

ENGINEERING
TOMORROW

Danfoss

Datasheets

Danfoss scroll compressors **H series**



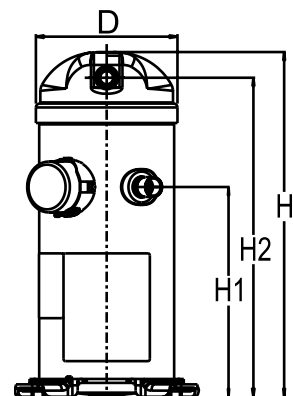
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www.danfoss.com/odsg

General Characteristics

Model number (on compressor nameplate)		HRM045U4LP6
Code number for Singlepack*		120U1041
Code number for Industrial pack**		120U1038
Drawing number		0XC6301B-3
Suction and discharge connections		Brazed
Suction connection		" ODF
Oil sight glass		None
Oil equalisation connection		None
Oil drain connection		None
LP gauge port		None
IPR valve		Yes
Swept volume		61.45 cm ³ /rev
Displacement @ Nominal speed		10.7 m ³ /h @ 2900 rpm - 12.9 m ³ /h @ 3500 rpm
Net weight		30.84 kg
Oil charge		1.33 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

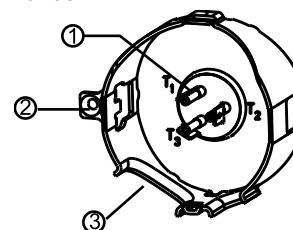


D=164.5 mm
H=439 mm
H1=275 mm
H2=405 mm
H3=- mm

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.
No translation for	
No translation for	
No translation for	
No translation for	
No translation for	
No translation for	

Rotolock accessories, discharge side	Code no.
No translation for	
No translation for	
No translation for	
No translation for	
No translation for	
No translation for	

Rotolock accessories, sets	Code no.
No translation for	
No translation for	
No translation for	
No translation for	

Oil / lubricants	Code no.
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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

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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

Cooling capacity in W

30	4 002	4 676	5 665	6 951	8 514	10 336	12 396	14 676	-
35	3 739	4 405	5 366	6 601	8 092	9 821	11 767	13 911	-
40	-	4 076	5 023	6 225	7 661	9 312	11 161	13 187	-
45	-	-	4 621	5 804	7 201	8 792	10 559	12 482	-
50	-	-	-	5 320	6 693	8 240	9 942	11 779	-
55	-	-	-	-	6 120	7 638	9 290	11 057	-
60	-	-	-	-	-	6 968	8 585	10 297	-
65	-	-	-	-	-	-	7 808	9 479	-

Power input in W

30	1 954	1 939	1 933	1 925	1 906	1 866	1 795	1 685	-
35	2 265	2 217	2 189	2 173	2 157	2 132	2 090	2 019	-
40	-	2 561	2 501	2 464	2 440	2 420	2 394	2 352	-
45	-	-	2 882	2 814	2 771	2 744	2 724	2 700	-
50	-	-	-	3 238	3 165	3 120	3 094	3 076	-
55	-	-	-	-	3 636	3 562	3 519	3 497	-
60	-	-	-	-	-	4 086	4 015	3 977	-
65	-	-	-	-	-	-	4 597	4 532	-

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	87	101	120	146	176	212	251	294	-
35	84	99	119	144	174	209	247	289	-
40	-	95	116	141	172	206	244	285	-
45	-	-	111	138	168	203	240	281	-
50	-	-	-	132	164	198	236	277	-
55	-	-	-	-	157	193	232	272	-
60	-	-	-	-	-	186	225	267	-
65	-	-	-	-	-	-	217	260	-

Coefficient of performance (C.O.P.)

30	2.05	2.41	2.93	3.61	4.47	5.54	6.90	8.71	-
35	1.65	1.99	2.45	3.04	3.75	4.61	5.63	6.89	-
40	-	1.59	2.01	2.53	3.14	3.85	4.66	5.61	-
45	-	-	1.60	2.06	2.60	3.20	3.88	4.62	-
50	-	-	-	1.64	2.11	2.64	3.21	3.83	-
55	-	-	-	-	1.68	2.14	2.64	3.16	-
60	-	-	-	-	-	1.71	2.14	2.59	-
65	-	-	-	-	-	-	1.70	2.09	-

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

Cooling capacity	9 942	W
Power input	3 094	W
Current consumption	6.00	A
Mass flow	236	kg/h
C.O.P.	3.21	

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	4 250	4 962	6 007	7 365	9 015	10 936	13 107	15 507	-
35	-	4 691	5 709	7 018	8 596	10 424	12 481	14 745	-
40	-	-	5 366	6 643	8 168	9 921	11 880	14 026	-
45	-	-	4 957	6 220	7 710	9 405	11 285	13 330	-
50	-	-	-	5 730	7 201	8 857	10 675	12 636	-
55	-	-	-	-	6 622	8 255	10 029	11 924	-
60	-	-	-	-	-	7 580	9 328	11 175	-
65	-	-	-	-	-	-	8 551	10 366	-

Power input in W

30	1 954	1 939	1 933	1 925	1 906	1 866	1 795	1 685	-
35	-	2 217	2 189	2 173	2 157	2 132	2 090	2 019	-
40	-	-	2 501	2 464	2 440	2 420	2 394	2 352	-
45	-	-	2 882	2 814	2 771	2 744	2 724	2 700	-
50	-	-	-	3 238	3 165	3 120	3 094	3 076	-
55	-	-	-	-	3 636	3 562	3 519	3 497	-
60	-	-	-	-	-	4 086	4 015	3 977	-
65	-	-	-	-	-	-	4 597	4 532	-

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	87	100	120	145	175	211	250	293	-
35	-	98	118	143	173	208	246	287	-
40	-	-	115	141	171	205	242	283	-
45	-	-	111	137	167	201	239	279	-
50	-	-	-	131	163	197	235	275	-
55	-	-	-	-	156	192	230	271	-
60	-	-	-	-	-	185	224	265	-
65	-	-	-	-	-	-	216	259	-

Coefficient of performance (C.O.P.)

30	2.18	2.56	3.11	3.83	4.73	5.86	7.30	9.20	-
35	-	2.12	2.61	3.23	3.99	4.89	5.97	7.30	-
40	-	-	2.15	2.70	3.35	4.10	4.96	5.96	-
45	-	-	1.72	2.21	2.78	3.43	4.14	4.94	-
50	-	-	-	1.77	2.28	2.84	3.45	4.11	-
55	-	-	-	-	1.82	2.32	2.85	3.41	-
60	-	-	-	-	-	1.85	2.32	2.81	-
65	-	-	-	-	-	-	1.86	2.29	-

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

Cooling capacity	10 932	W
Power input	3 454	W
Current consumption	6.39	A
Mass flow	249	kg/h
C.O.P.	3.17	

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

Cooling capacity in W

30	4 779	5 582	6 762	8 297	10 163	12 336	14 793	17 511	-
35	4 472	5 266	6 413	7 890	9 673	11 739	14 065	16 626	-
40	-	4 883	6 016	7 454	9 174	11 153	13 366	15 791	-
45	-	-	5 547	6 966	8 642	10 552	12 673	14 981	-
50	-	-	-	6 401	8 052	9 912	11 960	14 170	-
55	-	-	-	-	7 380	9 210	11 202	13 334	-
60	-	-	-	-	-	8 420	10 375	12 446	-
65	-	-	-	-	-	-	9 456	11 483	-

Power input in W

30	2 359	2 343	2 336	2 325	2 302	2 254	2 171	2 043	-
35	2 714	2 661	2 629	2 609	2 590	2 560	2 510	2 428	-
40	-	3 047	2 979	2 937	2 909	2 885	2 853	2 805	-
45	-	-	3 403	3 325	3 276	3 244	3 219	3 191	-
50	-	-	-	3 792	3 708	3 655	3 624	3 603	-
55	-	-	-	-	4 223	4 137	4 086	4 060	-
60	-	-	-	-	-	4 705	4 622	4 577	-
65	-	-	-	-	-	-	5 250	5 174	-

Current consumption in A

30	5.16	4.88	4.82	4.88	4.95	4.96	4.81	4.39	-
35	5.77	5.34	5.16	5.15	5.20	5.22	5.11	4.79	-
40	-	5.89	5.59	5.49	5.49	5.51	5.44	5.20	-
45	-	-	6.12	5.92	5.86	5.86	5.81	5.63	-
50	-	-	-	6.45	6.32	6.28	6.24	6.11	-
55	-	-	-	-	6.89	6.80	6.75	6.64	-
60	-	-	-	-	-	7.43	7.35	7.26	-
65	-	-	-	-	-	-	8.07	7.97	-

Mass flow in kg/h

30	104	120	144	174	211	253	300	351	-
35	101	118	142	172	208	249	295	345	-
40	-	114	139	169	205	246	292	341	-
45	-	-	133	165	202	243	288	337	-
50	-	-	-	159	197	239	284	333	-
55	-	-	-	-	189	233	279	329	-
60	-	-	-	-	-	224	272	323	-
65	-	-	-	-	-	-	263	315	-

Coefficient of performance (C.O.P.)

30	2.03	2.38	2.90	3.57	4.42	5.47	6.81	8.57	-
35	1.65	1.98	2.44	3.02	3.73	4.58	5.60	6.85	-
40	-	1.60	2.02	2.54	3.15	3.87	4.68	5.63	-
45	-	-	1.63	2.09	2.64	3.25	3.94	4.70	-
50	-	-	-	1.69	2.17	2.71	3.30	3.93	-
55	-	-	-	-	1.75	2.23	2.74	3.28	-
60	-	-	-	-	-	1.79	2.24	2.72	-
65	-	-	-	-	-	-	1.80	2.22	-

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

Cooling capacity	11 960	W
Power input	3 624	W
Current consumption	6.24	A
Mass flow	284	kg/h
C.O.P.	3.30	

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

Cooling capacity in W

30	5 075	5 923	7 170	8 791	10 760	13 052	15 641	18 502	-
35	-	5 608	6 824	8 388	10 276	12 461	14 918	17 622	-
40	-	-	6 426	7 955	9 782	11 882	14 228	16 796	-
45	-	-	5 951	7 466	9 253	11 288	13 545	15 998	-
50	-	-	-	6 894	8 663	10 654	12 842	15 201	-
55	-	-	-	-	7 985	9 953	12 093	14 380	-
60	-	-	-	-	-	9 160	11 273	13 508	-
65	-	-	-	-	-	-	10 354	12 558	-

Power input in W

30	2 359	2 343	2 336	2 325	2 302	2 254	2 171	2 043	-
35	-	2 661	2 629	2 609	2 590	2 560	2 510	2 428	-
40	-	-	2 979	2 937	2 909	2 885	2 853	2 805	-
45	-	-	3 403	3 325	3 276	3 244	3 219	3 191	-
50	-	-	-	3 792	3 708	3 655	3 624	3 603	-
55	-	-	-	-	4 223	4 137	4 086	4 060	-
60	-	-	-	-	-	4 705	4 622	4 577	-
65	-	-	-	-	-	-	5 250	5 174	-

Current consumption in A

30	5.16	4.88	4.82	4.88	4.95	4.96	4.81	4.39	-
35	-	5.34	5.16	5.15	5.20	5.22	5.11	4.79	-
40	-	-	5.59	5.49	5.49	5.51	5.44	5.20	-
45	-	-	6.12	5.92	5.86	5.86	5.81	5.63	-
50	-	-	-	6.45	6.32	6.28	6.24	6.11	-
55	-	-	-	-	6.89	6.80	6.75	6.64	-
60	-	-	-	-	-	7.43	7.35	7.26	-
65	-	-	-	-	-	-	8.07	7.97	-

Mass flow in kg/h

30	103	119	143	173	209	251	298	349	-
35	-	117	141	171	207	248	294	344	-
40	-	-	138	168	204	245	290	339	-
45	-	-	133	164	201	242	287	335	-
50	-	-	-	158	196	237	283	331	-
55	-	-	-	-	188	232	278	327	-
60	-	-	-	-	-	223	271	321	-
65	-	-	-	-	-	-	262	313	-

Coefficient of performance (C.O.P.)

30	2.15	2.53	3.07	3.78	4.67	5.79	7.20	9.06	-
35	-	2.11	2.60	3.21	3.97	4.87	5.94	7.26	-
40	-	-	2.16	2.71	3.36	4.12	4.99	5.99	-
45	-	-	1.75	2.25	2.82	3.48	4.21	5.01	-
50	-	-	-	1.82	2.34	2.91	3.54	4.22	-
55	-	-	-	-	1.89	2.41	2.96	3.54	-
60	-	-	-	-	-	1.95	2.44	2.95	-
65	-	-	-	-	-	-	1.97	2.43	-

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

Cooling capacity	13 179	W
Power input	4 014	W
Current consumption	6.65	A
Mass flow	300	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)

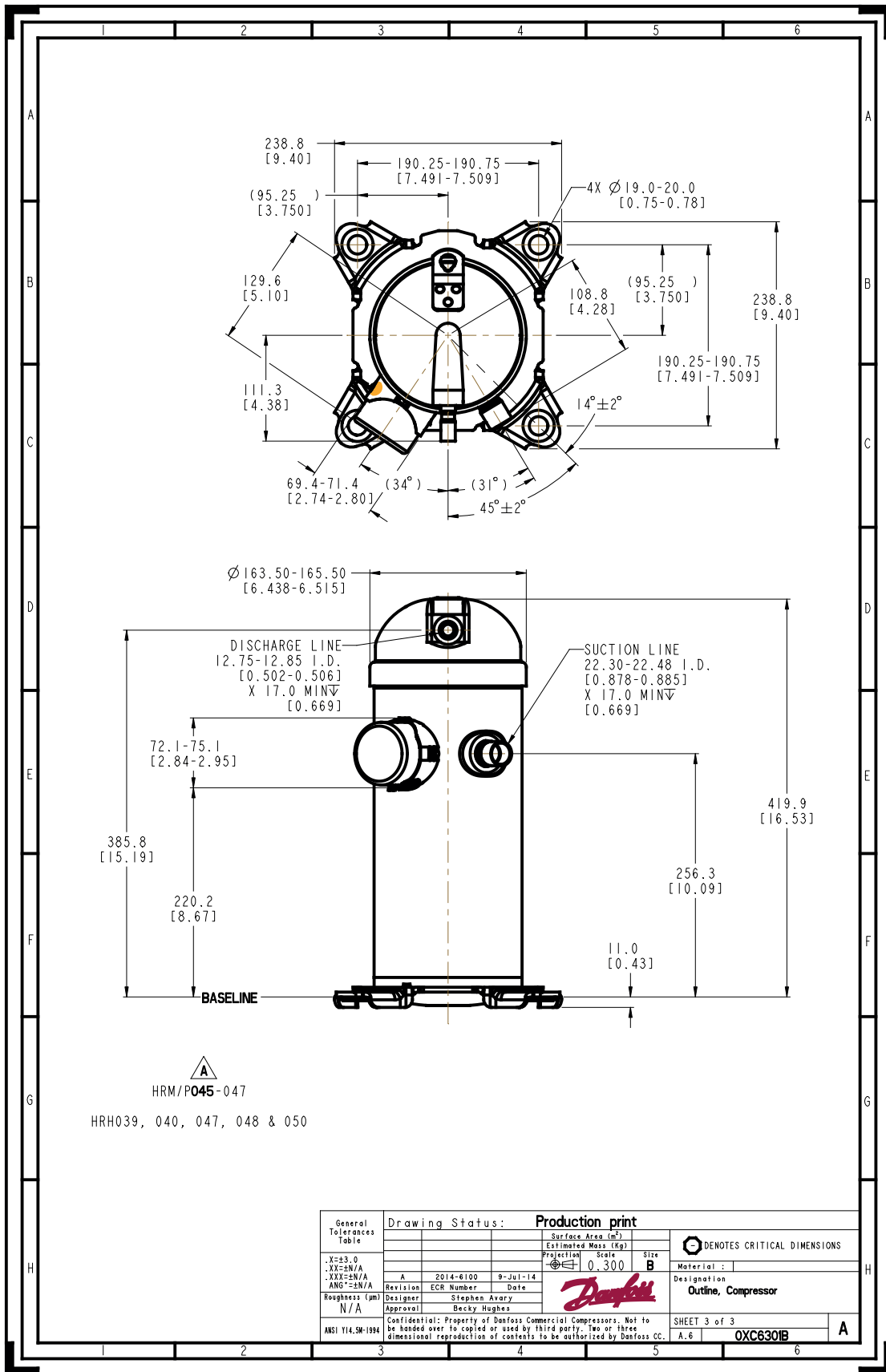
to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

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General Tolerances Table	Drawing Status: Production print			Surface Area (m ²)	DENOTES CRITICAL DIMENSIONS
				Estimated Mass (kg)	
X=±3.0				Projection Scale	Size
.XX=±N/A				0.300	B
.XXX=±N/A	Revision	ECR Number	Date	Material:	
ANG=±N/A	A	2014-6100	9-Jul-14	Designation	
	Designer	Stephen Avary		Outline, Compressor	
Roughness (µm)	Approval	Becky Hughes		SHEET 3 of 3	
N/A	Confidential: Property of Danfoss Commercial Compressors. Not to be handed over to copied or used by third party. Two or three dimensional reproduction of contents to be authorized by Danfoss CC.			A.6	OXC6301B
ANSI Y14.5M-1994				A	

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