

## System Test Benches and Air Conditioning Modules

### for testing complete vehicle air-conditioning circuits under real environmental conditions

- Complete R-134a and HFO-1234yf automotive air conditioning systems and series system superstructures possibly with original hoses and including heat pump operation
- Evaporator: single or built into the air conditioner; front and rear evaporator (and optional battery evaporator) also all two or with option three units simultaneously
- Capacitors: integrated in the front end, also in combination with a cooler-fan package
- Battery, power electronics, charger and e-machine coolers; the air coolers of the individual circuits can be integrated in the front end
- The thermodynamic components are mainly simulators or heat exchangers, which are specifically required for electrified vehicles, and only in rare cases conventional coolant circuits. Since original components often may not or cannot be used, simulation modules, e.g. an e-machine simulation module, must be supplied.
- Humidity control is of paramount importance, especially on the HVAC modules, and is therefore performed on each of them with the aid of a dew point device.