

BOAT Name BRAVA Sail Nr ITA-1000	GPH 503.4	HULL Length Overall 14.863m Maximum Beam 4.152m Displacement 7,873kg Draft 3.074m IMS Reg. Division Performance Dynamic Allowance 0.000% Fwd Accommodation No Hull Construction Light Carbon Rudder Yes Crew Arm Extension
GENERAL Class FARR 49' Designer FARR Builder COOKSON Series 06/1999 Age 06/1999 Age Allowance 0.487% Offset File BRAVA-10.OFF - 29/04/2010 23:25:38 Measurement by - 20/05/2019		IMSL 12.681m VCGD -0.388m Sink 27.89kg/mm RL 12.433m VCGM -0.354m WS 37.89m² LSM0 12.359m Displacement/Length ratio 4.1705



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SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	491.2			552.6		
Time on Time	1.2216			1.2214		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	566.4	449.7	399.2	733.1	557.5	486.7
Time on Time	1.1917	1.5009	1.6908	0.9208	1.2108	1.3870

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	815.4	672.1	620.9	598.8	583.7	569.5	566.6
52°	535.4	451.9	430.0	421.6	416.8	409.6	404.1
60°	505.6	436.1	416.7	408.1	402.8	397.5	387.4
75°	483.3	426.4	402.6	387.8	379.3	374.0	361.7
90°	489.0	428.5	401.8	378.1	361.5	351.8	341.5
110°	502.7	425.3	393.2	374.7	359.7	347.0	313.6
120°	521.0	431.7	395.9	366.0	346.9	332.9	300.9
135°	582.1	466.6	417.9	386.6	356.2	326.1	273.5
150°	697.4	553.8	469.5	421.4	393.1	365.1	309.9
Run VMG	805.3	639.4	542.1	483.0	445.7	415.1	357.9

Certificate
Number **10001**
ORC Ref **ITA00052686**
Issued On **22/05/2019**
VPP Ver. **2019 1.01**
Valid until **31/12/2019**

Crew Weight
Default **931kg**
Maximum **1,060kg**
Minimum* **795kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Double H.GPH	515.3	1.1644
Double H.OSN	505.9	1.1861
Non Spin GPH	536.6	1.1182
Non Spin OSN	525.1	1.1426

Selected Courses							
Windward / Leeward	810.3	655.8	581.5	540.9	514.7	492.3	462.3
Circular Random	685.7	557.0	489.1	449.9	424.7	406.8	381.0
Coastal / Long Distance	809.8	617.1	524.8	469.2	437.0	409.0	363.8
Non Spinnaker	745.0	599.3	520.6	473.9	444.0	423.3	396.0

Sails Limitations

Headsails	Spinnakers
7	5

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	42.5°	40.8°	39.8°	38.7°	37.9°	37.7°	37.6°
Beat VMG	4.42	5.36	5.80	6.01	6.17	6.32	6.35
52°	6.72	7.97	8.37	8.54	8.64	8.79	8.91
60°	7.12	8.26	8.64	8.82	8.94	9.06	9.29
75°	7.45	8.44	8.94	9.28	9.49	9.63	9.95
90°	7.36	8.40	8.96	9.52	9.96	10.23	10.54
110°	7.16	8.46	9.16	9.61	10.01	10.37	11.48
120°	6.91	8.34	9.09	9.84	10.38	10.82	11.97
135°	6.18	7.72	8.61	9.31	10.11	11.04	13.16
150°	5.16	6.50	7.67	8.54	9.16	9.86	11.62
Run VMG	4.47	5.63	6.64	7.45	8.08	8.67	10.06
Gybe Angles	142.0°	142.4°	147.5°	154.5°	162.3°	180.0°	147.9°

Class Division Length
CDL = **12.558**

Storm Sails Areas
Heavy Weather Jib **45.34**
Storm Jib (JL=11.92) **16.80**
Storm Trysail **22.64**

Owner

BOAT	
Name BRAVA	Sail Nr ITA-1000
File I1000	Data in meters/kilograms

RIG	
Forestay Tension Aft	Spreaders 3
Inner Stay None Fitted	Runners 2
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 19.280	E 6.710 MDT1 0.153 MW 0.305
IG 18.287	J 5.683 MDL1 0.305 GO 0.317
ISP 20.130	SFJ 0.075 MDT2 0.149 BD 0.348
BAS 2.162	SPL 6.170 MDL2 0.216 MWT 266.00
FSP 0.072	TPS 6.170 TL 3.095 MCG 6.850

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 14/09/2018		SG 1.0030	
FFM 1.567	FF 1.575	SFFP 0.337	
FAM 1.285	FA 1.291	SAFP 14.147	
W1 118.0	PD1 500.3	WD 16.350	
W2 118.0	PD2 509.3	GSA 1.0	
W3 118.0	PD3 510.8	RSA 1.0	
W4 118.0	PD4 500.6	PLM 9000.0	
LCF from stem on CL / on sheer		8.122 / 8.315	
Maximum beam station from stem		10.158	
RM Measured		300.7kg-m	
RM Default		293.0kg-m	
Limit of positive stability / Stab.Index		133.3° / 134.3	
Freeboard at mast at 5.758		1.378	



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MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation Strut	PRD 0.438		
Type Folding 2 blades	PBW 0.114		
Twin Screw No	PIPA 0.0037		
ST1 0.040	ST3 0.179	ST5 0.279	
ST2 0.179	ST4 0.111	EDL 0.708	

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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	
	1.630	2.20	2.98	4.39	5.62	82.60	84.43	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL	193.34		SL · (SFL + 4·SHW) / 6	
Asymmetric	SLU	SLE	SL	SHW	SFL	191.90		AS · (SFL + 4·SHW) / 6	
	21.55	18.38	19.96	11.43	11.95				

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
0.15	0.87	1.60	2.95	4.25	5.48	18.50	53.41	Y		20/05/2019	Carbon	
0.11	0.83	1.55	2.85	4.13	5.44	18.39	51.78	Y	N	14/09/2018	Carbon	

MEASUREMENT INVENTORY				
Measurer 134				
Date 14/09/2018				
Comment				
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>
<i>Id</i>	<i>Item</i>	<i>Maker</i>	<i>Model</i>	
A	Engine	YANMAR	37.5 kW	
<i>Id</i>	<i>Item</i>	<i>Weight Description</i>		

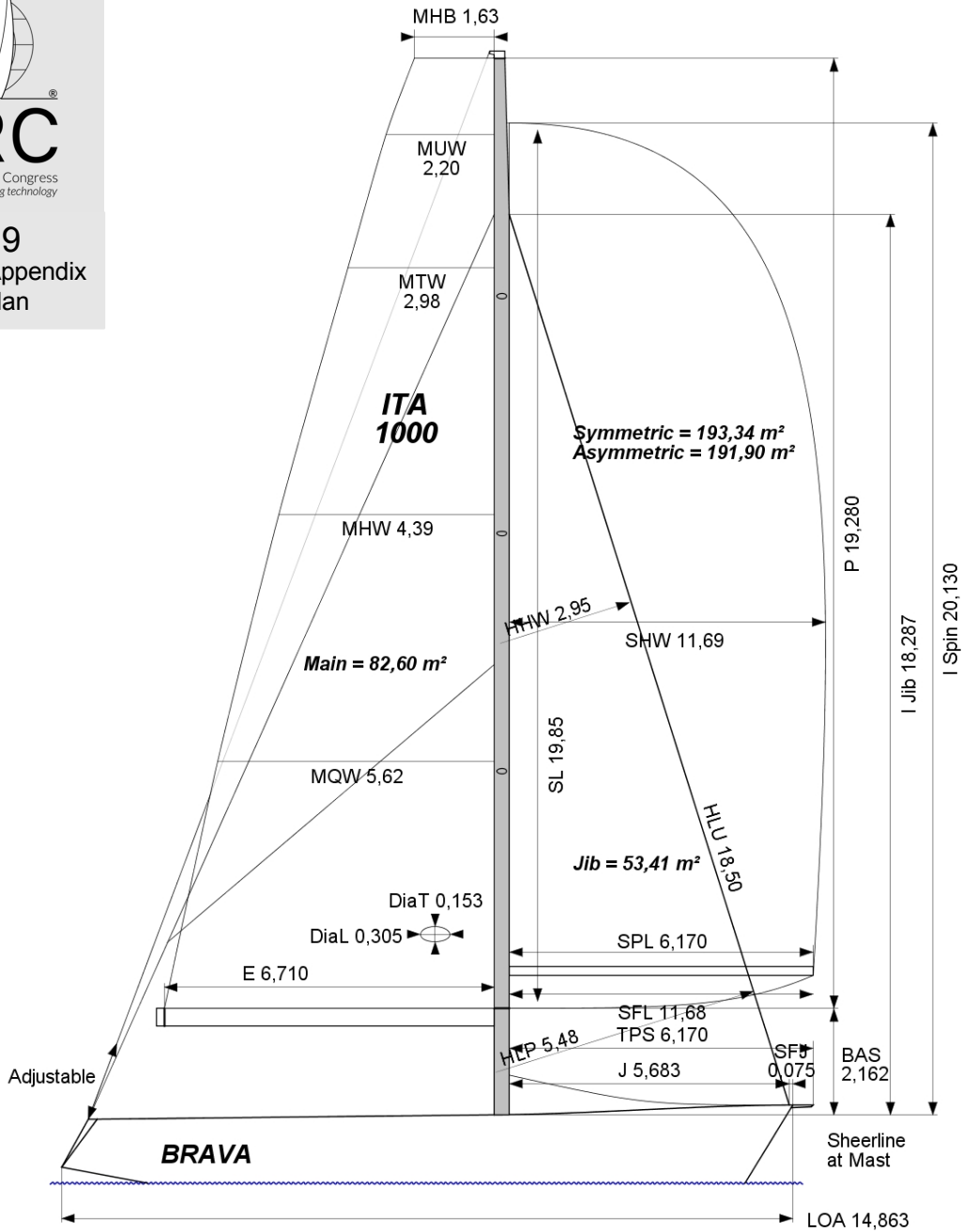
MEASUREMENT INVENTORY							
<i>Id</i>	<i>Item</i>	<i>Tank Use</i>	<i>Tank Type</i>	<i>Capcty</i>	<i>Dist.</i>	<i>VCG</i>	<i>Condtn Description</i>
A	Tank	WATER	RIGID	240.0	9.90	-0.30	0-0 2x120 LITRI
B	Tank	DIESEL	INOX	90.0	10.10	-0.15	15-0 L
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>			
A	Ballast	1208.0	8.29	-0.30 14+14 PANI PB 606KG DX 602KG SX			
A	Battery	0.0	9.54	0.00 50 Ah			
B	Battery	0.0	9.30	0.00 2 x 70 Ah			



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Sail Plan



SAILS INVENTORY

MAINSAIL (1)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
E	1.63	2.20	2.98	4.39	5.62	82.46		10/06/2017	EUROSAIL	Carbon	

HEADSAILS (2)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
J	0.15	0.87	1.60	2.95	4.25	5.48	18.50	96%	53.41	Y			20/05/2019	EUROSAIL	Carbon	
I	0.11	0.83	1.55	2.85	4.13	5.44	18.39	96%	51.78	Y	N		14/09/2018	EUROSAIL	Carbon	

SYMMETRIC SPINNAKERS (1)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
G	19.85	19.85	19.85	11.69	11.68	193.34		10/06/2017	EUROSAIL	Nylon	

ASYMMETRIC SPINNAKERS (2)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
H	21.55	18.38	19.96	11.43	11.95	191.90	asym		06/04/2011	NORTH	Nylon	
L	20.97	19.12	20.05	10.62	12.00	182.01	asym		11/06/2011	NORTH	Nylon	