



TYPE CERTIFICATE DATA SHEET Nº EP-2013T05

Type Certificate Holder:

SCHEMPP-HIRTH FLUGZEUGBAU GmbH
Krebenstraße 25
Kirchheim / Teck 73230
GERMANY

EP-2013T05-00
Sheet 01

SCHEMPP-HIRTH
FLUGZEUGBAU

DUO DISCUS

24 September 2013

This data sheet, which is part of Type Certificate No. 2013T05, 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 Duo Discus Glider (Utility Category), approved 24 September 2013.

AIRSPED LIMITS (IAS)	Never Exceed (V_{NE}):	250 km/h (135 kias)
	Never Exceed (V_{NE}): with changes according note 16	262.8 km/h (142 kias)
	Maneuvering (V_A)	180 km/h (97 kias)
	Rough air speed (V_{RA})	180 km/h (97 kias)
	Max. landing gear operating speed (V_{LO})	180 km/h (97 kias)
	Max. Aero-tow speed (V_T)	150 km/h (81 kias)
	Max. Aero-tow speed (V_T) – (see note 10 and note 11)	180 km/h (100 kias)
	Max. Winch-launch speed (V_W)	150 km/h (81 kias)
CG RANGE	Forward limit: 45 mm aft datum Rearward limit: 250 mm aft datum	
DATUM	Most inner wing leading edge	
LEVELING MEANS	Wedge 100:4.5 on slope of rear top fuselage to be horizontal	
MAXIMUM WEIGHT	700 kg with water ballast 750 kg according to note 13, note 16 440 kg of non-lifting parts	
WEAK LINK FOR TOWING (WINCH AND AEROTOW)	Maximum 910 daN When MTOW increase according to note 13, note 16 Maximum 950 daN winch launching Maximum 850 daN aero-tow	
MINIMUM CREW	1 pilot	
MAXIMUM OCCUPANTS	2	

MAXIMUM BAGGAGE	0 kg									
WATER CAPACITY (ballast)	198 kg									
CONTROL SURFACE MOVEMENTS	<table border="0"> <tr> <td>Elevator:</td> <td>Up 52 mm ± 4 mm</td> <td>Down 52 mm ± 4 mm</td> </tr> <tr> <td>Rudder:</td> <td>Right 190 mm ± 20 mm</td> <td>Left 190 mm ± 20 mm</td> </tr> <tr> <td>Aileron:</td> <td>Up 71 mm ± 5 mm</td> <td>Down 36 mm ± 5 mm</td> </tr> </table> <p>Trailing Edge Flap (see Note 11 and 16): Airbrake locked: Down 0 mm Airbrake Fully extended (app. 220 mm control rod travel) Down: 95 mm +10 -5 mm</p>	Elevator:	Up 52 mm ± 4 mm	Down 52 mm ± 4 mm	Rudder:	Right 190 mm ± 20 mm	Left 190 mm ± 20 mm	Aileron:	Up 71 mm ± 5 mm	Down 36 mm ± 5 mm
Elevator:	Up 52 mm ± 4 mm	Down 52 mm ± 4 mm								
Rudder:	Right 190 mm ± 20 mm	Left 190 mm ± 20 mm								
Aileron:	Up 71 mm ± 5 mm	Down 36 mm ± 5 mm								
SERIAL NUMBER ELIGIBLE	All Serial Numbers									
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>“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. 2012T06 and in condition of safe operation”.</p>									
CERTIFICATION BASIS	<p>Brazilian Type Certificate No. 2013T05 issued on 24 September 2013 based on the RBAC 21.29, 21.17(b) and Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22), Change 4, issued October 28, 1995.</p> <p>Requirements elected to comply:</p> <ul style="list-style-type: none"> - Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22) effective on October 28, 1995 (Change-5 of the English original version) (see note 11) - Standards for Structural Substantiation of Sailplane and Powered Sailplane Components consisting of Glass or Carbon Fiber Reinforced Plastics, issued July 1991 - Additional requirements when using water ballast fin tank. LBA-Letter: I 4 – I 413/89 dated October 25th, 1989. - Draft NPA 22 D-46 dated 30 September 1993 relating to JAR 22.785 (e)(f) “Seat and Restraint System” - Draft NPA 22 D-64 dated 5 October 1993 relating to JAR 22.788 “Head Rests” <p>Special Conditions: None</p> <p>Exemptions: None</p> <p>Equivalent Safety Level Findings:</p> <p>JAR 22.207(c) (see note 7 and note 11)</p> <p>JAR 22.335 (f) (see note 13)</p>									
REQUIRED EQUIPMENT	The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane.									

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 instructions for continued Airworthiness (Maintenance Manual)
- NOTE 3** Continuing Airworthiness.
Airworthiness Limitations are specified in the limitation section of the Flight Manual and the inspections section of the Maintenance Manual. These Limitations specify mandatory replacement times and operating limitations and will not be changed without EASA approval.
- NOTE 4** The differences of the Brazilian airplanes in relation to the basic EASA type design are summarized below:
 The Brazilian Airplane Flight Manual Cover page.
- NOTE 5** All parts exposed to sun radiation – except the areas for markings and registration must have a white color surface
- NOTE 6** The use of a fin-mounted pitot probe for the ASI is permissible in compliance with the LBA-approved Schempp-Hirth Flugzeugbau GmbH Technical Note No 396-3 respective Modification Bulletin No 396-7.
- NOTE 7** The use of the fuselage from the powered sailplane Duo Discs T is permissible in compliance with the LBA-approved Schempp-Hirth Flugzeugbau GmbH Modification Bulletin No. 396-9.
- NOTE 8** The use of the fuselage from the powered sailplane Duo Discs T is permissible in compliance with the LBA-approved Schempp-Hirth Flugzeugbau GmbH Modification Bulletin No. 396-9.
- NOTE 9** The installation of a manual operated rudder control during the production is permissible in compliance with the LBA-approved Wolf-Hirth GmbH Technical Note No 396-4.
- NOTE 10** The increase of the maximum permitted speed on aerotow is permissible in compliance with the LBA-approved Schempp-Hirth Flugzeugbau GmbH Technical Note No 396-5 respective Modification Bulletin No 396-10
- NOTE 11** The use of wings with trailing edge flaps connected to the air brakes, of wing tips with winglets, a retractable gear with shock absorber struts and a CFRP/GFRP/AFRP-fuselage is permissible in compliance with the LBA-approved Schempp-Hirth Flugzeugbau GmbH Modification Bulletin No. 396-15.
- NOTE 12** The modification of the wing tips for winglets is permissible in compliance with the LBA-approved Schempp-Hirth Flugzeugbau GmbH Technical Note No. 396-12.
- NOTE 13** The increase of maximum mass with water ballast is permissible in compliance with the Schempp-Hirth Flugzeugbau Modification Bulletin No. 396-15, respectively the Schempp-Hirth Flugzeugbau Technical Note 396-13
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- NOTE 14** With changes according to Note 16:
Suitable for cloud flying in accordance with the instructions given in the Flight Manual
- NOTE 15** With changes according to Note 16:
Suitable for restricted aerobatic maneuvers in accordance with the instructions given in the Flight Manual.
- NOTE 16** The use of the elongated fuselage, redesign of the cockpit area, the battery mounting in the vertical fin and the modified Schempp-Hirth airbrake in combination with the enlarged flight envelope is permissible in compliance with the Schempp-Hirth Flugzeugbau Modification Bulletin No. 396-16.

**HÉLIO TARQUÍNIO JÚNIOR****Gerente-Geral de Certificação de Produto Aeronáutico
(General Manager, Aeronautical Product Certification)**
