



TYPE CERTIFICATE DATA SHEET Nº EP-2015T01

Type Certificate Holder:

Stemme AG
 Flugplatzstraße F2 Nr. 6-7
 15344 Strausberg
 Germany

EP-2015T01

Sheet 01

STEMME

TSA-M S6
 TSA-M S6-RT

23 January 2015

This data sheet, which is part of Type Certificate No. **2015T01**, prescribes conditions and limitations under which the product, for which the Type Certificate was issued, meets the airworthiness requirements of the Brazilian Aeronautical Regulations.

I - Model TSA-M S6 Powered Sailplane (Utility Category), approved 23 January 2015.

ENGINE	Rotax 914 F2 (ANAC TC 1999T02)												
ENGINE LIMITS	<table border="0"> <tr> <td>Maximum Take-off Power (max. 60 sec.)</td> <td>84,5 kw</td> </tr> <tr> <td></td> <td>5800 RPM (NOTE 3)</td> </tr> <tr> <td>Maximum Continuous Power</td> <td>73,5 kw</td> </tr> <tr> <td></td> <td>5500 RPM</td> </tr> </table>	Maximum Take-off Power (max. 60 sec.)	84,5 kw		5800 RPM (NOTE 3)	Maximum Continuous Power	73,5 kw		5500 RPM				
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PROPELLER	<table border="0"> <tr> <td>Mühlbauer Type MTV-7-A/170/051 with CS-Control (ANAC TC 2014T05)</td> <td></td> </tr> <tr> <td>Diameter</td> <td>170 cm</td> </tr> </table>	Mühlbauer Type MTV-7-A/170/051 with CS-Control (ANAC TC 2014T05)		Diameter	170 cm								
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FUEL TYPE	AVGAS100LL (see section 2.4.2 of Stemme S6 Flight Manual)												
FUEL QUANTITY	<table border="0"> <tr> <td>Tank in right wing</td> <td>65.0 liters</td> </tr> <tr> <td>Tank in left wing (optional)</td> <td>65.0 liters</td> </tr> <tr> <td>Non-usable fuel</td> <td>2,1 liters</td> </tr> <tr> <td>Non-usable fuel (with optional left wing tank)</td> <td>3,1 liters</td> </tr> </table>	Tank in right wing	65.0 liters	Tank in left wing (optional)	65.0 liters	Non-usable fuel	2,1 liters	Non-usable fuel (with optional left wing tank)	3,1 liters				
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AIRSPEED LIMITS	<table border="0"> <tr> <td>Maneuvering Speed (V_A):</td> <td>190 km/h</td> </tr> <tr> <td>Never Exceed Speed (V_{NE}):</td> <td>270 km/h</td> </tr> <tr> <td>Max with flaps at cruise, neutral (V_{FE})</td> <td>270 km/h</td> </tr> <tr> <td>Max with flaps at TO/LDG 1 (V_{FE})</td> <td>190 km/h</td> </tr> <tr> <td>Max. with flaps at LDG 2 (V_{FE})</td> <td>140 km/h</td> </tr> <tr> <td>Max. in rough air (V_{RA})</td> <td>190 km/h</td> </tr> </table>	Maneuvering Speed (V_A):	190 km/h	Never Exceed Speed (V_{NE}):	270 km/h	Max with flaps at cruise, neutral (V_{FE})	270 km/h	Max with flaps at TO/LDG 1 (V_{FE})	190 km/h	Max. with flaps at LDG 2 (V_{FE})	140 km/h	Max. in rough air (V_{RA})	190 km/h
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Inflight													
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	Rearward limit:	409 mm aft of datum.
	At empty weight:	See Maintenance Manual Chapter 08-10-00
DATUM	Leading edge of the inner wing at the wing root.	
LEVELING MEANS	Upper side of fuselage boom placed at slope 1000:42.	
WEIGHT	Max. Mass	850 kg
	Max. Mass of Non-Lifting Parts:	620 kg
MINIMUM CREW	One Pilot	
No OF SEATS	Two	
REQUIRED EQUIPMENT	<p>The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane.</p> <p>a. Min. equipment</p> <ul style="list-style-type: none"> 1 Air speed indicator (up to 300 km/h) 1 Altimeter 1 Magnetic compass 1 Tachometer 1 Fuel quantity indicator for each tank 1 Oil temperature indicator 1 Oil pressure indicator 1 Cylinder head temperature indicator for each engine side 1 Engine hour meter 1 Manifold pressure indicator 1 Stall-warning indicator 1 Fire warning indicator 1 Trim indicator 1 Pitot/Static pressure probe 2 4-Point harness (symmetrical) 1 Dataplate and Trimmingsheet, Cockpit Placards, Flight Manual <p>Gap sealing on each side of the control surfaces</p> <p>For additional equipment refer to Flight and Maintenance Manual.</p>	
LAUNCHING HOOKS	None.	
OPERATIONAL CAPABILITY	VFR Day.	
LIFETIME LIMITATIONS	Refer to Maintenance Manual.	
DEFLECTION OF CONTROL SURFACES	Refer to Maintenance Manual.	
SERIAL NUMBER ELIGIBLE	013 and on.	

IMPORT ELIGIBILITY

A Brazilian Certificate of Airworthiness may be issued on the basis of on an EASA Export Certificate on Airworthiness (or a third country Export Certificate on Airworthiness, in case of used aircraft imported from such country), including the following statement:

“The aircraft covered by this certificate has been inspected, tested and found to be in conformity with the Brazilian approved type design as defined by the Brazilian Type Certificate no. 2015T01 and in condition of safe operation”.

CERTIFICATION BASIS

Brazilian Type Certificate No. 2015T01 issued on 23 January 2015 based on the RBAC 21.29, 21.17(b), amdt. 01, and:

- a. CS-22, Issue 14.11.2003;
- b. That defined by LBA letter M314-846/02/01 and upgraded to EASA Certification Standard with letter dated 16 November 2005;
- c. Preliminary Standard for the Substantiation of Indirect Drive Shafts in Power Plants of Powered Sailplanes (JAR 22) (with modifications for S10) dated 05 August 1988;
- d. Standards for Structural Substantiation of Sailplane and Powered Sailplane Components Consisting of Glass or Carbon Fibre Reinforced Plastics, LBA doc. I4-FVK/91, issued July 1991;
- e. Guideline for the analysis of the electrical system for powered sailplanes, LBA doc. I334-MS 92, issued 15. September 1992.

Special Conditions: None
Exemptions: None
Equivalent Safety Findings: None
Environmental Standards: ICAO Annex 16

NOTES:**NOTE 1****Weight and balance.**

Current weight and balance data together with list of equipment included in certificate empty weight, and loading instructions, when necessary, must be provided for each glider at the time of original certification.

NOTE 2**Markings and placards.**

The placards listed in the flight manual must be displayed. A complete listing of placards is in the Section 11 of Maintenance Manual.

NOTE 3

Engine limitation (red line) – 5600 RPM

Maximum Take-off RPM (max. 5 minutes) limited due to Constant Speed Propeller.

NOTE 4**Optional aerotow device.**

Optionally the model S6 powered sailplane may be equipped with an aerotow device. For aerotow operation the Supplement S03 to Flight Manual (Aerotow) has to be applied and must be inserted to chapter 9 of the Flight Manual.

NOTE 5**Continuing Airworthiness.**

Section 4 of the EASA-approved STEMME TSA-M S6 and S6-RT models Maintenance Manual specifies mandatory replacement times. These Maintenance Manual airworthiness limitations may not be changed without ANAC approval.

- NOTE 6** The differences of the Brazilian airplanes in relation to the basic EASA type design are summarized below:
1. The Brazilian Airplane Flight Manual cover page must be included.
 2. Only altimeters which present barometric setting units of "mbar" or "hpa" may be installed.
- NOTE 7** Operating and Servicing Instructions.
1. Flight Manual for the Powered Sailplane TSA-M; model S6, issue 07 October 2008 or later EASA approved revisions;
 2. Maintenance Manual for the Powered Sailplane TSA-M; model S6, issue 20. December 2010 or later approved revisions;
 3. Operating Manual and Maintenance Manual for engine ROTAX 914 series, latest approved version (The Operation Manual and Maintenance Manual are elements of the operation instructions of the Stemme S6. Necessary revisions are done not by Stemme Company but by Rotax);
 4. Operation and Maintenance Manual for Mühlbauer Propeller Type MTV 7, latest approved version (The Operation Manual and Maintenance Manual are elements of the operation instructions of the Stemme S6. Necessary revisions are done not by Stemme Company but by Mühlbauer Company).
- NOTE 8** Manufacturing is confined to industrial production.
- NOTE 9** All parts of the airframe exposed to sun radiation – except the areas for markings and registration as specified by the manufacturer – must have a white color surface.

II - Model TSA-M S6-RT Powered Sailplane (Utility Category), approved 23 January 2015.

ENGINE	Rotax 914 F2 (ANAC TC 1999T02)	
ENGINE LIMITS	Maximum Take-off Power (max. 60 sec.)	84,5 kw 5800 RPM (NOTE 3)
	Maximum Continuous Power	73,5 kw 5500 RPM
PROPELLER	Mühlbauer Type MTV-7-A/170/051 with CS-Control (ANAC TC 2014T05)	
	Diameter	170 cm
FUEL TYPE	AVGAS100LL (see section 2.4.2 of Stemme S6-RT Flight Manual)	
FUEL QUANTITY	Tank in right wing	65.0 liters
	Tank in left wing (optional)	65.0 liters
	Non-usable fuel	2,1 liters
	Non-usable fuel (with optional left wing tank)	3,1 liters
AIRSPEED LIMITS	Maneuvering Speed (V_A):	190 km/h
	Never Exceed Speed (V_{NE}):	270 km/h
	Max with flaps at cruise, neutral (V_{FE})	270 km/h
	Max with flaps at TO/LDG 1 (V_{FE})	190 km/h
	Max. with flaps at LDG 2 (V_{FE})	140 km/h
	Max. in rough air (V_{RA})	190 km/h

	Max. with landing gear extended (V_{LO})	140 km/h
DIMENSIONS	Span	18 m
	Wing Area	17,4 m ²
	Length	8,52 m
	Height	2,45 m
CG RANGE	Inflight	
	Forward limit:	224 mm aft of datum.
	Rearward limit:	409 mm aft of datum.
	At empty weight:	See Maintenance Manual Chapter 08-10-00
DATUM	Leading edge of the inner wing at the wing root.	
LEVELING MEANS	Upper side of fuselage boom placed at slope 1000:42.	
WEIGHT	Max. Mass	900 kg
	Max. Mass of Non-Lifting Parts:	620 kg
MINIMUM CREW	One Pilot	
No OF SEATS	Two	
REQUIRED EQUIPMENT	<p>The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane.</p> <p>a. Min. equipment</p> <ul style="list-style-type: none"> 1 Air speed indicator (up to 300 km/h) 1 Altimeter 1 Magnetic compass 1 Tachometer 1 Fuel quantity indicator for each tank 1 Oil temperature indicator 1 Oil pressure indicator 1 Cylinder head temperature indicator for each engine side 1 Engine hour meter 1 Manifold pressure indicator 1 Stall-warning indicator 1 Fire warning indicator 1 Trim indicator 1 Pitot/Static pressure probe 2 4-Point harness (symmetrical) 1 Landing gear position lights 1 Landing gear warning 1 Dataplate and Trimmingsheet, Cockpit Placards, Flight Manual <p>Gap sealing on each side of the control surfaces</p> <p>For additional equipment refer to Flight and Maintenance Manual.</p>	
LAUNCHING HOOKS	None.	
OPERATIONAL CAPABILITY	VFR Day.	
LIFETIME LIMITATIONS	Refer to Maintenance Manual.	

DEFLECTION OF CONTROL SURFACES	Refer to Maintenance Manual.
SERIAL NUMBER ELIGIBLE	016 and on.
IMPORT ELIGIBILITY	<p>A Brazilian Certificate of Airworthiness may be issued on the basis of on an EASA Export Certificate on Airworthiness (or a third country Export Certificate on Airworthiness, in case of used aircraft imported from such country), including the following statement:</p> <p style="padding-left: 40px;">“The aircraft covered by this certificate has been inspected, tested and found to be in conformity with the Brazilian approved type design as defined by the Brazilian Type Certificate no. 2015T01 and in condition of safe operation”.</p>
CERTIFICATION BASIS	<p>Brazilian Type Certificate No. 2015T01 issued on 23 January 2015 based on the RBAC 21.29, 21.17(b), amdt. 01, and:</p> <ol style="list-style-type: none"> a. CS-22, Issue 14.11.2003; b. That defined by LBA letter M314-846/02/01 and upgraded to EASA Certification Standard with letter dated 16 November 2005; c. Preliminary Standard for the Substantiation of Indirect Drive Shafts in Power Plants of Powered Sailplanes (JAR 22) (with modifications for S10) dated 05 August 1988; d. Standards for Structural Substantiation of Sailplane and Powered Sailplane Components Consisting of Glass or Carbon Fibre Reinforced Plastics, LBA doc. I4-FVK/91, issued July 1991; e. Guideline for the analysis of the electrical system for powered sailplanes, LBA doc. I334-MS 92, issued 15. September 1992. <p>Special Conditions: SC-A22.1.01 “Increase in maximum mass for sailplanes and powered sailplanes”.</p> <p>Exemptions: None</p> <p>Equivalent Safety Findings: CS-VLA 725, CS-VLA 726, CS-VLA 727: drop test retractable landing gear; CS-23.1435: hydraulic system.</p> <p>Environmental Standards: ICAO Annex 16</p>

NOTES:

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The placards listed in the flight manual must be displayed. A complete listing of placards is in the Section 11 of Maintenance Manual.
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Maximum Take-off RPM (max. 5 minutes) limited due to Constant Speed Propeller.
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Manual specifies mandatory replacement times. These Maintenance Manual airworthiness limitations may not be changed without ANAC approval.

NOTE 5 The differences of the Brazilian airplanes in relation to the basic EASA type design are summarized below:


3. The Brazilian Airplane Flight Manual cover page must be included.
4. Only altimeters which present barometric setting units of "mbar" or "hpa" may be installed.

NOTE 6 Operating and Servicing Instructions.

1. Flight Manual for the Powered Sailplane TSA-M; model S6-RT, issue 18 November 2011 or later EASA approved revisions;
2. Maintenance Manual for the Powered Sailplane TSA-M, models S6 / S6-RT, issue 20 December 2010, Rev. 18 or later approved revisions;
3. Operating Manual and Maintenance Manual for engine ROTAX 914 series, latest approved version (The Operation Manual and Maintenance Manual are elements of the operation instructions of the Stemme S6-RT. Necessary revisions are done not by Stemme Company but by Rotax);
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Acting