

Datasheets

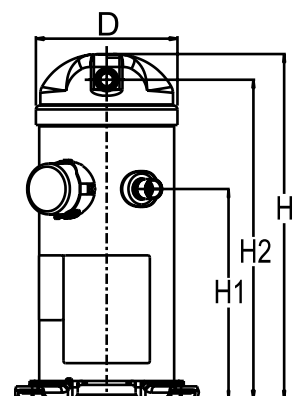
# Danfoss scroll compressors **H series**



**General Characteristics**

Model number (on compressor nameplate)		<b>HLP081T5LP6</b>
Code number for Singlepack*		120U1651
Code number for Industrial pack**		120U1648
Drawing number		0XR6002B-3
Suction and discharge connections		Brazed
Suction connection		7/8 " ODF
Discharge connection		3/4 " ODF
Oil sight glass		None
Oil equalisation connection		None
Oil drain connection		None
LP gauge port		None
IPR valve		Yes
Swept volume		110,94 cm <sup>3</sup> /rev
Displacement @ Nominal speed		19.3 m <sup>3</sup> /h @ 2900 rpm
Net weight		37,2 kg
Oil charge		1,57 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		5,44 kg
Approved refrigerants		R407C

**Dimensions**

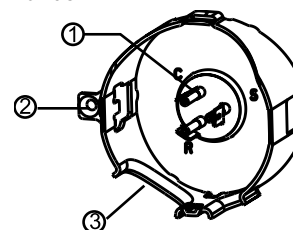


D=183,5 mm  
H=455 mm  
H1=280 mm  
H2=422 mm  
H3=- mm

**Electrical Characteristics**

Nominal voltage	230V/1/50Hz
Voltage range	207-253 V
Winding resistance (main / start) at 25°C	0,39 Ω / 1,019 Ω
Run capacitors A + C	55 μF + - μF
Start capacitor B	88-108 μF
Start relay	3ARR3*25AS*
Rated Load Amps (RLA)	28.8 A
Maximum Continuous Current (MCC)	45 A
Locked Rotor Amps (LRA)	130 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.**

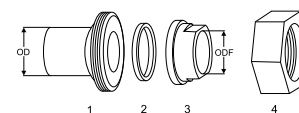
Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF)	8168030
Gasket, 1-1/4"	8156131

**Rotolock accessories, discharge side**

**Code no.**

Solder sleeve, 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

**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), (1-1/4" Rotolock, 3/4" ODF)	120Z0128
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, 65 W, 230 V, CE mark, UL	120Z0059
Belt type crankcase heater, 70 W, 240 V, CE mark, UL	120Z5040

**Miscellaneous accessories**

**Code no.**

Acoustic hood	120Z5044
Discharge thermostat kit	7750009

**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

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	-	5 675	7 512	9 632	12 106	15 002	18 392	22 344	26 930
35	-	5 203	6 975	9 006	11 363	14 118	17 339	21 096	25 459
40	-	4 704	6 404	8 337	10 571	13 176	16 220	19 775	23 908
45	-	-	5 807	7 634	9 737	12 184	15 045	18 389	22 284
50	-	-	-	6 905	8 869	11 152	13 821	16 946	20 596
55	-	-	-	-	7 976	10 086	12 556	15 455	18 851
60	-	-	-	-	-	8 995	11 258	13 922	17 055
65	-	-	-	-	-	-	9 932	12 353	15 214

Power input in W

30	-	3 832	3 751	3 703	3 670	3 635	3 580	3 487	3 338
35	-	4 333	4 242	4 189	4 157	4 127	4 082	4 004	3 876
40	-	4 912	4 804	4 739	4 699	4 667	4 625	4 555	4 440
45	-	-	5 471	5 387	5 332	5 290	5 244	5 174	5 064
50	-	-	-	6 165	6 089	6 030	5 971	5 895	5 782
55	-	-	-	-	7 004	6 921	6 842	6 751	6 629
60	-	-	-	-	-	7 996	7 890	7 777	7 639
65	-	-	-	-	-	-	9 150	9 007	8 844

Current consumption in A

30	-	18.38	18.52	18.53	18.43	18.19	17.81	17.27	16.56
35	-	20.59	20.64	20.63	20.52	20.32	20.02	19.59	19.03
40	-	23.07	23.02	22.94	22.80	22.61	22.34	22.00	21.55
45	-	-	25.81	25.62	25.42	25.20	24.95	24.65	24.29
50	-	-	-	28.84	28.54	28.26	27.98	27.70	27.40
55	-	-	-	-	32.31	31.93	31.60	31.30	31.02
60	-	-	-	-	-	36.38	35.96	35.61	35.32
65	-	-	-	-	-	-	41.21	40.78	40.44

Mass flow in kg/h

30	-	127	165	208	257	314	379	453	538
35	-	123	161	204	253	309	374	448	532
40	-	118	156	199	248	303	367	440	524
45	-	-	151	193	241	296	359	431	514
50	-	-	-	186	233	287	349	420	502
55	-	-	-	-	224	277	338	408	488
60	-	-	-	-	-	265	325	393	471
65	-	-	-	-	-	-	310	376	453

Coefficient of performance (C.O.P.)

30	-	1.48	2.00	2.60	3.30	4.13	5.14	6.41	8.07
35	-	1.20	1.64	2.15	2.73	3.42	4.25	5.27	6.57
40	-	0.96	1.33	1.76	2.25	2.82	3.51	4.34	5.39
45	-	-	1.06	1.42	1.83	2.30	2.87	3.55	4.40
50	-	-	-	1.12	1.46	1.85	2.31	2.87	3.56
55	-	-	-	-	1.14	1.46	1.84	2.29	2.84
60	-	-	-	-	-	1.12	1.43	1.79	2.23
65	-	-	-	-	-	-	1.09	1.37	1.72

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

Cooling capacity	16 946	W
Power input	5 895	W
Current consumption	27.70	A
Mass flow	420	kg/h
C.O.P.	2.87	

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	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 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	-	6 094	8 057	10 319	12 954	16 037	19 640	23 837	28 701
35	-	5 615	7 518	9 693	12 216	15 159	18 596	22 601	27 248
40	-	5 106	6 941	9 022	11 424	14 221	17 485	21 291	25 711
45	-	-	6 335	8 314	10 588	13 230	16 314	19 912	24 099
50	-	-	-	7 578	9 716	12 195	15 090	18 474	22 420
55	-	-	-	-	8 815	11 125	13 824	16 985	20 682
60	-	-	-	-	-	10 027	12 522	15 453	18 894
65	-	-	-	-	-	-	11 192	13 886	17 063

**Power input in W**

30	-	3 832	3 751	3 703	3 670	3 635	3 580	3 487	3 338
35	-	4 333	4 242	4 189	4 157	4 127	4 082	4 004	3 876
40	-	4 912	4 804	4 739	4 699	4 667	4 625	4 555	4 440
45	-	-	5 471	5 387	5 332	5 290	5 244	5 174	5 064
50	-	-	-	6 165	6 089	6 030	5 971	5 895	5 782
55	-	-	-	-	7 004	6 921	6 842	6 751	6 629
60	-	-	-	-	-	7 996	7 890	7 777	7 639
65	-	-	-	-	-	-	9 150	9 007	8 844

**Current consumption in A**

30	-	18.38	18.52	18.53	18.43	18.19	17.81	17.27	16.56
35	-	20.59	20.64	20.63	20.52	20.32	20.02	19.59	19.03
40	-	23.07	23.02	22.94	22.80	22.61	22.34	22.00	21.55
45	-	-	25.81	25.62	25.42	25.20	24.95	24.65	24.29
50	-	-	-	28.84	28.54	28.26	27.98	27.70	27.40
55	-	-	-	-	32.31	31.93	31.60	31.30	31.02
60	-	-	-	-	-	36.38	35.96	35.61	35.32
65	-	-	-	-	-	-	41.21	40.78	40.44

**Mass flow in kg/h**

30	-	126	164	207	256	312	376	450	535
35	-	122	160	203	252	308	372	445	529
40	-	118	156	198	247	302	365	438	521
45	-	-	150	192	240	294	357	429	511
50	-	-	-	185	232	286	347	418	499
55	-	-	-	-	223	275	336	405	485
60	-	-	-	-	-	263	323	391	469
65	-	-	-	-	-	-	308	374	450

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

30	-	1.59	2.15	2.79	3.53	4.41	5.49	6.84	8.60
35	-	1.30	1.77	2.31	2.94	3.67	4.56	5.64	7.03
40	-	1.04	1.44	1.90	2.43	3.05	3.78	4.67	5.79
45	-	-	1.16	1.54	1.99	2.50	3.11	3.85	4.76
50	-	-	-	1.23	1.60	2.02	2.53	3.13	3.88
55	-	-	-	-	1.26	1.61	2.02	2.52	3.12
60	-	-	-	-	-	1.25	1.59	1.99	2.47
65	-	-	-	-	-	-	1.22	1.54	1.93

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

Cooling capacity	18 736	W
Power input	6 592	W
Current consumption	30.71	A
Mass flow	441	kg/h
C.O.P.	2.84	

**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	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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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	-	5 675	7 512	9 632	12 106	15 002	18 392	22 344	26 930
35	-	5 203	6 975	9 006	11 363	14 118	17 339	21 096	25 459
40	-	4 704	6 404	8 337	10 571	13 176	16 220	19 775	23 908
45	-	-	5 807	7 634	9 737	12 184	15 045	18 389	22 284
50	-	-	-	6 905	8 869	11 152	13 821	16 946	20 596
55	-	-	-	-	7 976	10 086	12 556	15 455	18 851
60	-	-	-	-	-	8 995	11 258	13 922	17 055
65	-	-	-	-	-	-	9 932	12 353	15 214

Power input in W

30	-	3 832	3 751	3 703	3 670	3 635	3 580	3 487	3 338
35	-	4 333	4 242	4 189	4 157	4 127	4 082	4 004	3 876
40	-	4 912	4 804	4 739	4 699	4 667	4 625	4 555	4 440
45	-	-	5 471	5 387	5 332	5 290	5 244	5 174	5 064
50	-	-	-	6 165	6 089	6 030	5 971	5 895	5 782
55	-	-	-	-	7 004	6 921	6 842	6 751	6 629
60	-	-	-	-	-	7 996	7 890	7 777	7 639
65	-	-	-	-	-	-	9 150	9 007	8 844

Current consumption in A

30	-	18.38	18.52	18.53	18.43	18.19	17.81	17.27	16.56
35	-	20.59	20.64	20.63	20.52	20.32	20.02	19.59	19.03
40	-	23.07	23.02	22.94	22.80	22.61	22.34	22.00	21.55
45	-	-	25.81	25.62	25.42	25.20	24.95	24.65	24.29
50	-	-	-	28.84	28.54	28.26	27.98	27.70	27.40
55	-	-	-	-	32.31	31.93	31.60	31.30	31.02
60	-	-	-	-	-	36.38	35.96	35.61	35.32
65	-	-	-	-	-	-	41.21	40.78	40.44

Mass flow in kg/h

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40	-	118	156	199	248	303	367	440	524
45	-	-	151	193	241	296	359	431	514
50	-	-	-	186	233	287	349	420	502
55	-	-	-	-	224	277	338	408	488
60	-	-	-	-	-	265	325	393	471
65	-	-	-	-	-	-	310	376	453

Coefficient of performance (C.O.P.)

30	-	1.48	2.00	2.60	3.30	4.13	5.14	6.41	8.07
35	-	1.20	1.64	2.15	2.73	3.42	4.25	5.27	6.57
40	-	0.96	1.33	1.76	2.25	2.82	3.51	4.34	5.39
45	-	-	1.06	1.42	1.83	2.30	2.87	3.55	4.40
50	-	-	-	1.12	1.46	1.85	2.31	2.87	3.56
55	-	-	-	-	1.14	1.46	1.84	2.29	2.84
60	-	-	-	-	-	1.12	1.43	1.79	2.23
65	-	-	-	-	-	-	1.09	1.37	1.72

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

Cooling capacity	16 946	W
Power input	5 895	W
Current consumption	27.70	A
Mass flow	420	kg/h
C.O.P.	2.87	

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	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 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	-	6 094	8 057	10 319	12 954	16 037	19 640	23 837	28 701
35	-	5 615	7 518	9 693	12 216	15 159	18 596	22 601	27 248
40	-	5 106	6 941	9 022	11 424	14 221	17 485	21 291	25 711
45	-	-	6 335	8 314	10 588	13 230	16 314	19 912	24 099
50	-	-	-	7 578	9 716	12 195	15 090	18 474	22 420
55	-	-	-	-	8 815	11 125	13 824	16 985	20 682
60	-	-	-	-	-	10 027	12 522	15 453	18 894
65	-	-	-	-	-	-	11 192	13 886	17 063

**Power input in W**

30	-	3 832	3 751	3 703	3 670	3 635	3 580	3 487	3 338
35	-	4 333	4 242	4 189	4 157	4 127	4 082	4 004	3 876
40	-	4 912	4 804	4 739	4 699	4 667	4 625	4 555	4 440
45	-	-	5 471	5 387	5 332	5 290	5 244	5 174	5 064
50	-	-	-	6 165	6 089	6 030	5 971	5 895	5 782
55	-	-	-	-	7 004	6 921	6 842	6 751	6 629
60	-	-	-	-	-	7 996	7 890	7 777	7 639
65	-	-	-	-	-	-	9 150	9 007	8 844

**Current consumption in A**

30	-	18.38	18.52	18.53	18.43	18.19	17.81	17.27	16.56
35	-	20.59	20.64	20.63	20.52	20.32	20.02	19.59	19.03
40	-	23.07	23.02	22.94	22.80	22.61	22.34	22.00	21.55
45	-	-	25.81	25.62	25.42	25.20	24.95	24.65	24.29
50	-	-	-	28.84	28.54	28.26	27.98	27.70	27.40
55	-	-	-	-	32.31	31.93	31.60	31.30	31.02
60	-	-	-	-	-	36.38	35.96	35.61	35.32
65	-	-	-	-	-	-	41.21	40.78	40.44

**Mass flow in kg/h**

30	-	126	164	207	256	312	376	450	535
35	-	122	160	203	252	308	372	445	529
40	-	118	156	198	247	302	365	438	521
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50	-	-	-	185	232	286	347	418	499
55	-	-	-	-	223	275	336	405	485
60	-	-	-	-	-	263	323	391	469
65	-	-	-	-	-	-	308	374	450

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

30	-	1.59	2.15	2.79	3.53	4.41	5.49	6.84	8.60
35	-	1.30	1.77	2.31	2.94	3.67	4.56	5.64	7.03
40	-	1.04	1.44	1.90	2.43	3.05	3.78	4.67	5.79
45	-	-	1.16	1.54	1.99	2.50	3.11	3.85	4.76
50	-	-	-	1.23	1.60	2.02	2.53	3.13	3.88
55	-	-	-	-	1.26	1.61	2.02	2.52	3.12
60	-	-	-	-	-	1.25	1.59	1.99	2.47
65	-	-	-	-	-	-	1.22	1.54	1.93

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

Cooling capacity	18 736	W
Power input	6 592	W
Current consumption	30.71	A
Mass flow	441	kg/h
C.O.P.	2.84	

**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	71	dB(A)
With acoustic hood	66	dB(A)

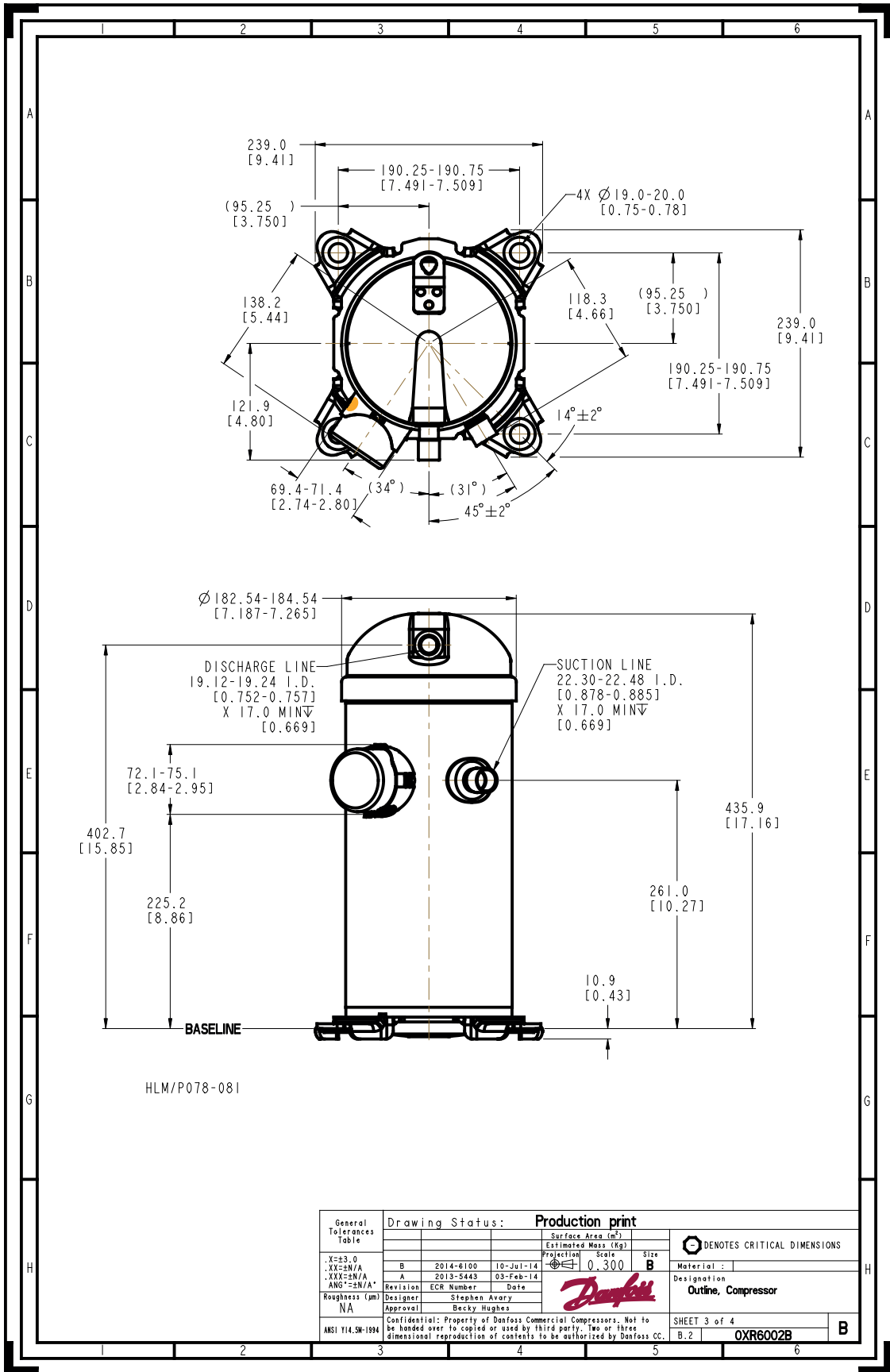
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tc: Condensing temperature at dew point

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

All performance data +/- 5%

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General Tolerances Table	Drawing Status: <b>Production print</b>			Surface Area (m <sup>2</sup> )	DENOTES CRITICAL DIMENSIONS
				Estimated Mass (kg)	
				Projection Scale	Size <b>B</b>
				0.300	Material:
.X=±3.0 .XX=±N/A .XXX=±N/A ANG°=±N/A*	Revision	ECR Number	Date	Designation	
Roughness (µm)	Designer	Approval		Outline, Compressor	
NA	Stephen Avary	Becky Hughes		SHEET 3 of 4	
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