

# Model: SZ185

## Data

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Type: Hermetic scroll compressors

Producer: Maneurop

Series: SZ

## Model: SZ185

### Technical data

Displacement [m <sup>3</sup> /h]:	43,5
:	249,9
RPM [min <sup>-1</sup> ]:	2900
Weight [kg]:	100
Oil charge [dm <sup>3</sup> ]:	6,2
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 <sup>3</sup> ]:	14
Refrigerant:	R407C, R134a, R404A/R507A

### 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: SZ185

## Capacity

R134a

### Cooling capacity [W]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	14 845	18 877	23 618	29 136	35 498	42 773	51 027
35	14 028	17 960	22 573	27 935	34 114	41 177	49 192
40	13 185	16 999	21 467	26 656	32 633	39 468	47 226
45	12 320	15 999	20 304	25 302	31 061	37 649	45 133
50	11 435	14 962	19 086	23 876	29 400	35 724	42 917
55	-	13 892	17 819	22 384	27 654	33 697	40 581
60	-	-	16 506	20 827	25 827	31 571	38 129
65	-	-	-	19 211	23 922	29 351	35 566
70	-	-	-	17 539	21 944	27 040	32 893

### Power input [W]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	5 526	5 596	5 651	5 688	5 702	5 689	5 644
35	6 066	6 139	6 198	6 240	6 260	6 253	6 215
40	6 679	6 755	6 819	6 866	6 892	6 893	6 863
45	7 371	7 452	7 521	7 574	7 607	7 615	7 593
50	8 150	8 235	8 310	8 369	8 409	8 426	8 413
55	-	9 112	9 193	9 259	9 307	9 332	9 329
60	-	-	10 176	10 250	10 307	10 341	10 348
65	-	-	-	11 349	11 414	11 458	11 476
70	-	-	-	12 562	12 637	12 691	12 720

### Current [A]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	14.54	14.62	14.68	14.71	14.71	14.67	14.57
35	15.02	15.10	15.17	15.21	15.22	15.19	15.11
40	15.60	15.70	15.77	15.82	15.84	15.82	15.75
45	16.31	16.41	16.50	16.56	16.59	16.58	16.53
50	17.15	17.26	17.36	17.43	17.47	17.48	17.44
55	-	18.26	18.37	18.45	18.50	18.53	18.51
60	-	-	19.54	19.64	19.71	19.74	19.74
65	-	-	-	21.00	21.09	21.14	21.16
70	-	-	-	22.56	22.66	22.73	22.77

# Model: SZ185

## Capacity

### Mass flow [kg/s]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	317.44	395.61	485.34	587.60	703.39	833.70	979.51
35	312.49	391.97	482.90	586.27	703.06	834.26	980.86
40	307.00	387.57	479.48	583.73	701.30	833.17	980.34
45	300.93	382.36	475.04	579.94	698.06	830.39	977.91
50	294.23	376.31	469.52	574.87	693.32	825.88	973.53
55	-	369.37	462.90	568.46	687.03	819.60	967.16
60	-	-	455.13	560.69	679.15	811.51	958.75
65	-	-	-	551.50	669.64	801.56	948.27
70	-	-	-	540.87	658.45	789.73	935.68

### C.O.P. [W/W]

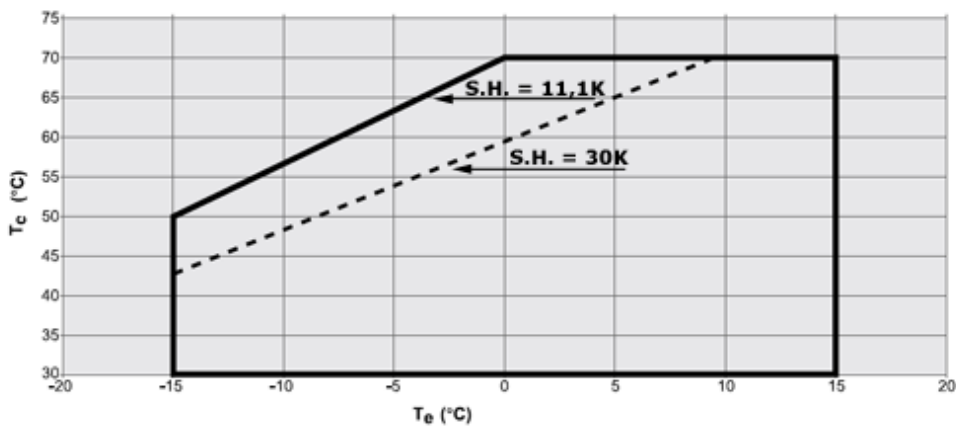
$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	2.69	3.37	4.18	5.12	6.23	7.52	9.04
35	2.31	2.93	3.64	4.48	5.45	6.59	7.91
40	1.97	2.52	3.15	3.88	4.73	5.73	6.88
45	1.67	2.15	2.70	3.34	4.08	4.94	5.94
50	1.40	1.82	2.30	2.85	3.50	4.24	5.10
55	-	1.52	1.94	2.42	2.97	3.61	4.35
60	-	-	1.62	2.03	2.51	3.05	3.68
65	-	-	-	1.69	2.10	2.56	3.10
70	-	-	-	1.40	1.74	2.13	2.59

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

$t_c$  - Condensing temperature [°C]

$t_e$  - Evaporating temperature [°C]

### Application range



# Model: SZ185

## Capacity

R407C

### Cooling capacity [W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	17 693	22 504	28 237	34 983	42 837	51 893	62 245	73 985
35	16 616	21 303	26 866	33 396	40 989	49 739	59 738	71 081
40	15 504	20 036	25 397	31 682	38 983	47 395	57 011	67 925
45	-	18 700	23 829	29 837	36 815	44 858	54 061	64 516
50	-	-	22 159	27 858	34 483	42 127	50 885	60 849
55	-	-	-	25 744	31 984	39 198	47 480	56 924
60	-	-	-	-	29 315	36 069	43 845	52 736
65	-	-	-	-	26 475	32 737	39 975	48 284

### Power input [W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	7 675	7 756	7 828	7 887	7 928	7 947	7 941	7 904
35	8 560	8 643	8 717	8 779	8 823	8 847	8 845	8 814
40	9 561	9 646	9 724	9 789	9 837	9 866	9 869	9 844
45	-	10 783	10 864	10 933	10 986	11 019	11 028	11 010
50	-	-	12 153	12 226	12 284	12 323	12 338	12 326
55	-	-	-	13 685	13 748	13 793	13 815	13 810
60	-	-	-	-	15 393	15 444	15 473	15 476
65	-	-	-	-	17 235	17 293	17 329	17 340

### Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	16.77	16.89	17.00	17.09	17.14	17.16	17.14	17.07
35	17.72	17.85	17.97	18.06	18.12	18.15	18.14	18.08
40	18.87	19.00	19.12	19.22	19.30	19.33	19.33	19.28
45	-	20.38	20.50	20.61	20.69	20.74	20.75	20.71
50	-	-	22.13	22.24	22.33	22.39	22.42	22.40
55	-	-	-	24.15	24.26	24.33	24.37	24.36
60	-	-	-	-	26.49	26.57	26.62	26.63
65	-	-	-	-	29.05	29.15	29.22	29.25

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## Capacity

### Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	342.18	427.81	527.37	642.27	773.93	923.76	1 093.18	1 283.62
35	335.36	422.37	523.17	639.18	771.82	922.50	1 092.64	1 283.65
40	328.02	416.03	517.70	634.44	767.68	918.82	1 089.29	1 280.50
45	-	408.44	510.59	627.69	761.14	912.37	1 082.79	1 273.83
50	-	-	501.50	618.56	751.86	902.79	1 072.79	1 263.26
55	-	-	-	606.72	739.47	889.73	1 058.91	1 248.44
60	-	-	-	-	723.61	872.82	1 040.82	1 229.03
65	-	-	-	-	703.94	851.71	1 018.14	1 204.65

### C.O.P. [W/W]

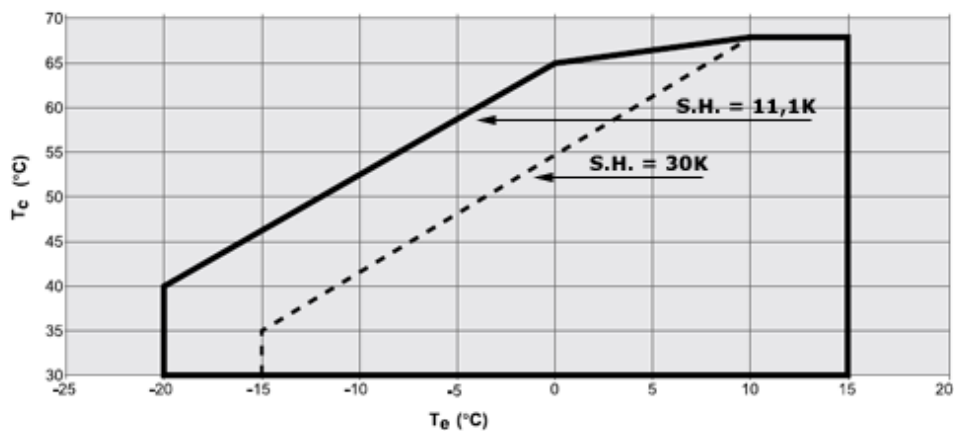
$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.31	2.90	3.61	4.44	5.40	6.53	7.84	9.36
35	1.94	2.46	3.08	3.80	4.65	5.62	6.75	8.06
40	1.62	2.08	2.61	3.24	3.96	4.80	5.78	6.90
45	-	1.73	2.19	2.73	3.35	4.07	4.90	5.86
50	-	-	1.82	2.28	2.81	3.42	4.12	4.94
55	-	-	-	1.88	2.33	2.84	3.44	4.12
60	-	-	-	-	1.90	2.34	2.83	3.41
65	-	-	-	-	1.54	1.89	2.31	2.78

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

$t_c$  - Condensing temperature [°C]

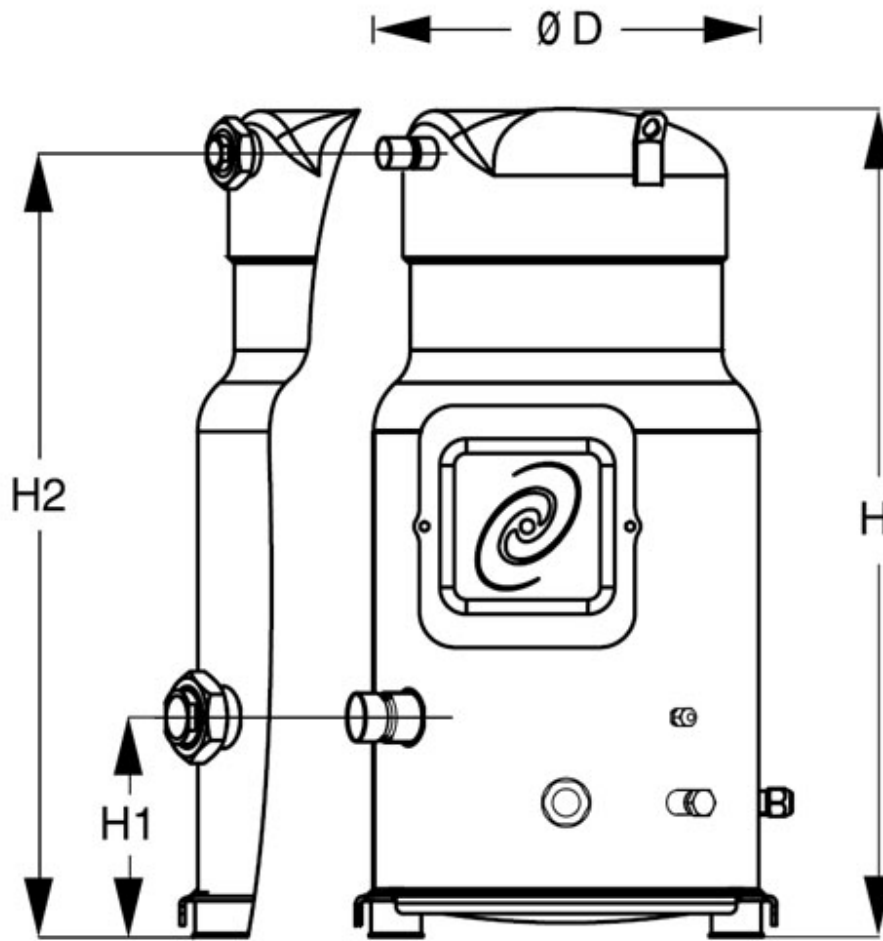
$t_e$  - Evaporating temperature [°C]

### Application range



# Model: SZ185

## Dimensions



D	316 mm
H	678 mm
H1	180 mm
H2	641 mm

**Model: SZ185**

**Image**

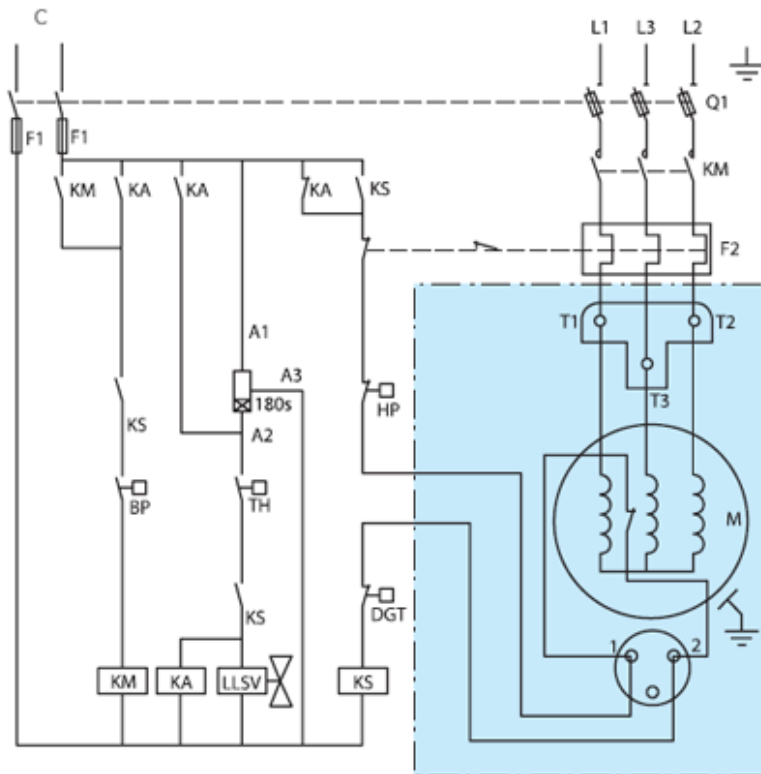
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### Electrical data

Starting current [A]:	175
Maximum Continuous Current (MCC) [A]:	-
Winding resistance (between phases) [ $\Omega$ ]:	0,77

### Connection diagram for systems with refrigerant suction



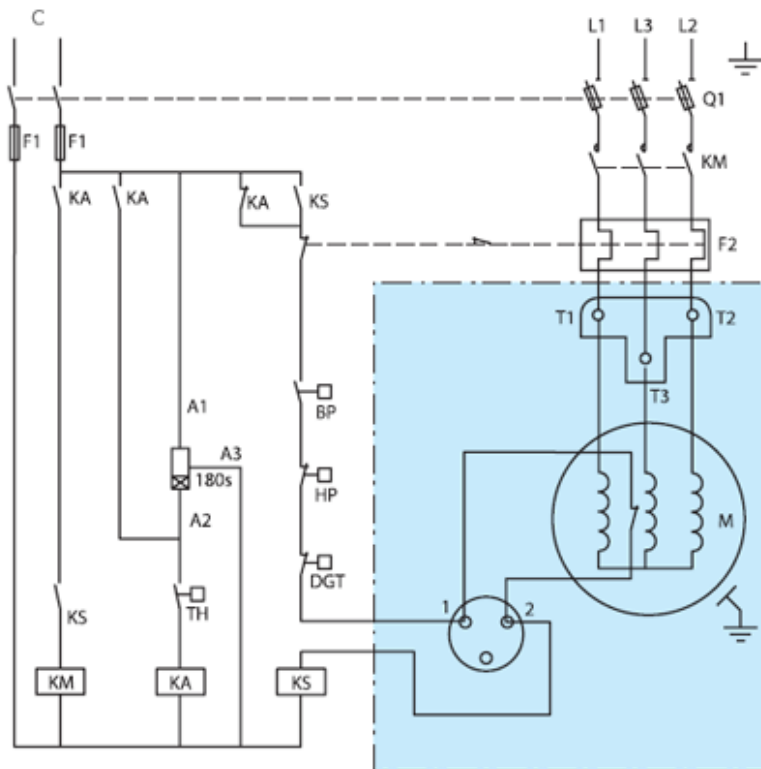
- TH: Thermostat
- 180 s: ATI electronic timer
- KA: Control transmitter CI 4-2
- LLSV: Electromagnetic liquid valve
- KM: Main contactor CI
- KS: Fuses' switch
- BP: Low pressure switch
- HP: High pressure switch
- Q1: Safety switch
- F1: Fuses / S: Thermal relay TI
- F2: Thermal relay TI
- M: Compressor's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



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## Electrical

### Connection diagram for systems without refrigerant suction



- TH: Thermostat
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### **Equipment**

- ▶ oil equalization - thread adapter 3/8"
- ▶ belt type heater - crankcase heater 75W, 230V
- ▶ soft-start kit - electronic softstart MCI 25C
- ▶ accoustic hood - acoustic shield of Danfoss catalogue number 7755007
- ▶ discharge thermostatic protection - discharge temperature protection accessory - Danfoss catalogue number 7750009