# TYPE-CERTIFICATE

# DATA SHEET

NO. EASA.A.656

for
**AS 33**

Type Certificate Holder
**Alexander Schleicher GmbH & Co. Segelflugzeugbau**

Alexander-Schleicher-Str. 1
36163 Poppenhausen
Germany

For models: AS 33 Es

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# Contents

**Section A:** **AS 33 Es**

## A.I General

| | | |
|---|---|---|
| 1. | Type/ Model/ Variant | |
| 1.1 | Type: | AS 33 |
| 1.2 | Variant: | AS 33 Es |
| 2. | Airworthiness Category | Powered Sailplane, CS 22 -Utility |
| 3. | Manufacturer | Alexander Schleicher GmbH & Co.<br>Segelflugzeugbau<br>Alexander-Schleicher-Str. 1<br>36163 Poppenhausen<br>Germany |
| 4. | EASA Type Certification Application Date | 23 August 2018 |
| 5. | EASA Type Certification Date | 25 September 2020 |

## A.II EASA Certification Basis

| | | |
|---|---|---|
| 1. | Reference Date for determining the applicable requirements | 26 August 2018 |
| 2. | Airworthiness Requirements | Certification Specification for Sailplanes and Powered Sailplanes CS 22, Amend. 2, effective on March 5 2009 |
| 3. | Special Conditions | None |
| 4. | Exemptions | None |
| 5. | Deviations | DEV-B22.335-01<br>(CS 22.73, CS 22.221, CS 22.223, CS 22.335 (f) ) |
| 6. | Equivalent Safety Findings | CS 22.331 (d)(2)<br>CS 22.585 (a) |
| 7. | Environmental Protection | None |

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## A.III Technical Characteristics and Operational Limitations

| | | |
|---|---|---|
| 1. | Type Design Definition | List of drawing files AS 33 Es, issue 01 September 2020 |
| 2. | Description | Single-seat, shoulder-winged non-self launching powered sailplane, CFRP/GFRP/AFRP-composite construction for FAI 18m class; four part wing with triple-panel Schempp-Hirth type airbrakes on upper wing surface, detachable winglets, water ballast tanks in the wing and optional in the fin, retractable landing gear with hydraulic disc brake, T-shaped horizontal tail (fixed horizontal stabilizer with elevator, fin and rudder). |
| 3. | Equipment | Min. required Equipment:<br>1 Air speed indicator (up to 300 km/h)<br>1 Altimeter<br>1 Magnetic compass<br>1 Outside air temperature indicator (when flying with water ballast)<br>1 4-point harness (symmetrical)<br>1 Parachute or back cushion (thickness approx. 8 cm)<br>With engine installed:<br>1 Power-plant instrument, ILEC MCU type AS 33 Es<br>Additional equipment refer to Flight and Maintenance Manual |
| 4. | Dimensions | Span: 18,0 m<br>Wing area: 10,0 m²<br>Length: 6,5 m |
| 5. | Engine | |
| 5.1 | Model | SOLO 2350 (SOLO 2350e according Technical Note 4603-16) |
| 5.2 | Type Certificate | Type Certificate Data Sheet No. EASA.E.219 |
| 5.3 | Limitations | Maximum RPM: 5400 $min^{-1}$<br>Maximum continuous RPM: 5400 $min^{-1}$ |
| 5.4 | Maximum Continuous Power | 18,0 kW |

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| | | |
|---|---|---|
| 6. Propeller | | |
| 6.1 Model | | AS2F1-3/L100-56-N2 |
| 6.2 Type Certificate | | Type Certificate Data Sheet No. EASA.P.004 |
| 6.3 Number of blades | | 2 |
| 6.4 Diameter | | 100 cm |
| 6.5 Sense of Rotation | | counter-clockwise |
| 7. Fluids: | | |
| 7.1 Fuel: | | 2-stroke mixture from AVGAS 100LL or unleaded MOGAS 95 ROZ |
| 7.2 Oil: | | Oil-to-fuel mixture 1:40<br>2-stroke oil Castrol RS 2T, Castrol Super TT, Castrol TTS or Castrol Go!2T. |
| 7.3 Coolant: | | N/A |
| 8. Fluid capacities: | | |
| 8.1 Fuel: | | |
| Max. capacity | | 7,0 l |
| Max. usable | | 6,8 l |
| 8.2 Oil | | N/A |
| 8.3 Coolant system capacity | | N/A |
| 9. Launching Hooks | | 1) Nose tow hook Tost “E 22”, LBA Datasheet No. 11.402/9 NTS<br>2) Safety hook Tost “Europa G 88”, LBA Datasheet No. 60.230/2 |
| 10. Weak Links | | Ultimate strength:<br>- For aero tow: max. 825 daN |
| 11. Load Factors | | +5,3 / -2,65 (up to $V_A$)<br>+4,0 / -1,5 (up to $V_{NE}$) |
| 12. Air Speeds | | |
| 12.1 Manoeuvring speed | $V_A$ | 200 km/h |
| 12.2 Never exceed speed | $V_{NE}$ | 220 km/h |
| 12.3 Maximum permitted speeds | | |
| - in strong turbulence | $V_{RA}$ | 210 km/h |
| - in aero-tow | $V_T$ | 180 km/h |
| - in winch-launch | $V_W$ | N/A |
| - for gear operation | $V_{LO}$ | 200 km/h |
| - for extracting engine | $V_{PO,max}$ | 140 km/h |
| - with wing flaps at pos. 1,2,3,4 | $V_{FE\ 1,2,3,4}$ | 220 km/h |
| - with wing flaps at pos. N,5,6 | $V_{FE\ N,5,6}$ | 200 km/h |
| - with wing flaps at pos. L | $V_{FE\ L}$ | 150 km/h |
| 13. Maximum Operating Altitude | | 4000 m |

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| | |
|---|---|
| 14. Approved Operations Capability | VFR Day only<br>Cloud flying not permitted<br>Aerobatic manoeuvres not permitted<br>Spinning not permitted<br>Licensed pilots only (no flight training permitted) |
| 15. Launch methods | Aero tow |
| 16. Maximum Masses | |
| 16.1 Maximum Take-off Mass | 600 kg |
| 16.2 Max. Mass of non-lifting parts | 300 kg |
| 17. Centre of Gravity Range | 210 mm – 340 mm aft of datum |
| 18. Datum | Wing leading edge at root rib |
| 19. Levelling Means | Wedge 1000:54 placed horizontal on upper side of the fuselage boom horizontal |
| 20. Control Surface Deflections | Refer to Maintenance Manual |
| 21. Minimum Flight Crew | 1 |
| 22. Maximum Passenger Seating Capacity | 0 |
| 23. Baggage/ Cargo Compartments | 12 kg (upper baggage compartment)<br>5 kg (lower baggage compartment) |
| 24. Lifetime limitations | Refer to Maintenance Manual |

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## A.IV Operating and Service Instructions

| | | |
|---|---|---|
| 1. | Flight Manual | Flight Manual for the self-sustaining powered sailplane AS 33 Es, Issue 25 August 2020, or later EASA approved revisions |
| 2. | Maintenance Manual | Maintenance Manual for the self-sustaining powered sailplane AS 33 Es, Issue 25 August 2020, or later EASA approved revisions |
| 3. | Structural Repair Manual | Repair Manual Alexander Schleicher, latest approved revision |
| 4. | Operating Manual and Maintenance Manual for Engine | Approved manual for the SOLO Engine type 2350, latest applicable issue, by SOLO Kleinmotoren GmbH |
| 5. | Operating Manual and Maintenance Manual for Propeller | Operating and Maintenance Manual for the propeller AS2F1, series AS2F1-3, in the latest valid edition |
| 6. | Manual for the Tost release, latest approved issue | |

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## A.V Notes

1. Production is confined to industrial production

2. All parts made from fibre reinforced plastic exposed to sun radiation – except the areas for markings and registration and except from the inner sides of the engine supports – must have a white colour surface.

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## Section B: Administrative Section

### B.I Acronyms & Abbreviations

| | |
|---|---|
| AFRP | Aramid Fibre Reinforced Plastic |
| CFRP | Carbon Fibre Reinforced Plastic |
| CS | Certification Specification |
| EASA | European Union Aviation Safety Agency |
| GFRP | Glass Fibre Reinforced Plastic |
| LBA | Luftfahrt-Bundesamt |
| MCU | Motor Control Unit |
| ROZ | Researched-Oktanzahl |
| VFR | Visual Flight Rules |

### B.II Type Certificate Holder Record

Alexander Schleicher GmbH & Co. Segelflugzeugbau
Alexander-Schleicher-Str. 1
36163 Poppenhausen
Germany

### B.III Change Record

| Issue | Date | Changes | TC Issue No. & Date |
|---|---|---|---|
| 01 | 25 September 2020 | Initial Issue | Initial, 25 September 2020 |

-END-

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