

Model: SZ161

Data

Type: Hermetic scroll compressors

Producer: Maneurop

Series: SZ

Model: SZ161

Technical data

Displacement [m ³ /h]:	37,7
:	216,6
RPM [min ⁻¹]:	2900
Weight [kg]:	88
Oil charge [dm ³]:	3,6
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]:	13
Refrigerant:	R407C, R134a

Connections

	<u>inches</u>
Suction Rotolock valve connection:	-
Discharge Rotolock valve connection:	-
Suction connection with supplied sleeve:	1 3/8"
Discharge connection with supplied sleeve:	7/8"

Approvals

CCC	-
CE	+
UL	+

Model: SZ161

Capacity

R134a

Cooling capacity [W]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	11 722	14 899	18 691	23 176	28 432	34 537	41 569
35	11 083	14 149	17 797	22 105	27 153	33 018	39 777
40	10 421	13 366	16 860	20 984	25 813	31 428	37 906
45	9 742	12 555	15 887	19 816	24 419	29 774	35 960
50	9 049	11 723	14 883	18 607	22 973	28 060	33 945
55	-	10 874	13 853	17 363	21 483	26 292	31 867
60	-	-	12 801	16 089	19 954	24 475	29 730
65	-	-	-	14 789	18 390	22 614	27 540
70	-	-	-	13 470	16 796	20 714	25 302

Power input [W]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	4 657	4 702	4 744	4 784	4 821	4 855	4 885
35	5 178	5 229	5 274	5 315	5 351	5 381	5 406
40	5 752	5 808	5 857	5 898	5 933	5 961	5 980
45	6 389	6 450	6 502	6 545	6 579	6 603	6 618
50	7 100	7 166	7 222	7 266	7 299	7 320	7 330
55	-	7 968	8 027	8 072	8 104	8 123	8 127
60	-	-	8 927	8 974	9 006	9 021	9 020
65	-	-	-	9 983	10 013	10 026	10 020
70	-	-	-	11 108	11 138	11 148	11 137

Current [A]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	12.58	12.60	12.60	12.59	12.58	12.59	12.62
35	13.01	13.05	13.06	13.05	13.05	13.05	13.08
40	13.52	13.57	13.59	13.59	13.59	13.60	13.63
45	14.13	14.19	14.22	14.23	14.23	14.24	14.27
50	14.85	14.92	14.96	14.98	14.99	15.00	15.03
55	-	15.78	15.84	15.86	15.88	15.89	15.92
60	-	-	16.86	16.90	16.92	16.94	16.97
65	-	-	-	18.10	18.12	18.15	18.18
70	-	-	-	19.48	19.52	19.54	19.58

Model: SZ161

Capacity

Mass flow [kg/s]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	271.13	337.99	415.47	504.85	607.41	724.44	857.20
35	269.15	336.52	414.40	504.07	606.81	723.91	856.64
40	266.63	334.35	412.47	502.28	605.05	722.06	854.60
45	263.63	331.55	409.76	499.55	602.19	718.96	851.15
50	260.23	328.19	406.33	495.94	598.30	714.68	846.37
55	-	324.33	402.25	491.53	593.45	709.29	840.32
60	-	-	397.60	486.40	587.72	702.85	833.08
65	-	-	-	480.59	581.17	695.45	824.71
70	-	-	-	474.20	573.87	687.14	815.28

C.O.P. [W/W]

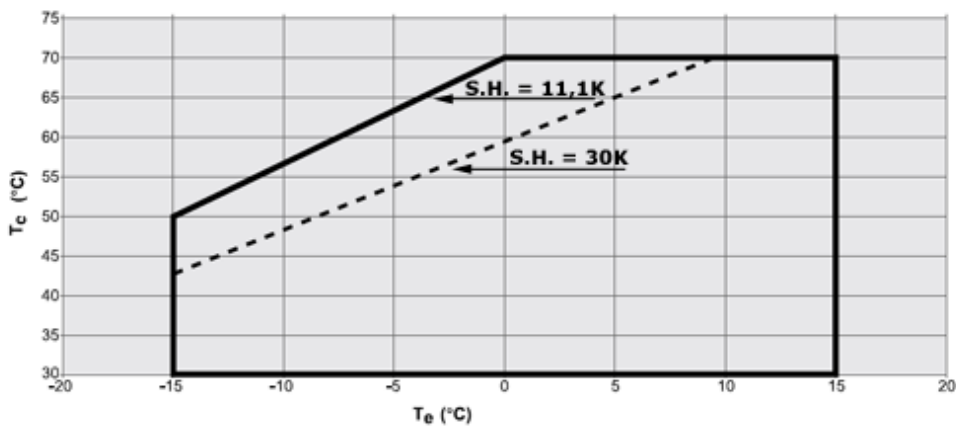
$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	2.52	3.17	3.94	4.84	5.90	7.11	8.51
35	2.14	2.71	3.37	4.16	5.07	6.14	7.36
40	1.81	2.30	2.88	3.56	4.35	5.27	6.34
45	1.52	1.95	2.44	3.03	3.71	4.51	5.43
50	1.27	1.64	2.06	2.56	3.15	3.83	4.63
55	-	1.36	1.73	2.15	2.65	3.24	3.92
60	-	-	1.43	1.79	2.22	2.71	3.30
65	-	-	-	1.48	1.84	2.26	2.75
70	-	-	-	1.21	1.51	1.86	2.27

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

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Application range



Model: SZ161

Capacity

R407C

Cooling capacity [W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	14 373	18 308	22 989	28 516	34 994	42 523	51 208	61 151
35	13 496	17 301	21 806	27 113	33 326	40 547	48 877	58 421
40	12 582	16 238	20 550	25 620	31 550	38 444	46 403	55 530
45	-	15 129	19 230	24 045	29 675	36 224	43 793	52 486
50	-	-	17 855	22 396	27 708	33 894	41 056	49 297
55	-	-	-	20 682	25 658	31 464	38 201	45 972
60	-	-	-	-	23 533	28 941	35 235	42 518
65	-	-	-	-	21 342	26 333	32 167	38 945

Power input [W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	6 651	6 704	6 745	6 781	6 818	6 862	6 920	6 997
35	7 443	7 502	7 545	7 579	7 611	7 647	7 693	7 755
40	8 336	8 400	8 446	8 479	8 507	8 535	8 570	8 618
45	-	9 417	9 466	9 500	9 524	9 545	9 569	9 603
50	-	-	10 625	10 659	10 680	10 694	10 709	10 730
55	-	-	-	11 974	11 993	12 001	12 007	12 015
60	-	-	-	-	13 481	13 485	13 481	13 478
65	-	-	-	-	15 163	15 162	15 151	15 136

Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	14.34	14.41	14.47	14.52	14.58	14.65	14.74	14.85
35	15.21	15.28	15.34	15.39	15.43	15.48	15.53	15.59
40	16.21	16.30	16.37	16.41	16.44	16.47	16.49	16.52
45	-	17.49	17.57	17.62	17.64	17.65	17.66	17.66
50	-	-	18.98	19.04	19.06	19.07	19.06	19.04
55	-	-	-	20.70	20.74	20.74	20.72	20.69
60	-	-	-	-	22.69	22.70	22.68	22.64
65	-	-	-	-	24.95	24.98	24.97	24.92

Model: SZ161

Capacity

Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	302.11	379.27	468.77	572.30	691.55	828.22	984.00	1 160.59
35	297.85	375.49	465.35	569.13	688.53	825.22	980.92	1 157.30
40	292.72	370.62	460.63	564.44	683.75	820.25	975.64	1 151.60
45	-	364.70	454.63	558.25	677.26	813.34	968.20	1 143.52
50	-	-	447.39	550.60	669.08	804.52	958.63	1 133.08
55	-	-	-	541.51	659.24	793.83	946.96	1 120.33
60	-	-	-	-	647.79	781.30	933.23	1 105.30
65	-	-	-	-	634.76	766.96	917.48	1 088.01

C.O.P. [W/W]

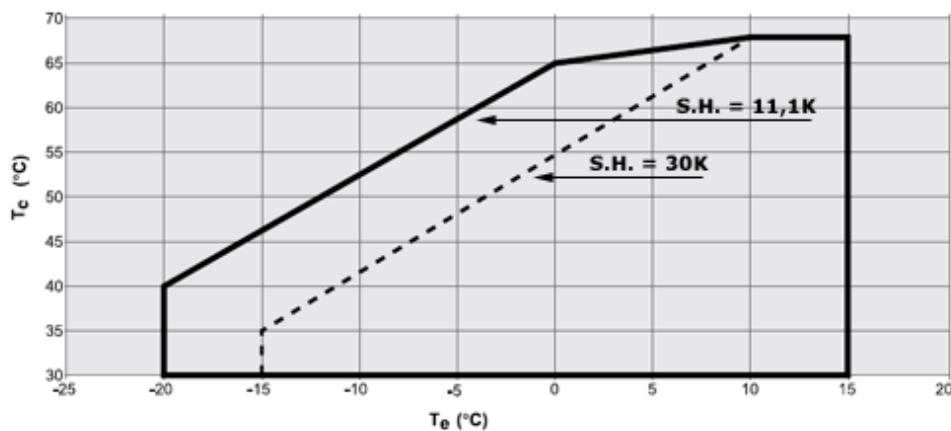
$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.16	2.73	3.41	4.21	5.13	6.20	7.40	8.74
35	1.81	2.31	2.89	3.58	4.38	5.30	6.35	7.53
40	1.51	1.93	2.43	3.02	3.71	4.50	5.41	6.44
45	-	1.61	2.03	2.53	3.12	3.80	4.58	5.47
50	-	-	1.68	2.10	2.59	3.17	3.83	4.59
55	-	-	-	1.73	2.14	2.62	3.18	3.83
60	-	-	-	-	1.75	2.15	2.61	3.15
65	-	-	-	-	1.41	1.74	2.12	2.57

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

t_c - Condensing temperature [°C]

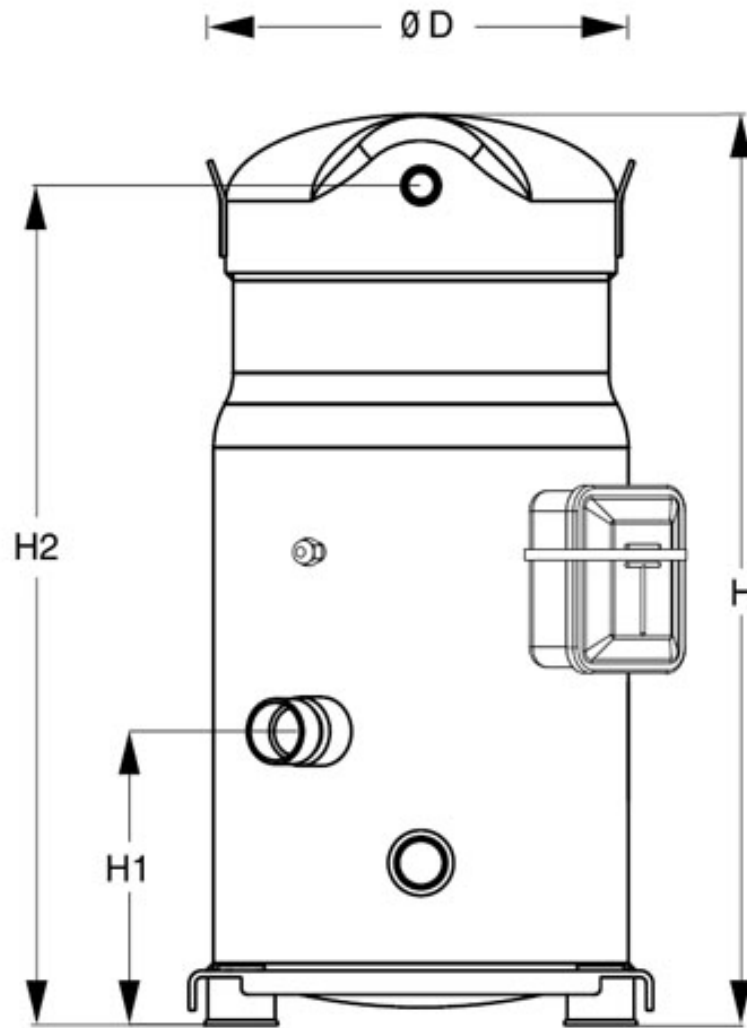
t_e - Evaporating temperature [°C]

Application range



Model: SZ161

Dimensions



D	266 mm
H	591 mm
H1	180 mm
H2	556 mm

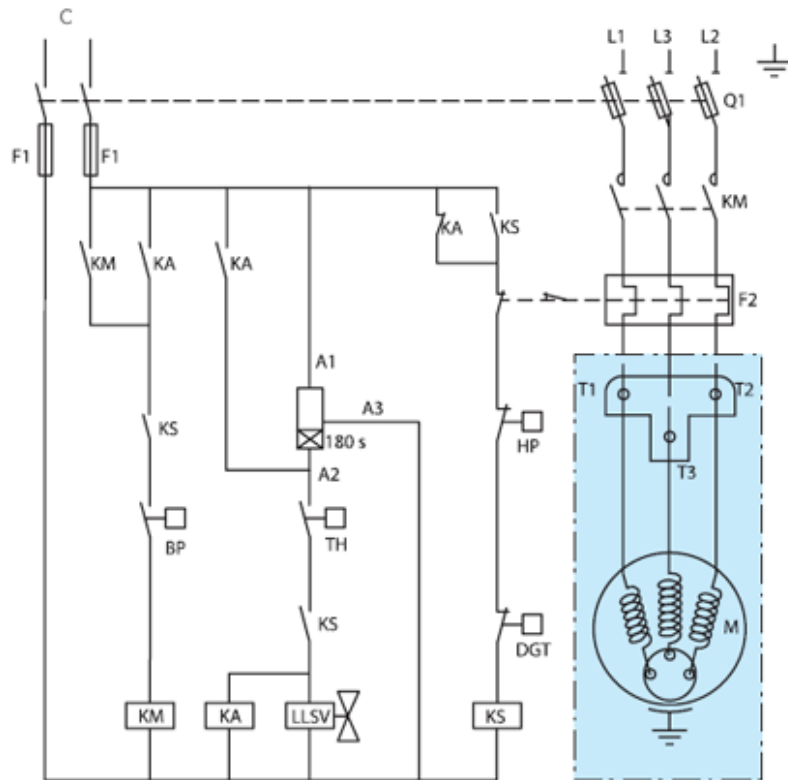
Model: SZ161

Image



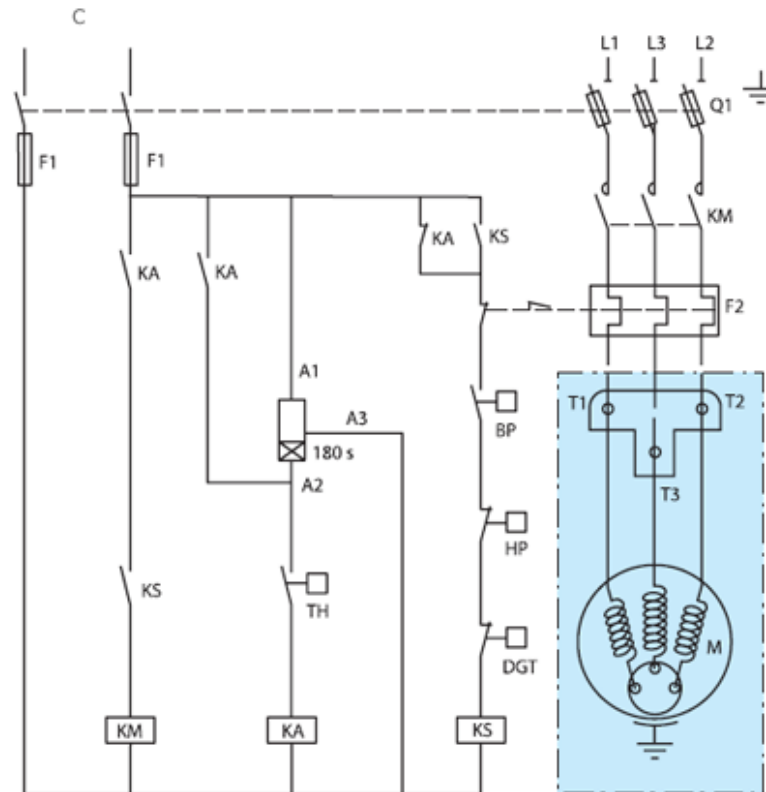
Electrical data

Starting current [A]:	145
Maximum Continuous Current (MCC) [A]:	32
Winding resistance (between phases) [Ω]:	0,94

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



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- 180 s: ATI electronic timer
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- M: Compressor's engine
- DGT: Discharge gas thermostat

Equipment

- ▶ oil equalization - thread adapter 3/8"
- ▶ belt type heater - crankcase heater 65W, 230V
- ▶ soft-start kit - electronic softstart MCI 25C
- ▶ accoustic hood - acoustic shield of Danfoss catalogue number 7755017
- ▶ discharge thermostatic protection - discharge temperature protection accessory - Danfoss catalogue number 7750009