

### COMPRESSOR DEFINITION

Designation	EM U70HLC
Nominal Voltage/Frequency	220 V 50 Hz
Engineering Number	513306157

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220 / 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	RSCR		
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	176 to 242 V	-
8.2 LBP (43°C Ambient temperature)	Static	176 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	5.96	[cm <sup>3</sup> ] (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	ESTER / ISO10	
4 Weight (with oil charge)	8.11	[kg] (17.88 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 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C3/QPS2-A22MD3/QPS2-A22MD3 091	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)/4(350)	[µF(VAC minimum)]
5 Motor protection	4TM232NFBYY-53	
6 Start winding resistance	14.95	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	17.98	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	7.65	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.31	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	1.59	[A] - Measured according to UL 984
11 Approval boards certification		

### 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]
563	142	165	118	0.69	3.20	4.78	1.20	1.40

### 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)	304	77	89	83	0.57	1.72	3.64	0.92	1.07
-30 (-22)	455	115	133	97	0.62	2.58	4.62	1.16	1.35
-25 (-13)	622	157	182	111	0.67	3.53	5.62	1.42	1.65
-20 (- 4)	804	203	236	123	0.70	4.57	6.63	1.67	1.94
-15 (+ 5)	1000	252	293	133	0.73	5.71	7.62	1.92	2.23
-10 (+14)	1210	305	354	142	0.75	6.93	8.56	2.16	2.51

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)	252	63	74	82	0.57	1.42	3.12	0.79	0.91
-30 (-22)	399	101	117	98	0.62	2.26	4.04	1.02	1.18
-25 (-13)	573	144	168	113	0.67	3.26	5.00	1.26	1.47
-20 (- 4)	773	195	227	128	0.72	4.40	5.99	1.51	1.75
-15 (+ 5)	998	251	292	143	0.77	5.70	6.97	1.76	2.04
-10 (+14)	1247	314	365	158	0.82	7.14	7.93	2.00	2.32

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)	217	55	64	80	0.57	1.23	2.76	0.70	0.81
-30 (-22)	337	85	99	96	0.62	1.91	3.54	0.89	1.04
-25 (-13)	495	125	145	112	0.67	2.81	4.38	1.10	1.28
-20 (- 4)	690	174	202	129	0.72	3.93	5.26	1.33	1.54
-15 (+ 5)	920	232	270	148	0.79	5.25	6.16	1.55	1.81
-10 (+14)	1185	299	347	168	0.86	6.79	7.06	1.78	2.07

### 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)	199	50	58	76	0.57	1.13	2.53	0.64	0.74
-30	(-22)	269	68	79	91	0.60	1.53	3.08	0.78	0.90
-25	(-13)	388	98	114	108	0.65	2.20	3.72	0.94	1.09
-20	(- 4)	554	140	162	127	0.71	3.15	4.42	1.11	1.30
-15	(+ 5)	766	193	224	148	0.78	4.37	5.15	1.30	1.51
-10	(+14)	1023	258	300	172	0.87	5.86	5.90	1.49	1.73

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
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 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		