

Type: Hermetic scroll compressors

Producer: Maneurop

Series: SZ

Model: SZ125

Technical data

Displacement [m ³ /h]:	29
:	166,6
RPM [min ⁻¹]:	2900
Weight [kg]:	78
Oil charge [dm ³]:	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]:	11
Refrigerant:	R407C, R134a, R404A/R507A

Connections

	<u>inches</u>
Suction Rotolock valve connection:	1 3/4"
Discharge Rotolock valve connection:	1 1/4"
Suction connection with supplied sleeve:	1 3/8"
Discharge connection with supplied sleeve:	7/8"

Approvals

CCC	-
CE	+
UL	+

R134a

Cooling capacity [W]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	10 182	12 952	16 183	19 915	24 189	29 045	34 523
35	9 619	12 324	15 471	19 100	23 253	27 969	33 291
40	9 031	11 658	14 709	18 224	22 245	26 811	31 963
45	8 418	10 956	13 900	17 290	21 166	25 570	30 542
50	7 782	10 220	13 045	16 298	20 019	24 249	29 030
55	-	9 450	12 145	15 249	18 804	22 849	27 426
60	-	-	11 202	14 146	17 523	21 372	25 734
65	-	-	-	12 990	16 177	19 818	23 954
70	-	-	-	11 782	14 767	18 189	22 087

Power input [W]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	3 649	3 658	3 657	3 643	3 614	3 567	3 500
35	4 051	4 063	4 065	4 055	4 030	3 989	3 928
40	4 506	4 521	4 526	4 521	4 501	4 465	4 410
45	5 018	5 036	5 046	5 045	5 030	5 001	4 953
50	5 591	5 613	5 627	5 631	5 623	5 600	5 559
55	-	6 256	6 275	6 285	6 283	6 266	6 234
60	-	-	6 994	7 009	7 014	7 005	6 980
65	-	-	-	7 809	7 821	7 820	7 804
70	-	-	-	8 689	8 709	8 716	8 709

Current [A]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	8.85	8.88	8.89	8.88	8.84	8.77	8.66
35	9.24	9.27	9.28	9.28	9.24	9.18	9.07
40	9.70	9.74	9.76	9.76	9.73	9.67	9.57
45	10.26	10.30	10.33	10.33	10.31	10.26	10.17
50	10.93	10.97	11.00	11.01	11.00	10.95	10.87
55	-	11.76	11.79	11.81	11.80	11.76	11.69
60	-	-	12.71	12.73	12.73	12.70	12.64
65	-	-	-	13.79	13.80	13.78	13.73
70	-	-	-	15.00	15.02	15.01	14.97

Mass flow [kg/s]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	217.61	271.34	332.49	401.64	479.36	566.22	662.80
35	214.23	268.90	330.90	400.80	479.18	566.61	663.65
40	210.30	265.80	328.53	399.08	478.00	565.88	663.29
45	205.71	261.92	325.27	396.34	475.70	563.92	661.57
50	200.33	257.14	321.00	392.48	472.16	560.60	658.39
55	-	251.33	315.58	387.36	467.24	555.80	653.60
60	-	-	308.89	380.86	460.83	549.39	647.10
65	-	-	-	372.85	452.80	541.24	638.74
70	-	-	-	363.21	443.03	531.24	628.42

C.O.P. [W/W]

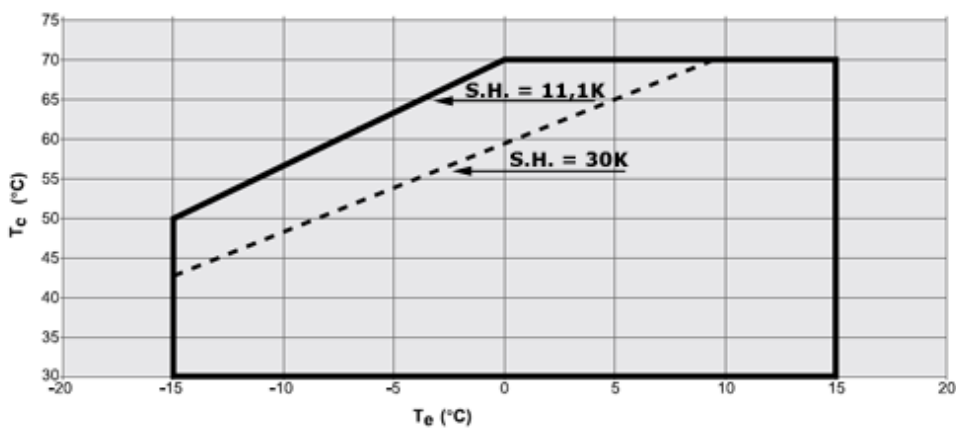
$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	2.79	3.54	4.43	5.47	6.69	8.14	9.86
35	2.37	3.03	3.81	4.71	5.77	7.01	8.48
40	2.00	2.58	3.25	4.03	4.94	6.00	7.25
45	1.68	2.18	2.75	3.43	4.21	5.11	6.17
50	1.39	1.82	2.32	2.89	3.56	4.33	5.22
55	-	1.51	1.94	2.43	2.99	3.65	4.40
60	-	-	1.60	2.02	2.50	3.05	3.69
65	-	-	-	1.66	2.07	2.53	3.07
70	-	-	-	1.36	1.70	2.09	2.54

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

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Application range



R407C

Cooling capacity [W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	11 514	14 763	18 623	23 156	28 424	34 489	41 411	49 254
35	10 784	13 954	17 706	22 101	27 203	33 073	39 771	47 361
40	10 010	13 081	16 705	20 944	25 860	31 514	37 969	45 286
45	-	12 138	15 615	19 677	24 388	29 808	35 999	43 023
50	-	-	14 428	18 295	22 780	27 946	33 854	40 566
55	-	-	-	16 790	21 031	25 923	31 528	37 909
60	-	-	-	-	19 134	23 732	29 016	35 045
65	-	-	-	-	17 082	21 368	26 309	31 967

Power input [W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	5 106	5 136	5 158	5 172	5 172	5 158	5 125	5 072
35	5 689	5 717	5 737	5 747	5 745	5 726	5 689	5 630
40	6 371	6 396	6 414	6 421	6 415	6 392	6 349	6 285
45	-	7 188	7 203	7 206	7 196	7 168	7 120	7 049
50	-	-	8 117	8 117	8 101	8 068	8 015	7 938
55	-	-	-	9 166	9 146	9 107	9 047	8 963
60	-	-	-	-	10 343	10 298	10 231	10 140
65	-	-	-	-	11 706	11 654	11 581	11 482

Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	10.59	10.63	10.67	10.69	10.69	10.68	10.63	10.56
35	11.32	11.36	11.39	11.41	11.41	11.38	11.33	11.25
40	12.20	12.24	12.27	12.28	12.28	12.24	12.19	12.10
45	-	13.31	13.33	13.34	13.32	13.28	13.22	13.12
50	-	-	14.60	14.60	14.58	14.53	14.45	14.34
55	-	-	-	16.09	16.06	16.00	15.92	15.80
60	-	-	-	-	17.80	17.74	17.64	17.51
65	-	-	-	-	19.82	19.75	19.64	19.50

Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	222.60	280.60	347.84	425.22	513.70	614.20	727.64	854.97
35	217.60	276.56	344.67	422.86	512.06	613.21	727.23	855.06
40	211.88	271.64	340.47	419.31	509.08	610.73	725.17	853.34
45	-	265.27	334.67	414.00	504.19	606.17	720.88	849.24
50	-	-	326.70	406.36	496.82	598.98	713.80	842.19
55	-	-	-	395.83	486.39	588.58	703.35	831.62
60	-	-	-	-	472.34	574.41	688.97	816.96
65	-	-	-	-	454.09	555.88	670.09	797.65

C.O.P. [W/W]

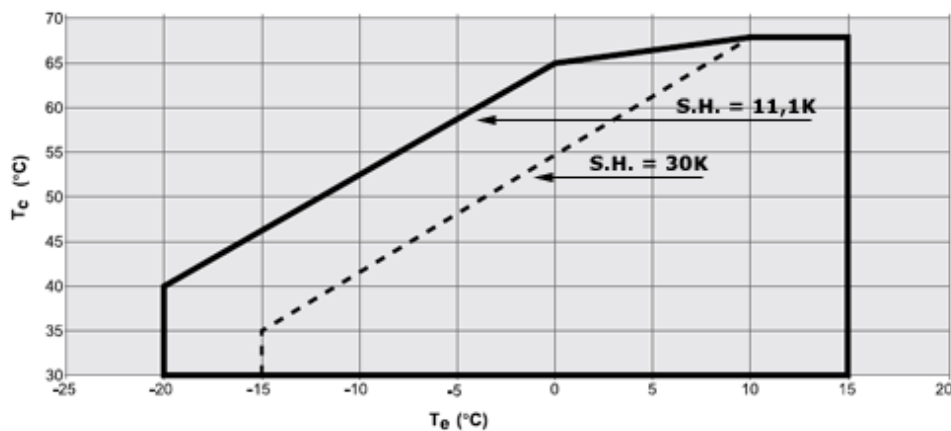
$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.25	2.87	3.61	4.48	5.50	6.69	8.08	9.71
35	1.90	2.44	3.09	3.85	4.74	5.78	6.99	8.41
40	1.57	2.05	2.60	3.26	4.03	4.93	5.98	7.21
45	-	1.69	2.17	2.73	3.39	4.16	5.06	6.10
50	-	-	1.78	2.25	2.81	3.46	4.22	5.11
55	-	-	-	1.83	2.30	2.85	3.48	4.23
60	-	-	-	-	1.85	2.30	2.84	3.46
65	-	-	-	-	1.46	1.83	2.27	2.78

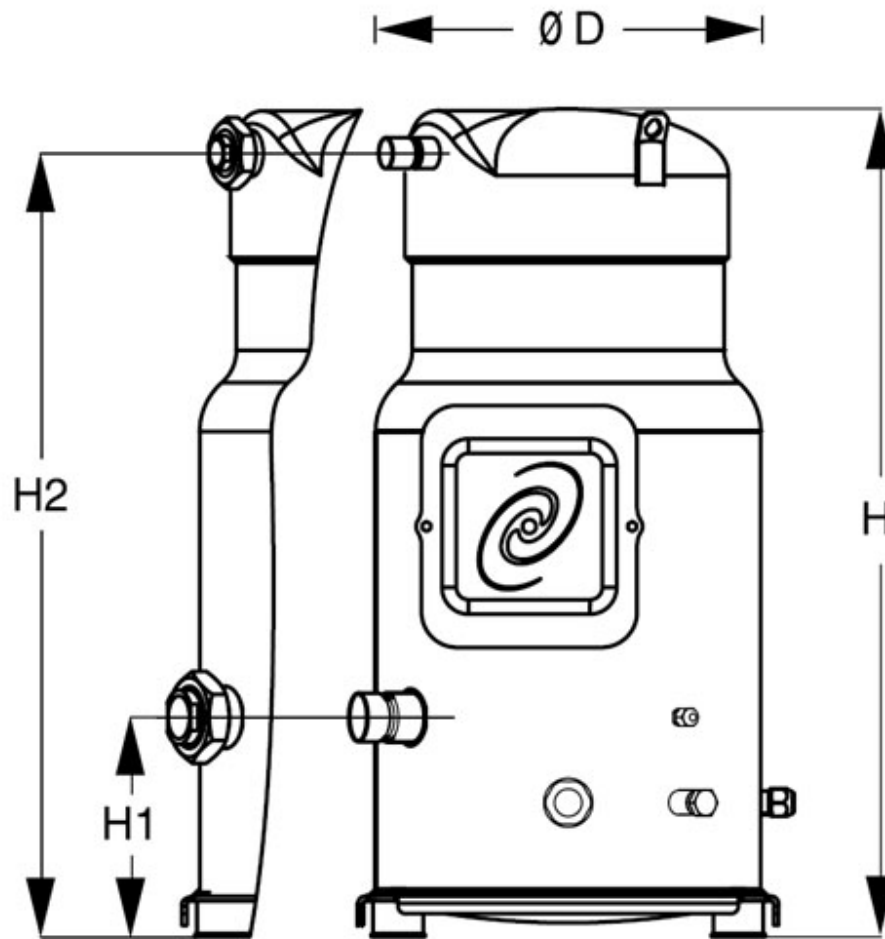
Operating conditions: suction superheat: 11.1 K, subcooling: 8.3 K

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Application range





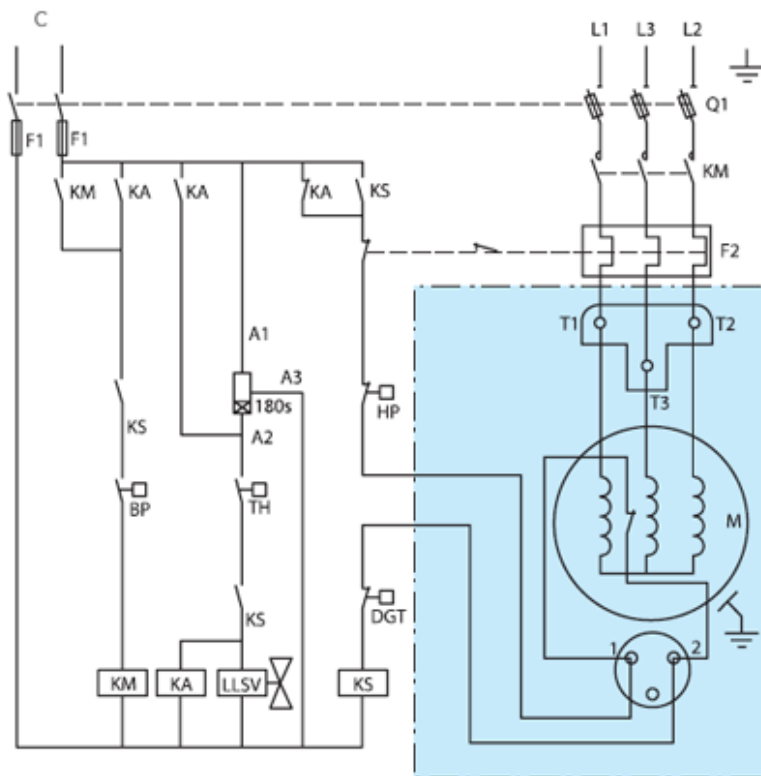
D	254 mm
H	586 mm
H1	180 mm
H2	538 mm



Electrical data

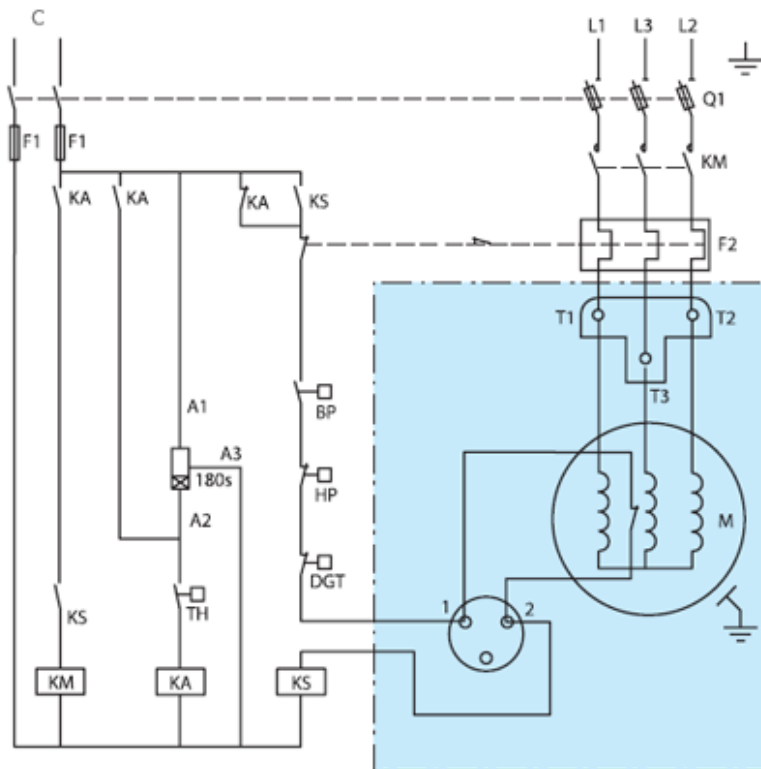
Starting current [A]:	120
Maximum Continuous Current (MCC) [A]:	-
Winding resistance (between phases) [Ω]:	1,16

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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Equipment

- ▶ oil equalization - thread adapter 3/8"
- ▶ belt type heater - crankcase heater 65W, 230V
- ▶ soft-start kit - electronic softstart MCI 25C
- ▶ acoustic hood - acoustic shield of Danfoss catalogue number 7755009
- ▶ discharge thermostatic protection - discharge temperature protection accessory - Danfoss catalogue number 7750009