embraco

COMPRESSOR TECHNICAL DATA

COMPRESSOR DEFINITION

Designation	**EM C32CLT**
Nominal Voltage/Frequency	**220-240 V 50 Hz**
Engineering Number	**513304531**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	220-240 / 50	[V / Hz]	
4 Application type	Low Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°F)	
5 Motor type	RSCR		
6 Starting torque	LST - Low Starting Torque		
7 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static	198 to 255 V	-
8.2 LBP (43ºC Ambient temperature)	Static	198 to 255 V	-
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm²] (98 psig)	/ ºC - ºF
9.2 Peak	7.8	[kgf/cm²] (111 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/7	[hp]
2 Displacement	5.96	[cm³] (0.364 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	15.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	MINERAL / ISO5	
4 Weight (with oil charge)	8.21	[kg] (18.10 lb.)
5 Nitrogen charge	-	[kgf/cm²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	MI2021	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	2(350)/3(350)/2.5(350)	[µF(VAC minimum)]
5 Motor protection	AE23AHNX	
6 Start winding resistance	31.70	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	34.50	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	2.60	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.40	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: **@220V50Hz**			**CECOMAFLBP-NOFAN** **Static**		Evaporating temperature (Condensing temperature	**-25°C (-13°F)** **55°C (131°F))**		
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
246	62	72	53	0.26	0.94	4.64	1.17	1.36

E - PERFORMANCE - CURVES

TEST CONDITIONS: **CECOMAF-NOFAN** (Condensing temperature **35ºC (+95ºF))**
@220V50Hz **Static**

Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	**(-31)**	195	49	57	38	0.17	0.62	5.05	1.27	1.48
-30	**(-22)**	258	65	76	44	0.20	0.83	5.87	1.48	1.72
-25	**(-13)**	338	85	99	50	0.22	1.09	6.85	1.73	2.01
-20	**(- 4)**	437	110	128	55	0.25	1.40	8.00	2.02	2.34
-15	**(+ 5)**	556	140	163	60	0.27	1.79	9.30	2.34	2.72
-10	**(+14)**	698	176	204	65	0.29	2.25	10.75	2.71	3.15

TEST CONDITIONS: **CECOMAF-NOFAN** (Condensing temperature **45ºC (+113ºF))**
@220V50Hz **Static**

Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	**(-31)**	159	40	47	38	0.18	0.55	4.15	1.05	1.22
-30	**(-22)**	218	55	64	45	0.21	0.76	4.84	1.22	1.42
-25	**(-13)**	291	73	85	51	0.24	1.01	5.63	1.42	1.65
-20	**(- 4)**	381	96	112	58	0.26	1.33	6.52	1.64	1.91
-15	**(+ 5)**	490	123	144	65	0.29	1.71	7.51	1.89	2.20
-10	**(+14)**	619	156	181	72	0.32	2.17	8.60	2.17	2.52

TEST CONDITIONS: **CECOMAF-NOFAN** (Condensing temperature **55ºC (+131ºF))**
@220V50Hz **Static**

Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	**(-31)**	127	32	37	39	0.19	0.48	3.31	0.83	0.97
-30	**(-22)**	180	45	53	46	0.22	0.69	3.94	0.99	1.15
-25	**(-13)**	246	62	72	53	0.25	0.94	4.61	1.16	1.35
-20	**(- 4)**	327	82	96	61	0.28	1.25	5.33	1.34	1.56
-15	**(+ 5)**	424	107	124	69	0.31	1.62	6.08	1.53	1.78
-10	**(+14)**	539	136	158	78	0.35	2.07	6.87	1.73	2.01

E - PERFORMANCE - CURVES

TEST CONDITIONS: **CECOMAF-NOFAN** (Condensing temperature **65ºC (+149ºF))**
@220V50Hz **Static**

Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	**(-31)**	96	24	28	39	0.18	0.41	2.48	0.62	0.73
-30	**(-22)**	143	36	42	46	0.21	0.60	3.11	0.78	0.91
-25	**(-13)**	201	51	59	54	0.25	0.85	3.74	0.94	1.10
-20	**(- 4)**	271	68	80	63	0.29	1.15	4.35	1.10	1.27
-15	**(+ 5)**	356	90	104	73	0.33	1.51	4.94	1.24	1.45
-10	**(+14)**	457	115	134	83	0.38	1.95	5.50	1.39	1.61

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 42º up + 45° to Back		
3.2 DISCHARGE	5.1 +0.10/+0.00	[mm]	(0.201" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 48° up + 24° to Back		
3.3 PROCESS	6 +0.08/-0.08	[mm]	(0.236" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 43° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		