Technical Specifications of the Batteries

The battery packs are based on many single Stahlbecherzellen based on lithium-ion-batteries that are connected in parallel and in series. They are built up plug and play ready and examined in accordance with UN38.3. An integrated battery management system takes on all monitoring and control tasks. Furthermore, a smart power system is integrated, it hedges against short-circuit and overload cases. An output for motor control and a bidirectional input/output for charger and avionics supply are integrated as well. Various charging systems and DC converters for 12V onboard power systems complement the bundle. The multimaster configuration of the battery packs allows homogeneous redundancy during energy supply and an open scaling later.

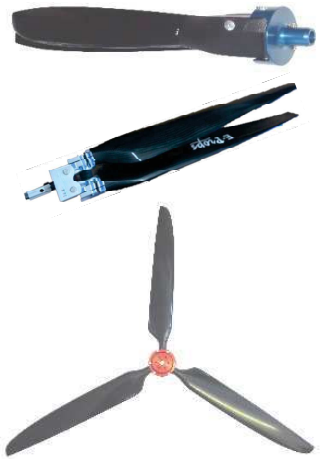
Single Pack 14S/20P/15kg	Multimaster Single Pack 14S/x*20P *	Multimaster Single Small Pack 14S/x*10P *	Combination of all Packs *
			
Single Small Pack 14S/10P/8kg			max. 8Packs at one network, one charger per pack or one charger for all)
			

Technical Specifications of the Propellers

Folding propellers, fixed propellers with static hub and adjustable propellers with setting servo. The profiles and the geometry of the propeller blades were specially developed for our HPDxx motor series and its speed range. Here it was important to pay attention to the highest efficiency and the lowest noise generation.

The propeller blades are made of carbon. The propeller hubs are made of high-strength aluminium. The folding propellers have an integrated folding mechanism that ensures a secure folding process.

The fixed propellers with static hub are adjustable from the ground. The adjustable propellers can be operated automatically at the motor controller MC300.



Technical Information Brochure

E-Drive System

You too may want to start in the future of flying with the E-Drive System.

Silent, reliable, long-lasting, uncomplicated, emission-free, environmentally compatible…

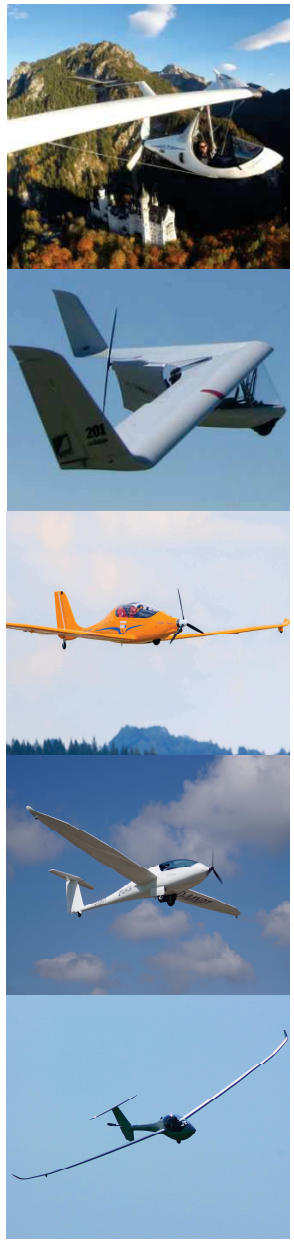
We provide a ***full plug and play drive system***.

We offer competent construction advice up to comprehensive service – naturally also for special projects.

Our systems are constantly expanded and are scalable.

- Motors HPD 12/16/25/32/50 kW
- Motor controller PI300
- Interface systems, instrumentation
- Li-ion battery, energy density >0.25 kWh/kg
- Home charging systems and solar charging systems
- Folding, fixed and adjustable propellers made of carbon
- Extensive accessories

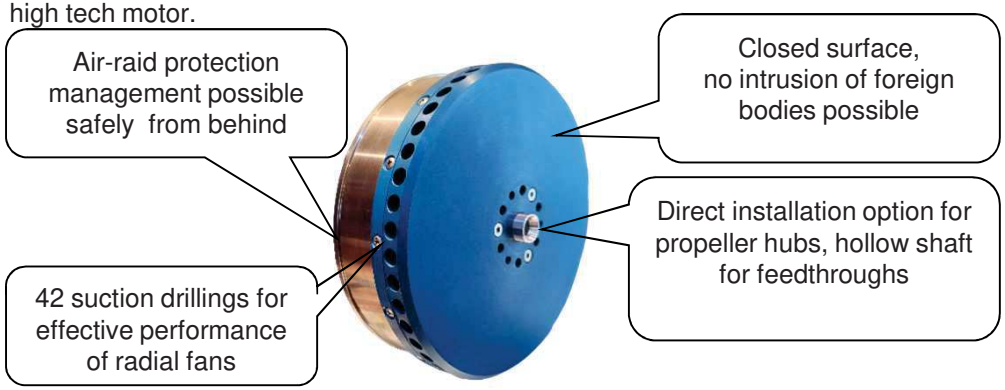
GEIGER ENGINEERING



Technical Specifications of the HPDxx Motors

The patented motors of the HPDxx series are parallel connected of three partial motors. This setup concept implies a certain high availability due to homogeneous redundancy. Furthermore, these motors consist of an effective cooling airflow, directly over the motor winding, at the point of origin of the heat loss.

The usage of high-quality neodymium magnets, fully-processed electrical sheets of highest quality and Rückschlusskomponenten with smallest air gaps completes this high tech motor.

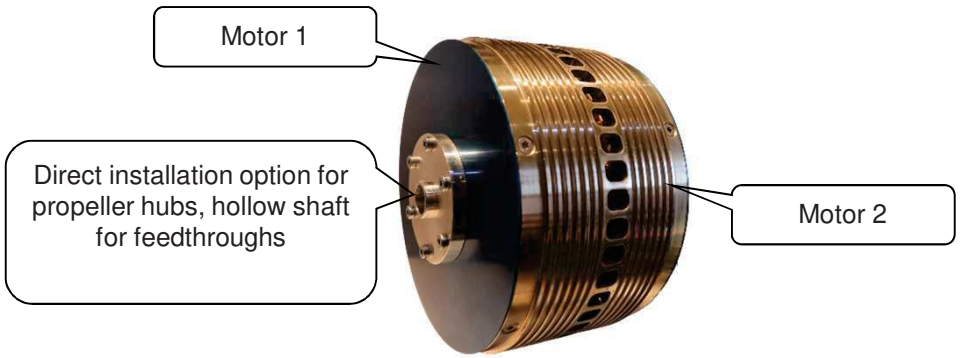


Technical Specifications and Benefits of the HPDxxDuplex Motors

The motors of the HPDxxDuplex series are based on proven motors HPDxx.

Here two of the basic motors are combined in one case. The serious advantages of this construction are firstly the homogeneous redundancy that allows the complete failure of one engine, because the other one can take on 60 percent of the overall performance without delay and secondly the small power-to-weight ratio of approx. 3,5kWc - 5kWp per kg.

These duplex motors are available in the performance classes 20/32/40/50 kW cont.



Technical Specifications of the Motor Controllers MC300

The motor controllers of the MC300 series are specially developed for the HPDxx motors and consist of a vast range of parameterizable functions for flight-specific tasks:

- Controlling of adjustable propellers with the “constant torque”
- function
- Positioning of propellers
- Parameterizable release switching, rapid stop functions (parachute emergency stop, virtual coach, etc.)
- Reversion for air brake and manoeuvring
- Brake functions, generator operation, winch operations, …
- Temperature management of motor, battery and inverter for preservation of availability in the case a limit value is exceeded.
- Automatic self-check functions integrated from battery, inverter and motor before the start

Technical Specifications of the Interface Systems

Display of Battery Data:
•Remaining capacity in % and Ah
•Temperature, voltage
•Charging and discharcing current
•battery status

Motor data:
•Current performance, speed
•Motor temperature
•Controller temperature
•Motor current, gas
•Duty circle of the power amplifier
•Information about motor status

Flight relevant data:
•Time, speed over ground
•Current range, covered distance,
•Motor run time
•Variometer, altimeter,
•Integrated autopilot system

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