

<b>BOAT</b> Name <b>FANFARRON</b> Sail Nr <b>ECU-727</b>	<b>GPH</b> <b>575,3</b>	<b>HULL</b> Length Overall <b>13,840m</b> Maximum Beam <b>4,550m</b> Displacement <b>9.428kg</b> Draft <b>2,559m</b> IMS Reg. Division <b>Cruiser/Racer</b> Dynamic Allowance <b>0,001%</b> Fwd Accommodation <b>No</b> Hull Construction <b>Cored</b> Carbon Rudder <b>No</b> Crew Arm Extension
<b>GENERAL</b> Class <b>VOLKER 45</b> Designer <b>N. VOLKER</b> Builder Series <b>01/1993</b> Age <b>01/1993</b> Age Allowance <b>0,487%</b> Offset File <b>FANFA.OFF - 26/05/2009 06:38:10 p.m.</b> Measurement by <b>P. GUTIERREZ - 02/10/2017</b>		IMSL <b>11,449m</b> VCGD <b>0,031m</b> Sink <b>26,79kg/mm</b> RL <b>10,235m</b> VCGM <b>0,089m</b> WS <b>35,85m<sup>2</sup></b> LSMO <b>11,204m</b> Displacement/Length ratio <b>6,7035</b>



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**2017**  
ORC International  
Certificate

**Rating Office**  
Federación Ecuatoriana  
de Vela  
Patricio D. Gutiérrez - RO  
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SCORING OPTIONS	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
	Low	Medium	High	Low	Medium	High
Time On Distance	<b>559,7</b>			<b>626,8</b>		
Time On Time	<b>1,0719</b>			<b>1,0770</b>		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	<b>665,7</b>	<b>508,5</b>	<b>447,9</b>	<b>866,8</b>	<b>632,8</b>	<b>538,8</b>
Time on Time	<b>1,0140</b>	<b>1,3274</b>	<b>1,5072</b>	<b>0,7787</b>	<b>1,0667</b>	<b>1,2527</b>

TIME ALLOWANCES	WIND VELOCITY						
	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>966,6</b>	<b>803,2</b>	<b>707,5</b>	<b>660,0</b>	<b>635,5</b>	<b>620,8</b>	<b>611,3</b>
52°	<b>627,9</b>	<b>525,8</b>	<b>474,2</b>	<b>455,0</b>	<b>446,3</b>	<b>441,3</b>	<b>436,1</b>
60°	<b>589,9</b>	<b>497,6</b>	<b>458,8</b>	<b>441,8</b>	<b>432,8</b>	<b>427,0</b>	<b>420,9</b>
75°	<b>557,9</b>	<b>478,1</b>	<b>447,5</b>	<b>429,4</b>	<b>415,0</b>	<b>405,1</b>	<b>396,3</b>
90°	<b>558,1</b>	<b>477,3</b>	<b>446,0</b>	<b>427,1</b>	<b>410,3</b>	<b>395,7</b>	<b>376,3</b>
110°	<b>606,5</b>	<b>496,0</b>	<b>449,8</b>	<b>424,7</b>	<b>403,8</b>	<b>390,3</b>	<b>373,2</b>
120°	<b>626,3</b>	<b>510,8</b>	<b>456,3</b>	<b>430,0</b>	<b>406,9</b>	<b>386,1</b>	<b>359,7</b>
135°	<b>693,3</b>	<b>560,2</b>	<b>482,7</b>	<b>447,0</b>	<b>424,2</b>	<b>402,5</b>	<b>363,9</b>
150°	<b>820,4</b>	<b>649,8</b>	<b>548,1</b>	<b>483,4</b>	<b>448,7</b>	<b>427,1</b>	<b>387,9</b>
Run VMG	<b>947,3</b>	<b>750,4</b>	<b>632,8</b>	<b>554,0</b>	<b>503,1</b>	<b>463,5</b>	<b>419,0</b>

**Certificate**  
Number **FVEC08**  
ORC Ref **ECU00005604**  
Issued On **04/10/2017**  
VPP Ver. **2017 1.00**  
Valid until **31/03/2018**

**Crew Weight**  
Declared **840kg**  
Default\* **810kg**  
Non Manual Pwr **No**

**Special Scoring**  
ToD ToT  
Non Spin GPH **598,6** **1,0023**  
Non Spin OSN **583,6** **1,0282**

Selected Courses	WIND VELOCITY						
	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Windward / Leeward	<b>957,0</b>	<b>776,8</b>	<b>670,2</b>	<b>607,0</b>	<b>569,3</b>	<b>542,2</b>	<b>515,2</b>
Circular Random	<b>797,6</b>	<b>642,1</b>	<b>558,0</b>	<b>508,5</b>	<b>477,6</b>	<b>457,2</b>	<b>432,3</b>
Ocean for PCS	<b>982,8</b>	<b>756,4</b>	<b>628,0</b>	<b>549,1</b>	<b>497,6</b>	<b>461,8</b>	<b>413,2</b>
Non Spinnaker	<b>837,6</b>	<b>671,2</b>	<b>580,2</b>	<b>526,0</b>	<b>491,8</b>	<b>469,1</b>	<b>441,2</b>

**Sails Limitations**  
Headsails **6**  
Spinnakers **4**

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>43,8°</b>	<b>42,9°</b>	<b>42,5°</b>	<b>40,8°</b>	<b>39,5°</b>	<b>38,5°</b>	<b>38,1°</b>
Beat VMG	<b>3,72</b>	<b>4,48</b>	<b>5,09</b>	<b>5,45</b>	<b>5,67</b>	<b>5,80</b>	<b>5,89</b>
52°	<b>5,73</b>	<b>6,85</b>	<b>7,59</b>	<b>7,91</b>	<b>8,07</b>	<b>8,16</b>	<b>8,25</b>
60°	<b>6,10</b>	<b>7,23</b>	<b>7,85</b>	<b>8,15</b>	<b>8,32</b>	<b>8,43</b>	<b>8,55</b>
75°	<b>6,45</b>	<b>7,53</b>	<b>8,04</b>	<b>8,38</b>	<b>8,67</b>	<b>8,89</b>	<b>9,08</b>
90°	<b>6,45</b>	<b>7,54</b>	<b>8,07</b>	<b>8,43</b>	<b>8,77</b>	<b>9,10</b>	<b>9,57</b>
110°	<b>5,94</b>	<b>7,26</b>	<b>8,00</b>	<b>8,48</b>	<b>8,92</b>	<b>9,22</b>	<b>9,65</b>
120°	<b>5,75</b>	<b>7,05</b>	<b>7,89</b>	<b>8,37</b>	<b>8,85</b>	<b>9,32</b>	<b>10,01</b>
135°	<b>5,19</b>	<b>6,43</b>	<b>7,46</b>	<b>8,05</b>	<b>8,49</b>	<b>8,94</b>	<b>9,89</b>
150°	<b>4,39</b>	<b>5,54</b>	<b>6,57</b>	<b>7,45</b>	<b>8,02</b>	<b>8,43</b>	<b>9,28</b>
Run VMG	<b>3,80</b>	<b>4,80</b>	<b>5,69</b>	<b>6,50</b>	<b>7,16</b>	<b>7,77</b>	<b>8,59</b>
Gybe Angles	<b>144,5°</b>	<b>148,6°</b>	<b>150,1°</b>	<b>153,9°</b>	<b>162,2°</b>	<b>180,0°</b>	<b>180,0°</b>

**Class Division Length**  
CDL = **10,843**

**Storm Sails Areas**  
Heavy Weather Jib **45,24**  
Storm Jib (JL=11,90) **16,75**  
Storm Trysail **15,17**


**Owner**  
JUAN PABLO JARAMILLO  
GUAYAQUIL, ECUADOR

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

<b>BOAT</b>	
Name <b>FANFARRON</b>	Sail Nr <b>ECU-727</b>
File <b>ECU727</b>	Data in <b>meters/kilograms</b>

<b>INCLINING TEST AND FREEBOARDS</b>		
Inclining Test <b>Current Inclining</b>		
Flotation date <b>02/10/2017</b>	SG <b>1,0253</b>	
FFM <b>1,385</b>	FF <b>1,385</b>	SFFP <b>0,858</b>
FAM <b>1,070</b>	FA <b>1,071</b>	SAFP <b>12,194</b>
W1 <b>130,0</b>	PD1 <b>476,7</b>	WD <b>11,720</b>
W2 <b>130,0</b>	PD2 <b>476,4</b>	GSA <b>1,0</b>
W3 <b>130,0</b>	PD3 <b>475,9</b>	RSA <b>1,0</b>
W4 <b>130,0</b>	PD4 <b>477,6</b>	PLM <b>9000,0</b>
LCF from stem on CL / on sheer		<b>7,264 / 7,594</b>
Maximum beam station from stem		<b>7,493</b>
RM Measured		<b>251,7kg·m</b>
RM Default		<b>263,5kg·m</b>
Limit of positive stability / Stab.Index		<b>110,8° / 112,7</b>
Freeboard at mast at 5,335		<b>1,156</b>

<b>RIG</b>			
Forestay Tension <b>Aft</b>	Spreaders <b>3</b>		
Inner Stay <b>None Fitted</b>	Runners <b>2</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>15,995</b>	E <b>5,420</b>	MDT1 <b>0,128</b>	MW <b>0,180</b>
IG <b>18,165</b>	J <b>5,335</b>	MDL1 <b>0,244</b>	GO <b>0,221</b>
ISP <b>18,055</b>	SFJ <b>0,000</b>	MDT2 <b>0,128</b>	BD <b>0,223</b>
BAS <b>1,845</b>	SPL <b>5,315</b>	MDL2 <b>0,181</b>	MWT
FSP <b>0,072</b>	TPS	TL <b>2,840</b>	MCG




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**2017**

**IMS Measurement Certificate**

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

<b>PROPELLER</b>		
Installation <b>Strut</b>	PRD <b>0,434</b>	
Type <b>Folding 2 blades</b>	PBW <b>0,110</b>	
Twin Screw <b>No</b>	PIPA <b>0,0028</b>	
ST1 <b>0,047</b>	ST3 <b>0,180</b>	ST5 <b>0,255</b>
ST2 <b>0,180</b>	ST4 <b>0,093</b>	EDL <b>0,770</b>

<b>COMMENTS</b>	
medio estab. y flotacion	

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

<b>CENTERBOARD</b>	
N/A	

<b>SAILS (Maximum Areas)</b>						
Mainsail	MHB	MUW	MTW	MHW	MQW	Area Area (r) Formula
	0,185	1,15	2,06	3,57	4,64	52,33 53,39 P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)
Symmetric	SLU	SLE	SL	SHW	SFL	
	17,79	17,79	17,79	9,55	9,23	140,63 SL · (SFL + 4·SHW) / 6
Asymmetric	SLU	SLE	SL	SHW	SFL	
	19,22	16,11	17,66	8,74	8,91	129,16 AS · (SFL + 4·SHW) / 6

<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
0,10	0,95	1,83	3,70	5,66	7,78	18,05	68,45			26/09/2017	Unknow	

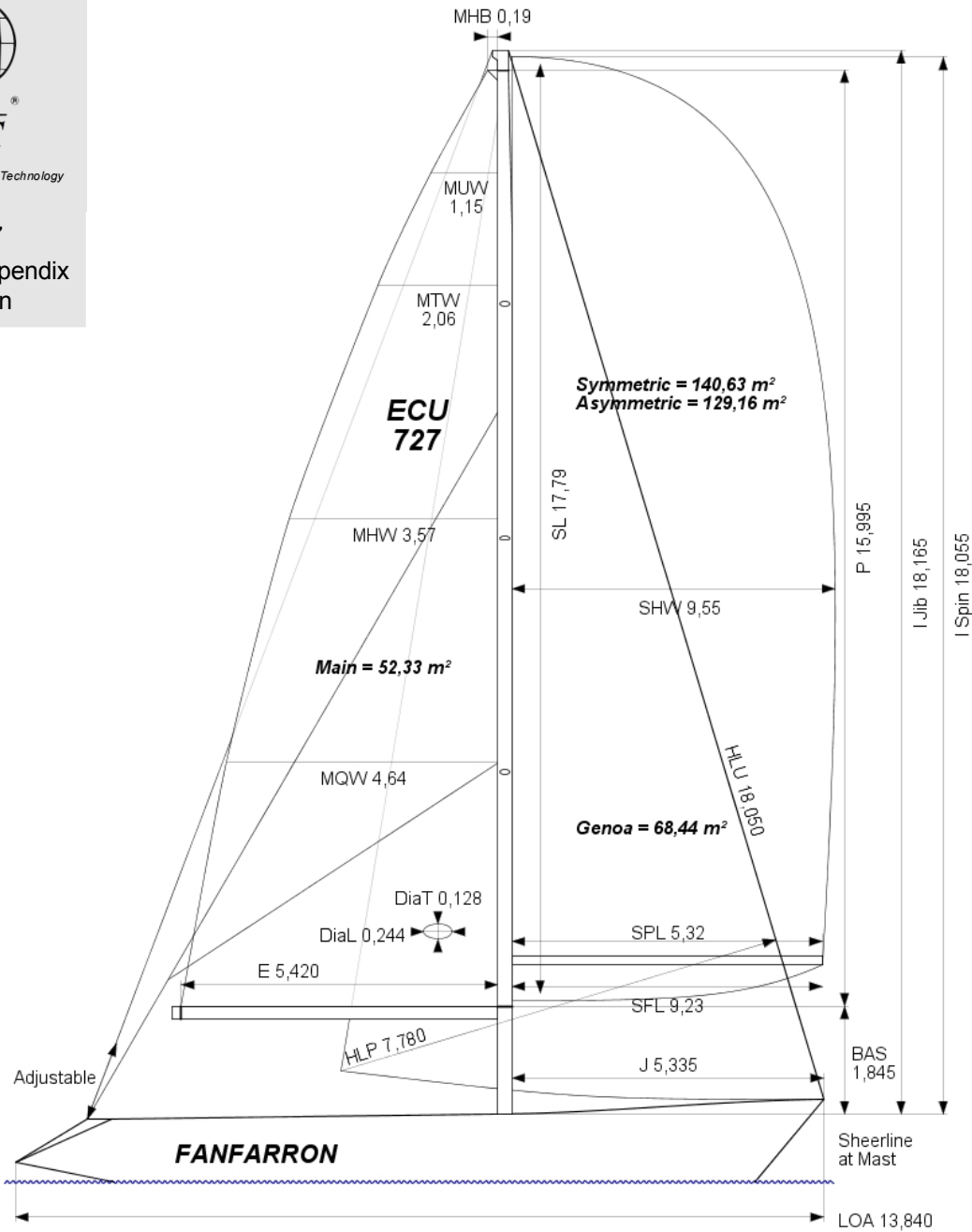
<b>MEASUREMENT INVENTORY</b>				
Measurer <b>PATRICIO GUTIERREZ P G</b>				
Date <b>02/10/2017</b>				
Comment				
Id	Item	Weight	Distance	VCG Description
Id	Item	Maker	Model	
C5	Engine	VOLVO PENTA	25 HP	
Id	Item	Weight	Description	

<b>MEASUREMENT INVENTORY</b>									
Id	Item	Tank	Use	Tank Type	Capcty	Dist.	VCG	Condtn	Description
B5	Tank	PETROLEO		INOX	72,0	7,50	0,00	18,0	
B6	Tank	AGUA		INOX	100,0	6,90	0,00	0,0	
E6	Tank	AGUA		INOX	150,0	6,90	0,00	0,0	
Id	Item	Weight	Distance	VCG	Description				
E7	Ballast	250,0	5,90	-0,30	VARIOS PANES DE PLOMO				
C7	Ballast	250,0	5,90	-0,30	VARIOS PANES DE PLOMO				
B7	Ballast	250,0	5,90	-0,30	VARIOS PANES DE PLOMO				
E3	Battery	16,0	10,20	0,00	1 BAT. 12 V - 102 AMP				
E4	Battery	32,0	7,40	0,00	2 BAT. 12V - 102 AMP				



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Certificate Appendix  
Sail Plan



**SAILS INVENTORY**

**MAINSAIL (1)**

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
M	0,185	1,15	2,06	3,57	4,64	52,33	P GUTIERREZ	26/09/2017	NORTH	Kevlar	

**HEADSAILS (1)**

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
G	0,10	0,95	1,83	3,70	5,66	7,78	18,05	146%	68,45			P	26/09/2017			Unknow

**SYMMETRIC SPINNAKERS (2)**

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
S .75	17,79	17,79	17,79	9,55	9,23	140,63	P GUTIERREZ	04/10/2017	HOOD	Nylon	NUEVO
S	17,82	17,82	17,82	9,46	9,36	140,18	FCARLIER	14/05/2010			

**ASYMMETRIC SPINNAKERS (1)**

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
A1	19,22	16,11	17,66	8,74	8,91	129,16	asym	P GUTIERREZ	04/10/2017	HOOD	Nylon	