Viberö 6,0 x 1,3 m 0,35 ton

Hull 100 kg Engine 6 hp 30 kg Load 220 kg

D/Bpx^3	1,7353
D/(L/10)^3	2,021
Ap/Disp^2/3	5,414
Wla/Disp^2/3	7,692
Lwl/Bwl	6,342
Lp/Bpx	9,616
Lp/Bpa	10,526
CG-CAp % Lp	-2,2%
CG-Cwa % Wl	-1,5%

Speed knots	Hp acc Sav	R/D	Keel acc Sav	Trim tau acc Sa
12,59	6,4	13,57%	~~3,57~~	~~4,3~~
15,11	7,4	13,12%	3,41	3,6
17,63	8,9	13,62%	3,32	3,0
20,15	11,1	14,82%	3,26	2,6
22,67	14,0	16,53%	3,22	2,2

Speed knots	Hp	R/D	Vert acc acc	Koelbel
12,59	7,0	14,9%		
15,11	8,3	14,7%	0,65	0,6 g for paying gues
17,63	10,2	15,5%	0,75	1,0 g for 4-8 hours
20,15	12,7	17,0%	0,83	1,5 g for 1-2 hours
22,67	16,0	18,9%	0,90	

D/Bpx^3	1,7386
D/(L/10)^3	1,964
Ap/Disp^2/3	5,407
Wla/Disp^2/3	7,291
Lwl/Bwl	6,782
Lp/Bpx	9,616
Lp/Bpa	10,526
CG-CAp % Lp	-1,8%
CG-Cwa % Wl	-1,2%

Speed knots	Hp acc Sav	R/D	Keel acc Sav	Trim tau acc Sa
12,60	6,6	14,14%	~~3,95~~	~~4,5~~
15,12	8,1	14,28%	3,82	4,2
17,64	9,9	15,07%	3,76	3,7
20,15	12,3	16,39%	3,74	3,3
22,67	15,4	18,16%	3,76	3,0

Speed knots	Hp	R/D	Vert acc acc	Koelbel
12,60	7,3	15,4%		
15,12	8,9	15,8%	0,61	0,6 g for paying gues
17,64	11,1	16,9%	0,74	1,0 g for 4-8 hours
20,15	13,9	18,5%	0,87	1,5 g for 1-2 hours
22,67	17,4	20,5%	0,98	

D/Bpx^3	1,0163
D/(L/10)^3	2,074
Ap/Disp^2/3	6,445
Wla/Disp^2/3	8,314
Lwl/Bwl	5,791
Lp/Bpx	8,013
Lp/Bpa	8,772
CG-CAp % Lp	-2,3%
CG-Cwa % Wl	-1,7%

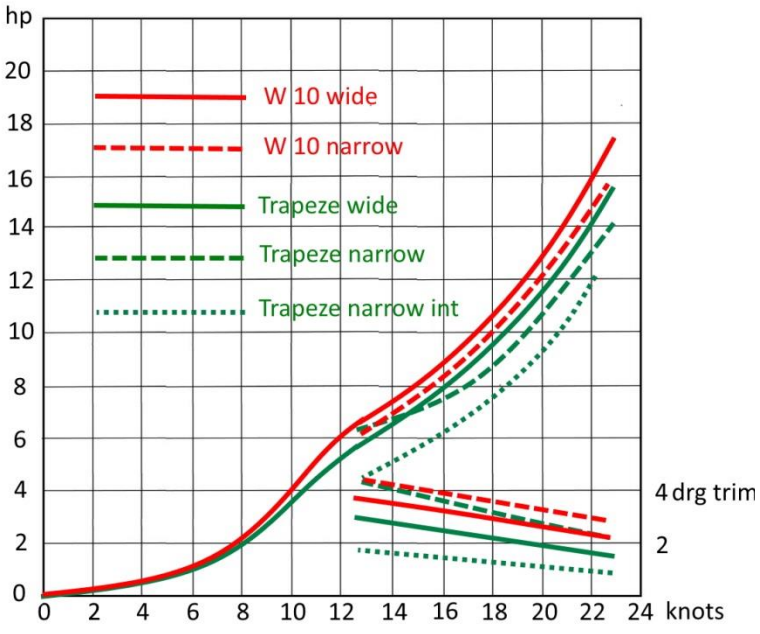
Speed knots	Hp acc Sav	R/D	Keel acc Sav	Trim tau acc Sa
12,62	5,9	12,34%	~~3,56~~	~~3,3~~
15,14	7,3	12,79%	3,40	2,8
17,67	9,3	14,00%	3,31	2,4
20,19	12,0	15,83%	3,25	2,0
22,71	15,5	18,16%	3,21	1,8

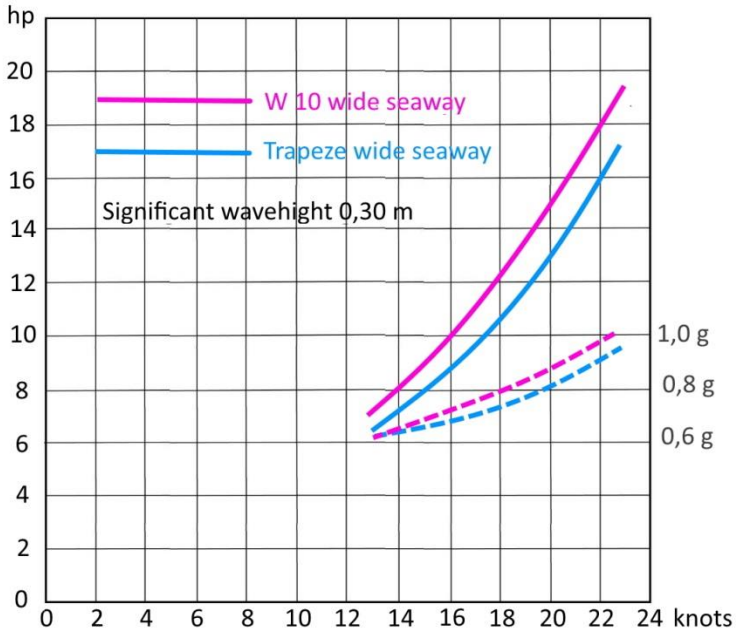
Speed knots	Hp	R/D	Vert acc acc	Koelbel
12,62	6,5	13,6%		
15,14	8,2	14,3%	0,63	0,6 g for paying gues
17,67	10,5	15,7%	0,72	1,0 g for 4-8 hours
20,19	13,6	17,8%	0,81	1,5 g for 1-2 hours
22,71	17,5	20,4%	0,88	

D/Bpx^3	1,0169
D/(L/10)^3	2,002
Ap/Disp^2/3	6,443
Wla/Disp^2/3	7,793
Lwl/Bwl	6,283
Lp/Bpx	8,013
Lp/Bpa	8,772
CG-CAp % Lp	-1,8%
CG-Cwa % Wl	-1,2%

Speed knots	Hp acc Sav	R/D	Keel acc Sav	Trim tau acc Sa
12,62	6,4	13,42%	~~4,01~~	~~3,8~~
15,14	8,1	14,21%	3,89	3,5
17,67	10,4	15,58%	3,84	3,1
20,19	13,3	17,47%	3,84	2,8
22,71	17,0	19,82%	3,86	2,5

Speed knots	Hp	R/D	Vert acc acc	Koelbel
12,62	7,0	14,6%		
15,14	8,9	15,7%	0,63	0,6 g for paying gue
17,67	11,5	17,3%	0,77	1,0 g for 4-8 hours
20,19	14,8	19,4%	0,89	1,5 g for 1-2 hours
22,71	18,9	22,0%	1,00	





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The illustration above shows the results of a study of different variants within an ongoing project.
The starting point is an assignment of a simple boat for transport and exercise rowing. The requirement is in addition to the load capacity and speed, the engine weight 30 kilos and thus an effect of six horsepower.
The design is based on generally accepted calculation methods, verification model tests and practical tests of similar boats of different sizes.

Keyhaven Skiff 5,0 x 1,25 Hull 75 kg Load 180 kg Engine 3,0 hkr 10 knots w/o interceptor

Fishingboat Gambia 7,1 x 1,55 Hull 275 kg Load 400-700 kg 15 hp 9-12 knots w/o interceptor

The purpose of the study was to compare the properties of the trapezoidal bottom with the properties of the W-bottom. Four different bottom shapes were investigated, two different bottom widths, two with a flat bottom and two with a moderate ten degree bottom rise.

As expected, a V-bottom requires a larger engine than a flat bottom. The difference in this example is between 12 and 15%. Above all, it turned out that the **V-bottomed boat do not go softer in the oncoming seaway**. This is entirely because a V-bottomed boat always has a larger trim angle than a flat-bottomed boat.

The diagram to the right also shows the effect of an aftship interceptor. The power requirement is thereby reduced by 20-25%, which also means lower fuel consumption.

Only in the highest speed range can it pay to choose the narrower bottom shape.

What emerged from this study can be applied to boats of all sizes.

This study shows that it always pays to put a lot of work into analyzing different alternatives very carefully before making a decision before a new building.

Gräddö in October 2020
Jürgen Sass