

COMPRESSOR DEFINITION

Designation	EM R40CLP
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513400017

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
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	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/8	[hp]
2 Displacement	5.96	[cm ³] (0.364 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	15.000	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	6.4	[kg] (14.11 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C1/8EA17E61/QPS2-A22MG1	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM189NFBYY-53	
6 Start winding resistance	20.80	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	37.40	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	3.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.02	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.14	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - 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 (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
383	97	112	91	0.64	1.20	4.20	1.06	1.23

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz			ASHRAE32 Static		(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	245	62	72	65	0.57	0.77	3.75	0.95	1.10
-30	(-22)	312	79	91	73	0.59	0.98	4.28	1.08	1.25
-25	(-13)	400	101	117	80	0.61	1.25	5.00	1.26	1.47
-20	(- 4)	512	129	150	87	0.62	1.61	5.88	1.48	1.72
-15	(+ 5)	653	165	191	95	0.64	2.06	6.86	1.73	2.01
-10	(+14)	827	208	242	104	0.67	2.61	7.91	1.99	2.32

TEST CONDITIONS: @220V60Hz			ASHRAE32 Static		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	223	56	65	68	0.58	0.70	3.30	0.83	0.97
-30	(-22)	292	74	86	77	0.61	0.92	3.79	0.95	1.11
-25	(-13)	378	95	111	86	0.63	1.19	4.43	1.12	1.30
-20	(- 4)	486	122	142	94	0.65	1.53	5.18	1.30	1.52
-15	(+ 5)	618	156	181	103	0.67	1.94	5.99	1.51	1.76
-10	(+14)	778	196	228	114	0.70	2.46	6.82	1.72	2.00

TEST CONDITIONS: @220V60Hz			ASHRAE32 Static		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	190	48	56	66	0.58	0.60	2.88	0.73	0.84
-30	(-22)	264	67	77	78	0.61	0.83	3.38	0.85	0.99
-25	(-13)	352	89	103	88	0.63	1.10	3.98	1.00	1.17
-20	(- 4)	457	115	134	99	0.66	1.44	4.64	1.17	1.36
-15	(+ 5)	583	147	171	110	0.69	1.84	5.33	1.34	1.56
-10	(+14)	735	185	215	123	0.73	2.32	5.99	1.51	1.75

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	146	37	43	60	0.56	0.46	2.44	0.61	0.72
-30	(-22)	229	58	67	75	0.60	0.72	2.98	0.75	0.87
-25	(-13)	321	81	94	88	0.63	1.01	3.58	0.90	1.05
-20	(- 4)	427	108	125	101	0.67	1.34	4.21	1.06	1.23
-15	(+ 5)	551	139	161	116	0.71	1.73	4.80	1.21	1.41
-10	(+14)	696	175	204	132	0.76	2.20	5.33	1.34	1.56

F - EXTERNAL CHARACTERISTICS

1 Base plate	New Base Plate EUEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	7.84 +0.00/-0.10	[mm]	(0.309" +0.000"/-0.004")
3.1.1 Material	Copper(OD)		
3.1.2 Shape	Slanted 40° up + 45° to Back		
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 30° up + 24° to Back		
3.3 PROCESS	6.35 +0.08/-0.08	[mm]	(0.250" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		