

Datasheets

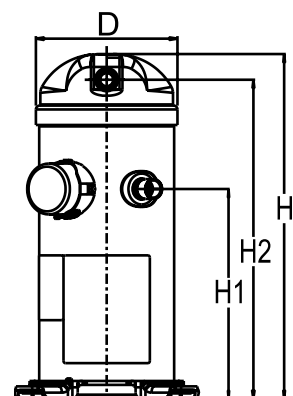
Danfoss scroll compressors **H series**



General Characteristics

Model number (on compressor nameplate)		HRH050U4LP6
Code number for Singlepack*		120U2863
Code number for Industrial pack**		120U2860
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		48.92 cm ³ /rev
Displacement @ Nominal speed		8.5 m ³ /h @ 2900 rpm - 10.3 m ³ /h @ 3500 rpm
Net weight		30.8 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		R410A

Dimensions

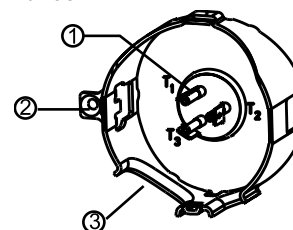


D=183.5 mm
H=455 mm
H1=280 mm
H2=422 mm
H3=- mm

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	3.290 Ω
Winding resistance between phases 1-3 +/- 7% at 25°C	2.410 Ω
Winding resistance between phases 2-3 +/- 7% at 25°C	3.290 Ω
Rated Load Amps (RLA)	9 A
Maximum Continuous Current (MCC)	14 A
Locked Rotor Amps (LRA)	53 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.

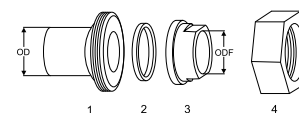
Rotolock valve, V05 (1-1/4" Rotolock, 7/8" ODF)	8168030
Gasket, 1-1/4"	8156131

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

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" 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
Belt type crankcase heater, 40 W, 400 V, CE mark, UL	120Z0056
Belt type crankcase heater, 70 W, 460 V, CE mark, UL	120Z5038

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
Terminal box cover	120Z5015

Performance data at 50 Hz, EN 12900 rating conditions

R410A

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

Cooling capacity in W

30	3 640	4 763	6 131	7 767	9 689	11 920	14 481	17 391	-
35	3 270	4 357	5 673	7 239	9 075	11 202	13 641	16 412	-
40	-	3 948	5 209	6 704	8 451	10 473	12 788	15 419	-
45	-	-	4 730	6 151	7 808	9 722	11 912	14 399	-
50	-	-	-	5 571	7 135	8 937	10 999	13 339	-
55	-	-	-	-	6 419	8 105	10 033	12 221	-
60	-	-	-	-	-	7 205	8 990	11 017	-
65	-	-	-	-	-	-	7 827	9 672	-

Power input in W

30	2 445	2 412	2 388	2 367	2 349	2 328	2 301	2 266	-
35	2 811	2 765	2 728	2 695	2 665	2 633	2 597	2 552	-
40	-	3 161	3 112	3 069	3 028	2 986	2 940	2 887	-
45	-	-	3 545	3 491	3 441	3 390	3 336	3 275	-
50	-	-	-	3 967	3 908	3 850	3 788	3 720	-
55	-	-	-	-	4 434	4 368	4 300	4 226	-
60	-	-	-	-	-	4 951	4 877	4 798	-
65	-	-	-	-	-	-	5 523	5 439	-

Current consumption in A

30	5.41	5.41	5.41	5.40	5.38	5.34	5.27	5.18	-
35	5.83	5.82	5.81	5.80	5.78	5.74	5.68	5.60	-
40	-	6.29	6.27	6.25	6.22	6.19	6.13	6.06	-
45	-	-	6.80	6.77	6.73	6.69	6.64	6.58	-
50	-	-	-	7.37	7.33	7.28	7.23	7.16	-
55	-	-	-	-	8.02	7.97	7.91	7.84	-
60	-	-	-	-	-	8.77	8.70	8.63	-
65	-	-	-	-	-	-	9.62	9.55	-

Mass flow in kg/h

30	76	98	124	156	192	234	281	335	-
35	72	94	121	152	189	230	278	331	-
40	-	90	117	149	185	227	274	327	-
45	-	-	113	145	182	223	270	323	-
50	-	-	-	140	177	219	266	319	-
55	-	-	-	-	171	213	261	313	-
60	-	-	-	-	-	207	254	306	-
65	-	-	-	-	-	-	246	298	-

Coefficient of performance (C.O.P.)

30	1.49	1.97	2.57	3.28	4.13	5.12	6.29	7.68	-
35	1.16	1.58	2.08	2.69	3.40	4.25	5.25	6.43	-
40	-	1.25	1.67	2.18	2.79	3.51	4.35	5.34	-
45	-	-	1.33	1.76	2.27	2.87	3.57	4.40	-
50	-	-	-	1.40	1.83	2.32	2.90	3.59	-
55	-	-	-	-	1.45	1.86	2.33	2.89	-
60	-	-	-	-	-	1.46	1.84	2.30	-
65	-	-	-	-	-	-	1.42	1.78	-

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

Cooling capacity	10 999	W
Power input	3 788	W
Current consumption	7.23	A
Mass flow	266	kg/h
C.O.P.	2.90	

Pressure switch settings

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	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

Tolerance according EN12900

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Performance data at 50 Hz, ARI rating conditions

R410A

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

Cooling capacity in W

30	3 931	5 138	6 608	8 362	10 423	12 812	15 551	18 661	-
35	-	4 730	6 152	7 842	9 821	12 111	14 734	17 713	-
40	-	-	5 691	7 315	9 212	11 403	13 910	16 756	-
45	-	-	5 216	6 773	8 586	10 677	13 068	15 780	-
50	-	-	-	6 206	7 935	9 925	12 198	14 776	-
55	-	-	-	-	7 247	9 136	11 291	13 733	-
60	-	-	-	-	-	8 300	10 336	12 642	-
65	-	-	-	-	-	-	9 323	11 493	-

Power input in W

30	2 445	2 412	2 388	2 367	2 349	2 328	2 301	2 266	-
35	-	2 765	2 728	2 695	2 665	2 633	2 597	2 552	-
40	-	-	3 112	3 069	3 028	2 986	2 940	2 887	-
45	-	-	3 545	3 491	3 441	3 390	3 336	3 275	-
50	-	-	-	3 967	3 908	3 850	3 788	3 720	-
55	-	-	-	-	4 434	4 368	4 300	4 226	-
60	-	-	-	-	-	4 951	4 877	4 798	-
65	-	-	-	-	-	-	5 523	5 439	-

Current consumption in A

30	5.41	5.41	5.41	5.40	5.38	5.34	5.27	5.18	-
35	-	5.82	5.81	5.80	5.78	5.74	5.68	5.60	-
40	-	-	6.27	6.25	6.22	6.19	6.13	6.06	-
45	-	-	6.80	6.77	6.73	6.69	6.64	6.58	-
50	-	-	-	7.37	7.33	7.28	7.23	7.16	-
55	-	-	-	-	8.02	7.97	7.91	7.84	-
60	-	-	-	-	-	8.77	8.70	8.63	-
65	-	-	-	-	-	-	9.62	9.55	-

Mass flow in kg/h

30	76	97	124	155	191	232	279	332	-
35	-	94	120	151	188	229	276	328	-
40	-	-	117	148	184	226	272	325	-
45	-	-	112	144	181	222	269	321	-
50	-	-	-	139	176	217	264	316	-
55	-	-	-	-	170	212	259	311	-
60	-	-	-	-	-	205	252	304	-
65	-	-	-	-	-	-	244	296	-

Coefficient of performance (C.O.P.)

30	1.61	2.13	2.77	3.53	4.44	5.50	6.76	8.24	-
35	-	1.71	2.26	2.91	3.68	4.60	5.67	6.94	-
40	-	-	1.83	2.38	3.04	3.82	4.73	5.80	-
45	-	-	1.47	1.94	2.50	3.15	3.92	4.82	-
50	-	-	-	1.56	2.03	2.58	3.22	3.97	-
55	-	-	-	-	1.63	2.09	2.63	3.25	-
60	-	-	-	-	-	1.68	2.12	2.63	-
65	-	-	-	-	-	-	1.69	2.11	-

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

Cooling capacity	12 447	W
Power input	4 204	W
Current consumption	7.79	A
Mass flow	282	kg/h
C.O.P.	2.96	

Pressure switch settings

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	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

Tolerance according EN12900

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Performance data at 60 Hz, EN 12900 rating conditions
R410A

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

Cooling capacity in W

30	4 327	5 662	7 289	9 233	11 519	14 171	17 215	20 675	-
35	3 887	5 180	6 744	8 605	10 788	13 316	16 215	19 510	-
40	-	4 692	6 192	7 968	10 045	12 448	15 200	18 327	-
45	-	-	5 622	7 311	9 280	11 554	14 157	17 113	-
50	-	-	-	6 621	8 479	10 621	13 070	15 852	-
55	-	-	-	-	7 627	9 631	11 921	14 521	-
60	-	-	-	-	-	8 561	10 681	13 088	-
65	-	-	-	-	-	-	9 298	11 490	-

Power input in W

30	2 925	2 887	2 857	2 833	2 810	2 784	2 753	2 713	-
35	3 346	3 294	3 250	3 212	3 176	3 138	3 095	3 042	-
40	-	3 745	3 688	3 638	3 590	3 540	3 486	3 423	-
45	-	-	4 176	4 115	4 056	3 996	3 932	3 860	-
50	-	-	-	4 647	4 579	4 510	4 437	4 357	-
55	-	-	-	-	5 163	5 087	5 006	4 919	-
60	-	-	-	-	-	5 730	5 644	5 551	-
65	-	-	-	-	-	-	6 354	6 257	-

Current consumption in A

30	5.35	5.35	5.35	5.35	5.32	5.28	5.22	5.12	-
35	5.77	5.76	5.75	5.74	5.72	5.68	5.62	5.54	-
40	-	6.22	6.20	6.18	6.16	6.12	6.07	5.99	-
45	-	-	6.72	6.69	6.66	6.62	6.57	6.50	-
50	-	-	-	7.29	7.25	7.20	7.15	7.09	-
55	-	-	-	-	7.93	7.88	7.82	7.76	-
60	-	-	-	-	-	8.67	8.61	8.54	-
65	-	-	-	-	-	-	9.52	9.44	-

Mass flow in kg/h

30	91	117	148	185	228	278	334	398	-
35	86	112	144	181	224	274	330	393	-
40	-	107	140	177	220	270	326	389	-
45	-	-	134	172	216	265	321	384	-
50	-	-	-	167	210	260	316	378	-
55	-	-	-	-	204	254	310	372	-
60	-	-	-	-	-	245	302	364	-
65	-	-	-	-	-	-	292	354	-

Coefficient of performance (C.O.P.)

30	1.48	1.96	2.55	3.26	4.10	5.09	6.25	7.62	-
35	1.16	1.57	2.07	2.68	3.40	4.24	5.24	6.41	-
40	-	1.25	1.68	2.19	2.80	3.52	4.36	5.35	-
45	-	-	1.35	1.78	2.29	2.89	3.60	4.43	-
50	-	-	-	1.42	1.85	2.35	2.95	3.64	-
55	-	-	-	-	1.48	1.89	2.38	2.95	-
60	-	-	-	-	-	1.49	1.89	2.36	-
65	-	-	-	-	-	-	1.46	1.84	-

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

Cooling capacity	13 070	W
Power input	4 437	W
Current consumption	7.15	A
Mass flow	316	kg/h
C.O.P.	2.95	

Pressure switch settings

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

Sound power data

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

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

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Performance data at 60 Hz, ARI rating conditions

R410A

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

Cooling capacity in W

30	4 673	6 108	7 856	9 941	12 391	15 231	18 487	22 186	-
35	-	5 623	7 313	9 322	11 674	14 397	17 515	21 056	-
40	-	-	6 765	8 695	10 949	13 554	16 534	19 916	-
45	-	-	6 199	8 050	10 205	12 690	15 531	18 754	-
50	-	-	-	7 374	9 429	11 795	14 496	17 559	-
55	-	-	-	-	8 611	10 855	13 416	16 318	-
60	-	-	-	-	-	9 861	12 279	15 020	-
65	-	-	-	-	-	-	11 076	13 653	-

Power input in W

30	2 925	2 887	2 857	2 833	2 810	2 784	2 753	2 713	-
35	-	3 294	3 250	3 212	3 176	3 138	3 095	3 042	-
40	-	-	3 688	3 638	3 590	3 540	3 486	3 423	-
45	-	-	4 176	4 115	4 056	3 996	3 932	3 860	-
50	-	-	-	4 647	4 579	4 510	4 437	4 357	-
55	-	-	-	-	5 163	5 087	5 006	4 919	-
60	-	-	-	-	-	5 730	5 644	5 551	-
65	-	-	-	-	-	-	6 354	6 257	-

Current consumption in A

30	5.35	5.35	5.35	5.35	5.32	5.28	5.22	5.12	-
35	-	5.76	5.75	5.74	5.72	5.68	5.62	5.54	-
40	-	-	6.20	6.18	6.16	6.12	6.07	5.99	-
45	-	-	6.72	6.69	6.66	6.62	6.57	6.50	-
50	-	-	-	7.29	7.25	7.20	7.15	7.09	-
55	-	-	-	-	7.93	7.88	7.82	7.76	-
60	-	-	-	-	-	8.67	8.61	8.54	-
65	-	-	-	-	-	-	9.52	9.44	-

Mass flow in kg/h

30	90	116	147	184	227	276	332	395	-
35	-	112	143	180	223	272	328	390	-
40	-	-	139	176	219	268	324	386	-
45	-	-	134	171	215	264	319	381	-
50	-	-	-	166	209	258	314	376	-
55	-	-	-	-	202	252	307	369	-
60	-	-	-	-	-	244	300	361	-
65	-	-	-	-	-	-	290	352	-

Coefficient of performance (C.O.P.)

30	1.60	2.12	2.75	3.51	4.41	5.47	6.72	8.18	-
35	-	1.71	2.25	2.90	3.68	4.59	5.66	6.92	-
40	-	-	1.83	2.39	3.05	3.83	4.74	5.82	-
45	-	-	1.48	1.96	2.52	3.18	3.95	4.86	-
50	-	-	-	1.59	2.06	2.62	3.27	4.03	-
55	-	-	-	-	1.67	2.13	2.68	3.32	-
60	-	-	-	-	-	1.72	2.18	2.71	-
65	-	-	-	-	-	-	1.74	2.18	-

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

Cooling capacity	14 789	W
Power input	4 898	W
Current consumption	7.71	A
Mass flow	335	kg/h
C.O.P.	3.02	

Pressure switch settings

Maximum HP switch setting	45	bar(g)
Minimum LP switch setting	1.5	bar(g)
LP pump down setting	2.3	bar(g)

Sound power data

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

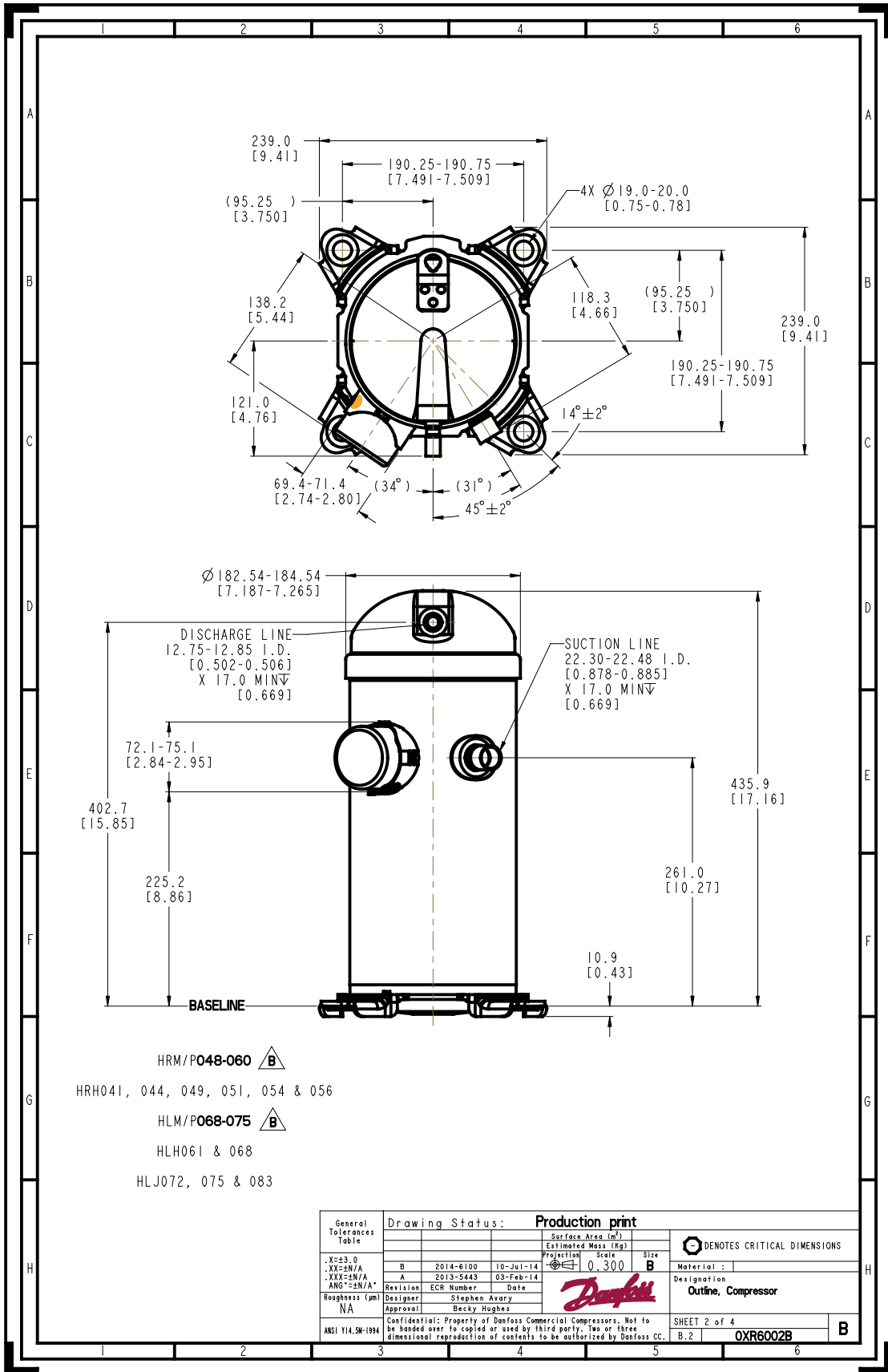
to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

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