

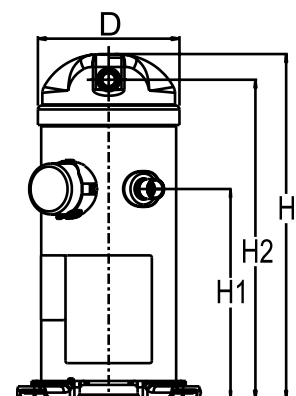
Datasheets

Danfoss scroll compressors **H series**



General Characteristics

Model number (on compressor nameplate)		HRM040U4LP6
Code number for Singlepack*		120U1021
Code number for Industrial pack**		120U1018
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		54.4 cm ³ /rev
Displacement @ Nominal speed		9.5 m ³ /h @ 2900 rpm - 11.4 m ³ /h @ 3500 rpm
Net weight		30.84 kg
Oil charge		1.06 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		3.63 kg
Approved refrigerants		R22

Dimensions


D=164.5 mm

H=413 mm

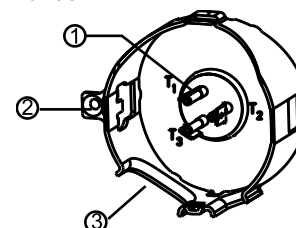
H1=250 mm

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	4.664 Ω
Winding resistance between phases 1-3 +/- 7% at 25°C	4.660 Ω
Winding resistance between phases 2-3 +/- 7% at 25°C	3.420 Ω
Rated Load Amps (RLA)	6.4 A
Maximum Continuous Current (MCC)	10 A
Locked Rotor Amps (LRA)	45 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.
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
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	3 525	4 118	4 989	6 121	7 497	9 101	10 914	12 919	-
35	3 298	3 884	4 730	5 819	7 134	8 658	10 373	12 262	-
40	-	3 600	4 435	5 496	6 764	8 222	9 854	11 642	-
45	-	-	4 088	5 133	6 369	7 776	9 339	11 040	-
50	-	-	-	4 715	5 931	7 302	8 810	10 438	-
55	-	-	-	-	5 434	6 781	8 248	9 817	-
60	-	-	-	-	-	6 197	7 636	9 160	-
65	-	-	-	-	-	-	6 957	8 448	-

Power input in W

30	1 770	1 759	1 753	1 745	1 727	1 691	1 630	1 535	-
35	2 032	1 993	1 970	1 955	1 941	1 918	1 881	1 820	-
40	-	2 278	2 228	2 196	2 175	2 157	2 134	2 098	-
45	-	-	2 539	2 481	2 444	2 421	2 402	2 381	-
50	-	-	-	2 823	2 760	2 722	2 698	2 682	-
55	-	-	-	-	3 136	3 073	3 035	3 015	-
60	-	-	-	-	-	3 487	3 425	3 392	-
65	-	-	-	-	-	-	3 882	3 825	-

Current consumption in A

30	4.96	4.70	4.63	4.69	4.76	4.77	4.62	4.22	-
35	5.54	5.13	4.96	4.95	5.00	5.02	4.92	4.61	-
40	-	5.66	5.37	5.28	5.28	5.30	5.23	5.00	-
45	-	-	5.88	5.69	5.64	5.63	5.59	5.42	-
50	-	-	-	6.20	6.08	6.04	6.00	5.87	-
55	-	-	-	-	6.62	6.54	6.49	6.39	-
60	-	-	-	-	-	7.14	7.07	6.98	-
65	-	-	-	-	-	-	7.76	7.67	-

Mass flow in kg/h

30	77	89	106	128	155	186	221	259	-
35	74	87	105	127	153	184	218	255	-
40	-	84	102	125	151	182	215	251	-
45	-	-	98	122	149	179	213	248	-
50	-	-	-	117	145	176	210	245	-
55	-	-	-	-	140	171	206	242	-
60	-	-	-	-	-	165	201	238	-
65	-	-	-	-	-	-	194	232	-

Coefficient of performance (C.O.P.)

30	1.99	2.34	2.85	3.51	4.34	5.38	6.70	8.42	-
35	1.62	1.95	2.40	2.98	3.68	4.51	5.52	6.74	-
40	-	1.58	1.99	2.50	3.11	3.81	4.62	5.55	-
45	-	-	1.61	2.07	2.61	3.21	3.89	4.64	-
50	-	-	-	1.67	2.15	2.68	3.27	3.89	-
55	-	-	-	-	1.73	2.21	2.72	3.26	-
60	-	-	-	-	-	1.78	2.23	2.70	-
65	-	-	-	-	-	-	1.79	2.21	-

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

Cooling capacity	8 810	W
Power input	2 698	W
Current consumption	6.00	A
Mass flow	210	kg/h
C.O.P.	3.27	

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	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
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	3 744	4 370	5 290	6 486	7 938	9 629	11 539	13 651	-
35	-	4 136	5 033	6 186	7 578	9 190	11 003	12 997	-
40	-	-	4 738	5 865	7 212	8 760	10 490	12 383	-
45	-	-	4 385	5 502	6 819	8 319	9 982	11 790	-
50	-	-	-	5 078	6 381	7 848	9 460	11 198	-
55	-	-	-	-	5 879	7 328	8 904	10 588	-
60	-	-	-	-	-	6 741	8 297	9 941	-
65	-	-	-	-	-	-	7 618	9 238	-

Power input in W

30	1 770	1 759	1 753	1 745	1 727	1 691	1 630	1 535	-
35	-	1 993	1 970	1 955	1 941	1 918	1 881	1 820	-
40	-	-	2 228	2 196	2 175	2 157	2 134	2 098	-
45	-	-	2 539	2 481	2 444	2 421	2 402	2 381	-
50	-	-	-	2 823	2 760	2 722	2 698	2 682	-
55	-	-	-	-	3 136	3 073	3 035	3 015	-
60	-	-	-	-	-	3 487	3 425	3 392	-
65	-	-	-	-	-	-	3 882	3 825	-

Current consumption in A

30	4.96	4.70	4.63	4.69	4.76	4.77	4.62	4.22	-
35	-	5.13	4.96	4.95	5.00	5.02	4.92	4.61	-
40	-	-	5.37	5.28	5.28	5.30	5.23	5.00	-
45	-	-	5.88	5.69	5.64	5.63	5.59	5.42	-
50	-	-	-	6.20	6.08	6.04	6.00	5.87	-
55	-	-	-	-	6.62	6.54	6.49	6.39	-
60	-	-	-	-	-	7.14	7.07	6.98	-
65	-	-	-	-	-	-	7.76	7.67	-

Mass flow in kg/h

30	76	88	105	128	155	185	220	258	-
35	-	86	104	126	153	183	217	253	-
40	-	-	102	124	151	181	214	250	-
45	-	-	98	121	148	178	211	247	-
50	-	-	-	116	144	175	208	244	-
55	-	-	-	-	139	170	205	241	-
60	-	-	-	-	-	164	199	236	-
65	-	-	-	-	-	-	193	230	-

Coefficient of performance (C.O.P.)

30	2.12	2.48	3.02	3.72	4.60	5.69	7.08	8.89	-
35	-	2.07	2.55	3.16	3.91	4.79	5.85	7.14	-
40	-	-	2.13	2.67	3.32	4.06	4.92	5.90	-
45	-	-	1.73	2.22	2.79	3.44	4.16	4.95	-
50	-	-	-	1.80	2.31	2.88	3.51	4.17	-
55	-	-	-	-	1.87	2.39	2.93	3.51	-
60	-	-	-	-	-	1.93	2.42	2.93	-
65	-	-	-	-	-	-	1.96	2.41	-

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

Cooling capacity	9 704	W
Power input	2 982	W
Current consumption	6.39	A
Mass flow	221	kg/h
C.O.P.	3.25	

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	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
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	4 275	4 995	6 052	7 425	9 095	11 040	13 241	15 675	-
35	3 996	4 708	5 734	7 054	8 648	10 495	12 575	14 866	-
40	-	4 359	5 372	6 656	8 192	9 958	11 934	14 100	-
45	-	-	4 945	6 210	7 705	9 408	11 299	13 357	-
50	-	-	-	5 697	7 167	8 824	10 646	12 613	-
55	-	-	-	-	6 559	8 185	9 955	11 849	-
60	-	-	-	-	-	7 472	9 206	11 042	-
65	-	-	-	-	-	-	8 379	10 173	-

Power input in W

30	2 153	2 140	2 133	2 123	2 101	2 058	1 984	1 870	-
35	2 464	2 418	2 391	2 373	2 355	2 328	2 283	2 210	-
40	-	2 754	2 695	2 657	2 632	2 610	2 581	2 538	-
45	-	-	3 059	2 991	2 946	2 918	2 895	2 870	-
50	-	-	-	3 389	3 314	3 268	3 239	3 220	-
55	-	-	-	-	3 751	3 675	3 629	3 605	-
60	-	-	-	-	-	4 154	4 080	4 040	-
65	-	-	-	-	-	-	4 607	4 539	-

Current consumption in A

30	4.96	4.70	4.63	4.69	4.76	4.77	4.62	4.22	-
35	5.54	5.13	4.96	4.95	5.00	5.02	4.92	4.61	-
40	-	5.66	5.37	5.28	5.28	5.30	5.23	5.00	-
45	-	-	5.88	5.69	5.64	5.63	5.59	5.42	-
50	-	-	-	6.20	6.08	6.04	6.00	5.87	-
55	-	-	-	-	6.62	6.54	6.49	6.39	-
60	-	-	-	-	-	7.14	7.07	6.98	-
65	-	-	-	-	-	-	7.76	7.67	-

Mass flow in kg/h

30	93	107	129	156	188	226	268	314	-
35	90	105	127	154	186	223	264	309	-
40	-	102	124	151	183	220	261	304	-
45	-	-	119	147	180	217	257	300	-
50	-	-	-	141	175	213	253	296	-
55	-	-	-	-	168	207	248	292	-
60	-	-	-	-	-	199	242	286	-
65	-	-	-	-	-	-	233	279	-

Coefficient of performance (C.O.P.)

30	1.99	2.33	2.84	3.50	4.33	5.37	6.67	8.38	-
35	1.62	1.95	2.40	2.97	3.67	4.51	5.51	6.73	-
40	-	1.58	1.99	2.51	3.11	3.82	4.62	5.56	-
45	-	-	1.62	2.08	2.62	3.22	3.90	4.65	-
50	-	-	-	1.68	2.16	2.70	3.29	3.92	-
55	-	-	-	-	1.75	2.23	2.74	3.29	-
60	-	-	-	-	-	1.80	2.26	2.73	-
65	-	-	-	-	-	-	1.82	2.24	-

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

Cooling capacity	10 646	W
Power input	3 239	W
Current consumption	6.00	A
Mass flow	253	kg/h
C.O.P.	3.29	

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	71	dB(A)
With acoustic hood	66	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
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	4 541	5 301	6 417	7 868	9 630	11 681	14 000	16 563	-
35	-	5 013	6 101	7 499	9 187	11 140	13 338	15 757	-
40	-	-	5 738	7 103	8 734	10 608	12 704	14 998	-
45	-	-	5 305	6 656	8 250	10 064	12 076	14 263	-
50	-	-	-	6 136	7 711	9 484	11 431	13 531	-
55	-	-	-	-	7 096	8 846	10 747	12 779	-
60	-	-	-	-	-	8 128	10 003	11 984	-
65	-	-	-	-	-	-	9 175	11 125	-

Power input in W

30	2 153	2 140	2 133	2 123	2 101	2 058	1 984	1 870	-
35	-	2 418	2 391	2 373	2 355	2 328	2 283	2 210	-
40	-	-	2 695	2 657	2 632	2 610	2 581	2 538	-
45	-	-	3 059	2 991	2 946	2 918	2 895	2 870	-
50	-	-	-	3 389	3 314	3 268	3 239	3 220	-
55	-	-	-	-	3 751	3 675	3 629	3 605	-
60	-	-	-	-	-	4 154	4 080	4 040	-
65	-	-	-	-	-	-	4 607	4 539	-

Current consumption in A

30	4.96	4.70	4.63	4.69	4.76	4.77	4.62	4.22	-
35	-	5.13	4.96	4.95	5.00	5.02	4.92	4.61	-
40	-	-	5.37	5.28	5.28	5.30	5.23	5.00	-
45	-	-	5.88	5.69	5.64	5.63	5.59	5.42	-
50	-	-	-	6.20	6.08	6.04	6.00	5.87	-
55	-	-	-	-	6.62	6.54	6.49	6.39	-
60	-	-	-	-	-	7.14	7.07	6.98	-
65	-	-	-	-	-	-	7.76	7.67	-

Mass flow in kg/h

30	92	107	128	155	187	225	267	313	-
35	-	105	126	153	185	222	263	307	-
40	-	-	123	150	182	219	259	303	-
45	-	-	118	146	179	216	256	299	-
50	-	-	-	141	174	211	252	295	-
55	-	-	-	-	167	206	247	290	-
60	-	-	-	-	-	198	240	285	-
65	-	-	-	-	-	-	232	277	-

Coefficient of performance (C.O.P.)

30	2.11	2.48	3.01	3.71	4.58	5.68	7.06	8.86	-
35	-	2.07	2.55	3.16	3.90	4.79	5.84	7.13	-
40	-	-	2.13	2.67	3.32	4.07	4.92	5.91	-
45	-	-	1.73	2.23	2.80	3.45	4.17	4.97	-
50	-	-	-	1.81	2.33	2.90	3.53	4.20	-
55	-	-	-	-	1.89	2.41	2.96	3.54	-
60	-	-	-	-	-	1.96	2.45	2.97	-
65	-	-	-	-	-	-	1.99	2.45	-

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

Cooling capacity	11 714	W
Power input	3 568	W
Current consumption	6.39	A
Mass flow	266	kg/h
C.O.P.	3.28	

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	71	dB(A)
With acoustic hood	66	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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