

BOAT Name DIRECTO Sail Nr EST 998	GPH 629,6	HULL Length Overall 10,300m Maximum Beam 3,536m Displacement 4 606kg Draft 1,903m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0,088% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder No Crew Arm Extension
GENERAL Class ITALIA 9.98 Designer POLLI Builder ITALIA YACHTS Series 09.2014 Age 10.2016 Age Allowance 0,098% Offset File IY998m.p.off - 24.06.2016 23:04:28 Measurement by A.Tetsmann - 13.07.2017		IMSL 9,425m VCGD 0,082m Sink 17,74kg/mm RL 8,062m VCGM 0,076m WS 23,54m² LSMO 9,152m Displacement/Length ratio 6,0086



Rating Office EYU Regati 1 11911, Tallinn Estonia
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	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
	Low	Medium	High	Low	Medium	High
Time On Distance	612,1			687,4		
Time On Time	0,9802			0,9820		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	725,6	557,0	491,6	944,3	692,0	596,6
Time on Time	0,9303	1,2118	1,3732	0,7148	0,9755	1,1314

Wind Velocity	TIME ALLOWANCES						
	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1089,4	901,4	800,2	743,7	720,2	709,8	699,6
52°	704,3	589,3	531,0	504,7	494,9	490,3	485,2
60°	659,1	555,6	511,1	489,5	478,0	472,4	468,7
75°	621,9	531,4	496,9	475,6	456,6	443,3	434,5
90°	621,9	530,3	490,7	473,4	452,9	433,2	405,4
110°	639,2	528,3	485,8	456,4	430,9	417,9	395,2
120°	657,6	540,1	492,1	463,0	434,5	407,9	377,1
135°	726,3	588,4	515,5	482,5	455,7	429,1	377,7
150°	863,8	683,3	575,7	513,3	483,0	458,2	410,1
Run VMG	997,4	789,0	664,4	583,6	529,4	493,9	445,6

Certificate Number Est998 ORC Ref EST00001506 Issued On 16.07.2017 VPP Ver. 2017 1.00 Valid until 31.12.2017

Crew Weight Declared 680kg Default* 607kg Non Manual Pwr No
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Special Scoring ToD ToT Double H.GPH 633,9 0,9465 Double H.OSN 618,5 0,9702 Non Spin GPH 660,3 0,9087 Non Spin OSN 641,3 0,9357

Selected Courses							
Windward / Leeward	1043,4	845,2	732,3	663,6	624,8	601,8	572,6
Circular Random	870,9	701,8	610,7	557,3	524,0	501,7	472,7
Ocean for PCS	1070,8	825,5	686,6	601,1	544,9	505,0	448,6
Non Spinnaker	925,3	740,5	639,7	580,1	542,9	518,2	486,9

Sails Limitations Headsails 5 Spinnakers 3

Wind Velocity	Velocity Prediction in Knots for True Wind Speeds						
	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	44,1°	43,0°	42,8°	41,5°	41,2°	40,9°	40,9°
Beat VMG	3,30	3,99	4,50	4,84	5,00	5,07	5,15
52°	5,11	6,11	6,78	7,13	7,27	7,34	7,42
60°	5,46	6,48	7,04	7,35	7,53	7,62	7,68
75°	5,79	6,77	7,24	7,57	7,88	8,12	8,29
90°	5,79	6,79	7,34	7,60	7,95	8,31	8,88
110°	5,63	6,81	7,41	7,89	8,35	8,61	9,11
120°	5,47	6,67	7,32	7,78	8,29	8,82	9,55
135°	4,96	6,12	6,98	7,46	7,90	8,39	9,53
150°	4,17	5,27	6,25	7,01	7,45	7,86	8,78
Run VMG	3,61	4,56	5,42	6,17	6,80	7,29	8,08
Gybe Angles	145,2°	149,4°	150,6°	157,3°	175,4°	180,0°	180,0°

Class Division Length CDL = 8,744
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Storm Sails Areas Heavy Weather Jib 25,63 Storm Jib (JL=8,96) 9,49 Storm Trysail 10,99

BOAT	
Name DIRECTO	Sail Nr EST 998
File Est0998	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 03.07.2017		SG 1,0000	
FFM 1,243	FF 1,250	SFFP 0,000	
FAM 0,626	FA 0,633	SAFP 10,300	
W1 55,0	PD1 196,0	WD 10,900	
W2 55,0	PD2 197,0	GSA 12,6	
W3 55,0	PD3 197,0	RSA 4298,7	
W4 55,0	PD4 198,0	PLM 2005,0	
LCF from stem on CL / on sheer		5,584 / 5,813	
Maximum beam station from stem		7,304	
RM Measured		106,5kg·m	
RM Default		114,4kg·m	
Limit of positive stability / Stab.Index		118,4° / 115,6	
Freeboard at mast at 4,315		1,219	



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IMS Measurement Certificate

RIG			
Forestay Tension Aft	Spreaders 2		
Inner Stay None Fitted	Runners 0		
Carbon Mast No	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 13,080	E 4,800	MDT1 0,120	MW 0,183
IG 13,720	J 4,215	MDL1 0,185	GO 0,201
ISP 13,832	SFJ 0,100	MDT2 0,120	BD 0,220
BAS 1,500	SPL 4,253	MDL2 0,155	MWT 144,10
FSP 0,076	TPS	TL 0,800	MCG 4,990

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MIZZEN RIG AND SAILS	
N/A	

PROPELLER		
Installation Strut	PRD 0,380	
Type Folding 2 blades	PBW 0,100	
Twin Screw No	PIPA 0,0039	
ST1 0,065	ST3 0,180	ST5 0,343
ST2 0,180	ST4 0,110	EDL 1,250

COMMENTS	

MOVEABLE BALLAST	
N/A	

CENTERBOARD	
N/A	

SAILS (Maximum Areas)						
Mainsail	MHB	MUW	MTW	MHW	MQW	Area Area (r) Formula
	0,360	1,05	1,77	2,96	3,90	36,63 37,33 P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)
Symmetric	SLU	SLE	SL	SHW	SFL	Area Area (r) Formula
	13,76	13,76	13,76	7,81	7,50	88,84 SL · (SFL + 4·SHW) / 6
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	Fly	Meas.Date	Material	Comment
0,10	0,70	1,32	2,45	3,45	4,41	13,67	32,15	Y		13.07.2017	Unknow	JibTop
0,12	0,73	1,37	2,43	3,36	4,40	13,63	31,87	Y			Unknow	Light
0,12	0,73	1,34	2,39	3,34	4,37	13,62	31,53	Y			Unknow	Medium
0,08	0,59	1,13	2,22	3,29	4,35	13,57	29,97	Y		22.11.2016	Unknow	Heavy

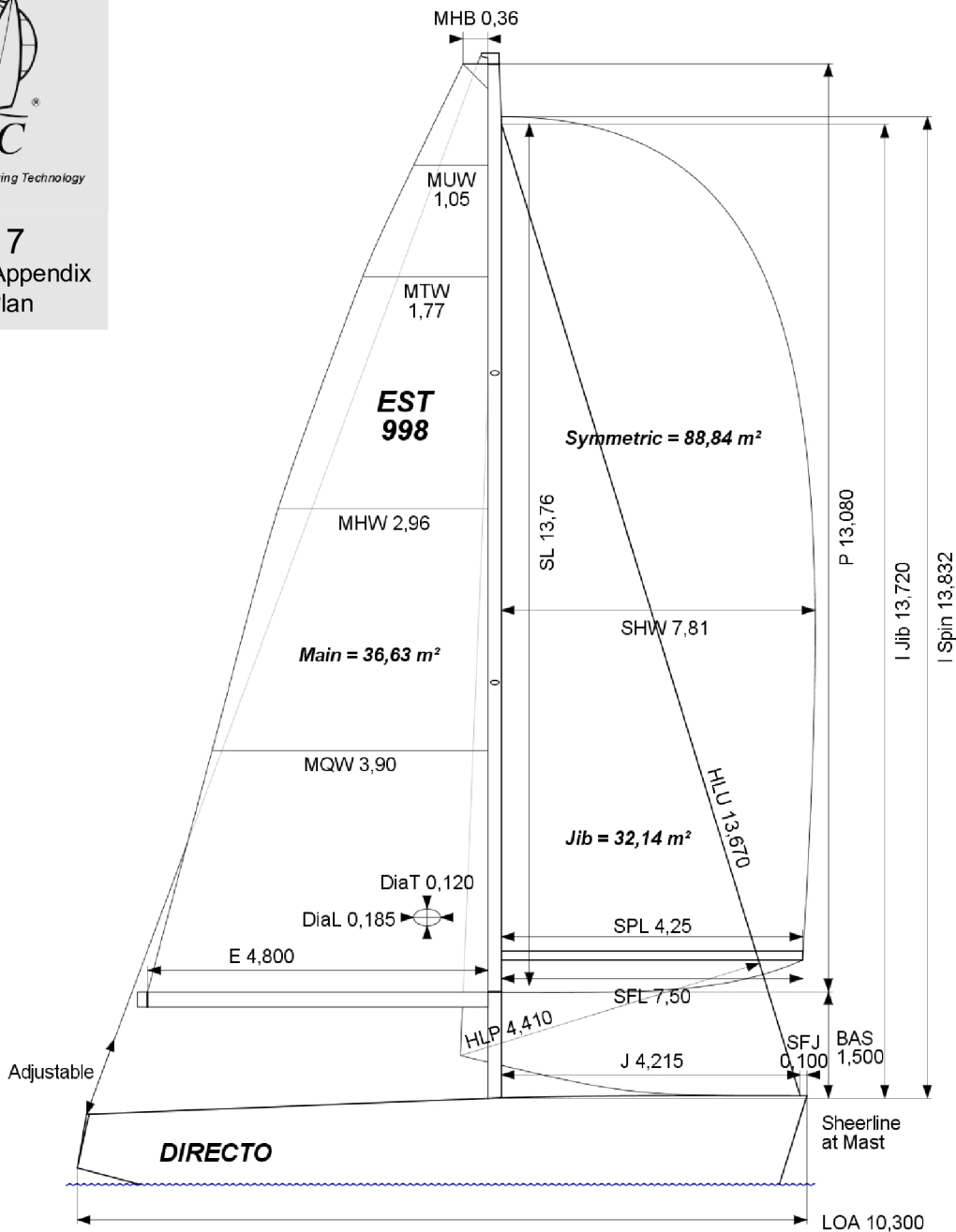
MEASUREMENT INVENTORY				
Measurer Arvet Tetsmann EST 1				
Date 03.07.2017				
Comment				
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>
<i>Id</i>	<i>Item</i>	<i>Maker</i>	<i>Model</i>	
1	Engine	Volvo-Penta	D1	
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Description</i>	

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</i>	<i>Description</i>	
1	Tank	Water	PVC	110,0	4,30			0,0 Water	
2	Tank	Diesel	PVC	61,0	7,50			10,0 Diesel	
3	Tank	Waste	PVC	25,0	7,60			0,0 Waste	
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG</i>	<i>Description</i>				
1	Battery		4,30	70 Ah					
2	Battery		4,30	70 Ah					



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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					
1	0,360	1,05	1,77	2,96	3,90	36,63	EST 1	13.07.2017	NORTH	Unknown						
HEADSAILS (4)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
4a	0,10	0,70	1,32	2,45	3,45	4,41	13,67	105%	32,15	Y		EST 1	13.07.2017		Unknown	JibTop
1a	0,12	0,73	1,37	2,43	3,36	4,40	13,63	104%	31,87	Y				NORTH	Unknown	Light
2a	0,12	0,73	1,34	2,39	3,34	4,37	13,62	104%	31,53	Y				NORTH	Unknown	Medium
3	0,08	0,59	1,13	2,22	3,29	4,35	13,57	103%	29,97	Y		Sizil	22.11.2016	NORTH	Unknown	Heavy
SYMMETRIC SPINNAKERS (3)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
2	13,76	13,76	13,76	7,81	7,50	88,84	Hemamali	23.11.2016	NORTH	Nylon	S2					
1	13,86	13,86	13,86	7,68	7,58	88,47	Hemamali	23.11.2016	NORTH	Nylon	S1.5					
3	13,76	13,76	13,76	7,19	7,60	83,39	Hemamali	22.11.2016	NORTH	Unknown	S3					
ASYMMETRIC SPINNAKERS (0)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				