

COMPRESSOR DEFINITION

Designation	EM 30HHR
Nominal Voltage/Frequency	115 V 60 Hz
Engineering Number	513307299

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115 / 60	[V / Hz]	
4 Application type	Low-Medium-High Back Pressure		
4.1 Evaporating temperature range	-35°C to 15°C	(-31°F to 59°F)	
5 Motor type	CSIR		
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)	Static	-	97 to 135 V
8.2 LBP (43°C Ambient temperature)	Static	-	97 to 135 V
8.3 HBP (32°C Ambient temperature)	Fan	-	97 to 135 V
8.4 HBP (43°C Ambient temperature)	Fan	-	97 to 135 V
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/10	[hp]
2 Displacement	3.00	[cm ³] (0.183 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	10.600	
3 Lubricant charge	160	[ml] (5.41 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	7.37	[kg] (16.25 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	115 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213515292	
3 Start capacitor	108-130(110)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM757MFBYY-53	
6 Start winding resistance	20.90	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.50	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			ASHRAEHBP32 Static		Evaporating temperature (Condensing temperature)		7.2°C (44.96°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]	
1390	350	407	163	2.00		8.53	2.15	2.50	

TEST CONDITIONS: @115V60Hz			ASHRAEHBP32 Fan		Evaporating temperature (Condensing temperature)		7.2°C (44.96°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]	
1390	350	407	163	2.00		8.53	2.15	2.50	

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]	
310	78	91	97	1.70	1.76	3.20	0.81	0.94	

TEST CONDITIONS: @115V60Hz			ASHRAELBP32 Fan		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]	
310	78	91	97	1.70	1.76	3.20	0.81	0.94	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan					(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]
-35	(-31)	173	43	51	66	1.58	0.98	2.56	0.65	0.75
-30	(-22)	247	62	72	77	1.61	1.40	3.18	0.80	0.93
-25	(-13)	335	84	98	88	1.64	1.91	3.81	0.96	1.12
-20	(- 4)	440	111	129	99	1.68	2.51	4.48	1.13	1.31
-15	(+ 5)	566	143	166	109	1.71	3.23	5.21	1.31	1.53
-10	(+14)	716	180	210	120	1.75	4.10	6.03	1.52	1.77
-5	(+23)	894	225	262	129	1.79	5.14	6.96	1.76	2.04
0	(+32)	1103	278	323	138	1.83	6.38	8.03	2.02	2.35
+5	(+41)	1346	339	394	146	1.87	7.84	9.26	2.33	2.71
+10	(+50)	1628	410	477	153	1.92	9.54	10.67	2.69	3.13
+15	(+59)	1951	492	572	158	1.97	11.52	12.29	3.10	3.60

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(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)	119	30	35	73	1.58	0.67	1.67	0.42	0.49
-30	(-22)	198	50	58	83	1.61	1.13	2.41	0.61	0.71
-25	(-13)	290	73	85	93	1.64	1.65	3.11	0.78	0.91
-20	(- 4)	397	100	116	104	1.68	2.26	3.82	0.96	1.12
-15	(+ 5)	524	132	154	115	1.72	2.99	4.54	1.15	1.33
-10	(+14)	674	170	197	126	1.77	3.86	5.31	1.34	1.56
-5	(+23)	850	214	249	137	1.82	4.89	6.15	1.55	1.80
0	(+32)	1056	266	309	148	1.88	6.10	7.08	1.78	2.08
+5	(+41)	1295	326	379	159	1.95	7.54	8.13	2.05	2.38
+10	(+50)	1571	396	460	168	2.02	9.21	9.32	2.35	2.73
+15	(+59)	1888	476	553	178	2.09	11.14	10.67	2.69	3.13

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(Condensing temperature 65°C (+149°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)	88	22	26	76	1.58	0.49	1.12	0.28	0.33
-30	(-22)	166	42	49	85	1.61	0.94	1.94	0.49	0.57
-25	(-13)	254	64	75	95	1.64	1.45	2.70	0.68	0.79
-20	(- 4)	358	90	105	106	1.68	2.04	3.40	0.86	1.00
-15	(+ 5)	479	121	140	118	1.73	2.73	4.08	1.03	1.20
-10	(+14)	622	157	182	131	1.79	3.56	4.77	1.20	1.40
-5	(+23)	789	199	231	144	1.86	4.54	5.48	1.38	1.61
0	(+32)	986	248	289	157	1.94	5.70	6.24	1.57	1.83
+5	(+41)	1214	306	356	171	2.03	7.06	7.07	1.78	2.07
+10	(+50)	1478	372	433	184	2.12	8.66	8.00	2.02	2.34
+15	(+59)	1781	449	522	197	2.23	10.51	9.05	2.28	2.65

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	Slanted		
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		