

### COMPRESSOR DEFINITION

Designation	EM YS60HEP
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513305016

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220 / 60	[ 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 242 V
8.2 LBP (43°C Ambient temperature)	Static	-	198 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 <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 V 60 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	MSC34A49C3	
6 Start winding resistance	19.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	17.60	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	6.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.22	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.44	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA	

### D - PERFORMANCE - CHECK POINT DATA

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]
600	151	176	130	0.95	3.41	4.62	1.16	1.35

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	346	87	101	88	0.87	1.96	3.91	0.98	1.14
-30 (-22)	464	117	136	99	0.89	2.63	4.68	1.18	1.37
-25 (-13)	612	154	179	112	0.92	3.48	5.49	1.38	1.61
-20 (- 4)	795	200	233	125	0.95	4.53	6.34	1.60	1.86
-15 (+ 5)	1017	256	298	140	0.99	5.81	7.25	1.83	2.12
-10 (+14)	1283	323	376	156	1.04	7.35	8.21	2.07	2.41

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]	[W/W]
-35 (-31)	313	79	92	90	0.87	1.77	3.49	0.88	1.02
-30 (-22)	434	109	127	103	0.90	2.46	4.22	1.06	1.24
-25 (-13)	583	147	171	118	0.93	3.31	4.97	1.25	1.45
-20 (- 4)	764	193	224	133	0.97	4.35	5.74	1.45	1.68
-15 (+ 5)	982	247	288	150	1.02	5.61	6.55	1.65	1.92
-10 (+14)	1241	313	364	167	1.07	7.11	7.40	1.86	2.17

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]	[W/W]
-35 (-31)	277	70	81	89	0.87	1.57	3.13	0.79	0.92
-30 (-22)	397	100	116	105	0.90	2.25	3.79	0.96	1.11
-25 (-13)	543	137	159	122	0.94	3.08	4.46	1.12	1.31
-20 (- 4)	719	181	211	140	0.99	4.09	5.14	1.30	1.51
-15 (+ 5)	930	234	272	159	1.04	5.31	5.84	1.47	1.71
-10 (+14)	1179	297	345	180	1.11	6.76	6.56	1.65	1.92

### 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)	234	59	69	84	0.86	1.32	2.75	0.69	0.81
-30	(-22)	350	88	102	103	0.90	1.98	3.35	0.84	0.98
-25	(-13)	489	123	143	124	0.94	2.77	3.93	0.99	1.15
-20	(- 4)	655	165	192	146	1.00	3.73	4.50	1.13	1.32
-15	(+ 5)	854	215	250	169	1.08	4.88	5.08	1.28	1.49
-10	(+14)	1090	275	319	193	1.16	6.24	5.66	1.43	1.66

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal 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	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		