

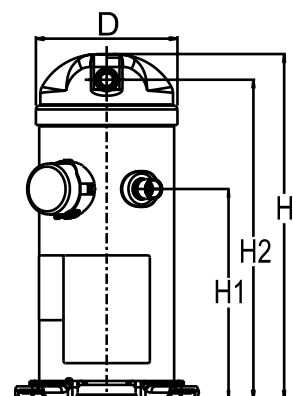
Datasheets

# Danfoss scroll compressors **H series**



**General Characteristics**

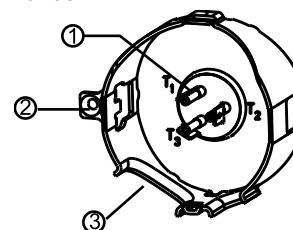
Model number (on compressor nameplate)		<b>HRM051T4LP6</b>
Code number for Singlepack*		120U1676
Code number for Industrial pack**		120U1673
Drawing number		0XR6002B-2
Suction and discharge connections		Brazed
Suction connection		7/8 " ODF
Discharge connection		1/2 " ODF
Oil sight glass		None
Oil equalisation 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.**

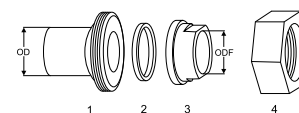
Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF)	8168030
Gasket, 1-1/4"	8156131

**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	4 434	5 171	6 270	7 705	9 451	11 482	13 771	16 291	-
35	4 154	4 888	5 961	7 345	9 016	10 946	13 111	15 484	-
40	3 783	4 536	5 602	6 955	8 571	10 422	12 483	14 729	-
45	-	4 090	5 169	6 511	8 092	9 884	11 862	14 000	-
50	-	-	4 639	5 990	7 555	9 307	11 222	13 273	-
55	-	-	-	5 368	6 936	8 668	10 539	12 522	-
60	-	-	-	-	6 214	7 944	9 789	11 724	-
65	-	-	-	-	-	7 111	8 949	10 852	-

**Power input in W**

30	2 096	2 034	2 031	2 075	2 154	2 255	2 365	2 473	-
35	2 433	2 349	2 320	2 334	2 378	2 439	2 505	2 564	-
40	2 750	2 662	2 625	2 626	2 652	2 691	2 730	2 757	-
45	-	2 952	2 924	2 929	2 954	2 988	3 018	3 031	-
50	-	-	3 195	3 221	3 264	3 310	3 348	3 365	-
55	-	-	-	3 482	3 559	3 635	3 698	3 735	-
60	-	-	-	-	3 818	3 942	4 047	4 122	-
65	-	-	-	-	-	4 208	4 373	4 504	-

**Current consumption in A**

30	4.25	4.33	4.39	4.42	4.43	4.43	4.42	4.40	-
35	4.58	4.64	4.68	4.70	4.71	4.71	4.70	4.69	-
40	5.04	5.07	5.09	5.10	5.10	5.09	5.09	5.09	-
45	-	5.63	5.62	5.62	5.61	5.60	5.60	5.61	-
50	-	-	6.29	6.26	6.24	6.23	6.23	6.24	-
55	-	-	-	7.04	7.01	6.99	6.98	7.01	-
60	-	-	-	-	7.90	7.88	7.87	7.89	-
65	-	-	-	-	-	8.90	8.89	8.92	-

**Mass flow in kg/h**

30	97	111	133	161	196	235	279	326	-
35	94	110	132	160	194	233	275	321	-
40	90	106	129	158	192	230	273	318	-
45	-	100	124	154	189	228	270	315	-
50	-	-	117	149	185	224	267	312	-
55	-	-	-	140	178	219	263	308	-
60	-	-	-	-	169	212	257	304	-
65	-	-	-	-	-	202	249	297	-

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

30	2.12	2.54	3.09	3.71	4.39	5.09	5.82	6.59	-
35	1.71	2.08	2.57	3.15	3.79	4.49	5.23	6.04	-
40	1.38	1.70	2.13	2.65	3.23	3.87	4.57	5.34	-
45	-	1.39	1.77	2.22	2.74	3.31	3.93	4.62	-
50	-	-	1.45	1.86	2.31	2.81	3.35	3.94	-
55	-	-	-	1.54	1.95	2.38	2.85	3.35	-
60	-	-	-	-	1.63	2.02	2.42	2.84	-
65	-	-	-	-	-	1.69	2.05	2.41	-

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

Cooling capacity	11 222	W
Power input	3 348	W
Current consumption	6.23	A
Mass flow	267	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

**Cooling capacity in W**

30	4 710	5 488	6 649	8 164	10 007	12 148	14 560	17 214	-
35	4 427	5 206	6 342	7 809	9 577	11 619	13 907	16 412	-
40	4 048	4 849	5 983	7 422	9 138	11 103	13 288	15 666	-
45	-	4 392	5 545	6 978	8 664	10 573	12 678	14 950	-
50	-	-	5 002	6 451	8 128	10 003	12 050	14 238	-
55	-	-	-	5 815	7 505	9 368	11 378	13 505	-
60	-	-	-	-	6 768	8 642	10 636	12 723	-
65	-	-	-	-	-	7 798	9 799	11 868	-

**Power input in W**

30	2 096	2 034	2 031	2 075	2 154	2 255	2 365	2 473	-
35	2 433	2 349	2 320	2 334	2 378	2 439	2 505	2 564	-
40	2 750	2 662	2 625	2 626	2 652	2 691	2 730	2 757	-
45	-	2 952	2 924	2 929	2 954	2 988	3 018	3 031	-
50	-	-	3 195	3 221	3 264	3 310	3 348	3 365	-
55	-	-	-	3 482	3 559	3 635	3 698	3 735	-
60	-	-	-	-	3 818	3 942	4 047	4 122	-
65	-	-	-	-	-	4 208	4 373	4 504	-

**Current consumption in A**

30	4.25	4.33	4.39	4.42	4.43	4.43	4.42	4.40	-
35	4.58	4.64	4.68	4.70	4.71	4.71	4.70	4.69	-
40	5.04	5.07	5.09	5.10	5.10	5.09	5.09	5.09	-
45	-	5.63	5.62	5.62	5.61	5.60	5.60	5.61	-
50	-	-	6.29	6.26	6.24	6.23	6.23	6.24	-
55	-	-	-	7.04	7.01	6.99	6.98	7.01	-
60	-	-	-	-	7.90	7.88	7.87	7.89	-
65	-	-	-	-	-	8.90	8.89	8.92	-

**Mass flow in kg/h**

30	96	111	132	161	195	234	277	324	-
35	94	109	131	159	193	231	274	320	-
40	89	105	128	157	191	229	271	316	-
45	-	99	124	153	188	227	269	313	-
50	-	-	117	148	184	223	265	310	-
55	-	-	-	140	177	218	261	307	-
60	-	-	-	-	168	211	256	302	-
65	-	-	-	-	-	201	248	296	-

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

30	2.25	2.70	3.27	3.93	4.65	5.39	6.16	6.96	-
35	1.82	2.22	2.73	3.35	4.03	4.76	5.55	6.40	-
40	1.47	1.82	2.28	2.83	3.45	4.13	4.87	5.68	-
45	-	1.49	1.90	2.38	2.93	3.54	4.20	4.93	-
50	-	-	1.57	2.00	2.49	3.02	3.60	4.23	-
55	-	-	-	1.67	2.11	2.58	3.08	3.62	-
60	-	-	-	-	1.77	2.19	2.63	3.09	-
65	-	-	-	-	-	1.85	2.24	2.64	-

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

Cooling capacity	12 387	W
Power input	3 674	W
Current consumption	6.89	A
Mass flow	282	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	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

**Cooling capacity in W**

30	5 349	6 234	7 561	9 296	11 408	13 862	16 626	19 666	-
35	5 013	5 898	7 195	8 870	10 892	13 226	15 840	18 701	-
40	4 565	5 475	6 767	8 407	10 364	12 604	15 095	17 802	-
45	-	4 936	6 247	7 878	9 795	11 966	14 357	16 936	-
50	-	-	5 607	7 252	9 154	11 280	13 597	16 073	-
55	-	-	-	6 502	8 412	10 517	12 785	15 182	-
60	-	-	-	-	7 540	9 648	11 889	14 232	-
65	-	-	-	-	-	8 645	10 882	13 192	-

**Power input in W**

30	2 529	2 451	2 448	2 502	2 599	2 723	2 857	2 985	-
35	2 937	2 834	2 800	2 818	2 873	2 948	3 027	3 096	-
40	3 320	3 214	3 171	3 173	3 207	3 255	3 302	3 331	-
45	-	3 565	3 533	3 542	3 576	3 618	3 654	3 666	-
50	-	-	3 863	3 899	3 954	4 012	4 057	4 073	-
55	-	-	-	4 218	4 315	4 410	4 486	4 528	-
60	-	-	-	-	4 634	4 787	4 915	5 003	-
65	-	-	-	-	-	5 116	5 318	5 474	-

**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	5.24	5.28	5.30	5.30	5.30	5.30	5.30	5.30	-
45	-	5.86	5.85	5.84	5.84	5.83	5.83	5.84	-
50	-	-	6.54	6.52	6.50	6.48	6.48	6.50	-
55	-	-	-	7.33	7.29	7.27	7.27	7.29	-
60	-	-	-	-	8.23	8.20	8.19	8.22	-
65	-	-	-	-	-	9.27	9.26	9.28	-

**Mass flow in kg/h**

30	117	134	161	195	236	284	337	394	-
35	114	132	159	193	234	281	333	388	-
40	108	128	156	191	232	279	330	384	-
45	-	121	150	187	229	276	327	381	-
50	-	-	142	180	224	272	323	378	-
55	-	-	-	170	216	266	319	374	-
60	-	-	-	-	205	257	312	369	-
65	-	-	-	-	-	245	303	362	-

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

30	2.12	2.54	3.09	3.72	4.39	5.09	5.82	6.59	-
35	1.71	2.08	2.57	3.15	3.79	4.49	5.23	6.04	-
40	1.37	1.70	2.13	2.65	3.23	3.87	4.57	5.34	-
45	-	1.38	1.77	2.22	2.74	3.31	3.93	4.62	-
50	-	-	1.45	1.86	2.31	2.81	3.35	3.95	-
55	-	-	-	1.54	1.95	2.38	2.85	3.35	-
60	-	-	-	-	1.63	2.02	2.42	2.84	-
65	-	-	-	-	-	1.69	2.05	2.41	-

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

Cooling capacity	13 597	W
Power input	4 057	W
Current consumption	6.48	A
Mass flow	323	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	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

**Cooling capacity in W**

30	5 681	6 615	8 017	9 850	12 079	14 667	17 579	20 779	-
35	5 343	6 281	7 655	9 430	11 570	14 039	16 802	19 822	-
40	4 885	5 853	7 228	8 972	11 051	13 428	16 068	18 935	-
45	-	5 301	6 702	8 443	10 487	12 800	15 345	18 086	-
50	-	-	6 046	7 811	9 848	12 123	14 600	17 243	-
55	-	-	-	7 043	9 101	11 366	13 802	16 373	-
60	-	-	-	-	8 214	10 496	12 918	15 445	-
65	-	-	-	-	-	9 480	11 916	14 426	-

**Power input in W**

30	2 529	2 451	2 448	2 502	2 599	2 723	2 857	2 985	-
35	2 937	2 834	2 800	2 818	2 873	2 948	3 027	3 096	-
40	3 320	3 214	3 171	3 173	3 207	3 255	3 302	3 331	-
45	-	3 565	3 533	3 542	3 576	3 618	3 654	3 666	-
50	-	-	3 863	3 899	3 954	4 012	4 057	4 073	-
55	-	-	-	4 218	4 315	4 410	4 486	4 528	-
60	-	-	-	-	4 634	4 787	4 915	5 003	-
65	-	-	-	-	-	5 116	5 318	5 474	-

**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	5.24	5.28	5.30	5.30	5.30	5.30	5.30	5.30	-
45	-	5.86	5.85	5.84	5.84	5.83	5.83	5.84	-
50	-	-	6.54	6.52	6.50	6.48	6.48	6.50	-
55	-	-	-	7.33	7.29	7.27	7.27	7.29	-
60	-	-	-	-	8.23	8.20	8.19	8.22	-
65	-	-	-	-	-	9.27	9.26	9.28	-

**Mass flow in kg/h**

30	116	134	160	194	235	282	335	391	-
35	113	132	158	192	233	280	331	386	-
40	108	127	155	190	231	277	328	382	-
45	-	120	149	186	228	274	325	379	-
50	-	-	141	179	222	270	322	376	-
55	-	-	-	169	215	264	317	372	-
60	-	-	-	-	204	256	310	367	-
65	-	-	-	-	-	244	301	359	-

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

30	2.25	2.70	3.28	3.94	4.65	5.39	6.15	6.96	-
35	1.82	2.22	2.73	3.35	4.03	4.76	5.55	6.40	-
40	1.47	1.82	2.28	2.83	3.45	4.13	4.87	5.68	-
45	-	1.49	1.90	2.38	2.93	3.54	4.20	4.93	-
50	-	-	1.57	2.00	2.49	3.02	3.60	4.23	-
55	-	-	-	1.67	2.11	2.58	3.08	3.62	-
60	-	-	-	-	1.77	2.19	2.63	3.09	-
65	-	-	-	-	-	1.85	2.24	2.64	-

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

Cooling capacity	15 021	W
Power input	4 456	W
Current consumption	7.17	A
Mass flow	341	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)

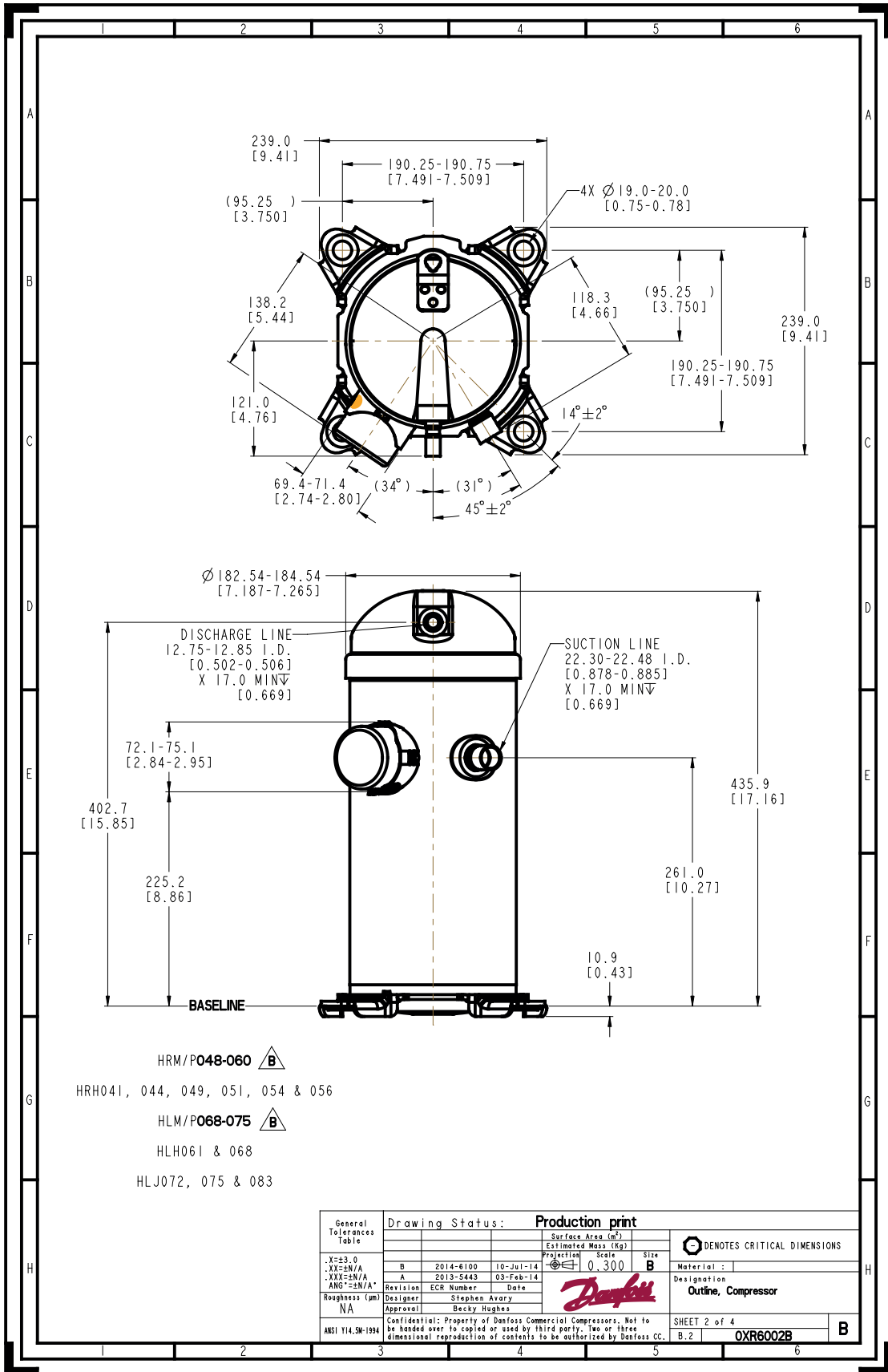
to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

All performance data +/- 5%

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