ENGINEERING
TOMORROW

Datasheets

Danfoss scroll compressors
H series

FRCC.UD.180315.143352

www.danfoss.com/odsg

General Characteristics

Model number (on compressor nameplate)		**HRP054T5LP6**
Code number for Singlepack*		120U2197
Code number for Industrial pack**		120U2194
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	72.76 cm3/rev	
Displacement @ Nominal speed	12.7 m3/h @ 2900 rpm	
Net weight	37.19 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	

Electrical Characteristics

Nominal voltage	230V/1/50Hz
Voltage range	207-253 V
Winding resistance (main / start) at 25ºC	0.42 Ω / 1.309 Ω
Run capacitors A + C	55 µF + - µF
Start capacitor B	161-193 µF
Start relay	3ARR3*24AP*
Rated Load Amps (RLA)	25.6 A
Maximum Continuous Current (MCC)	40 A
Locked Rotor Amps (LRA)	130 A
Motor protection	Internal overload protector

Recommended Installation torques

Oil sight glass	52.5 Nm
Power connections / Earth connection	0 Nm / 0 Nm

Parts shipped with compressor

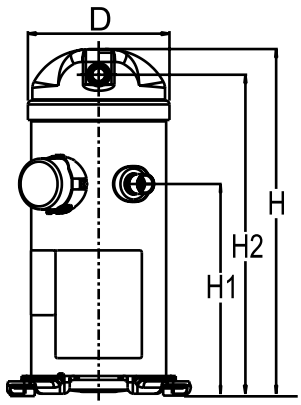
Mounting kit with grommets and sleeves
Initial oil charge
Installation instructions

Approvals : CE certified, UL certified (file SA11565), -

*Singlepack: Compressor in cardboard box

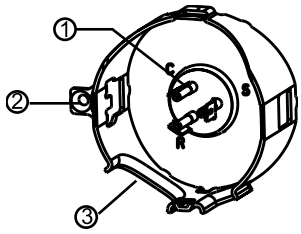
**Industrial pack: 12 or 16 Unboxed compressors on pallet

Dimensions



D=183.5 mm
H=455 mm
H1=280 mm
H2=422 mm
H3=- mm

Terminal box



IP22

1: Spade connectors 1/4"
2: Earth connection
3: Power cable passage

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

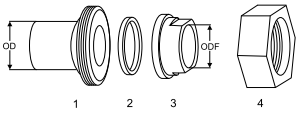
Oil / lubricants	Code no.
PVE lubricant, 320HV (FVC68D), 1 litre can	120Z5034

Crankcase heaters	Code no.
Belt type crankcase heater, 50 W, 230 V, CE mark, UL	120Z0057

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

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	-	3 933	5 007	6 324	7 909	9 788	11 985	14 527	17 438
35	-	3 661	4 689	5 947	7 460	9 252	11 350	13 778	16 561
40	-	3 395	4 375	5 572	7 010	8 713	10 708	13 020	15 673
45	-	-	4 056	5 189	6 549	8 162	10 052	12 244	14 764
50	-	-	-	4 790	6 070	7 588	9 371	11 441	13 825
55	-	-	-	-	5 562	6 985	8 656	10 602	12 847
60	-	-	-	-	-	6 341	7 899	9 717	11 819
65	-	-	-	-	-	-	7 089	8 775	10 730
Power input in W									
30	-	1 891	1 946	2 009	2 078	2 150	2 225	2 300	2 374
35	-	2 333	2 354	2 384	2 420	2 461	2 505	2 549	2 593
40	-	2 786	2 780	2 783	2 793	2 808	2 827	2 847	2 866
45	-	-	3 231	3 213	3 203	3 199	3 198	3 200	3 201
50	-	-	-	3 682	3 658	3 641	3 627	3 616	3 606
55	-	-	-	-	4 166	4 141	4 121	4 104	4 088
60	-	-	-	-	-	4 709	4 688	4 671	4 655
65	-	-	-	-	-	-	5 335	5 324	5 315
Current consumption in A									
30	-	11.71	11.53	11.76	12.23	12.80	13.31	13.61	13.55
35	-	14.77	14.29	14.24	14.47	14.82	15.15	15.30	15.11
40	-	16.90	16.17	15.90	15.94	16.14	16.34	16.39	16.14
45	-	-	17.56	17.12	17.03	17.13	17.26	17.27	17.02
50	-	-	-	18.29	18.13	18.18	18.30	18.33	18.12
55	-	-	-	-	19.60	19.67	19.83	19.93	19.82
60	-	-	-	-	-	21.97	22.23	22.46	22.52
65	-	-	-	-	-	-	25.89	26.31	26.58
Mass flow in kg/h									
30	-	89	112	138	169	205	247	294	349
35	-	88	110	136	167	203	244	292	347
40	-	86	108	134	165	200	242	290	344
45	-	-	105	131	161	197	239	287	342
50	-	-	-	126	157	193	235	283	338
55	-	-	-	-	151	187	230	278	334
60	-	-	-	-	-	180	223	272	328
65	-	-	-	-	-	-	214	264	321
Coefficient of performance (C.O.P.)									
30	-	2.08	2.57	3.15	3.81	4.55	5.39	6.31	7.35
35	-	1.57	1.99	2.49	3.08	3.76	4.53	5.40	6.39
40	-	1.22	1.57	2.00	2.51	3.10	3.79	4.57	5.47
45	-	-	1.26	1.62	2.04	2.55	3.14	3.83	4.61
50	-	-	-	1.30	1.66	2.08	2.58	3.16	3.83
55	-	-	-	-	1.34	1.69	2.10	2.58	3.14
60	-	-	-	-	-	1.35	1.68	2.08	2.54
65	-	-	-	-	-	-	1.33	1.65	2.02

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

Cooling capacity	11 441	W
Power input	3 616	W
Current consumption	18.33	A
Mass flow	283	kg/h
C.O.P.	3.16	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

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	69	dB(A)
With accoustic hood	64	dB(A)

All performance data +/- 5%

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	-	4 224	5 370	6 775	8 464	10 463	12 798	15 497	18 585
35	-	3 951	5 054	6 401	8 020	9 935	12 173	14 761	17 724
40	-	3 685	4 742	6 030	7 576	9 405	11 543	14 018	16 855
45	-	-	4 425	5 652	7 122	8 862	10 899	13 258	15 967
50	-	-	-	5 256	6 649	8 299	10 231	12 473	15 050
55	-	-	-	-	6 147	7 704	9 530	11 652	14 095
60	-	-	-	-	-	7 068	8 786	10 785	13 093
65	-	-	-	-	-	-	7 989	9 864	12 035
Power input in W									
30	-	1 891	1 946	2 009	2 078	2 150	2 225	2 300	2 374
35	-	2 333	2 354	2 384	2 420	2 461	2 505	2 549	2 593
40	-	2 786	2 780	2 783	2 793	2 808	2 827	2 847	2 866
45	-	-	3 231	3 213	3 203	3 199	3 198	3 200	3 201
50	-	-	-	3 682	3 658	3 641	3 627	3 616	3 606
55	-	-	-	-	4 166	4 141	4 121	4 104	4 088
60	-	-	-	-	-	4 709	4 688	4 671	4 655
65	-	-	-	-	-	-	5 335	5 324	5 315
Current consumption in A									
30	-	11.71	11.53	11.76	12.23	12.80	13.31	13.61	13.55
35	-	14.77	14.29	14.24	14.47	14.82	15.15	15.30	15.11
40	-	16.90	16.17	15.90	15.94	16.14	16.34	16.39	16.14
45	-	-	17.56	17.12	17.03	17.13	17.26	17.27	17.02
50	-	-	-	18.29	18.13	18.18	18.30	18.33	18.12
55	-	-	-	-	19.60	19.67	19.83	19.93	19.82
60	-	-	-	-	-	21.97	22.23	22.46	22.52
65	-	-	-	-	-	-	25.89	26.31	26.58
Mass flow in kg/h									
30	-	89	111	138	168	204	245	293	347
35	-	88	110	136	166	202	243	290	345
40	-	86	108	133	164	199	241	288	342
45	-	-	104	130	161	196	238	285	340
50	-	-	-	126	156	192	233	281	336
55	-	-	-	-	150	186	228	277	332
60	-	-	-	-	-	179	222	270	326
65	-	-	-	-	-	-	213	262	319
Coefficient of performance (C.O.P.)									
30	-	2.23	2.76	3.37	4.07	4.87	5.75	6.74	7.83
35	-	1.69	2.15	2.69	3.31	4.04	4.86	5.79	6.84
40	-	1.32	1.71	2.17	2.71	3.35	4.08	4.92	5.88
45	-	-	1.37	1.76	2.22	2.77	3.41	4.14	4.99
50	-	-	-	1.43	1.82	2.28	2.82	3.45	4.17
55	-	-	-	-	1.48	1.86	2.31	2.84	3.45
60	-	-	-	-	-	1.50	1.87	2.31	2.81
65	-	-	-	-	-	-	1.50	1.85	2.26

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

Cooling capacity	12 793	W
Power input	4 035	W
Current consumption	19.68	A
Mass flow	301	kg/h
C.O.P.	3.17	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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	69	dB(A)
With accoustic hood	64	dB(A)

All performance data +/- 5%

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	-	3 933	5 007	6 324	7 909	9 788	11 985	14 527	17 438
35	-	3 661	4 689	5 947	7 460	9 252	11 350	13 778	16 561
40	-	3 395	4 375	5 572	7 010	8 713	10 708	13 020	15 673
45	-	-	4 056	5 189	6 549	8 162	10 052	12 244	14 764
50	-	-	-	4 790	6 070	7 588	9 371	11 441	13 825
55	-	-	-	-	5 562	6 985	8 656	10 602	12 847
60	-	-	-	-	-	6 341	7 899	9 717	11 819
65	-	-	-	-	-	-	7 089	8 775	10 730
Power input in W									
30	-	1 891	1 946	2 009	2 078	2 150	2 225	2 300	2 374
35	-	2 333	2 354	2 384	2 420	2 461	2 505	2 549	2 593
40	-	2 786	2 780	2 783	2 793	2 808	2 827	2 847	2 866
45	-	-	3 231	3 213	3 203	3 199	3 198	3 200	3 201
50	-	-	-	3 682	3 658	3 641	3 627	3 616	3 606
55	-	-	-	-	4 166	4 141	4 121	4 104	4 088
60	-	-	-	-	-	4 709	4 688	4 671	4 655
65	-	-	-	-	-	-	5 335	5 324	5 315
Current consumption in A									
30	-	11.71	11.53	11.76	12.23	12.80	13.31	13.61	13.55
35	-	14.77	14.29	14.24	14.47	14.82	15.15	15.30	15.11
40	-	16.90	16.17	15.90	15.94	16.14	16.34	16.39	16.14
45	-	-	17.56	17.12	17.03	17.13	17.26	17.27	17.02
50	-	-	-	18.29	18.13	18.18	18.30	18.33	18.12
55	-	-	-	-	19.60	19.67	19.83	19.93	19.82
60	-	-	-	-	-	21.97	22.23	22.46	22.52
65	-	-	-	-	-	-	25.89	26.31	26.58
Mass flow in kg/h									
30	-	89	112	138	169	205	247	294	349
35	-	88	110	136	167	203	244	292	347
40	-	86	108	134	165	200	242	290	344
45	-	-	105	131	161	197	239	287	342
50	-	-	-	126	157	193	235	283	338
55	-	-	-	-	151	187	230	278	334
60	-	-	-	-	-	180	223	272	328
65	-	-	-	-	-	-	214	264	321
Coefficient of performance (C.O.P.)									
30	-	2.08	2.57	3.15	3.81	4.55	5.39	6.31	7.35
35	-	1.57	1.99	2.49	3.08	3.76	4.53	5.40	6.39
40	-	1.22	1.57	2.00	2.51	3.10	3.79	4.57	5.47
45	-	-	1.26	1.62	2.04	2.55	3.14	3.83	4.61
50	-	-	-	1.30	1.66	2.08	2.58	3.16	3.83
55	-	-	-	-	1.34	1.69	2.10	2.58	3.14
60	-	-	-	-	-	1.35	1.68	2.08	2.54
65	-	-	-	-	-	-	1.33	1.65	2.02

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

Cooling capacity	11 441	W
Power input	3 616	W
Current consumption	18.33	A
Mass flow	283	kg/h
C.O.P.	3.16	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

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	69	dB(A)
With accoustic hood	64	dB(A)

All performance data +/- 5%

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	-	4 224	5 370	6 775	8 464	10 463	12 798	15 497	18 585
35	-	3 951	5 054	6 401	8 020	9 935	12 173	14 761	17 724
40	-	3 685	4 742	6 030	7 576	9 405	11 543	14 018	16 855
45	-	-	4 425	5 652	7 122	8 862	10 899	13 258	15 967
50	-	-	-	5 256	6 649	8 299	10 231	12 473	15 050
55	-	-	-	-	6 147	7 704	9 530	11 652	14 095
60	-	-	-	-	-	7 068	8 786	10 785	13 093
65	-	-	-	-	-	-	7 989	9 864	12 035
Power input in W									
30	-	1 891	1 946	2 009	2 078	2 150	2 225	2 300	2 374
35	-	2 333	2 354	2 384	2 420	2 461	2 505	2 549	2 593
40	-	2 786	2 780	2 783	2 793	2 808	2 827	2 847	2 866
45	-	-	3 231	3 213	3 203	3 199	3 198	3 200	3 201
50	-	-	-	3 682	3 658	3 641	3 627	3 616	3 606
55	-	-	-	-	4 166	4 141	4 121	4 104	4 088
60	-	-	-	-	-	4 709	4 688	4 671	4 655
65	-	-	-	-	-	-	5 335	5 324	5 315
Current consumption in A									
30	-	11.71	11.53	11.76	12.23	12.80	13.31	13.61	13.55
35	-	14.77	14.29	14.24	14.47	14.82	15.15	15.30	15.11
40	-	16.90	16.17	15.90	15.94	16.14	16.34	16.39	16.14
45	-	-	17.56	17.12	17.03	17.13	17.26	17.27	17.02
50	-	-	-	18.29	18.13	18.18	18.30	18.33	18.12
55	-	-	-	-	19.60	19.67	19.83	19.93	19.82
60	-	-	-	-	-	21.97	22.23	22.46	22.52
65	-	-	-	-	-	-	25.89	26.31	26.58
Mass flow in kg/h									
30	-	89	111	138	168	204	245	293	347
35	-	88	110	136	166	202	243	290	345
40	-	86	108	133	164	199	241	288	342
45	-	-	104	130	161	196	238	285	340
50	-	-	-	126	156	192	233	281	336
55	-	-	-	-	150	186	228	277	332
60	-	-	-	-	-	179	222	270	326
65	-	-	-	-	-	-	213	262	319
Coefficient of performance (C.O.P.)									
30	-	2.23	2.76	3.37	4.07	4.87	5.75	6.74	7.83
35	-	1.69	2.15	2.69	3.31	4.04	4.86	5.79	6.84
40	-	1.32	1.71	2.17	2.71	3.35	4.08	4.92	5.88
45	-	-	1.37	1.76	2.22	2.77	3.41	4.14	4.99
50	-	-	-	1.43	1.82	2.28	2.82	3.45	4.17
55	-	-	-	-	1.48	1.86	2.31	2.84	3.45
60	-	-	-	-	-	1.50	1.87	2.31	2.81
65	-	-	-	-	-	-	1.50	1.85	2.26

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

Cooling capacity	12 793	W
Power input	4 035	W
Current consumption	19.68	A
Mass flow	301	kg/h
C.O.P.	3.17	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

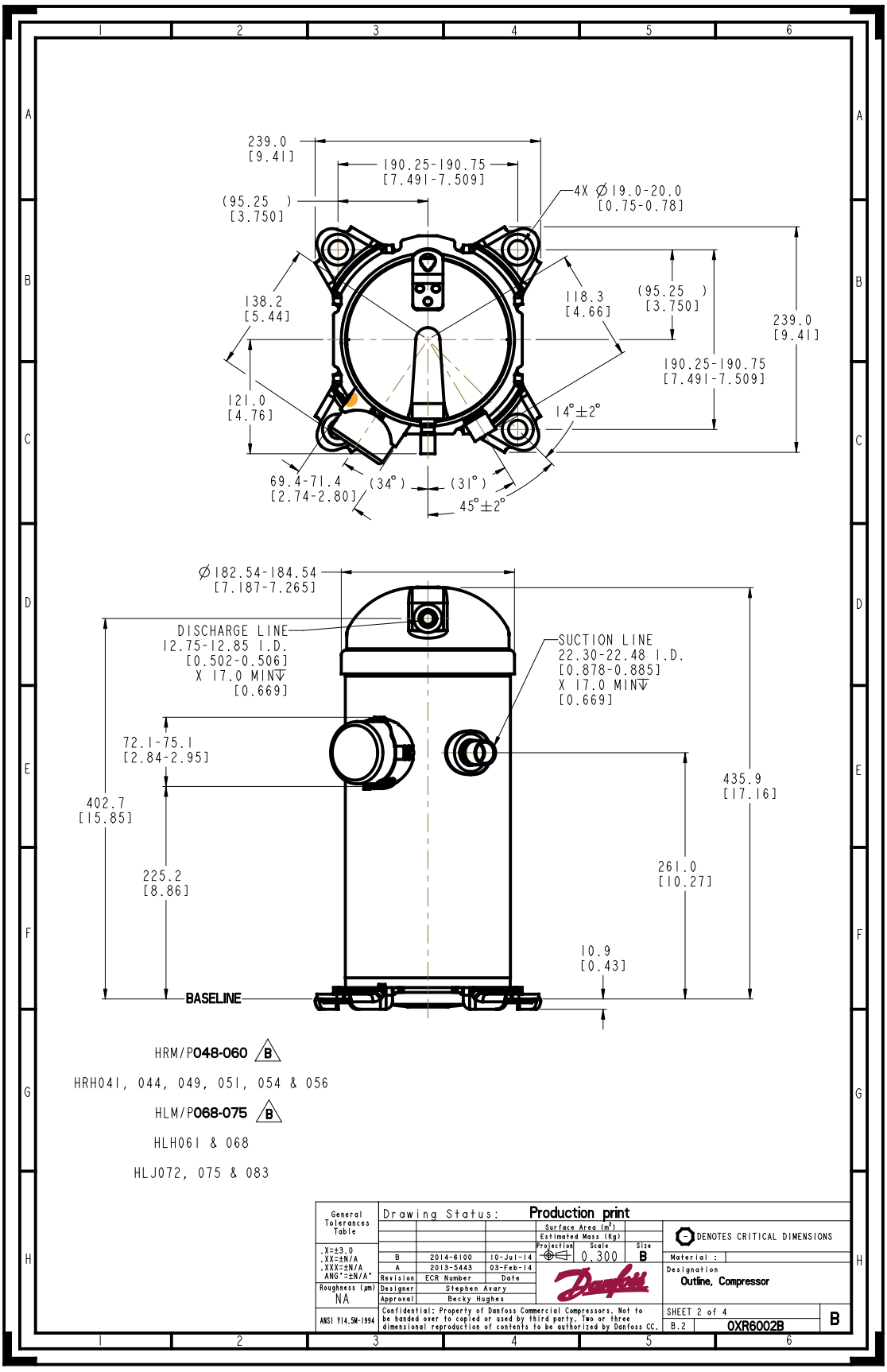
Pressure switch settings

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	69	dB(A)
With accoustic hood	64	dB(A)

All performance data +/- 5%



HRM/P**048-060** B

HRH041, 044, 049, 051, 054 & 056

HLM/P**068-075** B

HLH061 & 068

HLJ072, 075 & 083

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°				Projection / Scale 0.300 / Size B	Material :
	B	2014-6100	10-Jul-14		Designation: Outline, Compressor
Roughness (µm) NA	A	2013-5443	03-Feb-14		
	Revision	ECR Number	Date		
	Designer	Stephen Avary			
ANSI Y14.5M-1994	Approval	Becky Hughes			SHEET 2 of 4
	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.				B.2 0XR6002B B