TYPE-CERTIFICATE
DATA SHEET

NO. EASA.A.296

for
Carat

Type Certificate Holder
TECHNOFLUG Leichtflugzeugbau GmbH & Co. KG
Bahnhofstraße 20/1
78669 Wellendingen
Germany

For models: Carat
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Section A: Carat

A.I General

1. Type/ Model/ Variant
   1.1 Type: Carat
   1.2 Model: Carat

2. Airworthiness Category
   utility

3. Manufacturer
   Technoflug Leichtflugzeugbau GmbH
   Dr. Kurt-Steim-Str. 6
   78713 Schramberg

4. Type Certification Date
   20 April 2001

5. This EASA TCDS replaces the German TCDS No 880

A.II EASA Certification Basis

1. Reference Date for determining the applicable requirements

2. Airworthiness Requirements
   JAR 22, Change 5, issued 28 October 1995

3. Additional Requirements

4. Special Conditions
   none

5. Exemptions
   none

6. (Reserved) Deviations
   none

7. Equivalent Safety Findings
   none

8. Environmental Protection
   LSL, Kapitel X, issued 01 January 1991
A.III  Technical Characteristics and Operational Limitations

1. Type Design Definition
   Drawing list CARAT, issue 03.11.1999

2. Description
   Single seat powered sailplane constructed two-part low mounted wing with T-tail, two-panel Schempp-Hirth airbrakes on wing upper surface, two-legged retractable main landing gear, steerable tail wheel, fixed motor at fuselage front end with forward-folding retractable propeller, tank in the fuselage, optionally mounted winglets

3. Equipment
   Min. Equipment:
   - 1 Air speed indicator (up to 300 km/h)
   - 1 Altimeter
   - 1 Magnetic compass
   - 1 RPM indicator
   - 1 Fuel quantity indicator
   - 1 Engine hour meter
   - 1 Oil-level indicator
   - 1 Oil pressure indicator
   - 1 Oil temperature indicator
   - 1 4-Point harness (symmetrical)
   Additional Equipment:
   refer to Flight & Maintenance Manual

4. Dimensions
   Span: 15 m
   Wing area: 10.58 m²
   Length: 6.21 m

5. Engine
   5.1 Model
   Sauer SE1800 E1S
   5.2 Type Certificate
   LBA-Datasheet No.: 4590
   5.3 Maximum RPM
   3200 min⁻¹
   5.4 Maximum Continuous RPM
   3000 min⁻¹

6. Propeller
   6.1 Model
   Technoflug KS-F3-1A/140-1
   6.2 Type Certificate
   EASA-Datasheet No.: TCDS P.117
   6.3 Number of blades
   2
   6.4 Diameter
   1400 mm (+/- 10 mm)

7. Fuel capacities
   7.1 Tank in the fuselage:
   45 l
   7.2 Non-usable fuel
   1 l

8. Launching Hooks
   none

9. Load Factors
   +5,3/-2,65 (up to \(V_A\))
   +4,0/-1,5 (up to \(V_{NE}\))
10. Air Speeds

10.1 Manoeuvring speed \( V_a \) 185 km/h
10.2 Never exceed speed \( V_{NE} \) 250 km/h
10.3 Maximum permitted speeds
   - in strong turbulence \( V_{RA} \) 185 km/h
   - for gear operation \( V_{LO} \) 130 km/h

11. Approved Operations Capability

VFR Day only
Cloud flying not permitted
Aerobatic manoeuvres not permitted

12. Launch methods

Self-launch

13. Maximum Masses

13.1 Maximum Take-off Mass 470 kg
13.2 Max. Mass of non-lifting parts 360 kg

14. Centre of Gravity Range

260 mm – 400 mm aft of datum

15. Datum

leading edge at wing root rib

16. Levelling Means

Canopy frame horizontal

17. Control Surface Deflections

Refer to Maintenance Manual

18. Minimum Flight Crew

1

19. Maximum Passenger Seating Capacity

0

20. Baggage/ Cargo Compartments max. 15 kg

21. Lifetime limitations

Refer to Maintenance Manual
A.IV  Operating and Service Instructions

1. Flight Manual
   Flight Manual for the Motorglider Carat, issue November 1999 or later EASA approved revision

   Maintenance Manual for the Motorglider Carat, issue November 1999 or later EASA approved revision


   Operation and Maintenance Manual P5 for two-bladed retractable propeller Type KS-F3-1, latest approved version

A.V  Notes

1. Manufacturing only allowed in an industrial facility.
2. All parts that are extended to sunlight have to be painted white, with exceptions of registration and anti-collision markings.
3. The use of winglets is allowed according to the data of TM 863-4, LBA approved, produced by Schempp-Hirth Flugzeugbau GmbH.
Section B: Administrative Section

B.I Acronyms & Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>CFRP</td>
<td>Carbon Fibre Reinforced Plastic</td>
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<tr>
<td>EASA</td>
<td>European Union Aviation Safety Agency</td>
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<tr>
<td>GFRP</td>
<td>Glass Fibre Reinforced Plastic</td>
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<td>JAR</td>
<td>Joint Aviation Requirements</td>
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<tr>
<td>LBA</td>
<td>Luftfahrt-Bundesamt</td>
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<tr>
<td>LSL</td>
<td>Lärmschutzforderungen für Luftfahrzeuge</td>
</tr>
<tr>
<td>VFR</td>
<td>Visual Flight Rules</td>
</tr>
</tbody>
</table>

B.II Type Certificate Holder Record

Technoflug Leichtflugzeugbau GmbH
Dr.-Kurt-Steim-Str. 6
78713 Schramberg
Germany

Technoflug Leichtflugzeugbau GmbH & Co. KG
Bahnhofstraße 20/1
78669 Wellendingen
Germany

B.III Change Record

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Changes</th>
<th>TC Issue No. &amp; Date</th>
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<tr>
<td>01</td>
<td>28 Apr 2023</td>
<td>Initial Issue. Transfer from LBA TCDS No 880 to this TCDS EASA.296</td>
<td>Initial Issue, 28 Apr 2023</td>
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<tr>
<td></td>
<td></td>
<td>Change of TC-Holder and TC-Holder address</td>
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