

Model: SZ240

Data

Type: Hermetic scroll compressors

Producer: Maneurop

Series: SZ

Model: SZ240

Technical data

| | |
|--|--------------|
| Displacement [m ³ /h]: | 60,5 |
| : | 347,8 |
| RPM [min ⁻¹]: | 2900 |
| Weight [kg]: | 150 |
| Oil charge [dm ³]: | 8 |
| Oil type: | 160SZ |
| Maximum system test pressure low side / high side: | 25 / 32 |
| Maximum number of starts without softstart [1/h]: | 12 |
| Refrigerant charge limit [dm ³]: | 16 |
| Refrigerant: | R407C, R134a |

Connections

| | <u>inches</u> |
|--|---------------|
| Suction Rotolock valve connection: | 2 1/4" |
| Discharge Rotolock valve connection: | 1 3/4" |
| Suction connection with supplied sleeve: | 1 5/8" |
| Discharge connection with supplied sleeve: | 1 1/8" |

Approvals

| | |
|-----|---|
| CCC | - |
| CE | + |
| UL | + |

Model: SZ240

Capacity

R134a

Cooling capacity [W]

| $t_c \setminus t_e$ | -15 | -10 | -5 | 0 | 5 | 10 | 15 |
|---------------------|--------|--------|--------|--------|--------|--------|--------|
| 30 | 18 481 | 23 304 | 29 172 | 36 280 | 44 823 | 54 997 | 66 995 |
| 35 | 17 486 | 22 107 | 27 687 | 34 422 | 42 505 | 52 133 | 63 500 |
| 40 | 16 457 | 20 891 | 26 197 | 32 573 | 40 211 | 49 309 | 60 060 |
| 45 | 15 377 | 19 637 | 24 685 | 30 716 | 37 925 | 46 506 | 56 655 |
| 50 | 14 227 | 18 329 | 23 133 | 28 834 | 35 628 | 43 708 | 53 270 |
| 55 | - | 16 949 | 21 524 | 26 911 | 33 303 | 40 897 | 49 887 |
| 60 | - | - | 19 841 | 24 927 | 30 933 | 38 055 | 46 488 |
| 65 | - | - | - | 22 867 | 28 502 | 35 167 | 43 056 |
| 70 | - | - | - | - | 25 990 | 32 213 | 39 575 |

Power input [W]

| $t_c \setminus t_e$ | -15 | -10 | -5 | 0 | 5 | 10 | 15 |
|---------------------|--------|--------|--------|--------|--------|--------|--------|
| 30 | 7 675 | 7 759 | 7 829 | 7 888 | 7 939 | 7 983 | 8 024 |
| 35 | 8 409 | 8 510 | 8 596 | 8 671 | 8 738 | 8 799 | 8 856 |
| 40 | 9 210 | 9 328 | 9 431 | 9 523 | 9 607 | 9 684 | 9 758 |
| 45 | 10 089 | 10 224 | 10 345 | 10 455 | 10 557 | 10 652 | 10 744 |
| 50 | 11 056 | 11 211 | 11 351 | 11 479 | 11 599 | 11 713 | 11 823 |
| 55 | - | 12 299 | 12 459 | 12 607 | 12 746 | 12 880 | 13 009 |
| 60 | - | - | 13 682 | 13 850 | 14 010 | 14 163 | 14 313 |
| 65 | - | - | - | 15 220 | 15 401 | 15 576 | 15 746 |
| 70 | - | - | - | - | 16 932 | 17 129 | 17 321 |

Current [A]

| $t_c \setminus t_e$ | -15 | -10 | -5 | 0 | 5 | 10 | 15 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|
| 30 | 18.42 | 18.41 | 18.46 | 18.54 | 18.61 | 18.65 | 18.63 |
| 35 | 19.07 | 19.08 | 19.16 | 19.26 | 19.36 | 19.43 | 19.44 |
| 40 | 19.82 | 19.86 | 19.95 | 20.08 | 20.21 | 20.31 | 20.35 |
| 45 | 20.70 | 20.76 | 20.88 | 21.03 | 21.18 | 21.31 | 21.38 |
| 50 | 21.73 | 21.81 | 21.95 | 22.12 | 22.30 | 22.46 | 22.56 |
| 55 | - | 23.03 | 23.19 | 23.39 | 23.60 | 23.78 | 23.92 |
| 60 | - | - | 24.64 | 24.86 | 25.09 | 25.30 | 25.46 |
| 65 | - | - | - | 26.55 | 26.80 | 27.04 | 27.23 |
| 70 | - | - | - | - | 28.76 | 29.03 | 29.25 |

Model: SZ240

Capacity

Mass flow [kg/s]

| $t_c \setminus t_e$ | -15 | -10 | -5 | 0 | 5 | 10 | 15 |
|---------------------|--------|--------|--------|--------|--------|----------|----------|
| 30 | 427.31 | 528.66 | 648.39 | 790.15 | 957.59 | 1 154.38 | 1 384.17 |
| 35 | 424.63 | 525.94 | 644.74 | 784.70 | 949.47 | 1 142.70 | 1 368.05 |
| 40 | 421.06 | 522.75 | 641.07 | 779.66 | 942.17 | 1 132.28 | 1 353.63 |
| 45 | 416.09 | 518.60 | 636.86 | 774.51 | 935.21 | 1 122.62 | 1 340.40 |
| 50 | 409.22 | 512.99 | 631.62 | 768.76 | 928.08 | 1 113.23 | 1 327.87 |
| 55 | - | 505.41 | 624.84 | 761.91 | 920.28 | 1 103.60 | 1 315.53 |
| 60 | - | - | 616.03 | 753.46 | 911.31 | 1 093.23 | 1 302.88 |
| 65 | - | - | - | 742.91 | 900.66 | 1 081.62 | 1 289.42 |
| 70 | - | - | - | - | 887.85 | 1 068.26 | 1 274.66 |

C.O.P. [W/W]

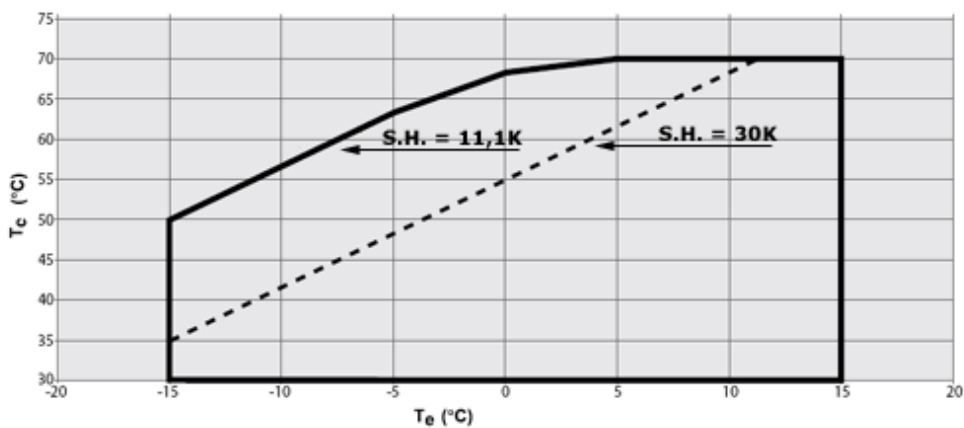
| $t_c \setminus t_e$ | -15 | -10 | -5 | 0 | 5 | 10 | 15 |
|---------------------|------|------|------|------|------|------|------|
| 30 | 2.41 | 3.00 | 3.73 | 4.60 | 5.65 | 6.89 | 8.35 |
| 35 | 2.08 | 2.60 | 3.22 | 3.97 | 4.86 | 5.93 | 7.17 |
| 40 | 1.79 | 2.24 | 2.78 | 3.42 | 4.19 | 5.09 | 6.15 |
| 45 | 1.52 | 1.92 | 2.39 | 2.94 | 3.59 | 4.37 | 5.27 |
| 50 | 1.29 | 1.63 | 2.04 | 2.51 | 3.07 | 3.73 | 4.51 |
| 55 | - | 1.38 | 1.73 | 2.13 | 2.61 | 3.18 | 3.83 |
| 60 | - | - | 1.45 | 1.80 | 2.21 | 2.69 | 3.25 |
| 65 | - | - | - | 1.50 | 1.85 | 2.26 | 2.73 |
| 70 | - | - | - | - | 1.53 | 1.88 | 2.28 |

Operating conditions: suction superheat: 10 K, subcooling: 0 K

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Application range



Model: SZ240

Capacity

R407C

Cooling capacity [W]

| $t_c \setminus t_e$ | -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 |
|---------------------|--------|--------|--------|--------|--------|--------|--------|---------|
| 30 | 23 780 | 30 408 | 38 270 | 47 538 | 58 382 | 70 973 | 85 483 | 102 083 |
| 35 | 22 384 | 28 806 | 36 393 | 45 318 | 55 750 | 67 862 | 81 824 | 97 807 |
| 40 | 20 935 | 27 125 | 34 411 | 42 967 | 52 962 | 64 568 | 77 955 | 93 296 |
| 45 | 19 451 | 25 382 | 32 342 | 40 503 | 50 034 | 61 108 | 73 895 | 88 567 |
| 50 | 17 949 | 23 596 | 30 204 | 37 943 | 46 985 | 57 501 | 69 662 | 83 639 |
| 55 | - | 21 784 | 28 012 | 35 304 | 43 831 | 53 763 | 65 271 | 78 528 |
| 60 | - | - | 25 786 | 32 605 | 40 589 | 49 911 | 60 742 | 73 251 |
| 65 | - | - | - | - | 37 279 | 45 965 | 56 090 | 67 827 |

Power input [W]

| $t_c \setminus t_e$ | -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 |
|---------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| 30 | 10 577 | 10 687 | 10 818 | 10 958 | 11 096 | 11 220 | 11 320 | 11 385 |
| 35 | 11 690 | 11 798 | 11 934 | 12 086 | 12 244 | 12 396 | 12 530 | 12 636 |
| 40 | 12 937 | 13 041 | 13 180 | 13 343 | 13 520 | 13 697 | 13 865 | 14 013 |
| 45 | 14 347 | 14 446 | 14 588 | 14 761 | 14 955 | 15 157 | 15 358 | 15 544 |
| 50 | 15 954 | 16 046 | 16 189 | 16 371 | 16 581 | 16 807 | 17 038 | 17 264 |
| 55 | - | 17 872 | 18 015 | 18 205 | 18 429 | 18 678 | 18 939 | 19 201 |
| 60 | - | - | 20 097 | 20 293 | 20 531 | 20 801 | 21 090 | 21 389 |
| 65 | - | - | - | - | 22 918 | 23 208 | 23 525 | 23 858 |

Current [A]

| $t_c \setminus t_e$ | -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 30 | 20.74 | 21.18 | 21.53 | 21.81 | 22.06 | 22.31 | 22.58 | 22.91 |
| 35 | 22.08 | 22.51 | 22.84 | 23.10 | 23.32 | 23.54 | 23.78 | 24.07 |
| 40 | 23.56 | 24.00 | 24.33 | 24.59 | 24.81 | 25.01 | 25.23 | 25.51 |
| 45 | 25.24 | 25.71 | 26.06 | 26.34 | 26.57 | 26.78 | 27.00 | 27.28 |
| 50 | 27.16 | 27.67 | 28.07 | 28.38 | 28.64 | 28.88 | 29.13 | 29.42 |
| 55 | - | 29.94 | 30.40 | 30.76 | 31.08 | 31.36 | 31.66 | 31.98 |
| 60 | - | - | 33.09 | 33.54 | 33.92 | 34.27 | 34.63 | 35.01 |
| 65 | - | - | - | - | 37.21 | 37.65 | 38.09 | 38.55 |

Model: SZ240

Capacity

Mass flow [kg/s]

| $t_c \setminus t_e$ | -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 |
|---------------------|--------|--------|--------|--------|----------|----------|----------|----------|
| 30 | 463.82 | 584.91 | 725.28 | 887.56 | 1 074.38 | 1 288.35 | 1 532.11 | 1 808.29 |
| 35 | 456.00 | 577.70 | 718.51 | 881.05 | 1 067.94 | 1 281.82 | 1 525.30 | 1 801.01 |
| 40 | 447.00 | 568.96 | 709.84 | 872.28 | 1 058.89 | 1 272.30 | 1 515.14 | 1 790.03 |
| 45 | 436.93 | 558.79 | 699.39 | 861.36 | 1 047.33 | 1 259.92 | 1 501.76 | 1 775.47 |
| 50 | 425.91 | 547.31 | 687.27 | 848.42 | 1 033.39 | 1 244.80 | 1 485.27 | 1 757.44 |
| 55 | - | 534.64 | 673.60 | 833.57 | 1 017.17 | 1 227.04 | 1 465.79 | 1 736.06 |
| 60 | - | - | 658.49 | 816.91 | 998.80 | 1 206.76 | 1 443.43 | 1 711.44 |
| 65 | - | - | - | - | 978.38 | 1 184.08 | 1 418.32 | 1 683.70 |

C.O.P. [W/W]

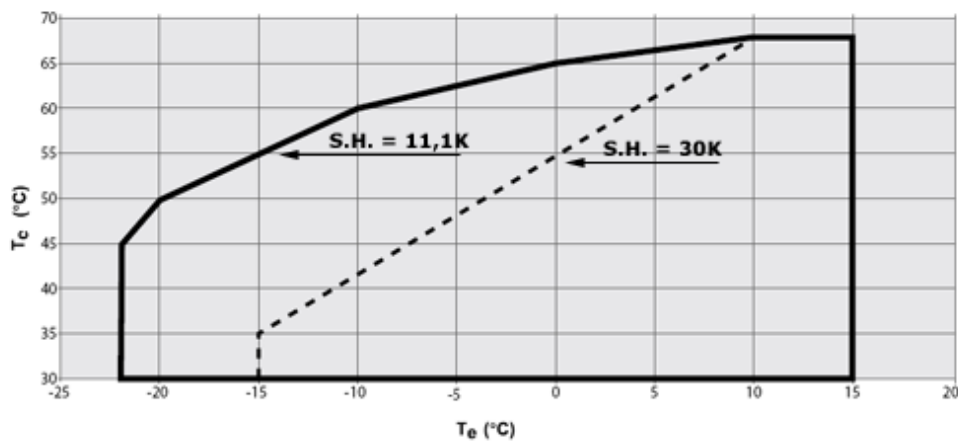
| $t_c \setminus t_e$ | -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 |
|---------------------|------|------|------|------|------|------|------|------|
| 30 | 2.25 | 2.85 | 3.54 | 4.34 | 5.26 | 6.33 | 7.55 | 8.97 |
| 35 | 1.91 | 2.44 | 3.05 | 3.75 | 4.55 | 5.47 | 6.53 | 7.74 |
| 40 | 1.62 | 2.08 | 2.61 | 3.22 | 3.92 | 4.71 | 5.62 | 6.66 |
| 45 | 1.36 | 1.76 | 2.22 | 2.74 | 3.35 | 4.03 | 4.81 | 5.70 |
| 50 | 1.13 | 1.47 | 1.87 | 2.32 | 2.83 | 3.42 | 4.09 | 4.84 |
| 55 | - | 1.22 | 1.55 | 1.94 | 2.38 | 2.88 | 3.45 | 4.09 |
| 60 | - | - | 1.28 | 1.61 | 1.98 | 2.40 | 2.88 | 3.42 |
| 65 | - | - | - | - | 1.63 | 1.98 | 2.38 | 2.84 |

Operating conditions: suction superheat: 11.1 K, subcooling: 8.3 K

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Application range



Model: SZ240

Dimensions

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| | |
|----|--------|
| D | 344 mm |
| H | 729 mm |
| H1 | 196 mm |
| H2 | 656 mm |

Error: Cannot load image. Report this error please

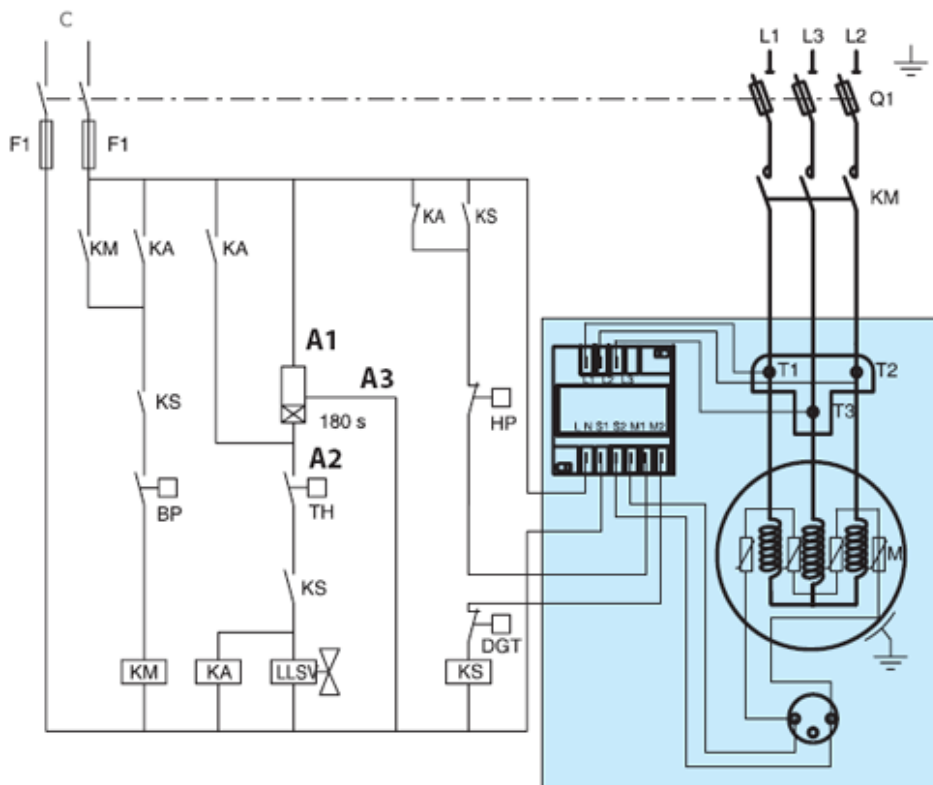
Model: SZ240

Electrical

Electrical data

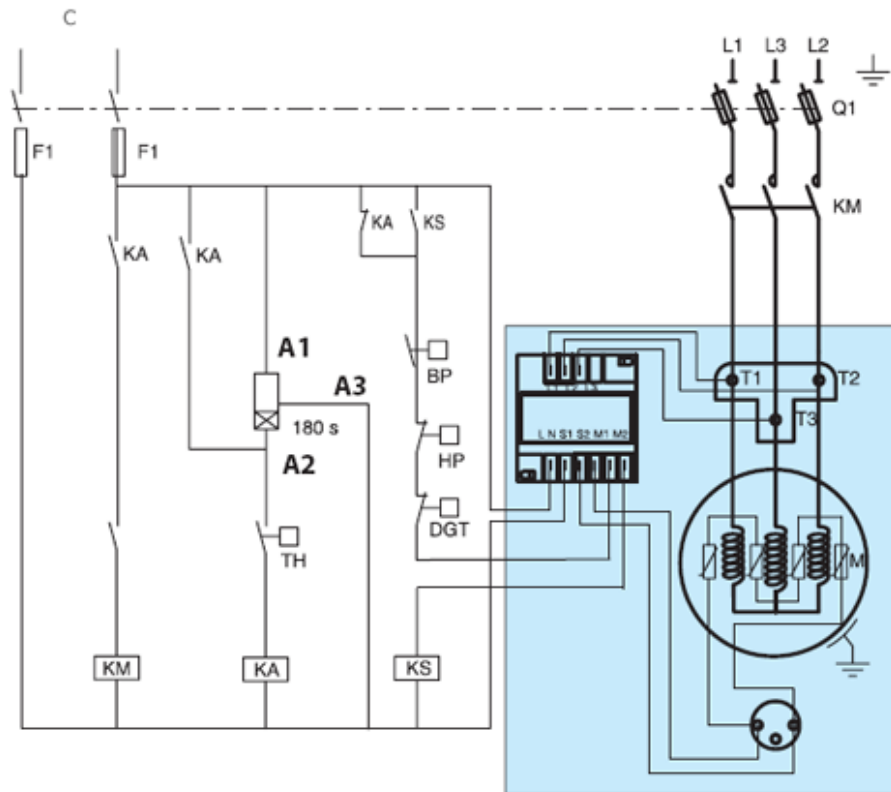
| | |
|---|-------|
| Starting current [A]: | 215 |
| Maximum Continuous Current (MCC) [A]: | 50 |
| Winding resistance (between phases) [Ω]: | 0,616 |

Connection diagram for systems with refrigerant suction



- TH: Thermostat
- 180 s: ATI electronic timer
- KA: Control transmitter CI 4-2
- LLSV: Electromagnetic liquid valve
- KM: Main contactor CI
- KS: Fuses' switch
- BP: Low pressure switch
- HP: High pressure switch
- Q1: Safety switch
- F1: Fuses / S: Thermal relay TI
- F2: Thermal relay TI
- M: Compressor's engine
- DGT: Discharge gas thermostat

Connection diagram for systems without refrigerant suction



- TH: Thermostat
- 180 s: ATI electronic timer
- KA: Control transmitter CI 4-2
- LLSV: Electromagnetic liquid valve
- KM: Main contactor CI
- KS: Fuses' switch
- BP: Low pressure switch
- HP: High pressure switch
- Q1: Safety switch
- F1: Fuses / S: Thermal relay TI
- F2: Thermal relay TI
- M: Compressor's engine
- DGT: Discharge gas thermostat

Equipment

- ▶ oil equalization - thread adapter 1/2"
- ▶ belt type heater - crankcase heater 130W, 230V
- ▶ soft-start kit - electronic softstart MCI 50C
- ▶ acoustic hood - acoustic shield of Danfoss catalogue number 7755016
- ▶ discharge thermostatic protection - discharge temperature protection accessory - Danfoss catalogue number 7750009