

COMPRESSOR DEFINITION

Designation	EK 6210CD
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	516400010

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-744		
3 Nominal voltage and frequency	220 / 60	[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	122.4	[kgf/cm ²] (1741 psig)	(120.0 bar)
9.2 Peak	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 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17D7	
3 Start capacitor	64-77(250)	[µF(VAC minimum)]
4 Run capacitor	5(400)	[µF(VAC minimum)]
5 Motor protection	4TM771NFBYY-53	
6 Start winding resistance	13.50	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	4.50	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	18.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.90	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	3.50	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V60Hz			ASHRAE32/HBP/R744 Fan		Evaporating temperature (Discharge Pressure)		7.2°C (44.96°F) 85 bar (86.68 kgf/cm²)		
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]	
4893	1233	1434	529	2.73	24.90	9.25	2.33	2.71	

TEST CONDITIONS: @220V60Hz			ASHRAE32/MBP/R744 Fan		Evaporating temperature (Discharge Pressure)		-10°C (14°F) 85 bar (86.68 kgf/cm²)		
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]	
2832	714	830	512	2.65	15.10	5.53	1.39	1.62	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		ASHRAE32/R744 Fan				(Discharge Pressure 80 bar (81 kgf/cm²))				
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)	1960	494	574	453	2.29	10.46	4.33	1.09	1.27
-15	(+ 5)	2382	600	698	473	2.39	12.95	5.03	1.27	1.48
-10	(+14)	2860	721	838	489	2.47	15.85	5.85	1.47	1.71
-5	(+23)	3391	855	994	500	2.53	19.25	6.80	1.71	1.99
0	(+32)	3972	1001	1164	505	2.57	23.23	7.90	1.99	2.32
+5	(+41)	4599	1159	1348	502	2.58	27.87	9.20	2.32	2.70
+10	(+50)	5271	1328	1545	491	2.56	33.27	10.71	2.70	3.14

TEST CONDITIONS: @220V60Hz		ASHRAE32/R744 Fan				(Discharge Pressure 90 bar (91 kgf/cm²))				
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)	1909	481	559	486	2.42	9.55	3.93	0.99	1.15
-15	(+ 5)	2329	587	683	512	2.54	11.87	4.53	1.14	1.33
-10	(+14)	2806	707	822	535	2.64	14.57	5.22	1.31	1.53
-5	(+23)	3336	841	977	553	2.73	17.75	6.01	1.51	1.76
0	(+32)	3916	987	1148	564	2.79	21.48	6.93	1.75	2.03
+5	(+41)	4545	1145	1332	568	2.83	25.86	8.02	2.02	2.35
+10	(+50)	5218	1315	1529	564	2.83	30.97	9.29	2.34	2.72

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	1839	463	539	532	2.61	8.99	3.49	0.88	1.02
-15	(+ 5)	2257	569	661	566	2.77	11.17	4.01	1.01	1.18
-10	(+14)	2732	688	800	597	2.91	13.71	4.57	1.15	1.34
-5	(+23)	3262	822	956	624	3.03	16.68	5.20	1.31	1.52
0	(+32)	3843	969	1126	645	3.13	20.18	5.92	1.49	1.74
+5	(+41)	4474	1127	1311	659	3.20	24.29	6.76	1.70	1.98
+10	(+50)	5151	1298	1509	665	3.24	29.09	7.75	1.95	2.27

TEST CONDITIONS: @220V60Hz		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)	1776	448	520	571	2.80	8.37	3.08	0.78	0.90
-15	(+ 5)	2192	552	642	613	2.99	10.57	3.60	0.91	1.06
-10	(+14)	2667	672	782	653	3.17	13.09	4.12	1.04	1.21
-5	(+23)	3198	806	937	688	3.33	16.02	4.67	1.18	1.37
0	(+32)	3782	953	1108	718	3.47	19.44	5.27	1.33	1.54
+5	(+41)	4416	1113	1294	741	3.58	23.44	5.95	1.50	1.74
+10	(+50)	5097	1284	1494	756	3.66	28.10	6.74	1.70	1.97

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		