



# Model: D8DH-500 X

## Data

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Type: Semi-hermetic piston compressors

Producer: Copeland

Series: DISCUS

## Model: D8DH-500 X

### Technical data

|                                   |                 |
|-----------------------------------|-----------------|
| Cylinder count:                   | 8               |
| Displacement [m <sup>3</sup> /h]: | 151             |
| Weight [kg]:                      | 351             |
| Oil charge [dm <sup>3</sup> ]:    | 7,7             |
| Max. operating current [A]:       | 88              |
| Locked rotor current [A]:         | 444             |
| Power supply [V/~/Hz]:            | 380-420V/3/50Hz |

### Connections

|                 | <u>milimeters</u> | <u>inches</u> |
|-----------------|-------------------|---------------|
| Suction line:   |                   | 2 5/8"        |
| Discharge line: |                   | 1 5/8"        |

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>                            | 43.51      | 56.33      | 71.48      | 89.17      | 109.64    | 133.11   | 159.82   | 189.99    |
| <b>35</b>                            | 40.02      | 52.33      | 66.84      | 83.76      | 103.35    | 125.82   | 151.40   | 180.33    |
| <b>40</b>                            | 36.65      | 48.42      | 62.27      | 78.42      | 97.11     | 118.56   | 143.00   | 170.66    |
| <b>45</b>                            | 33.40      | 44.62      | 57.80      | 73.16      | 90.92     | 111.33   | 134.61   | 160.99    |
| <b>50</b>                            | -          | 40.94      | 53.43      | 67.97      | 84.81     | 104.16   | 126.27   | 151.35    |
| <b>55</b>                            | -          | -          | 49.17      | 62.88      | 78.77     | 97.05    | 117.96   | 141.73    |
| <b>60</b>                            | -          | -          | -          | 57.90      | 72.82     | 90.02    | 109.72   | 132.15    |

**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>                            | 20.14      | 21.97      | 23.60      | 24.96      | 25.96     | 26.53    | 26.59    | 26.05     |
| <b>35</b>                            | 21.23      | 23.32      | 25.26      | 26.96      | 28.36     | 29.36    | 29.90    | 29.88     |
| <b>40</b>                            | 22.29      | 24.63      | 26.85      | 28.89      | 30.66     | 32.08    | 33.08    | 33.57     |
| <b>45</b>                            | 23.34      | 25.91      | 28.40      | 30.75      | 32.88     | 34.70    | 36.14    | 37.11     |
| <b>50</b>                            | -          | 27.17      | 29.92      | 32.57      | 35.03     | 37.23    | 39.10    | 40.54     |
| <b>55</b>                            | -          | -          | 31.41      | 34.34      | 37.13     | 39.69    | 41.96    | 43.86     |
| <b>60</b>                            | -          | -          | -          | 36.09      | 39.18     | 42.09    | 44.75    | 47.08     |

**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>                            | 49.97      | 51.81      | 53.59      | 55.16      | 56.38     | 57.11    | 57.21    | 56.52     |
| <b>35</b>                            | 51.04      | 53.28      | 55.50      | 57.58      | 59.35     | 60.68    | 61.43    | 61.44     |
| <b>40</b>                            | 52.16      | 54.80      | 57.48      | 60.05      | 62.38     | 64.32    | 65.72    | 66.43     |
| <b>45</b>                            | 53.31      | 56.35      | 59.48      | 62.56      | 65.45     | 67.99    | 70.04    | 71.47     |
| <b>50</b>                            | -          | 57.90      | 61.49      | 65.08      | 68.52     | 71.67    | 74.38    | 76.51     |
| <b>55</b>                            | -          | -          | 63.47      | 67.57      | 71.56     | 75.32    | 78.69    | 81.54     |
| <b>60</b>                            | -          | -          | -          | 70.00      | 74.56     | 78.93    | 82.96    | 86.52     |

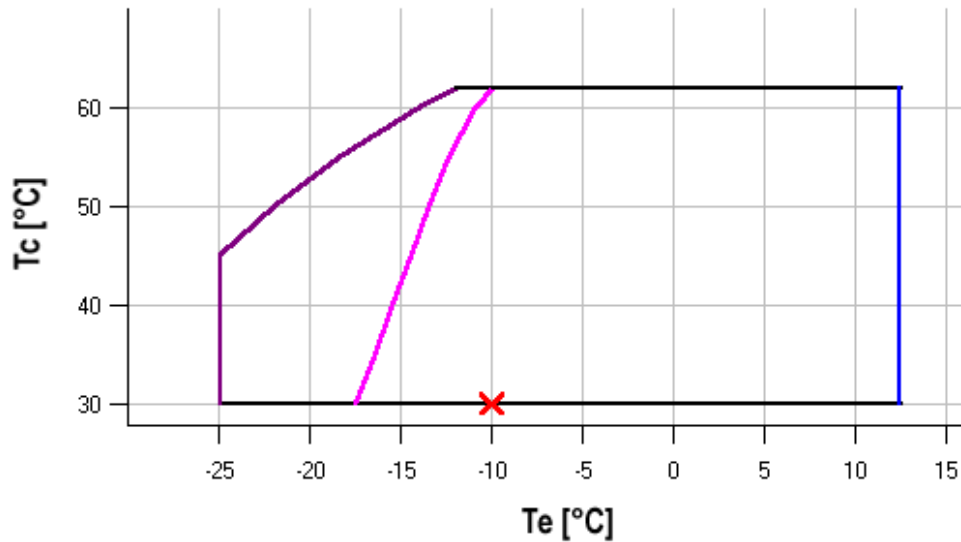
**Mass flow [kg/s]**

| <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>                            | 945.63     | 1 210.34   | 1 516.16   | 1 866.94   | 2 266.53  | 2 718.80 | 3 227.58 | 3 796.74  |
| <b>35</b>                            | 905.73     | 1 168.96   | 1 472.85   | 1 821.25   | 2 218.00  | 2 666.96 | 3 171.99 | 3 736.93  |
| <b>40</b>                            | 865.86     | 1 127.30   | 1 428.93   | 1 774.62   | 2 168.20  | 2 613.54 | 3 114.48 | 3 674.88  |
| <b>45</b>                            | 826.45     | 1 085.77   | 1 384.82   | 1 727.47   | 2 117.56  | 2 558.95 | 3 055.48 | 3 611.02  |
| <b>50</b>                            | -          | 1 044.78   | 1 340.94   | 1 680.22   | 2 066.50  | 2 503.61 | 2 995.41 | 3 545.75  |
| <b>55</b>                            | -          | -          | 1 297.69   | 1 633.29   | 2 015.42  | 2 447.94 | 2 934.68 | 3 479.51  |
| <b>60</b>                            | -          | -          | -          | 1 587.10   | 1 964.76  | 2 392.35 | 2 873.71 | 3 412.71  |

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

| $t_c \setminus t_e$ | -25  | -20  | -15  | -10  | -5   | 0    | 5    | 10   |
|---------------------|------|------|------|------|------|------|------|------|
| <b>30</b>           | 2.16 | 2.56 | 3.03 | 3.57 | 4.22 | 5.02 | 6.01 | 7.29 |
| <b>35</b>           | 1.89 | 2.24 | 2.65 | 3.11 | 3.64 | 4.29 | 5.06 | 6.03 |
| <b>40</b>           | 1.64 | 1.97 | 2.32 | 2.71 | 3.17 | 3.70 | 4.32 | 5.08 |
| <b>45</b>           | 1.43 | 1.72 | 2.03 | 2.38 | 2.77 | 3.21 | 3.72 | 4.34 |
| <b>50</b>           | -    | 1.51 | 1.79 | 2.09 | 2.42 | 2.80 | 3.23 | 3.73 |
| <b>55</b>           | -    | -    | 1.57 | 1.83 | 2.12 | 2.45 | 2.81 | 3.23 |
| <b>60</b>           | -    | -    | -    | 1.60 | 1.86 | 2.14 | 2.45 | 2.81 |

### 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]

R134a

**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>                            | 30.48      | 38.53      | 48.38      | 60.25     | 74.40    | 91.06    | 110.48    | 132.89    | 158.55    | 187.68    |
| <b>45</b>                            | 27.48      | 35.35      | 44.83      | 56.16     | 69.59    | 85.35    | 103.69    | 124.85    | 149.07    | 176.59    |
| <b>50</b>                            | 24.69      | 32.33      | 41.41      | 52.16     | 64.82    | 79.65    | 96.87     | 116.74    | 139.49    | 165.37    |
| <b>55</b>                            | 22.11      | 29.49      | 38.12      | 48.25     | 60.11    | 73.96    | 90.03     | 108.57    | 129.81    | 154.00    |
| <b>60</b>                            | 19.73      | 26.80      | 34.96      | 44.43     | 55.46    | 68.29    | 83.17     | 100.34    | 120.03    | 142.50    |
| <b>65</b>                            | 17.56      | 24.29      | 31.92      | 40.69     | 50.85    | 62.64    | 76.29     | 92.05     | 110.16    | 130.86    |
| <b>70</b>                            | 15.59      | 21.94      | 29.02      | 37.05     | 46.30    | 56.99    | 69.37     | 83.69     | 100.18    | 119.08    |
| <b>75</b>                            | -          | 19.76      | 26.24      | 33.50     | 41.80    | 51.36    | 62.44     | 75.27     | 90.10     | 107.16    |
| <b>80</b>                            | -          | -          | 23.59      | 30.04     | 37.34    | 45.74    | 55.47     | 66.78     | 79.91     | 95.10     |

**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>                            | 14.51      | 16.26      | 17.94      | 19.47     | 20.82    | 21.91    | 22.70     | 23.12     | 23.14     | 22.68     |
| <b>45</b>                            | 14.81      | 16.76      | 18.67      | 20.47     | 22.12    | 23.55    | 24.71     | 25.55     | 26.00     | 26.02     |
| <b>50</b>                            | 15.08      | 17.22      | 19.35      | 21.41     | 23.35    | 25.10    | 26.62     | 27.86     | 28.75     | 29.23     |
| <b>55</b>                            | 15.31      | 17.63      | 19.97      | 22.27     | 24.49    | 26.56    | 28.43     | 30.05     | 31.36     | 32.30     |
| <b>60</b>                            | 15.49      | 17.98      | 20.52      | 23.06     | 25.54    | 27.92    | 30.13     | 32.12     | 33.84     | 35.23     |
| <b>65</b>                            | 15.62      | 18.26      | 20.99      | 23.75     | 26.49    | 29.16    | 31.70     | 34.06     | 36.17     | 37.99     |
| <b>70</b>                            | 15.69      | 18.47      | 21.37      | 24.35     | 27.34    | 30.29    | 33.14     | 35.85     | 38.35     | 40.59     |
| <b>75</b>                            | -          | 18.60      | 21.67      | 24.84     | 28.07    | 31.29    | 34.45     | 37.49     | 40.37     | 43.02     |
| <b>80</b>                            | -          | -          | 21.86      | 25.22     | 28.67    | 32.15    | 35.61     | 38.98     | 42.22     | 45.27     |

**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>                            | 37.73      | 39.67      | 41.64      | 43.53     | 45.25    | 46.68    | 47.72     | 48.26     | 48.21     | 47.45     |
| <b>45</b>                            | 38.16      | 40.32      | 42.58      | 44.83     | 46.97    | 48.88    | 50.48     | 51.64     | 52.27     | 52.27     |
| <b>50</b>                            | 38.53      | 40.91      | 43.45      | 46.05     | 48.60    | 51.00    | 53.14     | 54.92     | 56.23     | 56.97     |
| <b>55</b>                            | 38.82      | 41.41      | 44.23      | 47.17     | 50.13    | 53.01    | 55.69     | 58.08     | 60.07     | 61.55     |
| <b>60</b>                            | 39.03      | 41.83      | 44.92      | 48.20     | 51.56    | 54.91    | 58.13     | 61.12     | 63.78     | 66.00     |
| <b>65</b>                            | 39.15      | 42.15      | 45.51      | 49.12     | 52.88    | 56.69    | 60.44     | 64.03     | 67.35     | 70.30     |
| <b>70</b>                            | 39.18      | 42.37      | 45.99      | 49.93     | 54.08    | 58.35    | 62.63     | 66.81     | 70.79     | 74.46     |
| <b>75</b>                            | -          | 42.47      | 46.35      | 50.61     | 55.15    | 59.87    | 64.67     | 69.44     | 74.07     | 78.46     |
| <b>80</b>                            | -          | -          | 46.58      | 51.16     | 56.09    | 61.26    | 66.57     | 71.91     | 77.19     | 82.30     |

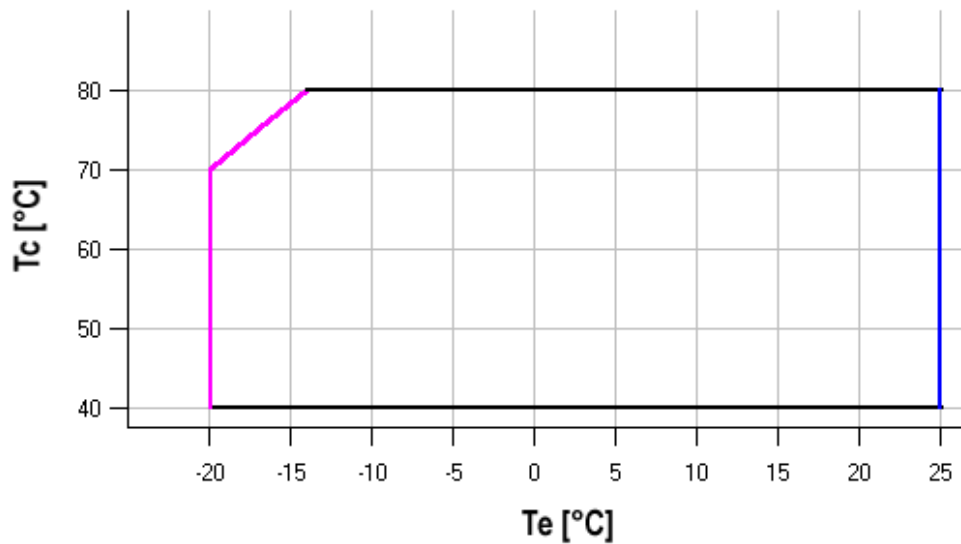
**Mass flow [kg/s]**

| <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>                            | 549.13     | 792.91     | 1<br>053.46 | 1<br>344.47 | 1<br>679.63 | 2<br>072.64 | 2<br>537.20 | 3<br>087.01 | 3<br>735.75 | 4<br>497.13 |
| <b>45</b>                            | 524.32     | 767.34     | 1<br>026.83 | 1<br>316.49 | 1<br>650.02 | 2<br>041.11 | 2<br>503.46 | 3<br>050.77 | 3<br>696.72 | 4<br>455.02 |
| <b>50</b>                            | 502.56     | 743.80     | 1<br>001.23 | 1<br>288.54 | 1<br>619.42 | 2<br>007.58 | 2<br>466.71 | 3<br>010.51 | 3<br>652.66 | 4<br>406.88 |
| <b>55</b>                            | 484.37     | 722.83     | 977.18      | 1<br>261.13 | 1<br>588.36 | 1<br>972.58 | 2<br>427.48 | 2<br>966.76 | 3<br>604.10 | 4<br>353.22 |
| <b>60</b>                            | 470.30     | 704.96     | 955.23      | 1<br>234.81 | 1<br>557.38 | 1<br>936.65 | 2<br>386.30 | 2<br>920.05 | 3<br>551.58 | 4<br>294.59 |
| <b>65</b>                            | 460.86     | 690.73     | 935.90      | 1<br>210.09 | 1<br>527.00 | 1<br>900.30 | 2<br>343.71 | 2<br>870.92 | 3<br>495.62 | 4<br>231.51 |
| <b>70</b>                            | 456.61     | 680.65     | 919.73      | 1<br>187.53 | 1<br>497.75 | 1<br>864.09 | 2<br>300.24 | 2<br>819.89 | 3<br>436.76 | 4<br>164.52 |
| <b>75</b>                            | -          | 675.28     | 907.24      | 1<br>167.64 | 1<br>470.17 | 1<br>828.53 | 2<br>256.41 | 2<br>767.51 | 3<br>375.53 | 4<br>094.15 |
| <b>80</b>                            | -          | -          | 898.97      | 1<br>150.96 | 1<br>444.79 | 1<br>794.16 | 2<br>212.76 | 2<br>714.30 | 3<br>312.46 | 4<br>020.94 |

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

| $t_c \setminus t_e$ | -20  | -15  | -10  | -5   | 0    | 5    | 10   | 15   | 20   | 25   |
|---------------------|------|------|------|------|------|------|------|------|------|------|
| <b>40</b>           | 2.10 | 2.37 | 2.70 | 3.09 | 3.57 | 4.16 | 4.87 | 5.75 | 6.85 | 8.27 |
| <b>45</b>           | 1.86 | 2.11 | 2.40 | 2.74 | 3.15 | 3.62 | 4.20 | 4.89 | 5.73 | 6.79 |
| <b>50</b>           | 1.64 | 1.88 | 2.14 | 2.44 | 2.78 | 3.17 | 3.64 | 4.19 | 4.85 | 5.66 |
| <b>55</b>           | 1.44 | 1.67 | 1.91 | 2.17 | 2.45 | 2.78 | 3.17 | 3.61 | 4.14 | 4.77 |
| <b>60</b>           | 1.27 | 1.49 | 1.70 | 1.93 | 2.17 | 2.45 | 2.76 | 3.12 | 3.55 | 4.05 |
| <b>65</b>           | 1.12 | 1.33 | 1.52 | 1.71 | 1.92 | 2.15 | 2.41 | 2.70 | 3.05 | 3.44 |
| <b>70</b>           | 0.99 | 1.19 | 1.36 | 1.52 | 1.69 | 1.88 | 2.09 | 2.33 | 2.61 | 2.93 |
| <b>75</b>           | -    | 1.06 | 1.21 | 1.35 | 1.49 | 1.64 | 1.81 | 2.01 | 2.23 | 2.49 |
| <b>80</b>           | -    | -    | 1.08 | 1.19 | 1.30 | 1.42 | 1.56 | 1.71 | 1.89 | 2.10 |

### 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>                            | 30.19      | 38.73      | 49.25      | 62.01      | 77.26      | 95.28      | 116.31     | 140.64    | 168.51   | 200.20   |
| <b>25</b>                            | 27.04      | 35.36      | 45.43      | 57.53      | 71.91      | 88.85      | 108.60     | 131.42    | 157.58   | 187.33   |
| <b>30</b>                            | 24.07      | 32.12      | 41.72      | 53.13      | 66.62      | 82.44      | 100.87     | 122.15    | 146.57   | 174.36   |
| <b>35</b>                            | -          | 29.00      | 38.09      | 48.79      | 61.35      | 76.03      | 93.10      | 112.83    | 135.46   | 161.27   |
| <b>40</b>                            | -          | 25.98      | 34.54      | 44.49      | 56.09      | 69.60      | 85.29      | 103.42    | 124.25   | 148.04   |
| <b>45</b>                            | -          | 23.05      | 31.05      | 40.22      | 50.83      | 63.14      | 77.41      | 93.91     | 112.90   | 134.64   |
| <b>50</b>                            | -          | 20.19      | 27.58      | 35.94      | 45.53      | 56.61      | 69.44      | 84.28     | 101.40   | 121.06   |
| <b>55</b>                            | -          | -          | 24.14      | 31.66      | 40.20      | 50.01      | 61.36      | 74.52     | 89.74    | 107.29   |

**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>                            | 14.41      | 16.37      | 18.24      | 19.96      | 21.45      | 22.64      | 23.46      | 23.83     | 23.67    | 22.92    |
| <b>25</b>                            | 14.76      | 16.93      | 19.06      | 21.08      | 22.91      | 24.49      | 25.73      | 26.57     | 26.93    | 26.74    |
| <b>30</b>                            | 15.05      | 17.41      | 19.78      | 22.08      | 24.24      | 26.18      | 27.84      | 29.13     | 29.98    | 30.33    |
| <b>35</b>                            | -          | 17.84      | 20.43      | 22.98      | 25.45      | 27.73      | 29.78      | 31.50     | 32.83    | 33.69    |
| <b>40</b>                            | -          | 18.23      | 21.01      | 23.81      | 26.55      | 29.16      | 31.57      | 33.70     | 35.49    | 36.84    |
| <b>45</b>                            | -          | 18.59      | 21.54      | 24.56      | 27.56      | 30.47      | 33.23      | 35.75     | 37.97    | 39.80    |
| <b>50</b>                            | -          | 18.93      | 22.04      | 25.25      | 28.49      | 31.69      | 34.77      | 37.67     | 40.29    | 42.58    |
| <b>55</b>                            | -          | -          | 22.52      | 25.90      | 29.36      | 32.82      | 36.21      | 39.45     | 42.47    | 45.20    |



**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>                            | 37.59      | 40.22      | 42.79      | 45.19      | 47.28      | 48.95      | 50.07      | 50.52     | 50.16    | 48.88    |
| <b>25</b>                            | 38.24      | 41.11      | 44.01      | 46.82      | 49.41      | 51.66      | 53.43      | 54.62     | 55.09    | 54.72    |
| <b>30</b>                            | 38.75      | 41.85      | 45.06      | 48.26      | 51.32      | 54.13      | 56.55      | 58.45     | 59.73    | 60.25    |
| <b>35</b>                            | -          | 42.47      | 45.97      | 49.54      | 53.06      | 56.40      | 59.43      | 62.05     | 64.11    | 65.50    |
| <b>40</b>                            | -          | 43.00      | 46.77      | 50.69      | 54.64      | 58.50      | 62.14      | 65.43     | 68.26    | 70.49    |
| <b>45</b>                            | -          | 43.47      | 47.49      | 51.74      | 56.11      | 60.46      | 64.68      | 68.64     | 72.21    | 75.28    |
| <b>50</b>                            | -          | 43.92      | 48.17      | 52.73      | 57.49      | 62.33      | 67.11      | 71.71     | 76.01    | 79.88    |
| <b>55</b>                            | -          | -          | 48.84      | 53.69      | 58.83      | 64.12      | 69.44      | 74.66     | 79.67    | 84.33    |

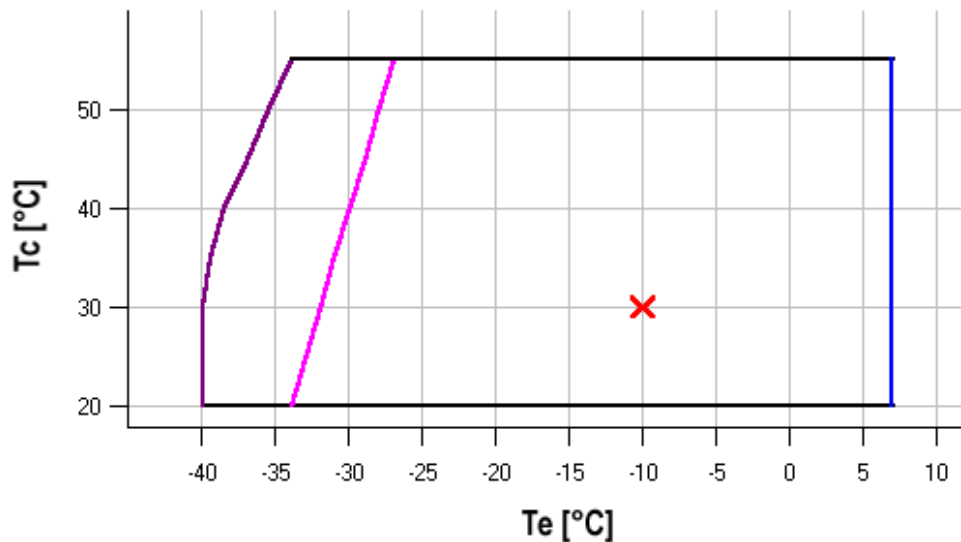
**Mass flow [kg/s]**

| <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>                            | 585.36     | 819.97     | 1<br>079.91 | 1<br>377.85 | 1<br>726.46 | 2<br>138.39 | 2<br>626.31 | 3<br>202.90 | 3<br>880.80 | 4<br>672.68 |
| <b>25</b>                            | 555.80     | 788.50     | 1<br>045.74 | 1<br>340.20 | 1<br>684.55 | 2<br>091.43 | 2<br>573.53 | 3<br>143.50 | 3<br>814.01 | 4<br>597.72 |
| <b>30</b>                            | 528.59     | 758.49     | 1<br>012.15 | 1<br>302.25 | 1<br>641.44 | 2<br>042.40 | 2<br>517.78 | 3<br>080.26 | 3<br>742.48 | 4<br>517.13 |
| <b>35</b>                            | -          | 729.56     | 978.76      | 1<br>263.61 | 1<br>596.77 | 1<br>990.91 | 2<br>458.70 | 3<br>012.79 | 3<br>665.85 | 4<br>430.54 |
| <b>40</b>                            | -          | 701.35     | 945.20      | 1<br>223.91 | 1<br>550.16 | 1<br>936.59 | 2<br>395.89 | 2<br>940.72 | 3<br>583.73 | 4<br>337.59 |
| <b>45</b>                            | -          | 673.48     | 911.09      | 1<br>182.78 | 1<br>501.22 | 1<br>879.07 | 2<br>329.00 | 2<br>863.67 | 3<br>495.75 | 4<br>237.89 |
| <b>50</b>                            | -          | 645.58     | 876.06      | 1<br>139.85 | 1<br>449.60 | 1<br>817.98 | 2<br>257.65 | 2<br>781.28 | 3<br>401.53 | 4<br>131.07 |
| <b>55</b>                            | -          | -          | 839.74      | 1<br>094.73 | 1<br>394.91 | 1<br>752.93 | 2<br>181.46 | 2<br>693.17 | 3<br>300.71 | 4<br>016.75 |

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

| $t_c \setminus t_e$ | -40  | -35  | -30  | -25  | -20  | -15  | -10  | -5   | 0    | 5    |
|---------------------|------|------|------|------|------|------|------|------|------|------|
| <b>20</b>           | 2.09 | 2.37 | 2.70 | 3.11 | 3.60 | 4.21 | 4.96 | 5.90 | 7.12 | 8.74 |
| <b>25</b>           | 1.83 | 2.09 | 2.38 | 2.73 | 3.14 | 3.63 | 4.22 | 4.95 | 5.85 | 7.01 |
| <b>30</b>           | 1.60 | 1.84 | 2.11 | 2.41 | 2.75 | 3.15 | 3.62 | 4.19 | 4.89 | 5.75 |
| <b>35</b>           | -    | 1.63 | 1.86 | 2.12 | 2.41 | 2.74 | 3.13 | 3.58 | 4.13 | 4.79 |
| <b>40</b>           | -    | 1.43 | 1.64 | 1.87 | 2.11 | 2.39 | 2.70 | 3.07 | 3.50 | 4.02 |
| <b>45</b>           | -    | 1.24 | 1.44 | 1.64 | 1.84 | 2.07 | 2.33 | 2.63 | 2.97 | 3.38 |
| <b>50</b>           | -    | 1.07 | 1.25 | 1.42 | 1.60 | 1.79 | 2.00 | 2.24 | 2.52 | 2.84 |
| <b>55</b>           | -    | -    | 1.07 | 1.22 | 1.37 | 1.52 | 1.69 | 1.89 | 2.11 | 2.37 |

### Application range



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

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>                            | 43.75      | 57.42      | 74.18      | 94.14     | 117.45   | 144.23   | 174.62    | -         |
| <b>40</b>                            | 39.93      | 52.63      | 68.30      | 87.07     | 109.07   | 134.43   | 163.28    | -         |
| <b>45</b>                            | 36.14      | 47.87      | 62.46      | 80.04     | 100.73   | 124.67   | 151.98    | -         |
| <b>50</b>                            | 32.48      | 43.24      | 56.75      | 73.13     | 92.52    | 115.04   | 140.82    | -         |
| <b>55</b>                            | -          | 38.82      | 51.25      | 66.44     | 84.52    | 105.62   | 129.88    | -         |
| <b>60</b>                            | -          | -          | 46.05      | 60.05     | 76.83    | 96.52    | 119.24    | -         |

**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>                            | 20.70      | 22.80      | 24.80      | 26.56     | 27.94    | 28.78    | 28.95     | -         |
| <b>40</b>                            | 21.98      | 24.30      | 26.58      | 28.69     | 30.48    | 31.80    | 32.51     | -         |
| <b>45</b>                            | 23.22      | 25.72      | 28.26      | 30.69     | 32.87    | 34.64    | 35.87     | -         |
| <b>50</b>                            | 24.36      | 27.03      | 29.79      | 32.52     | 35.05    | 37.25    | 38.98     | -         |
| <b>55</b>                            | -          | 28.17      | 31.13      | 34.13     | 36.99    | 39.59    | 41.78     | -         |
| <b>60</b>                            | -          | -          | 32.24      | 35.47     | 38.64    | 41.62    | 44.24     | -         |

**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>           | 49.94      | 52.47      | 54.97      | 57.21     | 58.99    | 60.08    | 60.29     | -         |
| <b>40</b>           | 51.50      | 54.33      | 57.22      | 59.95     | 62.31    | 64.08    | 65.06     | -         |
| <b>45</b>           | 52.99      | 56.09      | 59.35      | 62.54     | 65.46    | 67.88    | 69.60     | -         |
| <b>50</b>           | 54.36      | 57.72      | 61.32      | 64.95     | 68.39    | 71.45    | 73.89     | -         |
| <b>55</b>           | -          | 59.17      | 63.09      | 67.13     | 71.09    | 74.74    | 77.88     | -         |
| <b>60</b>           | -          | -          | 64.62      | 69.06     | 73.50    | 77.73    | 81.55     | -         |

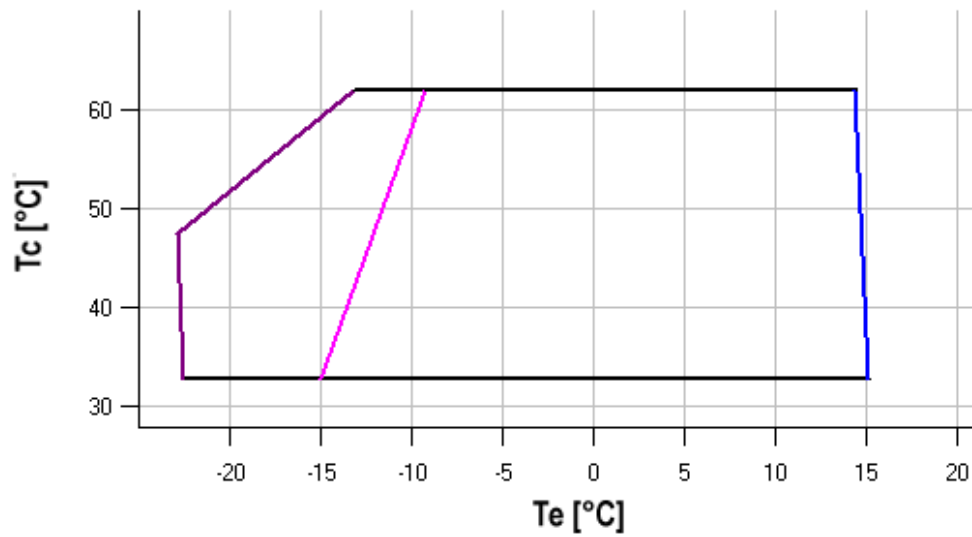
**Mass flow [kg/s]**

| $t_c \setminus t_e$ | <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>           | 965.74     | 1 246.33   | 1 582.93   | 1 976.32  | 2 427.28 | 2 936.59 | 3 505.03  | -         |
| <b>40</b>           | 928.84     | 1 201.68   | 1 531.30   | 1 918.49  | 2 364.02 | 2 868.67 | 3 433.23  | -         |
| <b>45</b>           | 888.51     | 1 153.92   | 1 476.89   | 1 858.20  | 2 298.61 | 2 798.92 | 3 359.91  | -         |
| <b>50</b>           | 847.31     | 1 105.61   | 1 422.24   | 1 797.98  | 2 233.60 | 2 729.88 | 3 287.62  | -         |
| <b>55</b>           | -          | 1 059.29   | 1 369.90   | 1 740.38  | 2 171.52 | 2 664.10 | 3 218.90  | -         |
| <b>60</b>           | -          | -          | 1 322.41   | 1 687.96  | 2 114.94 | 2 604.13 | 3 156.31  | -         |

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

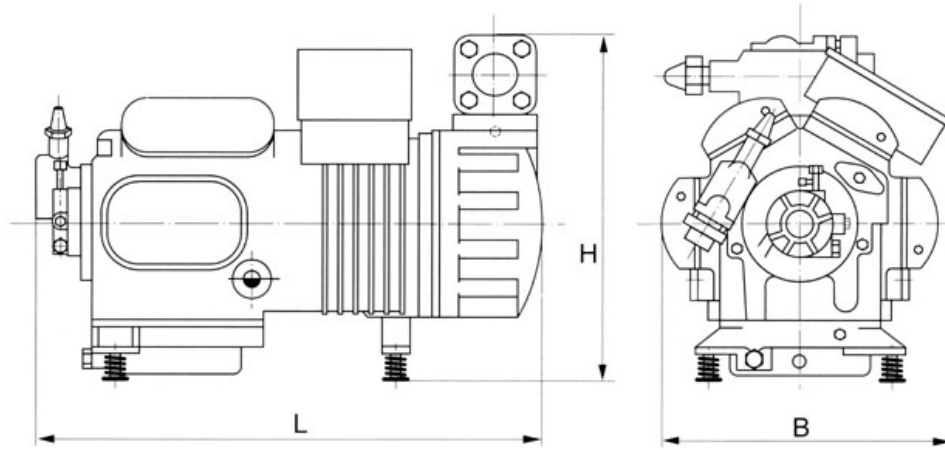
| $t_c \setminus t_e$ | -20  | -15  | -10  | -5   | 0    | 5    | 10   | 15 |
|---------------------|------|------|------|------|------|------|------|----|
| 35                  | 2.11 | 2.52 | 2.99 | 3.54 | 4.20 | 5.01 | 6.03 | -  |
| 40                  | 1.82 | 2.17 | 2.57 | 3.03 | 3.58 | 4.23 | 5.02 | -  |
| 45                  | 1.56 | 1.86 | 2.21 | 2.61 | 3.06 | 3.60 | 4.24 | -  |
| 50                  | 1.33 | 1.60 | 1.90 | 2.25 | 2.64 | 3.09 | 3.61 | -  |
| 55                  | -    | 1.38 | 1.65 | 1.95 | 2.28 | 2.67 | 3.11 | -  |
| 60                  | -    | -    | 1.43 | 1.69 | 1.99 | 2.32 | 2.70 | -  |

### 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 | 835 mm |
| B | 590 mm |
| H | 670 mm |

