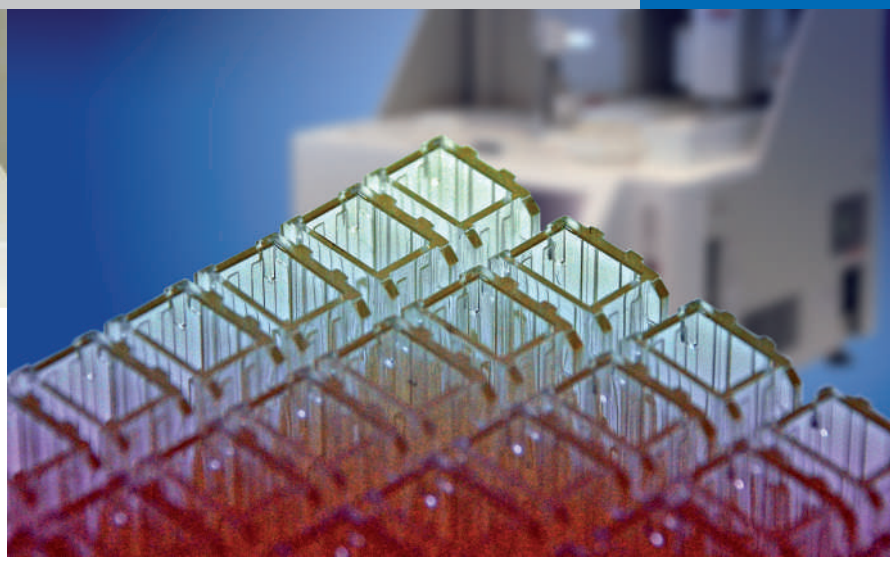
Instrumentation

Thermo Fisher Scientific

CDx90

The field of drug testing is constantly changing. With many years of experience in developing assays, we are able to anticipate future drug testing needs and to provide innovative total test solutions. Offering the most extensive menu in the industry we continue helping our customers to meet their distinct drug testing requirements.



The SMALL & SMART dedicated drug testing solution

The CDx 90 Analyser is especially developed to meet the requirements of low volume, dedicated drug testing laboratories.
The CDx 90 is SMALL, so it can flawlessly fit the low volume testing lab needs in terms of space and throughput. It is as SMART as "big" analysers and has all necessary features and trappings that ensure accurate results, high-level convenience and ease-of-use. A complete drug testing solution from one supplier, a real "one-stop shop".

Key Features:

Drug Testing Solution

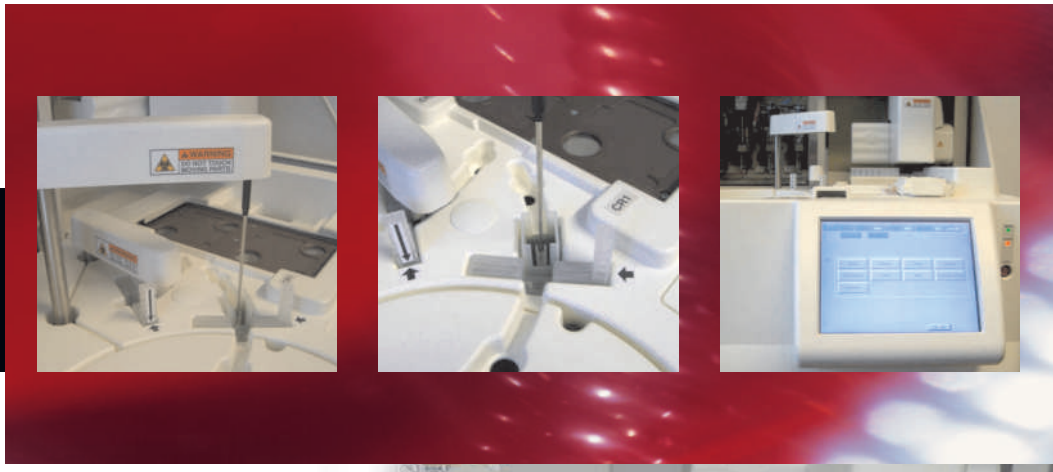
- Compact and convenient benchtop analyser
- Innovative, unique and full menu of Microgenics reagents
- DAT, Validity, Tox, TDM and ISD testing – reagents, calibrators & controls
- Reliable and consistent results for the sample of your choice
- Intuitive system software
- Flexible data management tool (Toxicom® optional)
- Comprehensive instrument and product training
- Responsible scientific support and service

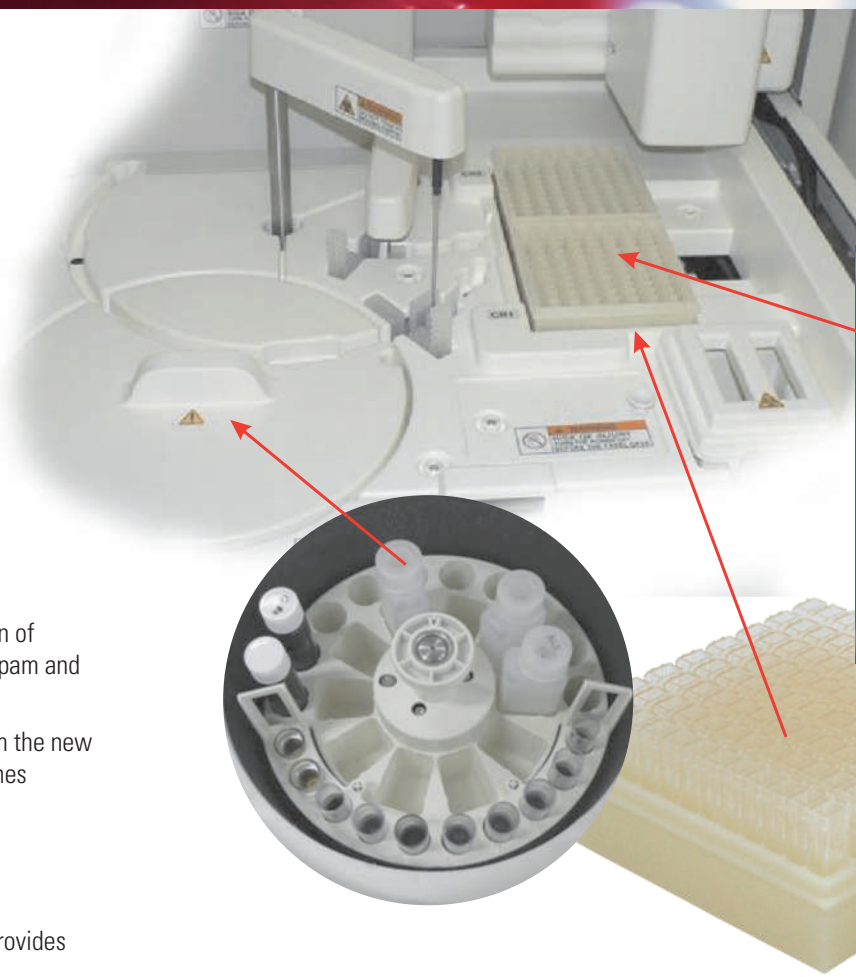
Analyser

- Fully automated, random access analyser
- Throughput – 90 tests / hour
- STAT sample – interruption permitted, even during analysis
- Up to 20 reagent containers and up to 10 samples on-board
- Reagent and sample cooling
- Reagent and sample liquid level sensing
- Reagent and sample external positive barcode identification
- Touchscreen
- Low Maintenance
- 10 programmable open channels

Thermo Fisher CDx 90 – SMALL & SMART

The analyser runs the comprehensive range of Microgenics Drugs of Abuse, Toxicology, Therapeutic Drug Monitoring and Immunosuppressive Drug Testing assays (for the full menu see next page), including several unique parameters, e.g.:





Ethyl Glucuronide (EtG)

The first fully automated immunoassay for the detection of EtG in urine. EtG has proven to be an excellent biomarker for recent alcohol consumption; it has a significantly longer detection time than Alcohol (80 vs 8 hrs).

High Sensitive Benzodiazepine

This CEDIA® assay combines:

- Integrated online hydrolysis for the detection of glucuronidated Benzodiazepines (e.g. Oxazepam and Temazepam)
- The recognition of 7-amino-metabolites from the new clinical important and abused Benzodiazepines (e.g. Flunitrazepam and Clonazepam)

Methadone Metabolite (EDDP)

Testing for the Methadone Metabolite EDDP provides conclusive evidence of Methadone ingestion:

- Identification of specimens that have been spiked with Methadone;
- Renal clearance of EDDP is unaffected by urinary pH resulting in fewer false negatives;
- Protection of patients with rapid Methadone metabolism or on low dose regimens

Lithium

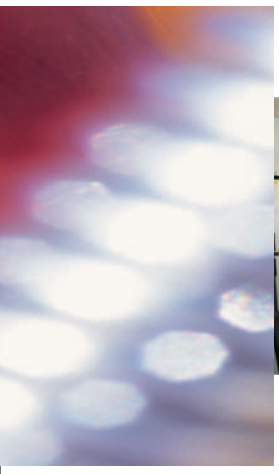
The only liquid ready to use and fully automated Lithium assay available to guarantee fast turnaround of excellent quality results.

Antiepileptic Drug Assays

Besides the common Antiepileptic Drug Assays like Carbamazepine and Phenytoin, Microgenics has also developed excellent assays for the newer Antiepileptic drugs like Lamotrigine and Topiramate.

MAS® Quality Control Programme

This QC Solution can be used in combination with the CDx 90 and the Microgenics drug assays. The programme consists of Control Material and LabLink® xL, a web-based quality assurance programme.



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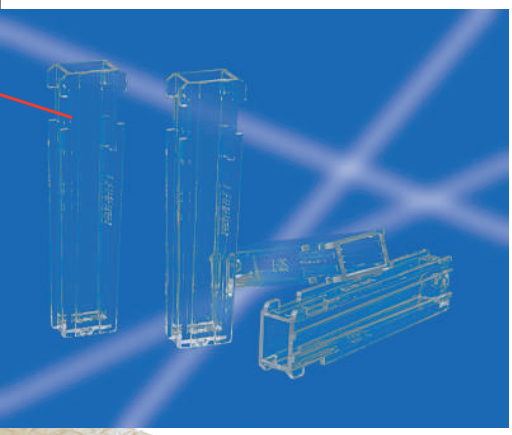

Thermo Fisher CDx 90 – SMALL & SMART – Test Menu

Drugs of Abuse Assays
Amphetamines / Ecstasy
Barbiturates
Benzodiazepines
Buprenorphine
Cannabinoids (multi level)
Cocaine Metabolite
Cotinine
Ecstasy
Ethyl Alcohol
Ethyl Glucuronide
Heroin Metabolite (6-AM)
Ketamine
LSD
Methadone
Methadone Metabolite (EDDP)
Methaqualone
Opiates
Oxycodone
Phencyclidine
Propoxyphene

Sample Validity Assays
CEDIA® Sample Check
Creatinine

Alternative Samples
Drugs of Abuse - Oral Fluid
Drugs of Abuse - Hair

Serum Toxicology Assays
Acetaminophen
Barbiturates
Benzodiazepines
Salicylate
Tricyclic Antidepressants

Therapeutic Drug Monitoring

Antiepileptic Drug Assays
Carbamazepine
Lamotrigine
Phenobarbital
Phenytoin
Topiramate
Valproic Acid
Zonisamide

Antimicrobial Drug Assays
Amikacin
Gentamicin
Teicoplanin
Tobramycin
Vancomycin

Immunosuppressive Drug Assays
Cyclosporine (Low & High)
MPA

Cardioactive Drug Assays
Digitoxin
Digoxin
Procainamide
N-Acetylprocainamide (NAPA)
Quinidine

Antiasthmatic Drug Assay
Theophylline

Antidepressant Drug Assay
Lithium

Instrumentation

Thermo Fisher CDx 90 - SMALL & SMART Analyser Specifications

Technical Data

General

System	Fully automated, random access benchtop analyser
Throughput	90 tests per hour
Category	Dedicated drug testing system (photometric)
Assay menu	Drugs of Abuse Testing (DAT - urine) Validity testing (Adulteration - urine) Toxicology testing (Tox - serum) Therapeutic Drug Monitoring (TDM) Immunosuppressive Drug Monitoring (ISD)

Sample Handling

Sample type	Whole blood, serum, plasma, urine, oral fluid (saliva), hair and others
Sample container	Cups and primary tubes (diameter 13 - 16 mm, length 75 - 100 mm)
Sample input	Removable tray with sample cup/tube holder on turntable
Sample cooling	Peltier element cooling (8 - 15° Celsius)
Sample capacity	Up to 10 samples, cups and/or tubes
STAT sample	Interruption permitted, even during analysis
Sample volume	2 to 35 µL (0.1 µL/step)
Sample dilution	Automatic, programmable sample dilution
Sample identification	Position number and/or Positive sample identification with handheld barcode reader
Sample probe	Micropipette / microsyringe (2 to 35 µL - 0.1 µL/step) Liquid level sensor, capacity measurement Washed inside and outside with purified water and/or detergent(s)

Reagent Handling

Reagent type	CEDIA®, DRI®, QMS® and Infinity™ drug assays
Reagent container	20 and 50 ml reagent bottles
Reagent input	Removable tray with reagent container on turntable, accommodates Microgenics drug testing reagent bottles
Reagent cooling	Peltier element cooling (8 - 15° Celsius)
Reagent capacity	Up to 20 reagent bottles: 10 x 20 mL / 10 x 50 mL, or with adapters 20 x 20 mL
Reagent volume	20 to 350 µL (1.0 µL/step)
Inventory	Calculation of remaining reagent volume
Reagent identification	Position number and/or Positive reagent identification with handheld barcode reader
Reagent probe	Micropipette / microsyringe (20 to 350 µL - 1.0 µL/step) Liquid level sensor, capacity measurement Washed inside and outside with purified water and/or detergent(s)

Reaction

Cuvettes	Disposable resin cuvettes
Cuvette ring	Maximum 24 cuvettes
Cuvette pack	96 single cuvettes per tray
Cuvette volume	Minimum 120 µL, maximum 450 µL
Cuvette temperature	Direct heating, 37°C (+/- 0.3°C)
Cuvette handling	Automatic feeding and disposal
Pipetting	1 pipettor for sample and reagents
Dispensing	Sample 100 µL syringe, reagent 1.000 µL syringe
Mixing method	Stirring paddle
Incubation time	Five minutes after adding sample for one reagent assay Five minutes after adding second reagent for two reagent assay

Measurement

Method	Photometric, absorbance measurement Bi-chromatic and mono-chromatic
Wavelength	8 wavelengths (filter wheel 340 – 800 nm)
Light source	Halogen tungsten lamp
Linear range	OD 0.0 – 3.5
Analytical method	Endpoint and Rate

User Interface

Interface	Built-in PC with touchscreen and handheld barcode reader
USB connection	Mouse, keyboard, printer and memory stick(s)
Status display	Graphic and colour coded operation status display
Calibration monitor	Factor, linear, logit/log, spline & exponential Numeric and graphic display
Quality control	Westguard multi-rule - numeric and graphic display
Reaction monitor	Reaction curve - numeric and graphic display

Installation

Dimension	620 mm (W) x 555 mm (D) x 570 mm (H)
Weight	65 kg
Optional	Handheld barcode reader Water and waste liquid sensors Data management tool Toxicom®

Please contact your local Microgenics representative for further details.

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