

COMPRESSOR DEFINITION

Designation	EM Y70HSC
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513308530

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 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	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	187 to 255 V	187 to 242 V
8.2 LBP (43°C Ambient temperature)	Static	187 to 255 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	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	1/5	[hp]
2 Displacement	5.72	[cm ³] (0.349 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	14.400	
3 Lubricant charge	190	[ml] (6.42 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	8.27	[kg] (18.23 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	PTC	
2.1 Starting device	8EA17C3/8EA5B3/QPS2-A22MD3/QPS2-A22MD3 091	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	4(300)	[µF(VAC minimum)]
5 Motor protection	4TM213PFBYY-53	
6 Start winding resistance	23.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	13.15	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	7.10/6.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	0.58/0.52	[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		

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]
575	145	168	116	0.66	3.27	4.94	1.24	1.45

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]
680	171	199	130	0.62	3.86	5.25	1.32	1.54

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)	351	88	103	83	0.54	1.98	4.24	1.07	1.24
-30 (-22)	459	116	134	96	0.58	2.60	4.78	1.20	1.40
-25 (-13)	600	151	176	109	0.62	3.41	5.50	1.39	1.61
-20 (- 4)	774	195	227	122	0.67	4.40	6.34	1.60	1.86
-15 (+ 5)	980	247	287	135	0.73	5.59	7.25	1.83	2.13
-10 (+14)	1216	307	356	149	0.79	6.97	8.17	2.06	2.39
-5 (+23)	1484	374	435	164	0.85	8.53	9.04	2.28	2.65

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)	273	69	80	82	0.56	1.54	3.35	0.84	0.98
-30 (-22)	379	96	111	97	0.60	2.15	3.92	0.99	1.15
-25 (-13)	520	131	152	112	0.65	2.95	4.64	1.17	1.36
-20 (- 4)	695	175	204	127	0.70	3.95	5.46	1.38	1.60
-15 (+ 5)	902	227	264	142	0.76	5.15	6.33	1.59	1.85
-10 (+14)	1143	288	335	160	0.83	6.55	7.17	1.81	2.10
-5 (+23)	1415	356	415	179	0.91	8.14	7.94	2.00	2.33

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)	230	58	68	79	0.55	1.30	2.92	0.74	0.86
-30	(-22)	327	82	96	95	0.59	1.85	3.46	0.87	1.01
-25	(-13)	460	116	135	112	0.65	2.61	4.13	1.04	1.21
-20	(- 4)	628	158	184	129	0.72	3.57	4.87	1.23	1.43
-15	(+ 5)	830	209	243	148	0.80	4.74	5.62	1.42	1.65
-10	(+14)	1066	269	312	169	0.89	6.11	6.32	1.59	1.85
-5	(+23)	1335	336	391	192	0.98	7.68	6.93	1.75	2.03

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)	378	95	111	88	0.45	2.14	4.28	1.08	1.25
-30	(-22)	512	129	150	104	0.52	2.90	4.92	1.24	1.44
-25	(-13)	681	172	200	120	0.59	3.87	5.66	1.43	1.66
-20	(- 4)	887	223	260	137	0.66	5.05	6.48	1.63	1.90
-15	(+ 5)	1130	285	331	154	0.73	6.45	7.34	1.85	2.15
-10	(+14)	1414	356	414	173	0.82	8.10	8.21	2.07	2.40
-5	(+23)	1738	438	509	192	0.91	10.00	9.04	2.28	2.65

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)	318	80	93	88	0.44	1.80	3.63	0.92	1.06
-30	(-22)	445	112	130	106	0.52	2.52	4.22	1.06	1.24
-25	(-13)	610	154	179	124	0.60	3.46	4.92	1.24	1.44
-20	(- 4)	815	205	239	143	0.69	4.64	5.68	1.43	1.66
-15	(+ 5)	1062	268	311	164	0.78	6.06	6.48	1.63	1.90
-10	(+14)	1352	341	396	186	0.88	7.74	7.29	1.84	2.14
-5	(+23)	1686	425	494	209	0.99	9.70	8.06	2.03	2.36

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)	266	67	78	82	0.42	1.51	3.21	0.81	0.94
-30	(-22)	381	96	112	103	0.51	2.16	3.72	0.94	1.09
-25	(-13)	538	136	158	124	0.60	3.05	4.34	1.09	1.27
-20	(- 4)	738	186	216	147	0.71	4.20	5.02	1.27	1.47
-15	(+ 5)	983	248	288	171	0.82	5.61	5.74	1.45	1.68
-10	(+14)	1274	321	373	197	0.93	7.30	6.46	1.63	1.89
-5	(+23)	1612	406	472	225	1.06	9.27	7.15	1.80	2.09

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard 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		