

Type: Hermetic piston compressors
Producer: Copeland
Series: ZR

Model: ZR61KCE-TFD

Technical data

Nominal motor power [HP]:	5
Displacement [m ³ /h]:	14,4
Sound pressure level :	60
Gross/Net weight [kg]:	41/38
Oil charge [dm ³]:	1,9

Electrical data

Power supply [V/~ /Hz]:	380-420/3/50Hz
Locked rotor current [A]:	65,5
Max. operating current [A]:	12,4
Winding resistance [Ω]:	2,75

Connections

	<u>milimeters</u>	<u>inches</u>
Suction Rotolock valve connection:		-
Discharge Rotolock valve connection:		-
Suction connection with supplied sleeve:		7/8"
Discharge connection with supplied sleeve:		1/2"

R22
Cooling capacity [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	5.54	7.09	8.94	11.07	13.44	16.02	18.80
35	5.22	6.70	8.48	10.55	12.86	15.40	18.13
40	4.86	6.26	7.97	9.96	12.21	14.68	17.35
45	-	5.80	7.42	9.33	11.50	13.90	16.50
50	-	-	6.88	8.70	10.78	13.09	15.61
55	-	-	-	8.09	10.07	12.28	14.71
60	-	-	-	-	9.41	11.52	13.84
65	-	-	-	-	8.84	10.82	13.03

Power input [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	2.42	2.47	2.51	2.54	2.59	2.68	2.82
35	2.70	2.76	2.80	2.83	2.89	2.98	3.12
40	3.02	3.08	3.12	3.15	3.20	3.29	3.43
45	-	3.45	3.47	3.50	3.55	3.63	3.76
50	-	-	3.89	3.90	3.94	4.01	4.13
55	-	-	-	4.37	4.39	4.44	4.55
60	-	-	-	-	4.91	4.95	5.04
65	-	-	-	-	5.53	5.54	5.61

Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	6.10	6.15	6.18	6.21	6.27	6.36	6.52
35	6.37	6.41	6.44	6.48	6.54	6.65	6.82
40	6.71	6.74	6.76	6.79	6.85	6.96	7.15
45	-	7.15	7.15	7.17	7.22	7.32	7.51
50	-	-	7.63	7.63	7.66	7.75	7.92
55	-	-	-	8.19	8.20	8.26	8.41
60	-	-	-	-	8.84	8.88	9.00
65	-	-	-	-	9.62	9.61	9.69

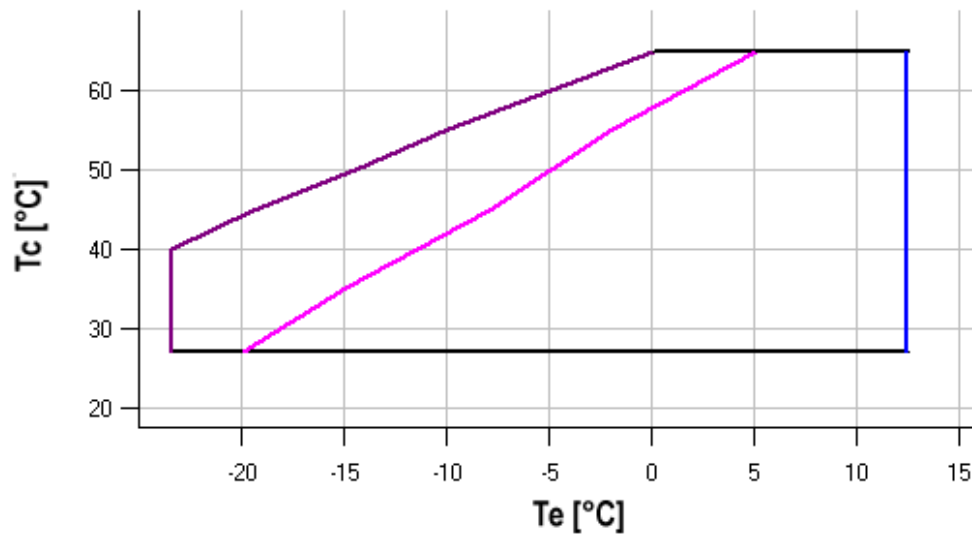
Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	118.99	150.28	187.11	228.78	274.58	323.82	375.80
35	116.58	147.63	184.48	226.41	272.74	322.77	375.80
40	112.95	143.59	180.29	222.34	269.03	319.68	373.59
45	-	138.91	175.30	217.29	264.19	315.30	369.92
50	-	-	170.24	212.02	258.96	310.36	365.54
55	-	-	-	207.26	254.08	305.62	361.19
60	-	-	-	-	250.31	301.82	357.61
65	-	-	-	-	248.38	299.70	355.55

C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	2.29	2.87	3.56	4.35	5.18	5.99	6.68
35	1.93	2.43	3.03	3.72	4.45	5.17	5.81
40	1.61	2.03	2.56	3.16	3.81	4.46	5.06
45	-	1.68	2.14	2.67	3.24	3.83	4.39
50	-	-	1.77	2.23	2.74	3.27	3.78
55	-	-	-	1.85	2.29	2.77	3.23
60	-	-	-	-	1.92	2.33	2.75
65	-	-	-	-	1.60	1.95	2.32

Application range



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

Operating conditions: 10K suction superheat, 0K subcooling

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

R134a

Cooling capacity [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	3.46	4.55	5.80	7.27	8.99	11.00	13.34	-
35	3.24	4.29	5.49	6.90	8.54	10.47	12.72	-
40	3.02	4.03	5.18	6.53	8.10	9.94	12.09	14.58
45	-	3.77	4.87	6.15	7.65	9.40	11.45	13.83
50	-	3.51	4.55	5.77	7.18	8.85	10.79	13.06
55	-	-	4.23	5.37	6.71	8.28	10.13	12.28
60	-	-	-	4.96	6.22	7.70	9.44	11.47
65	-	-	-	4.54	5.71	7.09	8.72	10.64
70	-	-	-	-	5.18	6.46	7.98	9.78
75	-	-	-	-	4.62	5.80	7.21	8.89

Power input [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	1.67	1.71	1.73	1.75	1.76	1.78	1.80	-
35	1.86	1.90	1.93	1.95	1.96	1.98	2.01	-
40	2.07	2.11	2.14	2.16	2.18	2.20	2.24	2.28
45	-	2.35	2.38	2.40	2.42	2.45	2.48	2.53
50	-	2.62	2.65	2.67	2.69	2.71	2.75	2.79
55	-	-	2.96	2.98	2.99	3.01	3.05	3.09
60	-	-	-	3.32	3.34	3.35	3.38	3.42
65	-	-	-	3.72	3.73	3.74	3.76	3.80
70	-	-	-	-	4.17	4.17	4.19	4.22
75	-	-	-	-	4.67	4.66	4.67	4.70

Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	5.05	5.10	5.12	5.13	5.12	5.12	5.13	-
35	5.08	5.15	5.19	5.20	5.21	5.21	5.22	-
40	5.18	5.27	5.33	5.36	5.37	5.38	5.39	5.43
45	-	5.48	5.55	5.59	5.61	5.62	5.64	5.67
50	-	5.75	5.84	5.89	5.92	5.94	5.96	5.99
55	-	-	6.20	6.26	6.30	6.33	6.35	6.38
60	-	-	-	6.70	6.75	6.78	6.81	6.84
65	-	-	-	7.21	7.27	7.30	7.33	7.36
70	-	-	-	-	7.84	7.89	7.92	7.95
75	-	-	-	-	8.48	8.53	8.56	8.59

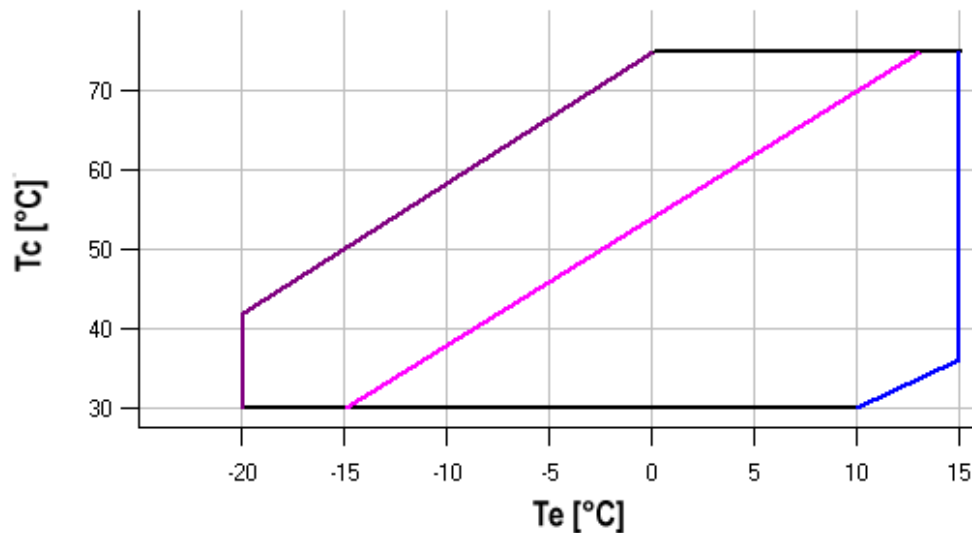
Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	81.49	105.18	131.67	161.69	195.93	235.12	279.97	-
35	80.46	104.16	130.65	160.64	194.84	233.97	278.75	-
40	79.50	103.22	129.70	159.66	193.82	232.89	277.58	328.61
45	-	102.22	128.69	158.62	192.73	231.74	276.35	327.28
50	-	101.05	127.50	157.40	191.47	230.40	274.93	325.75
55	-	-	126.02	155.89	189.90	228.76	273.20	323.92
60	-	-	-	153.95	187.90	226.69	271.04	321.65
65	-	-	-	151.47	185.37	224.08	268.33	318.83
70	-	-	-	-	182.16	220.80	264.95	315.33
75	-	-	-	-	178.17	216.72	260.77	311.04

C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.07	2.66	3.35	4.16	5.10	6.18	7.39	-
35	1.74	2.26	2.85	3.54	4.35	5.28	6.31	-
40	1.46	1.91	2.42	3.02	3.71	4.51	5.40	6.39
45	-	1.60	2.05	2.56	3.16	3.84	4.62	5.47
50	-	1.34	1.72	2.16	2.67	3.26	3.93	4.68
55	-	-	1.43	1.81	2.24	2.75	3.33	3.97
60	-	-	-	1.49	1.86	2.30	2.79	3.35
65	-	-	-	1.22	1.53	1.90	2.32	2.80
70	-	-	-	-	1.24	1.55	1.91	2.32
75	-	-	-	-	0.99	1.24	1.54	1.89

Application range



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

Operating conditions: 10K suction superheat, 0K subcooling

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

R407C

Cooling capacity [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	4.87	6.38	8.18	10.30	12.78	15.65	18.96	22.75
35	4.53	6.00	7.73	9.78	12.17	14.95	18.14	-
40	4.17	5.58	7.25	9.21	11.50	14.17	17.24	-
45	-	5.15	6.73	8.60	10.79	13.33	16.26	-
50	-	-	6.20	7.96	10.03	12.43	15.22	-
55	-	-	-	7.30	9.23	11.50	14.13	-
60	-	-	-	-	8.41	10.52	12.99	-
65	-	-	-	-	-	9.52	11.81	-

Power input [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.44	2.46	2.48	2.49	2.52	2.58	2.68	2.85
35	2.73	2.77	2.80	2.81	2.83	2.87	2.95	-
40	3.03	3.10	3.14	3.16	3.18	3.21	3.26	-
45	-	3.45	3.52	3.55	3.57	3.59	3.63	-
50	-	-	3.92	3.97	4.00	4.02	4.05	-
55	-	-	-	4.42	4.47	4.50	4.52	-
60	-	-	-	-	4.98	5.02	5.05	-
65	-	-	-	-	-	5.59	5.64	-

Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	6.12	6.15	6.19	6.23	6.28	6.33	6.39	6.46
35	6.38	6.41	6.44	6.48	6.53	6.58	6.64	-
40	6.71	6.74	6.77	6.81	6.85	6.91	6.96	-
45	-	7.15	7.18	7.21	7.26	7.30	7.36	-
50	-	-	7.66	7.69	7.73	7.78	7.83	-
55	-	-	-	8.24	8.28	8.32	8.38	-
60	-	-	-	-	8.90	8.95	9.00	-
65	-	-	-	-	-	9.64	9.69	-

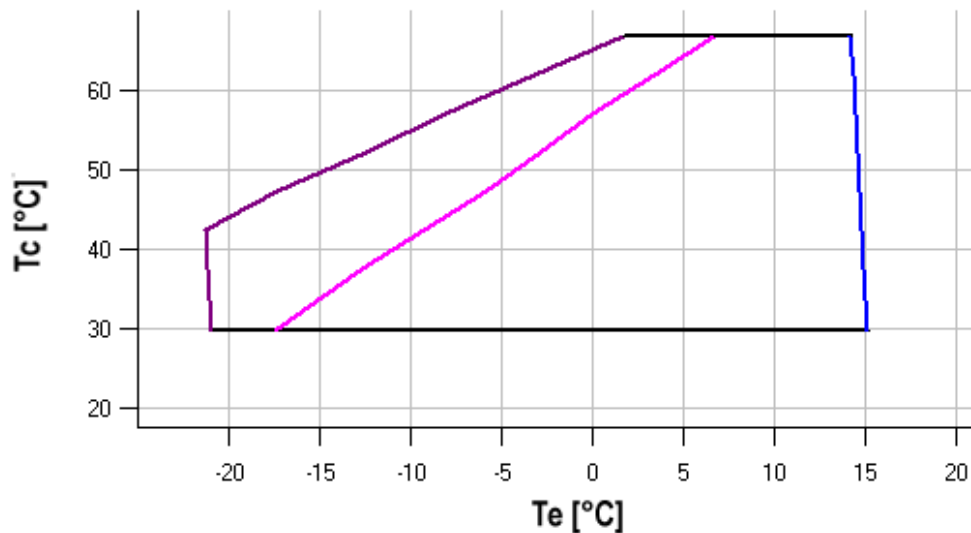
Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	102.38	132.24	166.81	206.70	252.54	304.93	364.50	431.87
35	100.02	130.17	165.05	205.27	251.46	304.22	364.18	-
40	97.14	127.44	162.48	202.89	249.29	302.28	362.50	-
45	-	124.13	159.20	199.66	246.12	299.21	359.53	-
50	-	-	155.30	195.67	242.06	295.09	355.38	-
55	-	-	-	191.00	237.18	290.02	350.14	-
60	-	-	-	-	231.58	284.09	343.90	-
65	-	-	-	-	-	277.39	336.75	-

C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.00	2.59	3.31	4.14	5.08	6.08	7.07	7.98
35	1.66	2.16	2.77	3.48	4.30	5.21	6.16	-
40	1.38	1.80	2.31	2.91	3.62	4.42	5.29	-
45	-	1.49	1.92	2.42	3.02	3.71	4.48	-
50	-	-	1.58	2.01	2.51	3.09	3.76	-
55	-	-	-	1.65	2.07	2.56	3.12	-
60	-	-	-	-	1.69	2.09	2.57	-
65	-	-	-	-	-	1.70	2.09	-

Application range

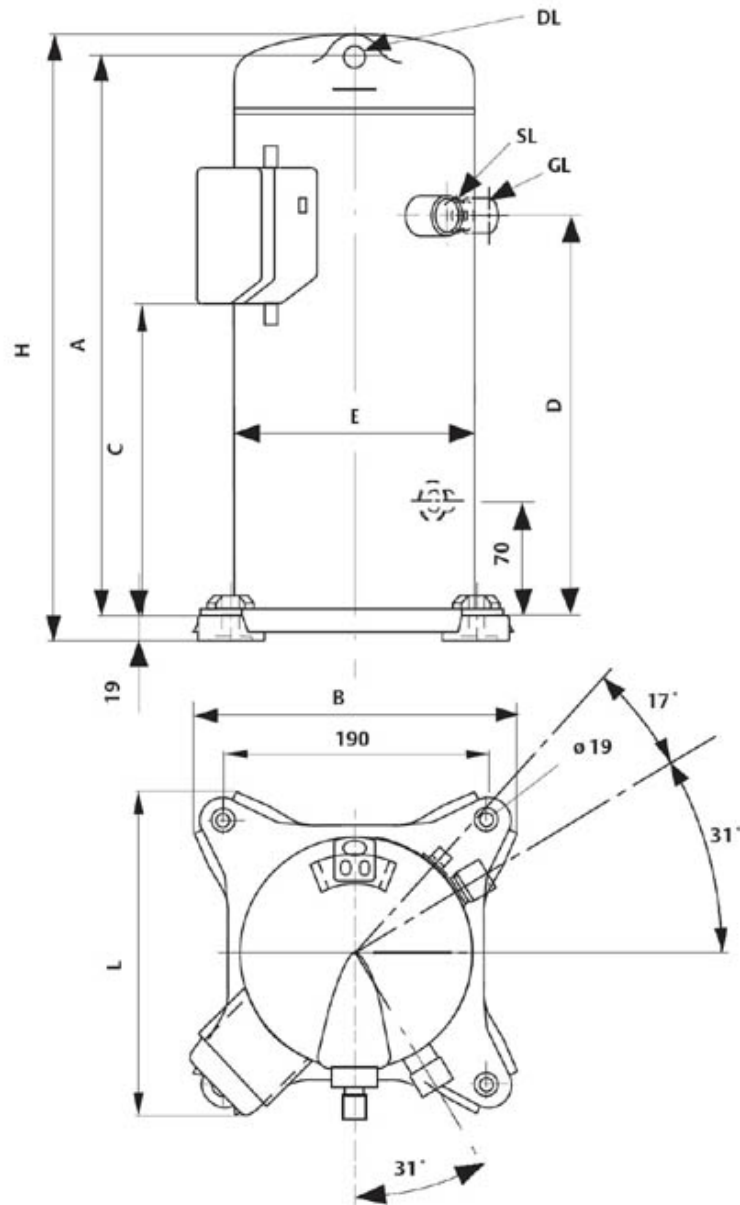


- Maximum evaporating temperature
- 25°C suction gas temperature
- 10K gas overheat

Operating conditions: 10K suction superheat, 0K subcooling

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]



A	410 mm
B	240 mm
C	233 mm
D	297 mm
E	165 mm
H	457 mm
L	247 mm

