TYPE-CERTIFICATE

DATA SHEET

NO. EASA.A.627

for

Ventus-3

Type Certificate Holder

Schempp-Hirth Flugzeugbau GmbH

Krebenstraße 25
73230 Kirchheim/Teck
Germany

For models:  Ventus-3T  Ventus-3M
## Contents

### Section A: Ventus-3T

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: Ventus-3M

B.I General ........................................................................ 10  
B.II EASA Certification Basis .............................................. 10  
B.III Technical Characteristics and Operational Limitations ......................................... 11  
B.IV Operating and Service Instructions ......................................... 14  
B.V Notes ............................................................................ 15  

### Section C: Administrative Section

C.I Acronyms & Abbreviations .............................................. 16  
C.II Type Certificate Holder Record ........................................ 16  
C.III Change Record ................................................................ 16
Section A: Ventus-3T

A.I General

1. Type/ Model/ Variant
   1.1 Type: Ventus-3
   1.2 Variant: Ventus-3T

2. Airworthiness Category
   Powered Sailplane, CS 22 - Utility

3. Manufacturer
   Schempp-Hirth Flugzeugbau GmbH
   Krebenstraße 25
   73230 Kirchheim / Teck
   Germany

4. EASA Type Certification Application Date
   30 September 2015

5. EASA Type Certification Date
   20 July 2018

A.II EASA Certification Basis

1. Reference Date for determining
   the applicable requirements
   30 September 2015

2. Airworthiness Requirements
   Certification Specifications for Sailplanes
   and Powered Sailplanes CS 22, Amend. 2, effective
   on March 5, 2009

3. Special Conditions
   None

4. Exemptions
   None

5. (Reserved) Deviations
   None

6. Equivalent Safety Findings
   CS 22.207 (a), (c)
   CS 22.335 (f)

7. Environmental Protection
   None
A.III  Technical Characteristics and Operational Limitations

1. Type Design Definition
   List of drawing files Ventus-3T,
   Issue April 2018

2. Description
   Single seat, mid-wing non-self-launching
   powered sailplane, CFRP/GFRP/AFRP-construction,
   6-piece 18 m wing with Winglets, chamber
   changing-flaps, triple-panel Schempp-Hirth type
   airbrakes on upper wing surface, water ballast tanks
   in wings and fin (optional), CFRP/GFRP/AFRP-
   fuselage, retractable main wheel with hydraulic disc
   brake, T-shaped horizontal tail (fixed horizontal
   stabilizer with elevator, fin and rudder), retractable
   power plant with folding propeller.

3. Equipment
   Min. required Equipment:
   1 Air speed indicator (up to 300 km/h)
   1 Altimeter
   1 Magnetic compass
   1 Outside air temperature indicator with sensor
     (when flying with water ballast)
   1 Engine control unit featuring:
     - RPM indicator
     - Engine hour meter
     - Fuel quantity indicator
   1 Rear view mirror
   1 4-point harness (symmetrical)
   1 Automatic or manual parachute
     or
   1 Back cushion (thickness approx. 8 cm when
     compressed) when flying without
   parachute
   Additional equipment refer to Flight and
   Maintenance Manual

4. Dimensions
   Span: 15,0 m  18,0 m
   Wing area: 9,53 m²  10,84 m²
   Length: 6,63 m  6,63 m
   (see AV.4)

5. Engine
   5.1 Model SOLO 2350
   5.2 Type Certificate Type Certificate Data Sheet No. EASA.E.219
   5.3 Limitations Maximum RPM: 5800 min⁻¹
     Maximum continuous RPM: 5500 min⁻¹
   5.4 Maximum Continuous Power 15,3 kW
6. Propeller
   6.1 Model
   OE-FL 5.83/83 a5, v92
   6.2 Type Certificate
   Data Sheet No. OE-FL /83
   6.3 Number of blades
   5
   6.4 Diameter
   830 mm +/- 0mm
   Note: Propeller features blades of different lengths (d_min/d = 92%)
   6.5 Sense of Rotation
   counter-clockwise

7. Fuel capacities
   7.1 Tank in the fuselage
   10.5 l
   7.2 Non-usable fuel
   0.3 l

8. Launching Hooks
   Safety hook Tost “Europa G 88”, LBA Data sheet No. 60.230/2
   Nose tow hook Tost “E22”, Datasheet 11.402/9NTS

9. Weak Links
   Ultimate strength:
   - for winch- and car launch: max. 825 daN
   - for aero tow: max. 660 daN

10. Load Factors
    +5.3 / -2.65 (up to V_A)
    +4.0 / -1.5 (up to V_NE)

11. Air Speeds
    Manoeuvring Speed V_A 180 km/h
    Never exceed speed V_NE 280 km/h
    Maximum permitted speeds
    - with flaps at 0, -1, -2, S, S1 V_FE 280 km/h
    - with flaps at +2, +1 V_FE 180 km/h
    - with flaps at L V_FE 180 km/h
    - in rough air V_RA 180 km/h
    - for winch / car launching V_W 150 km/h
    - for aero towing V_T 180 km/h
    - for gear operation V_LO 180 km/h
    - for extended power plant:
      Ignition ON V_MAX1 150 km/h
      Ignition OFF V_MAX2 180 km/h
    - for extending / retracting the power plant:
      V_P0min 90 km/h
      V_P0max 120 km/h

12. Approved Operations Capability
    VFR Day only
    Cloud flying permitted
    Aerobatic manoeuvres not permitted

13. Launch methods
    Aero tow
    Winch launch and car launch
14. Maximum Masses
Max. Mass:
With 15 m Wing Span: 525 kg (see AV.4)
With 18 m Wing Span: 600 kg
Max. Mass of non-lifting parts:
Power-plant installed: 320 kg
Power-plant removed: 280 kg

15. Centre of Gravity Range
Power-plant installed:
300 mm – 430 mm aft of datum
Power-plant removed:
290 mm – 430 mm aft of datum

16. Datum
Wing leading edge at root rib

17. Levelling Means
Wedge 100 : 3,0 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
0

21. Baggage/ Cargo Compartments
2 kg

22. Lifetime limitations
Refer to Flight Manual, section 2
A.IV Operating and Service Instructions

1. Flight Manual
   - Flight Manual Ventus-3T, Issue April 2018, or later EASA approved revisions
   - When according AV.4:
     - Flight Manual Ventus-3T, Issue January 2021, or later EASA approved revisions

   - Maintenance Manual Ventus-3T, Issue April 2018, or later EASA accepted revisions
   - When according AV.4:
     - Maintenance Manual Ventus-3T, Issue January 2021, or later EASA accepted revisions

   - Repair Manual for the GFRP/CFRP powered sailplane model “Ventus-3T”, latest applicable issue

   - Approved manual for the SOLO Engine type 2350, latest applicable issue, by SOLO Kleinmotoren GmbH

5. Operating Manual and Maintenance Manual for Propeller
   - Approved manual for the folding propeller type OE-FL ./83, latest applicable issue, Ingrid Oehler TB GmbH

6. Manual for the Tost release, latest approved issue
A.V Notes

1. Manufacturing is confined to industrial production.

2. All parts exposed to sun radiation – except the areas for markings, registration, and the cockpit area – must have a white colour surface.

3. Approved for operations with power plant temporarily removed or inoperative in accordance with the instructions given in the flight manual.

4. Introduction of 15m-wingspan outer wing panels and new issues of Flight and Maintenance Manual with Modification Bulletin 627-4
Section B: Ventus-3M

B.I General

1. Type/ Model/ Variant
   1.1 Type: Ventus-3
   1.2 Variant: Ventus-3M

2. Airworthiness Category
   Powered Sailplane, CS 22 - Utility

3. Manufacturer
   Schempp-Hirth Flugzeugbau GmbH
   Krebenstraße 25
   73230 Kirchheim / Teck
   Germany

4. EASA Type Certification Application Date
   2 October 2017

5. EASA Type Certification Date
   15 November 2019

B.II EASA Certification Basis

1. Reference Date for determining the applicable requirements
   2 October 2017

2. Airworthiness Requirements
   Certification Specifications for Sailplanes and Powered Sailplanes CS 22, Amend. 2, effective on March 5, 2009

3. Special Conditions
   None

4. Exemptions
   None

5. (Reserved) Deviations
   None

6. Equivalent Safety Findings
   CS 22.207 (a), (c)
   CS 22.335 (f)

7. Environmental Protection
   ICAO Annex 16 (details refer to TCDSN EASA.A.627)
B.III  Technical Characteristics and Operational Limitations

1. Type Design Definition

List of drawing files Ventus-3M, Issue September 2019

2. Description

Single seat, mid-wing powered sailplane, CFRP/GFRP/AFRP-construction, 6-piece 18 m wing with Winglets, chamber changing-flaps, triple-panel Schempp-Hirth type airbrakes on upper wing surface, water ballast tanks in wings and fin (optional), CFRP/GFRP/AFRP-fuselage, retractable main wheel with hydraulic disc brake, T-shaped horizontal tail (fixed horizontal stabilizer with elevator, fin and rudder), retractable power plant with fixed propeller.

3. Equipment

Min. required Equipment:

1 Air speed indicator (up to 300 km/h)
1 Altimeter
1 Magnetic compass
1 Outside air temperature indicator with sensor (when flying with water ballast)
1 Power plant control unit featuring:
   - RPM indicator
   - Engine hour meter
   - Fuel quantity indicator
   - Coolant liquid temperature indicator
   - Warning signals
1 Rear view mirror
1 4-point harness (symmetrical)
1 Automatic or manual parachute
or
1 Back cushion (thickness approx. 8 cm when compressed) when flying without parachute

Additional equipment refer to Flight and Maintenance Manual

4. Dimensions

Span: 18,0 m
Wing area: 10,84 m²
Length: 6,78 m

5. Engine

5.1 Model

SOLO 2625-01 according to SOLO Service Bulletin Nr. 4600-7 (sales designation SOLO 2625-01i)

5.2 Type Certificate

Type Certificate Data Sheet No. EASA.E.218

5.3 Limitations

Maximum RPM: 6600 min⁻¹
Maximum continuous RPM: 6250 min⁻¹

5.4 Maximum Continuous Power

45 kW
6. Propeller
   6.1 Model       KS-1G-152-R 122
   6.2 Type Certificate  LBA-Data Sheet No. 32.110/18
   6.3 Number of blades  2
   6.4 Diameter       1580 mm +/-50mm
   6.5 Sense of Rotation  counter-clockwise

7. Fuel capacities
   7.1 Tank in the fuselage  13.0 l
   7.2 Non-usable fuel       0.3 l
   7.3 Tank in wing(s)  optional, see Flight Manual

8. Launching Hooks
   Safety hook Tost “Europa G 88”, LBA Datasheet No. 60.230/2
   Nose tow hook Tost “E22”, Datasheet 11.402/9NTS

9. Weak Links
   Ultimate strength:
   - for winch- and car launch: max. 825 daN
   - for aero tow: max. 660 daN

10. Load Factors
    +5.3 / -2.65 (up to Vₐ)
    +4.0 / -1.5 (up to Vₑₑₚ)

11. Air Speeds
    Manoeuvring Speed Vₐ 180 km/h
    Never exceed speed Vₑₑₚ 280 km/h
    Maximum permitted speeds
    - with flaps at 0, -1, -2, S, S1 Vₑₑ 280 km/h
    - with flaps at +2, +1 Vₑₑ 180 km/h
    - with flaps at L Vₑₑ 150 km/h
    - in rough air Vₑₑ 180 km/h
    - for winch / car launching Vₑₑ 150 km/h
    - for aero towing Vₑₑ 180 km/h
    - for gear operation Vₑₑ 180 km/h
    - for extended power plant Vₑₑ 180 km/h
    - for extending / retracting the power plant:
      Vₑₑ 92 km/h
      Vₑₑ 120 km/h

12. Approved Operations Capability
    VFR Day only
    Cloud flying permitted
    Aerobatic manoeuvres not permitted

13. Launch methods
    Aero tow
    Winch launch and car launch
    Self launch

14. Maximum Masses
    Max. Mass: 600 kg
    Max. Mass of non-lifting parts:
    Power-plant installed: 365 kg
    Power-plant removed: 320 kg
15. Centre of Gravity Range

   Power-plant installed:
   320 mm – 430 mm aft of datum
   Power-plant removed:
   300 mm – 430 mm aft of datum

16. Datum

   Wing leading edge at root rib

17. Levelling Means

   Wedge 100 : 4,4 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

   0

21. Baggage/ Cargo Compartments

   2 kg

22. Lifetime limitations

   Refer to Flight Manual, section 2
B.IV Operating and Service Instructions

1. Flight Manual
   Flight Manual Ventus-3M, Issue March 2019, or later EASA approved revisions

   Maintenance Manual Ventus-3M, Issue March 2019, or later EASA accepted revisions

   Repair Manual for the GFRP/CFRP powered sailplane model “Ventus-3M”, latest applicable issue

   Approved manual for the SOLO Engine type 2625-01i, latest applicable issue, by SOLO Kleinmotoren GmbH

5. Operating Manual and Maintenance Manual for Propeller
   Operation and Installation Manual No. P3 for the two blade composite propellers with fixed pitch KS 1 G(1)(1) KS 1 C (1)(1), valid issue as appropriate

6. Manual for the Tost release, latest approved issue
B.V Notes

1. Manufacturing is confined to industrial production.

2. All parts exposed to sun radiation – except the areas for markings, registration, and the cockpit area – must have a white colour surface.

3. Approved for operations with power plant temporarily removed or inoperative in accordance with the instructions given in the flight manual.
Section C: Administrative Section

C.I Acronyms & Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFRP</td>
<td>Aramid Fibre Reinforced Plastic</td>
</tr>
<tr>
<td>CFRP</td>
<td>Carbon Fibre Reinforced Plastic</td>
</tr>
<tr>
<td>GFRP</td>
<td>Glass Fibre Reinforced Plastic</td>
</tr>
<tr>
<td>CRI</td>
<td>Certification Review Item</td>
</tr>
<tr>
<td>CS</td>
<td>Certification Specification</td>
</tr>
<tr>
<td>EASA</td>
<td>European Union Aviation Safety Agency</td>
</tr>
<tr>
<td>LBA</td>
<td>Luftfahrt-Bundesamt</td>
</tr>
<tr>
<td>VFR</td>
<td>Visual Flight Rules</td>
</tr>
</tbody>
</table>

C.II Type Certificate Holder Record

Schempp-Hirth Flugzeugbau GmbH
Krebenstr. 25
73230 Kirchheim / Teck
Germany

C.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>20 July 2018</td>
<td>Initial Issue</td>
<td>Initial Issue, 20. July 2018</td>
</tr>
<tr>
<td>02</td>
<td>01 July 2019</td>
<td>Some editorial and layout changes.</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>15 November 2019</td>
<td>Addition of new model Ventus-3M</td>
<td>15 November 2019</td>
</tr>
<tr>
<td>04</td>
<td>16 June 2021</td>
<td>Introduction of 15m-wingtips for variant Ventus-3T and some editorial changes</td>
<td></td>
</tr>
</tbody>
</table>

-END-