BATTERY TESTING

CELL LEVEL

PEC ACT0550: 80 channels

VTT

Voltage:	0 V up to 5 V
Current:	50 A
Parallel:	Can be paralleled up to 4000 A

PEC SBT0550: 24 channels

Voltage:	0 V up to 5 V
Current:	50 A
Parallel:	Can be paralleled up to 600 A

Digatron MCT 250-06-3 RE: 3 channels

Voltage:	-6 V up to 6 V
Current:	250 A / 300 A (peak)
Parallel:	Can be paralleled up to 750 A / 900 A (peak)
EIS-Meter:	Electrochemical impedance spectroscopy for three channels
Other:	Tabletop device, can be moved to other premises

MODULE LEVEL

PEC SBT10050: 12 channels

Voltage:	0 V up to 100 V
Current:	50 A
Power:	3 kW
Parallel:	Can be paralleled up to 600 A and 36 kW

PACK LEVEL

AVL E-STORAGE

Voltage: Current:	10 V up to 1000 V 600 A
Power:	320 kW
Container:	Battery pack is placed inside a climate container, which has a temperature range from -32 °C up to $+50$ °C. It also includes a liquid cooling circuit with 10 kW cooling/heating power and temperature range of -10 °C up to $+45$ °C.
Mode: Link:	Can be used as a battery cycler or a battery emulator Integrated to the heavy-duty chassis dynamometer infrastructure, can be used to emulate a battery pack

ITECH IT6108C-1500-240, 2 units

Voltage:	1500 V
Current:	240 A
Power:	108 kW
Parallel:	Can be paralleled up to 480 A and 216 kW
Container:	TBD

OTHER EQUIPMENT

- Two thermal chambers (600 I & 110 I) for cell and module testing
- Two thermal ovens (60 l) for cell testing at high temperatures
- Gamry Reference 3000 potentiostat/galvanostat/ZRA and Reference 30K Booster for EIS measurement up to 20 V and 30 A
- foxBMS development platform for battery management system algorithm development and system integration



Battery cells under test



PEC cell tester (left) and AVL battery pack cycler / emulator (right)



Climate container for battery pack testing



Thermal chamber (left) and interior of the climate container (right)

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beyond the obvious