
GACO SARL

28, Rue Bencharif Madani

25000 BELLEVUE/CONSTANTINE - ALGERIE

Tel. : 031 92 54 56 / 031 93 22 23 - Fax : 031 92 13 45

Email : gacosarl@gmail.com / benkobbi_fares@yahoo.fr

**Type: Hermetic piston compressors****Producer: Copeland****Series: ZR****Model: ZR48K3E-TFD****Technical data**

Nominal motor power [HP]:	4
Displacement [m ³ /h]:	11,5
Sound pressure level :	57
Gross/Net weight [kg]:	33/31
Oil charge [dm ³]:	1,4

Electrical data

Power supply [V/~/Hz]:	380-420/3/50Hz
Locked rotor current [A]:	50
Max. operating current [A]:	10
Winding resistance [Ω]:	3,88

Connections

	<u>millimeters</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"

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R22

Cooling capacity [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	4.73	6.00	7.42	9.04	10.88	12.98	15.38
35	4.46	5.70	7.09	8.66	10.46	12.50	14.83
40	4.17	5.37	6.72	8.25	9.98	11.96	14.21
45	-	5.03	6.33	7.79	9.46	11.36	13.54
50	-	-	5.91	7.31	8.91	10.73	12.82
55	-	-	-	6.82	8.33	10.07	12.06
60	-	-	-	-	7.74	9.39	11.28
65	-	-	-	-	7.15	8.69	10.47

Power input [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	2.29	2.30	2.30	2.27	2.23	2.16	2.06
35	2.56	2.57	2.56	2.54	2.51	2.45	2.37
40	2.85	2.85	2.84	2.83	2.80	2.75	2.68
45	-	3.17	3.16	3.14	3.11	3.06	3.00
50	-	-	3.52	3.49	3.46	3.42	3.36
55	-	-	-	3.90	3.87	3.82	3.76
60	-	-	-	-	4.34	4.29	4.23
65	-	-	-	-	4.90	4.84	4.77

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**Current [A]**

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	4.92	4.94	4.94	4.92	4.87	4.77	4.63
35	5.21	5.21	5.21	5.19	5.15	5.07	4.94
40	5.53	5.53	5.52	5.50	5.47	5.39	5.28
45	-	5.90	5.89	5.86	5.83	5.76	5.66
50	-	-	6.32	6.29	6.25	6.19	6.10
55	-	-	-	6.80	6.75	6.69	6.61
60	-	-	-	-	7.35	7.28	7.20
65	-	-	-	-	8.05	7.98	7.90

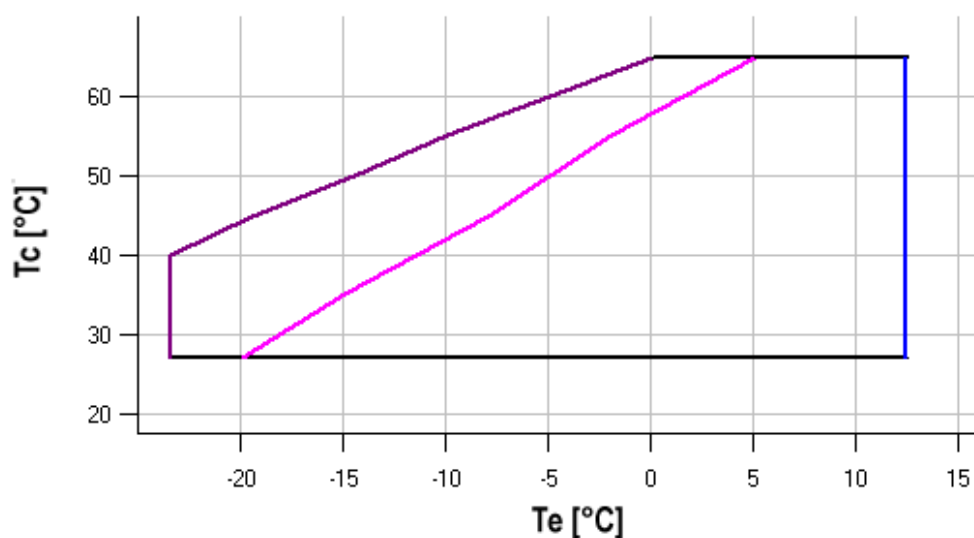
Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	101.41	127.11	155.40	186.93	222.33	262.23	307.28
35	99.58	125.55	154.12	185.94	221.64	261.86	307.24
40	97.22	123.33	152.07	184.07	219.97	260.40	306.00
45	-	120.59	149.39	181.45	217.43	257.95	303.66
50	-	-	146.18	178.20	214.14	254.64	300.34
55	-	-	-	174.43	210.23	250.60	296.18
60	-	-	-	-	205.81	245.93	291.29
65	-	-	-	-	201.00	240.77	285.78

C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	2.06	2.61	3.23	3.98	4.89	6.01	7.45
35	1.74	2.22	2.77	3.41	4.17	5.10	6.25
40	1.47	1.89	2.36	2.92	3.57	4.35	5.31
45	-	1.59	2.00	2.48	3.04	3.71	4.51
50	-	-	1.68	2.09	2.58	3.14	3.82
55	-	-	-	1.75	2.16	2.64	3.21
60	-	-	-	-	1.78	2.19	2.67
65	-	-	-	-	1.46	1.79	2.19

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]

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R134a

Cooling capacity [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.73	3.57	4.55	5.70	7.05	8.64	10.50	-
35	2.52	3.34	4.30	5.40	6.70	8.22	10.00	-
40	2.29	3.10	4.02	5.09	6.33	7.78	9.47	11.44
45	-	2.84	3.73	4.76	5.95	7.33	8.93	10.80
50	-	2.55	3.42	4.41	5.54	6.85	8.38	10.15
55	-	-	3.09	4.04	5.12	6.37	7.81	9.48
60	-	-	-	3.66	4.68	5.86	7.22	8.80
65	-	-	-	3.25	4.23	5.34	6.62	8.11
70	-	-	-	-	3.76	4.81	6.01	7.40
75	-	-	-	-	3.28	4.26	5.39	6.68

Power input [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	1.39	1.39	1.40	1.41	1.41	1.40	1.37	-
35	1.60	1.59	1.59	1.60	1.61	1.62	1.60	-
40	1.84	1.81	1.80	1.80	1.81	1.83	1.83	1.81
45	-	2.06	2.03	2.02	2.03	2.04	2.06	2.06
50	-	2.35	2.30	2.28	2.27	2.28	2.30	2.32
55	-	-	2.62	2.57	2.56	2.56	2.57	2.60
60	-	-	-	2.93	2.89	2.88	2.89	2.91
65	-	-	-	3.36	3.29	3.26	3.25	3.27
70	-	-	-	-	3.77	3.71	3.68	3.69
75	-	-	-	-	4.34	4.24	4.19	4.18

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**Current [A]**

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	3.58	3.58	3.58	3.59	3.59	3.57	3.52	-
35	3.77	3.76	3.76	3.78	3.79	3.79	3.77	-
40	4.02	3.98	3.97	3.98	4.00	4.02	4.02	4.01
45	-	4.26	4.23	4.22	4.24	4.26	4.28	4.29
50	-	4.61	4.55	4.53	4.53	4.55	4.58	4.60
55	-	-	4.96	4.90	4.89	4.89	4.92	4.95
60	-	-	-	5.38	5.33	5.32	5.33	5.36
65	-	-	-	5.96	5.87	5.83	5.82	5.84
70	-	-	-	-	6.54	6.46	6.42	6.42
75	-	-	-	-	7.34	7.21	7.14	7.11

Mass flow [kg/s]

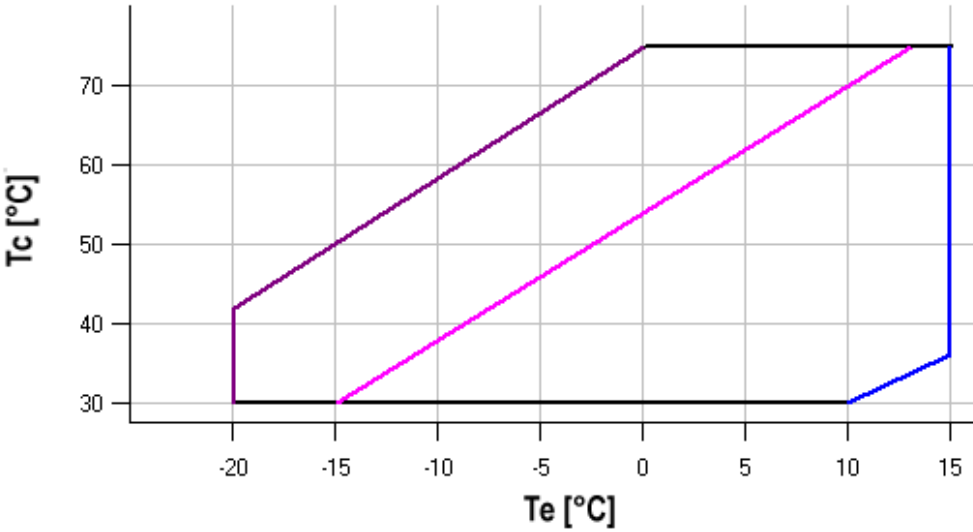
$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	64.19	82.54	103.15	126.63	153.62	184.71	220.55	-
35	62.50	81.33	102.25	125.88	152.83	183.72	219.18	-
40	60.05	79.45	100.76	124.61	151.62	182.39	217.56	257.74
45	-	76.82	98.62	122.78	149.93	180.67	215.64	255.44
50	-	73.40	95.77	120.33	147.70	178.51	213.36	252.87
55	-	-	92.16	117.21	144.89	175.84	210.66	249.98
60	-	-	-	113.35	141.44	172.61	207.49	246.70
65	-	-	-	108.72	137.29	168.78	203.80	242.98
70	-	-	-	-	132.38	164.27	199.53	238.76
75	-	-	-	-	126.67	159.05	194.62	234.00



C.O.P. [W/W]

t _c \ t _e	-20	-15	-10	-5	0	5	10	15
30	1.96	2.56	3.24	4.04	4.99	6.17	7.69	-
35	1.57	2.10	2.70	3.37	4.15	5.09	6.24	-
40	1.24	1.71	2.24	2.82	3.49	4.26	5.18	6.30
45	-	1.38	1.84	2.35	2.93	3.58	4.34	5.24
50	-	1.08	1.49	1.94	2.44	3.00	3.64	4.38
55	-	-	1.18	1.57	2.00	2.49	3.03	3.65
60	-	-	-	1.25	1.62	2.04	2.50	3.03
65	-	-	-	0.97	1.28	1.64	2.04	2.48
70	-	-	-	-	1.00	1.30	1.63	2.01
75	-	-	-	-	0.76	1.00	1.28	1.60

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]

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R407C

Cooling capacity [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	4.29	5.53	6.94	8.56	10.44	12.61	15.10	17.96
35	4.03	5.23	6.61	8.19	10.01	12.12	14.55	-
40	3.73	4.90	6.22	7.75	9.51	11.54	13.89	-
45	-	4.54	5.80	7.26	8.94	10.89	13.14	-
50	-	-	5.36	6.73	8.33	10.18	12.32	-
55	-	-	-	6.19	7.68	9.42	11.45	-
60	-	-	-	-	7.02	8.64	10.54	-
65	-	-	-	-	-	7.84	9.60	-

Power input [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.11	2.12	2.11	2.09	2.06	1.99	1.90	1.79
35	2.38	2.39	2.39	2.38	2.35	2.29	2.21	-
40	2.66	2.68	2.68	2.67	2.64	2.59	2.52	-
45	-	2.98	2.99	2.98	2.95	2.91	2.85	-
50	-	-	3.33	3.32	3.31	3.27	3.21	-
55	-	-	-	3.72	3.71	3.67	3.62	-
60	-	-	-	-	4.17	4.15	4.10	-
65	-	-	-	-	-	4.70	4.66	-

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**Current [A]**

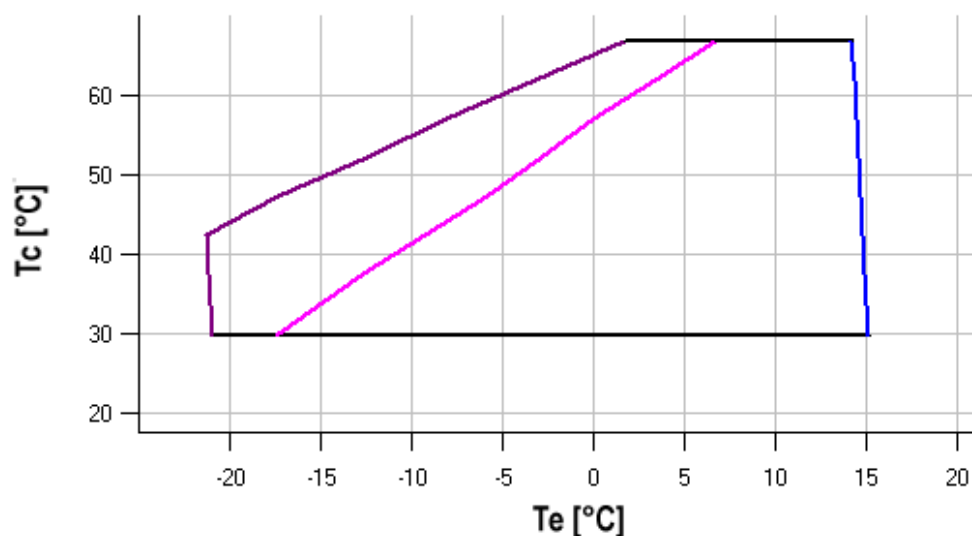
$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	4.68	4.70	4.69	4.67	4.62	4.55	4.44	4.31
35	5.00	5.02	5.02	5.00	4.96	4.90	4.80	-
40	5.33	5.35	5.36	5.34	5.31	5.25	5.16	-
45	-	5.70	5.71	5.71	5.68	5.62	5.55	-
50	-	-	6.11	6.11	6.09	6.04	5.97	-
55	-	-	-	6.57	6.55	6.52	6.45	-
60	-	-	-	-	7.10	7.07	7.01	-
65	-	-	-	-	-	7.72	7.67	-

Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	90.11	114.44	141.51	171.96	206.45	245.64	290.19	340.76
35	88.89	113.55	141.02	171.94	206.97	246.77	292.00	-
40	86.99	111.81	139.48	170.69	206.07	246.29	292.00	-
45	-	109.45	137.16	168.45	204.00	244.45	290.46	-
50	-	-	134.28	165.48	201.00	241.50	287.62	-
55	-	-	-	162.03	197.33	237.68	283.73	-
60	-	-	-	-	193.24	233.25	279.04	-
65	-	-	-	-	-	228.45	273.79	-

C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.04	2.61	3.28	4.09	5.08	6.33	7.93	10.04
35	1.69	2.19	2.76	3.44	4.27	5.29	6.58	-
40	1.40	1.83	2.32	2.90	3.60	4.45	5.51	-
45	-	1.52	1.94	2.44	3.03	3.74	4.62	-
50	-	-	1.61	2.03	2.52	3.11	3.84	-
55	-	-	-	1.66	2.07	2.56	3.16	-
60	-	-	-	-	1.68	2.08	2.57	-
65	-	-	-	-	-	1.67	2.06	-

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]

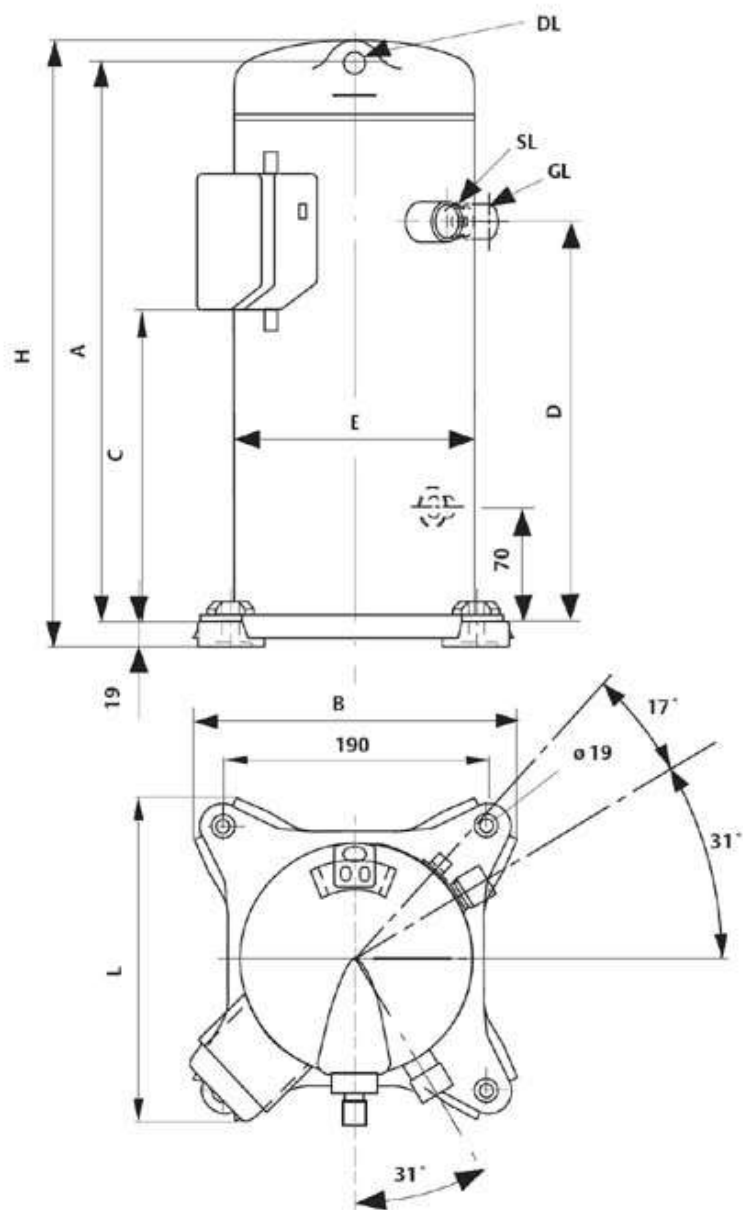
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A	392
B	240
C	252
D	294
E	165
H	436 mm
L	231 mm

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