

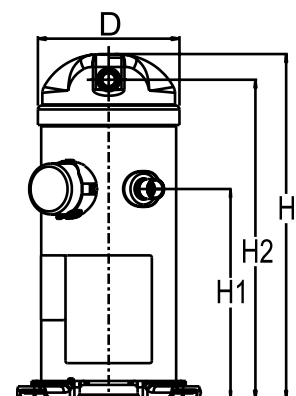
Datasheets

Danfoss scroll compressors **H series**



General Characteristics

Model number (on compressor nameplate)		HRH038U4LP6
Code number for Singlepack*		120U1206
Code number for Industrial pack**		120U1203
Drawing number		0XC6301B-2
Suction and discharge connections		Brazed
Suction connection		3/4 " 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		36.54 cm ³ /rev
Displacement @ Nominal speed		6.4 m ³ /h @ 2900 rpm - 7.7 m ³ /h @ 3500 rpm
Net weight		32.2 kg
Oil charge		1.06 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=413 mm

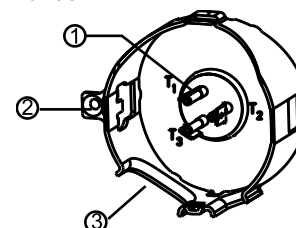
H1=250 mm

H2=379 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	3.873 Ω
Winding resistance between phases 1-3 +/- 7% at 25°C	3.870 Ω
Winding resistance between phases 2-3 +/- 7% at 25°C	2.850 Ω
Rated Load Amps (RLA)	7.7 A
Maximum Continuous Current (MCC)	12 A
Locked Rotor Amps (LRA)	50 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.

Solder sleeve, P04 (1-1/4" Rotolock, 3/4" ODF)	8153008
Angle adapter, C04 (1-1/4" Rotolock, 3/4" ODF)	8168006
Rotolock valve, V04 (1-1/4" Rotolock, 3/4" ODF)	8168029
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, 3/4" ODF), (1" Rotolock, 1/2" ODF)	120Z0126
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	2 732	3 576	4 604	5 831	7 275	8 951	10 875	13 064	-
35	2 450	3 267	4 254	5 428	6 804	8 398	10 228	12 307	-
40	-	2 952	3 898	5 017	6 325	7 837	9 570	11 539	-
45	-	-	3 531	4 593	5 831	7 260	8 895	10 753	-
50	-	-	-	4 150	5 316	6 659	8 194	9 938	-
55	-	-	-	-	4 771	6 025	7 457	9 083	-
60	-	-	-	-	-	5 345	6 668	8 169	-
65	-	-	-	-	-	-	5 793	7 157	-

Power input in W

30	1 898	1 871	1 852	1 837	1 823	1 806	1 785	1 757	-
35	2 194	2 156	2 126	2 101	2 077	2 053	2 024	1 988	-
40	-	2 480	2 440	2 405	2 373	2 341	2 305	2 263	-
45	-	-	2 798	2 754	2 714	2 675	2 632	2 584	-
50	-	-	-	3 151	3 104	3 057	3 009	2 955	-
55	-	-	-	-	3 545	3 492	3 438	3 380	-
60	-	-	-	-	-	3 984	3 924	3 862	-
65	-	-	-	-	-	-	4 471	4 405	-

Current consumption in A

30	4.29	4.30	4.30	4.29	4.27	4.24	4.18	4.11	-
35	4.63	4.62	4.61	4.60	4.59	4.55	4.51	4.44	-
40	-	4.99	4.98	4.96	4.94	4.91	4.87	4.81	-
45	-	-	5.39	5.37	5.34	5.31	5.27	5.22	-
50	-	-	-	5.85	5.81	5.78	5.74	5.69	-
55	-	-	-	-	6.36	6.32	6.28	6.22	-
60	-	-	-	-	-	6.96	6.90	6.85	-
65	-	-	-	-	-	-	7.64	7.58	-

Mass flow in kg/h

30	57	74	93	117	144	175	211	251	-
35	54	71	91	114	142	173	208	248	-
40	-	68	88	112	139	170	205	245	-
45	-	-	84	108	136	167	202	241	-
50	-	-	-	104	132	163	198	237	-
55	-	-	-	-	127	159	194	233	-
60	-	-	-	-	-	153	188	227	-
65	-	-	-	-	-	-	182	221	-

Coefficient of performance (C.O.P.)

30	1.44	1.91	2.49	3.17	3.99	4.96	6.09	7.44	-
35	1.12	1.52	2.00	2.58	3.28	4.09	5.05	6.19	-
40	-	1.19	1.60	2.09	2.66	3.35	4.15	5.10	-
45	-	-	1.26	1.67	2.15	2.71	3.38	4.16	-
50	-	-	-	1.32	1.71	2.18	2.72	3.36	-
55	-	-	-	-	1.35	1.73	2.17	2.69	-
60	-	-	-	-	-	1.34	1.70	2.12	-
65	-	-	-	-	-	-	1.30	1.62	-

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

Cooling capacity	8 194	W
Power input	3 009	W
Current consumption	5.74	A
Mass flow	198	kg/h
C.O.P.	2.72	

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	66	dB(A)
With acoustic hood	61	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	2 950	3 858	4 961	6 278	7 826	9 620	11 679	14 019	-
35	-	3 546	4 613	5 880	7 363	9 080	11 048	13 283	-
40	-	-	4 259	5 475	6 894	8 533	10 409	12 540	-
45	-	-	3 893	5 058	6 412	7 973	9 758	11 784	-
50	-	-	-	4 622	5 912	7 395	9 088	11 008	-
55	-	-	-	-	5 387	6 791	8 392	10 207	-
60	-	-	-	-	-	6 157	7 665	9 374	-
65	-	-	-	-	-	-	6 901	8 504	-

Power input in W

30	1 898	1 871	1 852	1 837	1 823	1 806	1 785	1 757	-
35	-	2 156	2 126	2 101	2 077	2 053	2 024	1 988	-
40	-	-	2 440	2 405	2 373	2 341	2 305	2 263	-
45	-	-	2 798	2 754	2 714	2 675	2 632	2 584	-
50	-	-	-	3 151	3 104	3 057	3 009	2 955	-
55	-	-	-	-	3 545	3 492	3 438	3 380	-
60	-	-	-	-	-	3 984	3 924	3 862	-
65	-	-	-	-	-	-	4 471	4 405	-

Current consumption in A

30	4.29	4.30	4.30	4.29	4.27	4.24	4.18	4.11	-
35	-	4.62	4.61	4.60	4.59	4.55	4.51	4.44	-
40	-	-	4.98	4.96	4.94	4.91	4.87	4.81	-
45	-	-	5.39	5.37	5.34	5.31	5.27	5.22	-
50	-	-	-	5.85	5.81	5.78	5.74	5.69	-
55	-	-	-	-	6.36	6.32	6.28	6.22	-
60	-	-	-	-	-	6.96	6.90	6.85	-
65	-	-	-	-	-	-	7.64	7.58	-

Mass flow in kg/h

30	57	73	93	116	143	174	210	249	-
35	-	70	90	114	141	172	207	246	-
40	-	-	87	111	138	169	204	243	-
45	-	-	84	108	135	166	201	240	-
50	-	-	-	104	131	162	197	236	-
55	-	-	-	-	127	158	192	231	-
60	-	-	-	-	-	152	187	226	-
65	-	-	-	-	-	-	181	219	-

Coefficient of performance (C.O.P.)

30	1.55	2.06	2.68	3.42	4.29	5.33	6.54	7.98	-
35	-	1.64	2.17	2.80	3.54	4.42	5.46	6.68	-
40	-	-	1.75	2.28	2.90	3.64	4.52	5.54	-
45	-	-	1.39	1.84	2.36	2.98	3.71	4.56	-
50	-	-	-	1.47	1.90	2.42	3.02	3.73	-
55	-	-	-	-	1.52	1.94	2.44	3.02	-
60	-	-	-	-	-	1.55	1.95	2.43	-
65	-	-	-	-	-	-	1.54	1.93	-

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

Cooling capacity	9 254	W
Power input	3 359	W
Current consumption	6.19	A
Mass flow	209	kg/h
C.O.P.	2.75	

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	66	dB(A)
With acoustic hood	61	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	3 215	4 204	5 412	6 856	8 553	10 521	12 778	15 342	-
35	2 894	3 852	5 015	6 399	8 023	9 903	12 058	14 506	-
40	-	3 499	4 614	5 937	7 486	9 277	11 328	13 657	-
45	-	-	4 201	5 461	6 932	8 631	10 575	12 783	-
50	-	-	-	4 959	6 349	7 953	9 788	11 871	-
55	-	-	-	-	5 725	7 230	8 950	10 902	-
60	-	-	-	-	-	6 441	8 038	9 852	-
65	-	-	-	-	-	-	7 012	8 669	-

Power input in W

30	2 182	2 152	2 130	2 112	2 095	2 077	2 053	2 021	-
35	2 512	2 471	2 437	2 408	2 381	2 353	2 320	2 280	-
40	-	2 830	2 786	2 747	2 710	2 673	2 632	2 584	-
45	-	-	3 180	3 131	3 086	3 041	2 992	2 937	-
50	-	-	-	3 566	3 513	3 460	3 405	3 344	-
55	-	-	-	-	3 995	3 935	3 874	3 808	-
60	-	-	-	-	-	4 470	4 403	4 332	-
65	-	-	-	-	-	-	4 996	4 921	-

Current consumption in A

30	4.68	4.68	4.68	4.68	4.66	4.62	4.56	4.48	-
35	5.04	5.04	5.03	5.02	5.00	4.97	4.92	4.85	-
40	-	5.44	5.43	5.41	5.38	5.35	5.31	5.24	-
45	-	-	5.88	5.86	5.83	5.79	5.75	5.69	-
50	-	-	-	6.38	6.34	6.30	6.25	6.20	-
55	-	-	-	-	6.94	6.89	6.84	6.79	-
60	-	-	-	-	-	7.59	7.53	7.47	-
65	-	-	-	-	-	-	8.33	8.26	-

Mass flow in kg/h

30	67	87	110	137	169	206	248	295	-
35	64	83	107	135	167	204	245	292	-
40	-	80	104	132	164	201	243	290	-
45	-	-	100	129	161	198	240	287	-
50	-	-	-	125	158	195	237	283	-
55	-	-	-	-	153	190	232	279	-
60	-	-	-	-	-	185	227	274	-
65	-	-	-	-	-	-	220	267	-

Coefficient of performance (C.O.P.)

30	1.47	1.95	2.54	3.25	4.08	5.07	6.22	7.59	-
35	1.15	1.56	2.06	2.66	3.37	4.21	5.20	6.36	-
40	-	1.24	1.66	2.16	2.76	3.47	4.30	5.29	-
45	-	-	1.32	1.74	2.25	2.84	3.53	4.35	-
50	-	-	-	1.39	1.81	2.30	2.87	3.55	-
55	-	-	-	-	1.43	1.84	2.31	2.86	-
60	-	-	-	-	-	1.44	1.83	2.27	-
65	-	-	-	-	-	-	1.40	1.76	-

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

Cooling capacity	9 788	W
Power input	3 405	W
Current consumption	6.25	A
Mass flow	237	kg/h
C.O.P.	2.87	

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	69	dB(A)
With acoustic hood	64	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	3 472	4 536	5 833	7 381	9 200	11 308	13 723	16 463	-
35	-	4 182	5 438	6 932	8 682	10 707	13 025	15 656	-
40	-	-	5 041	6 479	8 159	10 101	12 322	14 841	-
45	-	-	4 632	6 013	7 622	9 479	11 602	14 009	-
50	-	-	-	5 523	7 061	8 832	10 855	13 149	-
55	-	-	-	-	6 464	8 149	10 072	12 251	-
60	-	-	-	-	-	7 420	9 241	11 305	-
65	-	-	-	-	-	-	8 353	10 301	-

Power input in W

30	2 182	2 152	2 130	2 112	2 095	2 077	2 053	2 021	-
35	-	2 471	2 437	2 408	2 381	2 353	2 320	2 280	-
40	-	-	2 786	2 747	2 710	2 673	2 632	2 584	-
45	-	-	3 180	3 131	3 086	3 041	2 992	2 937	-
50	-	-	-	3 566	3 513	3 460	3 405	3 344	-
55	-	-	-	-	3 995	3 935	3 874	3 808	-
60	-	-	-	-	-	4 470	4 403	4 332	-
65	-	-	-	-	-	-	4 996	4 921	-

Current consumption in A

30	4.68	4.68	4.68	4.68	4.66	4.62	4.56	4.48	-
35	-	5.04	5.03	5.02	5.00	4.97	4.92	4.85	-
40	-	-	5.43	5.41	5.38	5.35	5.31	5.24	-
45	-	-	5.88	5.86	5.83	5.79	5.75	5.69	-
50	-	-	-	6.38	6.34	6.30	6.25	6.20	-
55	-	-	-	-	6.94	6.89	6.84	6.79	-
60	-	-	-	-	-	7.59	7.53	7.47	-
65	-	-	-	-	-	-	8.33	8.26	-

Mass flow in kg/h

30	67	86	109	136	168	205	246	293	-
35	-	83	106	134	166	202	244	290	-
40	-	-	103	131	163	200	241	288	-
45	-	-	100	128	160	197	238	285	-
50	-	-	-	124	157	194	235	281	-
55	-	-	-	-	152	189	231	277	-
60	-	-	-	-	-	183	225	272	-
65	-	-	-	-	-	-	219	265	-

Coefficient of performance (C.O.P.)

30	1.59	2.11	2.74	3.50	4.39	5.45	6.69	8.15	-
35	-	1.69	2.23	2.88	3.65	4.55	5.61	6.87	-
40	-	-	1.81	2.36	3.01	3.78	4.68	5.74	-
45	-	-	1.46	1.92	2.47	3.12	3.88	4.77	-
50	-	-	-	1.55	2.01	2.55	3.19	3.93	-
55	-	-	-	-	1.62	2.07	2.60	3.22	-
60	-	-	-	-	-	1.66	2.10	2.61	-
65	-	-	-	-	-	-	1.67	2.09	-

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

Cooling capacity	11 100	W
Power input	3 787	W
Current consumption	6.74	A
Mass flow	251	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	69	dB(A)
With acoustic hood	64	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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