

### COMPRESSOR DEFINITION

Designation	EM Y45HER
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513308557

### 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 Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°F)	
5 Motor type	RSIR-CSIR		
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	198 to 255 V
8.2 LBP (43°C Ambient temperature)	Static	198 to 255 V	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	1/6	[hp]
2 Displacement	3.77	[cm <sup>3</sup> ] (0.230 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	13.300	
3 Lubricant charge	170	[ml] (5.75 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.78	[kg] (17.15 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 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514059/213515001	
3 Start capacitor	72-88(190)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM718KFBYY-53	
6 Start winding resistance	33.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	17.10	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	10.00/9.60	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.00/0.90	[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]
374	94	110	83	0.74	2.13	4.53	1.14	1.33

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]
460	116	135	93	0.67	2.61	4.95	1.25	1.45

### 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)	267	67	78	61	0.58	1.51	4.37	1.10	1.28
-30	(-22)	349	88	102	70	0.60	1.98	5.06	1.27	1.48
-25	(-13)	459	116	135	78	0.62	2.61	5.90	1.49	1.73
-20	(- 4)	601	151	176	87	0.65	3.42	6.87	1.73	2.01
-15	(+ 5)	775	195	227	97	0.68	4.43	7.94	2.00	2.33
-10	(+14)	986	249	289	108	0.72	5.65	9.09	2.29	2.66

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)	246	62	72	65	0.58	1.39	3.76	0.95	1.10
-30	(-22)	324	82	95	75	0.61	1.84	4.37	1.10	1.28
-25	(-13)	428	108	125	84	0.63	2.43	5.10	1.28	1.49
-20	(- 4)	559	141	164	95	0.66	3.18	5.92	1.49	1.73
-15	(+ 5)	719	181	211	106	0.70	4.11	6.80	1.71	1.99
-10	(+14)	913	230	267	118	0.75	5.23	7.73	1.95	2.26

### E - PERFORMANCE - CURVES

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)	210	53	61	64	0.58	1.19	3.20	0.81	0.94
-30	(-22)	292	74	86	77	0.62	1.66	3.79	0.96	1.11
-25	(-13)	396	100	116	89	0.65	2.25	4.47	1.13	1.31
-20	(- 4)	524	132	153	101	0.69	2.98	5.20	1.31	1.52
-15	(+ 5)	677	171	199	114	0.74	3.87	5.96	1.50	1.75
-10	(+14)	860	217	252	129	0.79	4.93	6.71	1.69	1.97

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)	146	37	43	59	0.56	0.83	2.53	0.64	0.74
-30	(-22)	240	61	70	75	0.60	1.36	3.17	0.80	0.93
-25	(-13)	351	89	103	90	0.65	2.00	3.86	0.97	1.13
-20	(- 4)	483	122	141	105	0.70	2.75	4.56	1.15	1.34
-15	(+ 5)	637	160	187	122	0.76	3.63	5.25	1.32	1.54
-10	(+14)	816	206	239	139	0.83	4.67	5.91	1.49	1.73

### 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	Slanted		
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		