

MAKING MODERN LIVING POSSIBLE



Datasheets

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



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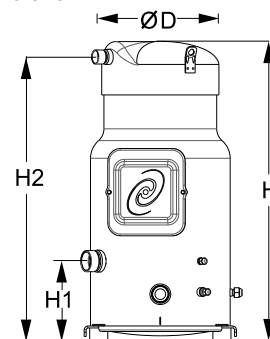
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Performer[®]
Air Conditioning Scroll Compressors

General Characteristics

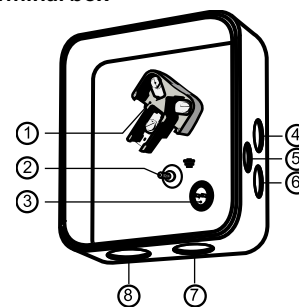
Model number (on compressor nameplate)	SM185S3RC	SM185S3CC
Code number for Singlepack*	SM185-3RI	SM185-3CAI
Code number for Industrial pack**	SM185-3RM	SM185-3CAM
Drawing number	8551119b	8551056c
Suction and discharge connections	Rotolock	Brazed
Suction connection	2-1/4 " Rotolock	1-5/8 " ODF
Discharge 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	1853 cfh @ 3500 rpm	
Net weight	220 lbs	
Oil charge	210 oz, Mineral - 160P	
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	R22, R417A-160SZ	

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	200-230V/3/60Hz
Voltage range	180-253 V
Winding resistance (between phases) +/- 7% at 77°F	0.19 Ω
Maximum Must Trip current (MMT)	75 A
Locked Rotor Amps (LRA)	380 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.

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

Crankcase heaters
Code no.

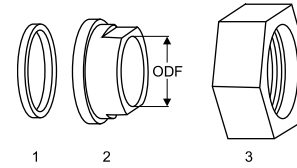
Surface sump heater + bottom insulation, 56 W, 24 V, CE mark, UL	120Z0360
Surface sump heater + bottom insulation, 56 W, 230 V, CE mark, UL	120Z0376
Belt type crankcase heater, 75 W, 110 V, CE mark, UL	7773110
Belt type crankcase heater, 75 W, 230 V, CE mark, UL	7773108

Miscellaneous accessories
Code no.

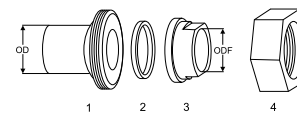
Acoustic hood for scroll compressor S175-S185	7755007
Discharge thermostat kit	7750009

Spare parts
Code no.

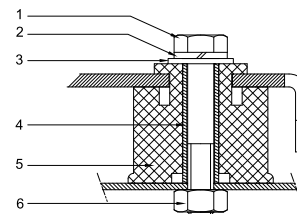
Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers	8156138
Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers	8156147
Oil sight glass with gaskets (black & white)	8156019
Gasket for oil sight glass (white teflon)	8156129
Terminal 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
R22

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	87 412	110 613	137 768	169 227	186 680	205 341	225 254	246 462	269 010
100	82 380	104 993	131 391	161 927	178 855	196 950	216 255	236 813	258 669
110	-	99 119	124 650	154 151	170 500	187 973	206 614	226 466	247 575
120	-	93 009	117 562	145 917	161 631	178 426	196 348	215 440	235 746
130	-	-	110 143	137 242	152 265	168 327	185 474	203 750	223 198
140	-	-	-	128 142	142 418	157 693	174 010	191 413	209 947
150	-	-	-	-	-	146 539	161 970	178 447	196 011

Power input in W

90	9 971	10 167	10 356	10 533	10 615	10 691	10 761	10 825	10 880
100	11 068	11 267	11 461	11 644	11 728	11 808	11 882	11 950	12 009
110	-	12 521	12 720	12 909	12 997	13 081	13 159	13 230	13 295
120	-	13 942	14 147	14 342	14 435	14 522	14 605	14 681	14 750
130	-	-	15 756	15 960	16 056	16 148	16 235	16 316	16 391
140	-	-	-	17 775	17 876	17 973	18 065	18 151	18 231
150	-	-	-	-	-	20 010	20 107	20 199	20 285

Current consumption in A

90	34.16	34.62	35.04	35.42	35.59	35.73	35.86	35.96	36.04
100	36.51	36.99	37.44	37.85	38.04	38.20	38.35	38.48	38.58
110	-	39.80	40.28	40.73	40.93	41.12	41.29	41.45	41.58
120	-	43.09	43.61	44.10	44.33	44.54	44.74	44.91	45.07
130	-	-	47.48	48.01	48.26	48.50	48.73	48.94	49.12
140	-	-	-	52.52	52.80	53.07	53.32	53.56	53.78
150	-	-	-	-	-	58.28	58.57	58.84	59.10

Mass flow in lbs/h

90	1 151	1 436	1 764	2 139	2 345	2 564	2 796	3 042	3 303
100	1 129	1 418	1 750	2 128	2 335	2 556	2 790	3 037	3 299
110	-	1 397	1 731	2 112	2 320	2 541	2 776	3 025	3 287
120	-	1 372	1 708	2 089	2 298	2 520	2 755	3 004	3 267
130	-	-	1 679	2 060	2 269	2 491	2 726	2 975	3 237
140	-	-	-	2 025	2 233	2 454	2 689	2 936	3 198
150	-	-	-	-	-	2 410	2 643	2 889	3 150

Energy Efficiency Ratio (E.E.R.)

90	8.77	10.88	13.30	16.07	17.59	19.21	20.93	22.77	24.72
100	7.44	9.32	11.46	13.91	15.25	16.68	18.20	19.82	21.54
110	-	7.92	9.80	11.94	13.12	14.37	15.70	17.12	18.62
120	-	6.67	8.31	10.17	11.20	12.29	13.44	14.67	15.98
130	-	-	6.99	8.60	9.48	10.42	11.42	12.49	13.62
140	-	-	-	7.21	7.97	8.77	9.63	10.55	11.52
150	-	-	-	-	-	7.32	8.06	8.83	9.66

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

Cooling capacity	185 474	Btu/h	Current consumption	48.73	A
Power input	16 235	W	Mass flow	2 726	lbs/h
E.E.R.	11.42				

Pressure switch settings

Maximum HP switch setting	406	psi(g)
Minimum LP switch setting	7	psi(g)
LP pump down setting	19	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	82.5	dB(A)
With acoustic hood	75	dB(A)

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