

BOAT Name Happy Hour Sail Nr DEN 8	GPH 623.4	HULL Length Overall 10.300m Maximum Beam 3.536m Displacement 4,547kg Draft 1.900m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.084% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder No Crew Arm Extension
GENERAL Class ITALIA 9.98 F Designer POLLI Builder ITALIA YACHTS Series 09/2014 Age 04/2016 Age Allowance 0.065% Offset File IY998mp.off - 04/11/2015 14:00:04 Measurement by Michael Quist - 10/05/2016		IMSL 9.405m VCGD 0.137m Sink 17.66kg/mm RL 8.084m VCGM 0.135m WS 23.44m² LSM0 9.133m Displacement/Length ratio 5.9688



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SCORING OPTIONS	OFFSHORE COASTAL / LONG DISTANCE			INSHORE WINDWARD / LEEWARD		
	PLT	PLD		PLT	PLD	
Time On Distance	609.5			687.0		
Time On Time	0.9844			0.9825		
Performance Line	0.653	27.9		0.832	205.0	
Triple Number	Low 0.9430	Medium 1.2217	High 1.3830	Low 0.7132	Medium 0.9762	High 1.1354

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1096.3	905.1	799.2	742.7	717.5	706.3	693.9
52°	705.9	589.2	529.0	502.6	493.3	488.8	482.7
60°	642.3	537.9	502.6	487.0	476.6	471.2	466.1
75°	575.8	503.5	477.1	465.6	454.1	442.6	434.8
90°	559.3	498.8	471.8	447.7	433.0	424.6	407.1
110°	605.4	523.0	483.9	454.6	428.9	408.2	379.1
120°	651.7	537.4	491.2	462.3	434.0	407.7	368.4
135°	725.9	589.1	516.6	483.1	456.2	429.4	377.9
150°	863.0	682.2	575.7	513.9	483.3	458.3	410.0
Run VMG	996.5	787.7	664.0	584.3	529.6	493.9	445.4

Certificate

Number **35305**
ORC Ref **DEN00000142**
Issued On **05/07/2016**
VPP Ver. **2016 1.01**
Valid until **31/12/2016**

Crew Weight

Declared **665kg**
Default* **605kg**
Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Double H.GPH	629.1	0.9537
Double H.OSN	617.0	0.9724
Non Spin GPH	659.5	0.9098
Non Spin OSN	640.7	0.9365
N/S Perf. Line	6.4	0.588

Selected Courses							
Windward / Leeward	1046.4	846.4	731.6	663.5	623.6	600.1	569.6
Circular Random	859.2	694.0	605.0	552.8	520.1	498.1	468.7
Ocean for PCS	1070.5	823.6	684.0	598.2	542.0	502.1	445.1
Non Spinnaker	925.3	740.0	638.9	579.0	541.5	516.7	485.0

Sails Limitations

Headsails	Spinnakers
6	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	44.5°	43.3°	43.0°	42.2°	41.1°	40.7°	40.5°
Beat VMG	3.28	3.98	4.50	4.85	5.02	5.10	5.19
52°	5.10	6.11	6.81	7.16	7.30	7.36	7.46
60°	5.60	6.69	7.16	7.39	7.55	7.64	7.72
75°	6.25	7.15	7.55	7.73	7.93	8.13	8.28
90°	6.44	7.22	7.63	8.04	8.31	8.48	8.84
110°	5.95	6.88	7.44	7.92	8.39	8.82	9.50
120°	5.52	6.70	7.33	7.79	8.30	8.83	9.77
135°	4.96	6.11	6.97	7.45	7.89	8.38	9.53
150°	4.17	5.28	6.25	7.01	7.45	7.86	8.78
Run VMG	3.61	4.57	5.42	6.16	6.80	7.29	8.08
Gybe Angles	145.4°	149.4°	151.2°	157.4°	180.0°	180.0°	180.0°

Class Division Length

CDL = **8.745**

Storm Sails Areas

Heavy Weather Jib **25.66**
Storm Jib (JL=8.96) **9.50**
Storm Triesail **10.94**

Owner

BOAT	
Name Happy Hour	Sail Nr DEN 8
File 35305 - Italia998 -	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 19/05/2016		SG 1.0060	
FFM 1.248	FF 1.252	SFFP 0.000	
FAM 0.630	FA 0.638	SAFP 10.300	
W1 65.0	PD1 556.1	WD 11.030	
W2 65.0	PD2 556.4	GSA 1.0	
W3 65.0	PD3 556.6	RSA 1.0	
W4 65.0	PD4 556.7	PLM 9000.0	
LCF from stem on CL / on sheer		5.580 / 5.808	
Maximum beam station from stem		7.304	
RM Measured		101.5kg·m	
RM Default		113.7kg·m	
Limit of positive stability / Stab.Index		115.7° / 112.7	
Freeboard at mast at 4.285		1.220	

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 13.100	E 4.770	MDT1 0.130	MW 0.185
IG 13.720	J 4.180	MDL1 0.185	GO 0.205
ISP 13.930	SFJ 0.105	MDT2 0.125	BD 0.220
BAS 1.500	SPL 4.420	MDL2 0.155	MWT 136.00
FSP 0.070	TPS 4.420	TL 0.730	MCG 4.800



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IMS Measurement Certificate

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 0.070	ST3 0.180	ST5 0.320	
ST2 0.180	ST4 0.110	EDL 1.340	

Certificate	
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COMMENTS	

MOVEABLE BALLAST	
N/A	

CENTERBOARD	
N/A	



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SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.350	1.08	1.76	2.90	3.85	36.30	36.96	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL	85.63		SL · (SFL + 4·SHW) / 6	
	13.65	13.65	13.65	7.68	6.92				
Asymmetric	SLU	SLE	SL	SHW	SFL	85.07		AS · (SFL + 4·SHW) / 6	
	14.30	13.20	13.75	7.16	8.48				

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
0.06	0.99	2.02	4.16	6.37	8.53	14.65	61.70	N	Y	24/06/2016	Polyest	
0.11	0.77	1.43	2.52	3.46	4.34	13.60	32.44	Y	N	24/07/2016	Carbon	New
0.11	0.77	1.43	2.52	3.46	4.34	13.60	32.44	Y	N	24/06/2016	Carbon	
0.11	0.73	1.36	2.43	3.43	4.33	13.59	31.80	Y	N	11/05/2016	Carbon	
0.09	0.56	0.97	2.09	3.13	4.20	11.90	24.86	Y	N	24/06/2016	Polyest	HWJ ORC
0.06	0.65	1.24	1.64	2.43	3.20	9.90	17.04	N	Y	11/05/2016	Polyest	

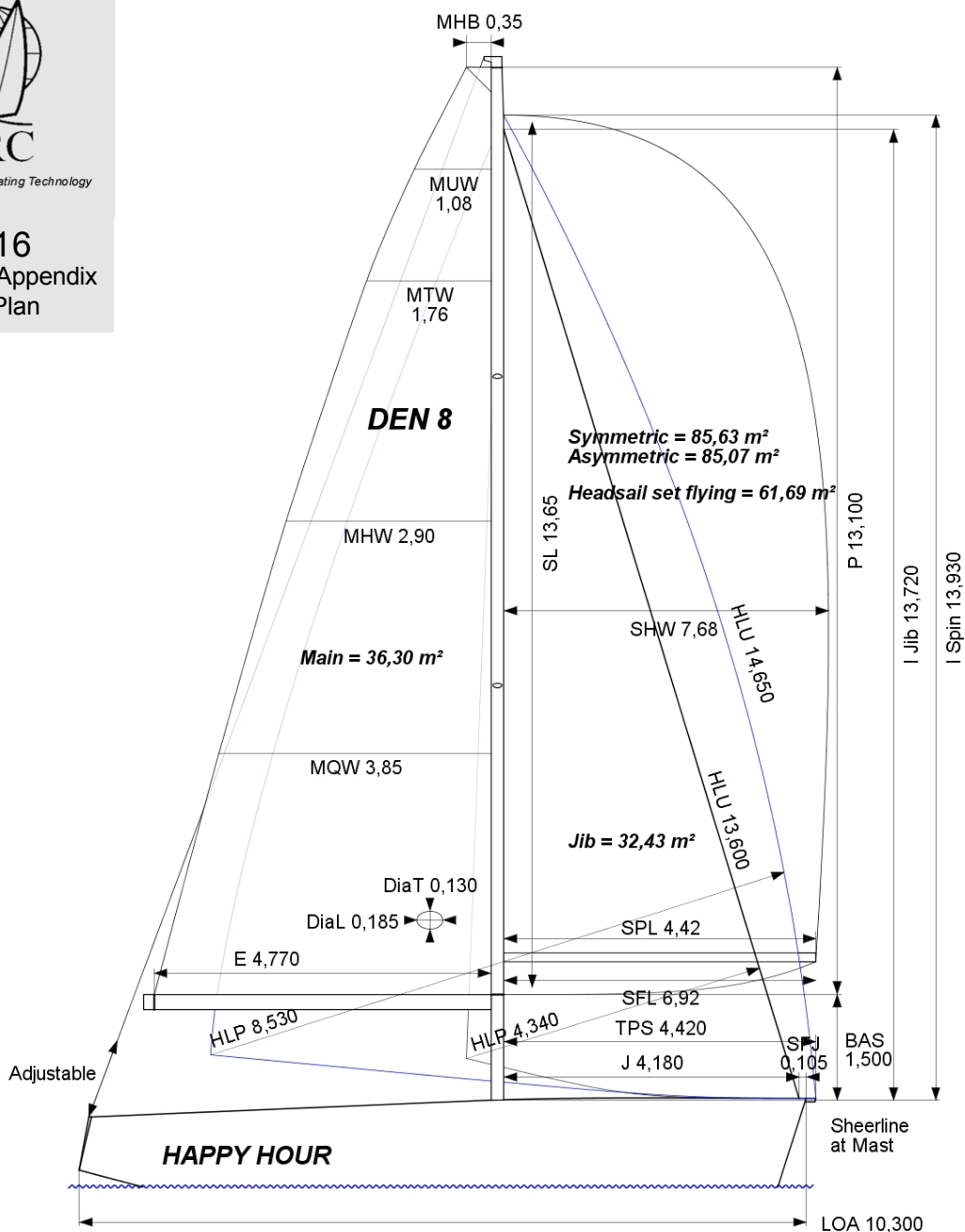
MEASUREMENT INVENTORY				
Measurer Michael Quist				
Date 10/05/2016				
Comment				
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>
<i>Id</i>	<i>Item</i>	<i>Maker</i>	<i>Model</i>	
1	Engine	Volvo	21 KW	
<i>Id</i>	<i>Item</i>	<i>Weight Description</i>		

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</i>	<i>Description</i>
3	Tank water		Plast	110.0	4.15	0.00	0-0	
2	Tank Holding tank		Plast	23.0	4.50	0.30	0-0	
1	Tank Full		Plast	61.0	7.50	0.00	20-0	
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG</i>	<i>Description</i>			
2	Battery	15.0	4.80	0.00	90 Ah			
1	Battery	15.0	4.45	0.00	120 Ah			



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Sail Plan



SAILS INVENTORY

MAINSAIL

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
91555	0.350	1.08	1.76	2.90	3.85	36.30	D-303	24/06/2016	North Sails	Carbon	

HEADSAILS

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
91558	0.06	0.99	2.02	4.16	6.37	8.53	14.65	204%	61.70	N	Y	D303	24/06/2016	North Sails	Polyest	
92766	0.11	0.77	1.43	2.52	3.46	4.34	13.60	104%	32.44	Y	N	D303	24/07/2016	North Sails	Carbon	New
91554	0.11	0.77	1.43	2.52	3.46	4.34	13.60	104%	32.44	Y	N	D303	24/06/2016	North Sails	Carbon	
91546	0.11	0.73	1.36	2.43	3.43	4.33	13.59	104%	31.80	Y	N	D303	11/05/2016	North Sails	Carbon	
91552	0.09	0.56	0.97	2.09	3.13	4.20	11.90	100%	24.86	Y	N	D303	24/06/2016	North Sails	Polyest	HWJ ORC
91550	0.06	0.65	1.24	1.64	2.43	3.20	9.90	77%	17.04	N	Y	D303	11/05/2016	Norths Sails	Polyest	

SYMMETRIC SPINNAKERS

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
91543	13.65	13.65	13.65	7.68	6.92	85.63	D303	11/05/2016	North Sails	Nylon	
91547	13.64	13.64	13.64	7.67	6.74	85.07	D303	11/05/2016	Norths Sails	Nylon	

ASYMMETRIC SPINNAKERS

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
91557	14.30	13.20	13.75	7.16	8.48	85.07	asym	D303	11/05/2016	Norths Sails	Polyester	