



## **TYPE CERTIFICATE DATA SHEET Nº EB-2018T01**

Type Certificate Holder:

**AIRSHIP DO BRASIL INDÚSTRIA E SERVIÇOS AÉREOS  
ESPECIALIZADOS LTDA.**

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EB-2018T01-01  
Sheet 01

AIRSHIP DO BRASIL

138S

24 May 2018

This data sheet, which is part of Type Certificate No. 2008T01, 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 138S (Normal Category), approved 13 March 2018.**

<b>ENVELOPE</b>	Volume: 3 908 m <sup>3</sup> (138,000 cu.ft). Maximum Pressure: 71,03 mm.H <sub>2</sub> O (2.8 in.H <sub>2</sub> O). Minimum Pressure: 27,90 mm.H <sub>2</sub> O (1.1 in.H <sub>2</sub> O).
<b>LIFTING GAS</b>	Helium gas. The airship is to be inflated with laboratory grade (99.9% purity) Helium gas only.
<b>ENGINE</b>	One Textron Lycoming – AVCO Corporation IO-540-K2A5. (ANAC TC 8209)
<b>FUEL</b>	100 LL minimum grade Aviation Gasoline.
<b>ENGINE LIMITS*</b>	Maximum continuous: 2 700 r.p.m. Takeoff: 2 700 r.p.m. Maximum cylinder heat temperature: 246°C (475°F). Maximum inlet oil temperature: 118°C (245°F) *See <b>NOTE 4</b> .
<b>OIL</b>	MIL-L-22851 grade SAE 40 or better @ operation at -1 to 32°C (30°-90°F). MIL-L-22851 grade SAE 40 or better @ operation at -1 to 21°C (0°-70°F).
<b>PROPELLER</b>	Hartzell HC-E3YR-7LF/FLC-8468G-8Q. (ANAC TC 8712).
<b>PROPELLER LIMITS</b>	300 HP @ 2 700 r.p.m. Diameter limited at 1,98m (78 in).
<b>AIRSPEED LIMITS</b>	Maximum Operating Limit Speed: 54 m.p.h IAS. Design Speed for Max. Gust Intensity: 40 m.p.h EAS.

<b>C.G. RANGE</b>	See approved Flight Manual	
<b>DATUM</b>	Theoretical bow of the envelope. The theoretical bow is 0,508 m (20 in.) aft of the nose mooring probe. All station measurements are shown in inches. Car datum is airship station 16,74 m (659.0 in).	
<b>MAXIMUM WEIGHT</b>	Maximum airship takeoff and landing weight:	4 034 kgf (8 900 lbs).
	Maximum car weight:	2 429 kgf (5 356 lbs).
	Maximum static heaviness:	181,4 kgf (400 lbs).
	Maximum static lightness:	90,7 kgf (200 lbs).
<b>MINIMUM CREW</b>	One copilot	
<b>MAXIMUM OCCUPANTS</b>	Six 2 @ car station 1,02 m (40.0 in). 2 @ car station 2,43 m (95.0 in). 2 @ car station 3,15 m (124.0 in).	
<b>FUEL CAPACITY</b>	401 l (106 gal) (usable fuel: 378,5 l (100.0 gal))	
<b>OIL CAPACITY</b>	Maximum: 11,36 l (12 qts). Minimum: 8,5 l (9 qts).	
<b>MAXIMUM OPERATING ALTITUDE</b>	2 743 m (9 000 ft).	
<b>SERIAL NUMBER ELIGIBLE</b>	001 and 002	
<b>CERTIFICATION BASIS</b>	Brazilian Certificate 2018T01 based on: Section 21.17(b) of RBAC 21 amendment 02. Compliance has been shown utilizing the provisions of Advisory Circular 21.17-1 dated September 30, 1987, section 5. The Airworthiness requirements met under this provision are the Airship Design Criteria (ADC), FAA P-8110-2, dated November 2, 1987, as amended by FAA letter dated January 10, 1989. Application for original type certificate dated February 10, 1989.	
<b>EQUIPMENT</b>	The basic required equipment as prescribed in the applicable airworthiness regulation (see Certification Basis) must be installed in the aircraft for certification. In addition to the above required equipment, the following equipment is also required: ANAC approved Airship Flight Manual, P/N 1070003, original issue, dated July 20, 1990. SAIC Ground Handling Manual, P/N 1070002, original issue, dated July 20, 1990 is to be made available to the operator's flight and ground crews.	

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

Current weight and balance report together with list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification. The certification empty weight must include unusable fuel of 16,3 kgf (36.0 lbs) at car station 170.0.

**NOTE 2** Markings and placards.

The placards specified in the ANAC approved Airship Flight Manual, P/N 1070003, original issue, dated July 20, 1990. (or later revision) must be displayed:

**NOTE 3** Continued Airworthiness

Maintenance and Inspection of this Airship must be carried out according to SAIC Maintenance Manual P/N 1070004, original issue.

**NOTE 4** AVCO LYCOMING Engine Data Sheet EM-8209 provides information on the fuel pressure limitations.**MÁRIO IGAWA**

**Gerente Geral - Certificação de Produto Aeronáutico**  
**(General Manager, Aeronautical Products Certification Branch)**