ENGINEERING
TOMORROW

Datasheets

Danfoss scroll compressors
SM / SY / SZ / SH / WSH

FRCC.UD.180315.124010

www.danfoss.com/odsg

General Characteristics

Model number (on compressor nameplate)		**SZ090S4VC**
Code number for Singlepack*		SZ090-4VI
Code number for Industrial pack**		SZ090-4VM
Drawing number		8552036b
Suction and discharge connections		Brazed
Suction connection		1-1/8 " ODF
Discharge connection		3/4 " ODF
Oil sight glass		Threaded
Oil equalisation connection		3/8" flare SAE
Oil drain connection		None
LP gauge port		Schrader
IPR valve		None
Swept volume	120,5 cm3/rev	
Displacement @ Nominal speed	21.0 m3/h @ 2900 rpm - 25.3 m3/h @ 3500 rpm	
Net weight	65 kg	
Oil charge	3,25 litre, POE - 160SZ	
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	8,5 kg	
Approved refrigerants	R407C, R134a, R404A, R507A	

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 25ºC	1.48 Ω
Rated Load Amps (RLA)	13.2 A
Maximum Continuous Current (MCC)	18.5 A
Locked Rotor Amps (LRA)	98 A
Motor protection	Internal overload protector

Recommended Installation torques

Oil sight glass	50 Nm
Power connections / Earth connection	3 Nm / 2 Nm
Mounting bolts	21 Nm

Parts shipped with compressor

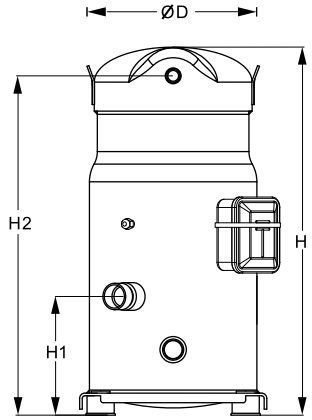
Mounting kit with grommets, bolts, nuts, sleeves and washers
Initial oil charge
Installation instructions

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

*Singlepack: Compressor in cardboard box

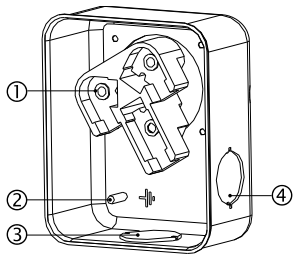
**Industrial pack: 8 Unboxed compressors on pallet (order per multiples of 8)

Dimensions



D=254 mm
H=508 mm
H1=141,9 mm
H2=464,5 mm
H3=- mm

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")

Rotolock accessories, suction side	Code no.
Solder sleeve, P02 (1-3/4" Rotolock, 1-1/8" ODF)	8153004
Angle adapter, C02 (1-3/4" Rotolock, 1-1/8" ODF)	8168005
Rotolock valve, V02 (1-3/4" Rotolock, 1-1/8" ODF)	8168028
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
Gasket, 1-1/4"	8156131

Rotolock accessories, sets	Code no.
Solder sleeve adapter set (1-3/4" Rotolock, 1-1/8" ODF), (1-1/4" Rotolock, 3/4" ODF)	7765005
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

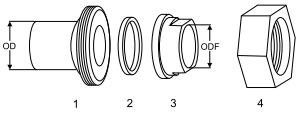
Oil / lubricants	Code no.
POE lubricant, 160SZ, 1 litre can	7754023
POE lubricant, 160SZ, 2.5 litre can	120Z0571

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, UL	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 15 C	7705006
Acoustic hood for scroll compressor S084-S090-S100	7755011
Bottom insulation for scroll compressor	120Z0356
Discharge thermostat kit	7750009

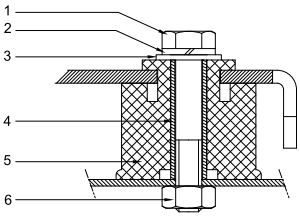
Spare parts	Code no.
Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers	8156138
Oil sight glass with gaskets (black & white)	8156019
Gasket for oil sight glass (white teflon)	8156129
Service kit for terminal box 96 x 115 mm, including 1 cover, 1 clamp	8156135
T block connector 52 x 57 mm	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 50 Hz, EN 12900 rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-20	-15	-10	-5	0	5	10	15	
Cooling capacity in W									
30	7 599	9 725	12 286	15 332	18 911	23 071	27 861	33 332	-
35	7 086	9 146	11 618	14 552	17 995	21 997	26 606	31 871	-
40	6 562	8 539	10 907	13 713	17 007	20 835	25 247	30 291	-
45	-	7 905	10 154	12 818	15 945	19 584	23 784	28 592	-
50	-	-	9 358	11 864	14 811	18 246	22 217	26 773	-
55	-	-	-	10 854	13 604	16 820	20 547	24 834	-
60	-	-	-	-	12 325	15 304	18 771	22 773	-
65	-	-	-	-	10 972	13 699	16 889	20 588	-
Power input in W									
30	3 679	3 721	3 754	3 776	3 782	3 771	3 738	3 681	-
35	4 095	4 139	4 175	4 200	4 210	4 202	4 175	4 124	-
40	4 563	4 609	4 648	4 676	4 690	4 688	4 666	4 620	-
45	-	5 138	5 180	5 212	5 231	5 234	5 217	5 179	-
50	-	-	5 777	5 814	5 838	5 846	5 836	5 804	-
55	-	-	-	6 487	6 517	6 531	6 528	6 504	-
60	-	-	-	-	7 275	7 296	7 300	7 284	-
65	-	-	-	-	8 119	8 147	8 159	8 150	-
Current consumption in A									
30	8.65	8.70	8.74	8.76	8.75	8.70	8.62	8.49	-
35	9.04	9.10	9.15	9.17	9.17	9.13	9.06	8.95	-
40	9.52	9.58	9.64	9.67	9.67	9.65	9.59	9.49	-
45	-	10.16	10.22	10.26	10.28	10.27	10.22	10.14	-
50	-	-	10.92	10.97	11.00	11.00	10.97	10.90	-
55	-	-	-	11.80	11.84	11.85	11.84	11.79	-
60	-	-	-	-	12.81	12.84	12.84	12.81	-
65	-	-	-	-	13.93	13.98	14.00	13.98	-
Mass flow in kg/h									
30	159	199	247	303	367	441	524	619	-
35	155	196	245	301	365	440	524	619	-
40	151	193	242	298	363	437	522	617	-
45	-	189	238	294	359	434	518	614	-
50	-	-	233	290	355	429	513	608	-
55	-	-	-	284	348	422	506	600	-
60	-	-	-	-	340	413	497	590	-
65	-	-	-	-	331	403	485	578	-
Coefficient of performance (C.O.P.)									
30	2.07	2.61	3.27	4.06	5.00	6.12	7.45	9.05	-
35	1.73	2.21	2.78	3.47	4.27	5.23	6.37	7.73	-
40	1.44	1.85	2.35	2.93	3.63	4.44	5.41	6.56	-
45	-	1.54	1.96	2.46	3.05	3.74	4.56	5.52	-
50	-	-	1.62	2.04	2.54	3.12	3.81	4.61	-
55	-	-	-	1.67	2.09	2.58	3.15	3.82	-
60	-	-	-	-	1.69	2.10	2.57	3.13	-
65	-	-	-	-	1.35	1.68	2.07	2.53	-

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

Cooling capacity	18 246	W
Power input	5 846	W
Current consumption	11.00	A
Mass flow	429	kg/h
C.O.P.	3.12	

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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	72	dB(A)
With accoustic hood	64	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%

Performance data at 50 Hz, ARI rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-20	-15	-10	-5	0	5	10	15	
Cooling capacity in W									
30	8 150	10 418	13 147	16 389	20 194	24 612	29 694	35 491	-
35	7 637	9 844	12 490	15 625	19 300	23 567	28 475	34 076	-
40	7 112	9 242	11 788	14 801	18 332	22 432	27 151	32 540	-
45	-	8 610	11 042	13 918	17 289	21 207	25 721	30 882	-
50	-	-	10 251	12 975	16 171	19 891	24 185	29 104	-
55	-	-	-	11 971	14 978	18 485	22 543	27 204	-
60	-	-	-	-	13 709	16 988	20 796	25 184	-
65	-	-	-	-	12 364	15 400	18 942	23 041	-
Power input in W									
30	3 679	3 721	3 754	3 776	3 782	3 771	3 738	3 681	-
35	4 095	4 139	4 175	4 200	4 210	4 202	4 175	4 124	-
40	4 563	4 609	4 648	4 676	4 690	4 688	4 666	4 620	-
45	-	5 138	5 180	5 212	5 231	5 234	5 217	5 179	-
50	-	-	5 777	5 814	5 838	5 846	5 836	5 804	-
55	-	-	-	6 487	6 517	6 531	6 528	6 504	-
60	-	-	-	-	7 275	7 296	7 300	7 284	-
65	-	-	-	-	8 119	8 147	8 159	8 150	-
Current consumption in A									
30	8.65	8.70	8.74	8.76	8.75	8.70	8.62	8.49	-
35	9.04	9.10	9.15	9.17	9.17	9.13	9.06	8.95	-
40	9.52	9.58	9.64	9.67	9.67	9.65	9.59	9.49	-
45	-	10.16	10.22	10.26	10.28	10.27	10.22	10.14	-
50	-	-	10.92	10.97	11.00	11.00	10.97	10.90	-
55	-	-	-	11.80	11.84	11.85	11.84	11.79	-
60	-	-	-	-	12.81	12.84	12.84	12.81	-
65	-	-	-	-	13.93	13.98	14.00	13.98	-
Mass flow in kg/h									
30	158	198	246	301	365	438	521	616	-
35	154	195	243	299	363	437	521	615	-
40	150	192	240	296	361	435	519	614	-
45	-	188	237	293	357	431	515	610	-
50	-	-	232	288	353	426	510	604	-
55	-	-	-	282	346	420	503	597	-
60	-	-	-	-	338	411	494	587	-
65	-	-	-	-	329	401	482	575	-
Coefficient of performance (C.O.P.)									
30	2.22	2.80	3.50	4.34	5.34	6.53	7.94	9.64	-
35	1.87	2.38	2.99	3.72	4.58	5.61	6.82	8.26	-
40	1.56	2.00	2.54	3.17	3.91	4.79	5.82	7.04	-
45	-	1.68	2.13	2.67	3.31	4.05	4.93	5.96	-
50	-	-	1.77	2.23	2.77	3.40	4.14	5.01	-
55	-	-	-	1.85	2.30	2.83	3.45	4.18	-
60	-	-	-	-	1.88	2.33	2.85	3.46	-
65	-	-	-	-	1.52	1.89	2.32	2.83	-

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

Cooling capacity	20 386	W
Power input	6 446	W
Current consumption	11.74	A
Mass flow	456	kg/h
C.O.P.	3.16	

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)
LP pump down setting	1	bar(g)

Sound power data

Sound power level	72	dB(A)
With accoustic hood	64	dB(A)

All performance data +/- 5%

Performance data at 50 Hz, EN 12900 rating conditions

R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-15	-10	-5	0	5	10	15		
Cooling capacity in W									
35	6 213	7 984	10 059	12 467	15 239	18 404	21 991	-	-
40	5 818	7 525	9 522	11 838	14 503	17 546	20 997	-	-
45	5 403	7 037	8 947	11 162	13 711	16 624	19 931	-	-
50	4 970	6 523	8 337	10 442	12 867	15 640	18 793	-	-
55	-	5 984	7 694	9 680	11 971	14 597	17 586	-	-
60	-	-	7 020	8 878	11 027	13 495	16 312	-	-
65	-	-	-	8 039	10 036	12 338	14 973	-	-
70	-	-	-	7 164	9 000	11 126	13 569	-	-
Power input in W									
35	2 933	2 946	2 951	2 945	2 926	2 891	2 838	-	-
40	3 263	3 278	3 286	3 283	3 267	3 236	3 187	-	-
45	3 634	3 652	3 662	3 662	3 650	3 623	3 580	-	-
50	4 050	4 070	4 084	4 088	4 079	4 057	4 019	-	-
55	-	4 537	4 554	4 562	4 558	4 541	4 507	-	-
60	-	-	5 076	5 088	5 089	5 077	5 049	-	-
65	-	-	-	5 670	5 676	5 669	5 648	-	-
70	-	-	-	6 310	6 322	6 321	6 306	-	-
Current consumption in A									
35	7.82	7.86	7.89	7.90	7.89	7.85	7.77	-	-
40	8.10	8.15	8.18	8.19	8.18	8.15	8.08	-	-
45	8.45	8.50	8.53	8.55	8.54	8.51	8.45	-	-
50	8.86	8.91	8.95	8.97	8.97	8.95	8.89	-	-
55	-	9.40	9.45	9.47	9.48	9.46	9.41	-	-
60	-	-	10.03	10.06	10.07	10.05	10.01	-	-
65	-	-	-	10.73	10.75	10.74	10.70	-	-
70	-	-	-	11.50	11.52	11.52	11.49	-	-
Mass flow in kg/h									
35	151	189	233	283	340	403	473	-	-
40	148	187	232	282	339	402	472	-	-
45	145	185	230	280	337	400	470	-	-
50	142	182	226	277	334	397	467	-	-
55	-	178	223	273	329	392	462	-	-
60	-	-	218	268	324	387	456	-	-
65	-	-	-	261	317	379	448	-	-
70	-	-	-	253	309	370	438	-	-
Coefficient of performance (C.O.P.)									
35	2.12	2.71	3.41	4.23	5.21	6.37	7.75	-	-
40	1.78	2.30	2.90	3.61	4.44	5.42	6.59	-	-
45	1.49	1.93	2.44	3.05	3.76	4.59	5.57	-	-
50	1.23	1.60	2.04	2.55	3.15	3.85	4.68	-	-
55	-	1.32	1.69	2.12	2.63	3.21	3.90	-	-
60	-	-	1.38	1.74	2.17	2.66	3.23	-	-
65	-	-	-	1.42	1.77	2.18	2.65	-	-
70	-	-	-	1.14	1.42	1.76	2.15	-	-

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

Cooling capacity	12 867	W
Power input	4 079	W
Current consumption	8.97	A
Mass flow	334	kg/h
C.O.P.	3.15	

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	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%

Performance data at 50 Hz, ARI rating conditions

R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-15	-10	-5	0	5	10	15		
Cooling capacity in W									
35	6 729	8 632	10 858	13 437	16 401	19 778	23 601	-	-
40	6 336	8 179	10 331	12 821	15 682	18 943	22 634	-	-
45	5 920	7 695	9 763	12 157	14 906	18 041	21 592	-	-
50	5 485	7 181	9 158	11 445	14 073	17 074	20 476	-	-
55	-	6 642	8 517	10 689	13 188	16 044	19 289	-	-
60	-	-	7 843	9 890	12 251	14 955	18 033	-	-
65	-	-	-	9 052	11 265	13 807	16 709	-	-
70	-	-	-	8 175	10 232	12 604	15 321	-	-
Power input in W									
35	2 933	2 946	2 951	2 945	2 926	2 891	2 838	-	-
40	3 263	3 278	3 286	3 283	3 267	3 236	3 187	-	-
45	3 634	3 652	3 662	3 662	3 650	3 623	3 580	-	-
50	4 050	4 070	4 084	4 088	4 079	4 057	4 019	-	-
55	-	4 537	4 554	4 562	4 558	4 541	4 507	-	-
60	-	-	5 076	5 088	5 089	5 077	5 049	-	-
65	-	-	-	5 670	5 676	5 669	5 648	-	-
70	-	-	-	6 310	6 322	6 321	6 306	-	-
Current consumption in A									
35	7.82	7.86	7.89	7.90	7.89	7.85	7.77	-	-
40	8.10	8.15	8.18	8.19	8.18	8.15	8.08	-	-
45	8.45	8.50	8.53	8.55	8.54	8.51	8.45	-	-
50	8.86	8.91	8.95	8.97	8.97	8.95	8.89	-	-
55	-	9.40	9.45	9.47	9.48	9.46	9.41	-	-
60	-	-	10.03	10.06	10.07	10.05	10.01	-	-
65	-	-	-	10.73	10.75	10.74	10.70	-	-
70	-	-	-	11.50	11.52	11.52	11.49	-	-
Mass flow in kg/h									
35	150	188	232	282	338	401	470	-	-
40	147	186	231	281	337	400	470	-	-
45	145	184	228	279	335	398	468	-	-
50	141	181	225	276	332	395	464	-	-
55	-	177	221	272	328	390	460	-	-
60	-	-	216	266	322	384	453	-	-
65	-	-	-	260	315	377	446	-	-
70	-	-	-	252	307	368	436	-	-
Coefficient of performance (C.O.P.)									
35	2.29	2.93	3.68	4.56	5.61	6.84	8.32	-	-
40	1.94	2.49	3.14	3.91	4.80	5.85	7.10	-	-
45	1.63	2.11	2.67	3.32	4.08	4.98	6.03	-	-
50	1.35	1.76	2.24	2.80	3.45	4.21	5.10	-	-
55	-	1.46	1.87	2.34	2.89	3.53	4.28	-	-
60	-	-	1.55	1.94	2.41	2.95	3.57	-	-
65	-	-	-	1.60	1.98	2.44	2.96	-	-
70	-	-	-	1.30	1.62	1.99	2.43	-	-

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

Cooling capacity	14 515	W
Power input	4 492	W
Current consumption	9.41	A
Mass flow	355	kg/h
C.O.P.	3.23	

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)

to: Evaporating temperature at dew point
tc: Condensing temperature at dew point
Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

All performance data +/- 5%

Performance data at 50 Hz, EN 12900 rating conditions

R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-15	-10	-5	0	5	10	15		
Cooling capacity in W									
35	6 213	7 984	10 059	12 467	15 239	18 404	21 991	-	-
40	5 818	7 525	9 522	11 838	14 503	17 546	20 997	-	-
45	5 403	7 037	8 947	11 162	13 711	16 624	19 931	-	-
50	4 970	6 523	8 337	10 442	12 867	15 640	18 793	-	-
55	-	5 984	7 694	9 680	11 971	14 597	17 586	-	-
60	-	-	7 020	8 878	11 027	13 495	16 312	-	-
65	-	-	-	8 039	10 036	12 338	14 973	-	-
70	-	-	-	7 164	9 000	11 126	13 569	-	-
Power input in W									
35	2 933	2 946	2 951	2 945	2 926	2 891	2 838	-	-
40	3 263	3 278	3 286	3 283	3 267	3 236	3 187	-	-
45	3 634	3 652	3 662	3 662	3 650	3 623	3 580	-	-
50	4 050	4 070	4 084	4 088	4 079	4 057	4 019	-	-
55	-	4 537	4 554	4 562	4 558	4 541	4 507	-	-
60	-	-	5 076	5 088	5 089	5 077	5 049	-	-
65	-	-	-	5 670	5 676	5 669	5 648	-	-
70	-	-	-	6 310	6 322	6 321	6 306	-	-
Current consumption in A									
35	7.82	7.86	7.89	7.90	7.89	7.85	7.77	-	-
40	8.10	8.15	8.18	8.19	8.18	8.15	8.08	-	-
45	8.45	8.50	8.53	8.55	8.54	8.51	8.45	-	-
50	8.86	8.91	8.95	8.97	8.97	8.95	8.89	-	-
55	-	9.40	9.45	9.47	9.48	9.46	9.41	-	-
60	-	-	10.03	10.06	10.07	10.05	10.01	-	-
65	-	-	-	10.73	10.75	10.74	10.70	-	-
70	-	-	-	11.50	11.52	11.52	11.49	-	-
Mass flow in kg/h									
35	151	189	233	283	340	403	473	-	-
40	148	187	232	282	339	402	472	-	-
45	145	185	230	280	337	400	470	-	-
50	142	182	226	277	334	397	467	-	-
55	-	178	223	273	329	392	462	-	-
60	-	-	218	268	324	387	456	-	-
65	-	-	-	261	317	379	448	-	-
70	-	-	-	253	309	370	438	-	-
Coefficient of performance (C.O.P.)									
35	2.12	2.71	3.41	4.23	5.21	6.37	7.75	-	-
40	1.78	2.30	2.90	3.61	4.44	5.42	6.59	-	-
45	1.49	1.93	2.44	3.05	3.76	4.59	5.57	-	-
50	1.23	1.60	2.04	2.55	3.15	3.85	4.68	-	-
55	-	1.32	1.69	2.12	2.63	3.21	3.90	-	-
60	-	-	1.38	1.74	2.17	2.66	3.23	-	-
65	-	-	-	1.42	1.77	2.18	2.65	-	-
70	-	-	-	1.14	1.42	1.76	2.15	-	-

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

Cooling capacity	12 867	W
Power input	4 079	W
Current consumption	8.97	A
Mass flow	334	kg/h
C.O.P.	3.15	

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	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%

Performance data at 50 Hz, ARI rating conditions

R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-15	-10	-5	0	5	10	15		
Cooling capacity in W									
35	6 729	8 632	10 858	13 437	16 401	19 778	23 601	-	-
40	6 336	8 179	10 331	12 821	15 682	18 943	22 634	-	-
45	5 920	7 695	9 763	12 157	14 906	18 041	21 592	-	-
50	5 485	7 181	9 158	11 445	14 073	17 074	20 476	-	-
55	-	6 642	8 517	10 689	13 188	16 044	19 289	-	-
60	-	-	7 843	9 890	12 251	14 955	18 033	-	-
65	-	-	-	9 052	11 265	13 807	16 709	-	-
70	-	-	-	8 175	10 232	12 604	15 321	-	-
Power input in W									
35	2 933	2 946	2 951	2 945	2 926	2 891	2 838	-	-
40	3 263	3 278	3 286	3 283	3 267	3 236	3 187	-	-
45	3 634	3 652	3 662	3 662	3 650	3 623	3 580	-	-
50	4 050	4 070	4 084	4 088	4 079	4 057	4 019	-	-
55	-	4 537	4 554	4 562	4 558	4 541	4 507	-	-
60	-	-	5 076	5 088	5 089	5 077	5 049	-	-
65	-	-	-	5 670	5 676	5 669	5 648	-	-
70	-	-	-	6 310	6 322	6 321	6 306	-	-
Current consumption in A									
35	7.82	7.86	7.89	7.90	7.89	7.85	7.77	-	-
40	8.10	8.15	8.18	8.19	8.18	8.15	8.08	-	-
45	8.45	8.50	8.53	8.55	8.54	8.51	8.45	-	-
50	8.86	8.91	8.95	8.97	8.97	8.95	8.89	-	-
55	-	9.40	9.45	9.47	9.48	9.46	9.41	-	-
60	-	-	10.03	10.06	10.07	10.05	10.01	-	-
65	-	-	-	10.73	10.75	10.74	10.70	-	-
70	-	-	-	11.50	11.52	11.52	11.49	-	-
Mass flow in kg/h									
35	150	188	232	282	338	401	470	-	-
40	147	186	231	281	337	400	470	-	-
45	145	184	228	279	335	398	468	-	-
50	141	181	225	276	332	395	464	-	-
55	-	177	221	272	328	390	460	-	-
60	-	-	216	266	322	384	453	-	-
65	-	-	-	260	315	377	446	-	-
70	-	-	-	252	307	368	436	-	-
Coefficient of performance (C.O.P.)									
35	2.29	2.93	3.68	4.56	5.61	6.84	8.32	-	-
40	1.94	2.49	3.14	3.91	4.80	5.85	7.10	-	-
45	1.63	2.11	2.67	3.32	4.08	4.98	6.03	-	-
50	1.35	1.76	2.24	2.80	3.45	4.21	5.10	-	-
55	-	1.46	1.87	2.34	2.89	3.53	4.28	-	-
60	-	-	1.55	1.94	2.41	2.95	3.57	-	-
65	-	-	-	1.60	1.98	2.44	2.96	-	-
70	-	-	-	1.30	1.62	1.99	2.43	-	-

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

Cooling capacity	14 515	W
Power input	4 492	W
Current consumption	9.41	A
Mass flow	355	kg/h
C.O.P.	3.23	

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)

to: Evaporating temperature at dew point
tc: Condensing temperature at dew point
Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

All performance data +/- 5%

Performance data at 50 Hz, EN 12900 rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-20	-15	-10	-5	0	5	10	15	
Cooling capacity in W									
30	7 599	9 725	12 286	15 332	18 911	23 071	27 861	33 332	-
35	7 086	9 146	11 618	14 552	17 995	21 997	26 606	31 871	-
40	6 562	8 539	10 907	13 713	17 007	20 835	25 247	30 291	-
45	-	7 905	10 154	12 818	15 945	19 584	23 784	28 592	-
50	-	-	9 358	11 864	14 811	18 246	22 217	26 773	-
55	-	-	-	10 854	13 604	16 820	20 547	24 834	-
60	-	-	-	-	12 325	15 304	18 771	22 773	-
65	-	-	-	-	10 972	13 699	16 889	20 588	-
Power input in W									
30	3 679	3 721	3 754	3 776	3 782	3 771	3 738	3 681	-
35	4 095	4 139	4 175	4 200	4 210	4 202	4 175	4 124	-
40	4 563	4 609	4 648	4 676	4 690	4 688	4 666	4 620	-
45	-	5 138	5 180	5 212	5 231	5 234	5 217	5 179	-
50	-	-	5 777	5 814	5 838	5 846	5 836	5 804	-
55	-	-	-	6 487	6 517	6 531	6 528	6 504	-
60	-	-	-	-	7 275	7 296	7 300	7 284	-
65	-	-	-	-	8 119	8 147	8 159	8 150	-
Current consumption in A									
30	8.65	8.70	8.74	8.76	8.75	8.70	8.62	8.49	-
35	9.04	9.10	9.15	9.17	9.17	9.13	9.06	8.95	-
40	9.52	9.58	9.64	9.67	9.67	9.65	9.59	9.49	-
45	-	10.16	10.22	10.26	10.28	10.27	10.22	10.14	-
50	-	-	10.92	10.97	11.00	11.00	10.97	10.90	-
55	-	-	-	11.80	11.84	11.85	11.84	11.79	-
60	-	-	-	-	12.81	12.84	12.84	12.81	-
65	-	-	-	-	13.93	13.98	14.00	13.98	-
Mass flow in kg/h									
30	159	199	247	303	367	441	524	619	-
35	155	196	245	301	365	440	524	619	-
40	151	193	242	298	363	437	522	617	-
45	-	189	238	294	359	434	518	614	-
50	-	-	233	290	355	429	513	608	-
55	-	-	-	284	348	422	506	600	-
60	-	-	-	-	340	413	497	590	-
65	-	-	-	-	331	403	485	578	-
Coefficient of performance (C.O.P.)									
30	2.07	2.61	3.27	4.06	5.00	6.12	7.45	9.05	-
35	1.73	2.21	2.78	3.47	4.27	5.23	6.37	7.73	-
40	1.44	1.85	2.35	2.93	3.63	4.44	5.41	6.56	-
45	-	1.54	1.96	2.46	3.05	3.74	4.56	5.52	-
50	-	-	1.62	2.04	2.54	3.12	3.81	4.61	-
55	-	-	-	1.67	2.09	2.58	3.15	3.82	-
60	-	-	-	-	1.69	2.10	2.57	3.13	-
65	-	-	-	-	1.35	1.68	2.07	2.53	-

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

Cooling capacity	18 246	W
Power input	5 846	W
Current consumption	11.00	A
Mass flow	429	kg/h
C.O.P.	3.12	

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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	72	dB(A)
With accoustic hood	64	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%

Performance data at 50 Hz, ARI rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-20	-15	-10	-5	0	5	10	15	
Cooling capacity in W									
30	8 150	10 418	13 147	16 389	20 194	24 612	29 694	35 491	-
35	7 637	9 844	12 490	15 625	19 300	23 567	28 475	34 076	-
40	7 112	9 242	11 788	14 801	18 332	22 432	27 151	32 540	-
45	-	8 610	11 042	13 918	17 289	21 207	25 721	30 882	-
50	-	-	10 251	12 975	16 171	19 891	24 185	29 104	-
55	-	-	-	11 971	14 978	18 485	22 543	27 204	-
60	-	-	-	-	13 709	16 988	20 796	25 184	-
65	-	-	-	-	12 364	15 400	18 942	23 041	-
Power input in W									
30	3 679	3 721	3 754	3 776	3 782	3 771	3 738	3 681	-
35	4 095	4 139	4 175	4 200	4 210	4 202	4 175	4 124	-
40	4 563	4 609	4 648	4 676	4 690	4 688	4 666	4 620	-
45	-	5 138	5 180	5 212	5 231	5 234	5 217	5 179	-
50	-	-	5 777	5 814	5 838	5 846	5 836	5 804	-
55	-	-	-	6 487	6 517	6 531	6 528	6 504	-
60	-	-	-	-	7 275	7 296	7 300	7 284	-
65	-	-	-	-	8 119	8 147	8 159	8 150	-
Current consumption in A									
30	8.65	8.70	8.74	8.76	8.75	8.70	8.62	8.49	-
35	9.04	9.10	9.15	9.17	9.17	9.13	9.06	8.95	-
40	9.52	9.58	9.64	9.67	9.67	9.65	9.59	9.49	-
45	-	10.16	10.22	10.26	10.28	10.27	10.22	10.14	-
50	-	-	10.92	10.97	11.00	11.00	10.97	10.90	-
55	-	-	-	11.80	11.84	11.85	11.84	11.79	-
60	-	-	-	-	12.81	12.84	12.84	12.81	-
65	-	-	-	-	13.93	13.98	14.00	13.98	-
Mass flow in kg/h									
30	158	198	246	301	365	438	521	616	-
35	154	195	243	299	363	437	521	615	-
40	150	192	240	296	361	435	519	614	-
45	-	188	237	293	357	431	515	610	-
50	-	-	232	288	353	426	510	604	-
55	-	-	-	282	346	420	503	597	-
60	-	-	-	-	338	411	494	587	-
65	-	-	-	-	329	401	482	575	-
Coefficient of performance (C.O.P.)									
30	2.22	2.80	3.50	4.34	5.34	6.53	7.94	9.64	-
35	1.87	2.38	2.99	3.72	4.58	5.61	6.82	8.26	-
40	1.56	2.00	2.54	3.17	3.91	4.79	5.82	7.04	-
45	-	1.68	2.13	2.67	3.31	4.05	4.93	5.96	-
50	-	-	1.77	2.23	2.77	3.40	4.14	5.01	-
55	-	-	-	1.85	2.30	2.83	3.45	4.18	-
60	-	-	-	-	1.88	2.33	2.85	3.46	-
65	-	-	-	-	1.52	1.89	2.32	2.83	-

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

Cooling capacity	20 386	W
Power input	6 446	W
Current consumption	11.74	A
Mass flow	456	kg/h
C.O.P.	3.16	

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)
LP pump down setting	1	bar(g)

Sound power data

Sound power level	72	dB(A)
With accoustic hood	64	dB(A)

All performance data +/- 5%

Performance data at 60 Hz, EN 12900 rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-20	-15	-10	-5	0	5	10	15	
Cooling capacity in W									
30	9 229	11 916	15 084	18 777	23 042	27 924	33 470	39 726	-
35	8 517	11 135	14 210	17 788	21 914	26 635	31 995	38 042	-
40	7 752	10 284	13 251	16 698	20 670	25 213	30 372	36 194	-
45	-	9 360	12 204	15 504	19 306	23 655	28 597	34 177	-
50	-	-	11 065	14 203	17 818	21 958	26 666	31 988	-
55	-	-	-	12 792	16 205	20 118	24 575	29 622	-
60	-	-	-	-	14 463	18 132	22 322	27 075	-
65	-	-	-	-	12 591	15 998	19 900	24 341	-
Power input in W									
30	4 311	4 366	4 409	4 437	4 444	4 428	4 384	4 307	-
35	4 816	4 872	4 918	4 949	4 961	4 949	4 911	4 841	-
40	5 380	5 439	5 488	5 523	5 540	5 534	5 501	5 438	-
45	-	6 074	6 127	6 166	6 188	6 188	6 162	6 107	-
50	-	-	6 842	6 886	6 914	6 920	6 902	6 854	-
55	-	-	-	7 691	7 724	7 738	7 727	7 688	-
60	-	-	-	-	8 628	8 648	8 646	8 616	-
65	-	-	-	-	9 631	9 660	9 666	9 645	-
Current consumption in A									
30	8.01	8.06	8.10	8.13	8.14	8.13	8.10	8.04	-
35	8.51	8.56	8.60	8.63	8.65	8.65	8.62	8.57	-
40	9.09	9.14	9.19	9.23	9.25	9.25	9.23	9.19	-
45	-	9.83	9.89	9.93	9.95	9.96	9.95	9.91	-
50	-	-	10.70	10.74	10.78	10.79	10.79	10.76	-
55	-	-	-	11.69	11.73	11.75	11.76	11.74	-
60	-	-	-	-	12.83	12.86	12.87	12.87	-
65	-	-	-	-	14.09	14.13	14.15	14.15	-
Mass flow in kg/h									
30	193	244	303	371	448	534	631	740	-
35	186	239	299	367	445	532	630	739	-
40	179	232	293	363	441	529	627	737	-
45	-	224	286	356	435	524	623	733	-
50	-	-	276	347	427	516	616	726	-
55	-	-	-	335	415	505	605	716	-
60	-	-	-	-	400	490	591	703	-
65	-	-	-	-	379	471	572	684	-
Coefficient of performance (C.O.P.)									
30	2.14	2.73	3.42	4.23	5.18	6.31	7.64	9.22	-
35	1.77	2.29	2.89	3.59	4.42	5.38	6.52	7.86	-
40	1.44	1.89	2.41	3.02	3.73	4.56	5.52	6.66	-
45	-	1.54	1.99	2.51	3.12	3.82	4.64	5.60	-
50	-	-	1.62	2.06	2.58	3.17	3.86	4.67	-
55	-	-	-	1.66	2.10	2.60	3.18	3.85	-
60	-	-	-	-	1.68	2.10	2.58	3.14	-
65	-	-	-	-	1.31	1.66	2.06	2.52	-

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

Cooling capacity	21 958	W
Power input	6 920	W
Current consumption	10.79	A
Mass flow	516	kg/h
C.O.P.	3.17	

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	77	dB(A)
With accoustic hood	69	dB(A)

All performance data +/- 5%

Performance data at 60 Hz, ARI rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-20	-15	-10	-5	0	5	10	15	
Cooling capacity in W									
30	9 898	12 766	16 141	20 072	24 605	29 789	35 672	42 300	-
35	9 180	11 986	15 277	19 100	23 504	28 536	34 243	40 674	-
40	8 401	11 130	14 321	18 023	22 282	27 146	32 663	38 881	-
45	-	10 195	13 271	16 835	20 933	25 614	30 926	36 915	-
50	-	-	12 121	15 532	19 454	23 937	29 028	34 773	-
55	-	-	-	14 109	17 841	22 110	26 963	32 450	-
60	-	-	-	-	16 087	20 127	24 729	29 941	-
65	-	-	-	-	14 189	17 984	22 319	27 241	-
Power input in W									
30	4 311	4 366	4 409	4 437	4 444	4 428	4 384	4 307	-
35	4 816	4 872	4 918	4 949	4 961	4 949	4 911	4 841	-
40	5 380	5 439	5 488	5 523	5 540	5 534	5 501	5 438	-
45	-	6 074	6 127	6 166	6 188	6 188	6 162	6 107	-
50	-	-	6 842	6 886	6 914	6 920	6 902	6 854	-
55	-	-	-	7 691	7 724	7 738	7 727	7 688	-
60	-	-	-	-	8 628	8 648	8 646	8 616	-
65	-	-	-	-	9 631	9 660	9 666	9 645	-
Current consumption in A									
30	8.01	8.06	8.10	8.13	8.14	8.13	8.10	8.04	-
35	8.51	8.56	8.60	8.63	8.65	8.65	8.62	8.57	-
40	9.09	9.14	9.19	9.23	9.25	9.25	9.23	9.19	-
45	-	9.83	9.89	9.93	9.95	9.96	9.95	9.91	-
50	-	-	10.70	10.74	10.78	10.79	10.79	10.76	-
55	-	-	-	11.69	11.73	11.75	11.76	11.74	-
60	-	-	-	-	12.83	12.86	12.87	12.87	-
65	-	-	-	-	14.09	14.13	14.15	14.15	-
Mass flow in kg/h									
30	192	243	302	369	445	531	628	735	-
35	185	237	297	365	442	529	626	734	-
40	178	231	292	361	438	526	623	732	-
45	-	223	284	354	433	521	619	728	-
50	-	-	275	345	424	513	612	722	-
55	-	-	-	333	413	502	602	712	-
60	-	-	-	-	397	487	588	698	-
65	-	-	-	-	377	468	569	680	-
Coefficient of performance (C.O.P.)									
30	2.30	2.92	3.66	4.52	5.54	6.73	8.14	9.82	-
35	1.91	2.46	3.11	3.86	4.74	5.77	6.97	8.40	-
40	1.56	2.05	2.61	3.26	4.02	4.91	5.94	7.15	-
45	-	1.68	2.17	2.73	3.38	4.14	5.02	6.04	-
50	-	-	1.77	2.26	2.81	3.46	4.21	5.07	-
55	-	-	-	1.83	2.31	2.86	3.49	4.22	-
60	-	-	-	-	1.86	2.33	2.86	3.48	-
65	-	-	-	-	1.47	1.86	2.31	2.82	-

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

Cooling capacity	24 410	W
Power input	7 633	W
Current consumption	11.64	A
Mass flow	546	kg/h
C.O.P.	3.20	

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)
LP pump down setting	1	bar(g)

Sound power data

Sound power level	77	dB(A)
With accoustic hood	69	dB(A)

All performance data +/- 5%

Performance data at 60 Hz, EN 12900 rating conditions

R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-15	-10	-5	0	5	10	15		
Cooling capacity in W									
35	7 593	9 646	12 092	14 976	18 342	22 233	26 695	-	-
40	7 164	9 137	11 487	14 255	17 488	21 227	25 519	-	-
45	6 717	8 601	10 842	13 485	16 573	20 150	24 260	-	-
50	6 255	8 038	10 160	12 666	15 599	19 002	22 920	-	-
55	-	7 449	9 442	11 800	14 567	17 785	21 499	-	-
60	-	-	8 688	10 888	13 477	16 499	19 997	-	-
65	-	-	-	9 930	12 330	15 145	18 416	-	-
70	-	-	-	8 927	11 127	13 722	16 754	-	-
Power input in W									
35	3 452	3 479	3 498	3 506	3 502	3 484	3 449	-	-
40	3 829	3 859	3 883	3 897	3 901	3 890	3 864	-	-
45	4 249	4 285	4 314	4 335	4 346	4 344	4 327	-	-
50	4 718	4 758	4 794	4 822	4 841	4 848	4 842	-	-
55	-	5 284	5 326	5 363	5 390	5 407	5 411	-	-
60	-	-	5 914	5 959	5 996	6 023	6 039	-	-
65	-	-	-	6 615	6 662	6 701	6 728	-	-
70	-	-	-	7 334	7 392	7 442	7 482	-	-
Current consumption in A									
35	7.25	7.30	7.33	7.35	7.36	7.35	7.32	-	-
40	7.56	7.61	7.65	7.68	7.69	7.69	7.67	-	-
45	7.93	7.99	8.03	8.06	8.09	8.09	8.08	-	-
50	8.37	8.43	8.48	8.52	8.55	8.57	8.57	-	-
55	-	8.94	9.00	9.05	9.09	9.11	9.13	-	-
60	-	-	9.60	9.66	9.71	9.74	9.77	-	-
65	-	-	-	10.35	10.41	10.46	10.50	-	-
70	-	-	-	11.14	11.21	11.27	11.32	-	-
Mass flow in kg/h									
35	184	229	281	341	409	487	574	-	-
40	183	228	280	340	409	486	574	-	-
45	181	226	278	338	407	485	573	-	-
50	178	224	276	336	404	482	570	-	-
55	-	221	273	333	401	478	565	-	-
60	-	-	269	328	396	472	559	-	-
65	-	-	-	323	390	465	551	-	-
70	-	-	-	316	382	457	541	-	-
Coefficient of performance (C.O.P.)									
35	2.20	2.77	3.46	4.27	5.24	6.38	7.74	-	-
40	1.87	2.37	2.96	3.66	4.48	5.46	6.60	-	-
45	1.58	2.01	2.51	3.11	3.81	4.64	5.61	-	-
50	1.33	1.69	2.12	2.63	3.22	3.92	4.73	-	-
55	-	1.41	1.77	2.20	2.70	3.29	3.97	-	-
60	-	-	1.47	1.83	2.25	2.74	3.31	-	-
65	-	-	-	1.50	1.85	2.26	2.74	-	-
70	-	-	-	1.22	1.51	1.84	2.24	-	-

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

Cooling capacity	15 599	W
Power input	4 841	W
Current consumption	8.55	A
Mass flow	404	kg/h
C.O.P.	3.22	

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)

to: Evaporating temperature at dew point
tc: Condensing temperature at dew point
Rating conditions : Superheat = 10 K , Subcooling = 0 K

All performance data +/- 5%

Performance data at 60 Hz, ARI rating conditions

R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-15	-10	-5	0	5	10	15		
Cooling capacity in W									
35	8 224	10 430	13 054	16 142	19 740	23 894	28 649	-	-
40	7 801	9 932	12 463	15 440	18 910	22 917	27 508	-	-
45	7 361	9 404	11 831	14 687	18 017	21 867	26 283	-	-
50	6 903	8 849	11 161	13 883	17 062	20 743	24 973	-	-
55	-	8 267	10 452	13 030	16 047	19 549	23 581	-	-
60	-	-	9 707	12 129	14 973	18 283	22 106	-	-
65	-	-	-	11 181	13 840	16 948	20 551	-	-
70	-	-	-	10 187	12 650	15 545	18 917	-	-
Power input in W									
35	3 452	3 479	3 498	3 506	3 502	3 484	3 449	-	-
40	3 829	3 859	3 883	3 897	3 901	3 890	3 864	-	-
45	4 249	4 285	4 314	4 335	4 346	4 344	4 327	-	-
50	4 718	4 758	4 794	4 822	4 841	4 848	4 842	-	-
55	-	5 284	5 326	5 363	5 390	5 407	5 411	-	-
60	-	-	5 914	5 959	5 996	6 023	6 039	-	-
65	-	-	-	6 615	6 662	6 701	6 728	-	-
70	-	-	-	7 334	7 392	7 442	7 482	-	-
Current consumption in A									
35	7.25	7.30	7.33	7.35	7.36	7.35	7.32	-	-
40	7.56	7.61	7.65	7.68	7.69	7.69	7.67	-	-
45	7.93	7.99	8.03	8.06	8.09	8.09	8.08	-	-
50	8.37	8.43	8.48	8.52	8.55	8.57	8.57	-	-
55	-	8.94	9.00	9.05	9.09	9.11	9.13	-	-
60	-	-	9.60	9.66	9.71	9.74	9.77	-	-
65	-	-	-	10.35	10.41	10.46	10.50	-	-
70	-	-	-	11.14	11.21	11.27	11.32	-	-
Mass flow in kg/h									
35	183	228	279	339	407	484	571	-	-
40	182	226	278	338	406	484	571	-	-
45	180	225	277	337	405	482	570	-	-
50	178	223	275	334	402	480	567	-	-
55	-	220	272	331	399	475	562	-	-
60	-	-	268	327	394	470	556	-	-
65	-	-	-	321	387	463	548	-	-
70	-	-	-	315	380	454	538	-	-
Coefficient of performance (C.O.P.)									
35	2.38	3.00	3.73	4.60	5.64	6.86	8.31	-	-
40	2.04	2.57	3.21	3.96	4.85	5.89	7.12	-	-
45	1.73	2.19	2.74	3.39	4.15	5.03	6.07	-	-
50	1.46	1.86	2.33	2.88	3.52	4.28	5.16	-	-
55	-	1.56	1.96	2.43	2.98	3.62	4.36	-	-
60	-	-	1.64	2.04	2.50	3.04	3.66	-	-
65	-	-	-	1.69	2.08	2.53	3.05	-	-
70	-	-	-	1.39	1.71	2.09	2.53	-	-

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

Cooling capacity	17 660	W
Power input	5 330	W
Current consumption	9.03	A
Mass flow	432	kg/h
C.O.P.	3.31	

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)

to: Evaporating temperature at dew point
tc: Condensing temperature at dew point
Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

All performance data +/- 5%

Performance data at 60 Hz, EN 12900 rating conditions

R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-15	-10	-5	0	5	10	15		
Cooling capacity in W									
35	7 593	9 646	12 092	14 976	18 342	22 233	26 695	-	-
40	7 164	9 137	11 487	14 255	17 488	21 227	25 519	-	-
45	6 717	8 601	10 842	13 485	16 573	20 150	24 260	-	-
50	6 255	8 038	10 160	12 666	15 599	19 002	22 920	-	-
55	-	7 449	9 442	11 800	14 567	17 785	21 499	-	-
60	-	-	8 688	10 888	13 477	16 499	19 997	-	-
65	-	-	-	9 930	12 330	15 145	18 416	-	-
70	-	-	-	8 927	11 127	13 722	16 754	-	-
Power input in W									
35	3 452	3 479	3 498	3 506	3 502	3 484	3 449	-	-
40	3 829	3 859	3 883	3 897	3 901	3 890	3 864	-	-
45	4 249	4 285	4 314	4 335	4 346	4 344	4 327	-	-
50	4 718	4 758	4 794	4 822	4 841	4 848	4 842	-	-
55	-	5 284	5 326	5 363	5 390	5 407	5 411	-	-
60	-	-	5 914	5 959	5 996	6 023	6 039	-	-
65	-	-	-	6 615	6 662	6 701	6 728	-	-
70	-	-	-	7 334	7 392	7 442	7 482	-	-
Current consumption in A									
35	7.25	7.30	7.33	7.35	7.36	7.35	7.32	-	-
40	7.56	7.61	7.65	7.68	7.69	7.69	7.67	-	-
45	7.93	7.99	8.03	8.06	8.09	8.09	8.08	-	-
50	8.37	8.43	8.48	8.52	8.55	8.57	8.57	-	-
55	-	8.94	9.00	9.05	9.09	9.11	9.13	-	-
60	-	-	9.60	9.66	9.71	9.74	9.77	-	-
65	-	-	-	10.35	10.41	10.46	10.50	-	-
70	-	-	-	11.14	11.21	11.27	11.32	-	-
Mass flow in kg/h									
35	184	229	281	341	409	487	574	-	-
40	183	228	280	340	409	486	574	-	-
45	181	226	278	338	407	485	573	-	-
50	178	224	276	336	404	482	570	-	-
55	-	221	273	333	401	478	565	-	-
60	-	-	269	328	396	472	559	-	-
65	-	-	-	323	390	465	551	-	-
70	-	-	-	316	382	457	541	-	-
Coefficient of performance (C.O.P.)									
35	2.20	2.77	3.46	4.27	5.24	6.38	7.74	-	-
40	1.87	2.37	2.96	3.66	4.48	5.46	6.60	-	-
45	1.58	2.01	2.51	3.11	3.81	4.64	5.61	-	-
50	1.33	1.69	2.12	2.63	3.22	3.92	4.73	-	-
55	-	1.41	1.77	2.20	2.70	3.29	3.97	-	-
60	-	-	1.47	1.83	2.25	2.74	3.31	-	-
65	-	-	-	1.50	1.85	2.26	2.74	-	-
70	-	-	-	1.22	1.51	1.84	2.24	-	-

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

Cooling capacity	15 599	W
Power input	4 841	W
Current consumption	8.55	A
Mass flow	404	kg/h
C.O.P.	3.22	

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)

to: Evaporating temperature at dew point
tc: Condensing temperature at dew point
Rating conditions : Superheat = 10 K , Subcooling = 0 K

All performance data +/- 5%

Performance data at 60 Hz, ARI rating conditions

R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-15	-10	-5	0	5	10	15		
Cooling capacity in W									
35	8 224	10 430	13 054	16 142	19 740	23 894	28 649	-	-
40	7 801	9 932	12 463	15 440	18 910	22 917	27 508	-	-
45	7 361	9 404	11 831	14 687	18 017	21 867	26 283	-	-
50	6 903	8 849	11 161	13 883	17 062	20 743	24 973	-	-
55	-	8 267	10 452	13 030	16 047	19 549	23 581	-	-
60	-	-	9 707	12 129	14 973	18 283	22 106	-	-
65	-	-	-	11 181	13 840	16 948	20 551	-	-
70	-	-	-	10 187	12 650	15 545	18 917	-	-
Power input in W									
35	3 452	3 479	3 498	3 506	3 502	3 484	3 449	-	-
40	3 829	3 859	3 883	3 897	3 901	3 890	3 864	-	-
45	4 249	4 285	4 314	4 335	4 346	4 344	4 327	-	-
50	4 718	4 758	4 794	4 822	4 841	4 848	4 842	-	-
55	-	5 284	5 326	5 363	5 390	5 407	5 411	-	-
60	-	-	5 914	5 959	5 996	6 023	6 039	-	-
65	-	-	-	6 615	6 662	6 701	6 728	-	-
70	-	-	-	7 334	7 392	7 442	7 482	-	-
Current consumption in A									
35	7.25	7.30	7.33	7.35	7.36	7.35	7.32	-	-
40	7.56	7.61	7.65	7.68	7.69	7.69	7.67	-	-
45	7.93	7.99	8.03	8.06	8.09	8.09	8.08	-	-
50	8.37	8.43	8.48	8.52	8.55	8.57	8.57	-	-
55	-	8.94	9.00	9.05	9.09	9.11	9.13	-	-
60	-	-	9.60	9.66	9.71	9.74	9.77	-	-
65	-	-	-	10.35	10.41	10.46	10.50	-	-
70	-	-	-	11.14	11.21	11.27	11.32	-	-
Mass flow in kg/h									
35	183	228	279	339	407	484	571	-	-
40	182	226	278	338	406	484	571	-	-
45	180	225	277	337	405	482	570	-	-
50	178	223	275	334	402	480	567	-	-
55	-	220	272	331	399	475	562	-	-
60	-	-	268	327	394	470	556	-	-
65	-	-	-	321	387	463	548	-	-
70	-	-	-	315	380	454	538	-	-
Coefficient of performance (C.O.P.)									
35	2.38	3.00	3.73	4.60	5.64	6.86	8.31	-	-
40	2.04	2.57	3.21	3.96	4.85	5.89	7.12	-	-
45	1.73	2.19	2.74	3.39	4.15	5.03	6.07	-	-
50	1.46	1.86	2.33	2.88	3.52	4.28	5.16	-	-
55	-	1.56	1.96	2.43	2.98	3.62	4.36	-	-
60	-	-	1.64	2.04	2.50	3.04	3.66	-	-
65	-	-	-	1.69	2.08	2.53	3.05	-	-
70	-	-	-	1.39	1.71	2.09	2.53	-	-

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

Cooling capacity	17 660	W
Power input	5 330	W
Current consumption	9.03	A
Mass flow	432	kg/h
C.O.P.	3.31	

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)

to: Evaporating temperature at dew point
tc: Condensing temperature at dew point
Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

All performance data +/- 5%

Performance data at 60 Hz, EN 12900 rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-20	-15	-10	-5	0	5	10	15	
Cooling capacity in W									
30	9 229	11 916	15 084	18 777	23 042	27 924	33 470	39 726	-
35	8 517	11 135	14 210	17 788	21 914	26 635	31 995	38 042	-
40	7 752	10 284	13 251	16 698	20 670	25 213	30 372	36 194	-
45	-	9 360	12 204	15 504	19 306	23 655	28 597	34 177	-
50	-	-	11 065	14 203	17 818	21 958	26 666	31 988	-
55	-	-	-	12 792	16 205	20 118	24 575	29 622	-
60	-	-	-	-	14 463	18 132	22 322	27 075	-
65	-	-	-	-	12 591	15 998	19 900	24 341	-
Power input in W									
30	4 311	4 366	4 409	4 437	4 444	4 428	4 384	4 307	-
35	4 816	4 872	4 918	4 949	4 961	4 949	4 911	4 841	-
40	5 380	5 439	5 488	5 523	5 540	5 534	5 501	5 438	-
45	-	6 074	6 127	6 166	6 188	6 188	6 162	6 107	-
50	-	-	6 842	6 886	6 914	6 920	6 902	6 854	-
55	-	-	-	7 691	7 724	7 738	7 727	7 688	-
60	-	-	-	-	8 628	8 648	8 646	8 616	-
65	-	-	-	-	9 631	9 660	9 666	9 645	-
Current consumption in A									
30	8.01	8.06	8.10	8.13	8.14	8.13	8.10	8.04	-
35	8.51	8.56	8.60	8.63	8.65	8.65	8.62	8.57	-
40	9.09	9.14	9.19	9.23	9.25	9.25	9.23	9.19	-
45	-	9.83	9.89	9.93	9.95	9.96	9.95	9.91	-
50	-	-	10.70	10.74	10.78	10.79	10.79	10.76	-
55	-	-	-	11.69	11.73	11.75	11.76	11.74	-
60	-	-	-	-	12.83	12.86	12.87	12.87	-
65	-	-	-	-	14.09	14.13	14.15	14.15	-
Mass flow in kg/h									
30	193	244	303	371	448	534	631	740	-
35	186	239	299	367	445	532	630	739	-
40	179	232	293	363	441	529	627	737	-
45	-	224	286	356	435	524	623	733	-
50	-	-	276	347	427	516	616	726	-
55	-	-	-	335	415	505	605	716	-
60	-	-	-	-	400	490	591	703	-
65	-	-	-	-	379	471	572	684	-
Coefficient of performance (C.O.P.)									
30	2.14	2.73	3.42	4.23	5.18	6.31	7.64	9.22	-
35	1.77	2.29	2.89	3.59	4.42	5.38	6.52	7.86	-
40	1.44	1.89	2.41	3.02	3.73	4.56	5.52	6.66	-
45	-	1.54	1.99	2.51	3.12	3.82	4.64	5.60	-
50	-	-	1.62	2.06	2.58	3.17	3.86	4.67	-
55	-	-	-	1.66	2.10	2.60	3.18	3.85	-
60	-	-	-	-	1.68	2.10	2.58	3.14	-
65	-	-	-	-	1.31	1.66	2.06	2.52	-

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

Cooling capacity	21 958	W
Power input	6 920	W
Current consumption	10.79	A
Mass flow	516	kg/h
C.O.P.	3.17	

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	77	dB(A)
With accoustic hood	69	dB(A)

All performance data +/- 5%

Performance data at 60 Hz, ARI rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-20	-15	-10	-5	0	5	10	15	
Cooling capacity in W									
30	9 898	12 766	16 141	20 072	24 605	29 789	35 672	42 300	-
35	9 180	11 986	15 277	19 100	23 504	28 536	34 243	40 674	-
40	8 401	11 130	14 321	18 023	22 282	27 146	32 663	38 881	-
45	-	10 195	13 271	16 835	20 933	25 614	30 926	36 915	-
50	-	-	12 121	15 532	19 454	23 937	29 028	34 773	-
55	-	-	-	14 109	17 841	22 110	26 963	32 450	-
60	-	-	-	-	16 087	20 127	24 729	29 941	-
65	-	-	-	-	14 189	17 984	22 319	27 241	-
Power input in W									
30	4 311	4 366	4 409	4 437	4 444	4 428	4 384	4 307	-
35	4 816	4 872	4 918	4 949	4 961	4 949	4 911	4 841	-
40	5 380	5 439	5 488	5 523	5 540	5 534	5 501	5 438	-
45	-	6 074	6 127	6 166	6 188	6 188	6 162	6 107	-
50	-	-	6 842	6 886	6 914	6 920	6 902	6 854	-
55	-	-	-	7 691	7 724	7 738	7 727	7 688	-
60	-	-	-	-	8 628	8 648	8 646	8 616	-
65	-	-	-	-	9 631	9 660	9 666	9 645	-
Current consumption in A									
30	8.01	8.06	8.10	8.13	8.14	8.13	8.10	8.04	-
35	8.51	8.56	8.60	8.63	8.65	8.65	8.62	8.57	-
40	9.09	9.14	9.19	9.23	9.25	9.25	9.23	9.19	-
45	-	9.83	9.89	9.93	9.95	9.96	9.95	9.91	-
50	-	-	10.70	10.74	10.78	10.79	10.79	10.76	-
55	-	-	-	11.69	11.73	11.75	11.76	11.74	-
60	-	-	-	-	12.83	12.86	12.87	12.87	-
65	-	-	-	-	14.09	14.13	14.15	14.15	-
Mass flow in kg/h									
30	192	243	302	369	445	531	628	735	-
35	185	237	297	365	442	529	626	734	-
40	178	231	292	361	438	526	623	732	-
45	-	223	284	354	433	521	619	728	-
50	-	-	275	345	424	513	612	722	-
55	-	-	-	333	413	502	602	712	-
60	-	-	-	-	397	487	588	698	-
65	-	-	-	-	377	468	569	680	-
Coefficient of performance (C.O.P.)									
30	2.30	2.92	3.66	4.52	5.54	6.73	8.14	9.82	-
35	1.91	2.46	3.11	3.86	4.74	5.77	6.97	8.40	-
40	1.56	2.05	2.61	3.26	4.02	4.91	5.94	7.15	-
45	-	1.68	2.17	2.73	3.38	4.14	5.02	6.04	-
50	-	-	1.77	2.26	2.81	3.46	4.21	5.07	-
55	-	-	-	1.83	2.31	2.86	3.49	4.22	-
60	-	-	-	-	1.86	2.33	2.86	3.48	-
65	-	-	-	-	1.47	1.86	2.31	2.82	-

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

Cooling capacity	24 410	W
Power input	7 633	W
Current consumption	11.64	A
Mass flow	546	kg/h
C.O.P.	3.20	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

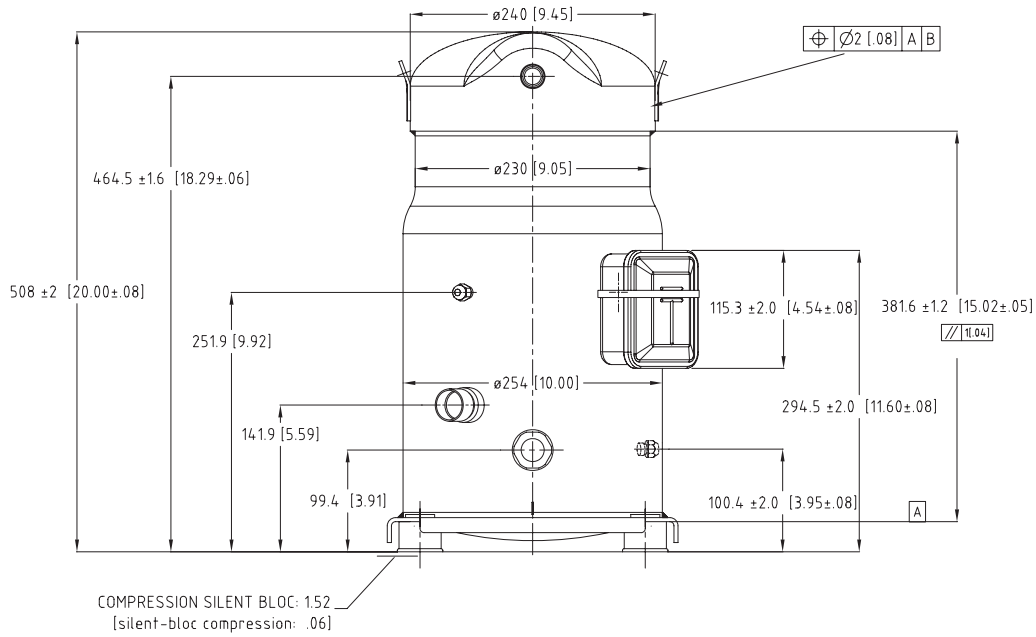
Pressure switch settings

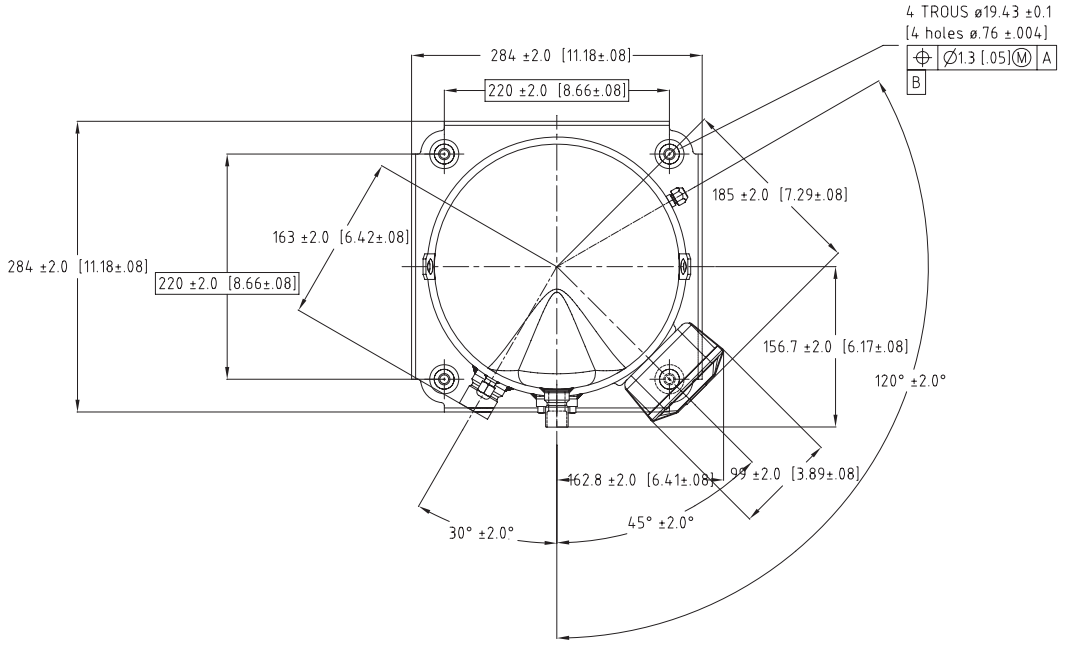
Maximum HP switch setting	29.5	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)

Sound power data

Sound power level	77	dB(A)
With accoustic hood	69	dB(A)

All performance data +/- 5%





B		PEP	13/06/00	MAP	DM 980927
A		PEP	22/09/99	SOP	CREATION DM990234
IND	RT	PAR	DATE	APPROBATIONS	OBSERVATIONS

MATIERE:

Ech.: 1/4 | Tol.gén.: ±0.8 [± .03] ± 2°

Danfoss Maneurop S.A.
Z.I. de REYRIEUX - B.P. 331F
01603 TREVOUX - FRANCE

ENCOMBREMENT S084/090/100 - V

S084/090/100 -V OUTLINE

B

85 52 036