

Type: Hermetic scroll compressors

Producer: Copeland

Series: ZB

Model: ZB30KCE-TFD

Technical data

Displacement [m ³ /h]:	11,7
Sound power [dBA]:	70
Sound pressure level [dB]:	59
Net Weight [kg]:	35,4
Oil charge [dm ³]:	1,9
Maximum high pressure [bar]:	28,8
Maximum standstill pressure [bar]:	21
Minimal lowside temperature [°C]:	-35
Maximum lowside temperature [°C]:	50
PED category:	1

Electrical data

Power supply [V/~/Hz]:	380-420V/3/50Hz
Locked rotor current [A]:	49,3
Max. operating current [A]:	10,3
Winding resistance [Ω]:	3,6

Connections

	<u>inches</u>
Suction Rotolock valve connection:	7/8"
Discharge Rotolock valve connection:	1/2"

R134a

Cooling capacity [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.99	3.83	4.83	6.00	7.37	8.94	10.72	-
35	2.81	3.62	4.59	5.72	7.04	8.55	10.26	-
40	2.63	3.41	4.34	5.43	6.69	8.13	9.77	11.63
45	-	3.20	4.08	5.12	6.32	7.69	9.26	11.03
50	-	2.98	3.82	4.80	5.93	7.24	8.72	10.40
55	-	-	3.55	4.47	5.54	6.76	8.16	9.75
60	-	-	-	4.14	5.14	6.28	7.59	9.07
65	-	-	-	3.81	4.72	5.78	6.99	8.38
70	-	-	-	-	4.31	5.28	6.39	7.66
75	-	-	-	-	3.89	4.77	5.78	6.94

Power input [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	1.43	1.44	1.45	1.46	1.46	1.47	1.48	-
35	1.61	1.63	1.63	1.63	1.63	1.63	1.64	-
40	1.82	1.83	1.83	1.82	1.82	1.82	1.82	1.83
45	-	2.05	2.05	2.04	2.03	2.02	2.02	2.03
50	-	2.30	2.29	2.28	2.27	2.26	2.25	2.26
55	-	-	2.57	2.55	2.54	2.52	2.52	2.52
60	-	-	-	2.86	2.84	2.82	2.81	2.81
65	-	-	-	3.20	3.18	3.16	3.15	3.15
70	-	-	-	-	3.57	3.55	3.53	3.53
75	-	-	-	-	4.00	3.98	3.96	3.96

Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	3.61	3.61	3.60	3.59	3.57	3.56	3.55	-
35	3.85	3.84	3.82	3.79	3.77	3.74	3.71	-
40	4.08	4.07	4.04	4.01	3.98	3.94	3.90	3.87
45	-	4.31	4.29	4.25	4.21	4.17	4.13	4.09
50	-	4.58	4.56	4.53	4.49	4.45	4.40	4.36
55	-	-	4.87	4.84	4.81	4.77	4.73	4.68
60	-	-	-	5.20	5.18	5.15	5.11	5.07
65	-	-	-	5.63	5.61	5.59	5.57	5.54
70	-	-	-	-	6.12	6.11	6.10	6.09
75	-	-	-	-	6.70	6.72	6.73	6.73

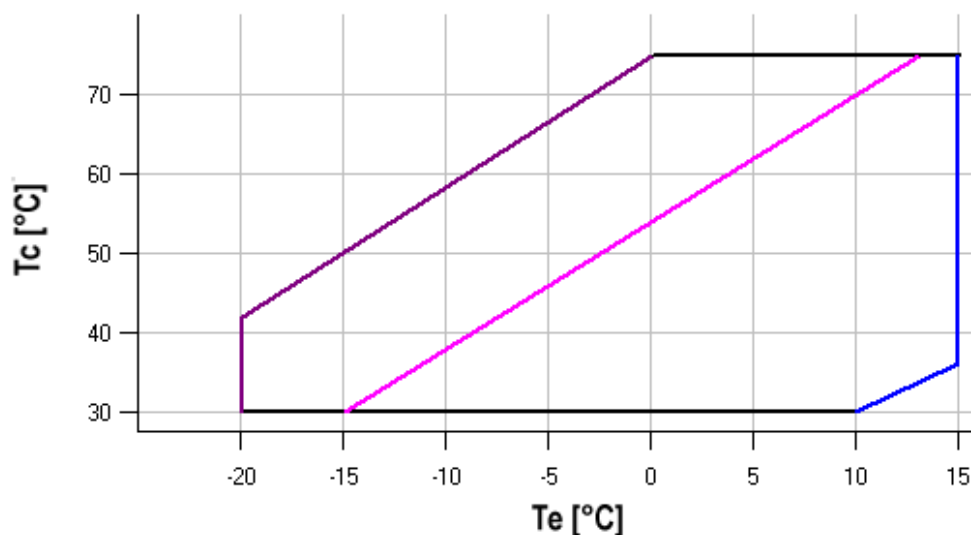
Mass flow [kg/h]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	60.05	77.72	98.62	123.27	152.19	185.91	224.97	-
35	59.69	77.24	98.10	122.78	151.81	185.72	225.04	-
40	59.08	76.47	97.23	121.90	150.99	185.04	224.57	270.10
45	-	75.43	96.05	120.65	149.76	183.89	223.58	269.35
50	-	74.17	94.60	119.08	148.14	182.32	222.12	268.08
55	-	-	92.89	117.21	146.19	180.35	220.21	266.31
60	-	-	-	115.08	143.92	178.01	217.89	264.08
65	-	-	-	112.72	141.37	175.35	215.20	261.43
70	-	-	-	-	138.58	172.40	212.16	258.38
75	-	-	-	-	135.58	169.19	208.81	254.97

C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.10	2.65	3.32	4.12	5.04	6.09	7.25	-
35	1.74	2.23	2.81	3.51	4.31	5.23	6.26	-
40	1.44	1.87	2.37	2.97	3.67	4.47	5.37	6.35
45	-	1.56	2.00	2.51	3.11	3.80	4.57	5.43
50	-	1.30	1.67	2.11	2.62	3.20	3.87	4.60
55	-	-	1.38	1.75	2.18	2.68	3.24	3.87
60	-	-	-	1.45	1.81	2.22	2.70	3.22
65	-	-	-	1.19	1.48	1.83	2.22	2.66
70	-	-	-	-	1.21	1.49	1.81	2.17
75	-	-	-	-	0.97	1.20	1.46	1.75

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]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
10	3.00	3.80	4.77	5.95	7.33	8.96	10.83	-	-	-	-
15	2.86	3.62	4.56	5.68	7.00	8.55	10.34	12.38	-	-	-
20	2.70	3.44	4.33	5.39	6.65	8.12	9.81	11.76	13.98	-	-
25	2.53	3.23	4.08	5.08	6.27	7.66	9.27	11.12	13.22	15.59	-
30	2.35	3.02	3.81	4.76	5.88	7.19	8.70	10.44	12.43	14.67	17.20
35	2.16	2.79	3.54	4.42	5.47	6.69	8.11	9.75	11.61	13.73	16.12
40	1.96	2.55	3.24	4.07	5.04	6.18	7.50	9.03	10.77	12.76	15.00
45	-	-	2.94	3.70	4.59	5.64	6.87	8.28	9.91	11.76	13.86
50	-	-	-	3.31	4.13	5.09	6.21	7.51	9.01	10.73	12.68
55	-	-	-	-	3.65	4.52	5.54	6.72	8.10	9.68	11.48
60	-	-	-	-	-	3.93	4.84	5.91	7.16	8.60	10.25

Power input [kW]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
10	1.49	1.50	1.51	1.51	1.51	1.50	1.50	-	-	-	-
15	1.67	1.68	1.69	1.69	1.69	1.68	1.68	1.67	-	-	-
20	1.87	1.89	1.90	1.90	1.89	1.88	1.87	1.87	1.86	-	-
25	2.10	2.12	2.13	2.13	2.12	2.11	2.10	2.09	2.08	2.08	-
30	2.35	2.38	2.39	2.39	2.38	2.37	2.36	2.34	2.33	2.32	2.31
35	2.64	2.67	2.68	2.68	2.68	2.66	2.65	2.63	2.61	2.59	2.58
40	2.97	3.00	3.02	3.02	3.01	3.00	2.98	2.95	2.93	2.91	2.89
45	-	-	3.39	3.39	3.39	3.37	3.35	3.32	3.30	3.27	3.25
50	-	-	-	3.82	3.81	3.79	3.77	3.74	3.71	3.68	3.65
55	-	-	-	-	4.28	4.26	4.24	4.21	4.17	4.14	4.10
60	-	-	-	-	-	4.79	4.76	4.73	4.69	4.65	4.61

Current [A]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
10	5.08	5.08	5.08	5.08	5.07	5.07	5.07	-	-	-	-
15	5.24	5.26	5.26	5.27	5.27	5.27	5.27	5.27	-	-	-
20	5.43	5.46	5.48	5.49	5.49	5.49	5.49	5.49	5.49	-	-
25	5.67	5.71	5.73	5.75	5.76	5.76	5.76	5.76	5.76	5.75	-
30	5.96	6.01	6.04	6.06	6.08	6.08	6.08	6.08	6.07	6.06	6.05
35	6.32	6.37	6.42	6.44	6.46	6.47	6.47	6.46	6.44	6.42	6.40
40	6.75	6.82	6.86	6.90	6.92	6.93	6.92	6.91	6.89	6.86	6.83
45	-	-	7.40	7.44	7.46	7.47	7.46	7.45	7.42	7.38	7.34
50	-	-	-	8.08	8.10	8.11	8.10	8.08	8.04	8.00	7.94
55	-	-	-	-	8.85	8.85	8.84	8.81	8.77	8.72	8.65
60	-	-	-	-	-	9.71	9.70	9.67	9.62	9.55	9.47

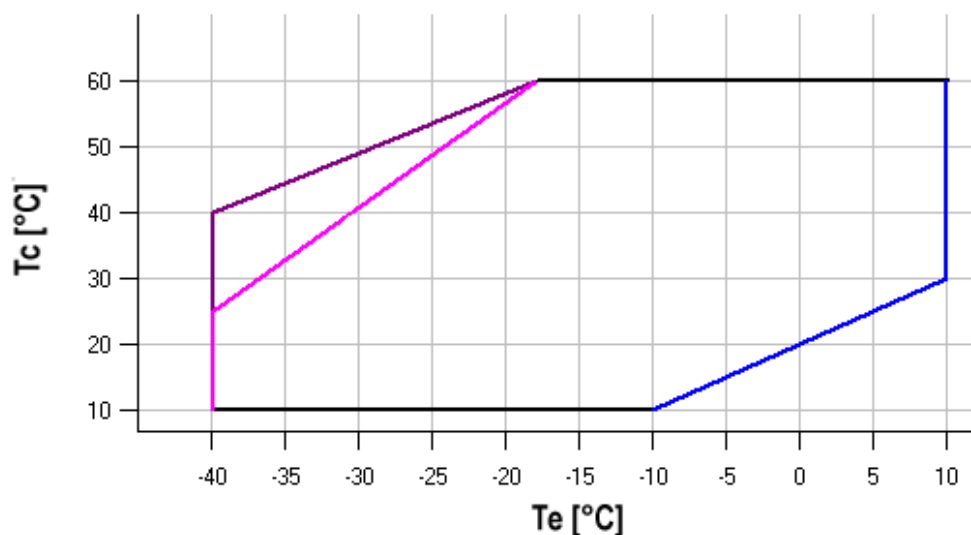
Mass flow [kg/h]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
10	56.87	75.81	97.19	121.86	150.68	184.54	224.30	-	-	-	-
15	58.18	76.44	97.23	121.40	149.84	183.41	222.96	269.38	-	-	-
20	58.85	76.46	96.69	120.41	148.49	181.79	221.18	267.53	321.70	-	-
25	58.89	75.88	95.59	118.88	146.63	179.70	218.96	265.27	319.51	382.53	-
30	58.33	74.73	93.95	116.85	144.30	177.17	216.32	262.63	316.96	380.17	453.14
35	57.18	73.02	91.77	114.31	141.49	174.19	213.28	259.61	314.06	377.50	450.78
40	55.45	70.76	89.08	111.29	138.23	170.80	209.84	256.23	310.83	374.52	448.16
45	-	-	85.89	107.79	134.54	166.99	206.03	252.50	307.29	371.27	445.28
50	-	-	-	103.84	130.42	162.79	201.85	248.45	303.46	367.74	442.17
55	-	-	-	-	125.88	158.22	197.33	244.08	299.33	363.96	438.83
60	-	-	-	-	-	153.28	192.47	239.40	294.94	359.94	435.29

C.O.P. [W/W]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
10	2.02	2.53	3.16	3.94	4.87	5.96	7.22	-	-	-	-
15	1.72	2.15	2.70	3.36	4.15	5.08	6.17	7.40	-	-	-
20	1.45	1.82	2.28	2.84	3.51	4.31	5.24	6.30	7.50	-	-
25	1.21	1.53	1.92	2.39	2.96	3.63	4.41	5.32	6.36	7.51	-
30	1.00	1.27	1.60	1.99	2.47	3.03	3.69	4.46	5.34	6.33	7.44
35	0.82	1.04	1.32	1.65	2.04	2.51	3.07	3.71	4.45	5.29	6.24
40	0.66	0.85	1.08	1.35	1.67	2.06	2.52	3.06	3.67	4.38	5.18
45	-	-	0.87	1.09	1.36	1.67	2.05	2.49	3.01	3.60	4.27
50	-	-	-	0.87	1.08	1.34	1.65	2.01	2.43	2.92	3.48
55	-	-	-	-	0.85	1.06	1.31	1.60	1.94	2.34	2.80
60	-	-	-	-	-	0.82	1.02	1.25	1.53	1.85	2.22

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]

R407C

Cooling capacity [kW]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	3.88	4.94	6.22	7.75	9.54	11.64	-	-
20	3.72	4.78	6.05	7.55	9.32	11.37	13.75	-
25	3.53	4.57	5.82	7.29	9.01	11.02	13.33	-
30	3.32	4.33	5.54	6.97	8.64	10.58	12.82	15.38
35	3.10	4.08	5.23	6.60	8.21	10.07	12.23	14.69
40	2.88	3.81	4.91	6.21	7.73	9.51	11.57	13.93
45	-	3.55	4.58	5.80	7.23	8.91	10.85	13.09
50	-	-	4.25	5.38	6.71	8.27	10.10	12.21
55	-	-	-	4.97	6.18	7.62	9.31	11.28
60	-	-	-	-	5.67	6.97	8.51	10.32
65	-	-	-	-	-	6.32	7.71	9.35

Power input [kW]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	1.15	1.17	1.18	1.19	1.21	1.25	-	-
20	1.41	1.43	1.44	1.45	1.46	1.49	1.53	-
25	1.67	1.69	1.71	1.71	1.72	1.74	1.77	-
30	1.93	1.96	1.98	1.98	1.99	1.99	2.02	2.06
35	2.19	2.23	2.26	2.27	2.27	2.27	2.29	2.32
40	2.47	2.53	2.56	2.57	2.58	2.58	2.59	2.61
45	-	2.84	2.88	2.91	2.91	2.92	2.92	2.94
50	-	-	3.24	3.27	3.29	3.30	3.30	3.31
55	-	-	-	3.68	3.71	3.72	3.73	3.74
60	-	-	-	-	4.18	4.20	4.21	4.22
65	-	-	-	-	-	4.74	4.76	4.77

Current [A]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	4.08	4.10	4.12	4.13	4.14	4.17	-	-
20	4.36	4.38	4.39	4.40	4.41	4.43	4.46	-
25	4.60	4.62	4.63	4.64	4.65	4.66	4.68	-
30	4.82	4.86	4.87	4.88	4.88	4.89	4.90	4.94
35	5.05	5.10	5.12	5.13	5.13	5.13	5.14	5.17
40	5.31	5.36	5.39	5.41	5.41	5.42	5.42	5.44
45	-	5.68	5.72	5.74	5.75	5.75	5.76	5.77
50	-	-	6.11	6.14	6.16	6.17	6.17	6.19
55	-	-	-	6.63	6.66	6.67	6.68	6.70
60	-	-	-	-	7.27	7.29	7.31	7.32
65	-	-	-	-	-	8.04	8.07	8.09

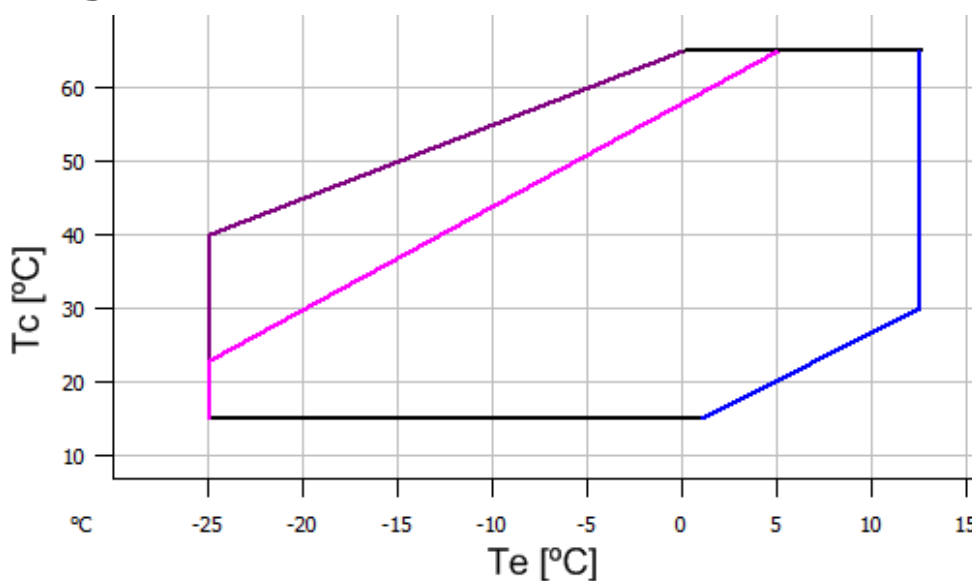
Mass flow [kg/h]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	61.73	80.69	102.71	128.61	159.23	195.40	-	-
20	61.82	81.04	103.44	129.85	161.10	198.02	241.44	-
25	61.43	80.71	103.29	130.00	161.68	199.15	243.25	-
30	60.71	79.85	102.41	129.22	161.13	198.95	243.52	295.68
35	59.84	78.62	100.96	127.68	159.61	197.58	242.43	294.98
40	58.95	77.19	99.11	125.53	157.28	195.21	240.13	292.88
45	-	75.71	97.01	122.93	154.31	191.98	236.77	289.52
50	-	-	94.82	120.04	150.84	188.06	232.53	285.07
55	-	-	-	117.02	147.05	183.61	227.55	279.69
60	-	-	-	-	143.08	178.79	222.00	273.53
65	-	-	-	-	-	173.76	216.04	266.76

C.O.P. [W/W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	3.39	4.24	5.28	6.50	7.87	9.32	-	-
20	2.64	3.34	4.19	5.20	6.36	7.64	8.97	-
25	2.12	2.70	3.41	4.25	5.24	6.35	7.55	-
30	1.72	2.21	2.80	3.51	4.35	5.30	6.36	7.48
35	1.41	1.82	2.32	2.91	3.62	4.43	5.35	6.35
40	1.17	1.51	1.92	2.41	3.00	3.69	4.47	5.34
45	-	1.25	1.59	1.99	2.48	3.05	3.71	4.46
50	-	-	1.31	1.64	2.04	2.51	3.06	3.69
55	-	-	-	1.35	1.67	2.05	2.50	3.02
60	-	-	-	-	1.36	1.66	2.02	2.45
65	-	-	-	-	-	1.33	1.62	1.96

Application range

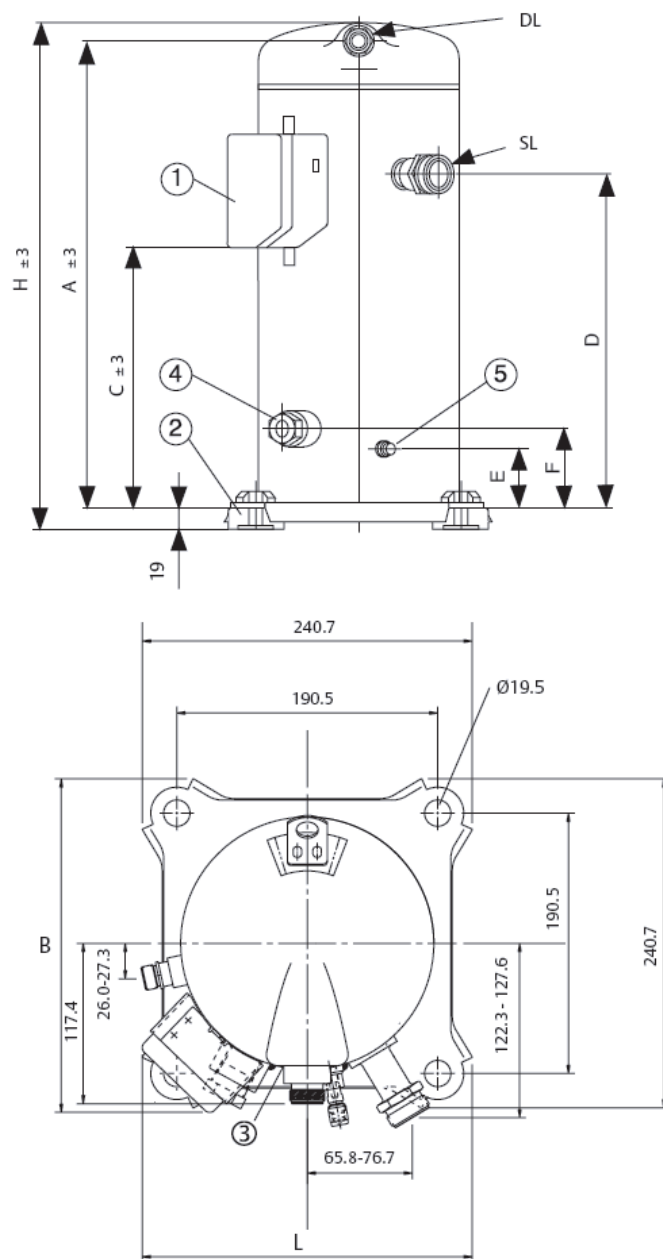


- Maximum evaporating temperature
- 25°C suction gas temperature
- 10K gas overheat

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

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]



A	410 mm
B	242 mm
C	233 mm
D	297 mm
E	48 mm
F	81 mm
H	438 mm
L	242 mm

