



# Thermo Scientific complete automated drugs of abuse testing solution

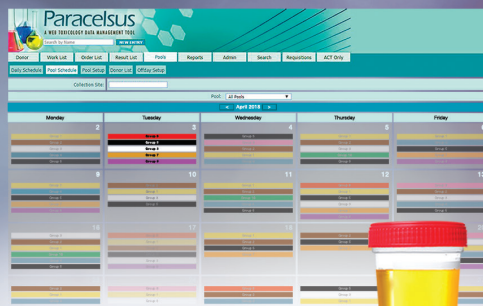
From collection and chain of custody to drug testing and reporting of results with the Indiko Plus analyzer

# Thermo Scientific™ Complete Automated Drugs of Abuse Testing Solution

A common myth is that automated drug testing is expensive and hard to do. In fact, for labs that perform an increasing number of test samples per month, automation is often less expensive, more efficient, and cost effective compared to Point-of-Care (POC) cups / strips or send outs. Automated drug testing is easier than one might initially think.

## Thermo Scientific Automated Drug Testing

### Scheduling & Chain of Custody



- Automate and track Chain of Custody via barcoded specimens using laboratory software system such as the ACT Innovation's Paracelsus™ software
- Develop and automate participant test schedules
- Tailor participant test panels to their drug history
- Integrate test results and reports with ACT Innovation's Drug Court Case Management (DCCM™) software
- Web-based software allows for fast and immediate access at your fingertips
- Accurate specimen tracking and reporting is ensured via barcoded and computerized process

### Drug Tests / Panel



- Choose from a broad menu of testing options
  - 25 urine tests\*
  - 4 specimen validity tests
- Automated test results provide highly accurate results
- Test for Specimen Adulteration (Creatinine)
- Schedule for randomized drug testing
- Develop flexible drug testing panels to reflect the needs of your participant and drug trends

\* CJ&F Only: DRI Ethyl Glucuronide (EtG), DRI Fentanyl, CEDIA AB-PINACA, and CEDIA UR-144/XLR-11 urine DAT assays are currently for Criminal Justice and Forensic use only

## What is automated drug testing?

Automated drug testing integrates all steps involved in monitoring participants for drug use – from scheduling a test, tracking chain of custody, barcoding specimens, testing the specimen for drug use, to reporting test results electronically. Test results can be printed or securely shared via encrypted email to designated recipients such as probation officers, coordinators, and other personnel or agencies. Such an easy and secure sharing process reduces or eliminates the need for storing paper copies of participant's test results and manually writing down the data. Storing data electronically also helps easily track and find participant results and historical drug usage.

While POC may appear to be the cheaper option on the front end, there are hidden costs in lost information, re-tests, and lack of flexibility that can affect outcomes and productivity. Automation reduces inaccuracies that result from human error, subjectivity, and provides the flexibility to adjust drug panels for randomized testing and adapt to the changing drug trends in your region. An automated lab will safeguard your program, provide better results, save time and money.

### Automated Drug Testing



- First results in 15 min, with next results in less than 30 seconds, once instrument is up and running
- Run up to ~200 tests per hour; 54 specimens per run
- Routine system checks to assess instrument performance and ensure testing validity\*
- Randomly test a participant for >20 different drugs at any one time
- Add specimens at any time during a run, without interrupting the ongoing run
- Minimize human error with automation and have greater confidence in test results

\* Please consult your local regulations for guidance on instrument validations and system check requirements

### Results and Reporting

| Test              | Result   | CutOff                   |
|-------------------|----------|--------------------------|
| Amphetamine       | Negative | >= 1000 ng/mL            |
| Barbiturates      | Negative | >= 200 ng/mL             |
| Benzodiazepines   | Negative | >= 200 ng/mL             |
| Cannabis          | Negative | >= 50 ng/mL              |
| Cocaine           | Negative | >= 300 ng/mL             |
| Ecstasy           | Negative | >= 500 ng/mL             |
| Ethyl Glucuronide | Negative | >= 99.99 ng/mL           |
| Methadone         | Negative | >= 300 ng/mL             |
| Opiates           | Positive | >= 200 ng/mL             |
| Oxycodone         | Positive | >= 99.99 ng/mL           |
| Buprenorphine     | Negative | >= 99.99 ng/mL           |
| Creatinine        | Normal   | < 10 mg/dL               |
| PH                | Normal   | < 4.5 OR >= 9 mg/dL      |
| Specific Gravity  | Normal   | < 1.003 OR >= 1.035 g/mL |

- Visualize and approve test results immediately before report distribution
- Create "Normalized" reports – adjust creatinine levels against drug test results
- Share results securely via encrypted email to drug court staff and/or probation officer
- Data is automatically exported to DCCM for accurate tracking
- Option to print out results for immediate access
- Track participant drug testing history with summary reports
- Choose from 25 different participant report options

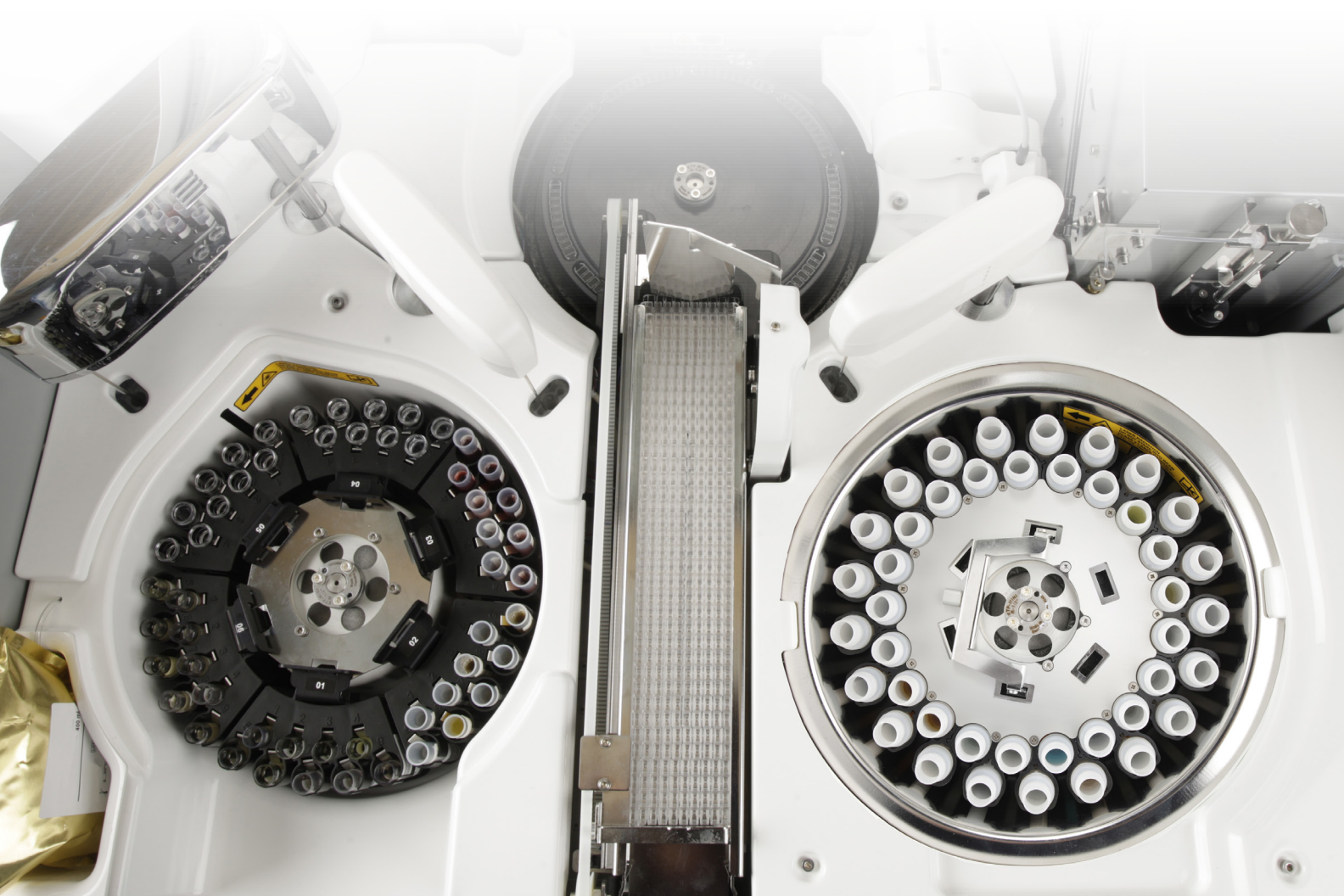
## The Thermo Scientific™ Indiko™ Plus Analyzer: highly accurate drug testing

The Indiko Plus analyzer is a finely tuned machine that automates the drug testing process of urine specimens. The Indiko Plus analyzer has large compartments where one can load many different specimens and drug tests, providing the flexibility you may need to run many different samples simultaneously. Testing is easily tailored to the participant's drug use patterns, as the analyzer has random access capability, allowing you to perform any test in any order. Accurate, clear, and easy to interpret results are usually available in just a matter of minutes without any guesswork.

These flexible features of the Indiko Plus analyzer can help make your drug court program more effective in monitoring abuse and supporting participant efforts to change behaviors.

- **Supports a broad testing panel**
  - Randomly test >20 different drugs at any one time
- **Immediate Results**
  - First results available in less than 15 minutes, once the instrument is up and running with next results available in approximately 30 seconds
- **Scalable**
  - Run up to ~200 tests per hour; 54 specimens per run
- **Continuous feed**
  - Add specimens at any time during a run
- **Accurate Results**
  - Routine system checks assess system performance and ensures testing validity\*
  - Minimize human error with automation

\* Please consult your local regulations for guidance on instrument validations and system check requirements.



“We notice that our defendants are getting creative with evading positive test results and we need to keep up with them. So, we decided to adopt a more accurate technology to keep up with the changing world. Once we got over the fear of learning and using this new machine, we found that our drug program was not only more cost effective but also had better participant success. We can test more participants, for more drugs, get more accurate results and still remain within our budget.”

- J. Carter, Specialized Docket Coordinator/Probation Officer, Mount Vernon Municipal Court, Ohio.

## Thermo Scientific Drugs of Abuse Tests

The Thermo Scientific urine drugs of abuse tests help monitor for street drugs or prescription drugs. Our broad test menu allows you to create different and randomized test panels that fit the needs of your drug court program. To create your test panel, select from 25 urine tests\* and 4 Specimen Validity Tests (SVTs). These test panels can be tailored to monitor for the participant's historical behavior or abused drugs trending in your region. While urine tests help monitor drug abuse, the SVTs allow you to monitor if the specimen has been tampered with or not, since urine tampering is a major concern and can affect the success of your drug court program.

Interpreting test lines on cups or strips can be ambiguous and often requires repeat testing, which can lead to increased send out confirmation costs. The uncertainty of visually interpreting cups or strips is eliminated with automation as test results are read electronically by the analyzer. An efficient, finely-tuned system where the analyzer, test reagents, and software work together will provide an accurate, cost-effective process that supports the needs of your drug court program.

### Highly accurate results – Thermo Scientific Drugs of Abuse Tests

Make sanction decisions with greater confidence

- No more guess work with “faint lines”
- Clear electronic test results
- Automation minimizes human error
- Test Controls used for validation

#### Choose from a broad test panel

- 25 urine tests\*
- 4 specimen validity tests



Don't let “faint lines” get in the way  
of your test results

\* CJ&F Only: DRI Ethyl Glucuronide (EtG), DRI Fentanyl, CEDIA AB-PINACA, and CEDIA UR-144/XLR-11 urine DAT assays are currently for Criminal Justice and Forensic use only

## Test for Specimen Adulteration

Specimen Validity Tests (SVTs) are used to monitor urine specimens for possible tampering by dilution, substitution or adulteration. With the option to choose from four Thermo Scientific specimen validity tests, one can easily and confidently monitor for specimen tampering.

### Thermo Scientific Specimen Validity Tests

#### • Urine substitution and/or dilution:

##### Thermo Scientific™ DRI™ Creatinine-Detect™ Test

Dilution is the most common form of specimen tampering by drinking lots of water or by adding tea, apple juice, or other liquids. Any significant drops in a participant's creatinine levels over time, could point to a tampered specimen, despite a negative drug result.

##### Thermo Scientific™ DRI™ Gravity-Detect™ Test

Normal urine has a higher specific gravity. The lower the specific gravity, the closer its consistency is to water, indicating possible dilution and/or substitution.

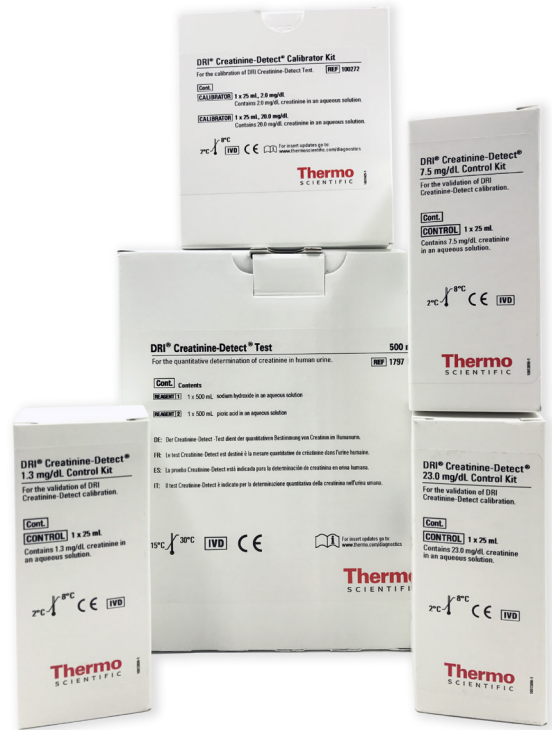
#### • Urine adulteration:

##### Thermo Scientific™ pH-Detect™ Test

Normal urine should have a pH between 4.7 and 7.8. Urine adulterated with bleach or ammonia will produce a basic pH (pH 11 or greater), while urine adulterated with lemon juice and vinegar will produce an acidic pH (pH 3 or lower).

##### Thermo Scientific™ General-Oxidant Detect™ Test

Several oxidizing adulterants are being sold with a claim to clear all positive drug test results. The most commonly used oxidizing adulterants are nitrite (Klear™), chromate (Urine Luck™), iodine, bleach, and horseradish peroxidase (Stealth™).



### Ways in which urine can be tampered with<sup>1</sup>

#### • Pre-collection

- Dilution: Consuming large quantities of water or fluids prior to collection (water loading, flushing, hydrating, etc.)
- Adulteration: Consuming products designed to “enhance” drug elimination or removal of drugs (Gold Seal™, Clean ‘n Clear™, Test-Free™, Naturally Klean™, etc.)

#### • Post-collection

- Dilution / Substitution: Adding clean urine to the specimen or exchanging urine for such common substitutes as apple juice and tea.
- Adulteration: Adding oxidizing agents which mask the presence of any drugs. [Nitrite (Klear™), Chromate (Urine Luck™), Iodine, Bleach, and Horse Radish Peroxidase (HRP) (Stealth™)].

1. Dasgupta, A. “The Effects of Adulterants and Selected Ingested Compounds on Drugs-of-Abuse Testing in Urine.” American Journal of Clinical Pathology., U.S. National Library of Medicine, Sept. 2007, [www.ncbi.nlm.nih.gov/pubmed/17709324](http://www.ncbi.nlm.nih.gov/pubmed/17709324).

**“Adolescents who are chronic marijuana users, test positive with dip tests, even after 45 days. However, with creatinine normalization these results may test negative. It’s crucial for drug courts to test specimen validity on every specimen to ensure they are getting a robust and accurate test result.”**

- J. Carter, Specialized Docket Coordinator/Probation Officer, Mount Vernon Municipal Court, Ohio.

## ACT Innovation's Paracelsus™ Software

You decide who to test, when to test, and what to test with just a click of the mouse. ACT Innovation's Paracelsus Software lets you tailor your testing program to your needs and then executes the process automatically. The software allows you to track participant drug testing history, without the need to manually write down test results or keep track of piles of paper. This process is entirely computerized with a bar coded system for accurate specimen tracking and reporting.

If creatinine levels trend down, it's possible that the specimen has been tampered with, despite a negative drug screen. The Paracelsus Software allows you to create "normalized" reports to monitor for specimen adulteration.

## Features of the Paracelsus Software

- **Randomized Scheduling and Testing**
  - The randomized, coded phone-in system option eliminates the tedious process of setting-up daily phone recordings
  - Easily adapts to changes in Court Schedules
  - Remote data entry to schedule tests via the web
- **Test Results and Participant Tracking**
  - Interfaces with ACT Innovation's Drug Court Case Management (DCCM™) software
  - Provides access to Client Test Results and Reporting via the internet (web-based)
  - "Normalized" reports – adjust creatinine levels against drug test results
  - Runs up to 25 different participant reports
  - Keeps track of Chain of Custody and Collection Reporting
- **Reporting and Notification of Test Reports**
  - Protects Client Information via automated and secure encryption
  - Automatically notifies drug court staff and/or probation officer via encrypted email
  - Automatically exports data to DCCM software
  - Prints out final report for immediate access



Keep participants guessing with randomized testing and randomized scheduling

## The Value of Working with Thermo Fisher Scientific Your Trusted Partner

- Experts in Drugs of Abuse Testing
- Over 25 years in the drugs of abuse testing industry

## Committed to Your Success

- Established on-site and 24/7 phone technical support
- Your Educational Resource — offering webinars, conference workshops, and access to industry leaders

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