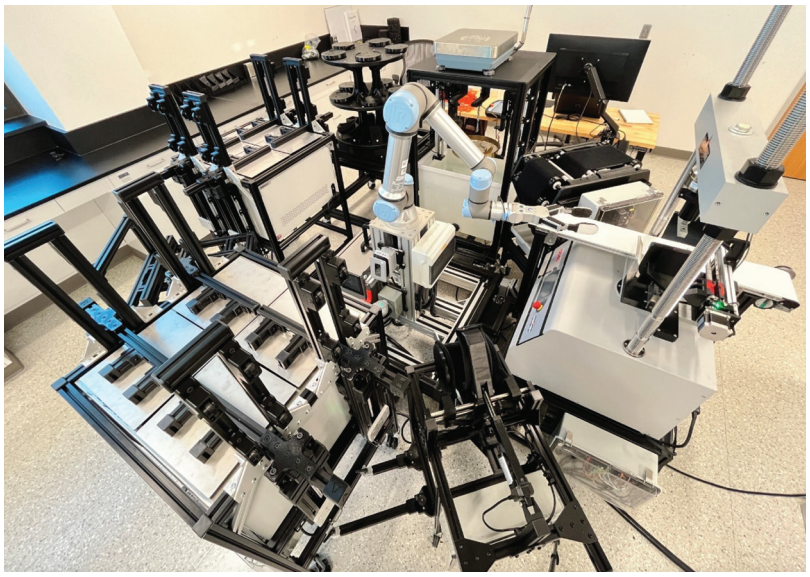
Testing Equipment for Construction Materials

HUMBOLDT

# Asphalt Mixture Automated Testing System with Zero Intervention



**The Asphalt Mixture Automated Testing System with Zero Intervention**, developed by Dr. Fujie Zhou at Texas A&M University and manufactured by Humboldt, marks a significant advancement in asphalt mixture testing. This innovative system is designed to automate Balanced Mix Design (BMD). BMD is an approach that utilizes performance tests on conditioned specimens to predict how well the asphalt concrete mixture will perform considering factors like aging, traffic, and climate conditions.

A key feature of this Automated Testing System, is its inclusion of the IDEAL CT and IDEAL RT tests, both developed by Dr. Fujie Zhou. IDEAL CT is the leading BMD cracking test, and IDEAL RT offers a quicker alternative to the Hamburg wheel tracking test, which is traditionally used to assess the rutting susceptibility of asphalt mixture. The National Center for Asphalt Technology (NCAT) has demonstrated that IDEAL RT correlates with the creep curve of the Hamburg test.

This innovative system makes it possible for asphalt industry professionals to evaluate asphalt mix cracking and rutting resistances as part of the daily quality control/quality acceptance (QC/QA) testing during mix production. This testing ensures the consistency and performance quality of the mix by identifying and eliminating cracking- or rutting-prone mixes from being placed on roads.

The Asphalt Mixture Automated Testing System with Zero Intervention, is a groundbreaking tool for asphalt mixture testing, meeting the industry's current needs for BMD testing, and offering a solution to the labor shortage and human error by automating the whole test process. This is where the automation of these test processes in this testing system is vital. By automating the testing process, it reduces the potential for human error.

**Performs the Following Tests:**

- ASTM D3549 Test method for measuring sample height and diameter
- ASTM D2726 Test method for bulk specific gravity and density and calculating air void
- ASTM D6927 Test method for Marshall
- ASTM D6931 Test for Indirect Tensile
- ASTM D8225 Test method for IDEAL-CT
- ASTM D8360 Test method for IDEAL-RT

*To learn more watch our video.*

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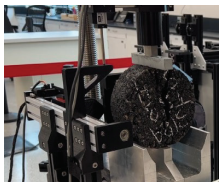
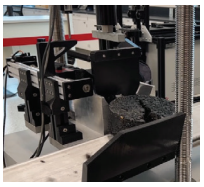
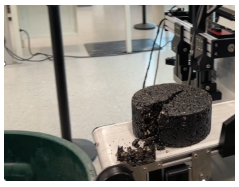
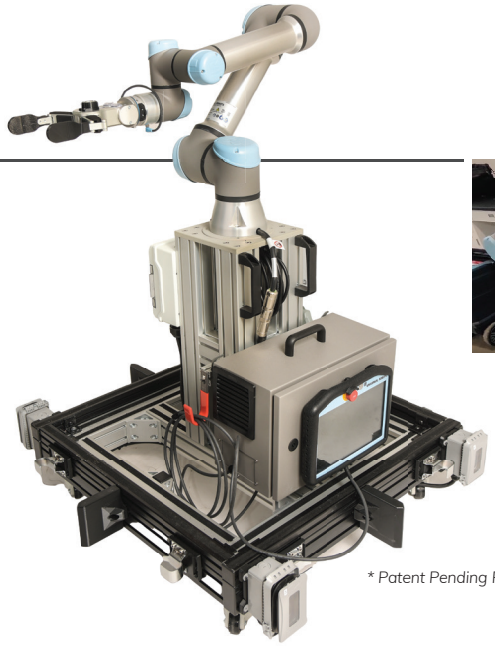
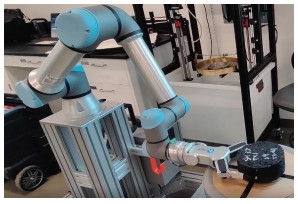
# Advantages of Automation:

- Improved Accuracy/Consistency: Removes human errors
- Zero intervention in testing.
- Enhanced safety for operators
- Increased productivity and efficiency resulting in higher output.
- Enhanced quality control
- Reduced labor costs

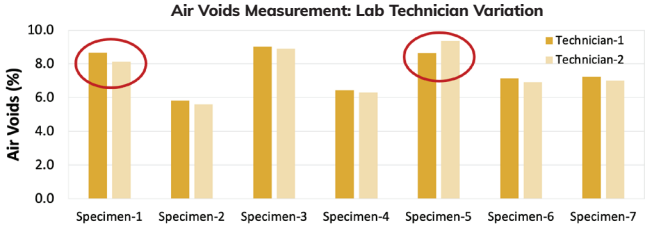




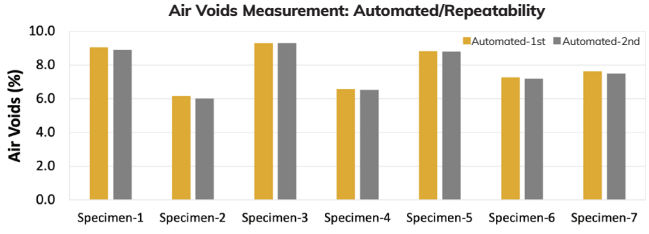
# System Components:

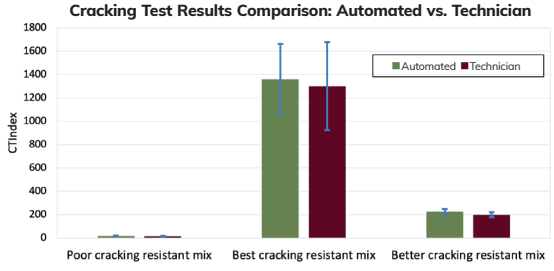
- Robot Arm and Docking Station
- Specimen Identification
- Specimen Feeding Carousel
- Air Voids Measurement Unit
- Specimen storage unit
- Two conditioning chambers
- Specimen rapid dry unit
- Loading frame with trashing unit
- Power supplying

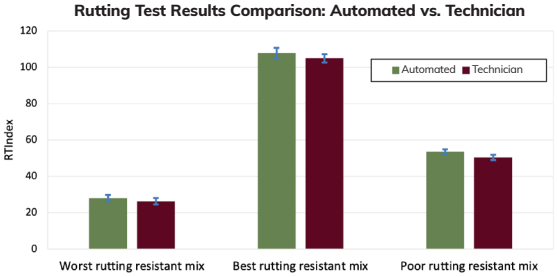



** Patent Pending Robotic Testing System*




** The Asphalt Mixture Automated Testing System with Zero Intervention is licensed to Humboldt Manufacturing by The Texas A&M University System.*

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