

Datasheets

Danfoss scroll compressors SM / SY / SZ / SH / WSH



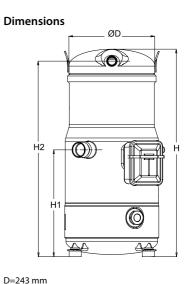
Datasheet, technical data

Danfoss scroll compressor, SH105-4

Danfoss

General Characteristics

| Model number (on compressor nameplate) | SH105A4ALC |
|---|---|
| Code number for Singlepack* | 120H0211 |
| Code number for Industrial pack** | 120H0212 |
| Drawing number | 8560003h |
| Suction and discharge connections | Brazed |
| Suction connection | 1-3/8 " ODF |
| Discharge connection | 7/8 " ODF |
| Oil sight glass | Threaded |
| Oil equalisation connection | 1-3/4" Rotolock |
| Oil drain connection | None |
| LP gauge port | Schrader |
| IPR valve | None |
| Swept volume | 103.5 cm3/rev |
| Displacement @ Nominal speed | 18.0 m3/h @ 2900 rpm - 21.7 m3/h @ 3500 rpm |
| Net weight | 64.2 kg |
| Oil charge | 3.3 litre, POE - 160SZ |
| Maximum system test pressure Low Side / High side | 33.3 bar(g) / 48.7 bar(g) |
| Maximum differential test pressure | 37 bar |
| Maximum number of starts per hour | 12 |
| Refrigerant charge limit | 7.9 kg |
| Approved refrigerants | R410A |
| | |



H=540 mm H1=278 mm H2=509 mm H3=- mm

380-400V/3/50Hz - 460V/3/60Hz

342-440 V @ 50Hz - 414-506 V @ 60Hz

1.05 Ω

17.9 A

25 A

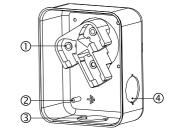
142 A

Internal overload protector

50 Nm

3 Nm / 2 Nm 15 Nm

Terminal box



Parts shipped with compressor

Power connections / Earth connection

Recommended Installation torques

Electrical Characteristics

Maximum Continuous Current (MCC)

Winding resistance (between phases) +/- 7% at 25°C

Nominal voltage

Rated Load Amps (RLA)

Locked Rotor Amps (LRA)

Motor protection

Oil sight glass

Mounting bolts

Voltage range

| Mounting kit with grommets, bolts, nuts, sleeves and washers |
|--|
| Initial oil charge |
| Installation instructions |
| |

Approvals : CE certified, UL certified (file SA6873), -

*Singlepack: Compressor in cardboard box

**Industrial pack: 8 Unboxed compressors on pallet (order per multiples of 8)

IP54 (with cable gland)

- Power connection, 3 x 4.8 mm (3/16")
- 2: Earth M4-12

1:

- 3: Knock-out Ø 29 mm (1.14")
- 4: Knock-out Ø 25.5 mm (1.00")



Datasheet, accessories and spare parts

Danfoss scroll compressor, SH105-4

| Rotolock accessories, suction side | Code no. |
|--|----------|
| Solder sleeve, P10 (1-3/4" Rotolock, 1-3/8" ODF) | 8153003 |
| Rotolock valve, V10 (1-3/4" Rotolock, 1-3/8" ODF) | 8168022 |
| Gasket, 1-3/4" | 8156132 |
| Rotolock accessories, discharge side | Code no. |
| Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF) | 8168030 |
| Gasket, 1-3/4" | 8156132 |
| Rotolock accessories, sets | Code no. |
| Solder sleeve adapter set (1-3/4" Rotolock, 1-3/8" ODF), (1-1/4" Rotolock, 7/8" ODF) | 120Z0405 |
| Valve set, V10 (1-3/4"~1-3/8"), V05 (1-1/4"~7/8") | 7703392 |
| Gasket set, 1-1/4", 1-3/4", 2-1/4", OSG gaskets black & white | 8156013 |
| Oil / lubricants | Code no. |
| POE lubricant, 160SZ, 1 litre can | 7754023 |
| POE lubricant, 160SZ, 2.5 litre can | 120Z0571 |
| Crankcase heaters | Code no. |
| Surface sump heater, 80 W, 24 V, CE mark, UL | 120Z0388 |
| Surface sump heater, 80 W, 230 V, CE mark, UL | 120Z0389 |
| Surface sump heater, 80 W, 400 V, CE mark, UL | 120Z0390 |
| Surface sump heater, 80 W, 460 V, CE mark, UL | 120Z0391 |
| Miscellaneous accessories | Code no. |
| Acoustic hood for scroll compressor SH105-161 & SM124, SM147 | 120Z0035 |
| Gasket, 1-3/4" | 8156132 |
| Discharge thermostat kit | 7750009 |
| Spare parts | Code no. |
| Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers | 120Z0066 |
| Oil sight glass with gaskets (black & white) | 8156019 |
| Service kit for terminal box 96 x 115 mm, including 1 cover, 1 clamp | 8156135 |
| Service kit for terminal box 90 x 115 min, including 1 cover, 1 clamp | |

Danfoss scroll compressor. SH105-4

Danfoss

R410A

Performance data at 50 Hz, EN 12900 rating conditions

| Cond. temp. in | - | | | 1 | ating temperature | | | | |
|---|---|---|---|--|-----------------------------------|--|---|---|--|
| °C (tc) | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 |
| | | | | | | | | | |
| ooling capacity | | | 1 | 1 | | | 1 | 1 | 1 |
| 30 | 8 503 | 10 804 | 13 562 | 16 834 | 20 679 | 25 155 | 30 323 | 36 239 | 42 962 |
| 35 | 8 074 | 10 319 | 12 973 | 16 095 | 19 744 | 23 979 | 28 857 | 34 438 | 40 779 |
| 40 | - | 9 791 | 12 333 | 15 296 | 18 740 | 22 722 | 27 302 | 32 537 | 38 487 |
| 45 | - | - | 11 620 | 14 414 | 17 642 | 21 363 | 25 634 | 30 515 | 36 064 |
| 50 | - | - | 10 810 | 13 426 | 16 429 | 19 879 | 23 832 | 28 349 | 33 487 |
| 55 | - | - | - | 12 309 | 15 078 | 18 247 | 21 873 | 26 016 | 30 733 |
| 60 | - | - | - | - | 13 567 | 16 445 | 19 734 | 23 493 | 27 781 |
| 65 | - | - | - | - | - | - | 17 393 | 20 759 | 24 607 |
| ower input in W | , | | | | | | | | |
| 30 | 4 872 | 4 925 | 4 987 | 5 057 | 5 136 | 5 223 | 5 319 | 5 424 | 5 538 |
| 35 | 5 380 | 4 923 5 431 | 5 494 | 5 568 | 5 652 | 5 748 | 5 854 | 5 971 | 6 100 |
| 40 | | 6 001 | 6 058 | 6 129 | 6 212 | 6 309 | 6 418 | 6 542 | 6 678 |
| | - | | | | | | | | |
| 45 | - | - | 6 703 | 6 763 | 6 839 | 6 930 | 7 037 | 7 159 | 7 297 |
| 50 | - | - | 7 453 | 7 496 | 7 557 | 7 637 | 7 733 | 7 848 | 7 981 |
| 55 | - | - | - | 8 351 | 8 391 | 8 451 | 8 532 | 8 632 | 8 753 |
| 60 | - | - | - | - | 9 364 | 9 398 | 9 456 | 9 535 | 9 637 |
| 65 | - | - | - | - | - | - | 10 529 | 10 581 | 10 658 |
| urrent consum | otion in A | | | | | | | | |
| 30 | 11.69 | 11.84 | 11.95 | 12.03 | 12.09 | 12.16 | 12.23 | 12.34 | 12.49 |
| 35 | 12.22 | 12.37 | 12.48 | 12.57 | 12.64 | 12.71 | 12.81 | 12.93 | 13.10 |
| 40 | - | 12.97 | 13.08 | 13.16 | 13.23 | 13.31 | 13.41 | 13.55 | 13.73 |
| 45 | - | - | 13.77 | 13.84 | 13.92 | 14.00 | 14.10 | 14.23 | 14.42 |
| 50 | - | - | 14.59 | 14.66 | 14.72 | 14.80 | 14.89 | 15.03 | 15.22 |
| 55 | - | - | - | 15.65 | 15.70 | 15.76 | 15.84 | 15.97 | 16.16 |
| 60 | - | - | - | - | 16.88 | 16.92 | 16.99 | 17.11 | 17.28 |
| 65 | - | - | - | - | - | - | 18.37 | 18.47 | 18.62 |
| | | | | | | | | | |
| lass flow in kg/l | ı | • | 1 | | | 1 | 1 | • | |
| 30 | 176 | 222 | 276 | 338 | 410 | 493 | 589 | 698 | 821 |
| 35 | 177 | 224 | 277 | 340 | 411 | 494 | 588 | 695 | 817 |
| 40 | - | 224 | 278 | 340 | 412 | 493 | 586 | 692 | 811 |
| 45 | - | - | 278 | 340 | 411 | 491 | 583 | 687 | 804 |
| 50 | - | - | 277 | 339 | 409 | 488 | 579 | 681 | 796 |
| 55 | - | - | - | 336 | 405 | 484 | 573 | 673 | 786 |
| 60 | - | - | - | - | 400 | 478 | 565 | 664 | 774 |
| 65 | - | - | - | - | - | - | 556 | 652 | 761 |
| | | | | | | | | | |
| | • | | | L | | | | | |
| | | 2.19 | 2.72 | 3.33 | 4.03 | 4.82 | 5.70 | 6.68 | 7.76 |
| 30 | 1.75 | | | 2.89 | 3.49 | 4.17 | 4.93 | 5.77 | 6.69 |
| 30 35 | 1.50 | 1.90 | 2.36 | | | | 4.25 | 4.97 | 5.76 |
| 30 35 40 | 1.50 - | 1.63 | 2.04 | 2.50 | 3.02 | 3.60 | | | 1 01 |
| 30 35 40 45 | 1.50 - - | 1.63 - | 2.04 1.73 | 2.50 2.13 | 2.58 | 3.08 | 3.64 | 4.26 | 4.94 |
| 30 35 40 45 50 | 1.50 - - - | 1.63 - - | 2.04 1.73 1.45 | 2.50 2.13 1.79 | 2.58 2.17 | 3.08 2.60 | 3.64 3.08 | 3.61 | 4.20 |
| 30 35 40 45 50 55 | 1.50 - - - - | 1.63 - - - | 2.04 1.73 1.45 - | 2.50 2.13 1.79 1.47 | 2.58 2.17 1.80 | 3.08 2.60 2.16 | 3.64 3.08 2.56 | 3.61 3.01 | 4.20 3.51 |
| 30 35 40 45 50 55 60 60 | 1.50 - - - - - | 1.63 - - - - | 2.04 1.73 1.45 - - | 2.50 2.13 1.79 1.47 - | 2.58 2.17 1.80 1.45 | 3.08 2.60 2.16 1.75 | 3.64 3.08 2.56 2.09 | 3.61 3.01 2.46 | 4.20 3.51 2.88 |
| 30 35 40 45 50 55 | 1.50 - - - - | 1.63 - - - | 2.04 1.73 1.45 - | 2.50 2.13 1.79 1.47 | 2.58 2.17 1.80 | 3.08 2.60 2.16 | 3.64 3.08 2.56 | 3.61 3.01 | 4.20 3.51 |
| 30 35 40 45 50 55 60 65 | 1.50 - - - - - - - | 1.63 - - - - - - | 2.04 1.73 1.45 - - | 2.50 2.13 1.79 1.47 - | 2.58 2.17 1.80 1.45 | 3.08 2.60 2.16 1.75 | 3.64 3.08 2.56 2.09 1.65 | 3.61 3.01 2.46 | 4.20 3.51 2.88 |
| 35 40 45 50 55 60 | 1.50 - - - - - - - | 1.63 - - - - - - | 2.04 1.73 1.45 - - - | 2.50 2.13 1.79 1.47 - | 2.58 2.17 1.80 1.45 | 3.08 2.60 2.16 1.75 - | 3.64 3.08 2.56 2.09 1.65 settings | 3.61 3.01 2.46 | 4.20 3.51 2.88 |
| 30 35 40 45 50 55 60 65 Iominal perform Cooling capacity Power input Cooling capacity | 1.50 - - - - - ance at to = 5 % | 1.63 - - - - - - - - - - - - - - - - - - - | 2.04 1.73 1.45 - - - - | 2.50 2.13 1.79 1.47 - | 2.58 2.17 1.80 1.45 | 3.08 2.60 2.16 1.75 - Pressure switch Maximum HP switch Minimum LP switch | 3.64 3.08 2.56 2.09 1.65 settings ch setting th setting | 3.61 3.01 2.46 1.96 46.1 1.5 | 4.20 3.51 2.88 2.31 |
| 30 35 40 45 50 55 60 65 cooling capacity tower input current consumpt | 1.50 - - - - - ance at to = 5 % | 1.63 - - - - C, tc = 50 °C 23 832 7 733 14.89 | 2.04 1.73 1.45 - - - - - - - - - - - - - - - - - - - | 2.50 2.13 1.79 1.47 - | 2.58 2.17 1.80 1.45 | 3.08 2.60 2.16 1.75 - Pressure switch Maximum HP swit | 3.64 3.08 2.56 2.09 1.65 settings ch setting th setting | 3.61 3.01 2.46 1.96 46.1 | 4.20 3.51 2.88 2.31 bar(g) |
| 30 35 40 45 50 55 60 65 Iominal perform Cooling capacity vower input Current consumpt Current consumpt Stass flow | 1.50 - - - - - ance at to = 5 % | 1.63 - - - - - - - - - - - - - | 2.04 1.73 1.45 - - - - | 2.50 2.13 1.79 1.47 - | 2.58 2.17 1.80 1.45 - | 3.08 2.60 2.16 1.75 - Pressure switch Maximum HP switch Minimum LP switc LP pump down se | 3.64 3.08 2.56 2.09 1.65 settings ch setting th setting thing | 3.61 3.01 2.46 1.96 46.1 1.5 | 4.20 3.51 2.88 2.31 bar(g) bar(g) |
| 30 35 40 45 50 55 60 65 cooling capacity tower input current consumpt | 1.50 - - - - - ance at to = 5 % | 1.63 - - - - C, tc = 50 °C 23 832 7 733 14.89 | 2.04 1.73 1.45 - - - - - - - - - - - - - - - - - - - | 2.50 2.13 1.79 1.47 - - | 2.58 2.17 1.80 1.45 | 3.08 2.60 2.16 1.75 - Pressure switch Maximum HP switch Minimum LP switch | 3.64 3.08 2.56 2.09 1.65 settings ch setting th setting tting | 3.61 3.01 2.46 1.96 46.1 1.5 | 4.20 3.51 2.88 2.31 bar(g) bar(g) |

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Tolerance according EN12900

Danfoss scroll compressor. SH105-4

Danfoss

R410A

Performance data at 50 Hz, ARI rating conditions

| Cond. temp. in | Evaporating temperature in °C (to) | | | | | | | | | |
|-----------------|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| °C (tc) | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 | |
| Cooling capacit | v in W | | | | | | | | | |
| 30 | 9 183 | 11 656 | 14 616 | 18 124 | 22 244 | 27 037 | 32 564 | 38 887 | 46 068 | |
| 35 | 8 776 | 11 203 | 14 068 | 17 436 | 21 367 | 25 925 | 31 171 | 37 167 | 43 976 | |
| 40 | - | 10 711 | 13 475 | 16 692 | 20 426 | 24 740 | 29 697 | 35 358 | 41 787 | |
| 45 | - | - | 12 812 | 15 871 | 19 401 | 23 463 | 28 122 | 33 441 | 39 483 | |
| 50 | - | - | - | 14 954 | 18 271 | 22 076 | 26 431 | 31 402 | 37 051 | |
| 55 | - | - | - | 13 924 | 17 025 | 20 567 | 24 615 | 29 235 | 34 490 | |
| 60 | - | - | - | - | 15 662 | 18 943 | 22 687 | 26 959 | 31 827 | |
| 65 | - | - | - | - | - | - | 20 717 | 24 666 | 29 174 | |

Power input in W

| 30 | 4 872 | 4 925 | 4 987 | 5 057 | 5 136 | 5 223 | 5 319 | 5 424 | 5 538 |
|----|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 35 | 5 380 | 5 431 | 5 494 | 5 568 | 5 652 | 5 748 | 5 854 | 5 971 | 6 100 |
| 40 | - | 6 001 | 6 058 | 6 129 | 6 212 | 6 309 | 6 418 | 6 542 | 6 678 |
| 45 | - | - | 6 703 | 6 763 | 6 839 | 6 930 | 7 037 | 7 159 | 7 297 |
| 50 | - | - | - | 7 496 | 7 557 | 7 637 | 7 733 | 7 848 | 7 981 |
| 55 | - | - | - | 8 351 | 8 391 | 8 451 | 8 532 | 8 632 | 8 753 |
| 60 | - | - | - | - | 9 364 | 9 398 | 9 456 | 9 535 | 9 637 |
| 65 | - | - | - | - | - | - | 10 529 | 10 581 | 10 658 |

Current consumption in A

| 30 | 11.69 | 11.84 | 11.95 | 12.03 | 12.09 | 12.16 | 12.23 | 12.34 | 12.49 |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 35 | 12.22 | 12.37 | 12.48 | 12.57 | 12.64 | 12.71 | 12.81 | 12.93 | 13.10 |
| 40 | - | 12.97 | 13.08 | 13.16 | 13.23 | 13.31 | 13.41 | 13.55 | 13.73 |
| 45 | - | - | 13.77 | 13.84 | 13.92 | 14.00 | 14.10 | 14.23 | 14.42 |
| 50 | - | - | - | 14.66 | 14.72 | 14.80 | 14.89 | 15.03 | 15.22 |
| 55 | - | - | - | 15.65 | 15.70 | 15.76 | 15.84 | 15.97 | 16.16 |
| 60 | - | - | - | - | 16.88 | 16.92 | 16.99 | 17.11 | 17.28 |
| 65 | - | - | - | - | - | - | 18.37 | 18.47 | 18.62 |

Mass flow in kg/h

| 30 | 175 | 221 | 274 | 336 | 407 | 490 | 585 | 693 | 815 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 35 | 176 | 222 | 276 | 337 | 409 | 490 | 584 | 690 | 810 |
| 40 | - | 223 | 277 | 338 | 409 | 490 | 582 | 687 | 805 |
| 45 | - | - | 277 | 338 | 408 | 488 | 579 | 682 | 798 |
| 50 | - | - | - | 337 | 406 | 485 | 575 | 676 | 790 |
| 55 | - | - | - | 334 | 403 | 481 | 569 | 668 | 780 |
| 60 | - | - | - | - | 398 | 474 | 561 | 659 | 768 |
| 65 | - | - | - | - | - | - | 552 | 648 | 755 |

Coefficient of performance (C.O.P.)

| 30 | 1.88 | 2.37 | 2.93 | 3.58 | 4.33 | 5.18 | 6.12 | 7.17 | 8.32 |
|----|------|------|------|------|------|------|------|------|------|
| 35 | 1.63 | 2.06 | 2.56 | 3.13 | 3.78 | 4.51 | 5.32 | 6.22 | 7.21 |
| 40 | - | 1.78 | 2.22 | 2.72 | 3.29 | 3.92 | 4.63 | 5.41 | 6.26 |
| 45 | - | - | 1.91 | 2.35 | 2.84 | 3.39 | 4.00 | 4.67 | 5.41 |
| 50 | - | - | - | 1.99 | 2.42 | 2.89 | 3.42 | 4.00 | 4.64 |
| 55 | - | - | - | 1.67 | 2.03 | 2.43 | 2.89 | 3.39 | 3.94 |
| 60 | - | - | - | - | 1.67 | 2.02 | 2.40 | 2.83 | 3.30 |
| 65 | - | - | - | - | - | - | 1.97 | 2.33 | 2.74 |

| Nominal performance at to = 7.2 °C, | tc = 54.4 °C | |
|-------------------------------------|--------------|------|
| Cooling capacity | 26 816 | W |
| Power input | 8 472 | W |
| Current consumption | 15.77 | А |
| Mass flow | 612 | kg/h |

3.17

| Maximum HP switch setting | 46.1 | bar(g) |
|---------------------------|--------------|----------------|
| Minimum LP switch setting | 1.5 | bar(g) |
| LP pump down setting | 1.7 | bar(g) |
| | | |
| Sound power data | | |
| | | |
| Sound power level | 71.5 | dB(A) |
| | 71.5 65.5 | dB(A) dB(A) |

to: Evaporating temperature at dew point

C.O.P.

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

Pressure switch settings

Danfoss scroll compressor. SH105-4

Danfoss

R410A

Performance data at 60 Hz, EN 12900 rating conditions

| 35 1 40 45 50 55 60 65 90wer input in W 30 30 5 30 5 30 5 30 5 40 45 50 55 60 65 40 45 50 55 60 65 Current consumption 30 30 1 35 1 40 45 50 55 60 65 65 55 60 65 55 60 65 55 60 65 30 35 40 30 35 40 45 40 45 40 45 50 | 1 109 0 405 - - - - - 5 848 5 458 - - - - - - - - - - - - - | -20 13 832 13 049 12 212 - - - - - - - - - - - - - | -15 17 022 16 135 15 171 14 131 13 017 - - - - - - - - - - - - - | -10 20 747 19 729 18 610 17 393 16 076 14 654 - - - 6 104 6 679 7 305 8 009 | -5 25 071 23 895 22 595 21 172 19 625 17 945 16 110 - - 6 197 6 780 7 405 | 0 30 062 28 700 27 190 25 533 23 726 21 759 19 601 - - 6 277 6 877 | 5 35 784 34 209 32 461 30 541 28 445 26 158 23 645 20 809 6 336 | 10 42 305 40 488 38 473 36 261 33 845 31 207 28 303 25 017 6 364 | 15 49 691 47 602 45 292 42 758 39 991 36 969 33 638 29 859 6 352 |
|---|--|---|--|--|---|---|--|---|---|
| 30 1 35 1 40 45 50 55 60 65 Power input in W 30 30 5 40 45 55 60 65 55 60 65 200 55 60 65 201 55 60 65 201 55 60 65 201 55 60 65 202 55 60 65 40 45 50 55 60 65 703 55 60 65 703 35 40 45 30 35 40 45 30 35 40 45 | 1 109 0 405 - - - - - 5 848 5 458 - - - - - - - - - - - - - | 13 049 12 212 - - - - - 5 921 6 509 7 165 - - - - - - - - - - - - - | 16 135 15 171 14 131 - - - - 6 009 6 586 7 222 7 944 | 19 729 18 610 17 393 16 076 14 654 - - 6 104 6 679 7 305 | 23 895 22 595 21 172 19 625 17 945 16 110 - - 6 197 6 780 | 28 700 27 190 25 533 23 726 21 759 19 601 - - | 34 209 32 461 30 541 28 445 26 158 23 645 20 809 6 336 | 40 488 38 473 36 261 33 845 31 207 28 303 25 017 6 364 | 47 602 45 292 42 758 39 991 36 969 33 638 29 859 6 352 |
| 30 1 35 1 40 45 50 55 60 65 60 65 70wer input in W 30 35 6 40 45 50 55 60 65 40 45 50 55 60 65 30 1 35 1 40 45 50 55 60 65 8urrent consumption 30 30 1 35 1 40 45 50 55 60 65 135 1 40 45 30 35 40 45 40 45 | 1 109 0 405 - - - - - 5 848 5 458 - - - - - - - - - - - - - | 13 049 12 212 - - - - - 5 921 6 509 7 165 - - - - - - - - - - - - - | 16 135 15 171 14 131 - - - - 6 009 6 586 7 222 7 944 | 19 729 18 610 17 393 16 076 14 654 - - 6 104 6 679 7 305 | 23 895 22 595 21 172 19 625 17 945 16 110 - - 6 197 6 780 | 28 700 27 190 25 533 23 726 21 759 19 601 - - | 34 209 32 461 30 541 28 445 26 158 23 645 20 809 6 336 | 40 488 38 473 36 261 33 845 31 207 28 303 25 017 6 364 | 47 602 45 292 42 758 39 991 36 969 33 638 29 859 6 352 |
| 35 1 40 45 50 55 60 65 Power input in W 30 30 5 35 6 40 45 50 55 60 65 20 55 60 65 20 55 60 65 20 55 60 65 20 55 60 65 20 55 60 65 30 1 35 1 40 45 50 55 60 65 30 1 35 1 40 45 50 55 60 65 8 1 40 45 30 35 40 45 40 45 | 0 405 - - - - 5 848 5 848 - - - - - - - - - - - - - | 13 049 12 212 - - - - - 5 921 6 509 7 165 - - - - - - - - - - - - - | 16 135 15 171 14 131 - - - - 6 009 6 586 7 222 7 944 | 19 729 18 610 17 393 16 076 14 654 - - 6 104 6 679 7 305 | 23 895 22 595 21 172 19 625 17 945 16 110 - - 6 197 6 780 | 28 700 27 190 25 533 23 726 21 759 19 601 - - | 34 209 32 461 30 541 28 445 26 158 23 645 20 809 6 336 | 40 488 38 473 36 261 33 845 31 207 28 303 25 017 6 364 | 47 602 45 292 42 758 39 991 36 969 33 638 29 859 6 352 |
| 40 45 50 55 60 65 20wer input in W 30 5 30 5 40 45 50 55 60 65 20wer input in W 30 35 6 40 45 50 55 60 65 2urrent consumption 30 30 1 35 1 40 45 50 55 60 65 Mass flow in kg/h 30 35 40 45 40 45 40 45 50 | | 12 212 - - - - - - 5 921 6 509 7 165 - - - - - - - | 15 171 14 131 - - - - 6 009 6 586 7 222 7 944 | 18 610 17 393 16 076 14 654 - - 6 104 6 679 7 305 | 22 595 21 172 19 625 17 945 16 110 - - 6 197 6 780 | 27 190 25 533 23 726 21 759 19 601 - - 6 277 | 32 461 30 541 28 445 26 158 23 645 20 809 6 336 | 38 473 36 261 33 845 31 207 28 303 25 017 6 364 | 45 292 42 758 39 991 36 969 33 638 29 859 6 352 |
| 45 50 55 60 65 20wer input in W 30 5 35 6 40 45 50 55 60 65 2urrent consumption 30 1 35 1 40 45 50 55 60 65 2urrent consumption 1 30 1 35 1 40 45 50 55 60 65 Mass flow in kg/h 30 35 40 45 40 45 50 | | - - - - - 5 921 6 509 7 165 - - - - - - - | 14 131 - - - - 6 009 6 586 7 222 7 944 | 17 393 16 076 14 654 - - 6 104 6 679 7 305 | 21 172 19 625 17 945 16 110 - 6 197 6 780 | 25 533 23 726 21 759 19 601 - 6 277 | 30 541 28 445 26 158 23 645 20 809 6 336 | 36 261 33 845 31 207 28 303 25 017 6 364 | 42 758 39 991 36 969 33 638 29 859 6 352 |
| 50 55 60 65 20wer input in W 30 5 35 6 40 45 50 55 60 65 20wer input in W 30 35 6 40 45 50 55 60 65 2urrent consumption 30 30 1 35 1 40 45 50 55 60 65 40 45 50 55 60 65 Mass flow in kg/h 30 35 40 45 50 | | - - - 5 921 6 509 7 165 - - - - - | 13 017 - - - 6 009 6 586 7 222 7 944 | 16 076 14 654 - - 6 104 6 679 7 305 | 19 625 17 945 16 110 - 6 197 6 780 | 23 726 21 759 19 601 - 6 277 | 28 445 26 158 23 645 20 809 6 336 | 33 845 31 207 28 303 25 017 6 364 | 39 991 36 969 33 638 29 859 6 352 |
| 55 60 65 65 20wer input in W 30 5 30 5 6 40 45 50 55 60 6 65 55 6 60 65 5 60 65 1 20 25 6 60 65 1 20 25 6 60 65 1 40 45 5 60 65 1 40 45 5 60 65 1 Mass flow in kg/h 30 35 40 45 1 40 45 1 | | - - 5 921 6 509 7 165 - - - - - | - - - 6 009 6 586 7 222 7 944 | 14 654 - - 6 104 6 679 7 305 | 17 945 16 110 - 6 197 6 780 | 21 759 19 601 - 6 277 | 26 158 23 645 20 809 6 336 | 31 207 28 303 25 017 6 364 | 36 969 33 638 29 859 6 352 |
| 60 65 Power input in W 30 5 30 5 6 40 45 50 55 60 65 60 65 65 Current consumption 30 1 35 1 40 45 50 55 60 65 1 40 45 50 55 60 65 60 65 1 40 45 50 55 60 65 60 65 1 Mass flow in kg/h 30 35 40 45 1 40 45 1 | | - - 5 921 6 509 7 165 - - - - - | - - 6 009 6 586 7 222 7 944 | - - 6 104 6 679 7 305 | 16 110 - 6 197 6 780 | <u>19 601</u> - <u>6 277</u> | 23 645 20 809 6 336 | 28 303 25 017 6 364 | 33 638 29 859 6 352 |
| 65 Power input in W 30 5 35 6 40 5 50 5 60 65 Current consumption 30 1 35 1 40 45 50 55 60 65 S0 55 60 65 Mass flow in kg/h 30 35 40 45 50 | - 5 848 6 458 | - 5 921 6 509 7 165 - - - - - | - 6 009 6 586 7 222 7 944 | - 6 104 6 679 7 305 | - 6 197 6 780 | 6 277 | 20 809 6 336 | 25 017 6 364 | 29 859 6 352 |
| Cover input in W 30 5 35 6 40 - 45 - 50 - 55 - 60 - 65 - 2000 - 30 1 35 1 40 - 45 - 50 - 55 - 60 - 55 - 60 - 55 - 60 - 65 - Mass flow in kg/h - 30 - 35 - 40 - 45 - | 6 458 - - - - - - - | 5 921 6 509 7 165 - - - - - | 6 586 7 222 7 944 | 6 679 7 305 | 6 780 | | 6 336 | 6 364 | 6 352 |
| 30 5 35 6 40 45 50 55 60 65 Current consumption 30 1 35 1 40 45 50 1 30 1 35 1 40 45 50 55 60 65 1 40 45 55 60 65 1 1 1 30 35 1 1 30 35 40 1 45 50 1 1 | 6 458 - - - - - - - | 6 509 7 165 - - - - | 6 586 7 222 7 944 | 6 679 7 305 | 6 780 | | | | |
| 30 5 35 6 40 45 50 55 60 65 Current consumption 30 1 35 1 40 45 50 55 60 65 60 65 55 60 65 60 65 9 65 40 45 50 55 60 65 40 30 35 40 45 40 35 40 45 | 6 458 - - - - - - - | 6 509 7 165 - - - - | 6 586 7 222 7 944 | 6 679 7 305 | 6 780 | | | | |
| 35 6 40 45 50 55 60 65 Current consumption 1 30 1 35 1 40 45 50 55 60 65 Mass flow in kg/h 30 35 40 45 50 | 6 458 - - - - - - - | 6 509 7 165 - - - - | 6 586 7 222 7 944 | 6 679 7 305 | 6 780 | | | | |
| 40 45 50 55 60 65 current consumption 30 1 35 1 40 45 50 55 60 65 40 45 50 55 60 65 Mass flow in kg/h 30 35 40 45 5 | - - - - - | 7 165 - - - - | 7 222 7 944 | 7 305 | | 08// | 0.004 | | 7 004 |
| 45 50 55 60 65 Current consumption 30 1 35 1 40 45 50 55 60 65 Mass flow in kg/h 30 35 40 45 | - - - - | | 7 944 | | | | 6 964 | 7 029 | 7 064 |
| 50 55 60 65 Current consumption 1 30 1 35 1 40 45 50 55 60 65 Mass flow in kg/h 30 35 40 40 45 | - - - | | | | 7 405 | 7 513 | 7 619 | 7 713 | 7 787 |
| 55 60 65 65 30 1 35 1 40 1 45 50 55 60 65 1 40 1 45 1 30 35 40 1 30 35 40 45 | - - - | - | 0//0 | 8 009 | 8 101 | 8 210 | 8 327 | 8 443 9 246 | 8 548 |
| 60 65 current consumption 30 1 35 1 40 4 45 5 60 6 65 6 65 6 65 6 65 6 65 6 40 30 35 4 40 45 | - - | - | - | | 8 893 | 8 996 | 9 117 | 1 | 9 374 |
| 65 Current consumption 30 1 35 1 40 45 50 55 60 65 Mass flow in kg/h 30 35 40 40 45 | - | | - | 9 757 | 9 808 10 874 | 9 897 10 940 | 10 013 11 044 | 10 148 11 176 | 10 291 11 326 |
| Current consumption 30 1 35 1 40 1 45 1 50 1 55 60 65 1 30 35 40 1 45 1 55 1 60 65 Mass flow in kg/h 30 35 40 45 1 | in A | | - | - | - | - | 12 235 | 12 356 | 12 506 |
| 30 1 35 1 40 1 45 50 55 60 65 65 Mass flow in kg/h 30 35 40 45 45 | | - | - | - | - | - | 12 235 | 12 330 | 12 500 |
| 30 1 35 1 40 1 45 50 55 60 65 65 Mass flow in kg/h 30 35 40 45 45 | | | | | | | | | |
| 35 1 40 | 10.87 | 11.05 | 11.18 | 11.28 | 11.37 | 11.46 | 11.57 | 11.72 | 11.93 |
| 40 45 50 55 60 65 Mass flow in kg/h 30 35 40 45 | 11.42 | 11.60 | 11.73 | 11.83 | 11.91 | 12.00 | 12.11 | 12.26 | 12.46 |
| 45 50 55 60 65 Mass flow in kg/h 30 35 40 45 | - | 12.23 | 12.36 | 12.46 | 12.54 | 12.63 | 12.74 | 12.88 | 13.08 |
| 50 55 60 65 Mass flow in kg/h 30 35 40 45 | - | - | 13.10 | 13.20 | 13.28 | 13.37 | 13.47 | 13.61 | 13.81 |
| 55 60 65 Mass flow in kg/h 30 35 40 45 | - | - | 13.97 | 14.07 | 14.15 | 14.24 | 14.34 | 14.48 | 14.67 |
| 60 65 Mass flow in kg/h 30 35 40 45 | - | - | - | 15.10 | 15.18 | 15.27 | 15.37 | 15.51 | 15.69 |
| 65 Mass flow in kg/h 30 35 40 45 | - | - | - | - | 16.40 | 16.49 | 16.59 | 16.72 | 16.91 |
| Mass flow in kg/h 30 35 40 45 | - | _ | - | - | - | - | 18.02 | 18.15 | 18.34 |
| 30 35 40 45 | | | | | | | | <u> </u> | |
| 30 35 40 45 | | | | | | | | | |
| 40 45 | 231 | 285 | 346 | 416 | 497 | 590 | 695 | 814 | 949 |
| 45 | 228 | 283 | 345 | 416 | 497 | 591 | 697 | 817 | 953 |
| | - | 280 | 342 | 414 | 496 | 590 | 697 | 818 | 955 |
| | - | - | 339 | 411 | 493 | 587 | 695 | 816 | 954 |
| 50 | - | - | 334 | 406 | 489 | 583 | 691 | 813 | 950 |
| 55 | - | - | - | 400 | 482 | 577 | 685 | 807 | 945 |
| 60 | - | - | - | - | 474 | 569 | 676 | 798 | 936 |
| 65 | - | - | - | - | - | - | 666 | 788 | 925 |
| | | | | | | | | | |
| Coefficient of perform | nance (C.O. | P.) | | | | | | . <u> </u> | |
| 30 | 1.90 | 2.34 | 2.83 | 3.40 | 4.05 | 4.79 | 5.65 | 6.65 | 7.82 |
| 35 | 1.61 | 2.00 | 2.45 | 2.95 | 3.52 | 4.17 | 4.91 | 5.76 | 6.74 |
| 40 | - | 1.70 | 2.10 | 2.55 | 3.05 | 3.62 | 4.26 | 4.99 | 5.82 |
| 45 | - | - | 1.78 | 2.17 | 2.61 | 3.11 | 3.67 | 4.29 | 5.00 |
| 50 | - | - | 1.48 | 1.82 | 2.21 | 2.64 | 3.12 | 3.66 | 4.27 |
| 55 | - | - | - | 1.50 | 1.83 | 2.20 | 2.61 | 3.08 | 3.59 |
| 60 | - | - | - | - | 1.48 | 1.79 | 2.14 | 2.53 | 2.97 |
| 65 | - | - | - | - | - | - | 1.70 | 2.02 | 2.39 |
| | | | | | | | | | |
| Iominal performance | e at to = 5 °C | • | | | | Pressure switch | | | |
| Cooling capacity | | 28 445 | | | | Maximum HP swite | • | 46.1 1.5 | bar(g) |
| Power input Current consumption | | 9 117 14.34 | W A | | | Minimum LP swite | • | 1.5 | bar(g) |
| Jurrent consumption | | 14.34 691 | A kg/h | | | LP pump down se | ung | 1.7 | bar(g) |
| C.O.P. | | 3.12 | ilig/11 | | | Sound power dat | а | | |
| | | 0.12 | | | | Sound power leve | | 74 | dB(A) |

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Tolerance according EN12900

With accoustic hood

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dB(A)

Danfoss scroll compressor. SH105-4

Danfoss

R410A

Performance data at 60 Hz, ARI rating conditions

| Cond. temp. in °C (tc) | Evaporating temperature in °C (to) | | | | | | | | | | |
|---------------------------|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|
| | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 | | |
| | | | | | | | | | | | |
| Cooling capacity | in W | | | | | | | | | | |
| 30 | 11 997 | 14 921 | 18 345 | 22 338 | 26 969 | 32 310 | 38 429 | 45 397 | 53 283 | | |
| 35 | 11 309 | 14 167 | 17 498 | 21 372 | 25 859 | 31 029 | 36 951 | 43 697 | 51 334 | | |
| 40 | - | 13 359 | 16 575 | 20 308 | 24 628 | 29 605 | 35 309 | 41 809 | 49 175 | | |
| 45 | _ | _ | 15 581 | 10 151 | 23.282 | 28 043 | 33 506 | 30 738 | 46 811 | | |

| 40 | - | 13 359 | 16 575 | 20 308 | 24 628 | 29 605 | 35 309 | 41 809 | 49 175 |
|----|---|--------|--------|--------|--------|--------|--------|--------|--------|
| 45 | - | - | 15 581 | 19 151 | 23 282 | 28 043 | 33 506 | 39 738 | 46 811 |
| 50 | - | - | - | 17 906 | 21 825 | 26 348 | 31 547 | 37 490 | 44 247 |
| 55 | - | - | - | 16 577 | 20 262 | 24 525 | 29 438 | 35 068 | 41 488 |
| 60 | - | - | - | - | 18 598 | 22 579 | 27 182 | 32 479 | 38 537 |
| 65 | - | - | - | - | - | - | 24 786 | 29 726 | 35 401 |

Power input in W

| 30 | 5 848 | 5 921 | 6 009 | 6 104 | 6 197 | 6 277 | 6 336 | 6 364 | 6 352 |
|----|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| 35 | 6 458 | 6 509 | 6 586 | 6 679 | 6 780 | 6 877 | 6 964 | 7 029 | 7 064 |
| 40 | - | 7 165 | 7 222 | 7 305 | 7 405 | 7 513 | 7 619 | 7 713 | 7 787 |
| 45 | - | - | 7 944 | 8 009 | 8 101 | 8 210 | 8 327 | 8 443 | 8 548 |
| 50 | - | - | - | 8 817 | 8 893 | 8 996 | 9 117 | 9 246 | 9 374 |
| 55 | - | - | - | 9 757 | 9 808 | 9 897 | 10 013 | 10 148 | 10 291 |
| 60 | - | - | - | - | 10 874 | 10 940 | 11 044 | 11 176 | 11 326 |
| 65 | - | - | - | - | - | - | 12 235 | 12 356 | 12 506 |

Current consumption in A

| 30 | 10.87 | 11.05 | 11.18 | 11.28 | 11.37 | 11.46 | 11.57 | 11.72 | 11.93 |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 35 | 11.42 | 11.60 | 11.73 | 11.83 | 11.91 | 12.00 | 12.11 | 12.26 | 12.46 |
| 40 | - | 12.23 | 12.36 | 12.46 | 12.54 | 12.63 | 12.74 | 12.88 | 13.08 |
| 45 | - | - | 13.10 | 13.20 | 13.28 | 13.37 | 13.47 | 13.61 | 13.81 |
| 50 | - | - | - | 14.07 | 14.15 | 14.24 | 14.34 | 14.48 | 14.67 |
| 55 | - | - | - | 15.10 | 15.18 | 15.27 | 15.37 | 15.51 | 15.69 |
| 60 | - | - | - | - | 16.40 | 16.49 | 16.59 | 16.72 | 16.91 |
| 65 | - | - | - | - | - | - | 18.02 | 18.15 | 18.34 |

Mass flow in kg/h

| 30 | 230 | 283 | 344 | 414 | 494 | 586 | 690 | 808 | 942 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 35 | 227 | 281 | 343 | 413 | 494 | 587 | 692 | 811 | 946 |
| 40 | - | 278 | 340 | 411 | 493 | 586 | 692 | 812 | 947 |
| 45 | - | - | 337 | 408 | 490 | 584 | 690 | 811 | 947 |
| 50 | - | - | - | 403 | 485 | 579 | 686 | 807 | 943 |
| 55 | - | - | - | 397 | 479 | 573 | 680 | 801 | 937 |
| 60 | - | - | - | - | 471 | 565 | 672 | 793 | 929 |
| 65 | - | - | - | - | - | - | 661 | 782 | 918 |

Coefficient of performance (C.O.P.)

| 30 | 2.05 | 2.52 | 3.05 | 3.66 | 4.35 | 5.15 | 6.07 | 7.13 | 8.39 |
|----|------|------|------|------|------|------|------|------|------|
| 35 | 1.75 | 2.18 | 2.66 | 3.20 | 3.81 | 4.51 | 5.31 | 6.22 | 7.27 |
| 40 | - | 1.86 | 2.30 | 2.78 | 3.33 | 3.94 | 4.63 | 5.42 | 6.31 |
| 45 | - | - | 1.96 | 2.39 | 2.87 | 3.42 | 4.02 | 4.71 | 5.48 |
| 50 | - | - | - | 2.03 | 2.45 | 2.93 | 3.46 | 4.05 | 4.72 |
| 55 | - | - | - | 1.70 | 2.07 | 2.48 | 2.94 | 3.46 | 4.03 |
| 60 | - | - | - | - | 1.71 | 2.06 | 2.46 | 2.91 | 3.40 |
| 65 | - | - | - | - | - | - | 2.03 | 2.41 | 2.83 |

| Nominal performance at to = 7.2 °C | C, tc = 54.4 °C | |
|------------------------------------|-----------------|------|
| Cooling capacity | 32 100 | W |
| Power input | 9 957 | W |
| Current consumption | 15.29 | A |
| Mass flow | 732 | kg/h |
| C.O.P. | 3.22 | |

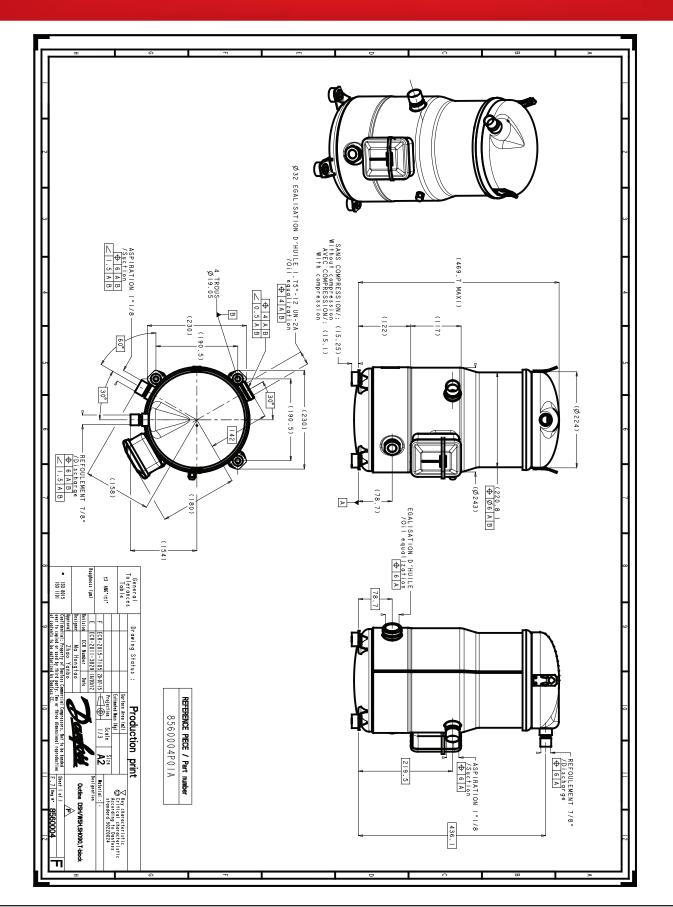
| Pressure switch settings | | |
|---------------------------|------|--------|
| Maximum HP switch setting | 46.1 | bar(g) |
| Minimum LP switch setting | 1.5 | bar(g) |
| LP pump down setting | 1.7 | bar(g) |
| | | |
| Sound power data | | |
| Sound power level | 74 | dB(A) |
| | | |

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900



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