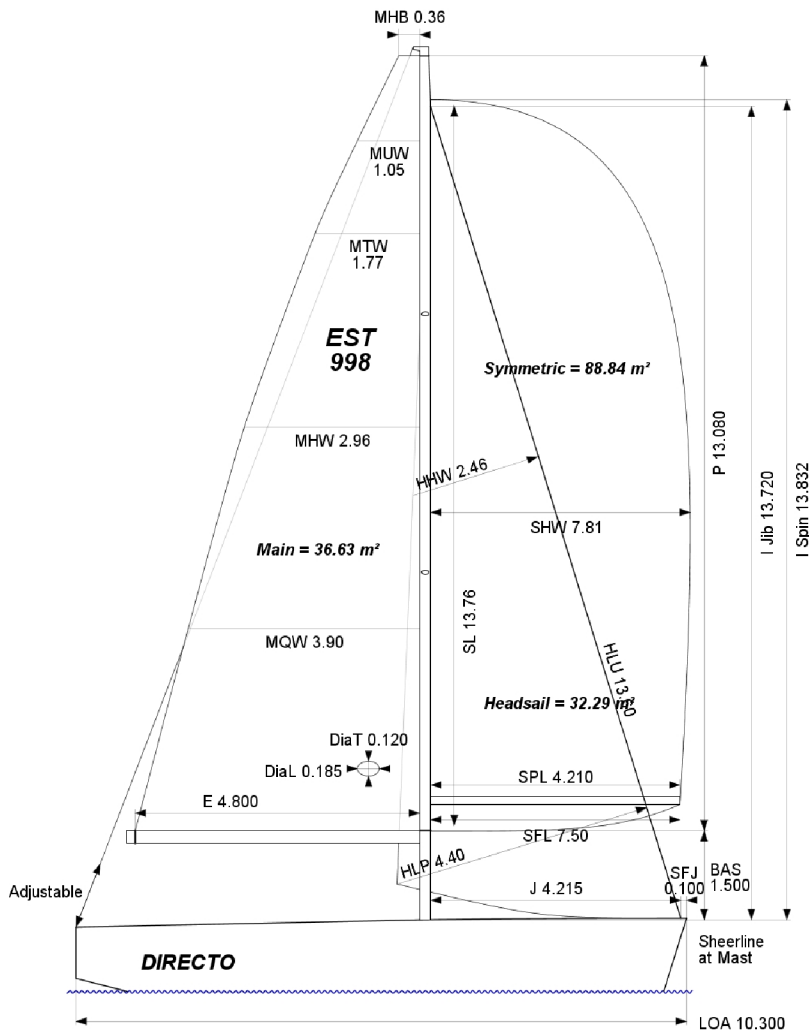




ORC
Offshore Racing Congress
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2020
ORC Club
Certificate

Rating Office

Estonian Yachting Union
Purje 8, maja 3
11911 Tallinn
Estonia



ESTONIAN
YACHTING
UNION

Certificate

Number **096/20**
Issued On **02/07/2020**
ORC Ref **03880000LSI**
VPP Ver. **2020 1.02**
Valid until **31/12/2020**

Crew Weight

Default 610kg
Maximum **640kg**
Minimum* **480kg**
*when applied by the NoR and SI
Non Manual Pwr **No**

Special Scoring

ToD ToT
Non Spin GPH **657.6 0.9124**
Non Spin OSN **638.8 0.9392**

Sails Limitations

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

Spinnaker configuration

Symmetric: **Yes 88.84**
Asymmetric: **No**
Flying H/S: **No**
Spin. Pole: **Yes**

Class Division Length

CDL = 8.856

Stability (Measured)

Limit Positive Stab.: **117.5°**
Stability Index: **114.9**

BOAT		GPH		HULL			
Name	DIRECTO	624.9		Data File	EST998	LOA	10.300m
Sail Nr	EST 998			Offset File	IY998mp.off	MB	3.536m
				Displacement	4,691kg	Draft	1.908m
				IMS Division	Cruiser/Racer	Dynamic All.	0.088%
CLASS				Plan Review		Construction	Cored
	Class	ITALIA 9.98		Fiber Rigging	No	Aramid Core	No
	Designer	POLLI		Crew Arm Ex		Carbon Rudder	No
	Builder	ITALIA YACHTS				Light Stanchions	No
	Series	09/2014		IMSL	9.451m	VCGD	0.102m Sink 17.85kg/mm
	Age Date	10/2016		RL	8.281m	VCGM	0.091m WS 23.70m
	Age Allowance	0.195%		LSM0	9.183m	Displacement/Length ratio 6.0578	
COMMENTS				Water Ballast Trim Tab No			
				BLR Index 0.0000			
PROPELLER				CENTERBOARD			
Installation	Strut	PRD	0.380	N/A			
Type	Folding 2 blades	PBW	0.100				
		PIPA	0.0039				
SCORING OPTIONS							
	COASTAL / LONG DISTANCE				WINDWARD / LEEWARD		
Time on Distance	608.1				681.5		
Time on Time	0.9866				0.9904		
Triple Number	Low	Medium	High	Low	Medium	High	
Time on Distance	715.3	553.5	494.7	926.7	683.2	598.1	
Time on Time	0.9436	1.2195	1.3646	0.7284	0.9880	1.1285	

BOAT

Name **DIRECTO**
File **EST998**

Sail Nr **EST 998**
Data in **meters/kilograms**

RIG

Forestay Tension **Aft**
Inner Stay **None Fitted**
Carbon Mast **No**
Fiber Rigging **No**
Non-Circular Rigging **No**
Articulated Bowsprit **No**

Spreaders **2**
Runners/Checkstays **0**
Jib Furler **No**
Main Furler **No**

P **13.080** E **4.800** MDT1 **0.120** MW **0.183**
IG **13.720** J **4.215** MDL1 **0.185** GO **0.201**
ISP **13.832** SFJ **0.100** MDT2 **0.120** BD **0.220**
BAS **1.500** SPL **4.210** MDL2 **0.155** MWT **144.10**
FSD **0.038** TPS TL **0.800** MCG **4.990**

INCLINING TEST AND FREEBOARDS

Inclining Test **Current Inclining**

Flotation date **28/06/2018** SG **1.0000**

FFM **1.243** FF **1.246** SFFP **0.000**
FAM **0.612** FA **0.627** SAFP **10.300**

W1 **60.5** PD1 **523.3** WD **11.810**
W2 **60.5** PD2 **523.8** GSA **1.0**
W3 **60.5** PD3 **523.8** RSA **1.0**
W4 **60.5** PD4 **524.3** PLM **9000.0**

LCF from stem on CL / on sheer **5.596 / 5.823**
Maximum beam station from stem **7.304**
RM Measured **107.4kg·m**
RM Default **115.6kg·m**
Limit of positive stability / Stab.Index **117.5° / 114.9**
Freeboard at mast at 4.315 **1.215**

MIZZEN RIG AND SAILS

N/A

COMMENTS

PROPELLER

Installation **Strut** PRD **0.380**
Type **Folding 2 blades** PBW **0.100**
Twin Screw **No** PIPA **0.0039**

ST1 **0.065** ST3 **0.180** ST5 **0.343**
ST2 **0.180** ST4 **0.110** EDL **1.250**

MOVABLE BALLAST

N/A

CENTERBOARD

N/A

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ESTONIAN YACHTING UNION

SAILS INVENTORY

MAINSAIL (1)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.36	1.05	1.77	2.96	3.90	36.64		13/07/2017	NORTH	Unknown	

HEADSAILS (6)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
6	0.12	0.79	1.41	2.46	3.43	4.40	13.60	104%	32.29	Y	No	ITA164	10/07/2016	ONE SAILS	Unknow	JXL
7	0.12	0.77	1.41	2.49	3.41	4.40	13.44	104%	31.91	Y	No	ITA164	10/07/2016	ONE SAILS	Unknow	JL
4b	0.11	0.71	1.32	2.44	3.45	4.39	13.40	104%	31.46	Y	No		24/04/2018	NS	Unknow	JibTop 3DL
5	0.12	0.73	1.36	2.41	3.33	4.39	13.42	104%	31.18		No		17/04/2019		Unknow	
2b	0.12	0.73	1.36	2.39	3.33	4.36	13.47	103%	31.17	Y	No		24/04/2018	NS	Unknow	Medium 3Di
3	0.08	0.59	1.13	2.22	3.29	4.35	13.57	103%	29.97	Y	No		22/11/2016	NORTH	Unknow	Heavy

SYMMETRIC SPINNAKERS (3)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
2	13.76	13.76	13.76	7.81	7.50	88.85		23/11/2016	NORTH	Nylon	S2
1	13.86	13.86	13.86	7.68	7.58	88.48		23/11/2016	NORTH	Nylon	S1.5
3	13.76	13.76	13.76	7.19	7.60	83.39		22/11/2016	NORTH	Unknown	S3

ASYMMETRIC SPINNAKERS (0)

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

Measurer **Karl-Hannes Tagu EST 7**

Date **28/06/2018**

Comment

Internal Ballast total = 0.0

Id	Item	Weight	Distance	VCG	Description
Id	Item	Maker	Model		
1	Engine	Volvo-Penta	D1		
Id	Item	Weight	Distance	VCG	Description

MEASUREMENT INVENTORY

Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condn	Description
1	Tank	Water	PVC	110.0	4.30			0-0 Water
2	Tank	Diesel	PVC	61.0	7.50			64-0 Diesel
3	Tank	Waste	PVC	25.0	7.60			0-0 Waste
Id	Item	Weight	Distance	VCG	Description			
1	Battery		4.30	70 Ah				
2	Battery		4.30	70 Ah				

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ORC Club Certificate Appendix

BOAT			
Name	DIRECTO	Certificate Number	096/20
Sail Nr	EST 998	Issued On	02/07/2020

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1063.9	879.8	777.8	733.8	719.3	715.0	707.2
52°	689.9	581.3	528.0	506.1	498.7	495.6	491.5
60°	648.4	553.3	511.9	492.7	483.6	479.6	476.3
75°	618.0	533.6	500.2	480.4	464.8	454.2	447.1
90°	625.3	533.7	494.5	477.5	458.7	440.8	417.3
110°	630.6	524.9	485.2	457.8	434.4	421.3	400.0
120°	648.1	534.4	489.9	461.4	434.0	409.7	379.6
135°	715.6	580.2	511.6	479.9	452.8	426.5	375.8
150°	851.2	675.6	569.5	510.3	481.0	456.0	408.3
Run VMG	982.8	780.1	657.6	579.9	527.3	492.6	444.3
Selected Courses							
Windward / Leeward	1023.4	830.0	717.7	656.8	623.3	603.8	575.7
Circular Random	859.4	694.4	606.3	555.5	524.4	504.0	476.9
Coastal / Long Distance	1019.3	778.8	647.3	574.5	535.8	504.6	453.4
Non Spinnaker	917.8	735.7	637.1	579.6	544.3	521.3	492.2

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°	41.3°	40.1°	40.5°	40.5°	40.9°
Beat VMG	3.38	4.09	4.63	4.91	5.00	5.04	5.09
52°	5.22	6.19	6.82	7.11	7.22	7.26	7.32
60°	5.55	6.51	7.03	7.31	7.44	7.51	7.56
75°	5.83	6.75	7.20	7.49	7.75	7.93	8.05
90°	5.76	6.75	7.28	7.54	7.85	8.17	8.63
110°	5.71	6.86	7.42	7.86	8.29	8.54	9.00
120°	5.55	6.74	7.35	7.80	8.29	8.79	9.48
135°	5.03	6.21	7.04	7.50	7.95	8.44	9.58
150°	4.23	5.33	6.32	7.05	7.48	7.89	8.82
Run VMG	3.66	4.61	5.47	6.21	6.83	7.31	8.10
Gybe Angles	145.0°	149.0°	150.0°	157.0°	180.0°	180.0°	179.8°