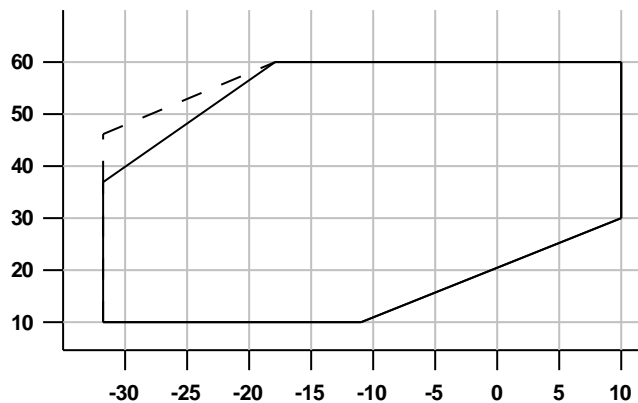


50Hz

ZB21KCE-TFD

R404A



Minimum evaporating temp. with:
 ——— 25°C Suction Gas Return
 - - - 10K Suction Superheat

Suction Return Temperature 20.0°C

Evaporating Temperature °C

Liquid subcooling 0.0K

Cond °C	Capacity kW									
	-30	-25	-20	-15	-10	-5	0	5	7	10
10	3.40	4.22	5.22	6.40	7.11	8.55	9.10	10.75	11.50	12.65
20	3.11	3.88	4.79	5.86	7.11	8.55	9.10	10.75	11.50	12.65
30	2.77	3.46	4.28	5.24	6.35	7.64	8.51	10.05	10.75	11.80
35	2.58	3.24	4.00	4.90	5.94	7.14	8.51	10.05	10.75	11.80
40	2.39	3.00	3.71	4.54	5.51	6.62	7.89	9.33	9.96	10.95
45		2.74	3.40	4.16	5.05	6.07	7.24	8.57	9.15	10.10
50			3.08	3.77	4.57	5.50	6.57	7.79	8.32	9.17
55			2.74	3.36	4.08	4.91	5.87	6.97	7.45	8.23
60				2.93	3.57	4.30	5.15	6.13	6.56	7.25
	Power Input kW									
	-30	-25	-20	-15	-10	-5	0	5	7	10
10	1.10	1.10	1.11	1.11	1.40	1.40	1.75	1.74	1.74	1.74
20	1.39	1.40	1.40	1.40	1.40	1.40	1.75	1.74	1.74	1.74
30	1.76	1.77	1.77	1.77	1.76	1.76	1.96	1.95	1.95	1.95
35	1.98	1.99	1.99	1.99	1.98	1.97	1.96	1.95	1.95	1.95
40	2.22	2.24	2.24	2.24	2.23	2.22	2.21	2.19	2.19	2.18
45		2.52	2.52	2.52	2.51	2.50	2.48	2.46	2.46	2.44
50			2.83	2.83	2.82	2.81	2.79	2.77	2.76	2.74
55			3.18	3.18	3.17	3.16	3.13	3.11	3.10	3.08
60				3.57	3.56	3.54	3.52	3.49	3.47	3.45
	Current 400V, A									
	-30	-25	-20	-15	-10	-5	0	5	7	10
10	3.40	3.40	3.39	3.39	3.68	3.68	4.06	4.05	4.05	4.04
20	3.66	3.67	3.67	3.68	3.68	3.68	4.06	4.05	4.05	4.04
30	4.04	4.06	4.07	4.07	4.07	4.07	4.31	4.30	4.29	4.28
35	4.29	4.31	4.32	4.33	4.33	4.32	4.31	4.30	4.29	4.28
40	4.59	4.62	4.63	4.64	4.63	4.63	4.61	4.59	4.58	4.57
45		4.98	4.99	5.00	5.00	4.98	4.97	4.94	4.93	4.91
50			5.42	5.43	5.42	5.41	5.38	5.35	5.34	5.32
55			5.92	5.92	5.92	5.90	5.87	5.84	5.82	5.79
60				6.50	6.49	6.47	6.44	6.39	6.37	6.34
	Mass Flow g/s									
	-30	-25	-20	-15	-10	-5	0	5	7	10
10	19.10	23.90	29.60	36.50	44.60	54.20	64.50	77.50	83.00	92.50
20	19.10	23.90	29.60	36.50	44.60	54.20	64.50	77.50	83.00	92.50
30	18.70	23.50	29.30	36.10	44.10	53.50	63.90	76.50	82.50	91.50
35	18.50	23.20	28.90	35.70	43.60	53.00	63.90	76.50	82.50	91.50
40	18.10	22.80	28.50	35.20	43.00	52.30	63.20	76.00	81.50	91.00
45		22.40	27.90	34.50	42.30	51.40	62.20	74.90	80.50	90.00
50			27.20	33.70	41.30	50.40	61.10	73.80	79.50	89.00
55			26.50	32.80	40.30	49.20	59.80	72.50	78.00	87.50
60				31.80	39.20	48.00	58.60	71.30	77.00	86.50

Copeland Scroll - Compressor - Refrigeration - Standard
COMPRESSOR MECHANICAL AND PHYSICAL DATA

Displacement @ 50 Hz, cu.m/h	8.6
Length/Width, mm	243/244
Height, mm	392
Net Weight, kg	29
Rotalock Suction, inch	1 1/4
Rotalock Discharge, inch	1
Oil Quantity, l	1.2
Base mounting (hole dia), mm	190 x 190 (8.5)
Sound Pressure @ 1m, dBA	58
Sound Power, dBA	69
Sound Power with Sound Shell, dBA	59
PED Category	1
High Side PS, bar(g)	28.8
Low Side PS, bar(g)	21
Low Side TS Max., °C	50
Low Side TS Min., °C	-35
Internal Free Volume, l	2.5

COMPRESSOR ELECTRICAL DATA (380/420V - 3~ - 50Hz)

Maximum Operating Current, A	7.2
Locked Rotor Current, A	40
Winding Resistance, ohm	4.8
Default Enclosure Class	IP 21 (IEC 34)

ACCESSORIES INCLUDED

Discharge Temperature Protection	Internal Thermodisk
Mounting Grommets	Standard

ACCESSORIES OPTIONAL

Crankcase Heater	70W External
Sound Attenuation	Sound Shell (10dBA)
Rotalock valves	suction and discharge

MOTOR OPTIONS

<i>Power Supply</i>	<i>Nominal Voltage</i>	<i>Motor Code</i>	<i>Start Connection</i>	<i>DOL Connection</i>	<i>Amps Factor</i>
380-420 V/3~/50H	400	TFD		Y	1.00
200-220 V/3~/50H	200	TF5		Y	2.09
200-230 V/3~/60H	230	TF5		Y	2.09
460 V/3~/60Hz	460	TFD		Y	1.04

Model: ZB21KCE-TFD
 Suction Return Temperature 20.0°C

Refrigerant: R404A
 Liquid subcooling 0.0K

S.I.
 50Hz

	Evaporating Temperature °C									
	-30.0	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0
	Capacity kW									
10.0	3.40	4.22	5.22	6.40						
15.0	3.26	4.06	5.01	6.14	7.46					
20.0	3.11	3.88	4.79	5.86	7.11	8.55				
25.0	2.95	3.68	4.54	5.56	6.75	8.11	9.66			
30.0	2.77	3.46	4.28	5.24	6.35	7.64	9.10	10.75	11.50	12.65
35.0	2.58	3.24	4.00	4.90	5.94	7.14	8.51	10.05	10.75	11.80
40.0	2.39	3.00	3.71	4.54	5.51	6.62	7.89	9.33	9.96	10.95
45.0		2.74	3.40	4.16	5.05	6.07	7.24	8.57	9.15	10.10
50.0			3.08	3.77	4.57	5.50	6.57	7.79	8.32	9.17
55.0			2.74	3.36	4.08	4.91	5.87	6.97	7.45	8.23
60.0				2.93	3.57	4.30	5.15	6.13	6.56	7.25

	Power Input kW									
	-30.0	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0
10.0	1.10	1.10	1.11	1.11						
15.0	1.24	1.24	1.24	1.24	1.24					
20.0	1.39	1.40	1.40	1.40	1.40	1.40				
25.0	1.56	1.57	1.57	1.57	1.57	1.56	1.56			
30.0	1.76	1.77	1.77	1.77	1.76	1.76	1.75	1.74	1.74	1.74
35.0	1.98	1.99	1.99	1.99	1.98	1.97	1.96	1.95	1.95	1.95
40.0	2.22	2.24	2.24	2.24	2.23	2.22	2.21	2.19	2.19	2.18
45.0		2.52	2.52	2.52	2.51	2.50	2.48	2.46	2.46	2.44
50.0			2.83	2.83	2.82	2.81	2.79	2.77	2.76	2.74
55.0			3.18	3.18	3.17	3.16	3.13	3.11	3.10	3.08
60.0				3.57	3.56	3.54	3.52	3.49	3.47	3.45

	COP									
	-30.0	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0
10.0	3.08	3.82	4.71	5.77						
15.0	2.63	3.26	4.02	4.93	5.98					
20.0	2.24	2.77	3.42	4.19	5.09	6.12				
25.0	1.88	2.34	2.89	3.54	4.30	5.17	6.18			
30.0	1.58	1.96	2.42	2.96	3.60	4.34	5.19	6.16	6.58	7.24
35.0	1.31	1.63	2.01	2.46	2.99	3.61	4.33	5.14	5.50	6.06
40.0	1.07	1.34	1.66	2.03	2.47	2.98	3.57	4.25	4.55	5.03
45.0		1.09	1.35	1.65	2.01	2.43	2.92	3.48	3.73	4.12
50.0			1.09	1.33	1.62	1.96	2.35	2.81	3.02	3.34
55.0			0.86	1.06	1.29	1.56	1.87	2.24	2.41	2.67
60.0				0.82	1.00	1.21	1.46	1.76	1.89	2.10

Model: ZB21KCE-TFD

Refrigerant: R404A

	-30.0	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0
	Current 400V, A									
10.0	3.40	3.40	3.39	3.39						
15.0	3.52	3.52	3.52	3.52	3.52					
20.0	3.66	3.67	3.67	3.68	3.68	3.68				
25.0	3.83	3.85	3.85	3.86	3.86	3.85	3.85			
30.0	4.04	4.06	4.07	4.07	4.07	4.07	4.06	4.05	4.05	4.04
35.0	4.29	4.31	4.32	4.33	4.33	4.32	4.31	4.30	4.29	4.28
40.0	4.59	4.62	4.63	4.64	4.63	4.63	4.61	4.59	4.58	4.57
45.0		4.98	4.99	5.00	5.00	4.98	4.97	4.94	4.93	4.91
50.0			5.42	5.43	5.42	5.41	5.38	5.35	5.34	5.32
55.0			5.92	5.92	5.92	5.90	5.87	5.84	5.82	5.79
60.0				6.50	6.49	6.47	6.44	6.39	6.37	6.34

	-30.0	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0
	Mass Flow g/s									
10.0	19.10	23.90	29.60	36.50						
15.0	19.10	23.90	29.70	36.60	44.70					
20.0	19.10	23.90	29.60	36.50	44.60	54.20				
25.0	18.90	23.70	29.50	36.30	44.40	53.90	65.00			
30.0	18.70	23.50	29.30	36.10	44.10	53.50	64.50	77.50	83.00	92.50
35.0	18.50	23.20	28.90	35.70	43.60	53.00	63.90	76.50	82.50	91.50
40.0	18.10	22.80	28.50	35.20	43.00	52.30	63.20	76.00	81.50	91.00
45.0		22.40	27.90	34.50	42.30	51.40	62.20	74.90	80.50	90.00
50.0			27.20	33.70	41.30	50.40	61.10	73.80	79.50	89.00
55.0			26.50	32.80	40.30	49.20	59.80	72.50	78.00	87.50
60.0				31.80	39.20	48.00	58.60	71.30	77.00	86.50

	-30.0	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0
	Heat Rejection kW									
10.0	4.45	5.28	6.27	7.45						
15.0	4.44	5.24	6.20	7.32	8.64					
20.0	4.44	5.20	6.12	7.19	8.44	9.88				
25.0	4.44	5.17	6.04	7.06	8.24	9.60	11.15			
30.0	4.44	5.14	5.96	6.92	8.03	9.31	10.75	12.40	13.15	14.30
35.0	4.46	5.13	5.90	6.79	7.83	9.02	10.40	11.90	12.60	13.65
40.0	4.50	5.12	5.84	6.67	7.63	8.73	9.99	11.40	12.05	13.05
45.0		5.13	5.79	6.56	7.44	8.45	9.60	10.90	11.50	12.40
50.0			5.77	6.46	7.26	8.17	9.22	10.40	10.95	11.75
55.0			5.76	6.38	7.09	7.91	8.85	9.92	10.40	11.15
60.0				6.32	6.95	7.66	8.49	9.44	9.86	10.55

Copeland Selection Software

REFRIGERANT R404A

Operating Conditions:

Evaporating Temperature: -10.0°C
 Condensing Temperature: 45.0°C
 Liquid subcooling: 0.0K
 Suction Return Temperature: 20.0°C

Required Capacity: 20.0 kW
 Compressor Selected: ZB21KCE-TFD

PERFORMANCE AT SPECIFIED OPERATING POINT ZB21KCE-TFD Data at 50 Hz

Capacity kW	5.05
Power Input kW	2.51
COP	2.01
Current 400V, A	5.00
Mass Flow g/s	42.30
Heat Rejection kW	7.44

COMPRESSOR MECHANICAL AND PHYSICAL DATA

Length/Width, mm 243/244	Height, mm 392
Net Weight, kg 29	Rotalock Suction, inch 1 1/4
Rotalock Discharge, inch 1	Oil Quantity, l 1.2
Sound Power, dBA 69	PED Category 1
High Side PS, bar(g) 28.8	Low Side PS, bar(g) 21
Low Side TS Max., °C 50	Low Side TS Min., °C -35
Internal Free Volume, l 2.5	
Displacement @ 50 Hz, cu.m/h 8.6	
Base mounting (hole dia), mm 190 x 190 (8.5)	
Sound Pressure @ 1m, dBA 58	
Sound Power with Sound Shell, dBA 59	

COMPRESSOR ELECTRICAL DATA (380/420V - 3~ - 50Hz)

Locked Rotor Current, A 40	Winding Resistance, ohm 4.8
Maximum Operating Current, A 7.2	
Default Enclosure Class IP 21 (IEC 34)	

ACCESSORIES INCLUDED

Discharge Temperature Protection	Internal Thermodisk
Mounting Grommets	Standard

ACCESSORIES OPTIONAL

Crankcase Heater
Sound Attenuation
Rotalock valves

70W External
Sound Shell (10dBA)
suction and discharge