

Model: D8SJ-600 X

Data

Type: Semi-hermetic piston compressors

Producer: Copeland

Series: S

Model: D8SJ-600 X

Technical data

| | |
|-----------------------------------|-------------|
| Cylinder count: | 8 |
| Displacement [m ³ /h]: | 181 |
| Weight [kg]: | 367 |
| Oil charge [dm ³]: | 7,7 |
| Max. operating current [A]: | 107 |
| Locked rotor current [A]: | 544 |
| Power supply [V/~/Hz]: | 400V/3/50Hz |

Connections

| | <u>milimeters</u> | <u>inches</u> |
|-----------------|-------------------|---------------|
| Suction line: | | 3 1/8" |
| Discharge line: | | 1 5/8" |

Model: D8SJ-600 X

Capacity

R22

Cooling capacity [kW]

| $t_c \setminus t_e$ | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |
|---------------------|-------|-------|--------|--------|--------|--------|--------|--------|
| 10 | 69.54 | 87.92 | 109.42 | 134.41 | 163.28 | 196.42 | - | - |
| 15 | 64.04 | 81.92 | 102.74 | 126.89 | 154.75 | 186.71 | - | - |
| 20 | 58.59 | 75.95 | 96.08 | 119.37 | 146.21 | 176.97 | 212.05 | - |
| 25 | 53.28 | 70.09 | 89.52 | 111.93 | 137.72 | 167.27 | 200.97 | 239.19 |
| 30 | 48.15 | 64.41 | 83.11 | 104.63 | 129.35 | 157.67 | 189.97 | 226.63 |
| 35 | 43.29 | 58.97 | 76.92 | 97.53 | 121.18 | 148.25 | 179.13 | 214.20 |
| 40 | 38.76 | 53.84 | 71.03 | 90.71 | 113.26 | 139.06 | 168.51 | 201.98 |
| 45 | 34.63 | 49.10 | 65.51 | 84.24 | 105.67 | 130.19 | 158.18 | 190.03 |
| 50 | 30.97 | 44.81 | 60.43 | 78.19 | 98.48 | 121.70 | 148.22 | 178.43 |
| 55 | - | - | 55.84 | 72.62 | 91.76 | 113.66 | 138.69 | 167.24 |
| 60 | - | - | - | 67.61 | 85.58 | 106.14 | 129.66 | 156.53 |

Power input [kW]

| $t_c \setminus t_e$ | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 10 | 19.97 | 20.99 | 21.50 | 21.41 | 20.60 | 18.98 | - | - |
| 15 | 21.28 | 22.75 | 23.77 | 24.26 | 24.10 | 23.19 | - | - |
| 20 | 22.38 | 24.27 | 25.78 | 26.81 | 27.27 | 27.04 | 26.03 | - |
| 25 | 23.32 | 25.59 | 27.56 | 29.12 | 30.17 | 30.60 | 30.31 | 29.20 |
| 30 | 24.13 | 26.77 | 29.17 | 31.22 | 32.83 | 33.89 | 34.29 | 33.94 |
| 35 | 24.87 | 27.85 | 30.64 | 33.16 | 35.30 | 36.96 | 38.03 | 38.41 |
| 40 | 25.58 | 28.86 | 32.03 | 34.99 | 37.64 | 39.86 | 41.57 | 42.65 |
| 45 | 26.31 | 29.86 | 33.38 | 36.75 | 39.87 | 42.64 | 44.96 | 46.71 |
| 50 | 27.09 | 30.90 | 34.73 | 38.48 | 42.05 | 45.33 | 48.23 | 50.64 |
| 55 | - | - | 36.13 | 40.23 | 44.22 | 47.99 | 51.44 | 54.47 |
| 60 | - | - | - | 42.05 | 46.43 | 50.66 | 54.63 | 58.25 |

Model: D8SJ-600 X

Capacity

Current [A]

| $t_c \setminus t_e$ | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |
|---------------------|-------|-------|-------|-------|-------|-------|--------|--------|
| 10 | 53.02 | 54.62 | 55.63 | 55.88 | 55.19 | 53.39 | - | - |
| 15 | 54.93 | 56.88 | 58.35 | 59.16 | 59.14 | 58.12 | - | - |
| 20 | 56.54 | 58.84 | 60.77 | 62.16 | 62.82 | 62.59 | 61.28 | - |
| 25 | 57.89 | 60.56 | 62.96 | 64.93 | 66.28 | 66.85 | 66.45 | 64.91 |
| 30 | 59.04 | 62.07 | 64.96 | 67.51 | 69.57 | 70.94 | 71.46 | 70.95 |
| 35 | 60.02 | 63.44 | 66.81 | 69.97 | 72.72 | 74.91 | 76.36 | 76.88 |
| 40 | 60.89 | 64.70 | 68.57 | 72.33 | 75.80 | 78.82 | 81.19 | 82.76 |
| 45 | 61.69 | 65.89 | 70.27 | 74.65 | 78.85 | 82.69 | 86.01 | 88.63 |
| 50 | 62.47 | 67.08 | 71.97 | 76.97 | 81.90 | 86.59 | 90.86 | 94.54 |
| 55 | - | - | 73.71 | 79.34 | 85.02 | 90.56 | 95.79 | 100.53 |
| 60 | - | - | - | 81.82 | 88.24 | 94.64 | 100.84 | 106.66 |

Mass flow [kg/s]

| $t_c \setminus t_e$ | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |
|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| 10 | 1 264.69 | 1 606.28 | 1 991.96 | 2 428.78 | 2 923.78 | 3 483.99 | - | - |
| 15 | 1 217.17 | 1 559.29 | 1 944.70 | 2 380.46 | 2 873.59 | 3 431.15 | - | - |
| 20 | 1 161.69 | 1 503.83 | 1 888.48 | 2 322.67 | 2 813.45 | 3 367.85 | 3 992.92 | - |
| 25 | 1 101.01 | 1 442.69 | 1 826.08 | 2 258.22 | 2 746.15 | 3 296.90 | 3 917.53 | 4 615.07 |
| 30 | 1 037.95 | 1 378.67 | 1 760.30 | 2 189.89 | 2 674.47 | 3 221.08 | 3 836.77 | 4 528.58 |
| 35 | 975.28 | 1 314.55 | 1 693.93 | 2 120.47 | 2 601.21 | 3 143.18 | 3 753.44 | 4 439.02 |
| 40 | 915.80 | 1 253.12 | 1 629.75 | 2 052.75 | 2 529.15 | 3 066.00 | 3 670.33 | 4 349.18 |
| 45 | 862.31 | 1 197.17 | 1 570.57 | 1 989.53 | 2 461.10 | 2 992.31 | 3 590.22 | 4 261.85 |
| 50 | 817.58 | 1 149.50 | 1 519.16 | 1 933.59 | 2 399.83 | 2 924.92 | 3 515.91 | 4 179.83 |
| 55 | - | - | 1 478.32 | 1 887.72 | 2 348.14 | 2 866.61 | 3 450.18 | 4 105.89 |
| 60 | - | - | - | 1 854.72 | 2 308.81 | 2 820.17 | 3 395.84 | 4 042.84 |

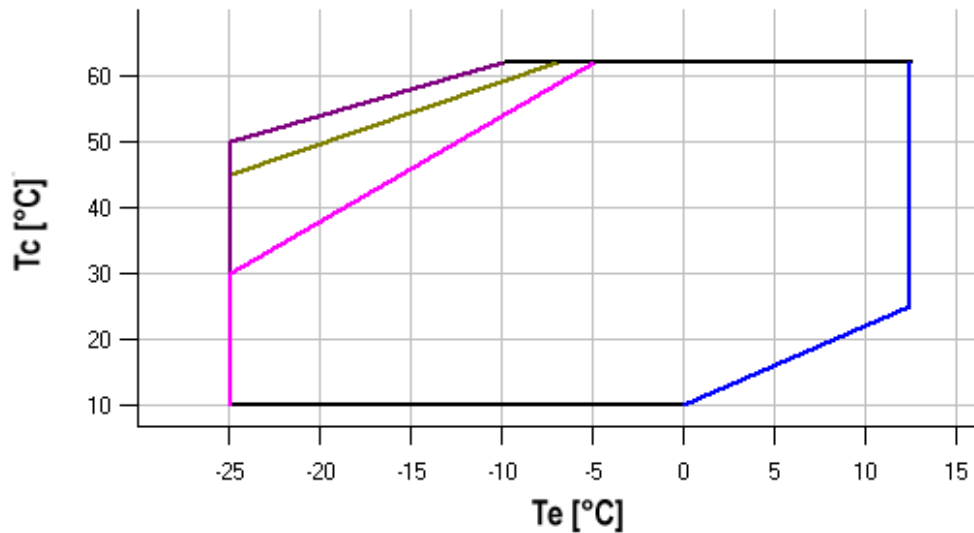
Model: D8SJ-600 X

Capacity

C.O.P. [W/W]

| $t_c \setminus t_e$ | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |
|---------------------|------|------|------|------|------|-------|------|------|
| 10 | 3.48 | 4.19 | 5.09 | 6.28 | 7.93 | 10.35 | - | - |
| 15 | 3.01 | 3.60 | 4.32 | 5.23 | 6.42 | 8.05 | - | - |
| 20 | 2.62 | 3.13 | 3.73 | 4.45 | 5.36 | 6.54 | 8.15 | - |
| 25 | 2.28 | 2.74 | 3.25 | 3.84 | 4.57 | 5.47 | 6.63 | 8.19 |
| 30 | 2.00 | 2.41 | 2.85 | 3.35 | 3.94 | 4.65 | 5.54 | 6.68 |
| 35 | 1.74 | 2.12 | 2.51 | 2.94 | 3.43 | 4.01 | 4.71 | 5.58 |
| 40 | 1.51 | 1.87 | 2.22 | 2.59 | 3.01 | 3.49 | 4.05 | 4.74 |
| 45 | 1.32 | 1.64 | 1.96 | 2.29 | 2.65 | 3.05 | 3.52 | 4.07 |
| 50 | 1.14 | 1.45 | 1.74 | 2.03 | 2.34 | 2.68 | 3.07 | 3.52 |
| 55 | - | - | 1.55 | 1.81 | 2.08 | 2.37 | 2.70 | 3.07 |
| 60 | - | - | - | 1.61 | 1.84 | 2.10 | 2.37 | 2.69 |

Application range



Blue line: Maximum evaporating temperature
Magenta line: 25°C suction gas temperature

Purple line: 10K suction gas return + additional cooling
Olive line: 20K 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]

Model: D8SJ-600 X

Capacity

R404A/R507

Cooling capacity [kW]

| $t_c \setminus t_e$ | -35 | -30 | -25 | -20 | -15 | -10 | -5 | 0 | 5 |
|---------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| 30 | 33.70 | 44.91 | 58.24 | 74.03 | 92.59 | 114.27 | 139.39 | 168.28 | 201.27 |
| 35 | 29.74 | 40.47 | 53.06 | 67.84 | 85.15 | 105.30 | 128.63 | 155.47 | 186.14 |
| 40 | - | 36.18 | 47.98 | 61.70 | 77.69 | 96.26 | 117.75 | 142.49 | 170.80 |
| 45 | - | 32.01 | 42.96 | 55.59 | 70.20 | 87.15 | 106.75 | 129.33 | 155.23 |
| 50 | - | 27.95 | 38.01 | 49.47 | 62.67 | 77.94 | 95.60 | 115.98 | 139.41 |
| 55 | - | 23.97 | 33.09 | 43.35 | 55.08 | 68.61 | 84.28 | 102.40 | 123.32 |

Power input [kW]

| $t_c \setminus t_e$ | -35 | -30 | -25 | -20 | -15 | -10 | -5 | 0 | 5 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 30 | 18.39 | 21.80 | 25.20 | 28.51 | 31.64 | 34.51 | 37.03 | 39.10 | 40.64 |
| 35 | 18.51 | 22.19 | 25.90 | 29.57 | 33.11 | 36.42 | 39.42 | 42.03 | 44.15 |
| 40 | - | 22.47 | 26.48 | 30.49 | 34.40 | 38.14 | 41.61 | 44.73 | 47.41 |
| 45 | - | 22.67 | 26.95 | 31.26 | 35.54 | 39.68 | 43.60 | 47.21 | 50.42 |
| 50 | - | 22.79 | 27.32 | 31.93 | 36.54 | 41.06 | 45.40 | 49.48 | 53.20 |
| 55 | - | 22.86 | 27.61 | 32.49 | 37.41 | 42.29 | 47.03 | 51.56 | 55.77 |

Model: D8SJ-600 X

Capacity

Current [A]

| t_c \ t_e | -35 | -30 | -25 | -20 | -15 | -10 | -5 | 0 | 5 |
|--------------------------------------|------------|------------|------------|------------|------------|------------|-----------|----------|----------|
| 30 | 52.57 | 56.34 | 60.31 | 64.35 | 68.28 | 71.97 | 75.25 | 77.98 | 80.01 |
| 35 | 52.69 | 56.79 | 61.16 | 65.67 | 70.14 | 74.44 | 78.41 | 81.89 | 84.75 |
| 40 | - | 57.12 | 61.87 | 66.82 | 71.81 | 76.69 | 81.31 | 85.53 | 89.18 |
| 45 | - | 57.35 | 62.45 | 67.81 | 73.29 | 78.73 | 83.98 | 88.90 | 93.32 |
| 50 | - | 57.49 | 62.90 | 68.66 | 74.59 | 80.57 | 86.42 | 92.01 | 97.17 |
| 55 | - | 57.55 | 63.26 | 69.37 | 75.74 | 82.22 | 88.65 | 94.88 | 100.76 |

Mass flow [kg/s]

| t_c \ t_e | -35 | -30 | -25 | -20 | -15 | -10 | -5 | 0 | 5 |
|--------------------------------------|------------|------------|------------|------------|------------|------------|-----------|----------|----------|
| 30 | 806.67 | 1 098.09 | 1 432.61 | 1 825.74 | 2 293.04 | 2 850.02 | 3 512.23 | 4 295.19 | 5 214.44 |
| 35 | 753.36 | 1 044.58 | 1 377.29 | 1 767.01 | 2 229.27 | 2 779.61 | 3 433.57 | 4 206.66 | 5 114.44 |
| 40 | - | 990.94 | 1 320.49 | 1 705.46 | 2 161.35 | 2 703.72 | 3 348.08 | 4 109.98 | 5 004.95 |
| 45 | - | 936.89 | 1 261.97 | 1 640.84 | 2 089.03 | 2 622.08 | 3 255.52 | 4 004.89 | 4 885.71 |
| 50 | - | 882.19 | 1 201.45 | 1 572.89 | 2 012.05 | 2 534.45 | 3 155.63 | 3 891.12 | 4 756.46 |
| 55 | - | 826.58 | 1 138.69 | 1 501.37 | 1 930.15 | 2 440.56 | 3 048.15 | 3 768.43 | 4 616.96 |

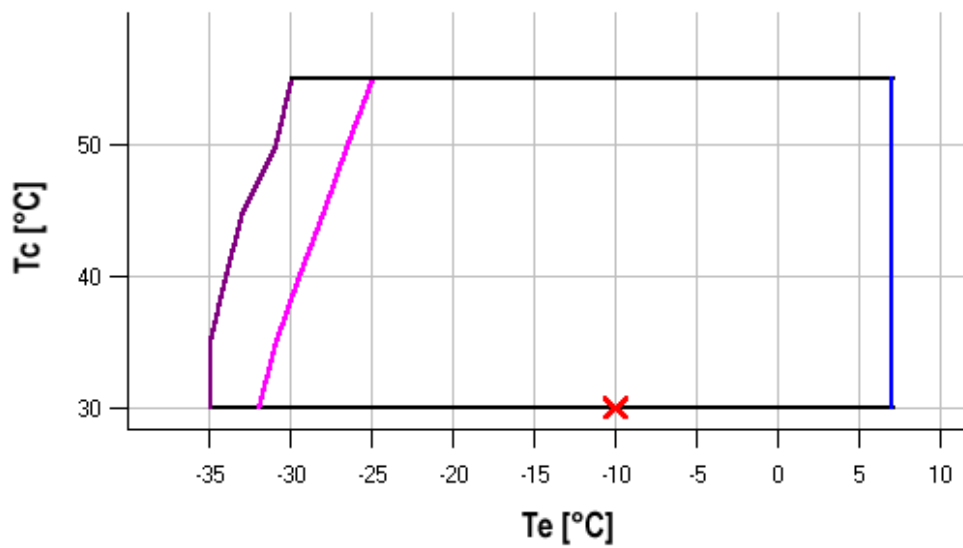
Model: D8SJ-600 X



Capacity

C.O.P. [W/W]

| $t_c \setminus t_e$ | -35 | -30 | -25 | -20 | -15 | -10 | -5 | 0 | 5 |
|---------------------|------|------|------|------|------|------|------|------|------|
| 30 | 1.83 | 2.06 | 2.31 | 2.60 | 2.93 | 3.31 | 3.76 | 4.30 | 4.95 |
| 35 | 1.61 | 1.82 | 2.05 | 2.29 | 2.57 | 2.89 | 3.26 | 3.70 | 4.22 |
| 40 | - | 1.61 | 1.81 | 2.02 | 2.26 | 2.52 | 2.83 | 3.19 | 3.60 |
| 45 | - | 1.41 | 1.59 | 1.78 | 1.98 | 2.20 | 2.45 | 2.74 | 3.08 |
| 50 | - | 1.23 | 1.39 | 1.55 | 1.72 | 1.90 | 2.11 | 2.34 | 2.62 |
| 55 | - | 1.05 | 1.20 | 1.33 | 1.47 | 1.62 | 1.79 | 1.99 | 2.21 |

Application range



 Maximum evaporating temperature
 25°C suction gas 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: D8SJ-600 X

Capacity

R407C

Cooling capacity [kW]

| $t_c \setminus t_e$ | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |
|---------------------|-------|-------|-------|--------|--------|--------|--------|--------|
| 10 | 57.93 | 74.26 | 94.22 | 118.22 | 146.66 | 179.96 | - | - |
| 15 | 55.34 | 71.39 | 90.82 | 114.01 | 141.39 | 173.35 | 210.30 | - |
| 20 | 52.40 | 68.13 | 86.97 | 109.31 | 135.57 | 166.15 | 201.45 | 241.89 |
| 25 | 49.16 | 64.52 | 82.72 | 104.16 | 129.25 | 158.40 | 192.01 | 230.49 |
| 30 | 45.66 | 60.60 | 78.11 | 98.61 | 122.49 | 150.16 | 182.03 | 218.50 |
| 35 | 41.96 | 56.43 | 73.21 | 92.70 | 115.32 | 141.47 | 171.54 | 205.95 |
| 40 | 38.09 | 52.04 | 68.04 | 86.49 | 107.80 | 132.37 | 160.60 | 192.91 |
| 45 | 34.11 | 47.50 | 62.66 | 80.02 | 99.96 | 122.91 | 149.25 | 179.41 |
| 50 | - | 42.83 | 57.12 | 73.33 | 91.87 | 113.14 | 137.55 | 165.50 |
| 55 | - | - | 51.46 | 66.47 | 83.55 | 103.10 | 125.52 | 151.22 |
| 60 | - | - | - | 59.50 | 75.07 | 92.85 | 113.23 | 136.63 |

Power input [kW]

| $t_c \setminus t_e$ | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 10 | 16.82 | 18.26 | 19.18 | 19.51 | 19.14 | 18.00 | - | - |
| 15 | 18.01 | 19.92 | 21.35 | 22.24 | 22.47 | 21.97 | 20.65 | - |
| 20 | 19.03 | 21.40 | 23.34 | 24.78 | 25.61 | 25.74 | 25.10 | 23.58 |
| 25 | 19.86 | 22.69 | 25.13 | 27.11 | 28.53 | 29.30 | 29.32 | 28.52 |
| 30 | 20.48 | 23.76 | 26.70 | 29.22 | 31.22 | 32.61 | 33.30 | 33.21 |
| 35 | 20.88 | 24.61 | 28.04 | 31.09 | 33.66 | 35.67 | 37.02 | 37.64 |
| 40 | 21.05 | 25.21 | 29.12 | 32.70 | 35.84 | 38.46 | 40.47 | 41.78 |
| 45 | 20.95 | 25.55 | 29.94 | 34.03 | 37.73 | 40.95 | 43.61 | 45.61 |
| 50 | - | 25.61 | 30.47 | 35.07 | 39.32 | 43.15 | 46.44 | 49.13 |
| 55 | - | - | 30.69 | 35.80 | 40.60 | 45.02 | 48.95 | 52.31 |
| 60 | - | - | - | 36.20 | 41.54 | 46.54 | 51.10 | 55.14 |

Model: D8SJ-600 X

Capacity

Current [A]

| $t_c \setminus t_e$ | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 10 | 44.28 | 45.87 | 47.17 | 47.88 | 47.74 | 46.45 | - | - |
| 15 | 45.41 | 47.45 | 49.30 | 50.69 | 51.34 | 50.96 | 49.29 | - |
| 20 | 46.52 | 48.96 | 51.32 | 53.34 | 54.74 | 55.23 | 54.54 | 52.38 |
| 25 | 47.63 | 50.41 | 53.24 | 55.85 | 57.95 | 59.26 | 59.50 | 58.40 |
| 30 | 48.73 | 51.81 | 55.07 | 58.21 | 60.97 | 63.05 | 64.19 | 64.09 |
| 35 | 49.83 | 53.17 | 56.81 | 60.44 | 63.81 | 66.62 | 68.60 | 69.47 |
| 40 | 50.94 | 54.50 | 58.46 | 62.55 | 66.48 | 69.98 | 72.76 | 74.55 |
| 45 | 52.08 | 55.80 | 60.05 | 64.54 | 68.99 | 73.12 | 76.66 | 79.32 |
| 50 | - | 57.08 | 61.56 | 66.41 | 71.34 | 76.06 | 80.31 | 83.79 |
| 55 | - | - | 63.02 | 68.18 | 73.53 | 78.81 | 83.72 | 87.98 |
| 60 | - | - | - | 69.85 | 75.59 | 81.36 | 86.89 | 91.90 |

Mass flow [kg/s]

| $t_c \setminus t_e$ | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |
|---------------------|--------|----------|----------|----------|----------|----------|----------|----------|
| 10 | 914.39 | 1 186.46 | 1 510.83 | 1 899.65 | 2 365.05 | 2 919.20 | - | - |
| 15 | 899.40 | 1 175.15 | 1 501.89 | 1 891.77 | 2 356.94 | 2 909.56 | 3 561.76 | - |
| 20 | 881.37 | 1 159.49 | 1 487.30 | 1 876.95 | 2 340.60 | 2 890.39 | 3 538.46 | 4 296.97 |
| 25 | 860.21 | 1 139.41 | 1 467.00 | 1 855.13 | 2 315.95 | 2 861.62 | 3 504.27 | 4 256.05 |
| 30 | 835.86 | 1 114.84 | 1 440.91 | 1 826.22 | 2 282.93 | 2 823.18 | 3 459.11 | 4 202.88 |
| 35 | 808.25 | 1 085.71 | 1 408.97 | 1 790.17 | 2 241.46 | 2 774.99 | 3 402.91 | 4 137.36 |
| 40 | 777.30 | 1 051.95 | 1 371.10 | 1 746.89 | 2 191.47 | 2 717.00 | 3 335.60 | 4 059.45 |
| 45 | 742.95 | 1 013.49 | 1 327.23 | 1 696.32 | 2 132.90 | 2 649.11 | 3 257.12 | 3 969.05 |
| 50 | - | 970.26 | 1 277.30 | 1 638.38 | 2 065.66 | 2 571.27 | 3 167.37 | 3 866.11 |
| 55 | - | - | 1 221.22 | 1 573.01 | 1 989.69 | 2 483.41 | 3 066.31 | 3 750.55 |
| 60 | - | - | - | 1 500.13 | 1 904.92 | 2 385.44 | 2 953.85 | 3 622.30 |

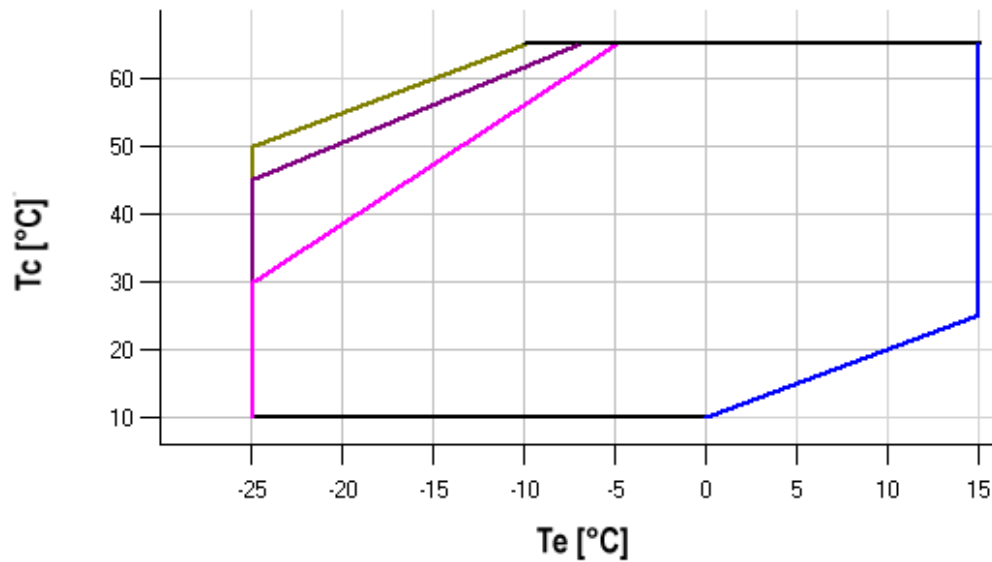
Model: D8SJ-600 X

Capacity

C.O.P. [W/W]

| $t_c \setminus t_e$ | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |
|---------------------|------|------|------|------|------|-------|-------|-------|
| 10 | 3.44 | 4.07 | 4.91 | 6.06 | 7.66 | 10.00 | - | - |
| 15 | 3.07 | 3.58 | 4.25 | 5.13 | 6.29 | 7.89 | 10.19 | - |
| 20 | 2.75 | 3.18 | 3.73 | 4.41 | 5.29 | 6.45 | 8.03 | 10.26 |
| 25 | 2.48 | 2.84 | 3.29 | 3.84 | 4.53 | 5.41 | 6.55 | 8.08 |
| 30 | 2.23 | 2.55 | 2.93 | 3.37 | 3.92 | 4.60 | 5.47 | 6.58 |
| 35 | 2.01 | 2.29 | 2.61 | 2.98 | 3.43 | 3.97 | 4.63 | 5.47 |
| 40 | 1.81 | 2.06 | 2.34 | 2.65 | 3.01 | 3.44 | 3.97 | 4.62 |
| 45 | 1.63 | 1.86 | 2.09 | 2.35 | 2.65 | 3.00 | 3.42 | 3.93 |
| 50 | - | 1.67 | 1.87 | 2.09 | 2.34 | 2.62 | 2.96 | 3.37 |
| 55 | - | - | 1.68 | 1.86 | 2.06 | 2.29 | 2.56 | 2.89 |
| 60 | - | - | - | 1.64 | 1.81 | 1.99 | 2.22 | 2.48 |

Application range



- Maximum evaporating temperature
- 25°C suction gas temperature
- 20K suction gas return
- 20K suction gas return + additional cooling

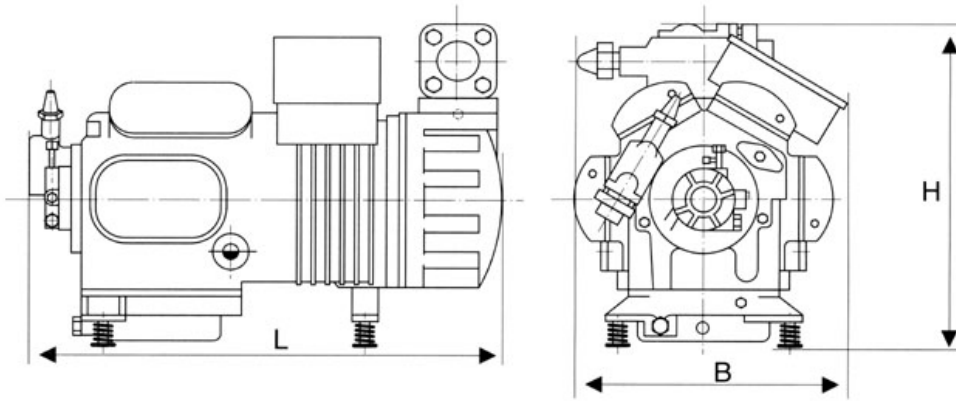
Operating conditions: ISO; subcooling: 0 K, suction superheat: 10 K, return gas temperature: -

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Model: D8SJ-600 X

Dimensions



| | |
|---|--------|
| L | 835 mm |
| B | 625 mm |
| H | 670 mm |

Model: D8SJ-600 X

Image

