

Datasheets

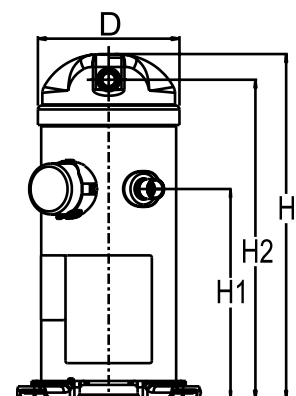
# Danfoss scroll compressors **H series**



### General Characteristics

Model number (on compressor nameplate)		<b>HRH047U4LP6</b>
Code number for Singlepack*		120U2851
Code number for Industrial pack**		120U2848
Drawing number		0XC6301B-3
Suction and discharge connections		Brazed
Suction connection		7/8 " ODF
Discharge connection		1/2 " ODF
Oil sight glass		None
Oil equalisation connection		None
Oil drain connection		None
LP gauge port		None
IPR valve		Yes
Swept volume		44.43 cm <sup>3</sup> /rev
Displacement @ Nominal speed		7.7 m <sup>3</sup> /h @ 2900 rpm - 9.3 m <sup>3</sup> /h @ 3500 rpm
Net weight		30.8 kg
Oil charge		1.33 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		3.63 kg
Approved refrigerants		R410A

### Dimensions

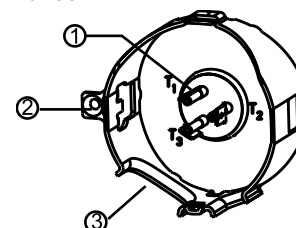


D=164.5 mm  
H=439 mm  
H1=275 mm  
H2=405 mm  
H3=- mm

### 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	3.290 Ω
Winding resistance between phases 1-3 +/- 7% at 25°C	2.410 Ω
Winding resistance between phases 2-3 +/- 7% at 25°C	3.290 Ω
Rated Load Amps (RLA)	8.3 A
Maximum Continuous Current (MCC)	13 A
Locked Rotor Amps (LRA)	53 A
Motor protection	Internal overload protector

### Terminal box



IP22

- 1: Spade connectors 1/4"
- 2: Earth connection
- 3: Power cable passage

### Recommended Installation torques

Oil sight glass	52.5 Nm
Power connections / Earth connection	0 Nm / 0 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.**

Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF)	8168030
Gasket, 1-1/4"	8156131

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

Solder sleeve, P06 (1" Rotolock, 1/2" ODF)	8153007
Angle adapter, C06 (1" Rotolock, 1/2" ODF)	8168007
Rotolock valve, V06 (1" Rotolock, 1/2" ODF)	8168031
Gasket, 1"	8156130

**Solder sleeve adapter set**


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

**Rotolock accessories, sets**
**Code no.**

Solder sleeve adapter set (1-1/4" Rotolock, 7/8" ODF), (1" Rotolock, 1/2" ODF)	120Z0127
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009

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

PVE lubricant, 320HV (FVC68D), 1 litre can	120Z5034
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**Crankcase heaters**
**Code no.**

Belt type crankcase heater, 40 W, 230 V, CE mark, UL	120Z0055
Belt type crankcase heater, 40 W, 400 V, CE mark, UL	120Z0056

**Miscellaneous accessories**
**Code no.**

Acoustic hood	120Z5043
Discharge thermostat kit	7750009
IP54 upgrade kit	118U0056

**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
No translation for 120Z5015	120Z5015

**Performance data at 50 Hz, EN 12900 rating conditions**
**R410A**

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

**Cooling capacity in W**

30	3 344	4 377	5 635	7 138	8 905	10 956	13 312	15 991	-
35	2 999	3 999	5 207	6 644	8 329	10 281	12 520	15 066	-
40	-	3 615	4 772	6 142	7 743	9 594	11 716	14 127	-
45	-	-	4 323	5 624	7 139	8 888	10 891	13 165	-
50	-	-	-	5 082	6 510	8 154	10 034	12 169	-
55	-	-	-	-	5 843	7 379	9 133	11 124	-
60	-	-	-	-	-	6 547	8 167	10 006	-
65	-	-	-	-	-	-	7 097	8 767	-

**Power input in W**

30	2 240	2 210	2 187	2 169	2 152	2 132	2 108	2 075	-
35	2 577	2 535	2 500	2 471	2 443	2 414	2 380	2 339	-
40	-	2 900	2 855	2 815	2 778	2 739	2 697	2 648	-
45	-	-	3 255	3 205	3 159	3 113	3 063	3 007	-
50	-	-	-	3 646	3 591	3 538	3 481	3 418	-
55	-	-	-	-	4 079	4 018	3 955	3 887	-
60	-	-	-	-	-	4 558	4 490	4 417	-
65	-	-	-	-	-	-	5 088	5 012	-

**Current consumption in A**

30	4.92	4.93	4.93	4.92	4.90	4.86	4.80	4.71	-
35	5.31	5.30	5.29	5.28	5.26	5.22	5.17	5.10	-
40	-	5.72	5.71	5.69	5.66	5.63	5.58	5.52	-
45	-	-	6.19	6.16	6.13	6.09	6.05	5.99	-
50	-	-	-	6.71	6.67	6.63	6.58	6.52	-
55	-	-	-	-	7.30	7.25	7.20	7.14	-
60	-	-	-	-	-	7.98	7.92	7.86	-
65	-	-	-	-	-	-	8.76	8.69	-

**Mass flow in kg/h**

30	70	90	114	143	176	215	258	308	-
35	66	87	111	140	173	211	255	304	-
40	-	83	108	137	170	208	251	300	-
45	-	-	103	133	166	204	247	295	-
50	-	-	-	128	162	200	243	291	-
55	-	-	-	-	156	194	237	285	-
60	-	-	-	-	-	188	231	278	-
65	-	-	-	-	-	-	223	270	-

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

30	1.49	1.98	2.58	3.29	4.14	5.14	6.31	7.71	-
35	1.16	1.58	2.08	2.69	3.41	4.26	5.26	6.44	-
40	-	1.25	1.67	2.18	2.79	3.50	4.34	5.33	-
45	-	-	1.33	1.75	2.26	2.86	3.56	4.38	-
50	-	-	-	1.39	1.81	2.30	2.88	3.56	-
55	-	-	-	-	1.43	1.84	2.31	2.86	-
60	-	-	-	-	-	1.44	1.82	2.27	-
65	-	-	-	-	-	-	1.39	1.75	-

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

Cooling capacity	10 034	W
Power input	3 481	W
Current consumption	6.58	A
Mass flow	243	kg/h
C.O.P.	2.88	

**Pressure switch settings**

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

**Sound power data**

Sound power level	67	dB(A)
With acoustic hood	62	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**
**R410A**

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

**Cooling capacity in W**

30	3 611	4 722	6 073	7 685	9 579	11 776	14 295	17 159	-
35	-	4 341	5 647	7 197	9 013	11 115	13 524	16 260	-
40	-	-	5 214	6 702	8 440	10 446	12 744	15 352	-
45	-	-	4 767	6 193	7 851	9 762	11 948	14 428	-
50	-	-	-	5 660	7 239	9 055	11 128	13 480	-
55	-	-	-	-	6 598	8 317	10 278	12 501	-
60	-	-	-	-	-	7 541	9 389	11 482	-
65	-	-	-	-	-	-	8 454	10 417	-

**Power input in W**

30	2 240	2 210	2 187	2 169	2 152	2 132	2 108	2 075	-
35	-	2 535	2 500	2 471	2 443	2 414	2 380	2 339	-
40	-	-	2 855	2 815	2 778	2 739	2 697	2 648	-
45	-	-	3 255	3 205	3 159	3 113	3 063	3 007	-
50	-	-	-	3 646	3 591	3 538	3 481	3 418	-
55	-	-	-	-	4 079	4 018	3 955	3 887	-
60	-	-	-	-	-	4 558	4 490	4 417	-
65	-	-	-	-	-	-	5 088	5 012	-

**Current consumption in A**

30	4.92	4.93	4.93	4.92	4.90	4.86	4.80	4.71	-
35	-	5.30	5.29	5.28	5.26	5.22	5.17	5.10	-
40	-	-	5.71	5.69	5.66	5.63	5.58	5.52	-
45	-	-	6.19	6.16	6.13	6.09	6.05	5.99	-
50	-	-	-	6.71	6.67	6.63	6.58	6.52	-
55	-	-	-	-	7.30	7.25	7.20	7.14	-
60	-	-	-	-	-	7.98	7.92	7.86	-
65	-	-	-	-	-	-	8.76	8.69	-

**Mass flow in kg/h**

30	70	90	114	142	175	213	257	305	-
35	-	86	110	139	172	210	253	301	-
40	-	-	107	136	169	207	249	297	-
45	-	-	103	132	165	203	246	293	-
50	-	-	-	127	161	198	241	288	-
55	-	-	-	-	155	193	236	283	-
60	-	-	-	-	-	186	229	276	-
65	-	-	-	-	-	-	221	269	-

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

30	1.61	2.14	2.78	3.54	4.45	5.52	6.78	8.27	-
35	-	1.71	2.26	2.91	3.69	4.60	5.68	6.95	-
40	-	-	1.83	2.38	3.04	3.81	4.72	5.80	-
45	-	-	1.46	1.93	2.49	3.14	3.90	4.80	-
50	-	-	-	1.55	2.02	2.56	3.20	3.94	-
55	-	-	-	-	1.62	2.07	2.60	3.22	-
60	-	-	-	-	-	1.65	2.09	2.60	-
65	-	-	-	-	-	-	1.66	2.08	-

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

Cooling capacity	11 333	W
Power input	3 866	W
Current consumption	7.09	A
Mass flow	256	kg/h
C.O.P.	2.93	

**Pressure switch settings**

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

**Sound power data**

Sound power level	67	dB(A)
With acoustic hood	62	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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**Performance data at 60 Hz, EN 12900 rating conditions**
**R410A**

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

**Cooling capacity in W**

30	3 940	5 153	6 634	8 403	10 483	12 896	15 662	18 804	-
35	3 548	4 723	6 148	7 844	9 835	12 140	14 782	17 782	-
40	-	4 291	5 658	7 280	9 179	11 375	13 890	16 745	-
45	-	-	5 153	6 697	8 501	10 585	12 970	15 677	-
50	-	-	-	6 083	7 788	9 756	12 007	14 562	-
55	-	-	-	-	7 025	8 870	10 981	13 377	-
60	-	-	-	-	-	7 905	9 865	12 090	-
65	-	-	-	-	-	-	8 607	10 641	-

**Power input in W**

30	2 654	2 619	2 592	2 570	2 549	2 526	2 498	2 459	-
35	3 050	3 000	2 960	2 925	2 892	2 858	2 818	2 769	-
40	-	3 428	3 375	3 329	3 284	3 239	3 190	3 132	-
45	-	-	3 843	3 785	3 731	3 676	3 617	3 551	-
50	-	-	-	4 300	4 236	4 172	4 105	4 032	-
55	-	-	-	-	4 804	4 732	4 658	4 578	-
60	-	-	-	-	-	5 361	5 281	5 195	-
65	-	-	-	-	-	-	5 978	5 888	-

**Current consumption in A**

30	4.94	4.95	4.95	4.94	4.92	4.88	4.82	4.73	-
35	5.33	5.32	5.32	5.30	5.28	5.25	5.19	5.12	-
40	-	5.75	5.73	5.71	5.69	5.65	5.61	5.54	-
45	-	-	6.21	6.18	6.15	6.12	6.07	6.01	-
50	-	-	-	6.74	6.70	6.66	6.61	6.55	-
55	-	-	-	-	7.33	7.28	7.23	7.17	-
60	-	-	-	-	-	8.01	7.95	7.89	-
65	-	-	-	-	-	-	8.80	8.73	-

**Mass flow in kg/h**

30	82	106	135	168	208	253	304	362	-
35	78	102	131	165	205	250	301	358	-
40	-	98	128	162	201	247	298	355	-
45	-	-	123	158	198	243	294	352	-
50	-	-	-	153	193	239	290	348	-
55	-	-	-	-	188	234	285	343	-
60	-	-	-	-	-	227	279	336	-
65	-	-	-	-	-	-	270	328	-

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

30	1.48	1.97	2.56	3.27	4.11	5.10	6.27	7.65	-
35	1.16	1.57	2.08	2.68	3.40	4.25	5.25	6.42	-
40	-	1.25	1.68	2.19	2.79	3.51	4.35	5.35	-
45	-	-	1.34	1.77	2.28	2.88	3.59	4.42	-
50	-	-	-	1.41	1.84	2.34	2.92	3.61	-
55	-	-	-	-	1.46	1.87	2.36	2.92	-
60	-	-	-	-	-	1.47	1.87	2.33	-
65	-	-	-	-	-	-	1.44	1.81	-

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

Cooling capacity	12 007	W
Power input	4 105	W
Current consumption	6.61	A
Mass flow	290	kg/h
C.O.P.	2.92	

**Pressure switch settings**

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

**Sound power data**

Sound power level		dB(A)
With acoustic hood		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 60 Hz, ARI rating conditions**
**R410A**

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

**Cooling capacity in W**

30	4 255	5 559	7 149	9 048	11 277	13 860	16 820	20 178	-
35	-	5 127	6 667	8 498	10 643	13 126	15 968	19 192	-
40	-	-	6 182	7 944	10 004	12 385	15 108	18 197	-
45	-	-	5 681	7 374	9 348	11 625	14 229	17 180	-
50	-	-	-	6 775	8 661	10 834	13 316	16 130	-
55	-	-	-	-	7 932	9 998	12 357	15 032	-
60	-	-	-	-	-	9 105	11 341	13 874	-
65	-	-	-	-	-	-	10 253	12 644	-

**Power input in W**

30	2 654	2 619	2 592	2 570	2 549	2 526	2 498	2 459	-
35	-	3 000	2 960	2 925	2 892	2 858	2 818	2 769	-
40	-	-	3 375	3 329	3 284	3 239	3 190	3 132	-
45	-	-	3 843	3 785	3 731	3 676	3 617	3 551	-
50	-	-	-	4 300	4 236	4 172	4 105	4 032	-
55	-	-	-	-	4 804	4 732	4 658	4 578	-
60	-	-	-	-	-	5 361	5 281	5 195	-
65	-	-	-	-	-	-	5 978	5 888	-

**Current consumption in A**

30	4.94	4.95	4.95	4.94	4.92	4.88	4.82	4.73	-
35	-	5.32	5.32	5.30	5.28	5.25	5.19	5.12	-
40	-	-	5.73	5.71	5.69	5.65	5.61	5.54	-
45	-	-	6.21	6.18	6.15	6.12	6.07	6.01	-
50	-	-	-	6.74	6.70	6.66	6.61	6.55	-
55	-	-	-	-	7.33	7.28	7.23	7.17	-
60	-	-	-	-	-	8.01	7.95	7.89	-
65	-	-	-	-	-	-	8.80	8.73	-

**Mass flow in kg/h**

30	82	105	134	167	206	251	302	359	-
35	-	102	130	164	203	248	299	356	-
40	-	-	127	161	200	245	296	353	-
45	-	-	122	157	197	242	292	349	-
50	-	-	-	152	192	237	288	345	-
55	-	-	-	-	186	232	283	340	-
60	-	-	-	-	-	225	277	334	-
65	-	-	-	-	-	-	268	326	-

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

30	1.60	2.12	2.76	3.52	4.42	5.49	6.73	8.20	-
35	-	1.71	2.25	2.91	3.68	4.59	5.67	6.93	-
40	-	-	1.83	2.39	3.05	3.82	4.74	5.81	-
45	-	-	1.48	1.95	2.51	3.16	3.93	4.84	-
50	-	-	-	1.58	2.04	2.60	3.24	4.00	-
55	-	-	-	-	1.65	2.11	2.65	3.28	-
60	-	-	-	-	-	1.70	2.15	2.67	-
65	-	-	-	-	-	-	1.72	2.15	-

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

Cooling capacity	13 619	W
Power input	4 554	W
Current consumption	7.12	A
Mass flow	308	kg/h
C.O.P.	2.99	

**Pressure switch settings**

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

**Sound power data**

Sound power level		dB(A)
With acoustic hood		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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