

**Type: Semi-hermetic piston compressors**  
**Producer: Copeland**  
**Series: DISCUS**

## **Model: D2DL-75 X**

### **Technical data**

Cylinder count:	2
Displacement [m <sup>3</sup> /h]:	23,7
Weight [kg]:	145
Oil charge [dm <sup>3</sup> ]:	2,3
Max. operating current [A]:	13
Locked rotor current [A]:	70
Power supply [V/~/Hz]:	380-420V/3/50Hz

### **Connections**

	<u>milimeters</u>	<u>inches</u>
Suction line:		1 3/8"
Discharge line:		1 1/8"

R22

**Cooling capacity [kW]**

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-25</b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>
<b>30</b>	6.24	8.42	10.94	13.84	17.19	21.01	25.38	30.32
<b>35</b>	5.59	7.70	10.14	12.94	16.16	19.85	24.04	28.81
<b>40</b>	4.96	7.01	9.36	12.05	15.14	18.68	22.71	27.29
<b>45</b>	-	6.34	8.60	11.18	14.14	17.53	21.39	25.77
<b>50</b>	-	5.71	7.86	10.33	13.16	16.39	20.08	24.27
<b>55</b>	-	-	7.17	9.52	12.20	15.28	18.79	22.78
<b>60</b>	-	-	6.51	8.74	11.28	14.19	17.52	21.32

**Power input [kW]**

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-25</b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>
<b>30</b>	2.81	3.14	3.44	3.68	3.86	3.95	3.95	3.85
<b>35</b>	2.90	3.29	3.64	3.95	4.19	4.37	4.45	4.44
<b>40</b>	2.98	3.41	3.82	4.19	4.51	4.76	4.93	5.00
<b>45</b>	-	3.53	3.99	4.42	4.81	5.13	5.38	5.54
<b>50</b>	-	3.64	4.16	4.65	5.09	5.49	5.82	6.06
<b>55</b>	-	-	4.31	4.86	5.37	5.83	6.24	6.57
<b>60</b>	-	-	4.47	5.07	5.64	6.17	6.65	7.06

**Current [A]**

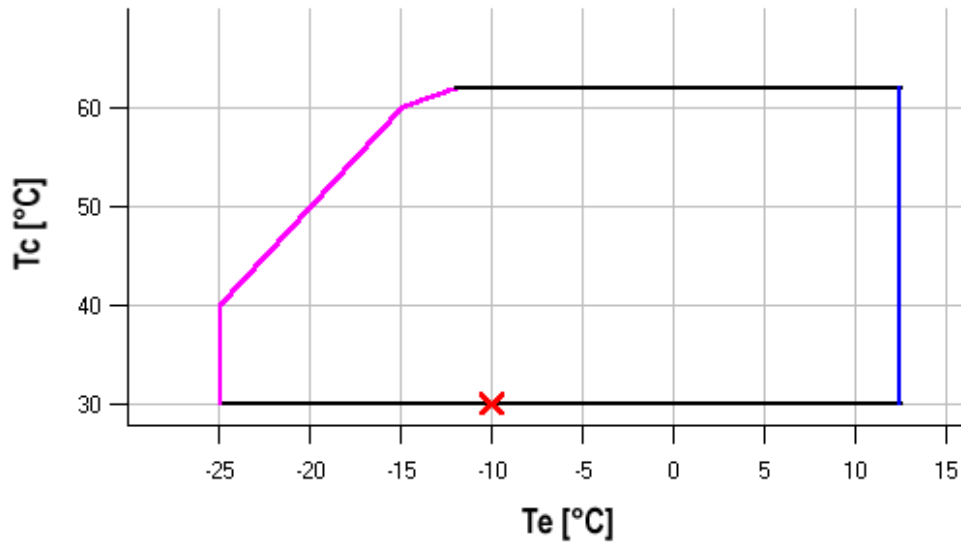
<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-25</b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>
<b>30</b>	6.99	7.37	7.72	8.02	8.24	8.36	8.36	8.22
<b>35</b>	7.09	7.54	7.97	8.35	8.66	8.88	8.99	8.97
<b>40</b>	7.18	7.69	8.19	8.66	9.06	9.39	9.61	9.71
<b>45</b>	-	7.84	8.41	8.96	9.45	9.88	10.21	10.43
<b>50</b>	-	7.97	8.62	9.24	9.83	10.35	10.79	11.13
<b>55</b>	-	-	8.81	9.52	10.20	10.82	11.37	11.82
<b>60</b>	-	-	9.01	9.79	10.56	11.28	11.93	12.50

**Mass flow [kg/s]**

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-25</b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>
<b>30</b>	135.50	180.81	231.97	289.84	355.31	429.24	512.49	605.95
<b>35</b>	126.56	172.11	223.43	281.39	346.85	420.68	503.77	596.97
<b>40</b>	117.47	163.24	214.68	272.69	338.11	411.83	494.71	587.62
<b>45</b>	-	154.38	205.92	263.94	329.30	402.86	485.50	578.10
<b>50</b>	-	145.73	197.35	255.35	320.60	393.98	476.36	568.60
<b>55</b>	-	-	189.15	247.10	312.22	385.39	467.46	559.32
<b>60</b>	-	-	181.53	239.40	304.36	377.28	459.02	550.46

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

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
<b>30</b>	2.22	2.68	3.18	3.76	4.45	5.32	6.42	7.88
<b>35</b>	1.93	2.34	2.79	3.28	3.85	4.54	5.40	6.49
<b>40</b>	1.67	2.05	2.45	2.87	3.36	3.93	4.61	5.46
<b>45</b>	-	1.80	2.15	2.53	2.94	3.42	3.98	4.65
<b>50</b>	-	1.57	1.89	2.22	2.58	2.99	3.45	4.00
<b>55</b>	-	-	1.66	1.96	2.27	2.62	3.01	3.47
<b>60</b>	-	-	1.46	1.72	2.00	2.30	2.64	3.02

**Application range**


- Maximum evaporating temperature
- 25°C suction gas return

Operating conditions: ISO; subcooling: 0 K, suction superheat: 10 K, return gas temperature: -

$t_c$  - Condensing temperature [°C]

$t_e$  - Evaporating temperature [°C]

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**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>20</b>	<b>25</b>
<b>40</b>	3.61	5.07	6.81	8.87	11.30	14.16	17.48	21.33	-	-
<b>45</b>	3.11	4.52	6.19	8.15	10.47	13.19	16.37	20.04	24.26	29.09
<b>50</b>	2.65	4.00	5.58	7.45	9.66	12.24	15.26	18.75	22.78	27.38
<b>55</b>	2.21	3.50	5.01	6.77	8.85	11.29	14.15	17.46	21.28	25.66
<b>60</b>	-	3.04	4.45	6.11	8.06	10.36	13.04	16.17	19.78	23.94
<b>65</b>	-	2.60	3.93	5.47	7.29	9.43	11.95	14.88	18.28	22.20
<b>70</b>	-	-	3.43	4.86	6.54	8.52	10.86	13.60	16.78	20.46
<b>75</b>	-	-	-	4.27	5.81	7.63	9.78	12.32	15.28	18.72
<b>80</b>	-	-	-	3.70	5.09	6.75	8.72	11.04	13.78	16.97

**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>20</b>	<b>25</b>
<b>40</b>	2.14	2.44	2.73	2.98	3.19	3.34	3.42	3.43	-	-
<b>45</b>	2.13	2.47	2.80	3.10	3.37	3.58	3.73	3.81	3.79	3.69
<b>50</b>	2.12	2.50	2.87	3.22	3.53	3.81	4.02	4.17	4.23	4.21
<b>55</b>	2.10	2.51	2.92	3.32	3.69	4.02	4.30	4.51	4.65	4.70
<b>60</b>	-	2.52	2.97	3.41	3.83	4.21	4.55	4.83	5.05	5.18
<b>65</b>	-	2.52	3.00	3.49	3.95	4.39	4.79	5.14	5.42	5.63
<b>70</b>	-	-	3.03	3.55	4.06	4.55	5.01	5.42	5.77	6.05
<b>75</b>	-	-	-	3.60	4.15	4.69	5.20	5.67	6.09	6.44
<b>80</b>	-	-	-	3.62	4.22	4.81	5.38	5.91	6.39	6.81

**Current [A]**

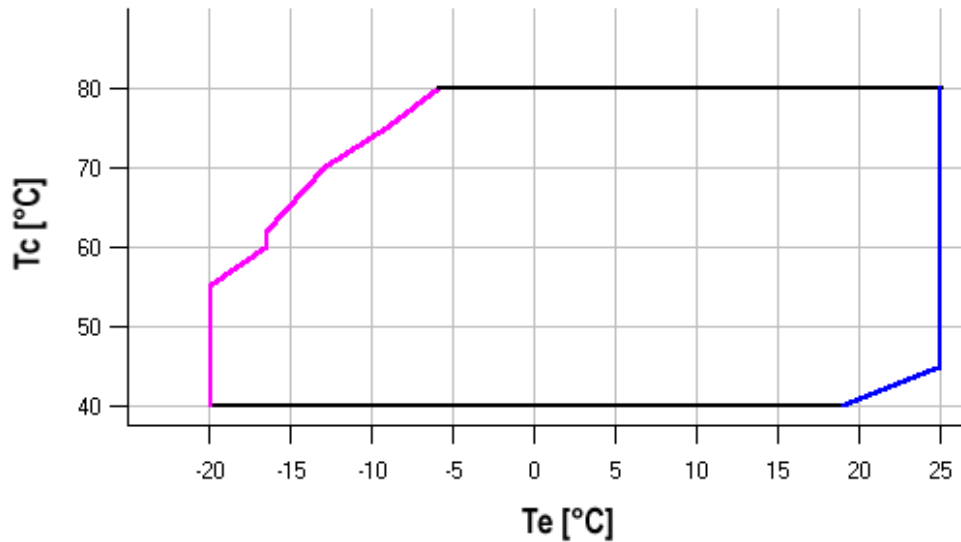
<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>
<b>40</b>	5.92	6.25	6.58	6.88	7.14	7.33	7.43	7.42	-	-
<b>45</b>	5.93	6.30	6.67	7.03	7.36	7.63	7.82	7.91	7.89	7.72
<b>50</b>	5.93	6.33	6.75	7.17	7.56	7.91	8.20	8.39	8.48	8.45
<b>55</b>	5.91	6.35	6.82	7.29	7.76	8.19	8.56	8.86	9.07	9.15
<b>60</b>	-	6.35	6.87	7.40	7.94	8.45	8.91	9.32	9.63	9.85
<b>65</b>	-	6.34	6.91	7.50	8.10	8.69	9.25	9.75	10.19	10.53
<b>70</b>	-	-	6.92	7.57	8.25	8.92	9.57	10.18	10.72	11.19
<b>75</b>	-	-	-	7.63	8.37	9.12	9.87	10.58	11.24	11.83
<b>80</b>	-	-	-	7.67	8.48	9.31	10.15	10.96	11.74	12.45

**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>20</b>	<b>25</b>
<b>40</b>	93.25	129.58	170.73	217.60	271.07	332.05	401.43	480.11	-	-
<b>45</b>	85.87	122.46	163.84	210.90	264.54	325.65	395.13	473.87	562.78	662.74
<b>50</b>	78.27	115.09	156.66	203.88	257.64	318.84	388.38	467.15	556.05	655.98
<b>55</b>	70.63	107.64	149.36	196.70	250.54	311.80	381.36	460.12	548.97	648.82
<b>60</b>	-	100.28	142.12	189.54	243.44	304.71	374.25	452.96	541.73	641.46
<b>65</b>	-	93.21	135.12	182.59	236.49	297.74	367.23	445.85	534.50	634.07
<b>70</b>	-	-	128.55	176.01	229.89	291.08	360.47	438.96	527.45	626.84
<b>75</b>	-	-	-	170.00	223.81	284.89	354.15	432.48	520.77	619.93
<b>80</b>	-	-	-	164.72	218.42	279.37	348.46	426.58	514.64	613.52

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

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15	20	25
<b>40</b>	1.69	2.08	2.50	2.98	3.55	4.24	5.11	6.23	-	-
<b>45</b>	1.46	1.83	2.21	2.63	3.11	3.69	4.39	5.27	6.39	7.89
<b>50</b>	1.25	1.60	1.95	2.32	2.73	3.22	3.79	4.50	5.38	6.51
<b>55</b>	1.06	1.39	1.71	2.04	2.40	2.81	3.29	3.87	4.58	5.46
<b>60</b>	-	1.21	1.50	1.79	2.11	2.46	2.86	3.34	3.92	4.62
<b>65</b>	-	1.03	1.31	1.57	1.84	2.15	2.49	2.90	3.37	3.95
<b>70</b>	-	-	1.13	1.37	1.61	1.87	2.17	2.51	2.91	3.38
<b>75</b>	-	-	-	1.19	1.40	1.63	1.88	2.17	2.51	2.91
<b>80</b>	-	-	-	1.02	1.21	1.40	1.62	1.87	2.16	2.49

**Application range**


Maximum evaporating temperature

20K suction superheat

Operating conditions: ISO; subcooling: 0 K, suction superheat: 10 K, return gas temperature: -

$t_c$  - Condensing temperature [°C]

$t_e$  - Evaporating temperature [°C]

R404A/R507

**Cooling capacity [kW]**

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-40</b>	<b>-35</b>	<b>-30</b>	<b>-25</b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>
<b>20</b>	4.22	5.63	7.37	9.47	11.97	14.93	18.38	22.37	26.93	32.12
<b>25</b>	3.69	5.08	6.75	8.75	11.13	13.92	17.18	20.94	25.25	30.15
<b>30</b>	3.20	4.55	6.14	8.04	10.28	12.91	15.97	19.50	23.54	28.15
<b>35</b>	2.74	4.04	5.56	7.35	9.45	11.90	14.75	18.04	21.82	26.12
<b>40</b>	2.30	3.55	4.99	6.66	8.62	10.89	13.53	16.58	20.08	24.08
<b>45</b>	-	3.08	4.43	5.98	7.78	9.87	12.30	15.10	18.32	22.00
<b>50</b>	-	2.63	3.88	5.31	6.95	8.85	11.05	13.60	16.53	19.90
<b>55</b>	-	-	3.34	4.64	6.12	7.82	9.79	12.08	14.72	17.76

**Power input [kW]**

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-40</b>	<b>-35</b>	<b>-30</b>	<b>-25</b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>
<b>20</b>	2.03	2.36	2.66	2.94	3.17	3.35	3.45	3.47	3.40	3.22
<b>25</b>	2.05	2.42	2.77	3.10	3.39	3.63	3.81	3.92	3.94	3.85
<b>30</b>	2.06	2.46	2.86	3.24	3.59	3.90	4.15	4.34	4.44	4.45
<b>35</b>	2.05	2.48	2.92	3.36	3.76	4.14	4.46	4.72	4.91	5.02
<b>40</b>	2.03	2.50	2.98	3.46	3.92	4.36	4.75	5.09	5.36	5.56
<b>45</b>	-	2.50	3.02	3.55	4.06	4.56	5.02	5.43	5.79	6.07
<b>50</b>	-	2.50	3.06	3.63	4.20	4.75	5.27	5.76	6.19	6.56
<b>55</b>	-	-	3.10	3.71	4.32	4.93	5.52	6.07	6.59	7.04



**Current [A]**

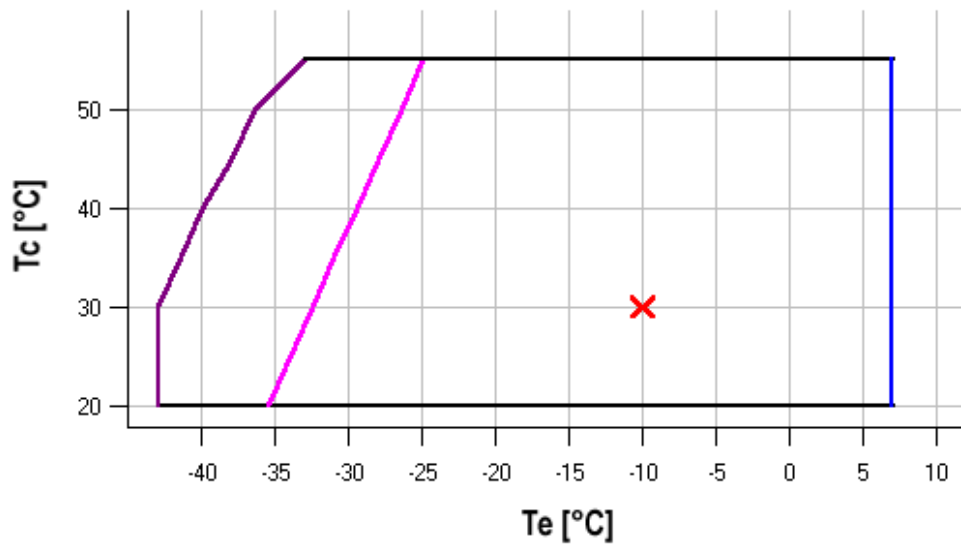
<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-40</b>	<b>-35</b>	<b>-30</b>	<b>-25</b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>
<b>20</b>	6.24	6.57	6.89	7.19	7.44	7.63	7.74	7.74	7.63	7.38
<b>25</b>	6.28	6.64	7.00	7.34	7.66	7.92	8.12	8.23	8.23	8.11
<b>30</b>	6.31	6.68	7.08	7.48	7.86	8.20	8.49	8.70	8.82	8.83
<b>35</b>	6.31	6.71	7.15	7.60	8.04	8.46	8.84	9.16	9.40	9.54
<b>40</b>	6.30	6.73	7.20	7.70	8.21	8.71	9.18	9.61	9.97	10.24
<b>45</b>	-	6.74	7.25	7.80	8.38	8.96	9.52	10.05	10.53	10.94
<b>50</b>	-	6.73	7.28	7.89	8.53	9.20	9.85	10.49	11.09	11.64
<b>55</b>	-	-	7.31	7.98	8.69	9.43	10.18	10.93	11.66	12.33

**Mass flow [kg/s]**

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-40</b>	<b>-35</b>	<b>-30</b>	<b>-25</b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>
<b>20</b>	90.03	124.37	164.11	211.11	267.24	334.36	414.33	509.02	620.29	750.00
<b>25</b>	83.12	117.61	157.39	204.30	260.22	327.00	406.52	500.63	611.19	740.07
<b>30</b>	76.27	110.82	150.53	197.26	252.87	319.23	398.19	491.62	601.39	729.35
<b>35</b>	69.47	104.00	143.56	190.01	245.22	311.05	389.36	482.03	590.90	717.84
<b>40</b>	62.76	97.16	136.46	182.54	237.26	302.47	380.05	471.85	579.73	705.57
<b>45</b>	-	90.30	129.27	174.88	229.01	293.51	370.25	461.09	567.90	692.53
<b>50</b>	-	83.45	121.98	167.03	220.48	284.18	359.99	449.78	555.41	678.75
<b>55</b>	-	-	114.61	159.01	211.68	274.48	349.27	437.91	542.28	664.22

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

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5
<b>20</b>	2.08	2.39	2.77	3.22	3.78	4.46	5.33	6.44	7.92	9.97
<b>25</b>	1.80	2.10	2.44	2.82	3.28	3.83	4.50	5.34	6.41	7.82
<b>30</b>	1.56	1.85	2.15	2.48	2.87	3.31	3.85	4.50	5.30	6.32
<b>35</b>	1.34	1.63	1.90	2.19	2.51	2.88	3.31	3.82	4.44	5.21
<b>40</b>	1.14	1.42	1.67	1.93	2.20	2.50	2.85	3.26	3.75	4.33
<b>45</b>	-	1.23	1.46	1.69	1.92	2.17	2.45	2.78	3.17	3.62
<b>50</b>	-	1.05	1.27	1.46	1.66	1.86	2.10	2.36	2.67	3.03
<b>55</b>	-	-	1.08	1.25	1.42	1.59	1.77	1.99	2.24	2.52

**Application range**


- Maximum evaporating temperature
- 25°C suction gas return
- 25°C suction gas return + additional cooling

Operating conditions: ISO; subcooling: 0 K, suction superheat: - K, return gas temperature: 20

$t_c$  - 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>35</b>	6.43	8.71	11.48	14.76	18.59	23.01	28.06	-
<b>40</b>	5.75	7.88	10.48	13.57	17.20	21.39	26.19	-
<b>45</b>	5.11	7.10	9.53	12.43	15.85	19.82	24.37	-
<b>50</b>	-	6.36	8.62	11.33	14.54	18.28	22.59	-
<b>55</b>	-	5.66	7.76	10.28	13.29	16.80	20.86	-
<b>60</b>	-	-	6.94	9.28	12.08	15.36	19.17	-

**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>35</b>	2.94	3.30	3.64	3.94	4.17	4.31	4.35	-
<b>40</b>	3.06	3.46	3.85	4.22	4.53	4.76	4.90	-
<b>45</b>	3.17	3.61	4.05	4.48	4.86	5.18	5.41	-
<b>50</b>	-	3.75	4.24	4.72	5.17	5.57	5.90	-
<b>55</b>	-	3.89	4.42	4.95	5.47	5.94	6.36	-
<b>60</b>	-	-	4.59	5.17	5.75	6.30	6.79	-

**Current [A]**

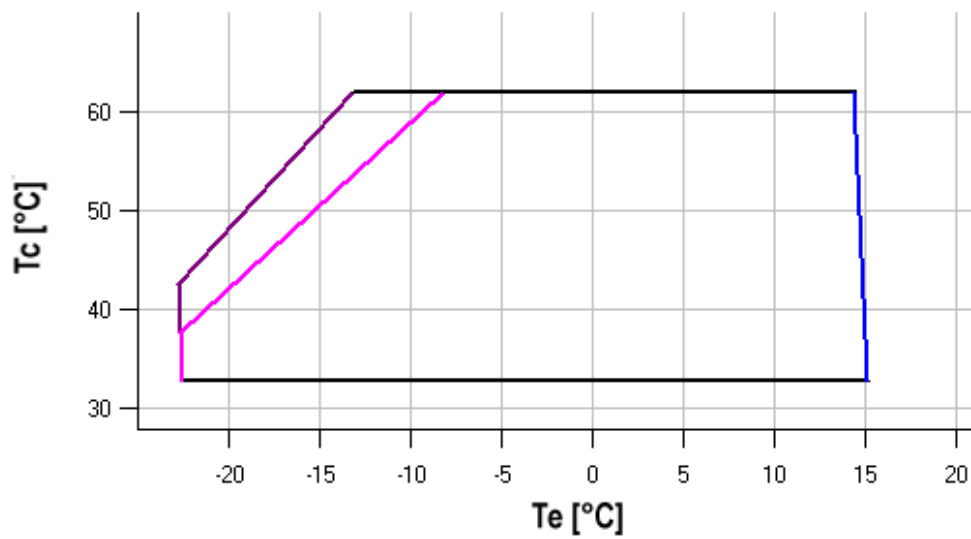
$t_c \setminus t_e$	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>
<b>35</b>	7.13	7.55	7.96	8.33	8.63	8.81	8.86	-
<b>40</b>	7.27	7.74	8.23	8.69	9.08	9.39	9.57	-
<b>45</b>	7.40	7.93	8.48	9.02	9.52	9.94	10.25	-
<b>50</b>	-	8.11	8.72	9.34	9.93	10.46	10.90	-
<b>55</b>	-	8.27	8.95	9.64	10.33	10.97	11.53	-
<b>60</b>	-	-	9.17	9.93	10.70	11.45	12.13	-

**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>15</b>
<b>35</b>	141.96	189.15	244.95	309.81	384.18	468.51	563.24	-
<b>40</b>	133.80	180.02	234.95	299.04	372.73	456.48	550.72	-
<b>45</b>	125.78	171.09	225.21	288.59	361.67	444.90	538.72	-
<b>50</b>	-	162.54	215.91	278.63	351.16	433.93	527.40	-
<b>55</b>	-	154.53	207.21	269.35	341.38	423.75	516.92	-
<b>60</b>	-	-	199.28	260.89	332.48	414.52	507.45	-

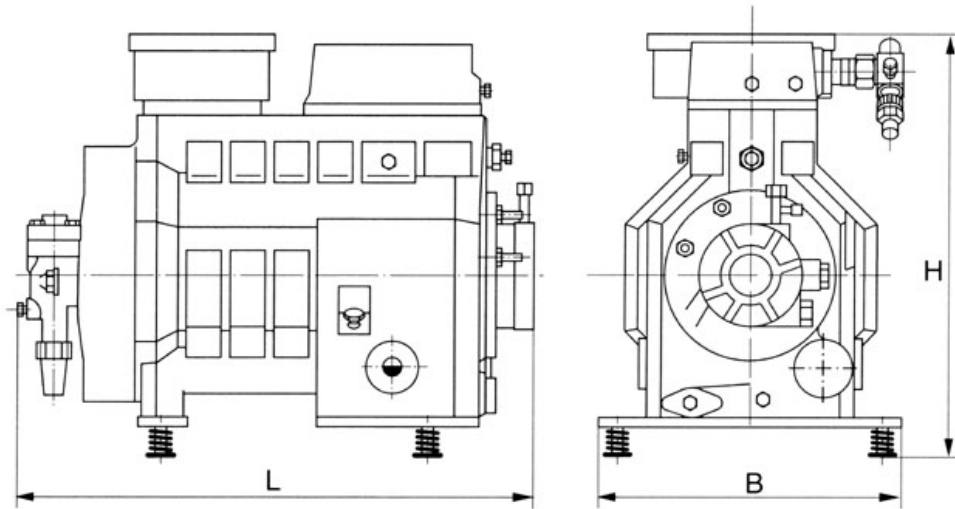
**C.O.P. [W/W]**

$t_c \setminus t_e$	<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>35</b>	2.19	2.64	3.15	3.75	4.46	5.33	6.45	-
<b>40</b>	1.88	2.28	2.72	3.22	3.80	4.49	5.35	-
<b>45</b>	1.61	1.97	2.35	2.78	3.26	3.82	4.50	-
<b>50</b>	-	1.69	2.03	2.40	2.81	3.28	3.83	-
<b>55</b>	-	1.46	1.75	2.08	2.43	2.83	3.28	-
<b>60</b>	-	-	1.51	1.79	2.10	2.44	2.82	-

**Application range**


- Maximum evaporating temperature
- 25°C suction gas return
- 20K suction superheat

Operating conditions: ISO; subcooling: 0 K, suction superheat: 10 K, return gas temperature: -  
 $t_c$  - Condensing temperature [°C]  
 $t_e$  - Evaporating temperature [°C]



L	590 mm
B	330 mm
H	470 mm

