ZR81KCE-TFD

HCFC, R-22, 50 Hz, 3 - Phase, 380/420 V , Also Available with Variable Frequency Drives

Air Conditioning

Production Status: Available for sale to all U.S. customers. Please check with your local Emerson Climate Technologies Representative for international availability.

Performance

Evaporator Temp. (°C)	7	7
Condensing Temp. (°C)	54	38
Return Gas Temp. (°C)	18	18
Liquid Temp. (°C)	46	29
Capacity (Watts)	19929	23299
Power (W):	5800	4140
Current (Amps):	10.5	8.8
EER(BTU/Wh):	19.88	32.62
Mass Flow (lbs/hr):	125.37	128.52
Sound Data @		
Sound Power (dBA):	72 Avg	77 Max
Vibration mils(peak-peak):	2.0 Avg	3.0 Max
Record Date:	2014-04-15	

Mechanical

Displacement (cm^3/Rev):	107.83
Displacement (m^3/Hr):	
Overall Length (mm):	246.13
Overall Width (mm):	246.13
Overall Height (mm):	455.93
Mounting Length (mm):	190.50
Mounting Width (mm):	190.50
Mounting Height (mm):	462.28
Suction Size (mm),Type:	177.80 / 203.20 Stub
Discharge Size (mm),Type:	76.20 / 101.60 Stub
Initial Oil Charge (ml):	1774.44
Oil Recharge (ml):	1656.14
Net Weight (kg):	39.01
Internal Free Volume (cm^3):	4227.85
Horse Power:	

*Overall compressor height on Copeland Brand Product's specified mounting grommets.

Electrical

LRA High* (Amps):	101.0
LRA Low*(Amps):	90.5
LRA Half Winding (Amps):	
MCC (Amps):	17
Max Operating Current (Amps):	15.0
RLA, MCC/1.4(use for contactor selection)(Amps):	12.1
RLA, MCC/1.56(use for breaker & wire size selection)(Amps):	10.9
RPM:	2900
Box IP :	21
UL File No:	SA-2337
UL File Date:	1993-07-26

*Low and High refer to the low and high nominal voltage ranges for which the motor is approved.

Capacitors

Type	Part No	Low MFD	High MFD	Volts	User Description
No data available in table					

Rating Conditions

11.1 K Superheat

8.3 K Subcooling

35 °C Ambient Air Over

50 Hz Operation

AIR CONDITIONING

ZR81KCE-TFD

HFC-22

COPELAND SCROLL®

TFD 380/420-3-50

Condensing Temperature °C (Sat. Dew Pt. Pressure, bar)		Evaporating Temperature °C (Sat. Dew Pt. Pressure, bar)											
		-29.0 (1.7)	**-23.0** (2.2)	**-18.0** (2.6)	**-12.0** (3.3)	**-7.0** (3.9)	**0.0** (5)	**5.0** (5.8)	**10.0** (6.8)	**13.0** (7.4)	**16.0** (8.1)	**18.0** (8.6)	**21.0** (9.4)
65.0 (27)	C								19,100	21,300	23,700	25,300	27,800
	P								7,300	7,300	7,350	7,350	7,400
	A								12.1	12.2	12.2	12.3	12.3
	M								132	146	161	171	187
	E								2.6	2.9	3.2	3.4	3.8
	%								66.9	68.7	69.9	70.4	70.5
60.0 (24.3)	C							17,000	20,500	22,800	25,200	26,800	29,400
	P							6,500	6,550	6,600	6,600	6,650	6,700
	A							11.3	11.3	11.4	11.4	11.5	11.5
	M							114	135	149	164	174	189
	E							2.6	3.1	3.5	3.8	4.0	4.4
	%							66.7	69.9	71.0	71.5	71.4	70.6
55.0 (21.8)	C						15,000	18,200	21,800	24,200	26,600	28,300	31,000
	P						5,800	5,850	5,900	5,950	6,000	6,000	6,050
	A						10.5	10.5	10.6	10.7	10.7	10.8	10.8
	M						97	116	138	151	165	175	190
	E						2.6	3.1	3.7	4.1	4.5	4.7	5.1
	%						65.9	69.7	71.8	72.1	71.6	70.9	69.0
49.0 (19)	C					12,100	16,200	19,600	23,300	25,600	28,100	29,800	32,500
	P					5,050	5,100	5,150	5,200	5,250	5,300	5,350	5,400
	A					9.7	9.8	9.8	9.9	9.9	10.0	10.0	10.1
	M					76	100	119	140	153	166	176	190
	E					2.4	3.2	3.8	4.5	4.9	5.3	5.6	6.0
	%					63.2	69.4	71.9	72.3	71.4	69.6	67.9	64.5
43.0 (16.5)	C				10,450	13,050	17,300	20,800	24,500	26,900	29,300	31,000	33,500
	P				4,420	4,460	4,520	4,570	4,630	4,680	4,730	4,770	4,840
	A				9.1	9.1	9.2	9.2	9.3	9.3	9.4	9.5	9.6
	M				63	78	101	120	140	153	166	175	188
	E				2.4	2.9	3.8	4.5	5.3	5.8	6.2	6.5	6.9
	%				61.6	66.6	71.2	72.0	70.3	68.0	64.6	61.9	57.0
38.0 (14.6)	C			8,350	11,050	13,750	18,100	21,600	25,400	27,800	30,000	32,000	34,500
	P			3,920	3,970	4,010	4,080	4,130	4,200	4,250	4,310	4,350	4,430
	A			8.6	8.6	8.7	8.7	8.8	8.9	8.9	9.0	9.1	9.2
	M			49	64	79	103	121	140	152	165	173	186
	E			2.1	2.8	3.4	4.5	5.2	6.1	6.5	7.0	7.3	7.8
	%			57.7	64.2	68.5	71.3	70.3	66.5	62.8	58.1	54.4	48.1
27.0 (11)	C		7,350	9,400	12,350	15,200	19,600	23,100	26,800				
	P		3,050	3,100	3,140	3,180	3,250	3,320	3,400				
	A		7.8	7.9	7.9	8.0	8.0	8.1	8.2				
	M		41	51	67	81	103	120	137				
	E		2.4	3.0	3.9	4.8	6.0	7.0	7.9				
	%		57.2	62.4	67.0	68.3	65.3	59.2	50.0				
21.0 (9.4)	C		7,800	9,950	12,950	15,800	20,200	23,600					
	P		2,670	2,710	2,750	2,800	2,870	2,940					
	A		7.5	7.6	7.6	7.7	7.7	7.8					
	M		42	52	67	81	102	118					
	E		2.9	3.7	4.7	5.7	7.0	8.0					
	%		59.5	63.7	66.1	64.9	57.7	48.4					
10.0 (6.8)	C		8,650	10,850	13,800	16,600							
	P		2,030	2,070	2,110	2,150							
	A		7.1	7.2	7.2	7.2							
	M		43	53	67	80							
	E		4.3	5.2	6.6	7.7							
	%		62.0	62.4	58.7	51.4							

C: Capacity (W), P: Power (W), A: Current (Amps), M: Mass Flow (gm/s), E: COP, %: Isentropic Efficiency (%)

Nominal Performance Values (±5%) based on 72 hours run-in. Subject to change without notice. Current @ 380 V

Rating Conditions

11.1 K Superheat

8.3 K Subcooling

35 °C Ambient Air Over

50 Hz Operation

AIR CONDITIONING

ZR81KCE-TFD

HFC-407C - Dew Pt.

COPELAND SCROLL®

TFD 380/420-3-50

Condensing Temperature °C (Sat. Dew Pt. Pressure, bar) / **Evaporating Temperature °C (Sat. Dew Pt. Pressure, bar)**

		-29.0 (1.5)	-23.0 (1.9)	-18.0 (2.3)	-12.0 (3)	-7.0 (3.6)	0.0 (4.6)	5.0 (5.5)	10.0 (6.4)	13.0 (7.1)	16.0 (7.8)	18.0 (8.3)	21.0 (9.1)
65.0 (28.4)	C								18,150	20,300	22,600	24,200	26,800
	P								7,560	7,570	7,560	7,560	7,540
	A								13.2	13.2	13.2	13.2	13.2
	M								124	138	152	162	177
	E								2.4	2.7	3.0	3.2	3.6
	%								63.0	65.0	66.6	67.5	68.4
60.0 (25.3)	C							16,200	19,600	21,800	24,300	26,000	28,700
	P							6,710	6,720	6,720	6,720	6,710	6,690
	A							12.0	12.1	12.1	12.0	12.0	12.0
	M							106	126	140	154	164	179
	E							2.4	2.9	3.3	3.6	3.9	4.3
	%							62.8	66.3	67.9	69.0	69.6	69.9
55.0 (22.5)	C						14,250	17,400	21,000	23,300	25,900	27,700	30,500
	P						5,940	5,970	5,970	5,970	5,960	5,950	5,930
	A						11.0	11.0	11.1	11.0	11.0	11.0	11.0
	M						90	108	128	141	155	165	181
	E						2.4	2.9	3.5	3.9	4.3	4.7	5.2
	%						62.2	66.1	68.9	70.0	70.5	70.6	70.3
49.0 (19.4)	C					11,450	15,450	18,750	22,500	25,000	27,700	29,700	32,700
	P					5,120	5,160	5,180	5,190	5,180	5,170	5,160	5,130
	A					9.9	10.0	10.0	10.0	10.0	10.0	10.0	9.9
	M					69	91	109	129	143	157	167	182
	E					2.2	3.0	3.6	4.4	4.8	5.4	5.8	6.4
	%					59.6	66.0	69.1	70.7	71.0	70.7	70.1	68.6
43.0 (16.7)	C				9,830	12,350	16,550	20,000	24,100	26,700	29,600	31,600	34,900
	P				4,420	4,450	4,490	4,500	4,500	4,500	4,490	4,480	4,450
	A				9.1	9.1	9.2	9.2	9.2	9.2	9.2	9.1	9.1
	M				57	71	92	110	131	144	158	168	184
	E				2.2	2.8	3.7	4.5	5.3	5.9	6.6	7.1	7.8
	%				58.4	63.5	68.6	70.5	70.7	69.9	68.4	66.9	63.8
38.0 (14.6)	C			7,770	10,450	13,050	17,400	21,100	25,300	28,100	31,100	33,300	36,700
	P			3,890	3,930	3,960	3,990	4,010	4,010	4,010	4,000	3,980	3,960
	A			8.5	8.5	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.5
	M			44	58	71	93	111	132	145	160	170	186
	E			2.0	2.7	3.3	4.4	5.3	6.3	7.0	7.8	8.4	9.3
	%			54.5	61.5	65.9	69.6	70.2	68.9	66.9	64.0	61.5	56.8
27.0 (10.8)	C		6,860	8,830	11,700	14,550	19,350	23,400	28,100				
	P		2,960	2,990	3,030	3,060	3,100	3,110	3,120				
	A		7.5	7.6	7.6	7.7	7.7	7.8	7.8				
	M		36	46	59	73	95	114	135				
	E		2.3	3.0	3.9	4.8	6.3	7.5	9.0				
	%		54.9	60.5	65.4	67.5	67.0	63.4	56.7				
21.0 (9.1)	C		7,340	9,370	12,350	15,350	20,500	24,800					
	P		2,540	2,580	2,620	2,650	2,690	2,720					
	A		7.2	7.2	7.3	7.3	7.4	7.5					
	M		36	46	60	74	96	116					
	E		2.9	3.6	4.7	5.8	7.6	9.1					
	%		57.8	62.4	65.7	66.0	61.8	54.7					
10.0 (6.4)	C		8,250	10,450	13,700	17,050							
	P		1,870	1,905	1,960	2,000							
	A		6.8	6.8	6.9	7.0							
	M		37	47	62	77							
	E		4.4	5.5	7.0	8.5							
	%		62.0	63.9	62.2	56.8							

C: Capacity (W), P: Power (W), A: Current (Amps), M: Mass Flow (gm/s), E: COP, %: Isentropic Efficiency (%)

Nominal Performance Values (±5%) based on 72 hours run-in. Subject to change without notice. Current @ 380 V