

### COMPRESSOR DEFINITION

Designation	<b>EK 6214CD</b>
Nominal Voltage/Frequency	<b>220-240 V 50 Hz</b>
Engineering Number	<b>516400009</b>

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-744		
3 Nominal voltage and frequency	220-240 / 50	[ V / Hz ]	
4 Application type	Medium/High Back Perssure (Comercial Compressor R744)		
4.1 Evaporating temperature range	-20°C to 10°C	(-4°F to 50°F)	
5 Motor type	CSCR		
6 Starting torque	HST - Hight 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)	-	-	-
8.3 HBP (32°C Ambient temperature)	Fan	198 to 255 V	-
8.4 HBP (43°C Ambient temperature)	Fan	198 to 255 V	-
9 Maximum discharge pressure			
9.1 Operating	122.4	[kgf/cm <sup>2</sup> ] (1741 psig)	(120.0 bar)
9.2 Peak	122.4	[kgf/cm <sup>2</sup> ] (1741 psig)	(120.0 bar)
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	2.44	[cm <sup>3</sup> ] (0.149 cu.in)
2.1 Bore [mm]	14.500	
2.2 Stroke [mm]	14.800	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO68	
4 Weight (with oil charge)	13.88	[kg] (30.60 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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	3ARR3B10AS3	
3 Start capacitor	53-64(330)	[µF(VAC minimum)]
4 Run capacitor	12.5(400)/12(400)	[µF(VAC minimum)]
5 Motor protection	MSP 30APZ	
6 Start winding resistance	11.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	4.90	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	18.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	3.95	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	4.40	[A] - Measured according to UL 984
11 Approval boards certification	VDE	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAE32/HBP/R744 Fan		Evaporating temperature (Discharge Pressure)		7.2°C (44.96°F) 85 bar (86.68 kgf/cm <sup>2</sup> )	
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]
5642	1422	1653	655	3.14	28.72	8.62	2.17	2.53

TEST CONDITIONS: @220V50Hz			ASHRAE32/MBP/R744 Fan		Evaporating temperature (Discharge Pressure)		-10°C (14°F) 85 bar (86.68 kgf/cm <sup>2</sup> )	
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]
3314	835	971	617	2.97	17.67	5.37	1.35	1.57

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32/R744 Fan			(Discharge Pressure 80 bar (81 kgf/cm <sup>2</sup> ))				
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]
-20	(- 4)	2304	581	675	551	2.65	9.80	4.17	1.05	1.22
-15	(+ 5)	2795	704	819	574	2.76	14.34	4.88	1.23	1.43
-10	(+14)	3347	843	981	592	2.85	18.05	5.69	1.43	1.67
-5	(+23)	3959	998	1160	606	2.93	19.76	6.60	1.66	1.93
0	(+32)	4630	1167	1357	614	2.98	18.31	7.61	1.92	2.23
+5	(+41)	5358	1350	1570	616	2.99	12.54	8.74	2.20	2.56
+10	(+50)	6143	1548	1800	611	2.97	1.31	9.97	2.51	2.92

TEST CONDITIONS: @220V50Hz			ASHRAE32/R744 Fan			(Discharge Pressure 90 bar (91 kgf/cm <sup>2</sup> ))				
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]
-20	(- 4)	2255	568	661	582	2.78	9.53	3.83	0.97	1.12
-15	(+ 5)	2737	690	802	611	2.92	14.04	4.44	1.12	1.30
-10	(+14)	3281	827	961	636	3.04	17.78	5.13	1.29	1.50
-5	(+23)	3885	979	1138	658	3.14	19.61	5.91	1.49	1.73
0	(+32)	4549	1146	1333	674	3.22	18.35	6.78	1.71	1.99
+5	(+41)	5272	1329	1545	684	3.27	12.85	7.75	1.95	2.27
+10	(+50)	6052	1525	1773	688	3.28	1.96	8.82	2.22	2.58

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32/R744 Fan					(Discharge Pressure 105 bar (107 kgf/cm <sup>2</sup> ))			
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]
-20	(- 4)	2185	551	640	625	2.97	9.64	3.47	0.88	1.02
-15	(+ 5)	2654	669	778	663	3.14	14.12	3.96	1.00	1.16
-10	(+14)	3187	803	934	698	3.30	17.95	4.52	1.14	1.32
-5	(+23)	3781	953	1108	730	3.45	19.97	5.14	1.30	1.51
0	(+32)	4437	1118	1300	757	3.57	19.02	5.84	1.47	1.71
+5	(+41)	5152	1298	1510	780	3.67	13.95	6.61	1.67	1.94
+10	(+50)	5925	1493	1736	796	3.74	3.59	7.47	1.88	2.19

TEST CONDITIONS: @220V50Hz		ASHRAE32/R744 Fan					(Discharge Pressure 120 bar (122 kgf/cm <sup>2</sup> ))			
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]
-20	(- 4)	2120	534	621	665	3.14	10.43	3.22	0.81	0.94
-15	(+ 5)	2578	650	755	711	3.35	14.90	3.64	0.92	1.07
-10	(+14)	3100	781	908	755	3.56	18.84	4.10	1.03	1.20
-5	(+23)	3686	929	1080	796	3.75	21.08	4.62	1.16	1.35
0	(+32)	4334	1092	1270	833	3.92	20.47	5.18	1.31	1.52
+5	(+41)	5042	1271	1477	867	4.07	15.85	5.81	1.46	1.70
+10	(+50)	5810	1464	1703	895	4.19	6.05	6.49	1.64	1.90

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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 plated steel		
3.1.2 Shape	Straight		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.2.1 Material	Copper plated steel		
3.2.2 Shape	Straight		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper plated steel		
3.3.2 Shape	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		