

BOAT Name LZ Yachting 1991 Sail Nr BUL-1991	GPH 560.6	HULL Length Overall 12.450m Maximum Beam 3.216m Displacement 6,094kg Draft 2.538m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.000% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder Yes Crew Arm Extension
GENERAL Class Grand Soleil 42R Designer Botin Carkeek Builder Del Pardo Series 04/2003 Age 04/2003 Age Allowance 0.487% Offset File GS42R.OFF - 28/02/2008 17:15:06 Measurement by - 23/07/2004		IMSL 10.900m VCGD -0.117m Sink 22.71kg/mm RL 10.606m VCGM -0.137m WS 29.28m² LSM0 10.443m Displacement/Length ratio 5.3509



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SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	545.7			610.2		
Time on Time	1.0995			1.1061		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	637.6	497.9	444.2	825.9	614.5	535.4
Time on Time	1.0586	1.3556	1.5197	0.8173	1.0984	1.2607

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	909.4	743.1	671.6	648.4	637.9	622.3	619.1
52°	598.9	499.6	468.4	459.8	455.5	450.5	444.8
60°	568.3	482.7	456.1	447.2	442.5	439.2	430.3
75°	544.3	472.7	445.7	430.2	422.3	417.4	407.2
90°	549.9	474.7	444.0	424.1	406.3	394.7	384.6
110°	574.3	476.4	439.2	413.6	391.7	378.3	357.0
120°	594.3	487.7	445.9	416.8	389.2	369.4	335.9
135°	667.1	536.0	469.8	438.7	411.3	384.7	329.0
150°	797.1	632.6	531.0	471.5	441.8	416.2	366.6
Run VMG	920.4	730.4	613.2	538.9	491.0	455.3	406.1

Certificate
Number **036/19**
ORC Ref **BUL10025258**
Issued On **23/05/2019**
VPP Ver. **2019 1.01**
Valid until **31/12/2019**

Crew Weight
Default **732kg**
Maximum **760kg**
Minimum* **570kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Double H.GPH	570.2	1.0522
Double H.OSN	557.2	1.0769
Non Spin GPH	587.4	1.0215
Non Spin OSN	572.0	1.0490

Selected Courses							
Windward / Leeward	914.9	736.8	642.4	593.6	564.5	538.8	512.6
Circular Random	769.2	622.0	544.0	499.2	471.4	452.4	427.1
Coastal / Long Distance	915.5	693.3	580.3	518.1	483.5	453.3	407.7
Non Spinnaker	817.3	656.0	569.3	518.8	487.3	466.2	439.1

Sails Limitations

Headsails	Spinnakers
6	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	42.4°	41.2°	39.0°	38.2°	38.0°	37.3°	37.6°
Beat VMG	3.96	4.84	5.36	5.55	5.64	5.78	5.81
52°	6.01	7.21	7.69	7.83	7.90	7.99	8.09
60°	6.33	7.46	7.89	8.05	8.14	8.20	8.37
75°	6.61	7.62	8.08	8.37	8.53	8.62	8.84
90°	6.55	7.58	8.11	8.49	8.86	9.12	9.36
110°	6.27	7.56	8.20	8.70	9.19	9.52	10.08
120°	6.06	7.38	8.07	8.64	9.25	9.75	10.72
135°	5.40	6.72	7.66	8.21	8.75	9.36	10.94
150°	4.52	5.69	6.78	7.63	8.15	8.65	9.82
Run VMG	3.91	4.93	5.87	6.68	7.33	7.91	8.86
Gybe Angles	142.0°	146.2°	149.0°	155.4°	168.2°	180.0°	180.0°

Class Division Length
CDL = **10.754**

Storm Sails Areas
Heavy Weather Jib **32.96**
Storm Jib (JL=10.16) **12.21**
Storm Trysail **17.19**

Owner

BOAT			
Name	LZ Yachting 1991	Sail Nr	BUL-1991
File	BUL1991	Data in	meters/kilograms

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	16.450	E	5.970
IG	15.520	J	4.520
ISP	15.650	SFJ	
BAS	1.690	SPL	4.520
FSP	0.068	TPS	4.520
MDT1	0.120	MW	0.242
MDL1	0.242	GO	0.272
MDT2	0.080	BD	0.250
MDL2	0.180	MWT	211.00
TL	2.300	MCG	5.490

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date		07/04/2011	SG 1.0258
FFM	1.387	FF	1.387
FAM	1.104	FA	1.105
SFFP	0.100	SAFP	11.988
W1	100.0	PD1	491.6
W2	100.0	PD2	491.4
W3	100.0	PD3	491.0
W4	100.0	PD4	490.5
WD	12.100	GSA	1.0
RSA	1.0	PLM	9000.0
LCF from stem on CL / on sheer		6.694 / 6.869	
Maximum beam station from stem		7.940	
RM Measured		194.0kg-m	
RM Default		186.2kg-m	
Limit of positive stability / Stab.Index		127.7° / 133.6	
Freeboard at mast at 4.520		1.236	



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MIZZEN RIG AND SAILS			
N/A			

PROPELLER			
Installation	Strut	PRD	0.430
Type	Folding 2 blades	PBW	0.105
Twin Screw	No	PIPA	0.0037
ST1	0.050	ST3	0.180
ST2	0.180	ST4	0.112
		ST5	0.292
		EDL	0.930

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COMMENTS			

MOVABLE BALLAST			
N/A			

CENTERBOARD			
N/A			



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SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.270	1.32	2.32	3.87	4.97	58.78	60.11	P/8 · (E + 2·MQW + 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL	105.17		SL · (SFL + 4·SHW) / 6	
Asymmetric on centerline	SLU	SLE	SL	SHW	SFL	67.76	83.94	AS · (SFL + 4·SHW) / 6	

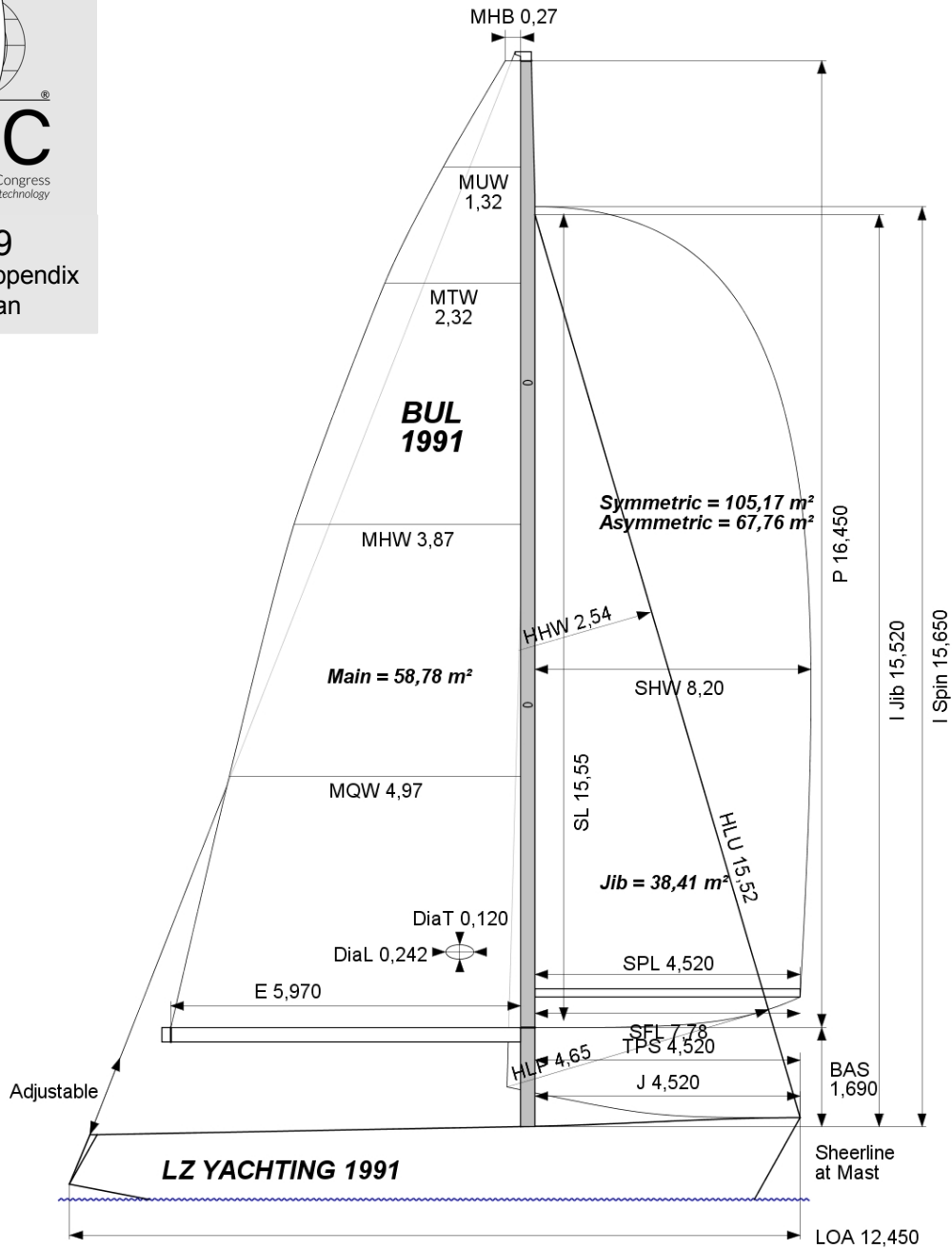
HEADSAILS												
Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)												
HBB	HUW	HTW	HHW	HQW	HLP	HLU	Area	Btn	Fly	Meas.Date	Material	Comment
0.16	0.80	1.44	2.54	3.58	4.65	15.52	38.41	Y		05/05/2019	Carbon	J1 new
0.10	0.67	1.27	2.45	3.56	4.75	15.53	37.58	Y		05/05/2019	Kevlar	J2 old
0.11	0.73	1.35	2.46	3.54	4.61	15.43	37.27	Y		05/05/2019	Carbon	J2 new
0.10	0.62	1.17	2.29	3.50	4.75	15.47	36.32	Y		05/05/2019	Carbon	J3 J3
0.08	0.60	1.18	2.38	3.58	4.72	14.02	33.36	Y		05/05/2019	Unknow	J4 old
0.10	0.59	1.14	2.25	3.41	4.58	14.07	32.11	Y		05/05/2019	Carbon	J4 new
					3.85	15.27	29.93	N		05/05/2019	Nylon	Windseeker

MEASUREMENT INVENTORY				
Measurer	SLO 03			
Date	07/04/2011			
Comment				
Id	Item	Weight	Distance	VCG Description
Id	Item	Maker	Model	
1	Engine	Yanmar	29,4 KW	
Id	Item	Weight Description		

MEASUREMENT INVENTORY									
Id	Item	Tank	Use	Tank Type	Capcty	Dist.	VCG	Condtn	Description
1	Tank	Water		PVC	100.0	5.82		0-0	
2	Tank	Water		PVC	100.0	5.82		0-0	
3	Tank	Fuel		Fix	60.0	8.52		40-0	
Id	Item	Weight	Distance	VCG Description					
1	Ballast	7.62		8 pcs LEAD PRT					
2	Ballast	7.62		8 pcs LEAD STB					
3	Ballast	7.12		8 pcs LEAD PRT					
4	Ballast	7.12		8 pcs LEAD STB					
1	Battery	0.0	7.12	70 Ah					
2	Battery	0.0	7.12	70 Ah					



2019
Certificate Appendix
Sail Plan



SAILS INVENTORY																
MAINSAIL (2)																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
3Di	0.27	1.32	2.32	3.87	4.97	58.78		05/05/2019	NorthSails	Carbon						
2	0.23	1.29	2.23	3.81	4.95	58.07		05/05/2019	Quantum	Kevlar						
HEADSAILS (7)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
LM3DL	0.16	0.80	1.44	2.54	3.58	4.65	15.52	103%	38.41	Y			05/05/2019	North Sails	Carbon	J1 new
MH3	0.10	0.67	1.27	2.45	3.56	4.75	15.53	105%	37.58	Y			05/05/2019	Quantum	Kevlar	J2 old
MH3DL	0.11	0.73	1.35	2.46	3.54	4.61	15.43	102%	37.27	Y			05/05/2019	North Sails	Carbon	J2 new
J3	0.10	0.62	1.17	2.29	3.50	4.75	15.47	105%	36.32	Y			05/05/2019	Quantum	Carbon	J3 J3
J4	0.08	0.60	1.18	2.38	3.58	4.72	14.02	104%	33.36	Y			05/05/2019	Supreme	Unknown	J4 old
NS4	0.10	0.59	1.14	2.25	3.41	4.58	14.07	101%	32.11	Y			05/05/2019	North Sails	Carbon	J4 new
WS						3.85	15.27	85%	29.93		N		05/05/2019	CBS	Nylon	Windseeker
SYMMETRIC SPINNAKERS (6)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
S1,5	15.55	15.55	15.55	8.20	7.78	105.17		20/05/2019	NorthSails	Nylon	Yellow Superlite Kote 50					
s 2	15.64	15.64	15.64	8.12	7.78	104.95		05/05/2019	CBS	Nylon	Runner Medium					
S2	15.45	15.45	15.45	8.23	7.68	104.55		05/05/2019	North Sails	Nylon	Argus					
VMG - 2	15.60	15.60	15.60	7.88	7.80	102.24		05/05/2019	CBS	Nylon	VMG - big					
VMGS0	15.21	15.21	15.21	6.26	7.82	83.31		05/05/2019	North sails	Nylon						
ASYMMETRIC SPINNAKERS (1)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				
Code0	15.86	13.98	14.92	5.13	6.73	67.77	asym		05/05/2019	North Sails	Nylon	Code0				