

### COMPRESSOR DEFINITION

Designation	<b>T 2140H</b>
Nominal Voltage/Frequency	<b>208-230 V 60 Hz</b>
Engineering Number	<b>207HD23</b>

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	208-230 / 60	[ V / Hz ]	
4 Application type	Low Back Pressure R134a		
4.1 Evaporating temperature range	-30°C to -5°C	(-22°F to 23°F)	
5 Motor type	CSIR		
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)	16.2	[kgf/cm <sup>2</sup> ] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/2	[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)	14.9	[kg] (32.85 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	208-230 V 60 Hz 1~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRPH-0019	
3 Start capacitor	72-88(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0743/01	
6 Start winding resistance	13.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.45	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	25.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	3.70	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

### 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]
1498	377	439	363	2.88	8.51	4.13	1.04	1.21

### 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]
-35	(-31)	1189	300	348	315	3.11	6.72	3.56	0.90	1.04
-30	(-22)	1315	331	385	327	2.98	7.45	4.01	1.01	1.17
-25	(-13)	1646	415	482	355	2.97	9.35	4.67	1.18	1.37
-20	(- 4)	2182	550	639	398	3.07	12.42	5.48	1.38	1.61
-15	(+ 5)	2922	736	856	457	3.29	16.68	6.37	1.60	1.87
-10	(+14)	3867	974	1133	532	3.63	22.16	7.25	1.83	2.13

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]
-35	(-31)	925	233	271	253	2.79	5.22	3.51	0.89	1.03
-30	(-22)	1119	282	328	294	2.78	6.34	3.80	0.96	1.11
-25	(-13)	1485	374	435	345	2.88	8.43	4.31	1.09	1.26
-20	(- 4)	2022	510	593	408	3.07	11.51	4.96	1.25	1.45
-15	(+ 5)	2732	689	801	481	3.37	15.60	5.68	1.43	1.66
-10	(+14)	3614	911	1059	565	3.77	20.70	6.40	1.61	1.88

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]
-35	(-31)	665	168	195	194	2.49	3.74	3.39	0.85	0.99
-30	(-22)	928	234	272	262	2.60	5.26	3.56	0.90	1.04
-25	(-13)	1330	335	390	336	2.79	7.55	3.94	0.99	1.15
-20	(- 4)	1871	472	548	417	3.07	10.65	4.47	1.13	1.31
-15	(+ 5)	2552	643	748	504	3.44	14.56	5.07	1.28	1.49
-10	(+14)	3371	850	988	597	3.90	19.31	5.67	1.43	1.66

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @200V60Hz		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]
-35	(-31)	1391	351	408	368	3.17	7.87	3.56	0.90	1.04
-30	(-22)	1538	388	451	382	3.04	8.72	4.01	1.01	1.17
-25	(-13)	1925	485	564	415	3.03	10.93	4.67	1.18	1.37
-20	(- 4)	2552	643	748	466	3.13	14.52	5.48	1.38	1.61
-15	(+ 5)	3418	861	1002	535	3.36	19.51	6.36	1.60	1.86
-10	(+14)	4524	1140	1326	623	3.71	25.92	7.25	1.83	2.12

TEST CONDITIONS: @200V60Hz		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]
-35	(-31)	1082	273	317	297	2.85	6.11	3.51	0.88	1.03
-30	(-22)	1309	330	384	344	2.84	7.42	3.80	0.96	1.11
-25	(-13)	1737	438	509	404	2.94	9.86	4.31	1.09	1.26
-20	(- 4)	2366	596	693	477	3.14	13.47	4.96	1.25	1.45
-15	(+ 5)	3196	806	937	563	3.44	18.25	5.68	1.43	1.66
-10	(+14)	4228	1066	1239	661	3.85	24.22	6.40	1.61	1.88

TEST CONDITIONS: @200V60Hz		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]
-35	(-31)	778	196	228	228	2.54	4.38	3.38	0.85	0.99
-30	(-22)	1086	274	318	307	2.65	6.15	3.55	0.90	1.04
-25	(-13)	1556	392	456	393	2.85	8.84	3.94	0.99	1.15
-20	(- 4)	2189	552	642	488	3.14	12.46	4.47	1.13	1.31
-15	(+ 5)	2986	752	875	589	3.51	17.04	5.07	1.28	1.49
-10	(+14)	3945	994	1156	699	3.98	22.60	5.67	1.43	1.66

### 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	Slanted 42°		
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	Straight		
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	Slanted 42°		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		