

**GPH = 643.4**    **CDL = 8.575**

**BOAT**

Class **MANNERBERG 31**  
Designer  
Builder **Rajakallio**  
Age Date **01/2000**  
Series Date **01/2000**  
Offset File **FIN9703B.OFF**

**HULL**

Length Overall **9.490 m**  
Maximum Beam **3.102 m**  
Draft **2.057 m**  
Displacement **3,114 kg**  
DLR **4.6272**  
IMS Division **Cruiser/Racer**  
Dynamic Allowance **0.177%**  
Age Allowance **0.487%**

**PROPELLER**

Installation **Strut**  
Type **Folding 2 blades**  
Diameter **0.358m**

**CREW**

Maximum weight **500 kg**  
Minimum weight **375 kg \* when applied**  
Non Manual Power **No**  
Crew Arm Extension

**SAIL AREAS (m<sup>2</sup>)**

	Measured	Rated
Mainsail	<b>27.99</b>	<b>28.59</b>
Headsail Luffed	<b>20.38</b>	<b>20.38</b>
Headsail Flying		
Symmetric	<b>64.00</b>	<b>64.00</b>
Asymmetric		

**SAIL LIMITATIONS**

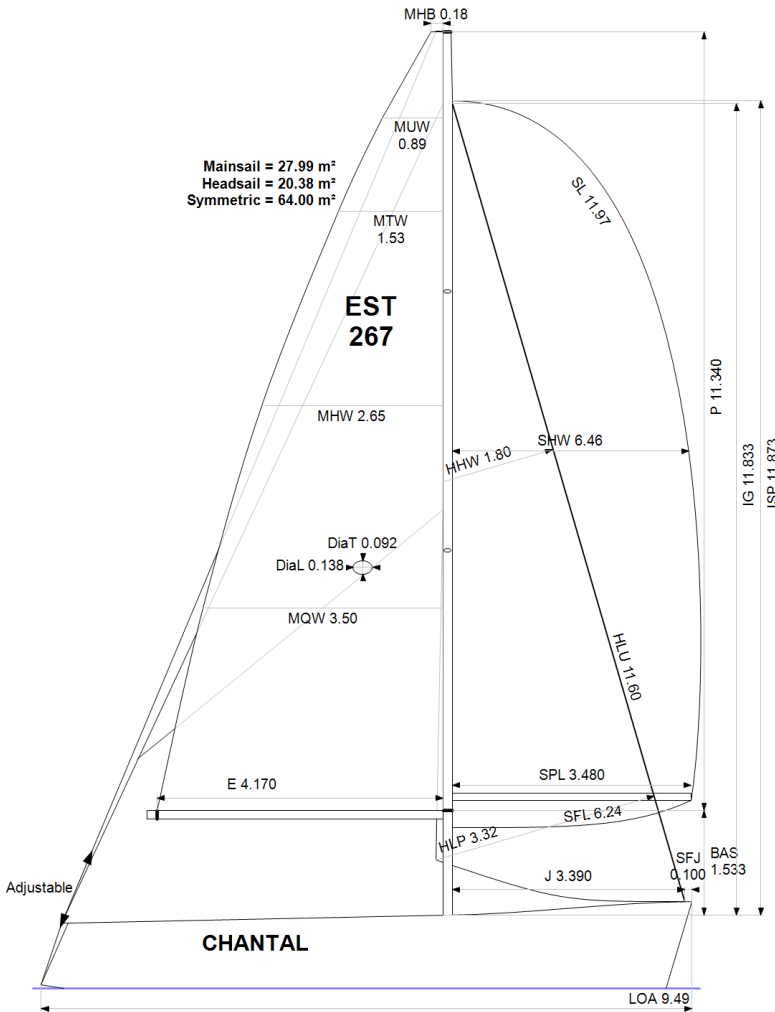
Headsails **5**  
Spinnakers **4**

**STABILITY**

Righting Moment **70.7 kg·m**  
Stability Index **N/A**

**OWNER**

*The owner certifies that he/she understands his/her responsibilities under ORC Rule and Regulations.*



Rated boat velocities in knots

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	42.0°	40.5°	39.4°	37.9°	37.5°	37.3°	37.5°
Beat VMG	3.37	4.06	4.59	4.89	4.99	5.03	5.11
52°	5.11	6.02	6.58	6.83	6.94	7.00	7.06
60°	5.38	6.27	6.74	6.98	7.14	7.21	7.25
75°	5.58	6.46	6.87	7.14	7.39	7.60	7.79
90°	5.52	6.53	7.00	7.23	7.48	7.80	8.34
110°	5.55	6.61	7.11	7.54	7.98	8.26	8.77
120°	5.38	6.49	7.03	7.47	7.98	8.52	9.32
135°	4.85	5.97	6.74	7.16	7.61	8.15	9.47
150°	4.07	5.13	6.08	6.76	7.16	7.57	8.59
Run VMG	3.52	4.44	5.27	5.98	6.59	7.01	7.81
Gybe Angles	145.0°	149.5°	151.0°	159.0°	180.0°	180.0°	179.8°

Time Allowances in secs/NM							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1068.2	887.6	784.3	736.4	721.2	715.8	704.6
52°	705.0	597.8	547.5	527.0	518.4	514.6	510.3
60°	668.9	573.9	534.5	515.4	504.2	499.1	496.5
75°	644.8	557.3	524.4	504.1	487.1	473.6	462.4
90°	652.5	551.4	514.5	498.2	481.5	461.6	431.5
110°	648.3	544.5	506.6	477.6	451.3	436.0	410.3
120°	669.1	555.0	512.1	482.0	451.1	422.5	386.2
135°	742.2	602.6	534.3	502.5	472.8	441.9	380.1
150°	885.1	701.5	591.9	532.6	503.1	475.8	419.3
Run VMG	1022.1	810.0	682.7	601.8	546.6	513.4	461.0
Selected Courses							
Windward / Leeward	1045.2	848.8	733.5	669.1	633.9	614.6	582.8
All purpose	805.0	665.0	593.4	555.0	530.3	513.7	485.7

Single Number Scoring Options		
Course	Time On Distance	Time On Time
Windward / Leeward	701.9	0.8548
All purpose	573.6	1.0459

### Custom scoring options for Estonia

Single Number	Time On Distance	Time On Time
Coastal/Long Distance	624.6	0.9606
Triple Number Coastal/Long Distance Low	735.0	0.8163
Triple Number Coastal/Long Distance Medium	570.8	1.0512
Triple Number Coastal/Long Distance High	507.4	1.1826
Triple Number Windward/Leeward Low	947.0	0.6336
Triple Number Windward/Leeward Medium	696.7	0.8612
Triple Number Windward/Leeward High	607.5	0.9877

Performance Curve	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Coastal/Long Distance	1042.9	798.1	664.7	590.5	551.5	519.4	465.5