



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



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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 failure1 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 Manoeuvring 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_{PE}	160 km/h
- for extending / retracting power plant		V_{POmax}	115 km/h
		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
2. Maintenance Manual
Maintenance and Repair Manual HPH 304TS,
doc. no.: HPH304TS/MM revision 00,
issued 10/23
3. Structural Repair Manual
Maintenance and Repair Manual
HPH 304TS, section 12,
doc. no.: HPH304TS/MM revision 00,
issued 10/23
4. Operating Manual and Maintenance Manual for Engine
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 AIV.2.



Section B: **Administrative Section**

B.I Acronyms & Abbreviations

CPFR	Carbon fibre reenforced plastic
EASA	European Union Aviation Safety Agency
GPFR	Glass fibre reenforced 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 Date 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

Issue	Date	Changes	TC Issue No. & Date
01	06 March 2024	Initial Issue	Initial Issue, 06 March 2024

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