

APH: **682.5**

CDL: **6.339**

GPH: **770.1**

CertNo: **none**

BOAT

Class **Spirit 28**
Designer **E G vd Stadt**
Builder **van Heygen**
Age date **01/1977**
Series date **08/1971**
Offset file **h036.bof**
Data file

HULL

Length Overall **8.470 m**
Maximum Beam **2.794 m**
Draft **1.591 m**
Displacement **3,269 kg**
DLR **8.9917**
IMS Division **Cruiser/Racer**
Dynamic Allowance **0.540%**
Age Allowance **0.487%**

PROPELLER

Installation **Shaft exposed**
Type **Folding 2 blades**
Diameter **0.360m**

CREW

Maximum weight **425 kg**
Minimum weight **319 kg** * when applied
Non Manual Power **No**
Crew Arm Extension

SAIL AREAS (m²)

	Measured	Rated
Mainsail	12.88	13.07
Headsail Luffed	20.13	20.13
Headsail Flying		
Symmetric	48.30	49.82
Asymmetric		

STORM SAIL AREAS (m²)

Trysail **4.02**
Storm Jib **5.42**
Heavy Weather Jib **14.63**

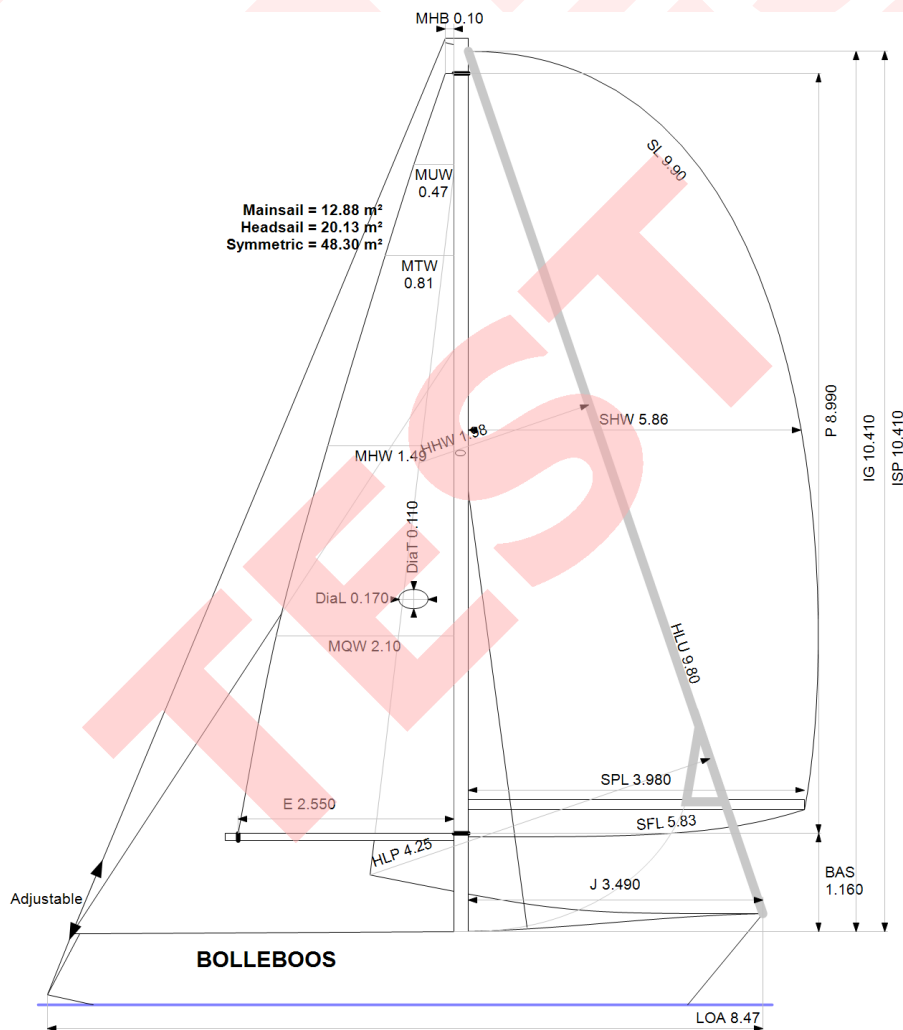
SAIL LIMITS

Headsails **1**
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	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	43.6°	42.0°	40.8°	40.0°	39.0°	38.8°	38.8°
Beat VMG	2.64	3.24	3.67	3.98	4.20	4.32	4.36
52°	4.04	4.84	5.41	5.75	5.97	6.10	6.19
60°	4.24	5.04	5.60	5.92	6.12	6.25	6.38
75°	4.35	5.16	5.74	6.06	6.27	6.43	6.65
90°	4.47	5.42	5.99	6.28	6.44	6.54	6.77
110°	4.60	5.56	6.13	6.45	6.71	6.92	7.22
120°	4.48	5.44	6.06	6.42	6.70	6.96	7.42
135°	4.09	5.03	5.78	6.22	6.53	6.82	7.38
150°	3.51	4.47	5.26	5.87	6.25	6.53	7.06
Run VMG	3.04	3.87	4.58	5.19	5.72	6.12	6.66
Gybe Angles	147.5°	151.4°	154.1°	159.5°	173.0°	177.2°	179.0°

Time Allowances in secs/NM							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1361.8	1112.3	982.2	904.3	856.6	833.5	826.3
52°	892.2	744.5	666.0	625.8	603.3	590.1	581.8
60°	848.9	714.7	642.9	608.4	588.4	575.6	564.6
75°	827.0	697.4	627.1	593.8	574.3	560.2	541.4
90°	805.4	664.6	601.5	573.4	559.1	550.8	531.8
110°	782.6	647.3	587.4	557.9	536.8	520.1	498.8
120°	803.6	661.3	593.7	560.4	537.2	517.4	485.4
135°	880.8	715.3	623.3	578.8	551.2	528.1	488.1
150°	1025.4	805.2	684.2	613.4	576.0	550.9	509.9
Run VMG	1184.0	929.1	786.5	693.5	629.8	588.6	540.6
Selected Courses							
Windward / Leeward	1272.9	1020.7	884.4	798.9	743.2	711.0	683.5
All purpose	987.8	805.1	709.6	655.9	623.2	603.0	580.3

Single Number Scoring Options		
Course	Time On Distance	Time On Time
Windward / Leeward	836.2	0.7176
All purpose	682.5	0.8791

Custom scoring options for Netherlands

Scoring Option	Time On Time
Triple Number Coastal/Long Distance Low	0.6693
Triple Number Coastal/Long Distance Medium	0.8849
Triple Number Coastal/Long Distance High	1.0008
Triple Number Windward/Leeward Low	0.5232
Triple Number Windward/Leeward Medium	0.7212
Triple Number Windward/Leeward High	0.8466
Coastal/Long Distance	0.8086
Predominantly Upwind	0.8041
Predominantly Downwind	0.8764

Data in meters/kilograms (Metric)

HULL AND APPENDAGES (Lightship Trim)

Class	Spirit 28	LOA	8.470	VCGD	0.021
Measurement		Max. Beam	2.794	VCGM	0.052
HIN		Draft	1.591	RM Rated (kg-m)	38.4
Plan review		Displacement	3,269	Limit of positive stability(°)	N/A
Hull construction	Solid	Wetted area	15.97	Stability Index	N/A
Carbon Rudder	No	IMS L	7.224		
Light stanchions	No	LSM0	7.137		
Trim tab	No	Acc. length	8.470		
		Sink (kg/mm)	11.09		

PROPELLER

Propeller Type	Folding 2 blades						
Installation	Shaft exposed	PRD	0.360	PSD	0.000	PSA	0.0°
Twin screw	No	PBW	0.000	PHD	0.000	ESL	0.000
Hydro generator	No	PIPA	0.0012	PHL	0.000	ST1	0.000
						ST4	0.000
						ST2	0.000
						ST5	0.000
						ST3	0.000

RIG

Forestay tension	Aft	P	8.990	E	2.550
Inner stay	Fixed	IG	10.410	J	3.490
Carbon mast	No	ISP	10.410	BAS	1.160
Headsail furler	Yes	MDT1	0.110	FSD	No Foil
Mainsail furler	No	MDL1	0.170	SFJ	0.000
Articulated bowsprit	No	MDT2	0.000	SPL	3.980
Non-circular rigging	No	MDL2	0.000	WPL	
Fiber rigging	No	TL	No Taper	TPS	
Runners/Checkstays	1	MW	0.000	BD	0.000
Spreaders	1	GO	0.000	MWT	
Rotating mast	No			MCG	

FLOTATION AND STABILITY

Calculation method	RM estimated	SFFP	0.538	SAFP	8.088
Flotation Date	03/02/2010	FFM		FAM	
Measurer		FF	1.058	FA	0.839
Comment		LCFcl	4.675	LCFsh	4.889
		SG	0.0000	HBI	0.869



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>
ORC	0.10	0.47	0.81	1.49	2.10	12.88		

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>
1	0.04	0.50	0.96	1.98	3.10	4.25	9.80	No	No	20.13		

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>
ORC	9.90	9.90	9.90	5.86	5.83	48.30		