

YAO LASER / TESTING AND QUALITY

Water-cooling leak testing for battery PACK production lines

Technical note for liquid-cooling leakage risks, pressure decay checks, data reporting, and EOL acceptance.

Audience	PACK line buyers and quality teams reviewing coolant leakage, pressure decay testing, and line-level inspection scope.
Recommended route	Testing equipment route
Use before	First supplier call, RFQ comparison, or internal project handoff.

1 How to use this file

Clarify leak testing before equipment scope, EOL planning, and acceptance reporting are finalized.

Field to prepare	Notes before sending
Cooling plate or channel design	Fill this with project-specific information or mark it as unavailable.
Leak-rate requirement	Fill this with project-specific information or mark it as unavailable.
Test pressure	Fill this with project-specific information or mark it as unavailable.
Cycle time target	Fill this with project-specific information or mark it as unavailable.
NG handling	Fill this with project-specific information or mark it as unavailable.
Data export need	Fill this with project-specific information or mark it as unavailable.

1 Why it matters

- Liquid-cooling leakage can become a safety, reliability, and warranty risk after PACK shipment.
- The test method should match the cooling plate, pipe, seal, connector, and assembly sequence.
- Leak testing needs to be designed as a quality decision, not only a machine option.

2 What to define before RFQ

- Prepare cooling structure, sealing method, test pressure, leak-rate requirement, cycle-time target, and NG handling plan.
- Clarify whether the test is inline, offline, or part of final EOL acceptance.
- Ask whether pressure decay, flow verification, barcode linkage, and report export are included.

3 Acceptance evidence

- Request sample reports, calibration method, repeatability notes, and NG examples.
- Confirm if leak-test records must connect with MES and final customer documentation.
- Tie acceptance to measurable thresholds rather than only a machine demonstration.

Checklist: Leak-test scope checklist

Scope item	Buyer should define	Supplier evidence
Cooling structure	Plate, pipe, connector, seal type	Fixture and sealing method
Test pressure	Pressure level and holding time	Station setting record
Leak threshold	Allowed leak rate or standard	Sample report
Cycle time	Target takt time and loading method	Trial timing data
NG handling	Reject logic and retest rule	NG example and label rule
Data export	Barcode, MES, report fields	Export sample
Calibration	Cycle and reference standard	Calibration certificate

Supplier reply review

Supplier claim	Evidence received	Verified by	Decision / open issue

Keep claims, attachments, and unresolved points in the same row so later decisions are traceable.

Internal routing notes

Field	Notes
Prepared by	
Project or account	
Target region	
Decision owner	
Recommended next route	
Files attached	
Open questions	

Final handoff note

Attach drawings, sample photos, target region, timeline, and decision owner before sending the inquiry onward.
If a line item is unknown, mark it openly instead of letting the supplier assume the scope.