ENGINEERING
TOMORROW

Datasheets

Danfoss scroll compressors
H series

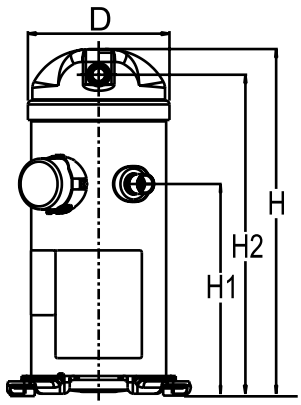
FRCC.UD.180316.085535

www.danfoss.com/odsg

General Characteristics

Model number (on compressor nameplate)		**HRM038U4LP6**
Code number for Singlepack*		120U1011
Code number for Industrial pack**		120U1008
Drawing number		0XC6301B-2
Suction and discharge connections		Brazed
Suction connection		3/4 " 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	51.62 cm3/rev	
Displacement @ Nominal speed	9.0 m3/h @ 2900 rpm - 10.8 m3/h @ 3500 rpm	
Net weight	30.84 kg	
Oil charge	1.06 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

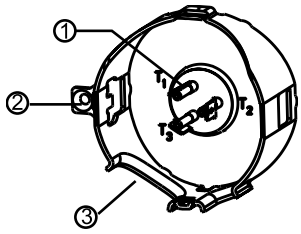


D=164.5 mm
H=413 mm
H1=250 mm
H2=379 mm
H3=- mm

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 25ºC	4.664 Ω
Winding resistance between phases 1-3 +/- 7% at 25ºC	4.660 Ω
Winding resistance between phases 2-3 +/- 7% at 25ºC	3.420 Ω
Rated Load Amps (RLA)	6.4 A
Maximum Continuous Current (MCC)	10 A
Locked Rotor Amps (LRA)	45 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.
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

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, 3/4" ODF), (1" Rotolock, 1/2" ODF)	120Z0126
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009

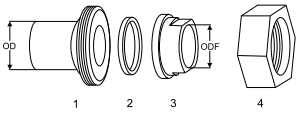
Oil / lubricants	Code no.

Crankcase heaters	Code no.
Belt type crankcase heater, 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

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

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	3 387	3 958	4 795	5 883	7 206	8 748	10 492	12 423	-
35	3 163	3 727	4 540	5 586	6 847	8 310	9 957	11 772	-
40	-	3 447	4 249	5 265	6 480	7 877	9 441	11 154	-
45	-	-	3 907	4 907	6 089	7 434	8 928	10 554	-
50	-	-	-	4 496	5 657	6 965	8 403	9 955	-
55	-	-	-	-	5 171	6 453	7 849	9 341	-
60	-	-	-	-	-	5 885	7 250	8 695	-
65	-	-	-	-	-	-	6 592	8 001	-
Power input in W									
30	1 705	1 693	1 687	1 680	1 663	1 628	1 568	1 474	-
35	1 967	1 927	1 904	1 890	1 876	1 854	1 818	1 757	-
40	-	2 215	2 164	2 133	2 113	2 095	2 073	2 037	-
45	-	-	2 481	2 423	2 387	2 364	2 346	2 325	-
50	-	-	-	2 773	2 712	2 673	2 651	2 635	-
55	-	-	-	-	3 099	3 036	2 999	2 980	-
60	-	-	-	-	-	3 465	3 404	3 372	-
65	-	-	-	-	-	-	3 879	3 823	-
Current consumption in A									
30	3.57	3.38	3.34	3.38	3.43	3.44	3.33	3.04	-
35	3.99	3.69	3.57	3.56	3.60	3.61	3.54	3.32	-
40	-	4.08	3.87	3.80	3.80	3.81	3.77	3.60	-
45	-	-	4.24	4.10	4.06	4.06	4.03	3.90	-
50	-	-	-	4.47	4.38	4.35	4.32	4.23	-
55	-	-	-	-	4.77	4.71	4.67	4.60	-
60	-	-	-	-	-	5.14	5.09	5.03	-
65	-	-	-	-	-	-	5.58	5.52	-
Mass flow in kg/h									
30	74	85	102	123	149	179	213	249	-
35	71	83	100	122	147	177	209	245	-
40	-	80	98	120	145	174	206	241	-
45	-	-	94	116	142	171	203	237	-
50	-	-	-	112	138	168	200	234	-
55	-	-	-	-	133	163	196	230	-
60	-	-	-	-	-	157	190	225	-
65	-	-	-	-	-	-	183	220	-
Coefficient of performance (C.O.P.)									
30	1.99	2.34	2.84	3.50	4.33	5.37	6.69	8.43	-
35	1.61	1.93	2.38	2.96	3.65	4.48	5.48	6.70	-
40	-	1.56	1.96	2.47	3.07	3.76	4.56	5.48	-
45	-	-	1.57	2.02	2.55	3.14	3.81	4.54	-
50	-	-	-	1.62	2.09	2.61	3.17	3.78	-
55	-	-	-	-	1.67	2.13	2.62	3.13	-
60	-	-	-	-	-	1.70	2.13	2.58	-
65	-	-	-	-	-	-	1.70	2.09	-

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

Cooling capacity	8 403	W
Power input	2 651	W
Current consumption	4.32	A
Mass flow	200	kg/h
C.O.P.	3.17	

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	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 accoustic hood	62	dB(A)

All performance data +/- 5%

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	3 597	4 200	5 085	6 234	7 630	9 256	11 094	13 126	-
35	-	3 969	4 831	5 938	7 274	8 821	10 561	12 477	-
40	-	-	4 539	5 619	6 909	8 392	10 049	11 864	-
45	-	-	4 191	5 259	6 519	7 952	9 542	11 271	-
50	-	-	-	4 843	6 086	7 486	9 022	10 680	-
55	-	-	-	-	5 595	6 974	8 473	10 074	-
60	-	-	-	-	-	6 401	7 877	9 436	-
65	-	-	-	-	-	-	7 218	8 750	-
Power input in W									
30	1 705	1 693	1 687	1 680	1 663	1 628	1 568	1 474	-
35	-	1 927	1 904	1 890	1 876	1 854	1 818	1 757	-
40	-	-	2 164	2 133	2 113	2 095	2 073	2 037	-
45	-	-	2 481	2 423	2 387	2 364	2 346	2 325	-
50	-	-	-	2 773	2 712	2 673	2 651	2 635	-
55	-	-	-	-	3 099	3 036	2 999	2 980	-
60	-	-	-	-	-	3 465	3 404	3 372	-
65	-	-	-	-	-	-	3 879	3 823	-
Current consumption in A									
30	3.57	3.38	3.34	3.38	3.43	3.44	3.33	3.04	-
35	-	3.69	3.57	3.56	3.60	3.61	3.54	3.32	-
40	-	-	3.87	3.80	3.80	3.81	3.77	3.60	-
45	-	-	4.24	4.10	4.06	4.06	4.03	3.90	-
50	-	-	-	4.47	4.38	4.35	4.32	4.23	-
55	-	-	-	-	4.77	4.71	4.67	4.60	-
60	-	-	-	-	-	5.14	5.09	5.03	-
65	-	-	-	-	-	-	5.58	5.52	-
Mass flow in kg/h									
30	73	85	101	123	149	178	211	248	-
35	-	83	100	121	147	176	208	243	-
40	-	-	97	119	144	173	205	239	-
45	-	-	93	116	141	170	202	236	-
50	-	-	-	111	137	167	199	233	-
55	-	-	-	-	132	162	195	229	-
60	-	-	-	-	-	156	189	224	-
65	-	-	-	-	-	-	182	218	-
Coefficient of performance (C.O.P.)									
30	2.11	2.48	3.01	3.71	4.59	5.68	7.07	8.91	-
35	-	2.06	2.54	3.14	3.88	4.76	5.81	7.10	-
40	-	-	2.10	2.63	3.27	4.01	4.85	5.82	-
45	-	-	1.69	2.17	2.73	3.36	4.07	4.85	-
50	-	-	-	1.75	2.24	2.80	3.40	4.05	-
55	-	-	-	-	1.81	2.30	2.83	3.38	-
60	-	-	-	-	-	1.85	2.31	2.80	-
65	-	-	-	-	-	-	1.86	2.29	-

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

Cooling capacity	9 236	W
Power input	2 945	W
Current consumption	4.60	A
Mass flow	210	kg/h
C.O.P.	3.14	

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	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 accoustic hood	62	dB(A)

All performance data +/- 5%

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	15
Cooling capacity in W									
30	4 062	4 745	5 749	7 054	8 640	10 488	12 579	14 891	-
35	3 796	4 472	5 447	6 701	8 216	9 970	11 946	14 123	-
40	-	4 141	5 103	6 323	7 782	9 460	11 338	13 395	-
45	-	-	4 698	5 900	7 320	8 937	10 734	12 689	-
50	-	-	-	5 412	6 809	8 382	10 114	11 983	-
55	-	-	-	-	6 231	7 776	9 458	11 256	-
60	-	-	-	-	-	7 098	8 746	10 490	-
65	-	-	-	-	-	-	7 960	9 664	-
Power input in W									
30	2 045	2 033	2 026	2 017	1 996	1 955	1 885	1 777	-
35	2 341	2 297	2 272	2 254	2 237	2 212	2 169	2 099	-
40	-	2 616	2 560	2 524	2 500	2 479	2 452	2 411	-
45	-	-	2 906	2 841	2 799	2 772	2 750	2 726	-
50	-	-	-	3 219	3 149	3 104	3 077	3 059	-
55	-	-	-	-	3 563	3 491	3 448	3 425	-
60	-	-	-	-	-	3 946	3 876	3 838	-
65	-	-	-	-	-	-	4 377	4 312	-
Current consumption in A									
30	4.77	4.51	4.45	4.50	4.57	4.58	4.44	4.05	-
35	5.32	4.93	4.76	4.75	4.80	4.82	4.72	4.42	-
40	-	5.44	5.16	5.06	5.07	5.09	5.03	4.80	-
45	-	-	5.65	5.46	5.41	5.41	5.37	5.20	-
50	-	-	-	5.95	5.83	5.80	5.76	5.64	-
55	-	-	-	-	6.36	6.28	6.23	6.13	-
60	-	-	-	-	-	6.85	6.78	6.70	-
65	-	-	-	-	-	-	7.45	7.36	-
Mass flow in kg/h									
30	88	102	122	148	179	215	255	299	-
35	86	100	120	146	177	212	251	293	-
40	-	97	117	144	174	209	248	289	-
45	-	-	113	140	171	206	244	285	-
50	-	-	-	134	166	202	241	282	-
55	-	-	-	-	160	197	236	277	-
60	-	-	-	-	-	189	230	272	-
65	-	-	-	-	-	-	222	265	-
Coefficient of performance (C.O.P.)									
30	1.99	2.33	2.84	3.50	4.33	5.37	6.67	8.38	-
35	1.62	1.95	2.40	2.97	3.67	4.51	5.51	6.73	-
40	-	1.58	1.99	2.51	3.11	3.82	4.62	5.56	-
45	-	-	1.62	2.08	2.62	3.22	3.90	4.65	-
50	-	-	-	1.68	2.16	2.70	3.29	3.92	-
55	-	-	-	-	1.75	2.23	2.74	3.29	-
60	-	-	-	-	-	1.80	2.26	2.73	-
65	-	-	-	-	-	-	1.82	2.24	-

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

Cooling capacity	10 114	W
Power input	3 077	W
Current consumption	5.76	A
Mass flow	241	kg/h
C.O.P.	3.29	

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	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 accoustic hood	66	dB(A)

All performance data +/- 5%

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	15
Cooling capacity in W									
30	4 314	5 036	6 096	7 474	9 148	11 097	13 300	15 735	-
35	-	4 763	5 796	7 125	8 727	10 583	12 671	14 969	-
40	-	-	5 451	6 748	8 297	10 078	12 069	14 248	-
45	-	-	5 040	6 323	7 837	9 560	11 472	13 550	-
50	-	-	-	5 829	7 326	9 009	10 859	12 854	-
55	-	-	-	-	6 741	8 404	10 210	12 140	-
60	-	-	-	-	-	7 722	9 503	11 385	-
65	-	-	-	-	-	-	8 716	10 569	-
Power input in W									
30	2 045	2 033	2 026	2 017	1 996	1 955	1 885	1 777	-
35	-	2 297	2 272	2 254	2 237	2 212	2 169	2 099	-
40	-	-	2 560	2 524	2 500	2 479	2 452	2 411	-
45	-	-	2 906	2 841	2 799	2 772	2 750	2 726	-
50	-	-	-	3 219	3 149	3 104	3 077	3 059	-
55	-	-	-	-	3 563	3 491	3 448	3 425	-
60	-	-	-	-	-	3 946	3 876	3 838	-
65	-	-	-	-	-	-	4 377	4 312	-
Current consumption in A									
30	4.77	4.51	4.45	4.50	4.57	4.58	4.44	4.05	-
35	-	4.93	4.76	4.75	4.80	4.82	4.72	4.42	-
40	-	-	5.16	5.06	5.07	5.09	5.03	4.80	-
45	-	-	5.65	5.46	5.41	5.41	5.37	5.20	-
50	-	-	-	5.95	5.83	5.80	5.76	5.64	-
55	-	-	-	-	6.36	6.28	6.23	6.13	-
60	-	-	-	-	-	6.85	6.78	6.70	-
65	-	-	-	-	-	-	7.45	7.36	-
Mass flow in kg/h									
30	88	102	122	147	178	214	254	297	-
35	-	100	120	145	176	211	250	292	-
40	-	-	117	143	173	208	246	288	-
45	-	-	112	139	170	205	243	284	-
50	-	-	-	134	165	201	239	280	-
55	-	-	-	-	159	195	235	276	-
60	-	-	-	-	-	188	228	270	-
65	-	-	-	-	-	-	220	264	-
Coefficient of performance (C.O.P.)									
30	2.11	2.48	3.01	3.71	4.58	5.68	7.06	8.86	-
35	-	2.07	2.55	3.16	3.90	4.79	5.84	7.13	-
40	-	-	2.13	2.67	3.32	4.07	4.92	5.91	-
45	-	-	1.73	2.23	2.80	3.45	4.17	4.97	-
50	-	-	-	1.81	2.33	2.90	3.53	4.20	-
55	-	-	-	-	1.89	2.41	2.96	3.54	-
60	-	-	-	-	-	1.96	2.45	2.97	-
65	-	-	-	-	-	-	1.99	2.45	-

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

Cooling capacity	11 128	W
Power input	3 389	W
Current consumption	6.14	A
Mass flow	253	kg/h
C.O.P.	3.28	

Pressure switch settings

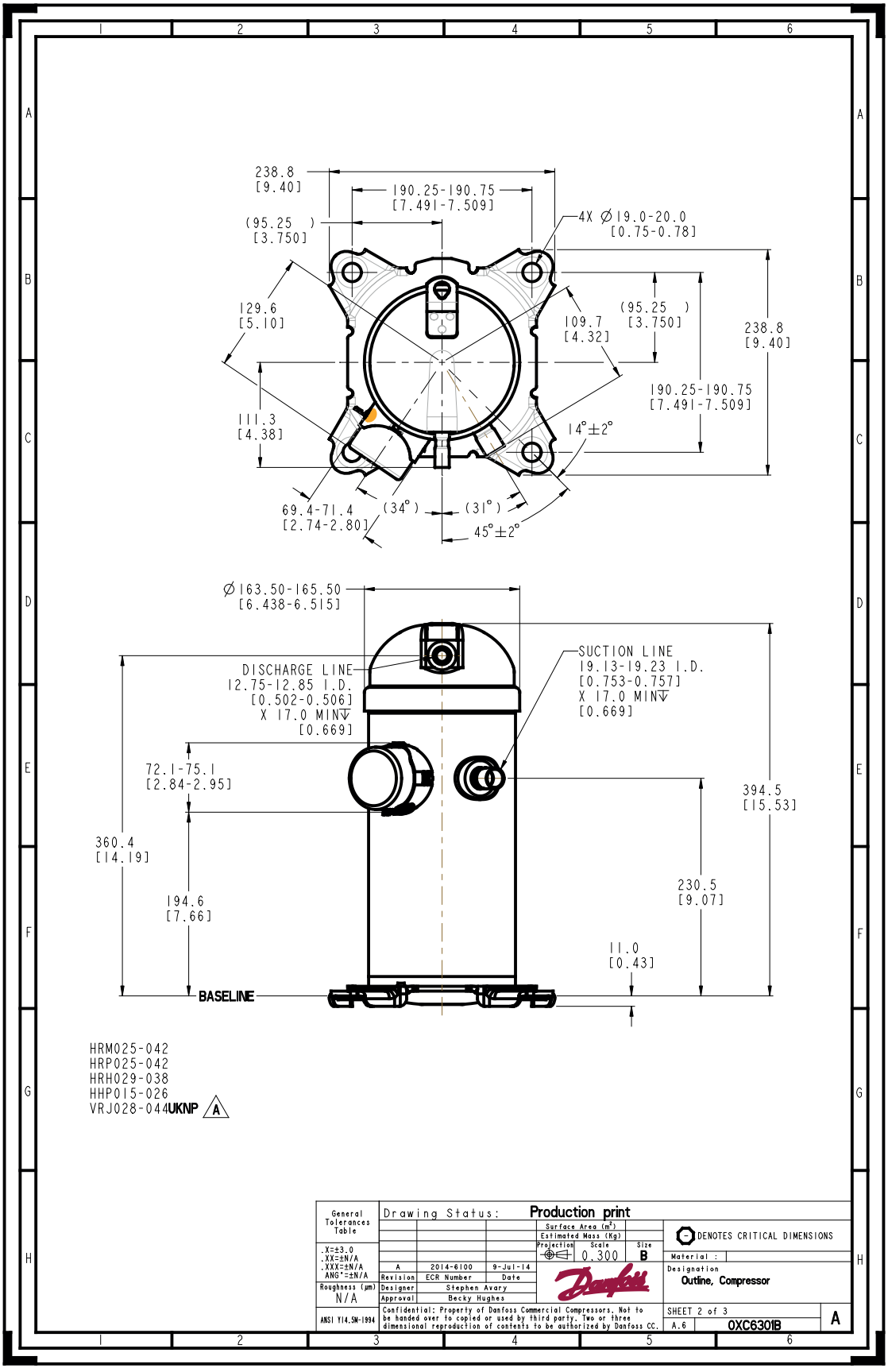
Maximum HP switch setting	29	bar(g)
Minimum LP switch setting	0.5	bar(g)
LP pump down setting	1.3	bar(g)

Sound power data

Sound power level	71	dB(A)
With accoustic 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%



HRM025-042
HRP025-042
HRH029-038
HHP015-026
VRJ028-044**UKNP** A

General Tolerances Table	Drawing Status: **Production print**				
.X=±3.0 .XX=±N/A .XXX=±N/A ANG°=±N/A			Surface Area (m²)		DENOTES CRITICAL DIMENSIONS
			Estimated Mass (Kg)		
			Projection	Scale 0.300	Size B
	A	2014-6100	9-Jul-14		Material :
Roughness (µm) N/A	Revision	ECR Number	Date		Designation **Outline, Compressor**
	Designer	Stephen Avary			
ANSI Y14.5M-1994	Approval	Becky Hughes			SHEET 2 of 3
	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 0XC6301B A