

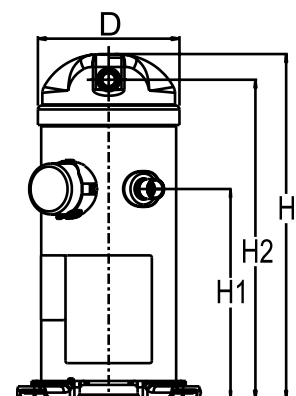
Datasheets

Danfoss scroll compressors **H series**



General Characteristics

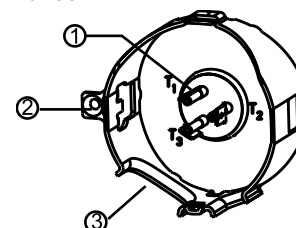
Model number (on compressor nameplate)		HRH048U4LP6
Code number for Singlepack*		120U2772
Code number for Industrial pack**		120U2769
Drawing number		0XC6301B-3
Suction and discharge connections		Brazed
Suction connection		7/8 " ODF
Discharge connection		1/2 " ODF
Oil sight glass		None
Oil equalisation connection		None
Oil drain connection		None
LP gauge port		None
IPR valve		Yes
Swept volume		46.41 cm ³ /rev
Displacement @ Nominal speed		8.1 m ³ /h @ 2900 rpm - 9.8 m ³ /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)	9 A
Maximum Continuous Current (MCC)	14 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	3 466	4 534	5 837	7 394	9 225	11 348	13 785	16 553	-
35	3 116	4 150	5 404	6 895	8 644	10 670	12 993	15 632	-
40	-	3 764	4 965	6 389	8 055	9 982	12 189	14 696	-
45	-	-	4 513	5 867	7 448	9 273	11 362	13 735	-
50	-	-	-	5 319	6 811	8 532	10 500	12 734	-
55	-	-	-	-	6 132	7 743	9 585	11 676	-
60	-	-	-	-	-	6 889	8 596	10 534	-
65	-	-	-	-	-	-	7 489	9 256	-

Power input in W

30	2 328	2 297	2 273	2 254	2 236	2 216	2 191	2 157	-
35	2 678	2 634	2 598	2 567	2 539	2 508	2 474	2 431	-
40	-	3 013	2 966	2 925	2 886	2 846	2 803	2 752	-
45	-	-	3 381	3 330	3 282	3 234	3 182	3 124	-
50	-	-	-	3 787	3 731	3 675	3 616	3 551	-
55	-	-	-	-	4 236	4 173	4 108	4 038	-
60	-	-	-	-	-	4 734	4 663	4 587	-
65	-	-	-	-	-	-	5 284	5 204	-

Current consumption in A

30	5.96	5.97	5.97	5.96	5.93	5.89	5.81	5.71	-
35	6.43	6.42	6.41	6.40	6.37	6.33	6.26	6.17	-
40	-	6.93	6.91	6.89	6.86	6.82	6.76	6.68	-
45	-	-	7.49	7.46	7.42	7.38	7.32	7.25	-
50	-	-	-	8.12	8.08	8.03	7.97	7.90	-
55	-	-	-	-	8.84	8.78	8.72	8.65	-
60	-	-	-	-	-	9.67	9.59	9.52	-
65	-	-	-	-	-	-	10.61	10.53	-

Mass flow in kg/h

30	73	93	118	148	183	222	268	318	-
35	69	90	115	145	180	219	264	315	-
40	-	86	112	142	177	216	261	312	-
45	-	-	108	138	173	213	258	308	-
50	-	-	-	134	169	209	254	304	-
55	-	-	-	-	164	204	249	299	-
60	-	-	-	-	-	198	243	293	-
65	-	-	-	-	-	-	235	286	-

Coefficient of performance (C.O.P.)

30	1.49	1.97	2.57	3.28	4.13	5.12	6.29	7.68	-
35	1.16	1.58	2.08	2.69	3.40	4.25	5.25	6.43	-
40	-	1.25	1.67	2.18	2.79	3.51	4.35	5.34	-
45	-	-	1.33	1.76	2.27	2.87	3.57	4.40	-
50	-	-	-	1.40	1.83	2.32	2.90	3.59	-
55	-	-	-	-	1.45	1.86	2.33	2.89	-
60	-	-	-	-	-	1.46	1.84	2.30	-
65	-	-	-	-	-	-	1.42	1.78	-

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

Cooling capacity	10 500	W
Power input	3 616	W
Current consumption	7.97	A
Mass flow	254	kg/h
C.O.P.	2.90	

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	3 743	4 892	6 291	7 961	9 923	12 197	14 803	17 763	-
35	-	4 506	5 860	7 469	9 354	11 536	14 035	16 871	-
40	-	-	5 425	6 972	8 780	10 869	13 259	15 970	-
45	-	-	4 976	6 461	8 190	10 185	12 465	15 052	-
50	-	-	-	5 924	7 575	9 475	11 645	14 105	-
55	-	-	-	-	6 924	8 728	10 787	13 121	-
60	-	-	-	-	-	7 935	9 882	12 088	-
65	-	-	-	-	-	-	8 920	10 998	-

Power input in W

30	2 328	2 297	2 273	2 254	2 236	2 216	2 191	2 157	-
35	-	2 634	2 598	2 567	2 539	2 508	2 474	2 431	-
40	-	-	2 966	2 925	2 886	2 846	2 803	2 752	-
45	-	-	3 381	3 330	3 282	3 234	3 182	3 124	-
50	-	-	-	3 787	3 731	3 675	3 616	3 551	-
55	-	-	-	-	4 236	4 173	4 108	4 038	-
60	-	-	-	-	-	4 734	4 663	4 587	-
65	-	-	-	-	-	-	5 284	5 204	-

Current consumption in A

30	5.96	5.97	5.97	5.96	5.93	5.89	5.81	5.71	-
35	-	6.42	6.41	6.40	6.37	6.33	6.26	6.17	-
40	-	-	6.91	6.89	6.86	6.82	6.76	6.68	-
45	-	-	7.49	7.46	7.42	7.38	7.32	7.25	-
50	-	-	-	8.12	8.08	8.03	7.97	7.90	-
55	-	-	-	-	8.84	8.78	8.72	8.65	-
60	-	-	-	-	-	9.67	9.59	9.52	-
65	-	-	-	-	-	-	10.61	10.53	-

Mass flow in kg/h

30	72	93	118	147	182	221	266	316	-
35	-	89	115	144	179	218	263	313	-
40	-	-	111	141	176	215	260	309	-
45	-	-	107	137	172	212	256	306	-
50	-	-	-	133	168	208	252	302	-
55	-	-	-	-	163	203	247	297	-
60	-	-	-	-	-	196	241	291	-
65	-	-	-	-	-	-	233	283	-

Coefficient of performance (C.O.P.)

30	1.61	2.13	2.77	3.53	4.44	5.50	6.76	8.24	-
35	-	1.71	2.26	2.91	3.68	4.60	5.67	6.94	-
40	-	-	1.83	2.38	3.04	3.82	4.73	5.80	-
45	-	-	1.47	1.94	2.50	3.15	3.92	4.82	-
50	-	-	-	1.56	2.03	2.58	3.22	3.97	-
55	-	-	-	-	1.63	2.09	2.63	3.25	-
60	-	-	-	-	-	1.68	2.12	2.64	-
65	-	-	-	-	-	-	1.69	2.11	-

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

Cooling capacity	11 890	W
Power input	4 016	W
Current consumption	8.59	A
Mass flow	269	kg/h
C.O.P.	2.96	

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	4 119	5 389	6 937	8 787	10 963	13 487	16 382	19 673	-
35	3 702	4 932	6 421	8 193	10 271	12 679	15 439	18 575	-
40	-	4 471	5 899	7 591	9 570	11 859	14 481	17 459	-
45	-	-	5 360	6 969	8 846	11 014	13 495	16 313	-
50	-	-	-	6 316	8 088	10 131	12 468	15 121	-
55	-	-	-	-	7 280	9 193	11 379	13 861	-
60	-	-	-	-	-	8 176	10 202	12 502	-
65	-	-	-	-	-	-	8 886	10 982	-

Power input in W

30	2 784	2 747	2 719	2 696	2 674	2 650	2 620	2 581	-
35	3 186	3 136	3 095	3 058	3 024	2 988	2 946	2 897	-
40	-	3 568	3 514	3 466	3 420	3 373	3 321	3 261	-
45	-	-	3 981	3 922	3 866	3 809	3 748	3 680	-
50	-	-	-	4 433	4 368	4 302	4 233	4 156	-
55	-	-	-	-	4 928	4 855	4 779	4 696	-
60	-	-	-	-	-	5 473	5 391	5 302	-
65	-	-	-	-	-	-	6 073	5 981	-

Current consumption in A

30	5.20	5.20	5.20	5.20	5.17	5.13	5.07	4.98	-
35	5.60	5.60	5.59	5.58	5.56	5.52	5.46	5.39	-
40	-	6.05	6.03	6.01	5.98	5.95	5.90	5.83	-
45	-	-	6.54	6.51	6.47	6.44	6.39	6.32	-
50	-	-	-	7.09	7.04	7.00	6.95	6.89	-
55	-	-	-	-	7.71	7.66	7.60	7.54	-
60	-	-	-	-	-	8.43	8.37	8.30	-
65	-	-	-	-	-	-	9.25	9.18	-

Mass flow in kg/h

30	86	111	141	176	217	264	318	378	-
35	82	107	137	173	214	261	314	374	-
40	-	102	133	169	210	257	310	370	-
45	-	-	128	164	206	253	306	366	-
50	-	-	-	159	201	248	301	361	-
55	-	-	-	-	194	242	296	355	-
60	-	-	-	-	-	234	288	348	-
65	-	-	-	-	-	-	279	339	-

Coefficient of performance (C.O.P.)

30	1.48	1.96	2.55	3.26	4.10	5.09	6.25	7.62	-
35	1.16	1.57	2.07	2.68	3.40	4.24	5.24	6.41	-
40	-	1.25	1.68	2.19	2.80	3.52	4.36	5.35	-
45	-	-	1.35	1.78	2.29	2.89	3.60	4.43	-
50	-	-	-	1.42	1.85	2.35	2.95	3.64	-
55	-	-	-	-	1.48	1.89	2.38	2.95	-
60	-	-	-	-	-	1.49	1.89	2.36	-
65	-	-	-	-	-	-	1.46	1.84	-

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

Cooling capacity	12 468	W
Power input	4 233	W
Current consumption	6.95	A
Mass flow	301	kg/h
C.O.P.	2.95	

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	4 448	5 813	7 476	9 461	11 793	14 495	17 593	21 111	-
35	-	5 354	6 963	8 875	11 115	13 707	16 677	20 047	-
40	-	-	6 445	8 283	10 431	12 912	15 751	18 973	-
45	-	-	5 910	7 673	9 728	12 097	14 805	17 878	-
50	-	-	-	7 035	8 995	11 251	13 827	16 749	-
55	-	-	-	-	8 220	10 362	12 806	15 576	-
60	-	-	-	-	-	9 419	11 729	14 347	-
65	-	-	-	-	-	-	10 585	13 050	-

Power input in W

30	2 784	2 747	2 719	2 696	2 674	2 650	2 620	2 581	-
35	-	3 136	3 095	3 058	3 024	2 988	2 946	2 897	-
40	-	-	3 514	3 466	3 420	3 373	3 321	3 261	-
45	-	-	3 981	3 922	3 866	3 809	3 748	3 680	-
50	-	-	-	4 433	4 368	4 302	4 233	4 156	-
55	-	-	-	-	4 928	4 855	4 779	4 696	-
60	-	-	-	-	-	5 473	5 391	5 302	-
65	-	-	-	-	-	-	6 073	5 981	-

Current consumption in A

30	5.20	5.20	5.20	5.20	5.17	5.13	5.07	4.98	-
35	-	5.60	5.59	5.58	5.56	5.52	5.46	5.39	-
40	-	-	6.03	6.01	5.98	5.95	5.90	5.83	-
45	-	-	6.54	6.51	6.47	6.44	6.39	6.32	-
50	-	-	-	7.09	7.04	7.00	6.95	6.89	-
55	-	-	-	-	7.71	7.66	7.60	7.54	-
60	-	-	-	-	-	8.43	8.37	8.30	-
65	-	-	-	-	-	-	9.25	9.18	-

Mass flow in kg/h

30	86	110	140	175	216	263	316	376	-
35	-	106	136	171	212	259	312	372	-
40	-	-	132	168	209	255	308	368	-
45	-	-	127	163	205	251	304	363	-
50	-	-	-	158	199	247	299	358	-
55	-	-	-	-	193	240	293	353	-
60	-	-	-	-	-	233	286	345	-
65	-	-	-	-	-	-	277	336	-

Coefficient of performance (C.O.P.)

30	1.60	2.12	2.75	3.51	4.41	5.47	6.71	8.18	-
35	-	1.71	2.25	2.90	3.68	4.59	5.66	6.92	-
40	-	-	1.83	2.39	3.05	3.83	4.74	5.82	-
45	-	-	1.48	1.96	2.52	3.18	3.95	4.86	-
50	-	-	-	1.59	2.06	2.62	3.27	4.03	-
55	-	-	-	-	1.67	2.13	2.68	3.32	-
60	-	-	-	-	-	1.72	2.18	2.71	-
65	-	-	-	-	-	-	1.74	2.18	-

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

Cooling capacity	14 116	W
Power input	4 675	W
Current consumption	7.49	A
Mass flow	319	kg/h
C.O.P.	3.02	

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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