	12213	14022	15954	18008	20183	c6	-0.425247242816
43.3	110	2336	4078	5121	6278	7548	8931	10425	12031	13746	15571	17504	c7	-0.001022414473
48.9	120	1728	3218	4115	5114	6214	7413	8711	10107	11600	13190	14875	c8	-0.025573420852
54.4	130	--	2474	3221	4056	4979	5989	7085	8266	9532	10881	12314	c9	-0.005549352882
60.0	140	--	--	2453	3119	3860	4675	5563	6524	7557	8660	9834	c10	0.002567685919

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	2200.368208681610
(°F)		-25	-15	-10	-5	0	5	10	15	20	25	30	c2	2.353468453014
21.1	70	915	1116	1202	1278	1345	1406	1459	1507	1549	1587	1622	c3	-32.081333645339
26.7	80	911	1122	1213	1296	1370	1438	1500	1556	1608	1656	1701	c4	-0.233724011082
32.2	90	922	1142	1239	1328	1410	1485	1555	1620	1681	1739	1795	c5	0.151588246593
37.8	100	939	1169	1272	1367	1456	1539	1617	1690	1761	1829	1895	c6	0.371307581879
43.3	110	956	1196	1304	1405	1501	1591	1677	1760	1840	1917	1994	c7	0.001064465230
48.9	120	965	1214	1328	1436	1538	1636	1730	1821	1910	1998	2085	c8	0.001186190659
54.4	130	--	1217	1336	1450	1560	1665	1767	1866	1965	2062	2159	c9	-0.000038097460
60.0	140	--	--	1337	1451	1561	1670	1780	1889	1996	2103	2210	c10	-0.001249588014

Note: 1. Nominal Performance Values ($\pm 5\%$) 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.

DVM				04	F45-1019-0148 EN No.	A4 18.10.2019
Prepared by	Checked by	Verified by	Approved by	Page No.	CS13K6ME-PFZ-XXXXX DOCUMENT No.	

PRODUCT SPECIFICATION**MODEL : CS13K6ME-PFZ-XXXXX****M) MECHANICAL SPECIFICATIONS**

Parameter	Unit	Value
Cylinder Bore Diameter	cm (inch)	4.21 (1.656)
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)	7,000 (427)
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 0.87 To 1.00
	Aux.	Ω 3.70-4.20
Nominal Motor Output Power	kW	1.96
Max. Allowable Motor Winding Temp.	°F (°C)	266 (130) B Class Insulation
Relay		
Type	---	Potential
Part Number	---	HONGLI: HLR38004-6H3C-1
Pick Up (Maximum)	V	195 To 215
Drop Out (Minimum)	V	80 To 110
Maximum Voltage Rating of Coils	V	430
Over Load Protector		
Type	---	Internal
Part Number		15HM-1484-78 OR 5DN-0484-78
Disc Opening Temperature	°F (°C)	239 To 257 (115 To 125)
Disc Closing Temperature	°F (°C)	126 To 158 (52 To 70)
1 st Cycle Trip Current	A	53
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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DVM				05	F45-1019-0148 EN No.	A4 18.10.2019
Prepared by	Checked by	Verified by	Approved by	Page No.	CS13K6ME-PFZ-XXXXX DOCUMENT No.	

PRODUCT SPECIFICATION**MODEL : MODEL: CS13K6ME-PFZ-XXXXX****P) PERFORMANCE SPECIFICATIONS**

Parameter	Unit	Value
Bare Compressor Sound	dBA	80 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 ² (psig)	kg/cm ² (psig)	°C (°F)	°C (°F)
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.

DVM				06	F45-1019-0148 EN No.	A4 18.10.2019
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