



ORC
Offshore Racing Congress
World leader in rating technology

**2019
ORC Club
Certificate**

Rating Office

**EYU
Purje 8
11911, Tallinn
Estonia**

Certificate

Number **EST031**
Issued On **6/6/2019**
ORC Ref **EST0000625**
VPP Ver. **2019 1.01**
Valid until **12/31/2019**

Crew Weight

Default 529kg
Maximum **635kg**
Minimum* **476kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring

ToD ToT
Double H.GPH **662.6 0.9055**
Double H.OSN **644.0 0.9317**
Non Spin GPH **678.5 0.8843**
Non Spin OSN **656.1 0.9145**

Sails Limitations

Headsails **5** Spinnakers **3**

Spinnaker configuration

Symmetric: **Yes 52.38**
Asymmetric: **No**
Flying H/S: **No**
Spin. Pole: **Yes**

Class Division Length

CDL = **8.482**

Stability (Measured)

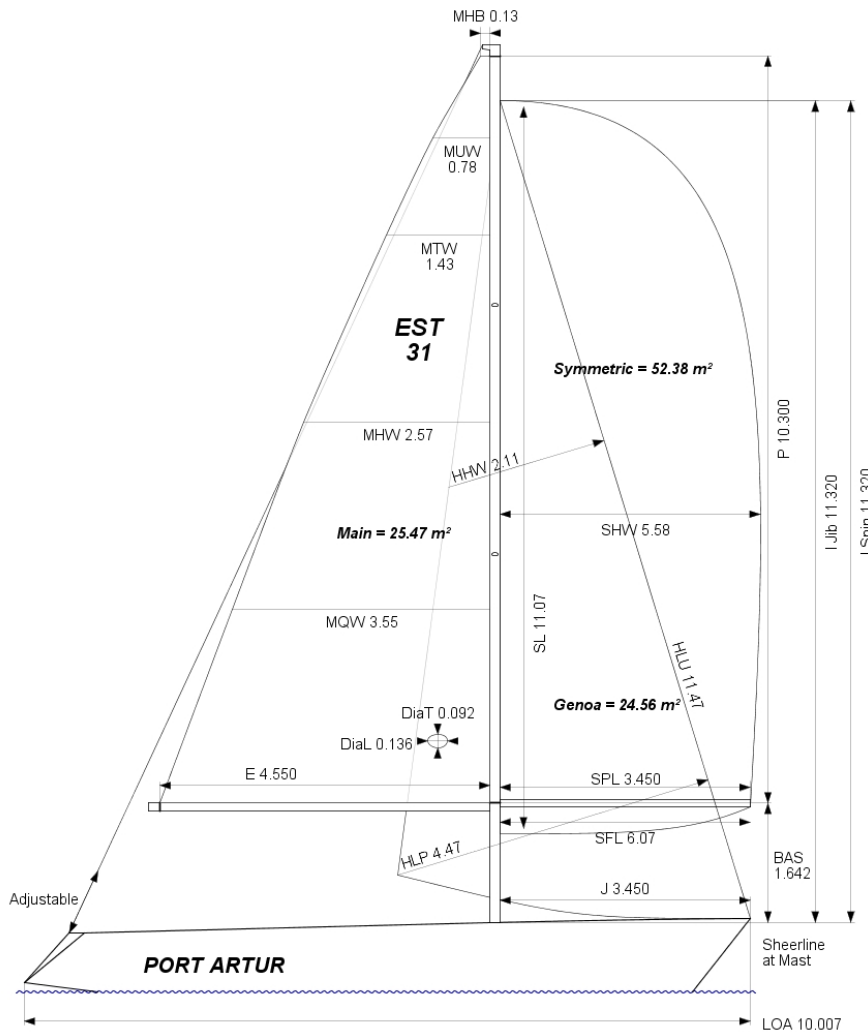
Limit Positive Stab.: **116.4°**
Stability Index: **113.5**

Owner

N.JANSSON
Lootsi 6, Pärnu
Estonia
PJK

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

Signature



BOAT Name PORT ARTUR Sail Nr EST 31		GPH 649.9	HULL Data File Est0031 LOA 10.007m Offset File X99.OD.OFF MB 2.992m Displacement 2,876kg Draft 1.780m					
CLASS Class X-99 mod Designer NIELS JEPPESEN Builder X-YACHTS Series 04/1985 Age Date 01/1986 Age Allowance 0.487%			IMS Division Cruiser/Racer Dynamic All. 0.246% Fwd Accom. No Construction Cored Fiber Rigging No Aramid Core No Crew Arm Ex Carbon Rudder No Light Stanchions			IMSL 8.609m VCGD -0.103m Sink 13.45kg/mm RL 8.353m VCGM -0.043m WS 18.14m² LSM0 8.310m Displacement/Length ratio 5.0117		
COMMENTS			Water Ballast 0 Trim Tab No BLR Index 0.0000			CENTERBOARD N/A		
PROPELLER Type No Propeller			SCORING OPTIONS					
		COASTAL / LONG DISTANCE			WINDWARD / LEEWARD			
Time on Distance	629.1			701.3				
Time on Time	0.9537			0.9626				
Triple Number	Low	Medium	High	Low	Medium	High		
Time on Distance	754.8	573.5	502.6	979.0	705.0	605.9		
Time on Time	0.8943	1.1770	1.3431	0.6895	0.9574	1.1140		

BOAT	
Name PORT ARTUR	Sail Nr EST 31
File Est0031	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 29/07/2015		SG 1.0020	
FFM 1.000	FF 1.006	SFFP 0.303	
FAM 0.805	FA 0.809	SAFP 9.175	
W1 41.0	PD1 222.0	WD 9.370	
W2 41.0	PD2 220.0	GSA 12.6	
W3 41.0	PD3 223.0	RSA 4298.7	
W4 41.0	PD4 220.0	PLM 2005.0	
LCF from stem on CL / on sheer		5.442 / 5.607	
Maximum beam station from stem		6.027	
RM Measured		60.7kg·m	
RM Default		60.1kg·m	
Limit of positive stability / Stab.Index		116.4° / 113.5	
Freeboard at mast at 3.450		0.955	



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2019
Measurements
Datasheet

RIG			
Forestay Tension Aft	Spreaders 2		
Inner Stay None Fitted	Runners 0		
Carbon Mast No	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 10.300	E 4.550	MDT1 0.092	MW 0.136
IG 11.320	J 3.450	MDL1 0.136	GO 0.136
ISP 11.320	SFJ 0.000	MDT2 0.092	BD 0.110
BAS 1.642	SPL 3.450	MDL2 0.136	MWT 77.60
FSP 0.000	TPS	TL 0.000	MCG 3.950

MIZZEN RIG AND SAILS	
N/A	

PROPELLER	
Type No Propeller	

Certificate	
Number EST031	
ORC Ref EST00000625	
Issued On 6/6/2019	
VPP Ver. 2019 1.01	
Valid until 12/31/2019	

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					
4	0.13	0.78	1.43	2.57	3.55	25.47	EST 8	13/05/2019		Unknown						
HEADSAILS (1)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
4	0.07	0.54	1.03	2.11	3.12	4.47	11.47	130%	24.57			EST 5	15/05/2018		Unknown	
SYMMETRIC SPINNAKERS (1)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
2	11.07	11.07	11.07	5.58	6.07	52.38	EST 5	15/05/2018		Unknown						
ASYMMETRIC SPINNAKERS (0)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				

2009

ORC Club Certificate Appendix

BOAT			
Name	PORT ARTUR	Certificate Number	EST031
Sail Nr	EST 31	Issued On	6/6/2019

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1102.4	905.1	790.9	730.6	709.9	701.1	699.8
52°	716.5	597.6	545.2	522.1	511.1	506.1	503.1
60°	675.0	570.1	530.9	509.9	496.1	489.0	483.9
75°	646.4	552.9	519.5	497.7	477.7	462.1	449.1
90°	656.3	556.6	515.8	490.0	472.4	450.8	418.7
110°	675.9	555.5	510.1	478.5	447.9	422.5	392.1
120°	699.1	570.1	517.5	485.1	454.1	424.1	369.7
135°	779.1	627.6	546.1	509.1	479.3	449.1	389.4
150°	926.1	726.7	610.7	542.9	509.2	481.6	426.5
Run VMG	1069.4	839.1	704.4	617.5	557.6	519.5	466.1
Selected Courses							
Windward / Leeward	1085.9	872.1	747.6	674.0	633.8	610.3	582.9
Circular Random	904.7	726.5	630.1	573.3	537.5	513.4	481.6
Coastal / Long Distance	1084.2	818.9	675.1	591.5	548.9	514.6	456.4
Non Spinnaker	955.4	762.4	657.0	594.7	555.6	529.6	495.9

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	43.1°	41.8°	40.8°	38.4°	37.5°	37.2°	37.3°
Beat VMG	3.27	3.98	4.55	4.93	5.07	5.13	5.14
52°	5.02	6.02	6.60	6.90	7.04	7.11	7.16
60°	5.33	6.31	6.78	7.06	7.26	7.36	7.44
75°	5.57	6.51	6.93	7.23	7.54	7.79	8.02
90°	5.49	6.47	6.98	7.35	7.62	7.99	8.60
110°	5.33	6.48	7.06	7.52	8.04	8.52	9.18
120°	5.15	6.31	6.96	7.42	7.93	8.49	9.74
135°	4.62	5.74	6.59	7.07	7.51	8.02	9.24
150°	3.89	4.95	5.89	6.63	7.07	7.48	8.44
Run VMG	3.37	4.29	5.11	5.83	6.46	6.93	7.72
Gybe Angles	145.5°	149.2°	151.4°	157.6°	180.0°	180.0°	180.0°