

APH: **512.3** CDL: **11.609**

GPH: **582.3** CertNo: **D50001**

BOAT

Class **DUFOUR 500**
Designer **UMBERTO FELCI**
Builder **DUFOUR YACHTS**
Age date **01/2014**
Series date **06/2012**
Offset file **duf500.off**
Data file **PER500**

HULL

Length Overall **14.800 m**
Maximum Beam **4.796 m**
Draft **2.288 m**
Displacement **14,378 kg**
DLR **5.6479**
IMS Division **Cruiser/Racer**
Dynamic Allowance **0.366%**
Age Allowance **0.325%**

PROPELLER

Installation **Strut**
Type **Folding 4 blades**
Diameter **0.520m**

CREW

Maximum weight **750 kg**
Minimum weight **563 kg * when applied**
Non Manual Power
Crew Arm Extension

SAIL AREAS (m²)

| | Measured | Rated |
|-----------------|---------------|---------------|
| Mainsail | 58.62 | 59.69 |
| Headsail Luffed | 55.22 | 55.22 |
| Headsail Flying | | |
| Symmetric | | |
| Asymmetric | 146.03 | 146.03 |

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

STORM SAIL AREAS (m²)

Trysail **17.06**
Storm Jib **17.01**
Heavy Weather Jib **45.91**

SAIL LIMITS

Headsails **1**
Spinnakers **4**

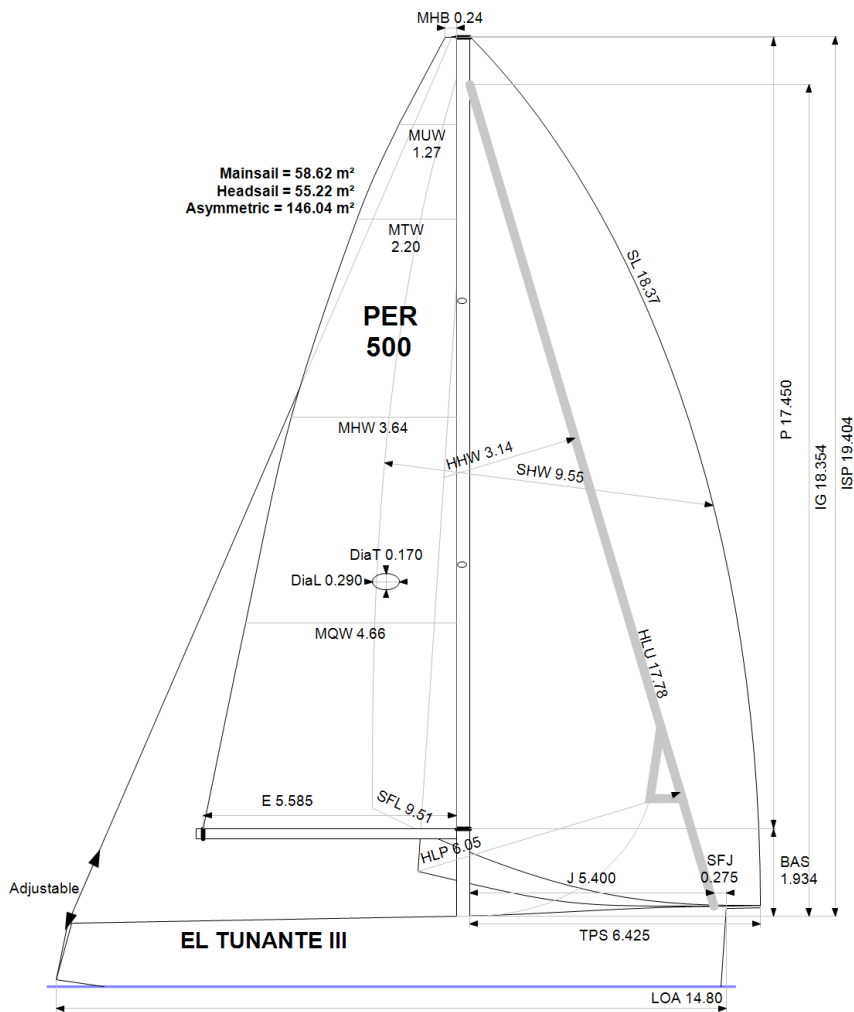
STABILITY

Righting Moment **491.8 kg·m**
Stability Index **118.7**

COMMENTS

RADAR EN MASTIL

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 30.4.



Rated boat velocities in knots

| Wind Velocity | 6 kt | 8 kt | 10 kt | 12 kt | 14 kt | 16 kt | 20 kt |
|---------------|--------|--------|--------|--------|--------|--------|--------|
| Beat Angles | 46.5° | 44.4° | 43.5° | 42.6° | 42.0° | 41.4° | 41.7° |
| Beat VMG | 3.25 | 4.07 | 4.71 | 5.25 | 5.59 | 5.73 | 5.78 |
| 52° | 5.14 | 6.30 | 7.20 | 7.91 | 8.30 | 8.46 | 8.55 |
| 60° | 5.56 | 6.71 | 7.62 | 8.24 | 8.58 | 8.76 | 8.87 |
| 75° | 6.19 | 7.46 | 8.30 | 8.66 | 8.82 | 9.06 | 9.37 |
| 90° | 6.50 | 7.80 | 8.58 | 8.99 | 9.27 | 9.45 | 9.77 |
| 110° | 6.30 | 7.62 | 8.48 | 8.97 | 9.41 | 9.88 | 10.72 |
| 120° | 5.97 | 7.27 | 8.25 | 8.81 | 9.24 | 9.75 | 10.85 |
| 135° | 5.15 | 6.47 | 7.59 | 8.41 | 8.91 | 9.35 | 10.40 |
| 150° | 4.35 | 5.57 | 6.63 | 7.56 | 8.23 | 8.65 | 9.30 |
| Run VMG | 3.76 | 4.83 | 5.75 | 6.55 | 7.13 | 7.50 | 8.49 |
| Gybe Angles | 143.3° | 146.9° | 147.5° | 148.0° | 148.9° | 151.1° | 175.4° |



International
Certificate
2022

Boat
EL TUNANTE III
PER 500

Asociacion de Vela Oceanica
del Peru - AVOP
Roberto Peschiera - Rating Officer
peschiera56@gmail.com



Time Allowances in secs/NM

| Wind Velocity | 6 kt | 8 kt | 10 kt | 12 kt | 14 kt | 16 kt | 20 kt |
|--------------------|--------|-------|-------|-------|-------|-------|-------|
| Beat VMG | 1106.2 | 885.5 | 764.4 | 686.2 | 644.1 | 628.4 | 622.5 |
| 52° | 699.8 | 571.6 | 499.8 | 455.2 | 433.6 | 425.5 | 421.1 |
| 60° | 647.3 | 536.3 | 472.7 | 436.8 | 419.4 | 410.9 | 406.0 |
| 75° | 581.8 | 482.3 | 433.5 | 415.9 | 408.2 | 397.2 | 384.4 |
| 90° | 554.0 | 461.7 | 419.7 | 400.3 | 388.4 | 380.9 | 368.4 |
| 110° | 571.1 | 472.4 | 424.5 | 401.4 | 382.6 | 364.2 | 335.7 |
| 120° | 603.3 | 495.2 | 436.2 | 408.8 | 389.5 | 369.3 | 331.7 |
| 135° | 698.6 | 556.0 | 474.5 | 428.2 | 404.2 | 384.8 | 346.1 |
| 150° | 828.1 | 646.0 | 542.6 | 476.1 | 437.5 | 416.1 | 387.1 |
| Run VMG | 956.2 | 745.9 | 626.6 | 549.8 | 505.2 | 480.2 | 424.1 |
| Selected Courses | | | | | | | |
| Windward / Leeward | 1031.2 | 815.7 | 695.5 | 618.0 | 574.7 | 554.3 | 523.3 |
| All purpose | 769.6 | 618.9 | 536.9 | 488.5 | 461.1 | 445.7 | 424.2 |

Single Number Scoring Options

| Course | Time On Distance | Time On Time |
|--------------------|------------------|--------------|
| Windward / Leeward | 654.2 | 0.9172 |
| All purpose | 512.3 | 1.1712 |



Data in meters/kilograms (Metric)

HULL AND APPENDAGES (Lightship Trim)

| | | | | | |
|-------------------|-------------------|--------------|---------------|--------------------------------|--------------|
| Class | DUFOUR 500 | LOA | 14.800 | VCGD | 0.196 |
| Measurement | 16/06/2017 | Max. Beam | 4.796 | VCGM | 0.206 |
| HIN | | Draft | 2.288 | RM Measured (kg·m) | 491.8 |
| Plan review | | Displacement | 14,378 | RM Default (kg·m) | 466.4 |
| Hull construction | Cored | Wetted area | 50.11 | Limit of positive stability(°) | 113.2 |
| Aramid Hull Core | No | IMS L | 13.749 | Stability Index | 118.7 |
| Carbon Rudder | No | LSM0 | 13.653 | | |
| Light stanchions | No | Acc. length | 14.800 | | |
| Trim tab | No | Sink (kg/mm) | 38.50 | | |

PROPELLER

| | | | | | | | |
|-----------------|-------------------------|------|---------------|-----|--------------|-----|--------------|
| Propeller Type | Folding 4 blades | | | | | | |
| Installation | Strut | PRD | 0.520 | EDL | 3.700 | ST3 | 0.185 |
| Twin screw | No | PBW | 0.120 | ST1 | 0.065 | ST4 | 0.111 |
| Hydro generator | No | PIPA | 0.0044 | ST2 | 0.175 | ST5 | 0.295 |

RIG

| | | | | | |
|----------------------|--------------------|------|---------------|-----|--------------|
| Forestay tension | Aft | P | 17.450 | E | 5.585 |
| Inner stay | None Fitted | IG | 18.354 | J | 5.400 |
| Carbon mast | No | ISP | 19.404 | BAS | 1.934 |
| Headsail furler | Yes | MDT1 | 0.170 | FSD | 0.058 |
| Mainsail furler | No | MDL1 | 0.290 | SFJ | 0.275 |
| Articulated bowsprit | No | MDT2 | 0.170 | SPL | 0.000 |
| Non-circular rigging | No | MDL2 | 0.290 | WPL | |
| Fiber rigging | No | TL | 0.000 | TPS | 6.425 |
| Runners/Checkstays | 0 | MW | 0.290 | BD | 0.230 |
| Spreaders | 2 | GO | 0.315 | MWT | |
| | | | | MCG | |

FLOTATION AND STABILITY

| | | | | | | | | | | | |
|--------------------|------------------------|-------|---------------|-------|---------------|----|--------------|-----|--------------|-----|----------------|
| Calculation method | Poles inclining | SFFP | 0.102 | SAFP | 14.453 | W1 | 195.9 | PD1 | 387.9 | WD | 12.310 |
| Flotation Date | 16/06/2017 | FFM | 1.775 | FAM | 1.401 | W2 | 195.9 | PD2 | 383.8 | PLM | 9000.00 |
| Measurer | PG | FF | 1.775 | FA | 1.402 | W3 | 195.9 | PD3 | 385.4 | GSA | 1.0 |
| Comment | | LCFcl | 8.072 | LCFsh | 8.393 | W4 | 195.9 | PD4 | 387.6 | RSA | 1.0 |
| | | SG | 1.0253 | HBI | 1.554 | | | | | | |

INVENTORY

| TANKS | <i>Id</i> | <i>Description</i> | <i>Sp.Wght</i> | <i>Capacity</i> | <i>Condition</i> | <i>LCG</i> | <i>VCG</i> |
|-------------|-----------|-----------------------------------|------------------------------|-------------------------|------------------|--------------|------------|
| | E3 | PETROLEO PVC RIGIDO | | 250 | 0 | 11.70 | |
| | B3 | PETROLEO PVC RIGIDO | 0.9000 | 250 | 8 | 11.70 | |
| | C11 | AGUA PVC RIGIDO 01 TANQUE EN PROA | | 200 | 0 | 2.60 | |
| | C6 | AGUA PVC RIGIDO 01 TANQUE | | 160 | 0 | 7.62 | |
| | C6 | AGUA PVC RIGIDO 01 TANQUE | | 160 | 0 | 7.62 | |
| | | | | <i>Total deductible</i> | 7 | 11.70 | |
| OTHER ITEMS | <i>Id</i> | <i>Kind</i> | <i>Description</i> | <i>Weight</i> | <i>LCG</i> | <i>VCG</i> | |
| | B2 | Miscellaneous | BOTELLA DE GAS | 2 | | | |
| | B6 | Miscellaneous | DESALINIZADOR | | | | |
| | E7 | Miscellaneous | CONVERTIDOR CARGADOR BATERIA | | | | |
| | C4 | Battery | 01 BATERIA DELANTE MOTOR | | 24 | 10.06 | |
| | C7 | Battery | 04 BATERIAS DE SERVICIO | | 72 | 7.84 | |
| | C4 | Engine | VOLVO PENTA 75HP | | | | |
| | | | | <i>Total deductible</i> | 0 | | |



MAINSAIL

| <i>Id</i> | <i>MHB</i> | <i>MUW</i> | <i>MTW</i> | <i>MHW</i> | <i>MQW</i> | <i>Area Meas.Date</i> | | <i>Maker</i> | <i>Material</i> | <i>Comment</i> |
|-----------|------------|------------|------------|------------|------------|-----------------------|------------|--------------|-----------------|----------------|
| M1-21 | 0.24 | 1.27 | 2.20 | 3.64 | 4.66 | 58.62 | 24/05/2021 | NORTH | Carbon | 3DI NUEVA |

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</i> | <i>FT</i> | <i>Area Meas.Date</i> | | <i>Maker</i> | <i>Material</i> | <i>Comment</i> |
|-----------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|-----------|-----------------------|------------|--------------|-----------------|----------------|
| G1-21 | 0.10 | 0.84 | 1.60 | 3.14 | 4.65 | 6.05 | 17.78 | Yes | No | | 55.22 | 24/05/2021 | NORTH | Carbon | 3DI NUEVA |
| G3 | 0.07 | 0.61 | 1.20 | 2.44 | 3.83 | 5.30 | 12.07 | Yes | No | | 30.74 | 03/10/2017 | | Dacron | |

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 Meas.Date</i> | | <i>Maker</i> | <i>Material</i> | <i>Comment</i> |
|-----------|------------|------------|-----------|------------|------------|--------------|-----------------------|------------|--------------|-----------------|----------------|
| A3 | 19.10 | 17.63 | 18.37 | 9.55 | 9.51 | 100% | 146.03 | 03/10/2017 | QUANTUM | Nylon | TURQUESA |
| A0 | 19.35 | 17.17 | 18.26 | 8.67 | 11.49 | 75% | 140.51 | 26/09/2017 | QUANTUM | Nylon | GRIS (NUEVO) |