

COMPRESSOR DEFINITION

Designation	EM I30CNP
Nominal Voltage/Frequency	220 V 50-60 Hz
Engineering Number	513307608

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	220 / 50-60	[V / Hz]	
4 Application type	Low-Medium Back Pressure		
4.1 Evaporating temperature range	-35°C to -5°C	(-31°F to 23°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)	Static	187 to 242 V	187 to 242 V
8.2 LBP (43°C Ambient temperature)	Static	187 to 242 V	187 to 242 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/10	[hp]
2 Displacement	4.99	[cm ³] (0.305 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	14.400	
3 Lubricant charge	170	[ml] (5.75 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	MINERAL / ISO32	
4 Weight (with oil charge)	7.13	[kg] (15.72 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C1/8EA5B1/QPS2-A22MG1/QPS2-A22MG1 092	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM134NFBYY-53	
6 Start winding resistance	24.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	27.00	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	3.70/3.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	0.75/0.67	[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	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]
260	66	76	73	0.56	0.82	3.55	0.89	1.04

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]
320	81	94	84	0.54	1.00	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)	114	29	33	59	0.54	0.36	1.94	0.49	0.57
-30	(-22)	166	42	49	63	0.55	0.52	2.63	0.66	0.77
-25	(-13)	234	59	69	69	0.56	0.73	3.39	0.85	0.99
-20	(- 4)	318	80	93	75	0.57	1.00	4.23	1.07	1.24
-15	(+ 5)	416	105	122	81	0.59	1.31	5.13	1.29	1.50
-10	(+14)	530	134	155	87	0.61	1.67	6.08	1.53	1.78
-5	(+23)	659	166	193	93	0.63	2.09	7.08	1.78	2.07

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)	93	24	27	59	0.53	0.29	1.60	0.40	0.47
-30	(-22)	144	36	42	64	0.55	0.45	2.27	0.57	0.67
-25	(-13)	210	53	62	70	0.56	0.66	3.00	0.76	0.88
-20	(- 4)	292	74	86	77	0.58	0.92	3.77	0.95	1.11
-15	(+ 5)	389	98	114	84	0.60	1.22	4.58	1.15	1.34
-10	(+14)	501	126	147	92	0.62	1.58	5.41	1.36	1.59
-5	(+23)	628	158	184	100	0.65	1.99	6.26	1.58	1.83

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)	86	22	25	61	0.53	0.27	1.38	0.35	0.40
-30	(-22)	131	33	38	65	0.55	0.41	2.04	0.51	0.60
-25	(-13)	193	49	57	71	0.57	0.61	2.73	0.69	0.80
-20	(- 4)	270	68	79	79	0.58	0.85	3.44	0.87	1.01
-15	(+ 5)	362	91	106	87	0.61	1.14	4.15	1.04	1.21
-10	(+14)	468	118	137	97	0.63	1.48	4.85	1.22	1.42
-5	(+23)	590	149	173	106	0.67	1.87	5.54	1.40	1.62

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)	142	36	42	64	0.48	0.45	2.22	0.56	0.65
-30	(-22)	203	51	60	71	0.50	0.64	2.87	0.72	0.84
-25	(-13)	280	70	82	78	0.52	0.88	3.58	0.90	1.05
-20	(- 4)	374	94	110	86	0.55	1.17	4.34	1.09	1.27
-15	(+ 5)	488	123	143	94	0.58	1.54	5.16	1.30	1.51
-10	(+14)	625	158	183	103	0.62	1.97	6.03	1.52	1.77
-5	(+23)	788	198	231	113	0.66	2.49	6.96	1.76	2.04

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)	124	31	36	65	0.48	0.39	1.91	0.48	0.56
-30	(-22)	186	47	55	73	0.50	0.58	2.57	0.65	0.75
-25	(-13)	261	66	76	81	0.53	0.82	3.24	0.82	0.95
-20	(- 4)	350	88	102	89	0.56	1.10	3.92	0.99	1.15
-15	(+ 5)	455	115	133	98	0.60	1.43	4.63	1.17	1.36
-10	(+14)	580	146	170	108	0.64	1.83	5.35	1.35	1.57
-5	(+23)	726	183	213	119	0.68	2.30	6.10	1.54	1.79

E - PERFORMANCE - CURVES

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]	[W/W]
-35	(-31)	104	26	31	63	0.47	0.33	1.66	0.42	0.49
-30	(-22)	170	43	50	72	0.50	0.53	2.32	0.59	0.68
-25	(-13)	244	61	71	82	0.53	0.76	2.96	0.75	0.87
-20	(- 4)	328	83	96	92	0.57	1.03	3.58	0.90	1.05
-15	(+ 5)	427	107	125	102	0.61	1.34	4.18	1.05	1.23
-10	(+14)	540	136	158	114	0.66	1.71	4.77	1.20	1.40
-5	(+23)	672	169	197	126	0.71	2.13	5.34	1.35	1.56

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
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	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
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		