COMPRESSION TECHNOLOGY
Product Specification

HERMETIC RECIPROCATING COMPRESSOR
Model – CS10K7ME-PFZ-XXX

Status – Preliminary

Design Engineering & Solutions Testing Center, Karad - India

Emerson Climate Technologies (India) Private Limited

			ECN No	F45-1120-0132
Neha Thombare	Sunil Sutar	Mayur Nadgouda	Rev No / Date	A2 / 24.11.2020
Prepared By	Checked By	Approved By	Doc No– CS10K7ME-PFZ-XXX	

CS10K7ME-PFZ-XXX

R-404A, 50 Hz, 1 -Phase, 220-240 V

Medium Temperature

Production Status: Please check with your local Emerson Climate Technologies Representative for international availability.

Performance

Evaporator Temp. (°F)	20	
Condensing Temp. (°F)	120	
Return Gas Temp. (°F)	40	
Liquid Temp. (°F)	120	
Capacity (Btu/hr)	8500	
Power (W):	1416	
Current (Amps)'	6.9	
EER (Btu/Wh):	6.0	
Mass Flow (lbs/hr):		
Sound Data :		
Sound Power (dBA):	74 Avg.	78 Max.
Vibration mils (peak-peak):	3.5	
Record Date:	15-Sep-20	

Electrical

LRA-High"(Amp):	54
LRA Low" (Amp):	NA
LRA-Half Winding (Amp):	NA
MCC (Amps)	13.5
Max Operating Current(Amp):	
RLA, MCC/1.4:use for contactor selection (Amp):	9.6
RLA, MCC/1.56:use for breaker & wire size selection (Amp):	8.7
RPM	2900
UL File No:	NA
UL File Date:	NA

'Low and High refer to the low and high nominal voltage ranges for which the motor is approved.

Mechanical

Displacement (in^3/Rev):	2.49
Displacement(ft^3/hr):	259.38
Overall Length (in):	10.68
Overall Width (in):	9.54
Overall Height (in):	14
Mounting Length (in):	7.5
Mounting Width (in):	7.5
Mounting Height (in):	0.75
Suction Size (in),Type:	1-1/4 SPUD
Discharge Size (in),Type:	1 SPUD
Initial Oil Charge (oz):	45
Oil Recharge (oz)'	43
Net Weight (lbs):	72
Internal Free Volume (in^3):	500

Horse Power:

'Overall compressor height on Copeland Brand Product's specified mounting grommets.

Capacitors

Type	Part NO	Low MFD	High MFD	Volts	User Description
Start Capacitor	Not Applicable	80	100	230	
Start Capacitor	Not Applicable				
Run Capacitor	Not Applicable		36	440	

Alternate Applications

Refrigerant	Voltage	Phase	Freq (Hz)	Application

Rating Conditions

40 °F Return Gas Temp

0 K Subcooling

95 °F Ambient Air Over

High Temperature

CS10K7ME-PFZ

R404A

Hermetic Reciprocating Compressor @ PFZ

220/240-1-50

Declared as 65 °F Return Gas

50 Hz Operation

Condensing Temperature °C (°F) (Sat. Dew Pt. Pressure, psig)

Evaporating Temperature °F (Sat. Dew Pt. Pressure, Psig)

	-31.1(-25)	-26.1(-15)	-23.3(-10)	-12.2(10)	'-6.7 (20)	-1.1 (30)	1.7 (35)	5 (41)	7.25(45)
60(140)									
C			1278	3879	5457	7355	12751	14790	16829
P			981	1311	1479	1643	1976	2087	2199
A			4.8	6.4	7.2	8.0	9.7	10.2	10.7
M									
E			1.3	3.0	3.7	4.5	6.5	7.1	7.7
%									
54.4(130)									
C		1333	1907	4921	6871	9205	14741	16498	18255
P		892	980	1304	1454	1599	1844	1933	2022
A		4.4	4.8	6.4	7.1	7.8	9.0	9.4	9.9
M									
E		1.5	1.9	3.8	4.7	5.8	8.0	8.5	9.0
%									
48.9(120)									
C	945	2028	2777	6172	8500	11275	15872	17865	19858
P	708	891	977	1283	1416	1542	1767	1838	1909
A	3.5	4.4	4.8	6.3	6.9	7.5	8.6	9.0	9.3
M									
E	1.3	2.3	2.8	4.8	6.0	7.3	9.0	9.7	10.4
%									
43.3(110)									
C	1610	2825	3604	7579	10292	13514	18057	20294	22531
P	707	890	972	1250	1368	1478	1664	1717	1771
A	3.5	4.3	4.7	6.1	6.7	7.2	8.1	8.4	8.7
M									
E	2.3	3.2	3.7	6.1	7.5	9.1	10.9	11.8	12.7
%									
37.8(100)									
C	2323	3708	4522	9091	12195	15871	21292	23268	25244
P	709	881	958	1211	1314	1409	1544	1581	1652
A	3.5	4.3	4.7	5.9	6.4	6.9	7.5	7.7	8.1
M									
E	3.3	4.2	4.7	7.5	9.3	11.3	13.8	14.7	15.3
%									
32.0(90)									
C	3039	4555	5482	10656	14157	18293	23946	27212	30479
P	702	866	937	1167	1258	1338	1481	1528	1575
A	3.4	4.2	4.6	5.7	6.1	6.5	7.2	7.5	7.7
M									
E	4.3	5.3	5.9	9.1	11.3	13.7	16.2	17.8	19.4
%									
26.7(80)									
C	3774	5388	6430	12222	16127	20729	26625	30166	33708
P	691	846	913	1123	1202	1270	1429	1493	1530
A	3.4	4.1	4.5	5.5	5.9	6.2	7.0	7.3	7.5
M									
E	5.5	6.4	7.0	10.9	13.4	16.3	18.6	20.2	22.0
%									
21.1(70)									
C	4351	6155	7316	13739	18053	23128	29325	33124	36924
P	678	827	890	1083	1151	1208	1367	1421	1447
A	3.3	4.0	4.3	5.3	5.6	5.9	6.7	6.9	7.1
M									
E	6.4	7.4	8.2	12.7	15.7	19.1	21.5	23.3	25.5
%									

C: Capacity (Btu/hr), P: Power {W}, A: Current (Amps}, M: Mass Flow (lb/hr}, E: EER {Btu/Wh), %: Isentropic Efficiency {%)

Nominal Performance Values (+5%) based on 72 hours run in. Subject to change without notice. Current @ 230V

CS10K7ME-PFZ-XXX

R-404A, 50 Hz, 1-Phase, 220-240 V
High Temperature

Production Status: Available for Sale for All Customers. Please check with your local Emerson Climate Technologies Representative for international availability

Electrical Components

Internal Protector

Part No:	15HM-1708-78	Usage Description	
Vendor Part Number		Vendor Name	
		T1	

Stator

Part No:					
Resistance:	7%	Start Wdg:	4.35	Run Wdg:	1.57

Potential

Part No:		Usage Description	
Vendor Part Number		Vendor Name	
HLR3800-3F3C-4		Hongli	

Start Capacitor

Part No:		Low MFD:	80.00
Type:		High MFD:	100.00
User Description:	High Torque	Volts:	230

Start Capacitor

Part No:	NA	Low MFD :	
Type:		High MFD:	
User Description:	High Torque	Volts	

Run Capacitor

Part No	NA	Low MFD:.	0.00
Type		High MFD:	36.00
User Description	High Torque	Volts:	440

CS10K7ME-PFZ-XXX
R-404A, 50 Hz, 1 -Phase, 220-240 V
High Temperature

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Service Parts

Reference	Component	Quantity	Description	Comment
1	NA			
2	NA			
3	NA			

CS10K7ME-PFZ-XXX
R-404A, 50 Hz, 1-Phase, 220-240 V
High Temperature

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Accessories

Category	Part Number	Description
Crankcase Heater	018-0088-00	40 @ 240V
Electrical		
Miscellaneous		
Mounting		

CS10K7ME-PFZ-XXX

R-404A, 50 Hz, 1 -Phase, 220-240 V

Medium Temperature

METRIC UNITS

Production Status: Please check with your local Emerson Climate Technologies Representative for international availability.

Performance

Evaporator Temp. (°C)	-6.7	
Condensing Temp. (°C)	48.9	
Return Gas Temp. (°C)	4.4	
Liquid Temp. (°C)	48.9	
Capacity (W)	2491	
Power (W):	1416	
Current (Amps)'	6.9	
COP(W/W):	1.8	
Mass Flow (lbs/hr):		
Sound Data :		
Sound Power (dBA):	74 Avg.	78 Max.
Vibration mils (peak-peak):	3.5	
Record Date:	15-Sep-20	

Electrical

LRA-High"(Amp):	54
LRA Low" (Amp):	NA
LRA-Half Winding (Amp):	NA
MCC (Amps)	13.5
Max Operating Current(Amp):	
RLA, MCC/1.4:use for contactor selection (Amp):	9.6
RLA, MCC/1.56:use for breaker & wire size selection (Amp):	8.7
RPM	2900
UL File No:	NA
UL File Date:	NA

'Low and High refer to the low and high nominal voltage ranges for which the motor is approved.

Mechanical

Displacement (cc/Rev):	40.8
Displacement(m^3/hr):	7.3
Overall Length (mm):	271
Overall Width (mm):	242
Overall Height (mm):	356
Mounting Length (mm):	191
Mounting Width (mm):	191
Mounting Height (mm):	19
Suction Size (mm),Type:	32 SPUD
Discharge Size (mm),Type:	25 SPUD
Initial Oil Charge (ml):	1331
Oil Recharge (ml):	1272
Net Weight (Kg):	32.7
Internal Free Volume (cm^3):	8194

Horse Power:

'Overall compressor height on Copeland Brand Product's specified mounting grommets.

Capacitors

Type	Part NO	Low MFD	High MFD	Volts	User Description
Start Capacitor	Not Applicable	80	100	230	
Start Capacitor	Not Applicable				
Run Capacitor	Not Applicable		36	440	

Alternate Applications

Refrigerant	Voltage	Phase	Freq (Hz)	Application

Public
09/24/2020

METRIC UNITS

Rating Conditions

40 °F Return Gas Temp

0 K Subcooling

95 °F Ambient Air Over

Medium Temperature

CS10K7ME-PFZ

R404A

Hermetic Reciprocating Compressor @ PFZ

220/240-1-50

Declared as 65 °F Return Gas

50 Hz Operation

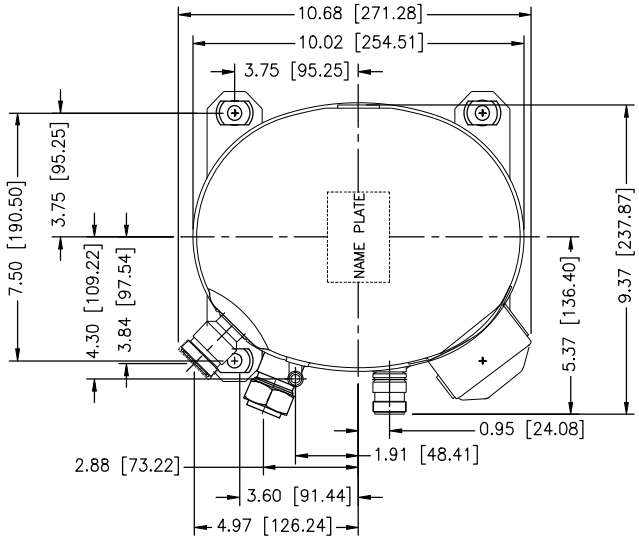
Condensing Temperature °C (°F) Evaporating Temperature °C (°F)

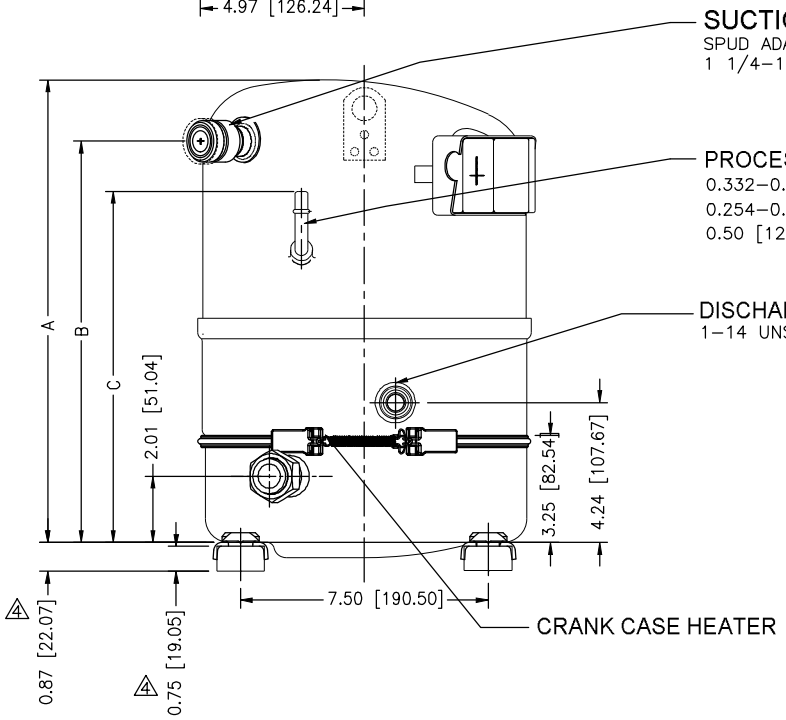
	-31.1(25)	-26.1(15)	-23.3(10)	-12.2(10)	'-6.7 (20)	-1.1(30)	1.7(35)	5 (41)	7.2(45)
60(140)									
C	48.9		375	1137	1599	2156	3737	4335	4932
P	4.4		981	1311	1479	1643	1976	2087	2199
A	48.9		4.8	6.4	7.2	8.0	9.7	10.2	10.7
M									
E			0.4	0.9	1.1	1.3	1.9	2.1	2.2
%									
54.4(130)									
C		391	559	1442	2014	2698	4320	4835	5350
P		892	980	1304	1454	1599	1844	1933	2022
A		4.4	4.8	6.4	7.1	7.8	9.0	9.4	9.9
M									
E		0.4	0.6	1.1	1.4	1.7	2.3	2.5	2.6
%									
48.9(120)									
C	277	594	814	1809	2491	3304	4652	5236	5820
P	708	891	977	1283	1416	1542	1767	1838	1909
A	3.5	4.4	4.8	6.3	6.9	7.5	8.6	9.0	9.3
M									
E	0.4	0.7	0.8	1.4	1.8	2.1	2.6	2.8	3.0
%									
43.3(110)									
C	472	828	1056	2221	3016	3961	5292	5948	6603
P	707	890	972	1250	1368	1478	1664	1717	1771
A	3.5	4.3	4.7	6.1	6.7	7.2	8.1	8.4	8.7
M									
E	0.7	0.9	1.1	1.8	2.2	2.7	3.2	3.5	3.7
%									
37.8(100)									
C	681	1087	1325	2664	3574	4651	6240	6819	7398
P	709	881	958	1211	1314	1409	1544	1581	1652
A	3.5	4.3	4.7	5.9	6.4	6.9	7.5	7.7	8.1
M									
E	1.0	1.2	1.4	2.2	2.7	3.3	4.0	4.3	4.5
%									
32.0(90)									
C	891	1335	1607	3123	4149	5361	7018	7975	8932
P	702	866	937	1167	1258	1338	1481	1528	1575
A	3.4	4.2	4.6	5.7	6.1	6.5	7.2	7.5	7.7
M									
E	1.3	1.5	1.7	2.7	3.3	4.0	4.7	5.2	5.7
%									
26.7(80)									
C	1106	1579	1884	3582	4726	6075	7803	8841	9879
P	691	846	913	1123	1202	1270	1429	1493	1530
A	3.4	4.1	4.5	5.5	5.9	6.2	7.0	7.3	7.5
M									
E	1.6	1.9	2.1	3.2	3.9	4.8	5.5	5.9	6.5
%									
21.1(70)									
C	1275	1804	2144	4027	5291	6778	8594	9708	10821
P	678	827	890	1083	1151	1208	1367	1421	1447
A	3.3	4.0	4.3	5.3	5.6	5.9	6.7	6.9	7.1
M									
E	1.9	2.2	2.4	3.7	4.6	5.6	6.3	6.8	7.5
%									

C: Capacity (W), P: Power {W}, A: Current (Amps}, M: Mass Flow (lb/hr}, E: EER {W/W), %: Isentropic Efficiency {%)

Nominal Performance Values (+5%) based on 72 hours run in. Subject to change without notice. Current @ 230V

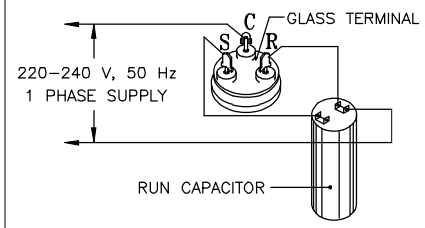
Public
09/24/2020





WIRING DIAGRAM

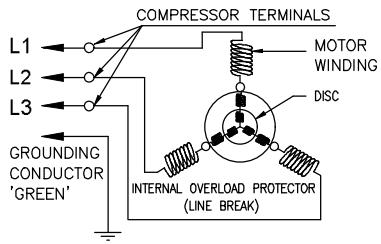
PERMANENT SPLIT CAPACITOR (PSC)



(OVERLOAD PROTECTOR IS INTERNAL, HENCE NOT SHOWN.)

VIEW 'P'

THREE PHASE WIRING DIAGRAM



VIEW 'Q'

NOTES :

1. FOOT MOUNTING BOLT TORQUE SHOULD NOT EXCEED 12 lb–ft (16.27 N–m).
2. COMPRESSOR COLOUR – BLACK.
3. BRACKETED DIMENSIONS ARE IN mm.
4. RUBBER GROMMET MAY COMPRESS BY 0.075 [1.91] ±0.025 [0.63] APPROXIMATELY DUE TO COMPRESSOR WEIGHT. THE RELATED DIMENSIONS MAY VARY ACCORDINGLY.
5. FOR PERFORMANCE DETAILS, REFER PRODUCT SPECIFICATION.

GUIDELINES FOR HANDLING AND DISPOSAL OF PRODUCTS :

1. HANDLE PRODUCT WITH CARE AND IN UPRIGHT POSITION TO AVOID SPILLAGE OF COMPRESSOR OIL.
2. DISPOSE OFF RUBBER TUBE PLUGS THROUGH GOVERNMENT AUTHORIZED SCRAP CENTERS.
3. IF PRODUCT IS TO BE DISPOSED OFF THEN, PLEASE DO IT THROUGH GOVERNMENT AUTHORISED SCRAP CENTERS.

PRELIMINARY

ENG NOTICE NO.	REV.NO.	REVISIONS	DATE	BY	CHKD
ECN	2	DRAWING UPDATED.	10.29.20	DVM	MMN
ECN	1	MODEL NAME UPDATED.	10.14.20	DVM	MMN
ECN	0	RELEASED	10.10.20	DVM	MMN

EMERSON Copeland

INTERPRET PER ASME Y14.5M–1994 AND EMERSON DESIGN STANDARDS DS2002

DO NOT SCALE DRAWING

CRITICAL PRODUCT CHARACTERISTIC

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE INCH OR [MILLIMETER]
TOLERANCES:
2–PLACE ± 0.005
3–PLACE ± 0.005
ANGULAR ± 0.3°

MATERIAL SPECIFICATION	DRAWN BY	SUPERSEDES DWG. NO. / REV. NO.
4	DVM	---- / ---
	DATE 10.10.2020	SCALE 1:2
		DATE FORMAT: MM–DD–YY

TITLE	DRAWING NUMBER	SHEET 1 OF 2	DWG
REF DWG–WELD COMP ASSM	T012–497–A033–00		4 SIZE

MODEL	TOTAL HEIGHT 'A'	SUCTION HEIGHT 'B'	PROCESS HEIGHT 'C'	WIRING DIAGRAM	CRANKCASE HEATER
CS10K7ME-PFZ-137	13.00	11.15	11.77	VIEW 'P'	40@ 240
CS10K7ME-TFM-13A	13.24	11.38	10.25	VIEW 'Q'	40@ 240
CS13K7ME-PFZ-137	13.75	11.90	10.52	VIEW 'P'	40@ 240
CS13K7ME-TFM-13A	13.24	11.38	10.25	VIEW 'Q'	40@ 240
CS17K7ME-PFZ-137	13.75	11.90	10.52	VIEW 'P'	40@ 240
CS17K7ME-TFM-13A	13.50	11.65	10.52	VIEW 'Q'	40@ 240
CS20K7ME-PFZ-137	14.26	12.40	12.87	VIEW 'P'	40@ 240
CS20K7ME-TFM-13A	14.00	12.15	10.52	VIEW 'Q'	40@ 240

PRELIMINARY

ECN	2	DRAWING UPDATED.	10.29.20	DVM	MMN
ECN	1	MODEL NAME UPDATED.	10.14.20	DVM	MMN
ECN	0	RELEASED	10.10.20	DVM	MMN
ENG NOTICE NO.	REV.NO.	REVISIONS	DATE	BY	CHKD

EMERSON
Copeland

INTERPRET PER ASME Y14.5M-1994 AND EMERSON DESIGN STANDARDS DS2002

DO NOT SCALE DRAWING

CRITICAL PRODUCT CHARACTERISTIC

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE INCH OR [MILLIMETER]
TOLERANCES:
2-PLACE ± 0.005
3-PLACE ± 0.005
ANGULAR ± 0.3°

35

MATERIAL SPECIFICATION

4

DRAWN BY: DVM
DATE: 10.10.2020
SUPERSEDES DWG. NO. / REV. NO.: ---- / ---
SCALE: 1:2
DATE FORMAT: MM-DD-YY

TITLE: REF DWG-WELD COMP ASSM
DRAWING NUMBER: T012-497-A033-00
SHEET 1 OF 1
DWG SIZE: 4