



Datasheets

## Danfoss scroll compressors **H series**



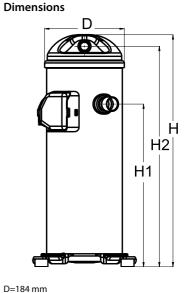
## Danfoss

#### Datasheet, technical data

## Danfoss scroll compressor, HCJ121T4

## **General Characteristics**

| Model number (on compressor nameplate)            | HCJ121T4LC6                                 |
|---|---|
| Code number for Singlepack*                       | 121L3117                                    |
| Code number for Industrial pack**                 | 121L3116                                    |
| Drawing number                                    | 0SR4109B1                                   |
| Suction and discharge connections                 | Brazed                                      |
| Suction connection                                | 1-1/8 " ODF                                 |
| Discharge connection                              | 7/8 " ODF                                   |
| Oil sight glass                                   | None  |
| Oil equalisation connection                       | None  |
| Oil drain connection                              | None  |
| LP gauge port                                     | None  |
| IPR valve   | None  |
| Swept volume                                      | 116.4 cm3/rev                               |
| Displacement @ Nominal speed                      | 20.3 m3/h @ 2900 rpm - 24.4 m3/h @ 3500 rpm |
| Net weight  | 49 kg                                       |
| Oil charge  | 2.46 litre, PVE                             |
| Maximum system test pressure Low Side / High side | - bar(g) / - bar(g)                         |
| Maximum differential test pressure                | - bar                                       |
| Maximum number of starts per hour                 | -   |
| Refrigerant charge limit                          | 7.26 kg                                     |
| Approved refrigerants                             | R410A                                       |



## **Electrical Characteristics**

| Nominal voltage                                      | 380-415V/3/50Hz - 460V/3/60Hz       | H=565 mm    |
|--|-------------------------------------|-------------|
| Voltage range  | 342-457 V @ 50Hz - 414-506 V @ 60Hz | H1=404.7 mm |
| Winding resistance between phases 1-2 +/- 7% at 25°C | 0.960 Ω                             | H2=537.8 mm |
| Winding resistance between phases 1-3 +/- 7% at 25°C | 0.940 Ω                             | H3=- mm     |
| Winding resistance between phases 2-3 +/- 7% at 25°C | 0.960 Ω                             |             |
| Rated Load Amps (RLA)                                | 17.9 A                              |             |
| Maximum Continuous Current (MCC)                     | 25 A                                |             |
| Locked Rotor Amps (LRA)                              | 125 A                               | Terminal bo |
| Motor protection                                     | Internal overload protector         |             |

### **Recommended Installation torques**

| Oil sight glass                      | 0 Nm        |
|--------------------------------------|-------------|
| Power connections / Earth connection | 3 Nm / 2 Nm |

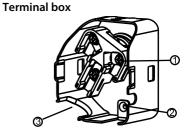
## Parts shipped with compressor

Mounting kit with grommets and sleeves Initial oil charge Installation instructions

Approvals : CE certified, UL certified (file SA11565), -

\*Singlepack: Compressor in cardboard box

\*\*Industrial pack: 12 Unboxed compressors on pallet (order per multiples of 12)



### IP22 1:

Screw connectors 10-32 UNF x 9.5

2: Earth connection

3: Power cable passage



## Datasheet, accessories and spare parts

Danfoss scroll compressor, HCJ121T4

| Rotolock accessories, suction side   | Code no.             |  |
|--|----------------------|--|
| Solder sleeve, P02 (1-3/4" Rotolock, 1-1/8" ODF)   | 8153004              |  |
| Angle adapter, C02 (1-3/4" Rotolock, 1-1/8" ODF)   | 8168005              |  |
| Rotolock valve, V02 (1-3/4" Rotolock, 1-1/8" ODF)  | 8168028              |  |
| Gasket, 1-3/4"   | 8156132              |  |
| Rotolock accessories, discharge side   | Code no.             | Solder sleeve adapter set                                |
| 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, 1-1/8" ODF), (1-1/4" Rotolock, 7/8" ODF)     | 120Z0125<br>120Z0403 | 1 2 3 4  |
| Valve set, V02(1"3/4~1"1/8), V05(1"1/4~7/8")   | 8156009              |  |
| Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white                                | 8120009              |  |
| Oil / lubricants   | Code no.             | 1: Rotolock adapter (Suc & Dis)<br>2: Gasket (Suc & Dis) |
| PVE lubricant, 320HV (FVC68D), 1 litre can   | 120Z5034             | 3: Solder sleeve (Suc & Dis)                             |
|  | 12023031             | 4: Rotolock nut (Suc & Dis)                              |
| Crankcase heaters  | Code no.             |  |
| Belt type crankcase heater, 70 W, 230 V, UL  | 120Z5011             |  |
| Belt type crankcase heater, 65 W, 230 V, CE mark, UL                                     | 120Z0059             |  |
| Belt type crankcase heater, 65 W, 400 V, CE mark, UL                                     | 120Z0060             |  |
| Belt type crankcase heater, 70 W, 460 V, UL  | 120Z5012             |  |
| Miscellaneous accessories  | Code no.             |  |
| Discharge thermostat kit   | 7750009              |  |
|  |                      |  |
| Spare parts  | Code no.             |  |
| Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers | 120Z5005             |  |
| Mounting kit, including 1 bolt, 1 sleeve, 1 washer                                       | 120Z5031             |  |
| Oil sight glass with gaskets (black & white)   | 8156019              |  |
| Gasket for oil sight glass (white teflon)  | 8156129              |  |

## Danfoss scroll compressor. HCJ121T4

Danfoss

**R410A** 

## Performance data at 50 Hz, EN 12900 rating conditions

| cond. temp. in          | Evaporating temperature in °C (to) |                |                |                |                |                |                |                |    |  |
|-------------------------|------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----|--|
| °C (tc)                 | -25                                | -20            | -15            | -10            | -5             | 0              | 5              | 10             | 15 |  |
| ooling capacity         | in W                               |                |                |                |                |                |                |                |    |  |
| 30                      | 10 891                             | 13 496         | 16 548         | 20 108         | 24 235         | 28 989         | 34 429         | 40 616         | -  |  |
| 35                      | 10 154                             | 12 662         | 15 593         | 19 008         | 22 965         | 27 523         | 32 743         | 38 684         | -  |  |
| 40                      | 9 349                              | 11 740         | 14 529         | 17 777         | 21 542         | 25 884         | 30 861         | 36 533         | -  |  |
| 45                      | -                                  | 10 747         | 13 374         | 16 433         | 19 985         | 24 087         | 28 798         | 34 177         | -  |  |
| 50                      | -                                  | -              | 12 142         | 14 991         | 18 306         | 22 144         | 26 565         | 31 626         | -  |  |
| 55                      | -                                  | -              | -              | 13 460         | 16 513         | 20 063         | 24 166         | 28 879         | -  |  |
| 60                      | -                                  | -              | -              | -              | 14 603         | 17 831         | 21 583         | 25 913         | -  |  |
| 65                      | -                                  | -              | -              | -              | -              | 15 398         | 18 748         | 22 641         | -  |  |
|                         |                                    |                |                |                | 1              |                |                |                |    |  |
| ower input in W         | I                                  | -              |                |                | -              |                | •              |                |    |  |
| 30                      | 5 397                              | 5 400          | 5 390          | 5 390          | 5 421          | 5 506          | 5 666          | 5 926          | -  |  |
| 35                      | 5 965                              | 5 984          | 5 975          | 5 959          | 5 959          | 5 996          | 6 093          | 6 272          | -  |  |
| 40                      | 6 598                              | 6 648          | 6 652          | 6 634          | 6 616          | 6 619          | 6 666          | 6 779          | -  |  |
| 45                      | -                                  | 7 401          | 7 433          | 7 426          | 7 403          | 7 385          | 7 396          | 7 456          | -  |  |
| 50                      | -                                  | -              | 8 326          | 8 344          | 8 330          | 8 305          | 8 293          | 8 314          | -  |  |
| 55                      | -                                  | -              | -              | 9 400          | 9 408          | 9 390          | 9 367          | 9 363          | -  |  |
| 60                      | -                                  | -              | -              | -              | 10 647         | 10 649         | 10 630         | 10 613         | -  |  |
| 65                      | -                                  | -              | -              | -              | -              | 12 092         | 12 091         | 12 075         | -  |  |
| 30<br>35                | 11.07<br>11.79                     | 11.14<br>11.85 | 11.19<br>11.91 | 11.23<br>11.96 | 11.24<br>12.00 | 11.24<br>12.02 | 11.21<br>12.04 | 11.16<br>12.04 | -  |  |
| 40                      | 12.55                              | 12.60          | 12.64          | 12.69          | 12.73          | 12.77          | 12.81          | 12.85          | -  |  |
| 45                      | -                                  | 13.47          | 13.49          | 13.52          | 13.55          | 13.59          | 13.64          | 13.69          | -  |  |
| 50                      | -                                  | -              | 14.55          | 14.55          | 14.56          | 14.58          | 14.62          | 14.68          | -  |  |
| 55                      | -                                  | -              | -              | 15.88          | 15.85          | 15.85          | 15.86          | 15.90          | -  |  |
| 60                      | -                                  | -              | -              | -              | 17.54          | 17.49          | 17.47          | 17.48          | -  |  |
| 65                      | -                                  | -              | -              | -              | -              | 19.62          | 19.54          | 19.51          | -  |  |
| looo flow in kall       | _                                  |                |                |                |                |                |                |                |    |  |
| lass flow in kg/l<br>30 | 227                                | 278            | 336            | 403            | 480            | 568            | 668            | 782            | -  |  |
| 35                      | 223                                | 274            | 333            | 400            | 478            | 566            | 667            | 781            | -  |  |
| 40                      | 218                                | 269            | 327            | 395            | 473            | 562            | 663            | 777            | -  |  |
| 45                      | -                                  | 262            | 320            | 388            | 466            | 555            | 656            | 770            | -  |  |
| 50                      | -                                  | -              | 312            | 379            | 456            | 545            | 646            | 760            | -  |  |
| 55                      | -                                  | -              | -              | 368            | 444            | 532            | 633            | 747            | -  |  |
| 60                      | -                                  | -              | -              | -              | 430            | 517            | 617            | 730            | -  |  |
| 65                      | -                                  | -              | -              | -              | -              | 499            | 598            | 710            | -  |  |
|                         | _                                  | ·              | •              | •              | -              | •              | -              | · ·            |    |  |
| coefficient of pe       |                                    | ,              | 0.07           | 0.70           | 4 47           | E 07           | 0.00           | 0.05           |    |  |
| 30                      | 2.02                               | 2.50           | 3.07           | 3.73           | 4.47           | 5.27           | 6.08           | 6.85           | -  |  |
| 35                      | 1.70                               | 2.12           | 2.61           | 3.19           | 3.85           | 4.59           | 5.37           | 6.17           | -  |  |
| 40                      | 1.42                               | 1.77           | 2.18           | 2.68           | 3.26           | 3.91           | 4.63           | 5.39           | -  |  |
| 45                      | -                                  | 1.45           | 1.80           | 2.21           | 2.70           | 3.26           | 3.89           | 4.58           | -  |  |
| 50                      | -                                  | -              | 1.46           | 1.80           | 2.20           | 2.67           | 3.20           | 3.80           | -  |  |

| Nominal performance at to = 5 °C | Nominal performance at to = 5 °C, tc = 50 °C |      |  |  |  |  |  |  |  |
|----------------------------------|--|------|--|--|--|--|--|--|--|
| Cooling capacity                 | 26 565                                       | W    |  |  |  |  |  |  |  |
| Power input                      | 8 293  | W    |  |  |  |  |  |  |  |
| Current consumption              | 14.62  | А    |  |  |  |  |  |  |  |
| Mass flow                        | 646  | kg/h |  |  |  |  |  |  |  |
| C.O.P.                           | 3.20   |      |  |  |  |  |  |  |  |

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| Maximum HP switch setting                                    | 45      | bar(g)         |
|--|---------|----------------|
| Minimum LP switch setting                                    | 1.5     | bar(g)         |
| LP pump down setting   | 2.3     | bar(g)         |
|  |         |                |
| Sound power data   |         |                |
| Sound power data   | 75      |                |
| Sound power data<br>Sound power level<br>With accoustic hood | 75<br>0 | dB(A)<br>dB(A) |

2.58

2.03

1.55

3.08

2.44

1.87

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tc: Condensing temperature at dew point

to: Evaporating temperature at dew point

55

60

65

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

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All performance data +/- 5%

2.14

1.67

1.27

Pressure switch settings

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1.43

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1.76

1.37

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## Danfoss scroll compressor. HCJ121T4

35 032

32 453

29 736

26 902

Danfoss

**R410A** 

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## 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 | •                                  | T      | Γ      | T      | T      | Γ      | Γ      | Γ      |    |  |
| 30              | 11 762                             | 14 559 | 17 834 | 21 650 | 26 070 | 31 156 | 36 974 | 43 584 | -  |  |
| 35              | 11 036                             | 13 746 | 16 910 | 20 591 | 24 852 | 29 757 | 35 368 | 41 750 | -  |  |
| 40              | 10 241                             | 12 843 | 15 874 | 19 399 | 23 481 | 28 183 | 33 568 | 39 700 | -  |  |
| 45              | -                                  | 11 868 | 14 746 | 18 095 | 21 976 | 26 455 | 31 593 | 37 454 | -  |  |

20 358

18 645

16 858

24 592

22 614

20 540

18 391

29 462

27 195

24 812

22 332

16 697

15 226

\_

13 546

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## Power input in W

50

55

60

65

| 30 | 5 397 | 5 400 | 5 390 | 5 390 | 5 421  | 5 506  | 5 666  | 5 926  | - |
|----|-------|-------|-------|-------|--------|--------|--------|--------|---|
| 35 | 5 965 | 5 984 | 5 975 | 5 959 | 5 959  | 5 996  | 6 093  | 6 272  | - |
| 40 | 6 598 | 6 648 | 6 652 | 6 634 | 6 616  | 6 619  | 6 666  | 6 779  | - |
| 45 | -     | 7 401 | 7 433 | 7 426 | 7 403  | 7 385  | 7 396  | 7 456  | - |
| 50 | -     | -     | 8 326 | 8 344 | 8 330  | 8 305  | 8 293  | 8 314  | - |
| 55 | -     | -     | -     | 9 400 | 9 408  | 9 390  | 9 367  | 9 363  | - |
| 60 | -     | -     | -     | -     | 10 647 | 10 649 | 10 630 | 10 613 | - |
| 65 | -     | -     | -     | -     | -      | 12 092 | 12 091 | 12 075 | - |

#### Current consumption in A

| 30 | 11.07 | 11.14 | 11.19 | 11.23 | 11.24 | 11.24 | 11.21 | 11.16 | - |
|----|-------|-------|-------|-------|-------|-------|-------|-------|---|
| 35 | 11.79 | 11.85 | 11.91 | 11.96 | 12.00 | 12.02 | 12.04 | 12.04 | - |
| 40 | 12.55 | 12.60 | 12.64 | 12.69 | 12.73 | 12.77 | 12.81 | 12.85 | - |
| 45 | -     | 13.47 | 13.49 | 13.52 | 13.55 | 13.59 | 13.64 | 13.69 | - |
| 50 | -     | -     | 14.55 | 14.55 | 14.56 | 14.58 | 14.62 | 14.68 | - |
| 55 | -     | -     | -     | 15.88 | 15.85 | 15.85 | 15.86 | 15.90 | - |
| 60 | -     | -     | -     | -     | 17.54 | 17.49 | 17.47 | 17.48 | - |
| 65 | -     | -     | -     | -     | -     | 19.62 | 19.54 | 19.51 | - |

#### Mass flow in kg/h

| 30 | 226 | 276 | 334 | 401 | 477 | 564 | 664 | 776 | - |
|----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| 35 | 222 | 272 | 331 | 398 | 475 | 562 | 662 | 775 | - |
| 40 | 216 | 267 | 325 | 393 | 470 | 558 | 658 | 772 | - |
| 45 | -   | 260 | 319 | 386 | 463 | 551 | 651 | 765 | - |
| 50 | -   | -   | 310 | 377 | 453 | 541 | 641 | 755 | - |
| 55 | -   | -   | -   | 365 | 442 | 529 | 628 | 741 | - |
| 60 | -   | -   | -   | -   | 427 | 514 | 612 | 725 | - |
| 65 | -   | -   | -   | -   | -   | 496 | 594 | 705 | - |

#### Coefficient of performance (C.O.P.)

| 30 | 2.18 | 2.70 | 3.31 | 4.02 | 4.81 | 5.66 | 6.53 | 7.36 | - |
|----|------|------|------|------|------|------|------|------|---|
| 35 | 1.85 | 2.30 | 2.83 | 3.46 | 4.17 | 4.96 | 5.80 | 6.66 | - |
| 40 | 1.55 | 1.93 | 2.39 | 2.92 | 3.55 | 4.26 | 5.04 | 5.86 | - |
| 45 | -    | 1.60 | 1.98 | 2.44 | 2.97 | 3.58 | 4.27 | 5.02 | - |
| 50 | -    | -    | 1.63 | 2.00 | 2.44 | 2.96 | 3.55 | 4.21 | - |
| 55 | -    | -    | -    | 1.62 | 1.98 | 2.41 | 2.90 | 3.47 | - |
| 60 | -    | -    | -    | -    | 1.58 | 1.93 | 2.33 | 2.80 | - |
| 65 | -    | -    | -    | -    | -    | 1.52 | 1.85 | 2.23 | - |

| Nominal performance at to = 7.2 °C, | tc = 54.4 °C |      |
|-------------------------------------|--------------|------|
| Cooling capacity                    | 29 717       | W    |
| Power input                         | 9 224        | W    |
| Current consumption                 | 15.71        | A    |
| Mass flow                           | 678          | kg/h |
| C.O.P.                              | 3.22         |      |

| Minimum LP switch setting     | 1.5 | bar(g) |
|-------------------------------|-----|--------|
| L D an anna a daoine an Mhain |     |        |
| LP pump down setting          | 2.3 | bar(g) |
| Sound power data              |     |        |

Pressure switch settings

All performance data +/- 5%

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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## Danfoss scroll compressor. HCJ121T4

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**R410A** 

## Performance data at 60 Hz, EN 12900 rating conditions

| Cond. temp. in   | Evaporating temperature in °C (to) |        |        |         |        |        |        |        |    |  |
|------------------|------------------------------------|--------|--------|---------|--------|--------|--------|--------|----|--|
| °C (tc)          | -25                                | -20    | -15    | -10     | -5     | 0      | 5      | 10     | 15 |  |
|                  |                                    |        |        |         |        |        |        |        |    |  |
| Cooling capacity | y in W                             |        |        |         |        |        |        |        |    |  |
| 30               | 12 770                             | 15 958 | 19 689 | 24 036  | 29 072 | 34 869 | 41 500 | 49 039 | -  |  |
| 35               | 11 915                             | 14 984 | 18 563 | 22 724  | 27 540 | 33 084 | 39 427 | 46 643 | -  |  |
| 40               | 10 992                             | 13 920 | 17 325 | 21 279  | 25 854 | 31 122 | 37 154 | 44 024 | -  |  |
| 45               | -                                  | 12 785 | 15 994 | 19 718  | 24 029 | 28 998 | 34 696 | 41 194 | -  |  |
| 50               | -                                  | -      | 14 582 | 18 054  | 22 077 | 26 722 | 32 060 | 38 162 | -  |  |
| 55               | -                                  | -      | -      | 16 293  | 20 002 | 24 296 | 29 245 | 34 919 | -  |  |
| 60               | -                                  | -      | -      | -       | 17 793 | 21 702 | 26 225 | 31 432 | -  |  |
| 65               | -                                  | -      | -      | -       | -      | 18 866 | 22 909 | 27 586 | -  |  |
|                  |                                    |        |        |         |        |        |        |        |    |  |
| Power input in W | v                                  |        |        |         |        |        |        |        |    |  |
| 00               | 0.000                              | 0.404  | 0.400  | 0 5 4 0 | 0.004  | 0.700  | 0.005  | 0.040  |    |  |

| 30 | 6 390 | 6 434 | 6 486 | 6 548  | 6 621  | 6 706  | 6 805  | 6 918  | - |
|----|-------|-------|-------|--------|--------|--------|--------|--------|---|
| 35 | 7 087 | 7 122 | 7 165 | 7 219  | 7 285  | 7 363  | 7 455  | 7 562  | - |
| 40 | 7 892 | 7 914 | 7 946 | 7 988  | 8 043  | 8 111  | 8 193  | 8 292  | - |
| 45 | -     | 8 836 | 8 853 | 8 881  | 8 922  | 8 977  | 9 046  | 9 132  | - |
| 50 | -     | -     | 9 913 | 9 924  | 9 948  | 9 986  | 10 040 | 10 110 | - |
| 55 | -     | -     | -     | 11 143 | 11 146 | 11 165 | 11 200 | 11 252 | - |
| 60 | -     | -     | -     | -      | 12 544 | 12 540 | 12 553 | 12 583 | - |
| 65 | -     | -     | -     | -      | -      | 14 137 | 14 124 | 14 130 | - |

#### Current consumption in A

| 30 | 10.67 | 10.78 | 10.86 | 10.93 | 10.99 | 11.03 | 11.06 | 11.08 | - |
|----|-------|-------|-------|-------|-------|-------|-------|-------|---|
| 35 | 11.43 | 11.54 | 11.63 | 11.70 | 11.76 | 11.80 | 11.84 | 11.86 | - |
| 40 | 12.26 | 12.37 | 12.46 | 12.53 | 12.59 | 12.64 | 12.68 | 12.71 | - |
| 45 | -     | 13.33 | 13.42 | 13.49 | 13.55 | 13.60 | 13.64 | 13.67 | - |
| 50 | -     | -     | 14.57 | 14.64 | 14.69 | 14.74 | 14.77 | 14.80 | - |
| 55 | -     | -     | -     | 16.02 | 16.07 | 16.11 | 16.14 | 16.17 | - |
| 60 | -     | -     | -     | -     | 17.74 | 17.78 | 17.81 | 17.82 | - |
| 65 | -     | -     | -     | -     | -     | 19.80 | 19.82 | 19.83 | - |

#### Mass flow in kg/h

| 30 | 266 | 328 | 400 | 482 | 576 | 683 | 805 | 944 | - |
|----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| 35 | 262 | 324 | 396 | 478 | 573 | 681 | 803 | 942 | - |
| 40 | 256 | 318 | 390 | 473 | 568 | 675 | 798 | 936 | - |
| 45 | -   | 311 | 383 | 466 | 560 | 668 | 790 | 928 | - |
| 50 | -   | -   | 374 | 456 | 550 | 657 | 779 | 917 | - |
| 55 | -   | -   | -   | 445 | 538 | 645 | 766 | 903 | - |
| 60 | -   | -   | -   | -   | 524 | 629 | 749 | 885 | - |
| 65 | -   | -   | -   | -   | -   | 612 | 730 | 865 | - |

#### Coefficient of performance (C.O.P.)

| 30 | 2.00 | 2.48 | 3.04 | 3.67 | 4.39 | 5.20 | 6.10 | 7.09 | - |
|----|------|------|------|------|------|------|------|------|---|
| 35 | 1.68 | 2.10 | 2.59 | 3.15 | 3.78 | 4.49 | 5.29 | 6.17 | - |
| 40 | 1.39 | 1.76 | 2.18 | 2.66 | 3.21 | 3.84 | 4.53 | 5.31 | - |
| 45 | -    | 1.45 | 1.81 | 2.22 | 2.69 | 3.23 | 3.84 | 4.51 | - |
| 50 | -    | -    | 1.47 | 1.82 | 2.22 | 2.68 | 3.19 | 3.77 | - |
| 55 | -    | -    | -    | 1.46 | 1.79 | 2.18 | 2.61 | 3.10 | - |
| 60 | -    | -    | -    | -    | 1.42 | 1.73 | 2.09 | 2.50 | - |
| 65 | -    | -    | -    | -    | -    | 1.33 | 1.62 | 1.95 | - |

| Nominal performance at to = 5 °C | Nominal performance at to = 5 °C, tc = 50 °C |      |  |  |  |  |  |  |
|----------------------------------|--|------|--|--|--|--|--|--|
| Cooling capacity                 | 32 060                                       | W    |  |  |  |  |  |  |
| Power input                      | 10 040                                       | W    |  |  |  |  |  |  |
| Current consumption              | 14.77  | А    |  |  |  |  |  |  |
| Mass flow                        | 779  | kg/h |  |  |  |  |  |  |
| C.O.P.                           | 3.19   |      |  |  |  |  |  |  |

| Pressure switch settings  |     |        |
|---------------------------|-----|--------|
| Maximum HP switch setting | 45  | bar(g) |
| Minimum LP switch setting | 1.5 | bar(g) |
| LP pump down setting      | 2.3 | bar(g) |
|                           |     |        |
| Sound power data          |     |        |
| Sound power level         | 78  | dB(A)  |
| With accoustic hood       | 0   | dB(A)  |

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

## Danfoss scroll compressor. HCJ121T4

39 240

36 069

32 779

Danfoss

**R410A** 

## Performance data at 60 Hz, ARI rating conditions

| Cond. temp. in   | Evaporating temperature in °C (to) |        |        |        |        |        |        |        |    |  |
|------------------|------------------------------------|--------|--------|--------|--------|--------|--------|--------|----|--|
| °C (tc)          | -25                                | -20    | -15    | -10    | -5     | 0      | 5      | 10     | 15 |  |
| Cooling capacity | / in W                             |        |        |        |        |        |        |        |    |  |
| 30               | 13 790                             | 17 215 | 21 219 | 25 880 | 31 273 | 37 476 | 44 567 | 52 623 | -  |  |
| 35               | 12 951                             | 16 267 | 20 130 | 24 616 | 29 803 | 35 768 | 42 588 | 50 340 | -  |  |
| 40               | 12 042                             | 15 228 | 18 929 | 23 221 | 28 181 | 33 886 | 40 413 | 47 840 | -  |  |
| 45               | -                                  | 14 118 | 17 635 | 21 712 | 26 424 | 31 848 | 38 063 | 45 145 | -  |  |
| 50               | -                                  | -      | 16 269 | 20 109 | 24 552 | 29 675 | 35 556 | 42 271 | -  |  |

22 584

20 540

27 385

24 998

22 533

32 911

30 149

27 288

18 431

\_

#### Power input in W

55

60

65

| 30 | 6 390 | 6 434 | 6 486 | 6 548  | 6 621  | 6 706  | 6 805  | 6 918  | - |
|----|-------|-------|-------|--------|--------|--------|--------|--------|---|
| 35 | 7 087 | 7 122 | 7 165 | 7 219  | 7 285  | 7 363  | 7 455  | 7 562  | - |
| 40 | 7 892 | 7 914 | 7 946 | 7 988  | 8 043  | 8 111  | 8 193  | 8 292  | - |
| 45 | -     | 8 836 | 8 853 | 8 881  | 8 922  | 8 977  | 9 046  | 9 132  | - |
| 50 | -     | -     | 9 913 | 9 924  | 9 948  | 9 986  | 10 040 | 10 110 | - |
| 55 | -     | -     | -     | 11 143 | 11 146 | 11 165 | 11 200 | 11 252 | - |
| 60 | -     | -     | -     | -      | 12 544 | 12 540 | 12 553 | 12 583 | - |
| 65 | -     | -     | -     | -      | -      | 14 137 | 14 124 | 14 130 | - |

#### Current consumption in A

| 30 | 10.67 | 10.78 | 10.86 | 10.93 | 10.99 | 11.03 | 11.06 | 11.08 | - |
|----|-------|-------|-------|-------|-------|-------|-------|-------|---|
| 35 | 11.43 | 11.54 | 11.63 | 11.70 | 11.76 | 11.80 | 11.84 | 11.86 | - |
| 40 | 12.26 | 12.37 | 12.46 | 12.53 | 12.59 | 12.64 | 12.68 | 12.71 | - |
| 45 | -     | 13.33 | 13.42 | 13.49 | 13.55 | 13.60 | 13.64 | 13.67 | - |
| 50 | -     | -     | 14.57 | 14.64 | 14.69 | 14.74 | 14.77 | 14.80 | - |
| 55 | -     | -     | -     | 16.02 | 16.07 | 16.11 | 16.14 | 16.17 | - |
| 60 | -     | -     | -     | -     | 17.74 | 17.78 | 17.81 | 17.82 | - |
| 65 | -     | -     | -     | -     | -     | 19.80 | 19.82 | 19.83 | - |

#### Mass flow in kg/h

| 30 | 265 | 326 | 397 | 479 | 572 | 679 | 800 | 937 | - |
|----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| 35 | 260 | 322 | 394 | 475 | 569 | 676 | 798 | 935 | - |
| 40 | 254 | 317 | 388 | 470 | 564 | 671 | 792 | 930 | - |
| 45 | -   | 310 | 381 | 463 | 556 | 663 | 784 | 922 | - |
| 50 | -   | -   | 372 | 453 | 547 | 653 | 774 | 910 | - |
| 55 | -   | -   | -   | 442 | 535 | 640 | 760 | 896 | - |
| 60 | -   | -   | -   | -   | 521 | 625 | 744 | 879 | - |
| 65 | -   | -   | -   | -   | -   | 608 | 725 | 859 | - |

#### Coefficient of performance (C.O.P.)

| 30 | 2.16 | 2.68 | 3.27 | 3.95 | 4.72 | 5.59 | 6.55 | 7.61 | - |
|----|------|------|------|------|------|------|------|------|---|
| 35 | 1.83 | 2.28 | 2.81 | 3.41 | 4.09 | 4.86 | 5.71 | 6.66 | - |
| 40 | 1.53 | 1.92 | 2.38 | 2.91 | 3.50 | 4.18 | 4.93 | 5.77 | - |
| 45 | -    | 1.60 | 1.99 | 2.44 | 2.96 | 3.55 | 4.21 | 4.94 | - |
| 50 | -    | -    | 1.64 | 2.03 | 2.47 | 2.97 | 3.54 | 4.18 | - |
| 55 | -    | -    | -    | 1.65 | 2.03 | 2.45 | 2.94 | 3.49 | - |
| 60 | -    | -    | -    | -    | 1.64 | 1.99 | 2.40 | 2.87 | - |
| 65 | -    | -    | -    | -    | -    | 1.59 | 1.93 | 2.32 | - |

| Nominal performance at to = 7.2 °C | , tc = 54.4 °C |      |  |
|------------------------------------|----------------|------|--|
| Cooling capacity                   | 35 937         | W    |  |
| Power input                        | 11 073         | W    |  |
| Current consumption                | 15.98          | Α    |  |
| Mass flow                          | 820            | kg/h |  |
| COP                                | 3 25           |      |  |

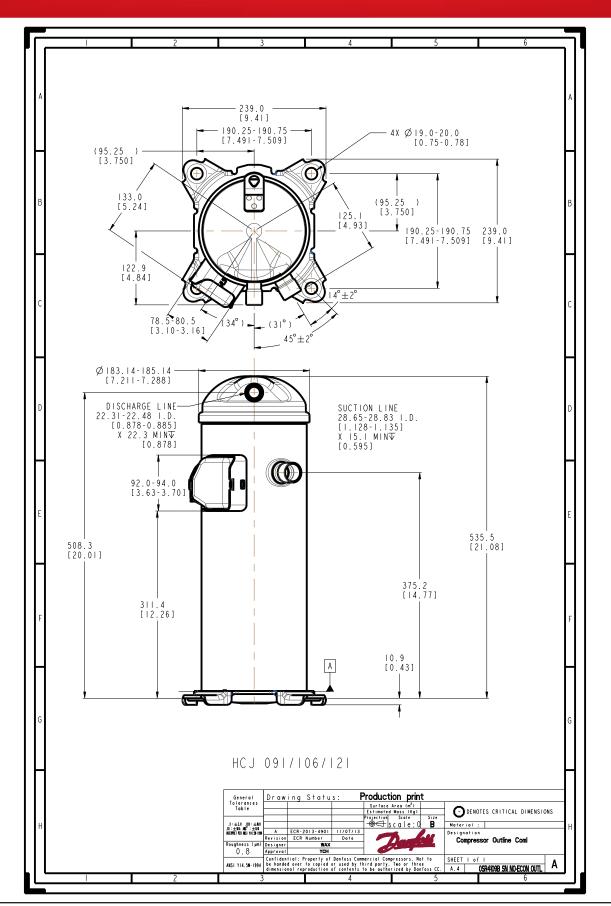
| Pressure switch settings  |     |        |
|---------------------------|-----|--------|
| Maximum HP switch setting | 45  | bar(g) |
| Minimum LP switch setting | 1.5 | bar(g) |
| LP pump down setting      | 2.3 | bar(g) |
| -                         |     |        |
| Sound power data          |     |        |
| Sound power level         | 78  | dB(A)  |
| With accoustic hood       | 0   | dB(A)  |

to: Evaporating temperature at dew point to: Condensing temperature at dew point

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

All performance data +/- 5%

ENGINEERING TOMORROW



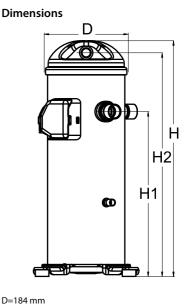
# Dantoss

#### Datasheet, technical data

## Danfoss scroll compressor, HCJ121T4

## **General Characteristics**

| Model number (on compressor nameplate)            | HC.                             | J121T4LC8    |
|---|---------------------------------|--------------|
| Code number for Singlepack*                       |                                 | 121L3123     |
| Code number for Industrial pack**                 |                                 | 121L3122     |
| Drawing number                                    | 0                               | SR4110B1     |
| Suction and discharge connections                 |                                 | Brazed       |
| Suction connection                                | 1                               | -1/8 " ODF   |
| Discharge connection                              |                                 | 7/8 " ODF    |
| Oil sight glass                                   |                                 | None         |
| Oil equalisation connection                       |                                 | 1/2"         |
| Oil drain connection                              |                                 | None         |
| LP gauge port                                     |                                 | None         |
| IPR valve   |                                 | None         |
| Swept volume                                      | 116.4 cm3/rev                   |              |
| Displacement @ Nominal speed                      | 20.3 m3/h @ 2900 rpm - 24.4 m3/ | h @ 3500 rpm |
| Net weight  | 49 kg                           |              |
| Oil charge  | 2.46 litre, PVE                 |              |
| Maximum system test pressure Low Side / High side | - bar(g) / - bar(g)             |              |
| Maximum differential test pressure                | - bar                           |              |
| Maximum number of starts per hour                 | -                               |              |
| Refrigerant charge limit                          | 7.26 kg                         |              |
| Approved refrigerants                             | R410A                           |              |



## **Electrical Characteristics**

| Nominal voltage                                      | 380-415V/3/50Hz - 460V/3/60Hz       | D=184 mm                |
|--|-------------------------------------|-------------------------|
| Voltage range  | 342-457 V @ 50Hz - 414-506 V @ 60Hz | H=565 mm<br>H1=404.7 mm |
| Winding resistance between phases 1-2 +/- 7% at 25°C | 0.960 Ω                             |                         |
| Winding resistance between phases 1-3 +/- 7% at 25°C | 0.940 Ω                             | H2=537.8 mm             |
| Winding resistance between phases 2-3 +/- 7% at 25°C | 0.960 Ω                             | H3=- mm                 |
| Rated Load Amps (RLA)                                | 17.9 A                              |                         |
| Maximum Continuous Current (MCC)                     | 25 A                                |                         |
| Locked Rotor Amps (LRA)                              | 125 A                               | Terminal bo             |
| Motor protection                                     | Internal overload protector         | reminal bo              |

## **Recommended Installation torgues**

| Oil sight glass                      | 0 Nm        |
|--------------------------------------|-------------|
| Power connections / Earth connection | 3 Nm / 2 Nm |

## Parts shipped with compressor

Mounting kit with grommets and sleeves Initial oil charge Installation instructions

Approvals : CE certified, UL certified (file SA11565), -

\*Singlepack: Compressor in cardboard box

\*\*Industrial pack: 12 Unboxed compressors on pallet (order per multiples of 12)

**Ferminal box** 



IP22 1:

3:

Screw connectors 10-32 UNF x 9.5

2: Earth connection

Power cable passage



## Datasheet, accessories and spare parts

Danfoss scroll compressor, HCJ121T4

| Rotolock accessories, suction side   | Code no. |                                 |
|--|----------|---------------------------------|
| Solder sleeve, P02 (1-3/4" Rotolock, 1-1/8" ODF)   | 8153004  |                                 |
| Angle adapter, C02 (1-3/4" Rotolock, 1-1/8" ODF)   | 8168005  |                                 |
| Rotolock valve, V02 (1-3/4" Rotolock, 1-1/8" ODF)  | 8168028  |                                 |
| Gasket, 1-3/4"   | 8156132  |                                 |
| Rotolock accessories, discharge side   | Code no. | Solder sleeve adapter set       |
| 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, 1-1/8" ODF), (1-1/4" Rotolock, 7/8" ODF)     | 120Z0125 | 1 2 3 4                         |
| Valve set, V02(1"3/4~1"1/8), V05(1"1/4~7/8")   | 120Z0403 |                                 |
| Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white                                | 8156009  |                                 |
|  |          | 1: Rotolock adapter (Suc & Dis) |
| Oil / lubricants   | Code no. | 2: Gasket (Suc & Dis)           |
| PVE lubricant, 320HV (FVC68D), 1 litre can   | 120Z5034 | 3: Solder sleeve (Suc & Dis)    |
|  |          | 4: Rotolock nut (Suc & Dis)     |
| Crankcase heaters  | Code no. |                                 |
| Belt type crankcase heater, 70 W, 230 V, UL  | 120Z5011 |                                 |
| Belt type crankcase heater, 65 W, 230 V, CE mark, UL                                     | 120Z0059 |                                 |
| Belt type crankcase heater, 65 W, 400 V, CE mark, UL                                     | 120Z0060 |                                 |
| Belt type crankcase heater, 70 W, 460 V, UL  | 120Z5012 |                                 |
| Miscellaneous accessories  | Code no. |                                 |
| Discharge thermostat kit   | 7750009  |                                 |
| Spare parts  | Code no. |                                 |
| Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers | 120Z5005 |                                 |
| Mounting kit, including 1 bolt, 1 sleeve, 1 washer                                       | 120Z5031 |                                 |

## Danfoss scroll compressor. HCJ121T4

Danfoss

**R410A** 

## Performance data at 50 Hz, EN 12900 rating conditions

| cond. temp. in          |                |                |                | Evaporating temperature in °C (to) |                |                |                |                |    |
|-------------------------|----------------|----------------|----------------|------------------------------------|----------------|----------------|----------------|----------------|----|
| °C (tc)                 | -25            | -20            | -15            | -10                                | -5             | 0              | 5              | 10             | 15 |
| ooling capacity         | in W           |                |                |                                    |                |                |                |                |    |
| 30                      | 10 891         | 13 496         | 16 548         | 20 108                             | 24 235         | 28 989         | 34 429         | 40 616         | -  |
| 35                      | 10 154         | 12 662         | 15 593         | 19 008                             | 22 965         | 27 523         | 32 743         | 38 684         | -  |
| 40                      | 9 349          | 11 740         | 14 529         | 17 777                             | 21 542         | 25 884         | 30 861         | 36 533         | -  |
| 45                      | -              | 10 747         | 13 374         | 16 433                             | 19 985         | 24 087         | 28 798         | 34 177         | -  |
| 50                      | -              | -              | 12 142         | 14 991                             | 18 306         | 22 144         | 26 565         | 31 626         | -  |
| 55                      | -              | -              | -              | 13 460                             | 16 513         | 20 063         | 24 166         | 28 879         | -  |
| 60                      | -              | -              | -              | -                                  | 14 603         | 17 831         | 21 583         | 25 913         | -  |
| 65                      | -              | -              | -              | -                                  | -              | 15 398         | 18 748         | 22 641         | -  |
|                         |                |                |                |                                    | 1              |                |                |                |    |
| ower input in W         | I              | -              |                |                                    | -              |                | •              |                |    |
| 30                      | 5 397          | 5 400          | 5 390          | 5 390                              | 5 421          | 5 506          | 5 666          | 5 926          | -  |
| 35                      | 5 965          | 5 984          | 5 975          | 5 959                              | 5 959          | 5 996          | 6 093          | 6 272          | -  |
| 40                      | 6 598          | 6 648          | 6 652          | 6 634                              | 6 616          | 6 619          | 6 666          | 6 779          | -  |
| 45                      | -              | 7 401          | 7 433          | 7 426                              | 7 403          | 7 385          | 7 396          | 7 456          | -  |
| 50                      | -              | -              | 8 326          | 8 344                              | 8 330          | 8 305          | 8 293          | 8 314          | -  |
| 55                      | -              | -              | -              | 9 400                              | 9 408          | 9 390          | 9 367          | 9 363          | -  |
| 60                      | -              | -              | -              | -                                  | 10 647         | 10 649         | 10 630         | 10 613         | -  |
| 65                      | -              | -              | -              | -                                  | -              | 12 092         | 12 091         | 12 075         | -  |
| 30<br>35                | 11.07<br>11.79 | 11.14<br>11.85 | 11.19<br>11.91 | 11.23<br>11.96                     | 11.24<br>12.00 | 11.24<br>12.02 | 11.21<br>12.04 | 11.16<br>12.04 | -  |
| 40                      | 12.55          | 12.60          | 12.64          | 12.69                              | 12.73          | 12.77          | 12.81          | 12.85          | -  |
| 45                      | -              | 13.47          | 13.49          | 13.52                              | 13.55          | 13.59          | 13.64          | 13.69          | -  |
| 50                      | -              | -              | 14.55          | 14.55                              | 14.56          | 14.58          | 14.62          | 14.68          | -  |
| 55                      | -              | -              | -              | 15.88                              | 15.85          | 15.85          | 15.86          | 15.90          | -  |
| 60                      | -              | -              | -              | -                                  | 17.54          | 17.49          | 17.47          | 17.48          | -  |
| 65                      | -              | -              | -              | -                                  | -              | 19.62          | 19.54          | 19.51          | -  |
| looo flow in kall       | _              |                |                |                                    |                |                |                |                |    |
| lass flow in kg/l<br>30 | 227            | 278            | 336            | 403                                | 480            | 568            | 668            | 782            | -  |
| 35                      | 223            | 274            | 333            | 400                                | 478            | 566            | 667            | 781            | -  |
| 40                      | 218            | 269            | 327            | 395                                | 473            | 562            | 663            | 777            | -  |
| 45                      | -              | 262            | 320            | 388                                | 466            | 555            | 656            | 770            | -  |
| 50                      | -              | -              | 312            | 379                                | 456            | 545            | 646            | 760            | -  |
| 55                      | -              | -              | -              | 368                                | 444            | 532            | 633            | 747            | -  |
| 60                      | -              | -              | -              | -                                  | 430            | 517            | 617            | 730            | -  |
| 65                      | -              | -              | -              | -                                  | -              | 499            | 598            | 710            | -  |
|                         | _              | ·              | •              | •                                  | -              | •              | -              | · ·            |    |
| coefficient of pe       |                | ,              | 0.07           | 0.70                               | 4 47           | E 07           | 0.00           | 0.05           |    |
| 30                      | 2.02           | 2.50           | 3.07           | 3.73                               | 4.47           | 5.27           | 6.08           | 6.85           | -  |
| 35                      | 1.70           | 2.12           | 2.61           | 3.19                               | 3.85           | 4.59           | 5.37           | 6.17           | -  |
| 40                      | 1.42           | 1.77           | 2.18           | 2.68                               | 3.26           | 3.91           | 4.63           | 5.39           | -  |
| 45                      | -              | 1.45           | 1.80           | 2.21                               | 2.70           | 3.26           | 3.89           | 4.58           | -  |
| 50                      | -              | -              | 1.46           | 1.80                               | 2.20           | 2.67           | 3.20           | 3.80           | -  |

| Nominal performance at to = 5 °C, tc = 50 °C |        |      |  |  |  |  |
|--|--------|------|--|--|--|--|
| Cooling capacity                             | 26 565 | W    |  |  |  |  |
| Power input                                  | 8 293  | W    |  |  |  |  |
| Current consumption                          | 14.62  | А    |  |  |  |  |
| Mass flow                                    | 646    | kg/h |  |  |  |  |
| C.O.P.                                       | 3.20   |      |  |  |  |  |

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| Maximum HP switch setting                                    | 45      | bar(g)         |
|--|---------|----------------|
| Minimum LP switch setting                                    | 1.5     | bar(g)         |
| LP pump down setting   | 2.3     | bar(g)         |
|  |         |                |
| Sound power data   |         |                |
| Sound power data   | 75      |                |
| Sound power data<br>Sound power level<br>With accoustic hood | 75<br>0 | dB(A)<br>dB(A) |

2.58

2.03

1.55

3.08

2.44

1.87

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tc: Condensing temperature at dew point

to: Evaporating temperature at dew point

55

60

65

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

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All performance data +/- 5%

2.14

1.67

1.27

Pressure switch settings

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1.43

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1.76

1.37

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## Danfoss scroll compressor. HCJ121T4

35 032

32 453

29 736

26 902

Danfoss

**R410A** 

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## 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 | •      | T      | Γ      | T                                  | T      | Γ      | Γ      | Γ      |    |  |
| 30              | 11 762 | 14 559 | 17 834 | 21 650                             | 26 070 | 31 156 | 36 974 | 43 584 | -  |  |
| 35              | 11 036 | 13 746 | 16 910 | 20 591                             | 24 852 | 29 757 | 35 368 | 41 750 | -  |  |
| 40              | 10 241 | 12 843 | 15 874 | 19 399                             | 23 481 | 28 183 | 33 568 | 39 700 | -  |  |
| 45              | -      | 11 868 | 14 746 | 18 095                             | 21 976 | 26 455 | 31 593 | 37 454 | -  |  |

20 358

18 645

16 858

24 592

22 614

20 540

18 391

29 462

27 195

24 812

22 332

16 697

15 226

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13 546

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## Power input in W

50

55

60

65

| 30 | 5 397 | 5 400 | 5 390 | 5 390 | 5 421  | 5 506  | 5 666  | 5 926  | - |
|----|-------|-------|-------|-------|--------|--------|--------|--------|---|
| 35 | 5 965 | 5 984 | 5 975 | 5 959 | 5 959  | 5 996  | 6 093  | 6 272  | - |
| 40 | 6 598 | 6 648 | 6 652 | 6 634 | 6 616  | 6 619  | 6 666  | 6 779  | - |
| 45 | -     | 7 401 | 7 433 | 7 426 | 7 403  | 7 385  | 7 396  | 7 456  | - |
| 50 | -     | -     | 8 326 | 8 344 | 8 330  | 8 305  | 8 293  | 8 314  | - |
| 55 | -     | -     | -     | 9 400 | 9 408  | 9 390  | 9 367  | 9 363  | - |
| 60 | -     | -     | -     | -     | 10 647 | 10 649 | 10 630 | 10 613 | - |
| 65 | -     | -     | -     | -     | -      | 12 092 | 12 091 | 12 075 | - |

#### Current consumption in A

| 30 | 11.07 | 11.14 | 11.19 | 11.23 | 11.24 | 11.24 | 11.21 | 11.16 | - |
|----|-------|-------|-------|-------|-------|-------|-------|-------|---|
| 35 | 11.79 | 11.85 | 11.91 | 11.96 | 12.00 | 12.02 | 12.04 | 12.04 | - |
| 40 | 12.55 | 12.60 | 12.64 | 12.69 | 12.73 | 12.77 | 12.81 | 12.85 | - |
| 45 | -     | 13.47 | 13.49 | 13.52 | 13.55 | 13.59 | 13.64 | 13.69 | - |
| 50 | -     | -     | 14.55 | 14.55 | 14.56 | 14.58 | 14.62 | 14.68 | - |
| 55 | -     | -     | -     | 15.88 | 15.85 | 15.85 | 15.86 | 15.90 | - |
| 60 | -     | -     | -     | -     | 17.54 | 17.49 | 17.47 | 17.48 | - |
| 65 | -     | -     | -     | -     | -     | 19.62 | 19.54 | 19.51 | - |

#### Mass flow in kg/h

| 30 | 226 | 276 | 334 | 401 | 477 | 564 | 664 | 776 | - |
|----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| 35 | 222 | 272 | 331 | 398 | 475 | 562 | 662 | 775 | - |
| 40 | 216 | 267 | 325 | 393 | 470 | 558 | 658 | 772 | - |
| 45 | -   | 260 | 319 | 386 | 463 | 551 | 651 | 765 | - |
| 50 | -   | -   | 310 | 377 | 453 | 541 | 641 | 755 | - |
| 55 | -   | -   | -   | 365 | 442 | 529 | 628 | 741 | - |
| 60 | -   | -   | -   | -   | 427 | 514 | 612 | 725 | - |
| 65 | -   | -   | -   | -   | -   | 496 | 594 | 705 | - |

#### Coefficient of performance (C.O.P.)

| 30 | 2.18 | 2.70 | 3.31 | 4.02 | 4.81 | 5.66 | 6.53 | 7.36 | - |
|----|------|------|------|------|------|------|------|------|---|
| 35 | 1.85 | 2.30 | 2.83 | 3.46 | 4.17 | 4.96 | 5.80 | 6.66 | - |
| 40 | 1.55 | 1.93 | 2.39 | 2.92 | 3.55 | 4.26 | 5.04 | 5.86 | - |
| 45 | -    | 1.60 | 1.98 | 2.44 | 2.97 | 3.58 | 4.27 | 5.02 | - |
| 50 | -    | -    | 1.63 | 2.00 | 2.44 | 2.96 | 3.55 | 4.21 | - |
| 55 | -    | -    | -    | 1.62 | 1.98 | 2.41 | 2.90 | 3.47 | - |
| 60 | -    | -    | -    | -    | 1.58 | 1.93 | 2.33 | 2.80 | - |
| 65 | -    | -    | -    | -    | -    | 1.52 | 1.85 | 2.23 | - |

| Nominal performance at to = 7.2 °C, tc = 54.4 °C |        |      |  |  |  |  |  |  |  |
|--|--------|------|--|--|--|--|--|--|--|
| Cooling capacity                                 | 29 717 | W    |  |  |  |  |  |  |  |
| Power input                                      | 9 224  | W    |  |  |  |  |  |  |  |
| Current consumption                              | 15.71  | A    |  |  |  |  |  |  |  |
| Mass flow  | 678    | kg/h |  |  |  |  |  |  |  |
| C.O.P.   | 3.22   |      |  |  |  |  |  |  |  |

| Minimum LP switch setting     | 1.5 | bar(g) |
|-------------------------------|-----|--------|
| L D an anna a daoine an Mhain |     |        |
| LP pump down setting          | 2.3 | bar(g) |
| Sound power data              |     |        |

Pressure switch settings

All performance data +/- 5%

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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## Danfoss scroll compressor. HCJ121T4

Danfoss

**R410A** 

## Performance data at 60 Hz, EN 12900 rating conditions

| Cond. temp. in   | Evaporating temperature in °C (to) |        |        |        |        |        |        |        |    |  |  |  |
|------------------|------------------------------------|--------|--------|--------|--------|--------|--------|--------|----|--|--|--|
| °C (tc)          | -25                                | -20    | -15    | -10    | -5     | 0      | 5      | 10     | 15 |  |  |  |
|                  |                                    |        |        |        |        |        |        |        |    |  |  |  |
| Cooling capacity | y in W                             |        |        |        |        |        |        |        |    |  |  |  |
| 30               | 12 770                             | 15 958 | 19 689 | 24 036 | 29 072 | 34 869 | 41 500 | 49 039 | -  |  |  |  |
| 35               | 11 915                             | 14 984 | 18 563 | 22 724 | 27 540 | 33 084 | 39 427 | 46 643 | -  |  |  |  |
| 40               | 10 992                             | 13 920 | 17 325 | 21 279 | 25 854 | 31 122 | 37 154 | 44 024 | -  |  |  |  |
| 45               | -                                  | 12 785 | 15 994 | 19 718 | 24 029 | 28 998 | 34 696 | 41 194 | -  |  |  |  |
| 50               | -                                  | -      | 14 582 | 18 054 | 22 077 | 26 722 | 32 060 | 38 162 | -  |  |  |  |
| 55               | -                                  | -      | -      | 16 293 | 20 002 | 24 296 | 29 245 | 34 919 | -  |  |  |  |
| 60               | -                                  | -      | -      | -      | 17 793 | 21 702 | 26 225 | 31 432 | -  |  |  |  |
| 65               | -                                  | -      | -      | -      | -      | 18 866 | 22 909 | 27 586 | -  |  |  |  |

| 30 | 6 390 | 6 434 | 6 486 | 6 548  | 6 621  | 6 706  | 6 805  | 6 918  | - |
|----|-------|-------|-------|--------|--------|--------|--------|--------|---|
| 35 | 7 087 | 7 122 | 7 165 | 7 219  | 7 285  | 7 363  | 7 455  | 7 562  | - |
| 40 | 7 892 | 7 914 | 7 946 | 7 988  | 8 043  | 8 111  | 8 193  | 8 292  | - |
| 45 | -     | 8 836 | 8 853 | 8 881  | 8 922  | 8 977  | 9 046  | 9 132  | - |
| 50 | -     | -     | 9 913 | 9 924  | 9 948  | 9 986  | 10 040 | 10 110 | - |
| 55 | -     | -     | -     | 11 143 | 11 146 | 11 165 | 11 200 | 11 252 | - |
| 60 | -     | -     | -     | -      | 12 544 | 12 540 | 12 553 | 12 583 | - |
| 65 | -     | -     | -     | -      | -      | 14 137 | 14 124 | 14 130 | - |

#### Current consumption in A

| 30 | 10.67 | 10.78 | 10.86 | 10.93 | 10.99 | 11.03 | 11.06 | 11.08 | - |
|----|-------|-------|-------|-------|-------|-------|-------|-------|---|
| 35 | 11.43 | 11.54 | 11.63 | 11.70 | 11.76 | 11.80 | 11.84 | 11.86 | - |
| 40 | 12.26 | 12.37 | 12.46 | 12.53 | 12.59 | 12.64 | 12.68 | 12.71 | - |
| 45 | -     | 13.33 | 13.42 | 13.49 | 13.55 | 13.60 | 13.64 | 13.67 | - |
| 50 | -     | -     | 14.57 | 14.64 | 14.69 | 14.74 | 14.77 | 14.80 | - |
| 55 | -     | -     | -     | 16.02 | 16.07 | 16.11 | 16.14 | 16.17 | - |
| 60 | -     | -     | -     | -     | 17.74 | 17.78 | 17.81 | 17.82 | - |
| 65 | -     | -     | -     | -     | -     | 19.80 | 19.82 | 19.83 | - |

#### Mass flow in kg/h

| 30 | 266 | 328 | 400 | 482 | 576 | 683 | 805 | 944 | - |
|----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| 35 | 262 | 324 | 396 | 478 | 573 | 681 | 803 | 942 | - |
| 40 | 256 | 318 | 390 | 473 | 568 | 675 | 798 | 936 | - |
| 45 | -   | 311 | 383 | 466 | 560 | 668 | 790 | 928 | - |
| 50 | -   | -   | 374 | 456 | 550 | 657 | 779 | 917 | - |
| 55 | -   | -   | -   | 445 | 538 | 645 | 766 | 903 | - |
| 60 | -   | -   | -   | -   | 524 | 629 | 749 | 885 | - |
| 65 | -   | -   | -   | -   | -   | 612 | 730 | 865 | - |

#### Coefficient of performance (C.O.P.)

| 30 | 2.00 | 2.48 | 3.04 | 3.67 | 4.39 | 5.20 | 6.10 | 7.09 | - |
|----|------|------|------|------|------|------|------|------|---|
| 35 | 1.68 | 2.10 | 2.59 | 3.15 | 3.78 | 4.49 | 5.29 | 6.17 | - |
| 40 | 1.39 | 1.76 | 2.18 | 2.66 | 3.21 | 3.84 | 4.53 | 5.31 | - |
| 45 | -    | 1.45 | 1.81 | 2.22 | 2.69 | 3.23 | 3.84 | 4.51 | - |
| 50 | -    | -    | 1.47 | 1.82 | 2.22 | 2.68 | 3.19 | 3.77 | - |
| 55 | -    | -    | -    | 1.46 | 1.79 | 2.18 | 2.61 | 3.10 | - |
| 60 | -    | -    | -    | -    | 1.42 | 1.73 | 2.09 | 2.50 | - |
| 65 | -    | -    | -    | -    | -    | 1.33 | 1.62 | 1.95 | - |

| Nominal performance at to = 5 °C, tc = 50 °C |        |      |  |  |  |  |  |  |  |
|--|--------|------|--|--|--|--|--|--|--|
| Cooling capacity                             | 32 060 | W    |  |  |  |  |  |  |  |
| Power input                                  | 10 040 | W    |  |  |  |  |  |  |  |
| Current consumption                          | 14.77  | А    |  |  |  |  |  |  |  |
| Mass flow                                    | 779    | kg/h |  |  |  |  |  |  |  |
| C.O.P.                                       | 3.19   |      |  |  |  |  |  |  |  |

| Pressure switch settings  |     |        |
|---------------------------|-----|--------|
| Maximum HP switch setting | 45  | bar(g) |
| Minimum LP switch setting | 1.5 | bar(g) |
| LP pump down setting      | 2.3 | bar(g) |
| -                         |     |        |
| Sound power data          |     |        |
| Sound power level         | 78  | dB(A)  |
| With accoustic hood       | 0   | dB(A)  |

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point Rating conditions : Superheat = 10 K , Subcooling = 0 K

All performance data +/- 5%

## Danfoss scroll compressor. HCJ121T4

39 240

36 069

32 779

Danfoss

**R410A** 

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## Performance data at 60 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 | y in W                             |        |        |        |        |        |        |        |    |
| 30              | 13 790                             | 17 215 | 21 219 | 25 880 | 31 273 | 37 476 | 44 567 | 52 623 | -  |
| 35              | 12 951                             | 16 267 | 20 130 | 24 616 | 29 803 | 35 768 | 42 588 | 50 340 | -  |
| 40              | 12 042                             | 15 228 | 18 929 | 23 221 | 28 181 | 33 886 | 40 413 | 47 840 | -  |
| 45              | -                                  | 14 118 | 17 635 | 21 712 | 26 424 | 31 848 | 38 063 | 45 145 | -  |
| 50              | -                                  | -      | 16 269 | 20 109 | 24 552 | 29 675 | 35 556 | 42 271 | -  |

22 584

20 540

27 385

24 998

22 533

32 911

30 149

27 288

18 431

\_

#### Power input in W

55

60

65

| 30 | 6 390 | 6 434 | 6 486 | 6 548  | 6 621  | 6 706  | 6 805  | 6 918  | - |
|----|-------|-------|-------|--------|--------|--------|--------|--------|---|
| 35 | 7 087 | 7 122 | 7 165 | 7 219  | 7 285  | 7 363  | 7 455  | 7 562  | - |
| 40 | 7 892 | 7 914 | 7 946 | 7 988  | 8 043  | 8 111  | 8 193  | 8 292  | - |
| 45 | -     | 8 836 | 8 853 | 8 881  | 8 922  | 8 977  | 9 046  | 9 132  | - |
| 50 | -     | -     | 9 913 | 9 924  | 9 948  | 9 986  | 10 040 | 10 110 | - |
| 55 | -     | -     | -     | 11 143 | 11 146 | 11 165 | 11 200 | 11 252 | - |
| 60 | -     | -     | -     | -      | 12 544 | 12 540 | 12 553 | 12 583 | - |
| 65 | -     | -     | -     | -      | -      | 14 137 | 14 124 | 14 130 | - |

#### Current consumption in A

| 30 | 10.67 | 10.78 | 10.86 | 10.93 | 10.99 | 11.03 | 11.06 | 11.08 | - |
|----|-------|-------|-------|-------|-------|-------|-------|-------|---|
| 35 | 11.43 | 11.54 | 11.63 | 11.70 | 11.76 | 11.80 | 11.84 | 11.86 | - |
| 40 | 12.26 | 12.37 | 12.46 | 12.53 | 12.59 | 12.64 | 12.68 | 12.71 | - |
| 45 | -     | 13.33 | 13.42 | 13.49 | 13.55 | 13.60 | 13.64 | 13.67 | - |
| 50 | -     | -     | 14.57 | 14.64 | 14.69 | 14.74 | 14.77 | 14.80 | - |
| 55 | -     | -     | -     | 16.02 | 16.07 | 16.11 | 16.14 | 16.17 | - |
| 60 | -     | -     | -     | -     | 17.74 | 17.78 | 17.81 | 17.82 | - |
| 65 | -     | -     | -     | -     | -     | 19.80 | 19.82 | 19.83 | - |

#### Mass flow in kg/h

| 30 | 265 | 326 | 397 | 479 | 572 | 679 | 800 | 937 | - |
|----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| 35 | 260 | 322 | 394 | 475 | 569 | 676 | 798 | 935 | - |
| 40 | 254 | 317 | 388 | 470 | 564 | 671 | 792 | 930 | - |
| 45 | -   | 310 | 381 | 463 | 556 | 663 | 784 | 922 | - |
| 50 | -   | -   | 372 | 453 | 547 | 653 | 774 | 910 | - |
| 55 | -   | -   | -   | 442 | 535 | 640 | 760 | 896 | - |
| 60 | -   | -   | -   | -   | 521 | 625 | 744 | 879 | - |
| 65 | -   | -   | -   | -   | -   | 608 | 725 | 859 | - |

#### Coefficient of performance (C.O.P.)

| 30 | 2.16 | 2.68 | 3.27 | 3.95 | 4.72 | 5.59 | 6.55 | 7.61 | - |
|----|------|------|------|------|------|------|------|------|---|
| 35 | 1.83 | 2.28 | 2.81 | 3.41 | 4.09 | 4.86 | 5.71 | 6.66 | - |
| 40 | 1.53 | 1.92 | 2.38 | 2.91 | 3.50 | 4.18 | 4.93 | 5.77 | - |
| 45 | -    | 1.60 | 1.99 | 2.44 | 2.96 | 3.55 | 4.21 | 4.94 | - |
| 50 | -    | -    | 1.64 | 2.03 | 2.47 | 2.97 | 3.54 | 4.18 | - |
| 55 | -    | -    | -    | 1.65 | 2.03 | 2.45 | 2.94 | 3.49 | - |
| 60 | -    | -    | -    | -    | 1.64 | 1.99 | 2.40 | 2.87 | - |
| 65 | -    | -    | -    | -    | -    | 1.59 | 1.93 | 2.32 | - |

| Nominal performance at to = 7.2 °C | , tc = 54.4 °C |      |  |
|------------------------------------|----------------|------|--|
| Cooling capacity                   | 35 937         | W    |  |
| Power input                        | 11 073         | W    |  |
| Current consumption                | 15.98          | Α    |  |
| Mass flow                          | 820            | kg/h |  |
| COP                                | 3 25           |      |  |

| Pressure switch settings  |     |        |
|---------------------------|-----|--------|
| Maximum HP switch setting | 45  | bar(g) |
| Minimum LP switch setting | 1.5 | bar(g) |
| LP pump down setting      | 2.3 | bar(g) |
| -                         |     |        |
| Sound power data          |     |        |
| Sound power level         | 78  | dB(A)  |
| With accoustic hood       | 0   | dB(A)  |

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%



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