

Apis[®] 2

...taste the freedom

Easy and independent take off – like an Ultralight aircraft – and still flies like a modern glider: That is the Apis[®]2.

The glider – state of the art and built to last

The Apis[®]2 is built with the latest CFRP building technologies. With 15 m span and its T-tail the Apis[®]2 compares very close to the layout of today's standard class and 15 m gliders. The glider is completely built in CFRP with a top finish comparable from what you know of today's sailplanes.

The Apis[®]2 wings are new technology with a multi trapezoid wing with raising tips. Aileron and flaps are interconnected (flaperons) and standard SH airbrakes guarantee safe and short landing approaches.

The spars are connected with two bolts in tongue/tongue technique. Rigging is straight forward and can be easily accomplished by one person using the "one-man-rigging" system. The glider fits in a standard sailplane trailer. All connections are automatic. The large canopy opens to the side and allows easy access to the ergonomic and roomy cockpit.

The Apis[®]2 includes a parachute rescue system. Wearing a pilots parachute is therefore not necessary and allows quite tall pilots to fit in the Apis[®]2 very comfortably.



Flying the Apis[®]2 is maximum pleasure in every situation

The power plant – powerful and reliable

The heart of the Apis[®]2 powerplant is an aircooled single cylinder Hirth F 33 B with intake and exhaust silencer. It generates 27 hp from 303 ccm. The 148 cm ground adjustable carbon fibre propeller has been developed by Martin Wezel specially for the Apis[®]2. The noise level of the Apis[®]2 is at a very low 57.7 db(A).

Very convenient is the filler opening at the fuselage which allows filling directly from the fuel container.

The powerplant is retractable. The process is controlled by ECU (Engine Control Unit), a newly developed electronic instrument by TL elektronik. This allows the pilot to fully concentrate on flying the aircraft when in need of an engine restart in the air. The extension of the powerplant is started by switching on the main switch and the ignition. The ECU then takes over the process and the pilot can start the engine with the starter button. It is not necessary to manually control fuel valve or a choke lever.

The ECU is optimizing the engine according to the temperature. During the retraction procedure for the powerplant the ECU is activating the propeller stop as soon as the RPM allows. Then the ECU is controlling the full procedure until the engine is completely stowed away. The whole process takes 20 seconds.



The heart of the Apis[®]2 powerplant is an air-cooled single cylinder Hirth F 33 B



**Flying the Apis®2 –
maximum pleasure in every situation**

The Apis®2 takes off under its own power as a self launch glider. Despite the fixed tailwheel it is easy to control on the ground. Two aerodynamic tip wheels help eliminate the need for a wing runner.

The Apis®2 has a fixed gear with a wheel brake on the 300 mm wheel. Take off is very easy. The acceleration is fast due to the low weight of the glider. Aileron authority is present right from the very beginning. After a short roll only climb rate is about 2.5 m/s (4.8 kt) at a speed of 80 to 85 km/h (45 kt). After about 150 m (500 ft) you will be airborne and it takes about 290 m (950 ft) over the 50 ft obstacle.

There is almost no trim change if you fly under engine or in gliding mode or while extending or retracting the engine. The controls are very harmonic and the glider has a light handling without being nervous. The flaps with a neutral trim will give you a speed range of 80 km/h (43 kt) at +9° to 160 km/h (86 kt) at -6°.

Thermal speed is about 80 km/h (43 kt) and minimum sink is 0.6 m/s (115 fpm). Best glide speed is 95 km/h (52 kt) which will give you a L/D of 39. The Apis®2 has very docile flight characteristics in slow flight and stall due to the modern geometry of the wings and the carefully selected airfoil. Landing approach is at 90 km/h (48 kt) with positive flaps. The highly efficient airbrakes allow safe and steep approaches into short airfields. The Apis®2 can be landed with engine retracted or extended .

FAQ...

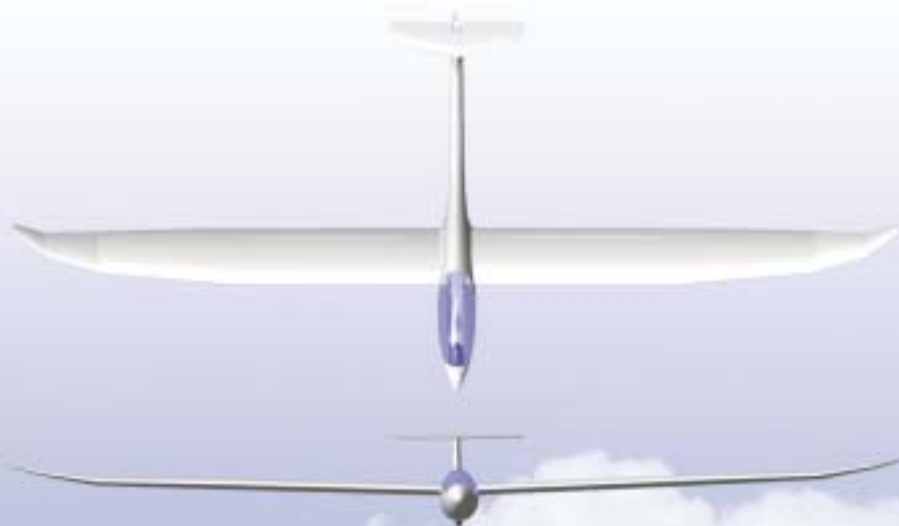
.....Which certification status has the Apis®2 and what are the plans for certifications in the international market?

The Apis®2 has a type certification according to the German Ultralight regulations.

We will start on the certifications for other countries.

.....Which licence do I need to fly the Apis®2?

In Germany you will need a valid Ultralight Licence for 3-axis control (Ultraleichtflugschein für dreiachsgesteuerte ULs, Luftsportgeräteführer Beiblatt F) and as a "type rating" the solo pilot permit for gliders.



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Technical data

Span.....15 m (49 ft)
Wing area.....12.4 m² (133.5 sq ft)
Aspect ratio18.2
Length overall.....6.5 m (21 ft)
Empty weight210 kg (463 pd)
Maximum gross weight....320 kg (705 pd)
Maximum load factor+5.3/-3.3 g
L/D39 at 95 km/h (52 kt)
Min. sink rate....0.6 m/s at 80 km/h (43 kt)
Flap settings+9°, +5°, 0°, -3°, -6°
VNE.....200 km/h (108 kt)

EngineHirth F 33 B
Power.....27 HP (19.3 kW)
CarburetorMikuni membrane carburetor
DrivePoly-V-belt 1:2.5
Propeller.....Wezel 2-blade, CFRP, Ø 1.48 m
Fuel tank.....14 liter
Fuel usage while climbing9 l/h
Noise level57.7 db(A)

Your Apis® 2 partner: