Civil Aviation Authority
United Kingdom

TYPE-CERTIFICATE DATA SHEET

UK.TC.A.00109

for

Twinshark

Type Certificate Holder

HPH, spol. s r.o.

Čáslavská 234,
284 01, Kutná Hora
CZECH REPUBLIC

Model(s):	HPH 304TS
Issue:	1
Date of issue:	13 December 2024

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Section 1 HPH 304TS

I. General

1. Type / Variant / Model

a) Type: Twinshark
b) Variant or Model: HPH 304TS

2. Airworthiness Category

Powered Sailplane, CS-22 – Utility

3. Type Certificate Holder / 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

6. UK CAA Type Validation Date

18 December 2024

II. 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. Deviations

None

6. Equivalent Safety Findings

None

7. Environmental Protection

ICAO Annex 16, Volume I (See TCDSN UK.TC.A.00109 for details).

III. Technical Characteristic and Operating 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 m^2
Length	8.93 m

5. Engine

Model	Solo 2625 02
Type Certificate	EASA.E.218
Maximum Continuous Power	47 kW (62 hp)

6. Propellers

Alternative 1:

Model	BM-G1-160-R-120-1

Type Certificate	EASA.P.500
Number of blades	2
Diameter	1600 ± 5 mm
Sense of Rotation	Counter-clockwise

Alternative 2:

Model	KS-1G-160-R-120
Type Certificate	EASA.P.115
Number of blades	2
Diameter	1600 ± 5 mm
Sense of Rotation	counter-clockwise

7. Fuel Capacities

Max Capacity	32.75 L
Max. usable	32.00 L
Non-usable fuel	0.75 L
Tank in the fuselage	32.75 L

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 aerotow:	max. 850 daN

10. Load Factors

+5.3 to -2.65 (up to V_A)

+4.0 to -1.5 (Above V_A up to V_{NE})

11. Air Speeds

Manoeuvring Speed	V_A	103 kts
Never Exceed Speed	V_{NE}	145 kts
Maximum permitted speeds		
In rough air	V_{RA}	108 kts
During aerotow	V_T	100 kts
During winch launch	V_W	81 kts
For gear operation	V_{LO}	103 kts
For extracting/retracting engine	V_{POmin}	49 kts
	V_{POmax}	62 kts
With powerplant extended	V_{PE}	86 kts
Wing flaps at pos. 0,-1,-2,-3	V_{FE}	145 kts
+2, +1	V_{FE}	108 kts

L	V_{FE}	81 kts

12. Approved Operations Capability

VFR Day

Cloud Flying not permitted

Aerobatic manoeuvres not permitted

13. Launch Methods

Aerotow

Win launch and auto launch

Self-launch

14. Maximum Masses

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

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 top rear 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

Max. 2 kg

22. Lifetime Limitations

Refer to Maintenance Manual, Section 4

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 and Maintenance Manual for Engine

Manual for Engine SOLO Type 2625 02, Issue 1 dated 24.09.1997 or later approved revisions, issued by SOLO Kleinmotoren GmbH

5. Operation 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 Type Tost G 88, latest accepted revision.

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 powerplant temporarily removed or inoperative in accordance with the instructions given in the Maintenance Manual.

Section 2 Administration

I. Acronyms and Abbreviations

Acronym / Abbreviation	Definition
CS	Certification Specification
CAA	Civil Aviation Authority
CRI	Certification Review Item
DCU	Display and Control Unit
EASA	European Union Aviation Safety Agency
g	Load Factor
HV	High Voltage
kg	Kilogram
Km/h	Kilometres per hour
Kts	knots
kW	Kilowatt
L	Litre
LBA	Luftfahrt-Bundesamt
m	metre
mm	Millimetre
MTOW	Maximum Take Off Weight
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TCH	Type Certificate Holder
VFR	Visual Flight Rules

II. Type Certificate Holder Record

TCH Record	Period
HPH, spol. s r.o. Čáslavská 234, 284 01, Kutná Hora CZECH REPUBLIC	Present. No changes.

III. Amendment Record

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
1	13 Dec 2024	Initial UK TC issue. Type validation of HPH304TS, initially certified by EASA (EASA.A.628).	Issue 1 13 Dec 2024

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