

COMPRESSOR DEFINITION

Designation	EK 6210CD
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	516400003

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 Expantion 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 (gauge)	122.4	[kgf/cm ²] (1741 psig)	(120.0 bar)
9.2 Peak (gauge)	122.4	[kgf/cm ²] (1741 psig)	(120.0 bar)
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	1.75	[cm ³] (0.107 cu.in)
2.1 Bore [mm]	13.000	
2.2 Stroke [mm]	13.200	
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 ²] (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	PTC	
2.1 Starting device	8EA17D7	
3 Start capacitor	88-108(330)	[µF(VAC minimum)]
4 Run capacitor	12(400)	[µF(VAC minimum)]
5 Motor protection	4TM757NFBYY-53	
6 Start winding resistance	15.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.80	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	13.40	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	2.00	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	2.40	[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 ²))		
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]	
4132	1041	1211	420	1.92	21.03	9.83	2.48	2.88	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32/R744 Fan				(Discharge Pressure 80 bar (81 kgf/cm ²))				
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)	1662	419	487	373	1.66	8.87	4.45	1.12	1.30
-15	(+ 5)	1983	500	581	387	1.74	10.78	5.11	1.29	1.50
-10	(+14)	2355	593	690	398	1.80	13.05	5.90	1.49	1.73
-5	(+23)	2782	701	815	406	1.84	15.79	6.87	1.73	2.01
0	(+32)	3269	824	958	409	1.86	19.13	8.03	2.02	2.35
+5	(+41)	3823	963	1120	407	1.84	23.18	9.44	2.38	2.77
+10	(+50)	4448	1121	1303	399	1.79	28.08	11.11	2.80	3.26

TEST CONDITIONS: @220V50Hz		ASHRAE32/R744 Fan				(Discharge Pressure 90 bar (91 kgf/cm ²))				
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)	1725	435	505	393	1.77	8.64	4.40	1.11	1.29
-15	(+ 5)	2049	516	600	411	1.87	10.44	4.98	1.26	1.46
-10	(+14)	2421	610	709	426	1.95	12.57	5.67	1.43	1.66
-5	(+23)	2848	718	834	437	2.01	15.15	6.50	1.64	1.91
0	(+32)	3334	840	977	444	2.04	18.28	7.51	1.89	2.20
+5	(+41)	3885	979	1138	446	2.04	22.11	8.72	2.20	2.55
+10	(+50)	4505	1135	1320	443	2.00	26.74	10.17	2.56	2.98

TEST CONDITIONS: @220V50Hz		ASHRAE32/R744 Fan				(Discharge Pressure 105 bar (107 kgf/cm ²))				
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)	1809	456	530	424	1.93	8.83	4.28	1.08	1.25
-15	(+ 5)	2135	538	626	448	2.05	10.57	4.78	1.20	1.40
-10	(+14)	2508	632	735	470	2.16	12.59	5.34	1.34	1.56
-5	(+23)	2933	739	859	488	2.25	15.00	6.00	1.51	1.76
0	(+32)	3415	861	1001	502	2.31	17.93	6.78	1.71	1.99
+5	(+41)	3960	998	1160	511	2.34	21.50	7.74	1.95	2.27
+10	(+50)	4572	1152	1340	515	2.33	25.83	8.89	2.24	2.60

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32/R744 Fan			(Discharge Pressure 120 bar (122 kgf/cm ²))					
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)	1882	474	551	458	2.09	8.87	4.10	1.03	1.20
-15	(+ 5)	2209	557	647	489	2.25	10.66	4.55	1.15	1.33
-10	(+14)	2580	650	756	517	2.39	12.67	5.02	1.26	1.47
-5	(+23)	3001	756	879	543	2.51	15.03	5.54	1.40	1.62
0	(+32)	3477	876	1019	564	2.60	17.87	6.15	1.55	1.80
+5	(+41)	4013	1011	1176	582	2.66	21.30	6.88	1.73	2.02
+10	(+50)	4615	1163	1352	594	2.68	25.44	7.76	1.96	2.27

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		