

# Model: DLE-20 X

## Data

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Type: Semi-hermetic piston compressors

Producer: Copeland

Series: DL

## Model: DLE-20 X

### Technical data

Cylinder count:	2
Displacement [m <sup>3</sup> /h]:	9,9
Weight [kg]:	84
Oil charge [dm <sup>3</sup> ]:	2,3
Max. operating current [A]:	5,7
Locked rotor current [A]:	37,6
Power supply [V/~/Hz]:	380-420V/3/50Hz

### Connections

	<u>milimeters</u>	<u>inches</u>
Suction line:		7/8"
Discharge line:		5/8"

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# Model: DLE-20 X

## Capacity

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>10</b>
<b>20</b>	1.53	2.10	2.81	3.66	4.68	5.89	7.31	8.95	10.84	13.00	15.45
<b>25</b>	1.29	1.86	2.54	3.35	4.32	5.45	6.79	8.33	10.11	12.14	14.44
<b>30</b>	1.06	1.61	2.26	3.03	3.94	5.00	6.25	7.69	9.35	11.26	13.41
<b>35</b>	0.81	1.35	1.97	2.70	3.55	4.54	5.70	7.04	8.58	10.35	12.37
<b>40</b>	0.57	1.09	1.68	2.36	3.15	4.07	5.14	6.37	7.80	9.44	11.30
<b>45</b>	-	0.83	1.39	2.02	2.75	3.59	4.57	5.70	7.01	8.51	10.23
<b>50</b>	-	-	1.10	1.68	2.35	3.11	4.00	5.03	6.21	7.58	9.15
<b>55</b>	-	-	0.81	1.35	1.95	2.64	3.43	4.35	5.41	6.64	-

### 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>10</b>
<b>20</b>	0.93	1.08	1.22	1.35	1.46	1.55	1.61	1.64	1.62	1.57	1.46
<b>25</b>	0.90	1.07	1.23	1.38	1.52	1.64	1.73	1.80	1.83	1.82	1.76
<b>30</b>	0.86	1.05	1.23	1.40	1.57	1.72	1.85	1.95	2.02	2.05	2.04
<b>35</b>	0.81	1.01	1.21	1.41	1.60	1.78	1.94	2.08	2.19	2.27	2.30
<b>40</b>	0.74	0.96	1.18	1.40	1.62	1.83	2.03	2.20	2.35	2.47	2.55
<b>45</b>	-	0.89	1.13	1.38	1.63	1.86	2.09	2.30	2.49	2.66	2.79
<b>50</b>	-	-	1.07	1.34	1.61	1.88	2.14	2.39	2.62	2.83	3.00
<b>55</b>	-	-	0.99	1.28	1.58	1.88	2.17	2.46	2.73	2.97	-

# Model: DLE-20 X

## Capacity

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### Current [A]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
20	2.85	3.03	3.19	3.35	3.49	3.59	3.67	3.69	3.67	3.58	3.43
25	2.84	3.02	3.21	3.39	3.56	3.71	3.83	3.90	3.94	3.91	3.83
30	2.81	3.00	3.21	3.42	3.62	3.80	3.97	4.10	4.19	4.23	4.21
35	2.76	2.97	3.19	3.43	3.66	3.88	4.09	4.27	4.42	4.52	4.57
40	2.69	2.91	3.16	3.42	3.68	3.94	4.19	4.42	4.63	4.80	4.92
45	-	2.84	3.11	3.39	3.68	3.98	4.28	4.56	4.82	5.05	5.24
50	-	-	3.03	3.34	3.67	4.01	4.35	4.68	4.99	5.29	5.55
55	-	-	2.94	3.28	3.64	4.01	4.39	4.78	5.15	5.51	-

### Mass flow [kg/s]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
20	32.44	46.77	62.99	81.98	104.63	131.80	164.39	203.27	249.32	303.42	366.45
25	28.71	43.19	59.47	78.45	100.99	127.99	160.31	198.84	244.46	298.04	360.48
30	24.62	39.20	55.50	74.42	96.81	123.58	155.59	193.72	238.86	291.89	353.68
35	20.15	34.79	51.06	69.87	92.07	118.56	150.21	187.90	232.52	284.94	346.04
40	15.29	29.93	46.14	64.78	86.75	112.91	144.16	181.37	225.41	277.17	337.53
45	-	24.62	40.70	59.14	80.82	106.62	137.42	174.09	217.51	268.58	328.15
50	-	-	34.74	52.93	74.28	99.66	129.96	166.05	208.81	259.13	317.88
55	-	-	28.23	46.13	67.10	92.02	121.77	157.24	199.29	248.81	-

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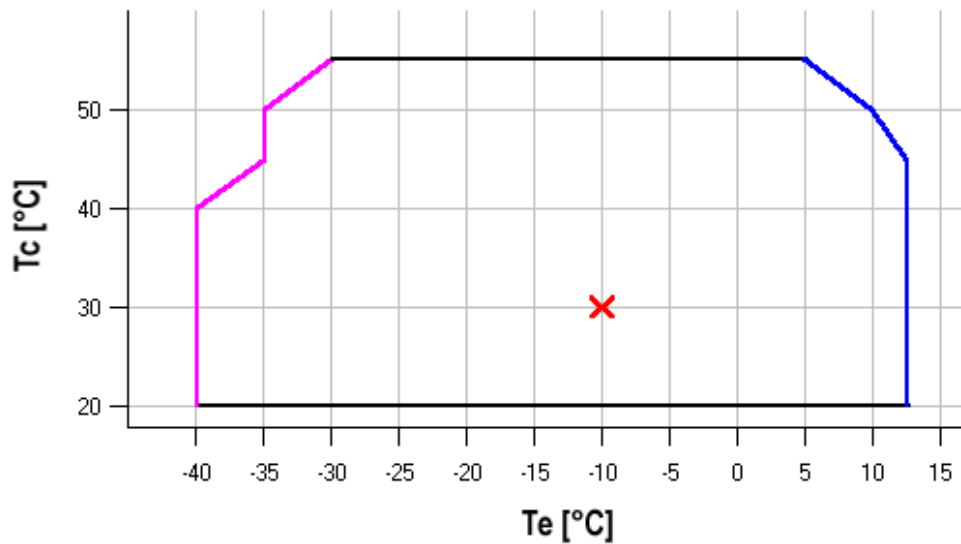
# Model: DLE-20 X

Capacity

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

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
20	1.64	1.95	2.30	2.71	3.21	3.80	4.54	5.47	6.68	8.30	10.57
25	1.43	1.74	2.06	2.42	2.84	3.33	3.91	4.63	5.53	6.69	8.22
30	1.22	1.54	1.84	2.16	2.51	2.91	3.38	3.95	4.64	5.49	6.58
35	1.00	1.34	1.63	1.91	2.21	2.55	2.93	3.38	3.92	4.57	5.37
40	0.77	1.14	1.42	1.68	1.94	2.22	2.53	2.90	3.32	3.82	4.43
45	-	0.93	1.22	1.46	1.69	1.93	2.18	2.47	2.81	3.20	3.67
50	-	-	1.02	1.26	1.46	1.66	1.87	2.10	2.37	2.68	3.05
55	-	-	0.82	1.05	1.23	1.40	1.58	1.77	1.98	2.23	-

## Application range



- Maximum evaporating temperature
- 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]

# Model: DLE-20 X

## Capacity

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R134a

### Cooling capacity [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	1.78	2.45	3.23	4.17	5.26	6.54	8.01
35	1.55	2.18	2.92	3.80	4.84	6.04	7.44
40	1.33	1.92	2.62	3.45	4.42	5.55	6.87
45	1.14	1.69	2.34	3.11	4.01	5.07	6.31
50	0.96	1.47	2.07	2.78	3.62	4.61	5.76
55	0.81	1.27	1.82	2.47	3.24	4.15	5.22
60	0.68	1.10	1.59	2.18	2.88	3.71	4.69

### Power input [kW]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	0.99	1.09	1.17	1.23	1.28	1.30	1.30
35	1.01	1.11	1.21	1.30	1.37	1.42	1.45
40	1.02	1.14	1.26	1.36	1.46	1.54	1.60
45	1.03	1.16	1.30	1.42	1.54	1.65	1.73
50	1.04	1.18	1.33	1.48	1.62	1.75	1.86
55	1.05	1.20	1.36	1.53	1.68	1.84	1.98
60	1.05	1.22	1.39	1.57	1.75	1.92	2.09

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# Model: DLE-20 X

## Capacity

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### Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	2.74	2.84	2.93	3.01	3.06	3.09	3.08
35	2.75	2.87	2.98	3.09	3.17	3.23	3.27
40	2.77	2.90	3.03	3.16	3.27	3.37	3.44
45	2.78	2.93	3.08	3.23	3.37	3.50	3.61
50	2.79	2.95	3.12	3.29	3.46	3.62	3.77
55	2.80	2.97	3.16	3.35	3.55	3.74	3.92
60	2.80	2.99	3.19	3.40	3.63	3.85	4.07

### Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	42.12	56.70	73.44	92.65	114.63	139.69	168.14
35	38.43	52.91	69.50	88.51	110.24	135.00	163.10
40	34.90	49.22	65.59	84.33	105.74	130.13	157.81
45	31.58	45.66	61.74	80.14	101.16	125.11	152.30
50	28.49	42.26	57.98	75.97	96.53	119.97	146.59
55	25.66	39.04	54.34	71.84	91.87	114.72	140.71
60	23.11	36.04	50.83	67.78	87.21	109.41	134.69

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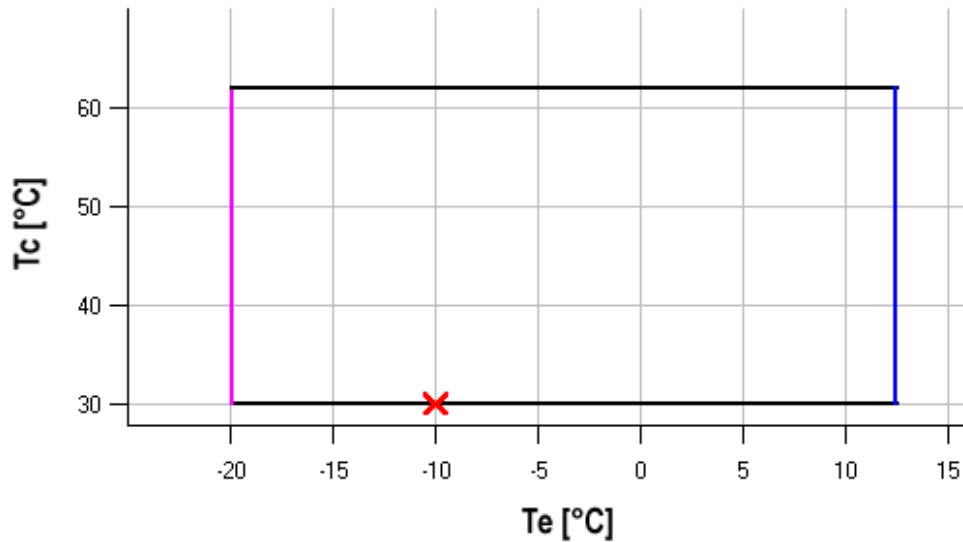
# Model: DLE-20 X

Capacity

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

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10
30	1.79	2.25	2.78	3.39	4.12	5.03	6.17
35	1.54	1.95	2.41	2.93	3.53	4.25	5.12
40	1.31	1.69	2.09	2.53	3.03	3.61	4.30
45	1.11	1.45	1.80	2.18	2.60	3.08	3.64
50	0.93	1.24	1.56	1.88	2.24	2.64	3.09
55	0.78	1.06	1.34	1.62	1.93	2.26	2.64
60	0.65	0.90	1.15	1.39	1.65	1.93	2.25

## Application range



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

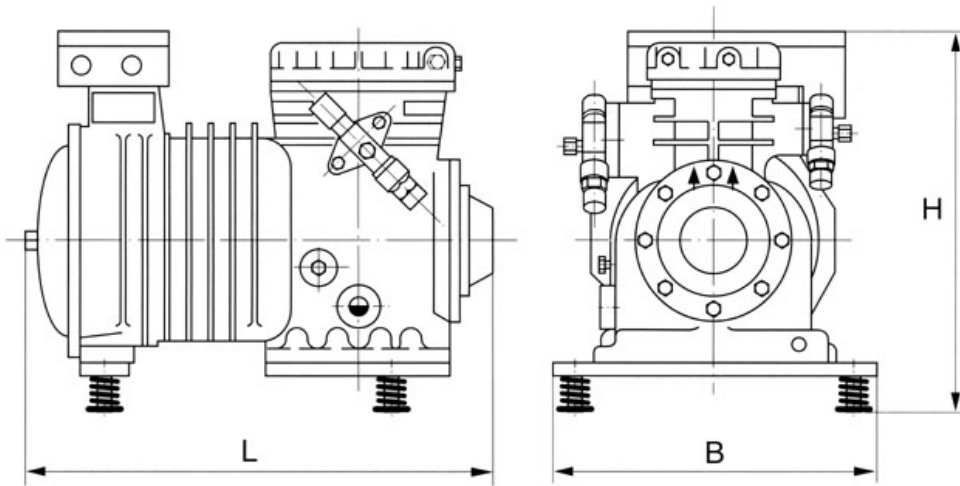
Operating conditions: ISO; subcooling: 0 K, suction superheat: 10 K, return gas temperature: -

$t_c$  - Condensing temperature [°C]

$t_e$  - Evaporating temperature [°C]

# Model: DLE-20 X

## Dimensions



L	470 mm
B	330 mm
H	385 mm