

TST-10M



Users of the TST-10M Atlas are mainly **pilots** who enjoy sport thermal flights and also appreciate independent take off, guaranteed reach of destinations even under non-ideal thermal conditions, easy handling of the glider on the ground and quick assembly/disassembly. The Atlas offers all this for a low price with low operational costs.

Instrumentation of the TST-10M Atlas glider is fully customizable - the customer can either choose instruments from our list of avionics manufacturers or he/she can supply the instrumentation himself / herself during the production of the ordered aircraft.

The Atlas can be delivered with an entire range of **accessories** and a **trailer**.



TST-10M Atlas is a single-seat self-launcher with a retractable power unit, suitable for thermal flights and wave or ridge flights. The aircraft offers easy handling and the capability of independent take off.

TST-10M Atlas offers comparable performance to other gliders in the standard class and is equipped with a retractable power unit allowing for independent take off and reach of an airfield without thermal support. Engine extraction and retraction is fully automatic and it is controlled by two electronic servo motors. The power unit is operated by the pilot with two push buttons on the instrument panel.

The ground handling of an Atlas is very easy thanks to its light weight. The wheels on wing tips allow for independent rolling and take off.



Brief glider characteristics

- * 15 meter wing span
- * Glide ratio 40
- * Long-life all-composite structure
- * Retractable Rotax 447 power unit
- * Independent taxiing and take-off; no off-airport landings and return transports
- * Ability to extract and retract the engine anytime during the flight
- * Up to 150 km range with the engine engaged
- * Aerotow capable
- * Club class conformance
- * Easy assembly, disassembly and transport
- * Easy maintenance



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TECHNICAL DESCRIPTION

TST-10M is a single-seat, mid-winged monoplane with a cantilever wing, T-shaped tail and a classical one-wheel undercarriage. Its composite structure is made in negative molds.

THE WINGS with sandwich structure are equipped with ailerons and air brakes on the upper surface. There are no ribs in the wing. The strength of the wing is formed by the main spar, the aileron spar and the root rib. The wing profile of the sandwich structure forms a torsion box.

The wings are interconnected by fittings and two horizontal pins. The connection wing-fuselage is made by means of pins and fittings placed in the fuselage and the wing root rib. The composite ailerons are hung by four hinges with the turning axis on the upper side. Air brakes on the upper side of the wing are made of aluminium and are retracted into pits.

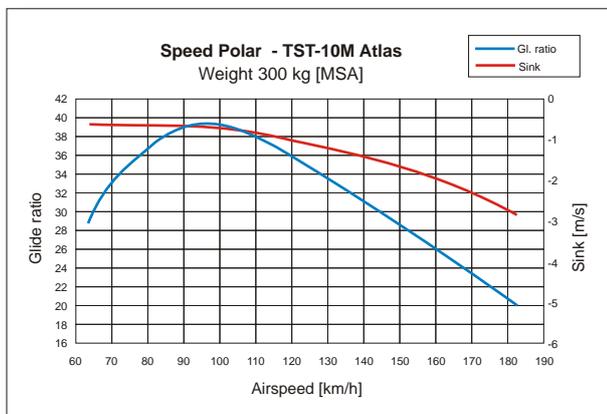
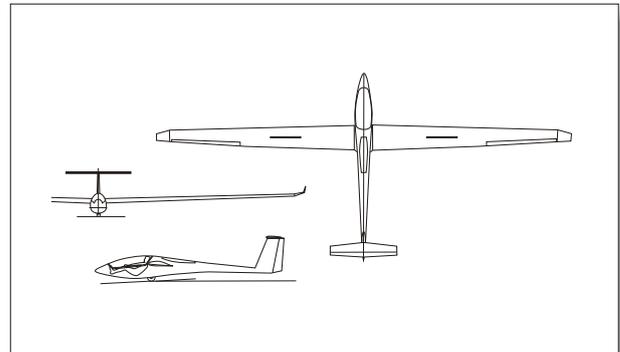
THE FUSELAGE with a shell structure is made in a negative mold together with the fin

THE TAIL is a T-shaped sandwich structure.

THE CONTROLS, enabling pitch, roll, air brake and trim control, are of lever design with a push-pull rod system. The relevant backstops are placed on the stick. Yaw control is transmitted via cables and includes adjustable foot pedals. The airplane can be trimmed by a torsional member in the elevator drive that is controlled by a lever in the left of the cockpit.

THE UNDERCARRIAGE consists of one unsprung wheel 300x100 mm mounted in a flexible fork. The brake handle is on the control stick. The wingtip wheels serve for independent taxiing and take-off. The castoring tail wheel 80x30 mm enables easy manipulation on ground.

THE POWER PLANT consists of a Rotax 447 engine, a 1:2 belt reducer and a 1200 mm diameter wooden propeller. The retraction mechanism of the power unit enables self-launching and restart during flight.



TECHNICAL PARAMETERS

Number of seats	1
Wing span	15 m
Wing area	9,85 m ²
Aspect ratio	22,8
Length	6,87 m
Weight of pilot and fuel	65 - 115,5 kg
MTOW with BRS	322,5 kg
V _{NE}	180 km/h
Max maneuvering speed	140 km/h
Stall speed	60 km/h
Max. glide ratio with winglets	40
Min. sink rate	0,62 m/s / 72 km/h
Max. calculated load factor	+5,26 / -3,26
Engine	Rotax 447
Power	29,5 kW (40 HP)
Carburetor	2x membrane
Propeller	1200 mm
Reducer	Belt 1:2
Fuel tank capacity	14 liters
Fuel cons. when climbing	11 liters / h
Fuel cons. at cruise speed	9 liters / h



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