

MAKING MODERN LIVING POSSIBLE



Datasheets

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



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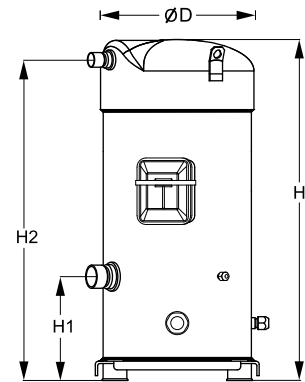
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Performer[®]
Air Conditioning Scroll Compressors

General Characteristics

Model number (on compressor nameplate)		SZ148T4VC
Code number for Singlepack*		SZ148-4VAI
Code number for Industrial pack**		SZ148-4VAM
Drawing number		8551106b
Suction and discharge connections		Brazed
Suction connection		1-3/8" ODF
Discharge connection		7/8" ODF
Oil sight glass		Threaded
Oil equalization connection		3/8" flare SAE
Oil drain connection		None
LP gauge port		Schrader
IPR valve		None
Swept volume		12.14 in ³ /rev
Displacement @ Nominal speed		1223 cfh @ 2900 rpm - 1476 cfh @ 3500 rpm
Net weight		194 lbs
Oil charge		122 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		28 lbs
Approved refrigerants		R407C, R134a, R404A, R507A

Dimensions

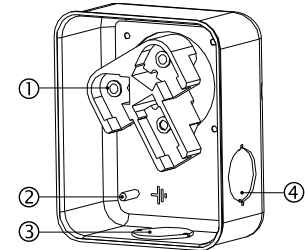


D=10.5 inch, H=23.3 inch,
H1=7.1 inch, H2=21.9 inch

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	0.94 Ω
Rated Load Amps (RLA)	22.9 A
Maximum Continuous Current (MCC)	32 A
Locked Rotor Amps (LRA)	145 A
Motor protection	Internal overload protector

Terminal box



IP54 (with cable gland)

- 1: Power connection, 3 x 4.8 mm (3/16")
- 2: Earth M4-12
- 3: Knock-out Ø 29 mm (1.14")
- 4: Knock-out Ø 25.5 mm (1.00")

Recommended Installation torques

Oil sight glass	37 ft.lbs
Power connections / Earth connection	2 ft.lbs / 1 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, P10 (1-3/4" Rotolock, 1-3/8" ODF)	8153003
Rotolock valve, V10 (1-3/4" Rotolock, 1-3/8" ODF)	8168022
Gasket, 1-3/4"	8156132

Rotolock accessories, discharge side
Code no.

Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF)	8168030
Gasket, 1-3/4"	8156132

Rotolock accessories, sets
Code no.

Solder sleeve adapter set, 1-3/8" ODF & 7/8" ODF	7765006
Valve set, V10 (1-3/4"~1-3/8"), V05 (1-1/4"~7/8")	7703392
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.

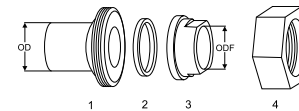
Surface sump heater + bottom insulation, 48 W, 24 V, CE mark, UL	120Z0361
Surface sump heater + bottom insulation, 48 W, 230 V, CE mark, UL	120Z0380
Surface sump heater + bottom insulation, 48 W, 400 V, CE mark, UL	120Z0381
Surface sump heater + bottom insulation, 48 W, 460 V, CE mark	120Z0382
Belt type 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 accessories
Code no.

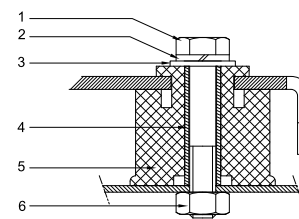
Electronic soft start kit, MCI 25 C	7705007
Acoustic hood for scroll compressor S148-S161 (except code 3)	7755017
Discharge thermostat kit	7750009

Spare parts
Code no.

Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers	8156138
Oil sight glass with gaskets (black & white)	8156019
Gasket for oil sight glass (white teflon)	8156129
Service kit for terminal box 96 x 115 mm, including 1 cover, 1 clamp, 1 T block connector 52 x 57 mm, 1 cable gland	8156135
T block connector 2.1" x 2.3"	8173230

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	64 887	83 904	106 746	133 966	149 391	166 118	184 216	203 754	224 802
100	61 039	79 328	101 220	127 267	142 022	158 023	175 339	194 041	214 196
110	-	74 473	95 331	120 122	134 165	149 399	165 892	183 715	202 936
120	-	69 388	89 129	112 580	125 870	140 294	155 923	172 825	191 070
130	-	-	82 662	104 690	117 185	130 759	145 482	161 422	178 649
140	-	-	-	96 501	108 159	120 841	134 616	149 553	165 720
150	-	-	-	-	-	110 590	123 375	137 267	152 334

Power input in W

90	7 841	7 974	8 126	8 264	8 319	8 360	8 381	8 381	8 354
100	8 884	8 982	9 121	9 269	9 338	9 397	9 443	9 472	9 481
110	-	10 141	10 250	10 391	10 464	10 533	10 595	10 646	10 681
120	-	11 498	11 560	11 676	11 745	11 816	11 885	11 949	12 003
130	-	-	13 098	13 173	13 230	13 294	13 362	13 430	13 493
140	-	-	-	14 929	14 964	15 013	15 071	15 135	15 200
150	-	-	-	-	-	17 021	17 061	17 112	17 170

Current consumption in A

90	13.00	13.14	13.29	13.45	13.53	13.61	13.69	13.78	13.86
100	14.08	14.23	14.38	14.51	14.58	14.65	14.71	14.77	14.83
110	-	15.50	15.65	15.78	15.84	15.90	15.95	16.00	16.04
120	-	16.98	17.15	17.29	17.35	17.41	17.45	17.49	17.52
130	-	-	18.91	19.08	19.15	19.21	19.26	19.29	19.32
140	-	-	-	21.19	21.27	21.34	21.40	21.44	21.47
150	-	-	-	-	-	23.84	23.91	23.97	24.01

Mass flow in lbs/h

90	828	1 052	1 317	1 625	1 798	1 984	2 184	2 399	2 629
100	818	1 043	1 308	1 617	1 790	1 976	2 175	2 390	2 619
110	-	1 031	1 296	1 604	1 776	1 962	2 161	2 374	2 603
120	-	1 016	1 279	1 587	1 758	1 943	2 141	2 353	2 581
130	-	-	1 260	1 565	1 735	1 919	2 116	2 327	2 553
140	-	-	-	1 539	1 708	1 890	2 085	2 295	2 519
150	-	-	-	-	-	1 857	2 050	2 257	2 479

Energy Efficiency Ratio (E.E.R.)

90	8.28	10.52	13.14	16.21	17.96	19.87	21.98	24.31	26.91
100	6.87	8.83	11.10	13.73	15.21	16.82	18.57	20.49	22.59
110	-	7.34	9.30	11.56	12.82	14.18	15.66	17.26	19.00
120	-	6.03	7.71	9.64	10.72	11.87	13.12	14.46	15.92
130	-	-	6.31	7.95	8.86	9.84	10.89	12.02	13.24
140	-	-	-	6.46	7.23	8.05	8.93	9.88	10.90
150	-	-	-	-	-	6.50	7.23	8.02	8.87

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

Cooling capacity	145 482	Btu/h	Current consumption	19.26	A
Power input	13 362	W	Mass flow	2 116	lbs/h
E.E.R.	10.89				

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	83	dB(A)
With acoustic hood	75	dB(A)

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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

Cooling capacity in Btu/h

90	47 279	61 522	78 767	88 653	99 453	111 221	124 013	137 883	152 885
100	44 435	58 141	74 704	84 192	94 557	105 854	118 137	131 461	145 881
110	41 505	54 637	70 476	79 547	89 459	100 265	112 020	124 779	138 596
120	38 511	51 029	66 107	74 742	84 179	94 475	105 683	117 857	131 052
130	-	47 340	61 617	69 796	78 741	88 506	99 147	110 717	123 271
140	-	-	57 028	64 731	73 164	82 380	92 434	103 381	115 274
150	-	-	-	59 570	67 470	76 117	85 565	95 869	107 083

Power input in W

90	5 674	5 822	5 912	5 933	5 936	5 921	5 885	5 829	5 751
100	6 344	6 506	6 608	6 633	6 639	6 626	6 592	6 536	6 457
110	7 105	7 286	7 402	7 433	7 445	7 436	7 406	7 353	7 276
120	7 963	8 166	8 301	8 341	8 360	8 358	8 333	8 284	8 211
130	-	9 151	9 310	9 360	9 388	9 395	9 378	9 336	9 269
140	-	-	10 434	10 496	10 536	10 553	10 545	10 513	10 453
150	-	-	-	11 754	11 808	11 837	11 842	11 820	11 771

Current consumption in A

90	11.42	11.59	11.76	11.84	11.91	11.96	12.00	12.01	12.01
100	12.00	12.16	12.30	12.36	12.42	12.45	12.47	12.46	12.43
110	12.74	12.89	13.02	13.08	13.12	13.14	13.14	13.12	13.07
120	13.61	13.77	13.91	13.97	14.00	14.02	14.02	13.99	13.93
130	-	14.81	14.97	15.03	15.07	15.09	15.09	15.06	15.00
140	-	-	16.19	16.27	16.32	16.35	16.36	16.33	16.28
150	-	-	-	17.67	17.74	17.79	17.81	17.80	17.76

Mass flow in lbs/h

90	665	847	1 061	1 182	1 312	1 453	1 604	1 766	1 941
100	657	840	1 056	1 177	1 308	1 448	1 600	1 763	1 937
110	647	832	1 048	1 170	1 300	1 442	1 593	1 756	1 931
120	637	822	1 038	1 160	1 291	1 432	1 584	1 747	1 922
130	-	810	1 026	1 148	1 279	1 420	1 572	1 735	1 909
140	-	-	1 013	1 134	1 265	1 406	1 558	1 720	1 894
150	-	-	-	1 118	1 249	1 390	1 541	1 703	1 877

Energy Efficiency Ratio (E.E.R.)

90	8.33	10.57	13.32	14.94	16.75	18.79	21.07	23.65	26.59
100	7.00	8.94	11.31	12.69	14.24	15.98	17.92	20.11	22.59
110	5.84	7.50	9.52	10.70	12.02	13.48	15.13	16.97	19.05
120	4.84	6.25	7.96	8.96	10.07	11.30	12.68	14.23	15.96
130	-	5.17	6.62	7.46	8.39	9.42	10.57	11.86	13.30
140	-	-	5.47	6.17	6.94	7.81	8.77	9.83	11.03
150	-	-	-	5.07	5.71	6.43	7.23	8.11	9.10

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

Cooling capacity	99 147	Btu/h	Current consumption	15.09	A
Power input	9 378	W	Mass flow	1 572	lbs/h
E.E.R.	10.57				

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

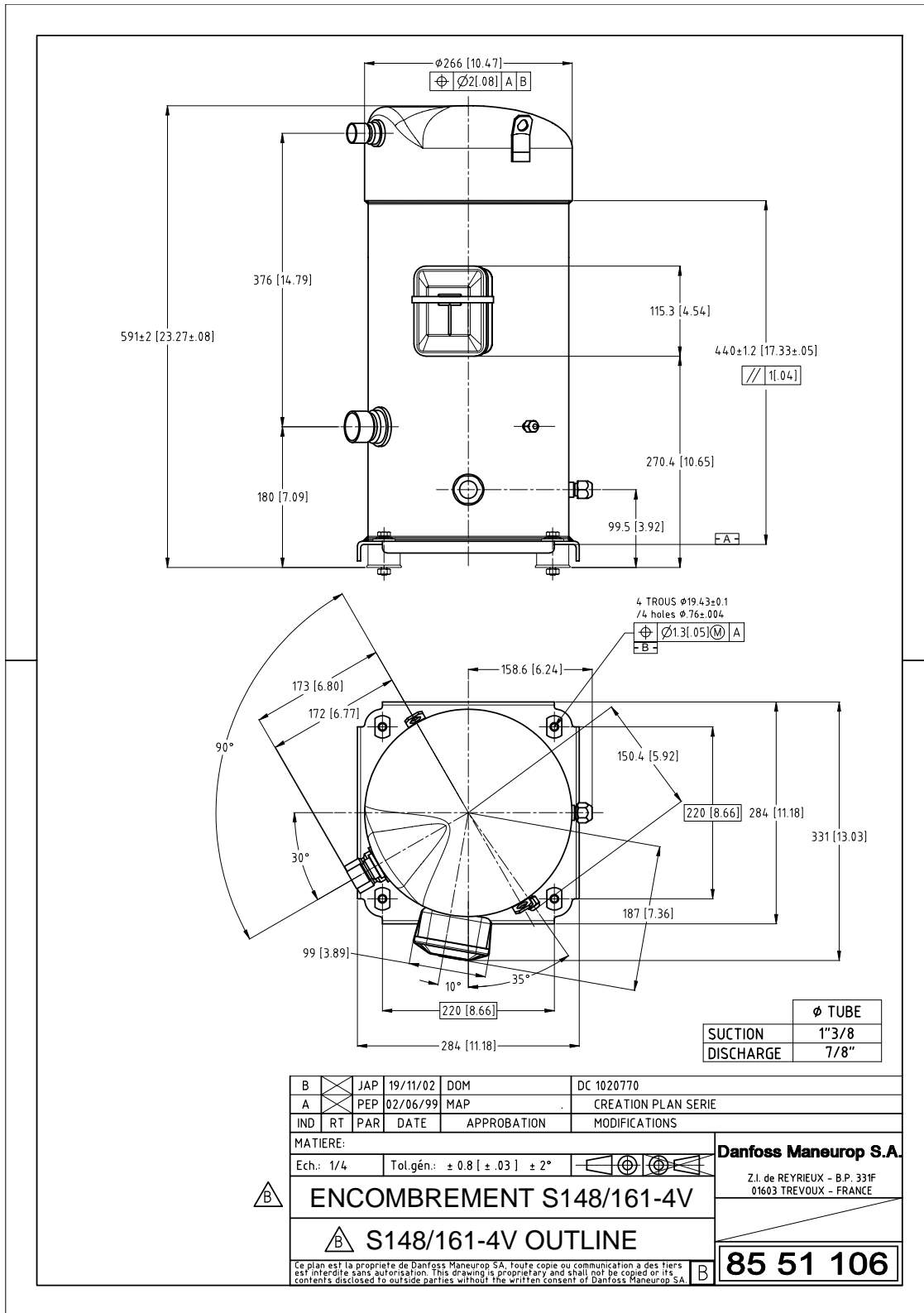
T C : Condensing temperature at dew point

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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