

CIVIL AVIATION AUTHORITY OF THE CZECH REPUBLIC

79-01
Change 3
Schempp-Hirth výroba letadel
spol. s r. o.
VSO 10
VSO 10 C
11.04.2007

TYPE CERTIFICATE DATA SHEET No. 79-01

This data sheet which is a part of Type Certificate No. 79-01 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Czech Republic.

Model	Application Date	Certification Date
VSO 10	-	15.05.1979
VSO 10 C	-	15.05.1979

Page No.	1	2	3	4	5	6	7	8	9
Rev. No.	3	3	3	3	3	3	3	3	3

Model VSO 10

I. General

1. Data Sheet No.: 79-01
2. Model: VSO 10
3. Airworthiness category: Utility
4. Type Certificate Holder: Schempp-Hirth výroba letadel spol. s r.o.
Pardubická 638
565 01 Choceň
5. Manufacturer: S/N 150001 through 150206
Orličan, n.p.
Choceň
S/N 150207 through 150225
Orličan, s.p.
Choceň
6. Application Date: -
7. Certificate Date: 15.05.1979

II. Certification Basis

1. Certification Basis: L 8/O Regulation, issued July 7, 1976
2. Special Conditions: None
3. Exemptions:
- 2.1.4.b Control forces are higher than the regulation requires.
 - 2.1.7 Force, which is necessary to overcome static friction of aileron control, is higher than regulation permit.
 - 2.8.1 Spin recovering after five turns was not demonstrated. Sailplane is not capable to complete more than 4 turns.
 - 2.9.1 During side slips with airbrakes extended and greater rudder deflection it occurs to higher empennage vibrations. There were allowed side slips with max. 1/2 rudder deflection in the operation limitations.
 - 3.5.4 There is not met the requirement of 50 percent elongation of rudder control circuit.
4. Equivalent Safety Findings: None

III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Part 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 wood 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 Compass
1 Turn and bank indicator
Four-point safety harnesses
Parachute
4. Dimensions: Span: 15,0 m
Length: 7,0 m
Height: 1,38 m
Wing Area: 12,0 m²
Aspect Ratio: 18,75
5. Tow hook: Nose tow release Dwg. No. VSO 10.417-01
Side tow releases Dwg. No. VSO 10.417.03/04
6. Air Speeds: Never exceed speed V_{NE} 250 km/h
Maximum speed on aerotow V_T 160 km/h
Maximum winch launch speed V_W 120 km/h
Rough air speed V_{RA} 160 km/h
7. Load factors: At $V_A = 160$ km/h $n = +5,5$
 $n = -3,5$
At $V_{NE} = 250$ km/h $n = +4,6$
 $n = -2,6$
8. Weights: Maximum permitted take-off mass 380 kg
Empty mass 250 kg \pm 3%
9. Centre of Gravity Range: 26 – 48 % MAC (231 až 379 mm behind the datum).
10. Datum: Leading edge of the wing root rib.
11. Mean Aerodynamic Cord (MAC): 0,824 m with its origin in the datum.
12. Leveling Means: Wedge 323:15 on the rear top fuselage, horizontal.

13. Weak links: 500 kg
14. Minimum Flight Crew: 1
15. Number of seats 1
16. Control surface deflections:
- | | | |
|----------|------|----------|
| Ailerons | down | +12° ±1° |
| | up | -30° ±2° |
| Elevator | down | +16° -1° |
| | up | -17° +1° |
| Rudder | | ±30° -3° |
17. Wheels and Tyres:: Landing gear with brake HP 4741.
Tyre 350 × 135.
18. Other Limitations: The sailplane is approved for Day VFR flight.

IV. Operating and Service Instructions

1. Letová příručka edition I
 edition II 1982
 edition III 1987
2. Návod k obsluze kluzáku VSO 10 edition II 1982
 edition III 1987
3. Záznamník kluzáku VSO 10
4. Výrobní směrnice pro provádění prohlídka po 500 hodinách VS-VSO10-011 edition 2004

V. Notes

1. EASA TC No. EASA.A.442 was issued for model VSO 10 glider on 28.3.2007.

Model VSO 10 C

I. General

- | | |
|-----------------------------|--|
| 1. Data Sheet No.: | 79-01 |
| 2. Model: | VSO 10 C |
| 3. Airworthiness category: | Utility |
| 4. Type Certificate Holder: | Schempp-Hirth výroba letadel spol. s r.o.
Pardubická 638
565 01 Choceň |
| 5. Manufacturer: | Orličan n.p. Choceň |
| 6. Application Date: | - |
| 7. Certificate Date: | 15.05.1979 |

II. Certification Basis

- | | |
|--------------------------------|---|
| 1. Certification Basis: | L 8/O Regulation, effective to the date of July 7, 1976. |
| 2. Special Conditions: | None |
| 3. Exemptions: | 2.1.4.b Control forces are higher than the regulation requires.
2.1.7 Force, which is necessary to overcome static friction of aileron control, is higher than regulation permit.
2.8.1 Spin recovering after five turns was not demonstrated. Sailplane is not capable to complete more than 4 turns.
2.9.1 During side slips with airbrakes extended and greater rudder deflection it occurs to higher empennage vibrations. There were allowed side slips with max. 1/2 rudder deflection in the operation limitations.
3.5.4 There is not met the requirement of 50 percent elongation of rudder control circuit. |
| 4. Equivalent Safety Findings: | None |

III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Part list S-VSO 10.
2. Description: VSO 10 C sailplane is single-seat cantilever shoulder-wing monoplane with closed cockpit and fixed landing gear with shock absorber. Two-piece wing of wood 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 Compass
1 Turn and bank indicator
Four-point safety harnesses
Parachute
4. Dimensions: Span: 15,0 m
Length: 7,0 m
Height: 1,38 m
Wing Area: 12,0 m²
Aspect Ratio: 18,75
5. Tow hook: Nose tow release Dwg. No. VSO 10.417-01
Side tow releases Dwg. No. VSO 10.417.03/04
6. Air Speeds: Never exceed speed V_{NE} 250 km/h
Maximum speed on aerotow V_T 160 km/h
Maximum winch launch speed V_W 120 km/h
Rough air speed V_{RA} 160 km/h
7. Load factors: At $V_A = 160$ km/h $n = +5,5$
 $n = -3,5$
At $V_{NE} = 250$ km/h $n = +4,6$
 $n = -2,6$
8. Weights: Maximum permitted take-off mass 380 kg
Empty mass 250 kg \pm 3%
9. Centre of Gravity Range: 26 – 48 % MAC (231 až 379 mm behind the datum).
10. Datum: Leading edge of the wing root rib.
11. Mean Aerodynamic Cord (MAC): 0,824 m with its origin in the datum.
12. Leveling Means: Wedge 323:15 on the rear top fuselage, horizontal.

13. Weak links: 500 kg
14. Minimum Flight Crew: 1
15. Number of seats 1
16. Control surface deflections:
- | | | |
|----------|------|----------|
| Ailerons | down | +12° ±1° |
| | up | -30° ±2° |
| Elevator | down | +16° -1° |
| | up | -17° +1° |
| Rudder | | ±30° -3° |
17. Wheels and Tyres:: Landing gear with brake HP 4741.
Tyre 350 × 135.
18. Other Limitations: The sailplane is approved for Day VFR flight.

