



**ORC**

Offshore Racing Congress  
World leader in rating technology

**2019  
ORC Club  
Certificate**

**Rating Office**

**EYU  
Purje 8  
11911, Tallinn  
Estonia**

**Certificate**

Number **EST606**  
Issued On **4/24/2019**  
ORC Ref **EST00000490**  
VPP Ver. **2019 1.01**  
Valid until **12/31/2019**

**Crew Weight**

Default 634kg  
Maximum **670kg**  
Minimum\* **503kg**  
*\*when applied by the NoR and SI*  
Non Manual Pwr **No**

**Special Scoring**

ToD ToT  
Double H.GPH **648.4 0.9254**  
Double H.OSN **631.6 0.9499**  
Non Spin GPH **675.1 0.8888**  
Non Spin OSN **653.9 0.9176**

**Sails Limitations**

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

**Spinnaker configuration**

Symmetric: **Yes 89.65**  
Asymmetric: **No**  
Flying H/S: **No**  
Spin. Pole: **Yes**

**Class Division Length**

**CDL = 8.771**

**Stability (Measured)**

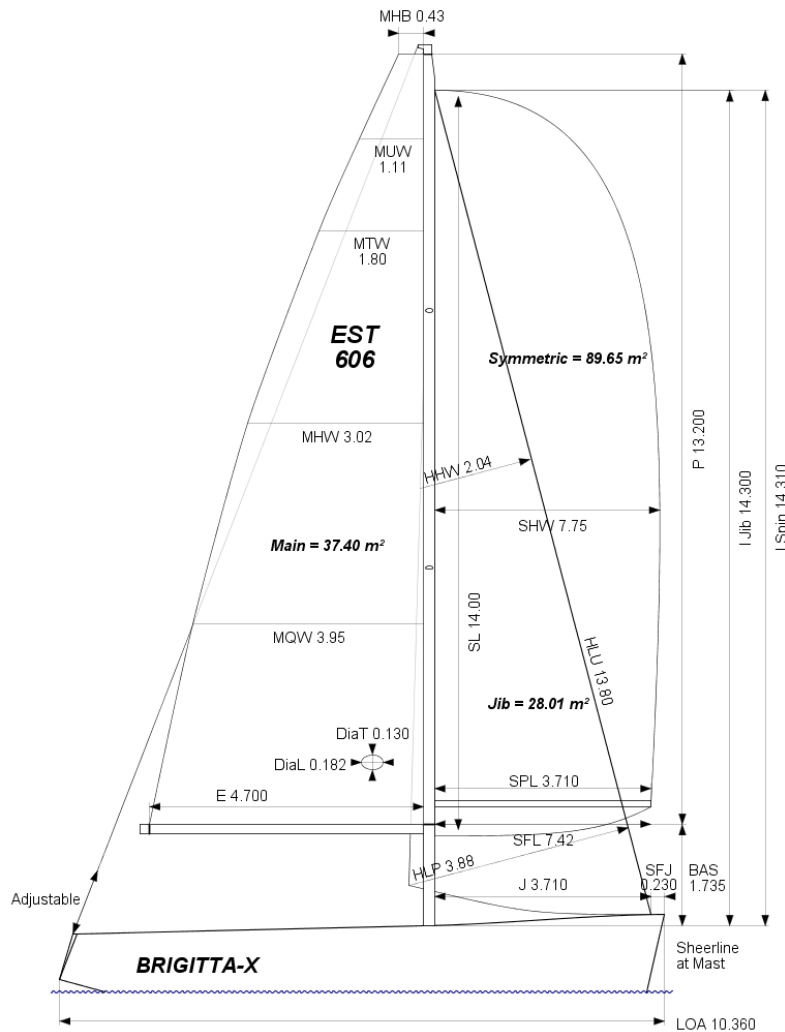
Limit Positive Stab.: **117.5°**  
Stability Index: **120.2**

**Owner**

**Jakari Marine OÜ**  
Regati 1, Tallinn  
Estonia  
ESS Kalev JK

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

Signature



<b>BOAT</b>		<b>GPH</b>		<b>HULL</b>					
Name <b>BRIGITTA-X</b> Sail Nr <b>EST 606</b>		<b>639.2</b>		Data File <b>Est0606</b>	LOA <b>10.360m</b>				
				Offset File <b>X34.OFF</b>	MB <b>3.384m</b>				
				Displacement <b>5,638kg</b>	Draft <b>1.920m</b>				
<b>CLASS</b>				IMS Division <b>Cruiser/Racer</b>	Dynamic All. <b>0.222%</b>				
Class <b>X-34</b>				Fwd Accom. <b>Yes</b>	Construction <b>Cored</b>				
Designer <b>JEPPESEN</b>				Fiber Rigging <b>No</b>	Aramid Core <b>No</b>				
Builder <b>X YACHTS</b>				Crew Arm Ex	Carbon Rudder <b>No</b>				
Series <b>11/2007</b>				Light Stanchions					
Age Date <b>04/2009</b>				IMSL <b>9.469m</b>	VCGD <b>0.067m</b>	Sink <b>18.23kg/mm</b>			
Age Allowance <b>0.390%</b>				RL <b>8.072m</b>	VCGM <b>0.038m</b>	WS <b>24.64m<sup>2</sup></b>			
<b>COMMENTS</b>				LSM0 <b>9.444m</b>	Displacement/Length ratio <b>6.6936</b>				
				Water Ballast <b>0</b>	Trim Tab <b>No</b>				
				BLR Index <b>0.0000</b>					
<b>PROPELLER</b>				<b>CENTERBOARD</b>					
Installation <b>Strut</b>		PRD <b>0.430</b>		<b>N/A</b>					
Type <b>Folding 2 blades</b>		PBW <b>0.125</b>							
		PIPA <b>0.0032</b>							
<b>SCORING OPTIONS</b>									
	<b>COASTAL / LONG DISTANCE</b>					<b>WINDWARD / LEEWARD</b>			
Time on Distance	<b>621.1</b>					<b>692.4</b>			
Time on Time	<b>0.9660</b>					<b>0.9748</b>			
Triple Number	Low	Medium	High	Low	Medium	High			
Time on Distance	<b>733.1</b>	<b>565.7</b>	<b>506.3</b>	<b>947.2</b>	<b>695.8</b>	<b>604.1</b>			
Time on Time	<b>0.9208</b>	<b>1.1933</b>	<b>1.3333</b>	<b>0.7126</b>	<b>0.9701</b>	<b>1.1173</b>			

<b>BOAT</b>	
Name <b>BRIGITTA-X</b>	Sail Nr <b>EST 606</b>
File <b>Est0606</b>	Data in <b>meters/kilograms</b>

<b>INCLINING TEST AND FREEBOARDS</b>			
Inclining Test <b>Current Inclining</b>			
Flotation date <b>10/08/2009</b>		SG <b>1.0020</b>	
FFM <b>1.315</b>	FF <b>1.326</b>	SFFP <b>0.325</b>	
FAM <b>0.990</b>	FA <b>0.996</b>	SAFP <b>10.060</b>	
W1 <b>64.6</b>	PD1 <b>563.7</b>	WD <b>12.805</b>	
W2 <b>64.6</b>	PD2 <b>565.4</b>	GSA <b>1.0</b>	
W3 <b>64.6</b>	PD3 <b>563.5</b>	RSA <b>1.0</b>	
W4 <b>64.6</b>	PD4 <b>565.2</b>	PLM <b>9000.0</b>	
LCF from stem on CL / on sheer		<b>5.831 / 6.049</b>	
Maximum beam station from stem		<b>6.985</b>	
RM Measured		<b>115.4kg·m</b>	
RM Default		<b>126.9kg·m</b>	
Limit of positive stability / Stab.Index		<b>117.5° / 120.2</b>	
Freeboard at mast at 3.940		<b>1.127</b>	



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**2019**  
**Measurements**  
**Datasheet**

<b>RIG</b>			
Forestay Tension <b>Aft</b>	Spreaders <b>2</b>		
Inner Stay <b>None Fitted</b>	Runners <b>0</b>		
Carbon Mast <b>No</b>	Jumper Struts <b>None</b>		
Taper Hollows <b>No</b>	Jib Furler <b>No</b>		
Fiber Rigging <b>No</b>	Main Furler <b>No</b>		
Lenticular Rigging <b>No</b>	Without Backstay <b>No</b>		
Articulated Bowsprit <b>No</b>			
P <b>13.200</b>	E <b>4.700</b>	MDT1 <b>0.130</b>	MW <b>0.182</b>
IG <b>14.300</b>	J <b>3.710</b>	MDL1 <b>0.182</b>	GO <b>0.200</b>
ISP <b>14.310</b>	SFJ <b>0.230</b>	MDT2 <b>0.124</b>	BD
BAS <b>1.735</b>	SPL <b>3.710</b>	MDL2 <b>0.134</b>	MWT <b>159.50</b>
FSP <b>0.064</b>	TPS	TL <b>0.440</b>	MCG <b>4.600</b>

<b>MIZZEN RIG AND SAILS</b>	
N/A	

<b>PROPELLER</b>			
Installation <b>Strut</b>	PRD <b>0.430</b>		
Type <b>Folding 2 blades</b>	PBW <b>0.125</b>		
Twin Screw <b>No</b>	PIPA <b>0.0032</b>		
ST1 <b>0.060</b>	ST3 <b>0.180</b>	ST5 <b>0.325</b>	
ST2 <b>0.180</b>	ST4 <b>0.092</b>	EDL <b>1.800</b>	

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<b>COMMENTS</b>	

<b>MOVABLE BALLAST</b>	
N/A	

<b>CENTERBOARD</b>	
N/A	

<b>SAILS INVENTORY</b>																
<b>MAINSAIL (1)</b>																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
5	0.43	1.11	1.80	3.02	3.95	37.40				Unknown	P13.20;E4,70					
<b>HEADSAILS (6)</b>																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
5	0.12	0.65	1.23	2.04	2.90	3.88	13.80	105%	28.01			EST1	26/05/2014		Unknown	Unknown
2n	0.12	0.68	1.22	2.03	2.90	3.86	13.80	104%	27.96			EST1	24/04/2013		Unknown	Unknown
6	0.12	0.64	1.21	2.02	2.90	3.86	13.80	104%	27.84			EST1	26/05/2014		Unknown	Unknown
1n	0.12	0.62	1.12	2.01	2.90	3.90	13.87	105%	27.80			EST1	24/04/2013		Unknown	Unknown
4n2	0.12	0.62	1.12	1.95	2.83	3.88	13.77	105%	27.15			EST	22/04/2013		Unknown	Unknown
3	0.09	0.47	0.90	1.76	2.65	3.60	14.00	97%	25.02						Unknown	Unknown
<b>SYMMETRIC SPINNAKERS (4)</b>																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
4	14.00	14.00	14.00	7.75	7.42	89.65				Unknown						
1	14.00	14.00	14.00	7.13	6.65	82.07				Unknown						
2	14.00	14.00	14.00	7.00	6.62	80.78				Unknown						
3	13.76	13.76	13.76	7.02	6.50	79.31	EST1	26/05/2014		Unknown						
<b>ASYMMETRIC SPINNAKERS (0)</b>																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				

<b>MEASUREMENT INVENTORY</b>				
Measurer <b>V.Rosme EST 2</b>				
Date <b>10/08/2009</b>				
Comment				
Id	Item	Weight	Distance	VCG Description
4	Anchor	40.0	2.80	Anchor
4	Feels	3.0	6.20	Feelbox
Id	Item	Maker	Model	
1	Engine	Yanmar	20YM	
Id	Item	Weight	Description	

<b>MEASUREMENT INVENTORY</b>								
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condn	Description
1	Tank	Septic	Plastic	40.0	8.20			0-0
2	Tank	Fuel	Alum	90.0	4.85			0-0 starboard
3	Tank	Water	Plastic	210.0	4.40			0-0 portside
Id	Item	Weight	Distance	VCG	Description			
1	Battery		4.00		180 Ah starboard			
2	Battery		7.80		70 Ah			
1	Misc		4.90		Boiler Isotherm			



# 2019

## ORC Club Certificate Appendix

<b>BOAT</b>			
Name	<b>BRIGITTA-X</b>	Certificate Number	<b>EST606</b>
Sail Nr	<b>EST 606</b>	Issued On	<b>4/24/2019</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1095.9</b>	<b>911.2</b>	<b>802.8</b>	<b>743.2</b>	<b>723.0</b>	<b>716.0</b>	<b>707.5</b>
52°	<b>712.3</b>	<b>603.8</b>	<b>542.6</b>	<b>516.9</b>	<b>506.6</b>	<b>502.7</b>	<b>499.6</b>
60°	<b>671.7</b>	<b>572.9</b>	<b>525.5</b>	<b>504.2</b>	<b>493.2</b>	<b>488.6</b>	<b>486.2</b>
75°	<b>643.6</b>	<b>550.9</b>	<b>513.0</b>	<b>493.5</b>	<b>479.6</b>	<b>469.3</b>	<b>460.1</b>
90°	<b>649.9</b>	<b>544.1</b>	<b>502.8</b>	<b>487.5</b>	<b>475.4</b>	<b>460.5</b>	<b>436.5</b>
110°	<b>640.7</b>	<b>534.0</b>	<b>494.8</b>	<b>471.5</b>	<b>451.3</b>	<b>438.8</b>	<b>421.6</b>
120°	<b>659.0</b>	<b>544.6</b>	<b>499.6</b>	<b>474.7</b>	<b>451.3</b>	<b>429.2</b>	<b>401.9</b>
135°	<b>726.4</b>	<b>592.4</b>	<b>521.1</b>	<b>490.3</b>	<b>467.3</b>	<b>444.0</b>	<b>400.6</b>
150°	<b>858.3</b>	<b>685.1</b>	<b>580.1</b>	<b>519.6</b>	<b>491.1</b>	<b>469.6</b>	<b>426.9</b>
Run VMG	<b>991.1</b>	<b>791.0</b>	<b>669.5</b>	<b>590.0</b>	<b>535.4</b>	<b>501.1</b>	<b>458.3</b>
<b>Selected Courses</b>							
Windward / Leeward	<b>1043.5</b>	<b>851.1</b>	<b>736.2</b>	<b>666.6</b>	<b>629.2</b>	<b>608.5</b>	<b>582.9</b>
Circular Random	<b>879.7</b>	<b>710.6</b>	<b>620.0</b>	<b>567.8</b>	<b>536.1</b>	<b>515.8</b>	<b>490.1</b>
Coastal / Long Distance	<b>1038.2</b>	<b>798.2</b>	<b>663.3</b>	<b>585.0</b>	<b>546.1</b>	<b>516.4</b>	<b>468.6</b>
Non Spinnaker	<b>944.6</b>	<b>756.4</b>	<b>653.9</b>	<b>593.8</b>	<b>556.9</b>	<b>533.1</b>	<b>503.9</b>

<b>Velocity Prediction in Knots for True Wind Speeds</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	<b>43.1°</b>	<b>41.9°</b>	<b>41.2°</b>	<b>40.1°</b>	<b>39.4°</b>	<b>39.2°</b>	<b>39.6°</b>
Beat VMG	<b>3.29</b>	<b>3.95</b>	<b>4.48</b>	<b>4.84</b>	<b>4.98</b>	<b>5.03</b>	<b>5.09</b>
52°	<b>5.05</b>	<b>5.96</b>	<b>6.63</b>	<b>6.96</b>	<b>7.11</b>	<b>7.16</b>	<b>7.21</b>
60°	<b>5.36</b>	<b>6.28</b>	<b>6.85</b>	<b>7.14</b>	<b>7.30</b>	<b>7.37</b>	<b>7.40</b>
75°	<b>5.59</b>	<b>6.53</b>	<b>7.02</b>	<b>7.29</b>	<b>7.51</b>	<b>7.67</b>	<b>7.82</b>
90°	<b>5.54</b>	<b>6.62</b>	<b>7.16</b>	<b>7.38</b>	<b>7.57</b>	<b>7.82</b>	<b>8.25</b>
110°	<b>5.62</b>	<b>6.74</b>	<b>7.28</b>	<b>7.64</b>	<b>7.98</b>	<b>8.20</b>	<b>8.54</b>
120°	<b>5.46</b>	<b>6.61</b>	<b>7.21</b>	<b>7.58</b>	<b>7.98</b>	<b>8.39</b>	<b>8.96</b>
135°	<b>4.96</b>	<b>6.08</b>	<b>6.91</b>	<b>7.34</b>	<b>7.70</b>	<b>8.11</b>	<b>8.99</b>
150°	<b>4.19</b>	<b>5.25</b>	<b>6.21</b>	<b>6.93</b>	<b>7.33</b>	<b>7.67</b>	<b>8.43</b>
Run VMG	<b>3.63</b>	<b>4.55</b>	<b>5.38</b>	<b>6.10</b>	<b>6.72</b>	<b>7.18</b>	<b>7.85</b>
Gybe Angles	<b>145.3°</b>	<b>149.9°</b>	<b>150.6°</b>	<b>158.0°</b>	<b>180.0°</b>	<b>180.0°</b>	<b>180.0°</b>