

### Rating Conditions

20 °C Return Gas  
 0 K Subcooling  
 35 °C Ambient Air Over  
 50 Hz Operation

### MEDIUM TEMPERATURE

HFCs Require Use of Polyol Ester  
 Lubricant Approved on Form 93-11

### ZBD38KQE-TFD

HFC-134A  
 COPELAND SCROLL®  
 TFD 380/420-3-50

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

		-23.0(1.2)	-20.0(1.3)	-16.0(1.6)	-12.0(1.9)	-8.0(2.2)	-4.0(2.5)	0.0(2.9)	3.0(3.3)	7.0(3.7)
60.0 (16.8)	C				4,180	4,920	5,700	6,550	7,260	8,330
	P				2,940	3,070	3,180	3,280	3,350	3,450
	A				6.0	6.2	6.3	6.4	6.5	6.6
	M				32	38	44	51	57	66
	E				1.4	1.6	1.8	2.0	2.2	2.4
%				58.4	60.4	61.7	62.6	63.2	63.6	
55.0 (14.9)	C		2,850	3,650	4,420	5,200	6,030	6,960	7,730	8,890
	P		2,390	2,570	2,710	2,830	2,930	3,030	3,090	3,190
	A		5.2	5.5	5.7	5.8	6.0	6.1	6.2	6.3
	M		20	26	32	38	44	51	57	66
	E		1.2	1.4	1.6	1.8	2.1	2.3	2.5	2.8
%		51.8	56.6	59.4	61.2	62.4	63.2	63.5	63.5	
50.0 (13.2)	C	2,400	3,030	3,840	4,650	5,470	6,370	7,360	8,190	9,450
	P	2,070	2,220	2,380	2,510	2,620	2,710	2,790	2,860	2,950
	A	4.7	4.9	5.2	5.4	5.5	5.7	5.8	5.9	6.0
	M	16	20	26	32	37	44	51	57	66
	E	1.2	1.4	1.6	1.9	2.1	2.4	2.6	2.9	3.2
%	48.0	53.2	57.5	60.1	61.7	62.7	63.2	63.3	62.8	
45.0 (11.6)	C	2,560	3,210	4,040	4,870	5,740	6,690	7,760	8,660	10,000
	P	1,925	2,060	2,210	2,320	2,420	2,500	2,580	2,640	2,730
	A	4.5	4.7	4.9	5.1	5.2	5.3	5.5	5.6	5.7
	M	16	21	26	31	37	44	51	57	66
	E	1.3	1.6	1.8	2.1	2.4	2.7	3.0	3.3	3.7
%	49.6	54.2	58.0	60.3	61.7	62.5	62.7	62.4	61.3	
41.0 (10.4)	C	2,690	3,340	4,190	5,050	5,960	6,960	8,080	9,030	10,450
	P	1,825	1,945	2,080	2,180	2,270	2,340	2,420	2,470	2,560
	A	4.3	4.5	4.7	4.8	5.0	5.1	5.2	5.3	5.4
	M	17	21	26	31	37	44	51	57	67
	E	1.5	1.7	2.0	2.3	2.6	3.0	3.4	3.7	4.1
%	50.5	54.6	58.1	60.2	61.4	62.0	61.8	61.2	59.5	
36.0 (9.1)	C	2,860	3,510	4,380	5,270	6,230	7,290	8,490	9,500	11,050
	P	1,705	1,810	1,925	2,020	2,090	2,160	2,220	2,280	2,360
	A	4.0	4.2	4.4	4.6	4.7	4.8	4.9	5.0	5.1
	M	17	21	26	31	37	44	51	58	67
	E	1.7	1.9	2.3	2.6	3.0	3.4	3.8	4.2	4.7
%	51.2	54.9	58.0	59.8	60.7	60.8	60.1	58.9	56.3	
31.0 (7.9)	C	3,020	3,680	4,570	5,500	6,510	7,630	8,900	9,980	11,600
	P	1,590	1,685	1,785	1,860	1,920	1,975	2,030	2,080	2,170
	A	3.8	4.0	4.2	4.3	4.4	4.5	4.6	4.7	4.9
	M	17	21	26	31	37	44	51	58	68
	E	1.9	2.2	2.6	3.0	3.4	3.9	4.4	4.8	5.4
%	51.6	54.8	57.5	58.9	59.5	59.1	57.7	55.8	52.0	
26.0 (6.9)	C	3,190	3,860	4,770	5,740	6,790	7,980	9,330	10,450	
	P	1,485	1,565	1,645	1,705	1,755	1,800	1,850	1,895	
	A	3.6	3.8	3.9	4.0	4.1	4.2	4.3	4.4	
	M	17	21	26	31	37	44	52	58	
	E	2.2	2.5	2.9	3.4	3.9	4.4	5.0	5.5	
%	51.6	54.4	56.6	57.7	57.7	56.6	54.3	51.5		
21.0 (5.9)	C	3,370	4,050	4,980	5,980	7,090	8,340	9,770		
	P	1,380	1,445	1,510	1,555	1,590	1,625	1,670		
	A	3.4	3.5	3.7	3.8	3.9	4.0	4.1		
	M	18	21	26	32	37	44	52		
	E	2.4	2.8	3.3	3.9	4.5	5.1	5.9		
%	51.4	53.7	55.5	56.0	55.4	53.4	49.7			

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 @ 400 V

### Rating Conditions

18.3 °C Return Gas  
 0 K Subcooling  
 35 °C Ambient Air Over

50 Hz Operation

### MEDIUM TEMPERATURE

### ZBD38KQE-TFD

HFC-404A

COPELAND SCROLL®

TFD 380/420-3-50

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

	-23.0 (2.7)	-20.0 (3)	-15.0 (3.6)	-10.0 (4.3)	-5.0 (5.1)	0.0 (6)	5.0 (7)	7.0 (7.5)
60.0 (28.7) C P A M E %					7,300	8,660	10,250	10,950
					5,380	5,530	5,670	5,720
					9.2	9.4	9.5	9.6
					82	99	120	130
					1.4	1.6	1.8	1.9
				59.8	61.6	63.1	63.6	
55.0 (25.7) C P A M E %				6,980	8,330	9,890	11,700	12,450
				4,750	4,910	5,060	5,190	5,230
				8.3	8.6	8.7	8.9	8.9
				69	84	102	123	132
				1.5	1.7	2.0	2.3	2.4
			61.0	62.8	64.1	65.0	65.1	
50.0 (23) C P A M E %		5,330	6,460	7,770	9,290	11,050	13,050	13,900
		4,010	4,180	4,350	4,500	4,640	4,750	4,790
		7.4	7.6	7.8	8.0	8.2	8.3	8.3
		48	58	71	86	103	124	134
		1.3	1.5	1.8	2.1	2.4	2.7	2.9
	59.2	61.6	63.6	65.0	65.8	66.0	65.8	
45.0 (20.4) C P A M E %	5,150	5,810	7,060	8,520	10,200	12,100	14,300	15,250
	3,570	3,670	3,830	3,990	4,130	4,250	4,360	4,390
	6.9	7.0	7.2	7.4	7.5	7.7	7.8	7.8
	42	48	59	72	87	105	126	135
	1.4	1.6	1.8	2.1	2.5	2.9	3.3	3.5
60.0	61.6	63.8	65.4	66.4	66.5	65.8	65.3	
40.0 (18.1) C P A M E %	5,550	6,280	7,640	9,230	11,050	13,150	15,500	16,550
	3,270	3,370	3,520	3,670	3,790	3,900	3,990	4,020
	6.5	6.6	6.8	7.0	7.1	7.2	7.3	7.3
	43	48	59	72	88	106	127	136
	1.7	1.9	2.2	2.5	2.9	3.4	3.9	4.1
61.9	63.4	65.3	66.4	66.8	66.2	64.6	63.6	
35.0 (16.1) C P A M E %	5,960	6,730	8,200	9,910	11,850	14,100	16,650	17,750
	3,010	3,100	3,240	3,370	3,480	3,570	3,640	3,660
	6.2	6.3	6.5	6.6	6.7	6.8	6.9	6.9
	43	49	60	73	88	107	128	137
	2.0	2.2	2.5	2.9	3.4	4.0	4.6	4.9
63.5	64.7	66.1	66.7	66.3	64.8	62.1	60.6	
25.0 (12.4) C P A M E %	6,800	7,660	9,300	11,200	13,400	15,900	18,750	
	2,540	2,610	2,720	2,810	2,880	2,930	2,950	
	5.7	5.8	5.9	6.0	6.1	6.1	6.2	
	44	50	61	74	89	107	128	
	2.7	2.9	3.4	4.0	4.7	5.4	6.3	
65.9	66.2	66.1	65.0	62.7	58.8	53.1		
15.0 (9.4) C P A M E %	7,730	8,650	10,400	12,450	14,850			
	2,070	2,120	2,180	2,230	2,260			
	5.3	5.4	5.4	5.5	5.6			
	46	51	62	75	90			
	3.7	4.1	4.8	5.6	6.6			
68.3	67.4	64.9	61.2	55.6				
10.0 (8.2) C P A M E %	8,250	9,180	11,000	13,100				
	1,810	1,840	1,885	1,905				
	5.2	5.2	5.2	5.3				
	47	52	63	75				
	4.6	5.0	5.8	6.9				
70.5	68.5	64.4	58.6					

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

**ZBD38KQE-TFD**

HFC, R-404A, 50 Hz, 3 - Phase, 380/420 V

**Medium Temperature**

**Production Status:** China Use Only

Performance			Mechanical	
Evaporator Temp. (°C)	-7	7	Displacement (cm <sup>3</sup> /Rev):	82.59
Condensing Temp. (°C)	49	54	Displacement (m <sup>3</sup> /Hr):	
Return Gas Temp. (°C)	18	18	Overall Length (mm):	240.79
Liquid Temp. (°C)	49	54	Overall Width (mm):	246.38
Capacity (Watts)	8968	12719	Overall Height (mm):	494.28
Power (W):	4360	5190	Mounting Length (mm):	190.50
Current (Amps):	7.85	8.85	Mounting Width (mm):	190.50
EER(BTU/Wh):	11.89	14.27	Mounting Height (mm):	500.63
Mass Flow (lbs/hr):	80.39	133.56	Suction Size (mm),Type:	177.80 / 203.20 Stub
Sound Data @			Discharge Size (mm),Type:	25.40 / 50.80 Stub
Sound Power (dBA):	78 Avg	83 Max	Initial Oil Charge (ml):	1892.74
Vibration mils(peak-peak):	2.0 Avg	3.0 Max	Oil Recharge (ml):	1774.44
Record Date:	2020-12-23		Net Weight (kg):	38.10
			Internal Free Volume (cm <sup>3</sup> ):	
			Horse Power:	5.0

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

Electrical		Capacitors					
		Type	Part No	Low MFD	High MFD	Volts	User Description
LRA High* (Amps):	64.0						
LRA Low*(Amps):	58.0	No data available in table					
LRA Half Winding (Amps):							
MCC (Amps):	14.5						
Max Operating Current (Amps):	11.3						
RLA, MCC/1.4(use for contactor selection)(Amps):	10.4						
RLA, MCC/1.56(use for breaker & wire size selection)(Amps):	9.3						
RPM:	2900						
Box IP :	21						
UL File No:							
UL File Date:							

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

**Alternate Applications**

Refrigerant	Voltage	Phase	Frequency	Application
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R-134a HFC	460	3	60	Medium Temperature
R-134a HFC	380/420	3	50	Medium Temperature
R-404A HFC	460	3	60	Medium Temperature
R-407A HFC	380/420	3	50	Medium Temperature
R-407F HFC	380/420	3	50	Medium Temperature