

APH ToD: **635.6** CDL: **6.878**

APH ToT: **0.9440** CertNo: none

BOAT

Class **Marathon 28**
Designer **v.d.Stadt/Bood JB**
Builder **Bood Jachtb.**
Age date **04/1993**
Series date **04/1993**
Offset file **MARATHON28-NED5292.off**

Data file

HULL

Length Overall **8.803 m**
Maximum Beam **2.770 m**
Draft **1.499 m**
Displacement **2,347 kg**
DLR **7.5404**
IMS Division **Cruiser/Racer**
Dynamic Allowance **0.180%**
Age Allowance **0.487%**

PROPELLER

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

CREW

Maximum weight **395 kg (default)**
Minimum weight **265 kg * when applied**
Non Manual Power **No**
Crew Arm Extension

SAIL AREAS (m²)

	Measured	Rated
Mainsail	23.74	24.60
Headsail Luffed	13.27	13.27
Headsail Flying		
Symmetric	48.79	48.79
Asymmetric	32.23	37.45

(1 asymmetric(s) with SHW/SFL < 85%)

STORM SAIL AREAS (m²)

Trysail **5.98**
Storm Jib **3.95**
Heavy Weather Jib **10.65**

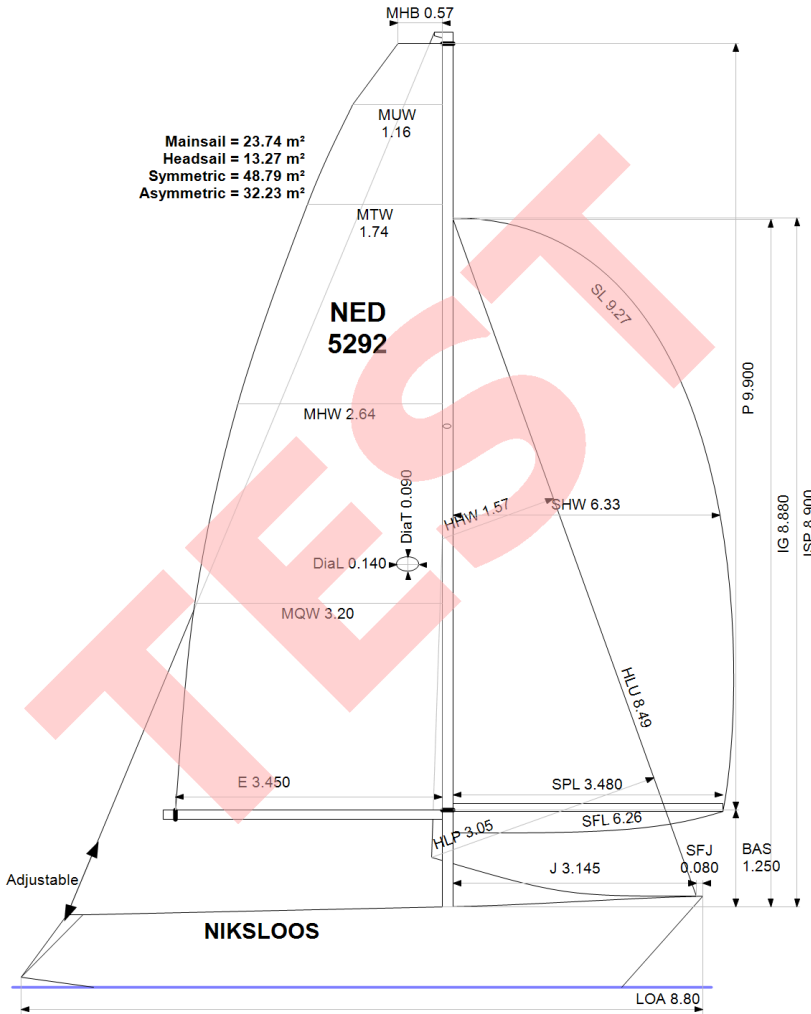
SAIL LIMITS

Headsails **5**
Spinnakers **4** * Asymmetric may be tacked on the pole

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	24 kt
Beat Angles	43.9°	42.0°	40.2°	38.5°	37.9°	38.2°	39.1°	41.4°
Beat VMG	2.99	3.62	4.07	4.35	4.47	4.52	4.51	4.37
52°	4.58	5.41	5.87	6.12	6.25	6.31	6.36	6.33
60°	4.84	5.63	6.03	6.27	6.40	6.48	6.55	6.55
75°	5.00	5.78	6.17	6.41	6.59	6.73	6.89	6.96
90°	5.15	5.98	6.38	6.63	6.82	6.98	7.23	7.46
110°	5.17	6.03	6.46	6.78	7.09	7.43	8.05	8.63
120°	4.99	5.92	6.39	6.74	7.08	7.48	8.36	9.62
135°	4.43	5.45	6.14	6.52	6.86	7.23	8.29	10.30
150°	3.73	4.76	5.63	6.20	6.55	6.87	7.65	8.97
Run VMG	3.23	4.12	4.89	5.58	6.09	6.45	7.06	7.86
Gybe Angles	145.8°	151.0°	153.5°	164.0°	177.7°	179.0°	178.8°	175.7°

Time Allowances in secs/NM								
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt	24 kt
Beat VMG	1203.8	993.4	885.4	827.1	805.0	796.4	798.6	824.1
52°	785.4	665.8	613.2	588.0	575.8	570.2	566.0	568.7
60°	744.1	639.7	596.8	574.6	562.1	555.3	549.5	549.9
75°	719.8	623.1	583.6	561.7	546.3	535.0	522.3	517.5
90°	699.2	602.5	564.2	542.8	527.6	515.4	497.8	482.3
110°	696.7	596.8	557.2	530.9	508.0	484.3	447.1	417.1
120°	721.9	608.3	563.0	534.4	508.2	481.4	430.4	374.2
135°	812.8	660.7	586.0	552.1	525.0	497.8	434.1	349.6
150°	964.1	756.3	640.0	580.4	549.8	524.4	470.9	401.5
Run VMG	1113.2	872.8	735.9	645.7	591.0	558.5	509.8	457.8
Selected Courses								
Windward / Leeward	1158.5	933.1	810.6	736.4	698.0	677.4	654.2	641.0
All purpose	887.4	732.8	656.5	613.5	589.7	572.8	547.4	525.4

Single Number Scoring Options		
Course	Time On Distance	Time On Time
Windward / Leeward	774.3	0.7748
All purpose	635.6	0.9440

Custom scoring options for Netherlands

Scoring Option	Time On Time
Triple Number Coastal/Long Distance Low	0.7406
Triple Number Coastal/Long Distance Medium	0.9496
Triple Number Coastal/Long Distance High	1.0573
Triple Number Windward/Leeward Low	0.5737
Triple Number Windward/Leeward Medium	0.7813
Triple Number Windward/Leeward High	0.8904
Coastal/Long Distance	0.8694
Predominantly Upwind	0.8690
Predominantly Downwind	0.9393

For information

General Purpose Handicap (GPH)	712.0
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Data in meters/kilograms (Metric)

HULL AND APPENDAGES (Lightship Trim)

Class	Marathon 28	LOA	8.803	VCGD	-0.076
Measurement	22/06/1994	Max. Beam	2.770	VCGM	-0.019
HIN		Draft	1.499	RM Rated (kg·m)	49.9
Plan review		Displacement	2,347	Limit of positive stability(°)	N/A
Hull construction	Cored	Wetted area	14.86	Stability Index	N/A
Carbon Rudder	No	IMS L	7.238	Default crew weight	395
Light stanchions	No	LSM0	6.776	Declared crew weight	N/A
Trim tab	No	Acc. length	8.803		
		Sink (kg/mm)	11.03		

PROPELLER

Propeller Type	No Propeller
Hydro generator	No

RIG

Forestay tension	Aft	P	9.900	E	3.450
Inner stay	None Fitted	IG	8.880	J	3.145
Mast material	Aluminum	ISP	8.900	BAS	1.250
Single headsail furler	No	MDT1	0.090	FSD	
Mainsail furler	No	MDL1	0.140	SFJ	0.080
Articulated bowsprit	No	MDT2		SPL	3.480
Non-circular rigging	No	MDL2		WPL	
Fiber rigging	No	TL	1.000	TPS	
Adjustable mast foot	No	MW		BD	
Runners/Checkstays	0	GO		MWT	
Spreaders	1			MCG	
Rotating mast	No				

FLOTATION AND STABILITY

Calculation method	RM estimated
Flotation Date	23/04/2023

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>
2023	0.57	1.16	1.74	2.64	3.20	23.74		

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>
2023	0.05	0.41	0.82	1.57	2.34	3.05	8.49	No	No	13.27		

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>
2023	9.27	9.27	9.27	6.33	6.26	48.79		

ASYMMETRIC SPINNAKER

<i>Id</i>	<i>SLU</i>	<i>SLE</i>	<i>SL</i>	<i>SHW</i>	<i>SFL</i>	<i>Ratio</i>	<i>Area</i>	<i>Meas.Date</i>	<i>Comment</i>
2023	9.40	8.60	9.00	4.13	4.97	83%	32.23		

CRUISER/RACER REQUIREMENTS*

Accommodation length	8.8 m	Table area	0.33 m²	Headroom	1.59 m
Minimum number of berths	3	Personal gear stowage	0.12 m³	Fresh water capacity	42 l
Minimum number of seats in cockpit	3	Food stowage	0.18 m³	Fuel capacity	26 l

*This list refers to the calculated requirements. See IMS Appendix 1 for the complete list of requirements.