

Client instructions for Determining Drip Emitter Manufacturing Variability Test

What is the test about?

This test measures the consistency of water flow rates from drip emitters to ensure they meet ISO 9261 certification standards. It verifies that the emitters are manufactured with precision and deliver uniform performance, critical for reliable agricultural irrigation.

Why get tested?

The ISO 9261 standard is essential for manufacturers aiming to build trust and credibility in the market. This standard goes beyond a company's internal quality controls by introducing an objective, third-party evaluation that verifies the consistency between the manufacturer's claims and the actual performance of their products.

What is needed?

1. Emitter Samples:

- Provide a production lot of at least 500 emitters.
- Ensure the emitters are clean and free from any visible defects.
- Pack the samples securely to avoid damage during transportation.

NOTE: for maximum convenience, we recommend sending a continuous sample of tubing or tape, not 500 separate samples.

2. Manufacturer's Specifications:

- The ISO 9261 standard requires a specific list of product information that must be provided to the test laboratory. These data are:
 - catalogue number of emitter/emitting pipe and fittings;
 - types of fitting for connecting emitting pipe to supply network or appliances;
 - dated instruction sheets for proper operation;
 - details of suitable fittings (including code number as marked on the fitting) for different applications;
 - installation instructions for the emitters/emitting pipes and fittings;
 - nominal flow rate, in litres per hour;
 - inside diameter of emitting pipe or lateral to which the emitters are intended to be attached, in millimetres;
 - wall thickness of emitting pipe or irrigation lateral to which the emitters are intended to be attached;
 - range of working pressures, in kilopascals;
 - classification of emitter/emitting pipe;
 - operating characteristics of emitting pipe;
 - limitations of use (fertilizers, chemicals, etc.);
 - range of regulation (if any)
 - filtration requirements and instructions for prevention of clogging;
 - spacing of emitters or emitting units in emitting pipe, in millimetres;
 - minimum recommended radius for coiling emitting pipe, in metres;
 - maintenance and storage requirements;

- nominal test pressure, in kilopascals;
- maximum permitted tension force;
- spacing between emitting units, in metres;
- emitter/emitting unit coefficient, k;
- types of pipe suitable for use with the emitter and their dimensions;
- type of connection of emitter to pipe;
- nominal flow rate during flushing, in litres per hour, if applicable.
- Provide details about the production lot, including lot number, production date, and any relevant batch identifiers.
- 3. Product Documentation:**
 - Include user manuals, installation guides, or any other documentation that outlines the product's intended use and performance characteristics.
- 4. Additional Data (if available):**
 - Provide any prior test results or internal quality assurance reports related to the emitters.
- 5. Communication and Support:**
 - Assign a contact person who can:
 - Respond to queries during testing.
 - Clarify any ambiguities regarding the product.
 - Provide additional information promptly if requested.

What to expect?

- A detailed report outlining the uniformity of flow rates, including:
 - Mean flow rate and coefficient of variation (Cv).
 - Compliance status with ISO 9261 standards ($Cv \leq 7\%$).
- Observations of any deviations or anomalies in emitter performance.
- Recommendations for improving product consistency, if applicable.

What is the turnaround time?

Testing time is usually 5 days for a full test. Lead times will vary depending on the laboratory's current work queue.

What is the pricing structure?

Our pricing structure provides transparent rates for testing services, ensuring you receive the highest quality assessments for your drip emitters.

- Price: \$500
- Payment terms:
 - May require a down payment, please reach out to the lab manager for more details.
 - For international customers, a 50% advanced payment is required.
 - The full payment is required prior to the delivery of the test report.

Where to ship?

- Pack emitter samples in sturdy, protective packaging to prevent damage during transit.
- Clearly label the package with the production lot number and your contact details.
- Include all required documentation inside the package (e.g., specifications, manuals).
- Ship the samples to:

Center for Irrigation Technology

*5370 N Chestnut Ave, M/S OF18
Fresno, CA, 93740
USA*

- Notify the testing team once the shipment has been dispatched, and include the tracking number.

Who to contact?

For more information or to schedule your certification test, you can contact our lab manager at: ***cit.office@mail.fresnostate.edu*** or call us at **(559).278.2066**

What is the billing and payment procedure?

After speaking with the lab manager, you will receive an email summarizing what was agreed upon. Once you validate it, we will send you a final quote with the following details:

- Amount due prior to testing
- Amount due when testing is completed
- Payment instructions:

You may choose to pay by check, wire transfer, or card

➤ **By Check:**

Total Due and Payable to:
*California State University, Fresno Foundation
% Center for Irrigation Technology
4910 N. Chestnut Ave.
Fresno, CA 93726*

➤ **Wire transfer:**

Electronic Funds Transfer Information:
*California State University, Fresno Foundation
Citibank (West) FSB
6025 N. First Street
Fresno, CA 93710
800-756-7047
Routing: 321171184
A/C No: 200634046
SWIFT: CITIUS33*

➤ **Card payment:**

Follow the link to our eMarket page, and select LAB TESTS category:

https://commerce.cashnet.com/fresnoem_cit

Please ensure you enter the correct agreed-upon price before finalizing the payment.

Refunds may take several weeks to process.