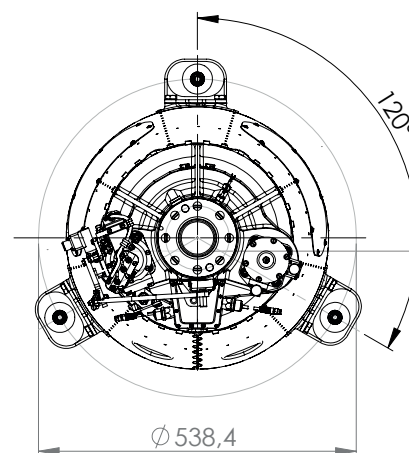
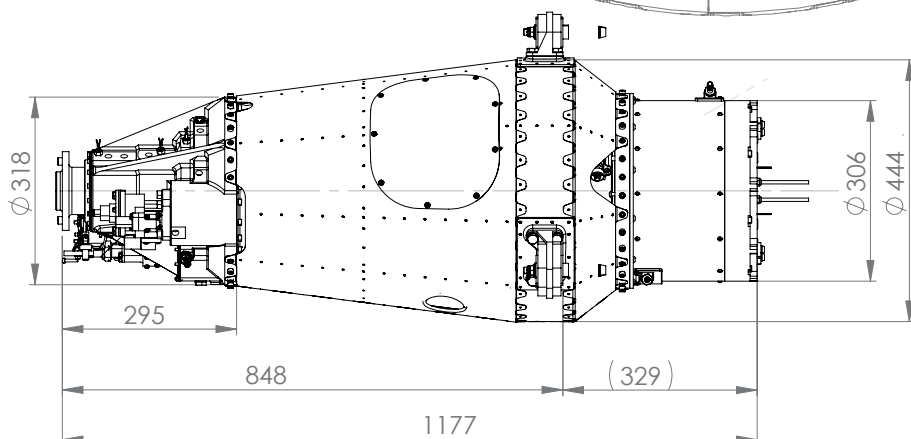


EPS 400kW

MGM COMPRO introduces state of the art High Power Electric Propulsion System (EPS) for Aviation. Innovative fully electric powertrain (EPS + ESS) for most demanding Aerospace applications focusing on very last details in terms of superb performance, power density, efficiency, safety, redundancy, durability and technological innovation.

**PEAK
POWER**

400kW
ALL ELECTRIC



400kW EPU

POWERTRAIN SYSTEM ARCHITECTURE

Governor and overspeed
integrated hydraulic system for
constant speed propeller

2 core BLDC motor topology
dual core design with independent stators
featuring single or multi-winding topology
for increased redundancy

HBCi400800 Inverters
safety EPS architecture based on
using 2 or even 4 ESCs / Inverters

Planetary gearbox
The state of the art is based on the planetary
gear system together with the integrated
extended functionality for the control of single
action hydraulic constant speed propellers.

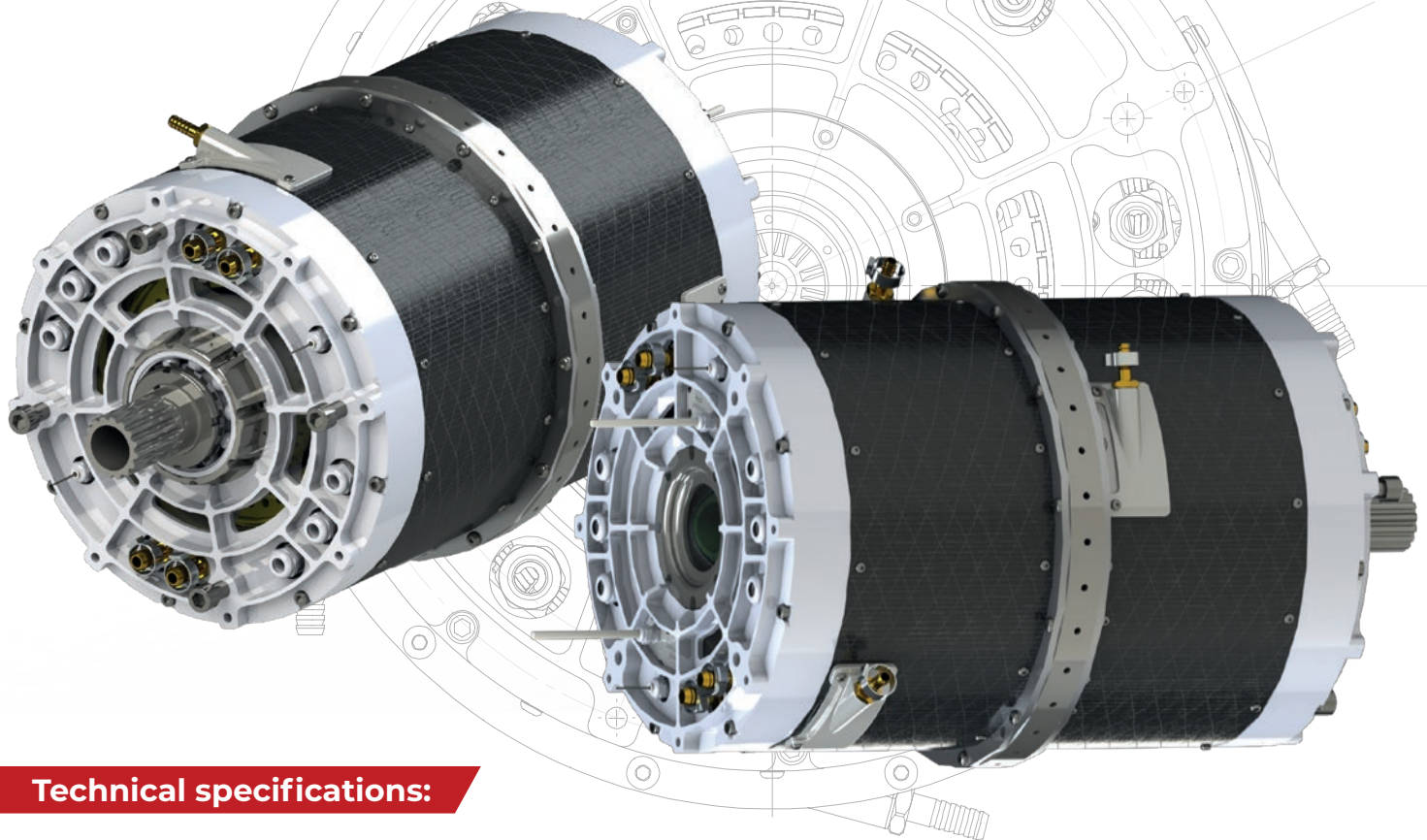
Hydraulic constant speed propeller
Single action type (MT Propeller, AVIA Propeller, etc.)

Outstanding parameters

KV customizable on demand*

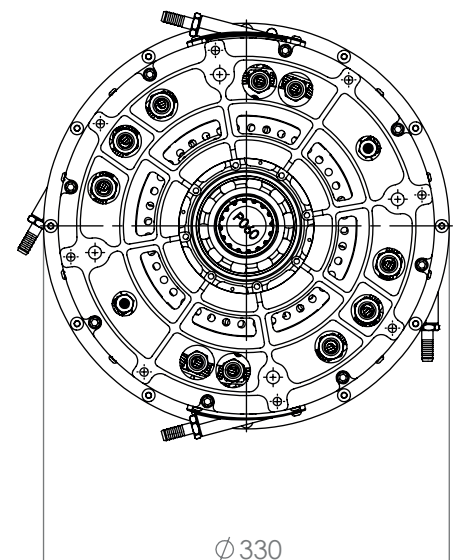
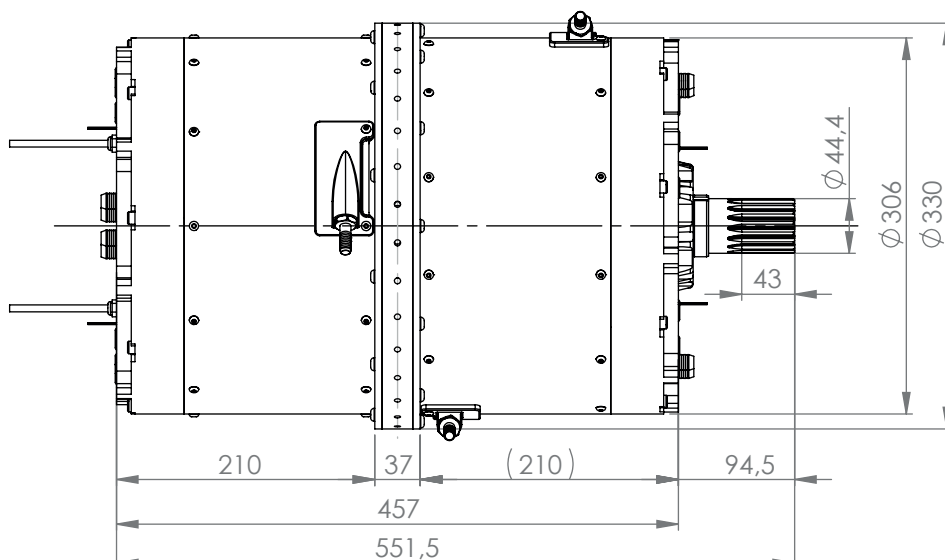
800 V		
DATA	VALUE	UNIT
Maximal axial force	2 up to 10000	N
Peak torque	1 950	Nm
EPU peak efficiency	up to 96	%
Peak power	400	kW
Continuous power	350	kW
Limiting speed	2200	RPM
Operation RPM	1 750 - 2 200	RPM
Cooling system electric motor	Dielectric liquid	
Cooling system ESC	Dielectric liquid	
Cooling system Gear-box	AEROSHELL TURBINE OIL 390	
Dimensions	1177 x 444 x 444	mm
Gear box ration	3,6363 : 1	
Weight (excl. Governor and Overspeed)	192	kg
Propeller governor	Electronic control	

400kW BLDC



Technical specifications:

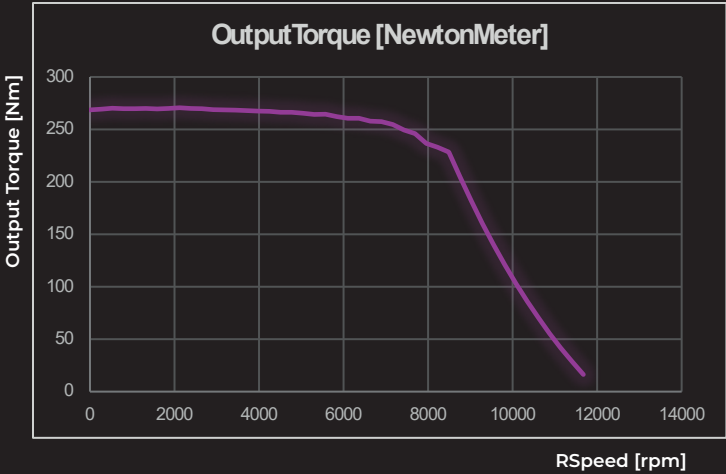
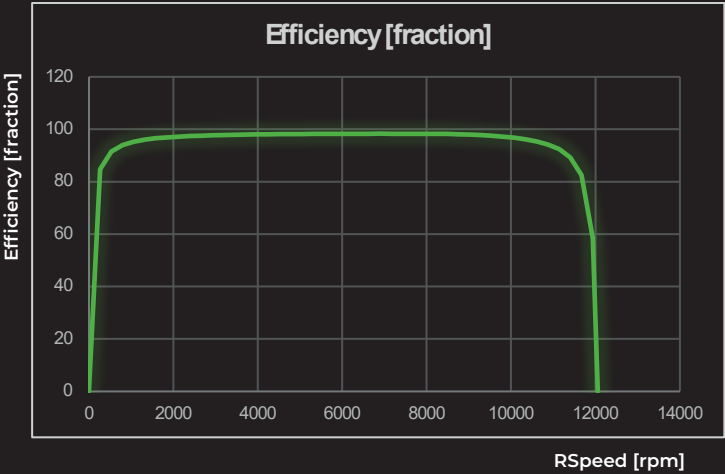
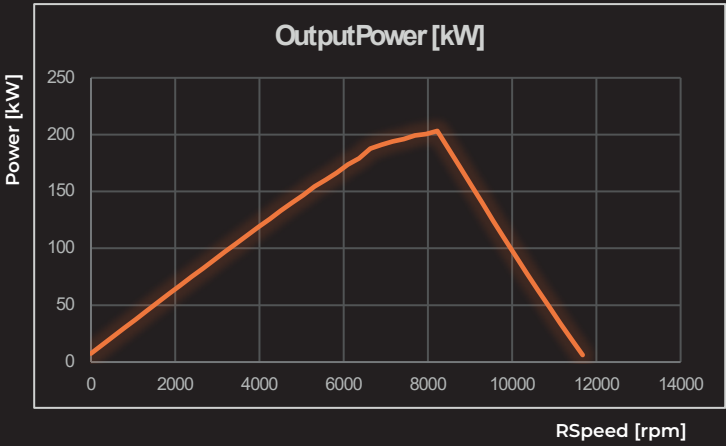
- Working range: up to 800V
- Nominal voltage level: 633V
- Max power: **400kW**
- Continuous power: **350kW**
- **Limiting speed: 8 000RPM**
- Rated torque: 240 Nm per Core
- Rated torque constant KT: 0,722 Nm/A
- **Diameter: 330mm**
- **Length: 457mm**
- **Dry weight: 129,7kg**
- **Dual-core topology**
- Primary and secondary liquid cooling system based on **dielectric coolant**
- **Hybrid Ceramic bearings**
- Sensored operating mode – commutation output U,V,W
- **Zero cooging** from initial angular speed
- Thermal behaviour controlled by multiple temperature sensors
- Unique design of the **rotor core** cooling system
- Lightweight structure provided by **carbon composite** components



Main Characteristics

Hall sensor connection

SENS-A	Blue
SENS-B	Green
SENS-C	Yellow
TEMP + (PT1000)	White
TEMP - (PT1000)	Grey
Power supply	Red (4 - 24 Vdc)
GND	Brown
Shielding	
Output signals	U,V,W
Cable specification	LIYC 8 x 0,14 mm²

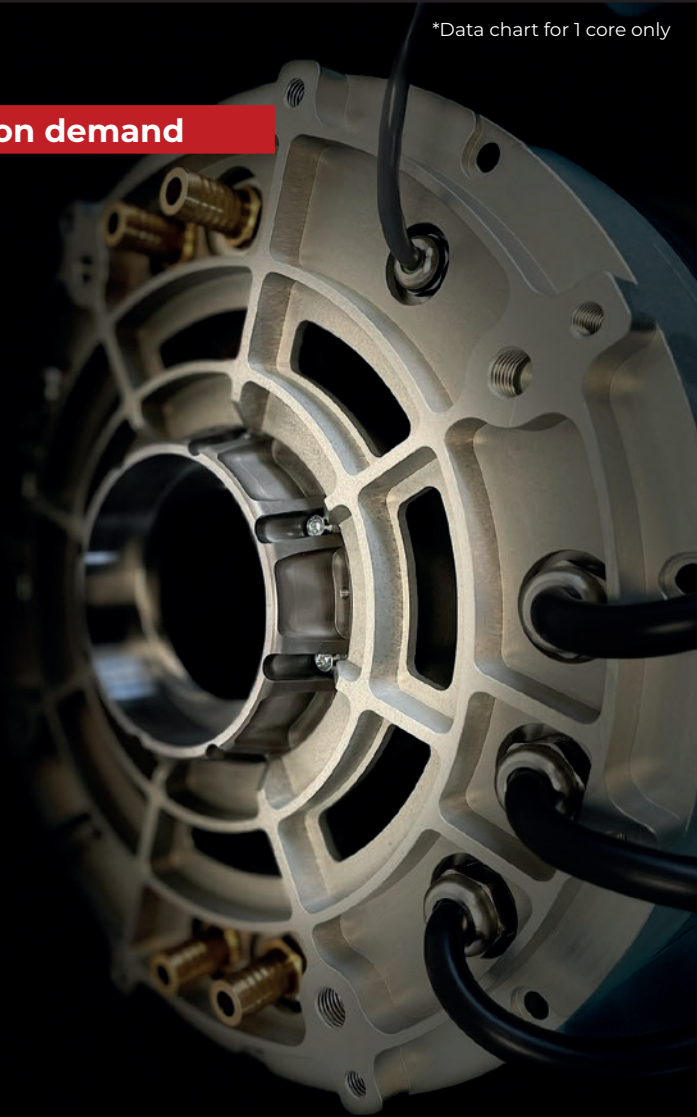


*Data chart for 1 core only

Outstanding parameters

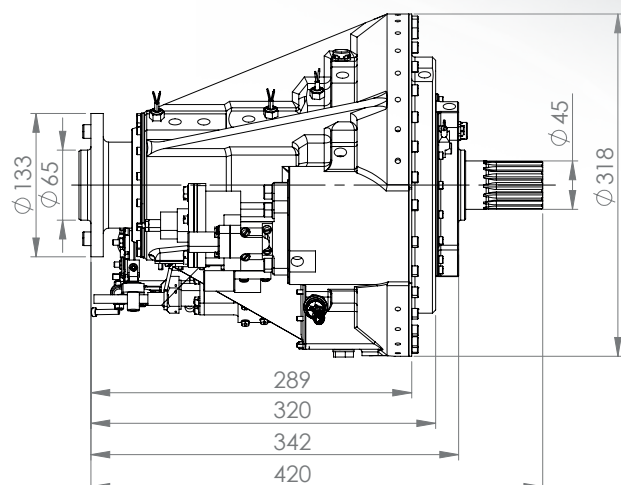
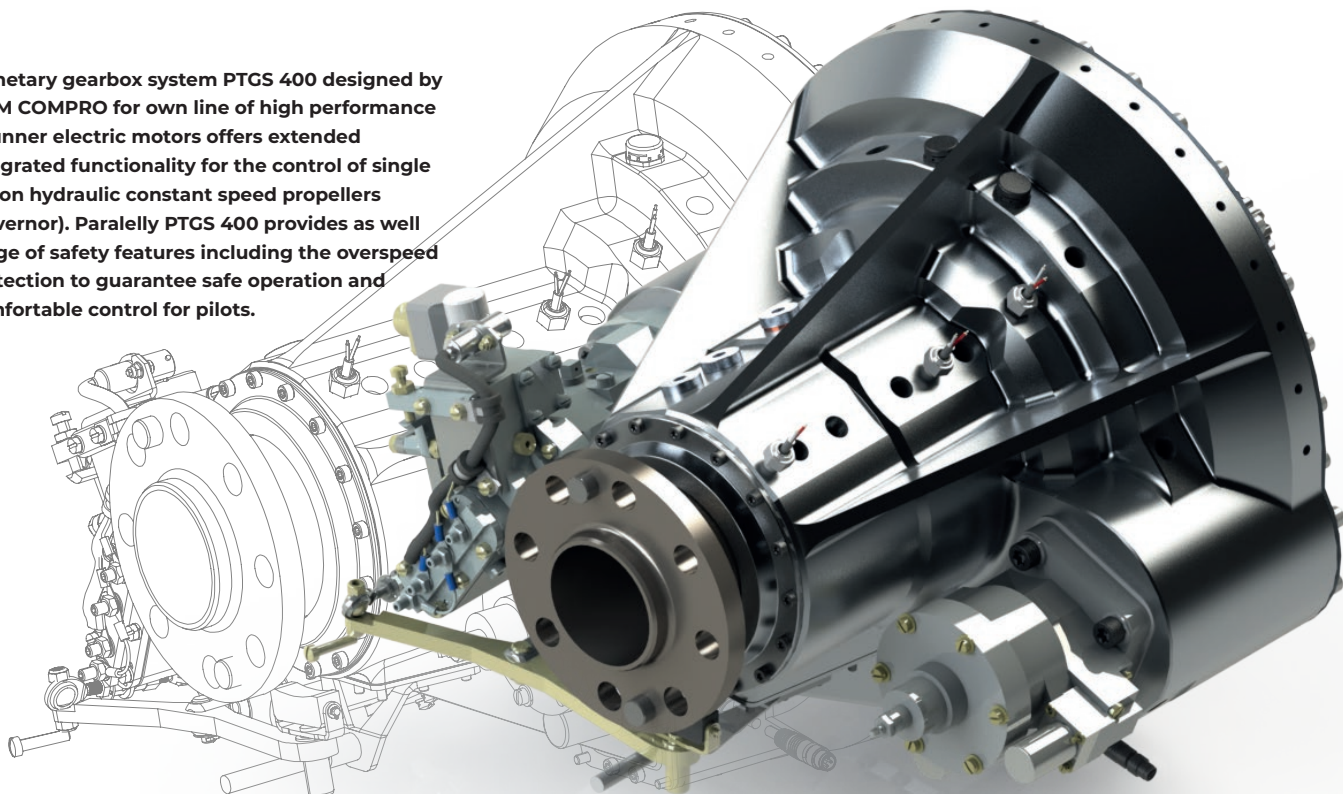
KV customizable on demand

800 V		
DATA	VALUE	UNIT
KV constant (no-load)	20	RPM/VDC
Motor peak efficiency	up to 96	%
Peak torque	540	Nm
Peak power	400	kW
Continuous power	350	kW
Phase current MAX	800	A
Torque constant KT	0.74628	Nm/A
Internal phase resistance	8,5	mOhm
Phase inductance	17,7	µH
Number of poles	48	pcs.
Winding configuration	STAR	
Motor outer diameter	330	mm
Motor length	457	mm
Rotor inertia	0,22	kgm²
Limiting speed	8 000	RPM
Sensored operation mode	U,V,W	
Absolute position	N/A	Optional
Temperature sensor	PT 1 000	
Maximal operation temperature	130	°C
Maximal voltage	800	V
Cable cross-section recommendation	min 25	mm²
Maximal mechanical radial load	300	Nm
Maximal mechanical axial load	1000	N
Bearing configuration	not specify	
Weight (excl. encoder)	129,7	kg

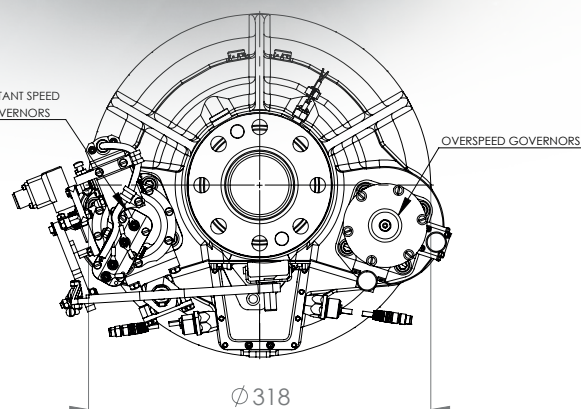


PTGS 400

Planetary gearbox system PTGS 400 designed by MGM COMPRO for own line of high performance inrunner electric motors offers extended integrated functionality for the control of single action hydraulic constant speed propellers (governor). Paralelly PTGS 400 provides as well range of safety features including the overspeed protection to guarantee safe operation and comfortable control for pilots.



HYDRAULIC ENGINE CONSTANT SPEED
REVERSING PROPELLER GOVERNORS



Outstanding parameters

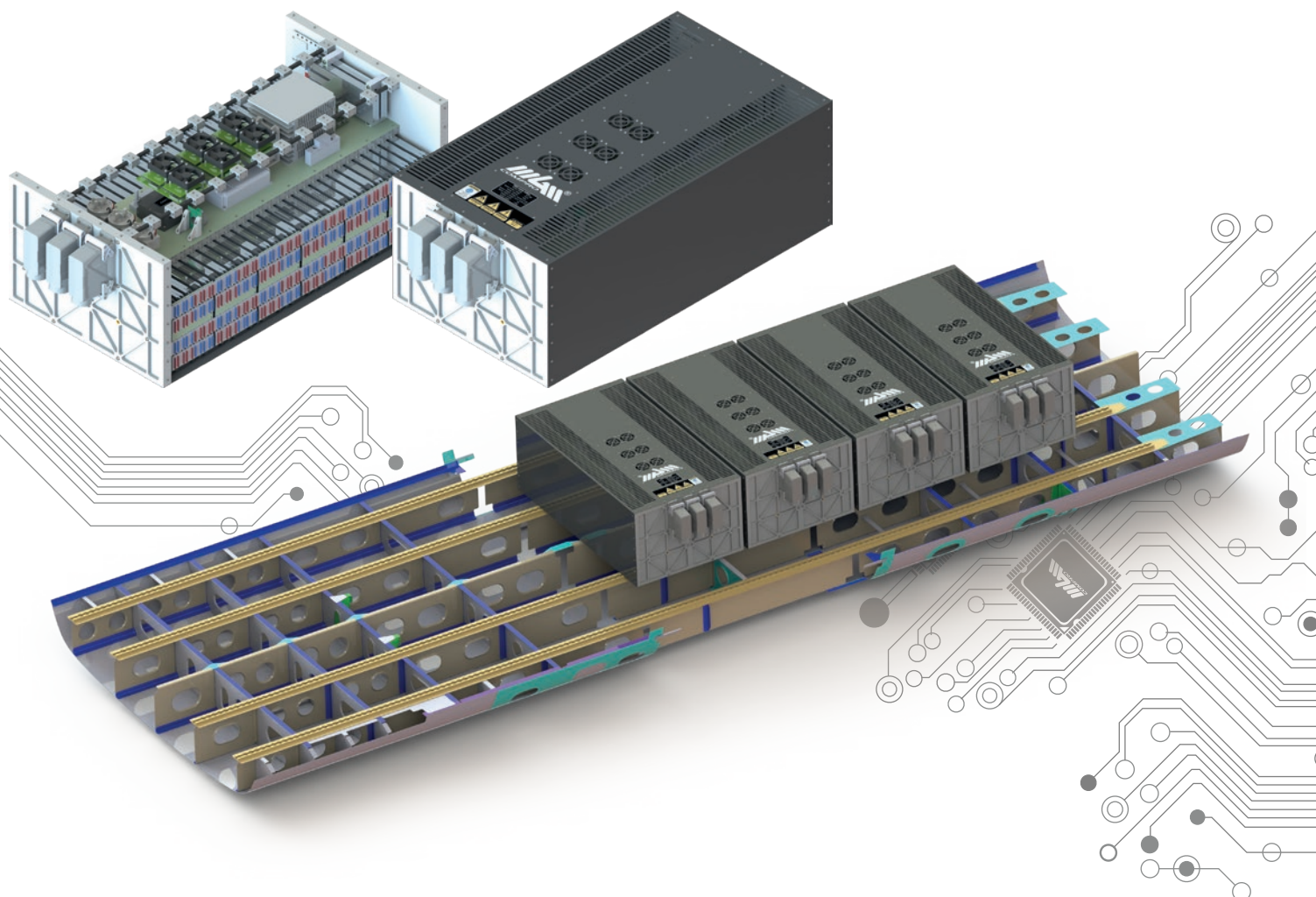
DATA	VALUE	UNIT
Maximal axial force	up to 10000	N
Peak torque	1 950	Nm
Efficiency	98	%
Peak power	400	kW
Continuous power	350	kW
Limiting speed	8 000	RPM
Gear box ration	3,6363 : 1	
Cooling system	AEROSHELL TURBINE OIL 390	
Propeller governor	Hydraulic - 1 action	
Popeller Overspeed	Hydraulic	
Dimensins	289 x 318 x 318	mm
Weight (excl. Governor and Overspeed	50	kg



MGM COMPRO Energy Storage Systems (ESS)

Safety and efficiency in its best form

With more than 30 years of experience designing, developing and manufacturing of special battery and energy storage solutions, MGM COMPRO represents one of the most experienced producer of Airborne Energy Storage Systems (ESS). Based on customer's demand we do the complete design (incl. simulations and testing), development and production of ESS, equipped with airborne BMSs, auxiliary electronics, safety features and elements (active and passive) to achieve all technical requirements and comply with appropriate certifications and standards.



Used in our development

Software and Hardware	DO-178C	DO-33x	DO-254	AMC-20
Environmental conditions	DO-160G	DO-311A		
System and safety	ARP 4754B	ARP 4761A	SC-E19	ED-300A
Aircraft level	CS-25	SC-VTOL	SC Light UAS	

YOUR TRUSTED PARTNER ACROSS

AEROSPACE, AUTOMOTIVE, MARINE AND MILITARY

