



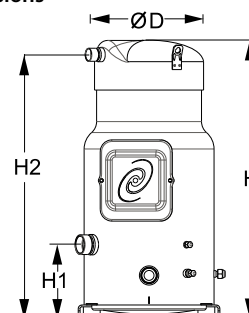
Datasheets

Danfoss scroll compressors **SM / SY / SZ / SH / WSH**



General Characteristics

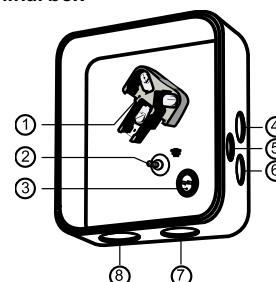
Model number (on compressor nameplate)	SZ185S4RC	SZ185S4CC
Code number for Singlepack*	SZ185-4RI	SZ185-4CAI
Code number for Industrial pack**	SZ185-4RM	SZ185-4CAM
Drawing number	8551119b	8551056c
Suction and discharge connections	Rotolock	Brazed
Suction connection	2-1/4 " Rotolock	1-5/8 " ODF
Discharge connection	1-3/4 " Rotolock	1-1/8 " ODF
Suction connection with supplied sleeve	1-3/8 " ODF	
Discharge connection with supplied sleeve	7/8 " ODF	
Oil sight glass	Threaded	Threaded
Oil equalisation connection	3/8" flare SAE	3/8" flare SAE
Oil drain connection	1/4" flare	1/4" flare
LP gauge port	Schrader	Schrader
IPR valve	None	None
Swept volume	249,9 cm ³ /rev	
Displacement @ Nominal speed	43.5 m ³ /h @ 2900 rpm - 52.5 m ³ /h @ 3500 rpm	
Net weight	100 kg	
Oil charge	6,2 litre, POE - 160SZ	
Maximum system test pressure Low Side / High side	25 bar(g) / 32 bar(g)	
Maximum differential test pressure	24 bar	
Maximum number of starts per hour	12	
Refrigerant charge limit	13,5 kg	
Approved refrigerants	R407C, R134a, R404A, R507A	

Dimensions


D=317 mm
H=678 mm
H1=180 mm
H2=643 mm
H3=- mm

Electrical Characteristics

Nominal voltage	380-400V/3/50Hz - 460V/3/60Hz
Voltage range	340-440 V @ 50Hz - 414-506 V @ 60Hz
Winding resistance (between phases) +/- 7% at 25°C	0.77 Ω
Maximum Must Trip current (MMT)	35 A
Locked Rotor Amps (LRA)	175 A
Motor protection	Internal thermostat, ext. overload protector needed

Terminal box


IP54 (with cable gland)

- 1: Power connection, 3 x 4.8 mm (3/16")
- 2: Earth M5
- 3: Thermostat connector
- 4: Knock-out Ø 22 mm (7/8") for 1/2" conduit
- 5: Knock-out Ø 16.5 mm (0.65")
- 6: Knock-out Ø 20.5 mm (0.81")
- 7: Double knock-out Ø 32.1 mm (1.26") & Ø 25.4 mm (1")
- 8: Double knock-out Ø 44 mm (1-3/4") for 1-1/4" conduit & Ø 34 mm (1-3/8") for 1" conduit

Recommended Installation torques

Suction Rotolock nut or valve	130 Nm
Discharge Rotolock nut or valve	110 Nm
Oil sight glass	50 Nm
Power connections / Earth connection	3 Nm / 2 Nm
Terminal box cover screws	2,3 Nm
Mounting bolts	21 Nm

Parts shipped with compressor

Mounting kit with grommets, bolts, nuts, sleeves and washers
Initial oil charge
Installation instructions

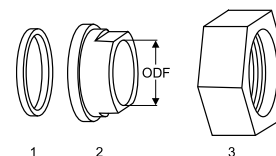
Approvals : CE certified, UL certified (file SA6873), -

*Singlepack: Compressor in cardboard box

**Industrial pack: 6 Unboxed compressors on pallet (order per multiples of 6)

Rotolock accessories, suction side
Code no.

Solder sleeve, P08 (2-1/4" Rotolock, 1-3/8" ODF)	8153005
Solder sleeve, P03 (2-1/4" Rotolock, 1-5/8" ODF)	8153006
Rotolock valve, V08 (2-1/4" Rotolock, 1-3/8" ODF)	8168025
Rotolock valve, V03 (2-1/4" Rotolock, 1-5/8" ODF)	8168026
Gasket, 2-1/4"	8156133

Gaskets, sleeves and nuts


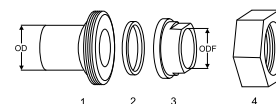
- 1: Gasket
2: Solder sleeve
3: Rotolock nut

Rotolock accessories, discharge side
Code no.

Solder sleeve, P07 (1-3/4" Rotolock, 7/8" ODF)	8153013
Solder sleeve, P02 (1-3/4" Rotolock, 1-1/8" ODF)	8153004
Angle adapter, C07 (1-3/4" Rotolock, 7/8" ODF)	8168008
Angle adapter, C02 (1-3/4" Rotolock, 1-1/8" ODF)	8168005
Rotolock valve, V07 (1-3/4" Rotolock, 7/8" ODF)	8168032
Rotolock valve, V02 (1-3/4" Rotolock, 1-1/8" ODF)	8168028
Gasket, 1-3/4"	8156132

Rotolock accessories, sets
Code no.

Solder sleeve adapter set, (2-1/4" Rotolock, 1-5/8" ODF), (1-3/4" Rotolock, 1-1/8" ODF)	7765028
Valve set, V08 (2-1/4"~1-3/8"), V07 (1-3/4"~7/8")	7703010
Gasket set, 1-1/4", 1-3/4", 2-1/4", OSG gaskets black & white	8156013

Solder sleeve adapter set


- 1: Rotolock adapter (Suc & Dis)
2: Gasket (Suc & Dis)
3: Solder sleeve (Suc & Dis)
4: Rotolock nut (Suc & Dis)

Oil / lubricants
Code no.

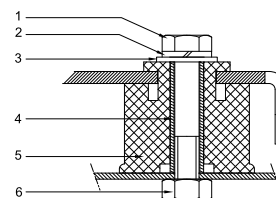
POE lubricant, 160SZ, 1 litre can	7754023
POE lubricant, 160SZ, 2.5 litre can	120Z0571

Crankcase heaters
Code no.

Surface sump heater + bottom insulation, 56 W, 24 V, CE mark, UL	120Z0360
Surface sump heater + bottom insulation, 56 W, 230 V, CE mark, UL	120Z0376
Surface sump heater + bottom insulation, 56 W, 400 V, CE mark, UL	120Z0377
Surface sump heater + bottom insulation, 56 W, 460 V, CE mark, UL	120Z0378
Belt type crankcase heater, 75 W, 230 V, CE mark, UL	7773108
Belt type crankcase heater, 75 W, 400 V, CE mark, UL	7773118
Belt type crankcase heater, 75 W, 460 V, CE mark, UL	120Z0464

Miscellaneous accessories
Code no.

Electronic soft start kit, MCI 25 C	7705007
Acoustic hood for scroll compressor S175-S185	7755007
Acoustic bottom insulation for scroll compressor	120Z0353
Discharge thermostat kit	7750009

Mounting kit


- 1: Bolt (4x)
2: Lock washer (4x)
3: Flat washer (4x)
4: Sleeve (4x)
5: Grommet (4x)
6: Nut (4x)

Spare parts
Code no.

Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers	8156138
Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers, 2 rotolock nuts, 2 solder sleeves, 2 gaskets	8156147
Oil sight glass with gaskets (black & white)	8156019
Gasket for oil sight glass (white teflon)	8156129
Terminal box 186 x 198 mm, incl cover	8156139
T block connector 60 x 75 mm	8173021

Datasheet, performance data
Danfoss scroll compressor. SZ185-4
Performance data at 50 Hz, EN 12900 rating conditions
R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-20	-15	-10	-5	0	5	10	15	

Cooling capacity in W

30	16 496	21 007	26 387	32 726	40 115	48 644	58 403	69 483	-
35	15 417	19 792	24 990	31 102	38 217	46 425	55 816	66 481	-
40	14 305	18 513	23 500	29 353	36 163	44 020	53 012	63 231	-
45	-	17 169	21 913	27 478	33 953	41 427	49 989	59 730	-
50	-	-	20 228	25 474	31 583	38 643	46 744	55 975	-
55	-	-	-	23 340	29 052	35 667	43 275	51 963	-
60	-	-	-	-	26 357	32 495	39 576	47 689	-
65	-	-	-	-	23 494	29 122	35 642	43 143	-

Power input in W

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 consumption in A

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	-

Mass flow in kg/h

30	344	430	530	646	778	929	1 100	1 292	-
35	337	425	526	643	776	928	1 099	1 292	-
40	330	418	520	638	772	924	1 096	1 288	-
45	-	411	513	631	765	918	1 089	1 282	-
50	-	-	504	622	756	908	1 079	1 271	-
55	-	-	-	610	744	895	1 065	1 256	-
60	-	-	-	-	728	878	1 047	1 237	-
65	-	-	-	-	708	857	1 024	1 212	-

Coefficient of performance (C.O.P.)

30	2.15	2.71	3.37	4.15	5.06	6.12	7.35	8.79	-
35	1.80	2.29	2.87	3.54	4.33	5.25	6.31	7.54	-
40	1.50	1.92	2.42	3.00	3.68	4.46	5.37	6.42	-
45	-	1.59	2.02	2.51	3.09	3.76	4.53	5.43	-
50	-	-	1.66	2.08	2.57	3.14	3.79	4.54	-
55	-	-	-	1.71	2.11	2.59	3.13	3.76	-
60	-	-	-	-	1.71	2.10	2.56	3.08	-
65	-	-	-	-	1.36	1.68	2.06	2.49	-

Nominal performance at to = 5 °C, tc = 50 °C

Cooling capacity	38 643	W
Power input	12 323	W
Current consumption	22.39	A
Mass flow	908	kg/h
C.O.P.	3.14	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	29.5	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)

Sound power data

Sound power level	81	dB(A)
With acoustic hood	73	dB(A)

All performance data +/- 5%

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Datasheet, performance data

Danfoss scroll compressor. SZ185-4

Performance data at 50 Hz, ARI rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-20	-15	-10	-5	0	5	10	15	

Cooling capacity in W

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 in W

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 consumption in A

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	-

Mass flow in kg/h

30	342	428	527	642	774	924	1 093	1 284	-
35	335	422	523	639	772	922	1 093	1 284	-
40	328	416	518	634	768	919	1 089	1 281	-
45	-	408	511	628	761	912	1 083	1 274	-
50	-	-	501	619	752	903	1 073	1 263	-
55	-	-	-	607	739	890	1 059	1 248	-
60	-	-	-	-	724	873	1 041	1 229	-
65	-	-	-	-	704	852	1 018	1 205	-

Coefficient of performance (C.O.P.)

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	-

Nominal performance at to = 7.2 °C, tc = 54.4 °C

Cooling capacity	43 092	W
Power input	13 619	W
Current consumption	24.10	A
Mass flow	964	kg/h
C.O.P.	3.16	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

Maximum HP switch setting	29.5	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)

Sound power data

Sound power level	81	dB(A)
With acoustic hood	73	dB(A)

All performance data +/- 5%

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Datasheet, performance data
Danfoss scroll compressor. SZ185-4
Performance data at 50 Hz, EN 12900 rating conditions
R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-15	-10	-5	0	5	10	15	

Cooling capacity in W

35	12 952	16 610	20 911	25 918	31 698	38 315	45 836	-	-
40	12 108	15 640	19 786	24 611	30 179	36 557	43 810	-	-
45	11 243	14 632	18 606	23 232	28 572	34 693	41 660	-	-
50	10 361	13 589	17 376	21 784	26 879	32 725	39 388	-	-
55	-	12 517	16 097	20 271	25 102	30 657	36 998	-	-
60	-	-	14 774	18 696	23 246	28 490	34 492	-	-
65	-	-	-	17 061	21 312	26 227	31 870	-	-
70	-	-	-	15 369	19 303	23 869	29 132	-	-

Power input in W

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 consumption in A

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	-	-

Mass flow in kg/h

35	314	394	485	589	707	839	986	-	-
40	309	390	482	587	705	838	986	-	-
45	302	384	477	583	702	835	983	-	-
50	296	378	472	578	697	830	979	-	-
55	-	371	465	571	691	824	973	-	-
60	-	-	457	564	683	816	964	-	-
65	-	-	-	554	673	806	954	-	-
70	-	-	-	544	662	794	941	-	-

Coefficient of performance (C.O.P.)

35	2.14	2.71	3.37	4.15	5.06	6.13	7.37	-	-
40	1.81	2.32	2.90	3.58	4.38	5.30	6.38	-	-
45	1.53	1.96	2.47	3.07	3.76	4.56	5.49	-	-
50	1.27	1.65	2.09	2.60	3.20	3.88	4.68	-	-
55	-	1.37	1.75	2.19	2.70	3.29	3.97	-	-
60	-	-	1.45	1.82	2.26	2.76	3.33	-	-
65	-	-	-	1.50	1.87	2.29	2.78	-	-
70	-	-	-	1.22	1.53	1.88	2.29	-	-

Nominal performance at to = 5 °C, tc = 50 °C

Cooling capacity	26 879	W
Power input	8 409	W
Current consumption	17.47	A
Mass flow	697	kg/h
C.O.P.	3.20	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	20.5	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	0.5	bar(g)

Sound power data

Sound power level	0	dB(A)
With acoustic hood	0	dB(A)

All performance data +/- 5%

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Datasheet, performance data
Danfoss scroll compressor. SZ185-4
Performance data at 50 Hz, ARI rating conditions
R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-15	-10	-5	0	5	10	15	

Cooling capacity in W

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 in W

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 consumption in A

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	-	-

Mass flow in kg/h

35	312	392	483	586	703	834	981	-	-
40	307	388	479	584	701	833	980	-	-
45	301	382	475	580	698	830	978	-	-
50	294	376	470	575	693	826	974	-	-
55	-	369	463	568	687	820	967	-	-
60	-	-	455	561	679	812	959	-	-
65	-	-	-	552	670	802	948	-	-
70	-	-	-	541	658	790	936	-	-

Coefficient of performance (C.O.P.)

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	-	-

Nominal performance at to = 7.2 °C, tc = 54.4 °C

Cooling capacity	30 442	W
Power input	9 208	W
Current consumption	18.39	A
Mass flow	744	kg/h
C.O.P.	3.31	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

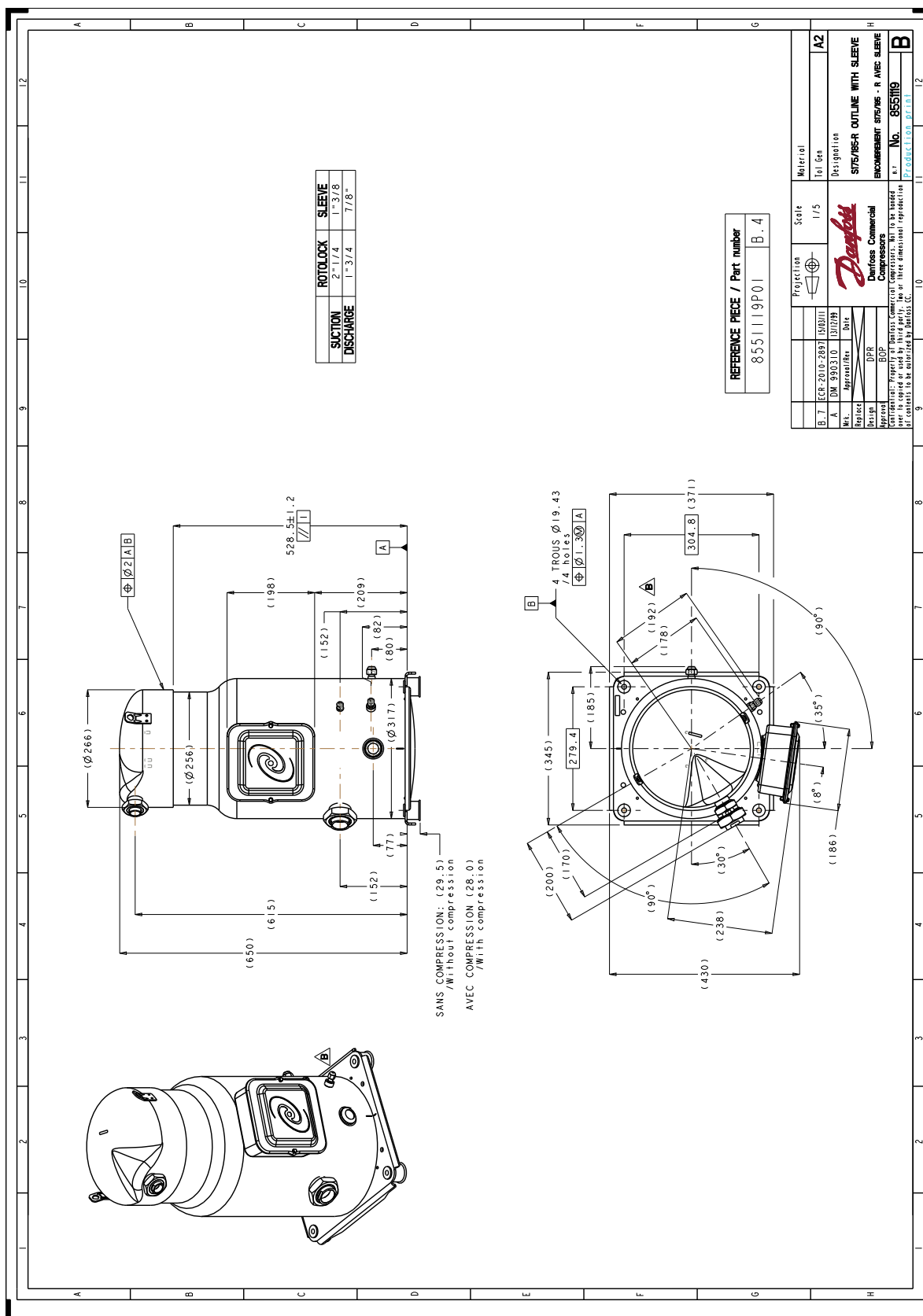
Maximum HP switch setting	20.5	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	0.5	bar(g)

Sound power data

Sound power level	0	dB(A)
With acoustic hood	0	dB(A)

All performance data +/- 5%

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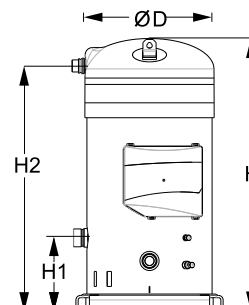


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General Characteristics

Model number (on compressor nameplate)	SZ300A4PBE	SZ300A4CBE
Code number for Singlepack*	SZ300A4PBI	SZ300A4CBI
Code number for Industrial pack**	SZ300A4PBM	SZ300A4CBM
Drawing number	8556099b	8556094b
Suction and discharge connections	Rotolock	Brazed
Suction connection	2-1/4 " Rotolock	1-5/8 " ODF
Discharge connection	1-3/4 " Rotolock	1-1/8 " ODF
Suction connection with supplied sleeve	1-5/8 " ODF	
Discharge connection with supplied sleeve	1-1/8 " ODF	
Oil sight glass	Threaded	Threaded
Oil equalisation connection	1/2" flare	1/2" flare
Oil drain connection	1/4" flare	1/4" flare
LP gauge port	Schrader	Schrader
IPR valve	Yes	Yes
Reverse rotation protection	Electronic module	Electronic module
Swept volume	437,5 cm ³ /rev	
Displacement @ Nominal speed	76.1 m ³ /h @ 2900 rpm - 91.9 m ³ /h @ 3500 rpm	
Net weight	157 kg	
Oil charge	8 litre, POE - 160SZ	
Maximum system test pressure Low Side / High side	20 bar(g) / 32 bar(g)	
Maximum differential test pressure	24 bar	
Maximum number of starts per hour	12	
Refrigerant charge limit	20 kg	
Approved refrigerants	R407C, R134a	

Dimensions


D=344 mm
 H=737,9 mm
 H1=195,7 mm
 H2=665 mm
 H3=- mm

Electrical Characteristics

Nominal voltage	380-400V/3/50Hz - 460V/3/60Hz
Voltage range	340-440 V @ 50Hz - 414-506 V @ 60Hz
Winding resistance (between phases) +/- 7% at 25°C	0.516 Ω
Rated Load Amps (RLA)	49.3 A
Maximum Continuous Current (MCC)	69 A
Locked Rotor Amps (LRA)	270 A
Motor protection	Electronic protection module, 115/230 V

Recommended Installation torques

Suction Rotolock nut or valve	130 Nm
Discharge Rotolock nut or valve	110 Nm
Oil sight glass	50 Nm
Power connections / Earth connection	3 Nm / 2 Nm
Mounting bolts	40 Nm

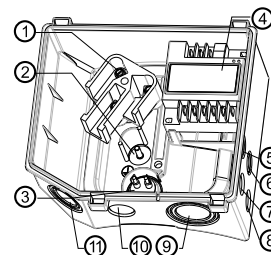
Parts shipped with compressor

Mounting kit with grommets and sleeves
Electronic protection module mounted in terminal box
Initial oil charge
Installation instructions

Approvals : CE certified, UL certified (file SA6873), -

*Singlepack: Compressor in cardboard box

**Industrial pack: 4 Unboxed compressors on pallet (order per multiples of 4)

Terminal box


IP54 (with cable gland)

- 1: Power connection, 3 x 4.8 mm (3/16")
- 2: Earth M5
- 3: Thermistor connector
- 4: Electronic protection module
- 5: Double knock-out Ø 22.5 mm (7/8") & Ø 16.5 mm (0.65")
- 6: Double knock-out Ø 22.5 mm (7/8") & Ø 16.5 mm (0.65")
- 7: Knock-out Ø 20.7 mm (0.81")
- 8: Knock-out Ø 20.7 mm (0.81")
- 9: Triple knock-out Ø 50.8 mm (2") & Ø 43.7 mm (1.72") & Ø 34.5 mm (1.35")
- 10: Knock-out Ø 25.5 mm (1.00")
- 11: Triple knock-out Ø 40.5 mm (1.59") & Ø 32.2 mm (1.27") & Ø 25.5 mm (1")

Datasheet, accessories and spare parts

Danfoss scroll compressor, SZ300-4

Rotolock accessories, suction side

Code no.

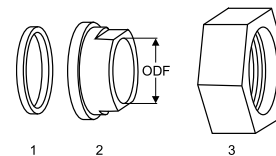
Solder sleeve, P03 (2-1/4" Rotolock, 1-5/8" ODF)	8153006
Rotolock valve, V03 (2-1/4" Rotolock, 1-5/8" ODF)	8168026
Gasket, 2-1/4"	8156133

Gaskets, sleeves and nuts

Rotolock accessories, discharge side

Code no.

Solder sleeve, P02 (1-3/4" Rotolock, 1-1/8" ODF)	8153004
Angle adapter, C02 (1-3/4" Rotolock, 1-1/8" ODF)	8168005
Rotolock valve, V02 (1-3/4" Rotolock, 1-1/8" ODF)	8168028
Gasket, 1-3/4"	8156132



Rotolock accessories, sets

Code no.

Solder sleeve adapter set, (2-1/4" Rotolock, 1-5/8" ODF), (1-3/4" Rotolock, 1-1/8" ODF)	7765028
Valve set, V03 (2-1/4"~1-5/8"), V02 (1-3/4"~1-1/8")	7703383
Gasket set, 1-1/4", 1-3/4", 2-1/4", OSG gaskets black & white	8156013

- 1: Gasket
2: Solder sleeve
3: Rotolock nut

Oil / lubricants

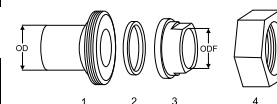
Code no.

POE lubricant, 160SZ, 1 litre can	7754023
POE lubricant, 160SZ, 2.5 litre can	120Z0571

Crankcase heaters

Code no.

Surface sump heater + bottom insulation, 80 W, 24 V, CE mark, UL	120Z0359
Surface sump heater + bottom insulation, 80 W, 230 V, CE mark, UL	120Z0372
Surface sump heater + bottom insulation, 80 W, 400 V, CE mark, UL	120Z0373
Surface sump heater + bottom insulation, 80 W, 460 V, CE mark, UL	120Z0374
Belt type crankcase heater, 130 W, 230 V, CE mark, UL	7773122
Belt type crankcase heater, 130 W, 400 V, CE mark, UL	7773123



- 1: Rotolock adapter (Suc & Dis)
2: Gasket (Suc & Dis)
3: Solder sleeve (Suc & Dis)
4: Rotolock nut (Suc & Dis)

Miscellaneous accessories

Code no.

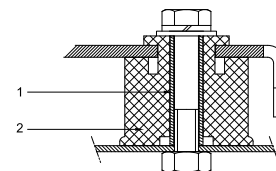
Electronic soft start kit, MCI 50 CM	7705009
Acoustic hood for scroll compressor S240-S300	7755016
Bottom insulation for scroll compressor	120Z0355
Discharge thermostat kit	7750009

Spare parts

Code no.

Electronic motor protection module, 115/230 V	8169016
Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves	8156144
Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 2 rotolock nuts, 2 solder sleeves, 2 gaskets	8156148
Oil sight glass with gaskets (black & white)	8156019
Gasket for oil sight glass (white teflon)	8156129
Terminal box 210 x 190 incl. cover	120Z0458
T block connector 60 x 75 mm	8173021

Mounting kit



- 1: Sleeve (4x)
2: Grommet (4x)
Bolts, nuts and washers not included

Datasheet, performance data

Danfoss scroll compressor. SZ300-4

Performance data at 50 Hz, EN 12900 rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-20	-15	-10	-5	0	5	10	15	

Cooling capacity in W

30	27 955	35 114	43 610	53 631	65 362	78 990	94 702	112 684	-
35	26 571	33 564	41 830	51 554	62 924	76 125	91 345	108 768	-
40	25 038	31 803	39 774	49 139	60 083	72 794	87 457	104 259	-
45	23 395	29 868	37 482	46 423	56 879	69 035	83 078	99 195	-
50	-	27 798	34 991	43 445	53 349	64 887	78 247	93 615	-
55	-	25 633	32 340	40 245	49 532	60 389	73 002	87 558	-
60	-	-	29 569	36 859	45 468	55 580	67 382	81 062	-
65	-	-	-	-	41 194	50 497	61 426	74 166	-

Power input in W

30	12 224	12 358	12 495	12 642	12 803	12 986	13 197	13 442	-
35	13 685	13 885	14 081	14 278	14 483	14 702	14 942	15 208	-
40	15 233	15 501	15 757	16 008	16 259	16 517	16 788	17 079	-
45	16 896	17 235	17 555	17 862	18 162	18 461	18 766	19 083	-
50	-	19 118	19 504	19 869	20 220	20 564	20 905	21 251	-
55	-	21 179	21 633	22 059	22 464	22 854	23 234	23 612	-
60	-	-	23 972	24 462	24 924	25 362	25 784	26 196	-
65	-	-	-	-	27 628	28 118	28 584	29 032	-

Current consumption in A

30	24.79	25.11	25.32	25.46	25.57	25.68	25.84	26.09	-
35	26.98	27.37	27.64	27.85	28.03	28.22	28.46	28.78	-
40	29.04	29.49	29.83	30.10	30.35	30.62	30.93	31.33	-
45	31.12	31.62	32.03	32.37	32.69	33.02	33.41	33.89	-
50	-	33.93	34.39	34.80	35.18	35.58	36.04	36.60	-
55	-	36.55	37.07	37.54	37.99	38.46	38.99	39.62	-
60	-	-	40.23	40.75	41.26	41.80	42.40	43.10	-
65	-	-	-	-	45.16	45.76	46.42	47.19	-

Mass flow in kg/h

30	588	727	889	1 076	1 292	1 539	1 821	2 141	-
35	587	729	892	1 082	1 299	1 549	1 833	2 155	-
40	583	726	892	1 082	1 302	1 553	1 838	2 162	-
45	576	720	886	1 078	1 298	1 550	1 836	2 160	-
50	-	710	877	1 068	1 289	1 540	1 827	2 151	-
55	-	697	862	1 054	1 273	1 524	1 810	2 133	-
60	-	-	844	1 034	1 252	1 501	1 786	2 108	-
65	-	-	-	-	1 224	1 472	1 754	2 074	-

Coefficient of performance (C.O.P.)

30	2.29	2.84	3.49	4.24	5.11	6.08	7.18	8.38	-
35	1.94	2.42	2.97	3.61	4.34	5.18	6.11	7.15	-
40	1.64	2.05	2.52	3.07	3.70	4.41	5.21	6.10	-
45	1.38	1.73	2.14	2.60	3.13	3.74	4.43	5.20	-
50	-	1.45	1.79	2.19	2.64	3.16	3.74	4.41	-
55	-	1.21	1.49	1.82	2.20	2.64	3.14	3.71	-
60	-	-	1.23	1.51	1.82	2.19	2.61	3.09	-
65	-	-	-	-	1.49	1.80	2.15	2.55	-

Nominal performance at to = 5 °C, tc = 50 °C

Cooling capacity	64 887	W
Power input	20 564	W
Current consumption	35.58	A
Mass flow	1 540	kg/h
C.O.P.	3.16	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	29.5	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)

Sound power data

Sound power level	84	dB(A)
With acoustic hood	77	dB(A)

All performance data +/- 5%

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Datasheet, performance data
Danfoss scroll compressor. SZ300-4
Performance data at 50 Hz, ARI rating conditions
R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-20	-15	-10	-5	0	5	10	15	

Cooling capacity in W

30	29 982	37 617	46 667	57 328	69 797	84 267	100 932	119 986	-
35	28 637	36 127	44 969	55 357	67 489	81 559	97 763	116 294	-
40	27 137	34 418	42 986	53 037	64 768	78 375	94 053	111 999	-
45	25 523	32 531	40 759	50 408	61 673	74 753	89 844	107 142	-
50	-	30 506	38 330	47 511	58 247	70 737	85 177	101 766	-
55	-	28 386	35 740	44 389	54 531	66 367	80 096	95 916	-
60	-	-	33 036	41 087	50 572	61 693	74 649	89 641	-
65	-	-	-	-	46 421	56 766	68 893	83 004	-

Power input in W

30	12 224	12 358	12 495	12 642	12 803	12 986	13 197	13 442	-
35	13 685	13 885	14 081	14 278	14 483	14 702	14 942	15 208	-
40	15 233	15 501	15 757	16 008	16 259	16 517	16 788	17 079	-
45	16 896	17 235	17 555	17 862	18 162	18 461	18 766	19 083	-
50	-	19 118	19 504	19 869	20 220	20 564	20 905	21 251	-
55	-	21 179	21 633	22 059	22 464	22 854	23 234	23 612	-
60	-	-	23 972	24 462	24 924	25 362	25 784	26 196	-
65	-	-	-	-	27 628	28 118	28 584	29 032	-

Current consumption in A

30	24.79	25.11	25.32	25.46	25.57	25.68	25.84	26.09	-
35	26.98	27.37	27.64	27.85	28.03	28.22	28.46	28.78	-
40	29.04	29.49	29.83	30.10	30.35	30.62	30.93	31.33	-
45	31.12	31.62	32.03	32.37	32.69	33.02	33.41	33.89	-
50	-	33.93	34.39	34.80	35.18	35.58	36.04	36.60	-
55	-	36.55	37.07	37.54	37.99	38.46	38.99	39.62	-
60	-	-	40.23	40.75	41.26	41.80	42.40	43.10	-
65	-	-	-	-	45.16	45.76	46.42	47.19	-

Mass flow in kg/h

30	585	724	884	1 070	1 284	1 530	1 810	2 128	-
35	584	725	888	1 076	1 292	1 540	1 822	2 142	-
40	580	722	887	1 076	1 294	1 544	1 827	2 148	-
45	573	716	882	1 072	1 291	1 541	1 825	2 147	-
50	-	706	872	1 063	1 281	1 531	1 816	2 138	-
55	-	693	858	1 048	1 266	1 515	1 799	2 120	-
60	-	-	839	1 028	1 245	1 493	1 775	2 095	-
65	-	-	-	-	1 217	1 463	1 744	2 061	-

Coefficient of performance (C.O.P.)

30	2.45	3.04	3.73	4.53	5.45	6.49	7.65	8.93	-
35	2.09	2.60	3.19	3.88	4.66	5.55	6.54	7.65	-
40	1.78	2.22	2.73	3.31	3.98	4.74	5.60	6.56	-
45	1.51	1.89	2.32	2.82	3.40	4.05	4.79	5.61	-
50	-	1.60	1.97	2.39	2.88	3.44	4.07	4.79	-
55	-	1.34	1.65	2.01	2.43	2.90	3.45	4.06	-
60	-	-	1.38	1.68	2.03	2.43	2.90	3.42	-
65	-	-	-	-	1.68	2.02	2.41	2.86	-

Nominal performance at to = 7.2 °C, tc = 54.4 °C

Cooling capacity	72 743	W
Power input	22 734	W
Current consumption	38.31	A
Mass flow	1 638	kg/h
C.O.P.	3.20	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

Maximum HP switch setting	29.5	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)

Sound power data

Sound power level	84	dB(A)
With acoustic hood	77	dB(A)

All performance data +/- 5%

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Datasheet, performance data
Danfoss scroll compressor. SZ300-4
Performance data at 50 Hz, EN 12900 rating conditions
R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-15	-10	-5	0	5	10	15	

Cooling capacity in W

35	21 926	27 748	34 715	42 986	52 717	64 065	77 186	-	-
40	20 606	26 167	32 823	40 728	50 041	60 917	73 514	-	-
45	19 268	24 553	30 879	38 402	47 280	57 669	69 725	-	-
50	17 919	22 912	28 892	36 017	44 443	54 328	65 827	-	-
55	-	21 251	26 869	33 579	41 537	50 901	61 827	-	-
60	-	-	24 819	31 097	38 571	47 397	57 733	-	-
65	-	-	-	28 578	35 551	43 824	53 553	-	-
70	-	-	-	-	32 486	40 188	49 293	-	-

Power input in W

35	10 233	10 390	10 516	10 622	10 722	10 828	10 953	-	-
40	11 267	11 450	11 605	11 742	11 875	12 017	12 179	-	-
45	12 372	12 583	12 767	12 936	13 104	13 282	13 483	-	-
50	13 575	13 814	14 028	14 230	14 433	14 649	14 889	-	-
55	-	15 167	15 414	15 650	15 889	16 143	16 424	-	-
60	-	-	16 948	17 220	17 495	17 789	18 112	-	-
65	-	-	-	18 965	19 279	19 613	19 979	-	-
70	-	-	-	-	21 264	21 639	22 049	-	-

Current consumption in A

35	24.54	24.69	24.71	24.67	24.64	24.69	24.88	-	-
40	25.39	25.59	25.66	25.66	25.66	25.73	25.94	-	-
45	26.40	26.67	26.80	26.86	26.91	27.02	27.27	-	-
50	27.58	27.94	28.15	28.28	28.40	28.56	28.85	-	-
55	-	29.40	29.70	29.92	30.12	30.35	30.71	-	-
60	-	-	31.46	31.78	32.07	32.40	32.83	-	-
65	-	-	-	33.86	34.26	34.69	35.22	-	-
70	-	-	-	-	36.70	37.24	37.88	-	-

Mass flow in kg/h

35	533	660	808	980	1 178	1 405	1 662	-	-
40	527	655	803	975	1 173	1 400	1 657	-	-
45	522	648	796	968	1 166	1 393	1 650	-	-
50	515	641	789	960	1 158	1 384	1 641	-	-
55	-	634	780	951	1 148	1 373	1 630	-	-
60	-	-	771	940	1 136	1 361	1 617	-	-
65	-	-	-	929	1 124	1 347	1 603	-	-
70	-	-	-	-	1 110	1 332	1 586	-	-

Coefficient of performance (C.O.P.)

35	2.14	2.67	3.30	4.05	4.92	5.92	7.05	-	-
40	1.83	2.29	2.83	3.47	4.21	5.07	6.04	-	-
45	1.56	1.95	2.42	2.97	3.61	4.34	5.17	-	-
50	1.32	1.66	2.06	2.53	3.08	3.71	4.42	-	-
55	-	1.40	1.74	2.15	2.61	3.15	3.76	-	-
60	-	-	1.46	1.81	2.20	2.66	3.19	-	-
65	-	-	-	1.51	1.84	2.23	2.68	-	-
70	-	-	-	-	1.53	1.86	2.24	-	-

Nominal performance at to = 5 °C, tc = 50 °C

Cooling capacity	44 443	W
Power input	14 433	W
Current consumption	28.40	A
Mass flow	1 158	kg/h
C.O.P.	3.08	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	20.5	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	0.5	bar(g)

Sound power data

Sound power level	0	dB(A)
With acoustic hood	0	dB(A)

All performance data +/- 5%

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Datasheet, performance data

Danfoss scroll compressor. SZ300-4

Performance data at 50 Hz, ARI rating conditions

R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-15	-10	-5	0	5	10	15	

Cooling capacity in W

35	23 748	30 002	37 476	46 332	56 736	68 850	82 837	-	-
40	22 439	28 442	35 612	44 113	54 110	65 766	79 246	-	-
45	21 113	26 847	33 695	41 824	51 398	62 582	75 538	-	-
50	19 777	25 225	31 737	39 477	48 611	59 306	71 724	-	-
55	-	23 587	29 744	37 079	45 759	55 949	67 814	-	-
60	-	-	27 728	34 643	42 852	52 523	63 822	-	-
65	-	-	-	32 180	39 904	49 043	59 763	-	-
70	-	-	-	-	36 932	45 527	55 657	-	-

Power input in W

35	10 233	10 390	10 516	10 622	10 722	10 828	10 953	-	-
40	11 267	11 450	11 605	11 742	11 875	12 017	12 179	-	-
45	12 372	12 583	12 767	12 936	13 104	13 282	13 483	-	-
50	13 575	13 814	14 028	14 230	14 433	14 649	14 889	-	-
55	-	15 167	15 414	15 650	15 889	16 143	16 424	-	-
60	-	-	16 948	17 220	17 495	17 789	18 112	-	-
65	-	-	-	18 965	19 279	19 613	19 979	-	-
70	-	-	-	-	21 264	21 639	22 049	-	-

Current consumption in A

35	24.54	24.69	24.71	24.67	24.64	24.69	24.88	-	-
40	25.39	25.59	25.66	25.66	25.66	25.73	25.94	-	-
45	26.40	26.67	26.80	26.86	26.91	27.02	27.27	-	-
50	27.58	27.94	28.15	28.28	28.40	28.56	28.85	-	-
55	-	29.40	29.70	29.92	30.12	30.35	30.71	-	-
60	-	-	31.46	31.78	32.07	32.40	32.83	-	-
65	-	-	-	33.86	34.26	34.69	35.22	-	-
70	-	-	-	-	36.70	37.24	37.88	-	-

Mass flow in kg/h

35	530	657	804	975	1 172	1 397	1 653	-	-
40	525	651	799	970	1 167	1 392	1 648	-	-
45	519	645	792	963	1 160	1 385	1 641	-	-
50	513	638	785	955	1 151	1 376	1 632	-	-
55	-	631	776	946	1 142	1 366	1 621	-	-
60	-	-	767	935	1 130	1 354	1 608	-	-
65	-	-	-	924	1 118	1 340	1 594	-	-
70	-	-	-	-	1 104	1 325	1 577	-	-

Coefficient of performance (C.O.P.)

35	2.32	2.89	3.56	4.36	5.29	6.36	7.56	-	-
40	1.99	2.48	3.07	3.76	4.56	5.47	6.51	-	-
45	1.71	2.13	2.64	3.23	3.92	4.71	5.60	-	-
50	1.46	1.83	2.26	2.77	3.37	4.05	4.82	-	-
55	-	1.56	1.93	2.37	2.88	3.47	4.13	-	-
60	-	-	1.64	2.01	2.45	2.95	3.52	-	-
65	-	-	-	1.70	2.07	2.50	2.99	-	-
70	-	-	-	-	1.74	2.10	2.52	-	-

Nominal performance at to = 7.2 °C, tc = 54.4 °C

Cooling capacity	50 418	W
Power input	15 814	W
Current consumption	29.99	A
Mass flow	1 238	kg/h
C.O.P.	3.19	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

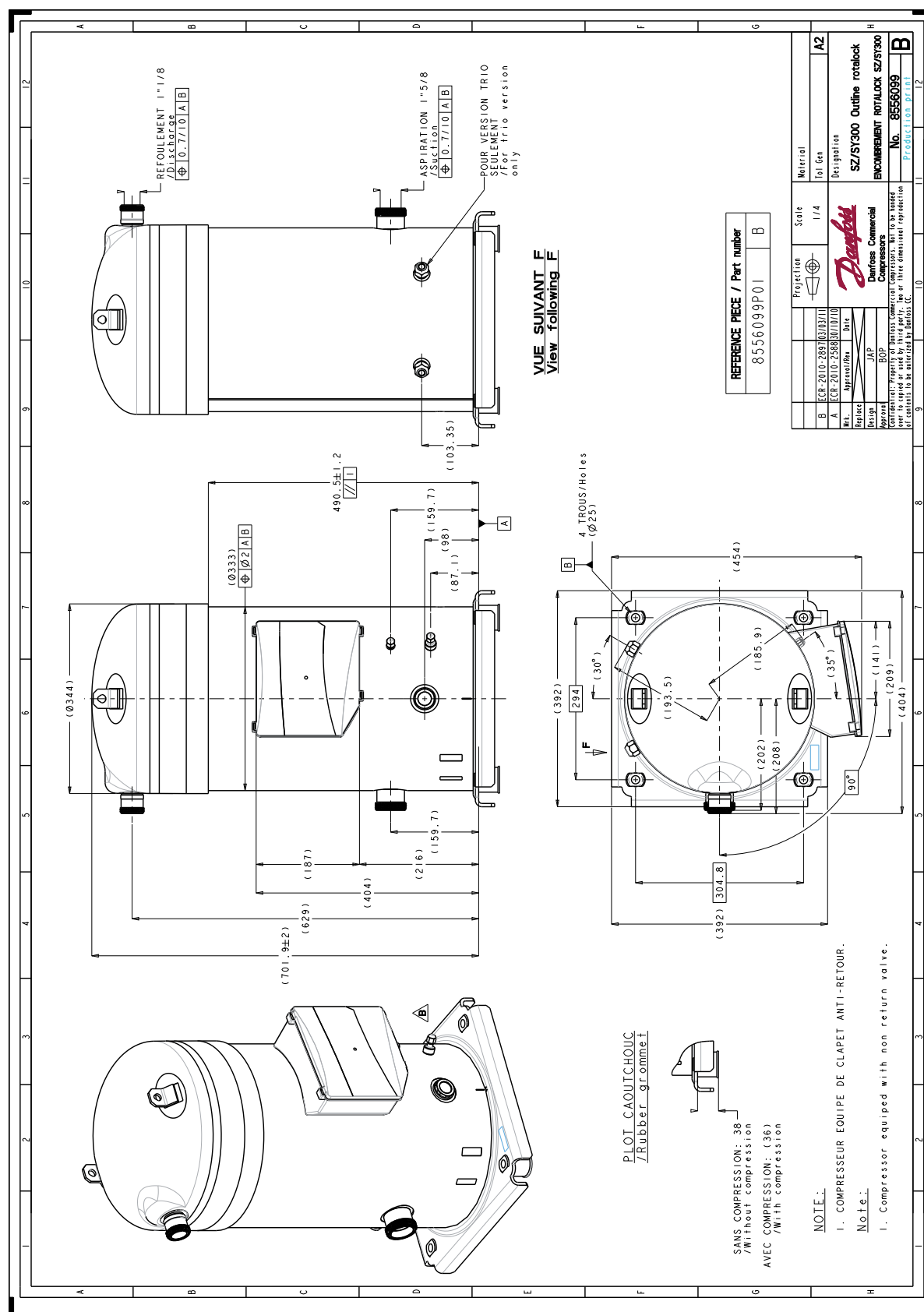
Maximum HP switch setting	20.5	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	0.5	bar(g)

Sound power data

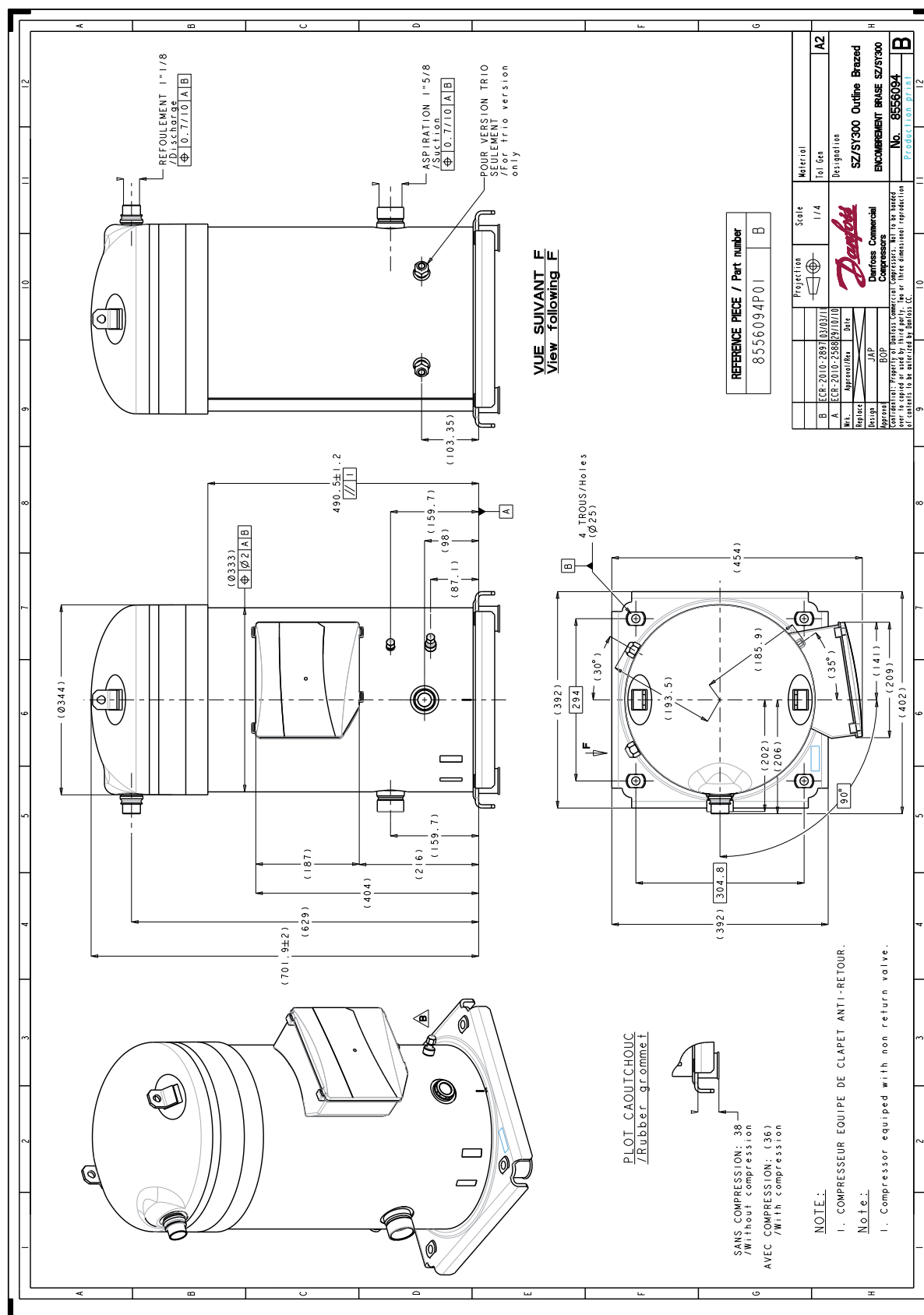
Sound power level	0	dB(A)
With acoustic hood	0	dB(A)

All performance data +/- 5%

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