



The solution provider for test benches

Test benches

ECODyn

TAIFUN

Application and service

Cost and energy optimization

As a specialist for test bench technology in the automotive sector, we support you in all topics relating to your test bench - reliably, personally and competently.

DASYM stands for

- Customised solutions from proven standard modules
- Comprehensive advice before, during and after the purchase decision
- More than 35 years of test bench know-how
- Personal support, fast service and direct help in case of repair



UNSERE KOOPERATIONSPARTNER

OPVengineering
open product validation

ABB

FAURNDAU
Elektromotoren

ELIN
Motoren
A TRAXYS COMPANY

DASYM

OSWALD

GK

SCHORCH

Always the right test bench



**Test bench
for powertrain**



**Test bench
for electric motors**



**Test bench for internal
combustion engines**



**TAIFUN – the modular
test bench platform**



**Test bench
optimization**

Energy tax

S. 7

ECODyn

S. 8



**ECODyn G
for powertrain**



**ECODyn E
for electric motors**



**ECODyn H, M and L
for internal combustion
engines**

Automation

S. 10

TAIFUN

S. 11

Service

S. 12

Test bench for powertrain

Diverse - dynamic - innovative

For this type of test stand DASYM:

ECODyn G modules for powertrain test benches

are optimized for testing powertrains

- in the e-mobility sector and for
- the transmission development
- with multi-axis load units
with high torques
at low speeds

Matching on request

- Structurally optimized engine substructures
- Automation and control
- Battery simulations and measurement technology from leading manufacturers
- Complete test bench systems
(also in containers) with
our partners



Find out more at: www.dasym.de/en/test-benches/test-bench-for-drive-trains/

Test bench for electric motors

Electromobility for the future

Innovative - sustainable - sophisticated

For this type of test bench, DASYM offers:

ECODyn E modules for electric motor testing

- Specially developed for e-mobility test bench applications
- With outputs from 147kW (226 Nm) to 265 kW (510 Nm)
- High speeds of up to 20,000 rpm and
- power outputs from 378 kW (1,300 Nm) up to 11,000 rpm
- the AC motor offers optimal conditions for demanding simulations

Matching on request

- Structurally optimized engine substructures
- Automation and control systems
- Battery simulations, power measurement and analysis for e-mobility and much more
- Complete test bench systems (also in containers) with our partners



Test bench for combustion engines

The classic test bench

Classic - reliable - powerful

For this type of test bench, DASYM offers:

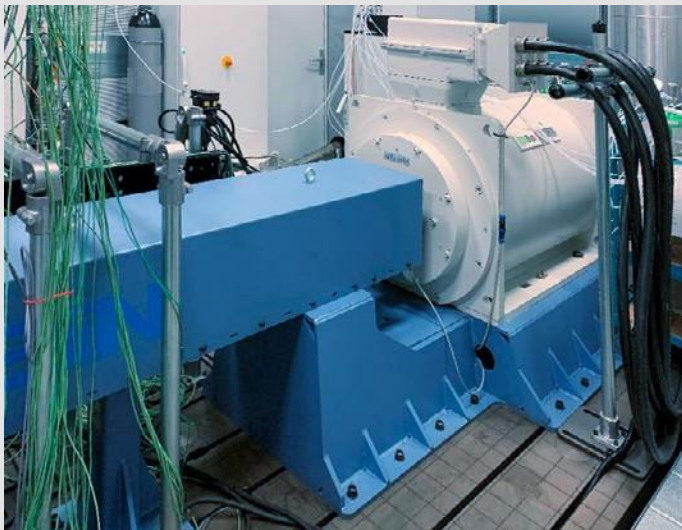
ECODyn modules for combustion engines

- specialized in testing petrol and diesel engines from 108 - 580 kW
- for commercial vehicle diesel and gas engines from 250 - 750 kW
- special modules with smaller or larger outputs possible on request



Matching on request

- Structurally optimized engine substructures
- Automation and control
- Measurement technology from leading manufacturers such as exhaust gas measurement technology, indexing, air mass measurement, BlowBy measurement and much more
- Complete test bench systems (also in containers) for both development and production test benches together with our partners



Test bench optimization Frequency converter replacement

"The all-round carefree package"

Together with our partner IWIK, we modernise your test benches

Do your test benches still have converters in use that are no longer state of the art?

If so, there may be no spare parts or they may be difficult to obtain, repairs may be difficult to carry out. This can result in downtime and costs for your test facility.

DASYM offers you a suitable modern converter replacement as a solution for this. Matched to your existing brake motor, we make the replacement possible for you quickly and without any problems.



Find out more at: www.dasym.de/en/ecodyn-en/ecodyn-frequency-inverter/

Energy tax advice from DASYM

We would be happy to check your advantages of using the energy tax law in accordance with the new directives of the European Union.

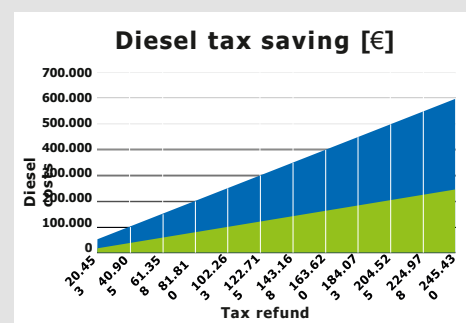
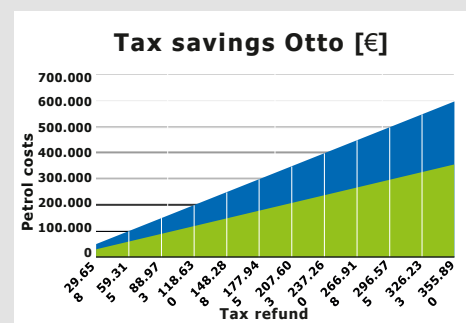
We offer the following services:

Entry package: Potential analysis

- Basic information on the Energy Tax Act
- Recording your individual test field and usage data
- Develop proposals to fully utilise the benefits of the Energy Tax Act and assess the opportunities for implementation

Additional packages:

- Profitability analysis
- Support in the preparation of applications and negotiations with the relevant authorities
- Accompaniment during the implementation to obtain the tax reduction until success is achieved



Find out more at: www.dasym.de/en/energy-tax/

DASYM ECODyn

Asynchronous machine modules for your test bench



- High quality - standardized - powerful
- Saving energy and costs in the testing process
- Everything from one source - competent for you through many years of experience

The DASYM **ECODyn** asynchronous machine modules are convincing due to their coordinated standard components from renowned manufacturers, which provide planning and implementation security.

The **ECODyn** modules can be used for testing petrol and diesel engines from 108 - 580 kW and for commercial vehicle diesel and gas engines from 250 - 750 kW. (Special modules with smaller or larger outputs are available on request).

Special **ECODyn** modules are also available for electric, hybrid and powertrain test benches.

The basic range always consists of:

- Asynchronous machine with torque measuring flange and speed sensor
- Regenerative converter system with input rectifier and inverter
- Ready projected as module

Data of the ECODyn product series

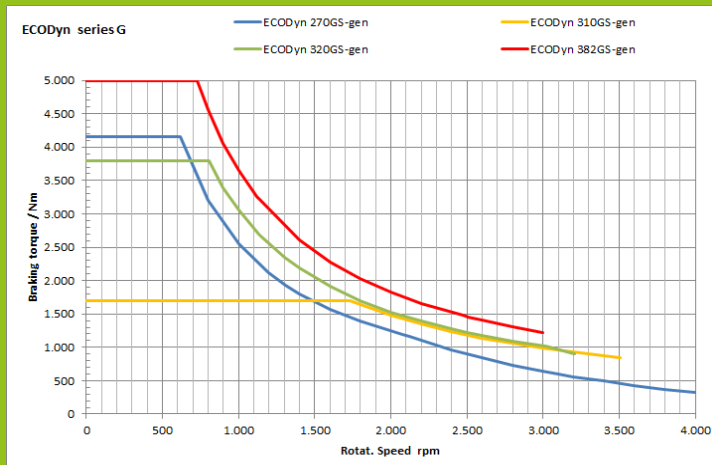
Type	Test specimen	Power / torque / speed from	Power / torque / speed up to
ECODyn G	Powertrain	270 kW / 4,160 Nm / 4,000 rpm	382 kW / 5,000 Nm / 3,000 rpm
ECODyn E	Electric motor	147 kW / 226 Nm / 20,000 rpm	250 kW / 500 Nm / 20,000 rpm
ECODyn H	Internal combustion engine	108 kW / 200 Nm / 16,000 rpm	470 kW / 990 Nm / 9,000 rpm
ECODyn M	Internal combustion engine	265 kW / 730 Nm / 10,000 rpm	580 kW / 1,390 Nm / 8,500 rpm
ECODyn L	Internal combustion engine	235 kW / 1,070 Nm / 5,000 rpm	810 kW / 5,130 Nm / 3,500 rpm

Special modules as well as options and accessories are available on request!

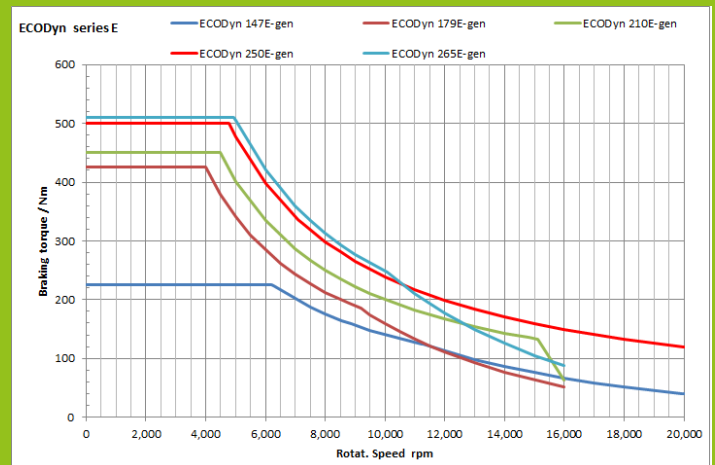
Find out more at: www.dasym.de/ecodyn

Torque diagrams in generator operation

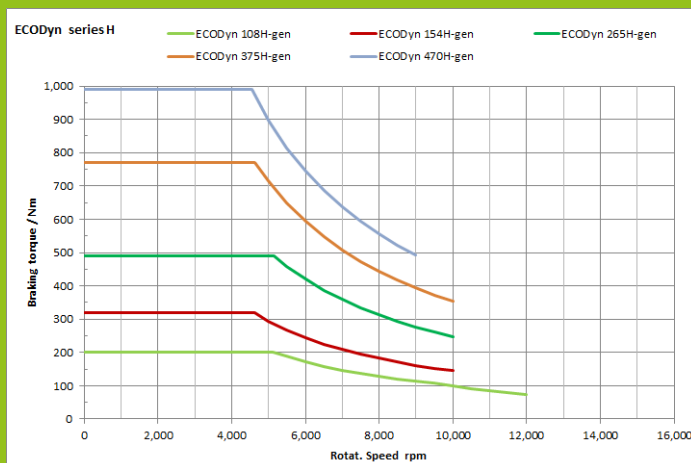
ECODyn G series



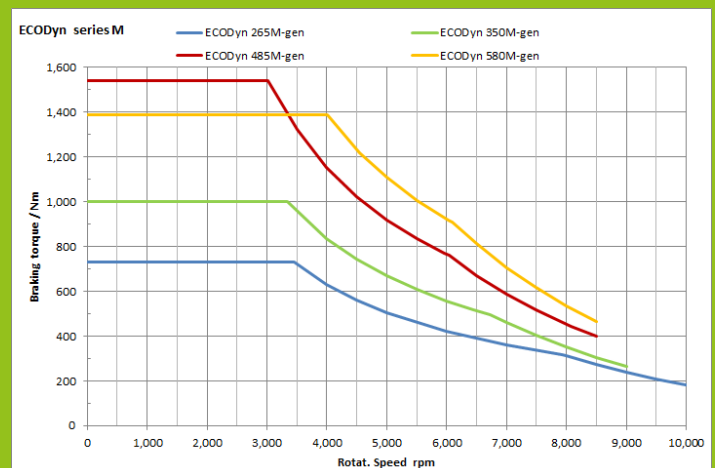
ECODyn E series (e-mobility)



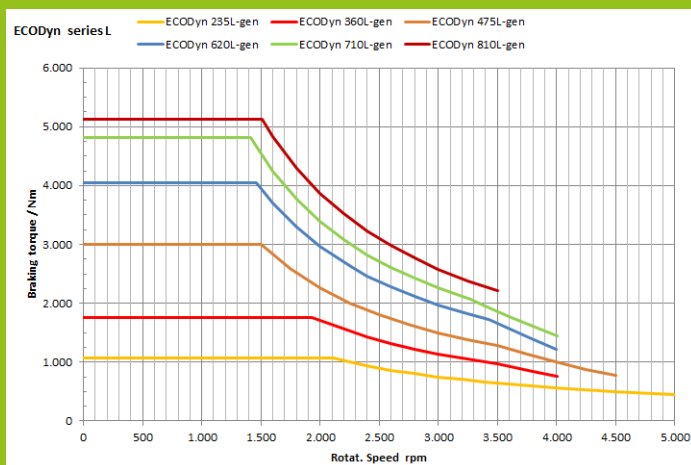
ECODyn H series



ECODyn M series



ECODyn L series



- The characteristic curves of our standard series are shown.
- Within the scope of these standard versions, suitable characteristic curves for your individual application can be projected and offered at any time.
- We adapt to your requirements and your respective testing task.

Test bench automation and control for all types of automotive test benches:

based on TwinCAT (a worldwide standard for automation created by Beckhoff) and EtherCAT consisting of:

Basic hardware and software

- Control controllers and licenses
- 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
- eDrive Back2Back endurance test stand

Optional real-time modules

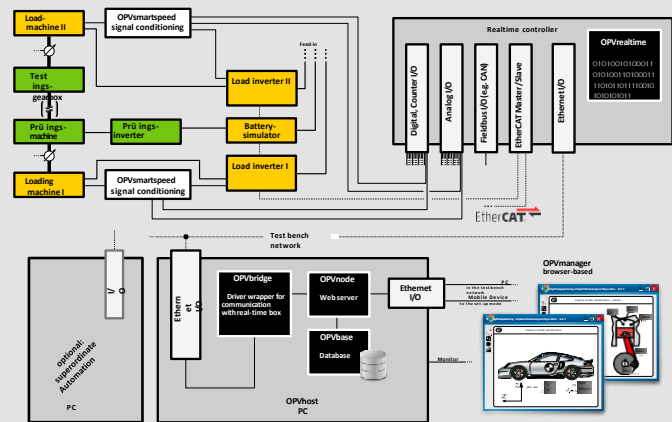
- Combustion engine simulation
- Driver and vehicle simulation
- Powertrain simulation
- Battery simulation



Integration of Simulink user models

All requirements for definition, function, evaluation of the test sequences, interaction with the user, import, export and monitoring are solved in the automation system.

An already existing library of software solutions and connections to various device interfaces is accessible to the user and can be used with the OPV system.



Motor frame

Structurally optimized engine substructures adapted to the requirements of highly dynamic tests

- Appropriate for your testing task
- Adapted to your assembly and set-up concept
- Adjustment elements for easy and precise alignment
- Interfaces for repeatable positioning
- Integration of additional storage locations
- Sensor recording



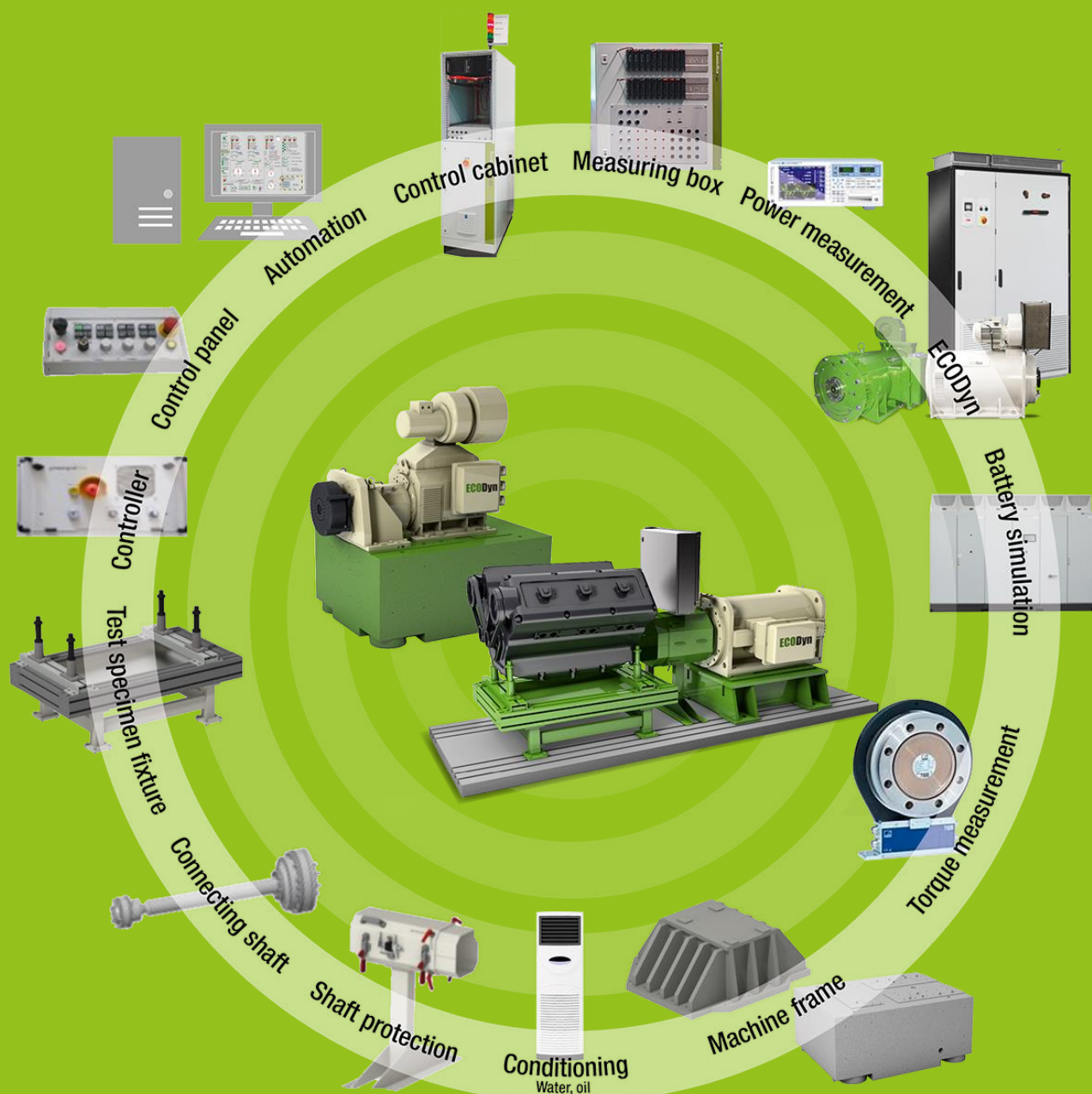
THE MODULAR TEST BENCH PLATFORM

Electric motors powered by battery or fuel cells have been developed with full commitment by our automotive industry for some time and of course need corresponding test benches. Internal combustion engines that run on hydrogen, synthetic fuels or in hybrid operation will also retain their importance in drive technology for the future.

For both areas, DASYM has developed the TAIFUN test bench platform, a modular drive and automation concept with the greatest flexibility and highest test quality.

A turnkey test bench solution based on the TAIFUN platform consists of a configurable drive package, the mechanical structure and controller, automation system, (with battery simulation in the case of electric motor), measurement technology, power meter, conditioning systems and safety equipment, as shown in the system overview.

The power ranges from 147 kW to 378 kW for the electric test bench at speeds up to 20,000 rpm and for the internal combustion test bench from 108 kW to 810 kW at speeds up to 10,000 rpm. Special solutions within the same standard are feasible at any time.



Service and support for products

- Assembly and commissioning
- After Sales Service
- All products and test benches supplied by DASYM can be integrated into your existing test systems by our team with regard to the interfaces and project planning
- We receive support in this, especially in the practical implementation, from our partner companies
- For all services, however, we as DASYM always remain your contact partner

Flexibility, competence, experience and reliability - with DASYM to your advantage

DASYM is the specialized solution provider for test benches in the automotive sector. In cooperation with competent partners, we not only offer you our standardized ECODyn drive and load units as well as individual components such as asynchronous motors, converters, measuring devices, conditioning, automation, battery simulation and highly complex machine frames. We also realize complete test benches, such as the TAIFUN standard test bench, together with our partners for your development and/or production area.



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