

BOAT	GPH	HULL
Name MAC Sail Nr ARG-001	514,1	Length Overall 12,300m Maximum Beam 3,796m Displacement 4.454kg Draft 2,614m IMS Reg. Division Performance Dynamic Allowance 0,001% Fwd Accommodation No Hull Construction Cored Carbon Rudder Yes Crew Arm Extension
GENERAL		IMSL 12,196m VCGD -0,306m Sink 22,54kg/mm
Class S 40 OD Designer SOTO ACEBAL Builder M BOATS Series 04/2008 Age 09/2008 Age Allowance 0,292% Offset File MACs40.off - 11/01/2017 10:59:02 Measurement by GUTIERREZ/MACULAN - 22/07/2016		RL 11,360m VCGM -0,367m WS 28,48m²
		LSM0 12,005m Displacement/Length ratio 2,5743



World Leader in Rating Technology

2017
ORC International
Certificate

Rating Office
PATRICIO D. GUTIERREZ
C. GRIERSON Y
COSTANERASUR
Y.C.A



SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time On Distance	501,6			570,1		
Time On Time	1,1961			1,1841		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	585,8	458,1	397,5	764,7	575,8	493,6
Time on Time	1,1523	1,4735	1,6981	0,8827	1,1722	1,3675

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	880,6	716,5	652,8	626,5	608,9	597,7	594,7
52°	568,0	471,5	446,3	435,9	429,3	420,8	414,2
60°	528,6	451,7	429,9	418,5	410,5	400,6	389,1
75°	494,3	437,3	405,9	387,5	376,4	369,1	350,0
90°	493,0	436,2	400,3	366,1	347,8	336,9	323,7
110°	504,5	431,7	401,2	374,7	353,8	328,5	284,0
120°	522,7	437,9	393,2	366,0	344,6	320,7	282,1
135°	590,8	467,6	422,3	380,3	338,1	302,1	265,0
150°	708,2	557,6	473,1	425,0	392,7	354,3	279,6
Run VMG	817,7	643,9	546,3	492,7	453,5	409,1	322,9
Selected Courses							
Windward / Leeward	849,2	680,2	599,5	559,6	531,2	503,4	458,8
Circular Random	707,2	571,9	499,4	456,3	427,6	406,1	373,4
Ocean for PCS	875,1	675,4	563,0	492,9	444,8	408,2	352,4
Non Spinnaker	769,1	616,5	533,3	483,2	450,4	427,2	394,7

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	44,0°	43,2°	40,6°	39,3°	38,8°	38,4°	38,8°
Beat VMG	4,09	5,02	5,52	5,75	5,91	6,02	6,05
52°	6,34	7,64	8,07	8,26	8,38	8,56	8,69
60°	6,81	7,97	8,37	8,60	8,77	8,99	9,25
75°	7,28	8,23	8,87	9,29	9,56	9,75	10,29
90°	7,30	8,25	8,99	9,83	10,35	10,68	11,12
110°	7,14	8,34	8,97	9,61	10,18	10,96	12,68
120°	6,89	8,22	9,15	9,84	10,45	11,23	12,76
135°	6,09	7,70	8,53	9,47	10,65	11,92	13,59
150°	5,08	6,46	7,61	8,47	9,17	10,16	12,87
Run VMG	4,40	5,59	6,59	7,31	7,94	8,80	11,15
Gybe Angles	141,7°	142,9°	148,4°	152,3°	148,4°	145,6°	142,2°

Certificate
Number **000101**
ORC Ref **ARG00004518**
Issued On **10/03/2017**
VPP Ver. **2017 1.00**
Valid until **31/12/2017**

Crew Weight

Declared	900kg
Default*	893kg
Non Manual Pwr	No

Special Scoring

	ToD	ToT
Double H.GPH	526,8	1,1390
Double H.OSN	517,7	1,1590
Non Spin GPH	549,9	1,0911
Non Spin OSN	538,5	1,1142

Sails Limitations

Headsails	7
Spinnakers	4

Class Division Length
CDL = 11,779

Storm Sails Areas

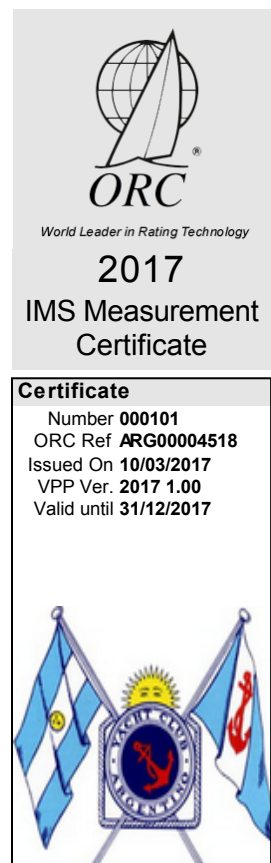
Heavy Weather Jib	35,00
Storm Jib (JL=10,47)	12,96
Storm Trysail	16,54

Owner
FERNANDO CHAIN
LIBERTADOR 3601
OLIVOS

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

Signature

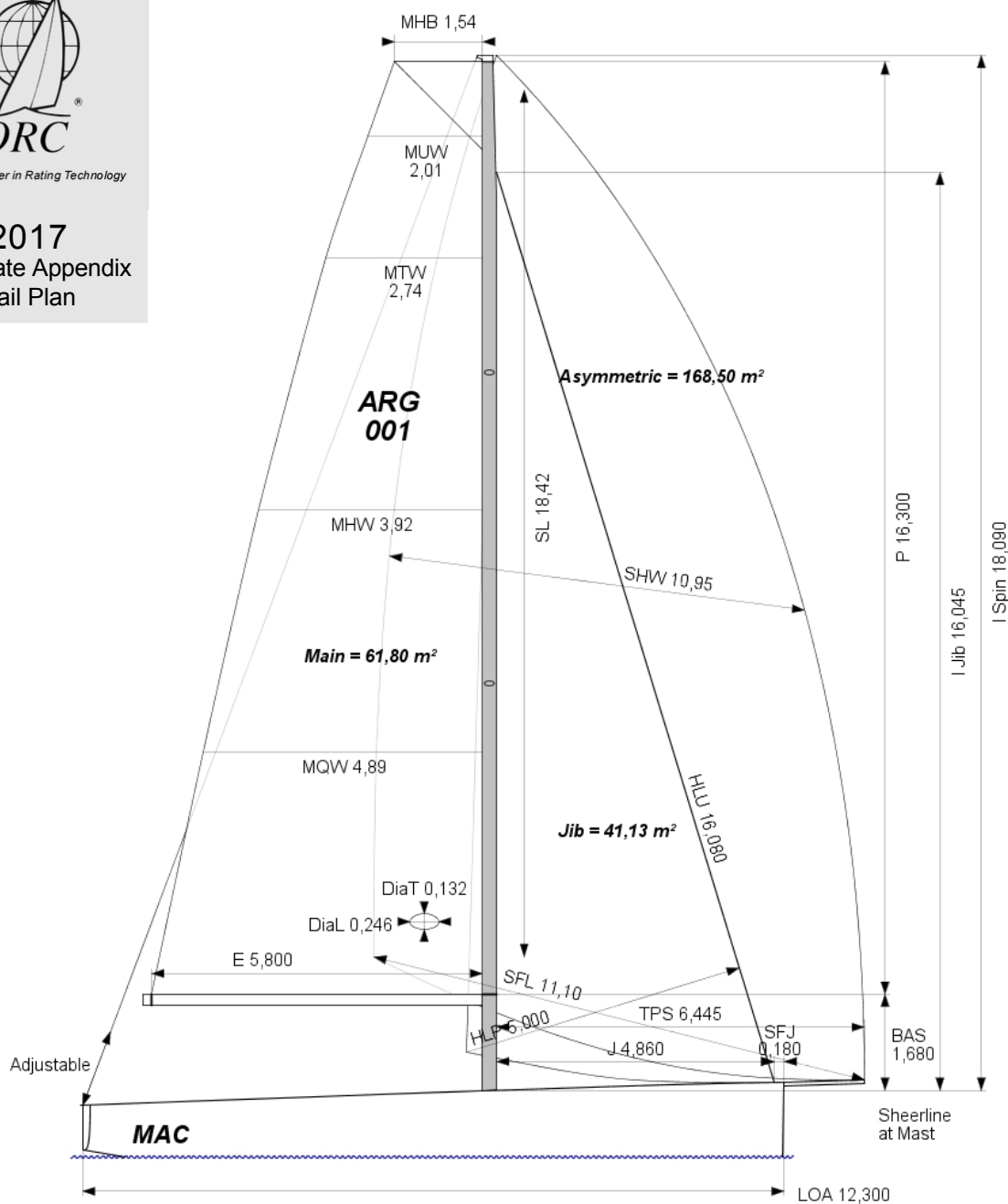
BOAT Name MAC Sail Nr ARG-001 File ARG0001 Data in meters/kilograms				INCLINING TEST AND FREEBOARDS Inclining Test Boom Inclining Flotation date 22/07/2016 SG 1,0000 FFM 1,281 FF 1,288 SFFP 0,650 FAM 0,892 FA 0,896 SAFF 12,335 W1 107,6 PD1 598,9 WD 11,020 W2 107,6 PD2 590,8 GSA 1,0 W3 107,6 PD3 588,1 RSA 1,0 W4 107,6 PD4 596,1 PLM 9000,0 LCF from stem on CL / on sheer 6,929 / 7,155 Maximum beam station from stem 8,600 RM Measured 157,3kg-m RM Default 164,3kg-m Limit of positive stability / Stab.Index 129,9° / 126,4 Freeboard at mast at 5,040 1,163																																																							
RIG Forestay Tension Aft Spreaders 2 Inner Stay None Fitted Runners 0 Carbon Mast Yes Jumper Struts None Taper Hollows No Jib Furler No Fiber Rigging Yes Main Furler No Lenticular Rigging No Without Backstay No Articulated Bowsprit No P 16,300 E 5,800 MDT1 0,132 MW 0,246 IG 16,045 J 4,860 MDL1 0,246 GO 0,263 ISP 18,090 SFJ 0,180 MDT2 0,121 BD 0,200 BAS 1,680 SPL 0,000 MDL2 0,187 MWT 170,00 FSP 0,064 TPS 6,445 TL 2,400 MCG 6,400				PROPELLER Installation Strut PRD 0,410 Type Folding 2 blades PBW 0,100 Twin Screw No PIPA 0,0041 ST1 0,065 ST3 0,180 ST5 0,312 ST2 0,180 ST4 0,110 EDL 0,760																																																							
MIZZEN RIG AND SAILS N/A				MOVEABLE BALLAST N/A																																																							
COMMENTS SOTO 40 ONE DESIGN				CENTERBOARD N/A																																																							
SAILS (Maximum Areas) <table border="1"> <thead> <tr> <th>Mainsail</th> <th>MHB</th> <th>MUW</th> <th>MTW</th> <th>MHW</th> <th>MQW</th> <th>Area</th> <th>Area (r)</th> <th>Formula</th> </tr> </thead> <tbody> <tr> <td></td> <td>1,540</td> <td>2,01</td> <td>2,74</td> <td>3,92</td> <td>4,89</td> <td>61,80</td> <td>63,39</td> <td>$P/8 \cdot (E + 2 \cdot MQW + 2 \cdot MHW + 1.5 \cdot MTW + MUW + 0.5 \cdot MHB)$</td> </tr> </tbody> </table> Symmetric Not Available Asymmetric <table border="1"> <thead> <tr> <th>SLU</th> <th>SLE</th> <th>SL</th> <th>SHW</th> <th>SFL</th> <th>Area</th> <th>Formula</th> </tr> </thead> <tbody> <tr> <td>19,55</td> <td>17,28</td> <td>18,41</td> <td>10,95</td> <td>11,10</td> <td>168,50</td> <td>$AS \cdot (SFL + 4 \cdot SHW) / 6$</td> </tr> </tbody> </table>								Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula		1,540	2,01	2,74	3,92	4,89	61,80	63,39	$P/8 \cdot (E + 2 \cdot MQW + 2 \cdot MHW + 1.5 \cdot MTW + MUW + 0.5 \cdot MHB)$	SLU	SLE	SL	SHW	SFL	Area	Formula	19,55	17,28	18,41	10,95	11,10	168,50	$AS \cdot (SFL + 4 \cdot SHW) / 6$																				
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2017 Certificate Appendix Sail Plan



SAILS INVENTORY

MAINSAIL (1)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
M3	1,540	2,01	2,74	3,92	4,89	61,76		05/11/2015	NORTH	Technora	3DI

HEADSAILS (3)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
G1L	0,07	0,72	1,36	2,59	3,77	5,00	16,08	103%	41,14				05/11/2015	NORTH	Technor	3DI
G1 MH	0,08	0,67	1,33	2,55	3,75	5,01	16,20	103%	41,09	Y			08/05/2015	NORTH	Kevlar	
G 3,5	0,08	0,60	1,14	2,35	3,60	4,90	15,10	101%	36,24	Y			08/05/2015	NORTH	Kevlar	

SYMMETRIC SPINNAKERS (0)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
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ASYMMETRIC SPINNAKERS (5)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
A2	19,55	17,28	18,41	10,95	11,10	168,50	asym		08/05/2015	NORTH	Nylon	
A4	19,56	16,90	18,23	11,04	11,20	168,20	asym		08/05/2015	NORTH	Nylon	
A1.5	19,70	17,46	18,58	10,70	11,19	167,19	asym	PG	05/11/2015	NORTH	Nylon	ULTIMO
A1.25	19,54	17,59	18,56	10,62	11,07	165,69	asym		08/05/2015	NORTH	Nylon	
A0	16,70	15,83	16,27	7,15	9,20	102,47	asym		08/05/2015	NORTH	Nylon	