

**Datasheets** 

### Performer® scroll compressors SM / SY / SZ / SH



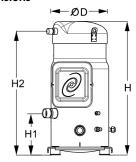


#### Datasheet, technical data

#### **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	8551112b		
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 c	m3/rev		
Displacement @ Nominal speed	29.0 m3/h @ 2900 rpm	- 35.0 m3/h @ 3500 rpm		
Net weight	78	kg		
Oil charge	3,8 litre, P0	DE - 160SZ		
Maximum system test pressure Low Side / High side	25 bar(g) /	25 bar(g) / 32 bar(g)		
Maximum differential test pressure	24	24 bar		
Maximum number of starts per hour	1	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

#### **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

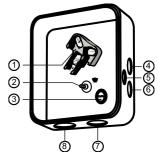
#### Parts shipped with compressor

1 di to simple di tritti 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

#### **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"
- 5: Knock-out Ø 16.5 mm (0.65")
- 6: Knock-out Ø 20.5 mm (0.81")
  - 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



<sup>\*\*</sup>Industrial pack: 6 Unboxed compressors on pallet (order per multiples of 6)



#### Datasheet, accessories and spare parts

#### Performer scroll compressor, SZ125-4

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

# 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

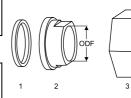
## Oil / lubricantsCode no.POE lubricant, 160SZ, 1 litre can<br/>POE lubricant, 160SZ, 2 litre can7754023<br/>7754024

#### 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 120Z0385 Surface sump heater + bottom insulation, 48 W, 400 V, CE mark, UL Surface sump heater + bottom insulation, 48 W, 460 V, CE mark 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

## Miscellaneous accessoriesCode no.Electronic soft start kit, MCI 25 C7705007Soft start kit with statoric resistors, prewired box, SCR037705001Acoustic hood for scroll compressor S115-S1257755009Discharge thermostat kit7750009

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,	8156146
2 rotolock nuts, 2 solder sleeves, 2 gaskets	
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

#### Gaskets, sleeves and nuts



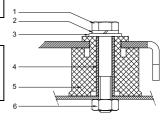
- 1: Gasket
  2: Solder sleeve
- 3: Rotolock nut

#### Solder sleeve adapter set



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

#### Mounting kit



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





Performer scroll compressor. SZ125-4

#### Performance data at 50 Hz, EN 12900 rating conditions

**R407C** 

Cond. temp. in	ond. temp. in Evaporating temperature in °C (to)								
°C (tc)	-20	-15	-10	-5	0	5	10	15	
Cooling capacity	v 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	37 161	44 296	-
40	9 236	12 087	15 457	19 405	23 990	29 270	35 306	42 157	_
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	-
				•		1	l .		
Power input in V		T	1	Т	1	Г	T	T T	
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 consum	ption 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 pe	erformance (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	-
	-	-	_	-	1.29	1.63			

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

itolimiai portormanos at to 0 0, to	00 0	
Cooling capacity	25 635	W
Power input	8 068	W
Current consumption	14.53	Α
Mass flow	602	kg/h
C.O.P.	3.18	

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

All performance data +/- 5%





Performer scroll compressor. SZ125-4

#### Performance data at 50 Hz, ARI rating conditions

**R407C** 

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-20	-15	-10	-5	0	5	10	15	
		•	•	•		•			
cooling capacity	y 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	-
ower input in V		1	1	T		Т	T	T	
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	-
urrent consum	•	T	T	Т	T	1	T	T T	
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	-
	_								
lass flow in kg/		004	0.40	105	544	044	700	055	
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 no	erformance (C.O	. P.\							
30	2.25	2.87	3.61	4.48	5.50	6.69	8.08	9.71	
-						+		t	-
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	Α
Mass flow	639	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	29.5	bar(g)
	Minimum LP switch setting	0.5	bar(g)
L	LP pump down setting	1	bar(g)

Sound power data

Sound power level	78	dB(A)
With accoustic hood	70	dB(A)

All performance data +/- 5%



Performer scroll compressor. SZ125-4

#### Performance data at 50 Hz, EN 12900 rating conditions

R134a

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-15	-10	-5	0	5	10	15		
	-	1	1	1				1	
Cooling capacit	y in W				1		_		
35	8 881	11 397	14 330	17 720	21 605	26 024	31 018	-	-
40	8 292	10 725	13 556	16 825	20 571	24 832	29 649	-	-
45	7 682	10 019	12 737	15 874	19 469	23 561	28 189	-	-
50	7 050	9 281	11 874	14 868	18 300	22 211	26 640	-	-
55	-	8 513	10 970	13 808	17 067	20 785	25 002	-	-
60	-	-	10 025	12 697	15 770	19 283	23 275	-	-
65	1	-	-	11 534	14 410	17 706	21 461	-	-
70	-	-	-	10 323	12 988	16 054	19 559	-	-
Power input in \		4.000	4.005	4.055	4.020	2.000	2.020		T
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 55	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 consum	nption 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	-	-
		-1	-1	•	•				•
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	aufaumanaa (C.C	\ D \							
35	erformance (C.C 2.19	2.81	3.53	4.37	5.36	6.52	7.90	_	_
40	1.84	2.37	2.99	3.72	4.57	5.56	6.72	-	-
45	1.53	1.99	2.99	3.72	3.87	4.71	5.69	-	-
50	1.26	1.65	2.52	2.64	3.25	3.97	4.79	-	-
55	1.20			2.04		3.97		-	
ບບ		1.36	1.75 1.43		2.72	1	4.01		-
			1 4.3	1.81	2.25	2.75	3.33	-	-
60 65	-	-	-	1.48	1.84	2.26	2.75	_	-

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

itoimiai poriormanos at to 0 0, to		
Cooling capacity	18 300	W
Power input	5 623	W
Current consumption	11.00	Α
Mass flow	475	kg/h
C.O.P.	3.25	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Pressure switch settings

Ma	aximum HP switch setting	20.5	bar(g)
Mi	nimum 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 accoustic hood	0	dB(A)

All performance data +/- 5%





Performer scroll compressor. SZ125-4

#### Performance data at 50 Hz, ARI rating conditions

R134a

Cond. temp. in				Evapora	iting temperature	in °C (to)			
°C (tc)	-15	-10	-5	0	5	10	15		
		•	JI.	•	JI.	-1	l.	1	I.
cooling capacit	y in W		•		1	1		_	r
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	-	-
lower input in \	A/								
ower input in \ 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		5 559	-	-
				+		5 600			
55 60	-	6 256	6 275	6 285 7 009	6 283 7 014	6 266 7 005	6 234 6 980	-	-
	-	-	6 994	+	7 821			-	
65 70	-	-	-	7 809		7 820	7 804	-	-
70	-	-	-	8 689	8 709	8 716	8 709	-	-
urrent consun	nption 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	-	-
	_								
lass flow in kg							T		
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 po	erformance (C.C	).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	-	-
		1	_	1.36	1.70	2.09	2.54	_	-

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

Nominal performance at to = 7.2 0, to = 04.4 0					
Cooling capacity	20 680	W			
Power input	6 194	W			
Current consumption	11.68	Α			
Mass flow	506	kg/h			
C.O.P.	3.34				

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

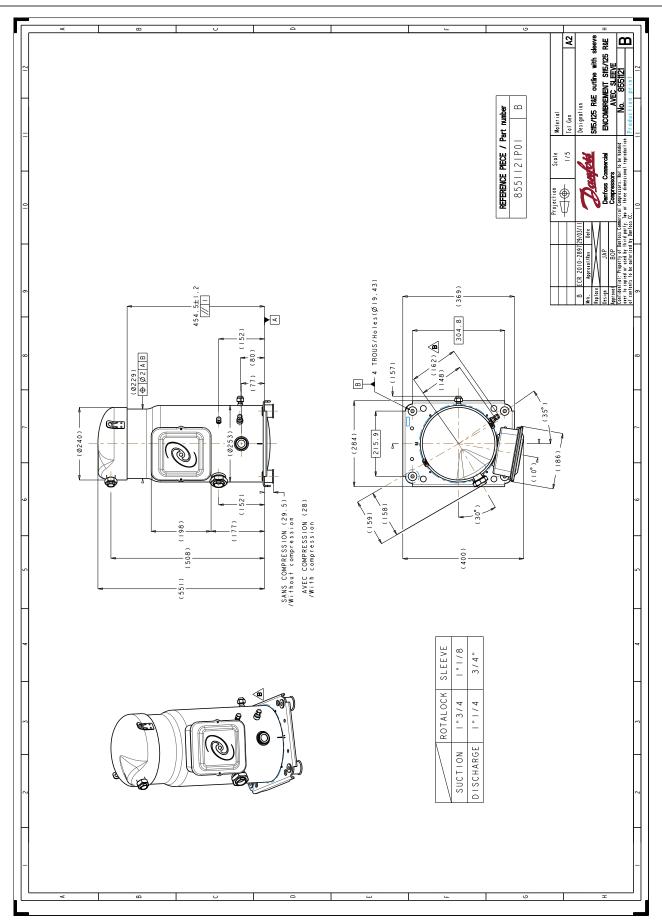
Sound power level	0	dB(A)
With accoustic hood	0	dB(A)

All performance data +/- 5%





Datasheet, drawing Scroll compressor







Datasheet, drawing Scroll compressor

