Civil Aviation Authority
United Kingdom

TYPE-CERTIFICATE DATA SHEET

UK.TC.A.00030

for

AS 33

Type Certificate Holder

Alexander Schleicher GmbH & Co. Segelflugzeugbau

Alexander-Schleicher-Str. 1

36163 Poppenhausen

Germany

Model(s):	AS 33 Es AS 33 Me
Issue:	2
Date of issue:	04 March 2024

TABLE OF CONTENTS

Section 1 AS 33 Es 3
I. General 3
II. Certification Basis 3
III. Technical Characteristic and Operating Limitations 4
IV. Operating and Service Instructions 7
V. Notes 8
Section 2 AS 33 Me 9
I. General 9
II. EASA Certification Basis 9
III. Technical Characteristics and Operational Limitations 10
IV. Operating and Service Instructions 15
V. Notes 16
Section 3 Administration 17
I. Acronyms and Abbreviations 17
II. Type Certificate Holder Record 18
III. Amendment Record 18

Section 1 AS 33 Es

I. General

1. Type / Variant or Model

Type: AS 33
Variant or Model: AS 33 Es

2. Airworthiness Category

Powered Sailplane, CS 22 - Utility

3. Type Certificate Holder

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

4. EASA Type Certification Application Date

23 August 2018

5. EASA Type Certification Date

25 September 2020

II. 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)
CS 22.335 (f)
CS 22.585 (a)

7. Environmental Protection

None

III. Technical Characteristic and Operating 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-composte 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 / 162 kts)

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. 8cm)

With engine installed:

1 Power-plant instrument, ILEC MCU type AS 33 Es

Additional equipment refer to Flight and Maintenance Manual

4. Dimensions

Span:	15.0m	18m
Wing Area:	8.8m^2	10.0m^2
Length:	6.5m	6.5m

5. Engine

Model	SOLO 2350 (SOLO 2350e according Technical Note 4603-16)	
Type Certificate	EASA.E.219	
Limitations	Maximum RPM:	5400 min^{-1}
	Maximum Continuous RPM:	5400 min^{-1}
Maximum Continuous Power	18.0 kW	

6. Propeller

Model	AS2F1-3/L100-56-N2
Type Certificate	EASA.P.004
Number of blades	2
Diameter	100cm
Sense of Rotation	Counter-clockwise

7. Fluids

Fuel: 2-stroke mixture from AVGAS 100LL or unleaded MOGAS 95 RON

Oil:	Oil-to-fuel mixture 1:40
	2-stroke oil Castrol RS 2T, Castrol Super TT, Castrol TTS or Castral Go!2T
Coolant:	N/A

8. Fluid Capacities

Fuel:	Max. capacity: 7.0L (optional 11.0L)
	Max. useable: 6.8L

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:	
Aerotow:	Max. 825 daN
Winch & car launch:	Max. 935 daN

11. Load Factors

Up to V_A	+5.3g / -2.65g
Up to V_{NE}:	+4.0g / -1.5g

12. Air Speeds

Manoeuvring Speed V_A	200 km/h (108 kts)
Never Exceed Speed V_{NE}	270 km/h (145 kts)
Maximum Permitted Speeds:	
In strong Turbulence V_{RA}	200 km/h (108 kts)
Max. Aerotow V_T	180 km/h (97 kts)
Max. Winch Launch V_W	140 km/h (75.5 kts)
Gear operation V_{LO}	200 km/h (108 kts)
Min. Extracting Engine $V_{PO,\ min}$	85 km/h (45 kts)
Max. Extracting Engine $V_{PO,\ max}$	140 km/h (75.5 kts)
With wing flaps at pos. 1,2,3,4 $V_{FE\ 1,2,3,4}$	270 km/h (145 kts)
With wing flaps at pos. N,5,6 $V_{FE\ N,5,6}$	200 km/h (108 kts)
With wing flaps at pos. L $V_{FE\ L}$	150 km/h (81 kts)

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

Maximum Take-off Mass (15m): 550kg (See Note 5)

Maximum Take-off Mass (18m): 600kg

Max. Mass of non-lifting parts: 300kg

17. Centre of Gravity Range

220mm – 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

12kg (upper baggage compartment)

5kg (lower baggage compartment)

24. Lifetime limitations

Refer to Maintenance Manual

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 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

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 supported – must have a white colour surface.

3. Operation of the sailplane with powerplant 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 Schleicher Technical Note No. 1 the following limitations apply:

1.III.12	V_{NE}:	220 km/h (119 kts)
	$V_{FE\ 1,2,3,4}$:	220km/h (119 kts)
1.III.13	Maximum Operating Altitude 4000m	
1.III.14	Licensed pilots only (no flight training)	
	Spinning not permitted	
1.III.15	No winch launch and car launch	

5. Operation of the sailplane with 15m outer wings according Schleicher Technical Note No. 4 is approved.

Section 2 AS 33 Me

I. General

1. Type/ Variant or Model

Type: AS 33

Variant or Model: AS 33 Me

2. Airworthiness Category

Powered Sailplane, CS 22 -Utility

3. Type Certificate Holder

Alexander Schleicher GmbH & Co.,
Segelflugzeugbau
Alexander-Schleicher-Straße 1
36163 Poppenhausen (Wasserkuppe)
Germany

4. EASA Type Certification Application Date

01 October 2021

5. EASA Type Certification Date

21 December 2022

II. EASA Certification Basis

1. Reference Date for determining the applicable requirements

30 September 2021

2. Airworthiness Requirements

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

3. Special Conditions

SC-22.2014-01 - Installation of electric propulsion units in powered sailplanes

SC E-01 - Airworthiness standard for CS-22H Electrical retractable engine to be operated in powered sailplanes

4. Exemptions

None

5. Deviations

None

6. Equivalent Safety Findings

CS 22.331 (d)(2)

CS 22.335 (f)

CS 22.585 (a)

7. Environmental Protection

ICAO Annex 16, Volume I. (See TCDSN UK.TC.A.00030 for details)

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

List of drawing files AS 33 Me, issue 25

November 2022

2. Description

Single-seat, shoulder-winged 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 / 162 kts)

1	Altimeter
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, CU-34
1	Magnetic compass

Additional equipment refer to Flight and Maintenance Manual

4. Dimensions

Span:	15,0 m	18,0 m
Wing area:	8,8 m²	10,0 m²
Length:	6,5 m	6,5 m

5. Engine

Model: Alexander Schleicher EA911/1-35LK

Type Certificate: n/a (accepted as part of the airframe)

Limitations:

Max. Power:	35 kW
Max. RPM:	3750 min^{-1}
Max. continuous Power:	25 kW
Max. continuous RPM:	3000 min^{-1}
Max. motor temperature:	110°C
Max. power electronics temp.:	80°C

6. Propeller

Model	AS2F1-6/L120-96-N3
Type Certificate	EASA.P.004
Number of blades	2
Diameter	120 cm

Sense of Rotation left

7. Battery

Battery Type 1	
Battery designation/part no:	
Battery cell type 1, P/N 911.62.9001	
Battery capacity:	28 Ah
Non-usable battery capacity:	10 Ah (36%)
Max battery discharge temperature:	70°C
Min battery discharge temperature:	-20°C
Max battery charge temperature:	50°C
Min battery charge temperature:	0°C
Range of permissible cell voltage:	3 - 4,15 V

Battery Type 2 (see BV.5)	
Battery designation/part no:	
Battery cell type 2, P/N 911.62.9003	
Battery capacity:	28 Ah
Non-usable battery capacity:	10 Ah (36%)
Max battery discharge temperature:	60°C
Min battery discharge temperature:	-20°C
Max battery charge temperature:	40°C
Min battery charge temperature:	0°C
Range of permissible cell voltage:	3 - 4,2 V

8. 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

9. Weak Links

Ultimate strength:

Aerotow:	Max. 825 daN
Winch & car launch:	Max. 935 daN

10. Load Factors

Up to V_A:	+5,3 / -2,65
up to V_{NE}	+4,0 / -1,5

11. Air Speeds

Manoeuvring speed V_A	200 km/h (108 kts)
Never exceed speed V_{NE}	270 km/h (145 kts)
Maximum permitted speeds:	
In strong turbulence V_{RA}	200 km/h (108 kts)
Max. Aerotow V_T	180 km/h (97 kts)
Max. Winch Launch V_W	140 km/h (75.5 kts)
Gear operation V_{LO}	200 km/h (108 kts)
Min. extractive engine $V_{PO,min}$	90 km/h (49 kts)
Max. extracting engine $V_{PO,max}$	135 km/h (73 kts)
With wing flaps at pos. 1,2,3,4 $V_{FE\ 1,2,3,4}$	270 km/h (145 kts)
With wing flaps at pos. N,5,6 $V_{FE\ N,5,6}$	200 km/h (108 kts)
With wing flaps at pos. L $V_{FE\ L}$	150 km/h (81 kts)

12. Maximum Operating Altitude

None

13. Approved Operations Capability

VFR Day only

Cloud flying not permitted

Aerobatic manoeuvres not permitted

14. Launch methods

Aero tow

Winch and car launch

Self-launch

15. Maximum Masses

Maximum Take-off Mass:

With 15 wingspan:	550 kg
With 18 m wingspan:	600 kg
Max. Mass of non-lifting parts:	300 kg

16. Centre of Gravity Range

240 mm – 330 mm aft of datum

17. Datum

Wing leading edge at root rib

18. Levelling Means

Wedge 1000:54 placed horizontal on upper side of the fuselage boom horizontal

19. Control Surface Deflections

Refer to Maintenance Manual

20. Minimum Flight Crew

1

21. Maximum Passenger Seating Capacity

0

22. Baggage/ Cargo Compartments

12 kg (upper baggage compartment)
5 kg (lower baggage compartment)

23. Lifetime limitations

Refer to Maintenance Manual

IV. Operating and Service Instructions

1. Flight Manual

Flight Manual for the powered sailplane AS 33 Me, Issue 01 November 2022, or later EASA approved revisions

2. Maintenance Manual

Maintenance Manual for the powered sailplane AS 33 Me, Issue 01 November 2022, or later EASA approved revisions

3. Structural Repair Manual

Repair Manual Alexander Schleicher, latest approved revision

4. Operating Manual and Maintenance Manual for Engine

Operating and Maintenance Manual for Motor Alexander Schleicher EA911, latest approved version *)

5. Operating Manual and Maintenance Manual for Propeller

Operating and Maintenance Manual for the propeller AS2F1, series AS2F1-6, in the latest approved version *)

6. Manual for the Tost release

Latest approved issue

*) The operation and maintenance manuals are elements of the operation instructions of the AS 33 Me. Necessary revisions are not be done in the manuals of the AS 33 Me but separately by the engine and propeller manufacturer.

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 – 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. The Alexander Schleicher EA911/1-35LK engine is approved as part of this sailplane model in accordance with Part 21.A.21 (a) 3. (B).

5. The usage of propulsion batteries with cell type 2 (AS P/N 911.62.9003) according TN 1 is approved

Section 3 Administration

I. Acronyms and Abbreviations

Acronym / Abbreviation	Definition
AFRP	Aramid Fibre Reinforced Plastic
CFRP	Carbon Fibre Reinforced Plastic
GFRP	Glass Fibre Reinforced Plastic
CS	Certification Specification
CAA	Civil Aviation Authority
EASA	European Union Aviation Safety Agency
g	Load Factor
kg	Kilogram
L	Litres
LBA	Luftfahrt-Bundesamt
MCU	Motor Control Unit
min	Minute
RON	Researched Octane Number
RPM	Revolutions per minute
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TCH	Type Certificate Holder
VFR	Visual Flight Rules

II. Type Certificate Holder Record

TCH Record	Period
Alexander Schleicher GmbH & Co. Segelflugzeugbau Alexander-Schleicher-Str. 1 36163 Poppenhausen Germany	Present. No changes.

III. Amendment Record

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
1	02 Mar 2022	This certificate supersedes EASA.A.656. All technical data brought across from EASA.A.656 Issue 4 with no changes. Removal of deviation, full envelope established, introduction of 15m wing-span.	Issue 1 02 Mar 2022
2	04 Mar 2024	Introduction of new model AS 33 Me. Technical information as per EASA.A.656 Issue 5.	Issue 2 04 Mar 2024

– END –