

### COMPRESSOR DEFINITION

Designation	<b>EH U2140GK</b>
Nominal Voltage/Frequency	<b>208-230 V 60 Hz</b>
Engineering Number	<b>513307516</b>

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	208-230 / 60	[ V / Hz ]	
4 Application type	Low Back Pressure R404A		
4.1 Evaporating temperature range	-40°C to -10°C	(-40°F to 14°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	-	187 to 244 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	208-230 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213515055	
3 Start capacitor	72-88(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	DRB230N61A2F	
6 Start winding resistance	9.69	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.01	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	21.20	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	4.67	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	5.59	[A] - Measured according to UL 984
11 Approval boards certification	CCC	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @208V60Hz			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]
2043	515	599	405	2.67	13.85	5.04	1.27	1.48

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @208V60Hz			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)	968	244	284	240	2.16	6.50	4.02	1.01	1.18
-35	(-31)	1280	322	375	277	2.26	8.63	4.62	1.16	1.35
-30	(-22)	1662	419	487	316	2.37	11.24	5.26	1.33	1.54
-25	(-13)	2122	535	622	356	2.50	14.42	5.97	1.50	1.75
-20	(- 4)	2668	672	782	396	2.65	18.22	6.74	1.70	1.98
-15	(+ 5)	3308	834	969	436	2.80	22.73	7.58	1.91	2.22
-10	(+14)	4050	1021	1187	477	2.96	28.02	8.49	2.14	2.49

TEST CONDITIONS: @208V60Hz			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)	886	223	260	242	2.16	5.94	3.66	0.92	1.07
-35	(-31)	1193	301	350	284	2.27	8.03	4.20	1.06	1.23
-30	(-22)	1568	395	459	329	2.41	10.58	4.77	1.20	1.40
-25	(-13)	2017	508	591	375	2.57	13.68	5.37	1.35	1.57
-20	(- 4)	2549	642	747	424	2.75	17.38	6.01	1.51	1.76
-15	(+ 5)	3173	800	930	474	2.94	21.76	6.70	1.69	1.96
-10	(+14)	3895	981	1141	525	3.15	26.89	7.43	1.87	2.18

TEST CONDITIONS: @208V60Hz			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)	778	196	228	239	2.15	5.21	3.27	0.82	0.96
-35	(-31)	1083	273	317	286	2.28	7.28	3.79	0.96	1.11
-30	(-22)	1452	366	425	336	2.43	9.78	4.32	1.09	1.27
-25	(-13)	1892	477	554	390	2.62	12.80	4.85	1.22	1.42
-20	(- 4)	2413	608	707	446	2.83	16.41	5.41	1.36	1.58
-15	(+ 5)	3021	761	885	506	3.07	20.67	5.98	1.51	1.75
-10	(+14)	3724	939	1091	567	3.33	25.66	6.57	1.65	1.92

### 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