

**COMPRESSOR DEFINITION**

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

**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 pressures/temperature			
9.1 Operating (gauge)	16,2	[kgf/cm <sup>2</sup> ] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20,6	[kgf/cm <sup>2</sup> ] (293 psig)	
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	8EA17C3/8EA17E61/8EA17E62/8EA17E63/8M220MD3/QPS2-/-	
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	IRAM	

**D - PERFORMANCE - CHECK POINT DATA**

TEST CONDITIONS: @220V50Hz			<b>ASHRAELBP32</b> Static		Evaporating temperature (Condensing temperature	<b>-23,3°C (-9,94°F)</b> <b>54,4°C (129,92°F)</b>		
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			<b>ASHRAE32</b> Static		(Condensing temperature <b>35°C (+95°F)</b> )				
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]
<b>-35 (-31)</b>	379	95	111	79	0,41	2,14	4,77	1,20	1,40
<b>-30 (-22)</b>	531	134	156	92	0,47	3,01	5,74	1,45	1,68
<b>-25 (-13)</b>	715	180	210	106	0,53	4,06	6,73	1,70	1,97
<b>-20 (- 4)</b>	935	236	274	121	0,59	5,32	7,78	1,96	2,28
<b>-15 (+ 5)</b>	1195	301	350	135	0,65	6,82	8,90	2,24	2,61
<b>-10 (+14)</b>	1497	377	439	148	0,71	8,58	10,11	2,55	2,96

TEST CONDITIONS: @220V50Hz			<b>ASHRAE32</b> Static		(Condensing temperature <b>45°C (+113°F)</b> )				
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]
<b>-35 (-31)</b>	332	84	97	81	0,42	1,88	4,12	1,04	1,21
<b>-30 (-22)</b>	475	120	139	94	0,48	2,69	5,01	1,26	1,47
<b>-25 (-13)</b>	653	165	191	110	0,55	3,71	5,90	1,49	1,73
<b>-20 (- 4)</b>	869	219	255	127	0,62	4,94	6,81	1,72	1,99
<b>-15 (+ 5)</b>	1126	284	330	145	0,70	6,43	7,75	1,95	2,27
<b>-10 (+14)</b>	1429	360	419	164	0,78	8,19	8,75	2,20	2,56

TEST CONDITIONS: @220V50Hz			<b>ASHRAE32</b> Static		(Condensing temperature <b>55°C (+131°F)</b> )				
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]
<b>-35 (-31)</b>	281	71	82	82	0,43	1,59	3,44	0,87	1,01
<b>-30 (-22)</b>	412	104	121	96	0,49	2,33	4,31	1,09	1,26
<b>-25 (-13)</b>	580	146	170	113	0,56	3,29	5,14	1,30	1,51
<b>-20 (- 4)</b>	788	199	231	132	0,64	4,49	5,96	1,50	1,75
<b>-15 (+ 5)</b>	1041	262	305	153	0,73	5,94	6,78	1,71	1,99
<b>-10 (+14)</b>	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		