

**Type: Hermetic piston compressors**  
**Producer: Copeland**  
**Series: ZR**

## **Model: ZR49K3E-TFD**

### **Technical data**

Nominal motor power [HP]:	4
Displacement [m <sup>3</sup> /h]:	11,7
Sound pressure level :	57
Gross/Net weight [kg]:	40/37
Oil charge [dm <sup>3</sup> ]:	1,9

### **Electrical data**

Power supply [V/~/Hz]:	7/8"
Locked rotor current [A]:	1/2"
Max. operating current [A]:	-
Winding resistance [Ω]:	242/242

### **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
<b>30</b>	3.73	5.14	6.77	8.64	10.75	13.10	15.70
<b>35</b>	3.45	4.79	6.36	8.17	10.23	12.53	15.09
<b>40</b>	3.20	4.46	5.95	7.69	9.68	11.92	14.42
<b>45</b>	-	4.15	5.55	7.20	9.10	11.26	13.69
<b>50</b>	-	-	5.15	6.69	8.50	10.57	12.90
<b>55</b>	-	-	-	6.18	7.87	9.83	12.06
<b>60</b>	-	-	-	-	7.21	9.04	11.16
<b>65</b>	-	-	-	-	6.52	8.22	10.19

**Power input [kW]**

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
<b>30</b>	2.19	2.21	2.23	2.25	2.27	2.31	2.37
<b>35</b>	2.41	2.44	2.45	2.47	2.48	2.51	2.56
<b>40</b>	2.65	2.68	2.70	2.71	2.72	2.74	2.77
<b>45</b>	-	2.96	2.97	2.98	2.99	3.00	3.02
<b>50</b>	-	-	3.28	3.29	3.29	3.30	3.31
<b>55</b>	-	-	-	3.64	3.64	3.64	3.65
<b>60</b>	-	-	-	-	4.03	4.02	4.03
<b>65</b>	-	-	-	-	4.46	4.46	4.46

**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>30</b>	5.05	5.10	5.13	5.16	5.18	5.21	5.24
<b>35</b>	5.26	5.30	5.33	5.35	5.37	5.39	5.42
<b>40</b>	5.50	5.54	5.57	5.59	5.60	5.61	5.63
<b>45</b>	-	5.82	5.85	5.87	5.88	5.89	5.90
<b>50</b>	-	-	6.19	6.20	6.21	6.22	6.23
<b>55</b>	-	-	-	6.61	6.62	6.62	6.63
<b>60</b>	-	-	-	-	7.10	7.11	7.12
<b>65</b>	-	-	-	-	7.68	7.69	7.69

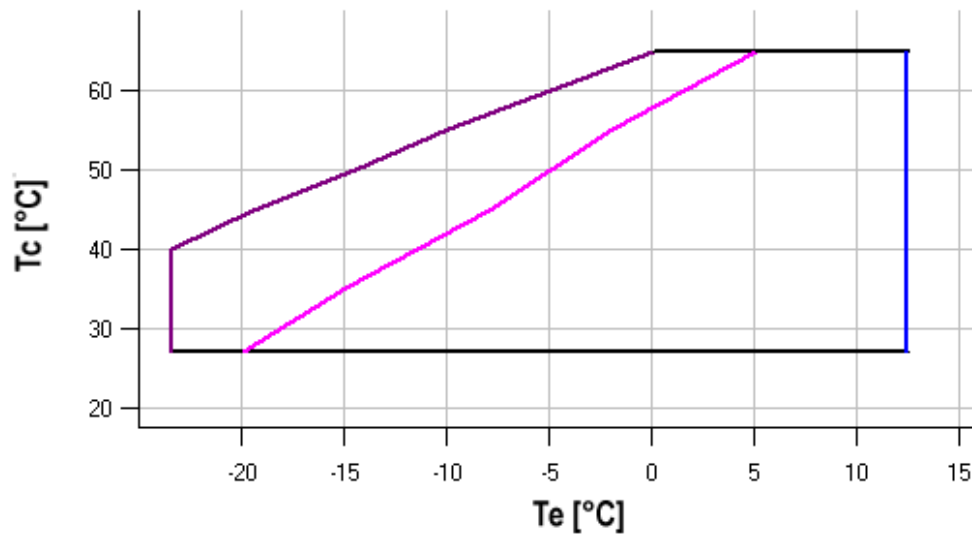
**Mass flow [kg/s]**

$t_c \setminus t_e$	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>
<b>30</b>	79.96	108.86	141.74	178.65	219.60	264.64	313.78
<b>35</b>	76.95	105.42	138.18	175.26	216.68	262.48	312.68
<b>40</b>	74.58	102.34	134.68	171.64	213.24	259.51	310.48
<b>45</b>	-	99.47	131.11	167.67	209.16	255.61	307.06
<b>50</b>	-	-	127.33	163.19	204.28	250.63	302.27
<b>55</b>	-	-	-	158.07	198.47	244.42	295.97
<b>60</b>	-	-	-	-	191.59	236.86	288.02
<b>65</b>	-	-	-	-	183.51	227.81	278.28

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

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
<b>30</b>	1.71	2.32	3.03	3.84	4.73	5.68	6.63
<b>35</b>	1.43	1.96	2.59	3.31	4.12	5.00	5.90
<b>40</b>	1.21	1.66	2.21	2.84	3.56	4.35	5.20
<b>45</b>	-	1.40	1.87	2.41	3.05	3.76	4.52
<b>50</b>	-	-	1.57	2.04	2.58	3.20	3.89
<b>55</b>	-	-	-	1.70	2.16	2.70	3.31
<b>60</b>	-	-	-	-	1.79	2.25	2.77
<b>65</b>	-	-	-	-	1.46	1.84	2.29

**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>	4.22	5.45	6.90	8.59	10.55	12.81	15.37	18.28
<b>35</b>	3.94	5.11	6.50	8.13	10.02	12.20	14.69	-
<b>40</b>	3.65	4.76	6.08	7.63	9.44	11.53	13.93	-
<b>45</b>	-	4.40	5.63	7.09	8.81	10.80	13.09	-
<b>50</b>	-	-	5.18	6.54	8.15	10.03	12.21	-
<b>55</b>	-	-	-	5.99	7.48	9.23	11.28	-
<b>60</b>	-	-	-	-	6.80	8.42	10.32	-
<b>65</b>	-	-	-	-	-	7.60	9.35	-

**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>	1.96	1.98	1.98	1.99	1.99	2.02	2.06	2.12
<b>35</b>	2.24	2.26	2.27	2.27	2.27	2.29	2.32	-
<b>40</b>	2.53	2.56	2.57	2.58	2.58	2.59	2.61	-
<b>45</b>	-	2.88	2.91	2.92	2.92	2.92	2.94	-
<b>50</b>	-	-	3.27	3.29	3.30	3.30	3.31	-
<b>55</b>	-	-	-	3.71	3.72	3.73	3.74	-
<b>60</b>	-	-	-	-	4.20	4.21	4.22	-
<b>65</b>	-	-	-	-	-	4.76	4.77	-



**Current [A]**

<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>	4.85	4.87	4.88	4.88	4.89	4.90	4.94	5.00
<b>35</b>	5.10	5.12	5.13	5.13	5.13	5.14	5.17	-
<b>40</b>	5.36	5.39	5.41	5.41	5.42	5.42	5.44	-
<b>45</b>	-	5.72	5.74	5.75	5.75	5.76	5.77	-
<b>50</b>	-	-	6.14	6.16	6.17	6.17	6.19	-
<b>55</b>	-	-	-	6.66	6.67	6.68	6.70	-
<b>60</b>	-	-	-	-	7.29	7.31	7.32	-
<b>65</b>	-	-	-	-	-	8.07	8.09	-

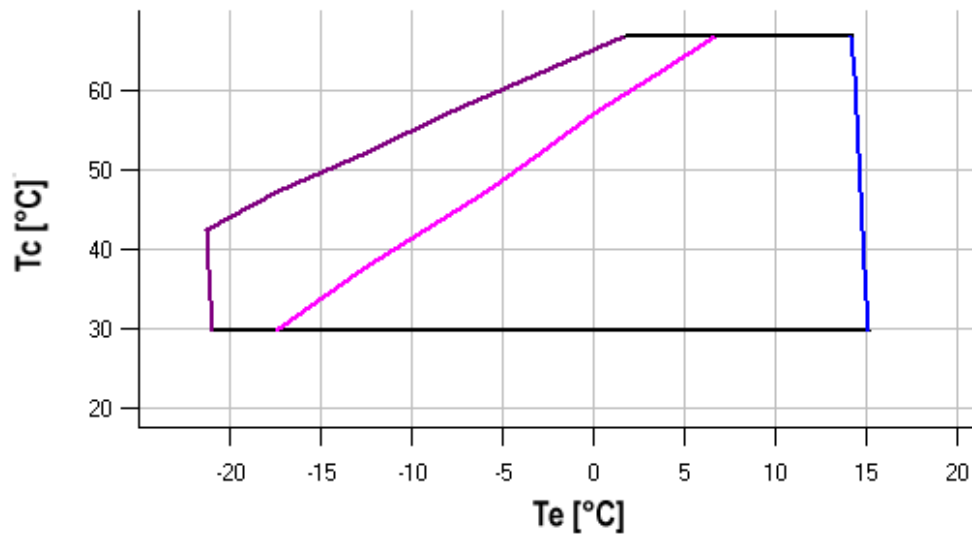
**Mass flow [kg/s]**

<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>	88.56	112.83	140.69	172.52	208.67	249.52	295.43	346.77
<b>35</b>	86.85	110.92	138.75	170.70	207.12	248.40	294.90	-
<b>40</b>	84.95	108.62	136.18	168.02	204.50	245.99	292.84	-
<b>45</b>	-	106.10	133.19	164.70	201.00	242.47	289.47	-
<b>50</b>	-	-	129.96	160.92	196.83	238.06	284.97	-
<b>55</b>	-	-	-	156.90	192.19	232.95	279.55	-
<b>60</b>	-	-	-	-	187.27	227.35	273.41	-
<b>65</b>	-	-	-	-	-	221.45	266.76	-

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

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
<b>30</b>	2.15	2.76	3.48	4.33	5.29	6.36	7.48	8.61
<b>35</b>	1.76	2.26	2.87	3.58	4.41	5.34	6.34	-
<b>40</b>	1.44	1.86	2.36	2.96	3.66	4.46	5.34	-
<b>45</b>	-	1.53	1.94	2.43	3.02	3.70	4.46	-
<b>50</b>	-	-	1.58	1.99	2.47	3.04	3.69	-
<b>55</b>	-	-	-	1.62	2.01	2.48	3.02	-
<b>60</b>	-	-	-	-	1.62	2.00	2.45	-
<b>65</b>	-	-	-	-	-	1.60	1.96	-

**Application range**

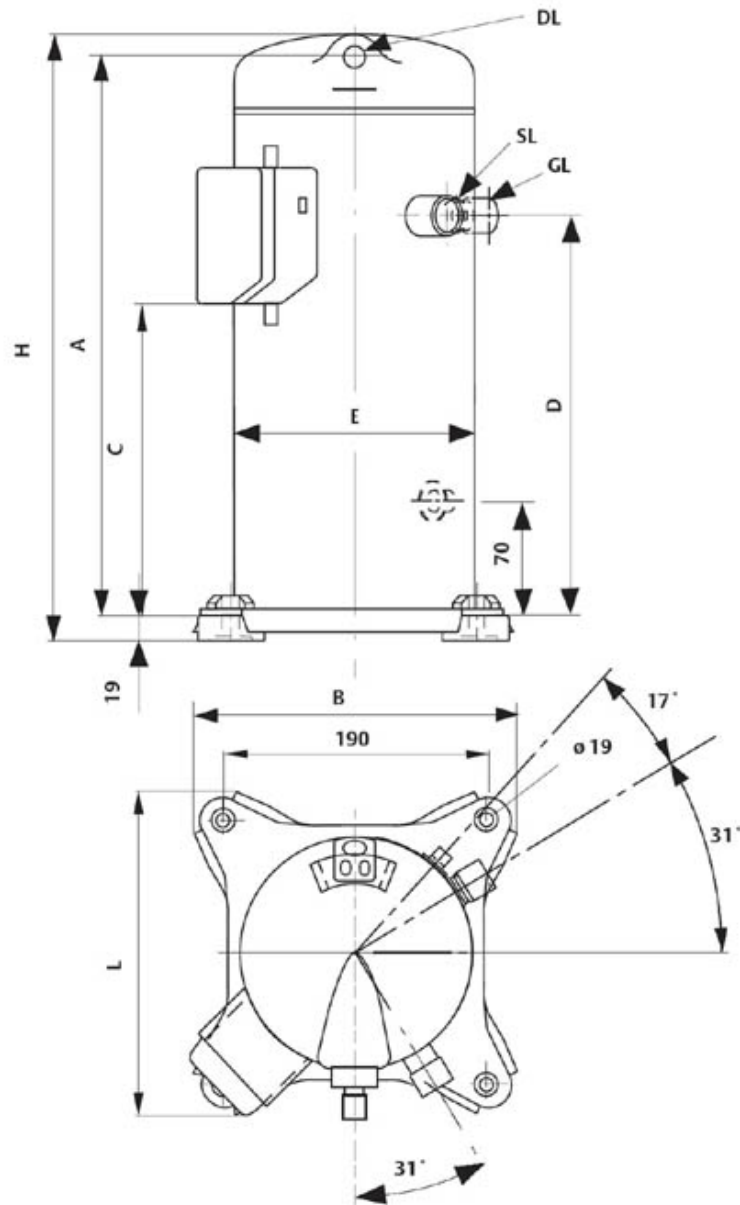


- Maximum evaporating temperature
- 25°C suction gas temperature
- 10K gas overheat

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



