



TYPE CERTIFICATE DATA SHEET Nº EP-2020T04

Type Certificate Holder:

SCHEMPP-HIRTH FLUGZEUGBAU GMBH
KREBENSTRASSE 25
73230 KIRCHHEIM / TECK
GERMANY

EP-2020T04-00
Sheet 01

SCHEMPP-HIRTH

DUO-DISCUS T

27 May 2020

This data sheet, which is part of Type Certificate No. 2020T04, 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 T (Utility Category), approved 27 May 2020.

ENGINE	1 SOLO 2350 D (EM 2020T02)
FUEL	Two-stroke mixture, AVGAS 100 LL
ENGINE LIMITS	Maximum continuous Power 22,0 kW at 6500 RPM Maximum RPM 6600 RPM
OIL	Fuel / oil mixture, mixing proportion for "CASTROL Super TT" 30 : 1 (3.3 %)
PROPELLER AND PROPELLER LIMITS	OE-FL 5.110/83 av Diameter: 1100 mm + 2 mm /- 40 mm
AIRSPEED LIMITS (IAS)	Maneuvering Speed V_A 180 km/h Never Exceed Speed V_{NE} 250 km/h With changes according to NOTE 13 Never Exceed Speed V_{NE} 262,8 km/h Maximum permitted speeds - in rough air V_{RA} 180 km/h - in aero-tow V_T 180 km/h - in winch-launch V_W 150 km/h - for gear operating V_{Lo} 180 km/h Permitted speeds for power plant extension/retraction: - min. for extending/retracting power plant V_{POmin} 90 km/h - max. for extending/retracting power plant V_{POmax} 110 km/h
CG RANGE	Forward Limit 45 mm aft of datum point Rearward Limit 250 mm aft of datum point

DATUM	Most inner wing leading edge
LEVELING MEANS	Wedge 100:4,5 on slope of rear top fuselage to be horizontal
MAXIMUM WEIGHT	Max. Mass with Water Ballast 700 kg or when increased according to NOTE 13, NOTE 14: 750 kg Max. Mass of Non-Lifting Parts 490 kg or when increased according to NOTE 13, NOTE 14: 500 kg
MINIMUM CREW	1 Pilot – when flown solo, control is from front seat only.
MAXIMUM SEATS	2
MAXIMUM BAGGAGE	An enclosed baggage compartment is not provided
FUEL CAPACITY	16.2 Liters (4.28 U.S. gallons) Usable: 16.0 Liter (4.23 U.S. gallons) Non-usable: 0.2 liters (0.05 U.S. gallons) Moment arm: 520 mm (20.47 in) aft of datum
LAUNCHING HOOKS:	1) Nose tow hook „E 85“, LBA Datasheet No. 60.230/1 2) Safety hook „Europa G 88“, LBA Datasheet No. 60.230/2 Remark: Tow hook 2 optional
WEAK LINKS:	Ultimate Strength: - for winch and auto-tow launching max. 910 daN - for aero-tow max. 910 daN when MTOW increased according to NOTE 13, NOTE 14: - for winch and auto-tow launching max. 950 daN - for aero-tow max. 850 daN
OPERATIONAL CAPABILITY	Approved for VFR-flying in daytime.
CONTROL SURFACE MOVEMENTS	Refer to Maintenance Manual
LIFETIME LIMITATIONS:	Refer to Maintenance Manual
SERIAL NUMBER ELIGIBLE	1 and subsequent
IMPORT ELIGIBILITY	A Brazilian Certificate of Airworthiness may be issued on the basis of 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. 2020T04 and in condition of safe operation”.
CERTIFICATION BASIS	Brazilian Type Certificate No. 2020T04 issued on 21 May 2020 based on the RBAC 21.29 and 21.17(b), which endorses the JAR 22 effective on October 28, 1995 (Change 5 of the English original version).

Requirements elected to comply:

- Standards for Structural Substantiation of Sailplane and Powered Sailplane Components consisting of Glass or Carbon Fibre 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 7 April 1994 relating to JAR 22.785 (e)(f) "Seat and Restraint System".

- Draft NPA 22 D-64 dated 12 April 1994 relating to JAR 22.788 "Head Rests"

Special Conditions: None

Equivalent levels of safety findings:

JAR 22.207(c), JAR 22.1093 (a)

Exemptions: None

REQUIRED EQUIPMENT

The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane.

Min. Equipment:

2 Air speed indicators (up to 300 km/h)

2 Altimeter

1 Magnetic compass

1 Outside air temperature indicator with sensor (when flying with water ballast)

1 Engine control unit featuring:

- RPM indicator

- Engine hour meter

1 Fuel quantity indicator

1 Rear view mirror

2 4-Point harness (symmetrical)

2 Automatic or manual parachute

or

2 Back cushions (thickness approx. 8 cm / 3.15 in. when compressed), when flying without parachute

Additional Equipment refer to Flight and Maintenance Manual

DATA PERTINENT TO ALL MODELS:

NOTES:

NOTE 1 Weight and balance. Current weight and balance data including list of equipment included in the certificated empty weight and loading instructions, when necessary, must be provided for each glider at the time of original certification and at all times thereafter.

NOTE 2 Markings and placards. Powered Sailplane operation must be in accordance with the Brazilian Approved Airplane Flight Manual.
All placards required by the Flight Manual, the applicable operating rules and the Certification Bases must be installed in the airplane.

- NOTE 3** Continuing Airworthiness.
Maintenance Manual for the powered sailplane Duo Discus T, issued June 2000
With changes according to NOTE 13: Maintenance Manual for the powered sailplane Duo Discus T, issued October 2007
Repair Manual for the powered sailplane model Duo Discus T issued June 2000 with changes according to NOTE 13 issued October 2007
Manual for the folding propeller type “OE-FL./83”, the latest applicable issue, issued by Messrs. Ingrid Oehler TB GmbH
Repair Manual for the folding propeller type “OE-FL./83, the latest applicable issue, issued by Messrs. Ingrid Oehler TB GmbH
- NOTE 4** The differences of the Brazilian airplanes in relation to the basic EASA type design are summarized below:
1. Brazilian Aircraft FLIGHT MANUAL for Powered Sailplane (Duo Discus T and Duo Discus xT (SN 1 through 174))
2. Brazilian Aircraft FLIGHT MANUAL for Powered Sailplane (Duo Discus xLT (S/N 175 and on when in compliance with MB-No. 890-7))
3. Markings and placards.
 Only the placard “**SOMENTE GASOLINA DE AVIAÇÃO**” is translated to Portuguese.
- NOTE 5** Manufacturing is confined to industrial production.
- NOTE 6** All parts exposed to sun radiation – except the areas for markings and registration – must have a white color surface.
- NOTE 7** Approved for operations with the power plant temporarily removed or inoperative in accordance with the instructions given in the Flight Manual.
- NOTE 8** 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 890-2.
- NOTE 9** The use of wings with trailing edge flaps connected to the air brakes, of wing tips with winglets and a retractable gear with shock absorber struts is permissible in compliance with the LBA-approved Schempp-Hirth Flugzeugbau GmbH Modification Bulletin No. 890-6.
- NOTE 10** The modification of the wing tips for winglets is permissible in compliance with the LBA-approved Schempp-Hirth Flugzeugbau GmbH Technical Note No. 890-7.
- NOTE 11** With changes according to NOTE 13: Suitable for cloud flying in accordance with the instructions given in the Flight Manual.
- NOTE 12** With changes according to NOTE 13: Suitable for restricted aerobatic maneuvers in accordance with the instructions given in the Flight Manual.
- NOTE 13** 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. 890-7.
- NOTE 14** The increase of maximum mass with water ballast and the maximum mass of the non-lifting parts is permissible in compliance with the Schempp-Hirth Flugzeugbau Modification Bulletin No. 890-6, respectively the Schempp-Hirth Flugzeugbau Technical Note 890-9
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São José dos Campos, 27 May 2020.

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Subject: DUO DISCUS T – TCDS Issuance.

Ref.: EP-2020T04-00, SEI no. 4381345.

1. In attention to the document referred above, ANAC hereby issues TCDS no. EP-2020T04.
2. This TCDS is available at ANAC website: <https://sistemas.anac.gov.br/certificacao/Produtos/EspecificacaoOrgE.asp>

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Documento assinado eletronicamente por **Mário Igawa, Gerente-Geral de Certificação de Produtos Aeronáuticos**, em 28/05/2020, às 17:09, conforme horário oficial de Brasília, com fundamento no art. 6º, § 1º, do [Decreto nº 8.539, de 8 de outubro de 2015](#).



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Referência: Caso responda este Ofício, indicar expressamente o Processo nº 00066.014232/2019-07

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