

COMPRESSOR DEFINITION

Designation	EM 30HNP
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513302004

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50	[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	RSCR		
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	-
8.2 LBP (43°C Ambient temperature)	Static	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	14.2	[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	170	[ml] (5.75 fl.oz)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	6.73	[kg] (14.84 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 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17E61/8EA17E62/8EA17E63/8EA17E64/8EA5B3/QPS2-A2;	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	2(300)	[µF(VAC minimum)]
5 Motor protection	4TM110NFBYY-53	
6 Start winding resistance	38.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	34.60	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - IRAM - 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]
210	53	62	64	0.45	1.19	3.30	0.83	0.97

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)	101	26	30	49	0.55	0.57	2.03	0.51	0.60
-30 (-22)	157	40	46	54	0.73	0.89	2.92	0.74	0.86
-25 (-13)	224	57	66	61	0.93	1.27	3.73	0.94	1.09
-20 (- 4)	307	77	90	68	1.15	1.75	4.50	1.13	1.32
-15 (+ 5)	406	102	119	76	1.37	2.32	5.30	1.33	1.55
-10 (+14)	525	132	154	85	1.61	3.01	6.16	1.55	1.80

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)	68	17	20	44	0.36	0.39	1.55	0.39	0.46
-30 (-22)	122	31	36	53	0.54	0.69	2.32	0.59	0.68
-25 (-13)	188	47	55	62	0.73	1.07	3.03	0.76	0.89
-20 (- 4)	268	68	79	72	0.94	1.53	3.73	0.94	1.09
-15 (+ 5)	365	92	107	82	1.16	2.08	4.46	1.12	1.31
-10 (+14)	481	121	141	91	1.38	2.76	5.28	1.33	1.55

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]	[W/W]
-35 (-31)	31	8	9	40	0.21	0.18	0.79	0.20	0.23
-30 (-22)	85	21	25	49	0.39	0.48	1.68	0.42	0.49
-25 (-13)	149	38	44	59	0.59	0.85	2.51	0.63	0.74
-20 (- 4)	228	57	67	68	0.79	1.30	3.36	0.85	0.98
-15 (+ 5)	323	81	95	76	1.00	1.84	4.26	1.07	1.25
-10 (+14)	437	110	128	84	1.20	2.50	5.26	1.32	1.54

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper plated steel		
3.1.2 Shape	Straight		
3.2 DISCHARGE	5 +0.18/-0.06	[mm]	(0.197" +0.007"/-0.002")
3.2.1 Material	Copper plated steel		
3.2.2 Shape	Slanted		
3.3 PROCESS	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.3.1 Material	Copper plated steel		
3.3.2 Shape	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		