Civil Aviation Authority
United Kingdom

TYPE-CERTIFICATE DATA SHEET

UK.TC.A.00133

for

Stemme S10

Type Certificate Holder

Stemme GmbH
Flugplatzstrasse F2 Nr. 7
15344 Strausberg
Germany

Models:	Stemme S10 Stemme S10-V Stemme S10-VT Stemme S12
Issue:	1
Date of issue:	27 March 2025

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Section 1 Stemme S10

I. General

1.	**a) Type:**	Stemme S10
	b) Variant:	Stemme S10
2.	**Airworthiness Category:**	Powered Sailplane, JAR 22 - Utility
3.	**Type Certificate Holder:**	Stemme GmbH Flugplatzstrasse F2 Nr. 7 15344 Strausberg Germany
4.	**Manufacturer:**	Stemme GmbH & Co. KG Gustav-Meyer-Allee 25 13355 Berlin Stemme GmbH & Co. KG Flugplatzstrasse F2 Nr. 7 15344 Strausberg Stemme AG Flugplatzstrasse F2 Nr. 7 15344 Strausberg Stemme AG Flugplatzstrasse F2 Nr. 6-7 15344 Strausberg Stemme GmbH Flugplatzstrasse F2 Nr. 6-7 15344 Strausberg Stemme GmbH Flugplatzstrasse F2 Nr. 7 15344 Strausberg
5.	**LBA Certification Application Date:**	30. May 1985
6.	**LBA Type Certification Date:**	31. December 1990
7.	**This TCDS replaces EASA TCDS**	EASA.A.054 (previoulsly LBA TCDS No. 846)

II. Certification Basis

1.	**Certification Basis:**	Defined by LBA letter I 3-846/85, dated 12. June 1985
2.	**Airworthiness Requirements:**	Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22), effective on June 27, 1989 (Change 4 of the English Original Issue)
3.	**Requirements elected to comply:**	Preliminary Standards for Structural Substantiation of Sailplane and Powered Sailplane Components Consisting of Glass or Carbon Fibre Reinforced Plastics, Issue Jan. 1981 Preliminary Standards for the Substantiation of the Electrical System of Powered Sailplanes, Issue Feb. 1, 1990.

Standards for the Substantiation of the Electrical System of Powered Sailplanes, Issue September 15, 1992.
Preliminary Standard for the Substantiation of Indirect Drive Shafts in Power Plants of Powered Sailplanes (JAR 22) (with modifications for S10), dated 05.08.1988.
JAR-22.375 from amendment 22/90/1 (Winglets)

4. Special Conditions: None

5. Exemptions: None

6. Equivalent Safety Findings: None

7. Environmental Standards: ICAO Annex 16, Volume I (for more details see CAA TCDSN UK.TC.A.00133)

III. Technical Characteristic and Operating Limitations

1. Type Design Definition: Records of the documents defining Type Stemme S 10:

dated Okt. 27, 1990, LBA approved, with supplement dated Dec.13, 1991, LBA approved.

Document Record STEMME S10, doc. no. A08-10-000, am.-index 02.a, dated Okt. 17, 1994, LBA approved

Record of Service Bulletins and Airworthiness Directives, Doc.No. P150-981001 in the actual revision.

2. Description: Selflaunching, twin-seat, all composite construction powered sailplane, with the engine mounted in the center fuselage, propeller shaft system and fully foldable, jointed propeller, 3-piece wing, double panel Schempp-Hirth type airbrakes on the upper wing surface, optional winglets (see V.8). Re-tractable main landing gear with brake, T-tail (fixed horiz. stabilizer with elevator) fin and rudder.

3. Equipment: Min. Equipment:

1 Air speed indicator (up to 300 km/h)
1 Altimeter
1 Magnetic compass
1 RPM indicator
1 Oil pressure indicator
1 Oil temperature indicator
1 Cylinder head temperature indicator
1 Engine hour meter
2 Fuel quantity indicator
Stallwarning indicator
2 4-Point harness (symmetrical)
2 Automatic or manual parachute
or
2 Back cushion (thickness approx. 10 cm / 3.94 in. when compressed), when flying without parachute

Additional Equipment refer to Flight and Operating Manual

4. Dimensions:

Span	23.0 m
Wing area	18.74 m²
Length	8.42 m

5. Engine

Limbach L 2400 EB1.AD
EASA Type Certificate Data Sheet No. EASA.E.084
Remark:
Former name of the engine: L 2400 EB1.D. See also Service Bulletin no.17 of company Limbach.

5.1 Engine Limits:

Maximum Power RPM	3400 rpm
Maximum Continuous Power RPM	3000 rpm

6. Propellers:

Stemme 10AP-N
Annex 1 to the TCDS UK.TC.A.00133

6.1 Propeller diameter:

1610 mm +/- 2 mm

7. Fluids and Fluid capacities:

Wing tank left:	45.00 l
Wing tank right:	45.00 l
Non-usable amount of fuel:	1.5 l

Optional tank capacity 2 x 60 l (see also V. 6)

8. Launching Hooks:

None

9. Weak links:

None

10. Air Speeds:

Manoeuvring Speed	V_A	180 km/h
Never Exceed Speed	V_{NE}	270 km/h
- at flap setting -10°, -5°, 0°	V_{FE}	270 km/h
- at flap setting +5°, +10°	V_{FE}	180 km/h
- at flap setting L (+16°)	V_{FE}	140 km/h
Maximum permitted speeds		
- in rough air	V_{RA}	180 km/h
- max gear operating speed	V_{LO}	140 km/h

11. Operational Capability:

Approved for VFR-Day.
VFR Night limited to the vicinity (range of glide ratio) of active airfields approved for night flight operations (see V.9)

12. Maximum Masses:

Max. Mass	850 kg
Max. Mass of Non-Lifting Parts	570 kg

13. Centre of Gravity Range:

Datum: Inner wing leading edge, where upper side of fuselage boom placed at slope 1000 : 84

Forward Limit	254 mm aft of datum point
Rearward Limit	420 mm aft of datum point

14. Seating Capacity:

2

15. Lifetime limitations:

Refer to Maintenance Manual

16. Deflection of control surfaces:

Refer to Maintenance Manual

IV. Operating and Service Instructions

1. Flight manual for the powered sailplane type STEMME S10, Issue Oct. 1, 1990, LBA –approved, or later approved revisions.

2. Maintenance Manual for the Powered Sailplane STEMME S10, Issue Oct. 1, 1990, or later approved revisions.

3. Operating and Maintenance Manual for the engine Limbach L 2400 and series.

4. Small Repair Manual (Document A35-10-SMR), Revision 02.a dated October 13th 1997, or later approved revisions.

V. Notes

1. Manufacturing is confined to industrial production.

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

3. For issuance of the Certificate of Airworthiness pertinent to an individual aircraft the Noise Protection Requirements effective on the day of application are applicable.

4. Only to the s/n 10-3 to 10-10 differing operational limits as well as data are defined by Stemme company in modification bulletins LBA-approved, belonging to the individual s/n.

5. The type certification is valid for the s/n: 10-3 up to 10-10 and starting with 10-12.

6. The optional equipment with 2 x 60 l tanks ex works is allowed according to the modification bulletin Stemme A30-92-077, LBA-approved.

7. Conversion from the model Stemme S10 into the model Stemme S10-V is allowed according to the Stemme Service Bulletin A31-10-010, LBA-approved.

8. The optional equipment with winglets is allowed according to the Service Bulletin Stemme A31-10-023, LBA-approved.

9. VFR Night limited to the vicinity (range of glide ratio) of active airfields approved for night flight operations is allowed when the powered sailplane is equipped for this operation according to national rules and Service Bulletin Stemme A31-10-044 LBA-approved and A31-10-072 EASA-approved.

Section 2 Stemme S10-V

I. General

1.	**a) Type:**	Stemme S10
	b) Variant:	Stemme S10-V
2.	**Airworthiness Category:**	Powered Sailplane, JAR 22 - Utility
3.	**Type Certificate Holder:**	Stemme GmbH Flugplatzstrasse F2 Nr. 7 15344 Strausberg Germany
4.	**Manufacturer:**	Stemme GmbH & Co. KG Gustav-Meyer-Allee 25 13355 Berlin Stemme GmbH & Co. KG Flugplatzstrasse F2 Nr. 7 15344 Strausberg Stemme AG Flugplatzstrasse F2 Nr. 7 15344 Strausberg Stemme AG Flugplatzstrasse F2 Nr. 6-7 15344 Strausberg Stemme GmbH Flugplatzstrasse F2 Nr. 6-7 15344 Strausberg Stemme GmbH Flugplatzstrasse F2 Nr. 7 15344 Strausberg
5.	**LBA Certification Application Date:**	03. February 1992
6.	**LBA Type Certification Date:**	16. September 1994
7.	**This TCDS replaces EASA TCDS**	EASA.A.054 (previoulsly LBA TCDS No. 846)

II. Certification Basis

1.	**Certification Basis:**	Defined by LBA letter I 414-846/7/94, dated 21. July 1994
2.	**Airworthiness Requirements:**	Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22), effective on June 27, 1989 (Change 4 of the English Original Issue)
3.	**Requirements elected to comply:**	Standards for Structural Substantiation of Sailplane and Powered Sailplane Components Consisting of Glass or Carbon Fibre Reinforced Plastics, Issue July. 1991 Preliminary Standards for the Substantiation of the Electrical System of Powered Sailplanes, Issue Feb. 1, 1990. Standards for the Substantiation of the Electrical System of Powered Sailplanes, Issue September 15, 1992. Preliminary Standard for the Substantiation of Indirect Drive Shafts in Power Plants of Powered Sailplanes (JAR 22) (with modifications for S10), dated 05.08.1988. NPA 22E-XX (Proposed Amendment to JAR 22 for Variable Pitch Propellers), Issue March 25, 1993. JAR-22.375 from amendment 22/90/1 (Winglets)
4.	**Special Conditions:**	None
5.	**Exemptions:**	None
6.	**Equivalent Safety Findings:**	None
7.	**Environmental Standards:**	ICAO Annex 16, Volume I (for more details see CAA TCDSN UK.TC.A.00133)

III. Technical Characteristic and Operating Limitations

1.	**Type Design Definition:**	Document Record No. A08-10-000, am-index 02.a, dated October 17th, 1994 (record of the documents defining Type Stemme S10), LBA approved. in addition: Document Record No. A08-10-039, am-index 03.c, dated Sept. 21, 1994 (supplement for Model S 10-V), LBA approved. Document Record No. A08-10-239, am.-index 02.a, dated Sept. 29, 2003: variant S 10-V with Fix-Pitch Propeller 10AP-F, LBA approved. Record of Service Bulletins and Airworthiness Directives, Doc.No. P150-981002 in the actual revision.
2.	**Description:**	Selflaunching, twin-seat, all composite construction powered sailplane, with the engine mounted in the center fuselage, propeller shaft system and fully foldable, jointed variable pitch propeller CFRP, 3-piece wing, double panel Schempp-Hirth type airbrakes on the upper wing surface, optional winglets (see V.6). Retractable main landing gear with brake, T-tail (fixed horiz. stabilizer with elevator) fin and rudder.

3. Equipment:

Min. Equipment:
1 Air speed indicator (up to 300 km/h)
1 Altimeter
1 Magnetic compass
1 RPM indicator
1 Oil pressure indicator
1 Oil temperature indicator
1 Cylinder head temperature indicator
1 Engine hour meter
2 Fuel quantity indicator
Stallwarning indicator
1 Indicator for Takeoff (low pitch) propeller position
2 4-Point harness (symmetrical)
2 Automatic or manual parachute
or
2 Back cushion (thickness approx. 10 cm / 3.94 in. when compressed), when flying without parachute

Additional Equipment refer to Flight and Operating Manual

4. Dimensions:

Span	23.0 m
Wing area	18.74 m²
Length	8.42 m

5. Engine

Limbach L 2400 EB1.AD
EASA Type Certificate Data Sheet EASA.E.084
Remark:
Former name of the engine: L 2400 EB1.D. See also Service Bulletin no.17 of company Limbach.

5.1 **Engine Limits:**

Maximum Power RPM	3400 rpm
Maximum Continuous Power RPM	3000 rpm

6. Propellers:

Stemme 10AP-F
Annex 1 to the TCDS UK.TC.A.00133
Stemme 10AP-V
Annex 1 to the TCDS UK.TC.A.00133

6.1 **Propeller diameter:**

Both Propellers 1630 mm +/- 3 mm

7. Fluids and Fluid capacities:

Wing tank left:	45.00 l
Wing tank right:	45.00 l
Non-usable amount of fuel:	1.5 l

Optional tank capacity 2 x 60 l (see also V. 5)

8. Launching Hooks:

None

9. Weak links:

None

10. Air Speeds:

Manoeuvring Speed	V_A	180 km/h
Never Exceed Speed	V_{NE}	270 km/h
- at flap setting -10°, -5°, 0°	V_{FE}	270 km/h
- at flap setting +5°, +10°	V_{FE}	180 km/h
- at flap setting L (+16°)	V_{FE}	140 km/h
Maximum permitted speeds		
- in rough air	V_{RA}	180 km/h
- max gear operating speed	V_{LO}	140 km/h

11. Operational Capability:

Approved for VFR-Day.
VFR Night limited to the vicinity (range of glide ratio) of active airfields approved for night flight operations (see V.8)

12.	**Maximum Masses:**	Max. Mass	850 kg
		Max. Mass of Non-Lifting Parts	570 kg
13.	**Centre of Gravity Range:**	Datum: Inner wing leading edge, where upper side of fuselage boom placed at slope 1000 : 84	
		Forward Limit	254 mm aft of datum point
		Rearward Limit	420 mm aft of datum point
14.	**Seating Capacity:**	2	
15.	**Lifetime limitations:**	Refer to Maintenance Manual	
16.	**Deflection of control surfaces:**	Refer to Maintenance Manual	

IV. Operating and Service Instructions

1. Flight manual for the powered sailplane type STEMME S10-V, Issue Sep. 6, 1994, LBA –approved, or later approved revisions.

2. Maintenance Manual for the Powered Sailplane STEMME S10-V, Edition Sep. 6, 1994, or later approved revisions.

3. Operating and Maintenance Manual for the engine Limbach L 2400 and series.

4. Stemme Maintenance Instruction Doc-No: A35-10-067 for Fix Pitch Propeller 10AP-F, actual revision.

5. Small Repair Manual (Document A35-10-SMR), revision 02.a dated October 13th 1997, or later approved revisions.

V. Notes

1. Manufacturing is confined to industrial production.

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

3. For issuance of the Certificate of Airworthiness pertinent to an individual aircraft the Noise Protection Requirements effective on the day of application are applicable.

4. The Variant Certification is effective from Serial No. 14-001 onwards.

5. The optional equipment with 2 x 60 l tanks ex works is allowed according to the modification bulletin Stemme A30-92-077, LBA-approved.

6. The optional equipment with winglets is allowed according to the Service Bulletin Stemme A31-10-023, LBA-approved.

7. The optional equipment of the variant Stemme S10-V with the „Fixed Pitch Propeller“ Stemme 10AP-F is allowed according to the Service Bulletin Stemme A31-10-067, EASA-approved.

8. VFR Night limited to the vicinity (range of glide ratio) of active airfields approved for night flight operations is allowed when the powered sailplane is equipped for this operation according to national rules and Service Bulletin Stemme A31-10-044 LBA-approved and A31-10-072 EASA-approved.

Section 3 Stemme S10-VT

I. General

1.	**a) Type:**	Stemme S10
	b) Variant:	Stemme S10-VT
2.	**Airworthiness Category:**	Powered Sailplane, JAR 22 - Utility
3.	**Type Certificate Holder:**	Stemme GmbH Flugplatzstrasse F2 Nr. 7 15344 Strausberg Germany
4.	**Manufacturer:**	Stemme GmbH & Co. KG Flugplatzstrasse F2 Nr. 7 15344 Strausberg Stemme AG Flugplatzstrasse F2 Nr. 7 15344 Strausberg Stemme AG Flugplatzstrasse F2 Nr. 6-7 15344 Strausberg Stemme GmbH Flugplatzstrasse F2 Nr. 6-7 15344 Strausberg Stemme GmbH Flugplatzstrasse F2 Nr. 7 15344 Strausberg
5.	**LBA Certification Application Date:**	16. August 1996
6.	**LBA Type Certification Date:**	15. August 1997
7.	**This TCDS replaces EASA TCDS**	EASA.A.054 (previoulsly LBA TCDS No. 846)

II. Certification Basis

1.	**Certification Basis:**	Defined by LBA letter I 413-846/97, dated 14. April 1997
2.	**Airworthiness Requirements:**	Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22), effective on June 27, 1989 (Change 4 of the English Original Issue)
3.	**Requirements elected to comply:**	Standards for Structural Substantiation of Sailplane and Powered Sailplane Components Consisting of Glass or Carbon Fibre Reinforced Plastics, Issue July. 1991 Standards for the Substantiation of the Electrical System of Powered Sailplanes, Issue September 15, 1992. Preliminary Standard for the Substantiation of Indirect Drive Shafts in Power Plants of Powered Sailplanes (JAR 22) (with modifications for S10), dated 05.08.1988. NPA 22E-XX (Proposed Amendment to JAR 22 for Variable Pitch Propellers), Issue March 25, 1993. JAR-22.375 from amendment 22/90/1 (Winglets)
4.	**Special Conditions:**	None

5.	**Exemptions:**	None
6.	**Equivalent Safety Findings:**	None
7.	**Environmental Standards:**	ICAO Annex 16, Volume I (for more details see CAA TCDSN UK.TC.A.00133)

III. Technical Characteristic and Operating Limitations

1. Type Design Definition:

Document Record No. A08-11-0, am-index 04.a, dated January 39th, 1998 (Part 2: record of the documents defining Type Stemme S10-VT), LBA approved.

in addition:

Record of Service Bulletins and Airworthiness Directives, Doc.No. P150-981003 in the actual revision.

2. Description:

Selflaunching, twin-seat, all composite construction powered sailplane, with the liquid cooled, turbocharged engine mounted in the center fuselage, propeller shaft system and fully foldable, jointed variable pitch propeller CFRP, 3-piece wing, double panel Schempp-Hirth type airbrakes on the upper wing surface, optional winglets (see V.6). Retractable main landing gear with brake, T-tail (fixed horiz. stabilizer with elevator) fin and rudder.

3. Equipment:

Min. Equipment:

1 Air speed indicator (up to 300 km/h)
1 Altimeter
1 Magnetic compass
1 RPM indicator
1 Oil pressure indicator
1 Oil temperature indicator
1 Cylinder head temperature indicator
1 Engine hour meter
2 Fuel quantity indicator
Stallwarning indicator
1 Indicator for Takeoff (low pitch) propeller position
2 4-Point harness (symmetrical)
2 Automatic or manual parachute
or
2 Back cushion (thickness approx. 10 cm / 3.94 in. when compressed), when flying without parachute

Additional Equipment refer to Flight and Operating Manual

4. Dimensions:

Span	23.0 m
Wing area	18.74 m²
Length	8.42 m

5. Engine

Rotax 914 F2/S1
LBA-Engine Type Certificate Data Sheet No. 5006, dated: Aug. 14th 1997
Remark:
Rotax 914 F2 modified for the use in the Stemme S10-VT

5.1 **Engine Limits:**

Maximum Power RPM	5800 rpm
Maximum Continuous Power RPM	5500 rpm

6. Propellers:

Stemme 11AP-V
Annex 1 to the TCDS UK.TC.A.00133

6.1 **Propeller diameter:**

1630 mm +/- 3 mm

7.	**Fluids and Fluid capacities:**	Wing tank left:		45.00 l
		Wing tank right:		45.00 l
		Non-usable amount of fuel:		1.5 l
		Optional tank capacity 2 x 60 l (see also V. 5)		
8.	**Launching Hooks:**	None		
9.	**Weak links:**	None		
10.	**Air Speeds:**	Manoeuvring Speed	V_A	180 km/h
		Never Exceed Speed	V_{NE}	270 km/h
		- at flap setting -10°, -5°, 0°	V_{FE}	270 km/h
		- at flap setting +5°, +10°	V_{FE}	180 km/h
		- at flap setting L (+16°)	V_{FE}	140 km/h
		Maximum permitted speeds		
		- in rough air	V_{RA}	180 km/h
		- max gear operating speed	V_{LO}	140 km/h
11.	**Operational Capability:**	Approved for VFR-Day. VFR Night limited to the vicinity (range of glide ratio) of active airfields approved for night flight operations (see V.7)		
12.	**Maximum Masses:**	Max. Mass		850 kg
		Max. Mass of Non-Lifting Parts		570 kg
13.	**Centre of Gravity Range:**	Datum: Inner wing leading edge, where upper side of fuselage boom placed at slope 1000 : 84		
		Forward Limit	254 mm aft of datum point	
		Rearward Limit	420 mm aft of datum point	
14.	**Seating Capacity:**	2		
15.	**Lifetime limitations:**	Refer to Maintenance Manual		
16.	**Deflection of control surfaces:**	Refer to Maintenance Manual		

IV. Operating and Service Instructions

1. Flight manual for the powered sailplane type STEMME S10-VT, Issue August. 1st, 1997, LBA – approved, or later approved revisions.

2. Maintenance Manual for the Powered Sailplane STEMME S10-VT, Issue January. 01, 1998, or later approved revisions.

3. Operating and Maintenance Manual for the engine see Maintenance Manual for the Powered Sailplane STEMME S10-VT section E.

4. Component Maintenance Manual “Propeller 11AP-V” Doc.-No. P500-912860 Rev 01 dated Jul 03, 2023, or later approved revisions.

5. Small Repair Manual (Document A35-10-SMR), revision 02.a dated October 13th, 1997, or later approved revisions.

V. Notes

1. Manufacturing is confined to industrial production.
2. All parts exposed to sun radiation – except the areas for markings and registration – must have a white colour surface.
3. For issuance of the Certificate of Airworthiness pertinent to an individual aircraft the Noise Protection Requirements effective on the day of application are applicable.
4. The Variant Certification is effective from Serial No. 11-002 onwards.
5. The optional equipment with 2 x 60 l tanks ex works is allowed according to the modification bulletin Stemme A30-92-077, LBA-approved.
6. The optional equipment with winglets is allowed according to the Service Bulletin Stemme A31-10-023, LBA-approved.
7. VFR Night limited to the vicinity (range of glide ratio) of active airfields approved for night flight operations is allowed when the powered sailplane is equipped for this operation according to national rules and Service Bulletin Stemme A31-10-044 LBA-approved and A31-10-072 EASA-approved.
8. The engine ROTAX 914 F2/S1 (STEMME P/N 11AM-M) is a modification on base of a ROTAX 914 F2 or ROTAX 914 F2-01 in accordance with the Technical Specification Doc-No: A26-11AM-M. This modification is a necessary customization of the basic engine for the use within model STEMME S10-VT. Modified engines on base of a ROTAX 914 F2 may only be used for model STEMME S10-VT.

Section 4 Stemme S12

I. General

1.	**a) Type:**	Stemme S10
	b) Variant:	Stemme S12
2.	**Airworthiness Category:**	Powered Sailplane, JAR 22 - Utility
3.	**Type Certificate Holder:**	Stemme GmbH Flugplatzstrasse F2 Nr. 7 15344 Strausberg Germany
4.	**Manufacturer:**	Stemme AG Flugplatzstrasse F2 Nr. 7 15344 Strausberg Stemme AG Flugplatzstrasse F2 Nr. 6-7 15344 Strausberg Stemme GmbH Flugplatzstrasse F2 Nr. 6-7 15344 Strausberg Stemme GmbH Flugplatzstrasse F2 Nr. 7 15344 Strausberg
5.	**EASA Certification Application Date:**	6. December 2013
6.	**EASA Type Certification Date:**	14. March 2016

II. Certification Basis

1.	**Certification Basis:**	Defined in CRI A-1, Dec. 2013, with Amendments
2.	**Airworthiness Requirements:**	CS-22 (initial Version) 14. November 2003
3.	**Requirements elected to comply:**	Standards for Structural Substantiation of Sailplane and Powered Sailplane Components Consisting of Glass or Carbon Fibre Reinforced Plastics, Issue July. 1991 Standards for the Substantiation of the Electrical System of Powered Sailplanes, Issue September 15, 1992.
4.	**Special Conditions:**	EASA SC A.22.1-01 Increased mass up to 900 kg Preliminary Standards for the Substantiation of Indirect Drive Shafts in Powered Plants of Powered Sailplanes (JAR22) (with modification for S10), dated 05.08.1988. CRI F-01 Autopilot Installations on Board of Powered Sailplanes. Use of a “non TSO” 2-axis auto pilot system (as an option).
5.	**Exemptions:**	None
6.	**Equivalent Safety Findings:**	CS-VLA 725 Limit drop tests CS-VLA 726 Ground load dynamic tests CS-VLA 727 Reserve energy absorption CS-VLA 1309 Equipment, systems, installations
7.	**Environmental Standards:**	ICAO Annex 16, Volume I (for more details see CAA TCDSN UK.TC.A.00133)

III. Technical Characteristic and Operating Limitations

1. Type Design Definition:

Document Record No. L150-912.005 Rev.00

In addition:

Record of Service Bulletins and Airworthiness Directives, Doc.No. P150-981004 in the actual revision.

2. Description:

Self-launching, twin-seat, all composite construction powered sailplane, with a liquid cooled, turbo-charged engine mounted in the center fuselage, propeller shaft system and fully foldable, jointed variable pitch propeller CFRP, 5-piece wing, double panel Schempp-Hirth type airbrakes on the upper wing surface, Retractable main landing gear with brake, T-tail (fixed horiz. stabilizer with elevator) fin and rudder.

3. Equipment:

Min. Equipment:

1 Air speed indicator (up to 300 km/h)
1 Altimeter
1 Magnetic compass
1 RPM indicator*
1 Oil pressure indicator*
1 Oil temperature indicator*
1 Cylinder head temperature indicator*
1 Engine hour meter
2 Fuel quantity indicator*
1 Indicator for Takeoff (low pitch) propeller position
1 Indicator for the trim position
1 Indicator for Low fuel
1 Alternator warning light
1 Outside air temperature gauge, if flown with waterballast in the fin*
2 4-Point harness (symmetrical)
2 Automatic or manual parachute
or
2 Back cushion (thickness approx. 10 cm / 3.94 in. when compressed), when flying without parachute

* These instruments can be included in the digital engine monitoring GARMIN G3X Touch system (see Note 7).

Additional Equipment refer to Flight and Operating Manual

4. Dimensions:

Span	25.0 / 21.7 / 21.4 m
Wing area	19.95 / 18.6 / 18.5 m²
Length	8.42 m

5. Engine

Engine Rotax 914 F2/S1 (P/N 11AM-M) according to Technical Specification Doc-No: A26-11AM-M Rev 08.a*

Clutch (P/N: 12AK) according to Assembly drawing Doc.-No.: A12-12AK Rev 01.a* and Parts List Doc.-No.: A21-12AK Rev 01.a*

Drive System (P/N: 11AS) according to Assembly Drawing Doc.-No.: A12-11AS Rev 03.a* and Parts List Doc.-No.: A21-11AS Rev 02.a*

Propeller Gear (P/N: 11AG) according to Technical Specification Doc.-No.: A26-11AG Rev 11.a*

* or later approved revisions.

5.1	**Engine Limits:**	Maximum Power RPM Maximum Continuous Power RPM		5800 rpm 5500 rpm
6.	**Propellers:**	Stemme 11AP-V Annex 1 to the TCDS UK.TC.A.00133		
6.1	**Propeller diameter:**	1630 mm +/- 3 mm		
7.	**Fluids and Fluid capacities:**	Wing tank left: Wing tank right: Non-usable amount of fuel:		60.00 l 60.00 l 0.52 l
8.	**Launching Hooks:**	None		
9.	**Weak links:**	None		
10.	**Air Speeds:**	Manoeuvring Speed Never Exceed Speed - at flap setting -10°, -5°, 0° - at flap setting +5°, +10° - at flap setting L (+16°) Maximum permitted speeds - in rough air - max gear operating speed	V_A V_{NE} V_{FE} V_{FE} V_{FE} V_{RA} V_{LO}	180 km/h 270 km/h 270 km/h 180 km/h 140 km/h 180 km/h 140 km/h
11.	**Operational Capability:**	Approved for VFR-Day.		
12.	**Maximum Masses:**	Max. Mass Max. Mass of Non-Lifting Parts		900 kg 610 kg
13.	**Centre of Gravity Range:**	Datum: Inner wing leading edge, where upper side of fuselage boom placed at slope 1000 : 54 Forward Limit 265 mm aft of datum point Rearward Limit 420 mm aft of datum point		
14.	**Seating Capacity:**	2		
15.	**Lifetime limitations:**	Refer to Maintenance Manual		
16.	**Deflection of control surfaces:**	Refer to Maintenance Manual		

IV. Operating and Service Instructions

1. Flight manual for the powered sailplane Stemme S12, Edition L400-912810 Rev.00; 01/2016, EASA-approved, or later approved revisions.
2. Maintenance Manual Powered Sailplane, Stemme S12, Edition L500-912820 Rev.00; 01/2016, EASA –approved, or later approved revisions.
3. Operating and Maintenance Manual for the engine see Maintenance Manual for the Powered Sailplane, STEMME S12 section 3.
4. Component Maintenance Manual “Propeller 11AP-V” Doc.-No. P500-912860 Rev 01 dated Jul 03, 2023, or later approved revisions.
5. Small Repair Manual (Document P520-901502), issue April 2017, or later approved revisions.

V. Notes

1. Manufacturing is confined to industrial production.
2. All parts exposed to sun radiation – except the areas for markings and registration – must have a white colour surface.
3. For issuance of the Certificate of Airworthiness pertinent to an individual aircraft the Noise Protection Requirements effective on the day of application are applicable.
4. The Variant Certification is effective from Serial No. 12-002 onwards.
5. Optional use of a non ETSO 2 axis autopilot (Dynon) is included into the certification of the Stemme S12, all wing spans (25 m, 21.7 m and 21.4 m).
6. The engine ROTAX 914 F2/S1 (STEMME P/N 11AM-M) is a modification on base of a ROTAX 914 F2 or ROTAX 914 F2-01 in accordance with the Technical Specification Doc-No: A26-11AM-M. This modification is a necessary customization of the basic engine for the use within model STEMME S12.
   For the use within the model STEMME S12 the modification must be based on a ROTAX 914 F2-01.
7. Optional use of a non ETSO 2 axis autopilot and digital engine monitoring (GARMIN G3X) is included into the certification of the Stemme S12, all wing spans (25 m, 21.7 m and 21.4 m).

Section 5 Administration

I. Acronyms and Abbreviations

Acronym / Abbreviation	Definition
CAA	United Kingdom Civil Aviation Authority
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TCH	Type Certificate Holder
EASA	European Union Aviation Safety Agency

II. Type Certificate Holder Record

TCH Record	Period
Stemme GmbH Flugplatzstrasse F2 Nr. 7 15344 Strausberg Germany	Present. No changes.

III. Amendment Record

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
1	27 Mar 2025	This data sheet supersedes EASA.A.054. All technical data taken from EASA.A.054 Issue 6. Introduction of a new Annex 1 to TCDS relating to Stemme Propellers.	Issue 1 27 Mar 2025

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