

COMPRESSOR DEFINITION

Designation	J 2152Z
Nominal Voltage/Frequency	208-230 V 60 Hz
Engineering Number	164LD01

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	208-230 / 60	[V / Hz]	
4 Application type	Low Back Pressure R134a		
4.1 Evaporating temperature range	-30°C to -5°C	(-22°F to 23°F)	
5 Motor type	CSIR		
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)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm ²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1-	[hp]
2 Displacement	27.16	[cm ³] (1.657 cu.in)
2.1 Bore [mm]	38.087	
2.2 Stroke [mm]	23.850	
3 Lubricant charge	890	[ml] (30.10 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	20	[kg] (44.09 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	208-230 V 60 Hz 1~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	3ARR3B3P3	
3 Start capacitor	130-156(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0728/C9	
6 Start winding resistance	4.64	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.28	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	26.60	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	3.32	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	UL	

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 +/- 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]
2016	508	591	512	3.40	11.45	3.94	0.99	1.15

E - PERFORMANCE - CURVES

TEST CONDITIONS: @208V50Hz			ASHRAE32 Fan		(Condensing temperature 35°C (+95°F))					
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]
-35	(-31)	906	228	266	426	2.84	5.12	1.75	0.44	0.51
-30	(-22)	1417	357	415	441	3.08	8.03	3.18	0.80	0.93
-25	(-13)	2069	521	606	472	3.32	11.75	4.44	1.12	1.30
-20	(- 4)	2861	721	838	517	3.56	16.28	5.55	1.40	1.62
-15	(+ 5)	3792	955	1111	579	3.80	21.65	6.52	1.64	1.91
-10	(+14)	4861	1225	1424	656	4.05	27.85	7.37	1.86	2.16
-5	(+23)	6066	1529	1778	749	4.30	34.90	8.13	2.05	2.38

TEST CONDITIONS: @208V50Hz			ASHRAE32 Fan		(Condensing temperature 45°C (+113°F))					
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]
-35	(-31)	488	123	143	291	2.63	2.75	1.67	0.42	0.49
-30	(-22)	1052	265	308	356	2.91	5.96	2.95	0.74	0.86
-25	(-13)	1739	438	510	429	3.20	9.88	4.05	1.02	1.19
-20	(- 4)	2547	642	746	510	3.51	14.50	5.00	1.26	1.47
-15	(+ 5)	3475	876	1018	599	3.84	19.84	5.81	1.46	1.70
-10	(+14)	4522	1140	1325	696	4.20	25.91	6.49	1.64	1.90
-5	(+23)	5687	1433	1666	803	4.57	32.72	7.08	1.78	2.07

TEST CONDITIONS: @208V50Hz			ASHRAE32 Fan		(Condensing temperature 55°C (+131°F))					
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]
-35	(-31)	70	18	20	156	2.42	0.38	1.39	0.35	0.41
-30	(-22)	688	173	202	271	2.73	3.90	2.58	0.65	0.76
-25	(-13)	1409	355	413	386	3.07	8.00	3.59	0.90	1.05
-20	(- 4)	2233	563	654	502	3.46	12.71	4.43	1.12	1.30
-15	(+ 5)	3158	796	925	619	3.88	18.03	5.13	1.29	1.50
-10	(+14)	4184	1054	1226	737	4.35	23.97	5.71	1.44	1.67
-5	(+23)	5308	1338	1555	856	4.85	30.53	6.18	1.56	1.81

E - PERFORMANCE - CURVES

TEST CONDITIONS: @208V60Hz		ASHRAE32 Fan			(Condensing temperature 35°C (+95°F))					
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]
-35	(-31)	1092	275	320	513	3.40	6.17	1.75	0.44	0.51
-30	(-22)	1707	430	500	531	3.71	9.67	3.18	0.80	0.93
-25	(-13)	2493	628	730	568	4.00	14.15	4.44	1.12	1.30
-20	(- 4)	3447	869	1010	624	4.29	19.62	5.54	1.40	1.62
-15	(+ 5)	4569	1151	1339	698	4.58	26.08	6.52	1.64	1.91
-10	(+14)	5856	1476	1716	791	4.87	33.55	7.37	1.86	2.16
-5	(+23)	7309	1842	2142	903	5.18	42.05	8.13	2.05	2.38

TEST CONDITIONS: @208V60Hz		ASHRAE32 Fan			(Condensing temperature 45°C (+113°F))					
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]
-35	(-31)	588	148	172	351	3.15	3.31	1.67	0.42	0.49
-30	(-22)	1268	320	372	429	3.50	7.19	2.95	0.74	0.86
-25	(-13)	2096	528	614	517	3.86	11.90	4.06	1.02	1.19
-20	(- 4)	3069	773	899	614	4.24	17.47	5.00	1.26	1.47
-15	(+ 5)	4187	1055	1227	722	4.63	23.90	5.81	1.46	1.70
-10	(+14)	5448	1373	1597	839	5.05	31.21	6.49	1.64	1.90
-5	(+23)	6852	1727	2008	967	5.51	39.42	7.08	1.78	2.07

TEST CONDITIONS: @208V60Hz		ASHRAE32 Fan			(Condensing temperature 55°C (+131°F))					
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]
-35	(-31)	84	21	25	189	2.90	0.46	1.38	0.35	0.41
-30	(-22)	829	209	243	327	3.29	4.70	2.58	0.65	0.76
-25	(-13)	1698	428	498	465	3.71	9.64	3.59	0.90	1.05
-20	(- 4)	2691	678	789	605	4.17	15.32	4.43	1.12	1.30
-15	(+ 5)	3806	959	1115	746	4.68	21.72	5.13	1.29	1.50
-10	(+14)	5041	1270	1477	888	5.23	28.87	5.71	1.44	1.67
-5	(+23)	6395	1612	1874	1031	5.84	36.79	6.18	1.56	1.81

F - EXTERNAL CHARACTERISTICS

1 Base plate	American Standard		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	9.6 +0.07/+0.00	[mm]	(0.378" +0.003"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Vertical		
3.2 DISCHARGE	8 +0.07/+0.00	[mm]	(0.315" +0.003"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted J		
3.3 PROCESS	9.6 +0.07/+0.00	[mm]	(0.378" +0.003"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Vertical		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		