

GPH = **654.1** CDL = **8.316**

BOAT

Class **CROSS 31**
Designer
Builder **AS RIDAS JAHT**
Age Date **01/2001**
Series Date **01/1999**
Offset File **cross31.off**

HULL

Length Overall **9.295 m**
Maximum Beam **3.098 m**
Draft **1.948 m**
Displacement **3,188 kg**
DLR **5.1453**
IMS Division **Performance**
Dynamic Allowance **0.000%**
Age Allowance **0.487%**

PROPELLER

Installation **Strut**
Type **Folding 2 blades**
Diameter **0.330m**

CREW

Maximum weight **515 kg**
Minimum weight **386 kg * when applied**
Non Manual Power **No**
Crew Arm Extension

SAIL AREAS (m²)

	Measured	Rated
Mainsail	29.82	30.47
Headsail Luffed	18.97	18.97
Headsail Flying		
Symmetric	53.96	53.96
Asymmetric	48.65	48.65

* All asymmetric spinnakers with SHW/SFL > 85%

SAIL LIMITATIONS

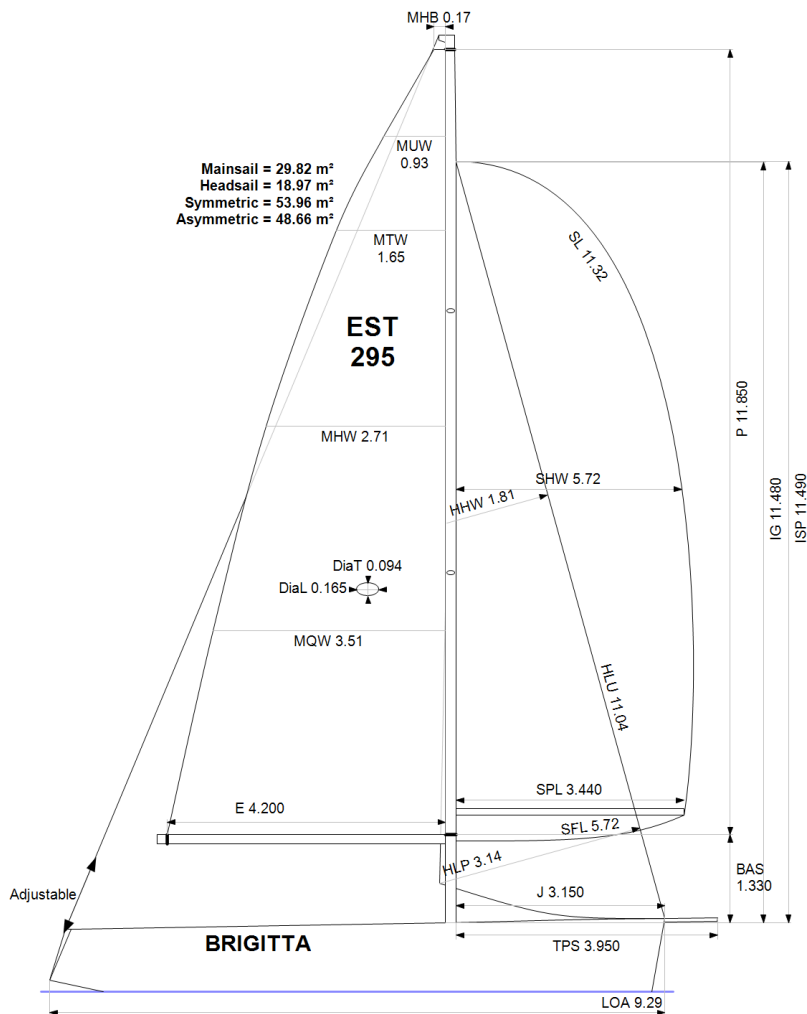
Headsails **5**
Spinnakers **4** * Asymmetric SHALL NOT be tacked on the pole

STABILITY

Righting Moment **66.2 kg·m**
Stability Index **122.9**

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	42.4°	40.9°	40.1°	38.3°	37.5°	37.9°	38.1°
Beat VMG	3.29	3.96	4.50	4.83	4.94	4.97	5.02
52°	4.99	5.91	6.50	6.77	6.89	6.93	6.98
60°	5.26	6.17	6.66	6.92	7.08	7.14	7.17
75°	5.46	6.37	6.79	7.07	7.31	7.51	7.67
90°	5.51	6.50	6.98	7.31	7.52	7.72	8.22
110°	5.45	6.52	7.02	7.43	7.90	8.37	8.94
120°	5.25	6.35	6.93	7.34	7.80	8.31	9.55
135°	4.71	5.80	6.59	7.03	7.44	7.90	9.03
150°	3.96	5.02	5.94	6.63	7.03	7.41	8.31
Run VMG	3.43	4.34	5.15	5.86	6.49	6.93	7.68
Gybe Angles	145.5°	150.0°	152.0°	160.0°	180.0°	180.0°	180.0°

Time Allowances in secs/NM							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1095.7	908.5	799.1	745.2	729.4	724.9	717.6
52°	721.0	609.3	554.1	531.4	522.6	519.3	516.0
60°	684.2	583.2	540.5	519.9	508.7	504.1	502.0
75°	659.3	565.6	530.1	509.3	492.1	479.1	469.3
90°	653.5	553.5	515.8	492.2	478.9	466.4	437.9
110°	660.5	552.3	513.1	484.4	455.8	430.1	402.6
120°	686.1	566.7	519.7	490.3	461.4	433.5	377.1
135°	764.7	621.2	546.3	512.0	484.1	455.4	398.9
150°	908.5	717.8	606.5	543.2	511.7	485.6	433.0
Run VMG	1049.0	828.9	698.6	614.2	554.7	519.8	468.9
Selected Courses							
Windward / Leeward	1072.4	868.7	748.9	679.7	642.0	622.4	593.3
All purpose	823.7	678.7	603.3	561.6	536.5	520.2	493.2

Single Number Scoring Options		
Course	Time On Distance	Time On Time
Windward / Leeward	714.5	0.8398
All purpose	582.2	1.0306

Custom scoring options for Estonia

Single Number	Time On Distance	Time On Time
Coastal/Long Distance	634.8	0.9452
Triple Number Coastal/Long Distance Low	751.2	0.7987
Triple Number Coastal/Long Distance Medium	579.0	1.0363
Triple Number Coastal/Long Distance High	514.1	1.1670
Triple Number Windward/Leeward Low	970.6	0.6182
Triple Number Windward/Leeward Medium	709.1	0.8461
Triple Number Windward/Leeward High	616.4	0.9734

Performance Curve	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Coastal/Long Distance	1070.1	816.0	677.2	597.9	558.1	527.3	469.3



Data in meters/kilograms (Metric)

HULL AND APPENDAGES

Class	CROSS 31	LOA	9.295	VCGD	-0.052
Measurement	12/05/2015	Max. Beam	3.098	VCGM	-0.103
Measurer		Draft	1.948	RM Measured (kg·m)	66.2
HIN		Displacement	3,188	RM Default (kg·m)	65.9
Plan review		Wetted area	18.09	Limit of positive stability(°)	125.8
Hull construction	Cored	IMS L	8.611	Stability Index	122.9
Carbon Rudder	No	LSM0	8.525		
Light stanchions		Acc. length	9.295		
Trim tab	No	Sink (kg/mm)	13.51		

PROPELLER

Propeller Type	Folding 2 blades	PRD	0.330	EDL	0.880	ST3	0.185
Installation	Strut	PBW	0.095	ST1	0.041	ST4	0.092
Twin screw	No			ST2	0.210	ST5	0.244
PIPA	0.0027						

RIG

Forestay tension	Aft	P	11.850	E	4.200
Inner stay	None Fitted	IG	11.480	J	3.150
Carbon mast	No	ISP	11.490	BAS	1.330
Headsail furler	No	MDT1	0.094	FSD	
Mainsail furler	No	MDL1	0.165	SFJ	
Articulated bowsprit	No	MDT2	0.083	SPL	3.440
Non-circular rigging	No	MDL2	0.140	TPS	3.950
Fiber rigging	No	TL	1.750	BD	0.143
Runners/Checkstays	0	MW	0.165	MWT	
Spreaders	2	GO	0.165	MCG	

FLOTATION AND STABILITY

Inclining Test	Poles Inclining	SFFP	0.275	SAFP	8.975	W1	55.0	PD1	667.4	WD	10.230
Flotation Date	09/07/2021	FFM	1.090	FAM	0.914	W2	55.0	PD2	669.4	PLM	9000.00
Measurer		FF	1.101	FA	0.917	W3	55.0	PD3	668.3	GSA	1.0
Comment	Pärnu	LCFcl	5.105	LCFsh	5.299	W4	55.0	PD4	670.9	RSA	1.0
		SG	1.0000	HBI	1.041						

MEASUREMENT INVENTORY

Id	Tank Type	Capacity	LCG	VCG	Condition	Description
1	Fule Plastic		2.64		40-0	
1	Battery 2pc	Weight	4.00	VCG		



MAINSAIL

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Maker	Material	Comment
4a	0.17	0.93	1.65	2.71	3.51	29.82		23/07/2021		Unknown	2021

HEADSAIL

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Btn	Flying	FT	Area	Measurer	Meas.Date	Maker	Material	Comment
6a	0.11	0.54	0.99	1.81	2.52	3.14	11.04	Yes	No		18.97		23/07/2021	North	Unknown	2021 Medium
5a	0.09	0.48	0.92	1.72	2.51	3.23	11.20	No	No		18.94		01/04/2020		Unknown	
7a	0.09	0.51	0.96	1.79	2.52	3.16	10.98	Yes	No		18.75		23/07/2021	North Sails	Unknown	2021 Heavy
4	0.08	0.43	0.82	1.57	2.25	2.88	10.90	No	No		16.55		12/05/2014		Unknown	
3	0.06	0.43	0.84	1.68	2.54	3.38	8.85	No	No		14.98		13/07/2012		Unknown	

SYMMETRIC SPINNAKER

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Maker	Material	Comment
3	11.32	11.32	11.32	5.72	5.72	53.96		06/06/2016	One Sails	Unknown	
2a	11.28	11.28	11.28	5.70	5.72	53.62		01/04/2020	One sails	Nylon	

ASYMMETRIC SPINNAKER

Id	SLU	SLE	SL	SHW	SFL	Ratio	Area	Measurer	Meas.Date	Maker	Material	Comment
1	12.26	10.51	11.39	4.97	5.76	86%	48.65				Unknown	