

Model: SZ115

Data

Type: Hermetic scroll compressors

Producer: Maneurop

Series: SZ

Model: SZ115

Technical data

Displacement [m ³ /h]:	27
Cylinder capacity [cm ³]:	155
RPM [min ⁻¹]:	2900
Weight [kg]:	80
Oil charge [dm ³]:	4
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>millimeters</u>	<u>inches</u>
Suction Rotolock valve connection:		1 3/4"
Discharge Rotolock valve connection:		1 1/4"
Suction connection with supplied sleeve:		1 1/8"
Discharge connection with supplied sleeve:		3/4"

Approvals

CCC	-
CE	+
UL	+

Model: SZ115

Capacity

R134a

Cooling capacity [W]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	9 556	12 156	15 189	18 692	22 703	27 261	32 403
35	9 030	11 568	14 522	17 929	21 827	26 254	31 248
40	8 478	10 944	13 808	17 107	20 881	25 167	30 003
45	7 903	10 285	13 048	16 230	19 868	24 002	28 669
50	7 305	9 593	12 244	15 298	18 791	22 761	27 248
55	-	8 869	11 399	14 313	17 649	21 446	25 742
60	-	-	10 513	13 277	16 446	20 059	24 153
65	-	-	-	12 192	15 183	18 601	22 482
70	-	-	-	11 059	13 861	17 073	20 732

Power input [W]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	3 426	3 435	3 434	3 421	3 393	3 349	3 287
35	3 804	3 815	3 817	3 807	3 784	3 745	3 688
40	4 231	4 245	4 250	4 245	4 226	4 193	4 141
45	4 712	4 729	4 738	4 737	4 723	4 695	4 651
50	5 250	5 270	5 284	5 288	5 280	5 258	5 220
55	-	5 874	5 892	5 901	5 899	5 884	5 853
60	-	-	6 567	6 582	6 586	6 578	6 554
65	-	-	-	7 333	7 344	7 343	7 328
70	-	-	-	8 159	8 177	8 184	8 178

Current [A]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	8.31	8.34	8.35	8.34	8.30	8.23	8.13
35	8.67	8.70	8.72	8.71	8.68	8.61	8.52
40	9.11	9.14	9.16	9.16	9.13	9.08	8.99
45	9.64	9.67	9.70	9.70	9.68	9.63	9.55
50	10.26	10.30	10.33	10.34	10.32	10.28	10.21
55	-	11.04	11.07	11.09	11.08	11.05	10.98
60	-	-	11.93	11.95	11.95	11.93	11.87
65	-	-	-	12.95	12.96	12.94	12.89
70	-	-	-	14.08	14.10	14.09	14.05

Model: SZ115

Capacity

Mass flow [kg/s]

$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	204.26	254.69	312.09	377.00	449.95	531.48	622.13
35	201.07	252.39	310.58	376.20	449.76	531.83	622.92
40	197.38	249.47	308.36	374.57	448.65	531.14	622.57
45	193.08	245.84	305.30	372.01	446.50	529.30	620.96
50	188.04	241.36	301.30	368.39	443.18	526.20	617.98
55	-	235.91	296.22	363.59	438.57	521.69	613.49
60	-	-	289.95	357.50	432.56	515.68	607.39
65	-	-	-	349.98	425.02	508.03	599.55
70	-	-	-	340.92	415.84	498.63	589.85

C.O.P. [W/W]

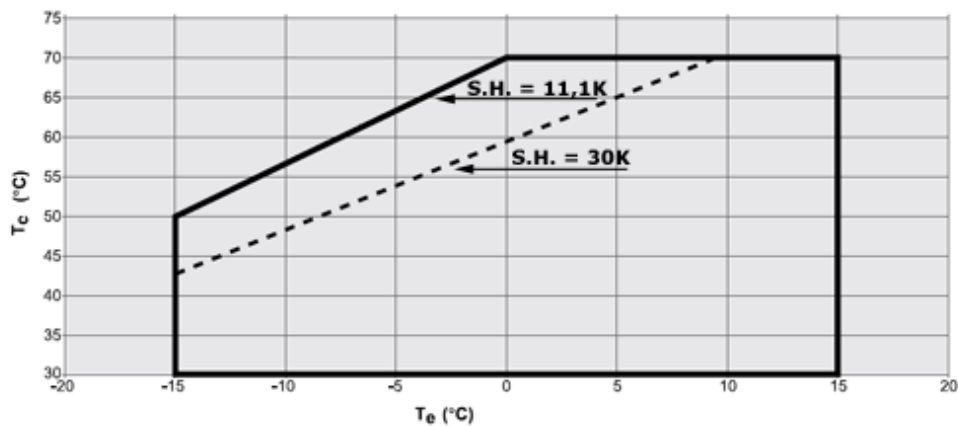
$t_c \setminus t_e$	-15	-10	-5	0	5	10	15
30	2.79	3.54	4.42	5.46	6.69	8.14	9.86
35	2.37	3.03	3.80	4.71	5.77	7.01	8.47
40	2.00	2.58	3.25	4.03	4.94	6.00	7.24
45	1.68	2.18	2.75	3.43	4.21	5.11	6.16
50	1.39	1.82	2.32	2.89	3.56	4.33	5.22
55	-	1.51	1.93	2.43	2.99	3.64	4.40
60	-	-	1.60	2.02	2.50	3.05	3.68
65	-	-	-	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



Model: SZ115

Capacity

R407C

Cooling capacity [W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	10 821	13 875	17 503	21 764	26 716	32 417	38 924	46 297
35	10 138	13 117	16 644	20 776	25 572	31 089	37 386	44 520
40	9 412	12 298	15 704	19 689	24 310	29 625	35 693	42 571
45	-	11 411	14 679	18 498	22 926	28 021	33 841	40 444
50	-	-	13 563	17 197	21 413	26 269	31 823	38 133
55	-	-	-	15 782	19 768	24 367	29 636	35 634
60	-	-	-	-	17 984	22 307	27 273	32 940
65	-	-	-	-	16 056	20 085	24 730	30 048

Power input [W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	4 843	4 870	4 892	4 904	4 905	4 891	4 861	4 810
35	5 396	5 422	5 442	5 451	5 449	5 431	5 396	5 340
40	6 043	6 067	6 084	6 091	6 084	6 063	6 023	5 961
45	-	6 818	6 832	6 835	6 825	6 799	6 753	6 686
50	-	-	7 699	7 698	7 684	7 652	7 602	7 529
55	-	-	-	8 693	8 674	8 637	8 581	8 501
60	-	-	-	-	9 809	9 767	9 704	9 617
65	-	-	-	-	11 102	11 053	10 984	10 890

Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	9.74	9.78	9.81	9.83	9.84	9.82	9.78	9.72
35	10.41	10.45	10.48	10.50	10.49	10.47	10.43	10.35
40	11.23	11.26	11.29	11.30	11.29	11.27	11.21	11.13
45	-	12.24	12.26	12.27	12.26	12.22	12.16	12.07
50	-	-	13.43	13.43	13.41	13.37	13.30	13.20
55	-	-	-	14.80	14.77	14.72	14.65	14.54
60	-	-	-	-	16.38	16.32	16.23	16.11
65	-	-	-	-	18.24	18.17	18.07	17.94

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Capacity

Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	209.24	263.76	326.96	399.70	482.87	577.33	683.97	803.66
35	204.54	259.96	323.99	397.49	481.34	576.42	683.60	803.76
40	199.17	255.34	320.04	394.15	478.54	574.09	681.66	802.15
45	-	249.36	314.59	389.16	473.94	569.81	677.63	798.29
50	-	-	307.10	381.99	467.01	563.05	670.98	791.67
55	-	-	-	372.08	457.21	553.27	661.15	781.73
60	-	-	-	-	444.00	539.94	647.63	767.95
65	-	-	-	-	426.85	522.53	629.88	749.79

C.O.P. [W/W]

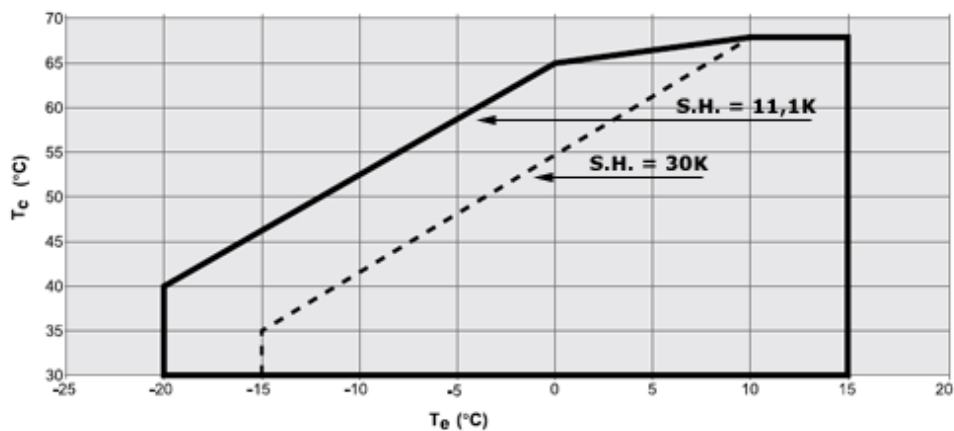
$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
30	2.23	2.85	3.58	4.44	5.45	6.63	8.01	9.63
35	1.88	2.42	3.06	3.81	4.69	5.72	6.93	8.34
40	1.56	2.03	2.58	3.23	4.00	4.89	5.93	7.14
45	-	1.67	2.15	2.71	3.36	4.12	5.01	6.05
50	-	-	1.76	2.23	2.79	3.43	4.19	5.07
55	-	-	-	1.82	2.28	2.82	3.45	4.19
60	-	-	-	-	1.83	2.28	2.81	3.43
65	-	-	-	-	1.45	1.82	2.25	2.76

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

t_c - Condensing temperature [°C]

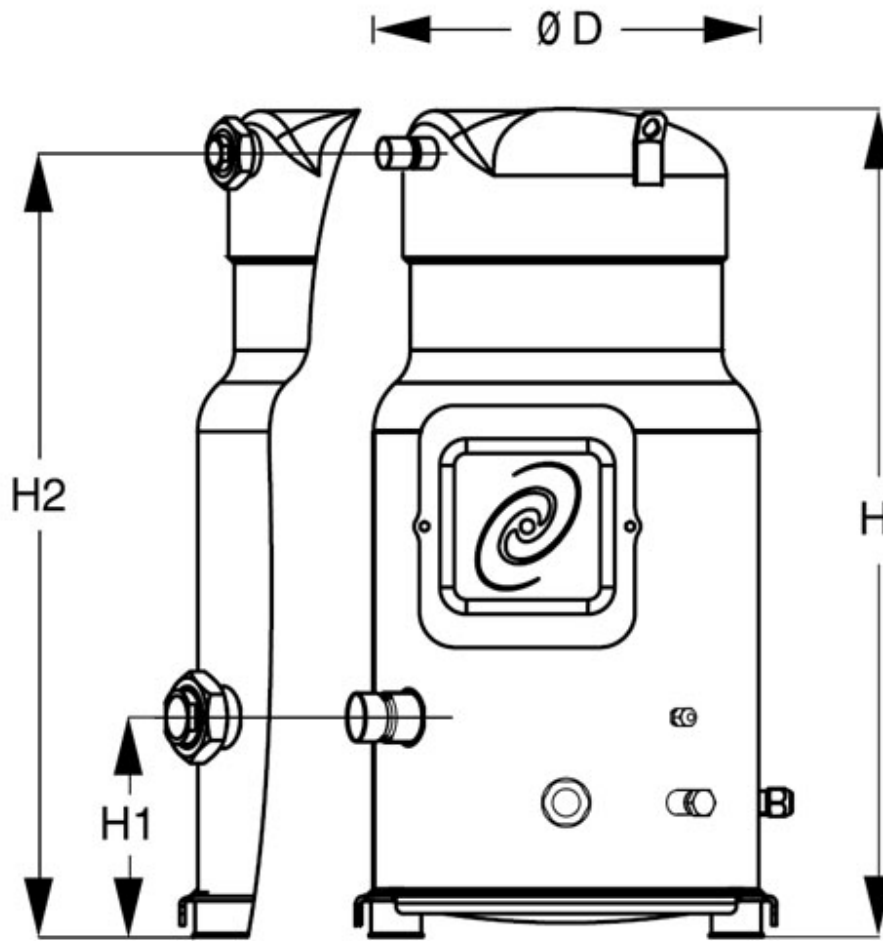
t_e - Evaporating temperature [°C]

Application range



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Dimensions



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

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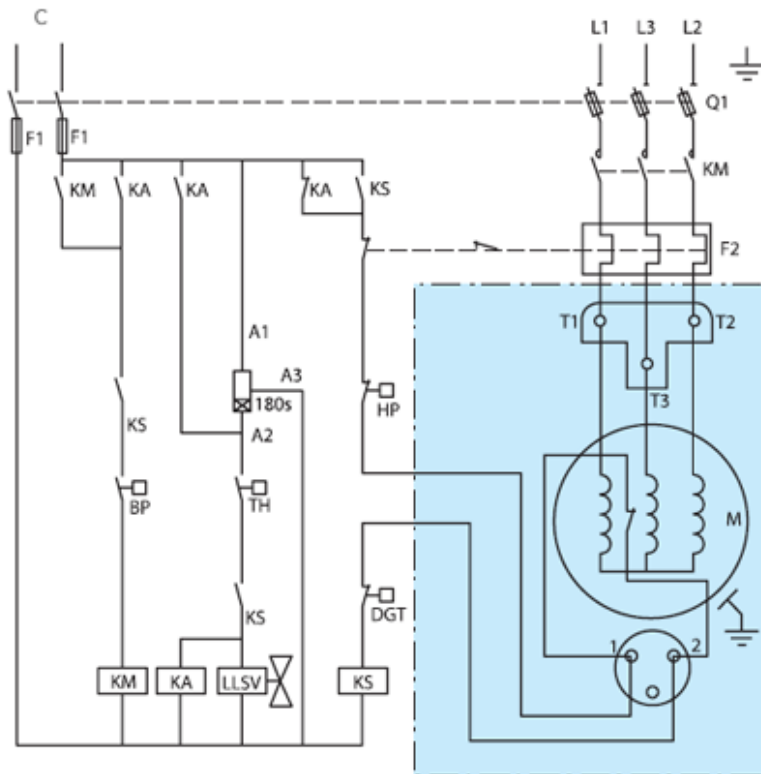
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Electrical data

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

Connection diagram for systems with refrigerant suction

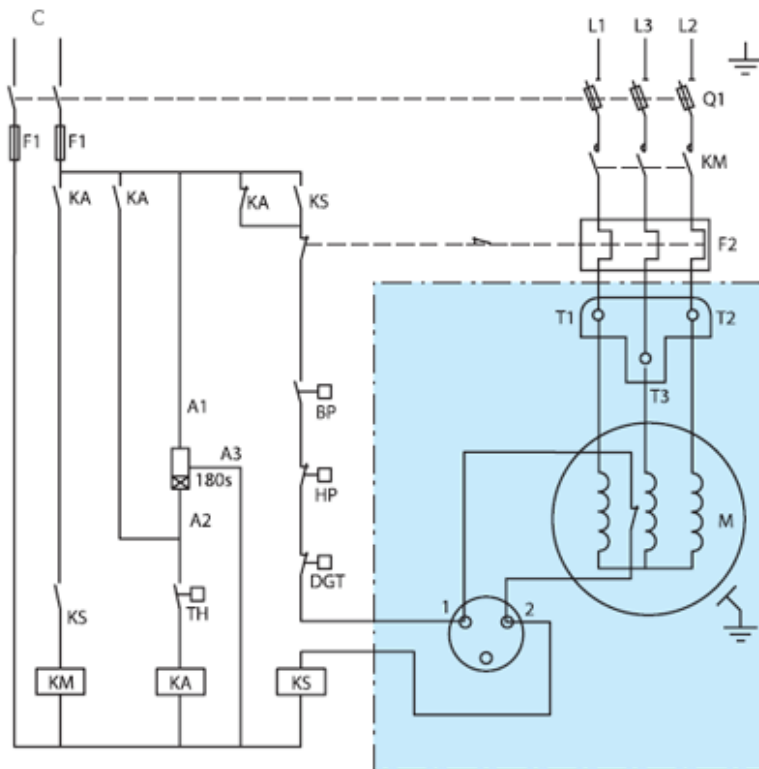


- TH: Thermostat
- 180 s: ATI electronic timer
- KA: Control transmitter CI 4-2
- LLSV: Electromagnetic liquid valve
- KM: Main contactor CI
- KS: Fuses' switch
- BP: Low pressure switch
- HP: High pressure switch
- Q1: Safety switch
- F1: Fuses / S: Thermal relay TI
- F2: Thermal relay TI
- M: Compressor's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

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Electrical

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
- ▶ accoustic hood - acoustic shield of Danfoss catalogue number 7755009
- ▶ discharge thermostatic protection - discharge temperature protection accessory - Danfoss catalogue number 7750009