

ENGINEERING
TOMORROW

Danfoss

Datasheets

Danfoss scroll compressors **H series**

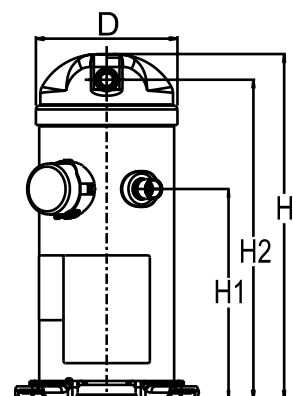


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www.danfoss.com/odsg

General Characteristics

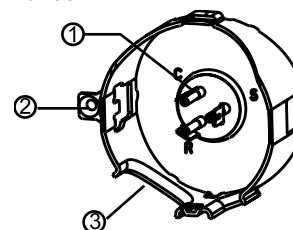
Model number (on compressor nameplate)		HRP047T5LP6
Code number for Singlepack*		120U0986
Code number for Industrial pack**		120U0983
Drawing number		0XC6301B-3
Suction and discharge connections		Brazed
Suction connection		7/8" ODF
Discharge connection		1/2" ODF
Oil sight glass		None
Oil equalisation connection		None
Oil drain connection		None
LP gauge port		None
IPR valve		Yes
Swept volume		64.07 cm ³ /rev
Displacement @ Nominal speed		11.2 m ³ /h @ 2900 rpm
Net weight		30.84 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		R407C

Dimensions


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

Electrical Characteristics

Nominal voltage	230V/1/50Hz
Voltage range	207-253 V
Winding resistance (main / start) at 25°C	0.66 Ω / 1.61 Ω
Run capacitors A + C	60 μF + - μF
Start capacitor B	145-175 μF
Start relay	3ARR3*3AL*
Rated Load Amps (RLA)	19.2 A
Maximum Continuous Current (MCC)	30 A
Locked Rotor Amps (LRA)	102.5 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

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
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Miscellaneous accessories

Code no.

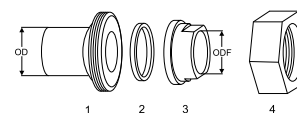
Acoustic hood	120Z5043
Discharge thermostat kit	7750009
IP54 upgrade kit	118U0056

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

Solder sleeve adapter set



- 1: Rotolock adapter (Suc & Dis)
- 2: Gasket (Suc & Dis)
- 3: Solder sleeve (Suc & Dis)
- 4: Rotolock nut (Suc & Dis)

Performance data at 50 Hz, EN 12900 rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

Cooling capacity in W

30	-	3 284	4 344	5 569	7 000	8 674	10 630	12 908	15 546
35	-	3 028	4 049	5 225	6 594	8 194	10 063	12 241	14 767
40	-	2 764	3 742	4 863	6 164	7 684	9 462	11 535	13 943
45	-	-	3 423	4 484	5 712	7 147	8 827	10 789	13 073
50	-	-	-	4 088	5 239	6 583	8 159	10 006	12 160
55	-	-	-	-	4 745	5 993	7 460	9 184	11 204
60	-	-	-	-	-	5 377	6 730	8 326	10 204
65	-	-	-	-	-	-	5 969	7 431	9 161

Power input in W

30	-	2 196	2 151	2 124	2 105	2 084	2 052	1 999	1 916
35	-	2 471	2 422	2 393	2 375	2 357	2 331	2 287	2 215
40	-	2 786	2 728	2 693	2 672	2 653	2 629	2 589	2 524
45	-	-	3 088	3 044	3 014	2 991	2 965	2 925	2 863
50	-	-	-	3 463	3 422	3 390	3 357	3 313	3 250
55	-	-	-	-	3 913	3 867	3 824	3 772	3 703
60	-	-	-	-	-	4 443	4 385	4 321	4 242
65	-	-	-	-	-	-	5 058	4 978	4 886

Current consumption in A

30	-	10.57	10.64	10.66	10.60	10.46	10.24	9.93	9.52
35	-	11.84	11.87	11.86	11.80	11.68	11.51	11.26	10.94
40	-	13.26	13.24	13.19	13.11	13.00	12.85	12.64	12.39
45	-	-	14.84	14.73	14.62	14.49	14.34	14.17	13.96
50	-	-	-	16.58	16.41	16.25	16.09	15.92	15.75
55	-	-	-	-	18.57	18.36	18.17	18.00	17.83
60	-	-	-	-	-	20.91	20.67	20.47	20.30
65	-	-	-	-	-	-	23.69	23.44	23.25

Mass flow in kg/h

30	-	74	96	120	149	181	219	262	311
35	-	72	94	119	147	180	217	260	309
40	-	69	91	116	145	177	214	257	306
45	-	-	89	113	141	174	211	253	302
50	-	-	-	110	138	170	206	248	296
55	-	-	-	-	133	164	201	242	290
60	-	-	-	-	-	158	194	235	282
65	-	-	-	-	-	-	186	226	273

Coefficient of performance (C.O.P.)

30	-	1.50	2.02	2.62	3.33	4.16	5.18	6.46	8.11
35	-	1.23	1.67	2.18	2.78	3.48	4.32	5.35	6.67
40	-	0.99	1.37	1.81	2.31	2.90	3.60	4.45	5.52
45	-	-	1.11	1.47	1.90	2.39	2.98	3.69	4.57
50	-	-	-	1.18	1.53	1.94	2.43	3.02	3.74
55	-	-	-	-	1.21	1.55	1.95	2.43	3.03
60	-	-	-	-	-	1.21	1.53	1.93	2.41
65	-	-	-	-	-	-	1.18	1.49	1.87

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

Cooling capacity	10 006	W
Power input	3 313	W
Current consumption	15.92	A
Mass flow	248	kg/h
C.O.P.	3.02	

Pressure switch settings

Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	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
R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

Cooling capacity in W

30	-	3 527	4 659	5 966	7 490	9 272	11 352	13 770	16 569
35	-	3 267	4 364	5 624	7 089	8 798	10 793	13 115	15 805
40	-	3 000	4 056	5 263	6 662	8 294	10 199	12 419	14 994
45	-	-	3 735	4 883	6 212	7 761	9 571	11 683	14 138
50	-	-	-	4 486	5 739	7 199	8 909	10 908	13 237
55	-	-	-	-	5 243	6 610	8 213	10 094	12 292
60	-	-	-	-	-	5 994	7 486	9 242	11 305
65	-	-	-	-	-	-	6 727	8 354	10 275

Power input in W

30	-	2 196	2 151	2 124	2 105	2 084	2 052	1 999	1 916
35	-	2 471	2 422	2 393	2 375	2 357	2 331	2 287	2 215
40	-	2 786	2 728	2 693	2 672	2 653	2 629	2 589	2 524
45	-	-	3 088	3 044	3 014	2 991	2 965	2 925	2 863
50	-	-	-	3 463	3 422	3 390	3 357	3 313	3 250
55	-	-	-	-	3 913	3 867	3 824	3 772	3 703
60	-	-	-	-	-	4 443	4 385	4 321	4 242
65	-	-	-	-	-	-	5 058	4 978	4 886

Current consumption in A

30	-	10.57	10.64	10.66	10.60	10.46	10.24	9.93	9.52
35	-	11.84	11.87	11.86	11.80	11.68	11.51	11.26	10.94
40	-	13.26	13.24	13.19	13.11	13.00	12.85	12.64	12.39
45	-	-	14.84	14.73	14.62	14.49	14.34	14.17	13.96
50	-	-	-	16.58	16.41	16.25	16.09	15.92	15.75
55	-	-	-	-	18.57	18.36	18.17	18.00	17.83
60	-	-	-	-	-	20.91	20.67	20.47	20.30
65	-	-	-	-	-	-	23.69	23.44	23.25

Mass flow in kg/h

30	-	73	95	120	148	180	218	260	309
35	-	71	93	118	146	179	216	258	307
40	-	69	91	116	144	176	213	255	304
45	-	-	88	113	141	173	209	252	300
50	-	-	-	109	137	169	205	247	295
55	-	-	-	-	132	164	200	241	288
60	-	-	-	-	-	158	193	234	280
65	-	-	-	-	-	-	185	225	271

Coefficient of performance (C.O.P.)

30	-	1.61	2.17	2.81	3.56	4.45	5.53	6.89	8.65
35	-	1.32	1.80	2.35	2.99	3.73	4.63	5.74	7.13
40	-	1.08	1.49	1.95	2.49	3.13	3.88	4.80	5.94
45	-	-	1.21	1.60	2.06	2.59	3.23	3.99	4.94
50	-	-	-	1.30	1.68	2.12	2.65	3.29	4.07
55	-	-	-	-	1.34	1.71	2.15	2.68	3.32
60	-	-	-	-	-	1.35	1.71	2.14	2.66
65	-	-	-	-	-	-	1.33	1.68	2.10

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

Cooling capacity	11 126	W
Power input	3 685	W
Current consumption	17.65	A
Mass flow	262	kg/h
C.O.P.	3.02	

Pressure switch settings

Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	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 50 Hz, EN 12900 rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

Cooling capacity in W

30	-	3 284	4 344	5 569	7 000	8 674	10 630	12 908	15 546
35	-	3 028	4 049	5 225	6 594	8 194	10 063	12 241	14 767
40	-	2 764	3 742	4 863	6 164	7 684	9 462	11 535	13 943
45	-	-	3 423	4 484	5 712	7 147	8 827	10 789	13 073
50	-	-	-	4 088	5 239	6 583	8 159	10 006	12 160
55	-	-	-	-	4 745	5 993	7 460	9 184	11 204
60	-	-	-	-	-	5 377	6 730	8 326	10 204
65	-	-	-	-	-	-	5 969	7 431	9 161

Power input in W

30	-	2 196	2 151	2 124	2 105	2 084	2 052	1 999	1 916
35	-	2 471	2 422	2 393	2 375	2 357	2 331	2 287	2 215
40	-	2 786	2 728	2 693	2 672	2 653	2 629	2 589	2 524
45	-	-	3 088	3 044	3 014	2 991	2 965	2 925	2 863
50	-	-	-	3 463	3 422	3 390	3 357	3 313	3 250
55	-	-	-	-	3 913	3 867	3 824	3 772	3 703
60	-	-	-	-	-	4 443	4 385	4 321	4 242
65	-	-	-	-	-	-	5 058	4 978	4 886

Current consumption in A

30	-	10.57	10.64	10.66	10.60	10.46	10.24	9.93	9.52
35	-	11.84	11.87	11.86	11.80	11.68	11.51	11.26	10.94
40	-	13.26	13.24	13.19	13.11	13.00	12.85	12.64	12.39
45	-	-	14.84	14.73	14.62	14.49	14.34	14.17	13.96
50	-	-	-	16.58	16.41	16.25	16.09	15.92	15.75
55	-	-	-	-	18.57	18.36	18.17	18.00	17.83
60	-	-	-	-	-	20.91	20.67	20.47	20.30
65	-	-	-	-	-	-	23.69	23.44	23.25

Mass flow in kg/h

30	-	74	96	120	149	181	219	262	311
35	-	72	94	119	147	180	217	260	309
40	-	69	91	116	145	177	214	257	306
45	-	-	89	113	141	174	211	253	302
50	-	-	-	110	138	170	206	248	296
55	-	-	-	-	133	164	201	242	290
60	-	-	-	-	-	158	194	235	282
65	-	-	-	-	-	-	186	226	273

Coefficient of performance (C.O.P.)

30	-	1.50	2.02	2.62	3.33	4.16	5.18	6.46	8.11
35	-	1.23	1.67	2.18	2.78	3.48	4.32	5.35	6.67
40	-	0.99	1.37	1.81	2.31	2.90	3.60	4.45	5.52
45	-	-	1.11	1.47	1.90	2.39	2.98	3.69	4.57
50	-	-	-	1.18	1.53	1.94	2.43	3.02	3.74
55	-	-	-	-	1.21	1.55	1.95	2.43	3.03
60	-	-	-	-	-	1.21	1.53	1.93	2.41
65	-	-	-	-	-	-	1.18	1.49	1.87

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

Cooling capacity	10 006	W
Power input	3 313	W
Current consumption	15.92	A
Mass flow	248	kg/h
C.O.P.	3.02	

Pressure switch settings

Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	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
R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

Cooling capacity in W

30	-	3 527	4 659	5 966	7 490	9 272	11 352	13 770	16 569
35	-	3 267	4 364	5 624	7 089	8 798	10 793	13 115	15 805
40	-	3 000	4 056	5 263	6 662	8 294	10 199	12 419	14 994
45	-	-	3 735	4 883	6 212	7 761	9 571	11 683	14 138
50	-	-	-	4 486	5 739	7 199	8 909	10 908	13 237
55	-	-	-	-	5 243	6 610	8 213	10 094	12 292
60	-	-	-	-	-	5 994	7 486	9 242	11 305
65	-	-	-	-	-	-	6 727	8 354	10 275

Power input in W

30	-	2 196	2 151	2 124	2 105	2 084	2 052	1 999	1 916
35	-	2 471	2 422	2 393	2 375	2 357	2 331	2 287	2 215
40	-	2 786	2 728	2 693	2 672	2 653	2 629	2 589	2 524
45	-	-	3 088	3 044	3 014	2 991	2 965	2 925	2 863
50	-	-	-	3 463	3 422	3 390	3 357	3 313	3 250
55	-	-	-	-	3 913	3 867	3 824	3 772	3 703
60	-	-	-	-	-	4 443	4 385	4 321	4 242
65	-	-	-	-	-	-	5 058	4 978	4 886

Current consumption in A

30	-	10.57	10.64	10.66	10.60	10.46	10.24	9.93	9.52
35	-	11.84	11.87	11.86	11.80	11.68	11.51	11.26	10.94
40	-	13.26	13.24	13.19	13.11	13.00	12.85	12.64	12.39
45	-	-	14.84	14.73	14.62	14.49	14.34	14.17	13.96
50	-	-	-	16.58	16.41	16.25	16.09	15.92	15.75
55	-	-	-	-	18.57	18.36	18.17	18.00	17.83
60	-	-	-	-	-	20.91	20.67	20.47	20.30
65	-	-	-	-	-	-	23.69	23.44	23.25

Mass flow in kg/h

30	-	73	95	120	148	180	218	260	309
35	-	71	93	118	146	179	216	258	307
40	-	69	91	116	144	176	213	255	304
45	-	-	88	113	141	173	209	252	300
50	-	-	-	109	137	169	205	247	295
55	-	-	-	-	132	164	200	241	288
60	-	-	-	-	-	158	193	234	280
65	-	-	-	-	-	-	185	225	271

Coefficient of performance (C.O.P.)

30	-	1.61	2.17	2.81	3.56	4.45	5.53	6.89	8.65
35	-	1.32	1.80	2.35	2.99	3.73	4.63	5.74	7.13
40	-	1.08	1.49	1.95	2.49	3.13	3.88	4.80	5.94
45	-	-	1.21	1.60	2.06	2.59	3.23	3.99	4.94
50	-	-	-	1.30	1.68	2.12	2.65	3.29	4.07
55	-	-	-	-	1.34	1.71	2.15	2.68	3.32
60	-	-	-	-	-	1.35	1.71	2.14	2.66
65	-	-	-	-	-	-	1.33	1.68	2.10

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

Cooling capacity	11 126	W
Power input	3 685	W
Current consumption	17.65	A
Mass flow	262	kg/h
C.O.P.	3.02	

Pressure switch settings

Maximum HP switch setting	30	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1	bar(g)

Sound power data

Sound power level	67	dB(A)
With acoustic hood	62	dB(A)

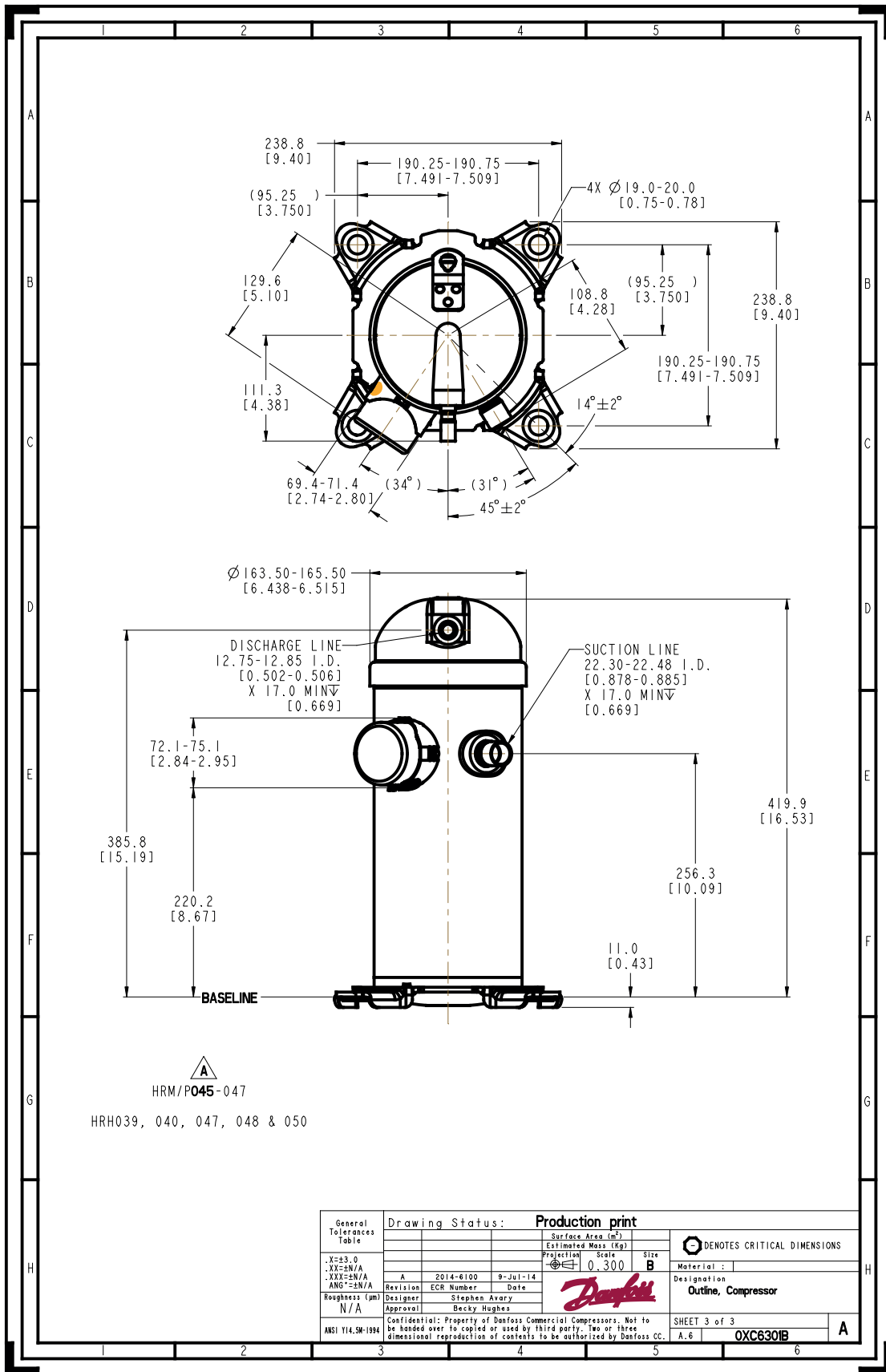
to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

All performance data +/- 5%

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General Tolerances Table	Drawing Status: Production print			Surface Area (m ²)	DENOTES CRITICAL DIMENSIONS
				Estimated Mass (kg)	
X=±3.0 .XX=±N/A .XXX=±N/A ANG=±N/A	Revision	ECR Number	Date	Projection	Scale
Roughness (µm) N/A	Designer	Stephen Avary		0.300	B
ANSI Y14.5M-1994	Approval	Becky Hughes		Material: _____	
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.				Designation Outline, Compressor	
				SHEET 3 of 3	
				A.6 OXC6301B A	