

COMPRESSOR DEFINITION

Designation	EM I30ER
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513307070

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	Blend		
3 Nominal voltage and frequency	220-240 / 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	198 to 255 V	198 to 255 V
8.2 LBP (43°C Ambient temperature)	Static	198 to 255 V	198 to 255 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.5	[kgf/cm ²] (206 psig)	/ °C - °F
9.2 Peak	18.2	[kgf/cm ²] (259 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	ALQUILB / ISO32	
4 Weight (with oil charge)	7.13	[kg] (15.72 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	220-240 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514000/213515006	
3 Start capacitor	53-64(180)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM189KFBYY-53	
6 Start winding resistance	41.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	27.80	[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)	0.68/0.64	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	0.77/0.75	[A] - Measured according to UL 984
11 Approval boards certification	CE - IRAM - TUV - UKCA	

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]
290	73	85	73	0.59	2.12	3.95	1.00	1.16

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]
350	88	103	85	0.57	2.56	4.10	1.03	1.20

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)	122	31	36	50	0.54	0.89	2.43	0.61	0.71
-30 (-22)	186	47	55	60	0.56	1.36	3.18	0.80	0.93
-25 (-13)	281	71	82	68	0.58	2.06	4.16	1.05	1.22
-20 (- 4)	400	101	117	76	0.59	2.93	5.25	1.32	1.54
-15 (+ 5)	534	134	156	84	0.61	3.92	6.35	1.60	1.86
-10 (+14)	675	170	198	92	0.63	4.98	7.34	1.85	2.15

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)	85	21	25	48	0.54	0.62	1.78	0.45	0.52
-30 (-22)	147	37	43	58	0.56	1.07	2.57	0.65	0.75
-25 (-13)	239	60	70	68	0.58	1.75	3.53	0.89	1.03
-20 (- 4)	353	89	103	77	0.60	2.59	4.56	1.15	1.34
-15 (+ 5)	480	121	141	87	0.63	3.53	5.53	1.39	1.62
-10 (+14)	613	155	180	97	0.66	4.52	6.34	1.60	1.86

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]
-35	(-31)	39	10	12	45	0.54	0.29	0.90	0.23	0.26
-30	(-22)	100	25	29	56	0.56	0.73	1.80	0.45	0.53
-25	(-13)	190	48	56	67	0.58	1.39	2.83	0.71	0.83
-20	(- 4)	299	75	88	77	0.60	2.19	3.86	0.97	1.13
-15	(+ 5)	421	106	123	88	0.63	3.10	4.80	1.21	1.41
-10	(+14)	547	138	160	100	0.66	4.04	5.51	1.39	1.61

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]
-35	(-31)	182	46	53	57	0.45	1.33	3.15	0.79	0.92
-30	(-22)	277	70	81	68	0.48	2.02	4.01	1.01	1.17
-25	(-13)	369	93	108	80	0.52	2.70	4.63	1.17	1.36
-20	(- 4)	471	119	138	92	0.55	3.45	5.16	1.30	1.51
-15	(+ 5)	594	150	174	104	0.58	4.36	5.74	1.45	1.68
-10	(+14)	748	188	219	115	0.62	5.51	6.51	1.64	1.91

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]
-35	(-31)	112	28	33	56	0.44	0.82	2.03	0.51	0.60
-30	(-22)	208	52	61	66	0.47	1.52	3.10	0.78	0.91
-25	(-13)	303	76	89	78	0.51	2.21	3.87	0.97	1.13
-20	(- 4)	409	103	120	92	0.55	2.99	4.46	1.12	1.31
-15	(+ 5)	537	135	157	106	0.60	3.94	5.04	1.27	1.48
-10	(+14)	698	176	204	121	0.65	5.15	5.73	1.44	1.68

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]
-35	(-31)	63	16	18	53	0.42	0.46	1.18	0.30	0.34
-30	(-22)	156	39	46	62	0.46	1.14	2.45	0.62	0.72
-25	(-13)	250	63	73	75	0.50	1.83	3.35	0.84	0.98
-20	(- 4)	357	90	105	90	0.55	2.61	4.00	1.01	1.17
-15	(+ 5)	487	123	143	107	0.61	3.58	4.56	1.15	1.33
-10	(+14)	652	164	191	126	0.68	4.81	5.15	1.30	1.51

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		