

Datasheets

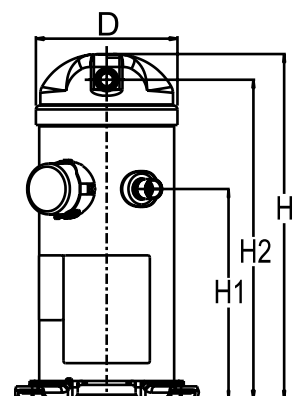
Danfoss scroll compressors **H series**



General Characteristics

Model number (on compressor nameplate)		HRH040U4LP6
Code number for Singlepack*		120U1211
Code number for Industrial pack**		120U1208
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		39.64 cm ³ /rev
Displacement @ Nominal speed		6.9 m ³ /h @ 2900 rpm - 8.3 m ³ /h @ 3500 rpm
Net weight		32.2 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

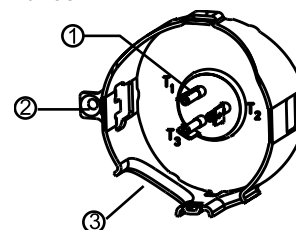
H2=405 mm

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	3.873 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

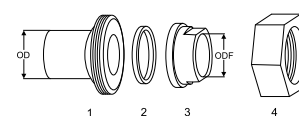
**Industrial pack: 12 or 16 Unboxed compressors on pallet

Rotolock accessories, suction side
Code no.

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	2 963	3 877	4 990	6 321	7 886	9 701	11 784	14 149	-
35	2 666	3 550	4 621	5 897	7 393	9 126	11 112	13 368	-
40	-	3 221	4 249	5 467	6 892	8 541	10 430	12 575	-
45	-	-	3 864	5 023	6 376	7 939	9 728	11 759	-
50	-	-	-	4 557	5 835	7 309	8 995	10 909	-
55	-	-	-	-	5 256	6 638	8 217	10 009	-
60	-	-	-	-	-	5 908	7 373	9 036	-
65	-	-	-	-	-	-	6 427	7 944	-

Power input in W

30	2 063	2 035	2 014	1 997	1 982	1 964	1 941	1 911	-
35	2 377	2 337	2 305	2 278	2 252	2 226	2 195	2 156	-
40	-	2 678	2 635	2 599	2 564	2 529	2 490	2 445	-
45	-	-	3 009	2 963	2 920	2 877	2 832	2 780	-
50	-	-	-	3 375	3 325	3 275	3 223	3 165	-
55	-	-	-	-	3 782	3 725	3 667	3 604	-
60	-	-	-	-	-	4 232	4 169	4 102	-
65	-	-	-	-	-	-	4 731	4 660	-

Current consumption in A

30	4.60	4.61	4.61	4.60	4.58	4.54	4.49	4.41	-
35	4.96	4.96	4.95	4.94	4.92	4.89	4.84	4.77	-
40	-	5.35	5.34	5.32	5.30	5.27	5.22	5.16	-
45	-	-	5.79	5.76	5.73	5.70	5.65	5.60	-
50	-	-	-	6.27	6.24	6.20	6.15	6.10	-
55	-	-	-	-	6.83	6.78	6.73	6.68	-
60	-	-	-	-	-	7.46	7.41	7.35	-
65	-	-	-	-	-	-	8.19	8.13	-

Mass flow in kg/h

30	62	80	101	127	156	190	229	272	-
35	59	77	99	124	154	188	226	269	-
40	-	74	96	122	151	185	224	267	-
45	-	-	92	118	148	182	221	264	-
50	-	-	-	115	145	179	218	260	-
55	-	-	-	-	140	175	213	256	-
60	-	-	-	-	-	169	208	251	-
65	-	-	-	-	-	-	202	245	-

Coefficient of performance (C.O.P.)

30	1.44	1.90	2.48	3.16	3.98	4.94	6.07	7.40	-
35	1.12	1.52	2.00	2.59	3.28	4.10	5.06	6.20	-
40	-	1.20	1.61	2.10	2.69	3.38	4.19	5.14	-
45	-	-	1.28	1.70	2.18	2.76	3.44	4.23	-
50	-	-	-	1.35	1.75	2.23	2.79	3.45	-
55	-	-	-	-	1.39	1.78	2.24	2.78	-
60	-	-	-	-	-	1.40	1.77	2.20	-
65	-	-	-	-	-	-	1.36	1.70	-

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

Cooling capacity	8 995	W
Power input	3 223	W
Current consumption	6.15	A
Mass flow	218	kg/h
C.O.P.	2.79	

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 accoustic 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	3 200	4 182	5 378	6 806	8 483	10 427	12 654	15 183	-
35	-	3 854	5 011	6 388	8 000	9 866	12 003	14 428	-
40	-	-	4 642	5 966	7 513	9 300	11 345	13 665	-
45	-	-	4 261	5 531	7 012	8 720	10 672	12 887	-
50	-	-	-	5 075	6 489	8 117	9 976	12 084	-
55	-	-	-	-	5 935	7 482	9 247	11 247	-
60	-	-	-	-	-	6 806	8 476	10 369	-
65	-	-	-	-	-	-	7 655	9 439	-

Power input in W

30	2 063	2 035	2 014	1 997	1 982	1 964	1 941	1 911	-
35	-	2 337	2 305	2 278	2 252	2 226	2 195	2 156	-
40	-	-	2 635	2 599	2 564	2 529	2 490	2 445	-
45	-	-	3 009	2 963	2 920	2 877	2 832	2 780	-
50	-	-	-	3 375	3 325	3 275	3 223	3 165	-
55	-	-	-	-	3 782	3 725	3 667	3 604	-
60	-	-	-	-	-	4 232	4 169	4 102	-
65	-	-	-	-	-	-	4 731	4 660	-

Current consumption in A

30	4.60	4.61	4.61	4.60	4.58	4.54	4.49	4.41	-
35	-	4.96	4.95	4.94	4.92	4.89	4.84	4.77	-
40	-	-	5.34	5.32	5.30	5.27	5.22	5.16	-
45	-	-	5.79	5.76	5.73	5.70	5.65	5.60	-
50	-	-	-	6.27	6.24	6.20	6.15	6.10	-
55	-	-	-	-	6.83	6.78	6.73	6.68	-
60	-	-	-	-	-	7.46	7.41	7.35	-
65	-	-	-	-	-	-	8.19	8.13	-

Mass flow in kg/h

30	62	79	101	126	155	189	227	270	-
35	-	76	98	123	153	186	225	267	-
40	-	-	95	121	150	184	222	265	-
45	-	-	92	118	147	181	219	262	-
50	-	-	-	114	144	178	216	259	-
55	-	-	-	-	139	174	212	255	-
60	-	-	-	-	-	168	207	250	-
65	-	-	-	-	-	-	200	243	-

Coefficient of performance (C.O.P.)

30	1.55	2.05	2.67	3.41	4.28	5.31	6.52	7.95	-
35	-	1.65	2.17	2.80	3.55	4.43	5.47	6.69	-
40	-	-	1.76	2.30	2.93	3.68	4.56	5.59	-
45	-	-	1.42	1.87	2.40	3.03	3.77	4.64	-
50	-	-	-	1.50	1.95	2.48	3.10	3.82	-
55	-	-	-	-	1.57	2.01	2.52	3.12	-
60	-	-	-	-	-	1.61	2.03	2.53	-
65	-	-	-	-	-	-	1.62	2.03	-

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

Cooling capacity	10 192	W
Power input	3 584	W
Current consumption	6.63	A
Mass flow	231	kg/h
C.O.P.	2.84	

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 accoustic 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	3 507	4 585	5 903	7 477	9 328	11 474	13 934	16 728	-
35	3 159	4 204	5 472	6 983	8 755	10 807	13 159	15 829	-
40	-	3 822	5 039	6 484	8 175	10 131	12 372	14 915	-
45	-	-	4 593	5 969	7 577	9 434	11 560	13 973	-
50	-	-	-	5 426	6 946	8 701	10 709	12 988	-
55	-	-	-	-	6 270	7 917	9 801	11 940	-
60	-	-	-	-	-	7 060	8 811	10 799	-
65	-	-	-	-	-	-	7 692	9 511	-

Power input in W

30	2 385	2 354	2 330	2 310	2 291	2 270	2 245	2 211	-
35	2 733	2 689	2 653	2 622	2 593	2 562	2 526	2 483	-
40	-	3 062	3 016	2 974	2 935	2 895	2 850	2 799	-
45	-	-	3 421	3 370	3 322	3 273	3 220	3 161	-
50	-	-	-	3 813	3 757	3 700	3 641	3 575	-
55	-	-	-	-	4 244	4 181	4 115	4 044	-
60	-	-	-	-	-	4 718	4 647	4 571	-
65	-	-	-	-	-	-	5 242	5 162	-

Current consumption in A

30	4.95	4.96	4.96	4.95	4.93	4.89	4.83	4.74	-
35	5.34	5.33	5.33	5.31	5.29	5.26	5.20	5.13	-
40	-	5.76	5.74	5.72	5.70	5.67	5.62	5.55	-
45	-	-	6.23	6.20	6.17	6.13	6.08	6.02	-
50	-	-	-	6.75	6.71	6.67	6.62	6.56	-
55	-	-	-	-	7.35	7.30	7.24	7.18	-
60	-	-	-	-	-	8.03	7.97	7.91	-
65	-	-	-	-	-	-	8.81	8.74	-

Mass flow in kg/h

30	73	94	120	150	185	225	270	322	-
35	70	91	117	147	182	222	268	319	-
40	-	88	114	144	179	220	265	316	-
45	-	-	110	141	176	217	262	314	-
50	-	-	-	136	172	213	259	310	-
55	-	-	-	-	167	208	255	306	-
60	-	-	-	-	-	202	249	300	-
65	-	-	-	-	-	-	242	293	-

Coefficient of performance (C.O.P.)

30	1.47	1.95	2.53	3.24	4.07	5.05	6.21	7.56	-
35	1.16	1.56	2.06	2.66	3.38	4.22	5.21	6.37	-
40	-	1.25	1.67	2.18	2.79	3.50	4.34	5.33	-
45	-	-	1.34	1.77	2.28	2.88	3.59	4.42	-
50	-	-	-	1.42	1.85	2.35	2.94	3.63	-
55	-	-	-	-	1.48	1.89	2.38	2.95	-
60	-	-	-	-	-	1.50	1.90	2.36	-
65	-	-	-	-	-	-	1.47	1.84	-

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

Cooling capacity	10 709	W
Power input	3 641	W
Current consumption	6.62	A
Mass flow	259	kg/h
C.O.P.	2.94	

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	3 787	4 947	6 361	8 050	10 034	12 332	14 964	17 951	-
35	-	4 564	5 934	7 564	9 474	11 684	14 214	17 083	-
40	-	-	5 506	7 076	8 911	11 031	13 457	16 208	-
45	-	-	5 064	6 573	8 332	10 362	12 682	15 313	-
50	-	-	-	6 043	7 725	9 663	11 877	14 386	-
55	-	-	-	-	7 079	8 924	11 030	13 417	-
60	-	-	-	-	-	8 132	10 129	12 393	-
65	-	-	-	-	-	-	9 163	11 301	-

Power input in W

30	2 385	2 354	2 330	2 310	2 291	2 270	2 245	2 211	-
35	-	2 689	2 653	2 622	2 593	2 562	2 526	2 483	-
40	-	-	3 016	2 974	2 935	2 895	2 850	2 799	-
45	-	-	3 421	3 370	3 322	3 273	3 220	3 161	-
50	-	-	-	3 813	3 757	3 700	3 641	3 575	-
55	-	-	-	-	4 244	4 181	4 115	4 044	-
60	-	-	-	-	-	4 718	4 647	4 571	-
65	-	-	-	-	-	-	5 242	5 162	-

Current consumption in A

30	4.95	4.96	4.96	4.95	4.93	4.89	4.83	4.74	-
35	-	5.33	5.33	5.31	5.29	5.26	5.20	5.13	-
40	-	-	5.74	5.72	5.70	5.67	5.62	5.55	-
45	-	-	6.23	6.20	6.17	6.13	6.08	6.02	-
50	-	-	-	6.75	6.71	6.67	6.62	6.56	-
55	-	-	-	-	7.35	7.30	7.24	7.18	-
60	-	-	-	-	-	8.03	7.97	7.91	-
65	-	-	-	-	-	-	8.81	8.74	-

Mass flow in kg/h

30	73	94	119	149	184	223	269	319	-
35	-	91	116	146	181	221	266	317	-
40	-	-	113	143	178	218	263	314	-
45	-	-	109	140	175	215	261	311	-
50	-	-	-	136	171	212	257	308	-
55	-	-	-	-	166	207	253	304	-
60	-	-	-	-	-	201	247	298	-
65	-	-	-	-	-	-	240	291	-

Coefficient of performance (C.O.P.)

30	1.59	2.10	2.73	3.49	4.38	5.43	6.67	8.12	-
35	-	1.70	2.24	2.88	3.65	4.56	5.63	6.88	-
40	-	-	1.83	2.38	3.04	3.81	4.72	5.79	-
45	-	-	1.48	1.95	2.51	3.17	3.94	4.84	-
50	-	-	-	1.59	2.06	2.61	3.26	4.02	-
55	-	-	-	-	1.67	2.13	2.68	3.32	-
60	-	-	-	-	-	1.72	2.18	2.71	-
65	-	-	-	-	-	-	1.75	2.19	-

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

Cooling capacity	12 155	W
Power input	4 025	W
Current consumption	7.14	A
Mass flow	275	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	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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