



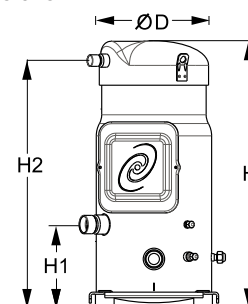
Datasheets

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



General Characteristics

Model number (on compressor nameplate)	SZ125S4RC	SZ125S4CC
Code number for Singlepack*	SZ125-4RI	SZ125-4CAI
Code number for Industrial pack**	SZ125-4RM	SZ125-4CAM
Drawing number	8551121b	8551121b
Suction and discharge connections	Rotolock	Brazed
Suction connection	1-3/4" Rotolock	1-3/8" ODF
Discharge connection	1-1/4" Rotolock	7/8" ODF
Suction connection with supplied sleeve	1-1/8" ODF	
Discharge connection with supplied sleeve	3/4" 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	166,6 cm ³ /rev	
Displacement @ Nominal speed	29.0 m ³ /h @ 2900 rpm - 35.0 m ³ /h @ 3500 rpm	
Net weight	78 kg	
Oil charge	3,8 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	11 kg	
Approved refrigerants	R407C, R134a, R404A, R507A	

Dimensions


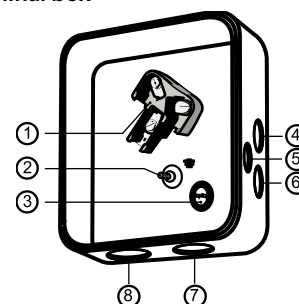
D=253 mm

H=579 mm

H1=180 mm

H2=536 mm

H3=- mm

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

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	1.16 Ω
Maximum Must Trip current (MMT)	25 A
Locked Rotor Amps (LRA)	120 A
Motor protection	Internal thermostat, ext. overload protector needed

Recommended Installation torques

Suction Rotolock nut or valve	110 Nm
Discharge Rotolock nut or valve	90 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

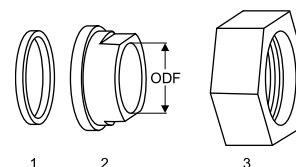
Approvals : CE certified, UL certified (file SA6873), -

*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, P02 (1-3/4" Rotolock, 1-1/8" ODF)	8153004
Solder sleeve, P10 (1-3/4" Rotolock, 1-3/8" ODF)	8153003
Angle adapter, C02 (1-3/4" Rotolock, 1-1/8" ODF)	8168005
Rotolock valve, V02 (1-3/4" Rotolock, 1-1/8" ODF)	8168028
Rotolock valve, V10 (1-3/4" Rotolock, 1-3/8" ODF)	8168022
Gasket, 1-3/4"	8156132

Gaskets, sleeves and nuts


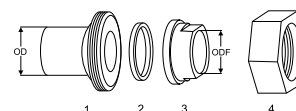
- 1: Gasket
2: Solder sleeve
3: Rotolock nut

Rotolock accessories, discharge side
Code no.

Solder sleeve, P04 (1-1/4" Rotolock, 3/4" ODF)	8153008
Angle adapter, C04 (1-1/4" Rotolock, 3/4" ODF)	8168006
Rotolock valve, V04 (1-1/4" Rotolock, 3/4" ODF)	8168029
Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF)	8168030
Gasket, 1-1/4"	8156131

Rotolock accessories, sets
Code no.

Solder sleeve adapter set (1-3/4" Rotolock, 1-3/8" ODF), (1-1/4" Rotolock, 7/8" ODF)	7765006
Angle adapter set, C02 (1-3/4"~1-1/8"), C04 (1-1/4"~3/4")	7703014
Valve set, V02 (1-3/4"~1-1/8"), V04 (1-1/4"~3/4")	7703009
Gasket set, 1-1/4", 1-3/4", 2-1/4", OSG gaskets black & white	8156013

Solder sleeve adapter set


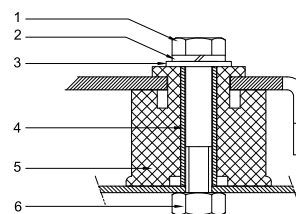
- 1: Rotolock adapter (Suc & Dis)
2: Gasket (Suc & Dis)
3: Solder sleeve (Suc & Dis)
4: Rotolock nut (Suc & Dis)

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, 48 W, 24 V, CE mark, UL	120Z0363
Surface sump heater + bottom insulation, 48 W, 230 V, CE mark, UL	120Z0384
Surface sump heater + bottom insulation, 48 W, 400 V, CE mark, UL	120Z0385
Surface sump heater + bottom insulation, 48 W, 460 V, CE mark, UL	120Z0386
Belt type crankcase heater, 65 W, 460 V, CE mark, UL	120Z0466
Belt type crankcase heater, 65 W, 230 V, CE mark, UL	7773107
Belt type crankcase heater, 65 W, 400 V, CE mark, UL	7773117
Belt type crankcase heater, 65 W, 400 V, CE mark, UL	120Z0039

Mounting kit

Miscellaneous accessories
Code no.

Electronic soft start kit, MCI 25 C	7705007
Soft start kit with statoric resistors, prewired box, SCR03	7705001
Acoustic hood for scroll compressor S115-S125	7755009
Bottom insulation for scroll compressor	120Z0357
Discharge thermostat kit	7750009

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	8156146
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

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

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	10 736	13 781	17 403	21 662	26 618	32 329	38 856	46 257	-
35	10 006	12 964	16 470	20 583	25 363	30 869	37 160	44 296	-
40	9 236	12 087	15 457	19 405	23 990	29 270	35 306	42 156	-
45	-	11 144	14 359	18 122	22 492	27 527	33 288	39 832	-
50	-	-	13 171	16 729	20 864	25 635	31 100	37 317	-
55	-	-	-	15 223	19 103	23 588	28 736	34 606	-
60	-	-	-	-	17 203	21 381	26 191	31 691	-
65	-	-	-	-	15 159	19 008	23 458	28 564	-

Power input in W

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 consumption in A

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 in kg/h

30	224	282	350	428	517	618	732	860	-
35	219	278	347	425	515	617	732	860	-
40	213	273	342	422	512	614	729	859	-
45	-	267	336	416	507	610	725	854	-
50	-	-	328	409	500	602	718	847	-
55	-	-	-	398	489	592	708	837	-
60	-	-	-	-	475	578	693	822	-
65	-	-	-	-	457	559	674	803	-

Coefficient of performance (C.O.P.)

30	2.10	2.68	3.37	4.19	5.15	6.27	7.58	9.12	-
35	1.76	2.27	2.87	3.58	4.42	5.39	6.53	7.87	-
40	1.45	1.89	2.41	3.02	3.74	4.58	5.56	6.71	-
45	-	1.55	1.99	2.51	3.13	3.84	4.68	5.65	-
50	-	-	1.62	2.06	2.58	3.18	3.88	4.70	-
55	-	-	-	1.66	2.09	2.59	3.18	3.86	-
60	-	-	-	-	1.66	2.08	2.56	3.13	-
65	-	-	-	-	1.29	1.63	2.03	2.49	-

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

Cooling capacity	25 635	W
Power input	8 068	W
Current consumption	14.53	A
Mass flow	602	kg/h
C.O.P.	3.18	

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	78	dB(A)
With acoustic hood	70	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alternations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.

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	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 in W

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 consumption in A

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 in kg/h

30	223	281	348	425	514	614	728	855	-
35	218	277	345	423	512	613	727	855	-
40	212	272	340	419	509	611	725	853	-
45	-	265	335	414	504	606	721	849	-
50	-	-	327	406	497	599	714	842	-
55	-	-	-	396	486	589	703	832	-
60	-	-	-	-	472	574	689	817	-
65	-	-	-	-	454	556	670	798	-

Coefficient of performance (C.O.P.)

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	-

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

Cooling capacity	28 565	W
Power input	8 952	W
Current consumption	15.78	A
Mass flow	639	kg/h
C.O.P.	3.19	

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	78	dB(A)
With acoustic hood	70	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.

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	8 882	11 398	14 331	17 721	21 606	26 026	31 020	-	-
40	8 293	10 726	13 557	16 826	20 572	24 834	29 651	-	-
45	7 683	10 020	12 738	15 875	19 471	23 563	28 192	-	-
50	7 051	9 282	11 876	14 869	18 302	22 214	26 643	-	-
55	-	8 514	10 971	13 810	17 069	20 788	25 005	-	-
60	-	-	10 026	12 698	15 772	19 286	23 278	-	-
65	-	-	-	11 536	14 412	17 708	21 464	-	-
70	-	-	-	10 324	12 990	16 056	19 562	-	-

Power input in W

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 consumption in A

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 in kg/h

35	215	270	333	403	482	570	667	-	-
40	211	267	330	401	481	569	667	-	-
45	207	263	327	398	478	567	665	-	-
50	201	258	323	395	475	564	662	-	-
55	-	253	317	389	470	559	657	-	-
60	-	-	310	383	463	552	651	-	-
65	-	-	-	375	455	544	642	-	-
70	-	-	-	365	445	534	632	-	-

Coefficient of performance (C.O.P.)

35	2.19	2.81	3.53	4.37	5.36	6.53	7.90	-	-
40	1.84	2.37	3.00	3.72	4.57	5.56	6.72	-	-
45	1.53	1.99	2.52	3.15	3.87	4.71	5.69	-	-
50	1.26	1.65	2.11	2.64	3.26	3.97	4.79	-	-
55	-	1.36	1.75	2.20	2.72	3.32	4.01	-	-
60	-	-	1.43	1.81	2.25	2.75	3.33	-	-
65	-	-	-	1.48	1.84	2.26	2.75	-	-
70	-	-	-	1.19	1.49	1.84	2.25	-	-

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

Cooling capacity	18 302	W
Power input	5 623	W
Current consumption	11.00	A
Mass flow	475	kg/h
C.O.P.	3.26	

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)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alternations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.

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	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 in W

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 consumption in A

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 in kg/h

35	214	269	331	401	479	567	664	-	-
40	210	266	329	399	478	566	663	-	-
45	206	262	325	396	476	564	662	-	-
50	200	257	321	392	472	561	658	-	-
55	-	251	316	387	467	556	654	-	-
60	-	-	309	381	461	549	647	-	-
65	-	-	-	373	453	541	639	-	-
70	-	-	-	363	443	531	628	-	-

Coefficient of performance (C.O.P.)

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	-	-

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

Cooling capacity	20 680	W
Power input	6 194	W
Current consumption	11.68	A
Mass flow	506	kg/h
C.O.P.	3.34	

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)

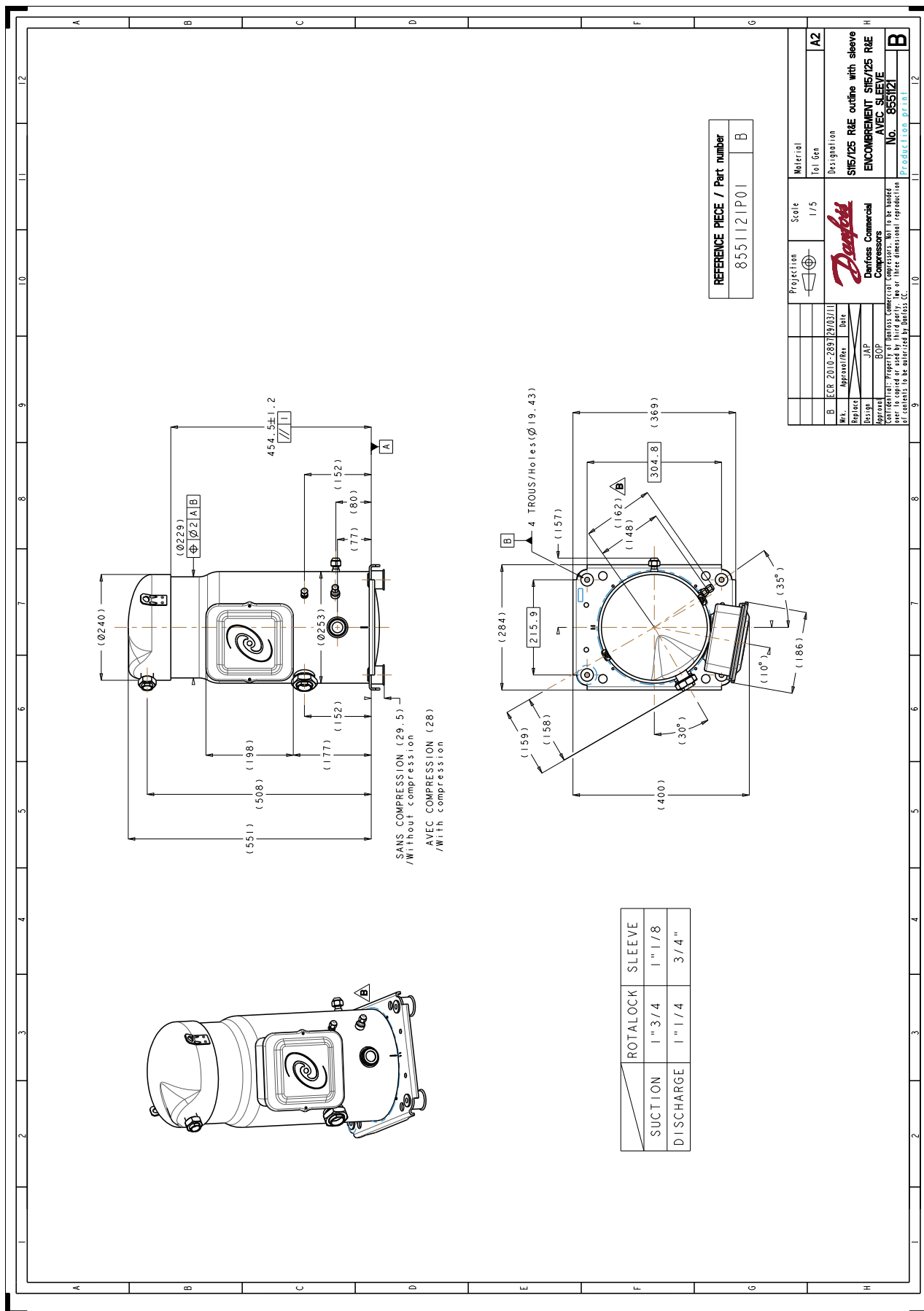
to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.



Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequent changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss, the Danfoss logotype and Maneurop are trademarks of Danfoss A/S. All rights reserved.

