

# HELIXX GERMANY

THE AVIATION COMPANY



## HELIXX-1 HELIXX-2

One & Two-Seaters  
Coaxial - Ultralight Helicopter

**Long range - maximum payload - low energy consumption -  
environmentally friendly operation**

The HELIXX-1 & -2 are very easy navigable construction with the special developed asymmetric trapezoid shape rotor blades to minimize the vibrations and noise level. The coaxial rotors' axle protected against vibration and corrosion which not applied on the other ultralight helicopters. The coaxial rotor provides safe landing and emergency-landing. The helicopter shape developed for the best aerodynamic characteristic to reduce the fuel consumption and increase the safe navigation. The hydraulically operated rotor brake efficiently reducing the times to stop the rotors' rotation.

The **HeliXX-1/HeliXX-2** is a robust manoeuvrable One-/ Two-Seater Ultralight Coaxial Helicopter.

**HeliXX-1/HeliXX-2** is suitable for various tasks at low operation cost. Precise attention to aerodynamics and mechanics permit low fuel consumption, high performance and top comfort. Due to their special construction and technical design, the connection between the two rotor axles is extremely protected against vibration and corrosion compared to other ultralight helicopters. The asymmetric trapezoidal shape of the rotor blades stand for a low volume and a low-vibration flight. The hydraulically operated rotor brake and overlying control are responsible for the extremely safe and stable landing.

### **Engine:**

- Numbers of Cylinders: 4
- Cylinder Arrangement: Flat Engine
- Cubic Capacity: 2500 cm<sup>3</sup>
- Power: 165 hp at 5100 Rev/m
- Fuel Consumption: 10-12 l/h (Petrol)
- Other characteristic: Reliable, long-live, very silent.

### **Composite Rotorblade family:**

We use individual, own advanced, that asymmetric NACA 0012-0032 profile, trapezoid, composite. The unique blades have enjoyable silence and minimal vibration flying.

### **Instrumentation:**

Three basic required flight instruments, which includes the safety device sign display Engine RPM, Rotor RPM & other flight instruments. Any otherther instrumentation can be placed on the instrument board as required.

### **Cabin:**

The cabin covered with distortion-free polycarbonate and equipped two large vertical opening doors for easy get on & off. Doors have five-point lock system provides sufficient mechanical rigidity.

### **Landing gear:**

Equipped with spring absorber, which provide a better comfort level at landing, correcting small landing faults, and protecting the landing mechanism against from dynamic shocks.

### **Payload Transport:**

Lifted weight capacity 50-60% of the own weight which is about 280-300 kg.

### **Helicopter's Chassis:**

Built from a light weight structure, engine and the rotors' drive system inside the chassis.

### **Delivery/Transportation**

Helicopter is delivered with two short length (diameter) blades of a simple arrangement, which in the case of an urgent mission can be ready to fly 5 minutes after the arrival of the helicopter on the transportation trailer. The newly developed clamping hubs are suitable to adjust the four rotor blades for the suitable transportation position and fixing it to the tails. Two helicopters can be storage on a 3m x 5m area if arranged cabin-tail vs. tail-cabin.

### **Services & Application Areas:**

After 25 hours, small services, oil & air filter replacement, after 50 hours, medium services, after 100 hours main services. The technical simplicity of the services means maintenance and repairing can be performed on the spot. The quiet operation and the small rotor diameter allow the application where other helicopter types is not eligible. The low fuel consumption with increased capacity fuel tanks can provide a long range flight up to 4.000 km. No need for refuel base. Regular fuel (95 octane) may be used to refuel anywhere. The helicopter with reason the very easy to use function can be safely drive by less experienced pilots.



# TECHNICAL SPECIFICATIONS

## TECHNOLOGY

- 4 Cylinder engine
- Coaxial rotor
- CroMo steel frame (Chrom-Molibdem)
- 165 HP engine
- Unorthodox control
- Fibreglass blades
- Rotor tips with noise reduction design NACA 0018-0032 profile
- Spring suspension landing gear
- Rear wheels can be braked
- The braking rotor stops at 4-5 revolutions
- 44 L aluminium central fuel tank
- Two 22 L side-mounted kevlar fuel tanks
- Multifunctional tail stabilizer system
- Main technical features

## POWER

- Engine: 2.5L 165 HP
- Operating speed: 4650 rpm
- Rotor diameter: 6400 mm
- Rotor axis speed: 600 rpm
- Rotor tip speed: 200 m/s
- Rotor circumference: 19.69 m
- Rotor area: 64 m<sup>2</sup>
- Surface pressure: 8.75 kg/m<sup>2</sup>
- Takeoff weight (w fuel): 560 kg
- Empty weight: 420 kg
- Power to weight ratio: 3.4 kg/HP

## ENGINE

- Cylinder arrangement: Flat motor
- Displacement: 2,500 cc
- Power: 165 hp at 5,100 rpm
- Fuel consumption: 10-12 l / h (petrol / diesel)
- reliable, durable, very quiet





