

ENGINEERING
TOMORROW



Datasheets

Danfoss scroll compressors **H series**

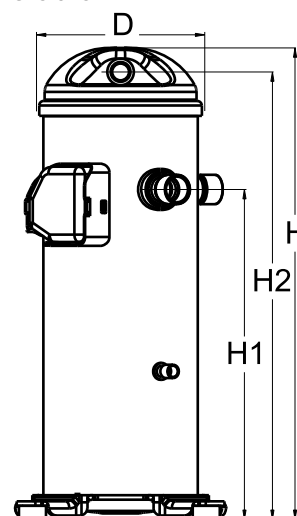


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www.danfoss.com/odsg

General Characteristics

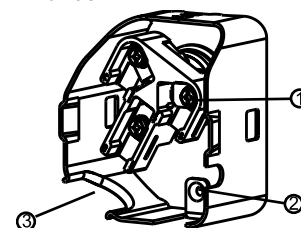
| | | |
|---|---|--------------------|
| Model number (on compressor nameplate) | | HLP081T4LC6 |
| Code number for Singlepack* | | 120U1781 |
| Code number for Industrial pack** | | 120U1778 |
| Drawing number | | 0XR6089B-2 |
| Suction and discharge connections | | Brazed |
| Suction connection | | 7/8 " ODF |
| Discharge connection | | 3/4 " ODF |
| Oil sight glass | | None |
| Oil equalization connection | | None |
| Oil drain connection | | None |
| LP gauge port | | None |
| IPR valve | | Yes |
| Swept volume | 6.77 in3/rev | |
| Displacement @ Nominal speed | 682 cfh @ 2900 rpm - 823 cfh @ 3500 rpm | |
| Net weight | 82 lbs | |
| Oil charge | 53 oz, PVE - - | |
| Maximum system test pressure Low Side / High side | - psi / - psi | |
| Maximum differential test pressure | - psi | |
| Maximum number of starts per hour | - | |
| Refrigerant charge limit | 12 lbs | |
| Approved refrigerants | R407C | |

Dimensions


D=7.2 inch, H=17.9 inch,
H1=11 inch, H2=16.6 inch, H3=- inch

Electrical Characteristics

| | |
|--|-------------------------------------|
| Nominal voltage | 380-415V/3/50Hz - 460V/3/60Hz |
| Voltage range | 342-457 V @ 50Hz - 414-506 V @ 60Hz |
| Winding resistance between phases 1-2 +/- 7% at 77°F | 2.116 Ω |
| Winding resistance between phases 1-3 +/- 7% at 77°F | 2.090 Ω |
| Winding resistance between phases 2-3 +/- 7% at 77°F | 2.070 Ω |
| Rated Load Amps (RLA) | 11 A |
| Maximum Continuous Current (MCC) | 17 A |
| Locked Rotor Amps (LRA) | 87 A |
| Motor protection | Internal overload protector |

Terminal box


IP22

- 1: Screw connectors 10-32 UNF x 9.5
- 2: Earth connection
- 3: Power cable passage

Recommended Installation torques

| | |
|--------------------------------------|---------------------|
| Oil sight glass | 39 ft.lbs |
| Power connections / Earth connection | 2 ft.lbs / 1 ft.lbs |

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 or 16 Unboxed compressors on pallet

Rotolock accessories, suction side
Code no.

| | |
|---|---------|
| Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF) | 8168030 |
| Gasket, 1-1/4" | 8156131 |

Rotolock accessories, discharge side
Code no.

| | |
|---|---------|
| Solder sleeve, P04 (1-1/4" Rotolock, 3/4" ODF) | 8153008 |
| Angle adapter, C04 (1-1/4" Rotolock, 3/4" ODF) | 8168006 |
| Rotolock valve, V04 (1-1/4" Rotolock, 3/4" ODF) | 8168029 |
| Gasket, 1-1/4" | 8156131 |

Rotolock accessories, sets
Code no.

| | |
|---|----------|
| Solder sleeve adapter set (1-1/4"~7/8"), (1-1/4"~3/4") | 120Z0128 |
| Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white | 8156009 |

Oil / lubricants
Code no.

| | |
|--|----------|
| PVE lubricant, 320HV (FVC68D), 1 litre can | 120Z5034 |
|--|----------|

Crankcase heaters
Code no.

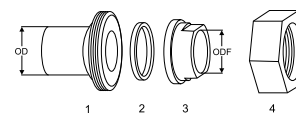
| | |
|--|----------|
| Belt type crankcase heater, 65 W, 230 V, CE mark, UL | 120Z0059 |
| Belt type crankcase heater, 65 W, 400 V, CE mark, UL | 120Z0060 |
| Belt type crankcase heater, 70 W, 240 V, CE mark, UL | 120Z5040 |
| Belt type crankcase heater, 70 W, 240 V, CE mark, UL | 120Z5040 |

Miscellaneous accessories
Code no.

| | |
|--------------------------|----------|
| Acoustic hood | 120Z5044 |
| 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 for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers | 120Z5031 |

Solder sleeve adapter set


- 1: Rotolock adapter (Suc & Dis)
- 2: Gasket (Suc & Dis)
- 3: Solder sleeve (Suc & Dis)
- 4: Rotolock nut (Suc & Dis)

Performance data at 60 Hz, ARI rating conditions
R407C

| Cond. temp. in °F (tc) | Evaporating temperature in °F (to) | | | | | | | | |
|---------------------------|------------------------------------|-----|---|----|----|----|----|----|----|
| | -20 | -10 | 0 | 10 | 20 | 30 | 40 | 45 | 55 |

Cooling capacity in Btu/h

| | | | | | | | | | |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 90 | 19 799 | 26 141 | 34 232 | 44 255 | 56 394 | 70 832 | 87 752 | 97 199 | 118 184 |
| 100 | - | 24 873 | 32 543 | 42 107 | 53 747 | 67 648 | 83 991 | 93 136 | 113 487 |
| 110 | - | 23 590 | 30 824 | 39 914 | 51 042 | 64 391 | 80 145 | 88 980 | 108 683 |
| 120 | - | - | 28 931 | 37 532 | 48 134 | 60 917 | 76 067 | 84 585 | 103 626 |
| 130 | - | - | - | 34 816 | 44 877 | 57 081 | 71 612 | 79 807 | 98 171 |
| 140 | - | - | - | - | 41 126 | 52 736 | 66 635 | 74 499 | 92 173 |
| 150 | - | - | - | - | - | 47 738 | 60 990 | 68 517 | 85 486 |

Power input in W

| | | | | | | | | | |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 90 | 4 689 | 4 651 | 4 627 | 4 606 | 4 576 | 4 525 | 4 441 | 4 383 | 4 227 |
| 100 | - | 5 238 | 5 208 | 5 183 | 5 153 | 5 104 | 5 025 | 4 971 | 4 825 |
| 110 | - | 5 870 | 5 836 | 5 812 | 5 783 | 5 740 | 5 669 | 5 620 | 5 486 |
| 120 | - | - | 6 524 | 6 502 | 6 479 | 6 444 | 6 385 | 6 342 | 6 224 |
| 130 | - | - | - | 7 267 | 7 253 | 7 229 | 7 184 | 7 150 | 7 050 |
| 140 | - | - | - | - | 8 116 | 8 107 | 8 079 | 8 054 | 7 976 |
| 150 | - | - | - | - | - | 9 089 | 9 081 | 9 068 | 9 014 |

Current consumption in A

| | | | | | | | | | |
|-----|------|------|------|------|-------|-------|-------|-------|-------|
| 90 | 5.94 | 6.04 | 6.15 | 6.28 | 6.43 | 6.59 | 6.78 | 6.87 | 7.08 |
| 100 | - | 6.96 | 7.13 | 7.27 | 7.38 | 7.47 | 7.54 | 7.57 | 7.60 |
| 110 | - | 7.55 | 7.81 | 8.00 | 8.13 | 8.19 | 8.19 | 8.16 | 8.06 |
| 120 | - | - | 8.37 | 8.65 | 8.84 | 8.91 | 8.88 | 8.83 | 8.64 |
| 130 | - | - | - | 9.39 | 9.67 | 9.81 | 9.79 | 9.73 | 9.50 |
| 140 | - | - | - | - | 10.81 | 11.04 | 11.09 | 11.04 | 10.81 |
| 150 | - | - | - | - | - | 12.78 | 12.93 | 12.92 | 12.73 |

Mass flow in lbs/h

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|
| 90 | 279 | 362 | 465 | 591 | 739 | 913 | 1 113 | 1 223 | 1 466 |
| 100 | - | 363 | 465 | 591 | 740 | 914 | 1 116 | 1 228 | 1 473 |
| 110 | - | 363 | 465 | 590 | 740 | 916 | 1 120 | 1 233 | 1 481 |
| 120 | - | - | 462 | 587 | 738 | 916 | 1 122 | 1 236 | 1 488 |
| 130 | - | - | - | 579 | 731 | 911 | 1 120 | 1 236 | 1 491 |
| 140 | - | - | - | - | 717 | 899 | 1 111 | 1 229 | 1 488 |
| 150 | - | - | - | - | - | 878 | 1 093 | 1 213 | 1 477 |

Energy Efficiency Ratio (E.E.R.)

| | | | | | | | | | |
|-----|------|------|------|------|-------|-------|-------|-------|-------|
| 90 | 4.22 | 5.62 | 7.40 | 9.61 | 12.32 | 15.65 | 19.76 | 22.18 | 27.96 |
| 100 | - | 4.75 | 6.25 | 8.12 | 10.43 | 13.25 | 16.71 | 18.74 | 23.52 |
| 110 | - | 4.02 | 5.28 | 6.87 | 8.83 | 11.22 | 14.14 | 15.83 | 19.81 |
| 120 | - | - | 4.43 | 5.77 | 7.43 | 9.45 | 11.91 | 13.34 | 16.65 |
| 130 | - | - | - | 4.79 | 6.19 | 7.90 | 9.97 | 11.16 | 13.92 |
| 140 | - | - | - | - | 5.07 | 6.51 | 8.25 | 9.25 | 11.56 |
| 150 | - | - | - | - | - | 5.25 | 6.72 | 7.56 | 9.48 |

Nominal performance at to = 45 °F, tc = 130 °F

| | | | | | |
|------------------|--------|-------|---------------------|-------|-------|
| Cooling capacity | 79 807 | Btu/h | Current consumption | 9.73 | A |
| Power input | 7 150 | W | Mass flow | 1 236 | lbs/h |
| E.E.R. | 11.16 | | | | |

Pressure switch settings

| | | |
|---------------------------|-----|--------|
| Maximum HP switch setting | 435 | psi(g) |
| Minimum LP switch setting | 7 | psi(g) |
| LP pump down setting | 15 | psi(g) |

T 0 : Evaporating temperature at dew point

T C : Condensing temperature at dew point

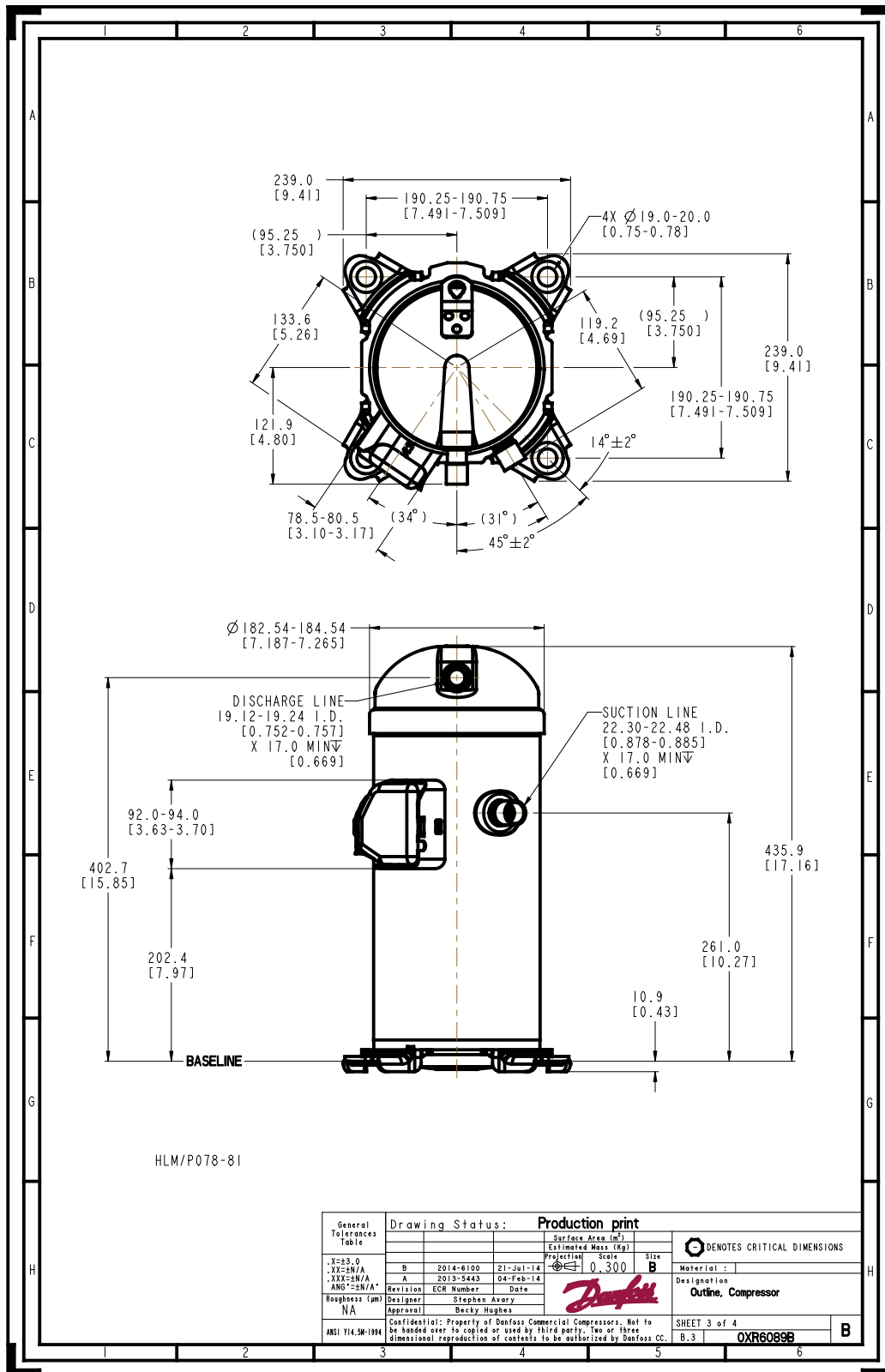
Rating conditions : Superheat = 20 °F , Subcooling = 15 °F

All performance data +/- 5%

Sound power data

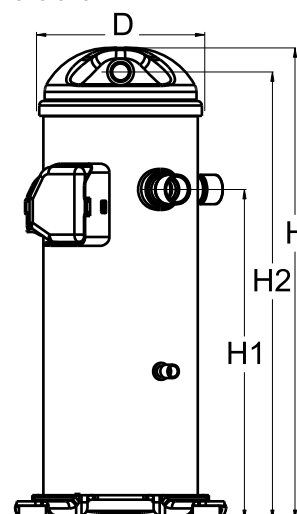
| | | |
|--------------------|----|-------|
| Sound power level | 74 | dB(A) |
| With acoustic hood | 69 | dB(A) |

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General Characteristics

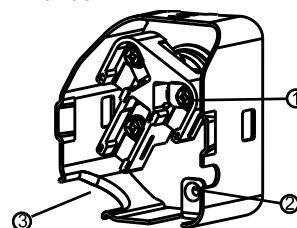
| | | |
|---|---|--------------------|
| Model number (on compressor nameplate) | | HLP081T4LC8 |
| Code number for Singlepack* | | 120U1786 |
| Code number for Industrial pack** | | 120U1783 |
| Drawing number | | 0XR6089B-2 |
| Suction and discharge connections | | Brazed |
| Suction connection | | 7/8 " ODF |
| Discharge connection | | 3/4 " ODF |
| Oil sight glass | | None |
| Oil equalization connection | | None |
| Oil drain connection | | None |
| LP gauge port | | None |
| IPR valve | | Yes |
| Swept volume | 6.77 in3/rev | |
| Displacement @ Nominal speed | 682 cfh @ 2900 rpm - 823 cfh @ 3500 rpm | |
| Net weight | 82 lbs | |
| Oil charge | 53 oz, PVE - - | |
| Maximum system test pressure Low Side / High side | - psi / - psi | |
| Maximum differential test pressure | - psi | |
| Maximum number of starts per hour | - | |
| Refrigerant charge limit | 12 lbs | |
| Approved refrigerants | R407C | |

Dimensions


D=7.2 inch, H=17.9 inch,
H1=11 inch, H2=16.6 inch, H3=- inch

Electrical Characteristics

| | |
|--|-------------------------------------|
| Nominal voltage | 380-415V/3/50Hz - 460V/3/60Hz |
| Voltage range | 342-457 V @ 50Hz - 414-506 V @ 60Hz |
| Winding resistance between phases 1-2 +/- 7% at 77°F | 2.116 Ω |
| Winding resistance between phases 1-3 +/- 7% at 77°F | 2.090 Ω |
| Winding resistance between phases 2-3 +/- 7% at 77°F | 2.070 Ω |
| Rated Load Amps (RLA) | 11 A |
| Maximum Continuous Current (MCC) | 17 A |
| Locked Rotor Amps (LRA) | 87 A |
| Motor protection | Internal overload protector |

Terminal box


IP22

- 1: Screw connectors 10-32 UNF x 9.5
- 2: Earth connection
- 3: Power cable passage

Recommended Installation torques

| | |
|--------------------------------------|---------------------|
| Oil sight glass | 39 ft.lbs |
| Power connections / Earth connection | 2 ft.lbs / 1 ft.lbs |

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 or 16 Unboxed compressors on pallet

Rotolock accessories, suction side
Code no.

| | |
|---|---------|
| Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF) | 8168030 |
| Gasket, 1-1/4" | 8156131 |

Rotolock accessories, discharge side
Code no.

| | |
|---|---------|
| Solder sleeve, P04 (1-1/4" Rotolock, 3/4" ODF) | 8153008 |
| Angle adapter, C04 (1-1/4" Rotolock, 3/4" ODF) | 8168006 |
| Rotolock valve, V04 (1-1/4" Rotolock, 3/4" ODF) | 8168029 |
| Gasket, 1-1/4" | 8156131 |

Rotolock accessories, sets
Code no.

| | |
|---|----------|
| Solder sleeve adapter set (1-1/4"~7/8"), (1-1/4"~3/4") | 120Z0128 |
| Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white | 8156009 |

Oil / lubricants
Code no.

| | |
|--|----------|
| PVE lubricant, 320HV (FVC68D), 1 litre can | 120Z5034 |
|--|----------|

Crankcase heaters
Code no.

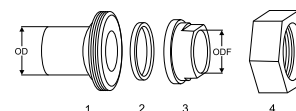
| | |
|--|----------|
| Belt type crankcase heater, 65 W, 230 V, CE mark, UL | 120Z0059 |
| Belt type crankcase heater, 65 W, 400 V, CE mark, UL | 120Z0060 |
| Belt type crankcase heater, 70 W, 240 V, CE mark, UL | 120Z5040 |
| Belt type crankcase heater, 70 W, 240 V, CE mark, UL | 120Z5040 |

Miscellaneous accessories
Code no.

| | |
|--------------------------|----------|
| Acoustic hood | 120Z5044 |
| 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 for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers | 120Z5031 |

Solder sleeve adapter set


- 1: Rotolock adapter (Suc & Dis)
- 2: Gasket (Suc & Dis)
- 3: Solder sleeve (Suc & Dis)
- 4: Rotolock nut (Suc & Dis)

Performance data at 60 Hz, ARI rating conditions
R407C

| Cond. temp. in °F (tc) | Evaporating temperature in °F (to) | | | | | | | | |
|---------------------------|------------------------------------|-----|---|----|----|----|----|----|----|
| | -20 | -10 | 0 | 10 | 20 | 30 | 40 | 45 | 55 |

Cooling capacity in Btu/h

| | | | | | | | | | |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 90 | 19 799 | 26 141 | 34 232 | 44 255 | 56 394 | 70 832 | 87 752 | 97 199 | 118 184 |
| 100 | - | 24 873 | 32 543 | 42 107 | 53 747 | 67 648 | 83 991 | 93 136 | 113 487 |
| 110 | - | 23 590 | 30 824 | 39 914 | 51 042 | 64 391 | 80 145 | 88 980 | 108 683 |
| 120 | - | - | 28 931 | 37 532 | 48 134 | 60 917 | 76 067 | 84 585 | 103 626 |
| 130 | - | - | - | 34 816 | 44 877 | 57 081 | 71 612 | 79 807 | 98 171 |
| 140 | - | - | - | - | 41 126 | 52 736 | 66 635 | 74 499 | 92 173 |
| 150 | - | - | - | - | - | 47 738 | 60 990 | 68 517 | 85 486 |

Power input in W

| | | | | | | | | | |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 90 | 4 689 | 4 651 | 4 627 | 4 606 | 4 576 | 4 525 | 4 441 | 4 383 | 4 227 |
| 100 | - | 5 238 | 5 208 | 5 183 | 5 153 | 5 104 | 5 025 | 4 971 | 4 825 |
| 110 | - | 5 870 | 5 836 | 5 812 | 5 783 | 5 740 | 5 669 | 5 620 | 5 486 |
| 120 | - | - | 6 524 | 6 502 | 6 479 | 6 444 | 6 385 | 6 342 | 6 224 |
| 130 | - | - | - | 7 267 | 7 253 | 7 229 | 7 184 | 7 150 | 7 050 |
| 140 | - | - | - | - | 8 116 | 8 107 | 8 079 | 8 054 | 7 976 |
| 150 | - | - | - | - | - | 9 089 | 9 081 | 9 068 | 9 014 |

Current consumption in A

| | | | | | | | | | |
|-----|------|------|------|------|-------|-------|-------|-------|-------|
| 90 | 5.94 | 6.04 | 6.15 | 6.28 | 6.43 | 6.59 | 6.78 | 6.87 | 7.08 |
| 100 | - | 6.96 | 7.13 | 7.27 | 7.38 | 7.47 | 7.54 | 7.57 | 7.60 |
| 110 | - | 7.55 | 7.81 | 8.00 | 8.13 | 8.19 | 8.19 | 8.16 | 8.06 |
| 120 | - | - | 8.37 | 8.65 | 8.84 | 8.91 | 8.88 | 8.83 | 8.64 |
| 130 | - | - | - | 9.39 | 9.67 | 9.81 | 9.79 | 9.73 | 9.50 |
| 140 | - | - | - | - | 10.81 | 11.04 | 11.09 | 11.04 | 10.81 |
| 150 | - | - | - | - | - | 12.78 | 12.93 | 12.92 | 12.73 |

Mass flow in lbs/h

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|
| 90 | 279 | 362 | 465 | 591 | 739 | 913 | 1 113 | 1 223 | 1 466 |
| 100 | - | 363 | 465 | 591 | 740 | 914 | 1 116 | 1 228 | 1 473 |
| 110 | - | 363 | 465 | 590 | 740 | 916 | 1 120 | 1 233 | 1 481 |
| 120 | - | - | 462 | 587 | 738 | 916 | 1 122 | 1 236 | 1 488 |
| 130 | - | - | - | 579 | 731 | 911 | 1 120 | 1 236 | 1 491 |
| 140 | - | - | - | - | 717 | 899 | 1 111 | 1 229 | 1 488 |
| 150 | - | - | - | - | - | 878 | 1 093 | 1 213 | 1 477 |

Energy Efficiency Ratio (E.E.R.)

| | | | | | | | | | |
|-----|------|------|------|------|-------|-------|-------|-------|-------|
| 90 | 4.22 | 5.62 | 7.40 | 9.61 | 12.32 | 15.65 | 19.76 | 22.18 | 27.96 |
| 100 | - | 4.75 | 6.25 | 8.12 | 10.43 | 13.25 | 16.71 | 18.74 | 23.52 |
| 110 | - | 4.02 | 5.28 | 6.87 | 8.83 | 11.22 | 14.14 | 15.83 | 19.81 |
| 120 | - | - | 4.43 | 5.77 | 7.43 | 9.45 | 11.91 | 13.34 | 16.65 |
| 130 | - | - | - | 4.79 | 6.19 | 7.90 | 9.97 | 11.16 | 13.92 |
| 140 | - | - | - | - | 5.07 | 6.51 | 8.25 | 9.25 | 11.56 |
| 150 | - | - | - | - | - | 5.25 | 6.72 | 7.56 | 9.48 |

Nominal performance at to = 45 °F, tc = 130 °F

| | | | | | |
|------------------|--------|-------|---------------------|-------|-------|
| Cooling capacity | 79 807 | Btu/h | Current consumption | 9.73 | A |
| Power input | 7 150 | W | Mass flow | 1 236 | lbs/h |
| E.E.R. | 11.16 | | | | |

Pressure switch settings

| | | |
|---------------------------|-----|--------|
| Maximum HP switch setting | 435 | psi(g) |
| Minimum LP switch setting | 7 | psi(g) |
| LP pump down setting | 15 | psi(g) |

T 0 : Evaporating temperature at dew point

T C : Condensing temperature at dew point

Rating conditions : Superheat = 20 °F , Subcooling = 15 °F

All performance data +/- 5%

Sound power data

| | | |
|--------------------|----|-------|
| Sound power level | 74 | dB(A) |
| With acoustic hood | 69 | dB(A) |

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