

Model: ZB56KCE-TWD

Data

Type: Hermetic piston compressors

Producer: Copeland

Series: ZB

Model: ZB56KCE-TWD

Technical data

Nominal motor power [HP]:	7,5
Displacement [m ³ /h]:	20,9
Weight [kg]:	101
Oil charge [dm ³]:	4,1

Electrical data

Power supply [V/~/Hz]:	380-420V/3/50Hz
Locked rotor current [A]:	99
Max. operating current [A]:	14,6
Winding resistance [Ω]:	1,39

Connections

	<u>milimeters</u>	<u>inches</u>
Suction line:		1 3/4"
Discharge line:		1 1/4"

Model: ZB56KCE-TWD

Capacity

R22

Cooling capacity [kW]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	8.26	10.20	12.46	15.10	18.17	21.73	-	-
20	7.89	9.78	11.97	14.52	17.49	20.92	-	-
25	7.53	9.37	11.49	13.95	16.80	20.10	23.89	-
30	7.19	8.97	11.01	13.38	16.11	19.27	22.91	27.07
35	6.85	8.57	10.53	12.80	15.42	18.43	21.91	25.89
40	6.51	8.17	10.05	12.22	14.71	17.58	20.89	24.69
45	-	7.77	9.57	11.62	13.99	16.71	19.85	23.46
50	-	-	9.07	11.01	13.25	15.82	18.79	22.21
55	-	-	-	10.39	12.49	14.91	17.70	20.92
60	-	-	-	-	11.70	13.96	16.57	19.59
65	-	-	-	-	-	12.98	15.41	18.23

Power input [kW]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	2.64	2.68	2.74	2.84	3.01	3.27	-	-
20	2.98	3.03	3.08	3.15	3.27	3.47	-	-
25	3.34	3.41	3.46	3.52	3.61	3.75	3.98	-
30	3.72	3.82	3.88	3.94	4.00	4.11	4.28	4.54
35	4.11	4.25	4.34	4.40	4.46	4.54	4.67	4.87
40	4.51	4.70	4.82	4.90	4.96	5.02	5.12	5.27
45	-	5.16	5.32	5.43	5.50	5.56	5.64	5.75
50	-	-	5.84	5.98	6.08	6.15	6.21	6.30
55	-	-	-	6.55	6.68	6.77	6.84	6.91
60	-	-	-	-	7.31	7.42	7.50	7.57
65	-	-	-	-	-	8.10	8.20	8.28

Model: ZB56KCE-TWD

Capacity

Current [A]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	9.05	9.08	9.11	9.18	9.31	9.52	-	-
20	9.28	9.32	9.36	9.41	9.51	9.67	-	-
25	9.55	9.62	9.67	9.71	9.79	9.92	10.12	-
30	9.87	9.97	10.04	10.09	10.15	10.25	10.41	10.66
35	10.23	10.37	10.47	10.53	10.58	10.66	10.79	10.99
40	10.62	10.82	10.95	11.03	11.09	11.16	11.26	11.42
45	-	11.31	11.49	11.60	11.68	11.74	11.83	11.96
50	-	-	12.08	12.23	12.33	12.40	12.48	12.59
55	-	-	-	12.92	13.05	13.14	13.22	13.31
60	-	-	-	-	13.84	13.96	14.05	14.13
65	-	-	-	-	-	14.85	14.96	15.04

Mass flow [kg/s]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	143.12	178.13	218.60	265.97	321.70	387.24	-	-
20	141.11	176.05	216.37	263.52	318.95	384.12	-	-
25	139.39	174.21	214.34	261.23	316.32	381.08	456.95	-
30	137.85	172.51	212.40	258.98	313.69	377.99	453.33	541.16
35	136.36	170.81	210.42	256.64	310.93	374.72	449.49	536.67
40	134.81	169.01	208.29	254.11	307.92	371.17	445.31	531.80
45	-	166.97	205.89	251.26	304.55	367.21	440.68	526.43
50	-	-	203.09	247.97	300.70	362.72	435.48	520.44
55	-	-	-	244.12	296.24	357.57	429.58	513.71
60	-	-	-	-	291.05	351.66	422.87	506.12
65	-	-	-	-	-	344.86	415.22	497.55

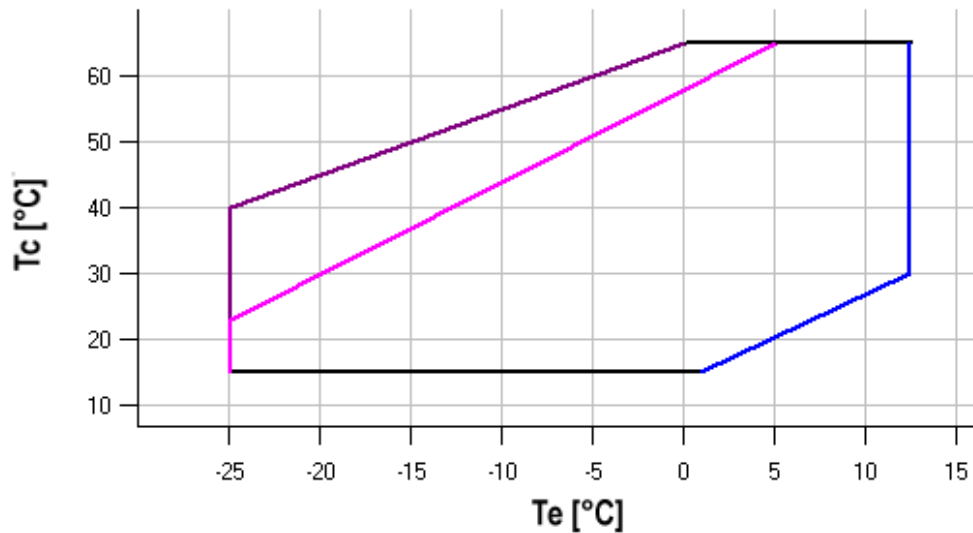
Model: ZB56KCE-TWD

Capacity

C.O.P. [W/W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	3.13	3.80	4.54	5.31	6.04	6.66	-	-
20	2.65	3.23	3.89	4.61	5.34	6.03	-	-
25	2.26	2.75	3.32	3.97	4.66	5.36	6.00	-
30	1.93	2.35	2.84	3.40	4.02	4.69	5.35	5.96
35	1.66	2.01	2.43	2.91	3.46	4.06	4.70	5.32
40	1.44	1.74	2.09	2.49	2.97	3.50	4.08	4.68
45	-	1.51	1.80	2.14	2.54	3.00	3.52	4.08
50	-	-	1.55	1.84	2.18	2.57	3.02	3.53
55	-	-	-	1.58	1.87	2.20	2.59	3.03
60	-	-	-	-	1.60	1.88	2.21	2.59
65	-	-	-	-	-	1.60	1.88	2.20

Application range



- Maximum evaporating temperature
- 25°C suction gas temperature
- 10K gas overheat

Operating conditions: suction gas temperature 20°C, 0K subcooling

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Model: ZB56KCE-TWD

Capacity

R134a

Cooling capacity [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	5.31	6.74	8.40	10.34	12.62	15.29	18.40	-
35	4.95	6.34	7.94	9.81	11.98	14.52	17.47	-
40	4.60	5.96	7.50	9.28	11.34	13.75	16.54	19.78
45	-	5.58	7.06	8.75	10.70	12.97	15.61	18.66
50	-	5.22	6.63	8.22	10.06	12.19	14.66	17.53
55	-	-	6.19	7.70	9.42	11.40	13.71	16.38
60	-	-	-	7.16	8.76	10.60	12.74	15.22
65	-	-	-	6.62	8.09	9.78	11.75	14.03
70	-	-	-	-	7.41	8.95	10.74	12.82
75	-	-	-	-	6.71	8.09	9.70	11.58

Power input [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.44	2.49	2.53	2.56	2.60	2.67	2.78	-
35	2.73	2.81	2.86	2.89	2.92	2.98	3.06	-
40	3.04	3.15	3.22	3.26	3.30	3.33	3.40	3.50
45	-	3.51	3.60	3.67	3.71	3.74	3.79	3.86
50	-	3.88	4.01	4.10	4.15	4.19	4.23	4.28
55	-	-	4.44	4.56	4.63	4.68	4.72	4.76
60	-	-	-	5.04	5.14	5.21	5.25	5.29
65	-	-	-	5.53	5.67	5.77	5.82	5.86
70	-	-	-	-	6.23	6.35	6.43	6.48
75	-	-	-	-	6.80	6.96	7.07	7.14

Model: ZB56KCE-TWD

Capacity

Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	8.90	8.94	8.97	8.99	9.01	9.06	9.15	-
35	9.08	9.15	9.19	9.22	9.24	9.28	9.35	-
40	9.30	9.40	9.47	9.51	9.53	9.56	9.61	9.69
45	-	9.69	9.79	9.84	9.88	9.91	9.95	10.01
50	-	10.03	10.15	10.23	10.29	10.32	10.36	10.41
55	-	-	10.57	10.68	10.76	10.80	10.84	10.89
60	-	-	-	11.18	11.28	11.35	11.40	11.44
65	-	-	-	11.74	11.88	11.97	12.03	12.08
70	-	-	-	-	12.53	12.66	12.74	12.80
75	-	-	-	-	13.25	13.41	13.52	13.60

Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	106.45	136.80	171.59	212.38	260.70	318.10	386.13	-
35	104.80	135.03	169.66	210.25	258.33	315.45	383.15	-
40	103.43	133.48	167.90	208.23	256.01	312.80	380.12	459.54
45	-	132.07	166.22	206.24	253.67	310.07	376.96	455.91
50	-	130.72	164.54	204.20	251.23	307.18	373.59	452.00
55	-	-	162.79	202.02	248.59	304.04	369.91	447.75
60	-	-	-	199.63	245.69	300.59	365.86	443.07
65	-	-	-	196.94	242.43	296.72	361.35	437.87
70	-	-	-	-	238.75	292.37	356.30	432.07
75	-	-	-	-	234.54	287.45	350.62	425.60

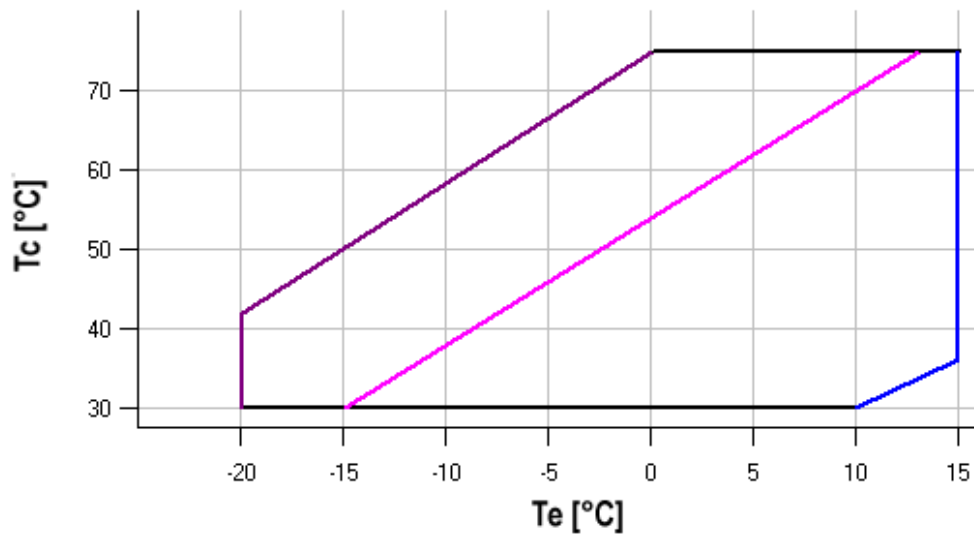
Model: ZB56KCE-TWD

Capacity

C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.18	2.70	3.33	4.05	4.86	5.73	6.61	-
35	1.81	2.26	2.78	3.39	4.10	4.88	5.71	-
40	1.51	1.89	2.33	2.84	3.44	4.12	4.87	5.66
45	-	1.59	1.96	2.39	2.89	3.47	4.12	4.84
50	-	1.35	1.65	2.01	2.42	2.91	3.47	4.09
55	-	-	1.40	1.69	2.03	2.44	2.91	3.44
60	-	-	-	1.42	1.70	2.04	2.43	2.88
65	-	-	-	1.20	1.43	1.70	2.02	2.39
70	-	-	-	-	1.19	1.41	1.67	1.98
75	-	-	-	-	0.99	1.16	1.37	1.62

Application range



- Maximum evaporating temperature
- 25°C suction gas temperature
- 10K gas overheat

Operating conditions: suction gas temperature 20°C, 0K subcooling

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Model: ZB56KCE-TWD

Capacity

R407C

Cooling capacity [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
20	9.03	11.23	13.81	16.86	20.44	-	-	-
25	8.57	10.69	13.18	16.10	19.52	23.50	-	-
30	8.12	10.17	12.55	15.34	18.59	22.38	26.77	-
35	7.67	9.65	11.92	14.57	17.66	21.25	25.41	-
40	7.23	9.12	11.28	13.79	16.70	20.09	24.02	-
45	6.78	8.58	10.63	12.98	15.72	18.90	22.59	-
50	-	8.03	9.95	12.15	14.70	17.67	21.12	-
55	-	-	9.24	11.28	13.65	16.40	19.60	-
60	-	-	-	10.38	12.55	15.08	18.03	-
65	-	-	-	-	11.40	13.70	16.39	-

Power input [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
20	2.86	2.89	2.94	3.01	3.15	-	-	-
25	3.25	3.29	3.33	3.38	3.48	3.64	-	-
30	3.67	3.74	3.78	3.82	3.88	3.99	4.18	-
35	4.11	4.21	4.27	4.31	4.36	4.43	4.57	-
40	4.57	4.72	4.80	4.85	4.89	4.95	5.04	-
45	5.03	5.24	5.37	5.44	5.49	5.53	5.59	-
50	-	5.77	5.96	6.07	6.13	6.17	6.22	-
55	-	-	6.56	6.72	6.81	6.87	6.91	-
60	-	-	-	7.39	7.52	7.60	7.65	-
65	-	-	-	-	8.26	8.38	8.45	-

Model: ZB56KCE-TWD

Capacity

Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
20	9.20	9.22	9.25	9.31	9.42	-	-	-
25	9.49	9.53	9.56	9.60	9.68	9.82	-	-
30	9.83	9.90	9.94	9.98	10.03	10.13	10.31	-
35	10.24	10.34	10.40	10.44	10.48	10.56	10.69	-
40	10.69	10.84	10.93	10.98	11.02	11.08	11.18	-
45	11.20	11.40	11.53	11.61	11.66	11.71	11.78	-
50	-	12.03	12.20	12.32	12.38	12.43	12.49	-
55	-	-	12.95	13.10	13.20	13.26	13.31	-
60	-	-	-	13.96	14.09	14.18	14.24	-
65	-	-	-	-	15.08	15.20	15.27	-

Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
20	153.21	192.02	237.47	291.43	355.79	-	-	-
25	151.12	189.82	235.05	288.70	352.65	428.79	-	-
30	149.31	187.84	232.80	286.08	349.57	425.14	514.69	-
35	147.61	185.91	230.54	283.39	346.36	421.31	510.14	-
40	145.84	183.84	228.09	280.46	342.84	417.11	505.16	-
45	143.81	181.47	225.28	277.10	338.84	412.38	499.60	-
50	-	178.61	221.91	273.14	334.19	406.93	493.25	-
55	-	-	217.82	268.40	328.68	400.57	485.94	-
60	-	-	-	262.69	322.16	393.14	477.50	-
65	-	-	-	-	314.44	384.45	467.75	-

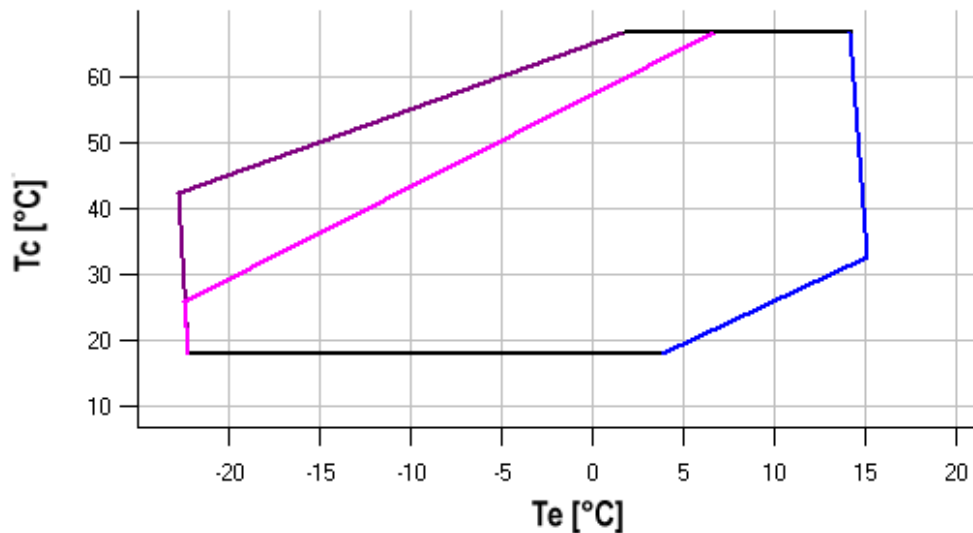
Model: ZB56KCE-TWD

Capacity

C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
20	3.16	3.88	4.71	5.60	6.49	-	-	-
25	2.64	3.25	3.96	4.76	5.62	6.46	-	-
30	2.21	2.72	3.32	4.02	4.79	5.60	6.40	-
35	1.87	2.29	2.79	3.38	4.05	4.79	5.56	-
40	1.58	1.93	2.35	2.84	3.41	4.06	4.76	-
45	1.35	1.64	1.98	2.39	2.86	3.42	4.04	-
50	-	1.39	1.67	2.00	2.40	2.86	3.40	-
55	-	-	1.41	1.68	2.00	2.39	2.84	-
60	-	-	-	1.40	1.67	1.98	2.36	-
65	-	-	-	-	1.38	1.63	1.94	-

Application range



- Maximum evaporating temperature
- 25°C suction gas temperature
- 10K gas overheat

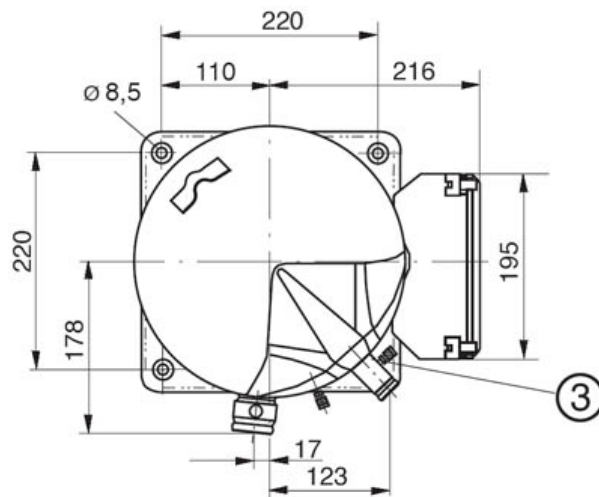
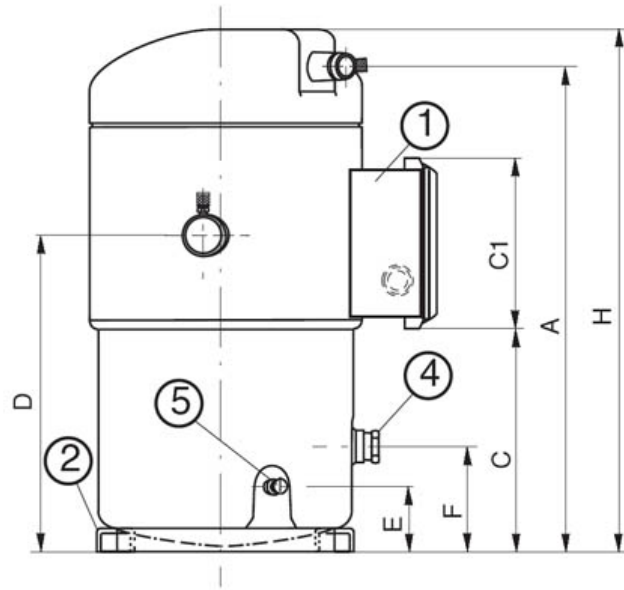
Operating conditions: suction gas temperature 20°C, 0K subcooling

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Model: ZB56KCE-TWD

Dimensions



A	497,34 mm
C	221,59 mm
C1	175,7 mm
D	314,82 mm
E	63,52 mm
F	97,79 mm
G	- mm

Model: ZB56KCE-TWD

Image

