

BOAT Name Pro4u/Malin Sail Nr SWE 88	GPH 620.8	HULL Length Overall 10.640m Maximum Beam 3.458m Displacement 5,760kg Draft 2.236m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.049% Fwd Accommodation Yes Hull Construction Solid Carbon Rudder Yes Crew Arm Extension
GENERAL Class FIRST 36,7 MOD Designer FARR YACHT DESIGN Builder BENETEAU Series 09/2001 Age 06/2002 Age Allowance 0.487% Offset File F196MOD_RUD_KEL_20170203_verifi Measurement by M.LINDQVIST - 17/04/2017		IMSL 9.621m VCGD 0.043m Sink 19.45kg/mm RL 8.622m VCGM 0.024m WS 25.72m² LSMO 9.576m Displacement/Length ratio 6.5595



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ORC International
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SCORING OPTIONS	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
	Low	Medium	High	Low	Medium	High
Time On Distance	604.4			673.0		
Time On Time	0.9927			1.0030		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	707.8	551.1	492.7	913.6	676.1	586.4
Time on Time	0.9537	1.2249	1.3699	0.7388	0.9984	1.1510

TIME ALLOWANCES	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1040.4	870.5	767.8	719.1	699.5	689.9	674.7
52°	683.4	577.0	523.5	503.5	496.3	492.6	485.8
60°	645.0	549.0	508.7	490.9	482.9	478.7	472.9
75°	613.3	530.0	498.3	479.1	464.4	455.4	448.5
90°	613.9	527.6	491.2	476.9	459.3	442.3	420.7
110°	627.3	524.3	486.9	461.7	444.0	432.6	413.1
120°	646.1	535.9	493.0	467.5	442.2	419.4	397.4
135°	713.0	582.0	514.9	484.8	461.3	437.3	392.0
150°	839.4	670.8	570.0	513.1	485.3	463.2	419.3
Run VMG	969.2	774.6	656.9	581.2	527.5	494.5	450.8

Certificate

Number **5841**
ORC Ref **SSF00000132**
Issued On **12/07/2017**
VPP Ver. **2017 1.00**
Valid until **31/12/2017**

Crew Weight

Declared **649kg**
Default* **647kg**
Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Non Spin GPH	651.2	0.9214
Non Spin OSN	632.9	0.9480

Selected Courses	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Windward / Leeward	1004.8	822.5	712.4	650.2	613.5	592.2	562.7
Circular Random	850.4	688.8	602.6	552.8	522.2	502.0	475.3
Ocean for PCS	1039.6	806.5	675.3	595.3	543.5	507.3	456.8
Non Spinnaker	905.0	727.5	631.3	575.0	540.2	517.3	488.0

Sails Limitations

Headsails	Spinnakers
5	3

Velocity Prediction in Knots for True Wind Speeds	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	42.7°	41.5°	41.3°	39.4°	38.4°	38.4°	38.2°
Beat VMG	3.46	4.14	4.69	5.01	5.15	5.22	5.34
52°	5.27	6.24	6.88	7.15	7.25	7.31	7.41
60°	5.58	6.56	7.08	7.33	7.46	7.52	7.61
75°	5.87	6.79	7.22	7.51	7.75	7.90	8.03
90°	5.86	6.82	7.33	7.55	7.84	8.14	8.56
110°	5.74	6.87	7.39	7.80	8.11	8.32	8.71
120°	5.57	6.72	7.30	7.70	8.14	8.58	9.06
135°	5.05	6.19	6.99	7.42	7.80	8.23	9.18
150°	4.29	5.37	6.32	7.02	7.42	7.77	8.59
Run VMG	3.71	4.65	5.48	6.19	6.83	7.28	7.99
Gybe Angles	145.3°	149.9°	151.7°	158.6°	180.0°	180.0°	180.0°

Class Division Length

CDL = **9.122**

Storm Sails Areas

Heavy Weather Jib **30.91**
Storm Jib (JL=9.84) **11.45**
Storm Trysail **12.42**

Owner

BOAT	
Name Pro4u/Malin	Sail Nr SWE 88
File 5841	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 17/04/2017		SG 1.0056	
FFM 1.333	FF 1.340	SFFP 0.367	
FAM 1.043	FA 1.048	SAFP 10.161	
W1 91.3	PD1 547.0	WD 10.729	
W2 91.3	PD2 550.1	GSA 1.0	
W3 91.3	PD3 550.5	RSA 1.0	
W4 91.3	PD4 549.3	PLM 9000.0	
LCF from stem on CL / on sheer		5.910 / 6.131	
Maximum beam station from stem		6.980	
RM Measured		140.5kg·m	
RM Default		143.8kg·m	
Limit of positive stability / Stab.Index		118.5° / 120.7	
Freeboard at mast at 3.989		1.190	

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 14.280	E 4.970	MDT1 0.122	MW 0.179
IG 15.132	J 3.989	MDL1 0.181	GO 0.179
ISP 15.527	SFJ 0.000	MDT2 0.122	BD 0.252
BAS 1.582	SPL 4.255	MDL2 0.165	MWT 142.00
FSP 0.068	TPS 4.332	TL 1.140	MCG 5.275



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IMS Measurement Certificate

Certificate	
Number 5841	ORC Ref SSF00000132
Issued On 12/07/2017	VPP Ver. 2017 1.00
Valid until 31/12/2017	

MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation Strut	PRD 0.406		
Type Folding 2 blades	PBW 0.120		
Twin Screw No	PIPA 0.0031		
ST1 0.048	ST3 0.170	ST5 0.283	
ST2 0.170	ST4 0.098	EDL 2.481	

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	
	0.215	1.15	1.99	3.26	4.17	42.97	43.93	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL	98.48		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
0.12	0.73	1.35	2.34	3.21	4.11	15.01	33.53	Y		07/01/2017	Unknow	Jib 3.1 (L/M) 2017
0.12	0.74	1.35	2.33	3.20	4.11	15.01	33.48	Y		10/01/2017	Unknow	Jib 3.2 (M/H) 2017
0.08	0.51	0.97	1.90	2.92	3.98	14.86	29.08	Y		23/04/2012	Unknow	JIB.4.1 2012 (HW)
0.08	0.47	0.88	1.71	2.57	3.44	13.20	22.81	Y		06/05/2015	Unknow	REACHING STAY
0.08	0.44	0.80	1.50	2.22	2.95	13.50	20.33	Y		27/04/2017	Unknow	RUNNING STAY

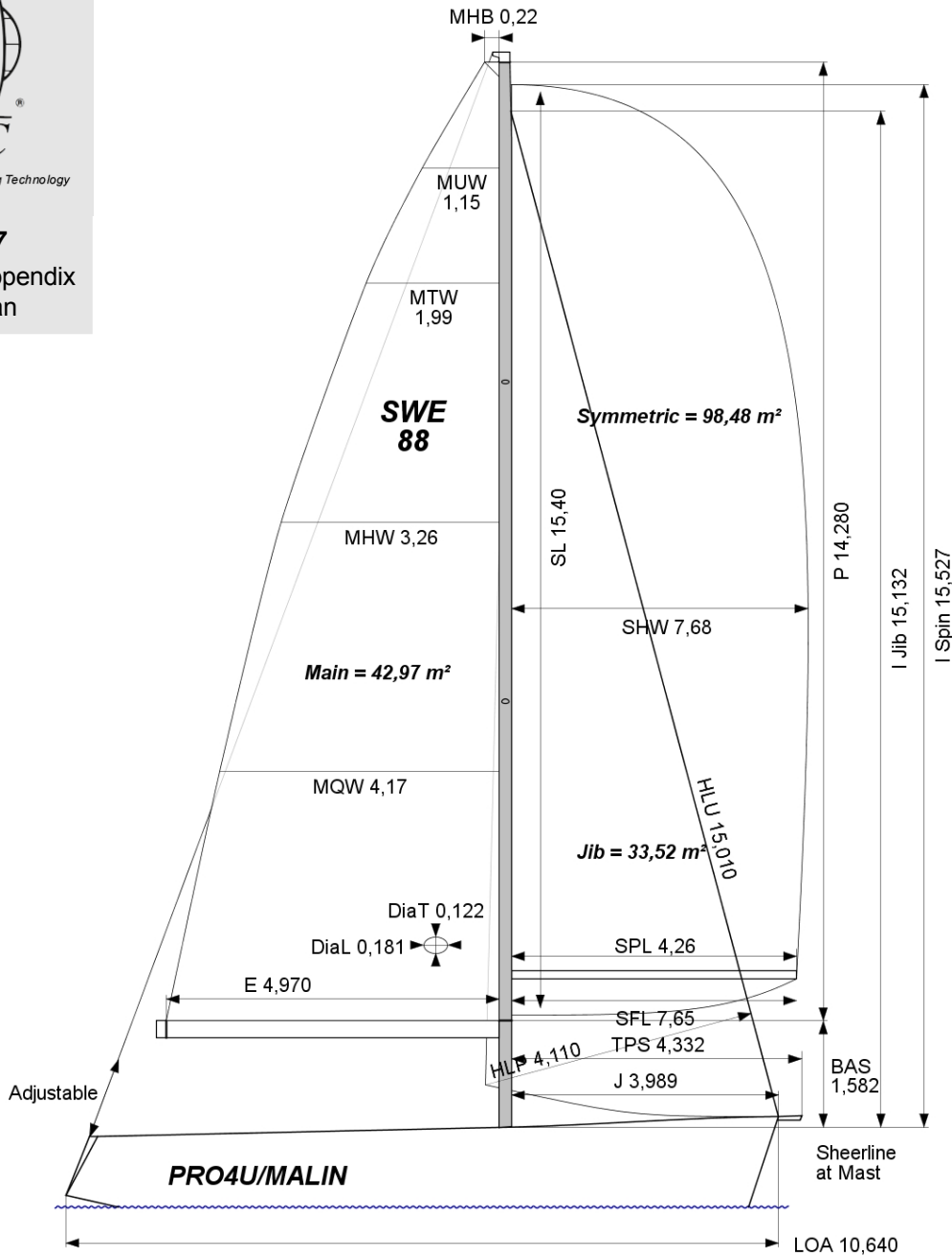
MEASUREMENT INVENTORY				
Measurer MIKAEL LINDQVIST 1129				
Date 07/04/2017				
Comment				
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>
<i>Id</i>	<i>Item</i>	<i>Maker</i>	<i>Model</i>	
E1	Engine	VOLVO PENTA	MD2030	
<i>Id</i>	<i>Item</i>	<i>Weight Description</i>		

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>
BOI	Tank	WATER	S.S.	25.0	8.00	0.00	0-0
F1	Tank	FUEL	GRP	70.0	8.70	0.00	0-0
WA	Tank	WASTE	S.S.	50.0	5.25	0.00	0-0
W2	Tank	WATER	GRP	150.0	4.80	0.00	0-0
W1	Tank	WATER	GRP	42.0	4.45	0.00	0-0
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>			
N1	Ballast			NONE			
B1	Battery	34.5	7.00	0.00 3 units x 11,5			
DE	Misc		6.00	0.00 DEHUMIDATOR			
AU	Misc		9.80	0.00 AUTOPILOT			
HE	Misc		10.10	0.00 HEATER			
CH	Misc		7.80	0.00 CHARGER			



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Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (2)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
3Di Race	0.215	1.15	1.99	3.26	4.17	42.97	SWE1211	17/05/2017	NORTH	Unknown	3Di Race
3Di2014	0.215	1.15	1.97	3.25	4.17	42.88	SWE957	11/04/2016	NORTH	Unknown	3Di Endurance 2014

HEADSAILS (5)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
JIB3.12	0.12	0.73	1.35	2.34	3.21	4.11	15.01	103%	33.53	Y		SWE1211	07/01/2017	NORTH	Unknown	Jib 3.1 (L/M) 2017
JIB3.22	0.12	0.74	1.35	2.33	3.20	4.11	15.01	103%	33.48	Y		SWE1211	10/01/2017	NORTH	Unknown	Jib 3.2 (M/H) 2017
JIB4.1	0.08	0.51	0.97	1.90	2.92	3.98	14.86	100%	29.08	Y		SWE957	23/04/2012	NORTH	Unknown	JIB4.1 2012 (HW)
STAYSA	0.08	0.47	0.88	1.71	2.57	3.44	13.20	86%	22.81		Y	SWE957	06/05/2015	NORTH	Unknown	REACHING STAY
STAYSA	0.08	0.44	0.80	1.50	2.22	2.95	13.50	74%	20.33		Y	SWE981	27/04/2017	NORTH	Unknown	RUNNING STAY

SYMMETRIC SPINNAKERS (3)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
S1.5-2015	15.40	15.40	15.40	7.68	7.65	98.48	SWE 957	12/01/2015	NORTH	Nylon	S1.5-2015
S2-2014	15.25	15.25	15.25	7.70	7.50	97.35	SWE957	11/04/2016	NORTH	Nylon	S2-2014
S3-2012	15.70	15.70	15.70	7.00	7.90	93.94	SWE957	04/04/2012	NORTH	Nylon	S3-2012

ASYMMETRIC SPINNAKERS (0)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
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