

TAiFUN

THE MODULAR TEST BENCH PLATFORM

DASYM
DER LÖSUNGSANBIETER
FÜR PRÜFSTÄNDE

TAiFUN ePowertrain

The modular E-Mobility Solution





Modular

Standardized

Economical

Fast available

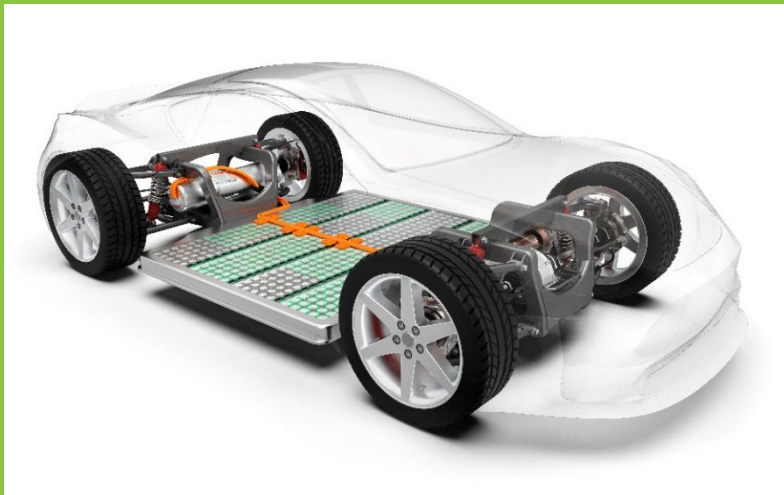
A test bench that follows changes in technologies

- The TAIFUN ePowertrain is an extension of the modular based TAIFUN test bench series.
- It is designed to support the testing of E-mobility powertrains with a variety of degrees of electrification:
 - BEV (Battery Electric Vehicle) without Internal Combustion Engine (ICE),
 - Hybrid powertrains (BEV and ICE) or
 - Driveline components.
- TAIFUN is made for all state of the art test applications for the automotive market in
 - LD (Light-Duty),
 - MD (Medium-Duty) and
 - HD (Heavy-Duty).



Designed for the future

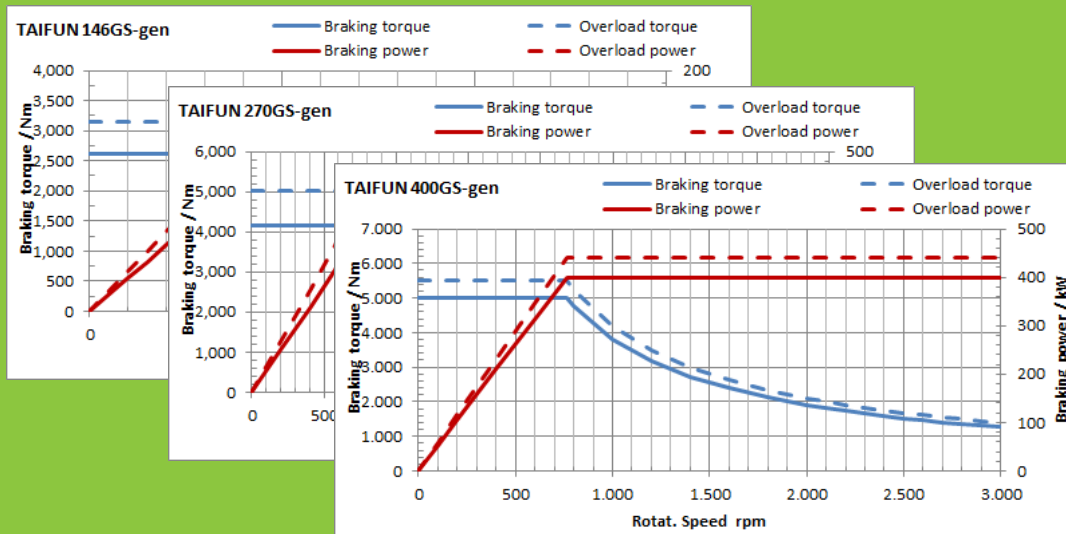
- The modular design of the test stand allows flexible adaptation to your specific testing needs and ensures that future enhancements can be easily added to meet new testing requirements.
- TAIFUN test benches are available for applications in basic research and development.
- Container solutions that allow flexible installation both indoors and outdoors are also possible.



- High performance dynamometer systems for testing of all kind of axle types
- Fully integration of testing procedures
- Integrated simulation tools such as Road Load Simulation or Virtual Battery
- Integrated instrumentation for efficiency and power management
- Analog and digital IO and vehicle data buses
- Open interface for external simulations and test methods
- Battery simulation and DC Supply up to 1,200 V, 1,400 A

Features

- The modular design of the new TAIFUN ePowertrain offers a wide range of additional extensions and thus a future-proofed test facility.
- Virtual drive modules can be added.
- Test procedures such as
 - zero speed at maximum torque,
 - peak torque shocks, wheel spin or
 - resonance simulationcan be mapped.

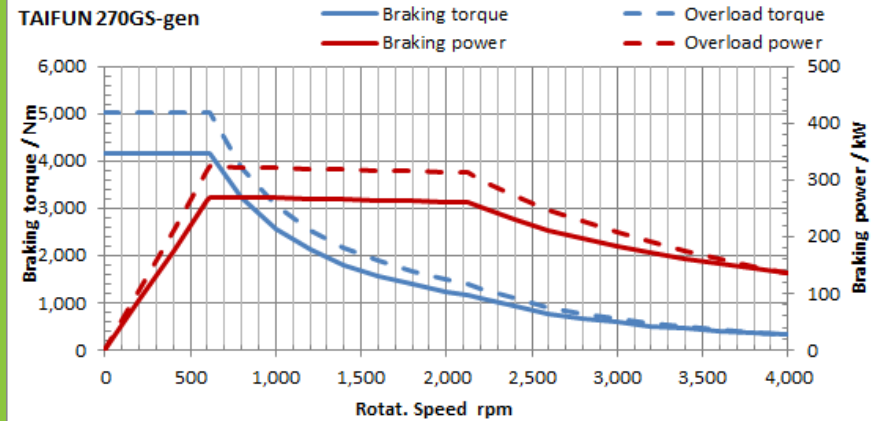


Power, Torque and Speed

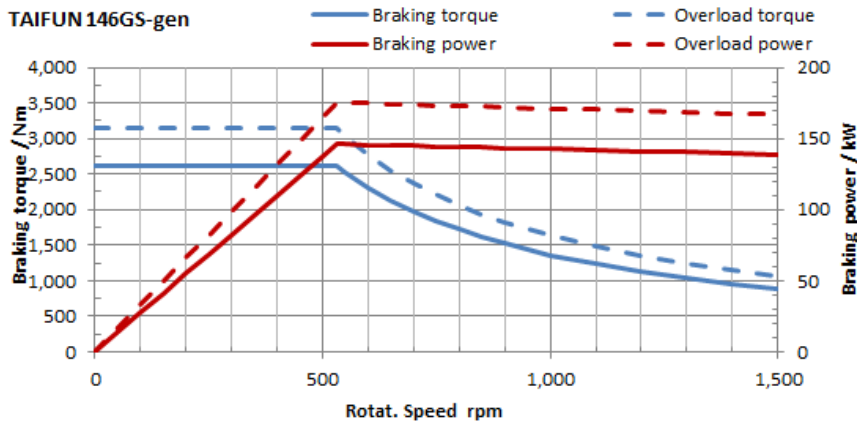
TAIFUN
146GS TAIFUN
270GS TAIFUN
400GS

Nominal power	kW	146	270	400
Rated torque	Nm	2620	4160	5000
Rated speed	rpm	531	615	764
Maximum speed	rpm	1 500	4 000	3 000
Mass moment of inertia	kg m ²	6.029	13.029	5.729

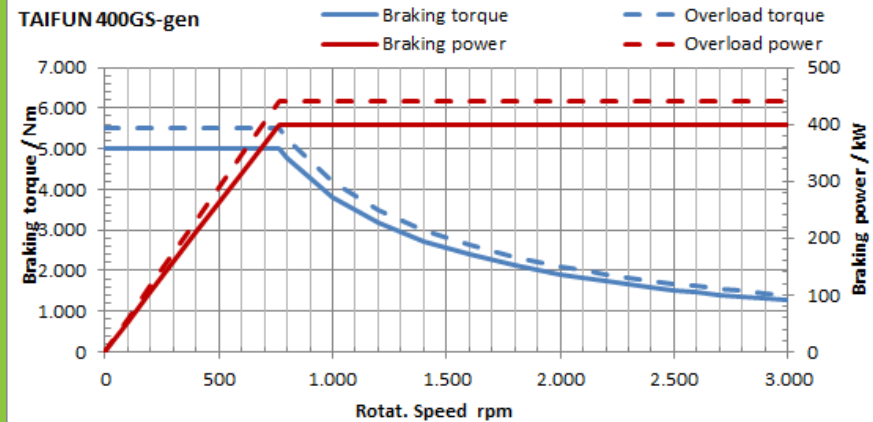
TAIFUN 270GS-gen



TAIFUN 146GS-gen



TAIFUN 400GS-gen



Operator station



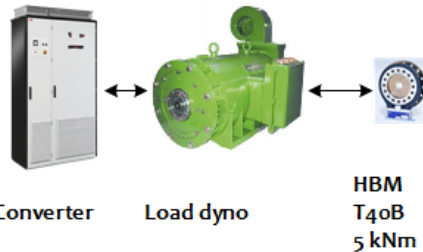
- PC Test bench
- Control cabinet
- UPS

Test bench automation NUCLIO or MORPHEE

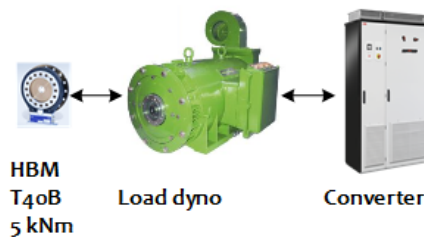


- Real-time system 64bit
- Test parametrization
- Test creation & execution
- Data acquisition

ECODyn Module left



ECODyn Module right



Safety control



- Beckhoff system
- EtherCAT interface
- Connection converter and DC source
- Signal light
- Door locking

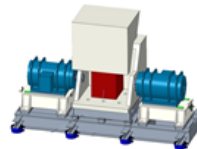
DC Source / Sink



- 1000VDC, 1000A, 320kW
- CAN interface
- Air cooling
- DC junction box
- Discharge resistors

Machine substructure

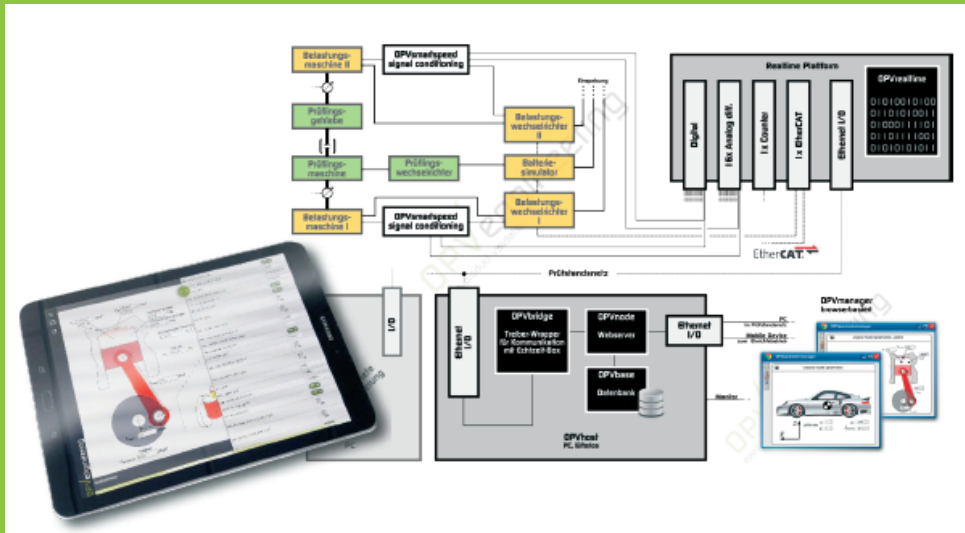
- Support structure with stiffeners
- Pneumatic suspension with maintenance unit
- Machine frame axially adjustable
- Socle for climatic chamber
- H-flange shaft adapter



Metrology

- 19" cabinet
- 16 TCK (HV)
- 16 PT100
- 8 AI (0..20mA)
- 8 AI ($\pm 10V$)
- 4 AI (bis 1200V DC)
- 4 AI ($\pm 100mV$)
- Digital inputs / outputs
- 6 CAN



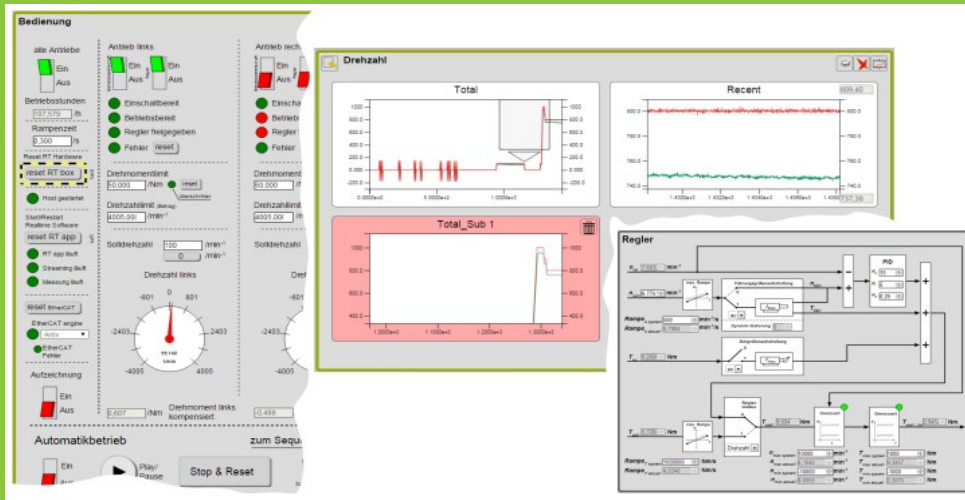


Basic hardware and software NUCLIO

- Control controllers and licences
- Basic test bench software

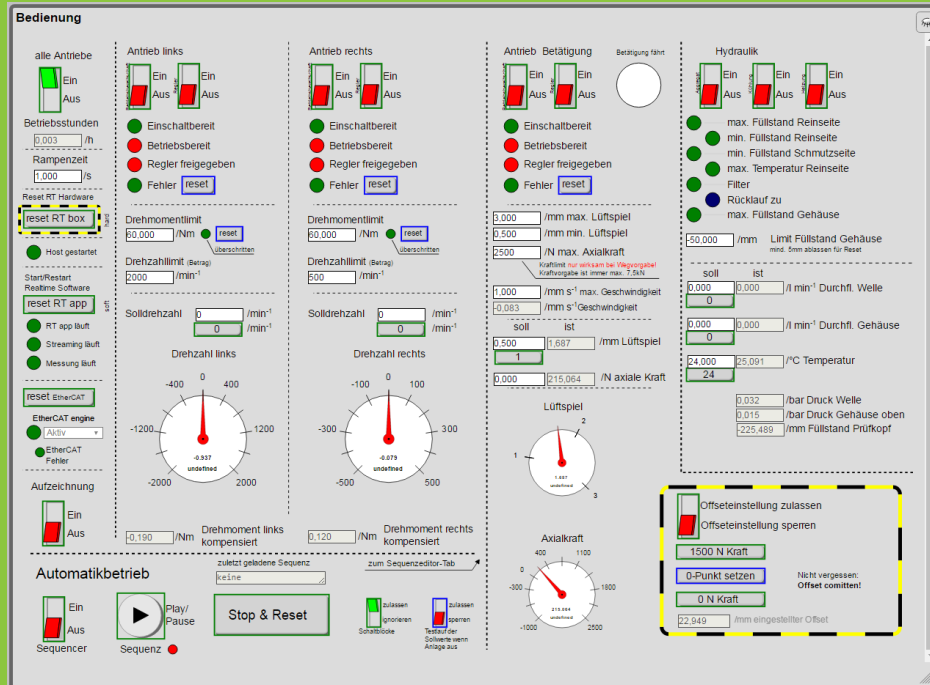
Modular expansion stages for the following applications

- Internal combustion engine test bench
- eTraction test bench
- VKM/Hybrid Powertrain Test Bench
- FWD/ RWD/ AWD
- eDrive powertrain test bench
- FWD/RWD/ AWD
- Back2Back component test stand
- Drive Back2Back endurance test stand



Optional real-time modules

- Combustion engine simulation
- Driver and vehicle simulation
- Drive train simulation
- Battery simulation



All functionalities in one system

- Test bench configuration with existing library for various test bench equipment and test runs
- Integration of Simulink user models
- Multi-stage limit value monitoring
- Test creation on a work-flow basis
- Manual, partially and fully automated test execution
- Online editable visualisation
- Effective data evaluation during shutdown
- Flexible result storage and export functions

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