

### COMPRESSOR DEFINITION

Designation	<b>EH U2140GK</b>
Nominal Voltage/Frequency	<b>220-240 V 50 Hz</b>
Engineering Number	<b>513307518</b>

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	220-240 / 50	[ V / Hz ]	
4 Application type	Low Back Pressure R404A Extended		
4.1 Evaporating temperature range	-40°C to -5°C	(-40°F to 23°F)	
5 Motor type	CSIR		
6 Starting torque	LST/HST - Low/High starting torque		
7 Expansion device	Capillary tube or Expansion valve		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	-	-	-
8.2 LBP (43°C Ambient temperature)	Fan	198 to 255 V	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	25.2	[kgf/cm <sup>2</sup> ] (358 psig)	/ °C - °F
9.2 Peak	28.3	[kgf/cm <sup>2</sup> ] (402 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/2	[hp]
2 Displacement	9.04	[cm <sup>3</sup> ] (0.552 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	270	[ml] (9.13 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	9.4	[kg] (20.72 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213515058	
3 Start capacitor	98-124(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	DRB210M52A2F	
6 Start winding resistance	11.43	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	6.96	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	19.53	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	4.49	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	4.90	[A] - Measured according to UL 984
11 Approval boards certification	CCC	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
1707	430	500	342	2.24	11.57	4.99	1.26	1.46

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	823	207	241	209	1.88	7.04	3.93	0.99	1.15
-35	(-31)	1084	273	318	239	1.94	4.87	4.54	1.14	1.33
-30	(-22)	1397	352	409	269	2.01	7.94	5.20	1.31	1.52
-25	(-13)	1771	446	519	300	2.10	13.41	5.91	1.49	1.73
-20	(- 4)	2215	558	649	331	2.19	18.49	6.69	1.69	1.96
-15	(+ 5)	2739	690	803	362	2.29	20.35	7.57	1.91	2.22
-10	(+14)	3354	845	983	392	2.40	16.16	8.55	2.16	2.51
-5	(+23)	4069	1025	1192	421	2.50	3.13	9.67	2.44	2.83

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	750	189	220	213	1.89	6.70	3.54	0.89	1.04
-35	(-31)	1015	256	298	246	1.96	4.36	4.12	1.04	1.21
-30	(-22)	1328	335	389	281	2.04	7.31	4.72	1.19	1.38
-25	(-13)	1698	428	498	318	2.15	12.75	5.33	1.34	1.56
-20	(- 4)	2136	538	626	356	2.27	17.86	5.99	1.51	1.75
-15	(+ 5)	2650	668	776	395	2.40	19.81	6.70	1.69	1.96
-10	(+14)	3250	819	952	434	2.54	15.79	7.49	1.89	2.20
-5	(+23)	3947	995	1156	472	2.69	2.99	8.38	2.11	2.46

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	657	166	193	210	1.88	6.19	3.13	0.79	0.92
-35	(-31)	921	232	270	248	1.96	3.66	3.71	0.93	1.09
-30	(-22)	1229	310	360	289	2.06	6.49	4.26	1.07	1.25
-25	(-13)	1591	401	466	332	2.19	11.87	4.79	1.21	1.40
-20	(- 4)	2016	508	591	378	2.34	16.98	5.34	1.35	1.57
-15	(+ 5)	2514	634	737	425	2.51	19.01	5.91	1.49	1.73
-10	(+14)	3095	780	907	473	2.69	15.14	6.53	1.65	1.91
-5	(+23)	3769	950	1104	522	2.89	2.55	7.21	1.82	2.11

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 40° up + 45° to Back		
3.2 DISCHARGE	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
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		