

COMPRESSOR DEFINITION

Designation	T 2168E
Nominal Voltage/Frequency	208-230 V 60 Hz
Engineering Number	116UD23

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-22		
3 Nominal voltage and frequency	208-230 / 60	[V / Hz]	
4 Application type	Low Back Pressure R22		
4.1 Evaporating temperature range	-30°C to -10°C	(-22°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)	21.7	[kgf/cm ²] (309 psig)	/ °C - °F
9.2 Peak (gauge)	24.2	[kgf/cm ²] (344 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	3/4	[hp]
2 Displacement	20.44	[cm ³] (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	ALQUILB / ISO46	
4 Weight (with oil charge)	16.7	[kg] (36.82 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	3ARR3B3U3	
3 Start capacitor	72-88(330)	[µF(VAC minimum)]
4 Run capacitor	15(450)	[µF(VAC minimum)]
5 Motor protection	3HM195-105	
6 Start winding resistance	6.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.04	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	32.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	3.60	[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: @200V50Hz			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]
2597	654	761	646	3.61	14.18	4.02	1.01	1.18

E - PERFORMANCE - CURVES

TEST CONDITIONS: @200V50Hz			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]
-30	(-22)	1977	498	579	442	2.55	10.77	4.47	1.13	1.31
-25	(-13)	2606	657	763	528	3.02	14.22	4.95	1.25	1.45
-20	(- 4)	3498	882	1025	632	3.58	19.15	5.53	1.39	1.62
-15	(+ 5)	4656	1173	1364	754	4.24	25.59	6.16	1.55	1.81
-10	(+14)	6079	1532	1781	894	4.98	33.55	6.80	1.71	1.99

TEST CONDITIONS: @200V50Hz			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]
-30	(-22)	1872	472	548	473	2.69	10.19	3.96	1.00	1.16
-25	(-13)	2479	625	726	568	3.21	13.53	4.37	1.10	1.28
-20	(- 4)	3294	830	965	682	3.83	18.03	4.82	1.22	1.41
-15	(+ 5)	4317	1088	1265	817	4.55	23.72	5.29	1.33	1.55
-10	(+14)	5549	1398	1626	972	5.38	30.62	5.71	1.44	1.67

TEST CONDITIONS: @200V50Hz			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]
-30	(-22)	1768	445	518	503	2.82	9.62	3.52	0.89	1.03
-25	(-13)	2358	594	691	606	3.39	12.87	3.88	0.98	1.14
-20	(- 4)	3099	781	908	731	4.07	16.96	4.24	1.07	1.24
-15	(+ 5)	3992	1006	1170	878	4.86	21.93	4.56	1.15	1.34
-10	(+14)	5037	1269	1476	1047	5.77	27.79	4.80	1.21	1.41

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@200V60Hz		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]
-30	(-22)	2314	583	678	517	2.61	12.59	4.47	1.13	1.31
-25	(-13)	3048	768	893	618	3.08	16.64	4.95	1.25	1.45
-20	(- 4)	4093	1031	1199	739	3.65	22.41	5.53	1.39	1.62
-15	(+ 5)	5447	1373	1596	882	4.32	29.94	6.17	1.55	1.81
-10	(+14)	7112	1792	2084	1046	5.08	39.25	6.80	1.71	1.99

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@200V60Hz		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]
-30	(-22)	2190	552	642	554	2.74	11.92	3.95	1.00	1.16
-25	(-13)	2900	731	850	664	3.27	15.82	4.37	1.10	1.28
-20	(- 4)	3854	971	1129	798	3.91	21.10	4.82	1.22	1.41
-15	(+ 5)	5051	1273	1480	956	4.65	27.75	5.29	1.33	1.55
-10	(+14)	6492	1636	1902	1137	5.49	35.83	5.71	1.44	1.67

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@200V60Hz		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]
-30	(-22)	2068	521	606	589	2.88	11.25	3.52	0.89	1.03
-25	(-13)	2758	695	808	709	3.46	15.05	3.88	0.98	1.14
-20	(- 4)	3626	914	1063	855	4.15	19.85	4.24	1.07	1.24
-15	(+ 5)	4671	1177	1369	1027	4.96	25.66	4.56	1.15	1.34
-10	(+14)	5893	1485	1727	1225	5.88	32.52	4.80	1.21	1.41

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		