



EMISSIONS



ELECTRIFICATION



CAV



DATA

# EVALUATOR EOL

## End-of-Line Battery Testing Systems

Addressing the advanced needs of modern battery production processes, HORIBA offers the Evaluator End-of-Line (EOL) system series. This series caters to a wide spectrum of applications, from prototype or low-volume production lines to fully automated giga factories. The Evaluator series focuses not only on test equipment, but on the complete station design including safety, test item adaptation, housing, data handling, and seamless communication with other systems. The cost-effective design can include conveyer belts with semi-automated or fully automated product-specific battery bonding. Optional industrial PC or operator panel integration enhances usability, while streamlined production software simplifies procedure management, ensuring seamless start and stop functionalities.

Additionally, the EOL system facilitates automated display of pass/fail criteria and read/write access to customer production databases. With fail-safe PLC control mechanisms, the system ensures safety without compromising performance.

## FEATURES

- Supply of the complete battery test station
- Full integration in production automation
- Worker-oriented operator guidance via touch screen operator panel
- DMC scan including connection to production database
- Manual or fully automated adaption of the battery
- Pressure, leak and performance tests
- BMS flashing and testing
- EOL low voltage and high voltage tests

TESTING ENVIRONMENT	
SAFETY CABIN	Door monitoring Sensors Exhaust air monitoring Extinguishing device
ADAPTION	Manual Fully automated
TEST ITEM TRANSPORTATION	Heavy weight trolley Implementation of EOL test station into product line
CHILLER	Cooling water and draining station
SAFETY FEATURES	Fail safe PLC control PLC controlled 3-level alarming system

CHARGING-DISCHARGING UNIT	
ENERGY RECOVERY	≥ 95 %
CASCADABILITY	Up to 1,000 kW
RANGE	Up to +/- 4000A / 1500V
ACCURACY	± 0.03 % MV, ± 0.015 % FS

ELECTRICAL TESTS	
INPUT PARAMETER TEST	Customized (temperature and cell voltage control, BMS communication test, etc.)
BMS TEST	Plausibility test of sent values Reading out the error status State change of the battery Function test of the HV contactors Interlock test Behavior in case of crash
OPEN CIRCUIT VOLTAGE	Comparison of BMS data and measured voltage Calculation of SOC
INSULATION TEST	Internal insulation resistance test Insulation resistance measurement
PERFORMANCE TEST	Capacity test Pulse power test Adjusting the SOC
DIELECTRIC STRENGTH	Voltage proof Up to several kV

INTERFACES	
DATA LOGGING	SQL database Backup server Connection to production database
SCANNER	DMC scanner for identification of test items
CAN GATEWAY	BMS communication Writing and reading of dbc files Implementation of external devices
CONNECTIVITY	Profinet File based (csv, xml, pdf, mdf etc.)

PRESSURE- AND LEAK TESTS	
COOLER LEAKAGE AND BLOCKAGE	Flow volume at excess pressure (approx. 15 bar)
HOUSING	Flow volume at light low atmospheric or excess pressure

OPERATION	
OPERATOR PANEL	Worker oriented One-button operation
CLIENT PC	Experts level Diagnosis and supervision

HORIBA provides advanced mobility leadership and comprehensive engineering and measurement expertise to support the gradual shift from traditional propulsion, to fully electrified solutions.

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