

### COMPRESSOR DEFINITION

Designation	ER U280HSP
Nominal Voltage/Frequency	220 V 50 Hz
Engineering Number	513305574

### 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	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	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	1/4	[hp]
2 Displacement	6.36	[cm <sup>3</sup> ] (0.388 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	16.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.53	[kg] (16.60 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	8EA17C3/8EA17E61/8EA17E62/8EA17E63/QPS2-A22MD3/QPS3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(450)	[µF(VAC minimum)]
5 Motor protection	4TM232KFBYY-53	
6 Start winding resistance	12.13	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	19.45	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	6.25/5.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	0.89/0.80	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	1.08/0.98	[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]
650	164	190	119	0.59	3.69	5.45	1.37	1.60

### 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)	379	95	111	79	0.41	2.14	4.77	1.20	1.40
-30	(-22)	531	134	156	92	0.47	3.01	5.74	1.45	1.68
-25	(-13)	715	180	210	106	0.53	4.06	6.73	1.70	1.97
-20	(- 4)	935	236	274	121	0.59	5.32	7.78	1.96	2.28
-15	(+ 5)	1195	301	350	135	0.65	6.82	8.90	2.24	2.61
-10	(+14)	1497	377	439	148	0.71	8.58	10.11	2.55	2.96

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)	332	84	97	81	0.42	1.88	4.12	1.04	1.21
-30	(-22)	475	120	139	94	0.48	2.69	5.01	1.26	1.47
-25	(-13)	653	165	191	110	0.55	3.71	5.90	1.49	1.73
-20	(- 4)	869	219	255	127	0.62	4.94	6.81	1.72	1.99
-15	(+ 5)	1126	284	330	145	0.70	6.43	7.75	1.95	2.27
-10	(+14)	1429	360	419	164	0.78	8.19	8.75	2.20	2.56

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)	281	71	82	82	0.43	1.59	3.44	0.87	1.01
-30	(-22)	412	104	121	96	0.49	2.33	4.31	1.09	1.26
-25	(-13)	580	146	170	113	0.56	3.29	5.14	1.30	1.51
-20	(- 4)	788	199	231	132	0.64	4.49	5.96	1.50	1.75
-15	(+ 5)	1041	262	305	153	0.73	5.94	6.78	1.71	1.99
-10	(+14)	1341	338	393	176	0.83	7.68	7.62	1.92	2.23

### 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)	227	57	66	84	0.44	1.28	2.67	0.67	0.78
-30	(-22)	342	86	100	97	0.49	1.94	3.57	0.90	1.05
-25	(-13)	497	125	146	114	0.56	2.82	4.40	1.11	1.29
-20	(- 4)	695	175	204	135	0.65	3.95	5.18	1.31	1.52
-15	(+ 5)	939	237	275	159	0.75	5.36	5.92	1.49	1.74
-10	(+14)	1233	311	361	185	0.87	7.06	6.66	1.68	1.95

### F - EXTERNAL CHARACTERISTICS

1 Base plate	New Base Plate 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 parallel BP+45°to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		