



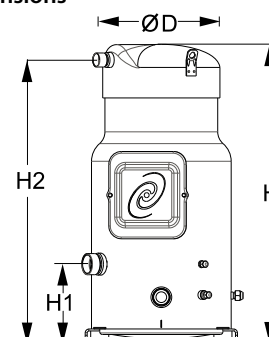
Datasheets

# Performer<sup>®</sup> scroll compressors **SM / SY / SZ / SH**

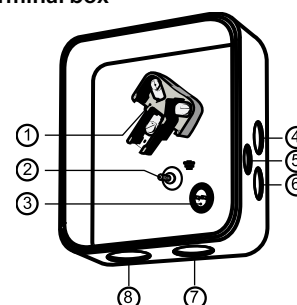


**General Characteristics**

Model number (on compressor nameplate)	<b>SZ185S4RC</b>	<b>SZ185S4CC</b>
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 equalization 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	15.25 in3/rev	
Displacement @ Nominal speed	1536 cfh @ 2900 rpm - 1853 cfh @ 3500 rpm	
Net weight	220 lbs	
Oil charge	210 oz, POE - 160SZ	
Maximum system test pressure Low Side / High side	363 psi / 464 psi	
Maximum differential test pressure	348 psi	
Maximum number of starts per hour	12	
Refrigerant charge limit	30 lbs	
Approved refrigerants	R407C, R134a, R404A, R507A	

**Dimensions**


D=12.5 inch, H=26.7 inch,  
H1=7.1 inch, H2=25.3 inch

**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 77°F	0.77 Ω
Maximum Must Trip current (MMT)	35 A
Locked Rotor Amps (LRA)	175 A
Motor protection	Internal thermostat, ext. overload protector needed

**Recommended Installation torques**

Suction Rotolock nut or valve	96 ft.lbs
Discharge Rotolock nut or valve	81 ft.lbs
Oil sight glass	37 ft.lbs
Power connections / Earth connection	2 ft.lbs / 1 ft.lbs
Terminal box cover screws	2 ft.lbs
Mounting bolts	15 ft.lbs

**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

**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, 1-5/8" ODF & 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

**Oil / lubricants**
**Code no.**

POE lubricant, 160SZ, 1 liter can	7754023
POE lubricant, 160SZ, 2 liter can	7754024

**Crankcase heaters**
**Code no.**

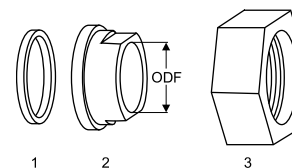
Surface sump heater + bottom insulation, 56 W, 24 V, CE mark, UL	120Z0360
Surface sump heater + bottom insulation, 56 W, 230 V, CE mark, UL	120Z0376
Surface sump heater + bottom insulation, 56 W, 400 V, CE mark, UL	120Z0377
Surface sump heater + bottom insulation, 56 W, 460 V, CE mark	120Z0378
Belt type 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.**

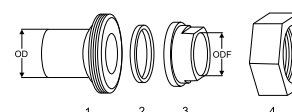
Electronic soft start kit, MCI 25 C	7705007
Acoustic hood for scroll compressor S175-S185	7755007
Discharge thermostat kit	7750009

**Spare parts**
**Code no.**

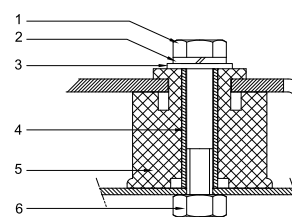
Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers	8156138
Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers	8156147
Oil sight glass with gaskets (black & white)	8156019
Gasket for oil sight glass (white teflon)	8156129
Terminal box 7.3" x 7.8" incl cover	8156139
T block connector 2.4" x 3"	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)

**Performance data at 60 Hz, ARI rating conditions**
**R407C**

Cond. temp. in °F (tc)	Evaporating temperature in °F (to)								
	0	10	20	30	35	40	45	50	55

**Cooling capacity in Btu/h**

90	80 945	104 316	132 498	166 021	184 951	205 416	227 481	251 214	276 680
100	75 497	98 028	125 107	157 265	175 415	195 034	216 188	238 944	263 368
110	-	91 435	117 234	147 851	165 131	183 816	203 970	225 660	248 953
120	-	84 556	108 898	137 795	154 118	171 780	190 845	211 381	233 455
130	-	-	100 117	127 118	142 394	158 944	176 832	196 126	216 891
140	-	-	-	115 836	129 978	145 327	161 949	179 911	199 280
150	-	-	-	-	-	130 947	146 214	162 757	180 640

**Power input in W**

90	9 681	9 849	9 999	10 125	10 176	10 218	10 250	10 270	10 279
100	10 888	11 063	11 224	11 362	11 421	11 471	11 511	11 541	11 559
110	-	12 450	12 622	12 775	12 841	12 900	12 949	12 989	13 017
120	-	14 029	14 215	14 383	14 459	14 527	14 586	14 636	14 676
130	-	-	16 024	16 210	16 295	16 374	16 444	16 506	16 558
140	-	-	-	18 278	18 373	18 462	18 544	18 618	18 683
150	-	-	-	-	-	20 814	20 909	20 996	21 075

**Current consumption in A**

90	16.51	16.71	16.88	17.01	17.06	17.09	17.12	17.12	17.11
100	17.80	18.01	18.20	18.35	18.41	18.46	18.49	18.51	18.52
110	-	19.57	19.77	19.95	20.02	20.09	20.14	20.17	20.19
120	-	21.41	21.64	21.84	21.93	22.01	22.08	22.13	22.17
130	-	-	23.84	24.07	24.17	24.27	24.35	24.43	24.49
140	-	-	-	26.67	26.79	26.90	27.01	27.10	27.18
150	-	-	-	-	-	29.95	30.07	30.19	30.29

**Mass flow in lbs/h**

90	1 022	1 291	1 609	1 979	2 186	2 408	2 645	2 900	3 171
100	1 002	1 274	1 595	1 967	2 175	2 398	2 636	2 891	3 163
110	-	1 254	1 575	1 949	2 157	2 379	2 618	2 873	3 144
120	-	1 230	1 551	1 924	2 131	2 353	2 590	2 844	3 114
130	-	-	1 522	1 892	2 098	2 318	2 554	2 805	3 074
140	-	-	-	1 854	2 057	2 275	2 508	2 757	3 022
150	-	-	-	-	-	2 224	2 454	2 699	2 960

**Energy Efficiency Ratio (E.E.R.)**

90	8.36	10.59	13.25	16.40	18.18	20.10	22.19	24.46	26.92
100	6.93	8.86	11.15	13.84	15.36	17.00	18.78	20.70	22.79
110	-	7.34	9.29	11.57	12.86	14.25	15.75	17.37	19.12
120	-	6.03	7.66	9.58	10.66	11.83	13.08	14.44	15.91
130	-	-	6.25	7.84	8.74	9.71	10.75	11.88	13.10
140	-	-	-	6.34	7.07	7.87	8.73	9.66	10.67
150	-	-	-	-	-	6.29	6.99	7.75	8.57

**Nominal performance at to = 45 °F, tc = 130 °F**

Cooling capacity	176 832	Btu/h	Current consumption	24.35	A
Power input	16 444	W	Mass flow	2 554	lbs/h
E.E.R.	10.75				

**Pressure switch settings**

Maximum HP switch setting	428	psi(g)
Minimum LP switch setting	7	psi(g)
LP pump down setting	15	psi(g)

T 0 : Evaporating temperature at dew point

T C : Condensing temperature at dew point

Rating conditions : Superheat = 20 °F , Subcooling = 15 °F

All performance data +/- 5%

**Sound power data**

Sound power level	84	dB(A)
With acoustic hood	76	dB(A)

**Performance data at 60 Hz, ARI rating conditions**
**R134a**

Cond. temp. in °F (tc)	Evaporating temperature in °F (to)								
	5	15	25	30	35	40	45	50	55

**Cooling capacity in Btu/h**

90	60 964	78 611	99 900	112 041	125 249	139 578	155 079	171 805	189 808
100	57 324	74 422	95 009	106 741	119 503	133 346	148 324	164 489	181 892
110	53 531	69 985	89 773	101 049	113 316	126 627	141 033	156 588	173 344
120	49 611	65 323	84 218	94 989	106 713	119 443	133 230	148 127	164 186
130	-	60 461	78 364	88 583	99 716	111 816	124 936	139 127	154 443
140	-	-	72 237	81 855	92 349	103 772	116 176	129 613	144 136
150	-	-	-	74 828	84 635	95 332	106 972	119 607	133 290

**Power input in W**

90	6 849	6 962	7 060	7 103	7 139	7 169	7 192	7 208	7 214
100	7 607	7 727	7 836	7 884	7 926	7 963	7 993	8 016	8 031
110	8 474	8 603	8 722	8 776	8 825	8 869	8 907	8 938	8 962
120	9 457	9 596	9 727	9 788	9 845	9 897	9 943	9 983	10 016
130	-	10 716	10 861	10 929	10 994	11 054	11 110	11 159	11 202
140	-	-	12 132	12 208	12 281	12 351	12 416	12 476	12 530
150	-	-	-	13 633	13 716	13 795	13 871	13 941	14 006

**Current consumption in A**

90	13.53	13.65	13.75	13.79	13.82	13.85	13.87	13.88	13.88
100	14.28	14.40	14.51	14.56	14.60	14.64	14.67	14.69	14.70
110	15.16	15.30	15.43	15.48	15.53	15.58	15.62	15.65	15.68
120	16.22	16.37	16.51	16.57	16.64	16.69	16.75	16.79	16.83
130	-	17.62	17.78	17.86	17.93	18.00	18.06	18.12	18.17
140	-	-	19.26	19.35	19.43	19.52	19.59	19.66	19.73
150	-	-	-	21.07	21.17	21.26	21.35	21.44	21.52

**Mass flow in lbs/h**

90	857	1 081	1 344	1 491	1 650	1 820	2 003	2 199	2 408
100	845	1 072	1 338	1 487	1 647	1 819	2 004	2 201	2 411
110	831	1 060	1 329	1 479	1 640	1 813	1 999	2 197	2 408
120	814	1 046	1 316	1 467	1 629	1 803	1 989	2 188	2 400
130	-	1 029	1 300	1 451	1 613	1 787	1 973	2 172	2 384
140	-	-	1 279	1 430	1 593	1 767	1 953	2 151	2 363
150	-	-	-	1 406	1 567	1 741	1 926	2 124	2 335

**Energy Efficiency Ratio (E.E.R.)**

90	8.90	11.29	14.15	15.77	17.54	19.47	21.56	23.84	26.31
100	7.54	9.63	12.13	13.54	15.08	16.75	18.56	20.52	22.65
110	6.32	8.14	10.29	11.51	12.84	14.28	15.83	17.52	19.34
120	5.25	6.81	8.66	9.70	10.84	12.07	13.40	14.84	16.39
130	-	5.64	7.22	8.11	9.07	10.12	11.25	12.47	13.79
140	-	-	5.95	6.70	7.52	8.40	9.36	10.39	11.50
150	-	-	-	5.49	6.17	6.91	7.71	8.58	9.52

**Nominal performance at to = 45 °F, tc = 130 °F**

Cooling capacity	124 936	Btu/h	Current consumption	18.06	A
Power input	11 110	W	Mass flow	1 973	lbs/h
E.E.R.	11.25				

**Pressure switch settings**

Maximum HP switch setting	297	psi(g)
Minimum LP switch setting	7	psi(g)
LP pump down setting	7	psi(g)

T 0 : Evaporating temperature at dew point

T C : Condensing temperature at dew point

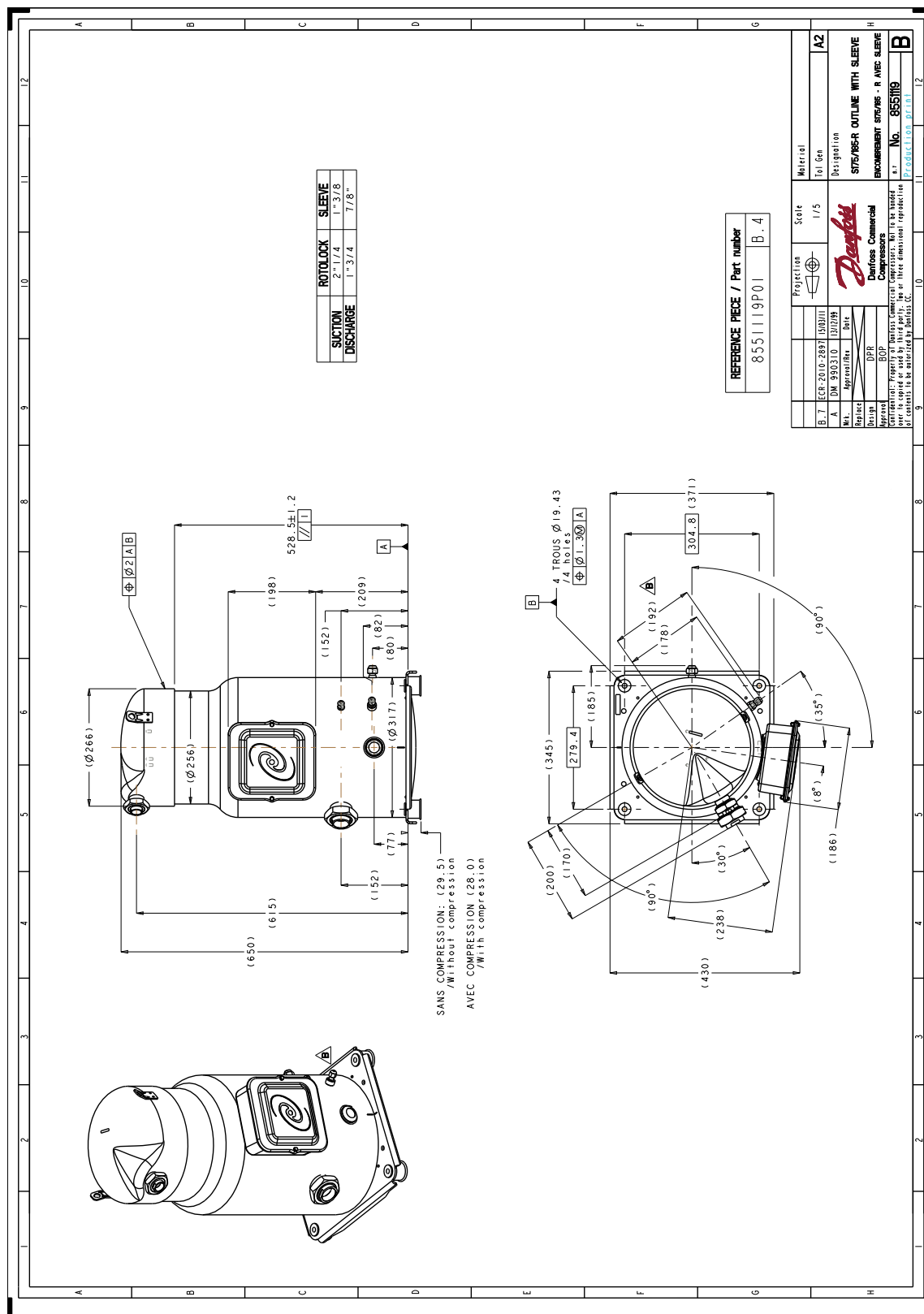
Rating conditions : Superheat = 20 °F , Subcooling = 15 °F

All performance data +/- 5%

**Sound power data**

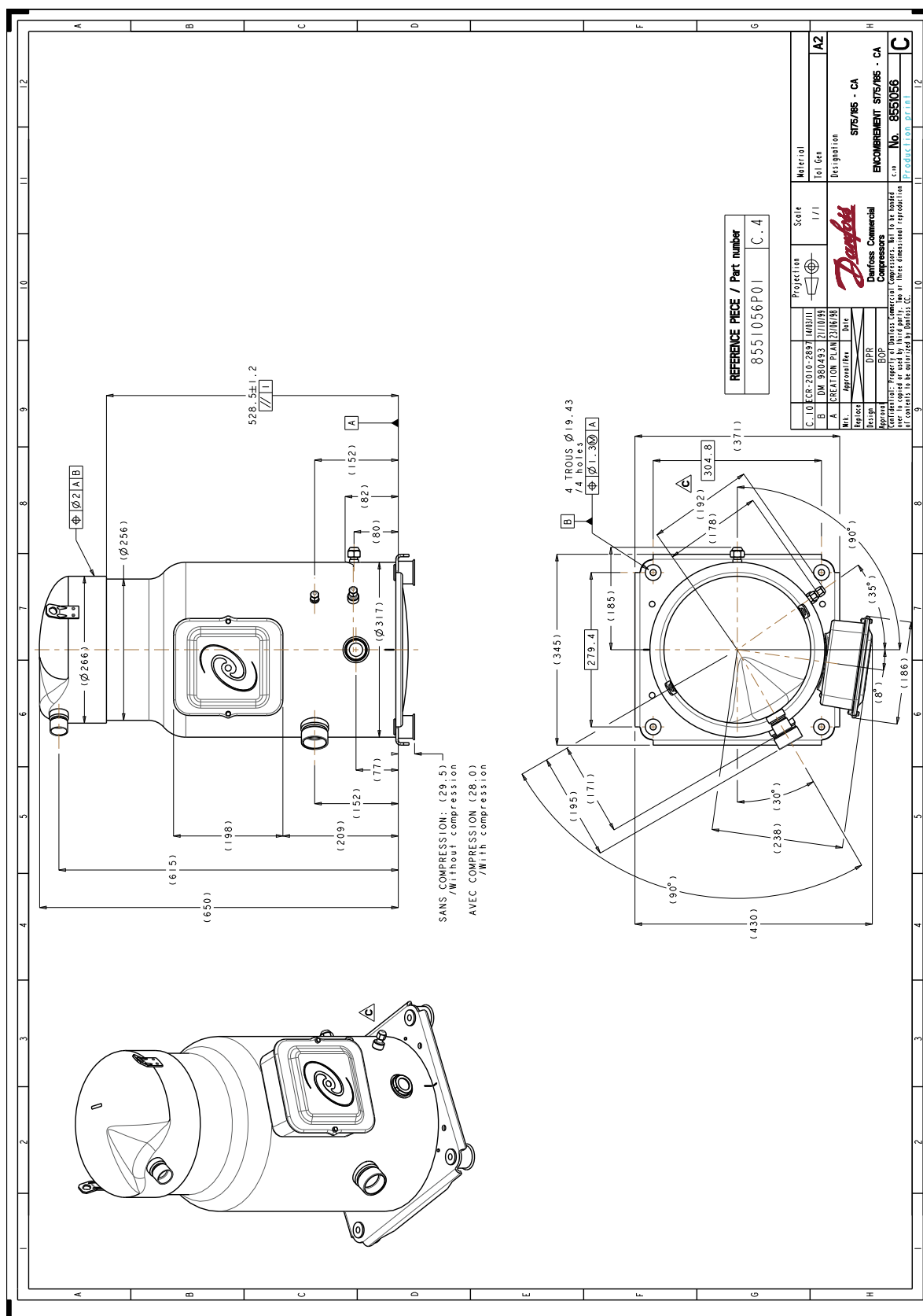
Sound power level	0	dB(A)
With acoustic hood	0	dB(A)

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