

# TECHNICAL FEASIBILITY STUDIES

Airship	ETERNAUS	Model	16,9/100_ 6.000 –“Explorer” (H2)
---------	----------	-------	----------------------------------

## DATASHEET

BASIC DIMENSIONS			
Total Length	C =	100 m	
Maximum Diameter	Ø =	16,9 m	
Maximum Cross Section	St =	224,3 m <sup>2</sup>	
Outer Surface	Sext. =	4.295 m <sup>2</sup>	
Displaced Volume	Vd. =	15.567 m <sup>3</sup>	
Maximum Thrust	E =	20.230 Kg	
CONSTRUCTIVE INFORMATION			
Material		ALLOY 2090-T83 SHEET	
Plate Thickness	e=	0,4 mm	
Specific Density	& =	1,04 Kg/m <sup>3</sup>	
& rupture (traction)	&t =	70 Kg/mm <sup>2</sup>	
& admissible	&adm.=	15 Kg/mm <sup>2</sup>	
Transverse Prestressing	Fpt =	8,8 Kg/mm <sup>2</sup>	
Longitudinal Prestressing	Fpl =	4,4 Kg/mm <sup>2</sup>	
Operating Pressure	Po =	420 mmca	
Maximum Allowable Pressure	Pmáx. =	900 mmca	
External Resistance Compression	Rcp =	420 kg/m <sup>2</sup>	
Operating Speed Limit	Vlo=	280 Km/h	
Weight of the Superstructure	Ps =	7300 kg	
Accessories Weight	Pa =	3.400 kg	
Gas Weight	Pg =	1.560 kg	
Fuel Weight	Pc =	2.000 kg	
Load Capacity	Cc =	6.000 kg	
Operating Total Weight	Po =	14.260 kg	
Displacement Factor	Fd =	0,00814 x vel. <sup>3</sup>	
For a speed 50 Km/h, pot.= 22 HP	Autonomy=	65.000 km (*)	
For a speed of 70 km/h, pot.= 60 CV	Autonomy=	33.300 km	
For a speed of 100 km/h, pot.= 175 CV	Autonomy=	16.300 km	
For a speed of 140 km/h, pot.= 480CV	Autonomy=	8.400 km	
For a speed of 210 km/h, pot.= 1.600 CV	Autonomy=	3.750 km	

# FEASIBILITY STUDY

## MAIN USES:

---

- Tourist and hotel support tours (42 rotating seats) (175 m<sup>2</sup> usable area) 700m<sup>3</sup>
- Special air transport for up to 70 passengers/soldiers
- Fruit harvesting from tall trees (chestnut, avocado, etc.) for up to 6 tons
- Reforestation of areas using larger trees already formed and removed from the forest. (up to 35-40 trees at a time)
- Fogging of crops, especially in mountainous areas that are difficult to access and have no visibility
- Safe and fast air transport that does not require airports or open spaces to unload people and goods, supplies and even agricultural machinery, even in the jungle
- Hoisting services greater than a 40-ton crane (does not require rigging)
- Winged ICUs Itinerant with 240 m<sup>2</sup> of area (5.00 x 35.00 m)
- Winged yacht; • Private mobile office with all the perks and observation post for agriculture, pastures, construction sites, properties, assets, etc.
- Special lifting work replacing heavy cargo helicopters to support special construction of prefabricated tree houses in the forest for the construction of lodges, hotels, lodgings and military structures
- Firefighting units with 6 m<sup>3</sup> of extinguishing agent capacity
- Ecotourism on treetops and in hard-to-reach locations.
- Aircraft - traveling store for remote locations
- Semi-autonomous aircraft for distributing goods within large urban centers or between cities (Amazon, Mercado Livre, large department stores, etc.)
- Aircraft to operate as a means of transport and installation of air conditioning units, cooling towers, and the like on top of buildings, operations that have been prohibited for helicopters due to many accidents.
- Etc., etc., etc....
- Equivalent to a military helicopter that carries 60 soldiers at a cost of over US\$ 35 million
- Reminder: the operating cost of an ETERNAUS is at least 14 to 20 times less than that of a helicopter.