

### COMPRESSOR DEFINITION

Designation	T 2168E
Nominal Voltage/Frequency	200-220 V 50 Hz / 230 V 60 Hz
Engineering Number	116UK23

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-22		
3 Nominal voltage and frequency	200-220 / 50	[ 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 <sup>2</sup> ] (309 psig)	/ °C - °F
9.2 Peak (gauge)	24.2	[kgf/cm <sup>2</sup> ] (344 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	3/4	[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	ALQUILB / ISO46	
4 Weight (with oil charge)	16.8	[kg] (37.04 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	200-220 V 50 Hz / 230 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	3ARR3B4AA3	
3 Start capacitor	72-88(330)	[µF(VAC minimum)]
4 Run capacitor	15(440)	[µF(VAC minimum)]
5 Motor protection	3HM191-105	
6 Start winding resistance	11.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.00	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[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	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: <b>@230V60Hz</b>			<b>ASHRAELBP32</b> <b>Fan</b>		Evaporating temperature (Condensing temperature	<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>		
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]
3038	766	890	684	3.15	16.59	4.44	1.12	1.30

### E - PERFORMANCE - CURVES

TEST CONDITIONS: <b>@230V50Hz</b>			<b>ASHRAE32</b> <b>Fan</b>		(Condensing temperature <b>35°C (+95°F)</b> )				
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]
<b>-30 (-22)</b>	2234	563	654	510	2.38	12.16	4.38	1.10	1.28
<b>-25 (-13)</b>	2915	735	854	586	2.73	15.91	4.98	1.26	1.46
<b>-20 (- 4)</b>	3721	938	1090	666	3.10	20.37	5.59	1.41	1.64
<b>-15 (+ 5)</b>	4653	1173	1363	752	3.50	25.57	6.18	1.56	1.81
<b>-10 (+14)</b>	5712	1439	1674	845	3.94	31.53	6.76	1.70	1.98

TEST CONDITIONS: <b>@230V50Hz</b>			<b>ASHRAE32</b> <b>Fan</b>		(Condensing temperature <b>45°C (+113°F)</b> )				
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]
<b>-30 (-22)</b>	2015	508	590	511	2.38	10.97	3.94	0.99	1.16
<b>-25 (-13)</b>	2678	675	785	601	2.79	14.61	4.46	1.12	1.31
<b>-20 (- 4)</b>	3456	871	1013	696	3.23	18.92	4.96	1.25	1.45
<b>-15 (+ 5)</b>	4349	1096	1274	797	3.70	23.90	5.46	1.38	1.60
<b>-10 (+14)</b>	5360	1351	1571	904	4.20	29.58	5.93	1.49	1.74

TEST CONDITIONS: <b>@230V50Hz</b>			<b>ASHRAE32</b> <b>Fan</b>		(Condensing temperature <b>55°C (+131°F)</b> )				
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]
<b>-30 (-22)</b>	1796	453	526	512	2.38	9.77	3.51	0.88	1.03
<b>-25 (-13)</b>	2441	615	715	616	2.85	13.32	3.96	1.00	1.16
<b>-20 (- 4)</b>	3190	804	935	726	3.36	17.46	4.39	1.11	1.29
<b>-15 (+ 5)</b>	4045	1019	1185	842	3.90	22.22	4.81	1.21	1.41
<b>-10 (+14)</b>	5008	1262	1467	963	4.46	27.63	5.20	1.31	1.52

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @230V60Hz		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)	2613	658	766	597	2.78	14.22	4.37	1.10	1.28
-25	(-13)	3410	859	999	685	3.19	18.61	4.98	1.26	1.46
-20	(- 4)	4353	1097	1276	779	3.63	23.84	5.59	1.41	1.64
-15	(+ 5)	5443	1372	1595	880	4.10	29.92	6.19	1.56	1.81
-10	(+14)	6683	1684	1958	989	4.61	36.89	6.76	1.70	1.98

TEST CONDITIONS: @230V60Hz		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)	2357	594	691	598	2.78	12.83	3.94	0.99	1.15
-25	(-13)	3133	790	918	703	3.26	17.10	4.46	1.12	1.31
-20	(- 4)	4043	1019	1185	814	3.78	22.13	4.97	1.25	1.46
-15	(+ 5)	5088	1282	1491	932	4.33	27.96	5.46	1.38	1.60
-10	(+14)	6271	1580	1838	1058	4.91	34.61	5.93	1.49	1.74

TEST CONDITIONS: @230V60Hz		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)	2101	529	616	599	2.78	11.43	3.51	0.88	1.03
-25	(-13)	2856	720	837	721	3.33	15.58	3.96	1.00	1.16
-20	(- 4)	3732	941	1094	849	3.93	20.43	4.40	1.11	1.29
-15	(+ 5)	4733	1193	1387	984	4.56	26.00	4.81	1.21	1.41
-10	(+14)	5859	1476	1717	1127	5.21	32.33	5.20	1.31	1.52

### 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		