

PRODUCT SPECIFICATION

COMPRESSOR MODEL

CR42K6ME-PFZ-XXXXX

Emerson Climate Technologies (India) Limited

Karad Dhebewadi Road

Karad - 415 110

INDIA

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

SRS				01	F45-1014-0669 EN No.	A1 30.10.2014
Prepared by	Checked by	Verified by	Approved by	Page No.	CR42K6ME-PFZ-XXXXX DOCUMENT No.	

PRODUCT SPECIFICATION**MODEL : CR42K6ME-PFZ-XXXXX****A) MODEL DESCRIPTION**

Model Name	CR42K6ME-PFZ-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-407C
Rated Voltage	220-240V, 50 Hz, 1 Phase
Compressor Cooling	Fan : 400 ft ³ / minute
Typical Application	Air - Conditioning, Heat Pump
*Certifications & Approvals	---

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

B) PERFORMANCE SPECIFICATION @ RATED CONDITION

Parameter	Unit	ARI	ASHRAE
Cooling Capacity	Btu / hr	31,200	32,350
	kcal / hr	7,862	8,152
	W	9,136	9,472
	Nominal HP	2.50	2.59
Input Power	W	3,100	3,100
Input Current	A	15.0	15.0
EER = $\frac{\text{Cooling Capacity}}{\text{Input Power}}$	Btu / W-hr	10.06	10.43
	kcal / W-hr	2.53	2.63
	W / W	2.94	3.05

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

C) RATING CONDITIONS

Parameter	Unit	ARI
Evaporating Temperature	°C (°F)	7.2 \pm 0.5 (45)
Condensing Temperature	°C (°F)	54.4 \pm 1 (130)
Ambient Temperature	°C (°F)	35 \pm 1 (95)
Sub-cooled Liquid Temperature	°C (°F)	46 \pm 1 (115)
Return Gas Temperature	°C (°F)	18.3 \pm 1 (65)
Test Voltage	V	220

SRS				02	F45-1014-0669 EN No.	A1 30.10.2014
Prepared by	Checked by	Verified by	Approved by	Page No.	CR42K6ME-PFZ-XXXXX DOCUMENT No.	

S
P
E
C
I
F
I
C
A
T
I
O
N

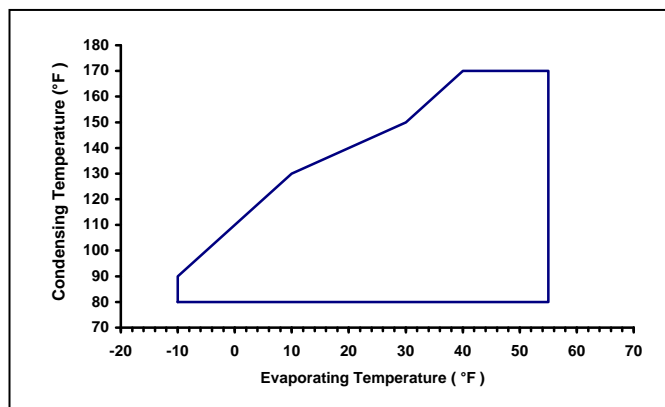
PRODUCT SPECIFICATION**MODEL : CR42K6ME-PFZ-XXXXX****D) MECHANICAL SPECIFICATIONS**

Parameter	Unit	Value
Number of Cylinders	Number	Two (2)
Displacement	cm ³ (inch ³) / rev	72.08 (4.399)
Net Weight	kg	34.9
Approximate Shipping Weight	kg	36.0
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	---

** Recommended only for Heat Pump Application.

E) ELECTRICAL SPECIFICATIONS

Parameter	Unit	Value
Operating Voltage Range	V	198 To 264
Motor Circuit	---	CSCR
Electrical Accessories	---	
➤ Start Capacitor	μF @ V AC	64-77 @ 330, 189-227 @ 330
➤ Run Capacitor	μF @ V AC	60 @ 370, 65 @ 370
➤ Relay	---	Potential
➤ Over Load Protector	---	Internal
Locked Rotor Ampere (LRA)	A	104
Maximum Continuous Current (MCC)	A	24
High Potential Test	(kV / second / mA)	1.85 / 1 / 5.5 ± 0.5

F) OPERATING ENVELOP @ 220 V, 50 Hz, 1 Phase

SRS				03	F45-1014-0669 EN No.	A1 30.10.2014
Prepared by	Checked by	Verified by	Approved by	Page No.	CR42K6ME-PFZ-XXXXX DOCUMENT No.	

PRODUCT SPECIFICATION**MODEL : CR42K6ME-PFZ-XXXXX****M) MECHANICAL SPECIFICATIONS**

Parameter	Unit	Value
Cylinder Bore Diameter	cm (inch)	4.98 (1.960)
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)	8,358 (510)
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 0.67 To 0.79
	Aux.	Ω 2.08 To 2.53
Nominal Motor Output Power	kW	2.74
Max. Allowable Motor Winding Temp.	°F (°C)	266 (130) B Class Insulation
Relay		
Type	---	Potential
Part Number	---	3ARR3CT24S5 Or RVA-3AG 6D Or AC85005
Pick Up (Maximum)	V	185 To 205
Drop Out (Minimum)	V	55 To 115
Maximum Voltage Rating of Coils	V	330
Over Load Protector		
Type	---	Internal
Part Number		15HM-1806-78
Disc Opening Temperature	°F (°C)	265 To 283 (129 To 139)
Disc Closing Temperature	°F (°C)	140 To 172 (60 To 78)
1 st Cycle Trip Current	A	73
1 st Cycle Trip On Time	second	2 To 10
Terminal Fused Cluster	---	¼" Quick Connector
Copper Wire Material	---	Hermetic Grade Round Enameled
Copper Wire Enamel Designation & Construction	---	H Class, Dual Coated

S
P
E
C
I
F
I
C
A
T
I
O
N

SRS				04	F45-1014-0669 EN No.	A1 30.10.2014
Prepared by	Checked by	Verified by	Approved by	Page No.	CR42K6ME-PFZ-XXXXX DOCUMENT No.	

PRODUCT SPECIFICATION**MODEL : CR42K6ME-PFZ-XXXXX****P) PERFORMANCE SPECIFICATIONS**

Parameter	Unit	Value
Bare Compressor Sound	dBA	79.0 Maximum
Bare Compressor Vibration	µm	125.0 Maximum
Compressor Discharge Pulse	psi	10.0 Maximum

Q) TEST CONDITIONS

Parameter	Voltage	Suction Pressure	Discharge Pressure	Top Shell Temperature	Ambient Temperature
Test \ Unit	V	kg/cm ² (psig)	kg/cm ² (psig)	°C (°F)	°C (°F)
Overload (High Load)	220	6.81 (97.0)	38.46 (547.0)	--	55 (131)
Blocked Fan	220	6.26 (89.0)	30.58 (435.0)	--	--
Low Voltage Start : Equalised	198	14.90 (212)	14.90 (212)	62 (143.6)	46 (115)
Low Voltage Run	198	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)

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

SRS				05	F45-1014-0669 EN No.	A1 30.10.2014
Prepared by	Checked by	Verified by	Approved by	Page No.	CR42K6ME-PFZ-XXXXX DOCUMENT No.	

S
P
E
C
I
F
I
C
A
T
I
O
N