



European Union Aviation Safety Agency

EASA

**TYPE-CERTIFICATE
DATA SHEET**

EASA.A.442

VSO 10

Type Certificate Holder:

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

For models: VSO 10

Issue 02: 09 September 2021

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- 0.I. Table of Content

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A.I. General

| | | |
|--|---|-------------------------|
| Data Sheet No.: EASA.A.442 | Issue: 02 | Date: 09 September 2021 |
| 1. a) Type: | VSO 10 | |
| b) Variant: | VSO 10 C (see A.V. Note 1) | |
| 2. Airworthiness Category: | Utility | |
| 3. Type Certificate Holder: | HPH, spol. s r.o. Čáslavská 234 284 01 Kutná Hora CZECH REPUBLIC | |
| 4. Manufacturer: | From S/N 150 001 to S/N 150 206 Orličan, n.p. 565 37 Choceň CZECH REPUBLIC From S/N 150207 to S/N 150 225 Orličan, s.p. 565 37 Choceň CZECH REPUBLIC | |
| 5. Certification Application Date: | N/A | |
| 6. CAA CZ Type Certification Date: | 15 May 1979 | |
| 7. EASA Type Certification Date | 14 February 2007 (see A.V. Note 2) | |
| 8. The EASA Type Certificate replaces: | Czech Type Certificate No.: 79-01 | |

A.II. Certification Basis

| | |
|------------------------------------|--|
| 1. Certification Basis: | L 8/O Regulation, effective July 7, 1976 |
| 2. Airworthiness Requirements: | L 8/O Regulation, effective July 7, 1976 |
| 3. Requirements elected to comply: | None |
| 4. Special Conditions: | None |
| 5. Exemptions: | 2.1.4.b Control forces are higher than required. 2.1.7 Static friction force of aileron control is higher than required. 2.8.1 Spin recovery after five turns was not demonstrated. Sailplane is not capable to complete more than 4 turns. 2.9.1 During sideslips with airbrakes extended and greater rudder deflection higher empennage vibrations occur. Side slips with max. 1/2 rudder deflection enclosed in the operation limitations. 3.5.4 The requirement of 50 percent elongation of rudder control circuit not met |
| 6. Equivalent Safety Findings: | None |

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Parts list S-VSO 10.
2. Description: VSO 10 sailplane is single-seat cantilever shoulder-wing monoplane with closed cockpit and retractable landing gear with shock absorber. Two-piece wing of wooden structure with plywood sandwich skin and airbrakes on the upper and lower sides. T-tail empennage of aluminium alloy structure with control surfaces coated by fabric. Front part of the fuselage is made from glass composite and the rear one from aluminium alloys.
3. Equipment:
 - Minimum equipment:
 - 1 Airspeed indicator
 - 1 Altimeter
 - 1 Variometer
 - 1 Magnetic compass
 - 1 Turn and bank indicator
 - Four-point safety harness
 - Parachute
4. Dimensions:

| | | |
|--------------|--|----------------------|
| Span | | 15,00 m |
| Length | | 7,00 m |
| Height | | 1,38 m |
| Wing area | | 12,00 m ² |
| Aspect Ratio | | 18,75 |
5. Launching Hooks:

| | | |
|------|------------------|--|
| Nose | VSO 10.417-01 | |
| Side | VSO 10.417.03/04 | |
6. Weak links:

| | | |
|--------------------|--|-------------|
| Ultimate Strength: | | max.500 daN |
|--------------------|--|-------------|
7. Air Speeds:

| | | |
|--------------------------|----------|----------|
| Never Exceed Speed | V_{NE} | 250 km/h |
| Maximum permitted speeds | | |
| - in rough air | V_{RA} | 160 km/h |
| - in aero-tow | V_T | 160 km/h |
| - in winch-launch | V_W | 120 km/h |
8. Load Factors:

| | | |
|------------------------|--|----------|
| At $V_A = 160$ km/h | | n = +5,5 |
| | | n = -3,5 |
| At $V_{NE} = 250$ km/h | | n = +4,6 |
| | | n = -2,6 |
9. Operational Capability: Approved for VFR-Day.
10. Maximum Masses:

| | | |
|---------------------------------|--|---------------|
| Maximum permitted take-off mass | | 380 kg |
| Empty mass | | 250 kg +/- 3% |
11. Centre of Gravity Range:

Datum: Leading edge of the wing root rib. Mean Aerodynamic Chord 0,824 m, front point on the datum.

Leveling means: Wedge 323:15 on the rear top fuselage, horizontal.

28 – 46 % MAC (231 až 379 mm behind the datum).
12. Seating Capacity: 1
13. Lifetime limitations: See "Návod k obsluze kluzáku VSO 10"
14. Deflection of control surfaces:

| | | |
|----------|------|--------------------------|
| Ailerons | down | $+12^\circ \pm 1^\circ$ |
| | up | $- 30^\circ \pm 2^\circ$ |
| Elevator | down | $+16^\circ -1^\circ$ |
| | up | $-17^\circ +1^\circ$ |
| Rudder | | $\pm 30^\circ -3^\circ$ |

15. Wheels and Tyres: Light alloy wheel with brake HP 4741.
Tyre 350 × 135.

A.IV. Operating and Service Instructions

1. Sailplane Flight Manual:
 - in Czech language: “Letová příručka”, vydání I
“Letová příručka”, vydání II (year 1982)
“Letová příručka”, vydání III (year 1987)
2. Sailplane Operating Instructions:
 - in Czech language: “Návod k obsluze kluzáku VSO 10”, vydání II (1982)
“Návod k obsluze kluzáku VSO 10”, vydání III (1987)
3. Sailplane Log Book:
 - in Czech language: “Záznamník kluzáku VSO 10”
4. Sailplane Maintenance Directives:
 - in Czech language: “Směrnice pro provádění prohlídek po 500 hodinách
VS-VSO10-011”, vydání 2004

A.V. Notes

1. The VSO 10 C variant differs from VSO 10 Model only in application of fixed landing gear (see A.III. Para 2.). It was manufactured exclusively by Orličan n.p. Choceň (see A.I. Para 4.)
2. CAA CZ Type Certificate No.: 79-01 was transferred (grandfathered) to EASA on 14-FEB-2007.

ADMINISTRATIVE SECTION

I. Acronyms

N/A

II. Type Certificate Holder Record

Since 14 February 2007

Schempp-Hirth výroba letadel spol. s r.o.
U Dvořiska 1733
565 01 Choceň
Czech Republic

Since 09 September 2021

HPH, spol. s r.o.
Čáslavská 234
284 01 Kutná Hora
Czech Republic

III. Change Record

| Issue | Date | Changes |
|--------------|-------------------|--|
| 01 | 14 February 2007 | Initial issue of TCDS No. EASA.A.442 |
| 02 | 09 September 2021 | Change of the TC holder and new layout of TCDS |
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