

APH ToD: **521.6** CDL: **8.640**

APH ToT: **1.1502** CertNo: **US5095**

**BOAT**

Class **Viper 830**  
Designer **Thompson**  
Builder **Viper Raceboats**  
Age date **01/1997**  
Series date **01/1996**  
Offset file **Viper830\_JT.off**  
Data file **USA 50959**

**HULL**

Length Overall **8.298 m**  
Maximum Beam **2.560 m**  
Draft **2.176 m**  
Displacement **1,344 kg**  
DLR **3.0432**  
IMS Division **Sportboat**  
Dynamic Allowance **0.000%**  
Age Allowance **0.487%**

**PROPELLER**

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

**CREW**

Maximum weight **467 kg (default)**  
Minimum weight **337 kg \*when applied**  
Non Manual Power  
Crew Arm Extension

**SAIL AREAS (m²)**

	Measured	Rated
Mainsail	<b>27.90</b>	<b>28.61</b>
Headsail Luffed	<b>18.91</b>	<b>18.91</b>

Headsail Flying  
Symmetric  
Asymmetric **91.34** **91.34**  
*(All asymmetric spinnakers with SHW/SFL > 85%)*

**STORM SAIL AREAS (m²)**

Trysail **7.83**  
Storm Jib **5.92**  
Heavy Weather Jib **15.99**

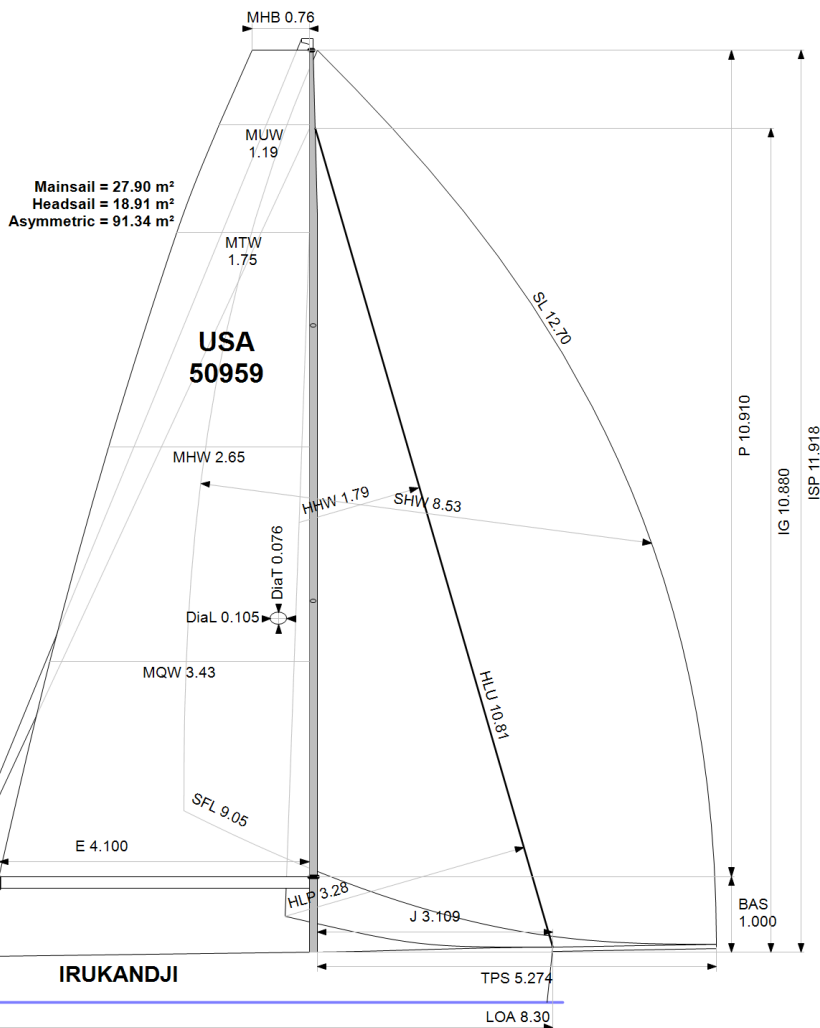
**SAIL LIMITS**

Headsails **5**  
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	24 kt
Beat Angles	40.7°	37.5°	35.6°	35.0°	35.0°	35.0°	35.0°	35.2°
Beat VMG	4.02	4.71	5.02	5.18	5.27	5.34	5.41	5.36
52°	5.94	6.60	6.91	7.10	7.25	7.37	7.54	7.58
60°	6.16	6.75	7.13	7.37	7.55	7.70	7.92	8.01
75°	6.29	6.88	7.37	7.76	8.03	8.27	8.66	8.90
90°	6.17	6.84	7.41	7.96	8.45	8.87	9.58	10.13
110°	6.23	7.04	7.60	8.05	8.50	8.95	10.41	11.87
120°	6.13	7.04	7.79	8.43	9.01	9.59	10.76	12.02
135°	5.53	6.68	7.54	8.47	9.52	10.61	12.51	14.33
150°	4.69	5.86	6.69	7.51	8.38	9.51	12.72	15.88
Run VMG	4.06	5.07	5.79	6.50	7.26	8.24	11.01	13.77
Gybe Angles	143.6°	147.8°	149.6°	149.0°	145.9°	145.2°	146.9°	150.5°



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	895.3	763.6	716.9	695.5	682.9	674.0	666.0	672.3
52°	605.9	545.7	521.1	507.0	496.4	488.2	477.3	475.0
60°	584.7	532.9	504.8	488.7	477.0	467.7	454.8	449.4
75°	572.8	523.5	488.3	464.1	448.4	435.1	415.6	404.6
90°	583.3	526.0	486.0	452.4	425.9	405.7	375.7	355.4
110°	577.9	511.6	473.8	447.0	423.5	402.4	345.8	303.3
120°	586.9	511.4	462.2	427.3	399.7	375.4	334.5	299.5
135°	650.4	539.2	477.3	425.1	378.0	339.3	287.8	251.2
150°	768.3	614.8	538.4	479.5	429.5	378.4	283.1	226.6
Run VMG	887.2	709.9	621.7	553.7	496.0	436.9	326.9	261.4
Selected Courses								
Windward / Leeward	891.3	736.8	669.3	624.6	589.4	555.5	496.4	466.9
All purpose	696.5	595.8	546.8	512.6	485.2	460.8	419.4	395.6

Single Number Scoring Options		
Course	Time On Distance	Time On Time
Windward / Leeward	637.7	0.9408
All purpose	521.6	1.1502

### Custom scoring options for United States of America

Scoring Option	TOD	TOT
Triple Number AP Low	646.2	0.9286
Triple Number AP Medium	524.1	1.1448
Triple Number AP High	451.4	1.3293
Triple Number Windward/Leeward Low	814.0	0.7371
Triple Number Windward/Leeward Medium	640.1	0.9374
Triple Number Windward/Leeward High	541.8	1.1074
Predominant Upwind	568.0	1.0563
Predominant Reaching	500.2	1.1995
Predominant Downwind	500.2	1.1995
Predominant Upwind - Low	700.4	0.8567
Predominant Upwind - Low/Med	613.6	0.9779
Predominant Upwind - Medium	557.6	1.0761
Predominant Upwind - Med/High	516.8	1.1609
Predominant Upwind - High	492.0	1.2195
Predominant Downwind Low	635.4	0.9443
Predominant Downwind Low/Med	590.3	1.0164
Predominant Downwind Medium	504.8	1.1885
Predominant Downwind Med/High	426.4	1.4070
Predominant Downwind High	368.6	1.6280
Predominant Reaching Low	635.4	0.9443
Predominant Reaching Low/Med	550.6	1.0896
Predominant Reaching Medium	485.5	1.2357
Predominant Reaching Med/High	428.7	1.3996
Predominant Reaching High	391.1	1.5340

SA/DSPL Upwind	38.40	SA/DSPL Downwind	97.79
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Scoring Option	TOD	TOT
5-Band Windward/Leeward Low	856.2	0.7008
5-Band Windward/Leeward Low/Med	719.2	0.8343
5-Band Windward/Leeward Medium	629.8	0.9527
5-Band Windward/Leeward Med/High	557.1	1.0770
5-Band Windward/Leeward High	501.5	1.1963
Windward/Leeward 60-40 Low	858.0	0.6993
Windward/Leeward 60-40 Low/Med	726.6	0.8257
Windward/Leeward 60-40 Medium	644.0	0.9317
Windward/Leeward 60-40 Med/High	580.9	1.0329
Windward/Leeward 60-40 High	534.9	1.1217
5-Band AP Low	673.6	0.8907
5-Band AP Low/Med	581.1	1.0326
5-Band AP Medium	516.3	1.1621
5-Band AP Med/High	462.3	1.2979
5-Band AP High	422.4	1.4204
5-Band SF Bay Tour - Low	813.6	0.7375
5-Band SF Bay Tour - Low/Med	688.0	0.8721
5-Band SF Bay Tour - Medium	606.4	0.9895
5-Band SF Bay Tour - Med/High	541.7	1.1076
5-Band SF Bay Tour - High	494.5	1.2133
Chicago-Mac Upwind		1.0362
Chicago-Mac All Purpose		1.0824
Chicago-Mac Downwind		1.1358
Bayview-Mac Shore		1.0212
Harvest Moon Regatta	439.5	1.3652



Data in meters/kilograms (Metric)

**HULL AND APPENDAGES (Lightship Trim)**

Class	<b>Viper 830</b>	LOA	<b>8.298</b>	VCGD	<b>-0.531</b>
Measurement		Max. Beam	<b>2.560</b>	VCGM	<b>-0.530</b>
HIN		Draft	<b>2.176</b>	RM Rated (kg·m)	<b>33.8</b>
Plan review		Displacement	<b>1,344</b>	Limit of positive stability(°)	<b>N/A</b>
Hull construction	<b>Cored</b>	Wetted area	<b>12.28</b>	Stability Index	<b>N/A</b>
Carbon Rudder	<b>No</b>	IMS L	<b>8.061</b>	Default crew weight	<b>467</b>
Light stanchions	<b>No</b>	LSM0	<b>7.615</b>	Declared crew weight	<b>N/A</b>
Trim tab	<b>No</b>	Acc. length	<b>8.298</b>		
		Sink (kg/mm)	<b>9.17</b>		

**PROPELLER**

Propeller Type **No Propeller**  
Hydro generator **No**

**RIG**

Forestay tension	<b>Aft</b>	P	<b>10.910</b>	E	<b>4.100</b>
Inner stay	<b>None Fitted</b>	IG	<b>10.880</b>	J	<b>3.109</b>
Mast material	<b>Carbon</b>	ISP	<b>11.918</b>	BAS	<b>1.000</b>
Single headsail furler	<b>No</b>	MDT1	<b>0.076</b>	FSD	<b>0.028</b>
Mainsail furler		MDL1	<b>0.105</b>	SFJ	<b>0.000</b>
Articulated bowsprit	<b>No</b>	MDT2		SPL	
Non-circular rigging	<b>No</b>	MDL2		WPL	
Fiber rigging	<b>No</b>	TL	<b>Taper</b>	TPS	<b>5.274</b>
Adjustable mast foot	<b>No</b>	MW		BD	<b>0.153</b>
Runners/Checkstays	<b>1</b>	GO		MWT	
Spreaders	<b>2</b>			MCG	
Rotating mast	<b>No</b>				

**FLOTATION AND STABILITY**

Calculation method **RM estimated**  
Flotation Date **01/01/2013**



Club  
Certificate  
2024

Boat  
**IRUKANDJI**  
USA 50959

US SAILING  
1 ROGER WILLIAMS UNI WAY  
BRISTOL, RI 02809  
USA



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**MAINSAIL**

<i><b>Id</b></i>	<i><b>MHB</b></i>	<i><b>MUW</b></i>	<i><b>MTW</b></i>	<i><b>MHW</b></i>	<i><b>MQW</b></i>	<i><b>Area</b></i>	<i><b>Meas.Date</b></i>	<i><b>Comment</b></i>
mn	0.76	1.19	1.75	2.65	3.43	27.90	16/01/2020	1477-1

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**HEADSAIL**

<i><b>Id</b></i>	<i><b>HHB</b></i>	<i><b>HUW</b></i>	<i><b>HTW</b></i>	<i><b>HHW</b></i>	<i><b>HQW</b></i>	<i><b>HLP</b></i>	<i><b>HLU</b></i>	<i><b>Btn</b></i>	<i><b>Flying FT</b></i>	<i><b>Area</b></i>	<i><b>Meas.Date</b></i>	<i><b>Comment</b></i>
jib	0.10	0.57	1.01	1.79	2.55	3.28	10.81	Yes	No	18.91	19/02/2024	

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**ASYMMETRIC SPINNAKER**

<i><b>Id</b></i>	<i><b>SLU</b></i>	<i><b>SLE</b></i>	<i><b>SL</b></i>	<i><b>SHW</b></i>	<i><b>SFL</b></i>	<i><b>Ratio</b></i>	<i><b>Area</b></i>	<i><b>Meas.Date</b></i>	<i><b>Comment</b></i>
A2	13.72	11.67	12.70	8.53	9.05	94%	91.34	21/01/2020	758