TYPE-CERTIFICATE
DATA SHEET

NO. EASA.A.628

for

Twinshark

Type Certificate Holder
HPH, spol.s r.o.

Čáslavská 234,
284 01, Kutná Hora
CZECH REPUBLIC

For models: HPH 304TS
## Contents

### Section A: HPH 304TS

| A.I | General | 4 |
| A.II | EASA Certification Basis | 4 |
| A.III | Technical Characteristics and Operational Limitations | 5 |
| A.IV | Operating and Service Instructions | 8 |
| A.V | Notes | 9 |

### Section B: Administrative Section

| B.I | Acronyms & Abbreviations | 10 |
| B.II | Type Certificate Holder Record | 10 |
| B.III | Change Record | 10 |
Section A: HPH 304TS

A.I General

1. Type/Model/Variant
   1.1 Type: Twinshark
   1.2 Model: HPH 304TS

2. Airworthiness Category
   Powered Sailplane, CS 22 - Utility

3. Manufacturer
   HPH, spol.s r.o.
   Čáslavská 234
   284 01 Kutná Hora
   CZECH REPUBLIC

4. EASA Type Certification Application Date
   13 October 2015

5. EASA Type Certification Date
   6 March 2024

A.II EASA Certification Basis

1. Reference Date for determining the applicable requirements
   13 October 2015

2. Airworthiness Requirements
   Certification Specifications for Sailplanes and Powered Sailplanes CS-22,
   Amdt. 3, dated 15 September 2021

3. Special Conditions
   None

4. Exemptions
   None

5. (Reserved) Deviations
   None

6. Equivalent Safety Findings
   None

7. Environmental Protection
   refer to TCDSN EASA.A.628
A.III  Technical Characteristics and Operational Limitations

1. Type Design Definition
   304TS-09-001 - Drawing list of 304TS (issued 12.12.2023 or later)
   304TS-09-001/B - Drawing list of 304TS- altered drawings (issued 12.12.2023 or later)

2. Description
   Two-seat, mid-wing self-launching sailplane, CFRP/GFRP/AFRP construction, 4-piece wing (with removable wing extensions and winglets), camber changing flaps, triple-section SH-type airbrakes on upper wing surface, water ballast tanks in the wing and in the fin (option), electrical retractable undercarriage with wheel brake, fixed or steerable tailwheel (option), T-tail with fixed horiz. stabilizer with elevator, fin and rudder, retractable powerplant.

3. Equipment
   Min. Equipment:
   1 Airspeed indicator
   1 Altimeter
   1 Outside air temperature indicator with sensor (when flying with water ballast)
   1 Magnetic compass
   1 Engine control unit indicating:
     • RPM
     • Coolant liquid temperature
     • Fuel quantity
     • Engine time
     • Water pump failure
   1 Rear-view mirror
   2 Set of four-point safety harness
   1 Automatic or manual parachute, otherwise back-cushion (compressed approx. 39.3 inch /10cm thick)
   1 Sailplane Flight Manual
   1 Set of limitation placards in the cockpit
   1 Battery-1 or Additional Battery
   1 Battery-2

4. Dimensions
   Span  20,00 m
   Wing area  15,46 m²
   Length  8,93 m
5. Engine

5.1 Model
Solo 2625 02

5.2 Type Certificate
EASA.E.218

5.3 Maximum Continuous Power
47 kW (62 HP)

6. Propellers

6.1 Model – Alternative 1
BM-G1-160-R-120-1

6.2 Type Certificate
EASA.P.500

6.3 Number of blades
2

6.4 Diameter
1600 ± 5 mm

6.5 Sense of Rotation
counter-clockwise

6.6 Model – Alternative 2
KS-1G-160-R-120

6.7 Type Certificate
EASA.P.115

6.8 Number of blades
2

6.9 Diameter
1600 ± 5 mm

6.10 Sense of Rotation
counter-clockwise

7. Fuel capacities:

AVGAS 100LL, MOGAS min RON 95

7.1 Fuel:
Max. capacity 32,75 l
Max. usable 32,00 l
Tank in the fuselage 32,75
Non-usable fuel 0,75 l
Tank in right wing n/a
Tank in left wing n/a

8. Launching Hooks
Safety hook „Europa G 88”,
LBA Datasheet No. 60.230/2

9. Weak Links
Ultimate Strength:
- for winch and auto-tow max. 1000 daN
- for aero-tow max. 850 daN

10. Load Factors
+5,3 / -2,65 (up to $V_A$)
+4,0 / -1,5 (up to $V_{NE}$)
11. Air Speeds

11.1 Maneuvering speed   $V_a$   190 km/h

11.2 Never exceed speed   $V_{NE}$   270 km/h

11.3 Maximum permitted speeds
- in strong turbulence   $V_{RA}$   200 km/h
- in aero-tow   $V_T$   185 km/h
- in winch-launch   $V_W$   150 km/h
- for gear operation   $V_{LO}$   190 km/h
- for extracting engine   $V_{POmax}$   115 km/h
- with wing flaps at pos. 0, -1, -2, -3   $V_{FE}$   270 km/h
- +2, +1   $V_{FE}$   200 km/h
- L   $V_{FE}$   150 km/h
- for extended power plant   $V_{POmax}$   115 km/h
- for extending / retracting power plant   $V_{POmin}$   90 km/h

12. Approved Operations Capability

VFR Day
Cloud flying not permitted.
Aerobatic manoeuvres not permitted.

13. Launch methods

Aero tow
Winch launch and auto launch
Self-launch

14. Maximum Masses

14.1 Maximum Take-off Mass   850 kg
14.2 Max. Mass of non-lifting parts   470 kg

15. Centre of Gravity Range

299 – 515 mm aft of datum point

16. Datum

wing leading edge at wing root rib

17. Levelling Means

wedge 100:2 on slope of rear top fuselage to be horizontal

18. Control Surface Deflections

Refer to Maintenance Manual

19. Minimum Flight Crew

1

20. Maximum Passenger Seating Capacity

1

21. Baggage/ Cargo Compartments

2 kg

22. Lifetime limitations

Refer to Maintenance Manual, section 4
A.IV Operating and Service Instructions

1. Flight Manual
   Flight Manual HPH 304TS,
   doc. no.: HPH304TS/AFM revision 04,
   issued 11/23

   Maintenance and Repair Manual HPH 304TS,
   doc. no.: HPH304TS/MM revision 00,
   issued 10/23

   Maintenance and Repair Manual
   HPH 304TS, section 12,
   doc. no.: HPH304TS/MM revision 00,
   issued 10/23

   Manual for engine Solo Typ 2625 02, Issue 1 dated
   24.09.1997 or later approved revisions, issued by
   SOLO Kleinmotoren GmbH

5. Operating Manual and Maintenance Manual for Propeller
   for BM-G1-160-R-120-1:
   Operation- and Maintenance manual for fixed
   pitch propeller in Glass or Carbon reinforced
   Plastic type BM, Issue October 21, 2007 or later
   approved revision, issued by Binder Motorenbau
   GmbH
   for KS-1G-160-R-120:
   Operating and Service Instruction No. 3, latest
   approved revision, issued by TECHNOFLUG
   Leichtflugzeugbau GmbH & Co.KG

6. Operating Manual for the Launching Hooks
   Operation and Maintenance Manual for Tost tow
   hook TypeTost G 88, latest EASA accepted
   revision
A.V  **Notes**

1. Manufacturing is confined to industrial production.
2. All parts exposed to sun radiation – except the areas for markings and registration – must have a white colour surface.
3. Approved for operations with the power plant temporarily removed or inoperative in accordance with the instructions given in the Maintenance Manual AlV.2.
Section B:  Administrative Section

B.I  Acronyms & Abbreviations

CPFR  Carbon fibre reinforced plastic
EASA  European Union Aviation Safety Agency
GPFR  Glass fibre reinforced plastic
JAR  Joint Aviation Requirements
LBA  Luftfahrt-Bundesamt
MTOM  Maximum Take-off Mass
RPM  Rotations per minute
TC  Type Certificate
TCDS  Type Certificate Data Sheet
TCDSN  Type Certificate Data Sheet for Noise
VFR  Visual Flight Rules

B.II  Type Certificate Holder Record

HPH, spol.s r.o.
Čáslavská 234,
284 01, Kutná Hora
CZECH REPUBLIC

B.III  Change Record

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Changes</th>
<th>TC Issue No. &amp; Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>06 March 2024</td>
<td>Initial Issue</td>
<td>Initial Issue, 06 March 2024</td>
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