

COMPRESSOR DEFINITION

Designation	EM YS46CLP
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513300429

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
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	187 to 255 V	-
8.2 LBP (43°C Ambient temperature)	-	-	-
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		[hp]
2 Displacement	8.23	[cm ³] (0.502 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	18.200	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	6.97	[kg] (15.37 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (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	QP2-20A	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	BT53-105	
6 Start winding resistance		[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance		[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC	

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]
471	119	138	85	0.59	1.48	5.55	1.40	1.63

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)	280	70	82	187	0.51	0.87	1.49	0.37	0.44	
-30 (-22)	378	95	111	220	0.53	1.19	1.72	0.43	0.50	
-25 (-13)	496	125	145	253	0.56	1.56	1.97	0.50	0.58	
-20 (- 4)	636	160	186	285	0.59	2.00	2.24	0.56	0.66	
-15 (+ 5)	800	202	234	317	0.62	2.52	2.53	0.64	0.74	
-10 (+14)	991	250	290	349	0.64	3.13	2.84	0.72	0.83	

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)	257	65	75	191	0.51	0.81	1.35	0.34	0.40	
-30 (-22)	354	89	104	226	0.54	1.11	1.56	0.39	0.46	
-25 (-13)	469	118	138	263	0.57	1.47	1.78	0.45	0.52	
-20 (- 4)	606	153	178	302	0.60	1.91	2.00	0.51	0.59	
-15 (+ 5)	768	193	225	342	0.64	2.42	2.24	0.56	0.66	
-10 (+14)	956	241	280	383	0.68	3.02	2.49	0.63	0.73	

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)	223	56	65	189	0.51	0.70	1.18	0.30	0.35	
-30 (-22)	317	80	93	229	0.54	0.99	1.39	0.35	0.41	
-25 (-13)	430	108	126	271	0.57	1.35	1.59	0.40	0.47	
-20 (- 4)	565	142	165	317	0.61	1.77	1.78	0.45	0.52	
-15 (+ 5)	723	182	212	366	0.66	2.28	1.97	0.50	0.58	
-10 (+14)	908	229	266	418	0.71	2.87	2.17	0.55	0.64	

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)	177	45	52	179	0.51	0.55	0.98	0.25	0.29
-30	(-22)	269	68	79	223	0.53	0.84	1.19	0.30	0.35
-25	(-13)	379	96	111	273	0.57	1.19	1.39	0.35	0.41
-20	(- 4)	511	129	150	327	0.62	1.61	1.56	0.39	0.46
-15	(+ 5)	666	168	195	387	0.68	2.10	1.73	0.44	0.51
-10	(+14)	848	214	248	451	0.75	2.68	1.88	0.47	0.55

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.2 +0.05/+0.05	[mm]	(0.244" +0.002"/+0.002")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 40° up + 45° to Back		
3.2 DISCHARGE	4.2 +0.10/-0.05	[mm]	(0.165" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° to Back		
3.3 PROCESS	6.2 +0.05/+0.05	[mm]	(0.244" +0.002"/+0.002")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 40° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		