

Datasheets

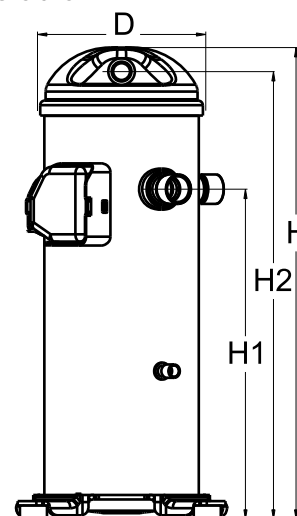
# Danfoss scroll compressors **H series**



### General Characteristics

Model number (on compressor nameplate)		<b>HCM109T4LC6</b>
Code number for Singlepack*		120U0366
Code number for Industrial pack**		120U0363
Drawing number		0SR4103B-2
Suction and discharge connections		Brazed
Suction connection		1-1/8" ODF
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		148,79 cm <sup>3</sup> /rev
Displacement @ Nominal speed		25.9 m <sup>3</sup> /h @ 2900 rpm - 31.3 m <sup>3</sup> /h @ 3500 rpm
Net weight		45,2 kg
Oil charge		2,66 litre, Alkylbenzene - -
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		R22

### Dimensions

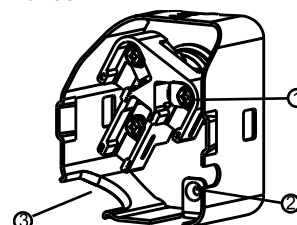


D=184 mm  
H=545 mm  
H1=369 mm  
H2=519 mm  
H3=- mm

### 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	1.326 Ω
Winding resistance between phases 1-3 +/- 7% at 25°C	1.276 Ω
Winding resistance between phases 2-3 +/- 7% at 25°C	1.293 Ω
Rated Load Amps (RLA)	16 A
Maximum Continuous Current (MCC)	24 A
Locked Rotor Amps (LRA)	110 A
Motor protection	Internal overload protector

### Terminal box



IP22

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

### 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

**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.**

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
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.**
**Crankcase heaters**
**Code no.**

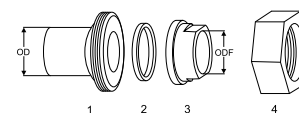
Belt type crankcase heater, 65 W, 230 V, CE mark, UL	120Z0059
Belt type crankcase heater, 65 W, 400 V, CE mark, UL	120Z0060
Belt type crankcase heater, 70 W, 240 V, CE mark, UL	120Z5040
Belt type crankcase heater, 70 W, 240 V, CE mark, UL	120Z5040

**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)

# Datasheet, performance data

# Danfoss scroll compressor. HCM109T4

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

# R22

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

### Cooling capacity in W

30	9 470	11 052	13 387	16 426	20 121	24 421	29 276	34 637	-
35	8 897	10 462	12 737	15 671	19 216	23 321	27 937	33 014	-
40	8 162	9 751	12 003	14 870	18 303	22 252	26 667	31 499	-
45	-	8 861	11 128	13 966	17 324	21 155	25 408	30 034	-
50	-	-	10 059	12 903	16 225	19 974	24 103	28 560	-
55	-	-	-	11 628	14 949	18 653	22 693	27 019	-
60	-	-	-	-	13 443	17 137	21 123	25 352	-
65	-	-	-	-	-	15 373	19 338	23 504	-

### Power input in W

30	5 305	5 285	5 269	5 241	5 182	5 078	4 912	4 668	-
35	5 937	5 855	5 800	5 758	5 711	5 644	5 539	5 381	-
40	6 668	6 497	6 380	6 300	6 240	6 185	6 118	6 022	-
45	-	7 245	7 041	6 899	6 802	6 734	6 680	6 621	-
50	-	-	7 815	7 586	7 427	7 323	7 257	7 212	-
55	-	-	-	8 393	8 148	7 983	7 881	7 825	-
60	-	-	-	-	8 997	8 746	8 583	8 492	-
65	-	-	-	-	-	9 643	9 395	9 244	-

### Current consumption in A

30	10.62	10.05	9.92	10.03	10.20	10.21	9.89	9.03	-
35	11.87	10.98	10.62	10.59	10.69	10.74	10.52	9.86	-
40	13.35	12.12	11.50	11.29	11.30	11.34	11.20	10.70	-
45	-	13.50	12.59	12.17	12.06	12.06	11.96	11.59	-
50	-	-	13.93	13.27	13.00	12.93	12.85	12.57	-
55	-	-	-	14.63	14.17	13.99	13.89	13.67	-
60	-	-	-	-	15.60	15.28	15.12	14.94	-
65	-	-	-	-	-	16.84	16.60	16.41	-

### Mass flow in kg/h

30	206	238	284	345	417	500	593	695	-
35	201	234	282	342	413	496	587	686	-
40	192	227	276	338	410	492	582	680	-
45	-	216	268	331	405	487	578	676	-
50	-	-	254	320	396	481	573	671	-
55	-	-	-	304	384	471	566	666	-
60	-	-	-	-	365	457	555	657	-
65	-	-	-	-	-	436	538	645	-

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

30	1.79	2.09	2.54	3.13	3.88	4.81	5.96	7.42	-
35	1.50	1.79	2.20	2.72	3.36	4.13	5.04	6.14	-
40	1.22	1.50	1.88	2.36	2.93	3.60	4.36	5.23	-
45	-	1.22	1.58	2.02	2.55	3.14	3.80	4.54	-
50	-	-	1.29	1.70	2.18	2.73	3.32	3.96	-
55	-	-	-	1.39	1.83	2.34	2.88	3.45	-
60	-	-	-	-	1.49	1.96	2.46	2.99	-
65	-	-	-	-	-	1.59	2.06	2.54	-

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

Cooling capacity	24 103	W
Power input	7 257	W
Current consumption	12.85	A
Mass flow	573	kg/h
C.O.P.	3.32	

### Pressure switch settings

Maximum HP switch setting	29	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1.3	bar(g)

### Sound power data

Sound power level	74	dB(A)
With acoustic hood	69	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

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# Datasheet, performance data

# Danfoss scroll compressor. HCM109T4

## Performance data at 50 Hz, ARI rating conditions

# R22

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

### Cooling capacity in W

30	10 058	11 728	14 195	17 405	21 304	25 839	30 955	36 598	-
35	9 483	11 142	13 552	16 661	20 413	24 754	29 632	34 992	-
40	8 735	10 425	12 820	15 868	19 515	23 705	28 386	33 504	-
45	-	9 516	11 938	14 967	18 549	22 630	27 156	32 073	-
50	-	-	10 846	13 897	17 456	21 468	25 880	30 638	-
55	-	-	-	12 597	16 174	20 159	24 499	29 138	-
60	-	-	-	-	14 643	18 643	22 951	27 514	-
65	-	-	-	-	-	16 857	21 176	25 704	-

### Power input in W

30	5 305	5 285	5 269	5 241	5 182	5 078	4 912	4 668	-
35	5 937	5 855	5 800	5 758	5 711	5 644	5 539	5 381	-
40	6 668	6 497	6 380	6 300	6 240	6 185	6 118	6 022	-
45	-	7 245	7 041	6 899	6 802	6 734	6 680	6 621	-
50	-	-	7 815	7 586	7 427	7 323	7 257	7 212	-
55	-	-	-	8 393	8 148	7 983	7 881	7 825	-
60	-	-	-	-	8 997	8 746	8 583	8 492	-
65	-	-	-	-	-	9 643	9 395	9 244	-

### Current consumption in A

30	10.62	10.05	9.92	10.03	10.20	10.21	9.89	9.03	-
35	11.87	10.98	10.62	10.59	10.69	10.74	10.52	9.86	-
40	13.35	12.12	11.50	11.29	11.30	11.34	11.20	10.70	-
45	-	13.50	12.59	12.17	12.06	12.06	11.96	11.59	-
50	-	-	13.93	13.27	13.00	12.93	12.85	12.57	-
55	-	-	-	14.63	14.17	13.99	13.89	13.67	-
60	-	-	-	-	15.60	15.28	15.12	14.94	-
65	-	-	-	-	-	16.84	16.60	16.41	-

### Mass flow in kg/h

30	205	237	283	343	415	498	590	691	-
35	200	233	280	340	411	493	584	682	-
40	191	226	275	336	408	489	579	676	-
45	-	215	266	329	402	485	575	672	-
50	-	-	253	319	394	479	570	668	-
55	-	-	-	303	382	469	563	662	-
60	-	-	-	-	363	454	552	654	-
65	-	-	-	-	-	434	535	641	-

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

30	1.90	2.22	2.69	3.32	4.11	5.09	6.30	7.84	-
35	1.60	1.90	2.34	2.89	3.57	4.39	5.35	6.50	-
40	1.31	1.60	2.01	2.52	3.13	3.83	4.64	5.56	-
45	-	1.31	1.70	2.17	2.73	3.36	4.07	4.84	-
50	-	-	1.39	1.83	2.35	2.93	3.57	4.25	-
55	-	-	-	1.50	1.98	2.53	3.11	3.72	-
60	-	-	-	-	1.63	2.13	2.67	3.24	-
65	-	-	-	-	-	1.75	2.25	2.78	-

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

Cooling capacity	26 684	W
Power input	7 774	W
Current consumption	13.68	A
Mass flow	607	kg/h
C.O.P.	3.43	

### Pressure switch settings

Maximum HP switch setting	29	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1.3	bar(g)

### Sound power data

Sound power level	74	dB(A)
With acoustic hood	69	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

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# Datasheet, performance data

# Danfoss scroll compressor. HCM109T4

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

# R22

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

### Cooling capacity in W

30	11 365	13 263	16 065	19 713	24 147	29 307	35 134	41 568	-
35	10 676	12 555	15 285	18 806	23 059	27 986	33 525	39 618	-
40	9 793	11 700	14 403	17 843	21 962	26 701	31 999	37 798	-
45	-	10 631	13 352	16 757	20 787	25 383	30 487	36 037	-
50	-	-	12 068	15 481	19 466	23 965	28 918	34 266	-
55	-	-	-	13 951	17 934	22 379	27 226	32 415	-
60	-	-	-	-	16 128	20 559	25 341	30 415	-
65	-	-	-	-	-	18 442	23 199	28 197	-

### Power input in W

30	6 172	6 233	6 263	6 256	6 207	6 110	5 959	5 750	-
35	6 821	6 850	6 864	6 857	6 824	6 759	6 656	6 511	-
40	7 523	7 505	7 488	7 467	7 435	7 388	7 319	7 224	-
45	-	8 232	8 170	8 119	8 075	8 030	7 981	7 921	-
50	-	-	8 944	8 850	8 777	8 721	8 677	8 638	-
55	-	-	-	9 691	9 576	9 495	9 440	9 407	-
60	-	-	-	-	10 507	10 384	10 305	10 264	-
65	-	-	-	-	-	11 424	11 306	11 242	-

### Current consumption in A

30	11.18	11.40	11.54	11.63	11.67	11.66	11.63	11.57	-
35	12.06	12.21	12.31	12.37	12.39	12.39	12.37	12.34	-
40	13.26	13.35	13.40	13.41	13.42	13.41	13.40	13.40	-
45	-	14.81	14.81	14.78	14.76	14.74	14.74	14.77	-
50	-	-	16.55	16.49	16.43	16.40	16.40	16.44	-
55	-	-	-	18.53	18.44	18.39	18.39	18.44	-
60	-	-	-	-	20.81	20.73	20.72	20.78	-
65	-	-	-	-	-	23.44	23.41	23.47	-

### Mass flow in kg/h

30	247	285	341	414	500	600	712	834	-
35	241	281	338	410	496	595	704	823	-
40	230	273	332	405	492	590	699	816	-
45	-	259	321	397	485	585	694	811	-
50	-	-	305	384	476	577	688	805	-
55	-	-	-	365	460	566	679	799	-
60	-	-	-	-	438	548	665	788	-
65	-	-	-	-	-	523	646	773	-

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

30	1.84	2.13	2.57	3.15	3.89	4.80	5.90	7.23	-
35	1.57	1.83	2.23	2.74	3.38	4.14	5.04	6.08	-
40	1.30	1.56	1.92	2.39	2.95	3.61	4.37	5.23	-
45	-	1.29	1.63	2.06	2.57	3.16	3.82	4.55	-
50	-	-	1.35	1.75	2.22	2.75	3.33	3.97	-
55	-	-	-	1.44	1.87	2.36	2.88	3.45	-
60	-	-	-	-	1.53	1.98	2.46	2.96	-
65	-	-	-	-	-	1.61	2.05	2.51	-

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

Cooling capacity	28 918	W
Power input	8 677	W
Current consumption	16.40	A
Mass flow	688	kg/h
C.O.P.	3.33	

### Pressure switch settings

Maximum HP switch setting	29	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1.3	bar(g)

### Sound power data

Sound power level	77	dB(A)
With acoustic hood	72	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

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# Datasheet, performance data

# Danfoss scroll compressor. HCM109T4

## Performance data at 60 Hz, ARI rating conditions

# R22

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

### Cooling capacity in W

30	12 070	14 075	17 035	20 887	25 567	31 009	37 148	43 922	-
35	11 379	13 370	16 263	19 993	24 496	29 706	35 559	41 992	-
40	10 481	12 509	15 384	19 041	23 416	28 445	34 062	40 203	-
45	-	11 417	14 324	17 959	22 257	27 153	32 583	38 483	-
50	-	-	13 012	16 674	20 944	25 758	31 051	36 759	-
55	-	-	-	15 113	19 405	24 186	29 392	34 958	-
60	-	-	-	-	17 567	22 365	27 534	33 008	-
65	-	-	-	-	-	20 223	25 404	30 836	-

### Power input in W

30	6 172	6 233	6 263	6 256	6 207	6 110	5 959	5 750	-
35	6 821	6 850	6 864	6 857	6 824	6 759	6 656	6 511	-
40	7 523	7 505	7 488	7 467	7 435	7 388	7 319	7 224	-
45	-	8 232	8 170	8 119	8 075	8 030	7 981	7 921	-
50	-	-	8 944	8 850	8 777	8 721	8 677	8 638	-
55	-	-	-	9 691	9 576	9 495	9 440	9 407	-
60	-	-	-	-	10 507	10 384	10 305	10 264	-
65	-	-	-	-	-	11 424	11 306	11 242	-

### Current consumption in A

30	11.18	11.40	11.54	11.63	11.67	11.66	11.63	11.57	-
35	12.06	12.21	12.31	12.37	12.39	12.39	12.37	12.34	-
40	13.26	13.35	13.40	13.41	13.42	13.41	13.40	13.40	-
45	-	14.81	14.81	14.78	14.76	14.74	14.74	14.77	-
50	-	-	16.55	16.49	16.43	16.40	16.40	16.44	-
55	-	-	-	18.53	18.44	18.39	18.39	18.44	-
60	-	-	-	-	20.81	20.73	20.72	20.78	-
65	-	-	-	-	-	23.44	23.41	23.47	-

### Mass flow in kg/h

30	246	284	340	411	498	597	708	829	-
35	240	280	336	408	494	591	700	819	-
40	229	271	330	403	489	587	695	812	-
45	-	258	319	395	483	582	690	806	-
50	-	-	303	382	473	574	684	801	-
55	-	-	-	363	458	563	675	794	-
60	-	-	-	-	436	545	662	784	-
65	-	-	-	-	-	520	642	769	-

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

30	1.96	2.26	2.72	3.34	4.12	5.08	6.23	7.64	-
35	1.67	1.95	2.37	2.92	3.59	4.40	5.34	6.45	-
40	1.39	1.67	2.05	2.55	3.15	3.85	4.65	5.57	-
45	-	1.39	1.75	2.21	2.76	3.38	4.08	4.86	-
50	-	-	1.45	1.88	2.39	2.95	3.58	4.26	-
55	-	-	-	1.56	2.03	2.55	3.11	3.72	-
60	-	-	-	-	1.67	2.15	2.67	3.22	-
65	-	-	-	-	-	1.77	2.25	2.74	-

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

Cooling capacity	32 014	W
Power input	9 327	W
Current consumption	18.15	A
Mass flow	728	kg/h
C.O.P.	3.43	

### Pressure switch settings

Maximum HP switch setting	29	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1.3	bar(g)

### Sound power data

Sound power level	77	dB(A)
With acoustic hood	72	dB(A)

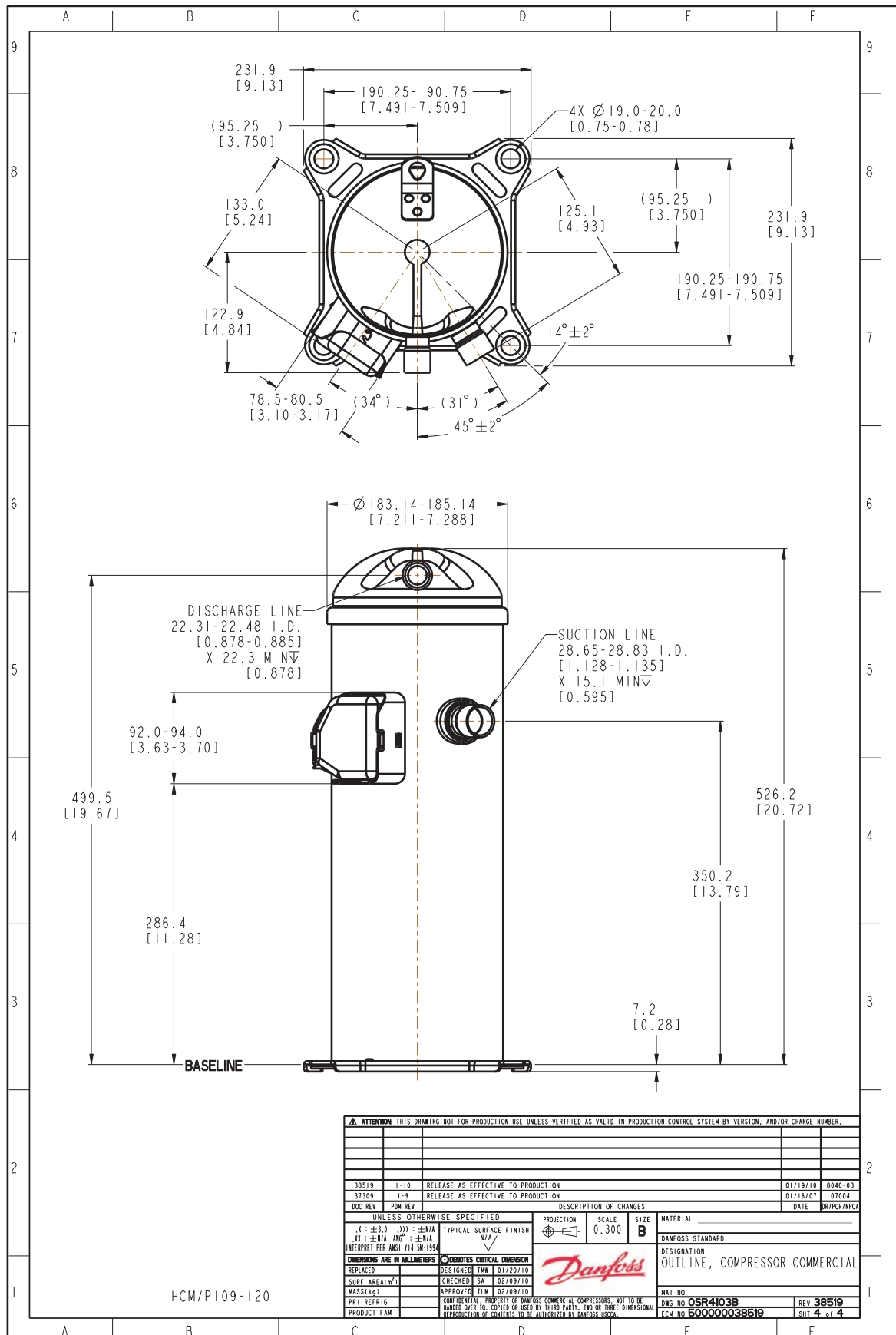
to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

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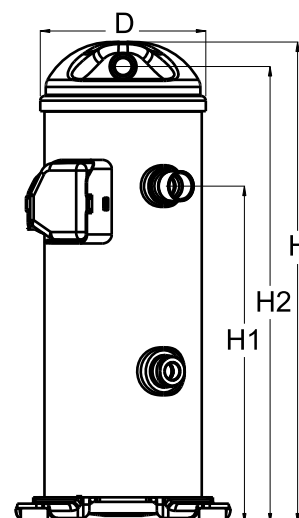




### General Characteristics

Model number (on compressor nameplate)		<b>HCM109T4LC7</b>
Code number for Singlepack*		120U0371
Code number for Industrial pack**		120U0368
Drawing number		0SR6169B-2
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		148,79 cm <sup>3</sup> /rev
Displacement @ Nominal speed		25.9 m <sup>3</sup> /h @ 2900 rpm - 31.3 m <sup>3</sup> /h @ 3500 rpm
Net weight		45,2 kg
Oil charge		2,66 litre, Alkylbenzene - -
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		R22

### Dimensions

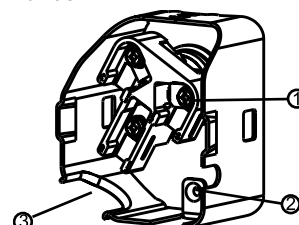


D=184 mm  
H=545 mm  
H1=369 mm  
H2=519 mm  
H3=- mm

### 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	1.326 Ω
Winding resistance between phases 1-3 +/- 7% at 25°C	1.276 Ω
Winding resistance between phases 2-3 +/- 7% at 25°C	1.293 Ω
Rated Load Amps (RLA)	16 A
Maximum Continuous Current (MCC)	24 A
Locked Rotor Amps (LRA)	110 A
Motor protection	Internal overload protector

### Terminal box



IP22

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

### 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

**Rotolock accessories, suction side**
**Code no.**

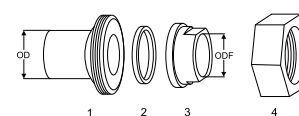
Solder sleeve, P02 (1-3/4" Rotolock, 1-1/8" ODF)	8153004
Angle adapter, C02 (1-3/4" Rotolock, 1-1/8" ODF)	8168005
Rotolock valve, V02 (1-3/4" Rotolock, 1-1/8" ODF)	8168028
Gasket, 1-3/4"	8156132

**Rotolock accessories, discharge side**
**Code no.**

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
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

**Solder sleeve adapter set**


1: Rotolock adapter (Suc & Dis)

2: Gasket (Suc & Dis)

3: Solder sleeve (Suc & Dis)

4: Rotolock nut (Suc & Dis)

**Oil / lubricants**
**Code no.**
**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

**Performance data at 50 Hz, EN 12900 rating conditions**
**R22**

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

**Cooling capacity in W**

30	9 470	11 052	13 387	16 426	20 121	24 421	29 276	34 637	-
35	8 897	10 462	12 737	15 671	19 216	23 321	27 937	33 014	-
40	8 162	9 751	12 003	14 870	18 303	22 252	26 667	31 499	-
45	-	8 861	11 128	13 966	17 324	21 155	25 408	30 034	-
50	-	-	10 059	12 903	16 225	19 974	24 103	28 560	-
55	-	-	-	11 628	14 949	18 653	22 693	27 019	-
60	-	-	-	-	13 443	17 137	21 123	25 352	-
65	-	-	-	-	-	15 373	19 338	23 504	-

**Power input in W**

30	5 305	5 285	5 269	5 241	5 182	5 078	4 912	4 668	-
35	5 937	5 855	5 800	5 758	5 711	5 644	5 539	5 381	-
40	6 668	6 497	6 380	6 300	6 240	6 185	6 118	6 022	-
45	-	7 245	7 041	6 899	6 802	6 734	6 680	6 621	-
50	-	-	7 815	7 586	7 427	7 323	7 257	7 212	-
55	-	-	-	8 393	8 148	7 983	7 881	7 825	-
60	-	-	-	-	8 997	8 746	8 583	8 492	-
65	-	-	-	-	-	9 643	9 395	9 244	-

**Current consumption in A**

30	10.62	10.05	9.92	10.03	10.20	10.21	9.89	9.03	-
35	11.87	10.98	10.62	10.59	10.69	10.74	10.52	9.86	-
40	13.35	12.12	11.50	11.29	11.30	11.34	11.20	10.70	-
45	-	13.50	12.59	12.17	12.06	12.06	11.96	11.59	-
50	-	-	13.93	13.27	13.00	12.93	12.85	12.57	-
55	-	-	-	14.63	14.17	13.99	13.89	13.67	-
60	-	-	-	-	15.60	15.28	15.12	14.94	-
65	-	-	-	-	-	16.84	16.60	16.41	-

**Mass flow in kg/h**

30	206	238	284	345	417	500	593	695	-
35	201	234	282	342	413	496	587	686	-
40	192	227	276	338	410	492	582	680	-
45	-	216	268	331	405	487	578	676	-
50	-	-	254	320	396	481	573	671	-
55	-	-	-	304	384	471	566	666	-
60	-	-	-	-	365	457	555	657	-
65	-	-	-	-	-	436	538	645	-

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

30	1.79	2.09	2.54	3.13	3.88	4.81	5.96	7.42	-
35	1.50	1.79	2.20	2.72	3.36	4.13	5.04	6.14	-
40	1.22	1.50	1.88	2.36	2.93	3.60	4.36	5.23	-
45	-	1.22	1.58	2.02	2.55	3.14	3.80	4.54	-
50	-	-	1.29	1.70	2.18	2.73	3.32	3.96	-
55	-	-	-	1.39	1.83	2.34	2.88	3.45	-
60	-	-	-	-	1.49	1.96	2.46	2.99	-
65	-	-	-	-	-	1.59	2.06	2.54	-

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

Cooling capacity	24 103	W
Power input	7 257	W
Current consumption	12.85	A
Mass flow	573	kg/h
C.O.P.	3.32	

**Pressure switch settings**

Maximum HP switch setting	29	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	74	dB(A)
With acoustic hood	69	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

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**Performance data at 50 Hz, ARI rating conditions**
**R22**

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

**Cooling capacity in W**

30	10 058	11 728	14 195	17 405	21 304	25 839	30 955	36 598	-
35	9 483	11 142	13 552	16 661	20 413	24 754	29 632	34 992	-
40	8 735	10 425	12 820	15 868	19 515	23 705	28 386	33 504	-
45	-	9 516	11 938	14 967	18 549	22 630	27 156	32 073	-
50	-	-	10 846	13 897	17 456	21 468	25 880	30 638	-
55	-	-	-	12 597	16 174	20 159	24 499	29 138	-
60	-	-	-	-	14 643	18 643	22 951	27 514	-
65	-	-	-	-	-	16 857	21 176	25 704	-

**Power input in W**

30	5 305	5 285	5 269	5 241	5 182	5 078	4 912	4 668	-
35	5 937	5 855	5 800	5 758	5 711	5 644	5 539	5 381	-
40	6 668	6 497	6 380	6 300	6 240	6 185	6 118	6 022	-
45	-	7 245	7 041	6 899	6 802	6 734	6 680	6 621	-
50	-	-	7 815	7 586	7 427	7 323	7 257	7 212	-
55	-	-	-	8 393	8 148	7 983	7 881	7 825	-
60	-	-	-	-	8 997	8 746	8 583	8 492	-
65	-	-	-	-	-	9 643	9 395	9 244	-

**Current consumption in A**

30	10.62	10.05	9.92	10.03	10.20	10.21	9.89	9.03	-
35	11.87	10.98	10.62	10.59	10.69	10.74	10.52	9.86	-
40	13.35	12.12	11.50	11.29	11.30	11.34	11.20	10.70	-
45	-	13.50	12.59	12.17	12.06	12.06	11.96	11.59	-
50	-	-	13.93	13.27	13.00	12.93	12.85	12.57	-
55	-	-	-	14.63	14.17	13.99	13.89	13.67	-
60	-	-	-	-	15.60	15.28	15.12	14.94	-
65	-	-	-	-	-	16.84	16.60	16.41	-

**Mass flow in kg/h**

30	205	237	283	343	415	498	590	691	-
35	200	233	280	340	411	493	584	682	-
40	191	226	275	336	408	489	579	676	-
45	-	215	266	329	402	485	575	672	-
50	-	-	253	319	394	479	570	668	-
55	-	-	-	303	382	469	563	662	-
60	-	-	-	-	363	454	552	654	-
65	-	-	-	-	-	434	535	641	-

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

30	1.90	2.22	2.69	3.32	4.11	5.09	6.30	7.84	-
35	1.60	1.90	2.34	2.89	3.57	4.39	5.35	6.50	-
40	1.31	1.60	2.01	2.52	3.13	3.83	4.64	5.56	-
45	-	1.31	1.70	2.17	2.73	3.36	4.07	4.84	-
50	-	-	1.39	1.83	2.35	2.93	3.57	4.25	-
55	-	-	-	1.50	1.98	2.53	3.11	3.72	-
60	-	-	-	-	1.63	2.13	2.67	3.24	-
65	-	-	-	-	-	1.75	2.25	2.78	-

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

Cooling capacity	26 684	W
Power input	7 774	W
Current consumption	13.68	A
Mass flow	607	kg/h
C.O.P.	3.43	

**Pressure switch settings**

Maximum HP switch setting	29	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	74	dB(A)
With acoustic hood	69	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

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# Datasheet, performance data

# Danfoss scroll compressor. HCM109T4

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

# R22

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

### Cooling capacity in W

30	11 365	13 263	16 065	19 713	24 147	29 307	35 134	41 568	-
35	10 676	12 555	15 285	18 806	23 059	27 986	33 525	39 618	-
40	9 793	11 700	14 403	17 843	21 962	26 701	31 999	37 798	-
45	-	10 631	13 352	16 757	20 787	25 383	30 487	36 037	-
50	-	-	12 068	15 481	19 466	23 965	28 918	34 266	-
55	-	-	-	13 951	17 934	22 379	27 226	32 415	-
60	-	-	-	-	16 128	20 559	25 341	30 415	-
65	-	-	-	-	-	18 442	23 199	28 197	-

### Power input in W

30	6 172	6 233	6 263	6 256	6 207	6 110	5 959	5 750	-
35	6 821	6 850	6 864	6 857	6 824	6 759	6 656	6 511	-
40	7 523	7 505	7 488	7 467	7 435	7 388	7 319	7 224	-
45	-	8 232	8 170	8 119	8 075	8 030	7 981	7 921	-
50	-	-	8 944	8 850	8 777	8 721	8 677	8 638	-
55	-	-	-	9 691	9 576	9 495	9 440	9 407	-
60	-	-	-	-	10 507	10 384	10 305	10 264	-
65	-	-	-	-	-	11 424	11 306	11 242	-

### Current consumption in A

30	11.18	11.40	11.54	11.63	11.67	11.66	11.63	11.57	-
35	12.06	12.21	12.31	12.37	12.39	12.39	12.37	12.34	-
40	13.26	13.35	13.40	13.41	13.42	13.41	13.40	13.40	-
45	-	14.81	14.81	14.78	14.76	14.74	14.74	14.77	-
50	-	-	16.55	16.49	16.43	16.40	16.40	16.44	-
55	-	-	-	18.53	18.44	18.39	18.39	18.44	-
60	-	-	-	-	20.81	20.73	20.72	20.78	-
65	-	-	-	-	-	23.44	23.41	23.47	-

### Mass flow in kg/h

30	247	285	341	414	500	600	712	834	-
35	241	281	338	410	496	595	704	823	-
40	230	273	332	405	492	590	699	816	-
45	-	259	321	397	485	585	694	811	-
50	-	-	305	384	476	577	688	805	-
55	-	-	-	365	460	566	679	799	-
60	-	-	-	-	438	548	665	788	-
65	-	-	-	-	-	523	646	773	-

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

30	1.84	2.13	2.57	3.15	3.89	4.80	5.90	7.23	-
35	1.57	1.83	2.23	2.74	3.38	4.14	5.04	6.08	-
40	1.30	1.56	1.92	2.39	2.95	3.61	4.37	5.23	-
45	-	1.29	1.63	2.06	2.57	3.16	3.82	4.55	-
50	-	-	1.35	1.75	2.22	2.75	3.33	3.97	-
55	-	-	-	1.44	1.87	2.36	2.88	3.45	-
60	-	-	-	-	1.53	1.98	2.46	2.96	-
65	-	-	-	-	-	1.61	2.05	2.51	-

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

Cooling capacity	28 918	W
Power input	8 677	W
Current consumption	16.40	A
Mass flow	688	kg/h
C.O.P.	3.33	

### Pressure switch settings

Maximum HP switch setting	29	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1.3	bar(g)

### Sound power data

Sound power level	77	dB(A)
With acoustic hood	72	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

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# Datasheet, performance data

# Danfoss scroll compressor. HCM109T4

## Performance data at 60 Hz, ARI rating conditions

# R22

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

### Cooling capacity in W

30	12 070	14 075	17 035	20 887	25 567	31 009	37 148	43 922	-
35	11 379	13 370	16 263	19 993	24 496	29 706	35 559	41 992	-
40	10 481	12 509	15 384	19 041	23 416	28 445	34 062	40 203	-
45	-	11 417	14 324	17 959	22 257	27 153	32 583	38 483	-
50	-	-	13 012	16 674	20 944	25 758	31 051	36 759	-
55	-	-	-	15 113	19 405	24 186	29 392	34 958	-
60	-	-	-	-	17 567	22 365	27 534	33 008	-
65	-	-	-	-	-	20 223	25 404	30 836	-

### Power input in W

30	6 172	6 233	6 263	6 256	6 207	6 110	5 959	5 750	-
35	6 821	6 850	6 864	6 857	6 824	6 759	6 656	6 511	-
40	7 523	7 505	7 488	7 467	7 435	7 388	7 319	7 224	-
45	-	8 232	8 170	8 119	8 075	8 030	7 981	7 921	-
50	-	-	8 944	8 850	8 777	8 721	8 677	8 638	-
55	-	-	-	9 691	9 576	9 495	9 440	9 407	-
60	-	-	-	-	10 507	10 384	10 305	10 264	-
65	-	-	-	-	-	11 424	11 306	11 242	-

### Current consumption in A

30	11.18	11.40	11.54	11.63	11.67	11.66	11.63	11.57	-
35	12.06	12.21	12.31	12.37	12.39	12.39	12.37	12.34	-
40	13.26	13.35	13.40	13.41	13.42	13.41	13.40	13.40	-
45	-	14.81	14.81	14.78	14.76	14.74	14.74	14.77	-
50	-	-	16.55	16.49	16.43	16.40	16.40	16.44	-
55	-	-	-	18.53	18.44	18.39	18.39	18.44	-
60	-	-	-	-	20.81	20.73	20.72	20.78	-
65	-	-	-	-	-	23.44	23.41	23.47	-

### Mass flow in kg/h

30	246	284	340	411	498	597	708	829	-
35	240	280	336	408	494	591	700	819	-
40	229	271	330	403	489	587	695	812	-
45	-	258	319	395	483	582	690	806	-
50	-	-	303	382	473	574	684	801	-
55	-	-	-	363	458	563	675	794	-
60	-	-	-	-	436	545	662	784	-
65	-	-	-	-	-	520	642	769	-

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

30	1.96	2.26	2.72	3.34	4.12	5.08	6.23	7.64	-
35	1.67	1.95	2.37	2.92	3.59	4.40	5.34	6.45	-
40	1.39	1.67	2.05	2.55	3.15	3.85	4.65	5.57	-
45	-	1.39	1.75	2.21	2.76	3.38	4.08	4.86	-
50	-	-	1.45	1.88	2.39	2.95	3.58	4.26	-
55	-	-	-	1.56	2.03	2.55	3.11	3.72	-
60	-	-	-	-	1.67	2.15	2.67	3.22	-
65	-	-	-	-	-	1.77	2.25	2.74	-

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

Cooling capacity	32 014	W
Power input	9 327	W
Current consumption	18.15	A
Mass flow	728	kg/h
C.O.P.	3.43	

### Pressure switch settings

Maximum HP switch setting	29	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1.3	bar(g)

### Sound power data

Sound power level	77	dB(A)
With acoustic hood	72	dB(A)

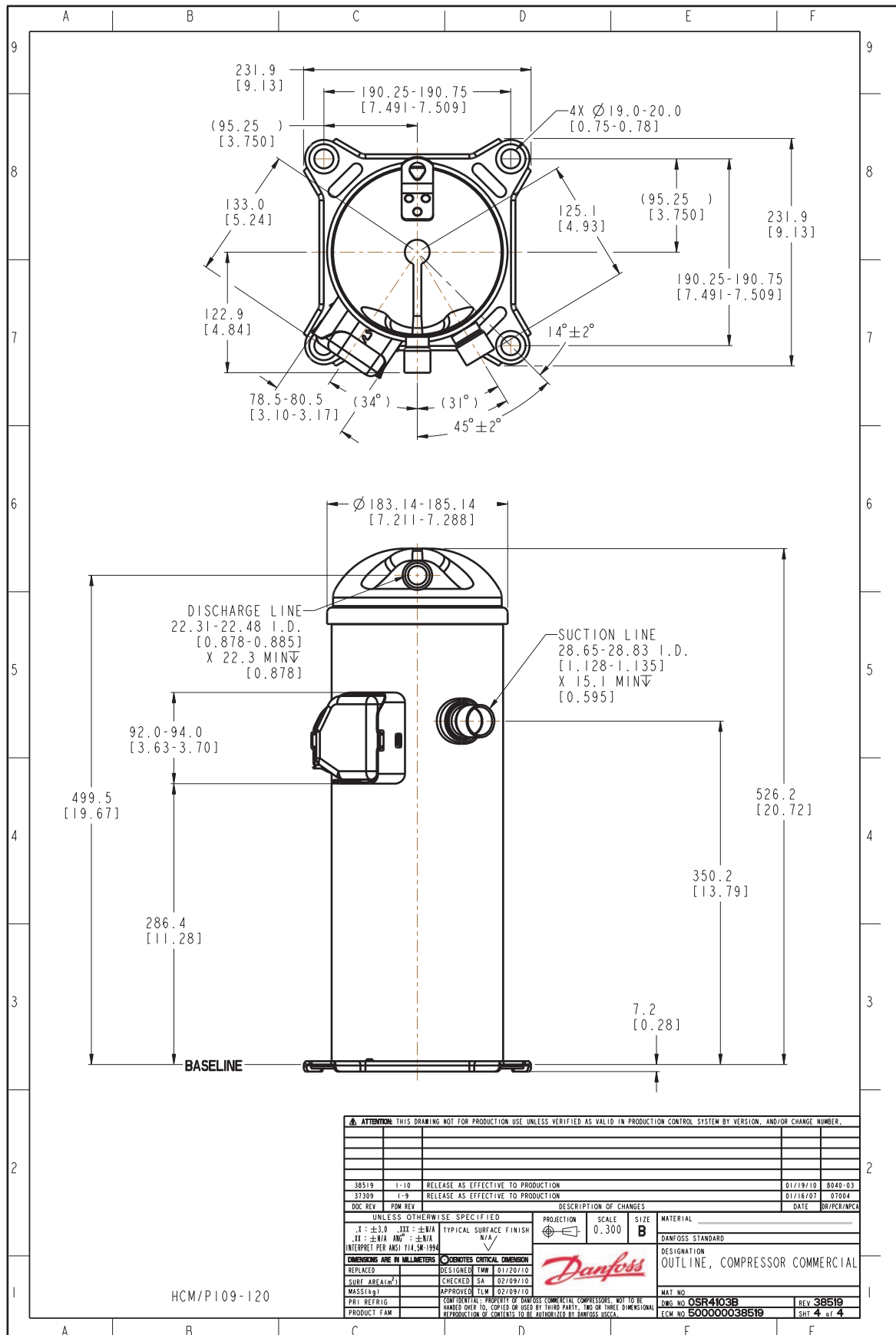
to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

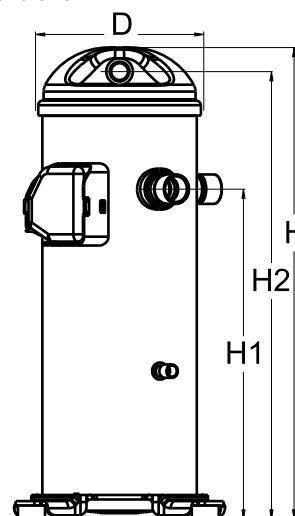
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### General Characteristics

Model number (on compressor nameplate)		<b>HCM109T4LC8</b>
Code number for Singlepack*		120U1924
Code number for Industrial pack**		120U1921
Drawing number		0SR4103B-2
Suction and discharge connections		Brazed
Suction connection		1-1/8" ODF
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		148,79 cm <sup>3</sup> /rev
Displacement @ Nominal speed		25.9 m <sup>3</sup> /h @ 2900 rpm - 31.3 m <sup>3</sup> /h @ 3500 rpm
Net weight		45,2 kg
Oil charge		2,66 litre, Alkylbenzene - -
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		R22

### Dimensions

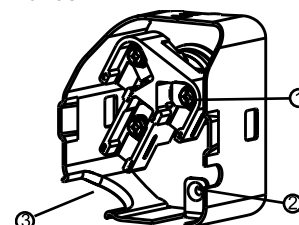


D=184 mm  
H=545 mm  
H1=369 mm  
H2=519 mm  
H3=- mm

### 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	1.326 Ω
Winding resistance between phases 1-3 +/- 7% at 25°C	1.276 Ω
Winding resistance between phases 2-3 +/- 7% at 25°C	1.293 Ω
Rated Load Amps (RLA)	16 A
Maximum Continuous Current (MCC)	24 A
Locked Rotor Amps (LRA)	110 A
Motor protection	Internal overload protector

### Terminal box



IP22

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

### 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



**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.**

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
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.**
**Crankcase heaters**
**Code no.**

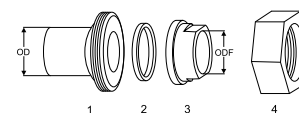
Belt type crankcase heater, 65 W, 230 V, CE mark, UL	120Z0059
Belt type crankcase heater, 65 W, 400 V, CE mark, UL	120Z0060
Belt type crankcase heater, 70 W, 240 V, CE mark, UL	120Z5040
Belt type crankcase heater, 70 W, 240 V, CE mark, UL	120Z5040

**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)

