

# Model: SH300

## Data

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**Type:** Hermetic scroll compressors

**Producer:** Danfoss-Maneurop

**Series:** SH

## Model: SH300

### Technical data

Displacement [m <sup>3</sup> /h]:	49,7
Swept volume [cm <sup>3</sup> /rev]:	285,5
RPM [min <sup>-1</sup> ]:	2900
Weight [kg]:	153
Oil charge [dm <sup>3</sup> ]:	6,7
Oil type:	160SZ
Maximum system test pressure low side / high side:	30/45
Maximum number of starts without softstart [1/h]:	12
Refrigerant charge limit [dm <sup>3</sup> ]:	13,5
Sound power [dB]:	82
Refrigerant:	R410A

### Connections

	<u>milimeters</u>	<u>inches</u>
Suction connection with supplied sleeve:	41	1 5/8"
Discharge connection with supplied sleeve:	35	1 3/8"

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## Capacity

R410A

### Cooling capacity [W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
20	32 709	40 139	48 932	59 260	71 295	85 209	101 175	-	-
25	31 068	38 444	47 117	57 259	69 042	82 639	98 222	115 963	-
30	29 273	36 536	45 031	54 928	66 401	79 622	94 762	111 995	131 492
35	27 348	34 440	42 697	52 291	63 395	76 181	90 820	107 486	126 350
40	-	32 180	40 141	49 373	60 049	72 340	86 420	102 460	120 633
45	-	29 780	37 386	46 197	56 386	68 125	81 586	96 942	114 364
50	-	-	34 456	42 787	52 431	63 558	76 342	90 955	107 568
55	-	-	-	39 169	48 208	58 665	70 713	84 523	100 269
60	-	-	-	-	43 741	53 469	64 722	77 672	92 491
65	-	-	-	-	-	47 995	58 394	70 424	84 258

### Power input [W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
20	11 932	12 020	12 075	12 106	12 120	12 125	12 128	-	-
25	13 122	13 227	13 297	13 337	13 357	13 362	13 361	13 361	-
30	14 429	14 552	14 636	14 686	14 711	14 718	14 714	14 706	14 703
35	15 883	16 025	16 123	16 184	16 215	16 223	16 216	16 201	16 186
40	-	17 677	17 790	17 861	17 898	17 908	17 898	17 877	17 851
45	-	19 538	19 666	19 748	19 792	19 804	19 792	19 764	19 727
50	-	-	21 783	21 877	21 927	21 942	21 929	21 895	21 847
55	-	-	-	24 277	24 334	24 352	24 338	24 298	24 240
60	-	-	-	-	27 045	27 066	27 050	27 005	26 938
65	-	-	-	-	-	30 114	30 097	30 047	29 971

### Current [A]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
20	29.08	29.29	29.32	29.23	29.09	28.93	28.84	-	-
25	30.51	30.80	30.91	30.88	30.78	30.66	30.58	30.61	-
30	31.89	32.27	32.45	32.48	32.42	32.33	32.26	32.29	32.45
35	33.35	33.80	34.04	34.12	34.10	34.03	33.98	34.00	34.15
40	-	35.51	35.81	35.94	35.95	35.90	35.85	35.86	35.99
45	-	37.51	37.86	38.03	38.07	38.04	37.99	37.99	38.09
50	-	-	40.30	40.51	40.57	40.55	40.50	40.48	40.55
55	-	-	-	43.49	43.57	43.55	43.50	43.45	43.49
60	-	-	-	-	47.18	47.16	47.09	47.02	47.01
65	-	-	-	-	-	51.48	51.39	51.29	51.24

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Capacity

## Mass flow [kg/h]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
20	574.28	701.87	848.21	1 016.40	1 209.52	1 430.66	1 682.92	-	-
25	568.56	698.92	848.13	1 019.29	1 215.48	1 439.81	1 695.36	1 985.22	-
30	560.12	692.62	844.09	1 017.60	1 216.26	1 443.15	1 701.37	1 994.00	2 324.14
35	548.89	682.93	836.03	1 011.28	1 211.78	1 440.62	1 700.89	1 995.68	2 328.09
40	-	669.77	823.89	1 000.26	1 201.99	1 432.16	1 693.87	1 990.20	2 324.25
45	-	653.08	807.60	984.48	1 186.82	1 417.71	1 680.23	1 977.49	2 312.56
50	-	-	787.10	963.88	1 166.21	1 397.19	1 659.92	1 957.48	2 292.97
55	-	-	-	938.38	1 140.09	1 370.56	1 632.87	1 930.12	2 265.40
60	-	-	-	-	1 108.41	1 337.74	1 599.02	1 895.34	2 229.80
65	-	-	-	-	-	1 298.67	1 558.30	1 853.08	2 186.10

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

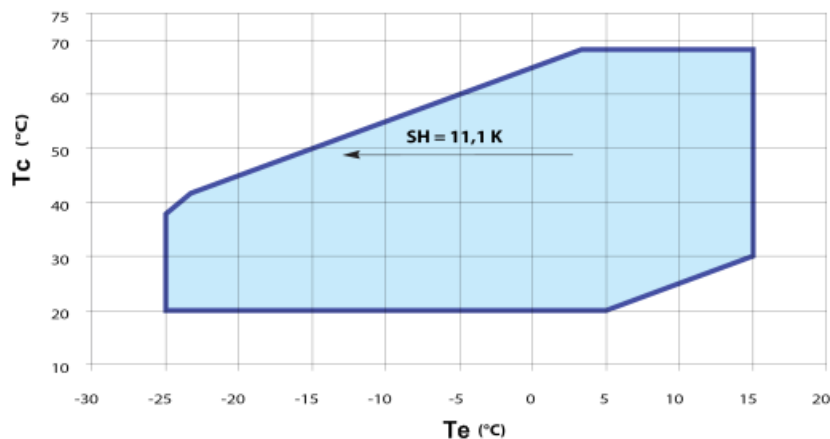
$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10	15
20	2.74	3.34	4.05	4.90	5.88	7.03	8.34	-	-
25	2.37	2.91	3.54	4.29	5.17	6.18	7.35	8.68	-
30	2.03	2.51	3.08	3.74	4.51	5.41	6.44	7.62	8.94
35	1.72	2.15	2.65	3.23	3.91	4.70	5.60	6.63	7.81
40	-	1.82	2.26	2.76	3.36	4.04	4.83	5.73	6.76
45	-	1.52	1.90	2.34	2.85	3.44	4.12	4.90	5.80
50	-	-	1.58	1.96	2.39	2.90	3.48	4.15	4.92
55	-	-	-	1.61	1.98	2.41	2.91	3.48	4.14
60	-	-	-	-	1.62	1.98	2.39	2.88	3.43
65	-	-	-	-	-	1.59	1.94	2.34	2.81

Operating conditions: superheating: 11.1 K, subcooling: 8.3 K

$t_c$  - Condensing temperature [°C]

$t_e$  - Evaporating temperature [°C]

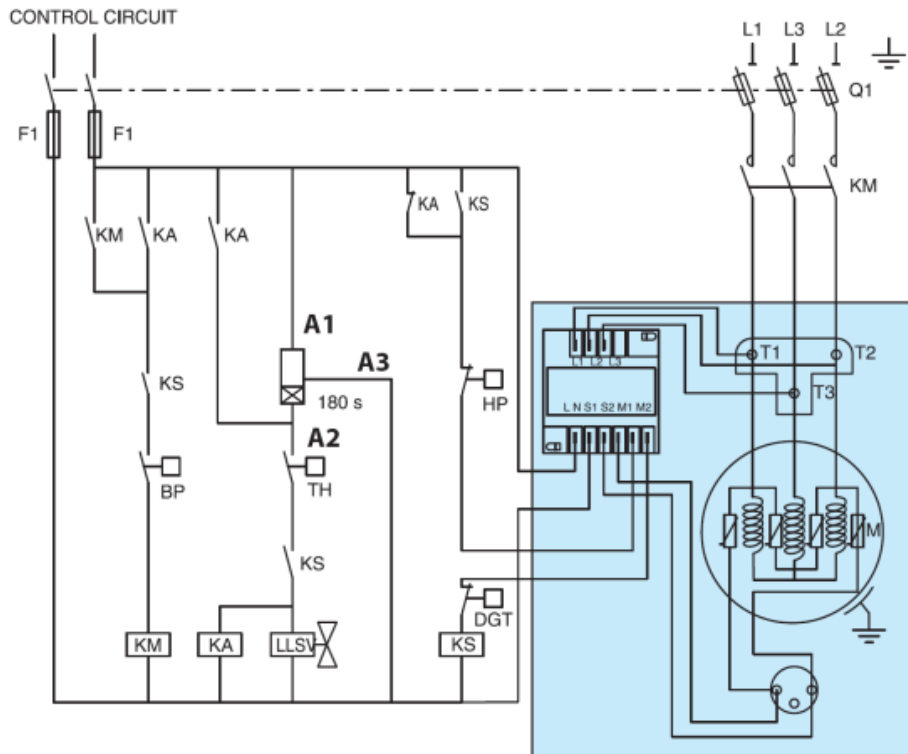
## Application range



### Single phase power supply

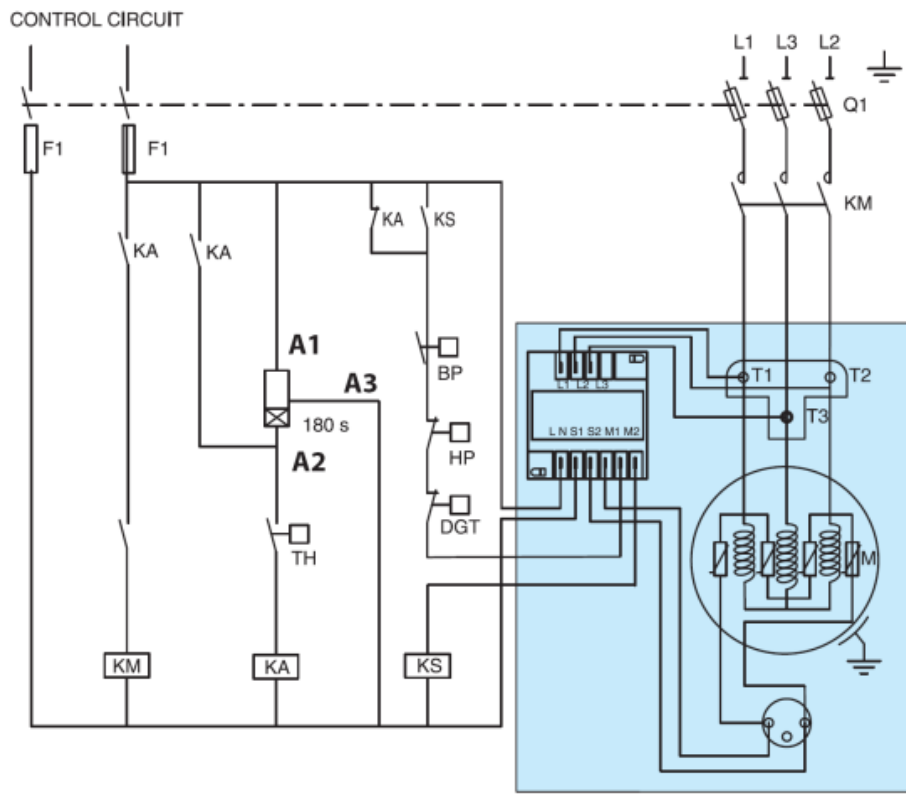
Motor voltage code: 4  
Power supply: 400V/3/50Hz  
Maximum Continuous Current (MCC) [A]: 54,1

### Wiring diagram with pump-down cycle



- TH: Control device
- 180 s: Optional short cycle timer (3min) 5 pts
- KA: Control relay
- LLSV: Liquid Line Solenoid valve
- KM: Compressor contactor
- KS: Safety lock out relay
- BP: Pump-down control and low pressure switch
- HP: High pressure safety switch
- Q1: Fused disconnect
- F1: Fuses / S: External overload protection
- F2: External overload protection
- M: Compressor's engine
- thM: Motor safety thermostat
- DGT: Discharge gas thermostat
- MPM: Motor Protection Module
- S: Thermistor chain

### Wiring diagram without pump-down cycle



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