

<b>BOAT</b> Name <b>Digital Alpha</b> Sail Nr <b>IVB 42-057</b>	<b>GPH</b> <b>543.9</b>	<b>HULL</b> Length Overall <b>12.980m</b> Maximum Beam <b>3.910m</b> Displacement <b>7,930kg</b> Draft <b>2.755m</b> IMS Reg. Division <b>Performance</b> Dynamic Allowance <b>0.000%</b> Fwd Accommodation <b>No</b> Hull Construction <b>Cored</b> Carbon Rudder <b>Yes</b> Crew Arm Extension
<b>GENERAL</b> Class <b>Swan 42 Club</b> Designer <b>Frers</b> Builder <b>Nautor</b> Series <b>05/2006, CIN FI-SWN42057H111</b> Age <b>10/2011</b> Age Allowance <b>0.292%</b> Offset File <b>SWAN42CS.OFF - 31/07/2014 13:38:00</b> Measurement by <b>V.Alexeev - 12/05/2015</b>		IMSL <b>11.910m</b> VCGD <b>-0.389m</b> Sink <b>24.69kg/mm</b> RL <b>11.163m</b> VCGM <b>-0.296m</b> WS <b>33.44m<sup>2</sup></b>




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**2015**  
ORC International  
Certificate

**Rating Office**

Offshore  
Racing  
Congress



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	OFFSHORE COASTAL / LONG DISTANCE			INSHORE WINDWARD / LEEWARD		
	PLT	PLD		PLT	PLD	
Time On Distance	<b>533.6</b>			<b>599.9</b>		
Time On Time	<b>1.1243</b>			<b>1.1252</b>		
Performance Line	<b>1.002</b>	<b>122.0</b>		<b>1.016</b>	<b>243.1</b>	
Triple Number	Low <b>1.0974</b>	Medium <b>1.3919</b>	High <b>1.5600</b>	Low <b>0.8289</b>	Medium <b>1.1201</b>	High <b>1.2860</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>922.7</b>	<b>761.4</b>	<b>671.4</b>	<b>632.0</b>	<b>612.0</b>	<b>599.6</b>	<b>596.0</b>
52°	<b>597.8</b>	<b>503.1</b>	<b>460.4</b>	<b>445.7</b>	<b>438.5</b>	<b>434.4</b>	<b>429.7</b>
60°	<b>544.0</b>	<b>472.0</b>	<b>447.7</b>	<b>433.3</b>	<b>425.9</b>	<b>421.2</b>	<b>416.0</b>
75°	<b>491.6</b>	<b>445.9</b>	<b>433.1</b>	<b>420.6</b>	<b>406.3</b>	<b>397.8</b>	<b>390.1</b>
90°	<b>479.3</b>	<b>437.3</b>	<b>418.9</b>	<b>407.5</b>	<b>398.1</b>	<b>385.7</b>	<b>363.8</b>
110°	<b>506.2</b>	<b>454.5</b>	<b>424.7</b>	<b>399.9</b>	<b>377.7</b>	<b>366.6</b>	<b>347.8</b>
120°	<b>556.7</b>	<b>463.7</b>	<b>428.5</b>	<b>403.2</b>	<b>381.2</b>	<b>361.0</b>	<b>335.1</b>
135°	<b>621.9</b>	<b>507.0</b>	<b>453.5</b>	<b>427.1</b>	<b>402.3</b>	<b>376.0</b>	<b>322.3</b>
150°	<b>756.6</b>	<b>605.8</b>	<b>513.8</b>	<b>462.7</b>	<b>435.1</b>	<b>412.9</b>	<b>365.0</b>
Run VMG	<b>873.6</b>	<b>699.5</b>	<b>593.3</b>	<b>529.8</b>	<b>486.8</b>	<b>457.2</b>	<b>414.1</b>

Selected Courses							
Windward / Leeward	<b>898.2</b>	<b>730.5</b>	<b>632.4</b>	<b>580.9</b>	<b>549.4</b>	<b>528.4</b>	<b>505.0</b>
Circular Random	<b>740.2</b>	<b>602.0</b>	<b>528.5</b>	<b>485.8</b>	<b>459.1</b>	<b>440.9</b>	<b>416.2</b>
Ocean for PCS	<b>793.3</b>	<b>630.9</b>	<b>540.9</b>	<b>485.8</b>	<b>448.8</b>	<b>421.3</b>	<b>378.8</b>
Non Spinnaker	<b>823.1</b>	<b>658.4</b>	<b>568.4</b>	<b>515.1</b>	<b>481.5</b>	<b>459.1</b>	<b>430.6</b>

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	<b>43.1°</b>	<b>42.3°</b>	<b>40.7°</b>	<b>38.6°</b>	<b>37.7°</b>	<b>36.9°</b>	<b>37.3°</b>
Beat VMG	<b>3.90</b>	<b>4.73</b>	<b>5.36</b>	<b>5.70</b>	<b>5.88</b>	<b>6.00</b>	<b>6.04</b>
52°	<b>6.02</b>	<b>7.16</b>	<b>7.82</b>	<b>8.08</b>	<b>8.21</b>	<b>8.29</b>	<b>8.38</b>
60°	<b>6.62</b>	<b>7.63</b>	<b>8.04</b>	<b>8.31</b>	<b>8.45</b>	<b>8.55</b>	<b>8.65</b>
75°	<b>7.32</b>	<b>8.07</b>	<b>8.31</b>	<b>8.56</b>	<b>8.86</b>	<b>9.05</b>	<b>9.23</b>
90°	<b>7.51</b>	<b>8.23</b>	<b>8.59</b>	<b>8.83</b>	<b>9.04</b>	<b>9.33</b>	<b>9.89</b>
110°	<b>7.11</b>	<b>7.92</b>	<b>8.48</b>	<b>9.00</b>	<b>9.53</b>	<b>9.82</b>	<b>10.35</b>
120°	<b>6.47</b>	<b>7.76</b>	<b>8.40</b>	<b>8.93</b>	<b>9.44</b>	<b>9.97</b>	<b>10.74</b>
135°	<b>5.79</b>	<b>7.10</b>	<b>7.94</b>	<b>8.43</b>	<b>8.95</b>	<b>9.58</b>	<b>11.17</b>
150°	<b>4.76</b>	<b>5.94</b>	<b>7.01</b>	<b>7.78</b>	<b>8.27</b>	<b>8.72</b>	<b>9.86</b>
Run VMG	<b>4.12</b>	<b>5.15</b>	<b>6.07</b>	<b>6.80</b>	<b>7.40</b>	<b>7.87</b>	<b>8.69</b>
Gybe Angles	<b>140.7°</b>	<b>144.5°</b>	<b>146.2°</b>	<b>154.7°</b>	<b>160.9°</b>	<b>169.1°</b>	<b>167.9°</b>

**Certificate**

Number **420572**  
ORC Ref **RUS00000893**  
Issued On **24/06/2015**  
VPP Ver. **2015 1.01**  
Valid until **31/12/2015**

**Crew Weight**

Declared **900kg**  
Default\* **856kg**  
Non Manual Pwr **No**

**Special Scoring**

	ToD	ToT
Double H.GPH	<b>548.9</b>	<b>1.0930</b>
Double H.OSN	<b>539.7</b>	<b>1.1117</b>
Non Spin GPH	<b>586.7</b>	<b>1.0227</b>
Non Spin OSN	<b>570.5</b>	<b>1.0517</b>
N/S Perf. Line	<b>70.3</b>	<b>0.842</b>

**Sails Limitations**

Headsails	Spinnakers
<b>7</b>	<b>4</b>

**Class Division Length**

CDL = **11.537**

**Storm Sails Areas**

Heavy Weather Jib **44.65**  
Storm Jib (JL=11.82) **16.54**  
Storm Triesail **15.59**

**Owner**

<b>BOAT</b>	
Name <b>Digital Alpha</b>	Sail Nr <b>IVB 42-057</b>
File <b>IVB 42057 Digital</b>	Data in <b>meters/kilograms</b>

<b>INCLINING TEST AND FREEBOARDS</b>		
Inclining Test <b>Current Inclining</b>		
Flotation date <b>12/05/2015</b>	SG	<b>1.0260</b>
FFM <b>1.439</b>	FF <b>1.440</b>	SFFP <b>0.474</b>
FAM <b>1.111</b>	FA <b>1.111</b>	SAFP <b>12.543</b>
W1 <b>117.63</b>	PD1 <b>435.8</b>	WD <b>10.345</b>
W2 <b>117.63</b>	PD2 <b>435.8</b>	GSA <b>1.0</b>
W3 <b>117.63</b>	PD3 <b>435.8</b>	RSA <b>1.0</b>
W4 <b>117.63</b>	PD4 <b>435.8</b>	PLM <b>9000.0</b>
LCF from stem on CL / on sheer		<b>7.165 / 7.416</b>
Maximum beam station from stem		<b>8.347</b>
RM Measured		<b>219.9kg·m</b>
RM Default		<b>217.1kg·m</b>
Limit of positive stability / Stab.Index		<b>133.1° / 136.4</b>
Freeboard at mast at 5.368		<b>1.222</b>



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## 2015 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>Yes</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>17.000</b>	E <b>5.240</b>	MDT1 <b>0.140</b>	MW <b>0.253</b>	
IG <b>18.016</b>	J <b>5.028</b>	MDL1 <b>0.260</b>	GO <b>0.300</b>	
ISP <b>19.508</b>	SFJ <b>0.340</b>	MDT2 <b>0.105</b>	BD <b>0.200</b>	
BAS <b>1.966</b>	SPL <b>0.000</b>	MDL2 <b>0.195</b>	MWT <b>255.00</b>	
FSP <b>0.074</b>	TPS <b>7.275</b>	TL <b>0.900</b>	MCG <b>6.150</b>	

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Valid until <b>31/12/2015</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>0.110</b>
Twin Screw <b>No</b>	PIPA	<b>0.0041</b>
ST1 <b>0.065</b>	ST3 <b>0.180</b>	ST5 <b>0.302</b>
ST2 <b>0.180</b>	ST4 <b>0.110</b>	EDL <b>1.800</b>

<b>COMMENTS</b>	
ON 745489 E=5,78 for Swan Club MW, MCG from manufacturer	

<b>MOVEABLE BALLAST</b>	
N/A	

<b>CENTERBOARD</b>	
N/A	



Invalid for Racing

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<b>SAILS (Maximum Areas)</b>						
Mainsail	HB	MGT	MGU	MGM	MGL	Area Area (r) Formula
	0.300	1.56	2.59	3.86	4.70	59.40 61.04 P/8 · (E + 2·MGL + 2·MGM + 1.5·MGU + MGT + 0.5·HB)
<b>Symmetric</b>						
Not Available						
<b>Asymmetric</b>						
	SLU	SLE	ASL	AMG	ASF	Area Formula
	21.58	17.43	19.50	10.97	10.78	177.69 ASL · (ASF + 4·AMG) / 6

<b>HEADSAILS</b>												
Area = 0.1125·JL·(1.445·LPG+2·JGL+2·JGM+1.5·JGU+JGT+0.5·JH)												
JH	JGT	JGU	JGM	JGL	LPG	JL	Area	Btn	Fly	Meas.Date	Material	Comment
0.07	1.77	3.47	6.38	8.15	8.88	19.35	106.45		Y	12/05/2015	Polyest	
0.11	0.81	1.49	2.69	4.01	5.26	17.73	48.07	Y		22/04/2014	Unknow	4T
0.12	0.72	1.37	2.62	3.91	5.17	17.62	46.32	Y		22/04/2014	Unknow	4T
0.07	0.56	1.07	2.13	3.09	4.20	16.00	33.68		Y	12/05/2015	Polyest	
0.10	0.52	0.98	1.91	2.86	3.78	15.82	30.33			22/04/2014	Unknow	4T

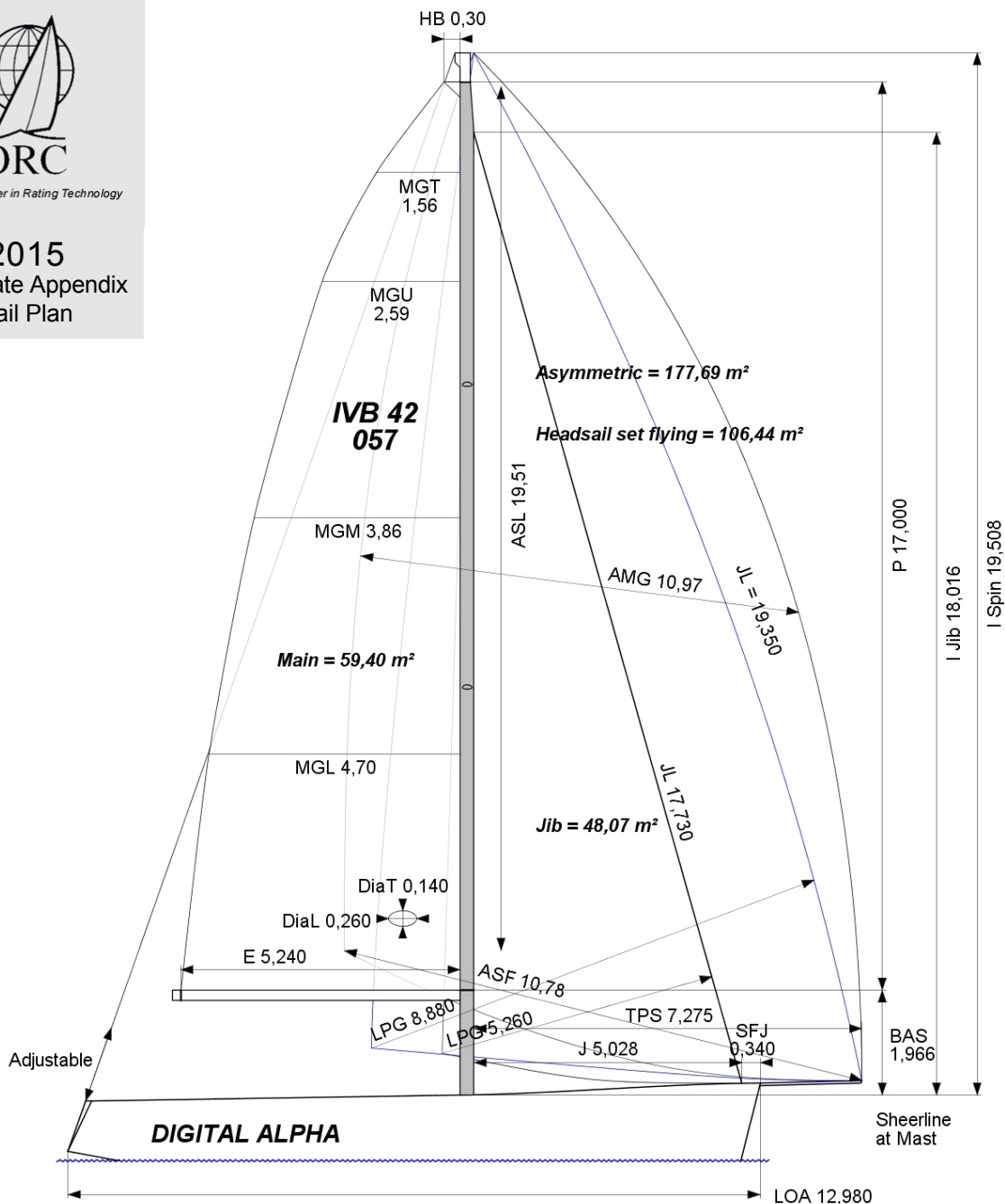
<b>MEASUREMENT INVENTORY</b>				
Measurer <b>Vasily Alexeev RUS 209</b>				
Date <b>12/05/2015</b>				
Comment				
Id	Item	Weight	Distance	VCG Description
Tools				
Id	Item	Maker	Model	
1	Engine	Volvo Penta	D2-40B	
Id	Item	Weight	Description	
Deck-Gear				

<b>MEASUREMENT INVENTORY</b>								
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condtn	Description
1	Tank	DIESEL	Fixed PVC	70.0	5.85			40-0 Port
2	Tank	DIESEL	Fixed PVC	70.0	5.85			40-0 Starboard
2	Tank	WATER	Fixed PVC	320.0	6.60			0-0 2x160 EACH SIDE
3	Tank	HOTWATER	SS	30.0	10.00			0-0 Temp
Id	Item	Weight	Distance	VCG	Description			
2	Battery	81.0	6.46		Mastervolt AGM 160 AH - 2 pc			
1	Misc	10.0	10.00	0.20	Water heater			
2	Misc	28.8	6.22	0.70	Stove 2-burns Origo-6000			



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**2015**  
Certificate Appendix  
Sail Plan



SAILS INVENTORY																
MAINSAIL																
Id	HB	MGT	MGU	MGM	MGL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
M1	0.300	1.56	2.59	3.86	4.70	59.40	RUS 209	12/05/2015	One Sails	Unknown	4T					
HEADSAILS																
Id	JH	JGT	JGU	JGM	JGL	LPG	JL	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
C0	0.07	1.77	3.47	6.38	8.15	8.88	19.35	177%	106.45		Y	RUS 209	12/05/2015	One Sails	Poly est	
J1	0.11	0.81	1.49	2.69	4.01	5.26	17.73	105%	48.07	Y		SLO BG03	22/04/2014	One Sails	Unknow	4T
J2	0.12	0.72	1.37	2.62	3.91	5.17	17.62	103%	46.32	Y		SLO BG03	22/04/2014	One Sails	Unknow	4T
J5	0.07	0.56	1.07	2.13	3.09	4.20	16.00	84%	33.68		Y	RUS209	12/05/2015	One Sails	Poly est	
J4	0.10	0.52	0.98	1.91	2.86	3.78	15.82	75%	30.33			SLO BG03	22/04/2014	One Sails	Unknow	4T
SYMMETRIC SPINNAKERS																
Id	SL	SMG	SF	Area	Measurer	Meas.Date	Manufacture	Material	Comment							
ASYMMETRIC SPINNAKERS																
Id	SLU	SLE	ASL	AMG	ASF	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				
A-2	21.58	17.43	19.50	10.97	10.78	177.69	asym	SLO BG03	22/04/2014	One Sails	Nylon					
A-3	20.87	17.29	19.08	10.08	10.89	162.85	asym	SLO BG03	22/04/2014	One Sails	Nylon					
A-1	20.91	17.47	19.19	9.68	11.15	159.50	asym	SLO BG03	22/04/2014	One Sails	Nylon					
A-4	19.83	16.61	18.22	9.92	10.15	151.32	asym	SLO BG03	22/04/2014	One Sails	Nylon					