

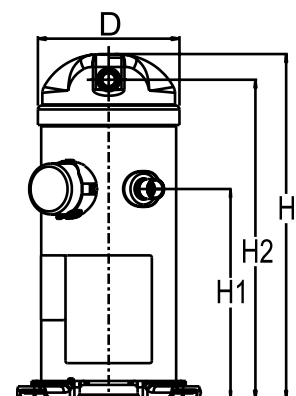
Datasheets

# Danfoss scroll compressors **H series**



**General Characteristics**

Model number (on compressor nameplate)		<b>HRM051U4LP6</b>
Code number for Singlepack*		120U1686
Code number for Industrial pack**		120U1683
Drawing number		0XR6002B-2
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		68.83 cm <sup>3</sup> /rev
Displacement @ Nominal speed		12.0 m <sup>3</sup> /h @ 2900 rpm - 14.4 m <sup>3</sup> /h @ 3500 rpm
Net weight		37.19 kg
Oil charge		1.57 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		5.44 kg
Approved refrigerants		R22

**Dimensions**


D=183.5 mm

H=455 mm

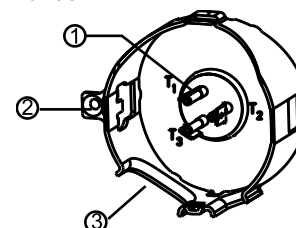
H1=280 mm

H2=422 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	2.600 Ω
Winding resistance between phases 1-3 +/- 7% at 25°C	2.610 Ω
Winding resistance between phases 2-3 +/- 7% at 25°C	2.650 Ω
Rated Load Amps (RLA)	8.3 A
Maximum Continuous Current (MCC)	13 A
Locked Rotor Amps (LRA)	60 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

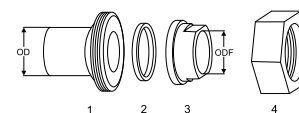
\*\*Industrial pack: 12 or 16 Unboxed compressors on pallet

**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.**
**Crankcase heaters**
**Code no.**

Belt type crankcase heater, 50 W, 230 V, CE mark, UL	120Z0057
Belt type crankcase heater, 50 W, 400 V, CE mark, UL	120Z0058

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

Acoustic hood	120Z5044
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	4 510	5 262	6 374	7 821	9 580	11 627	13 937	16 486	-
35	4 243	4 987	6 071	7 469	9 159	11 116	13 316	15 734	-
40	-	4 656	5 729	7 098	8 736	10 622	12 729	15 035	-
45	-	-	5 322	6 677	8 283	10 115	12 148	14 360	-
50	-	-	-	6 181	7 771	9 566	11 544	13 679	-
55	-	-	-	-	7 172	8 949	10 888	12 964	-
60	-	-	-	-	-	8 235	10 152	12 186	-
65	-	-	-	-	-	-	9 308	11 316	-

**Power input in W**

30	2 181	2 195	2 205	2 205	2 191	2 157	2 098	2 009	-
35	2 481	2 476	2 474	2 471	2 461	2 439	2 400	2 338	-
40	-	2 801	2 782	2 769	2 757	2 741	2 715	2 676	-
45	-	-	3 142	3 113	3 093	3 077	3 060	3 036	-
50	-	-	-	3 519	3 485	3 463	3 447	3 433	-
55	-	-	-	-	3 946	3 912	3 892	3 882	-
60	-	-	-	-	-	4 439	4 409	4 396	-
65	-	-	-	-	-	-	5 012	4 991	-

**Current consumption in A**

30	4.25	4.33	4.38	4.42	4.43	4.43	4.42	4.40	-
35	4.58	4.64	4.68	4.70	4.71	4.70	4.70	4.69	-
40	-	5.07	5.09	5.10	5.10	5.09	5.09	5.09	-
45	-	-	5.62	5.62	5.61	5.60	5.60	5.61	-
50	-	-	-	6.26	6.24	6.23	6.23	6.24	-
55	-	-	-	-	7.01	6.99	6.98	7.01	-
60	-	-	-	-	-	7.88	7.87	7.89	-
65	-	-	-	-	-	-	8.89	8.92	-

**Mass flow in kg/h**

30	98	113	135	164	198	238	282	331	-
35	96	112	134	163	197	236	280	327	-
40	-	109	132	161	196	235	278	325	-
45	-	-	128	158	193	233	276	323	-
50	-	-	-	153	190	230	275	322	-
55	-	-	-	-	184	226	271	319	-
60	-	-	-	-	-	220	267	316	-
65	-	-	-	-	-	-	259	310	-

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

30	2.07	2.40	2.89	3.55	4.37	5.39	6.64	8.21	-
35	1.71	2.01	2.45	3.02	3.72	4.56	5.55	6.73	-
40	-	1.66	2.06	2.56	3.17	3.88	4.69	5.62	-
45	-	-	1.69	2.14	2.68	3.29	3.97	4.73	-
50	-	-	-	1.76	2.23	2.76	3.35	3.98	-
55	-	-	-	-	1.82	2.29	2.80	3.34	-
60	-	-	-	-	-	1.86	2.30	2.77	-
65	-	-	-	-	-	-	1.86	2.27	-

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

Cooling capacity	11 544	W
Power input	3 447	W
Current consumption	6.23	A
Mass flow	275	kg/h
C.O.P.	3.35	

**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	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 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	4 790	5 584	6 758	8 287	10 143	12 302	14 736	17 420	-
35	-	5 311	6 459	7 941	9 730	11 799	14 124	16 677	-
40	-	-	6 120	7 574	9 315	11 316	13 550	15 992	-
45	-	-	5 709	7 156	8 869	10 820	12 984	15 335	-
50	-	-	-	6 657	8 360	10 282	12 395	14 675	-
55	-	-	-	-	7 760	9 672	11 754	13 981	-
60	-	-	-	-	-	8 958	11 030	13 225	-
65	-	-	-	-	-	-	10 192	12 375	-

**Power input in W**

30	2 181	2 195	2 205	2 205	2 191	2 157	2 098	2 009	-
35	-	2 476	2 474	2 471	2 461	2 439	2 400	2 338	-
40	-	-	2 782	2 769	2 757	2 741	2 715	2 676	-
45	-	-	3 142	3 113	3 093	3 077	3 060	3 036	-
50	-	-	-	3 519	3 485	3 463	3 447	3 433	-
55	-	-	-	-	3 946	3 912	3 892	3 882	-
60	-	-	-	-	-	4 439	4 409	4 396	-
65	-	-	-	-	-	-	5 012	4 991	-

**Current consumption in A**

30	4.25	4.33	4.38	4.42	4.43	4.43	4.42	4.40	-
35	-	4.64	4.68	4.70	4.71	4.70	4.70	4.69	-
40	-	-	5.09	5.10	5.10	5.09	5.09	5.09	-
45	-	-	5.62	5.62	5.61	5.60	5.60	5.61	-
50	-	-	-	6.26	6.24	6.23	6.23	6.24	-
55	-	-	-	-	7.01	6.99	6.98	7.01	-
60	-	-	-	-	-	7.88	7.87	7.89	-
65	-	-	-	-	-	-	8.89	8.92	-

**Mass flow in kg/h**

30	97	113	135	163	197	237	281	329	-
35	-	111	133	162	196	235	278	325	-
40	-	-	131	160	195	233	276	323	-
45	-	-	127	157	192	232	275	321	-
50	-	-	-	153	189	229	273	320	-
55	-	-	-	-	183	225	270	318	-
60	-	-	-	-	-	218	265	314	-
65	-	-	-	-	-	-	258	309	-

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

30	2.20	2.54	3.07	3.76	4.63	5.70	7.02	8.67	-
35	-	2.15	2.61	3.21	3.95	4.84	5.89	7.13	-
40	-	-	2.20	2.74	3.38	4.13	4.99	5.98	-
45	-	-	1.82	2.30	2.87	3.52	4.24	5.05	-
50	-	-	-	1.89	2.40	2.97	3.60	4.27	-
55	-	-	-	-	1.97	2.47	3.02	3.60	-
60	-	-	-	-	-	2.02	2.50	3.01	-
65	-	-	-	-	-	-	2.03	2.48	-

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

Cooling capacity	12 801	W
Power input	3 830	W
Current consumption	6.89	A
Mass flow	291	kg/h
C.O.P.	3.34	

**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	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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**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	5 370	6 268	7 593	9 317	11 413	13 852	16 608	19 652	-
35	5 038	5 928	7 217	8 879	10 887	13 213	15 829	18 707	-
40	-	5 515	6 791	8 413	10 355	12 589	15 088	17 823	-
45	-	-	6 285	7 889	9 786	11 950	14 352	16 966	-
50	-	-	-	7 276	9 150	11 264	13 592	16 105	-
55	-	-	-	-	8 416	10 502	12 776	15 210	-
60	-	-	-	-	-	9 633	11 873	14 248	-
65	-	-	-	-	-	-	10 854	13 189	-

**Power input in W**

30	2 587	2 606	2 618	2 618	2 600	2 560	2 491	2 387	-
35	2 932	2 929	2 928	2 924	2 912	2 885	2 839	2 768	-
40	-	3 299	3 278	3 264	3 250	3 230	3 201	3 154	-
45	-	-	3 686	3 654	3 631	3 612	3 591	3 563	-
50	-	-	-	4 111	4 072	4 046	4 028	4 011	-
55	-	-	-	-	4 590	4 550	4 527	4 514	-
60	-	-	-	-	-	5 140	5 105	5 090	-
65	-	-	-	-	-	-	5 780	5 755	-

**Current consumption in A**

30	4.42	4.51	4.56	4.60	4.61	4.61	4.60	4.58	-
35	4.77	4.83	4.87	4.89	4.90	4.90	4.89	4.88	-
40	-	5.28	5.30	5.30	5.30	5.30	5.30	5.30	-
45	-	-	5.85	5.84	5.83	5.83	5.83	5.84	-
50	-	-	-	6.52	6.50	6.48	6.48	6.50	-
55	-	-	-	-	7.29	7.27	7.27	7.29	-
60	-	-	-	-	-	8.20	8.19	8.22	-
65	-	-	-	-	-	-	9.26	9.28	-

**Mass flow in kg/h**

30	117	135	161	195	236	284	337	394	-
35	114	133	160	194	234	281	333	389	-
40	-	129	156	191	232	278	329	385	-
45	-	-	151	187	229	275	327	382	-
50	-	-	-	181	224	271	323	379	-
55	-	-	-	-	216	265	319	375	-
60	-	-	-	-	-	257	312	369	-
65	-	-	-	-	-	-	302	362	-

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

30	2.08	2.41	2.90	3.56	4.39	5.41	6.67	8.23	-
35	1.72	2.02	2.47	3.04	3.74	4.58	5.57	6.76	-
40	-	1.67	2.07	2.58	3.19	3.90	4.71	5.65	-
45	-	-	1.70	2.16	2.70	3.31	4.00	4.76	-
50	-	-	-	1.77	2.25	2.78	3.37	4.02	-
55	-	-	-	-	1.83	2.31	2.82	3.37	-
60	-	-	-	-	-	1.87	2.33	2.80	-
65	-	-	-	-	-	-	1.88	2.29	-

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

Cooling capacity	13 592	W
Power input	4 028	W
Current consumption	6.48	A
Mass flow	323	kg/h
C.O.P.	3.37	

**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	73	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	5 703	6 652	8 052	9 872	12 084	14 656	17 560	20 765	-
35	-	6 312	7 679	9 440	11 565	14 025	16 790	19 829	-
40	-	-	7 254	8 978	11 041	13 412	16 060	18 957	-
45	-	-	6 742	8 455	10 478	12 783	15 340	18 117	-
50	-	-	-	7 836	9 844	12 107	14 594	17 277	-
55	-	-	-	-	9 106	11 350	13 792	16 403	-
60	-	-	-	-	-	10 480	12 900	15 463	-
65	-	-	-	-	-	-	11 886	14 423	-

**Power input in W**

30	2 587	2 606	2 618	2 618	2 600	2 560	2 491	2 387	-
35	-	2 929	2 928	2 924	2 912	2 885	2 839	2 768	-
40	-	-	3 278	3 264	3 250	3 230	3 201	3 154	-
45	-	-	3 686	3 654	3 631	3 612	3 591	3 563	-
50	-	-	-	4 111	4 072	4 046	4 028	4 011	-
55	-	-	-	-	4 590	4 550	4 527	4 514	-
60	-	-	-	-	-	5 140	5 105	5 090	-
65	-	-	-	-	-	-	5 780	5 755	-

**Current consumption in A**

30	4.42	4.51	4.56	4.60	4.61	4.61	4.60	4.58	-
35	-	4.83	4.87	4.89	4.90	4.90	4.89	4.88	-
40	-	-	5.30	5.30	5.30	5.30	5.30	5.30	-
45	-	-	5.85	5.84	5.83	5.83	5.83	5.84	-
50	-	-	-	6.52	6.50	6.48	6.48	6.50	-
55	-	-	-	-	7.29	7.27	7.27	7.29	-
60	-	-	-	-	-	8.20	8.19	8.22	-
65	-	-	-	-	-	-	9.26	9.28	-

**Mass flow in kg/h**

30	116	134	161	194	235	282	335	392	-
35	-	132	159	193	233	279	331	387	-
40	-	-	156	190	231	277	328	383	-
45	-	-	150	186	227	274	325	380	-
50	-	-	-	180	222	270	321	376	-
55	-	-	-	-	215	264	317	373	-
60	-	-	-	-	-	255	310	367	-
65	-	-	-	-	-	-	300	360	-

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

30	2.20	2.55	3.08	3.77	4.65	5.72	7.05	8.70	-
35	-	2.16	2.62	3.23	3.97	4.86	5.91	7.16	-
40	-	-	2.21	2.75	3.40	4.15	5.02	6.01	-
45	-	-	1.83	2.31	2.89	3.54	4.27	5.08	-
50	-	-	-	1.91	2.42	2.99	3.62	4.31	-
55	-	-	-	-	1.98	2.49	3.05	3.63	-
60	-	-	-	-	-	2.04	2.53	3.04	-
65	-	-	-	-	-	-	2.06	2.51	-

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

Cooling capacity	15 025	W
Power input	4 457	W
Current consumption	7.17	A
Mass flow	342	kg/h
C.O.P.	3.37	

**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	73	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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