

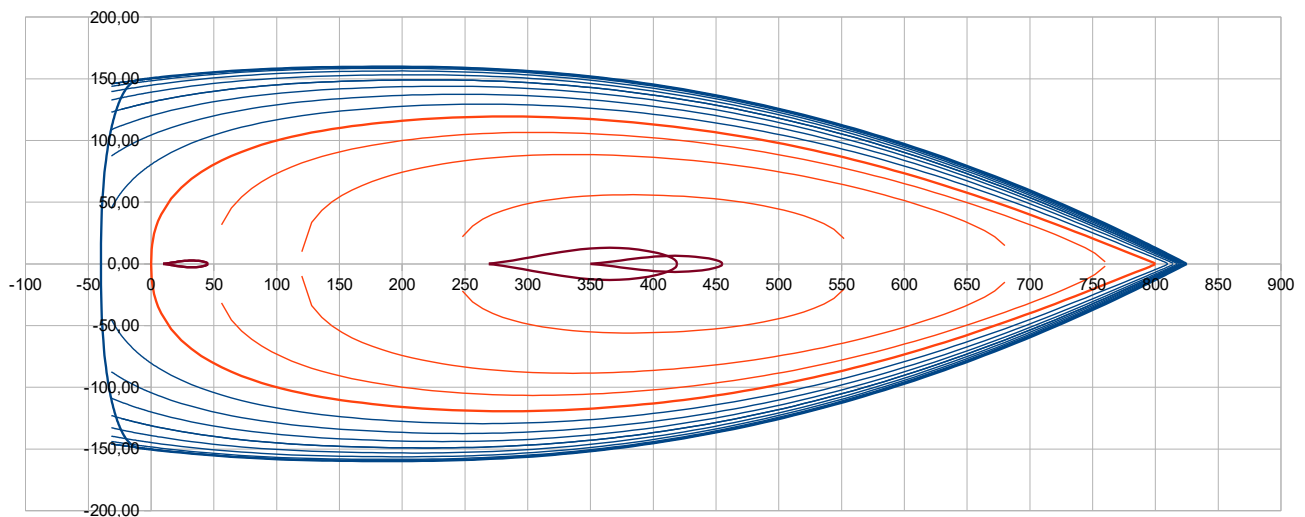
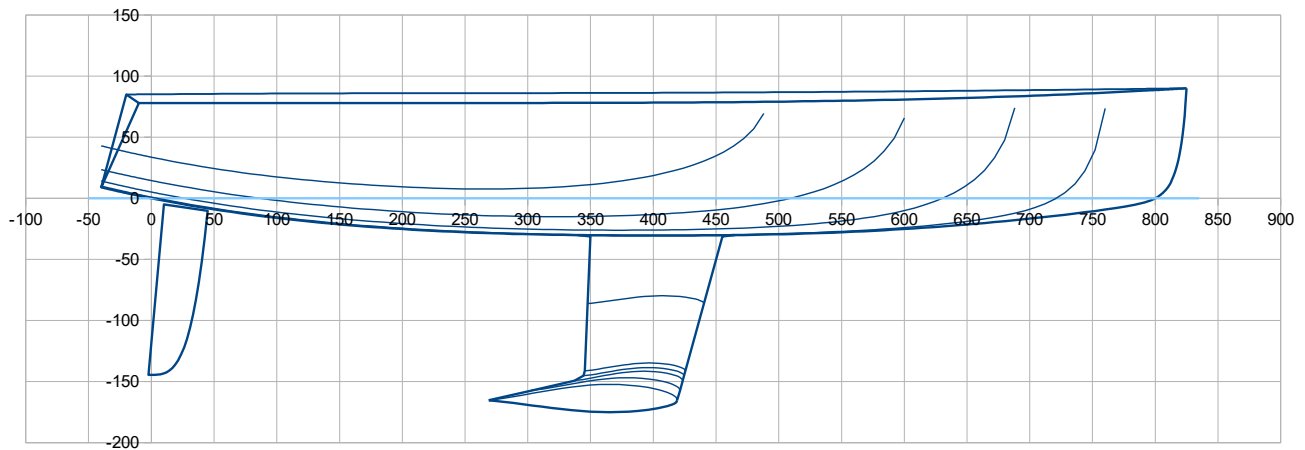
### Scow Bow investigation

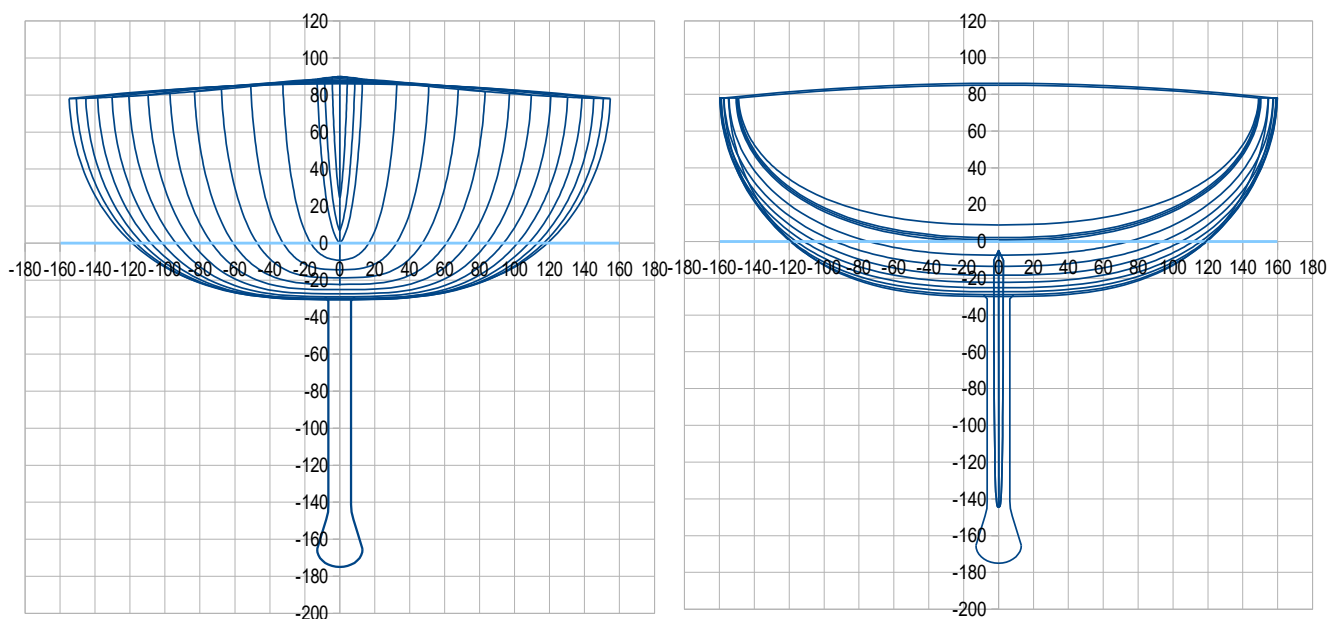
Jean-françois Masset February 2018

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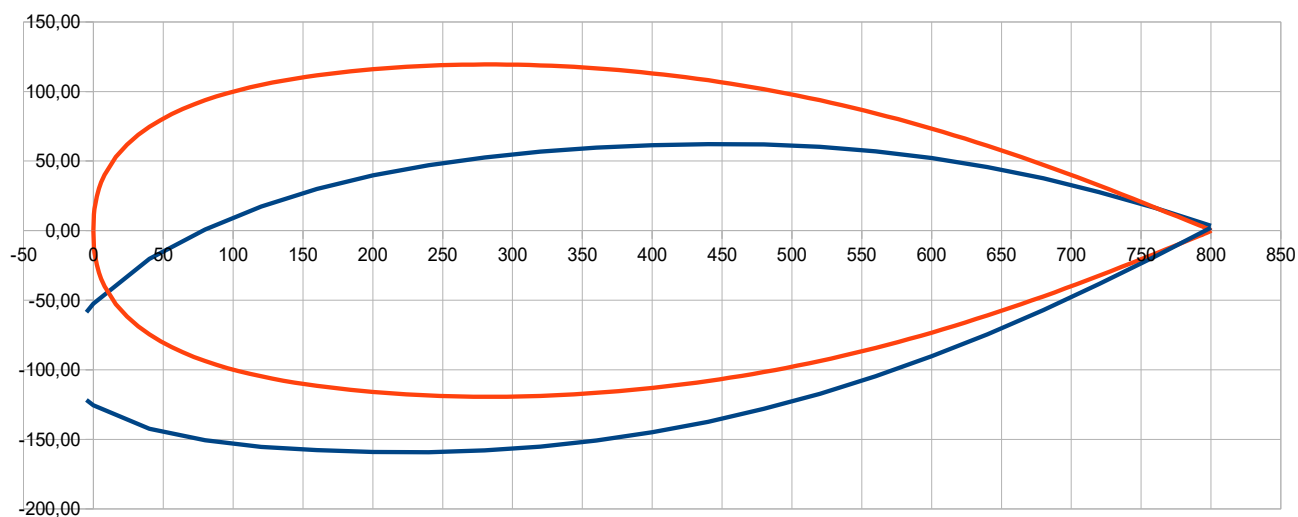
With introducing a « Scow » coefficient (0 to 0,95) within Gene-Hull, one can put a dose of scow bow influence in the hull front lines. Other parameters slightly adjusted are the waterline length and the hull draft in order to have the same displacement and same LCB location for the comparison. The first initial hull of reference here below is without scow effect, i.e. Scow = 0. Following others are with Scow = 0,1, 0,2, 0,4, 0,6, 0,8 and 0,95.

**Scow = 0 ;** Loa : 8,65 m ; **Lwl 8,00 m ;** B 3,20 m ; LCB : 3,69 m ; D 2800 kg

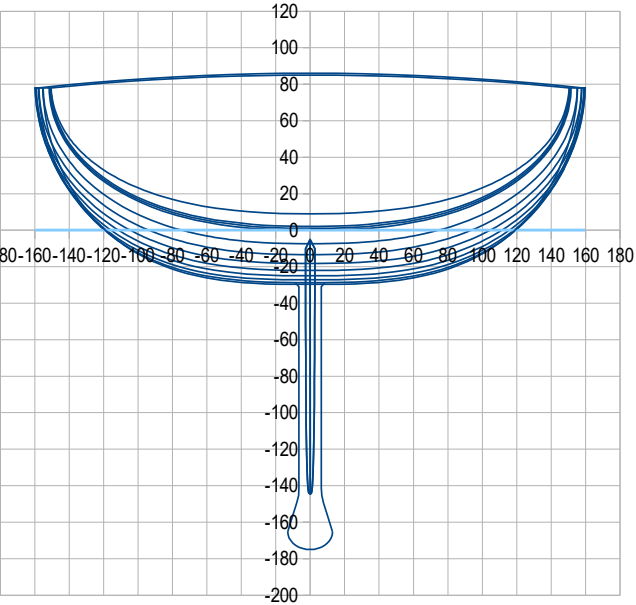
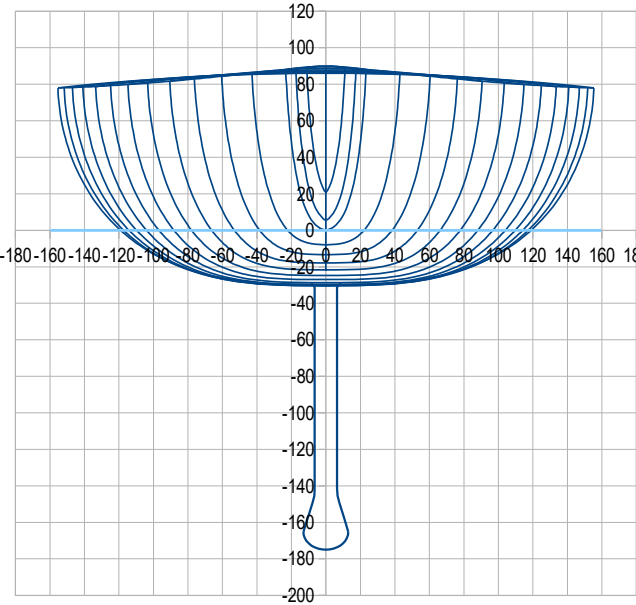
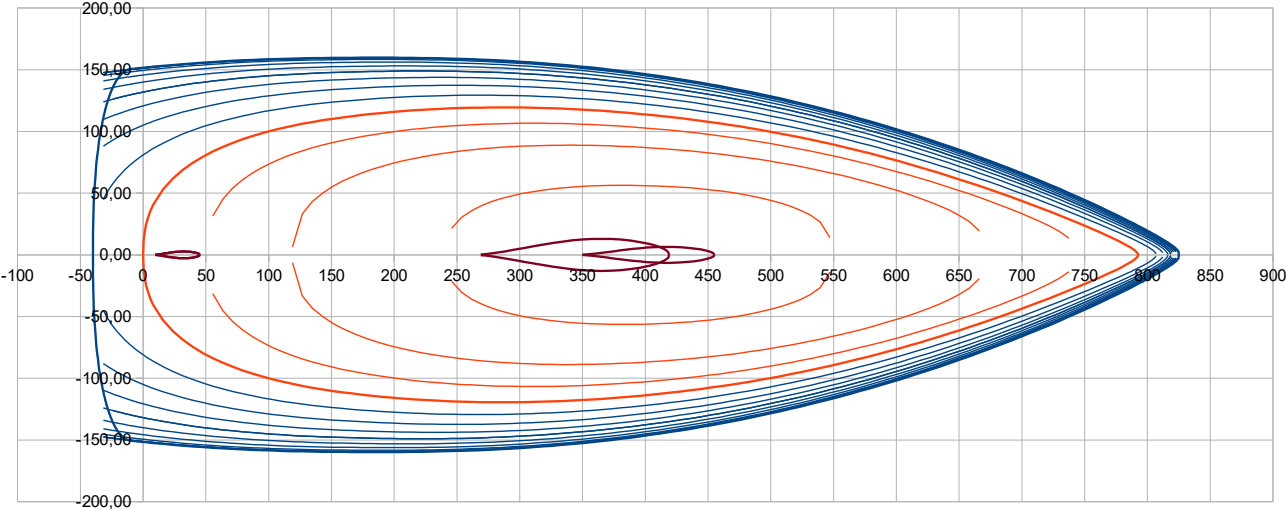
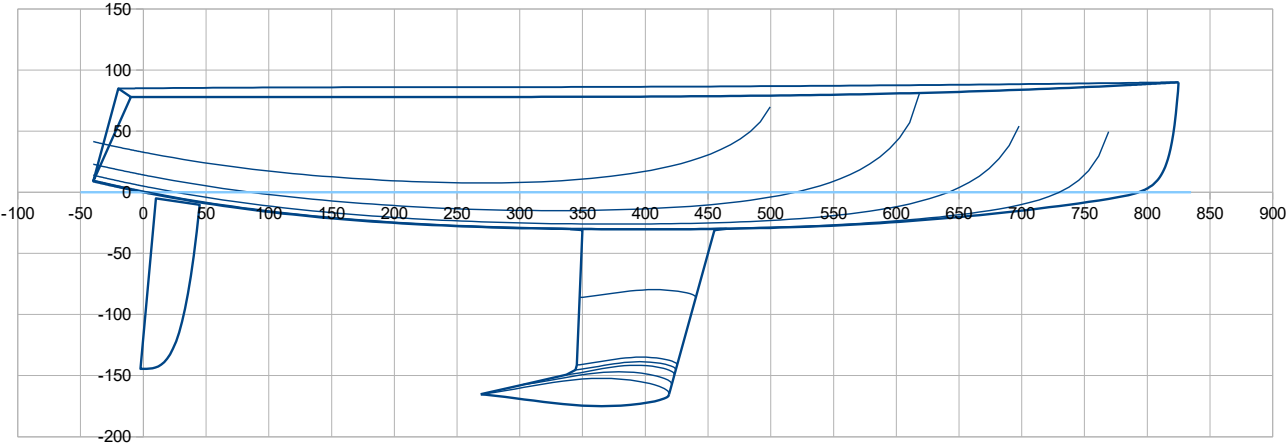




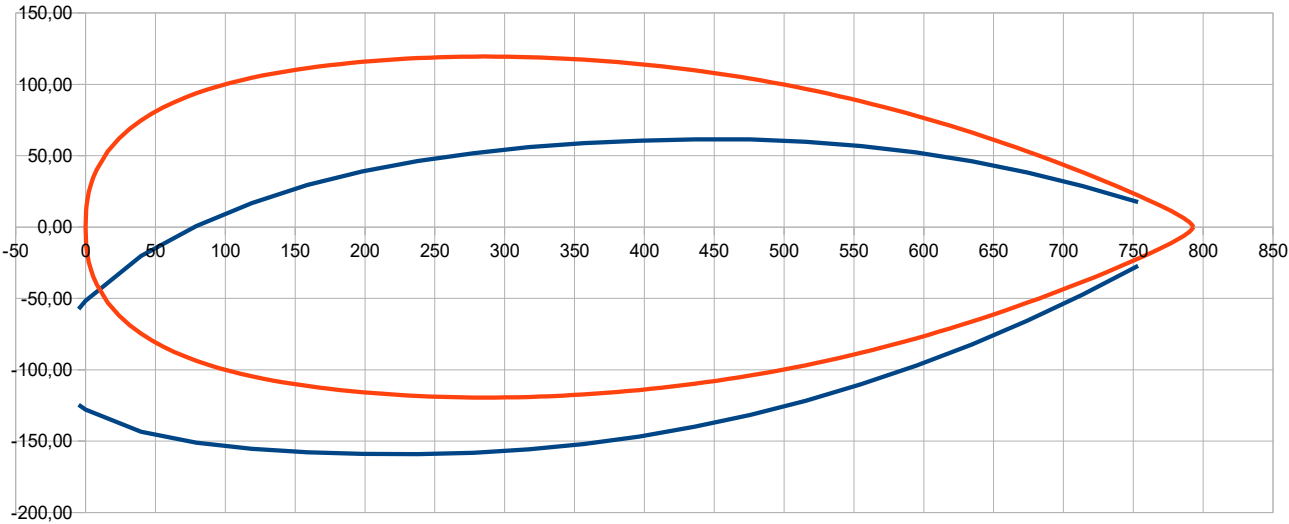
Data to enter		Results			
Heel (°)	20,0	Disp. Heel 0°	2,73172		
Height (cm)	8,7808	> Disp. (m3)	2,73172	Mom (m4)	1,232
Trim (°)	-1,176	Xc heel (m)	3,68	/ Xc 0°	3,68
		Yc heel (m)	-0,45	/ Yc 0°	0,00
		Zc heel (m)	-0,18	/ Zc 0°	-0,17
		Sw heel (m2)	17,90	/ Sw 0°	18,83
				Mom (kN.m)	12,39
				> Xc 0° - Xc heel° (% Lwl)	0,00
				Obliquity (°)	6,36



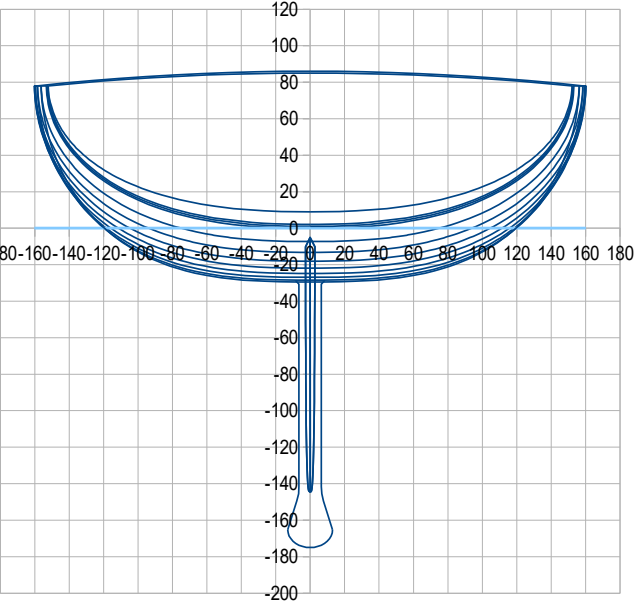
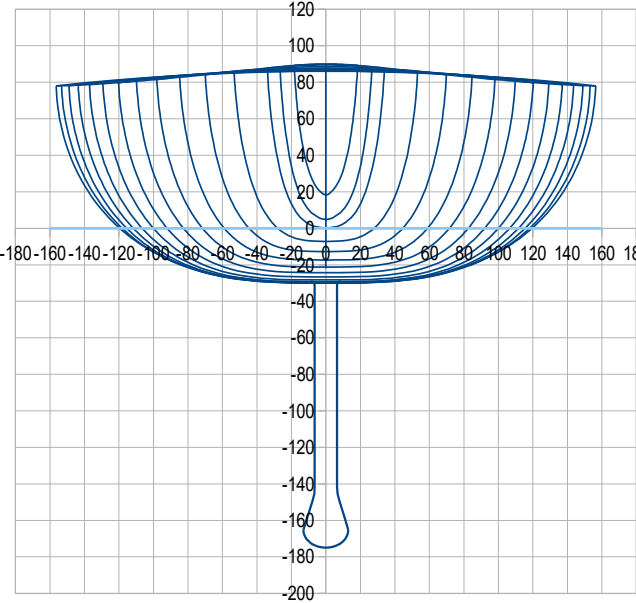
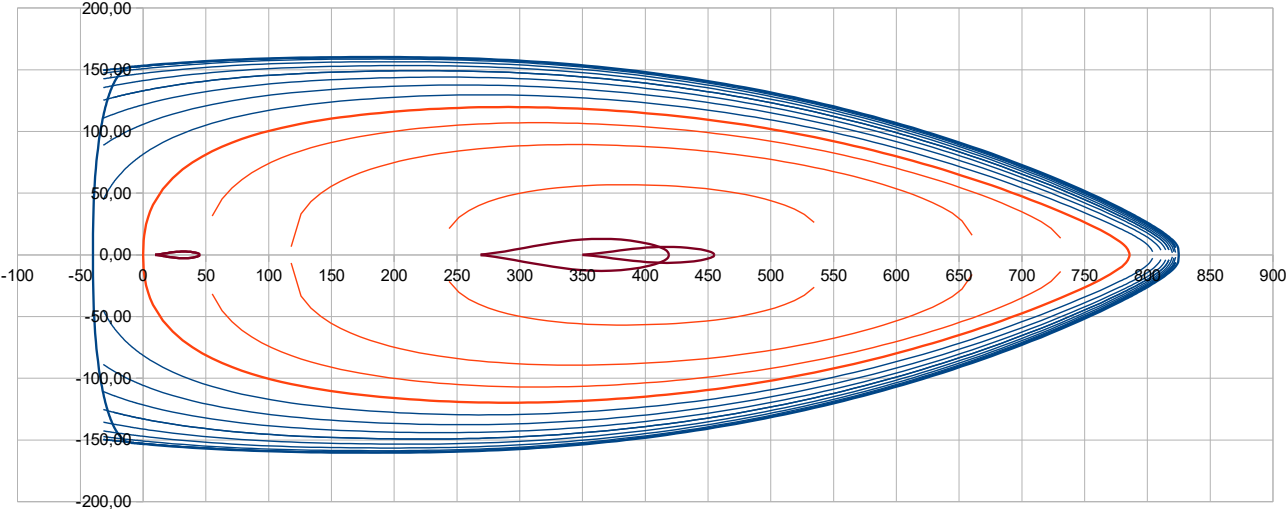
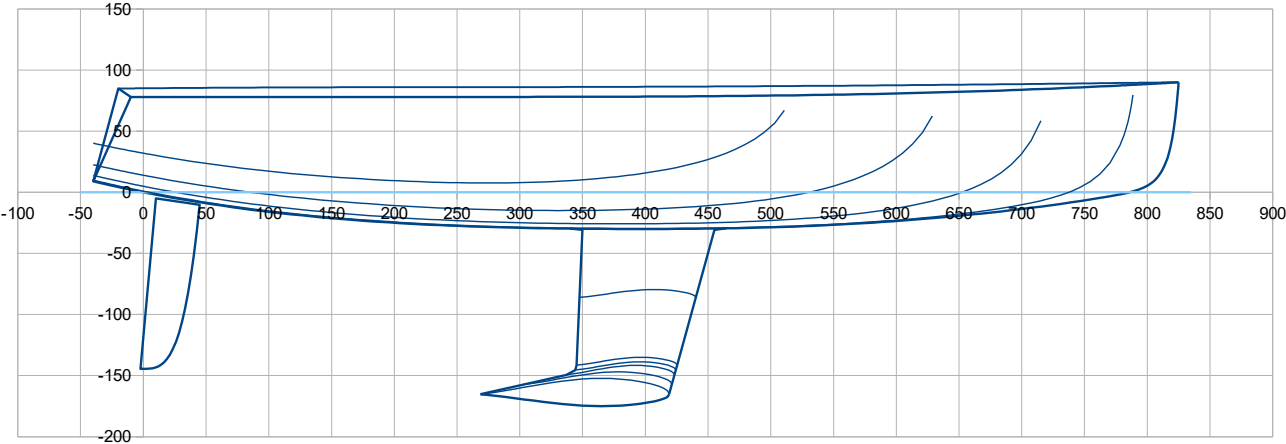
Scow = 0,10 : Loa : 8,65 m ; Lwl 7,93 m ; B 3,20 m ; LCB : 3,69 m ; D 2800 kg



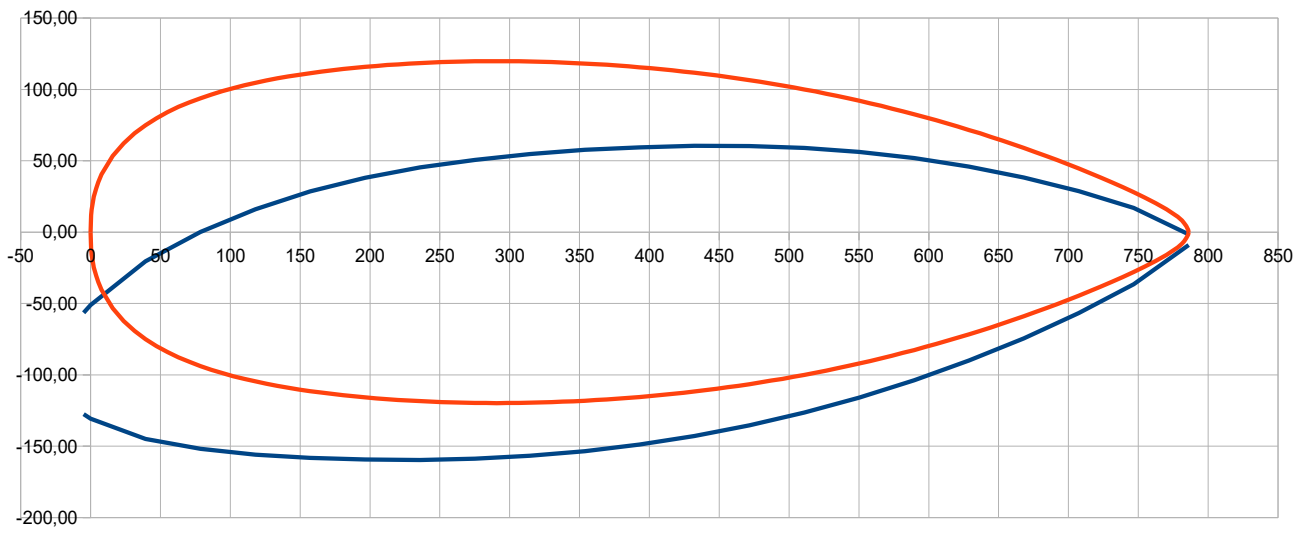
Data to enter		Results					
Heel (°)	20,0	Disp. Heel 0°	2,73206				
Height (cm)	8,8966	> Disp. (m3)	2,73207	Mom (m4)	1,268	Mom (kN.m)	12,75
Trim (°)	-1,130	Xc heel (m)	3,68	/ Xc 0°	3,68	> Xc 0° - Xc heel° (% Lwl)	0,00
		Yc heel (m)	-0,46	/ Yc 0°	0,00	Obliquity (°)	6,16
		Zc heel (m)	-0,18	/ Zc 0°	-0,16		
		Sw heel (m2)	18,00	/ Sw 0°	18,97		



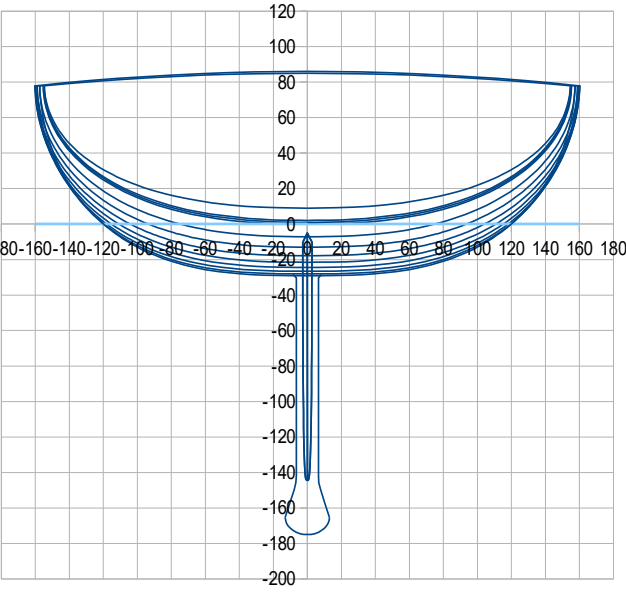
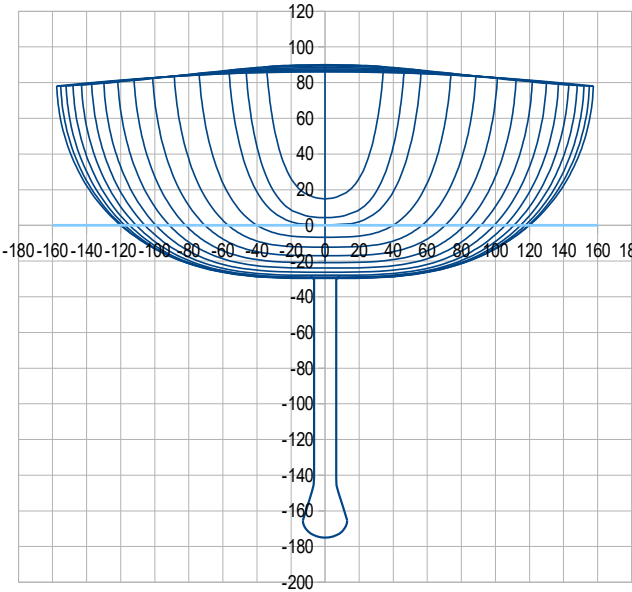
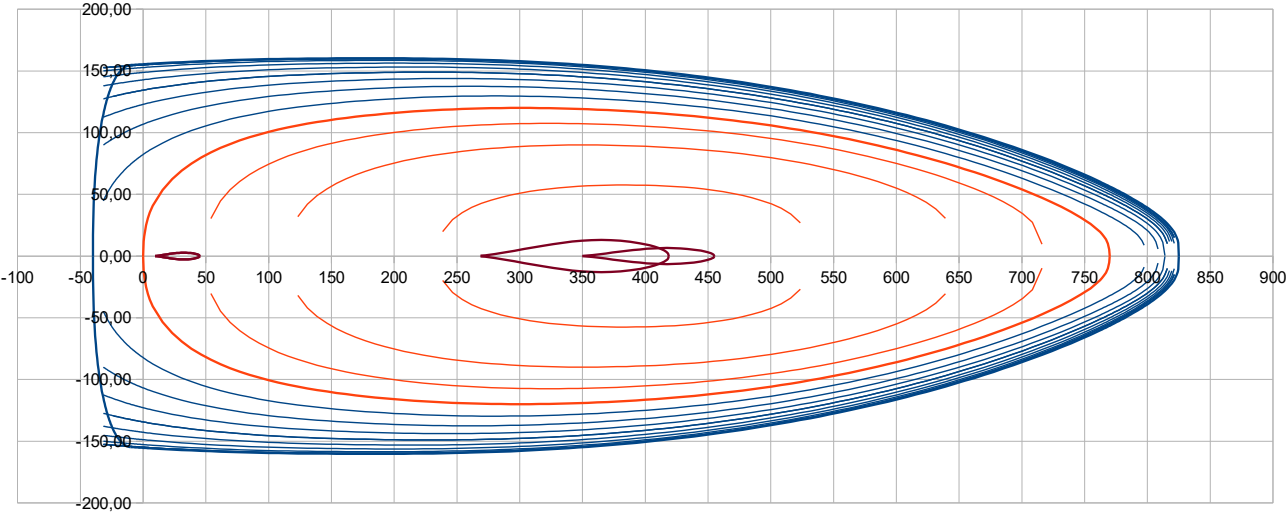
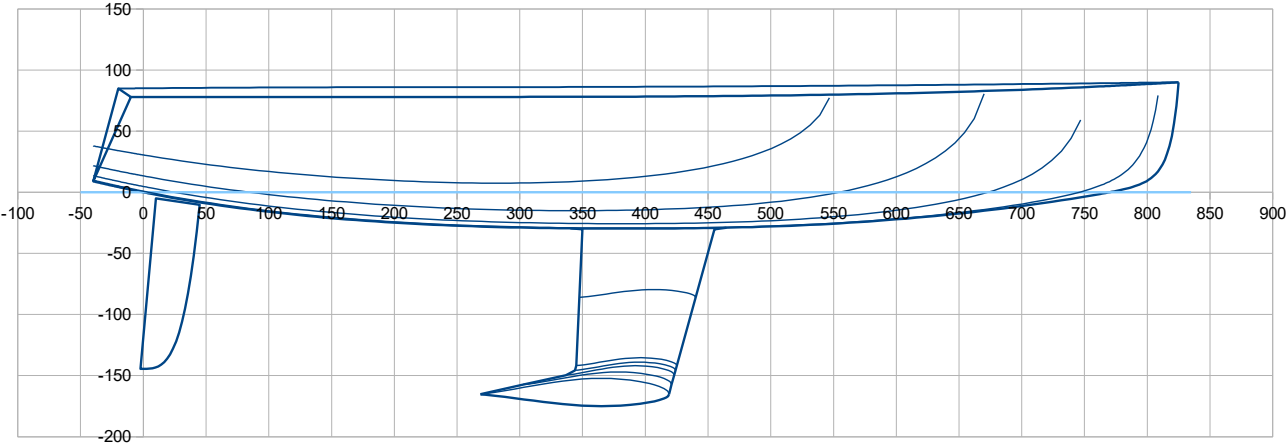
Scow = 0,2 : Loa : 8,65 m ; Lwl 7,86 m ; B 3,20 m ; LCB : 3,69 m ; D 2800 kg



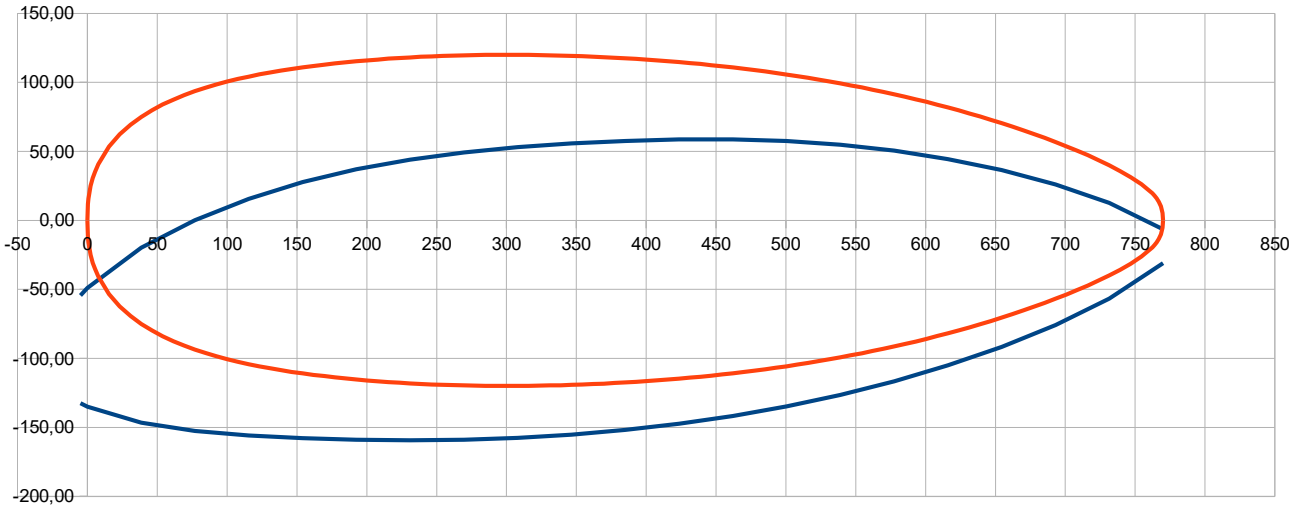
Data to enter		Results					
Heel (°)	20,0	Disp. Heel 0°	2,73163				
Height (cm)	9,1120	> Disp. (m3)	2,73163	Mom (m4)	1,314	Mom (kN.m)	13,21
Trim (°)	-1,080	Xc heel (m)	3,69	/ Xc 0°	3,69	> Xc 0° - Xc heel° (% Lwl)	0,00
		Yc heel (m)	-0,48	/ Yc 0°	0,00	Obliquity (°)	5,88
		Zc heel (m)	-0,17	/ Zc 0°	-0,16		
		Sw heel (m2)	18,08	/ Sw 0°	19,14		



Scow 0,4 : Loa : 8,65 m ; Lwl 7,70 m ; B 3,20 m ; LCB : 3,69 m ; D 2800 kg

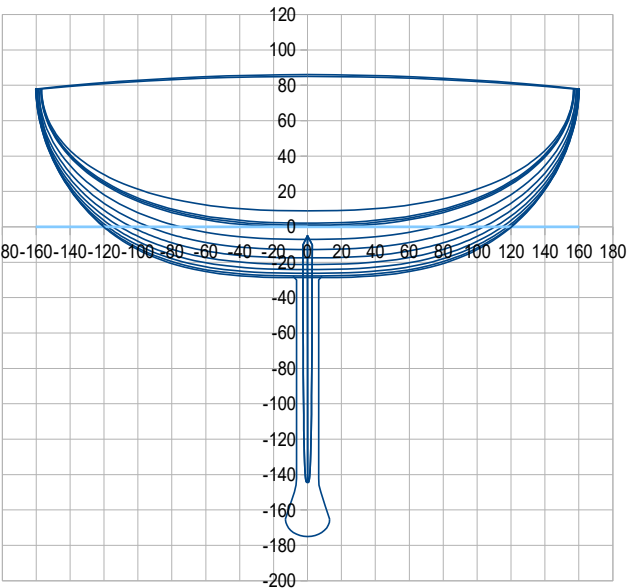
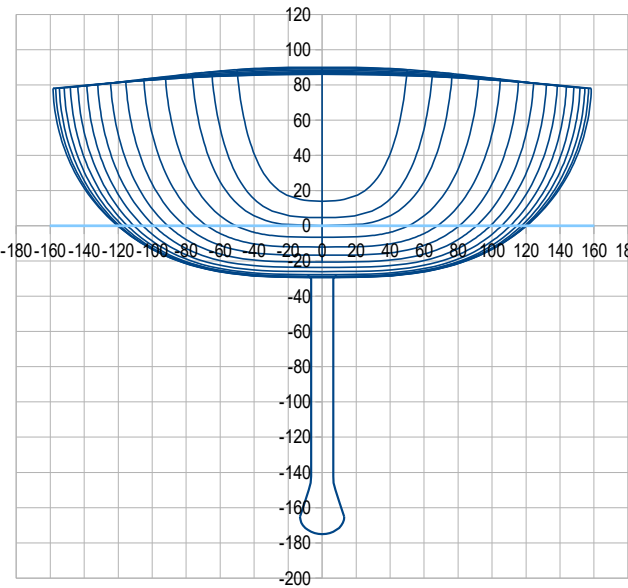
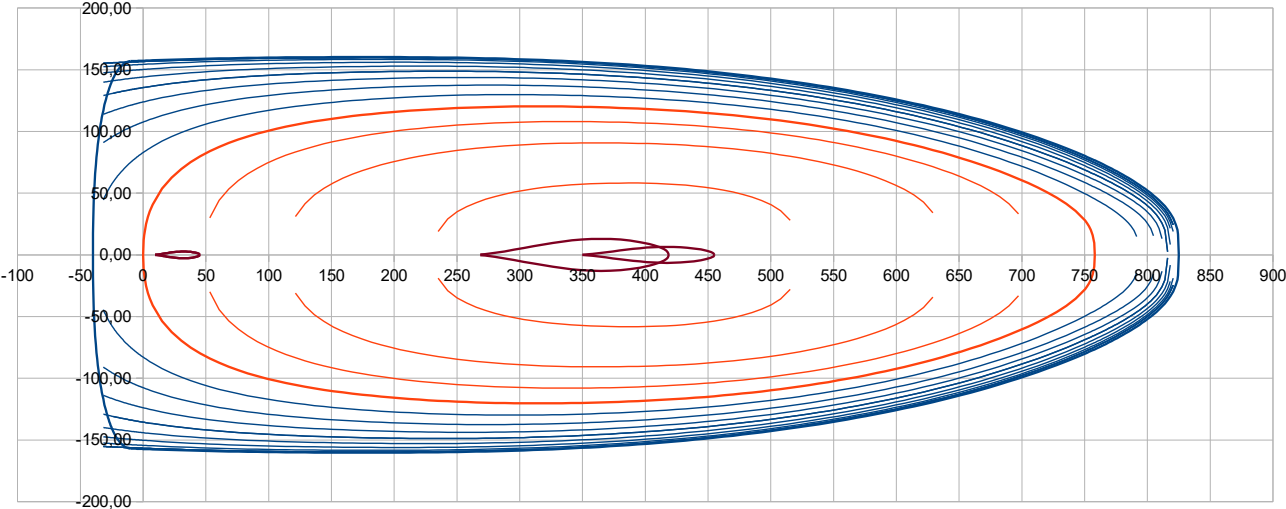
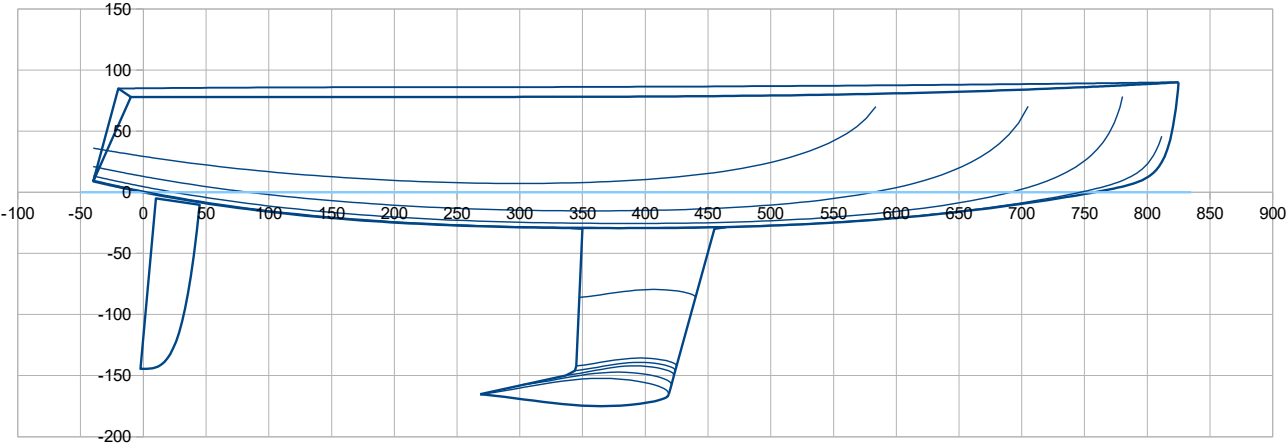


Data to enter		Results			
Heel (°)	20,0	Disp. Heel 0°	2,73179		
Height (cm)	9,5058	> Disp. (m3)	2,73179	Mom (m4)	1,393
Trim (°)	-0,942	Xc heel (m)	3,68	/ Xc 0°	3,68
		Yc heel (m)	-0,51	/ Yc 0°	0,00
		Zc heel (m)	-0,17	/ Zc 0°	-0,16
		Sw heel (m2)	18,22	/ Sw 0°	19,39
				Mom (kN.m)	14,01
				> Xc 0° - Xc heel° (% Lwl)	0,00
				Obliquity (°)	5,04

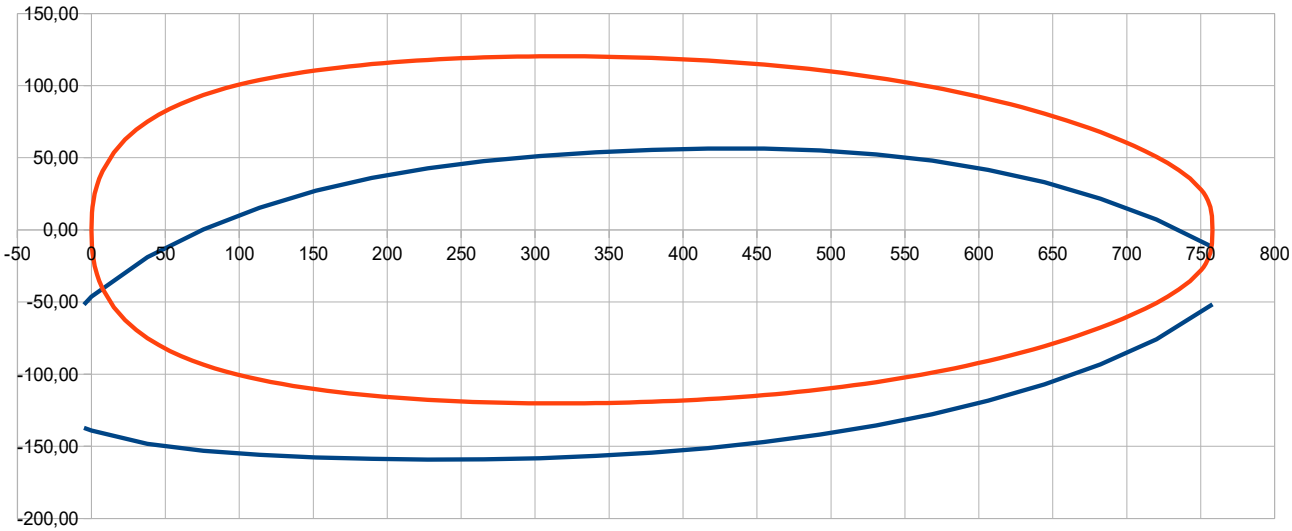




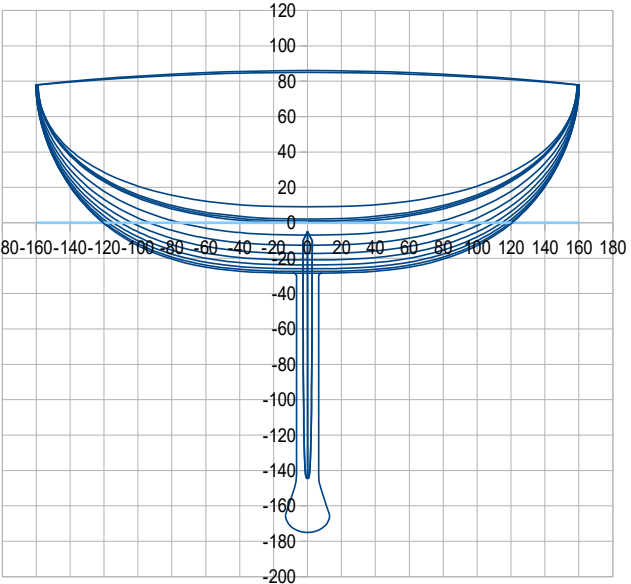
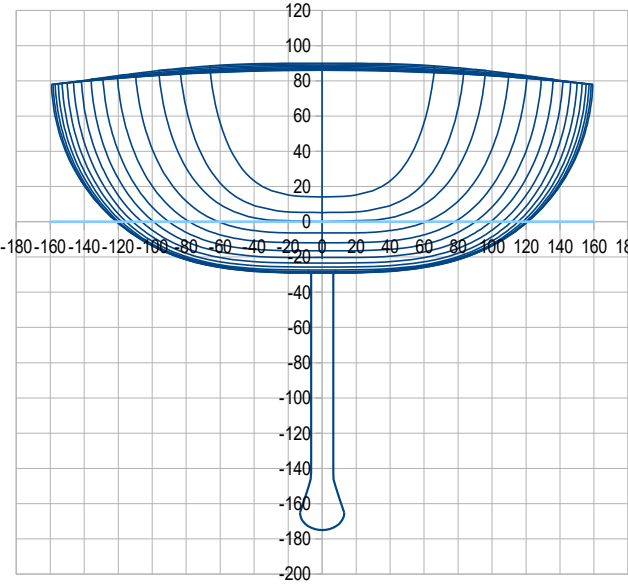
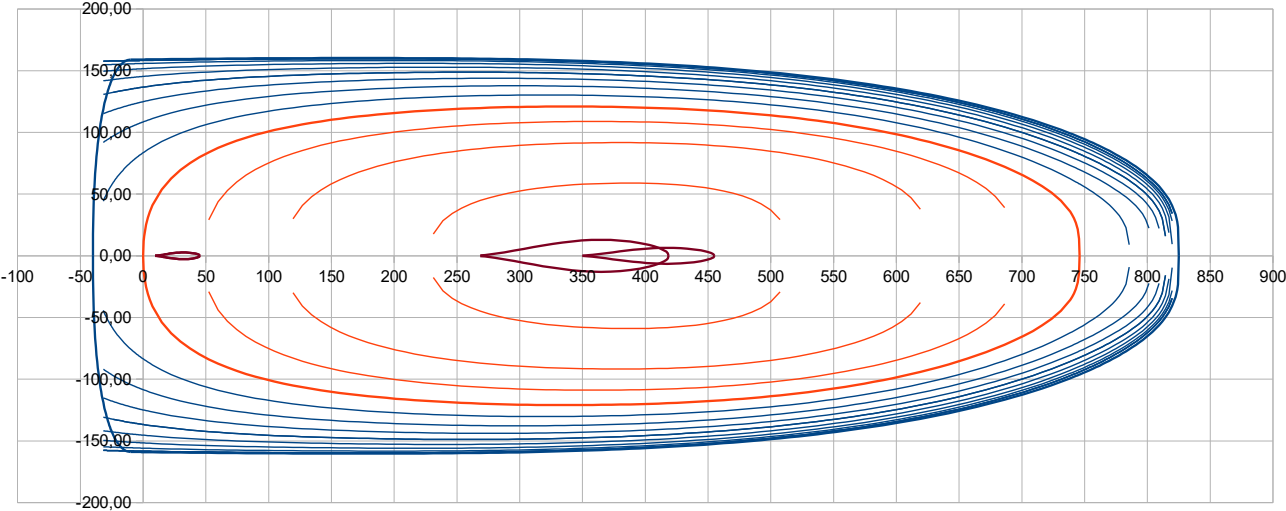
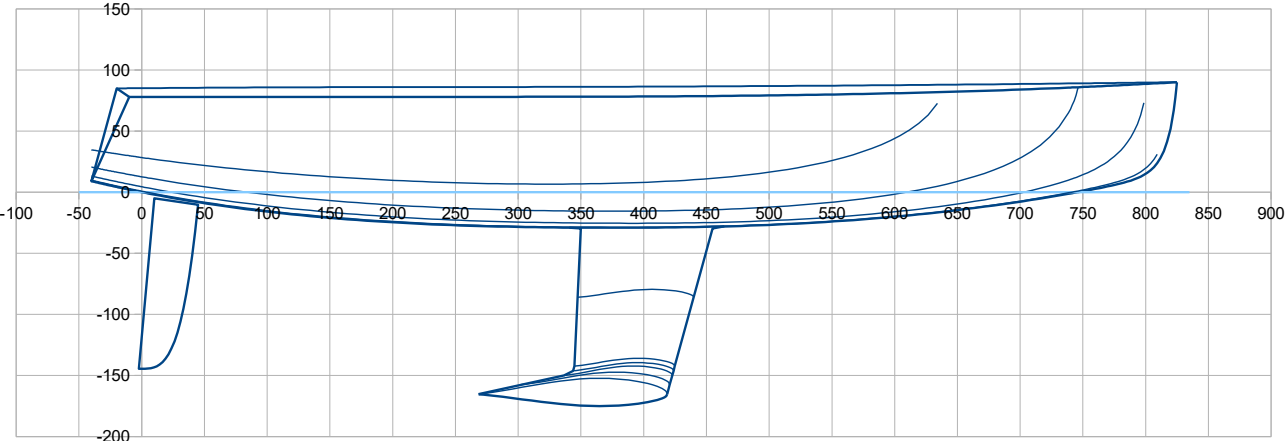
Scow 0,6 : Loa : 8,65 m ; Lwl 7,58 m ; B 3,20 m ; LCB : 3,69 m ; D 2800 kg



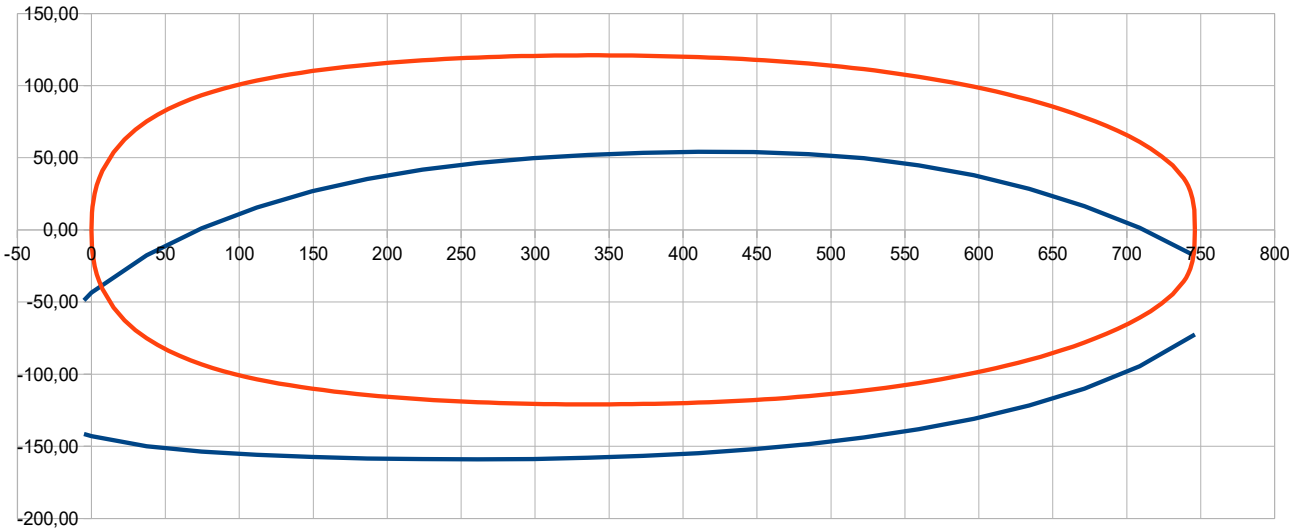
Data to enter		Results					
Heel (°)	20,0	Disp. Heel 0°	2,73145				
Height (cm)	10,0157	> Disp. (m3)	2,73145	Mom (m4)	1,474	Mom (kN.m)	14,82
Trim (°)	-0,775	Xc heel (m)	3,69	/ Xc 0°	3,69	> Xc 0° - Xc heel° (% Lwl)	0,00
		Yc heel (m)	-0,54	/ Yc 0°	0,00	Obliquity (°)	4,14
		Zc heel (m)	-0,17	/ Zc 0°	-0,16		
		Sw heel (m2)	18,32	/ Sw 0°	19,63		



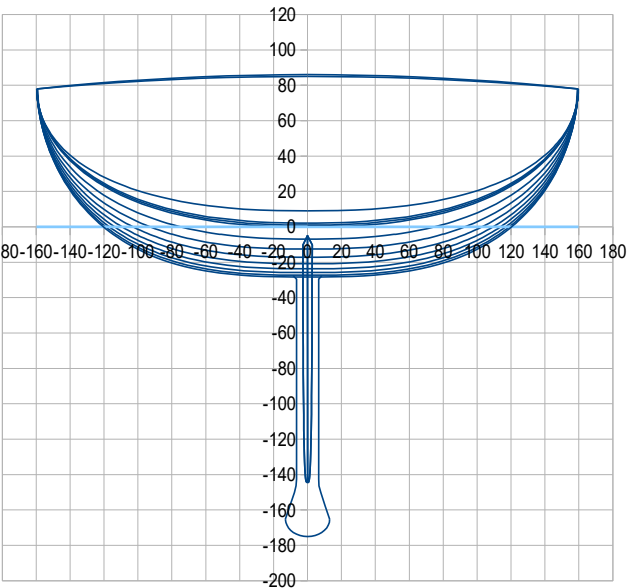
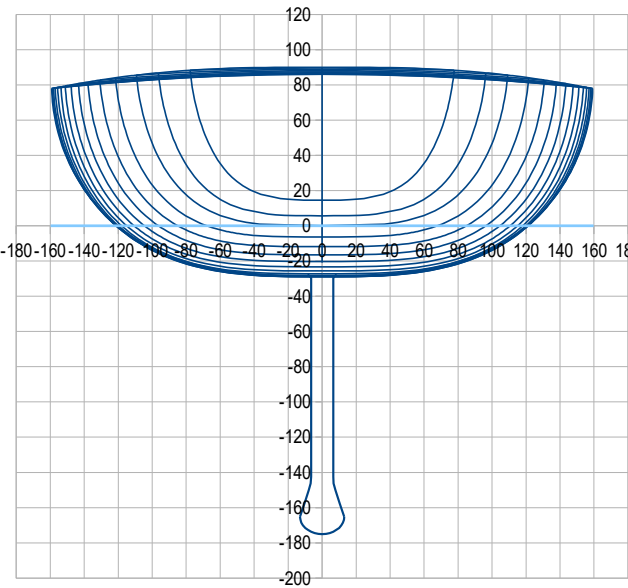
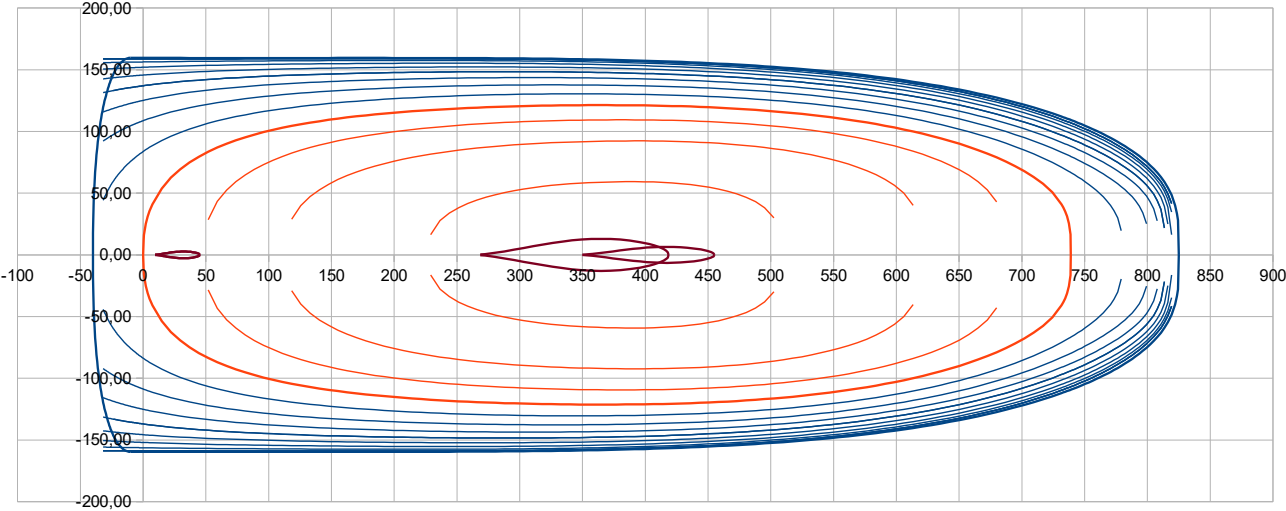
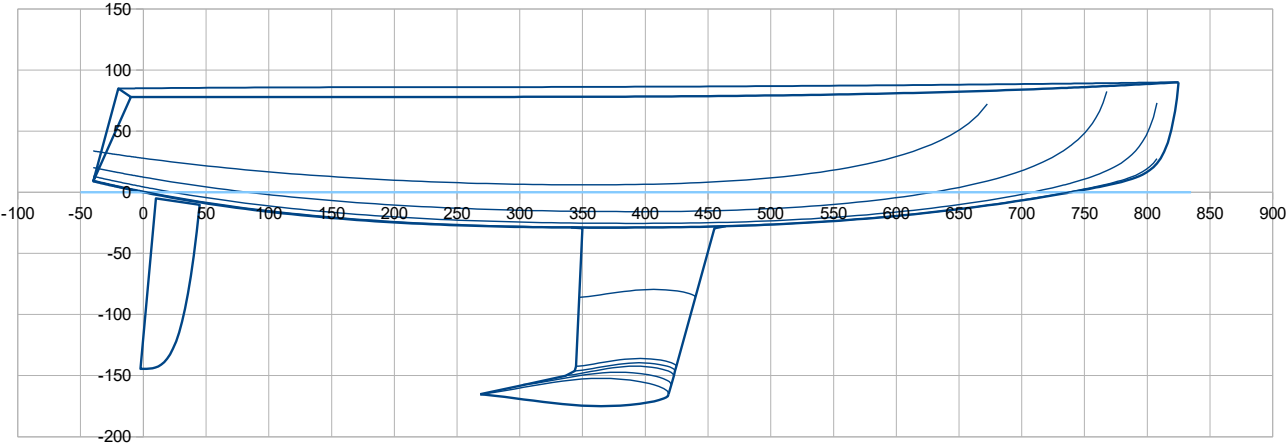
Scow 0,8 : Loa : 8,65 m ; Lwl 7,46 m ; B 3,20 m ; LCB : 3,69 m ; D 2800 kg



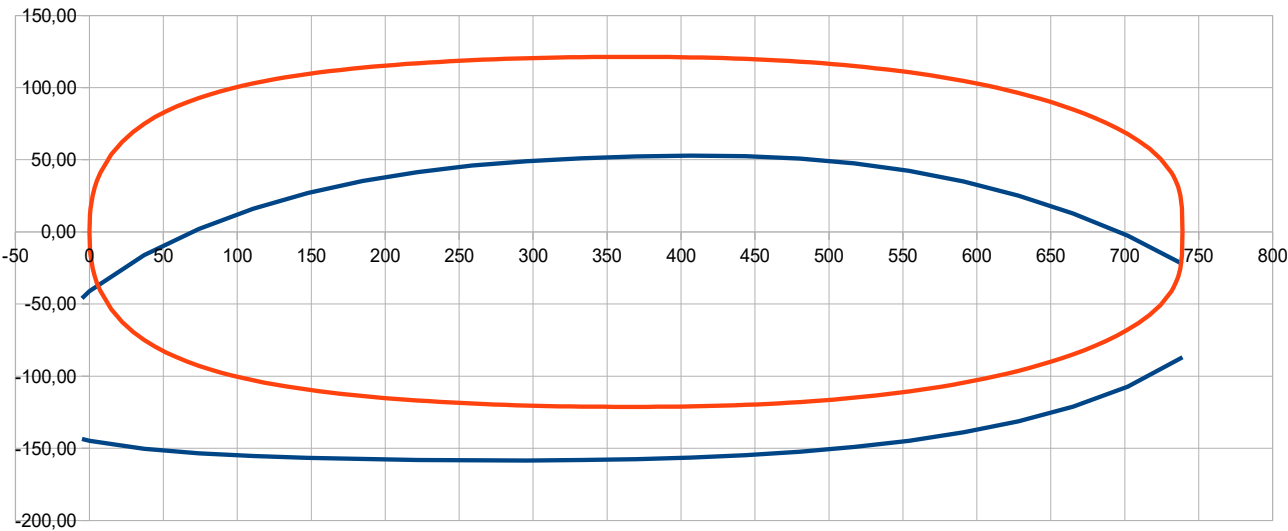
Data to enter		Results					
Heel (°)	20,0	Disp. Heel 0°	2,73122				
Height (cm)	10,6145	> Disp. (m3)	2,73122	Mom (m4)	1,560	Mom (kN.m)	15,68
Trim (°)	-0,582	Xc heel (m)	3,68	/ Xc 0°	3,68	> Xc 0° - Xc heel° (% Lwl)	0,00
		Yc heel (m)	-0,57	/ Yc 0°	0,00	Obliquity (°)	3,17
		Zc heel (m)	-0,17	/ Zc 0°	-0,16		
		Sw heel (m2)	18,26	/ Sw 0°	19,83		



Scow 0,95 : Loa : 8,65 m ; Lwl 7,39 m ; B 3,20 m ; LCB : 3,69 m ; D 2800 kg



Data to enter		Results					
Heel (°)	20,0	Disp. Heel 0°	2,73130				
Height (cm)	11,0021	> Disp. (m3)	2,73130	Mom (m4)	1,611	Mom (kN.m)	16,20
Trim (°)	-0,425	Xc heel (m)	3,68	/ Xc 0°	3,68	> Xc 0° - Xc heel° (% Lwl)	0,00
		Yc heel (m)	-0,59	/ Yc 0°	0,00	Obliquity (°)	2,44
		Zc heel (m)	-0,17	/ Zc 0°	-0,16		
		Sw heel (m2)	18,36	/ Sw 0°	19,94		



Comparison of hulls hydrostatics parameters at heel 20° :

Dose of scow	Trim (°) (<0 = Nose down)	Obliquity angle of the floatation shape (°)	Transversal moment of the immersed volumes (kN.m)	Wetted surface of the immersed volumes (m2)
0 (no Scow bow)	-1,18	6,36	12,39	17,90
0,1	-1,13	6,16	12,75	18,00
0,2	-1,08	5,88	13,21	18,08
0,4	-0,94	5,04	14,01	18,22
0,6	-0,78	4,14	14,82	18,32
0,8	-0,58	3,17	15,68	18,26
0,95 (Magnum like scow bow)	-0,43	2,44	16,20	18,36