

COMPRESSOR DEFINITION

Designation	EM T1110L
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513308093

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	HFO		
3 Nominal voltage and frequency	100 / 50-60	[V / Hz]	
4 Application type	Low Back Pressure (Curves until T.Evap -10°C / Peak 60°C)		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°F)	
5 Motor type	RSIR		
6 Starting torque	LST - Low Starting Torque		
7 Expansion device	Capillary tube		
8 Compressor cooling	Operating voltage range		
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	15.72	[kgf/cm ²] (224 psig)	/ °C - °F
9.2 Peak	19.82	[kgf/cm ²] (282 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	3.77	[cm ³] (0.230 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	13.300	
3 Lubricant charge	160	[ml] (5.41 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.18	[kg] (15.83 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	100 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	7M4R7MC1/8EA14C1/8M4R7MC1/QPS2-A4R7MG1/QPS2-X4.7	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM319NFBYY-53	
6 Start winding resistance	10.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	4.40	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	9.20/8.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.95/1.70	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @100V50Hz			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]
387	98	113	86	1.51	2.68	4.48	1.13	1.31

TEST CONDITIONS: @100V60Hz			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]
480	121	141	99	1.42	3.32	4.84	1.22	1.42

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz			ASHRAE32 Static		(Condensing temperature 35°C (+95°F))				
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)	229	58	67	62	1.41	0.00	3.71	0.94	1.09
-30 (-22)	314	79	92	70	1.44	0.00	4.50	1.13	1.32
-25 (-13)	412	104	121	78	1.47	0.00	5.31	1.34	1.56
-20 (- 4)	526	133	154	85	1.51	0.00	6.17	1.55	1.81
-15 (+ 5)	661	167	194	93	1.56	0.00	7.11	1.79	2.08
-10 (+14)	820	207	240	101	1.60	0.00	8.17	2.06	2.39

TEST CONDITIONS: @100V50Hz			ASHRAE32 Static		(Condensing temperature 45°C (+113°F))				
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)	207	52	61	63	1.41	0.00	3.28	0.83	0.96
-30 (-22)	288	73	84	71	1.44	0.00	4.03	1.01	1.18
-25 (-13)	382	96	112	80	1.48	0.00	4.75	1.20	1.39
-20 (- 4)	493	124	144	90	1.53	0.00	5.49	1.38	1.61
-15 (+ 5)	625	157	183	99	1.59	0.00	6.28	1.58	1.84
-10 (+14)	781	197	229	109	1.66	0.00	7.14	1.80	2.09

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
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)	180	45	53	64	1.41	0.00	2.80	0.70	0.82	
-30 (-22)	256	64	75	72	1.44	0.00	3.54	0.89	1.04	
-25 (-13)	345	87	101	82	1.49	0.00	4.22	1.06	1.24	
-20 (- 4)	452	114	132	92	1.55	0.00	4.89	1.23	1.43	
-15 (+ 5)	579	146	170	104	1.62	0.00	5.57	1.40	1.63	
-10 (+14)	731	184	214	116	1.71	0.00	6.29	1.59	1.84	

TEST CONDITIONS: @100V60Hz		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
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)	290	73	85	68	1.20	0.00	4.27	1.08	1.25	
-30 (-22)	387	98	113	78	1.27	0.00	4.97	1.25	1.46	
-25 (-13)	500	126	147	88	1.34	0.00	5.71	1.44	1.67	
-20 (- 4)	634	160	186	98	1.42	0.00	6.51	1.64	1.91	
-15 (+ 5)	795	200	233	108	1.50	0.00	7.38	1.86	2.16	
-10 (+14)	987	249	289	118	1.59	0.00	8.35	2.10	2.45	

TEST CONDITIONS: @100V60Hz		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
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)	257	65	75	69	1.21	0.00	3.74	0.94	1.10	
-30 (-22)	356	90	104	80	1.28	0.00	4.45	1.12	1.30	
-25 (-13)	469	118	138	91	1.36	0.00	5.15	1.30	1.51	
-20 (- 4)	602	152	176	103	1.45	0.00	5.85	1.47	1.71	
-15 (+ 5)	758	191	222	115	1.56	0.00	6.58	1.66	1.93	
-10 (+14)	943	238	276	128	1.67	0.00	7.35	1.85	2.15	

TEST CONDITIONS: @100V60Hz		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
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)	216	54	63	69	1.22	0.00	3.12	0.79	0.91	
-30 (-22)	318	80	93	81	1.29	0.00	3.88	0.98	1.14	
-25 (-13)	431	109	126	94	1.38	0.00	4.58	1.15	1.34	
-20 (- 4)	561	141	164	107	1.49	0.00	5.23	1.32	1.53	
-15 (+ 5)	712	179	209	122	1.61	0.00	5.86	1.48	1.72	
-10 (+14)	891	224	261	137	1.75	0.00	6.49	1.63	1.90	

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +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		