ENGINEERING



Datasheets

# Danfoss scroll compressors **H series**





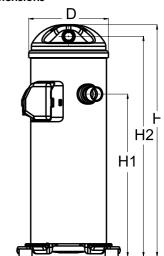
#### Datasheet, technical data

#### Danfoss scroll compressor, HCJ090T4

#### **General Characteristics**

Model number (on compressor nameplate)	HCJ090T4I	LC6	
Code number for Singlepack*	120U2302	2	
Code number for Industrial pack**	120U2299	)	
Drawing number	0SR7596B	3	
Suction and discharge connections	Brazed		
Suction connection	1-1/8 " ODI	F	
Discharge connection	7/8 " ODF		
Oil sight glass	None		
Oil equalisation connection	None		
Oil drain connection	None		
LP gauge port	None		
IPR valve	None		
Swept volume	86,85 cm3/rev		
Displacement @ Nominal speed	15.1 m3/h @ 2900 rpm - 18.2 m3/h @ 3500	rpm	
Net weight	45,2 kg		
Oil charge	2,66 litre, PVE		
Maximum system test pressure Low Side / High side - bar(g) / - bar(g)			
Maximum differential test pressure	- bar		
Maximum number of starts per hour	-		
Refrigerant charge limit	7,26 kg		
Approved refrigerants	R410A		

#### **Dimensions**



#### **Electrical Characteristics**

Electrical characteristics			
Nominal voltage	380-415V/3/50Hz - 460V/3/60Hz		
Voltage range	342-457 V @ 50Hz - 414-506 V @ 60Hz		
Winding resistance between phases 1-2 +/- 7% at 25°C	1.29 Ω		
Winding resistance between phases 1-3 +/- 7% at 25°C	1.28 Ω		
Winding resistance between phases 2-3 +/- 7% at 25°C	1.33 Ω		
Rated Load Amps (RLA)	12.2 A		
Maximum Continuous Current (MCC)	19.0 A		
Locked Rotor Amps (LRA)	110.0 A		
Motor protection	Internal overload protector		

D=184 mm H=537 mm H1=377 mm H2=510 mm H3=- mm

**Terminal box** 



**Recommended Installation torques** 

Oil sight glass	52,5 Nm
Power connections / Earth connection	3 Nm / 2 Nm

Parts shipped with compressor

Mounting kit with grommets and sleeves
Initial oil charge
Installation instructions

Approvals: CE certified, UL certified (file SA11565), -

 $\hbox{*Singlepack: Compressor in cardboard box}\\$ 

\*\*Industrial pack: 12 or 16 Unboxed compressors on pallet

- Screw connectors 10-32 UNF x 9.5
- 2: Earth connection

IP22 1:

3: Power cable passage



#### Datasheet, accessories and spare parts

#### Danfoss scroll compressor, HCJ090T4

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 sideCode no.Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF)8168030Gasket, 1-3/4"8156132

Rotolock accessories, sets	Code no.
Solder sleeve adapter set (1-3/4" Rotolock, 1-1/8" ODF), (1-1/4" Rotolock, 7/8" ODF)	120Z0125
Valve set, V02(1"3/4~1"1/8), V05(1"1/4~7/8")	120Z0403
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009

Oil / lubricants	Code no.
PVE lubricant, 320HV (FVC68D), 1 litre can	120Z5034

Crankcase heaters	Code no.
Belt type crankcase heater, 65 W, 230 V, CE mark, UL	120Z0059
Belt type crankcase heater, 65 W, 400 V, CE mark, UL	120Z0060
Belt type crankcase heater, 70 W, 240 V, CE mark, UL	120Z5040
Belt type crankcase heater, 70 W, 240 V, CE mark, UL	120Z5040

Miscellaneous accessories	Code no.
Acoustic hood	120Z5045
Discharge thermostat kit	7750009

Spare parts	Code no.
Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers	120Z5005
Mounting kit, including 1 bolt, 1 sleeve, 1 washer	120Z5031

#### Solder sleeve adapter set



1: Rotolock adapter (Suc & Dis)

- 2: Gasket (Suc & Dis)
- 3: Solder sleeve (Suc & Dis)
- 4: Rotolock nut (Suc & Dis)



#### Danfoss scroll compressor. HCJ090T4

#### Performance data at 50 Hz, EN 12900 rating conditions

# **R410A**

30	Cond. temp. in				Evapora	ting temperature i	n °C (to)			
10	°C (tc)	-25	-20	-15	-10	-5	0	5	10	15
10	O 1i	: 10/								
35			0.040	10.100	44.000	47.040	24 605	25.020	24.020	
40			+				1			-
45							1			-
50							1			
55										
60				1			1			
				-	10 083					-
wer input in W  30			1	1	-					-
30	05	-	-	-	-	-	11 924	14 495	17 404	-
35	Power input in V	v								
40 5 150 5 255 5 5 306 5 322 5 322 5 324 5 350 5 416	30	4 295	4 337	4 346	4 342	4 344	4 370	4 440	4 573	-
40 5 150 5 255 5 5 306 5 322 5 322 5 324 5 350 5 416										-
45										-
50				1					1	-
Fig. 1		-	1				1			-
60	55	-	-	-	7 254	7 284	7 285	7 275		-
		-	-	-	-					-
rrent consumption in A  30 8.13 8.10 8.04 7.97 7.86 7.72 7.55 7.32 -  35 9.12 9.06 8.98 8.90 8.79 8.66 8.51 8.31 -  40 10.26 10.15 10.05 9.94 9.83 9.70 9.56 9.39 -  45 - 11.41 11.27 11.14 11.01 10.87 10.73 10.58 -  50 - 12.70 12.53 12.37 12.22 12.08 11.93 -  55 14.15 13.96 13.78 13.63 13.48 -  60 1 - 15.80 15.60 15.42 15.26 -  65 17.70 17.49 17.31 -  ss flow in kg/h  30 161 202 247 297 355 424 504 598 -  35 155 198 244 295 352 419 497 588 -  40 147 193 240 292 349 415 491 579 -  45 - 185 235 288 346 411 485 571 -  50 227 282 341 406 479 563 -  55 274 334 399 473 555 -  60 274 334 399 473 555 -  60 325 391 465 547 -  65 325 391 465 547 -  66 325 391 465 547 -  66 325 391 465 547 -  66 381 455 537 -  sefficient of performance (C.O.P.)  30 1.79 2.26 2.80 3.42 4.13 4.94 5.84 6.79 -  35 1.49 1.91 2.38 2.91 3.53 4.23 5.02 5.88 -  40 1.21 1.60 2.01 2.47 2.99 3.59 428 5.04 -  45 - 1.31 1.67 2.07 2.52 3.03 3.61 4.28 -  50 1.37 1.71 2.09 2.53 3.03 3.59 -  55 1.39 1.72 2.08 2.50 2.98 -  60 1.37 1.71 2.09 2.55 3.03 3.59 2.43 -  65 1.39 1.72 2.08 2.50 2.98 -  60 1.37 1.71 2.09 2.55 3.03 3.59 -  60 1.39 1.72 2.08 2.50 2.98 -  60 1.39 1.72 2.08 2.50 2.98 -  60 1.39 1.72 2.08 2.50 2.98 -  60 1.39 1.72 2.08 2.50 2.98 -  60 1.39 1.72 2.08 2.50 2.98 -		-	-	-	-	-				-
30										
35			0.40	0.04	7.07	7.00	7.70	7.55	7.00	1
40										
45	•									
12.70										
14.15										-
60			+							-
65         -         -         -         -         17.70         17.49         17.31         -           ss flow in kg/h           30         161         202         247         297         355         424         504         598         -           35         155         198         244         295         352         419         497         588         -           40         147         193         240         292         349         415         491         579         -           45         -         185         235         288         346         411         485         571         -           50         -         -         227         282         341         406         479         563         -           55         -         -         -         274         334         399         473         555         -           60         -         -         -         -         325         391         465         547         -           efficient of performance (C.O.P.)         30         1.79         2.26         2.80         3.42         4.13         4.94         5.8										
ss flow in kg/h  30			+			1	1	1		
30	65	-	-	-	-	-	17.70	17.49	17.31	-
35	lass flow in kg	/h						1	1	
40       147       193       240       292       349       415       491       579       -         45       -       185       235       288       346       411       485       571       -         50       -       -       227       282       341       406       479       563       -         55       -       -       -       274       334       399       473       555       -         60       -       -       -       -       325       391       465       547       -         65       -       -       -       -       325       391       465       547       -         65       -       -       -       -       381       455       537       -         efficient of performance (C.O.P.)         30       1.79       2.26       2.80       3.42       4.13       4.94       5.84       6.79       -         35       1.49       1.91       2.38       2.91       3.53       4.23       5.02       5.88       -         40       1.21       1.60       2.01       2.47       2.99       3.	30	161	202	247	297	355	424	504	598	-
45         -         185         235         288         346         411         485         571         -           50         -         -         227         282         341         406         479         563         -           55         -         -         -         274         334         399         473         555         -           60         -         -         -         -         325         391         465         547         -           65         -         -         -         -         -         381         455         537         -           efficient of performance (C.O.P.)           30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03	35	155	198	244	295	352	419	497	588	-
Solution   Solution	40	147	193	240	292	349	415	491	579	-
55         -         -         -         274         334         399         473         555         -           60         -         -         -         -         325         391         465         547         -           65         -         -         -         -         -         381         455         537         -           efficient of performance (C.O.P.)           30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08<	45	-	185	235	288	346	411	485	571	-
60         -         -         -         -         325         391         465         547         -           65         -         -         -         -         381         455         537         -           efficient of performance (C.O.P.)           30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         -         1.38         1.6	50	-	-	227	282	341	406	479	563	-
efficient of performance (C.O.P.)           30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         1.38         1.68         2.03         2.43         -           65         -         -         -         -         -         1.32         1.61         1.94         -	55	-	-	-	274	334	399	473	555	-
efficient of performance (C.O.P.)  30	60	-	-	-	-	325	391	465	547	-
30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         1.38         1.68         2.03         2.43         -           65         -         -         -         -         -         1.32         1.61         1.94         -	65	-	-	-	-	-	381	455	537	-
35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         1.38         1.68         2.03         2.43         -           65         -         -         -         -         -         1.32         1.61         1.94         -	coefficient of pe	erformance (C.0	D.P.)							
35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         1.38         1.68         2.03         2.43         -           65         -         -         -         -         -         1.32         1.61         1.94         -	30	1.79	2.26	2.80	3.42	4.13	4.94	5.84	6.79	-
40     1.21     1.60     2.01     2.47     2.99     3.59     4.28     5.04     -       45     -     1.31     1.67     2.07     2.52     3.03     3.61     4.28     -       50     -     -     1.37     1.71     2.09     2.53     3.03     3.59     -       55     -     -     -     1.39     1.72     2.08     2.50     2.98     -       60     -     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -		1.49	1.91	2.38	2.91		4.23	5.02	5.88	-
45     -     1.31     1.67     2.07     2.52     3.03     3.61     4.28     -       50     -     -     1.37     1.71     2.09     2.53     3.03     3.59     -       55     -     -     -     1.39     1.72     2.08     2.50     2.98     -       60     -     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -										-
50     -     -     1.37     1.71     2.09     2.53     3.03     3.59     -       55     -     -     -     1.39     1.72     2.08     2.50     2.98     -       60     -     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -										-
55     -     -     1.39     1.72     2.08     2.50     2.98     -       60     -     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -			1				1			
60     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -										
65 1.32 1.61 1.94 -										
				1	1		1			
minal performance at to = 5 °C, tc = 50 °C  Pressure switch settings			1	1	1	1			1	1
	ominal perforn	nance at to = 5	°C, tc = 50 °C		<u></u>	<u></u>	Pressure switch	settings		

monimal performance acto 6 6, to	00 0	
Cooling capacity	19 814	W
Power input	6 550	W
Current consumption	12.08	Α
Mass flow	479	kg/h
C.O.P.	3.03	

to: Evaporating temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

#### Sound power data

Sound power lev	vel	72	dB(A)
With accoustic h	ood	67	dB(A)

All performance data +/- 5%

tc: Condensing temperature at dew point



#### Danfoss scroll compressor. HCJ090T4

#### Performance data at 50 Hz, ARI rating conditions

# **R410A**

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-25	-20	-15	-10	-5	0	5	10	15
0 1 : : (+	. : \								
Cooling capacity	8 291	10 593	13 114	15 977	19 305	23 220	27 846	33 306	
30		1	1						-
35	7 597	9 924	12 406	15 167	18 329	22 015	26 349	31 453	-
40	6 813	9 185	11 650	14 329	17 346	20 825	24 887	29 656	-
45	-	8 352	10 820	13 439	16 333	19 625	23 437	27 893	-
50	-	-	9 892	12 473	15 265	18 391	21 974	26 138	-
55	-	-	-	11 406	14 117	17 099	20 475	24 367	-
60	-	-	-	-	12 865	15 724	18 913	22 556	-
65	-	-	-	-	-	14 242	17 266	20 681	-
Power input in V	v								
30	4 295	4 337	4 346	4 342	4 344	4 370	4 440	4 573	-
35	4 703	4 774	4 802	4 806	4 804	4 816	4 862	4 959	-
40	5 150	5 255	5 306	5 322	5 322	5 324	5 350	5 416	_
45	-	5 787	5 866	5 898	5 903	5 901	5 910	5 950	
50	<u>-</u>	-	6 486	6 540	6 555	6 552	6 550	6 567	
55		-	-	7 254	7 284	7 285	7 275	7 275	
60		-			8 096	8 105	8 093	8 079	
	-		-	+	8 096			+	
65	-	-	-	-	-	9 020	9 009	8 986	-
Current consum	ption in A								
30	8.13	8.10	8.04	7.97	7.86	7.72	7.55	7.32	-
35	9.12	9.06	8.98	8.90	8.79	8.66	8.51	8.31	_
40	10.26	10.15	10.05	9.94	9.83	9.70	9.56	9.39	_
45	-	11.41	11.27	11.14	11.01	10.87	10.73	10.58	_
50	-	-	12.70	12.53	12.37	12.22	12.08	11.93	
55	_	-	-	14.15	13.96	13.78	13.63	13.48	
60	_	-	_	-	15.80	15.60	15.42	15.26	_
65		-	_	-	-	17.70	17.49	17.31	
03						17.70	17.49	17.51	
Mass flow in kg/	h								
30	160	201	245	295	353	421	500	594	-
35	154	197	243	293	350	416	493	583	-
40	146	192	239	290	347	412	487	575	-
45	-	184	233	286	343	408	482	567	-
50	-	-	226	280	338	403	476	559	-
55	_	-	-	272	332	397	469	551	-
60	-	-	-	-	323	389	462	543	-
65	-	-	-	-	-	378	452	533	-
•				•		•	•		
Coefficient of pe	•	· ·	2.00	2.00	1 4 4 4	5.04	0.07	7.00	
30	1.93	2.44	3.02	3.68	4.44	5.31	6.27	7.28	-
35	1.62	2.08	2.58	3.16	3.82	4.57	5.42	6.34	-
40	1.32	1.75	2.20	2.69	3.26	3.91	4.65	5.48	-
45	-	1.44	1.84	2.28	2.77	3.33	3.97	4.69	-
50	-	-	1.53	1.91	2.33	2.81	3.35	3.98	-
55	-	-	-	1.57	1.94	2.35	2.81	3.35	-
60	-	-	-	-	1.59	1.94	2.34	2.79	-
65	-	-	-	_	1 -	1.58	1.92	2.30	_

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

	• •		
Cooling capacity	22 312	W	
Power input	7 182	W	
Current consumption	13.36	Α	
Mass flow	505	kg/h	
C.O.P.	3.11		

to: Evaporating temperature at dew point

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

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

#### Sound power data

Sound power level	72	dB(A)
With accoustic hood	67	dB(A)

All performance data +/- 5%

tc: Condensing temperature at dew point



#### Danfoss scroll compressor. HCJ090T4

#### Performance data at 60 Hz, EN 12900 rating conditions

# **R410A**

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-25	-20	-15	-10	-5	0	5	10	15
!	: 14/								
ooling capacity	9 090	11 622	14 402	17 564	21 241	25 568	30 680	36 712	
30									-
35	8 301	10 844	13 568	16 605	20 089	24 153	28 931	34 557	-
40	7 423	9 995	12 682	15 616	18 927	22 749	27 214	32 454	-
45	-	9 046	11 714	14 562	17 720	21 319	25 491	30 367	-
50	-	-	10 631	13 409	16 431	19 825	23 722	28 250	-
55	-	-	-	12 120	15 019	18 222	21 857	26 053	-
60	-	-	-	-	13 431	16 449	19 830	23 698	-
65	-	-	-	-	-	14 410	17 524	21 052	-
Power input in V	v								
30	5 006	5 054	5 065	5 060	5 062	5 093	5 174	5 328	-
35	5 492	5 574	5 605	5 609	5 608	5 622	5 675	5 788	-
40	6 030	6 150	6 208	6 226	6 225	6 229	6 258	6 335	-
45	-	6 791	6 880	6 917	6 923	6 920	6 931	6 978	_
50	-	-	7 630	7 690	7 707	7 704	7 701	7 722	_
55	_	_	-	8 553	8 587	8 588	8 577	8 577	_
60	-	-	_	-	9 570	9 580	9 566	9 550	
65	-	-	_	_	-	10 687	10 675	10 649	_
00		1	I.	I	1	10 007	10 070	10 0 10	
urrent consum	ption in A								
30	8.13	8.10	8.04	7.97	7.86	7.72	7.55	7.32	-
35	9.12	9.06	8.98	8.90	8.79	8.66	8.51	8.31	-
40	10.26	10.15	10.05	9.94	9.83	9.70	9.56	9.39	-
45	-	11.41	11.27	11.14	11.01	10.87	10.73	10.58	-
50	-	-	12.70	12.53	12.37	12.22	12.08	11.93	-
55	_	_	-	14.15	13.96	13.78	13.63	13.48	_
60	-	-	_	-	15.80	15.60	15.42	15.26	_
65	-	_	_	_	-	17.70	17.49	17.31	_
00		I	L	I	<u> </u>				
lass flow in kg/	/h								
30	190	239	292	352	421	501	596	707	-
35	184	235	290	350	418	497	589	697	-
40	175	229	286	347	415	493	583	688	-
45	-	221	280	343	412	490	579	681	-
50	-	-	272	337	408	486	574	674	-
55	_	_	-	329	401	480	568	667	-
60	-	-	-	-	391	472	560	659	-
65	-	-	-	-	-	460	550	649	_
		1	1	1	1			1	
<u> </u>	erformance (C.C	· ·			1	T	1	T T	
30	1.82	2.30	2.84	3.47	4.20	5.02	5.93	6.89	-
35	1.51	1.95	2.42	2.96	3.58	4.30	5.10	5.97	-
40	1.23	1.63	2.04	2.51	3.04	3.65	4.35	5.12	-
45	-	1.33	1.70	2.11	2.56	3.08	3.68	4.35	-
50	-	-	1.39	1.74	2.13	2.57	3.08	3.66	-
55	-	-	-	1.42	1.75	2.12	2.55	3.04	-
60	-	-	-	-	1.40	1.72	2.07	2.48	-
	_	_	_	_	1	1.35	1.64	1.98	-

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

rionina poriorinarios arto o o, to	•• •	
Cooling capacity	23 722	W
Power input	7 701	W
Current consumption	12.08	Α
Mass flow	574	kg/h
C.O.P.	3.08	

to: Evaporating temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

#### Sound power data

Sound power level	75	dB(A)	
With accoustic hood	70	dB(A)	

All performance data +/- 5%

tc: Condensing temperature at dew point



#### Danfoss scroll compressor. HCJ090T4

#### Performance data at 60 Hz, ARI rating conditions

# **R410A**

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-25	-20	-15	-10	-5	0	5	10	15
Caaling canacity	ı in W								
Cooling capacity		12.520	15 501	19.011	22.940	27.490	22.049	20.205	
30	9 817	12 538	15 521	18 911	22 849	27 480	32 948	39 395	-
35	9 023	11 773	14 713	17 988	21 740	26 113	31 250	37 296	-
40	8 131	10 934	13 856	17 040	20 630	24 769	29 601	35 268	-
45	-	9 989	12 917	16 034	19 486	23 415	27 965	33 279	-
50	-	-	11 860	14 936	18 273	22 016	26 308	31 293	-
55	-	-	-	13 710	16 957	20 539	24 597	29 276	-
60	-	-	-	-	15 505	18 948	22 797	27 195	-
65	-	-	-	-	-	17 211	20 874	25 015	-
Power input in V	v								
30	5 006	5 054	5 065	5 060	5 062	5 093	5 174	5 328	-
35	5 492	5 574	5 605	5 609	5 608	5 622	5 675	5 788	-
40	6 030	6 150	6 208	6 226	6 225	6 229	6 258	6 335	-
45	-	6 791	6 880	6 917	6 923	6 920	6 931	6 978	_
50	-	-	7 630	7 690	7 707	7 704	7 701	7 722	_
55	_	-	-	8 553	8 587	8 588	8 577	8 577	_
60	_	-	_	-	9 570	9 580	9 566	9 550	
65	<u>-</u>	-	_	-	-	10 687	10 675	10 649	
00			<u> </u>	<u> </u>	<u> </u>	10 007	10 07 0	10 040	
Current consum	ption in A								
30	8.13	8.10	8.04	7.97	7.86	7.72	7.55	7.32	-
35	9.12	9.06	8.98	8.90	8.79	8.66	8.51	8.31	-
40	10.26	10.15	10.05	9.94	9.83	9.70	9.56	9.39	-
45	-	11.41	11.27	11.14	11.01	10.87	10.73	10.58	-
50	-	_	12.70	12.53	12.37	12.22	12.08	11.93	-
55	-	-	_	14.15	13.96	13.78	13.63	13.48	_
60	_	-	-	-	15.80	15.60	15.42	15.26	_
65	_	-	-	-	-	17.70	17.49	17.31	_
00			1	I				1	
Mass flow in kg/	h	_							
30	189	238	290	350	418	498	592	702	-
35	183	234	288	348	415	494	585	692	-
40	174	228	284	345	413	490	579	683	-
45	-	220	279	341	410	487	575	676	-
50	-	-	271	335	405	482	570	669	-
55	-	-	-	327	398	477	564	663	-
60	-	-	-	-	389	469	556	655	-
65	-	-	-	-	-	457	546	645	-
Coefficient of pe	rformanco (C (	) P)							
30	1.96	2.48	3.06	3.74	4.51	5.40	6.37	7.39	-
35	1.64	2.11	2.62	3.21	3.88	4.64	5.51	6.44	_
40	1.35	1.78	2.23	2.74	3.31	3.98	4.73	5.57	
45	-	1.76	1.88	2.74	2.81	3.38	4.73	4.77	
1								t	
50 55	-	-	1.55	1.94	2.37	2.86	3.42	4.05	-
55	-	-	-	1.60	1.97	2.39	2.87	3.41	-
60	-	-	-	-	1.62	1.98	2.38	2.85	-
65	-	-	-	-	-	1.61	1.96	2.35	-

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

reciminal performance at to 7.2	0, 10 04.4 0	
Cooling capacity	26 795 W	
Power input	8 464 W	
Current consumption	13.36 A	
Mass flow	607 kg/h	
C.O.P.	3.17	

to: Evaporating temperature at dew point

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

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

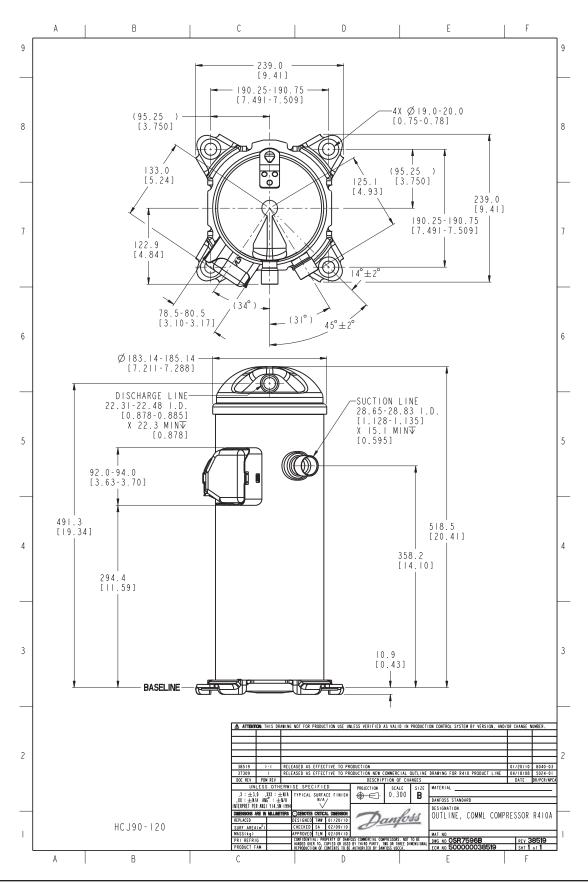
#### Sound power data

Sound power level	75	dB(A)
With accoustic hood	70	dB(A)

All performance data +/- 5%

tc: Condensing temperature at dew point





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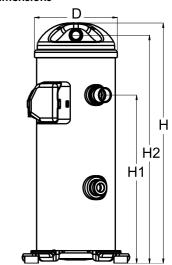
#### Datasheet, technical data

#### Danfoss scroll compressor, HCJ090T4

#### **General Characteristics**

Model number (on compressor nameplate)		HCJ090T4LC7		
Code number for Singlepack*	e number for Singlepack*			
Code number for Industrial pack**		120U2531		
Drawing number		0SR7509B		
Suction and discharge connections		Brazed		
Suction connection		1-1/8 " ODF		
Discharge connection		7/8 " ODF		
Oil sight glass		Threaded		
Oil equalisation connection		None		
Oil drain connection		None		
LP gauge port		None		
IPR valve		None		
Swept volume	86,85 cm3/rev			
Displacement @ Nominal speed	15.1 m3/h @ 2900 rpm ·	- 18.2 m3/h @ 3500 rpm		
Net weight	45,2	2 kg		
Oil charge	2,66 litre, PVE			
Maximum system test pressure Low Side / High side	- bar(g) / - bar(g)			
Maximum differential test pressure	- bar			
Maximum number of starts per hour		•		
Refrigerant charge limit	7,26 kg			
Approved refrigerants	R410A			

#### **Dimensions**



#### **Electrical Characteristics**

Electrical characteristics	
Nominal voltage	380-415V/3/50Hz - 460V/3/60Hz
Voltage range	342-457 V @ 50Hz - 414-506 V @ 60Hz
Winding resistance between phases 1-2 +/- 7% at 25°C	1.29 Ω
Winding resistance between phases 1-3 +/- 7% at 25°C	1.28 Ω
Winding resistance between phases 2-3 +/- 7% at 25°C	1.33 Ω
Rated Load Amps (RLA)	12.2 A
Maximum Continuous Current (MCC)	19.0 A
Locked Rotor Amps (LRA)	110.0 A
Motor protection	Internal overload protector

D=184 mm H=537 mm H1=377 mm

H2=510 mm H3=- mm

#### **Recommended Installation torques**

Oil sight glass	52,5 Nm
Power connections / Earth connection	3 Nm / 2 Nm

Terminal box



#### Parts shipped with compressor

Mounting kit with grommets and sleeves
Initial oil charge
Installation instructions

Approvals: CE certified, UL certified (file SA11565), -

\*Singlepack: Compressor in cardboard box

\*\*Industrial pack: 12 or 16 Unboxed compressors on pallet

IP22

1: Screw connectors 10-32 UNF x 9.5

2: Earth connection

3: Power cable passage



#### Datasheet, accessories and spare parts

#### Danfoss scroll compressor, HCJ090T4

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 sideCode no.Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF)8168030Gasket, 1-3/4"8156132

Rotolock accessories, sets	Code no.		
Solder sleeve adapter set (1-3/4" Rotolock, 1-1/8" ODF), (1-1/4" Rotolock, 7/8" ODF)	120Z0125		
Valve set, V02(1"3/4~1"1/8), V05(1"1/4~7/8")	120Z0403		
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009		

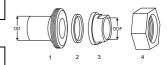
Oil / lubricants	Code no.		
PVE lubricant, 320HV (FVC68D), 1 litre can	120Z5034		

Crankcase heaters	Code no.
Belt type crankcase heater, 65 W, 230 V, CE mark, UL	120Z0059
Belt type crankcase heater, 65 W, 400 V, CE mark, UL	120Z0060
Belt type crankcase heater, 70 W, 240 V, CE mark, UL	120Z5040
Belt type crankcase heater, 70 W. 240 V. CE mark, UL	120Z5040

Miscellaneous accessories	Code no.
Acoustic hood	120Z5045
Discharge thermostat kit	7750009

Spare parts	Code no.
Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers	120Z5005
Mounting kit, including 1 bolt, 1 sleeve, 1 washer	120Z5031

#### Solder sleeve adapter set



1: Rotolock adapter (Suc & Dis)

2: Gasket (Suc & Dis)

3: Solder sleeve (Suc & Dis)

4: Rotolock nut (Suc & Dis)



#### Danfoss scroll compressor. HCJ090T4

#### Performance data at 50 Hz, EN 12900 rating conditions

# **R410A**

30	Cond. temp. in	Evaporating temperature in °C (to)								
10	°C (tc)	-25	-20	-15	-10	-5	0	5	10	15
10	O 1i	: 10/								
35			0.040	10.100	44.000	47.040	24 605	25.020	24.020	
40			+				1			-
45							1			-
50							1			
55										
60				1			1			
				-	10 083					-
wer input in W  30			1	1	-					-
30	05	-	-	-	-	-	11 924	14 495	17 404	-
35	Power input in V	v								
40 5 150 5 255 5 5 306 5 322 5 322 5 324 5 350 5 416	30	4 295	4 337	4 346	4 342	4 344	4 370	4 440	4 573	-
40 5 150 5 255 5 5 306 5 322 5 322 5 324 5 350 5 416										-
45										-
50				1					1	-
Fig. 1		-	1				1			-
60	55	-	-	-	7 254	7 284	7 285	7 275		-
		-	-	-	-					-
rrent consumption in A  30 8.13 8.10 8.04 7.97 7.86 7.72 7.55 7.32 -  35 9.12 9.06 8.98 8.90 8.79 8.66 8.51 8.31 -  40 10.26 10.15 10.05 9.94 9.83 9.70 9.56 9.39 -  45 - 11.41 11.27 11.14 11.01 10.87 10.73 10.58 -  50 - 12.70 12.53 12.37 12.22 12.08 11.93 -  55 14.15 13.96 13.78 13.63 13.48 -  60 1 - 15.80 15.60 15.42 15.26 -  65 17.70 17.49 17.31 -  ss flow in kg/h  30 161 202 247 297 355 424 504 598 -  35 155 198 244 295 352 419 497 588 -  40 147 193 240 292 349 415 491 579 -  45 - 185 235 288 346 411 485 571 -  50 227 282 341 406 479 563 -  55 274 334 399 473 555 -  60 274 334 399 473 555 -  60 325 391 465 547 -  65 325 391 465 547 -  66 325 391 465 547 -  66 325 391 465 547 -  66 381 455 537 -  sefficient of performance (C.O.P.)  30 1.79 2.26 2.80 3.42 4.13 4.94 5.84 6.79 -  35 1.49 1.91 2.38 2.91 3.53 4.23 5.02 5.88 -  40 1.21 1.60 2.01 2.47 2.99 3.59 428 5.04 -  45 - 1.31 1.67 2.07 2.52 3.03 3.61 4.28 -  50 1.37 1.71 2.09 2.53 3.03 3.59 -  55 1.39 1.72 2.08 2.50 2.98 -  60 1.37 1.71 2.09 2.55 3.03 3.59 2.43 -  65 1.39 1.72 2.08 2.50 2.98 -  60 1.37 1.71 2.09 2.55 3.03 3.59 -  60 1.39 1.72 2.08 2.50 2.98 -  60 1.39 1.72 2.08 2.50 2.98 -  60 1.39 1.72 2.08 2.50 2.98 -  60 1.39 1.72 2.08 2.50 2.98 -  60 1.39 1.72 2.08 2.50 2.98 -		-	-	-	-	-				-
30										
35			0.40	0.04	7.07	7.00	7.70	7.55	7.00	1
40										
45	•									
12.70										
14.15										-
60			+							-
65         -         -         -         -         17.70         17.49         17.31         -           ss flow in kg/h           30         161         202         247         297         355         424         504         598         -           35         155         198         244         295         352         419         497         588         -           40         147         193         240         292         349         415         491         579         -           45         -         185         235         288         346         411         485         571         -           50         -         -         227         282         341         406         479         563         -           55         -         -         -         274         334         399         473         555         -           60         -         -         -         -         325         391         465         547         -           efficient of performance (C.O.P.)         30         1.79         2.26         2.80         3.42         4.13         4.94         5.8										
ss flow in kg/h  30			+			1	1	1		
30	65	-	-	-	-	-	17.70	17.49	17.31	-
35	lass flow in kg	/h						1	1	
40       147       193       240       292       349       415       491       579       -         45       -       185       235       288       346       411       485       571       -         50       -       -       227       282       341       406       479       563       -         55       -       -       -       274       334       399       473       555       -         60       -       -       -       -       325       391       465       547       -         65       -       -       -       -       325       391       465       547       -         65       -       -       -       -       381       455       537       -         efficient of performance (C.O.P.)         30       1.79       2.26       2.80       3.42       4.13       4.94       5.84       6.79       -         35       1.49       1.91       2.38       2.91       3.53       4.23       5.02       5.88       -         40       1.21       1.60       2.01       2.47       2.99       3.	30	161	202	247	297	355	424	504	598	-
45         -         185         235         288         346         411         485         571         -           50         -         -         227         282         341         406         479         563         -           55         -         -         -         274         334         399         473         555         -           60         -         -         -         -         325         391         465         547         -           65         -         -         -         -         -         381         455         537         -           efficient of performance (C.O.P.)           30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03	35	155	198	244	295	352	419	497	588	-
Solution   Solution	40	147	193	240	292	349	415	491	579	-
55         -         -         -         274         334         399         473         555         -           60         -         -         -         -         325         391         465         547         -           65         -         -         -         -         -         381         455         537         -           efficient of performance (C.O.P.)           30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08<	45	-	185	235	288	346	411	485	571	-
60         -         -         -         -         325         391         465         547         -           65         -         -         -         -         381         455         537         -           efficient of performance (C.O.P.)           30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         -         1.38         1.6	50	-	-	227	282	341	406	479	563	-
efficient of performance (C.O.P.)           30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         1.38         1.68         2.03         2.43         -           65         -         -         -         -         -         1.32         1.61         1.94         -	55	-	-	-	274	334	399	473	555	-
efficient of performance (C.O.P.)  30	60	-	-	-	-	325	391	465	547	-
30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         1.38         1.68         2.03         2.43         -           65         -         -         -         -         -         1.32         1.61         1.94         -	65	-	-	-	-	-	381	455	537	-
35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         1.38         1.68         2.03         2.43         -           65         -         -         -         -         -         1.32         1.61         1.94         -	coefficient of pe	erformance (C.0	D.P.)							
35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         1.38         1.68         2.03         2.43         -           65         -         -         -         -         -         1.32         1.61         1.94         -	30	1.79	2.26	2.80	3.42	4.13	4.94	5.84	6.79	-
40     1.21     1.60     2.01     2.47     2.99     3.59     4.28     5.04     -       45     -     1.31     1.67     2.07     2.52     3.03     3.61     4.28     -       50     -     -     1.37     1.71     2.09     2.53     3.03     3.59     -       55     -     -     -     1.39     1.72     2.08     2.50     2.98     -       60     -     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -		1.49	1.91	2.38	2.91		4.23	5.02	5.88	-
45     -     1.31     1.67     2.07     2.52     3.03     3.61     4.28     -       50     -     -     1.37     1.71     2.09     2.53     3.03     3.59     -       55     -     -     -     1.39     1.72     2.08     2.50     2.98     -       60     -     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -										-
50     -     -     1.37     1.71     2.09     2.53     3.03     3.59     -       55     -     -     -     1.39     1.72     2.08     2.50     2.98     -       60     -     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -										-
55     -     -     1.39     1.72     2.08     2.50     2.98     -       60     -     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -			1				1			
60     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -										
65 1.32 1.61 1.94 -										
				1	1		1			
minal performance at to = 5 °C, tc = 50 °C  Pressure switch settings			1	1	1	1			1	1
	ominal perforn	nance at to = 5	°C, tc = 50 °C		<u></u>	<u></u>	Pressure switch	settings		

monimal performance acto 6 6, to	00 0	
Cooling capacity	19 814	W
Power input	6 550	W
Current consumption	12.08	Α
Mass flow	479	kg/h
C.O.P.	3.03	

to: Evaporating temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

#### Sound power data

Sound power lev	vel	72	dB(A)
With accoustic h	ood	67	dB(A)

All performance data +/- 5%

tc: Condensing temperature at dew point



#### Danfoss scroll compressor. HCJ090T4

#### Performance data at 50 Hz, ARI rating conditions

# **R410A**

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-25	-20	-15	-10	-5	0	5	10	15
0 1 : : (+	. : \								
Cooling capacity	8 291	10 593	13 114	15 977	19 305	23 220	27 846	33 306	
30		1	1						-
35	7 597	9 924	12 406	15 167	18 329	22 015	26 349	31 453	-
40	6 813	9 185	11 650	14 329	17 346	20 825	24 887	29 656	-
45	-	8 352	10 820	13 439	16 333	19 625	23 437	27 893	-
50	-	-	9 892	12 473	15 265	18 391	21 974	26 138	-
55	-	-	-	11 406	14 117	17 099	20 475	24 367	-
60	-	-	-	-	12 865	15 724	18 913	22 556	-
65	-	-	-	-	-	14 242	17 266	20 681	-
Power input in V	v								
30	4 295	4 337	4 346	4 342	4 344	4 370	4 440	4 573	-
35	4 703	4 774	4 802	4 806	4 804	4 816	4 862	4 959	-
40	5 150	5 255	5 306	5 322	5 322	5 324	5 350	5 416	_
45	-	5 787	5 866	5 898	5 903	5 901	5 910	5 950	
50	<u>-</u>	-	6 486	6 540	6 555	6 552	6 550	6 567	
55		-	-	7 254	7 284	7 285	7 275	7 275	
60		-			8 096	8 105	8 093	8 079	
	-		-	+	8 096			+	
65	-	-	-	-	-	9 020	9 009	8 986	-
Current consum	ption in A								
30	8.13	8.10	8.04	7.97	7.86	7.72	7.55	7.32	-
35	9.12	9.06	8.98	8.90	8.79	8.66	8.51	8.31	_
40	10.26	10.15	10.05	9.94	9.83	9.70	9.56	9.39	_
45	-	11.41	11.27	11.14	11.01	10.87	10.73	10.58	_
50	-	-	12.70	12.53	12.37	12.22	12.08	11.93	
55	_	-	-	14.15	13.96	13.78	13.63	13.48	
60	_	-	_	-	15.80	15.60	15.42	15.26	_
65		-	-	-	-	17.70	17.49	17.31	
03						17.70	17.49	17.51	
Mass flow in kg/	h								
30	160	201	245	295	353	421	500	594	-
35	154	197	243	293	350	416	493	583	-
40	146	192	239	290	347	412	487	575	-
45	-	184	233	286	343	408	482	567	-
50	-	-	226	280	338	403	476	559	-
55	_	-	-	272	332	397	469	551	-
60	-	-	-	-	323	389	462	543	-
65	-	-	-	-	-	378	452	533	-
•				•		•	•		
Coefficient of pe	•	· ·	2.00	2.00	1 4 4 4	5.04	0.07	7.00	
30	1.93	2.44	3.02	3.68	4.44	5.31	6.27	7.28	-
35	1.62	2.08	2.58	3.16	3.82	4.57	5.42	6.34	-
40	1.32	1.75	2.20	2.69	3.26	3.91	4.65	5.48	-
45	-	1.44	1.84	2.28	2.77	3.33	3.97	4.69	-
50	-	-	1.53	1.91	2.33	2.81	3.35	3.98	-
55	-	-	-	1.57	1.94	2.35	2.81	3.35	-
60	-	-	-	-	1.59	1.94	2.34	2.79	-
65	-	-	-	_	1 -	1.58	1.92	2.30	_

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

	• •		
Cooling capacity	22 312	W	
Power input	7 182	W	
Current consumption	13.36	Α	
Mass flow	505	kg/h	
C.O.P.	3.11		

to: Evaporating temperature at dew point

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

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

#### Sound power data

Sound power level	72	dB(A)
With accoustic hood	67	dB(A)

All performance data +/- 5%

tc: Condensing temperature at dew point



#### Danfoss scroll compressor. HCJ090T4

#### Performance data at 60 Hz, EN 12900 rating conditions

# **R410A**

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-25	-20	-15	-10	-5	0	5	10	15
!	: 14/								
ooling capacity	9 090	11 622	14 402	17 564	21 241	25 568	30 680	36 712	
30									-
35	8 301	10 844	13 568	16 605	20 089	24 153	28 931	34 557	-
40	7 423	9 995	12 682	15 616	18 927	22 749	27 214	32 454	-
45	-	9 046	11 714	14 562	17 720	21 319	25 491	30 367	-
50	-	-	10 631	13 409	16 431	19 825	23 722	28 250	-
55	-	-	-	12 120	15 019	18 222	21 857	26 053	-
60	-	-	-	-	13 431	16 449	19 830	23 698	-
65	-	-	-	-	-	14 410	17 524	21 052	-
Power input in V	v								
30	5 006	5 054	5 065	5 060	5 062	5 093	5 174	5 328	-
35	5 492	5 574	5 605	5 609	5 608	5 622	5 675	5 788	-
40	6 030	6 150	6 208	6 226	6 225	6 229	6 258	6 335	-
45	-	6 791	6 880	6 917	6 923	6 920	6 931	6 978	_
50	-	-	7 630	7 690	7 707	7 704	7 701	7 722	_
55	_	_	-	8 553	8 587	8 588	8 577	8 577	_
60	-	-	_	-	9 570	9 580	9 566	9 550	
65	-	-	_	_	-	10 687	10 675	10 649	_
00		1	I.	I	1	10 007	10 070	10 0 10	
urrent consum	ption in A								
30	8.13	8.10	8.04	7.97	7.86	7.72	7.55	7.32	-
35	9.12	9.06	8.98	8.90	8.79	8.66	8.51	8.31	-
40	10.26	10.15	10.05	9.94	9.83	9.70	9.56	9.39	-
45	-	11.41	11.27	11.14	11.01	10.87	10.73	10.58	-
50	-	-	12.70	12.53	12.37	12.22	12.08	11.93	-
55	_	_	-	14.15	13.96	13.78	13.63	13.48	_
60	-	-	_	-	15.80	15.60	15.42	15.26	_
65	-	_	_	_	-	17.70	17.49	17.31	_
00		I	L	I	<u> </u>				
lass flow in kg/	/h								
30	190	239	292	352	421	501	596	707	-
35	184	235	290	350	418	497	589	697	-
40	175	229	286	347	415	493	583	688	-
45	-	221	280	343	412	490	579	681	-
50	-	-	272	337	408	486	574	674	-
55	_	_	_	329	401	480	568	667	-
60	-	-	-	-	391	472	560	659	-
65	-	-	-	-	-	460	550	649	_
		1	1	1	1			1	
<u> </u>	erformance (C.C	· ·			1	T	1	T T	
30	1.82	2.30	2.84	3.47	4.20	5.02	5.93	6.89	-
35	1.51	1.95	2.42	2.96	3.58	4.30	5.10	5.97	-
40	1.23	1.63	2.04	2.51	3.04	3.65	4.35	5.12	-
45	-	1.33	1.70	2.11	2.56	3.08	3.68	4.35	-
50	-	-	1.39	1.74	2.13	2.57	3.08	3.66	-
55	-	-	-	1.42	1.75	2.12	2.55	3.04	-
60	-	-	-	-	1.40	1.72	2.07	2.48	-
	_	_	_	_	1	1.35	1.64	1.98	-

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

rionina poriorinarios arto o o, to	•• •	
Cooling capacity	23 722	W
Power input	7 701	W
Current consumption	12.08	Α
Mass flow	574	kg/h
C.O.P.	3.08	

to: Evaporating temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

#### Sound power data

Sound power level	75	dB(A)	
With accoustic hood	70	dB(A)	

All performance data +/- 5%

tc: Condensing temperature at dew point



#### Danfoss scroll compressor. HCJ090T4

#### Performance data at 60 Hz, ARI rating conditions

# **R410A**

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-25	-20	-15	-10	-5	0	5	10	15
Caaling canacity	ı in W								
Cooling capacity		12.520	15 501	19.011	22.940	27.490	22.049	20.205	
30	9 817	12 538	15 521	18 911	22 849	27 480	32 948	39 395	-
35	9 023	11 773	14 713	17 988	21 740	26 113	31 250	37 296	-
40	8 131	10 934	13 856	17 040	20 630	24 769	29 601	35 268	-
45	-	9 989	12 917	16 034	19 486	23 415	27 965	33 279	-
50	-	-	11 860	14 936	18 273	22 016	26 308	31 293	-
55	-	-	-	13 710	16 957	20 539	24 597	29 276	-
60	-	-	-	-	15 505	18 948	22 797	27 195	-
65	-	-	-	-	-	17 211	20 874	25 015	-
Power input in V	v								
30	5 006	5 054	5 065	5 060	5 062	5 093	5 174	5 328	-
35	5 492	5 574	5 605	5 609	5 608	5 622	5 675	5 788	-
40	6 030	6 150	6 208	6 226	6 225	6 229	6 258	6 335	-
45	-	6 791	6 880	6 917	6 923	6 920	6 931	6 978	_
50	-	-	7 630	7 690	7 707	7 704	7 701	7 722	_
55	_	-	-	8 553	8 587	8 588	8 577	8 577	_
60	_	-	_	-	9 570	9 580	9 566	9 550	
65	<u>-</u>	-	_	-	-	10 687	10 675	10 649	
00				<u> </u>	<u> </u>	10 007	10 07 0	10 040	
Current consum	ption in A								
30	8.13	8.10	8.04	7.97	7.86	7.72	7.55	7.32	-
35	9.12	9.06	8.98	8.90	8.79	8.66	8.51	8.31	-
40	10.26	10.15	10.05	9.94	9.83	9.70	9.56	9.39	-
45	-	11.41	11.27	11.14	11.01	10.87	10.73	10.58	-
50	-	_	12.70	12.53	12.37	12.22	12.08	11.93	-
55	-	-	_	14.15	13.96	13.78	13.63	13.48	_
60	_	-	-	-	15.80	15.60	15.42	15.26	_
65	_	-	-	-	-	17.70	17.49	17.31	_
00			1	I				1	
Mass flow in kg/	h	_							
30	189	238	290	350	418	498	592	702	-
35	183	234	288	348	415	494	585	692	-
40	174	228	284	345	413	490	579	683	-
45	-	220	279	341	410	487	575	676	-
50	-	-	271	335	405	482	570	669	-
55	-	-	-	327	398	477	564	663	-
60	-	-	-	-	389	469	556	655	-
65	-	-	-	-	-	457	546	645	-
Coefficient of pe	rformanco (C (	) P)							
30	1.96	2.48	3.06	3.74	4.51	5.40	6.37	7.39	-
35	1.64	2.11	2.62	3.21	3.88	4.64	5.51	6.44	_
40	1.35	1.78	2.23	2.74	3.31	3.98	4.73	5.57	
45	-	1.76	1.88	2.74	2.81	3.38	4.73	4.77	
1								t	
50 55	-	-	1.55	1.94	2.37	2.86	3.42	4.05	-
55	-	-	-	1.60	1.97	2.39	2.87	3.41	-
60	-	-	-	-	1.62	1.98	2.38	2.85	-
65	-	-	-	-	-	1.61	1.96	2.35	-

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

reciminal performance at to 7.2	0, 10 04.4 0	
Cooling capacity	26 795 W	
Power input	8 464 W	
Current consumption	13.36 A	
Mass flow	607 kg/h	
C.O.P.	3.17	

to: Evaporating temperature at dew point

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

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

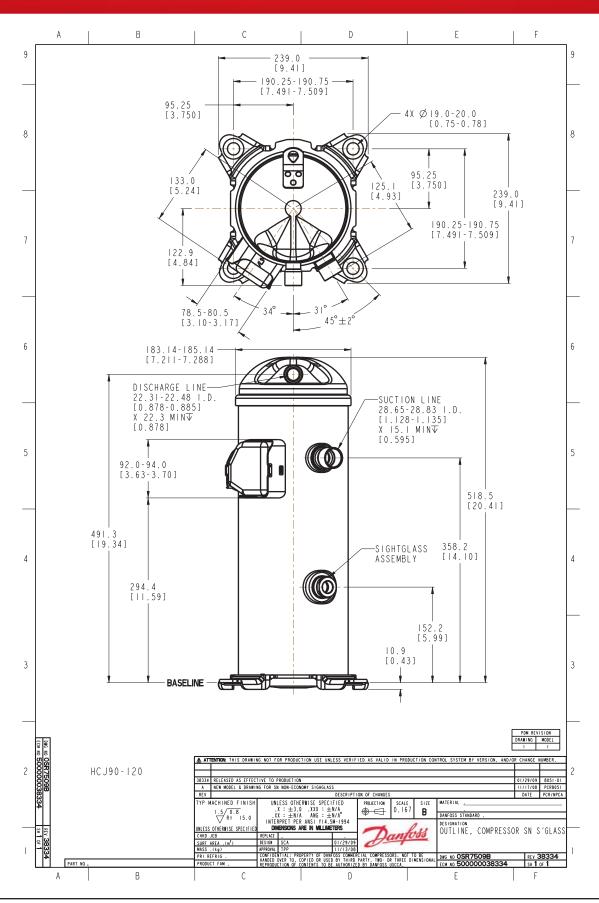
#### Sound power data

Sound power level	75	dB(A)
With accoustic hood	70	dB(A)

All performance data +/- 5%

tc: Condensing temperature at dew point





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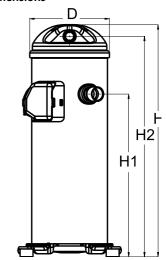
#### Datasheet, technical data

#### Danfoss scroll compressor, HCJ090T4

#### **General Characteristics**

Model number (on compressor nameplate)		HCJ090T4LC8
Code number for Singlepack*		120U2538
Drawing number		0SR7508B
Suction and discharge connections		Brazed
Suction connection		1-1/8 " ODF
Discharge connection		7/8 " ODF
Oil sight glass		None
Oil equalisation connection		1/2"
Oil drain connection		None
LP gauge port		None
IPR valve		None
Swept volume	86,85 c	m3/rev
Displacement @ Nominal speed	15.1 m3/h @ 2900 rpm	- 18.2 m3/h @ 3500 rpm
Net weight	45,2	2 kg
Oil charge	2,66 litre	e, PVE
Maximum system test pressure Low Side / High side	- bar(g)	/ - bar(g)
Maximum differential test pressure	- b	oar
Maximum number of starts per hour		-
Refrigerant charge limit	7,26	5 kg
Approved refrigerants	R41	10A

#### **Dimensions**



#### **Electrical Characteristics**

Nominal voltage	380-415V/3/50Hz - 460V/3/60Hz
Voltage range	342-457 V @ 50Hz - 414-506 V @ 60Hz
Winding resistance between phases 1-2 +/- 7% at 25°C	1.29 Ω
Winding resistance between phases 1-3 +/- 7% at 25℃	1.28 Ω
Winding resistance between phases 2-3 +/- 7% at 25°C	1.33 Ω
Rated Load Amps (RLA)	12.2 A
Maximum Continuous Current (MCC)	19.0 A
Locked Rotor Amps (LRA)	110.0 A
Motor protection	Internal overload protector

D=184 mm H=537 mm H1=377 mm H2=510 mm H3=- mm

**Terminal box** 

#### **Recommended Installation torques**

necommended installation torques	
Oil sight glass	52,5 Nm
Power connections / Earth connection	3 Nm / 2 Nm

#### Parts shipped with compressor

Mounting kit with grommets and sleeves
Initial oil charge
Installation instructions

IP22 1:

- Screw connectors 10-32 UNF x 9.5
- 2: Earth connection
- 3: Power cable passage

Approvals: CE certified, UL certified (file SA11565), -

\*Singlepack: Compressor in cardboard box

\*\*Industrial pack: 12 or 16 Unboxed compressors on pallet



#### Datasheet, accessories and spare parts

#### Danfoss scroll compressor, HCJ090T4

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 sideCode no.Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF)8168030Gasket, 1-3/4"8156132

Rotolock accessories, sets	Code no.
Solder sleeve adapter set (1-3/4" Rotolock, 1-1/8" ODF), (1-1/4" Rotolock, 7/8" ODF)	120Z0125
Valve set, V02(1"3/4~1"1/8), V05(1"1/4~7/8")	120Z0403
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009

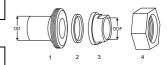
Oil / lubricants	Code no.
PVE lubricant, 320HV (FVC68D), 1 litre can	120Z5034

Crankcase heaters	Code no.
Belt type crankcase heater, 65 W, 230 V, CE mark, UL	120Z0059
Belt type crankcase heater, 65 W, 400 V, CE mark, UL	120Z0060
Belt type crankcase heater, 70 W, 240 V, CE mark, UL	120Z5040
Belt type crankcase heater, 70 W, 240 V, CE mark, UL	120Z5040

Miscellaneous accessories	Code no.
Acoustic hood	120Z5045
Discharge thermostat kit	7750009

Spare parts	Code no.
Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers	120Z5005
Mounting kit, including 1 bolt, 1 sleeve, 1 washer	120Z5031

#### Solder sleeve adapter set



1: Rotolock adapter (Suc & Dis)

2: Gasket (Suc & Dis)

3: Solder sleeve (Suc & Dis)

4: Rotolock nut (Suc & Dis)



#### Danfoss scroll compressor. HCJ090T4

#### Performance data at 50 Hz, EN 12900 rating conditions

# **R410A**

30	Cond. temp. in	Evaporating temperature in °C (to)								
10	°C (tc)	-25	-20	-15	-10	-5	0	5	10	15
10	O 1i	: 10/								
35			0.040	10.100	44.000	47.040	24 605	25.020	24.020	
40			+				1			-
45							1			-
50							1			
55										
60				1			1			
				-	10 083					-
wer input in W  30			1	1	-					-
30	05	-	-	-	-	-	11 924	14 495	17 404	-
35	Power input in V	v								
40 5 150 5 255 5 5 306 5 322 5 322 5 324 5 350 5 416	30	4 295	4 337	4 346	4 342	4 344	4 370	4 440	4 573	-
40 5 150 5 255 5 5 306 5 322 5 322 5 324 5 350 5 416										-
45										-
50				1					1	-
Fig. 1		-	1				1			-
60	55	-	-	-	7 254	7 284	7 285	7 275		-
		-	-	-	-					-
rrent consumption in A  30 8.13 8.10 8.04 7.97 7.86 7.72 7.55 7.32 -  35 9.12 9.06 8.98 8.90 8.79 8.66 8.51 8.31 -  40 10.26 10.15 10.05 9.94 9.83 9.70 9.56 9.39 -  45 - 11.41 11.27 11.14 11.01 10.87 10.73 10.58 -  50 - 12.70 12.53 12.37 12.22 12.08 11.93 -  55 14.15 13.96 13.78 13.63 13.48 -  60 1 - 15.80 15.60 15.42 15.26 -  65 17.70 17.49 17.31 -  ss flow in kg/h  30 161 202 247 297 355 424 504 598 -  35 155 198 244 295 352 419 497 588 -  40 147 193 240 292 349 415 491 579 -  45 - 185 235 288 346 411 485 571 -  50 227 282 341 406 479 563 -  55 274 334 399 473 555 -  60 274 334 399 473 555 -  60 325 391 465 547 -  65 325 391 465 547 -  66 325 391 465 547 -  66 325 391 465 547 -  66 381 455 537 -  sefficient of performance (C.O.P.)  30 1.79 2.26 2.80 3.42 4.13 4.94 5.84 6.79 -  35 1.49 1.91 2.38 2.91 3.53 4.23 5.02 5.88 -  40 1.21 1.60 2.01 2.47 2.99 3.59 428 5.04 -  45 - 1.31 1.67 2.07 2.52 3.03 3.61 4.28 -  50 1.37 1.71 2.09 2.53 3.03 3.59 -  55 1.39 1.72 2.08 2.50 2.98 -  60 1.37 1.71 2.09 2.55 3.03 3.59 2.43 -  65 1.39 1.72 2.08 2.50 2.98 -  60 1.37 1.71 2.09 2.55 3.03 3.59 -  60 1.39 1.72 2.08 2.50 2.98 -  60 1.39 1.72 2.08 2.50 2.98 -  60 1.39 1.72 2.08 2.50 2.98 -  60 1.39 1.72 2.08 2.50 2.98 -  60 1.39 1.72 2.08 2.50 2.98 -		-	-	-	-	-				-
30										
35			0.40	0.04	7.07	7.00	7.70	7.55	7.00	1
40										
45	•									
12.70										
14.15										-
60			+							-
65         -         -         -         -         17.70         17.49         17.31         -           ss flow in kg/h           30         161         202         247         297         355         424         504         598         -           35         155         198         244         295         352         419         497         588         -           40         147         193         240         292         349         415         491         579         -           45         -         185         235         288         346         411         485         571         -           50         -         -         227         282         341         406         479         563         -           55         -         -         -         274         334         399         473         555         -           60         -         -         -         -         325         391         465         547         -           efficient of performance (C.O.P.)         30         1.79         2.26         2.80         3.42         4.13         4.94         5.8										
ss flow in kg/h  30			+			1	1	1		
30	65	-	-	-	-	-	17.70	17.49	17.31	-
35	lass flow in kg	/h						1	1	
40       147       193       240       292       349       415       491       579       -         45       -       185       235       288       346       411       485       571       -         50       -       -       227       282       341       406       479       563       -         55       -       -       -       274       334       399       473       555       -         60       -       -       -       -       325       391       465       547       -         65       -       -       -       -       325       391       465       547       -         65       -       -       -       -       381       455       537       -         efficient of performance (C.O.P.)         30       1.79       2.26       2.80       3.42       4.13       4.94       5.84       6.79       -         35       1.49       1.91       2.38       2.91       3.53       4.23       5.02       5.88       -         40       1.21       1.60       2.01       2.47       2.99       3.	30	161	202	247	297	355	424	504	598	-
45         -         185         235         288         346         411         485         571         -           50         -         -         227         282         341         406         479         563         -           55         -         -         -         274         334         399         473         555         -           60         -         -         -         -         325         391         465         547         -           65         -         -         -         -         -         381         455         537         -           efficient of performance (C.O.P.)           30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03	35	155	198	244	295	352	419	497	588	-
Solution   Solution	40	147	193	240	292	349	415	491	579	-
55         -         -         -         274         334         399         473         555         -           60         -         -         -         -         325         391         465         547         -           65         -         -         -         -         -         381         455         537         -           efficient of performance (C.O.P.)           30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08<	45	-	185	235	288	346	411	485	571	-
60         -         -         -         -         325         391         465         547         -           65         -         -         -         -         381         455         537         -           efficient of performance (C.O.P.)           30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         -         1.38         1.6	50	-	-	227	282	341	406	479	563	-
efficient of performance (C.O.P.)           30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         1.38         1.68         2.03         2.43         -           65         -         -         -         -         -         1.32         1.61         1.94         -	55	-	-	-	274	334	399	473	555	-
efficient of performance (C.O.P.)  30	60	-	-	-	-	325	391	465	547	-
30         1.79         2.26         2.80         3.42         4.13         4.94         5.84         6.79         -           35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         1.38         1.68         2.03         2.43         -           65         -         -         -         -         -         1.32         1.61         1.94         -	65	-	-	-	-	-	381	455	537	-
35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         1.38         1.68         2.03         2.43         -           65         -         -         -         -         -         1.32         1.61         1.94         -	coefficient of pe	erformance (C.0	D.P.)							
35         1.49         1.91         2.38         2.91         3.53         4.23         5.02         5.88         -           40         1.21         1.60         2.01         2.47         2.99         3.59         4.28         5.04         -           45         -         1.31         1.67         2.07         2.52         3.03         3.61         4.28         -           50         -         -         1.37         1.71         2.09         2.53         3.03         3.59         -           55         -         -         -         1.39         1.72         2.08         2.50         2.98         -           60         -         -         -         -         1.38         1.68         2.03         2.43         -           65         -         -         -         -         -         1.32         1.61         1.94         -	30	1.79	2.26	2.80	3.42	4.13	4.94	5.84	6.79	-
40     1.21     1.60     2.01     2.47     2.99     3.59     4.28     5.04     -       45     -     1.31     1.67     2.07     2.52     3.03     3.61     4.28     -       50     -     -     1.37     1.71     2.09     2.53     3.03     3.59     -       55     -     -     -     1.39     1.72     2.08     2.50     2.98     -       60     -     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -		1.49	1.91	2.38	2.91		4.23	5.02	5.88	-
45     -     1.31     1.67     2.07     2.52     3.03     3.61     4.28     -       50     -     -     1.37     1.71     2.09     2.53     3.03     3.59     -       55     -     -     -     1.39     1.72     2.08     2.50     2.98     -       60     -     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -										-
50     -     -     1.37     1.71     2.09     2.53     3.03     3.59     -       55     -     -     -     1.39     1.72     2.08     2.50     2.98     -       60     -     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -										-
55     -     -     1.39     1.72     2.08     2.50     2.98     -       60     -     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -			1				1			
60     -     -     -     1.38     1.68     2.03     2.43     -       65     -     -     -     -     1.32     1.61     1.94     -										
65 1.32 1.61 1.94 -										
				1	1		1			
minal performance at to = 5 °C, tc = 50 °C  Pressure switch settings			1	1	1	1			1	1
	ominal perforn	nance at to = 5	°C, tc = 50 °C		<u></u>	<u></u>	Pressure switch	settings		

monimal performance acto 6 6, to	00 0	
Cooling capacity	19 814	W
Power input	6 550	W
Current consumption	12.08	Α
Mass flow	479	kg/h
C.O.P.	3.03	

to: Evaporating temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

#### Sound power data

Sound power lev	vel	72	dB(A)
With accoustic h	ood	67	dB(A)

All performance data +/- 5%

tc: Condensing temperature at dew point



#### Danfoss scroll compressor. HCJ090T4

#### Performance data at 50 Hz, ARI rating conditions

# **R410A**

Cond. temp. in Evaporating temperature in °C (to)									
°C (tc)	-25	-20	-15	-10	-5	0	5	10	15
0 1 : : (+	. : \								
Cooling capacity	8 291	10 593	13 114	15 977	19 305	23 220	27 846	33 306	
30		1	1						-
35	7 597	9 924	12 406	15 167	18 329	22 015	26 349	31 453	-
40	6 813	9 185	11 650	14 329	17 346	20 825	24 887	29 656	-
45	-	8 352	10 820	13 439	16 333	19 625	23 437	27 893	-
50	-	-	9 892	12 473	15 265	18 391	21 974	26 138	-
55	-	-	-	11 406	14 117	17 099	20 475	24 367	-
60	-	-	-	-	12 865	15 724	18 913	22 556	-
65	-	-	-	-	-	14 242	17 266	20 681	-
Power input in V	v								
30	4 295	4 337	4 346	4 342	4 344	4 370	4 440	4 573	-
35	4 703	4 774	4 802	4 806	4 804	4 816	4 862	4 959	-
40	5 150	5 255	5 306	5 322	5 322	5 324	5 350	5 416	_
45	-	5 787	5 866	5 898	5 903	5 901	5 910	5 950	
50	<u>-</u>	-	6 486	6 540	6 555	6 552	6 550	6 567	
55		-	-	7 254	7 284	7 285	7 275	7 275	
60		-			8 096	8 105	8 093	8 079	
	-		-	+	8 096			+	
65	-	-	-	-	-	9 020	9 009	8 986	-
Current consum	ption in A								
30	8.13	8.10	8.04	7.97	7.86	7.72	7.55	7.32	-
35	9.12	9.06	8.98	8.90	8.79	8.66	8.51	8.31	_
40	10.26	10.15	10.05	9.94	9.83	9.70	9.56	9.39	_
45	-	11.41	11.27	11.14	11.01	10.87	10.73	10.58	_
50	-	-	12.70	12.53	12.37	12.22	12.08	11.93	
55	_	-	-	14.15	13.96	13.78	13.63	13.48	
60	_	-	_	-	15.80	15.60	15.42	15.26	_
65		-	-	-	-	17.70	17.49	17.31	
03						17.70	17.49	17.51	
Mass flow in kg/	h								
30	160	201	245	295	353	421	500	594	-
35	154	197	243	293	350	416	493	583	-
40	146	192	239	290	347	412	487	575	-
45	-	184	233	286	343	408	482	567	-
50	-	-	226	280	338	403	476	559	-
55	_	-	-	272	332	397	469	551	-
60	-	-	-	-	323	389	462	543	-
65	-	-	-	-	-	378	452	533	-
•				•		•	•		
Coefficient of pe	•	· ·	2.00	2.00	1 4 4 4	5.04	0.07	7.00	
30	1.93	2.44	3.02	3.68	4.44	5.31	6.27	7.28	-
35	1.62	2.08	2.58	3.16	3.82	4.57	5.42	6.34	-
40	1.32	1.75	2.20	2.69	3.26	3.91	4.65	5.48	-
45	-	1.44	1.84	2.28	2.77	3.33	3.97	4.69	-
50	-	-	1.53	1.91	2.33	2.81	3.35	3.98	-
55	-	-	-	1.57	1.94	2.35	2.81	3.35	-
60	-	-	-	-	1.59	1.94	2.34	2.79	-
65	-	-	-	_	1 -	1.58	1.92	2.30	_

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

	• •		
Cooling capacity	22 312	W	
Power input	7 182	W	
Current consumption	13.36	Α	
Mass flow	505	kg/h	
C.O.P.	3.11		

to: Evaporating temperature at dew point

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

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

#### Sound power data

Sound power level	72	dB(A)
With accoustic hood	67	dB(A)

All performance data +/- 5%

tc: Condensing temperature at dew point



#### Danfoss scroll compressor. HCJ090T4

#### Performance data at 60 Hz, EN 12900 rating conditions

# **R410A**

Cond. temp. in Evaporating temperature in °C (to)									
°C (tc)	-25	-20	-15	-10	-5	0	5	10	15
!	: 14/								
ooling capacity	9 090	11 622	14 402	17 564	21 241	25 568	30 680	36 712	
30									-
35	8 301	10 844	13 568	16 605	20 089	24 153	28 931	34 557	-
40	7 423	9 995	12 682	15 616	18 927	22 749	27 214	32 454	-
45	-	9 046	11 714	14 562	17 720	21 319	25 491	30 367	-
50	-	-	10 631	13 409	16 431	19 825	23 722	28 250	-
55	-	-	-	12 120	15 019	18 222	21 857	26 053	-
60	-	-	-	-	13 431	16 449	19 830	23 698	-
65	-	-	-	-	-	14 410	17 524	21 052	-
Power input in V	v								
30	5 006	5 054	5 065	5 060	5 062	5 093	5 174	5 328	-
35	5 492	5 574	5 605	5 609	5 608	5 622	5 675	5 788	-
40	6 030	6 150	6 208	6 226	6 225	6 229	6 258	6 335	-
45	-	6 791	6 880	6 917	6 923	6 920	6 931	6 978	_
50	-	-	7 630	7 690	7 707	7 704	7 701	7 722	_
55	_	_	-	8 553	8 587	8 588	8 577	8 577	_
60	-	-	_	-	9 570	9 580	9 566	9 550	
65	-	-	_	_	-	10 687	10 675	10 649	_
00		1	I.	I	1	10 007	10 070	10 0 10	
urrent consum	ption in A								
30	8.13	8.10	8.04	7.97	7.86	7.72	7.55	7.32	-
35	9.12	9.06	8.98	8.90	8.79	8.66	8.51	8.31	-
40	10.26	10.15	10.05	9.94	9.83	9.70	9.56	9.39	-
45	-	11.41	11.27	11.14	11.01	10.87	10.73	10.58	-
50	-	-	12.70	12.53	12.37	12.22	12.08	11.93	-
55	_	_	-	14.15	13.96	13.78	13.63	13.48	_
60	-	-	_	-	15.80	15.60	15.42	15.26	_
65	-	_	_	_	-	17.70	17.49	17.31	_
00		I	L	I	<u> </u>				
lass flow in kg/	/h								
30	190	239	292	352	421	501	596	707	-
35	184	235	290	350	418	497	589	697	-
40	175	229	286	347	415	493	583	688	-
45	-	221	280	343	412	490	579	681	-
50	-	-	272	337	408	486	574	674	-
55	_	_	-	329	401	480	568	667	-
60	-	-	-	-	391	472	560	659	-
65	-	-	-	-	-	460	550	649	_
		1	1	1	1			1	
<u> </u>	erformance (C.C	· ·			1	T	1	T T	
30	1.82	2.30	2.84	3.47	4.20	5.02	5.93	6.89	-
35	1.51	1.95	2.42	2.96	3.58	4.30	5.10	5.97	-
40	1.23	1.63	2.04	2.51	3.04	3.65	4.35	5.12	-
45	-	1.33	1.70	2.11	2.56	3.08	3.68	4.35	-
50	-	-	1.39	1.74	2.13	2.57	3.08	3.66	-
55	-	-	-	1.42	1.75	2.12	2.55	3.04	-
60	-	-	-	-	1.40	1.72	2.07	2.48	-
	_	_	_	_	1	1.35	1.64	1.98	-

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

rionina poriorinarios arto o o, to	•• •	
Cooling capacity	23 722	W
Power input	7 701	W
Current consumption	12.08	Α
Mass flow	574	kg/h
C.O.P.	3.08	

to: Evaporating temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

#### Sound power data

Sound power level	75	dB(A)	
With accoustic hood	70	dB(A)	

All performance data +/- 5%

tc: Condensing temperature at dew point



#### Danfoss scroll compressor. HCJ090T4

#### Performance data at 60 Hz, ARI rating conditions

# **R410A**

Cond. temp. in Evaporating temperature in °C (to)									
°C (tc)	-25	-20	-15	-10	-5	0	5	10	15
Caaling canacity	ı in W								
Cooling capacity		12.520	15 501	19.011	22.940	27.490	22.049	20.205	
30	9 817	12 538	15 521	18 911	22 849	27 480	32 948	39 395	-
35	9 023	11 773	14 713	17 988	21 740	26 113	31 250	37 296	-
40	8 131	10 934	13 856	17 040	20 630	24 769	29 601	35 268	-
45	-	9 989	12 917	16 034	19 486	23 415	27 965	33 279	-
50	-	-	11 860	14 936	18 273	22 016	26 308	31 293	-
55	-	-	-	13 710	16 957	20 539	24 597	29 276	-
60	-	-	-	-	15 505	18 948	22 797	27 195	-
65	-	-	-	-	-	17 211	20 874	25 015	-
Power input in V	v								
30	5 006	5 054	5 065	5 060	5 062	5 093	5 174	5 328	-
35	5 492	5 574	5 605	5 609	5 608	5 622	5 675	5 788	-
40	6 030	6 150	6 208	6 226	6 225	6 229	6 258	6 335	-
45	-	6 791	6 880	6 917	6 923	6 920	6 931	6 978	_
50	-	-	7 630	7 690	7 707	7 704	7 701	7 722	_
55	_	-	-	8 553	8 587	8 588	8 577	8 577	_
60	_	-	_	-	9 570	9 580	9 566	9 550	
65	<u>-</u>	-	_	-	-	10 687	10 675	10 649	
00			<u> </u>	<u> </u>	<u> </u>	10 007	10 07 0	10 040	
Current consum	ption in A								
30	8.13	8.10	8.04	7.97	7.86	7.72	7.55	7.32	-
35	9.12	9.06	8.98	8.90	8.79	8.66	8.51	8.31	-
40	10.26	10.15	10.05	9.94	9.83	9.70	9.56	9.39	-
45	-	11.41	11.27	11.14	11.01	10.87	10.73	10.58	-
50	-	_	12.70	12.53	12.37	12.22	12.08	11.93	-
55	-	-	_	14.15	13.96	13.78	13.63	13.48	_
60	_	-	-	-	15.80	15.60	15.42	15.26	_
65	_	-	-	-	-	17.70	17.49	17.31	_
00			1	I				1	
Mass flow in kg/	h	_							
30	189	238	290	350	418	498	592	702	-
35	183	234	288	348	415	494	585	692	-
40	174	228	284	345	413	490	579	683	-
45	-	220	279	341	410	487	575	676	-
50	-	-	271	335	405	482	570	669	-
55	-	-	-	327	398	477	564	663	-
60	-	-	-	-	389	469	556	655	-
65	-	-	-	-	-	457	546	645	-
Coefficient of pe	rformanco (C (	) P)							
30	1.96	2.48	3.06	3.74	4.51	5.40	6.37	7.39	-
35	1.64	2.11	2.62	3.21	3.88	4.64	5.51	6.44	_
40	1.35	1.78	2.23	2.74	3.31	3.98	4.73	5.57	
45	-	1.76	1.88	2.74	2.81	3.38	4.73	4.77	
1								t	
50 55	-	-	1.55	1.94	2.37	2.86	3.42	4.05	-
55	-	-	-	1.60	1.97	2.39	2.87	3.41	-
60	-	-	-	-	1.62	1.98	2.38	2.85	-
65	-	-	-	-	-	1.61	1.96	2.35	-

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

reciminal performance at to 7.2	0, 10 0-1 0
Cooling capacity	26 795 W
Power input	8 464 W
Current consumption	13.36 A
Mass flow	607 kg/h
C.O.P.	3.17

to: Evaporating temperature at dew point

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

	Maximum HP switch setting	45	bar(g)
	Minimum LP switch setting	1.5	bar(g)
L	LP pump down setting	2.3	bar(g)

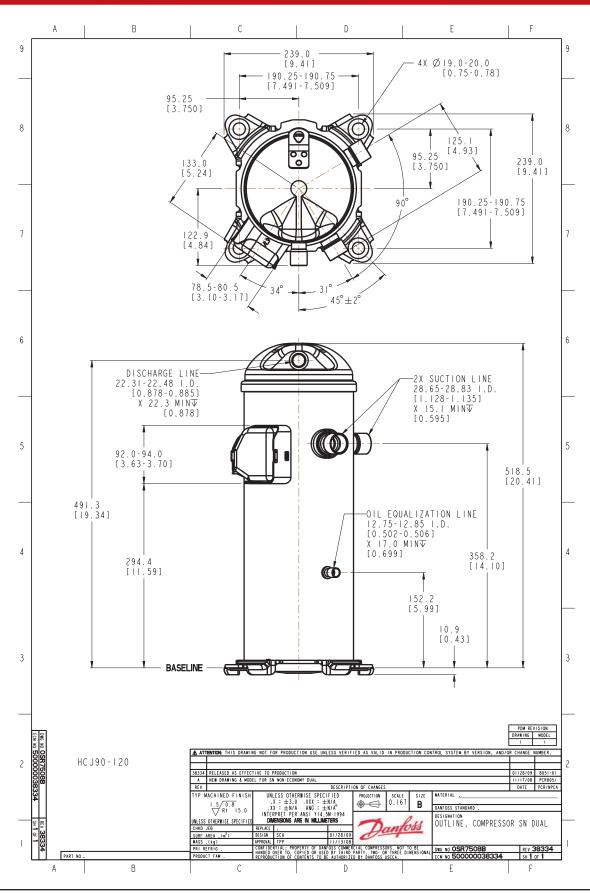
#### Sound power data

Sound power level	75	dB(A)
With accoustic hood	70	dB(A)

All performance data +/- 5%

tc: Condensing temperature at dew point





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