



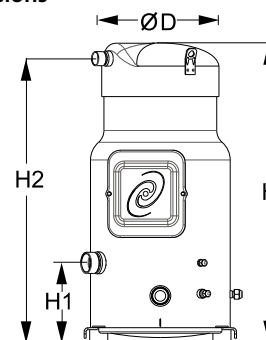
Datasheets

Performer[®] scroll compressors **SM / SY / SZ / SH**



General Characteristics

Model number (on compressor nameplate)	SM175S4RC	SM175S4CC
Code number for Singlepack*	SM175-4RI	SM175-4CAI
Code number for Industrial pack**	SM175-4RM	SM175-4CAM
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	233 cm ³ /rev	
Displacement @ Nominal speed	40.5 m ³ /h @ 2900 rpm - 48.9 m ³ /h @ 3500 rpm	
Net weight	100 kg	
Oil charge	6,2 litre, Mineral - 160P	
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	R22, R417A-160SZ	

Dimensions


D=317 mm

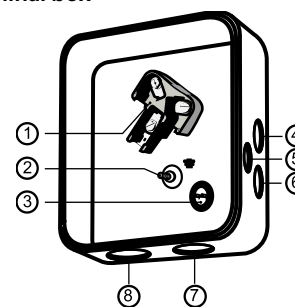
H=678 mm

H1=180 mm

H2=643 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

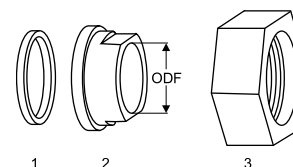
Approvals : CE certified, UL certified (file SA6873), -

*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.

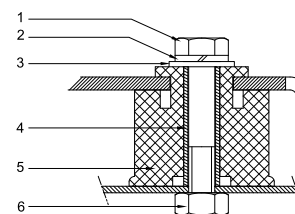
Valve set, V08 (2-1/4"~1-3/8"), V07 (1-3/4"~7/8")	7703010
Gasket set, 1-1/4", 1-3/4", 2-1/4", OSG gaskets black & white	8156013

Oil / lubricants
Code no.

Mineral oil, 160P, 2 litre can	7754001
Mineral oil, 160P, 5 litre can	7754002

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

Mounting kit


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

Miscellaneous accessories
Code no.

Electronic soft start kit, MCI 25 C	7705007
Soft start kit with statoric resistors, prewired box, SCR04	7705002
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, 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

Performance data at 50 Hz, EN 12900 rating conditions
R22

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

Cooling capacity in W

30	16 913	21 120	26 035	31 724	38 249	45 674	54 065	63 484	-
35	15 950	20 057	24 843	30 373	36 708	43 914	52 055	61 194	-
40	14 972	18 962	23 601	28 953	35 082	42 051	49 924	58 765	-
45	-	17 816	22 286	27 439	33 338	40 047	47 629	56 148	-
50	-	-	20 924	25 861	31 514	37 946	45 220	53 400	-
55	-	-	-	24 198	29 583	35 717	42 662	50 482	-
60	-	-	-	-	27 537	33 350	39 942	47 376	-
65	-	-	-	-	25 406	30 880	37 101	44 132	-

Power input in W

30	7 289	7 367	7 443	7 515	7 581	7 639	7 686	7 721	-
35	8 069	8 149	8 226	8 300	8 367	8 427	8 477	8 515	-
40	8 942	9 022	9 101	9 176	9 246	9 308	9 361	9 401	-
45	-	9 996	10 076	10 153	10 225	10 290	10 345	10 389	-
50	-	-	11 159	11 239	11 313	11 381	11 439	11 486	-
55	-	-	-	12 441	12 518	12 588	12 649	12 700	-
60	-	-	-	-	13 847	13 920	13 985	14 039	-
65	-	-	-	-	15 309	15 386	15 454	15 512	-

Current consumption in A

30	16.13	16.21	16.29	16.36	16.41	16.44	16.45	16.42	-
35	16.97	17.06	17.15	17.22	17.28	17.32	17.34	17.33	-
40	17.94	18.04	18.13	18.21	18.28	18.33	18.36	18.36	-
45	-	19.15	19.25	19.34	19.42	19.49	19.53	19.54	-
50	-	-	20.53	20.63	20.72	20.80	20.85	20.88	-
55	-	-	-	22.09	22.19	22.28	22.34	22.39	-
60	-	-	-	-	23.85	23.94	24.03	24.08	-
65	-	-	-	-	25.70	25.81	25.91	25.98	-

Mass flow in kg/h

30	364	449	546	657	782	924	1 082	1 258	-
35	357	443	541	653	780	922	1 081	1 258	-
40	349	436	535	648	775	918	1 077	1 255	-
45	-	428	528	641	768	912	1 071	1 249	-
50	-	-	519	632	760	903	1 063	1 240	-
55	-	-	-	621	749	891	1 051	1 228	-
60	-	-	-	-	735	877	1 036	1 212	-
65	-	-	-	-	718	859	1 017	1 192	-

Coefficient of performance (C.O.P.)

30	2.32	2.87	3.50	4.22	5.05	5.98	7.03	8.22	-
35	1.98	2.46	3.02	3.66	4.39	5.21	6.14	7.19	-
40	1.67	2.10	2.59	3.16	3.79	4.52	5.33	6.25	-
45	-	1.78	2.21	2.70	3.26	3.89	4.60	5.40	-
50	-	-	1.88	2.30	2.79	3.33	3.95	4.65	-
55	-	-	-	1.95	2.36	2.84	3.37	3.97	-
60	-	-	-	-	1.99	2.40	2.86	3.37	-
65	-	-	-	-	1.66	2.01	2.40	2.84	-

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

Cooling capacity	37 946	W
Power input	11 381	W
Current consumption	20.80	A
Mass flow	903	kg/h
C.O.P.	3.33	

Pressure switch settings

Maximum HP switch setting	28	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1.3	bar(g)

Sound power data

Sound power level	80	dB(A)
With acoustic hood	72	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%

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Performance data at 50 Hz, ARI rating conditions

R22

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

Cooling capacity in W

30	17 945	22 391	27 581	33 583	40 461	48 284	57 116	67 025	-
35	16 984	21 339	26 410	32 262	38 962	46 576	55 171	64 813	-
40	16 002	20 247	25 178	30 861	37 363	44 749	53 087	62 442	-
45	-	19 114	23 886	29 380	35 664	42 803	50 863	59 912	-
50	-	-	22 531	27 818	33 864	40 735	48 500	57 223	-
55	-	-	-	26 173	31 962	38 547	45 996	54 373	-
60	-	-	-	-	29 959	36 238	43 350	51 363	-
65	-	-	-	-	27 853	33 806	40 563	48 191	-

Power input in W

30	7 289	7 367	7 443	7 515	7 581	7 639	7 686	7 721	-
35	8 069	8 149	8 226	8 300	8 367	8 427	8 477	8 515	-
40	8 942	9 022	9 101	9 176	9 246	9 308	9 361	9 401	-
45	-	9 996	10 076	10 153	10 225	10 290	10 345	10 389	-
50	-	-	11 159	11 239	11 313	11 381	11 439	11 486	-
55	-	-	-	12 441	12 518	12 588	12 649	12 700	-
60	-	-	-	-	13 847	13 920	13 985	14 039	-
65	-	-	-	-	15 309	15 386	15 454	15 512	-

Current consumption in A

30	16.13	16.21	16.29	16.36	16.41	16.44	16.45	16.42	-
35	16.97	17.06	17.15	17.22	17.28	17.32	17.34	17.33	-
40	17.94	18.04	18.13	18.21	18.28	18.33	18.36	18.36	-
45	-	19.15	19.25	19.34	19.42	19.49	19.53	19.54	-
50	-	-	20.53	20.63	20.72	20.80	20.85	20.88	-
55	-	-	-	22.09	22.19	22.28	22.34	22.39	-
60	-	-	-	-	23.85	23.94	24.03	24.08	-
65	-	-	-	-	25.70	25.81	25.91	25.98	-

Mass flow in kg/h

30	362	447	543	653	778	919	1 076	1 251	-
35	355	441	538	650	775	917	1 075	1 250	-
40	347	434	532	644	771	913	1 071	1 248	-
45	-	426	525	638	764	907	1 065	1 242	-
50	-	-	516	629	756	898	1 057	1 233	-
55	-	-	-	618	745	886	1 045	1 221	-
60	-	-	-	-	731	872	1 030	1 205	-
65	-	-	-	-	714	855	1 011	1 185	-

Coefficient of performance (C.O.P.)

30	2.46	3.04	3.71	4.47	5.34	6.32	7.43	8.68	-
35	2.10	2.62	3.21	3.89	4.66	5.53	6.51	7.61	-
40	1.79	2.24	2.77	3.36	4.04	4.81	5.67	6.64	-
45	-	1.91	2.37	2.89	3.49	4.16	4.92	5.77	-
50	-	-	2.02	2.48	2.99	3.58	4.24	4.98	-
55	-	-	-	2.10	2.55	3.06	3.64	4.28	-
60	-	-	-	-	2.16	2.60	3.10	3.66	-
65	-	-	-	-	1.82	2.20	2.62	3.11	-

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

Cooling capacity	42 000	W
Power input	12 465	W
Current consumption	22.12	A
Mass flow	956	kg/h
C.O.P.	3.37	

Pressure switch settings

Maximum HP switch setting	28	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1.3	bar(g)

Sound power data

Sound power level	80	dB(A)
With acoustic hood	72	dB(A)

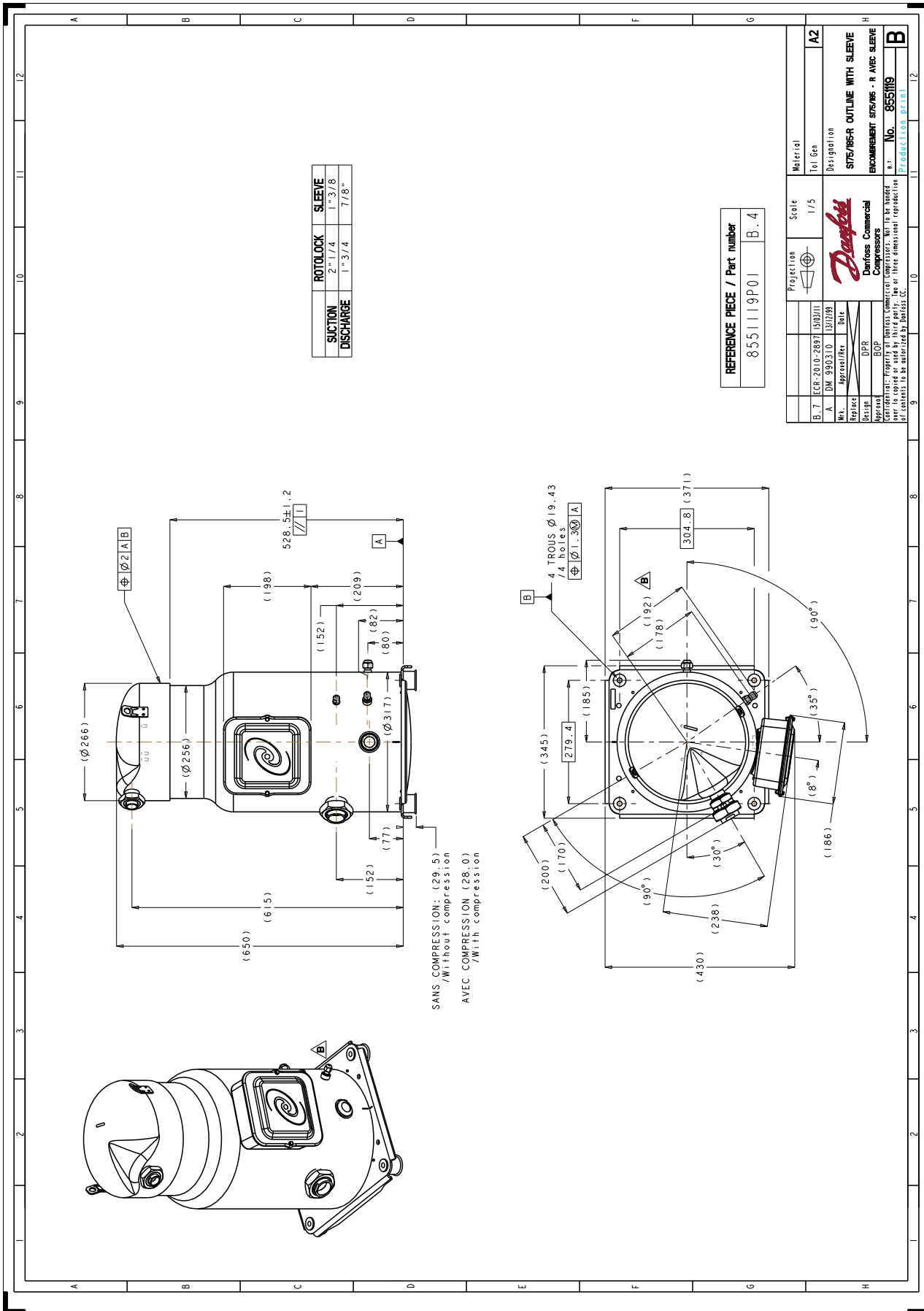
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tc: Condensing temperature at dew point

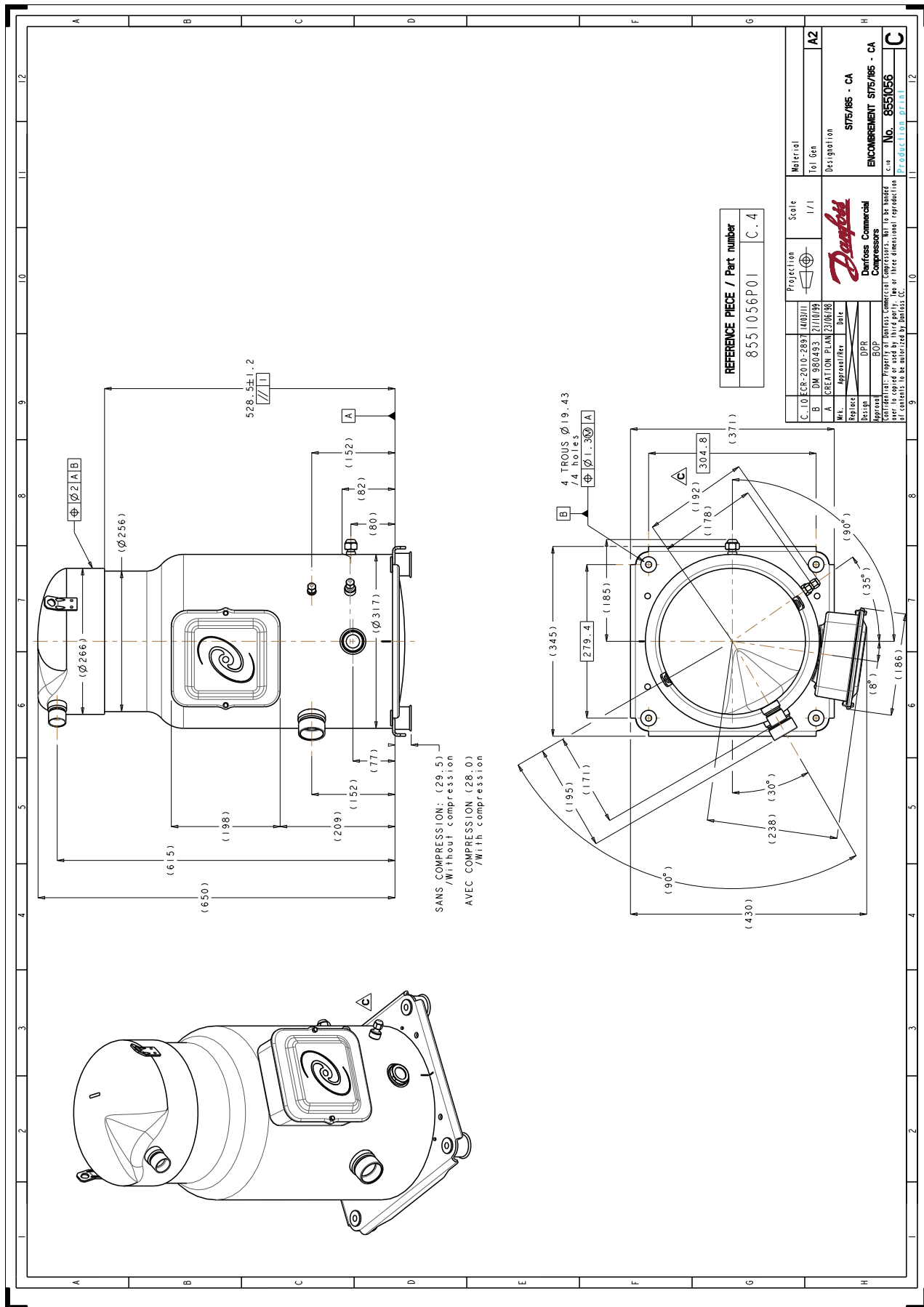
Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

All performance data +/- 5%

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