



JETLEV-FLYER

Stop Dreaming! Start Flying!

PRODUCT INFORMATION

You have been dreaming about flying a personal jetpack for way too long. Your wait is finally over! The Jetlev-Flyer is by far the most extreme water sports toy on the market today. With a flight time of 2 hours, heights up to 10 meter and a top speed of 50 km/h, the Jetlev-Flyer is a one of a kind high tech toy, packed with safety features and easy to learn for everybody.

Technical data and Materials

The Jetlev-Flyer is assembled and built in Germany by our engineers and experts using almost exclusively German made parts.

The Jetlev-Flyer is made with only the best material available. This is one of the reasons why we have developed the Jetlev-Flyer for many years. On our exclusive JF-250 model we only work with Carbon Fiber, airplane aluminum and submarine electronics. The Jetlev-Flyer is made of the strongest and most reliable materials. Every part of the Jetlev-Flyer is painstakingly made with great precision. All the water seals on the Jetlev-Flyer are made with the same high grade O-ring systems that one finds in deep sea systems.

To keep moisture out, critical cables are protected with military style braided stainless steel sleeves and the electronic modules and cable terminations are encapsulated with tough polyurethane. The metal parts are made of either stainless steel or hard coat anodized aluminum with a Teflon coating that protects it against corrosion and abrasion. No expense is spared to make the Jetlev-Flyer system as reliable and low maintenance as possible.

Technical features:

High power-to-weight ratio:

Traditional aircraft designs suffer from low thrust-to-weight ratios which limit their performance and agility. Even F/A-18 E/F fighter jets can barely overcome the force of gravity. To achieve a dramatic improvement in this ratio, we decided to locate the propulsion source on a separate boat-like unit, and transmit low pressure, high flow water to the jetpack through a supply hose and generate thrusts by nozzle reaction force.

Inherent stability and effortless control:

Even though the jetpack can generate upwards of 500 lbf (2220 N) of thrust for lift and propulsion, the flight controls are isolated from that thrust and only take a few ounces of effort to adjust.



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Simple, intuitive flight controls:

Fly-by-wire digital throttle control; nozzles angles determine allocation of thrust between lift and propulsion (forward, neutral or reverse); differential nozzle deflection generates yaw moments; and weight shifting from side-to-side generates roll moments.

Flexible supply hose/tether:

A flexible water supply hose delivers power to the jetpack with pressurized water. It also serves as the tether, enforces a flight ceiling, discourages the pilot from flying over land, acts as a stabilizer, dampens vibrations, and maintains forward heading stability of the jetpack in flight.

The smoothness, stability, control, performance and ease-of-use surpassed even our wildest expectations. Once you try the Jetlev-Flyer, you will appreciate why we are so excited over the results.

Key features of the carbon fiber production model (JF-250):

- Jetpack dry weight (approx.): 14 kg
- Maximum lift: 250 kg
- Thrust-to-weight (68 kg pilot, at takeoff): 2.3 : 1
- Measured top speed (68 kg pilot): 50 km/h
- Hose length: 10 m
- Flight ceiling (measured at feet level): 8.5 m
- Duration at wide open throttle (approx.) 1-2 hour
- Duration at cruising speed (approx.) 2-3 hours

Key features of the glass fiber production model (JF-220):

- Jetpack dry weight (approx.): 14 kg
- Maximum lift: 220 kg
- Thrust-to-weight (68 kg pilot, at takeoff): 2.1 : 1
- Measured top speed (68 kg pilot): 50 km/h
- Hose length: 10 m
- Flight ceiling (measured at feet level): 8.5 m
- Duration at wide open throttle (approx.) 1-2 hour
- Duration at cruising speed (approx.) 2-3 hours

The Jetlev-Flyer comes with a limited two year limited warranty.



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Safety

Safety has always been a top priority throughout the Jetlev-Flyer's design and development process. We evaluated relative safety from three perspectives: passive safety, active accident avoidance, and minimizing risks.

Passive safety:

- For a jetpack, the Jetlev-Flyer has excellent inherent stability. The pilot's center of gravity is well below the thrust planes of the nozzles which ensure fore-aft (pitch) and side-to-side (roll) stability. Since the mass of water in the supply hose increases with height, stability increases further from both mass and lower center of gravity.
- Throttle and nozzle pitch controls are designed to stay at any settings determined by the pilot to avoid inadvertent falls when the throttle grip is released, while roll- and yaw-moment controls are self-centering and provide good tactile feedback to the pilot.
- The design of the jetpack thrust assembly allows the major forces of lift, gravity, drag and propulsion to achieve equilibrium very quickly to achieve stable flight. Nozzle control is isolated from its thrusts and only a few ounces of effort are needed.
- The pivoting supply tube assembly minimizes pitching moments, and drag from the hose greatly increases forward directional stability in flight.
- Our effective training program helps reduce pilot errors.
- Our operating procedures also add to the safety equation by mandating qualified instructors and supervised operation, keeping pilots over deep waters, and banning reckless behavior.
- The Jetlev-Flyer's water jets operate at relatively low pressures. They do not bruise the pilot's legs or damage skin or hair. Also, the longer they travel, the more the water drops slow down from air friction. The jets have very mild impact forces after they descend 30 feet. Hands and arms should be kept away from direct impact by the jets to avoid possible bruising.

Active accident avoidance:

- The Jetlev has the ability to hover, stop quickly and reverse directions in the air.



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- In case the pilot feels uncomfortable or overburdened, the pilot can at any time pull the Dess Key and abort the flight. The shortly delayed ebbing of water flow will soften the water landing.
- For novice pilots the throttle control on the hand bar of the pilot can temporarily be deactivated and put in the hands of a trainer via remote control. In this way the pilot can focus on the steering during the first couple of minutes before taking over full control by himself.

Minimizing risks:

- Flying in a jetpack maintains the pilot's body in a primarily vertical posture. In the rare occasion of a fall, this body posture is the safest because it presents the lowest surface area for impact and large leg muscles provide the most strength to absorb impacts.
- The water hose limits flight altitudes to less than 30 feet and water serves as an excellent safety net at normal operating heights and speeds. Vertical entry speed is no more than 30 mph and has been well-proven by 10 m platform divers to be low in risk.
- Mandatory Type II or III Coast Guard approved PFD provides impact cushioning and floatation.
- The saddle provides protection for lower body orifices against injuries from water impact.
- The jetpack is bouyant.
- Since the pilot is strapped securely to the jetpack, and the back rest supports the pilot from head to hip, fall impact with the water is absorbed gradually and simultaneously over large areas of the body, and there are little opportunities for secondary collisions to occur between the pilot and the jetpack.
- Quick-release body harness allows quick exit by the pilot should it be necessary.
- Leg trapeze reduces the risks of leg injuries while increasing comfort, especially in long duration flights.
- In the rare event of the pilot falling on the boat unit, the lack of impalement hazards and gradual absorption of energy by the boat's buoyancy will greatly reduce the risks and severity of injuries.