

Type: Hermetic scroll compressors

Producer: Copeland

Series: ZB

Model: ZB76KCE-TFD

Technical data

Displacement [m ³ /h]:	28,8
Sound power [dBA]:	77
Sound power with sound shell [dBA]:	67
Sound pressure level [dB]:	66
Net Weight [kg]:	65
Oil charge [dm ³]:	3,3
Maximum high pressure [bar]:	32
Maximum standstill pressure [bar]:	22,6
Minimal lowside temperature [°C]:	-35
Maximum lowside temperature [°C]:	50
PED category:	2

Electrical data

Power supply [V/~/Hz]:	380-420V/3/50Hz
Locked rotor current [A]:	118
Max. operating current [A]:	20,4
Winding resistance [Ω]:	1,2

Connections

	<u>inches</u>
Suction Rotolock valve connection:	1 3/4"
Discharge Rotolock valve connection:	1 1/4"

R134a

Cooling capacity [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
25	7.99	10.11	12.65	15.64	19.09	23.02	-	-
30	7.56	9.60	12.05	14.93	18.27	22.07	26.37	-
35	7.13	9.08	11.43	14.20	17.40	21.07	25.21	29.85
40	6.72	8.57	10.81	13.44	16.51	20.01	23.99	28.45
45	-	8.07	10.17	12.67	15.58	18.92	22.71	26.98
50	-	7.57	9.54	11.89	14.63	17.79	21.39	25.46
55	-	-	8.91	11.09	13.66	16.63	20.03	23.87
60	-	-	-	10.30	12.68	15.45	18.63	22.24
65	-	-	-	9.51	11.68	14.24	17.19	20.57
70	-	-	-	-	10.69	13.02	15.73	18.85
75	-	-	-	-	-	11.78	14.25	17.10

Power input [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
25	3.18	3.13	3.16	3.24	3.34	3.43	-	-
30	3.57	3.52	3.54	3.61	3.70	3.77	3.80	-
35	3.98	3.94	3.96	4.02	4.10	4.15	4.16	4.10
40	4.42	4.39	4.42	4.48	4.54	4.59	4.59	4.51
45	-	4.87	4.90	4.97	5.04	5.08	5.06	4.97
50	-	5.38	5.43	5.50	5.57	5.62	5.60	5.50
55	-	-	5.99	6.08	6.16	6.20	6.19	6.08
60	-	-	-	6.69	6.79	6.84	6.83	6.73
65	-	-	-	7.35	7.46	7.54	7.54	7.44
70	-	-	-	-	8.18	8.28	8.29	8.21
75	-	-	-	-	-	9.07	9.11	9.04

Current [A]

t_c \ t_e	-20	-15	-10	-5	0	5	10	15
25	10.07	10.13	10.19	10.25	10.29	10.32	-	-
30	10.34	10.39	10.44	10.48	10.51	10.52	10.49	-
35	10.65	10.70	10.75	10.79	10.81	10.79	10.75	10.66
40	11.01	11.07	11.13	11.17	11.18	11.16	11.10	10.99
45	-	11.49	11.56	11.61	11.63	11.61	11.54	11.43
50	-	11.96	12.05	12.12	12.15	12.14	12.08	11.96
55	-	-	12.60	12.69	12.75	12.75	12.71	12.60
60	-	-	-	13.34	13.42	13.45	13.42	13.33
65	-	-	-	14.04	14.17	14.23	14.23	14.16
70	-	-	-	-	14.98	15.09	15.13	15.09
75	-	-	-	-	-	16.03	16.11	16.12

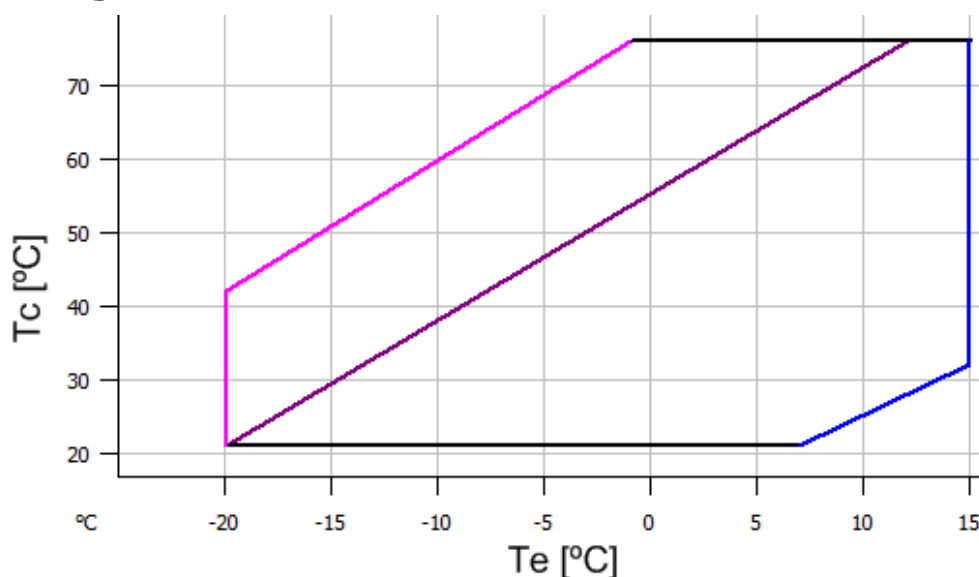
Mass flow [kg/h]

t_c \ t_e	-20	-15	-10	-5	0	5	10	15
25	156.50	198.07	248.40	308.27	378.46	459.72	-	-
30	155.94	196.80	246.78	306.66	377.21	459.20	553.40	-
35	155.25	195.23	244.69	304.41	375.16	457.70	552.82	661.27
40	154.49	193.42	242.20	301.59	372.37	455.30	551.15	660.71
45	-	191.45	239.37	298.26	368.90	452.04	548.48	658.96
50	-	189.38	236.27	294.49	364.82	448.01	544.85	656.10
55	-	-	232.96	290.35	360.19	443.27	540.35	652.19
60	-	-	-	285.90	355.09	437.88	535.03	647.30
65	-	-	-	281.20	349.58	431.91	528.96	641.49
70	-	-	-	-	343.73	425.43	522.20	634.82
75	-	-	-	-	-	418.50	514.83	627.37

C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
25	2.52	3.23	4.00	4.82	5.71	6.71	-	-
30	2.12	2.73	3.40	4.13	4.94	5.86	6.94	-
35	1.79	2.31	2.89	3.53	4.25	5.07	6.05	7.27
40	1.52	1.95	2.45	3.00	3.63	4.36	5.23	6.31
45	-	1.66	2.07	2.55	3.09	3.73	4.48	5.43
50	-	1.41	1.76	2.16	2.62	3.17	3.82	4.63
55	-	-	1.49	1.83	2.22	2.68	3.24	3.92
60	-	-	-	1.54	1.87	2.26	2.73	3.30
65	-	-	-	1.29	1.57	1.89	2.28	2.76
70	-	-	-	-	1.31	1.57	1.90	2.30
75	-	-	-	-	-	1.30	1.56	1.89

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]

R404A/R507

Cooling capacity [kW]

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
10	11.72	14.54	18.00	22.16	27.08	-	-	-	-
15	11.32	14.03	17.33	21.28	25.94	31.36	-	-	-
20	10.84	13.47	16.62	20.36	24.75	29.85	35.74	-	-
25	10.29	12.83	15.83	19.37	23.51	28.30	33.81	40.11	-
30	9.65	12.11	14.98	18.33	22.21	26.69	31.84	37.72	44.38
35	8.92	11.30	14.04	17.20	20.84	25.02	29.81	35.27	41.47
40	8.08	10.40	13.01	15.99	19.39	23.28	27.71	32.76	38.49
45	-	9.38	11.88	14.68	17.85	21.45	25.54	30.19	35.46
50	-	-	10.64	13.27	16.21	19.53	23.28	27.53	32.35
55	-	-	9.27	11.74	14.47	17.51	20.93	24.79	29.16
60	-	-	-	10.09	12.60	15.37	18.47	21.95	25.88

Power input [kW]

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
10	3.65	3.76	3.87	3.97	4.07	-	-	-	-
15	4.05	4.17	4.27	4.37	4.47	4.58	-	-	-
20	4.50	4.62	4.72	4.82	4.92	5.02	5.12	-	-
25	5.01	5.12	5.23	5.32	5.42	5.51	5.60	5.70	-
30	5.58	5.69	5.79	5.89	5.97	6.06	6.14	6.23	6.33
35	6.23	6.34	6.44	6.53	6.61	6.68	6.76	6.84	6.92
40	6.98	7.09	7.18	7.26	7.33	7.39	7.46	7.52	7.59
45	-	7.93	8.02	8.09	8.15	8.20	8.25	8.30	8.36
50	-	-	8.97	9.03	9.08	9.12	9.16	9.19	9.23
55	-	-	10.05	10.10	10.13	10.16	10.18	10.20	10.22
60	-	-	-	11.30	11.33	11.34	11.34	11.34	11.34

Current [A]

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
10	10.35	10.44	10.52	10.59	10.67	-	-	-	-
15	10.67	10.77	10.86	10.95	11.04	11.13	-	-	-
20	11.06	11.17	11.27	11.36	11.45	11.55	11.65	-	-
25	11.52	11.64	11.75	11.85	11.94	12.03	12.13	12.24	-
30	12.10	12.22	12.33	12.43	12.53	12.62	12.71	12.81	12.92
35	12.81	12.93	13.04	13.14	13.23	13.32	13.40	13.49	13.59
40	13.67	13.79	13.90	13.99	14.08	14.16	14.23	14.31	14.39
45	-	14.83	14.93	15.02	15.09	15.16	15.23	15.29	15.35
50	-	-	16.16	16.24	16.30	16.35	16.40	16.45	16.49
55	-	-	17.60	17.67	17.72	17.76	17.79	17.81	17.83
60	-	-	-	19.34	19.38	19.39	19.40	19.40	19.40

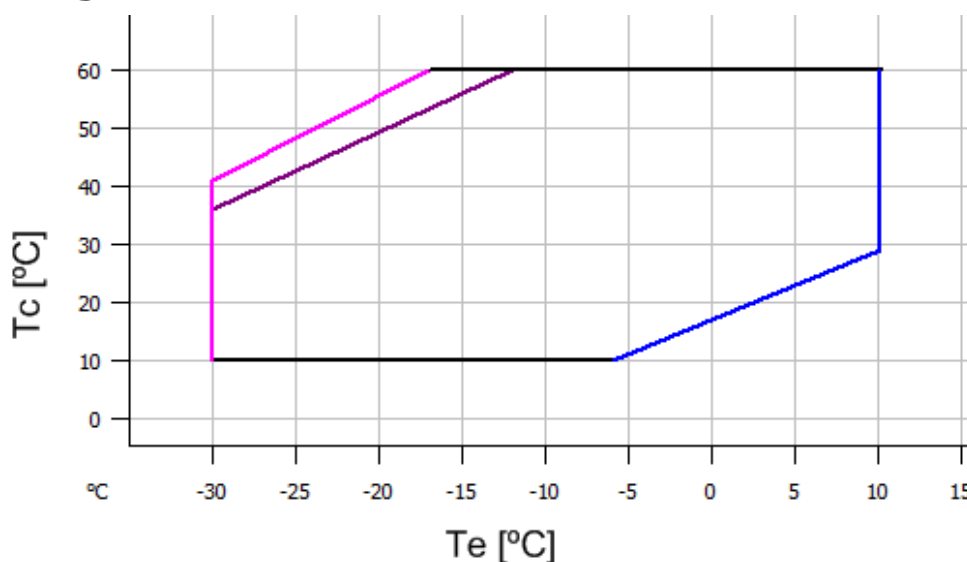
Mass flow [kg/h]

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
10	232.64	295.11	368.59	456.21	561.11	-	-	-	-
15	236.70	298.60	371.04	457.18	560.15	683.07	-	-	-
20	238.70	300.42	372.24	457.31	558.75	679.69	823.28	-	-
25	238.35	300.31	371.92	456.32	556.64	676.02	817.58	984.47	-
30	235.40	298.00	369.81	453.95	553.56	671.77	811.72	976.55	1 169.38
35	229.57	293.23	365.63	449.92	549.23	666.69	805.43	968.60	1 159.32
40	220.60	285.71	359.13	443.97	543.38	660.50	798.44	960.36	1 149.38
45	-	275.19	350.02	435.83	535.76	652.93	790.49	951.57	1 139.29
50	-	-	338.05	425.23	526.08	643.72	781.30	941.94	1 128.78
55	-	-	322.94	411.90	514.08	632.60	770.60	931.22	1 117.58
60	-	-	-	395.58	499.49	619.30	758.13	919.13	1 105.42

C.O.P. [W/W]

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
10	3.21	3.87	4.66	5.59	6.66	-	-	-	-
15	2.79	3.37	4.06	4.86	5.80	6.85	-	-	-
20	2.41	2.92	3.52	4.22	5.03	5.95	6.98	-	-
25	2.06	2.50	3.03	3.64	4.34	5.14	6.04	7.04	-
30	1.73	2.13	2.59	3.11	3.72	4.41	5.18	6.05	7.01
35	1.43	1.78	2.18	2.63	3.15	3.74	4.41	5.16	5.99
40	1.16	1.47	1.81	2.20	2.65	3.15	3.72	4.36	5.07
45	-	1.18	1.48	1.82	2.19	2.62	3.09	3.64	4.24
50	-	-	1.19	1.47	1.79	2.14	2.54	3.00	3.51
55	-	-	0.92	1.16	1.43	1.72	2.06	2.43	2.85
60	-	-	-	0.89	1.11	1.36	1.63	1.94	2.28

Application range

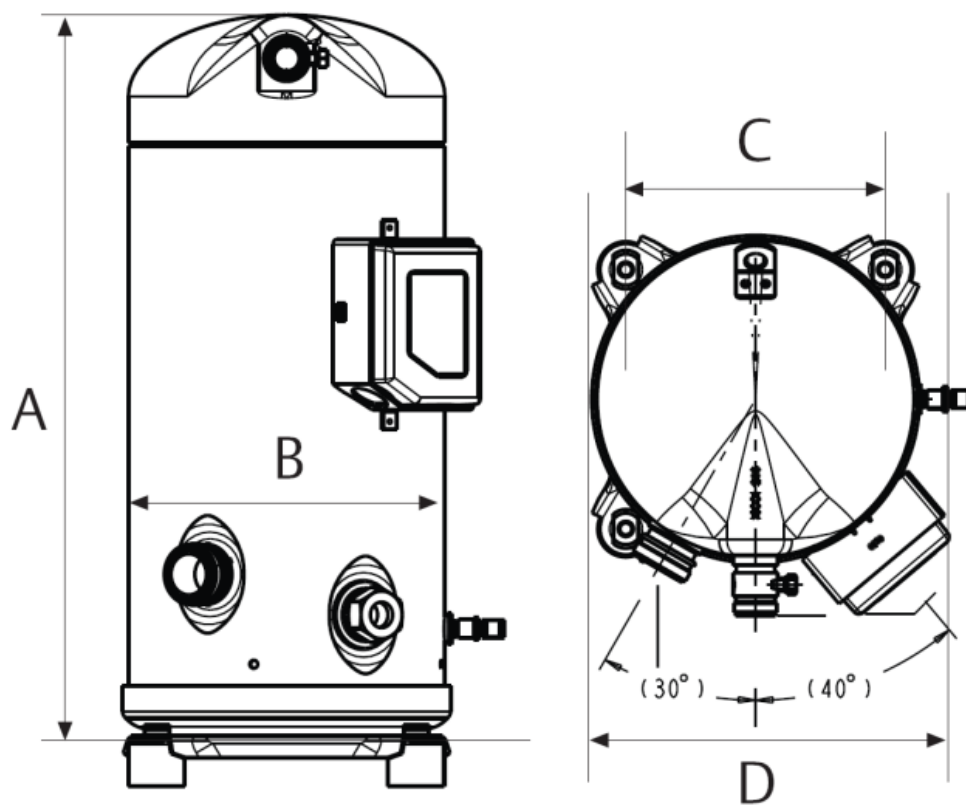


- Maximum evaporating temperature
- 20°C suction gas temperature
- 10K gas overheat

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

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]



A	533 mm
B	232 mm
C	190 mm
D	263 mm

