

APH ToD: **679.8** CDL: **6.060**

APH ToT: **0.8827** CertNo: 25/1

BOAT

Class **H Boat**
Designer **Hans Groop**
Builder **Frauscher**
Age date **01/1990**
Series date **01/1975**
Offset file **hboat.od.off**
Data file **VAPENS**

HULL

Length Overall **8.310 m**
Maximum Beam **2.188 m**
Draft **1.269 m**
Displacement **1,454 kg**
DLR **6.6209**
IMS Division **Sportboat**
Dynamic Allowance **0.310%**
Age Allowance **0.487%**

PROPELLER

Installation **No Propeller**
Type **N/A**
Diameter **N/A**

CREW

Maximum weight **290 kg** (declared)
Minimum weight **160 kg** * when applied
Non Manual Power
Crew Arm Extension **Loose or no lifelines**

SAIL AREAS (m²)

	Measured	Rated
Mainsail	15.06	15.30
Headsail Luffed	10.03	10.03
Headsail Flying		
Symmetric	30.29	30.29
Asymmetric		

STORM SAIL AREAS (m²)

Trysail **4.59**
Storm Jib **3.16**
Heavy Weather Jib **8.52**

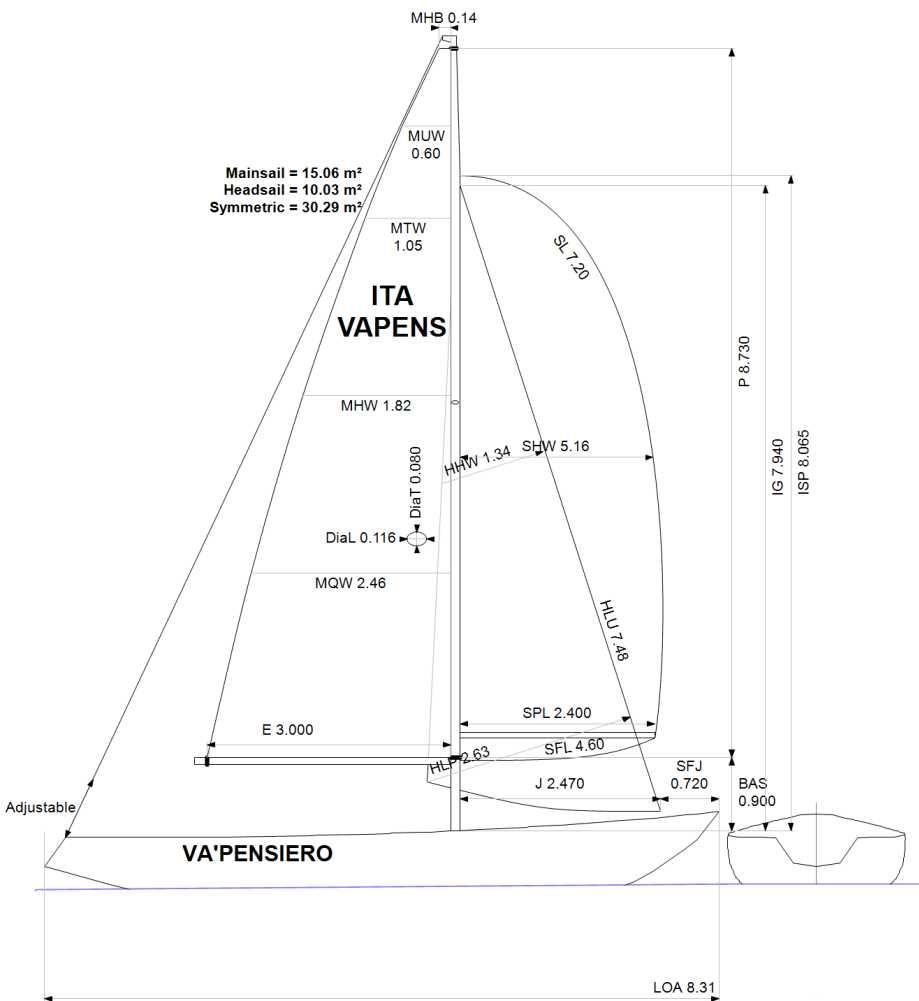
SAIL LIMITS

Headsails **5** * Woven polyester sails
Spinnakers **4**

STABILITY

Righting Moment **N/A**
Stability Index **N/A**

The owner and any other person in charge is responsible that boat is complying with her certificate in accordance with RRS 78.1 and ORC Rule 304.



Rated boat velocities in knots

Wind Velocity	4 kt	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt	24 kt
Beat Angles	43.6°	43.6°	42.0°	40.2°	38.8°	38.3°	38.2°	38.5°	39.9°
Beat VMG	1.96	2.73	3.34	3.78	4.06	4.19	4.25	4.27	4.20
52°	3.04	4.16	5.00	5.49	5.76	5.91	5.98	6.04	6.03
60°	3.23	4.38	5.20	5.66	5.92	6.08	6.16	6.24	6.25
75°	3.35	4.52	5.33	5.80	6.07	6.27	6.42	6.57	6.64
90°	3.45	4.69	5.57	6.01	6.26	6.38	6.56	6.88	7.08
110°	3.45	4.70	5.59	6.08	6.43	6.72	6.96	7.35	7.72
120°	3.28	4.51	5.43	5.99	6.36	6.71	7.04	7.81	8.67
135°	2.87	4.02	4.98	5.70	6.13	6.49	6.84	7.71	9.77
150°	2.37	3.44	4.40	5.21	5.80	6.18	6.52	7.21	8.34
Run VMG	2.05	2.98	3.82	4.55	5.20	5.69	6.06	6.69	7.35
Gybe Angles	147.8°	147.8°	152.1°	155.9°	163.3°	170.7°	177.7°	178.1°	172.1°

Time Allowances in secs/NM									
Wind Velocity	4 kt	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt	24 kt
Beat VMG	1834.3	1320.3	1078.1	952.4	886.6	859.7	847.2	842.3	856.7
52°	1185.2	865.5	720.7	655.8	624.6	609.2	602.1	596.4	596.8
60°	1113.0	821.8	692.7	636.0	608.3	592.6	584.5	577.2	575.7
75°	1073.2	797.2	675.8	620.8	592.8	573.8	560.6	547.9	542.4
90°	1043.7	767.8	646.5	598.6	575.5	564.0	549.1	523.5	508.2
110°	1042.3	766.7	644.4	592.0	560.2	535.7	517.2	489.7	466.3
120°	1098.5	798.9	662.7	601.5	565.7	536.5	511.4	460.9	415.1
135°	1255.3	896.1	723.6	631.4	587.1	554.8	526.0	467.1	368.4
150°	1516.9	1047.8	817.6	690.6	620.4	582.1	552.2	499.0	431.4
Run VMG	1755.9	1209.9	942.4	791.4	692.4	632.9	593.8	538.3	489.6
Selected Courses									
Windward / Leeward	1793.7	1265.1	1010.2	871.9	789.5	746.3	720.5	690.3	673.1
All purpose	1356.1	973.6	793.9	703.4	653.7	626.0	607.0	579.8	555.6

Single Number Scoring Options		
Course	Time On Distance	Time On Time
Windward / Leeward	831.3	0.7217
All purpose	679.8	0.8827

Data in meters/kilograms (Metric)

HULL AND APPENDAGES (Lightship Trim)

Class	H Boat	LOA	8.310	VCGD	-0.148
Measurement	01/01/1990	Max. Beam	2.188	VCGM	-0.114
HIN		Draft	1.269	RM Rated (kg·m)	18.5
Plan review		Displacement	1,454	Limit of positive stability(°)	N/A
Hull construction	Solid	Wetted area	10.83	Stability Index	N/A
Carbon rudder	No	IMS L	6.447	Default crew weight	335
Light stanchions	No	LSM0	6.033	Declared crew weight	290
Trim tab	No	Acc. length	7.111		
		Sink (kg/mm)	7.27		

PROPELLER

Propeller Type	No Propeller
Hydro generator	No

RIG

Forestay tension	Aft	P	8.730	E	3.000
Inner stay	None Fitted	IG	7.940	J	2.470
Mast material	Aluminum	ISP	8.065	BAS	0.900
Single headsail furler	No	MDT1	0.080	FSD	No Foil
Mainsail furler	No	MDL1	0.116	SFJ	0.720
Articulated bowsprit	No	MDT2	0.050	SPL	2.400
Non-circular rigging	No	MDL2	0.070	WPL	
Fiber rigging	No	TL	1.550	TPS	
Adjustable mast foot	No	MW	0.116	BD	0.090
Running backstays	0	GO	0.116	MWT	
Checkstays	0			MCG	
Spreaders	1				
Rotating mast	No				

FLOTATION AND STABILITY

Calculation method	RM entered directly
RM entered	18.7
Flotation Date	24/03/2025

MAINSAIL

<i>Id</i>	<i>MHB</i>	<i>MUW</i>	<i>MTW</i>	<i>MHW</i>	<i>MQW</i>	<i>Area</i>	<i>Meas.Date</i>	<i>Comment</i>
A	0.14	0.60	1.05	1.82	2.46	15.06	24/03/2025	

HEADSAIL

<i>Id</i>	<i>HHB</i>	<i>HUW</i>	<i>HTW</i>	<i>HHW</i>	<i>HQW</i>	<i>HLP</i>	<i>HLU</i>	<i>Btn</i>	<i>Flying FT</i>	<i>Area</i>	<i>Meas.Date</i>	<i>Comment</i>
A	0.05	0.38	0.70	1.34	1.99	2.63	7.48	No	No	10.03	24/03/2025	

SYMMETRIC SPINNAKER

<i>Id</i>	<i>SLU</i>	<i>SLE</i>	<i>SL</i>	<i>SHW</i>	<i>SFL</i>	<i>Area</i>	<i>Meas.Date</i>	<i>Comment</i>
A	7.20	7.20	7.20	5.16	4.60	30.29	24/03/2025	

APH ToD: **716.3** CDL: **5.914**

APH ToT: **0.8377** CertNo: **25/1**

BOAT

Class	H Boat
Designer	Hans Groop
Builder	Frauscher
Age date	01/1990
Series date	01/1975
Offset file	hboat.od.off
Data file	VAPENS

HULL

Length Overall	8.310 m
Maximum Beam	2.188 m
Draft	1.269 m
Displacement	1,454 kg
DLR	6.6209
IMS Division	Sportboat
Dynamic Allowance	0.320%
Age Allowance	0.487%

PROPELLER

Installation	No Propeller
Type	N/A
Diameter	N/A

CREW

Maximum weight	228 kg (declared)
Minimum weight	130 kg * when applied
Non Manual Power	
Crew Arm Extension	Loose or no lifelines

SAIL AREAS (m²)

	Measured	Rated
Mainsail	15.06	15.30
Headsail Luffed	10.03	10.03
Headsail Flying		
Symmetric		
Asymmetric		

STORM SAIL AREAS (m²)

Trysail	4.59
Storm Jib	3.16
Heavy Weather Jib	8.52

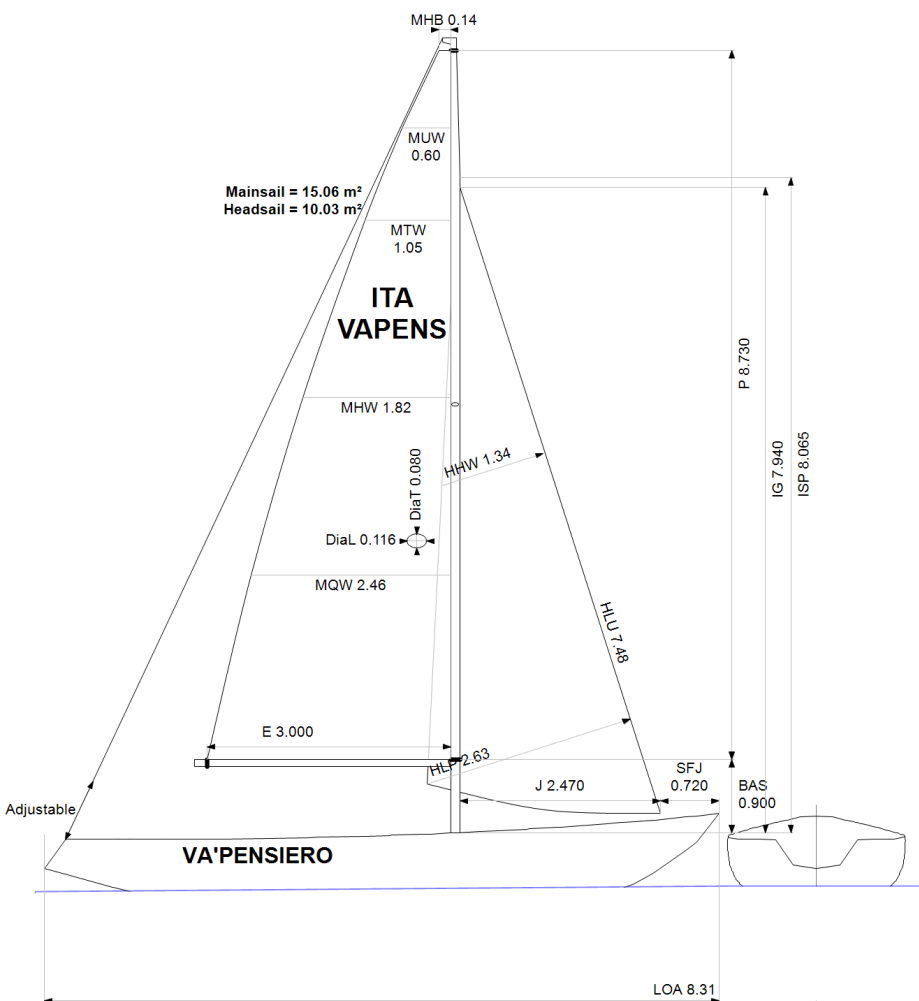
SAIL LIMITS

Headsails	5 * Zero set flying * Woven polyester sails
Spinnakers	0 * No spinnaker pole aboard

STABILITY

Righting Moment	N/A
Stability Index	N/A

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Rated boat velocities in knots

Wind Velocity	4 kt	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt	24 kt
Beat Angles	43.5°	43.5°	41.4°	40.0°	39.3°	39.1°	39.0°	39.8°	41.1°
Beat VMG	1.98	2.75	3.35	3.75	3.98	4.07	4.11	4.11	4.00
52°	3.09	4.19	4.98	5.45	5.69	5.81	5.87	5.91	5.88
60°	3.28	4.41	5.19	5.62	5.86	5.99	6.05	6.11	6.11
75°	3.39	4.55	5.34	5.77	6.03	6.21	6.33	6.45	6.49
90°	3.29	4.46	5.28	5.78	6.08	6.32	6.51	6.78	6.94
110°	2.94	4.09	5.01	5.64	6.03	6.33	6.61	7.13	7.73
120°	2.74	3.86	4.79	5.48	5.91	6.23	6.52	7.09	7.80
135°	2.34	3.38	4.32	5.07	5.63	6.00	6.29	6.84	7.48
150°	1.93	2.86	3.74	4.49	5.12	5.61	5.95	6.50	7.06
Run VMG	1.69	2.53	3.35	4.11	4.78	5.35	5.78	6.37	6.92
Gybe Angles	174.1°	174.1°	176.2°	178.4°	179.3°	179.3°	179.8°	180.0°	179.8°



Time Allowances in secs/NM									
Wind Velocity	4 kt	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt	24 kt
Beat VMG	1815.6	1310.6	1075.0	959.2	905.2	885.1	874.9	876.0	899.5
52°	1164.4	859.4	723.1	661.1	632.3	619.6	613.6	609.5	612.7
60°	1096.0	816.0	693.9	640.5	614.2	600.9	594.6	589.0	589.5
75°	1063.1	791.7	673.9	623.6	596.8	579.5	568.3	558.3	554.5
90°	1092.7	807.9	681.2	622.9	591.9	569.4	553.2	531.1	518.4
110°	1222.9	879.4	718.2	637.8	596.7	568.6	544.8	505.2	465.7
120°	1312.2	933.4	752.2	657.5	609.0	578.3	552.5	508.0	461.7
135°	1535.5	1064.0	834.0	709.6	639.6	600.2	572.5	525.9	481.0
150°	1865.2	1259.0	962.3	801.7	702.8	642.2	605.4	553.7	510.3
Run VMG	2132.4	1423.2	1073.1	876.3	753.9	673.3	623.3	565.2	520.3
Selected Courses									
Windward / Leeward	1969.4	1366.9	1074.1	917.8	829.5	779.2	749.1	720.6	709.9
All purpose	1480.1	1051.1	847.0	742.9	686.3	654.0	633.3	608.2	592.7

Single Number Scoring Options		
Course	Time On Distance	Time On Time
Windward / Leeward	874.9	0.6858
All purpose	716.3	0.8377

Data in meters/kilograms (Metric)

HULL AND APPENDAGES (Lightship Trim)

Class	H Boat	LOA	8.310	VCGD	-0.148
Measurement	01/01/1990	Max. Beam	2.188	VCGM	-0.114
HIN		Draft	1.269	RM Rated (kg·m)	18.5
Plan review		Displacement	1,454	Limit of positive stability(°)	N/A
Hull construction	Solid	Wetted area	10.83	Stability Index	N/A
Carbon rudder	No	IMS L	6.386	Default crew weight	335
Light stanchions	No	LSM0	6.033	Declared crew weight	228
Trim tab	No	Acc. length	7.111		
		Sink (kg/mm)	7.27		

PROPELLER

Propeller Type	No Propeller
Hydro generator	No

RIG

Forestay tension	Aft	P	8.730	E	3.000
Inner stay	None Fitted	IG	7.940	J	2.470
Mast material	Aluminum	ISP	8.065	BAS	0.900
Single headsail furler	No	MDT1	0.080	FSD	No Foil
Mainsail furler	No	MDL1	0.116	SFJ	0.720
Articulated bowsprit	No	MDT2	0.050	SPL	
Non-circular rigging	No	MDL2	0.070	WPL	
Fiber rigging	No	TL	1.550	TPS	
Adjustable mast foot	No	MW	0.116	BD	0.090
Running backstays	0	GO	0.116	MWT	
Checkstays	0			MCG	
Spreaders	1				
Rotating mast	No				

FLOTATION AND STABILITY

Calculation method	RM entered directly
RM entered	18.7
Flotation Date	24/03/2025



Non Spin/HSF
Club Certificate
2025

VA'PENSIERO
ITA-VAPENS

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MAINSAIL

<i>Id</i>	<i>MHB</i>	<i>MUW</i>	<i>MTW</i>	<i>MHW</i>	<i>MQW</i>	<i>Area</i>	<i>Meas.Date</i>	<i>Comment</i>
A	0.14	0.60	1.05	1.82	2.46	15.06	24/03/2025	

HEADSAIL

<i>Id</i>	<i>HHB</i>	<i>HUW</i>	<i>HTW</i>	<i>HHW</i>	<i>HQW</i>	<i>HLP</i>	<i>HLU</i>	<i>Btn</i>	<i>Flying FT</i>	<i>Area</i>	<i>Meas.Date</i>	<i>Comment</i>
A	0.05	0.38	0.70	1.34	1.99	2.63	7.48	No	No	10.03	24/03/2025	

APH ToD: **693.7** CDL: **5.708**

APH ToT: **0.8650** CertNo: 25/1

BOAT

Class **H Boat**
Designer **Hans Groop**
Builder **Frauscher**
Age date **01/1990**
Series date **01/1975**
Offset file **hboat.od.off**
Data file **VAPENS**

HULL

Length Overall **8.310 m**
Maximum Beam **2.188 m**
Draft **1.269 m**
Displacement **1,454 kg**
DLR **6.6209**
IMS Division **Sportboat**
Dynamic Allowance **0.310%**
Age Allowance **0.487%**

PROPELLER

Installation **No Propeller**
Type **N/A**
Diameter **N/A**

CREW

Maximum weight **160 kg** (declared)
Minimum weight **120 kg** * when applied
Non Manual Power
Crew Arm Extension **Loose or no lifelines**

SAIL AREAS (m²)

	Measured	Rated
Mainsail	15.06	15.30
Headsail Luffed	10.03	10.03
Headsail Flying		
Symmetric	30.29	30.29
Asymmetric		

STORM SAIL AREAS (m²)

Trysail **4.59**
Storm Jib **3.16**
Heavy Weather Jib **8.52**

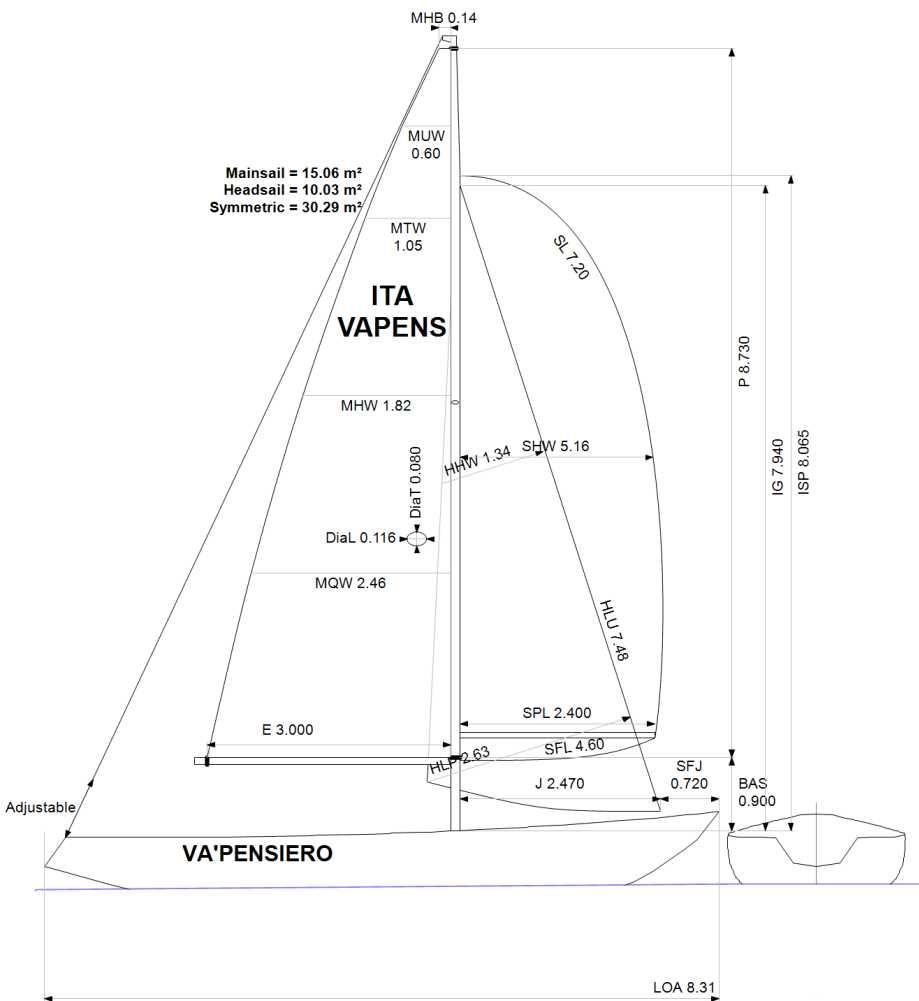
SAIL LIMITS

Headsails **5** * Woven polyester sails
Spinnakers **4**

STABILITY

Righting Moment **N/A**
Stability Index **N/A**

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Rated boat velocities in knots

Wind Velocity	4 kt	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt	24 kt
Beat Angles	43.1°	43.1°	41.0°	40.2°	40.2°	40.1°	40.2°	41.1°	43.5°
Beat VMG	2.01	2.76	3.33	3.68	3.85	3.92	3.94	3.91	3.73
52°	3.12	4.19	4.93	5.38	5.59	5.67	5.72	5.74	5.66
60°	3.31	4.41	5.14	5.56	5.77	5.87	5.92	5.96	5.92
75°	3.43	4.57	5.31	5.73	5.97	6.12	6.21	6.30	6.32
90°	3.50	4.69	5.48	5.87	6.04	6.25	6.43	6.64	6.78
110°	3.52	4.74	5.58	6.02	6.32	6.56	6.72	6.99	7.11
120°	3.33	4.56	5.46	5.97	6.32	6.64	6.92	7.41	7.85
135°	2.91	4.07	5.02	5.72	6.14	6.49	6.85	7.69	9.74
150°	2.40	3.47	4.44	5.25	5.82	6.19	6.54	7.28	8.63
Run VMG	2.07	3.01	3.85	4.58	5.22	5.70	6.07	6.71	7.48
Gybe Angles	147.6°	147.6°	151.9°	156.8°	163.9°	171.4°	177.7°	177.7°	147.6°



Time Allowances in secs/NM									
Wind Velocity	4 kt	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt	24 kt
Beat VMG	1794.0	1305.5	1081.7	978.2	934.8	919.5	913.3	921.5	964.7
52°	1155.1	859.9	729.9	669.8	644.2	634.4	629.4	627.5	636.4
60°	1087.9	816.6	699.9	647.3	623.6	613.2	608.0	604.1	607.8
75°	1048.1	788.4	677.7	628.5	603.1	588.2	579.8	571.4	569.5
90°	1027.5	768.0	656.6	612.8	595.8	575.6	560.3	542.1	530.8
110°	1023.0	759.9	645.7	598.0	569.2	549.0	535.8	514.9	506.5
120°	1080.5	790.0	659.7	603.2	569.6	542.4	520.0	485.8	458.5
135°	1237.8	885.0	716.8	629.2	586.7	554.3	525.8	468.2	369.7
150°	1500.0	1037.0	810.1	685.8	619.0	581.5	550.8	494.8	417.0
Run VMG	1735.4	1197.5	933.9	785.2	689.1	631.4	593.2	536.7	481.6
Selected Courses									
Windward / Leeward	1762.7	1251.5	1007.8	881.7	811.9	775.4	753.3	729.1	723.2
All purpose	1330.4	964.3	794.8	712.2	670.0	645.8	629.6	608.1	592.6

Single Number Scoring Options		
Course	Time On Distance	Time On Time
Windward / Leeward	850.1	0.7058
All purpose	693.7	0.8650

Data in meters/kilograms (Metric)

HULL AND APPENDAGES (Lightship Trim)

Class	H Boat	LOA	8.310	VCGD	-0.148
Measurement	01/01/1990	Max. Beam	2.188	VCGM	-0.114
HIN		Draft	1.269	RM Rated (kg·m)	18.5
Plan review		Displacement	1,454	Limit of positive stability(°)	N/A
Hull construction	Solid	Wetted area	10.83	Stability Index	N/A
Carbon rudder	No	IMS L	6.313	Default crew weight	170
Light stanchions	No	LSM0	6.033	Declared crew weight	160
Trim tab	No	Acc. length	7.111		
		Sink (kg/mm)	7.27		

PROPELLER

Propeller Type	No Propeller
Hydro generator	No

RIG

Forestay tension	Aft	P	8.730	E	3.000
Inner stay	None Fitted	IG	7.940	J	2.470
Mast material	Aluminum	ISP	8.065	BAS	0.900
Single headsail furler	No	MDT1	0.080	FSD	No Foil
Mainsail furler	No	MDL1	0.116	SFJ	0.720
Articulated bowsprit	No	MDT2	0.050	SPL	2.400
Non-circular rigging	No	MDL2	0.070	WPL	
Fiber rigging	No	TL	1.550	TPS	
Adjustable mast foot	No	MW	0.116	BD	0.090
Running backstays	0	GO	0.116	MWT	
Checkstays	0			MCG	
Spreaders	1				
Rotating mast	No				

FLOTATION AND STABILITY

Calculation method	RM entered directly
RM entered	18.7
Flotation Date	24/03/2025



MAINSAIL

<i>Id</i>	<i>MHB</i>	<i>MUW</i>	<i>MTW</i>	<i>MHW</i>	<i>MQW</i>	<i>Area</i>	<i>Meas.Date</i>	<i>Comment</i>
A	0.14	0.60	1.05	1.82	2.46	15.06	24/03/2025	

HEADSAIL

<i>Id</i>	<i>HHB</i>	<i>HUW</i>	<i>HTW</i>	<i>HHW</i>	<i>HQW</i>	<i>HLP</i>	<i>HLU</i>	<i>Btn</i>	<i>Flying FT</i>	<i>Area</i>	<i>Meas.Date</i>	<i>Comment</i>
A	0.05	0.38	0.70	1.34	1.99	2.63	7.48	No	No	10.03	24/03/2025	

SYMMETRIC SPINNAKER

<i>Id</i>	<i>SLU</i>	<i>SLE</i>	<i>SL</i>	<i>SHW</i>	<i>SFL</i>	<i>Area</i>	<i>Meas.Date</i>	<i>Comment</i>
A	7.20	7.20	7.20	5.16	4.60	30.29	24/03/2025	