

COMPRESSOR DEFINITION

Designation	EM I30HER
Nominal Voltage/Frequency	220 V 50-60 Hz
Engineering Number	513307233

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220 / 50-60	[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	RSIR/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	187 to 255 V	187 to 255 V
8.2 LBP (43°C Ambient temperature)	Static	187 to 255 V	187 to 255 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm ²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm ²] (293 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	170	[ml] (5.75 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	7.16	[kg] (15.78 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	220 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514032	
3 Start capacitor	72-88(145)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM189KFBYY-53	
6 Start winding resistance	46.15	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	24.65	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	7.50/7.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	0.80/0.70	[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	IRAM - UCIEE - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			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]
245	62	72	68	0.58	1.39	3.60	0.91	1.05

TEST CONDITIONS: @220V60Hz			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]
305	77	89	80	0.54	1.73	3.80	0.96	1.11

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			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)	129	33	38	54	0.52	0.73	2.40	0.60	0.70
-30	(-22)	188	47	55	60	0.55	1.07	3.18	0.80	0.93
-25	(-13)	263	66	77	66	0.57	1.49	4.01	1.01	1.18
-20	(- 4)	354	89	104	72	0.59	2.01	4.89	1.23	1.43
-15	(+ 5)	464	117	136	79	0.61	2.65	5.82	1.47	1.70
-10	(+14)	594	150	174	87	0.63	3.40	6.81	1.72	1.99

TEST CONDITIONS: @220V50Hz			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)	94	24	27	51	0.51	0.53	1.84	0.46	0.54
-30	(-22)	155	39	45	58	0.54	0.88	2.69	0.68	0.79
-25	(-13)	229	58	67	65	0.57	1.30	3.52	0.89	1.03
-20	(- 4)	317	80	93	73	0.60	1.80	4.32	1.09	1.27
-15	(+ 5)	420	106	123	82	0.63	2.40	5.11	1.29	1.50
-10	(+14)	542	137	159	92	0.65	3.11	5.89	1.48	1.73

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(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]
-35	(-31)	47	12	14	47	0.50	0.27	1.00	0.25	0.29
-30	(-22)	110	28	32	55	0.54	0.63	1.97	0.50	0.58
-25	(-13)	184	46	54	64	0.57	1.04	2.85	0.72	0.83
-20	(- 4)	268	68	79	74	0.60	1.53	3.64	0.92	1.07
-15	(+ 5)	366	92	107	84	0.62	2.09	4.35	1.10	1.28
-10	(+14)	479	121	140	97	0.65	2.74	4.99	1.26	1.46

TEST CONDITIONS: @220V60Hz		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]
-35	(-31)	162	41	47	59	0.48	0.92	2.74	0.69	0.80
-30	(-22)	224	56	66	67	0.50	1.27	3.40	0.86	1.00
-25	(-13)	316	80	93	76	0.53	1.80	4.22	1.06	1.24
-20	(- 4)	434	109	127	85	0.56	2.47	5.13	1.29	1.50
-15	(+ 5)	570	144	167	94	0.60	3.25	6.08	1.53	1.78
-10	(+14)	720	181	211	103	0.64	4.12	6.99	1.76	2.05

TEST CONDITIONS: @220V60Hz		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]
-35	(-31)	108	27	32	56	0.45	0.61	1.92	0.48	0.56
-30	(-22)	174	44	51	65	0.48	0.98	2.72	0.69	0.80
-25	(-13)	268	68	79	75	0.52	1.52	3.59	0.90	1.05
-20	(- 4)	385	97	113	86	0.57	2.19	4.46	1.12	1.31
-15	(+ 5)	518	131	152	98	0.61	2.96	5.28	1.33	1.55
-10	(+14)	662	167	194	111	0.66	3.79	6.00	1.51	1.76

TEST CONDITIONS: @220V60Hz		ASHRAE32 Static			(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]
-35	(-31)	54	14	16	50	0.44	0.31	1.10	0.28	0.32
-30	(-22)	120	30	35	59	0.48	0.68	2.04	0.51	0.60
-25	(-13)	212	53	62	71	0.52	1.20	2.96	0.75	0.87
-20	(- 4)	323	81	95	84	0.57	1.84	3.81	0.96	1.12
-15	(+ 5)	449	113	132	100	0.62	2.56	4.52	1.14	1.33
-10	(+14)	583	147	171	117	0.67	3.34	5.04	1.27	1.48

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		