

### COMPRESSOR DEFINITION

Designation	EM YS60HEP
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513305065

### 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 <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	5.19	[cm <sup>3</sup> ] (0.317 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	15.000	
3 Lubricant charge	160	[ml] (5.41 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.68	[kg] (16.93 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (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	8EA17C3/QPS2-A22MD3	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	5(330)/4(330)	[μF(VAC minimum)]
5 Motor protection	4TM213PFBYY-53	
6 Start winding resistance	21.78	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	22.22	[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]
492	124	144	108	0.65	2.80	4.55	1.15	1.33

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static				(Condensing temperature 35°C (+95°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)	286	72	84	77	0.55	1.62	3.72	0.94	1.09
-30 (-22)	401	101	117	87	0.58	2.27	4.60	1.16	1.35
-25 (-13)	543	137	159	98	0.61	3.08	5.56	1.40	1.63
-20 (- 4)	714	180	209	109	0.64	4.07	6.59	1.66	1.93
-15 (+ 5)	915	231	268	119	0.67	5.22	7.72	1.94	2.26
-10 (+14)	1146	289	336	129	0.71	6.57	8.94	2.25	2.62

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)	255	64	75	77	0.55	1.44	3.31	0.83	0.97
-30 (-22)	363	92	106	88	0.58	2.06	4.11	1.03	1.20
-25 (-13)	501	126	147	101	0.61	2.84	4.95	1.25	1.45
-20 (- 4)	669	168	196	114	0.65	3.80	5.86	1.48	1.72
-15 (+ 5)	867	218	254	127	0.70	4.95	6.82	1.72	2.00
-10 (+14)	1097	276	321	140	0.75	6.28	7.86	1.98	2.30

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)	223	56	65	77	0.55	1.26	2.89	0.73	0.85
-30 (-22)	323	81	95	89	0.58	1.83	3.64	0.92	1.07
-25 (-13)	454	114	133	103	0.62	2.58	4.41	1.11	1.29
-20 (- 4)	616	155	181	118	0.67	3.51	5.21	1.31	1.53
-15 (+ 5)	810	204	237	134	0.73	4.63	6.04	1.52	1.77
-10 (+14)	1037	261	304	150	0.79	5.94	6.93	1.75	2.03

### 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]	[W/W]
-35	(-31)	184	46	54	76	0.55	1.04	2.43	0.61	0.71
-30	(-22)	275	69	81	88	0.58	1.56	3.15	0.79	0.92
-25	(-13)	397	100	116	103	0.62	2.25	3.87	0.97	1.13
-20	(- 4)	552	139	162	120	0.68	3.14	4.59	1.16	1.34
-15	(+ 5)	740	186	217	139	0.74	4.22	5.32	1.34	1.56
-10	(+14)	962	242	282	158	0.82	5.51	6.07	1.53	1.78

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted parallel B.Plane 15°		
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	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted parallel to Base Plate		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		