

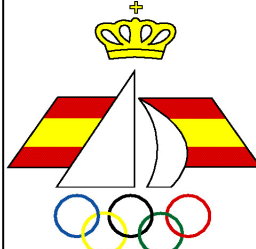
BOAT Name SHAZAM Sail Nr GBR-302	GPH 605,7	HULL Length Overall 9,435m Maximum Beam 3,038m Displacement 2.370kg Draft 2,158m IMS Reg. Division Performance Dynamic Allowance 0,000% Fwd Accommodation No Hull Construction Light Carbon Rudder Yes Crew Arm Extension
GENERAL Class MUMM 30 Designer B.FARR Builder OVINGTON Series 01/1995 Age 01/1997 Age Allowance 0,487% Offset File mumm30-GBR302.off - 31/10/2017 Measurement by Tacha Montaner - 11/10/2017		IMSL 8,953m VCGD -0,341m Sink 12,10kg/mm RL 9,111m VCGM -0,298m WS 16,28m² LSM0 8,731m Displacement/Length ratio 3,5609



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2018
ORC International
Certificate

Rating Office
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SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	589,2			658,4		
Time on Time	1,0183			1,0252		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	686,3	540,0	476,1	882,4	659,9	578,4
Time on Time	0,9835	1,2499	1,4178	0,7650	1,0229	1,1670

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	982,1	805,5	725,6	699,6	689,0	680,7	672,2
52°	653,1	551,7	521,0	508,3	502,0	498,6	488,6
60°	621,2	537,2	509,5	493,6	484,7	479,4	467,7
75°	598,3	528,2	498,6	474,8	456,4	446,3	437,7
90°	608,4	524,5	492,6	470,8	444,1	422,7	398,6
110°	607,3	519,9	481,0	447,4	418,9	400,6	371,8
120°	626,4	528,2	487,8	447,2	411,4	386,3	345,7
135°	696,3	564,3	511,6	475,3	436,0	396,1	321,6
150°	835,4	673,0	564,3	511,2	477,7	442,0	369,4
Run VMG	964,7	777,1	651,4	575,8	526,1	493,5	428,4

Certificate
Number **30201**
ORC Ref **ESP00027576**
Issued On **02/02/2018**
VPP Ver. **2018 1.00**
Valid until **31/12/2018**

Crew Weight
Default **567kg**
Maximum **540kg**
Minimum* **405kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Double H.GPH	616,4	0,9734
Double H.OSN	603,2	0,9947
Non Spin GPH	640,3	0,9371
Non Spin OSN	620,8	0,9664

Selected Courses							
Windward / Leeward	973,4	791,3	688,5	637,7	607,5	587,1	550,3
Circular Random	827,7	671,7	588,5	539,7	508,3	485,8	452,5
Coastal / Long Distance	972,5	746,2	626,2	561,1	522,0	488,3	430,1
Non Spinnaker	889,1	714,7	620,9	565,9	530,9	506,3	470,8

Sails Limitations

Headsails	Spinnakers
5	3

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	41,5°	40,6°	37,7°	36,4°	36,1°	35,6°	35,6°
Beat VMG	3,67	4,47	4,96	5,15	5,23	5,29	5,36
52°	5,51	6,53	6,91	7,08	7,17	7,22	7,37
60°	5,80	6,70	7,07	7,29	7,43	7,51	7,70
75°	6,02	6,82	7,22	7,58	7,89	8,07	8,22
90°	5,92	6,86	7,31	7,65	8,11	8,52	9,03
110°	5,93	6,92	7,48	8,05	8,59	8,99	9,68
120°	5,75	6,82	7,38	8,05	8,75	9,32	10,41
135°	5,17	6,38	7,04	7,57	8,26	9,09	11,20
150°	4,31	5,35	6,38	7,04	7,54	8,14	9,75
Run VMG	3,73	4,63	5,53	6,25	6,84	7,29	8,40
Gybe Angles	139,5°	147,7°	150,2°	159,4°	180,0°	180,0°	150,8°

Class Division Length
CDL = **9,033**


Storm Sails Areas

Heavy Weather Jib	18,17
Storm Jib (JL=7,54)	6,73
Storm Triesail	9,17

Owner

BOAT	
Name SHAZAM	Sail Nr GBR-302
File GBR302	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining		Flotation date 30/01/2018	
		SG 1,0260	
FFM 1,050	FF 1,050	SFFP 0,222	
FAM 0,745	FA 0,746	SAFP 8,685	
W1 41,5	PD1 572,8	WD 9,190	
W2 41,5	PD2 569,8	GSA 1,0	
W3 41,5	PD3 574,0	RSA 1,0	
W4 41,5	PD4 573,3	PLM 9000,0	
LCF from stem on CL / on sheer		5,360 / 5,558	
Maximum beam station from stem		5,825	
RM Measured		52,5kg·m	
RM Default		52,9kg·m	
Limit of positive stability / Stab.Index		128,4° / 122,3	
Freeboard at mast at 3,380		0,941	



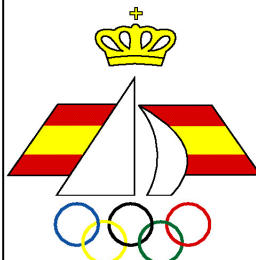
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IMS Measurement Certificate

Certificate

Number **30201**
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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 No	Main Furler No		
Lenticular Rigging No	Without Backstay No		
Articulated Bowsprit No			
P 12,155	E 4,310	MDT1 0,085	MW 0,142
IG 11,600	J 3,290	MDL1 0,142	GO 0,142
ISP 11,660	SFJ 0,090	MDT2 0,061	BD 0,130
BAS 1,245	SPL 3,400	MDL2 0,105	MWT 65,78
FSP 0,056	TPS	TL 1,800	MCG 4,570

MIZZEN RIG AND SAILS	
N/A	

PROPELLER		
Installation Strut	PRD 0,359	
Type Folding 2 blades	PBW 0,095	
Twin Screw No	PIPA 0,0032	
ST1 0,042	ST3 0,180	ST5 0,235
ST2 0,180	ST4 0,112	EDL 0,920

COMMENTS	
178 KG DE LASTRE EN SENTINA 10/17	

MOVABLE BALLAST	
N/A	

CENTERBOARD	
N/A	

SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0,090	0,99	1,77	2,90	3,72	32,27	33,10	P/8 · (E + 2·MQW + 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL				
	12,03	12,03	12,03	6,97	6,92	69,77		SL · (SFL + 4·SHW) / 6	
Asymmetric	SLU	SLE	SL	SHW	SFL				
	11,72	10,58	11,15	5,04	6,65	49,82		AS · (SFL + 4·SHW) / 6	

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	Fly	Meas.Date	Material	Comment
0,08	0,50	0,96	1,78	2,64	3,43	11,50	20,41	Y		11/10/2017	Unknow	11101701
0,26	0,67	1,10	1,87	2,63	3,42	11,05	20,38	Y		11/10/2017	Unknow	11101702

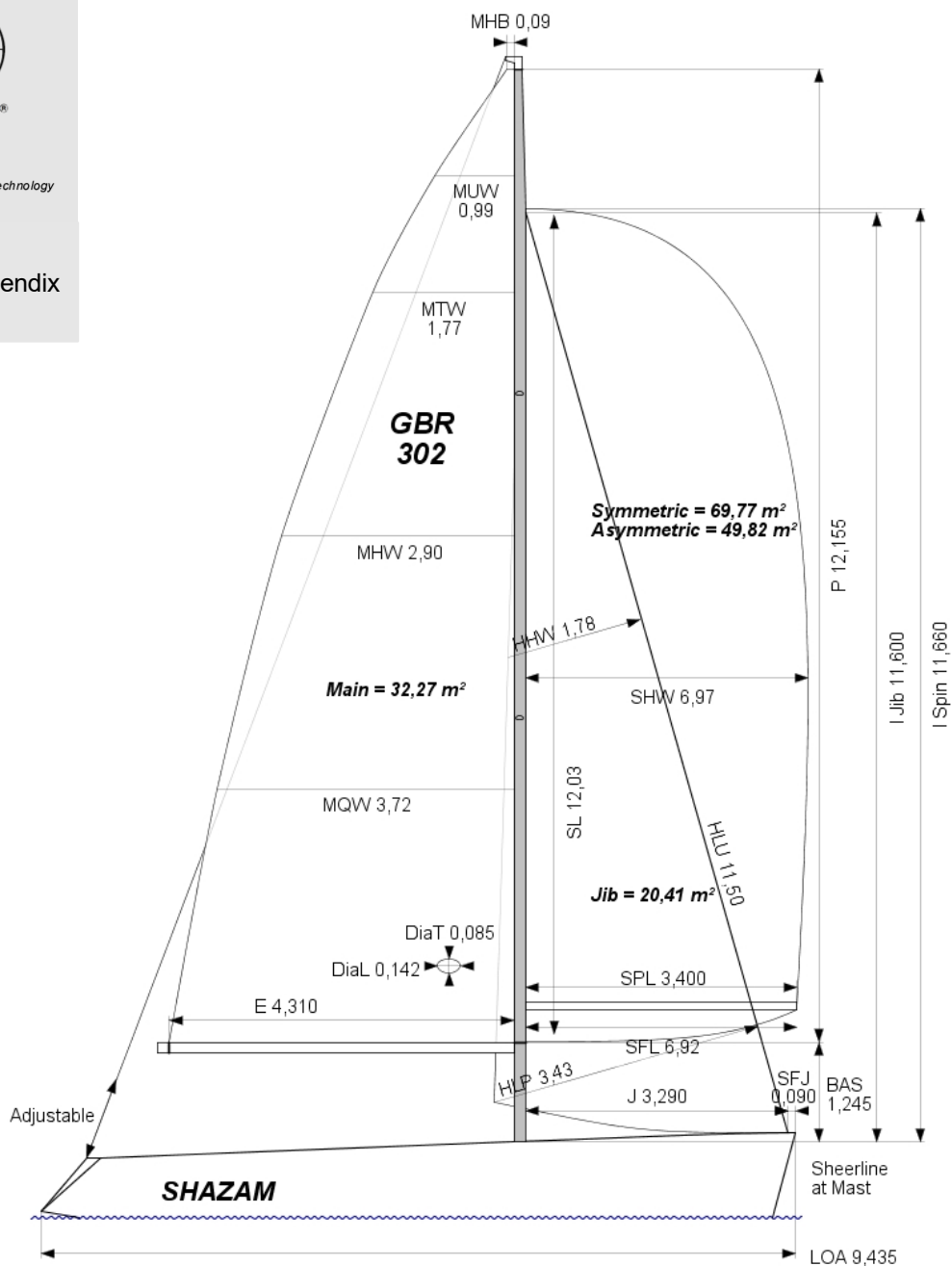
MEASUREMENT INVENTORY				
Measurer Tacha Montaner ESP-222				
Date 30/01/2018				
Comment				
Id	Item	Weight	Distance	VCG Description
Tools				
Id	Item	Weight Description		

MEASUREMENT INVENTORY								
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condtn	Description
1	Tank Fuel		Plastico	20,0	6,45	0,00	7,6	
Id	Item	Weight	Distance	VCG Description				
1	Ballast	43,5	5,60	0,00 2 piezas (port/stb)				
2	Ballast	54,5	6,40	0,00 5 piezas (centro)				
3	Ballast	31,5	6,80	0,00 3 piezas				
4	Ballast	48,5	4,05	0,00 Plomos varios				



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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
M17	0,090	0,99	1,77	2,90	3,72	32,27	755	31/01/2018		Unknown	

HEADSAILS (2)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
J1	0,08	0,50	0,96	1,78	2,64	3,43	11,50	104%	20,41	Y		Tacha	11/10/2017		Unknown	11101701
J2	0,26	0,67	1,10	1,87	2,63	3,42	11,05	104%	20,38	Y		Tacha	11/10/2017		Unknown	11101702

SYMMETRIC SPINNAKERS (1)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
S2	12,03	12,03	12,03	6,97	6,92	69,77	755	09/11/2017		Unknown	

ASYMMETRIC SPINNAKERS (1)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
A1	11,72	10,58	11,15	5,04	6,65	49,82	asym	Tacha	11/10/2017		Unknown	11101705