

COMPRESSOR DEFINITION

Designation	T 2180GK
Nominal Voltage/Frequency	208-230 V 60 Hz
Engineering Number	936HD68

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	CSCR		
6 Starting torque	HST - 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)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	25.7	[kgf/cm ²] (365 psig)	/ °C - °F
9.2 Peak (gauge)	28.7	[kgf/cm ²] (408 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1	[hp]
2 Displacement	22.37	[cm ³] (1.365 cu.in)
2.1 Bore [mm]	36.990	
2.2 Stroke [mm]	20.830	
3 Lubricant charge	550	[ml] (18.60 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	17	[kg] (37.48 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	3ARR3B10A3	
3 Start capacitor	88-108(330)	[µF(VAC minimum)]
4 Run capacitor	15(450)	[µF(VAC minimum)]
5 Motor protection	3HM198-105	
6 Start winding resistance	5.50	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.40	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	33.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	5.00	[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]
3872	976	1135	986	4.73	26.25	3.93	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]
-40	(-40)	1552	391	455	394	2.32	10.43	3.87	0.97	1.13
-35	(-31)	2163	545	634	547	3.10	14.58	4.00	1.01	1.17
-30	(-22)	2860	721	838	691	3.86	19.35	4.19	1.06	1.23
-25	(-13)	3669	925	1075	827	4.60	24.92	4.45	1.12	1.30
-20	(- 4)	4613	1162	1352	955	5.34	31.50	4.80	1.21	1.41
-15	(+ 5)	5716	1440	1675	1079	6.08	39.28	5.27	1.33	1.54
-10	(+14)	7002	1764	2052	1197	6.83	48.44	5.87	1.48	1.72

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]
-40	(-40)	1199	302	351	435	2.53	8.04	2.78	0.70	0.82
-35	(-31)	1821	459	534	557	3.14	12.26	3.26	0.82	0.96
-30	(-22)	2523	636	739	682	3.80	17.03	3.69	0.93	1.08
-25	(-13)	3327	838	975	813	4.50	22.56	4.08	1.03	1.20
-20	(- 4)	4259	1073	1248	950	5.27	29.03	4.47	1.13	1.31
-15	(+ 5)	5341	1346	1565	1095	6.11	36.63	4.87	1.23	1.43
-10	(+14)	6599	1663	1934	1249	7.04	45.56	5.31	1.34	1.56

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]
-40	(-40)	858	216	251	476	2.74	5.74	1.81	0.46	0.53
-35	(-31)	1493	376	437	566	3.18	10.03	2.61	0.66	0.76
-30	(-22)	2199	554	644	673	3.72	14.82	3.26	0.82	0.95
-25	(-13)	3000	756	879	798	4.39	20.30	3.77	0.95	1.11
-20	(- 4)	3919	988	1148	944	5.19	26.66	4.18	1.05	1.23
-15	(+ 5)	4982	1255	1460	1110	6.14	34.09	4.50	1.13	1.32
-10	(+14)	6211	1565	1820	1300	7.24	42.79	4.75	1.20	1.39

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@208V60Hz		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1574	397	461	461	2.37	10.58	3.38	0.85	0.99
-35	(-31)	2360	595	692	640	3.17	15.92	3.71	0.93	1.09
-30	(-22)	3243	817	950	808	3.95	21.94	4.04	1.02	1.18
-25	(-13)	4249	1071	1245	967	4.70	28.87	4.41	1.11	1.29
-20	(- 4)	5408	1363	1585	1118	5.44	36.93	4.82	1.22	1.41
-15	(+ 5)	6747	1700	1977	1262	6.20	46.36	5.32	1.34	1.56
-10	(+14)	8295	2090	2431	1401	6.97	57.38	5.93	1.49	1.74

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@208V60Hz		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1402	353	411	509	2.58	9.41	2.77	0.70	0.81
-35	(-31)	2131	537	624	651	3.21	14.34	3.26	0.82	0.96
-30	(-22)	2952	744	865	798	3.87	19.93	3.70	0.93	1.08
-25	(-13)	3893	981	1141	951	4.59	26.39	4.09	1.03	1.20
-20	(- 4)	4983	1256	1460	1111	5.37	33.96	4.47	1.13	1.31
-15	(+ 5)	6249	1575	1831	1281	6.23	42.85	4.87	1.23	1.43
-10	(+14)	7720	1946	2262	1461	7.18	53.30	5.31	1.34	1.55

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@208V60Hz		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1237	312	362	558	2.80	8.28	2.22	0.56	0.65
-35	(-31)	1911	481	560	662	3.24	12.84	2.87	0.72	0.84
-30	(-22)	2673	673	783	787	3.80	18.01	3.40	0.86	1.00
-25	(-13)	3551	895	1041	934	4.48	24.03	3.81	0.96	1.12
-20	(- 4)	4575	1153	1340	1104	5.30	31.11	4.15	1.05	1.22
-15	(+ 5)	5771	1454	1691	1299	6.27	39.49	4.44	1.12	1.30
-10	(+14)	7168	1806	2100	1521	7.40	49.39	4.70	1.19	1.38

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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	6.42 +0.08/+0.00	[mm]	(0.253" +0.003"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Vertical		
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		