

### COMPRESSOR DEFINITION

Designation	EM YS60HEP
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513305040

### 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	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	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	MSC34X 220V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MSC34A39L3	
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)	5.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.15	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	1.27	[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	117	0.91	2.80	4.22	1.06	1.24

### 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)	282	71	83	81	0.85	1.59	3.45	0.87	1.01
-30	(-22)	397	100	116	93	0.87	2.25	4.27	1.08	1.25
-25	(-13)	539	136	158	105	0.89	3.06	5.16	1.30	1.51
-20	(- 4)	711	179	208	117	0.91	4.05	6.12	1.54	1.79
-15	(+ 5)	912	230	267	128	0.94	5.21	7.17	1.81	2.10
-10	(+14)	1144	288	335	138	0.96	6.56	8.31	2.09	2.44

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)	254	64	74	82	0.85	1.43	3.10	0.78	0.91
-30	(-22)	362	91	106	94	0.87	2.05	3.84	0.97	1.13
-25	(-13)	499	126	146	108	0.89	2.83	4.62	1.16	1.35
-20	(- 4)	665	168	195	122	0.92	3.79	5.44	1.37	1.59
-15	(+ 5)	862	217	253	136	0.96	4.92	6.32	1.59	1.85
-10	(+14)	1090	275	319	150	0.99	6.24	7.25	1.83	2.13

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)	221	56	65	82	0.85	1.25	2.69	0.68	0.79
-30	(-22)	322	81	94	95	0.87	1.83	3.40	0.86	1.00
-25	(-13)	452	114	133	110	0.89	2.57	4.10	1.03	1.20
-20	(- 4)	612	154	179	127	0.93	3.49	4.82	1.21	1.41
-15	(+ 5)	803	202	235	144	0.98	4.59	5.55	1.40	1.63
-10	(+14)	1027	259	301	162	1.03	5.88	6.32	1.59	1.85

### 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)	179	45	53	81	0.85	1.01	2.22	0.56	0.65
-30	(-22)	272	69	80	94	0.86	1.54	2.92	0.74	0.86
-25	(-13)	394	99	116	110	0.89	2.24	3.59	0.90	1.05
-20	(- 4)	547	138	160	129	0.93	3.11	4.24	1.07	1.24
-15	(+ 5)	732	184	214	150	0.99	4.18	4.87	1.23	1.43
-10	(+14)	949	239	278	172	1.06	5.44	5.50	1.39	1.61

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
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	Straight		
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		