

**Type: Hermetic scroll compressors**

**Producer: Copeland**

**Series: ZR**

## **Model: ZR48K3E-TFD**

### **Technical data**

Displacement [m <sup>3</sup> /h]:	11,5
Sound power [dBA]:	68
Sound pressure level [dB]:	57
Net Weight [kg]:	30,8
Gross Weight [kg]:	32,7
Oil charge [dm <sup>3</sup> ]:	1,4
Maximum high pressure [bar]:	29,5
Maximum standstill pressure [bar]:	20
Maximum lowside temperature [°C]:	50
PED category:	1

### **Electrical data**

Power supply [V/~ /Hz]:	380-420/3/50Hz
Locked rotor current [A]:	50
Max. operating current [A]:	10,0
Winding resistance [Ω]:	3,9

### **Connections**

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

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

**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

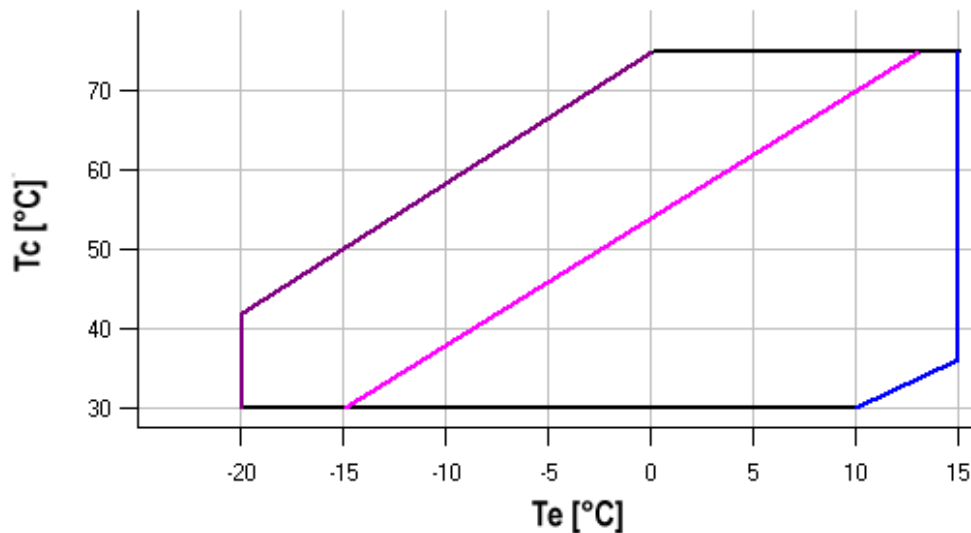
**Mass flow [kg/h]**

$t_c \setminus t_e$	-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]**

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

**R407C**
**Cooling capacity [kW]**

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

**Power input [kW]**

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

**Current [A]**

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

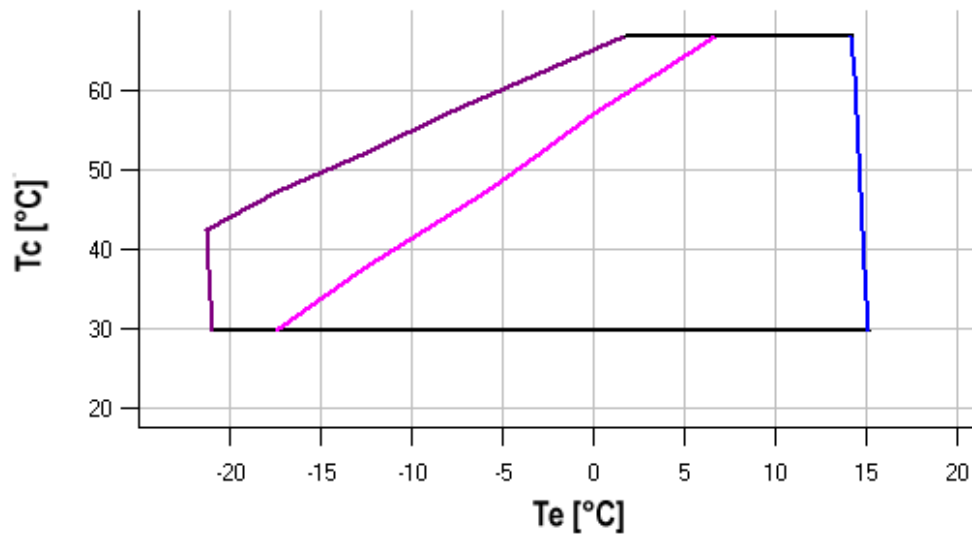
**Mass flow [kg/h]**

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

**C.O.P. [W/W]**

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

**Application range**

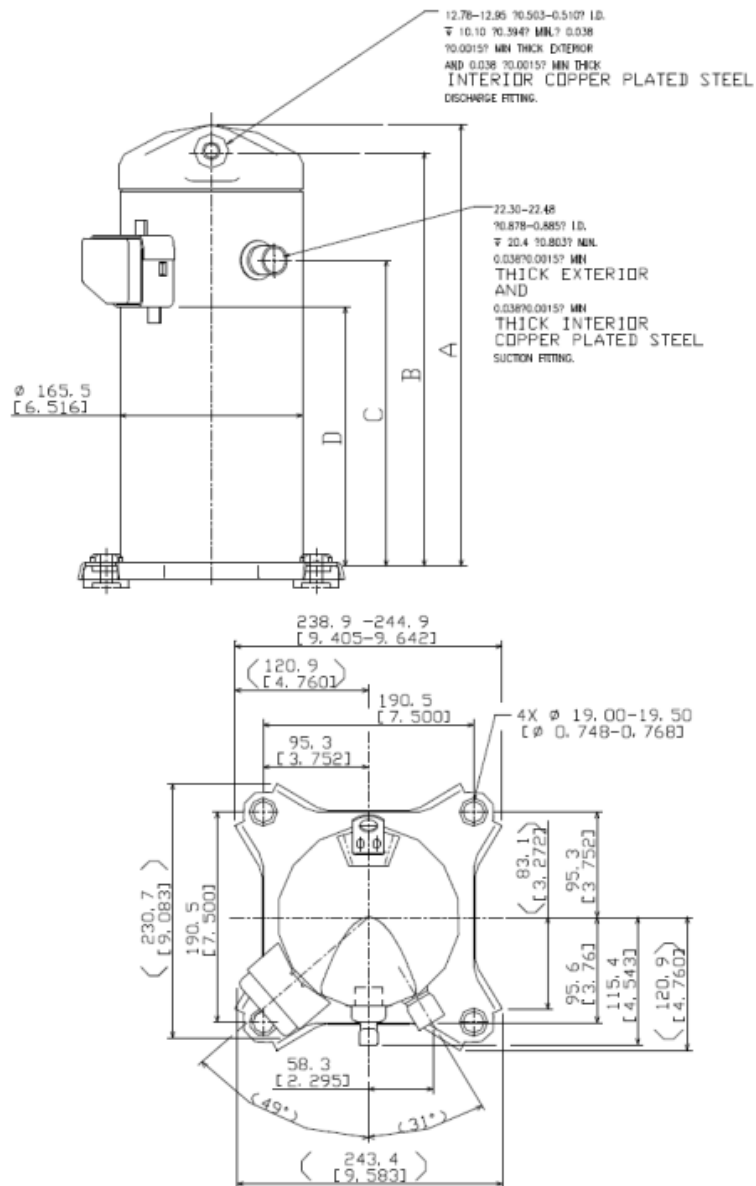


- Maximum evaporating temperature
- 25°C suction gas temperature
- 10K gas overheat

Operating conditions: 10K suction superheat, 0K subcooling

$t_c$  - Condensing temperature [°C]

$t_e$  - Evaporating temperature [°C]



A	417 mm
B	392 mm
C	294 mm
D	252 mm

