

### COMPRESSOR DEFINITION

Designation	<b>T 2178GK</b>
Nominal Voltage/Frequency	<b>220-240 V 50 Hz</b>
Engineering Number	<b>936EA63</b>

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	220-240 / 50	[ 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	20.44	[cm <sup>3</sup> ] (1.247 cu.in)
2.1 Bore [mm]	36.990	
2.2 Stroke [mm]	19.030	
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)	17.2	[kg] (37.92 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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	3ARR3B10AA3	
3 Start capacitor	88-108(330)	[μF(VAC minimum)]
4 Run capacitor	30(450)	[μF(VAC minimum)]
5 Motor protection	3HM179-105	
6 Start winding resistance	6.80	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.45	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	22.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	3.20	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - IMQ	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			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]
3112	784	912	678	3.16	21.10	4.59	1.16	1.34

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			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)	1383	348	405	396	1.83	9.29	3.47	0.87	1.02
-35	(-31)	1941	489	569	468	2.20	13.09	4.17	1.05	1.22
-30	(-22)	2584	651	757	550	2.59	17.48	4.72	1.19	1.38
-25	(-13)	3333	840	977	644	3.02	22.64	5.18	1.31	1.52
-20	(- 4)	4210	1061	1234	748	3.49	28.75	5.60	1.41	1.64
-15	(+ 5)	5237	1320	1535	863	4.01	35.98	6.03	1.52	1.77
-10	(+14)	6434	1621	1885	990	4.59	44.51	6.53	1.65	1.91

TEST CONDITIONS: @220V50Hz			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)	1082	273	317	363	1.65	7.26	2.97	0.75	0.87
-35	(-31)	1670	421	489	446	2.07	11.24	3.74	0.94	1.10
-30	(-22)	2330	587	683	540	2.51	15.73	4.33	1.09	1.27
-25	(-13)	3081	776	903	644	2.99	20.89	4.80	1.21	1.41
-20	(- 4)	3947	995	1156	760	3.52	26.90	5.19	1.31	1.52
-15	(+ 5)	4947	1247	1450	886	4.11	33.92	5.57	1.40	1.63
-10	(+14)	6104	1538	1788	1023	4.76	42.14	5.97	1.50	1.75

TEST CONDITIONS: @220V50Hz			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)	792	200	232	330	1.48	5.30	2.43	0.61	0.71
-35	(-31)	1411	356	414	424	1.94	9.48	3.29	0.83	0.96
-30	(-22)	2087	526	612	529	2.43	14.07	3.93	0.99	1.15
-25	(-13)	2841	716	832	645	2.97	19.22	4.42	1.11	1.29
-20	(- 4)	3694	931	1082	772	3.55	25.12	4.80	1.21	1.41
-15	(+ 5)	4668	1176	1368	909	4.20	31.94	5.14	1.29	1.50
-10	(+14)	5784	1458	1695	1056	4.92	39.85	5.47	1.38	1.60

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European 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	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		