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# 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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**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   | None  |
| 6. Equivalent Safety Findings                                 | CS 22.331 (d)(2)<br>CS 22.335 (f)<br>CS 22.585 (a)  |
| 7. Environmental Protection                                   | None  |



### **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 four-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:
  - 1 Air speed indicator (up to 300 km/h)
  - 1 Altimeter
  - 1 Magnetic compass
  - 1 Outside air temperature indicator (when flying with water ballast)
  - 1 4-point harness (symmetrical)
  - 1 Parachute or back cushion (thickness approx. 8 cm)With engine installed:
  - 1 Power-plant instrument, ILEC MCU type AS 33 EsAdditional equipment refer to Flight and Maintenance Manual
4. Dimensions

Span:	18,0 m
Wing area:	10,0 m <sup>2</sup>
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 <sup>-1</sup>
Maximum continuous RPM:	5400 min <sup>-1</sup>
  - 5.4 Maximum Continuous Power 18,0 kW



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 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 (optional 11,0 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
			2) Safety hook Tost "Europa G 88", LBA Datasheet No. 60.230/2
10.	Weak Links		Ultimate strength:
			- For aero tow: max. 825 daN
			- For winch- and car launch: max. 935 daN
11.	Load Factors		+5,3 / -2,65 (up to $V_A$ ) +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	$V_{NE}$	270 km/h
12.3	Maximum permitted speeds		
	- in strong turbulence	$V_{RA}$	200 km/h
	- in aero-tow	$V_T$	180 km/h
	- in winch-launch	$V_W$	140 km/h
	- 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	$V_{FE 1,2,3,4}$	270 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		None



14. Approved Operations Capability	VFR Day only Cloud flying not permitted Aerobatic manoeuvres not permitted
15. Launch methods	Aero tow Winch and car launch
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	220 mm – 330 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) 5 kg (lower baggage compartment)
24. Lifetime limitations	Refer to Maintenance Manual



#### **A.IV Operating and Service Instructions**

1. Flight Manual  
Flight Manual for the self-sustaining powered sailplane AS 33 Es, Issue 01 November 2020, or later EASA approved revisions
2. Maintenance Manual  
Maintenance Manual for the self-sustaining powered sailplane AS 33 Es, Issue 01 November 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





## 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.
3. Operation of the sailplane with power plant removed or inoperative according to the instructions given in the flight and maintenance manual is approved.
4. As long as the sailplane has not been modified in accordance with Technical Note Nr. 1 the following limitations apply:

A.II.12.3	V <sub>NE</sub> : 220 km/h
	V <sub>FE 1,2,3,4</sub> 220 km/h
A.II.13	Maximum Operating Altitude 4000 m
A.II.14	Licensed pilots only (no flight training) Spinning not permitted
A.II.15	No Winch launch and car launch



**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
02	11 March 2021	Removal of deviation, full envelope established	
03	26 March 2021	Corrections in: A.III 2, 8.1, 12.3, and 17	

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