

BOAT	GPH	HULL
Name MOUCHO Sail Nr ESP-9084	627.8	Length Overall 11.754m Maximum Beam 3.892m Displacement 7,559kg Draft 2.189m Plan Review IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.309% Hull Construction Solid Carbon Rudder No Crew Arm Extension
GENERAL		IMSL 10.891m VCGD 0.286m Sink 23.92kg/mm RL 8.582m VCGM 0.306m WS 31.72m² LSM0 10.813m Displacement/Length ratio 5.9790
Class SUN ODYSSEY 39i DK Designer LOMBARD Builder JEANNEAU Series 02/2008 Age 02/2009 Age Allowance 0.390% Offset File SO39idk.off - 09/03/2018 19:23:34 Measurement by - 01/03/2018		



ORC
Offshore Racing Congress
World leader in rating technology

2020
ORC International
Certificate

Rating Office

Offshore
Racing
Congress

COPY ONLY for Rating

World Leader In Rating Technology

SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	607.3			680.2		
Time on Time	0.9879			0.9924		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	735.7	551.3	487.9	954.3	685.5	587.0
Time on Time	0.9175	1.2244	1.3836	0.7073	0.9847	1.1500

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1103.1	900.6	786.6	720.8	697.8	690.3	691.1
52°	711.9	595.9	528.3	495.6	483.9	480.1	479.7
60°	670.0	565.6	508.2	481.6	469.9	465.8	464.1
75°	642.4	542.5	493.7	471.0	456.9	447.5	440.7
90°	652.0	539.7	484.3	464.9	453.1	439.4	417.6
110°	645.5	528.3	476.1	451.6	432.4	418.9	400.8
120°	666.0	543.0	482.5	455.1	433.8	412.7	383.2
135°	740.8	597.4	513.7	472.9	449.6	428.0	385.7
150°	879.6	690.9	582.2	513.2	474.4	452.2	411.6
Run VMG	1015.7	797.8	672.1	587.8	530.5	487.7	442.6
Selected Courses							
Windward / Leeward	1059.4	849.2	729.3	654.3	614.1	589.0	566.8
Circular Random	878.4	703.1	608.0	552.5	518.9	497.8	473.8
Coastal / Long Distance	1055.0	796.3	653.7	568.4	526.7	496.3	449.9
Non Spinnaker	944.7	749.8	642.5	578.8	539.7	515.1	487.4

Certificate

Number **908401**
ORC Ref **03510000P9K**
Issued On **29/08/2020**
VPP Ver. **2020 1.02**
Valid until **31/12/2020**

Crew Weight

Default **770kg**
Maximum **800kg**
Minimum* **600kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring

ToD ToT
Non Spin GPH **664.3 0.9032**
Non Spin OSN **641.0 0.9360**

Sails Limitations

Headsails 5	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	44.3°	42.4°	41.3°	40.5°	39.8°	39.4°	39.8°
Beat VMG	3.26	4.00	4.58	4.99	5.16	5.22	5.21
52°	5.06	6.04	6.81	7.26	7.44	7.50	7.50
60°	5.37	6.37	7.08	7.48	7.66	7.73	7.76
75°	5.60	6.64	7.29	7.64	7.88	8.04	8.17
90°	5.52	6.67	7.43	7.74	7.95	8.19	8.62
110°	5.58	6.81	7.56	7.97	8.33	8.59	8.98
120°	5.41	6.63	7.46	7.91	8.30	8.72	9.39
135°	4.86	6.03	7.01	7.61	8.01	8.41	9.33
150°	4.09	5.21	6.18	7.01	7.59	7.96	8.75
Run VMG	3.54	4.51	5.36	6.13	6.79	7.38	8.13
Gybe Angles	145.0°	149.0°	151.0°	154.0°	166.0°	180.0°	180.0°

Class Division Length

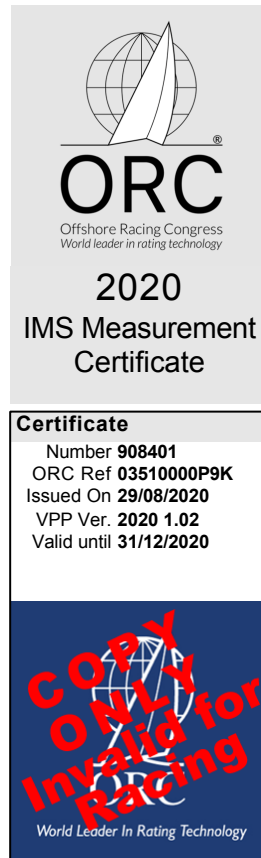
CDL = **9.734**

Storm Sails Areas

Heavy Weather Jib **33.99**
Storm Jib (JL=10.32) **12.59**
Storm Trysail **11.71**

Owner

BOAT										INCLINING TEST AND FREEBOARDS											
Name MOUCHO					Sail Nr ESP-9084					Inclining Test Current Inclining											
File E9084					Data in meters/kilograms					Flotation date 18/02/2018					SG 1.0250						
RIG																					
Forestay Tension Aft					Spreaders 2					FFM 1.495					FF 1.490 SFFP 0.485						
Inner Stay None Fitted					Runners/Checkstays 0					FAM 1.151					FA 1.158 SAFF 11.001						
Carbon Mast No					Jib Furler No					W1 100.1					PD1 572.3 WD 11.600						
Fiber Rigging No					Main Furler No					W2 100.1					PD2 598.9 GSA 1.0						
Non-Circular Rigging No										W3 100.1					PD3 493.9 RSA 1.0						
Articulated Bowsprit No										W4 100.1					PD4 585.1 PLM 9000.0						
P 15.000 E 4.460 MDT1 0.110 MW 0.225										LCF from stem on CL / on sheer 6.628 / 6.901											
IG 15.780 J 4.210 MDL1 0.225 GO 0.248										Maximum beam station from stem 8.027											
ISP 15.890 SFJ 0.000 MDT2 0.110 BD 0.175										RM Measured 163.5kg-m											
BAS 1.750 SPL 4.320 MDL2 0.225 MWT										RM Default 185.6kg-m											
FSD 0.045 TPS 5.050 TL MCG										Limit of positive stability / Stab.Index 105.9° / 108.2											
										Freeboard at mast at 4.210 1.309											
MIZZEN RIG AND SAILS										PROPELLER											
N/A										Installation Shaft exposed PRD 0.450											
										Type Folding 3 blades PBW 0.118											
										Twin Screw No PIPA 0.0104											
										PSA 24.340 PHL 0.136 ST3 0.110 ESL 1.240											
										PSD 0.030 ST1 0.025 ST4 0.058											
										PHD 0.098 ST2 0.093 ST5 0.260											
COMMENTS										MOVABLE BALLAST											
OFFSET VALIDO MODELO PESADO 1 DINA. 7450 KG										N/A											
										CENTERBOARD											
										N/A											
SAILS (Maximum Areas)																					
Mainsail						MHB		MUW		MTW		MHW		MQW		Area		Area (r)		Formula	
						0.18		1.00		1.73		2.90		3.72		40.10		40.71		P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric						SLU		SLE		SL		SHW		SFL		101.00				SL · (SFL + 4·SHW) / 6	
						15.42		15.42		15.42		7.93		7.58							
Asymmetric																					
Not Available																					
HEADSAILS																					
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		Flying		Meas.Date		Material Comment	
0.12		0.63		1.18		2.36		3.66		5.06		14.99		36.78		No		15/03/2019		Unknow	
0.05		0.54		1.16		2.28		3.62		5.11		14.81		35.80		No		18/02/2018		Dacron	
MEASUREMENT INVENTORY										MEASUREMENT INVENTORY											
Measurer ESP 488										Id Item Tank Use Tank Type Capcty Dist. VCG Condtn Description											
Date 18/02/2018										3 Tank AGUA PROA RIGIDOS 165.0 2.16 0-0											
Comment										2 Tank AGUA POPA RIGIDOS 165.0 10.30 0-0											
Internal Ballast total = 0.0										1 Tank GASOIL RIGIDO 130.0 10.31 50-0											
Id Item Weight Distance VCG Description										Id Item Weight Distance VCG Description											
Id Item Maker Model										1 Battery 8.51 3 X 210 Ah (1 ER Y 2 BR)											
1 Engine YANHMAR SALE 40 CV										1 Misc 10.0 8.00 VARIOS ELEMENTOS											
Id Item Weight Description																					



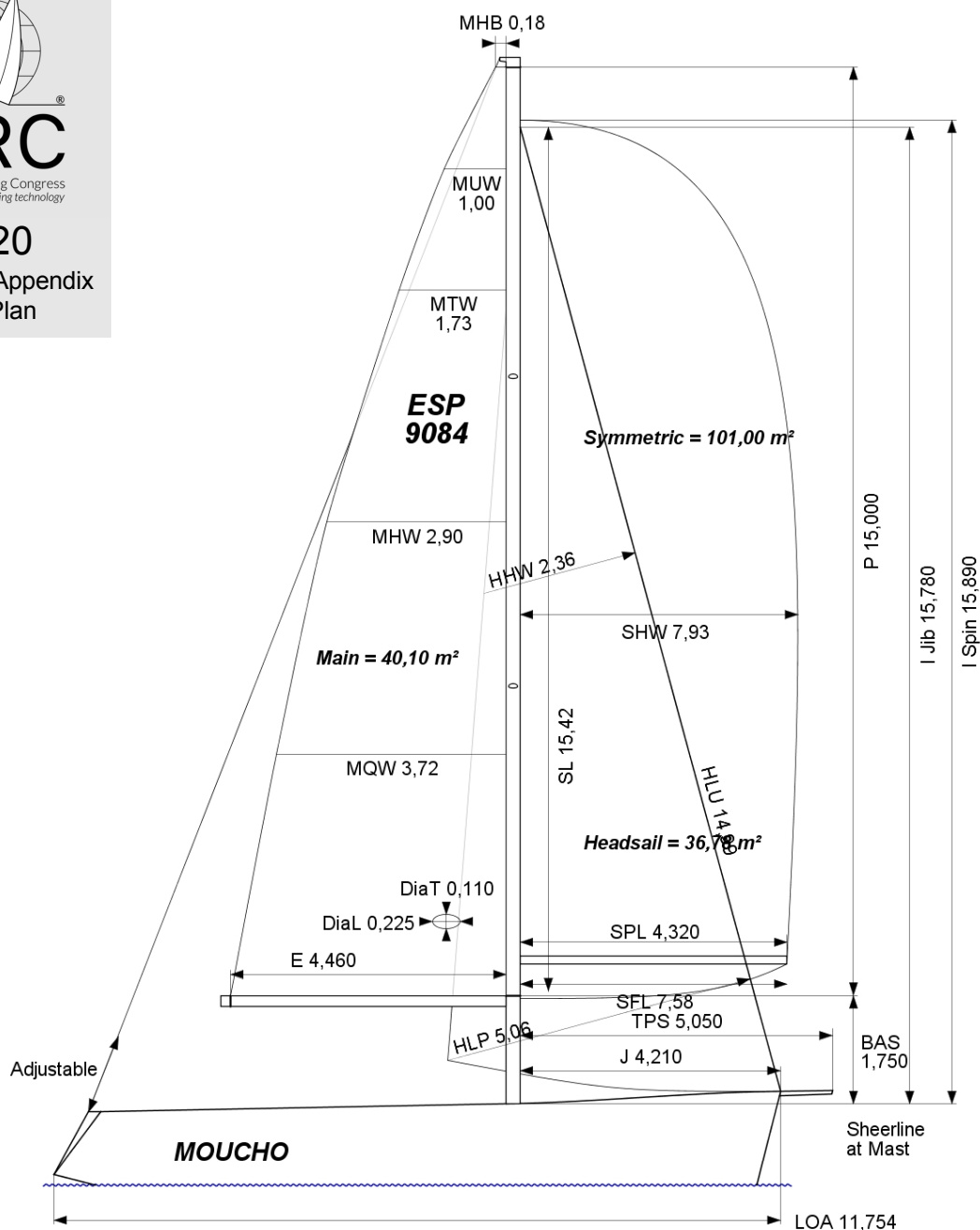


ORC

Offshore Racing Congress
World leader in rating technology

2020

Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (2)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
001	0.18	1.00	1.73	2.90	3.72	40.10		15/03/2019	NS	Unknown	
mayor	0.16	0.81	1.53	2.72	3.65	38.23		18/02/2018		Unknown	

HEADSAILS (2)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
2	0.12	0.63	1.18	2.36	3.66	5.06	14.99	120%	36.78	No			15/03/2019	NS	Unknown	
1	0.05	0.54	1.16	2.28	3.62	5.11	14.81	121%	35.80	No			18/02/2018		Dacron	

SYMMETRIC SPINNAKERS (1)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	15.42	15.42	15.42	7.93	7.58	101.01		28/12/2017		Nylon	

ASYMMETRIC SPINNAKERS (0)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
----	-----	-----	----	-----	-----	------	------	----------	-----------	-------------	----------	---------