



Datasheets

# Danfoss scroll compressors **H series**



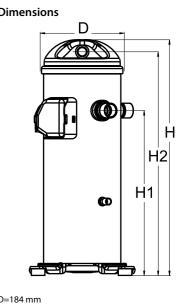
## Danfoss scroll compressor, HCP109T4

Pantoss

#### Datasheet, technical data

### **General Characteristics**

Model number (on compressor nameplate)	HCP109T4LC6
Code number for Singlepack*	120U0376
Code number for Industrial pack**	120U0373
Drawing number	0SR4103B-4
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	148.79 cm3/rev
Displacement @ Nominal speed	25.9 m3/h @ 2900 rpm - 31.3 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	R407C



### **Electrical Characteristics**

Nominal voltage Voltage range Winding resistance between phases 1-2 +/- 7% at 25°C	380-415V/3/50Hz - 460V/3/60Hz 342-457 V @ 50Hz - 414-506 V @ 60Hz 1.326 Ω	D=184 mm H=545 mm H1=369 mm H2=519 mm
Winding resistance between phases 1-3 +/- 7% at 25°C Winding resistance between phases 2-3 +/- 7% at 25°C Rated Load Amps (RLA)	1.280 Ω 1.290 Ω 16 Α	H3=- mm
Maximum Continuous Current (MCC) Locked Rotor Amps (LRA) Motor protection	24 A 110 A Internal overload protector	Terminal I

## erminal 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), -\*Singlepack: Compressor in cardboard box

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

IP22 1:

3:

Screw connectors 10-32 UNF x 9.5

2: Earth connection

Power cable passage





### Datasheet, accessories and spare parts

Danfoss scroll compressor, HCP109T4

Code no.	
8153004	
8168005	
8168028	
8156132	
Code no.	Solder sleeve adapter set
8168030	
8156132	
Code no.	
120Z0125	1 2 3 4
120Z0403	
8156009	
	1: Rotolock adapter (Suc & Dis)
Code no.	2: Gasket (Suc & Dis)
120Z5034	3: Solder sleeve (Suc & Dis)
	4: Rotolock nut (Suc & Dis)
Code no.	
120Z0059	
120Z0060	
120Z5040	
120Z5040	
Code no.	
120Z5045	
7750009	
118U0057	
Code no	
120Z5031	
	8153004 8168005 8168028 8156132 Code no. 8168030 8156132 Code no. 120Z0125 120Z0403 8156009 Code no. 120Z5034 Code no. 120Z0059 120Z0060 120Z5040 120Z5040 120Z5040 120Z5045 7750009

## Danfoss scroll compressor. HCP109T4

Danfoss

R407C

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

i chomanec		0 112, EIX 120	oo rating co	nanionis					
Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	in W								
30	-	7 897	10 117	12 893	16 181	19 936	24 114	28 670	33 558
35	-	7 508	9 489	12 073	15 216	18 875	23 004	27 559	32 495
40	-	7 253	8 948	11 291	14 239	17 749	21 777	26 278	31 208
45	-	-	8 507	10 559	13 262	16 573	20 447	24 842	29 714
50	-	-	-	9 892	12 301	15 362	19 032	23 268	28 026
55	-	-	-	-	11 368	14 130	17 544	21 568	26 161
60	-	-	-	-	-	12 889	15 997	19 758	24 130
65	-	-	-	-	-	-	14 403	17 848	21 946
Power input in W 30	-	4 338	4 423	4 496	4 562	4 630	4 707	4 802	4 922
30 35	-	4 338	4 423 4 925	4 496 5 021	4 562 5 094	4 630 5 153	4 707 5 206	4 802 5 259	4 922 5 322
40	-	5 271	4 925 5 447	5 578	5 671	5 733	5 200	5 239	5 814
40	-	-	6 008	6 186	6 309	6 386	6 424	6 431	6 414
45 50	-		-	6 860	7 027	7 131	7 179	7 180	7 142
55	-	-	-	-	7 841	7 983	8 054	8 062	8 013
60	-		-		-	8 962	9 067	9 093	9 047
65	-	-	-	-	-	-	10 236	10 291	10 259
Current consump	tion in A			J					
30	-	10.02	10.09	10.16	10.23	10.30	10.37	10.42	10.46
35	-	10.64	10.69	10.74	10.80	10.85	10.91	10.96	11.00
40	-	11.32	11.34	11.38	11.42	11.46	11.51	11.56	11.60
45	-	-	12.10	12.11	12.14	12.18	12.23	12.27	12.32
50	-	-	-	13.00	13.02	13.05	13.10	13.15	13.20
55	-	-	-	-	14.10	14.13	14.17	14.23	14.29
60	-	-	-	-	-	15.46	15.50	15.56	15.64

#### Mass flow in kg/h

65

30	-	179	224	278	342	416	501	596	704
35	-	177	222	276	339	413	497	592	698
40	-	173	218	272	336	409	493	588	694
45	-	-	212	267	331	404	488	583	689
50	-	-	-	258	323	397	482	577	683
55	-	-	-	-	312	388	473	569	676
60	-	-	-	-	-	374	461	558	666
65	-	-	-	-	-	-	446	545	654

#### Coefficient of performance (C.O.P.)

30	-	1.82	2.29	2.87	3.55	4.31	5.12	5.97	6.82
35	-	1.56	1.93	2.40	2.99	3.66	4.42	5.24	6.11
40	-	1.38	1.64	2.02	2.51	3.10	3.77	4.53	5.37
45	-	-	1.42	1.71	2.10	2.60	3.18	3.86	4.63
50	-	-	-	1.44	1.75	2.15	2.65	3.24	3.92
55	-	-	-	-	1.45	1.77	2.18	2.68	3.26
60	-	-	-	-	-	1.44	1.76	2.17	2.67
65	-	-	-	-	-	-	1.41	1.73	2.14

Nominal performance at to = 5 °C, tc = 50 °C							
Cooling capacity	23 268	W					
Power input	7 180	W					
Current consumption	13.15	Α					
Mass flow	577	kg/h					
COP	3 24						

Pressure switch settings		
Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)
Sound nowar data		
Sound power data Sound power level	74	dB(A)
With accoustic hood	69	dB(A)

Tolerance according EN12900

17.13

17.20

17.29

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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## Danfoss scroll compressor. HCP109T4

Danfoss

R407C

## Performance data at 50 Hz, ARI rating conditions

Cond. temp. in		Evaporating temperature in °C (to)								
°C (tc)	-30	-30 -25 -20 -15 -10 -5 0 5 10								
C (iC)	-30	-25	-20	-15	-10	-5	0	5	10	

## Cooling capacity in W

30	-	8 480	10 850	13 812	17 315	21 311	25 751	30 585	35 765
35	-	8 102	10 227	12 995	16 358	20 267	24 673	29 526	34 778
40	-	7 873	9 698	12 219	15 389	19 157	23 474	28 293	33 562
45	-	-	9 280	11 501	14 422	17 995	22 171	26 900	32 134
50	-	-	-	10 856	13 475	16 799	20 779	25 365	30 509
55	-	-	-	-	12 563	15 584	19 314	23 703	28 703
60	-	-	-	-	-	14 367	17 793	21 931	26 732
65	-	-	-	-	-	-	16 231	20 064	24 613

#### Power input in W

30	-	4 338	4 423	4 496	4 562	4 630	4 707	4 802	4 922
35	-	4 800	4 925	5 021	5 094	5 153	5 206	5 259	5 322
40	-	5 271	5 447	5 578	5 671	5 733	5 772	5 797	5 814
45	-	-	6 008	6 186	6 309	6 386	6 424	6 431	6 414
50	-	-	-	6 860	7 027	7 131	7 179	7 180	7 142
55	-	-	-	-	7 841	7 983	8 054	8 062	8 013
60	-	-	-	-	-	8 962	9 067	9 093	9 047
65	-	-	-	-	-	-	10 236	10 291	10 259

#### Current consumption in A

30	-	10.02	10.09	10.16	10.23	10.30	10.37	10.42	10.46
35	-	10.64	10.69	10.74	10.80	10.85	10.91	10.96	11.00
40	-	11.32	11.34	11.38	11.42	11.46	11.51	11.56	11.60
45	-	-	12.10	12.11	12.14	12.18	12.23	12.27	12.32
50	-	-	-	13.00	13.02	13.05	13.10	13.15	13.20
55	-	-	-	-	14.10	14.13	14.17	14.23	14.29
60	-	-	-	-	-	15.46	15.50	15.56	15.64
65	-	-	-	-	-	-	17.13	17.20	17.29

#### Mass flow in kg/h

30	-	178	223	276	340	414	498	593	700
35	-	176	221	275	338	411	494	589	694
40	-	172	217	271	334	407	490	584	689
45	-	-	211	265	329	402	485	579	685
50	-	-	-	257	321	395	479	573	679
55	-	-	-	-	310	385	470	566	672
60	-	-	-	-	-	372	459	555	662
65	-	-	-	-	-	-	443	541	650

#### Coefficient of performance (C.O.P.)

30	-	1.95	2.45	3.07	3.80	4.60	5.47	6.37	7.27
35	-	1.69	2.08	2.59	3.21	3.93	4.74	5.61	6.53
40	-	1.49	1.78	2.19	2.71	3.34	4.07	4.88	5.77
45	-	-	1.54	1.86	2.29	2.82	3.45	4.18	5.01
50	-	-	-	1.58	1.92	2.36	2.89	3.53	4.27
55	-	-	-	-	1.60	1.95	2.40	2.94	3.58
60	-	-	-	-	-	1.60	1.96	2.41	2.95
65	-	-	-	-	-	-	1.59	1.95	2.40

Nominal performance at to = 7.2 °C,	tc = 54.4 °C	
Cooling capacity	26 046	W
Power input	7 934	W
Current consumption	14.11	A
Mass flow	612	kg/h
C.O.P.	3.28	

Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)
Sound power data		
Sound power data Sound power level	74	dB(A)

Tolerance according EN12900

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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## Danfoss scroll compressor. HCP109T4

Danfoss

R407C

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

i chomanec		0 112, EIX 120	oo rating co	nanionis					
Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	in W								
30	-	7 897	10 117	12 893	16 181	19 936	24 114	28 670	33 558
35	-	7 508	9 489	12 073	15 216	18 875	23 004	27 559	32 495
40	-	7 253	8 948	11 291	14 239	17 749	21 777	26 278	31 208
45	-	-	8 507	10 559	13 262	16 573	20 447	24 842	29 714
50	-	-	-	9 892	12 301	15 362	19 032	23 268	28 026
55	-	-	-	-	11 368	14 130	17 544	21 568	26 161
60	-	-	-	-	-	12 889	15 997	19 758	24 130
65	-	-	-	-	-	-	14 403	17 848	21 946
Power input in W 30	-	4 338	4 423	4 496	4 562	4 630	4 707	4 802	4 922
30 35	-	4 338	4 423 4 925	4 496 5 021	4 562 5 094	4 630 5 153	4 707 5 206	4 802 5 259	4 922 5 322
40	-	5 271	4 925 5 447	5 578	5 671	5 733	5 200	5 239	5 814
40	-	-	6 008	6 186	6 309	6 386	6 424	6 431	6 414
45 50	-		-	6 860	7 027	7 131	7 179	7 180	7 142
55	-	-	-	-	7 841	7 983	8 054	8 062	8 013
60	-		-		-	8 962	9 067	9 093	9 047
65	-	-	-	-	-	-	10 236	10 291	10 259
Current consump	tion in A			J					
30	-	10.02	10.09	10.16	10.23	10.30	10.37	10.42	10.46
35	-	10.64	10.69	10.74	10.80	10.85	10.91	10.96	11.00
40	-	11.32	11.34	11.38	11.42	11.46	11.51	11.56	11.60
45	-	-	12.10	12.11	12.14	12.18	12.23	12.27	12.32
50	-	-	-	13.00	13.02	13.05	13.10	13.15	13.20
55	-	-	-	-	14.10	14.13	14.17	14.23	14.29
60	-	-	-	-	-	15.46	15.50	15.56	15.64

#### Mass flow in kg/h

65

30	-	179	224	278	342	416	501	596	704
35	-	177	222	276	339	413	497	592	698
40	-	173	218	272	336	409	493	588	694
45	-	-	212	267	331	404	488	583	689
50	-	-	-	258	323	397	482	577	683
55	-	-	-	-	312	388	473	569	676
60	-	-	-	-	-	374	461	558	666
65	-	-	-	-	-	-	446	545	654

#### Coefficient of performance (C.O.P.)

30	-	1.82	2.29	2.87	3.55	4.31	5.12	5.97	6.82
35	-	1.56	1.93	2.40	2.99	3.66	4.42	5.24	6.11
40	-	1.38	1.64	2.02	2.51	3.10	3.77	4.53	5.37
45	-	-	1.42	1.71	2.10	2.60	3.18	3.86	4.63
50	-	-	-	1.44	1.75	2.15	2.65	3.24	3.92
55	-	-	-	-	1.45	1.77	2.18	2.68	3.26
60	-	-	-	-	-	1.44	1.76	2.17	2.67
65	-	-	-	-	-	-	1.41	1.73	2.14

Nominal performance at to = 5 °C	C, tc = 50 °C	
Cooling capacity	23 268	W
Power input	7 180	W
Current consumption	13.15	Α
Mass flow	577	kg/h
COP	3 24	

Pressure switch settings		
Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)
Sound nowar data		
Sound power data Sound power level	74	dB(A)
With accoustic hood	69	dB(A)

Tolerance according EN12900

17.13

17.20

17.29

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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## Danfoss scroll compressor. HCP109T4

Danfoss

R407C

## Performance data at 50 Hz, ARI rating conditions

Cond. temp. in	p. in Evaporating temperature in °C (to)									
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10	
C (iC)	-30	-25	-20	-15	-10	-5	0	5	10	

## Cooling capacity in W

30	-	8 480	10 850	13 812	17 315	21 311	25 751	30 585	35 765
35	-	8 102	10 227	12 995	16 358	20 267	24 673	29 526	34 778
40	-	7 873	9 698	12 219	15 389	19 157	23 474	28 293	33 562
45	-	-	9 280	11 501	14 422	17 995	22 171	26 900	32 134
50	-	-	-	10 856	13 475	16 799	20 779	25 365	30 509
55	-	-	-	-	12 563	15 584	19 314	23 703	28 703
60	-	-	-	-	-	14 367	17 793	21 931	26 732
65	-	-	-	-	-	-	16 231	20 064	24 613

#### Power input in W

30	-	4 338	4 423	4 496	4 562	4 630	4 707	4 802	4 922
35	-	4 800	4 925	5 021	5 094	5 153	5 206	5 259	5 322
40	-	5 271	5 447	5 578	5 671	5 733	5 772	5 797	5 814
45	-	-	6 008	6 186	6 309	6 386	6 424	6 431	6 414
50	-	-	-	6 860	7 027	7 131	7 179	7 180	7 142
55	-	-	-	-	7 841	7 983	8 054	8 062	8 013
60	-	-	-	-	-	8 962	9 067	9 093	9 047
65	-	-	-	-	-	-	10 236	10 291	10 259

#### Current consumption in A

30	-	10.02	10.09	10.16	10.23	10.30	10.37	10.42	10.46
35	-	10.64	10.69	10.74	10.80	10.85	10.91	10.96	11.00
40	-	11.32	11.34	11.38	11.42	11.46	11.51	11.56	11.60
45	-	-	12.10	12.11	12.14	12.18	12.23	12.27	12.32
50	-	-	-	13.00	13.02	13.05	13.10	13.15	13.20
55	-	-	-	-	14.10	14.13	14.17	14.23	14.29
60	-	-	-	-	-	15.46	15.50	15.56	15.64
65	-	-	-	-	-	-	17.13	17.20	17.29

#### Mass flow in kg/h

30	-	178	223	276	340	414	498	593	700
35	-	176	221	275	338	411	494	589	694
40	-	172	217	271	334	407	490	584	689
45	-	-	211	265	329	402	485	579	685
50	-	-	-	257	321	395	479	573	679
55	-	-	-	-	310	385	470	566	672
60	-	-	-	-	-	372	459	555	662
65	-	-	-	-	-	-	443	541	650

#### Coefficient of performance (C.O.P.)

30	-	1.95	2.45	3.07	3.80	4.60	5.47	6.37	7.27
35	-	1.69	2.08	2.59	3.21	3.93	4.74	5.61	6.53
40	-	1.49	1.78	2.19	2.71	3.34	4.07	4.88	5.77
45	-	-	1.54	1.86	2.29	2.82	3.45	4.18	5.01
50	-	-	-	1.58	1.92	2.36	2.89	3.53	4.27
55	-	-	-	-	1.60	1.95	2.40	2.94	3.58
60	-	-	-	-	-	1.60	1.96	2.41	2.95
65	-	-	-	-	-	-	1.59	1.95	2.40

Nominal performance at to = 7.2 °C, tc = 54.4 °C								
Cooling capacity	26 046	W						
Power input	7 934	W						
Current consumption	14.11	A						
Mass flow	612	kg/h						
C.O.P.	3.28							

Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)
Sound power data		
Sound power data Sound power level	74	dB(A)

Tolerance according EN12900

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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R407C

## Datasheet, performance data

## Danfoss scroll compressor. HCP109T4

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

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	in W								
30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Power input in W

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Current consumption in A

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

## Coefficient of performance (C.O.P.)

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

Nominal performance at to = 5 °C, tc = 50 °C								
Cooling capacity	-	W						
Power input	-	W						
Current consumption	-	А						
Mass flow	-	kg/h						
C.O.P.	-							

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

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

R407C

## Datasheet, performance data

## Danfoss scroll compressor. HCP109T4

## Performance data at 60 Hz, ARI rating conditions

Cond. temp. in		Evaporating temperature in °C (to)									
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10		
Cooling capacit	y in W										
30	-	-	-	-	-	-	-	-	-		

35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Power input in W

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Current consumption in A

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Coefficient of performance (C.O.P.)

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

Nominal performance at to = 7.2 °	C, tc = 54.4 °C	
Cooling capacity	-	W

Power input		-	W
Current consumpti	on	-	A
Mass flow		-	kg/h
COP		-	

Ρ	ressure switch settings		
Μ	laximum HP switch setting	30	bar(g)
Μ	linimum LP switch setting	0.5	bar(g)
LI	P pump down setting	1	bar(g)
S	ound power data		
S	ound power level	77	dB(A)
N	Vith accoustic hood	72	dB(A)

to: Evaporating temperature at dew point

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

Tolerance according EN12900

R407C

## Datasheet, performance data

## Danfoss scroll compressor. HCP109T4

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

Cond. temp. in	Evaporating temperature in °C (to)									
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10	
Cooling capacity	in W									
30	-	-	-	-	-	-	-	-	-	
35	-	-	-	-	-	-	-	-	-	
40	-	-	-	-	-	-	-	-	-	
45	-	-	-	-	-	-	-	-	-	
50	-	-	-	-	-	-	-	-	-	
55	-	-	-	-	-	-	-	-	-	
60	-	-	-	-	-	-	-	-	-	
65	-	-	-	-	-	-	-	-	-	

#### Power input in W

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Current consumption in A

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

## Coefficient of performance (C.O.P.)

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

Nominal performance at to = 5 °C, to	= 50 °C	
Cooling capacity	-	W
Power input	-	W
Current consumption	-	А
Mass flow	-	kg/h
C.O.P.	-	

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

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

R407C

## Datasheet, performance data

## Danfoss scroll compressor. HCP109T4

## Performance data at 60 Hz, ARI rating conditions

Cond. temp. in									
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacit	y in W								
30	-	-	-	-	-	-	-	-	-

35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Power input in W

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Current consumption in A

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Coefficient of performance (C.O.P.)

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

Nominal performance at to = 7.2 °	C, tc = 54.4 °C	
Cooling capacity	-	W

Power input		-	W
Current consumpti	on	-	A
Mass flow		-	kg/h
COP		-	

Ρ	ressure switch settings		
Μ	laximum HP switch setting	30	bar(g)
Μ	linimum LP switch setting	0.5	bar(g)
LI	P pump down setting	1	bar(g)
S	ound power data		
S	ound power level	77	dB(A)
N	Vith accoustic hood	72	dB(A)

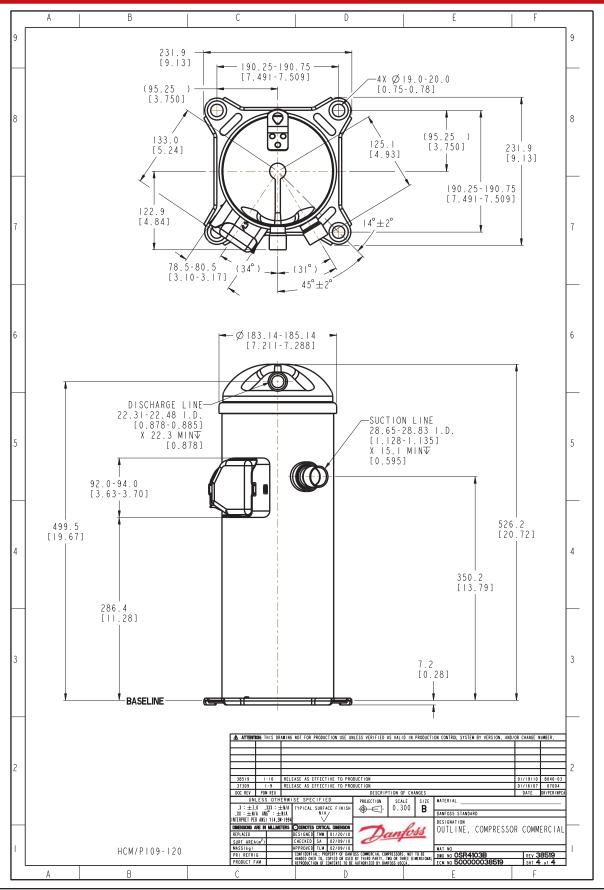
to: Evaporating temperature at dew point

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

Tolerance according EN12900



ENGINEERING TOMORROW



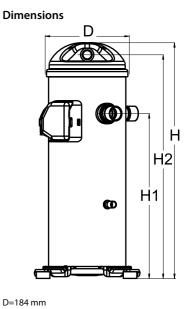
# Pantoss

#### Datasheet, technical data

## Danfoss scroll compressor, HCP109T4

### **General Characteristics**

Model number (on compressor nameplate)		HCP109T4LC7	
Code number for Singlepack*		120U0381	
Code number for Industrial pack**		120U0378	
Drawing number		0SR4103B-4	
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	148.79 cm3/	rev	
Displacement @ Nominal speed	25.9 m3/h @ 2900 rpm - 31.3	8 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) / - ba	r(g)	
Maximum differential test pressure - bar			
Maximum number of starts per hour	-		
Refrigerant charge limit	7.26 kg		
Approved refrigerants	R407C		



### **Electrical Characteristics**

Name and a discussion	200 415///2/50/1- 460///2/60/1-	D=184 mm
Nominal voltage	380-415V/3/50Hz - 460V/3/60Hz	H=545 mm
Voltage range	342-457 V @ 50Hz - 414-506 V @ 60Hz	H1=369 mm
Winding resistance between phases 1-2 +/- 7% at 25°C	1.326 Ω	
Winding resistance between phases 1-3 +/- 7% at 25°C	1.280 Ω	H2=519 mm H3=- mm
Winding resistance between phases 2-3 +/- 7% at 25°C	1.290 Ω	H3=- mm
Rated Load Amps (RLA)	16 A	
Maximum Continuous Current (MCC)	24 A	
Locked Rotor Amps (LRA)	110 A	Terminal b
Motor protection	Internal overload protector	

#### **Recommended Installation torgues**

Oil sight glass	52.5 Nm
Power connections / Earth connection	3 Nm / 2 Nm

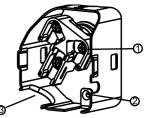
### Parts shipped with compressor

Mounting kit with grommets and sleeves Initial oil charge Installation instructions

Approvals : CE certified, UL certified (file SA11565), -\*Singlepack: Compressor in cardboard box

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

erminal box



#### 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, HCP109T4

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 adapter set
Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF)	8168030	
Gasket, 1-3/4"	8156132	
Rotolock accessories, sets	Code no.	
Solder sleeve adapter set (1-3/4" Rotolock, 1-1/8" ODF), (1-1/4" Rotolock, 7/8" ODF)	120Z0125	1 2 3 4
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	
		1: Rotolock adapter (Suc & Dis)
Oil / lubricants	Code no.	2: Gasket (Suc & Dis)
PVE lubricant, 320HV (FVC68D), 1 litre can	120Z5034	3: Solder sleeve (Suc & Dis)
		4: Rotolock nut (Suc & Dis)
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	
IP54 upgrade kit	118U0057	
	Code no.	
Spare parts		
Spare parts Mounting kit for 1 scroll compressor including A grommets: A sleeves: A holts: A washers	12075005	
Spare parts Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers Mounting kit, including 1 bolt, 1 sleeve, 1 washer	120Z5005 120Z5031	

## Danfoss scroll compressor. HCP109T4

Danfoss

R407C

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

i chomanec		0 112, EIX 120	oo rating co	nanionis					
Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	in W								
30	-	7 897	10 117	12 893	16 181	19 936	24 114	28 670	33 558
35	-	7 508	9 489	12 073	15 216	18 875	23 004	27 559	32 495
40	-	7 253	8 948	11 291	14 239	17 749	21 777	26 278	31 208
45	-	-	8 507	10 559	13 262	16 573	20 447	24 842	29 714
50	-	-	-	9 892	12 301	15 362	19 032	23 268	28 026
55	-	-	-	-	11 368	14 130	17 544	21 568	26 161
60	-	-	-	-	-	12 889	15 997	19 758	24 130
65	-	-	-	-	-	-	14 403	17 848	21 946
Power input in W 30	-	4 338	4 423	4 496	4 562	4 630	4 707	4 802	4 922
30 35	-	4 338	4 423 4 925	4 496 5 021	4 562 5 094	4 630 5 153	4 707 5 206	4 802 5 259	4 922 5 322
40	-	5 271	4 925 5 447	5 578	5 671	5 733	5 200	5 239	5 814
40	-	-	6 008	6 186	6 309	6 386	6 424	6 431	6 414
45 50	-		-	6 860	7 027	7 131	7 179	7 180	7 142
55	-	-	-	-	7 841	7 983	8 054	8 062	8 013
60	-		-		-	8 962	9 067	9 093	9 047
65	-	-	-	-	-	-	10 236	10 291	10 259
Current consump	tion in A			J					
30	-	10.02	10.09	10.16	10.23	10.30	10.37	10.42	10.46
35	-	10.64	10.69	10.74	10.80	10.85	10.91	10.96	11.00
40	-	11.32	11.34	11.38	11.42	11.46	11.51	11.56	11.60
45	-	-	12.10	12.11	12.14	12.18	12.23	12.27	12.32
50	-	-	-	13.00	13.02	13.05	13.10	13.15	13.20
55	-	-	-	-	14.10	14.13	14.17	14.23	14.29
60	-	-	-	-	-	15.46	15.50	15.56	15.64

#### Mass flow in kg/h

65

30	-	179	224	278	342	416	501	596	704
35	-	177	222	276	339	413	497	592	698
40	-	173	218	272	336	409	493	588	694
45	-	-	212	267	331	404	488	583	689
50	-	-	-	258	323	397	482	577	683
55	-	-	-	-	312	388	473	569	676
60	-	-	-	-	-	374	461	558	666
65	-	-	-	-	-	-	446	545	654

#### Coefficient of performance (C.O.P.)

30	-	1.82	2.29	2.87	3.55	4.31	5.12	5.97	6.82
35	-	1.56	1.93	2.40	2.99	3.66	4.42	5.24	6.11
40	-	1.38	1.64	2.02	2.51	3.10	3.77	4.53	5.37
45	-	-	1.42	1.71	2.10	2.60	3.18	3.86	4.63
50	-	-	-	1.44	1.75	2.15	2.65	3.24	3.92
55	-	-	-	-	1.45	1.77	2.18	2.68	3.26
60	-	-	-	-	-	1.44	1.76	2.17	2.67
65	-	-	-	-	-	-	1.41	1.73	2.14

Nominal performance at to = 5 °C, tc = 50 °C						
Cooling capacity	23 268	W				
Power input	7 180	W				
Current consumption	13.15	Α				
Mass flow	577	kg/h				
COP	3 24					

Pressure switch settings		
Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)
Sound nowar data		
Sound power data Sound power level	74	dB(A)
With accoustic hood	69	dB(A)

Tolerance according EN12900

17.13

17.20

17.29

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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## Danfoss scroll compressor. HCP109T4

Danfoss

R407C

## Performance data at 50 Hz, ARI rating conditions

Cond. temp. in	Evaporating temperature in °C (to)								
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
C (iC)	-30	-25	-20	-15	-10	-5	0	5	10

## Cooling capacity in W

30	-	8 480	10 850	13 812	17 315	21 311	25 751	30 585	35 765
35	-	8 102	10 227	12 995	16 358	20 267	24 673	29 526	34 778
40	-	7 873	9 698	12 219	15 389	19 157	23 474	28 293	33 562
45	-	-	9 280	11 501	14 422	17 995	22 171	26 900	32 134
50	-	-	-	10 856	13 475	16 799	20 779	25 365	30 509
55	-	-	-	-	12 563	15 584	19 314	23 703	28 703
60	-	-	-	-	-	14 367	17 793	21 931	26 732
65	-	-	-	-	-	-	16 231	20 064	24 613

#### Power input in W

30	-	4 338	4 423	4 496	4 562	4 630	4 707	4 802	4 922
35	-	4 800	4 925	5 021	5 094	5 153	5 206	5 259	5 322
40	-	5 271	5 447	5 578	5 671	5 733	5 772	5 797	5 814
45	-	-	6 008	6 186	6 309	6 386	6 424	6 431	6 414
50	-	-	-	6 860	7 027	7 131	7 179	7 180	7 142
55	-	-	-	-	7 841	7 983	8 054	8 062	8 013
60	-	-	-	-	-	8 962	9 067	9 093	9 047
65	-	-	-	-	-	-	10 236	10 291	10 259

#### Current consumption in A

30	-	10.02	10.09	10.16	10.23	10.30	10.37	10.42	10.46
35	-	10.64	10.69	10.74	10.80	10.85	10.91	10.96	11.00
40	-	11.32	11.34	11.38	11.42	11.46	11.51	11.56	11.60
45	-	-	12.10	12.11	12.14	12.18	12.23	12.27	12.32
50	-	-	-	13.00	13.02	13.05	13.10	13.15	13.20
55	-	-	-	-	14.10	14.13	14.17	14.23	14.29
60	-	-	-	-	-	15.46	15.50	15.56	15.64
65	-	-	-	-	-	-	17.13	17.20	17.29

#### Mass flow in kg/h

30	-	178	223	276	340	414	498	593	700
35	-	176	221	275	338	411	494	589	694
40	-	172	217	271	334	407	490	584	689
45	-	-	211	265	329	402	485	579	685
50	-	-	-	257	321	395	479	573	679
55	-	-	-	-	310	385	470	566	672
60	-	-	-	-	-	372	459	555	662
65	-	-	-	-	-	-	443	541	650

#### Coefficient of performance (C.O.P.)

30	-	1.95	2.45	3.07	3.80	4.60	5.47	6.37	7.27
35	-	1.69	2.08	2.59	3.21	3.93	4.74	5.61	6.53
40	-	1.49	1.78	2.19	2.71	3.34	4.07	4.88	5.77
45	-	-	1.54	1.86	2.29	2.82	3.45	4.18	5.01
50	-	-	-	1.58	1.92	2.36	2.89	3.53	4.27
55	-	-	-	-	1.60	1.95	2.40	2.94	3.58
60	-	-	-	-	-	1.60	1.96	2.41	2.95
65	-	-	-	-	-	-	1.59	1.95	2.40

Nominal performance at to = 7.2 °C, tc = 54.4 °C							
Cooling capacity	26 046	W					
Power input	7 934	W					
Current consumption	14.11	A					
Mass flow	612	kg/h					
C.O.P.	3.28						

Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)
Sound power data		
Sound power data Sound power level	74	dB(A)

Tolerance according EN12900

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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## Danfoss scroll compressor. HCP109T4

Danfoss

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

i chomanec		0 112, EIX 120	oo rating co	nanionis					
Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	in W								
30	-	7 897	10 117	12 893	16 181	19 936	24 114	28 670	33 558
35	-	7 508	9 489	12 073	15 216	18 875	23 004	27 559	32 495
40	-	7 253	8 948	11 291	14 239	17 749	21 777	26 278	31 208
45	-	-	8 507	10 559	13 262	16 573	20 447	24 842	29 714
50	-	-	-	9 892	12 301	15 362	19 032	23 268	28 026
55	-	-	-	-	11 368	14 130	17 544	21 568	26 161
60	-	-	-	-	-	12 889	15 997	19 758	24 130
65	-	-	-	-	-	-	14 403	17 848	21 946
Power input in W 30	-	4 338	4 423	4 496	4 562	4 630	4 707	4 802	4 922
30 35	-	4 338	4 423 4 925	4 496 5 021	4 562 5 094	4 630 5 153	4 707 5 206	4 802 5 259	4 922 5 322
40	-	5 271	4 925 5 447	5 578	5 671	5 733	5 200	5 239	5 814
40	-	-	6 008	6 186	6 309	6 386	6 424	6 431	6 414
45 50	-		-	6 860	7 027	7 131	7 179	7 180	7 142
55	-	-	-	-	7 841	7 983	8 054	8 062	8 013
60	-		-		-	8 962	9 067	9 093	9 047
65	-	-	-	-	-	-	10 236	10 291	10 259
Current consump	tion in A			J					
30	-	10.02	10.09	10.16	10.23	10.30	10.37	10.42	10.46
35	-	10.64	10.69	10.74	10.80	10.85	10.91	10.96	11.00
40	-	11.32	11.34	11.38	11.42	11.46	11.51	11.56	11.60
45	-	-	12.10	12.11	12.14	12.18	12.23	12.27	12.32
50	-	-	-	13.00	13.02	13.05	13.10	13.15	13.20
55	-	-	-	-	14.10	14.13	14.17	14.23	14.29
60	-	-	-	-	-	15.46	15.50	15.56	15.64

#### Mass flow in kg/h

65

30	-	179	224	278	342	416	501	596	704
35	-	177	222	276	339	413	497	592	698
40	-	173	218	272	336	409	493	588	694
45	-	-	212	267	331	404	488	583	689
50	-	-	-	258	323	397	482	577	683
55	-	-	-	-	312	388	473	569	676
60	-	-	-	-	-	374	461	558	666
65	-	-	-	-	-	-	446	545	654

#### Coefficient of performance (C.O.P.)

30	-	1.82	2.29	2.87	3.55	4.31	5.12	5.97	6.82
35	-	1.56	1.93	2.40	2.99	3.66	4.42	5.24	6.11
40	-	1.38	1.64	2.02	2.51	3.10	3.77	4.53	5.37
45	-	-	1.42	1.71	2.10	2.60	3.18	3.86	4.63
50	-	-	-	1.44	1.75	2.15	2.65	3.24	3.92
55	-	-	-	-	1.45	1.77	2.18	2.68	3.26
60	-	-	-	-	-	1.44	1.76	2.17	2.67
65	-	-	-	-	-	-	1.41	1.73	2.14

Nominal performance at to = 5 °C	Nominal performance at to = 5 °C, tc = 50 °C								
Cooling capacity	23 268	W							
Power input	7 180	W							
Current consumption	13.15	Α							
Mass flow	577	kg/h							
COP	3 24								

Pressure switch settings		
Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)
Sound nowar data		
Sound power data Sound power level	74	dB(A)
With accoustic hood	69	dB(A)

Tolerance according EN12900

17.13

17.20

17.29

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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## Danfoss scroll compressor. HCP109T4

Danfoss

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## Performance data at 50 Hz, ARI rating conditions

Cond. temp. in		Evaporating temperature in °C (to)										
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10			
C (iC)	-30	-25	-20	-15	-10	-5	0	5	10			

## Cooling capacity in W

30	-	8 480	10 850	13 812	17 315	21 311	25 751	30 585	35 765
35	-	8 102	10 227	12 995	16 358	20 267	24 673	29 526	34 778
40	-	7 873	9 698	12 219	15 389	19 157	23 474	28 293	33 562
45	-	-	9 280	11 501	14 422	17 995	22 171	26 900	32 134
50	-	-	-	10 856	13 475	16 799	20 779	25 365	30 509
55	-	-	-	-	12 563	15 584	19 314	23 703	28 703
60	-	-	-	-	-	14 367	17 793	21 931	26 732
65	-	-	-	-	-	-	16 231	20 064	24 613

#### Power input in W

30	-	4 338	4 423	4 496	4 562	4 630	4 707	4 802	4 922
35	-	4 800	4 925	5 021	5 094	5 153	5 206	5 259	5 322
40	-	5 271	5 447	5 578	5 671	5 733	5 772	5 797	5 814
45	-	-	6 008	6 186	6 309	6 386	6 424	6 431	6 414
50	-	-	-	6 860	7 027	7 131	7 179	7 180	7 142
55	-	-	-	-	7 841	7 983	8 054	8 062	8 013
60	-	-	-	-	-	8 962	9 067	9 093	9 047
65	-	-	-	-	-	-	10 236	10 291	10 259

#### Current consumption in A

30	-	10.02	10.09	10.16	10.23	10.30	10.37	10.42	10.46
35	-	10.64	10.69	10.74	10.80	10.85	10.91	10.96	11.00
40	-	11.32	11.34	11.38	11.42	11.46	11.51	11.56	11.60
45	-	-	12.10	12.11	12.14	12.18	12.23	12.27	12.32
50	-	-	-	13.00	13.02	13.05	13.10	13.15	13.20
55	-	-	-	-	14.10	14.13	14.17	14.23	14.29
60	-	-	-	-	-	15.46	15.50	15.56	15.64
65	-	-	-	-	-	-	17.13	17.20	17.29

#### Mass flow in kg/h

30	-	178	223	276	340	414	498	593	700
35	-	176	221	275	338	411	494	589	694
40	-	172	217	271	334	407	490	584	689
45	-	-	211	265	329	402	485	579	685
50	-	-	-	257	321	395	479	573	679
55	-	-	-	-	310	385	470	566	672
60	-	-	-	-	-	372	459	555	662
65	-	-	-	-	-	-	443	541	650

#### Coefficient of performance (C.O.P.)

30	-	1.95	2.45	3.07	3.80	4.60	5.47	6.37	7.27
35	-	1.69	2.08	2.59	3.21	3.93	4.74	5.61	6.53
40	-	1.49	1.78	2.19	2.71	3.34	4.07	4.88	5.77
45	-	-	1.54	1.86	2.29	2.82	3.45	4.18	5.01
50	-	-	-	1.58	1.92	2.36	2.89	3.53	4.27
55	-	-	-	-	1.60	1.95	2.40	2.94	3.58
60	-	-	-	-	-	1.60	1.96	2.41	2.95
65	-	-	-	-	-	-	1.59	1.95	2.40

Nominal performance at to = 7.2 °C,	tc = 54.4 °C	
Cooling capacity	26 046	W
Power input	7 934	W
Current consumption	14.11	A
Mass flow	612	kg/h
C.O.P.	3.28	

Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)
Sound power data		
Sound power data Sound power level	74	dB(A)

Tolerance according EN12900

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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## Datasheet, performance data

## Danfoss scroll compressor. HCP109T4

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

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	in W								
30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Power input in W

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Current consumption in A

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

## Coefficient of performance (C.O.P.)

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

Nominal performance at to = 5 °C, tc = 50 °C						
Cooling capacity	-	W				
Power input	-	W				
Current consumption	-	А				
Mass flow	-	kg/h				
C.O.P.	-					

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

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

R407C

## Datasheet, performance data

## Danfoss scroll compressor. HCP109T4

## Performance data at 60 Hz, ARI rating conditions

Cond. temp. in		Evaporating temperature in °C (to)									
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10		
Cooling capacit	y in W										
30	-	-	-	-	-	-	-	-	-		

35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Power input in W

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Current consumption in A

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Coefficient of performance (C.O.P.)

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

Nominal performance at to = 7.2 °	C, tc = 54.4 °C	
Cooling capacity	-	W

Power input		-	W
Current consumpti	on	-	A
Mass flow		-	kg/h
COP		-	

Ρ	ressure switch settings		
Μ	laximum HP switch setting	30	bar(g)
Μ	linimum LP switch setting	0.5	bar(g)
LI	P pump down setting	1	bar(g)
S	ound power data		
S	ound power level	77	dB(A)
N	Vith accoustic hood	72	dB(A)

to: Evaporating temperature at dew point

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

Tolerance according EN12900

R407C

## Datasheet, performance data

## Danfoss scroll compressor. HCP109T4

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

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	in W								
30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Power input in W

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Current consumption in A

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

## Coefficient of performance (C.O.P.)

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

Nominal performance at to = 5 °C, to	= 50 °C	
Cooling capacity	-	W
Power input	-	W
Current consumption	-	А
Mass flow	-	kg/h
C.O.P.	-	

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

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

R407C

## Datasheet, performance data

## Danfoss scroll compressor. HCP109T4

## Performance data at 60 Hz, ARI rating conditions

Cond. temp. in	Evaporating temperature in °C (to)								
°C (tc) -30 -25 -20 -15 -10 -5 0 5							5	10	
Cooling capacit	y in W								
30	-	-	-	-	-	-	-	-	-

35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Power input in W

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Current consumption in A

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Coefficient of performance (C.O.P.)

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

Nominal performance at to = 7.2 °	C, tc = 54.4 °C	
Cooling capacity	-	W

Power input		-	W
Current consumpti	on	-	A
Mass flow		-	kg/h
COP		-	

Ρ	ressure switch settings		
Μ	laximum HP switch setting	30	bar(g)
Μ	linimum LP switch setting	0.5	bar(g)
LI	P pump down setting	1	bar(g)
S	ound power data		
S	ound power level	77	dB(A)
N	Vith accoustic hood	72	dB(A)

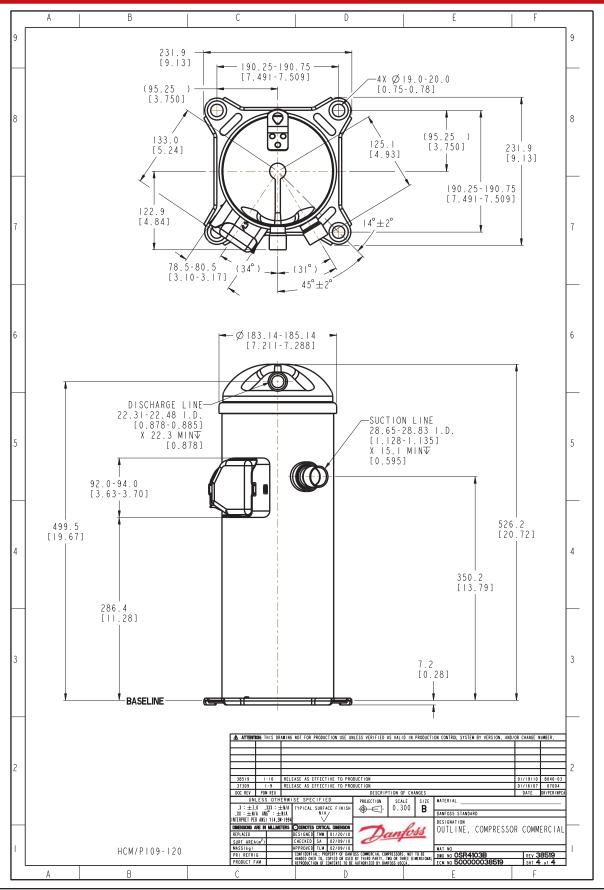
to: Evaporating temperature at dew point

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

Tolerance according EN12900



ENGINEERING TOMORROW



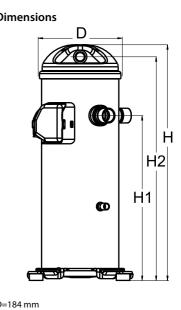
#### Datasheet, technical data

## Danfoss scroll compressor, HCP109T4

Pantoss

#### **General Characteristics**

Model number (on compressor nameplate)		HCP109T4LC8			
Code number for Singlepack*		120U0386			
Code number for Industrial pack**		120U0383			
Drawing number		0SR4103B-4			
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	148.79 c	:m3/rev			
Displacement @ Nominal speed	25.9 m3/h @ 2900 rpm -	31.3 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	- b	- bar			
Maximum number of starts per hour	-				
Refrigerant charge limit	7.26 kg				
Approved refrigerants	R407C				



### **Electrical Characteristics**

Nominal voltage	380-415V/3/50Hz - 460V/3/60Hz	D=184 mm H=545 mm
Voltage range	342-457 V @ 50Hz - 414-506 V @ 60Hz	H1=369 mm
Winding resistance between phases 1-2 +/- 7% at 25°C Winding resistance between phases 1-3 +/- 7% at 25°C	1.326 Ω 1.280 Ω	H2=519 mm
Winding resistance between phases 2-3 +/- 7% at 25°C	1.290 Ω	H3=- mm
Rated Load Amps (RLA)	16 A	
Maximum Continuous Current (MCC)	24 A	
Locked Rotor Amps (LRA)	110 A	Terminal k
Motor protection	Internal overload protector	i ei i i i i i ai k

### erminal 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), -\*Singlepack: Compressor in cardboard box

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

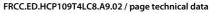
3

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, HCP109T4

Code no.	
8153004	
8168005	
8168028	
8156132	
Code no.	Solder sleeve adapter set
8168030	
8156132	
Code no.	
120Z0125	1 2 3 4
120Z0403	
8156009	
	1: Rotolock adapter (Suc & Dis)
Code no.	2: Gasket (Suc & Dis)
120Z5034	3: Solder sleeve (Suc & Dis)
	4: Rotolock nut (Suc & Dis)
Code no.	
120Z0059	
120Z0060	
120Z5040	
120Z5040	
Code no.	
120Z5045	
7750009	
118U0057	
Code no	
120Z5031	
	8153004 8168005 8168028 8156132 Code no. 8168030 8156132 Code no. 120Z0125 120Z0403 8156009 Code no. 120Z5034 Code no. 120Z0059 120Z0060 120Z5040 120Z5040 120Z5040 120Z5045 7750009

## Danfoss scroll compressor. HCP109T4

Danfoss

R407C

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

Performance		,,							K4U/(	
Cond. temp. in	Evaporating temperature in °C (to)									
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10	
Cooling capacity	in W						I			
30	-	7 897	10 117	12 893	16 181	19 936	24 114	28 670	33 558	
35	-	7 508	9 489	12 073	15 216	18 875	23 004	27 559	32 495	
40	-	7 253	8 948	11 291	14 239	17 749	21 777	26 278	31 208	
45	-	-	8 507	10 559	13 262	16 573	20 447	24 842	29 714	
50	-	-	-	9 892	12 301	15 362	19 032	23 268	28 026	
55	-	-	-	-	11 368	14 130	17 544	21 568	26 161	
60	-	-	-	-	-	12 889	15 997	19 758	24 130	
65	-	-	-	-	-	-	14 403	17 848	21 946	
Power input in W										
30	-	4 338	4 423	4 496	4 562	4 630	4 707	4 802	4 922	
35	-	4 800	4 925	5 021	5 094	5 153	5 206	5 259	5 322	
40	-	5 271	5 447	5 578	5 671	5 733	5 772	5 797	5 814	
45	-	-	6 008	6 186	6 309	6 386	6 424	6 431	6 414	
50	-	-	-	6 860	7 027	7 131	7 179	7 180	7 142	
55	-	-	-	-	7 841	7 983	8 054	8 062	8 013	
60	-	-	-	-	-	8 962	9 067	9 093	9 047	
65	-	-	-	-	-	-	10 236	10 291	10 259	
urrent consump	tion in A									
30	-	10.02	10.09	10.16	10.23	10.30	10.37	10.42	10.46	
35	-	10.64	10.69	10.74	10.80	10.85	10.91	10.96	11.00	
40	-	11.32	11.34	11.38	11.42	11.46	11.51	11.56	11.60	
45	-	-	12.10	12.11	12.14	12.18	12.23	12.27	12.32	
50	-	-	-	13.00	13.02	13.05	13.10	13.15	13.20	
55	-	-	_	-	14.10	14.13	14.17	14.23	14.29	
60	-	-	_	-	-	15.46	15.50	15.56	15.64	
65	-	-	-	-	-	-	17.13	17.20	17.29	
I		1	1	1	1	1	1	1		
lass flow in kg/h 30		179	224	278	342	416	501	596	704	
30 35	-	179	224	278	342	416	497	596	698	
40	-	177	218	276	339	413	497	592	698	
40	-	1/3	210	212	330	409	490	000	094	

#### 45 212 331 404 488 583 689 267 50 258 323 397 482 577 683 312 388 473 676 55 569 374 461 558 666 60 \_ 65 --446 545 654 \_

#### Coefficient of performance (C.O.P.)

30	-	1.82	2.29	2.87	3.55	4.31	5.12	5.97	6.82
35	-	1.56	1.93	2.40	2.99	3.66	4.42	5.24	6.11
40	-	1.38	1.64	2.02	2.51	3.10	3.77	4.53	5.37
45	-	-	1.42	1.71	2.10	2.60	3.18	3.86	4.63
50	-	-	-	1.44	1.75	2.15	2.65	3.24	3.92
55	-	-	-	-	1.45	1.77	2.18	2.68	3.26
60	-	-	-	-	-	1.44	1.76	2.17	2.67
65	-	-	-	-	-	-	1.41	1.73	2.14

Nominal performance at to = 5	°C, tc = 50 °C		Pressure switch settings
Cooling capacity	23 268	W	Maximum HP switch setting
Power input	7 180	W	Minimum LP switch setting
Current consumption	13.15	Α	LP pump down setting
Mass flow	577	kg/h	
C.O.P.	3.24		Sound power data
			Sound power level

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

With accoustic hood

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FRCC.ED.HCP109T4.A9.02 / page performance R407C 50 Hz

30

0.5

1

74

69

bar(g)

bar(g)

bar(g)

dB(A)

dB(A)

## Danfoss scroll compressor. HCP109T4

Danfoss

R407C

## Performance data at 50 Hz, ARI rating conditions

Cond. temp. in				Evapora	ting temperature i	n °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
L								1	

## Cooling capacity in W

30	-	8 480	10 850	13 812	17 315	21 311	25 751	30 585	35 765
35	-	8 102	10 227	12 995	16 358	20 267	24 673	29 526	34 778
40	-	7 873	9 698	12 219	15 389	19 157	23 474	28 293	33 562
45	-	-	9 280	11 501	14 422	17 995	22 171	26 900	32 134
50	-	-	-	10 856	13 475	16 799	20 779	25 365	30 509
55	-	-	-	-	12 563	15 584	19 314	23 703	28 703
60	-	-	-	-	-	14 367	17 793	21 931	26 732
65	-	-	-	-	-	-	16 231	20 064	24 613

#### Power input in W

30	-	4 338	4 423	4 496	4 562	4 630	4 707	4 802	4 922
35	-	4 800	4 925	5 021	5 094	5 153	5 206	5 259	5 322
40	-	5 271	5 447	5 578	5 671	5 733	5 772	5 797	5 814
45	-	-	6 008	6 186	6 309	6 386	6 424	6 431	6 414
50	-	-	-	6 860	7 027	7 131	7 179	7 180	7 142
55	-	-	-	-	7 841	7 983	8 054	8 062	8 013
60	-	-	-	-	-	8 962	9 067	9 093	9 047
65	-	-	-	-	-	-	10 236	10 291	10 259

#### Current consumption in A

30	-	10.02	10.09	10.16	10.23	10.30	10.37	10.42	10.46
35	-	10.64	10.69	10.74	10.80	10.85	10.91	10.96	11.00
40	-	11.32	11.34	11.38	11.42	11.46	11.51	11.56	11.60
45	-	-	12.10	12.11	12.14	12.18	12.23	12.27	12.32
50	-	-	-	13.00	13.02	13.05	13.10	13.15	13.20
55	-	-	-	-	14.10	14.13	14.17	14.23	14.29
60	-	-	-	-	-	15.46	15.50	15.56	15.64
65	-	-	-	-	-	-	17.13	17.20	17.29

#### Mass flow in kg/h

30	-	178	223	276	340	414	498	593	700
35	-	176	221	275	338	411	494	589	694
40	-	172	217	271	334	407	490	584	689
45	-	-	211	265	329	402	485	579	685
50	-	-	-	257	321	395	479	573	679
55	-	-	-	-	310	385	470	566	672
60	-	-	-	-	-	372	459	555	662
65	-	-	-	-	-	-	443	541	650

#### Coefficient of performance (C.O.P.)

30	-	1.95	2.45	3.07	3.80	4.60	5.47	6.37	7.27
35	-	1.69	2.08	2.59	3.21	3.93	4.74	5.61	6.53
40	-	1.49	1.78	2.19	2.71	3.34	4.07	4.88	5.77
45	-	-	1.54	1.86	2.29	2.82	3.45	4.18	5.01
50	-	-	-	1.58	1.92	2.36	2.89	3.53	4.27
55	-	-	-	-	1.60	1.95	2.40	2.94	3.58
60	-	-	-	-	-	1.60	1.96	2.41	2.95
65	-	-	-	-	-	-	1.59	1.95	2.40

Nominal performance at to = 7.2 °C	, tc = 54.4 °C		
Cooling capacity	26 046	W	
Power input	7 934	W	
Current consumption	14.11	A	
Mass flow	612	kg/h	
C.O.P.	3.28		

Pressure switch settings		
Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)
LF pump down setting		bui(g)
LF pump down setting		bai(g)
	1	bar(g)
Sound power data Sound power level	74	dB(A)

Tolerance according EN12900

to: Evaporating temperature at dew point

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

bcooling = 8.3 K

## Danfoss scroll compressor. HCP109T4

Danfoss

R407C

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

Performance		,,							K4U/(
Cond. temp. in				Evapor	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	in W						T		
30	-	7 897	10 117	12 893	16 181	19 936	24 114	28 670	33 558
35	-	7 508	9 489	12 073	15 216	18 875	23 004	27 559	32 495
40	-	7 253	8 948	11 291	14 239	17 749	21 777	26 278	31 208
45	-	-	8 507	10 559	13 262	16 573	20 447	24 842	29 714
50	-	-	-	9 892	12 301	15 362	19 032	23 268	28 026
55	-	-	-	-	11 368	14 130	17 544	21 568	26 161
60	-	-	-	-	-	12 889	15 997	19 758	24 130
65	-	-	-	-	-	-	14 403	17 848	21 946
Power input in W									
30	-	4 338	4 423	4 496	4 562	4 630	4 707	4 802	4 922
35	-	4 800	4 925	5 021	5 094	5 153	5 206	5 259	5 322
40	-	5 271	5 447	5 578	5 671	5 733	5 772	5 797	5 814
45	-	-	6 008	6 186	6 309	6 386	6 424	6 431	6 414
50	-	-	-	6 860	7 027	7 131	7 179	7 180	7 142
55	-	-	-	-	7 841	7 983	8 054	8 062	8 013
60	-	-	-	-	-	8 962	9 067	9 093	9 047
65	-	-	-	-	-	-	10 236	10 291	10 259
urrent consump	tion in A								
30	-	10.02	10.09	10.16	10.23	10.30	10.37	10.42	10.46
35	-	10.64	10.69	10.74	10.80	10.85	10.91	10.96	11.00
40	-	11.32	11.34	11.38	11.42	11.46	11.51	11.56	11.60
45	-	-	12.10	12.11	12.14	12.18	12.23	12.27	12.32
50	-	-	-	13.00	13.02	13.05	13.10	13.15	13.20
55	-	-	_	-	14.10	14.13	14.17	14.23	14.29
60	-	-	_	-	-	15.46	15.50	15.56	15.64
65	-	-	-	-	-	-	17.13	17.20	17.29
I		1	1	1	1	1	1	1	
lass flow in kg/h 30		179	224	278	342	416	501	596	704
30 35	-	179	224	278	342	416	497	596	698
40	-	177	218	276	339	413	497	592	698
40	-	1/3	210	212	330	409	490	000	094

#### 45 212 331 404 488 583 689 267 50 258 323 397 482 577 683 312 388 473 676 55 569 374 461 558 666 60 \_ 65 --446 545 654 \_

#### Coefficient of performance (C.O.P.)

30	-	1.82	2.29	2.87	3.55	4.31	5.12	5.97	6.82
35	-	1.56	1.93	2.40	2.99	3.66	4.42	5.24	6.11
40	-	1.38	1.64	2.02	2.51	3.10	3.77	4.53	5.37
45	-	-	1.42	1.71	2.10	2.60	3.18	3.86	4.63
50	-	-	-	1.44	1.75	2.15	2.65	3.24	3.92
55	-	-	-	-	1.45	1.77	2.18	2.68	3.26
60	-	-	-	-	-	1.44	1.76	2.17	2.67
65	-	-	-	-	-	-	1.41	1.73	2.14

Nominal performance at to = 5	°C, tc = 50 °C		Pressure switch settings
Cooling capacity	23 268	W	Maximum HP switch setting
Power input	7 180	W	Minimum LP switch setting
Current consumption	13.15	Α	LP pump down setting
Mass flow	577	kg/h	
C.O.P.	3.24		Sound power data
			Sound power level

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

With accoustic hood

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FRCC.ED.HCP109T4.A9.02 / page performance R407C 50 Hz

30

0.5

1

74

69

bar(g)

bar(g)

bar(g)

dB(A)

dB(A)

## Danfoss scroll compressor. HCP109T4

Danfoss

R407C

## Performance data at 50 Hz, ARI rating conditions

Cond. temp. in		Evaporating temperature in °C (to)									
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10		
L								1			

## Cooling capacity in W

30	-	8 480	10 850	13 812	17 315	21 311	25 751	30 585	35 765
35	-	8 102	10 227	12 995	16 358	20 267	24 673	29 526	34 778
40	-	7 873	9 698	12 219	15 389	19 157	23 474	28 293	33 562
45	-	-	9 280	11 501	14 422	17 995	22 171	26 900	32 134
50	-	-	-	10 856	13 475	16 799	20 779	25 365	30 509
55	-	-	-	-	12 563	15 584	19 314	23 703	28 703
60	-	-	-	-	-	14 367	17 793	21 931	26 732
65	-	-	-	-	-	-	16 231	20 064	24 613

#### Power input in W

30	-	4 338	4 423	4 496	4 562	4 630	4 707	4 802	4 922
35	-	4 800	4 925	5 021	5 094	5 153	5 206	5 259	5 322
40	-	5 271	5 447	5 578	5 671	5 733	5 772	5 797	5 814
45	-	-	6 008	6 186	6 309	6 386	6 424	6 431	6 414
50	-	-	-	6 860	7 027	7 131	7 179	7 180	7 142
55	-	-	-	-	7 841	7 983	8 054	8 062	8 013
60	-	-	-	-	-	8 962	9 067	9 093	9 047
65	-	-	-	-	-	-	10 236	10 291	10 259

#### Current consumption in A

30	-	10.02	10.09	10.16	10.23	10.30	10.37	10.42	10.46
35	-	10.64	10.69	10.74	10.80	10.85	10.91	10.96	11.00
40	-	11.32	11.34	11.38	11.42	11.46	11.51	11.56	11.60
45	-	-	12.10	12.11	12.14	12.18	12.23	12.27	12.32
50	-	-	-	13.00	13.02	13.05	13.10	13.15	13.20
55	-	-	-	-	14.10	14.13	14.17	14.23	14.29
60	-	-	-	-	-	15.46	15.50	15.56	15.64
65	-	-	-	-	-	-	17.13	17.20	17.29

#### Mass flow in kg/h

30	-	178	223	276	340	414	498	593	700
35	-	176	221	275	338	411	494	589	694
40	-	172	217	271	334	407	490	584	689
45	-	-	211	265	329	402	485	579	685
50	-	-	-	257	321	395	479	573	679
55	-	-	-	-	310	385	470	566	672
60	-	-	-	-	-	372	459	555	662
65	-	-	-	-	-	-	443	541	650

#### Coefficient of performance (C.O.P.)

30	-	1.95	2.45	3.07	3.80	4.60	5.47	6.37	7.27
35	-	1.69	2.08	2.59	3.21	3.93	4.74	5.61	6.53
40	-	1.49	1.78	2.19	2.71	3.34	4.07	4.88	5.77
45	-	-	1.54	1.86	2.29	2.82	3.45	4.18	5.01
50	-	-	-	1.58	1.92	2.36	2.89	3.53	4.27
55	-	-	-	-	1.60	1.95	2.40	2.94	3.58
60	-	-	-	-	-	1.60	1.96	2.41	2.95
65	-	-	-	-	-	-	1.59	1.95	2.40

Nominal performance at to = 7.2 °C	, tc = 54.4 °C		
Cooling capacity	26 046	W	
Power input	7 934	W	
Current consumption	14.11	A	
Mass flow	612	kg/h	
C.O.P.	3.28		

Pressure switch settings		
Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)
LF pump down setting		bui(g)
LF pump down setting		bai(g)
	1	bar(g)
Sound power data Sound power level	74	dB(A)

Tolerance according EN12900

to: Evaporating temperature at dew point

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

bcooling = 8.3 K

R407C

## Datasheet, performance data

## Danfoss scroll compressor. HCP109T4

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

Cond. temp. in				Evapora	ating temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity	r in W								
30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Power input in W

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Current consumption in A

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

## Coefficient of performance (C.O.P.)

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

Nominal performance at to = 5 °C, to	= 50 °C	
Cooling capacity	-	W
Power input	-	W
Current consumption	-	А
Mass flow	-	kg/h
C.O.P.	-	

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

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

R407C

## Datasheet, performance data

## Danfoss scroll compressor. HCP109T4

## Performance data at 60 Hz, ARI rating conditions

Cond. temp. in		Evaporating temperature in °C (to)									
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10		
Cooling capacit	y in W										
30	-	-	-	-	-	-	-	-	-		

35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Power input in W

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Current consumption in A

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Coefficient of performance (C.O.P.)

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

Nominal performance at to = 7.2 °C,	tc = 54.4 °C	
Cooling capacity	-	W

Power input	-	W
Current consumption	-	Α
Mass flow	-	kg/h
COP	-	

Pressure switch settings			
Maximum HP switch setting	30	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	72	dB(A)	

to: Evaporating temperature at dew point

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

Tolerance according EN12900

R407C

## Datasheet, performance data

## Danfoss scroll compressor. HCP109T4

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

Cond. temp. in	Evaporating temperature in °C (to)									
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10	
Cooling capacity	r in W									
30	-	-	-	-	-	-	-	-	-	
35	-	-	-	-	-	-	-	-	-	
40	-	-	-	-	-	-	-	-	-	
45	-	-	-	-	-	-	-	-	-	
50	-	-	-	-	-	-	-	-	-	
55	-	-	-	-	-	-	-	-	-	
60	-	-	-	-	-	-	-	-	-	
65	-	-	-	-	-	-	-	-	-	

#### Power input in W

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Current consumption in A

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

## Coefficient of performance (C.O.P.)

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

Nominal performance at to = 5 °C, to	= 50 °C	
Cooling capacity	-	W
Power input	-	W
Current consumption	-	А
Mass flow	-	kg/h
C.O.P.	-	

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

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

R407C

## Datasheet, performance data

## Danfoss scroll compressor. HCP109T4

## Performance data at 60 Hz, ARI rating conditions

Cond. temp. in				Evaporat	ting temperature i	n °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacit	y in W								
30	-	-	-	-	-	-	-	-	-

35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Power input in W

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Current consumption in A

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Mass flow in kg/h

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

#### Coefficient of performance (C.O.P.)

30	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-

Nominal performance at to = 7.2 °C,	tc = 54.4 °C	
Cooling capacity	-	W

Power input	-	W
Current consumption	-	Α
Mass flow	-	kg/h
COP	-	

Pressure switch settings			
Maximum HP switch setting	30	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	72	dB(A)	

to: Evaporating temperature at dew point

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

Tolerance according EN12900



ENGINEERING TOMORROW

