

BOAT
Name AMSERV TOYOTA ST Sail Nr EST 379

GPH
618.4

HULL			
Length Overall	10.598m		
Maximum Beam	3.474m		
Displacement	5,693kg		
Draft	2.227m		
IMS Reg. Division	Cruiser/Racer		
Dynamic Allowance	0.054%		
Fwd Accommodation	Yes		
Hull Construction	Solid		
Carbon Rudder	Yes		
Crew Arm Extension			
IMSL	9.533m	VCGD	0.090m Sink 19.45kg/mm
RL	8.694m	VCGM	0.101m WS 25.47m²
LSM0	9.436m	Displacement/Length ratio	6.7761



2019
ORC International
Certificate

GENERAL
Class First 36.7 mod
Designer B.Farr
Builder Beneteau S.A.
Series 01/2001
Age 05/2005
Age Allowance 0.487%
Offset File EST379-2019.off - 8/13/2019 7:45:25
Measurement by Tetsmann/Ramst - 05/08/2019

Rating Office
EYU
Purje 8
11911, Tallinn
Estonia

SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	602.1			670.2		
Time on Time	0.9965			1.0072		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	700.6	549.6	496.5	900.1	671.3	590.8
Time on Time	0.9635	1.2281	1.3596	0.7499	1.0055	1.1426

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1019.5	850.0	753.6	716.1	703.8	700.1	688.7
52°	673.4	571.2	522.9	506.0	500.5	498.1	491.2
60°	639.2	548.4	510.3	494.1	487.7	484.6	478.8
75°	613.1	533.0	501.3	483.2	470.6	463.6	458.3
90°	618.6	530.3	494.4	479.9	463.1	448.0	429.9
110°	622.4	523.1	486.4	462.4	444.6	433.3	415.9
120°	640.2	532.8	491.3	465.4	440.9	419.7	397.2
135°	706.1	576.5	512.2	482.6	458.3	434.0	389.6
150°	832.6	666.3	566.3	511.0	483.4	460.7	416.6
Run VMG	961.4	769.4	652.8	578.5	525.8	493.4	448.8

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VPP Ver. 2019 1.01
Valid until 12/31/2019

Crew Weight	
Default	634kg
Maximum	668kg
Minimum*	501kg
*when applied by the NoR and SI	
Non Manual Pwr	No

Selected Courses							
Windward / Leeward	990.5	809.7	703.2	647.3	614.8	596.7	568.8
Circular Random	843.2	684.3	600.3	552.5	523.8	505.1	480.1
Coastal / Long Distance	987.6	761.6	637.1	570.2	534.6	506.5	460.4
Non Spinnaker	901.3	725.2	630.6	575.8	542.6	521.1	493.5

Special Scoring		
	ToD	ToT
Double H.GPH	627.7	0.9559
Double H.OSN	612.9	0.9789
Non Spin GPH	650.5	0.9224
Non Spin OSN	631.9	0.9495

Sails Limitations	
Headsails	Spinnakers
5	3

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	42.2°	40.8°	39.9°	38.6°	38.1°	38.1°	38.6°
Beat VMG	3.53	4.24	4.78	5.03	5.12	5.14	5.23
52°	5.35	6.30	6.89	7.12	7.19	7.23	7.33
60°	5.63	6.56	7.05	7.29	7.38	7.43	7.52
75°	5.87	6.75	7.18	7.45	7.65	7.77	7.85
90°	5.82	6.79	7.28	7.50	7.77	8.04	8.37
110°	5.78	6.88	7.40	7.79	8.10	8.31	8.66
120°	5.62	6.76	7.33	7.73	8.17	8.58	9.06
135°	5.10	6.24	7.03	7.46	7.86	8.30	9.24
150°	4.32	5.40	6.36	7.05	7.45	7.82	8.64
Run VMG	3.74	4.68	5.51	6.22	6.85	7.30	8.02
Gybe Angles	145.3°	149.4°	151.4°	158.5°	180.0°	180.0°	180.0°

Class Division Length
CDL = 9.114

Storm Sails Areas	
Heavy Weather Jib	30.92
Storm Jib (JL=9.84)	11.46
Storm Trysail	12.18

Owner
BOSSA SAILING OÜ
Veerenni 24
Tallinn, Estonia
Kalev JK

I certify that I understand my responsibilities under ORC Rules and Regulations

Signature _____

BOAT			
Name	AMSERV TOYOTA ST	Sail Nr	EST 379
File	Est0379	Data in	meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date		05/08/2019	SG 1.0050
FFM	1.344	FF	1.351
FAM	1.046	FA	1.052
SFFP	0.365	SAFP	10.115
W1	100.2	PD1	645.0
W2	100.2	PD2	673.8
W3	100.2	PD3	658.8
W4	100.2	PD4	661.5
WD	11.130	GSA	1.0
RSA	1.0	PLM	9000.0
LCF from stem on CL / on sheer		5.849 / 6.084	
Maximum beam station from stem		7.000	
RM Measured		133.1kg·m	
RM Default		143.0kg·m	
Limit of positive stability / Stab.Index		114.5° / 116.3	
Freeboard at mast at 3.940		1.199	



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RIG			
Forestay Tension	Aft	Spreaders	2
Inner Stay	None Fitted	Runners	0
Carbon Mast	Yes	Jumper Struts	None
Taper Hollows	No	Jib Furler	No
Fiber Rigging	No	Main Furler	No
Lenticular Rigging	No	Without Backstay	No
Articulated Bowsprit	No		
P	14.000	E	4.970
MDT1	0.149	MW	0.215
IG	15.037	J	3.940
MDL1	0.215	GO	0.240
ISP	15.090	SFJ	0.000
MDT2	0.120	BD	0.250
BAS	1.585	SPL	4.320
MDL2	0.198	MWT	151.50
FSP	0.068	TPS	
TL	0.760	MCG	5.650

MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation	Strut	PRD	0.410
Type	Folding 2 blades	PBW	0.130
Twin Screw	No	PIPA	0.0027
ST1	0.042	ST3	0.180
ST2	0.180	ST4	0.090
ST5	0.280	EDL	2.480

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COMMENTS	

MOVABLE BALLAST	
N/A	

CENTERBOARD	
N/A	

SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.450	1.26	2.08	3.34	4.18	43.08	44.16	P/8 · (E + 2·MQW + 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL	96.74		SL · (SFL + 4·SHW) / 6	
	15.14	15.14	15.14	7.73	7.42				
Asymmetric Not Available									

HEADSAILS												
Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)												
HHB	HUW	HTW	HHW	HQW	HLP	HLU	Area	Btn	Fly	Meas.Date	Material	Comment
0.11	0.70	1.29	2.26	3.20	4.07	14.77	32.39			05/08/2019	Unknow	Jib 2 Medium 2019
0.13	0.71	1.29	2.26	3.14	4.03	14.55	31.65			05/08/2019	Unknow	Jib 1 Light 2018
0.07	0.59	1.12	2.13	3.11	4.08	14.63	30.75			11/06/2018	Unknow	Jib 2 Medium 2013
0.10	0.61	1.15	2.16	3.15	4.10	14.10	30.03			02/03/2015	Unknow	Jib 3 Heavy 2015
0.06	0.48	0.86	1.49	2.05	2.73	13.03	18.80			12/01/2015	Unknow	Staysail 2012

MEASUREMENT INVENTORY				
Measurer ZG				
Date 13/08/2019				
Comment Oxelösund, Sweden				
Id	Item	Weight	Distance	VCG Description
Id	Item	Maker	Model	
1	Engine	YANMAR	3YM30	
Id	Item	Weight Description		

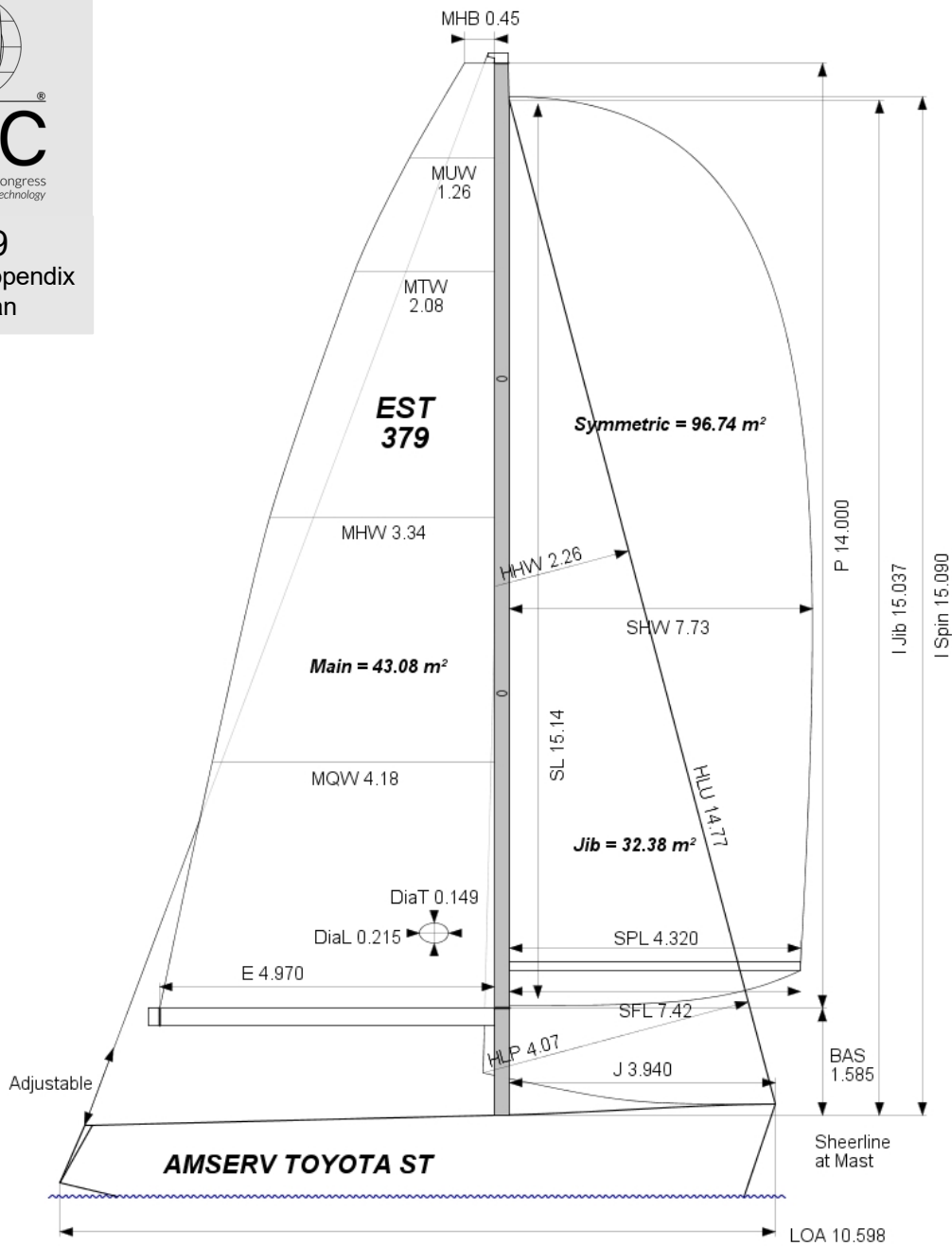
MEASUREMENT INVENTORY							
Id	Item	Tank	Use	Tank Type	Capcty	Dist.	VCG Condtn Description
1	Tank	Water		plastic	160.0	4.85	0-0 Water tank, strb.
3	Tank	Fuel		steel	60.0	8.70	5-0 Fuel tank, center
Id	Item	Weight	Distance	VCG Description			
1	Ballast	129.0	8.20	Ballast			
2	Ballast	22.0	7.80	Ballast			
3	Ballast	17.0	7.60	Ballast			
1	Battery	3.0	7.10	30 Ah			
2	Battery	17.0	7.10	90 Ah			
1	Misc		10.00	Heater - Eberspächer Marine D4			
2	Misc		10.00	Autopilot - Raymarine			



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Sail Plan



SAILS INVENTORY

MAINSAIL (2)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
7a	0.45	1.26	2.08	3.34	4.18	43.08	EST 5	05/08/2019	NorthSails	Unknown	P14.00;E4,97
6a	0.42	1.15	1.89	3.17	4.16	41.70	EST 7	09/06/2018	OneSails	Unknown	P14,15;E4,96

HEADSAILS (5)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
14a	0.11	0.70	1.29	2.26	3.20	4.07	14.77	103%	32.39			EST 5	05/08/2019	NorthSails	Unknown	Jib 2 Medium 2019
13b	0.13	0.71	1.29	2.26	3.14	4.03	14.55	102%	31.65			EST 5	05/08/2019	NorthSails	Unknown	Jib 1 Light 2018
11a	0.07	0.59	1.12	2.13	3.11	4.08	14.63	104%	30.75			EST 7	11/06/2018		Unknown	Jib 2 Medium 2013
7	0.10	0.61	1.15	2.16	3.15	4.10	14.10	104%	30.03			EST 1	02/03/2015		Unknown	Jib 3 Heavy 2015
10	0.06	0.48	0.86	1.49	2.05	2.73	13.03	69%	18.80			SWE 957	12/01/2015	NorthSails	Unknown	Staysail 2012

SYMMETRIC SPINNAKERS (3)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
13	15.14	15.14	15.14	7.73	7.42	96.75	EST 1	02/04/2019		Unknown	S1,5
14	15.23	15.23	15.23	7.69	7.33	96.69	EST 1	02/04/2019		Unknown	S2
12	15.20	15.20	15.20	7.20	8.00	93.23				Unknown	S3 Toyota

ASYMMETRIC SPINNAKERS (0)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
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