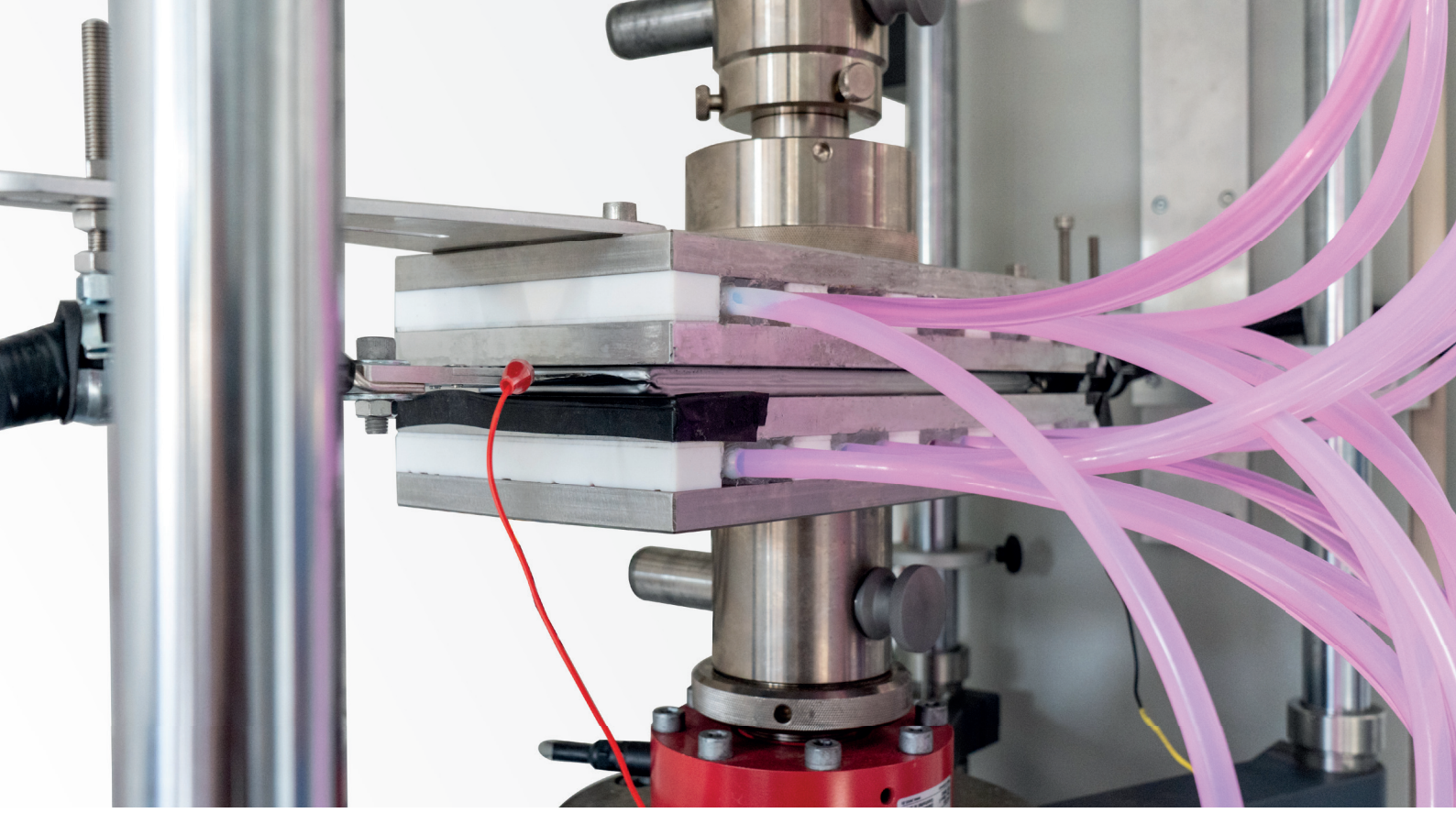


Faster battery design and improved battery lifespan:

Battery testing solution

Zwick / Roell

IMBTS
BATTERY TEST SYSTEMS

Zwick Roell MBTS BATTERY TEST SYSTEMS

All-in-one battery testing solution

Full integration testbench for the mechanical, thermal and electrical characterization of Li-ion batteries:

- Active thermal conditioning of compression plates: faster and more accurate than climatic chambers
- Pressure, force and displacement control with Kappa 100 loadframe
- Integrated electric cycler for electrical conditioning up to 1000A and 80V
- Parallel and independent control of pressure, temperature and electrical parameter to reproduce any working condition of battery cells
- Fully automated testing system allows for complex sensitivity studies with optimum time efficiency

BENEFIT: 30 % FASTER DEVELOPMENT CYCLES

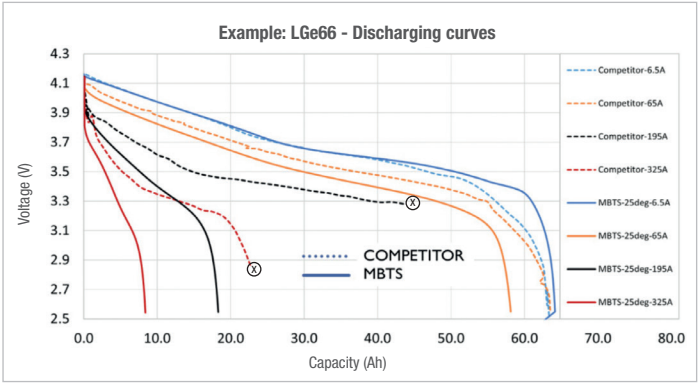
» Faster battery design through precise analysis of the mutual influence of temperature, mechanical design and charging / discharging profiles.

Temperature control

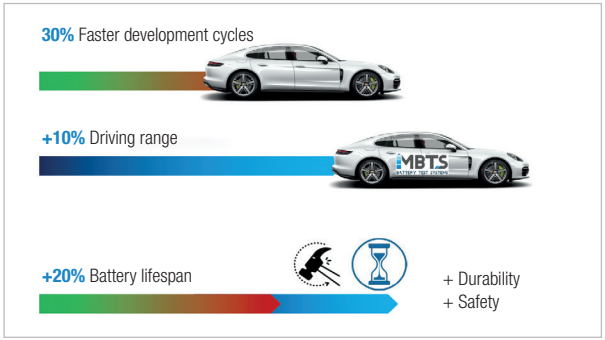
- Active thermal conditioning of compression plates
- Stabilized battery temperature also at extreme electrical currents
- 5 kW peak of thermal power
- Temperature range: -15 °C up to +80 °C
- Temperature accuracy +/- 1°C
- Possibility to generate temperature profiles on the battery

"MBTS technology provides the most accurate temperature control for your battery during mechanical and electrical testing"

Discharging rates, temperature and pressure strongly affect the performances of batteries:



The MBTS system enables fast and precise thermal conditioning at all discharge rates (low and high). This leads to better and complete results even at extreme currents. Other systems have to stop operation (ⓧ) at high discharge rates due to thermal buildup, risking dangerous cell temperatures.



Achievable improvements of existing battery cells

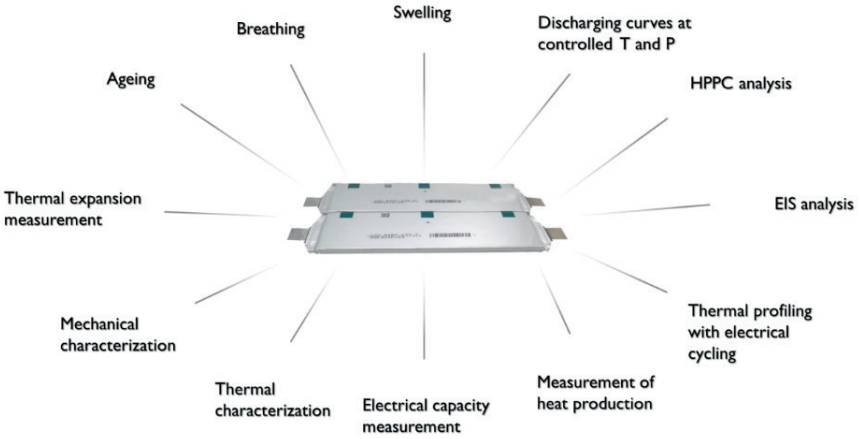
Pressure control

- Extreme precision creep testing machine Kappa SS-CF
- Force or displacement control with 5 µm accuracy
- Up to 100 kN

Electrical cycler (80 V, 1000 A)

- Possibility to define any electrical load profile
- Electrical cycling in current control and voltage control
- HPPC test
- Discharging curves

Faster battery design through precise analysis of the mutual influence of temperature, mechanical design and charging / discharging profiles.



A Cooperation of:

- *ZwickRoell and MBTS*
- *For more details on battery testing visit: www.mbts.at*

MBTS
BATTERY TEST SYSTEMS

» Contact us now!

We look forward to hearing about your testing challenges.

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