

### COMPRESSOR DEFINITION

Designation	<b>T 2180GK</b>
Nominal Voltage/Frequency	<b>115 V 60 Hz</b>
Engineering Number	<b>936HG68</b>

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	115 / 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 <sup>2</sup> ] (365 psig)	/ °C - °F
9.2 Peak (gauge)	28.7	[kgf/cm <sup>2</sup> ] (408 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1	[hp]
2 Displacement	22.37	[cm <sup>3</sup> ] (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 <sup>2</sup> ] (2.84 to 4.27 psig)

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115 V 60 Hz 1~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	3ARR3B3P3	
3 Start capacitor	189-227(250)	[µF(VAC minimum)]
4 Run capacitor	25(450)	[µF(VAC minimum)]
5 Motor protection	3HM526-105	
6 Start winding resistance	3.99	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	0.48	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	74.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	9.70	[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: @100V50Hz			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]
3290	829	964	872	9.51	22.30	3.77	0.95	1.10

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz			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	407	4.75	10.43	3.74	0.94	1.10
-35	(-31)	2163	545	634	566	6.37	14.58	3.87	0.98	1.13
-30	(-22)	2860	721	838	715	7.92	19.35	4.05	1.02	1.19
-25	(-13)	3669	925	1075	855	9.44	24.92	4.30	1.08	1.26
-20	(- 4)	4613	1162	1352	988	10.94	31.50	4.64	1.17	1.36
-15	(+ 5)	5716	1440	1675	1115	12.45	39.28	5.09	1.28	1.49
-10	(+14)	7002	1764	2052	1237	14.00	48.44	5.68	1.43	1.66

TEST CONDITIONS: @100V50Hz			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	450	5.20	8.04	2.69	0.68	0.79
-35	(-31)	1821	459	534	575	6.45	12.26	3.15	0.79	0.92
-30	(-22)	2523	636	739	705	7.79	17.03	3.57	0.90	1.04
-25	(-13)	3327	838	975	840	9.23	22.56	3.95	1.00	1.16
-20	(- 4)	4259	1073	1248	982	10.80	29.03	4.32	1.09	1.27
-15	(+ 5)	5341	1346	1565	1132	12.53	36.63	4.71	1.19	1.38
-10	(+14)	6599	1663	1934	1291	14.43	45.56	5.14	1.29	1.50

TEST CONDITIONS: @100V50Hz			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	493	5.63	5.74	1.75	0.44	0.51
-35	(-31)	1493	376	437	585	6.52	10.03	2.52	0.64	0.74
-30	(-22)	2199	554	644	695	7.64	14.82	3.15	0.79	0.92
-25	(-13)	3000	756	879	825	9.01	20.30	3.65	0.92	1.07
-20	(- 4)	3919	988	1148	976	10.65	26.66	4.04	1.02	1.19
-15	(+ 5)	4982	1255	1460	1148	12.59	34.09	4.35	1.10	1.28
-10	(+14)	6211	1565	1820	1344	14.86	42.79	4.59	1.16	1.35

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V60Hz		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)	1574	397	461	476	4.85	10.58	3.26	0.82	0.96
-35	(-31)	2360	595	692	662	6.50	15.92	3.58	0.90	1.05
-30	(-22)	3243	817	950	836	8.09	21.94	3.91	0.98	1.15
-25	(-13)	4249	1071	1245	1000	9.63	28.87	4.26	1.07	1.25
-20	(- 4)	5408	1363	1585	1156	11.16	36.93	4.67	1.18	1.37
-15	(+ 5)	6747	1700	1977	1305	12.71	46.36	5.15	1.30	1.51
-10	(+14)	8295	2090	2431	1448	14.29	57.38	5.74	1.45	1.68

TEST CONDITIONS: @100V60Hz		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)	1402	353	411	527	5.30	9.41	2.68	0.67	0.78
-35	(-31)	2131	537	624	674	6.58	14.34	3.16	0.80	0.92
-30	(-22)	2952	744	865	825	7.94	19.93	3.57	0.90	1.05
-25	(-13)	3893	981	1141	983	9.41	26.39	3.96	1.00	1.16
-20	(- 4)	4983	1256	1460	1149	11.02	33.96	4.32	1.09	1.27
-15	(+ 5)	6249	1575	1831	1324	12.78	42.85	4.71	1.19	1.38
-10	(+14)	7720	1946	2262	1511	14.73	53.30	5.13	1.29	1.50

TEST CONDITIONS: @100V60Hz		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)	1237	312	362	577	5.74	8.28	2.14	0.54	0.63
-35	(-31)	1911	481	560	685	6.65	12.84	2.78	0.70	0.81
-30	(-22)	2673	673	783	814	7.79	18.01	3.29	0.83	0.96
-25	(-13)	3551	895	1041	965	9.19	24.03	3.69	0.93	1.08
-20	(- 4)	4575	1153	1340	1141	10.87	31.11	4.02	1.01	1.18
-15	(+ 5)	5771	1454	1691	1343	12.85	39.49	4.30	1.08	1.26
-10	(+14)	7168	1806	2100	1573	15.17	49.39	4.55	1.15	1.33

### 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		