

Type: Hermetic scroll compressors

Producer: Copeland

Series: ZB

Model: ZB42KCE-PFJ

Technical data

Displacement [m ³ /h]:	16,2
Sound power [dBA]:	73
Sound pressure level [dB]:	62
Net Weight [kg]:	28
Gross Weight [kg]:	31
Oil charge [dm ³]:	1,9
Maximum high pressure [bar]:	32
Maximum standstill pressure [bar]:	22,6
Minimal lowside temperature [°C]:	-35
Maximum lowside temperature [°C]:	50

Electrical data

Power supply [V/~ /Hz]:	220-240V/1/50Hz
Locked rotor current [A]:	150
Max. operating current [A]:	29,8
Winding resistance [Ω]:	0,4
Start winding resistance [Ω]:	1,8

Connections

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

R134a

Cooling capacity [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	4.24	5.39	6.73	8.30	10.14	12.30	14.81	-
35	3.95	5.07	6.37	7.88	9.64	11.69	14.08	-
40	3.67	4.77	6.02	7.46	9.13	11.08	13.35	15.98
45	-	4.47	5.67	7.04	8.63	10.47	12.62	15.10
50	-	4.17	5.32	6.62	8.12	9.85	11.87	14.21
55	-	-	4.96	6.19	7.59	9.22	11.10	13.29
60	-	-	-	5.75	7.06	8.57	10.32	12.36
65	-	-	-	5.29	6.50	7.90	9.51	11.40
70	-	-	-	-	5.93	7.20	8.68	10.40
75	-	-	-	-	5.32	6.47	7.81	9.38

Power input [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	1.83	1.83	1.82	1.80	1.79	1.81	1.87	-
35	2.07	2.10	2.10	2.08	2.06	2.05	2.08	-
40	2.33	2.39	2.40	2.39	2.36	2.34	2.34	2.38
45	-	2.69	2.73	2.73	2.71	2.68	2.66	2.67
50	-	3.00	3.07	3.09	3.09	3.06	3.03	3.01
55	-	-	3.43	3.48	3.49	3.47	3.44	3.41
60	-	-	-	3.89	3.92	3.92	3.89	3.85
65	-	-	-	4.30	4.37	4.39	4.38	4.34
70	-	-	-	-	4.84	4.89	4.90	4.87
75	-	-	-	-	5.32	5.41	5.44	5.43

Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	15.93	15.97	15.95	15.91	15.89	15.92	16.04	-
35	16.34	16.43	16.43	16.40	16.36	16.34	16.39	-
40	16.83	16.98	17.03	17.01	16.96	16.91	16.91	16.98
45	-	17.63	17.73	17.75	17.70	17.64	17.59	17.60
50	-	18.40	18.57	18.63	18.61	18.54	18.47	18.43
55	-	-	19.55	19.67	19.69	19.63	19.55	19.47
60	-	-	-	20.88	20.95	20.92	20.84	20.74
65	-	-	-	22.28	22.41	22.42	22.36	22.26
70	-	-	-	-	24.08	24.15	24.12	24.03
75	-	-	-	-	25.97	26.11	26.13	26.06

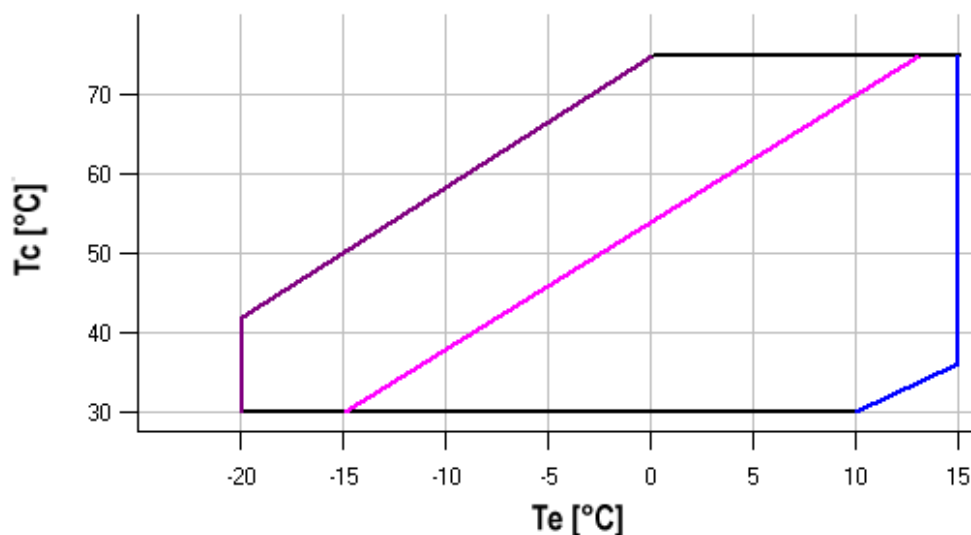
Mass flow [kg/h]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	84.92	109.48	137.60	170.53	209.54	255.90	310.85	-
35	83.57	108.06	136.09	168.92	207.80	254.01	308.79	-
40	82.43	106.83	134.74	167.44	206.17	252.20	306.79	371.20
45	-	105.63	133.41	165.95	204.50	250.33	304.70	368.87
50	-	104.33	131.95	164.30	202.65	248.26	302.38	366.29
55	-	-	130.21	162.36	200.48	245.84	299.70	363.31
60	-	-	-	159.98	197.85	242.93	296.49	359.79
65	-	-	-	157.02	194.61	239.40	292.64	355.59
70	-	-	-	-	190.62	235.08	287.98	350.57
75	-	-	-	-	185.74	229.86	282.38	344.58

C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.32	2.94	3.70	4.61	5.67	6.80	7.92	-
35	1.90	2.42	3.04	3.79	4.69	5.70	6.78	-
40	1.58	2.00	2.51	3.12	3.87	4.73	5.70	6.72
45	-	1.66	2.08	2.58	3.19	3.91	4.74	5.66
50	-	1.39	1.73	2.14	2.63	3.22	3.92	4.71
55	-	-	1.45	1.78	2.17	2.65	3.23	3.90
60	-	-	-	1.48	1.80	2.19	2.65	3.21
65	-	-	-	1.23	1.49	1.80	2.17	2.62
70	-	-	-	-	1.22	1.47	1.77	2.14
75	-	-	-	-	1.00	1.20	1.44	1.73

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	6.53	8.11	10.00	12.24	14.86	-	-	-	-
15	6.26	7.78	9.60	11.74	14.24	17.14	-	-	-
20	5.97	7.43	9.17	11.21	13.58	16.33	19.48	-	-
25	5.65	7.05	8.70	10.63	12.88	15.48	18.45	21.84	-
30	5.31	6.64	8.20	10.03	12.14	14.58	17.38	20.57	24.17
35	4.94	6.21	7.67	9.38	11.36	13.64	16.26	19.24	22.62
40	4.56	5.74	7.11	8.70	10.54	12.65	15.08	17.86	21.01
45	4.14	5.25	6.52	7.98	9.67	11.62	13.86	16.42	19.34
50	-	4.73	5.89	7.22	8.76	10.54	12.58	14.93	17.61
55	-	-	5.23	6.43	7.81	9.41	11.26	13.38	15.82
60	-	-	-	5.59	6.82	8.23	9.88	11.78	13.97

Power input [kW]

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
10	2.07	2.07	2.07	2.08	2.08	-	-	-	-
15	2.32	2.33	2.33	2.33	2.34	2.34	-	-	-
20	2.60	2.61	2.62	2.62	2.62	2.62	2.61	-	-
25	2.92	2.93	2.94	2.94	2.94	2.93	2.92	2.91	-
30	3.28	3.29	3.30	3.30	3.30	3.29	3.27	3.25	3.23
35	3.69	3.70	3.71	3.71	3.70	3.69	3.67	3.65	3.61
40	4.15	4.16	4.17	4.17	4.16	4.15	4.12	4.09	4.05
45	4.67	4.69	4.69	4.69	4.68	4.66	4.63	4.59	4.55
50	-	5.27	5.28	5.28	5.27	5.24	5.21	5.16	5.11
55	-	-	5.94	5.94	5.92	5.89	5.85	5.80	5.74
60	-	-	-	6.68	6.66	6.62	6.58	6.52	6.45

Current [A]

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
10	16.02	16.01	16.00	15.98	15.98	-	-	-	-
15	16.59	16.61	16.61	16.61	16.61	16.61	-	-	-
20	17.27	17.30	17.32	17.33	17.33	17.33	17.33	-	-
25	18.07	18.13	18.16	18.18	18.18	18.17	18.16	18.15	-
30	19.05	19.13	19.17	19.19	19.19	19.17	19.14	19.11	19.07
35	20.23	20.33	20.38	20.41	20.40	20.37	20.33	20.27	20.20
40	21.65	21.76	21.83	21.85	21.84	21.80	21.74	21.65	21.55
45	23.34	23.47	23.54	23.56	23.55	23.49	23.41	23.29	23.16
50	-	25.48	25.55	25.58	25.55	25.48	25.37	25.23	25.05
55	-	-	27.91	27.93	27.89	27.80	27.67	27.49	27.28
60	-	-	-	30.65	30.60	30.49	30.33	30.12	29.87

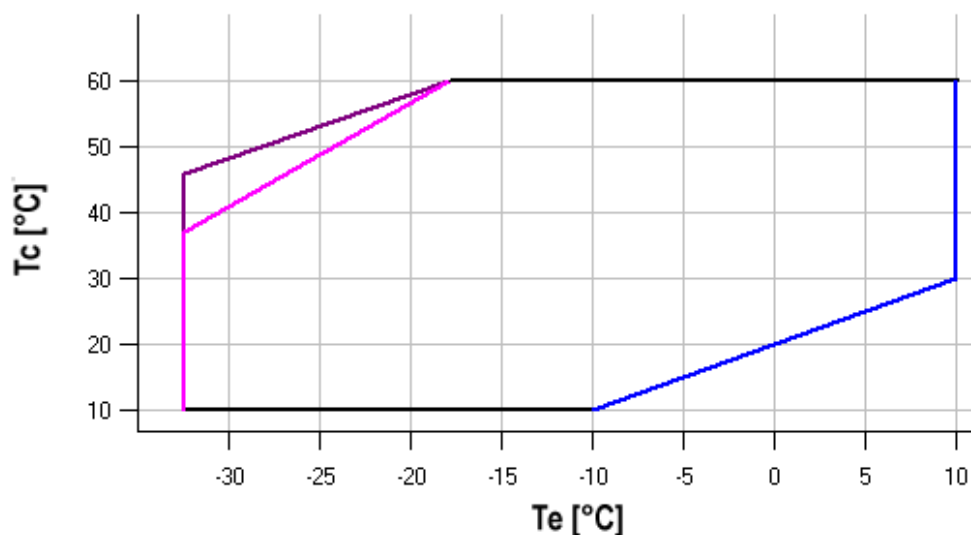
Mass flow [kg/h]

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
10	129.63	164.95	205.30	252.32	307.64	-	-	-	-
15	130.61	165.64	205.72	252.50	307.61	372.72	-	-	-
20	130.90	165.60	205.39	251.90	306.78	371.68	448.23	-	-
25	130.50	164.84	204.30	250.52	305.13	369.79	446.14	535.82	-
30	129.39	163.35	202.45	248.34	302.65	367.05	443.16	532.64	637.12
35	127.56	161.11	199.82	245.35	299.34	363.44	439.28	528.52	632.80
40	125.01	158.11	196.41	241.55	295.18	358.95	434.50	523.48	627.52
45	121.73	154.35	192.20	236.93	290.17	353.58	428.81	517.48	621.26
50	-	149.82	187.19	231.47	284.30	347.32	422.19	510.54	614.01
55	-	-	181.37	225.17	277.55	340.15	414.63	502.62	605.78
60	-	-	-	218.01	269.92	332.08	406.14	493.74	596.54

C.O.P. [W/W]

$t_c \setminus t_e$	-30	-25	-20	-15	-10	-5	0	5	10
10	3.16	3.92	4.82	5.89	7.13	-	-	-	-
15	2.70	3.35	4.12	5.03	6.09	7.33	-	-	-
20	2.29	2.85	3.50	4.28	5.18	6.24	7.45	-	-
25	1.93	2.41	2.96	3.62	4.39	5.28	6.31	7.50	-
30	1.62	2.02	2.49	3.04	3.68	4.44	5.31	6.32	7.48
35	1.34	1.68	2.07	2.53	3.07	3.70	4.43	5.28	6.26
40	1.10	1.38	1.71	2.09	2.53	3.05	3.66	4.37	5.19
45	0.89	1.12	1.39	1.70	2.07	2.49	2.99	3.58	4.25
50	-	0.90	1.11	1.37	1.66	2.01	2.42	2.89	3.45
55	-	-	0.88	1.08	1.32	1.60	1.92	2.31	2.76
60	-	-	-	0.84	1.02	1.24	1.50	1.81	2.17

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	6.10	7.64	9.46	11.63	14.19	17.20	-	-
20	5.74	7.25	9.03	11.12	13.59	16.48	19.85	-
25	5.40	6.88	8.60	10.62	12.99	15.76	18.99	-
30	5.07	6.52	8.19	10.13	12.39	15.04	18.12	21.69
35	4.75	6.16	7.77	9.63	11.79	14.30	17.23	20.63
40	4.42	5.80	7.34	9.11	11.16	13.55	16.32	19.54
45	-	5.42	6.89	8.57	10.51	12.76	15.37	18.40
50	-	-	6.42	8.00	9.82	11.93	14.37	17.22
55	-	-	-	7.39	9.08	11.04	13.33	15.98
60	-	-	-	-	8.29	10.10	12.22	14.68
65	-	-	-	-	-	9.10	11.03	13.29

Power input [kW]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	1.80	1.79	1.77	1.78	1.84	1.97	-	-
20	2.08	2.08	2.06	2.04	2.06	2.13	2.29	-
25	2.39	2.41	2.39	2.37	2.35	2.38	2.48	-
30	2.71	2.76	2.77	2.74	2.71	2.71	2.75	2.86
35	3.03	3.14	3.17	3.16	3.12	3.10	3.10	3.16
40	3.35	3.52	3.60	3.61	3.58	3.55	3.53	3.54
45	-	3.90	4.03	4.09	4.08	4.05	4.01	4.00
50	-	-	4.48	4.58	4.61	4.60	4.56	4.52
55	-	-	-	5.09	5.17	5.18	5.15	5.11
60	-	-	-	-	5.73	5.78	5.78	5.74
65	-	-	-	-	-	6.41	6.44	6.42

Current [A]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	15.89	15.88	15.85	15.86	15.96	16.22	-	-
20	16.37	16.40	16.37	16.33	16.35	16.50	16.83	-
25	16.95	17.04	17.03	16.97	16.93	16.99	17.19	-
30	17.64	17.81	17.84	17.78	17.72	17.70	17.79	18.06
35	18.45	18.73	18.82	18.79	18.71	18.64	18.65	18.79
40	19.41	19.81	19.99	20.01	19.94	19.85	19.79	19.83
45	-	21.07	21.36	21.46	21.42	21.32	21.22	21.17
50	-	-	22.95	23.14	23.16	23.08	22.95	22.85
55	-	-	-	25.08	25.18	25.14	25.01	24.88
60	-	-	-	-	27.49	27.51	27.41	27.26
65	-	-	-	-	-	30.21	30.16	30.02

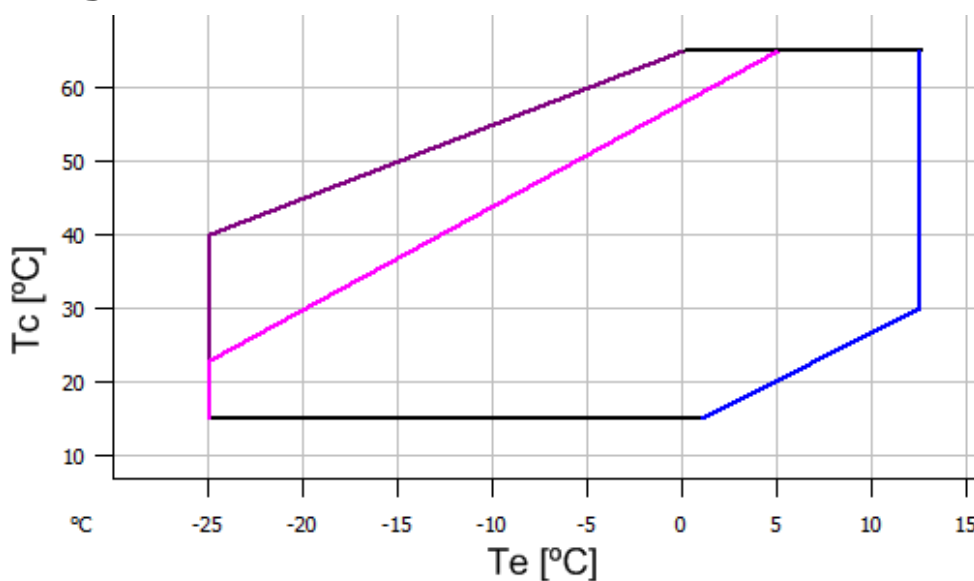
Mass flow [kg/h]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	97.55	125.11	156.54	193.39	237.20	289.50	-	-
20	95.36	122.96	154.37	191.13	234.79	286.88	348.94	-
25	93.71	121.34	152.71	189.36	232.85	284.70	346.47	-
30	92.33	119.96	151.27	187.80	231.10	282.70	344.16	417.01
35	90.95	118.56	149.79	186.18	229.27	280.61	341.73	414.19
40	89.30	116.88	148.01	184.24	227.11	278.15	338.93	410.97
45	-	114.64	145.65	181.70	224.33	275.07	335.47	407.08
50	-	-	142.45	178.30	220.66	271.08	331.10	402.25
55	-	-	-	173.77	215.85	265.93	325.54	396.22
60	-	-	-	-	209.62	259.33	318.52	388.72
65	-	-	-	-	-	251.03	309.78	379.47

C.O.P. [W/W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
15	3.39	4.27	5.34	6.53	7.72	8.73	-	-
20	2.75	3.48	4.38	5.44	6.59	7.72	8.67	-
25	2.26	2.85	3.59	4.49	5.52	6.62	7.67	-
30	1.87	2.36	2.96	3.70	4.57	5.56	6.60	7.58
35	1.57	1.96	2.45	3.05	3.77	4.62	5.56	6.53
40	1.32	1.65	2.04	2.52	3.11	3.82	4.63	5.52
45	-	1.39	1.71	2.10	2.57	3.15	3.83	4.60
50	-	-	1.43	1.75	2.13	2.59	3.15	3.81
55	-	-	-	1.45	1.76	2.13	2.59	3.13
60	-	-	-	-	1.45	1.75	2.11	2.55
65	-	-	-	-	-	1.42	1.71	2.07

Application range

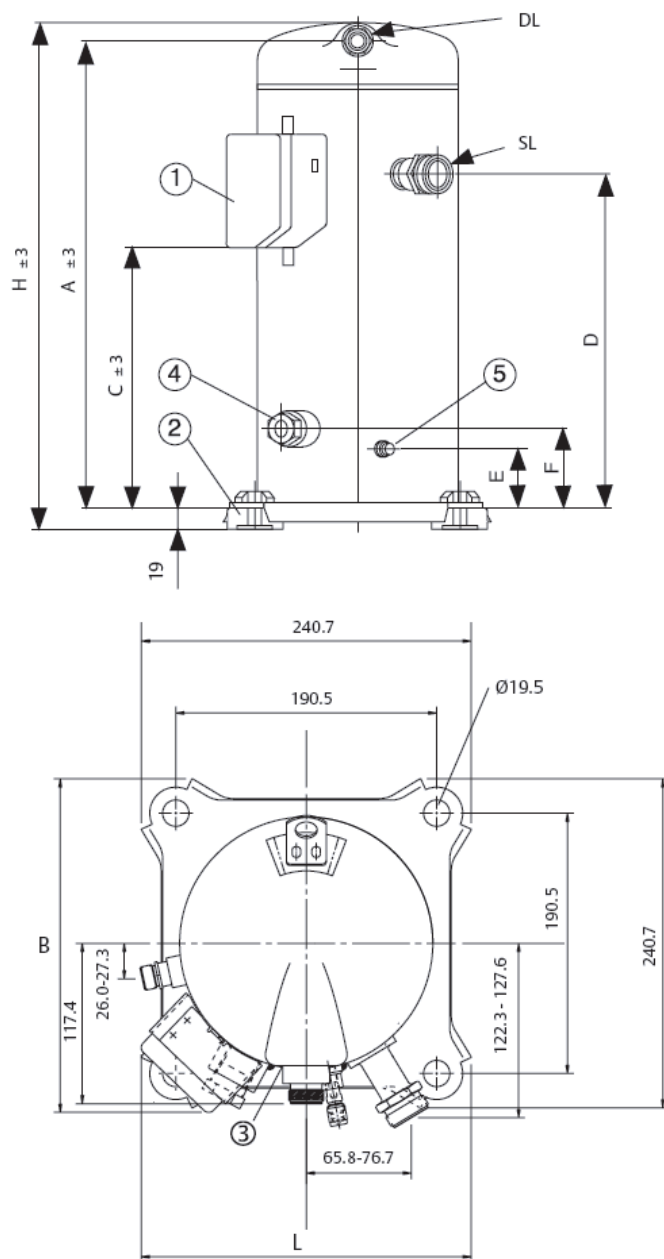


- Maximum evaporating temperature
- 25°C suction gas temperature
- 10K gas overheat

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

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]



A	410 mm
B	244 mm
C	233 mm
D	297 mm
E	48 mm
F	81 mm
H	457 mm
L	243 mm

