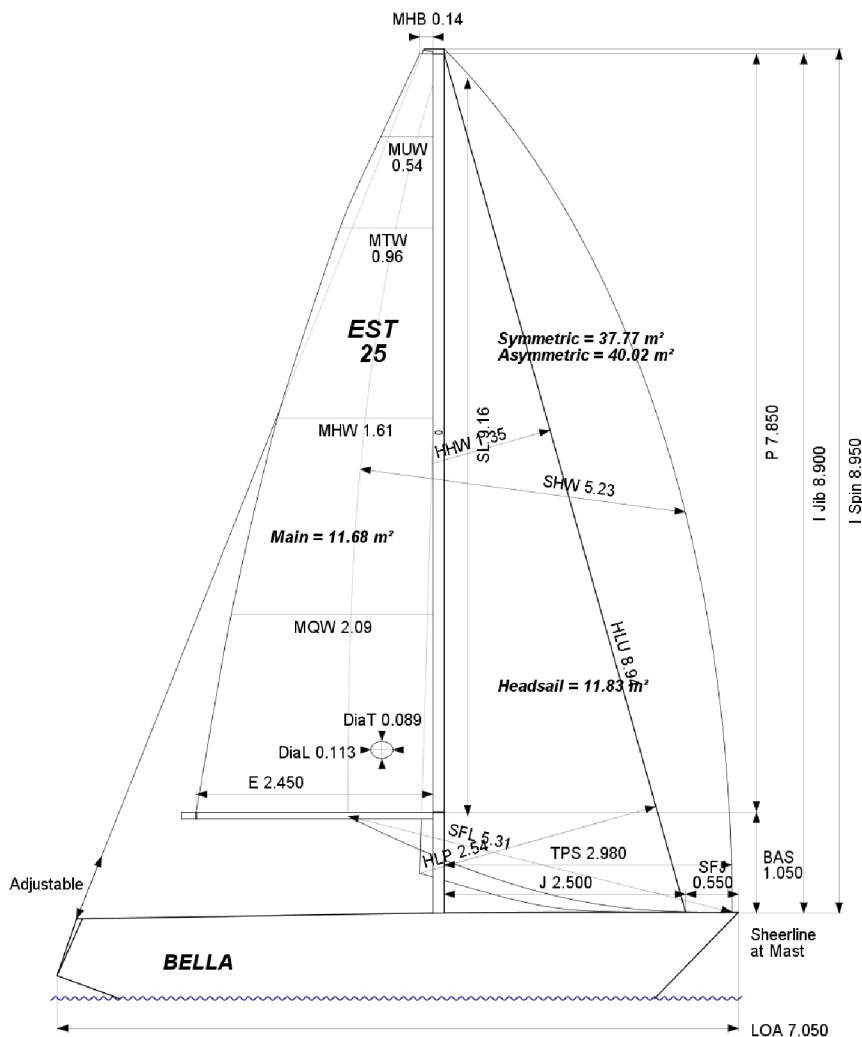




BOAT		GPH		HULL			
Name	BELLA	814.3	Data File	EST25	LOA	7.050m	
Sail Nr	EST25		Offset File	BELLONA23-	MB	2.496m	
			Displacement	1,835kg	Draft	1.309m	
CLASS			IMS Division	Cruiser/Racer	Dynamic All.	0.525%	
	Class	BELLONA 23	Plan Review		Construction	Solid	
	Designer		Fiber Rigging	No	Aramid Core	No	
	Builder	Rootsi	Crew Arm Ex		Carbon Rudder	Yes	
	Series	01/1976			Light Stanchions	No	
	Age Date	01/1976	IMSL	5.788m	VCGD	0.091m Sink 7.35kg/mm	
	Age Allowance	0.487%	RL	4.578m	VCGM	-0.049m WS 11.23m	
COMMENTS			LSM0	5.669m	Displacement/Length ratio	10.0720	
			Water Ballast	0	Trim Tab	No	
			BLR Index	0.0000			
PROPELLER		CENTERBOARD					
Installation	Strut	PRD	0.330	N/A			
Type	Folding 2 blades	PIPA	0.0033				

SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	791.6			880.9		
Time on Time	0.7580			0.7662		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	932.6	722.1	643.2	1201.3	887.6	767.5
Time on Time	0.7238	0.9348	1.0495	0.5619	0.7605	0.8795



Rating Office
Estonian Yachting Union
 Purje 8, maja 3
 11911 Tallinn
 Estonia



Certificate
 Number **108/20**
 Issued On **07/07/2020**
 ORC Ref **03880000M4C**
 VPP Ver. **2020 1.02**
 Valid until **31/12/2020**

Crew Weight
 Default **306kg**
 Maximum **380kg**
 Minimum* **285kg**
 *when applied by the NoR and SI
 Non Manual Pwr **No**

Special Scoring
 ToD ToT
 Non Spin GPH **867.7 0.6915**
 Non Spin OSN **834.8 0.7187**

Sails Limitations
 Headsails **5** Spinnakers **4**

Asymmetric on centerline
Spinnaker configuration
 Symmetric: **Yes** **37.77**
 Asymmetric: **No** **40.02**
 Flying H/S: **No**
 Spin. Pole: **Yes**

Class Division Length
CDL = 5.181

Stability (Measured)
 Limit Positive Stab.: **124.5°**
 Stability Index: **120.8**

BOAT Name BELLA Sail Nr EST25 File EST25 Data in meters/kilograms										INCLINING TEST AND FREEBOARDS Inclining Test Current Inclining Flotation date 03/07/2020 SG 1.0000 FFM 0.890 FF 0.898 SFFP 0.000 FAM 0.756 FA 0.761 SAFF 6.789 W1 24.0 PD1 634.7 WD 7.100 W2 24.0 PD2 632.9 GSA 1.0 W3 24.0 PD3 634.6 RSA 1.0 W4 24.0 PD4 632.5 PLM 9000.0 LCF from stem on CL / on sheer 3.883 / 4.048 Maximum beam station from stem 4.200 RM Measured 21.2kg·m RM Default 19.6kg·m Limit of positive stability / Stab.Index 124.5° / 120.8 Freeboard at mast at 3.050 0.883										 ORC Offshore Racing Congress World leader in rating technology 2020 Measurements Datasheet
RIG Forestay Tension Aft Spreaders 1 Inner Stay None Fitted Runners/Checkstays 0 Carbon Mast No Jib Furler No Fiber Rigging No Main Furler No Non-Circular Rigging No Articulated Bowsprit No P 7.850 E 2.450 MDT1 0.089 MW 0.113 IG 8.900 J 2.500 MDL1 0.113 GO 0.170 ISP 8.950 SFJ 0.550 MDT2 0.089 BD 0.070 BAS 1.050 SPL 2.500 MDL2 0.113 MWT 47.90 FSD 0.006 TPS 2.980 TL MCG 2.830										Certificate Number 108/20 ORC Ref 03880000M4C Issued On 07/07/2020 VPP Ver. 2020 1.02 Valid until 31/12/2020										
MIZZEN RIG AND SAILS N/A											 EJL ESTONIAN YACHTING UNION									
PROPELLER Installation Strut PRD 0.330 Type Folding 2 blades PBW Twin Screw PIPA 0.0033 ST1 0.052 ST3 0.378 ST5 0.300 ST2 0.148 ST4 0.100 EDL 1.200																				
COMMENTS 																				
MOVABLE BALLAST N/A																				
CENTERBOARD N/A																				

SAILS INVENTORY																
MAINSAIL (1)																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
1	0.14	0.54	0.96	1.61	2.09	11.68				Carbon						
HEADSAILS (3)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.04	0.37	0.73	1.35	1.95	2.54	8.94	102%	11.83	Y	No				Carbon	
2	0.04	0.35	0.68	1.31	1.93	2.54	7.15	102%	9.29	Y	No				Kevlar	
3	0.06	0.26	0.50	1.00	1.55	2.14	7.05	86%	7.33	Y	No				Dacron	
SYMMETRIC SPINNAKERS (2)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
2	9.35	9.35	9.35	4.96	4.40	37.78				Nylon						
1	8.80	8.80	8.80	5.05	5.10	37.11				Nylon						
ASYMMETRIC SPINNAKERS (1)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				
new	9.54	8.77	9.16	5.23	5.31	40.03	asym				Nylon					

MEASUREMENT INVENTORY					MEASUREMENT INVENTORY																													
Measurer EST7 Date 03/07/2020 Comment Internal Ballast total = 0.0					<table border="1"> <tr> <th><i>Id</i></th> <th><i>Item</i></th> <th><i>Weight</i></th> <th><i>Distance</i></th> <th><i>VCG Description</i></th> </tr> <tr> <td>1</td> <td>Battery</td> <td>18.0</td> <td>2.50</td> <td>8x40Ah</td> </tr> <tr> <td>2</td> <td>Battery</td> <td>3.2</td> <td>2.50</td> <td>20Ah</td> </tr> <tr> <td>3</td> <td>Battery</td> <td>3.2</td> <td>4.00</td> <td>20Ah</td> </tr> <tr> <td>1</td> <td>Misc</td> <td>1.4</td> <td>2.50</td> <td>iCharger 4010Duo</td> </tr> </table>					<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>	1	Battery	18.0	2.50	8x40Ah	2	Battery	3.2	2.50	20Ah	3	Battery	3.2	4.00	20Ah	1	Misc	1.4	2.50	iCharger 4010Duo
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2020

ORC Club Certificate Appendix

BOAT			
Name	BELLA	Certificate Number	108/20
Sail Nr	EST25	Issued On	07/07/2020

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1437.5	1209.3	1075.8	986.9	936.7	917.9	922.9
52°	943.3	799.1	709.3	672.5	652.9	641.2	635.3
60°	896.2	758.8	683.7	653.9	636.2	623.2	611.7
75°	858.4	719.3	660.8	636.3	619.7	603.2	578.0
90°	802.1	672.2	629.0	603.5	588.3	579.8	561.5
110°	788.1	666.0	622.6	591.2	563.1	542.3	521.3
120°	822.5	678.6	629.8	597.6	566.9	541.5	507.5
135°	901.7	735.4	652.5	617.5	587.9	559.9	515.5
150°	1035.9	834.9	710.3	647.3	616.1	588.5	539.4
Run VMG	1196.2	962.4	813.8	713.0	654.0	622.1	569.8
Selected Courses							
Windward / Leeward	1316.9	1085.9	944.8	850.0	795.4	770.0	746.4
Circular Random	1119.4	905.5	790.4	723.2	682.1	656.0	626.1
Coastal / Long Distance	1304.8	1015.9	849.9	748.2	692.4	654.0	595.3
Non Spinnaker	1214.8	973.3	840.9	762.1	713.1	681.9	647.0

Velocity Prediction in Knots for True Wind Speeds							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	43.5°	42.0°	43.1°	41.6°	40.5°	40.5°	41.3°
Beat VMG	2.50	2.98	3.35	3.65	3.84	3.92	3.90
52°	3.82	4.51	5.08	5.35	5.51	5.61	5.67
60°	4.02	4.74	5.27	5.51	5.66	5.78	5.89
75°	4.19	5.00	5.45	5.66	5.81	5.97	6.23
90°	4.49	5.36	5.72	5.97	6.12	6.21	6.41
110°	4.57	5.41	5.78	6.09	6.39	6.64	6.91
120°	4.38	5.31	5.72	6.02	6.35	6.65	7.09
135°	3.99	4.89	5.52	5.83	6.12	6.43	6.98
150°	3.48	4.31	5.07	5.56	5.84	6.12	6.67
Run VMG	3.01	3.74	4.42	5.05	5.50	5.79	6.32
Gybe Angles	149.0°	153.0°	154.0°	174.0°	180.0°	180.0°	180.0°