

COMPRESSOR DEFINITION

Designation	EM YE70CLP
Nominal Voltage/Frequency	220 V 50-60 Hz
Engineering Number	513306535

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	220 / 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		
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	187 to 242 V	187 to 242 V
8.2 LBP (43°C Ambient temperature)	Static	187 to 242 V	187 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	1/5	[hp]
2 Displacement	10.61	[cm ³] (0.647 cu.in)
2.1 Bore [mm]	26.000	
2.2 Stroke [mm]	20.000	
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)	7.74	[kg] (17.06 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C1/QPS2-A22MG1	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM283NFBYY-53	
6 Start winding resistance	14.88	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	11.88	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	8.20/7.76	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.43/1.40	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	1.86/1.65	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - 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]
621	156	182	137	1.26	1.95	4.52	1.14	1.32

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]
693	175	203	139	1.04	2.18	4.99	1.26	1.46

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)	384	97	112	105	1.25	1.20	3.66	0.92	1.07
-30 (-22)	420	106	123	102	1.16	1.31	4.02	1.01	1.18
-25 (-13)	665	167	195	125	1.26	2.08	5.31	1.34	1.56
-20 (- 4)	932	235	273	150	1.37	2.93	6.55	1.65	1.92
-15 (+ 5)	1035	261	303	154	1.31	3.26	6.74	1.70	1.98
-10 (+14)	788	198	231	111	0.91	2.48	4.90	1.24	1.44

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)	349	88	102	106	1.25	1.09	3.29	0.83	0.96
-30 (-22)	378	95	111	107	1.17	1.18	3.47	0.88	1.02
-25 (-13)	620	156	182	133	1.27	1.95	4.68	1.18	1.37
-20 (- 4)	890	224	261	159	1.38	2.80	5.93	1.49	1.74
-15 (+ 5)	1001	252	293	161	1.32	3.15	6.22	1.57	1.82
-10 (+14)	766	193	224	116	0.92	2.41	4.57	1.15	1.34

E - PERFORMANCE - CURVES

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]
-35	(-31)	324	82	95	106	1.26	1.01	3.07	0.77	0.90
-30	(-22)	344	87	101	111	1.18	1.08	3.06	0.77	0.90
-25	(-13)	583	147	171	140	1.29	1.83	4.16	1.05	1.22
-20	(- 4)	854	215	250	167	1.40	2.69	5.39	1.36	1.58
-15	(+ 5)	971	245	285	169	1.34	3.06	5.76	1.45	1.69
-10	(+14)	748	189	219	122	0.93	2.36	4.28	1.08	1.25

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]
-35	(-31)	457	115	134	102	0.96	1.43	4.49	1.13	1.32
-30	(-22)	480	121	141	99	0.90	1.50	4.68	1.18	1.37
-25	(-13)	753	190	221	127	1.02	2.36	5.86	1.48	1.72
-20	(- 4)	1059	267	310	159	1.16	3.33	7.02	1.77	2.06
-15	(+ 5)	1180	297	346	166	1.14	3.71	7.12	1.79	2.09
-10	(+14)	900	227	264	122	0.81	2.83	5.13	1.29	1.50

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]
-35	(-31)	440	111	129	106	0.97	1.38	4.12	1.04	1.21
-30	(-22)	445	112	131	106	0.92	1.39	4.14	1.04	1.21
-25	(-13)	709	179	208	135	1.05	2.22	5.25	1.32	1.54
-20	(- 4)	1013	255	297	167	1.18	3.19	6.42	1.62	1.88
-15	(+ 5)	1142	288	335	173	1.16	3.59	6.63	1.67	1.94
-10	(+14)	877	221	257	126	0.82	2.76	4.83	1.22	1.42

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]
-35	(-31)	396	100	116	107	0.98	1.24	3.69	0.93	1.08
-30	(-22)	388	98	114	110	0.93	1.21	3.56	0.90	1.04
-25	(-13)	646	163	189	141	1.06	2.03	4.60	1.16	1.35
-20	(- 4)	953	240	279	173	1.20	3.00	5.78	1.46	1.69
-15	(+ 5)	1091	275	320	179	1.18	3.44	6.09	1.54	1.79
-10	(+14)	845	213	248	130	0.83	2.66	4.50	1.13	1.32

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal AMEM		
2 Tray holder	Yes		
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 42° 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 parallel BP+24°to Back		
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	Slanted 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		