

COMPRESSOR DEFINITION

Designation	T 2155E
Nominal Voltage/Frequency	208-230 V 60 Hz
Engineering Number	116BD23

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	1/2+	[hp]
2 Displacement	17.39	[cm ³] (1.061 cu.in)
2.1 Bore [mm]	34.120	
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)	15.6	[kg] (34.39 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	72-88(330)	[µF(VAC minimum)]
4 Run capacitor	15(450)	[µF(VAC minimum)]
5 Motor protection	3HM192-105	
6 Start winding resistance	6.80	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.80	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	20.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.60	[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: @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]
2396	604	702	563	2.61	13.08	4.26	1.07	1.25

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]
-30	(-22)	1604	404	470	309	1.55	8.73	5.19	1.31	1.52
-25	(-13)	2210	557	648	386	1.95	12.06	5.72	1.44	1.68
-20	(- 4)	2972	749	871	474	2.40	16.27	6.27	1.58	1.84
-15	(+ 5)	3890	980	1140	572	2.93	21.38	6.80	1.71	1.99
-10	(+14)	4964	1251	1455	681	3.51	27.40	7.29	1.84	2.14

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]
-30	(-22)	1460	368	428	342	1.76	7.95	4.27	1.08	1.25
-25	(-13)	2021	509	592	420	2.17	11.03	4.81	1.21	1.41
-20	(- 4)	2731	688	800	508	2.65	14.95	5.37	1.35	1.57
-15	(+ 5)	3590	905	1052	607	3.20	19.73	5.91	1.49	1.73
-10	(+14)	4597	1158	1347	717	3.82	25.37	6.41	1.62	1.88

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]
-30	(-22)	1322	333	387	374	1.97	7.19	3.53	0.89	1.04
-25	(-13)	1840	464	539	452	2.39	10.04	4.07	1.03	1.19
-20	(- 4)	2500	630	733	541	2.89	13.68	4.62	1.16	1.35
-15	(+ 5)	3301	832	967	641	3.46	18.14	5.15	1.30	1.51
-10	(+14)	4244	1069	1244	752	4.11	23.42	5.64	1.42	1.65

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]	
-30 (-22)	1877	473	550	361	1.58	10.22	5.20	1.31	1.52	
-25 (-13)	2585	652	758	452	1.99	14.11	5.73	1.44	1.68	
-20 (- 4)	3477	876	1019	554	2.46	19.04	6.27	1.58	1.84	
-15 (+ 5)	4551	1147	1334	669	2.99	25.01	6.80	1.71	1.99	
-10 (+14)	5808	1464	1702	797	3.59	32.06	7.29	1.84	2.14	

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]	
-30 (-22)	1708	431	501	400	1.80	9.30	4.27	1.08	1.25	
-25 (-13)	2365	596	693	491	2.22	12.90	4.81	1.21	1.41	
-20 (- 4)	3195	805	936	595	2.71	17.49	5.37	1.35	1.57	
-15 (+ 5)	4200	1058	1231	710	3.27	23.08	5.91	1.49	1.73	
-10 (+14)	5379	1356	1576	839	3.89	29.69	6.41	1.62	1.88	

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]	
-30 (-22)	1547	390	453	437	2.01	8.42	3.54	0.89	1.04	
-25 (-13)	2153	542	631	529	2.44	11.75	4.07	1.03	1.19	
-20 (- 4)	2924	737	857	633	2.95	16.00	4.62	1.16	1.35	
-15 (+ 5)	3862	973	1132	750	3.53	21.22	5.15	1.30	1.51	
-10 (+14)	4966	1251	1455	879	4.19	27.40	5.65	1.42	1.65	

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		