COMPRESSOR DEFINITION

Designation	**EM 3D70HLT**
Nominal Voltage/Frequency	**115-127 V 60 Hz**
Engineering Number	**513301636**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115-127 / 60	[V / Hz]	
4 Application type	Low-Medium Back Pressure		
4.1 Evaporating temperature range	-35°C to -5°C	(-31°F to 23°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	-	103 to 140 V
8.2 LBP (43ºC Ambient temperature)	Static	-	103 to 140 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm²] (202 psig)	/ ºC - ºF
9.2 Peak	15.9	[kgf/cm²] (226 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4+	[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	ESTER / ISO10	
4 Weight (with oil charge)	7.6	[kg] (16.75 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm²] (2.84 to 4.27 psig)

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD2-115V/TSD2-115V0.6	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(200)/15(200)	[µF(VAC minimum)]
5 Motor protection	CP4TMC353L61	
6 Start winding resistance	5.98	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	3.50	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.54	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.05	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.52	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: **@115V60Hz**			**ASHRAELBP32** **Static**		Evaporating temperature (Condensing temperature	**-23.3°C (-9.94°F)** **54.4°C (129.92°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]
765	193	224	123	1.05	4.35	6.24	1.57	1.83

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@115V60Hz** — **ASHRAE32** **Static** — (Condensing temperature **35ºC (+95ºF))**

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)**	440	111	129	79	0.70	2.49	5.56	1.40	1.63
-30	**(-22)**	590	149	173	91	0.80	3.35	6.50	1.64	1.90
-25	**(-13)**	769	194	225	104	0.91	4.37	7.41	1.87	2.17
-20	**(- 4)**	983	248	288	118	1.04	5.59	8.35	2.10	2.45
-15	**(+ 5)**	1238	312	363	132	1.17	7.07	9.36	2.36	2.74
-10	**(+14)**	1543	389	452	147	1.30	8.84	10.49	2.64	3.07
-5	**(+23)**	1903	480	558	162	1.43	10.95	11.80	2.97	3.46

TEST CONDITIONS: **@115V60Hz** — **ASHRAE32** **Static** — (Condensing temperature **45ºC (+113ºF))**

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)**	404	102	118	81	0.71	2.28	5.00	1.26	1.47
-30	**(-22)**	560	141	164	95	0.83	3.17	5.89	1.48	1.72
-25	**(-13)**	740	186	217	111	0.97	4.20	6.71	1.69	1.96
-20	**(- 4)**	951	240	279	127	1.12	5.41	7.51	1.89	2.20
-15	**(+ 5)**	1201	303	352	144	1.27	6.86	8.35	2.10	2.45
-10	**(+14)**	1495	377	438	161	1.43	8.57	9.27	2.34	2.72
-5	**(+23)**	1841	464	540	178	1.59	10.59	10.32	2.60	3.02

TEST CONDITIONS: **@115V60Hz** — **ASHRAE32** **Static** — (Condensing temperature **55ºC (+131ºF))**

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)**	342	86	100	78	0.68	1.93	4.38	1.10	1.28
-30	**(-22)**	507	128	149	96	0.83	2.87	5.26	1.33	1.54
-25	**(-13)**	692	174	203	115	1.00	3.93	6.04	1.52	1.77
-20	**(- 4)**	905	228	265	134	1.18	5.15	6.75	1.70	1.98
-15	**(+ 5)**	1151	290	337	155	1.37	6.57	7.47	1.88	2.19
-10	**(+14)**	1439	363	422	175	1.56	8.24	8.22	2.07	2.41
-5	**(+23)**	1774	447	520	196	1.75	10.20	9.07	2.28	2.66

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**

@115V60Hz **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)**	254	64	74	70	0.62	1.44	3.64	0.92	1.07
-30	**(-22)**	431	109	126	93	0.81	2.45	4.56	1.15	1.34
-25	**(-13)**	625	157	183	116	1.02	3.55	5.34	1.35	1.56
-20	**(- 4)**	842	212	247	140	1.24	4.79	6.01	1.52	1.76
-15	**(+ 5)**	1089	274	319	164	1.46	6.22	6.64	1.67	1.95
-10	**(+14)**	1373	346	402	189	1.69	7.87	7.28	1.83	2.13
-5	**(+23)**	1701	429	498	214	1.91	9.78	7.96	2.01	2.33

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Straight		
3.2 DISCHARGE	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		