

<b>BOAT</b>
Name <b>DIRECTO</b> Sail Nr <b>EST 998</b>

<b>GPH</b>
<b>625.2</b>

<b>HULL</b>			
Length Overall	<b>10.300m</b>		
Maximum Beam	<b>3.536m</b>		
Displacement	<b>4,691kg</b>		
Draft	<b>1.908m</b>		
IMS Reg. Division	<b>Cruiser/Racer</b>		
Dynamic Allowance	<b>0.115%</b>		
Fwd Accommodation	<b>Yes</b>		
Hull Construction	<b>Cored</b>		
Carbon Rudder	<b>No</b>		
Crew Arm Extension			
IMSL	<b>9.451m</b>	VCGD	<b>0.102m</b> Sink <b>17.85kg/mm</b>
RL	<b>8.348m</b>	VCGM	<b>0.091m</b> WS <b>23.70m<sup>2</sup></b>
LSM0	<b>9.183m</b> Displacement/Length ratio		<b>6.0578</b>



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Certificate

<b>GENERAL</b>
Class <b>ITALIA 9.98</b>
Designer <b>POLLI</b>
Builder <b>ITALIA YACHTS</b>
Series <b>09/2014</b>
Age <b>10/2016</b>
Age Allowance <b>0.163%</b>
Offset File <b>IY998mp.off - 8/3/2018 8:13:10 PM</b>
Measurement by <b>A.Tetsmann - 17/04/2019</b>

<b>Rating Office</b>
<b>EYU</b>
<b>Purje 8</b>
<b>11911, Tallinn</b>
<b>Estonia</b>

<b>SCORING OPTIONS</b>						
	<b>COASTAL / LONG DISTANCE</b>			<b>WINDWARD / LEEWARD</b>		
Time on Distance	<b>608.0</b>			<b>680.7</b>		
Time on Time	<b>0.9869</b>			<b>0.9916</b>		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	<b>717.0</b>	<b>553.4</b>	<b>493.8</b>	<b>928.7</b>	<b>682.6</b>	<b>596.1</b>
Time on Time	<b>0.9414</b>	<b>1.2197</b>	<b>1.3670</b>	<b>0.7268</b>	<b>0.9888</b>	<b>1.1323</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1067.5</b>	<b>882.5</b>	<b>778.4</b>	<b>730.8</b>	<b>715.3</b>	<b>710.3</b>	<b>702.9</b>
52°	<b>692.2</b>	<b>583.2</b>	<b>528.7</b>	<b>505.9</b>	<b>497.8</b>	<b>494.4</b>	<b>490.7</b>
60°	<b>650.8</b>	<b>554.9</b>	<b>512.6</b>	<b>492.9</b>	<b>482.8</b>	<b>478.6</b>	<b>475.7</b>
75°	<b>621.0</b>	<b>535.0</b>	<b>500.9</b>	<b>481.0</b>	<b>465.1</b>	<b>453.7</b>	<b>446.0</b>
90°	<b>628.6</b>	<b>535.3</b>	<b>494.3</b>	<b>477.7</b>	<b>459.7</b>	<b>441.7</b>	<b>417.1</b>
110°	<b>630.7</b>	<b>524.9</b>	<b>485.2</b>	<b>458.0</b>	<b>434.7</b>	<b>421.6</b>	<b>401.2</b>
120°	<b>648.5</b>	<b>534.6</b>	<b>489.9</b>	<b>461.6</b>	<b>434.4</b>	<b>410.2</b>	<b>380.0</b>
135°	<b>716.2</b>	<b>581.0</b>	<b>511.9</b>	<b>480.1</b>	<b>453.3</b>	<b>427.0</b>	<b>376.6</b>
150°	<b>852.1</b>	<b>676.3</b>	<b>570.2</b>	<b>510.6</b>	<b>481.3</b>	<b>456.5</b>	<b>408.9</b>
Run VMG	<b>983.9</b>	<b>781.0</b>	<b>658.3</b>	<b>580.3</b>	<b>527.6</b>	<b>492.8</b>	<b>444.8</b>

<b>Certificate</b>
Number <b>Est998</b>
ORC Ref <b>EST00000802</b>
Issued On <b>7/28/2019</b>
VPP Ver. <b>2019 1.01</b>
Valid until <b>12/31/2019</b>

<b>Crew Weight</b>	
Default	<b>610kg</b>
Maximum	<b>640kg</b>
Minimum*	<b>480kg</b>
*when applied by the NoR and SI	
Non Manual Pwr	<b>No</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>1025.7</b>	<b>831.7</b>	<b>718.3</b>	<b>655.6</b>	<b>621.5</b>	<b>601.5</b>	<b>573.9</b>
Circular Random	<b>860.9</b>	<b>695.1</b>	<b>606.5</b>	<b>555.2</b>	<b>523.9</b>	<b>503.3</b>	<b>476.2</b>
Coastal / Long Distance	<b>1021.5</b>	<b>780.4</b>	<b>647.8</b>	<b>573.8</b>	<b>535.0</b>	<b>503.8</b>	<b>453.0</b>
Non Spinnaker	<b>920.8</b>	<b>737.5</b>	<b>638.1</b>	<b>579.9</b>	<b>544.2</b>	<b>520.9</b>	<b>491.6</b>

<b>Special Scoring</b>		
	ToD	ToT
Double H.GPH	<b>635.4</b>	<b>0.9443</b>
Double H.OSN	<b>619.6</b>	<b>0.9684</b>
Non Spin GPH	<b>658.7</b>	<b>0.9109</b>
Non Spin OSN	<b>639.3</b>	<b>0.9385</b>

<b>Sails Limitations</b>	
Headsails	Spinnakers
<b>5</b>	<b>3</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>43.4°</b>	<b>42.0°</b>	<b>41.2°</b>	<b>40.0°</b>	<b>40.2°</b>	<b>40.3°</b>	<b>40.4°</b>
Beat VMG	<b>3.37</b>	<b>4.08</b>	<b>4.62</b>	<b>4.93</b>	<b>5.03</b>	<b>5.07</b>	<b>5.12</b>
52°	<b>5.20</b>	<b>6.17</b>	<b>6.81</b>	<b>7.12</b>	<b>7.23</b>	<b>7.28</b>	<b>7.34</b>
60°	<b>5.53</b>	<b>6.49</b>	<b>7.02</b>	<b>7.30</b>	<b>7.46</b>	<b>7.52</b>	<b>7.57</b>
75°	<b>5.80</b>	<b>6.73</b>	<b>7.19</b>	<b>7.48</b>	<b>7.74</b>	<b>7.93</b>	<b>8.07</b>
90°	<b>5.73</b>	<b>6.73</b>	<b>7.28</b>	<b>7.54</b>	<b>7.83</b>	<b>8.15</b>	<b>8.63</b>
110°	<b>5.71</b>	<b>6.86</b>	<b>7.42</b>	<b>7.86</b>	<b>8.28</b>	<b>8.54</b>	<b>8.97</b>
120°	<b>5.55</b>	<b>6.73</b>	<b>7.35</b>	<b>7.80</b>	<b>8.29</b>	<b>8.78</b>	<b>9.47</b>
135°	<b>5.03</b>	<b>6.20</b>	<b>7.03</b>	<b>7.50</b>	<b>7.94</b>	<b>8.43</b>	<b>9.56</b>
150°	<b>4.22</b>	<b>5.32</b>	<b>6.31</b>	<b>7.05</b>	<b>7.48</b>	<b>7.89</b>	<b>8.80</b>
Run VMG	<b>3.66</b>	<b>4.61</b>	<b>5.47</b>	<b>6.20</b>	<b>6.82</b>	<b>7.31</b>	<b>8.09</b>
Gybe Angles	<b>144.9°</b>	<b>149.0°</b>	<b>150.2°</b>	<b>157.3°</b>	<b>180.0°</b>	<b>180.0°</b>	<b>180.0°</b>

<b>Class Division Length</b>
<b>CDL = 8.900</b>

<b>Storm Sails Areas</b>	
Heavy Weather Jib	<b>25.64</b>
Storm Jib (JL=8.96)	<b>9.50</b>
Storm Trysail	<b>10.99</b>

<b>Owner</b>
<b>MTÜ 998 Purjetajate Selts</b>
<b>Peterburi tee 99b</b>
<b>Tallinn, Estonia</b>
<b>KJK</b>

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

Signature

<b>BOAT</b>	
Name <b>DIRECTO</b>	Sail Nr <b>EST 998</b>
File <b>Est0998</b>	Data in <b>meters/kilograms</b>

<b>INCLINING TEST AND FREEBOARDS</b>			
Inclining Test <b>Current Inclining</b>			
Flotation date <b>28/06/2018</b>		SG <b>1.0000</b>	
FFM <b>1.243</b>	FF <b>1.246</b>	SFFP <b>0.000</b>	
FAM <b>0.612</b>	FA <b>0.627</b>	SAFP <b>10.300</b>	
W1 <b>60.5</b>	PD1 <b>523.3</b>	WD <b>11.810</b>	
W2 <b>60.5</b>	PD2 <b>523.8</b>	GSA <b>1.0</b>	
W3 <b>60.5</b>	PD3 <b>523.8</b>	RSA <b>1.0</b>	
W4 <b>60.5</b>	PD4 <b>524.3</b>	PLM <b>9000.0</b>	
LCF from stem on CL / on sheer		<b>5.596 / 5.823</b>	
Maximum beam station from stem		<b>7.304</b>	
RM Measured		<b>107.4kg·m</b>	
RM Default		<b>115.2kg·m</b>	
Limit of positive stability / Stab.Index		<b>117.5° / 114.9</b>	
Freeboard at mast at 4.315		<b>1.215</b>	



**2019**  
**IMS Measurement Certificate**

<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>13.080</b>	E <b>4.800</b>	MDT1 <b>0.120</b>	MW <b>0.183</b>	
IG <b>13.720</b>	J <b>4.215</b>	MDL1 <b>0.185</b>	GO <b>0.201</b>	
ISP <b>13.832</b>	SFJ <b>0.100</b>	MDT2 <b>0.120</b>	BD <b>0.220</b>	
BAS <b>1.500</b>	SPL <b>4.210</b>	MDL2 <b>0.155</b>	MWT <b>144.10</b>	
FSP <b>0.076</b>	TPS	TL <b>0.800</b>	MCG <b>4.990</b>	

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

<b>PROPELLER</b>			
Installation <b>Strut</b>	PRD <b>0.380</b>		
Type <b>Folding 2 blades</b>	PBW <b>0.100</b>		
Twin Screw <b>No</b>	PIPA <b>0.0039</b>		
ST1 <b>0.065</b>	ST3 <b>0.180</b>	ST5 <b>0.343</b>	
ST2 <b>0.180</b>	ST4 <b>0.110</b>	EDL <b>1.250</b>	

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<b>COMMENTS</b>	

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

<b>CENTERBOARD</b>	
N/A	

<b>SAILS (Maximum Areas)</b>									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.360	1.05	1.77	2.96	3.90	36.63	37.33	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL				
	13.76	13.76	13.76	7.81	7.50	88.84		SL · (SFL + 4·SHW) / 6	
Asymmetric	Not Available								

<b>HEADSAILS</b>												
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	0.71	1.32	2.44	3.45	4.39	13.40	31.46	Y		24/04/2018	Unknow	JibTop 3DL
0.12	0.73	1.36	2.41	3.33	4.39	13.42	31.18			17/04/2019	Unknow	
0.12	0.73	1.36	2.39	3.33	4.36	13.47	31.17	Y		24/04/2018	Unknow	Medium 3Di
0.08	0.59	1.13	2.22	3.29	4.35	13.57	29.97	Y		22/11/2016	Unknow	Heavy

<b>MEASUREMENT INVENTORY</b>				
Measurer <b>Karl-Hannes Tagu EST 7</b>				
Date <b>28/06/2018</b>				
Comment <b>Tallinn-Pirita</b>				
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>
<i>Id</i>	<i>Item</i>	<i>Maker</i>	<i>Model</i>	
1	Engine	Volvo-Penta	D1	
<i>Id</i>	<i>Item</i>	<i>Weight Description</i>		

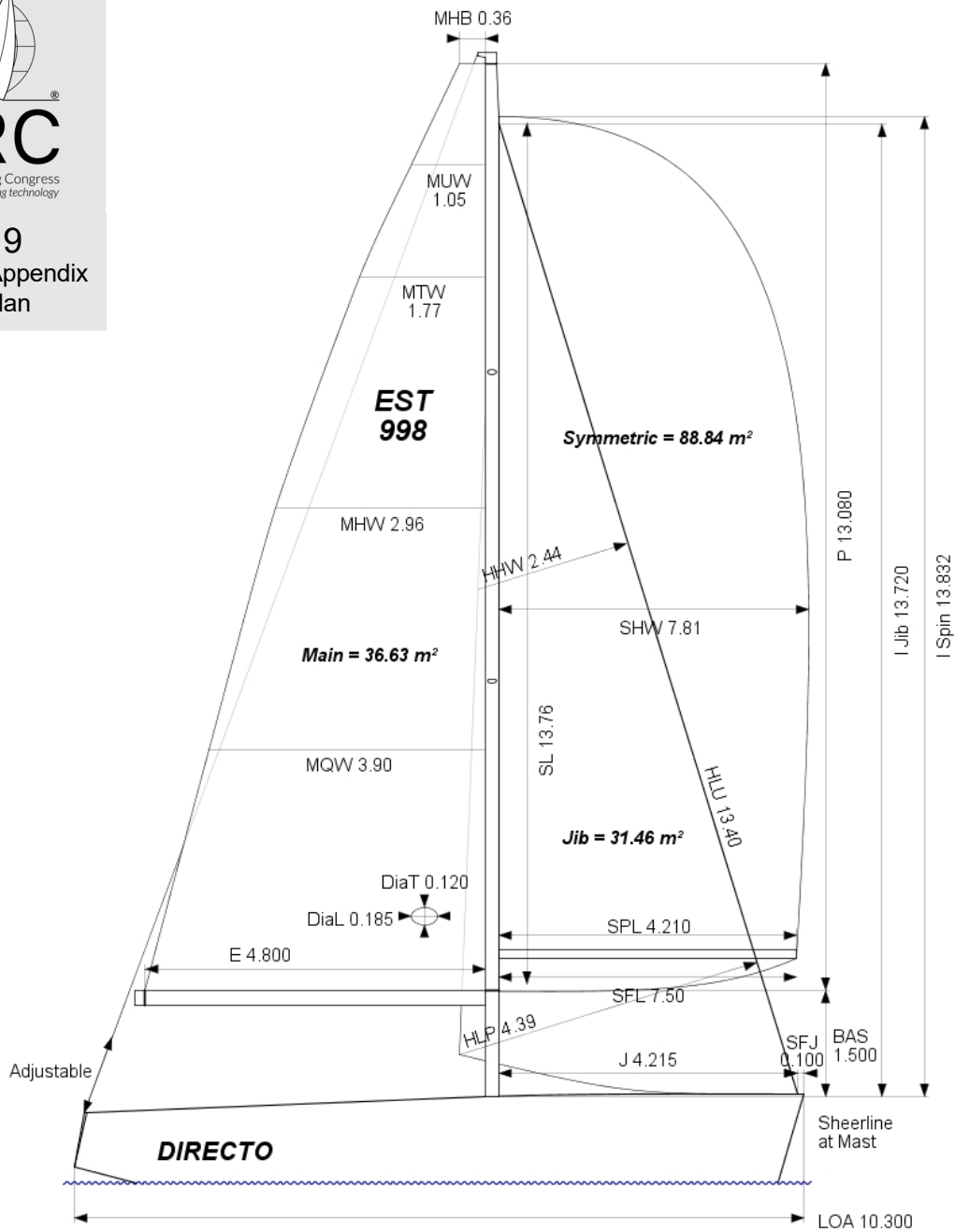
<b>MEASUREMENT INVENTORY</b>							
<i>Id</i>	<i>Item</i>	<i>Tank Use</i>	<i>Tank Type</i>	<i>Capcty</i>	<i>Dist.</i>	<i>VCG</i>	<i>Condtn Description</i>
1	Tank	Water	PVC	110.0	4.30		0-0 Water
2	Tank	Diesel	PVC	61.0	7.50		61-0 Diesel
3	Tank	Waste	PVC	25.0	7.60		0-0 Waste
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>			
1	Battery		4.30	70 Ah			
2	Battery		4.30	70 Ah			



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Sail Plan



**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	EST 1	13/07/2017	NORTH	Unknown	

**HEADSAILS (4)**

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
4b	0.11	0.71	1.32	2.44	3.45	4.39	13.40	104%	31.46	Y		EST 7	24/04/2018	NS	Unknown	JibTop 3DL
5	0.12	0.73	1.36	2.41	3.33	4.39	13.42	104%	31.18			EST 7	17/04/2019		Unknown	
2b	0.12	0.73	1.36	2.39	3.33	4.36	13.47	103%	31.17	Y		EST 7	24/04/2018	NS	Unknown	Medium 3Di
3	0.08	0.59	1.13	2.22	3.29	4.35	13.57	103%	29.97	Y		Sizil	22/11/2016	NORTH	Unknown	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	Hemamali	23/11/2016	NORTH	Nylon	S2
1	13.86	13.86	13.86	7.68	7.58	88.48	Hemamali	23/11/2016	NORTH	Nylon	S1.5
3	13.76	13.76	13.76	7.19	7.60	83.39	Hemamali	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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