

# NEXgen

Fully Automated 5+2 Microplates - Open System



Your daily laboratory routine has to be flexible and well organised. With NEXgen, we provide you a complete solution in total automation of microELISA testing. NEXgen is increasing your daily test performance and will play a central role in making your work routine increasingly efficient every day.

With NEXgen we provide the solution for a modern fully automated analyser that is able to process simultaneously 7-microplates with ELISA-assays.

Flexibility, reliability and ease of use make it the perfect instrument able to satisfy the needs of the most demanding laboratory.

NEXgen gives you the unique advantage of processing quickly, reliable and independently 7-microplates in a flexible assay environment with user friendly user interface. Multi assay processing is ideal for laboratories that process a wide variety of parameters in addition to high-volume sample testing.

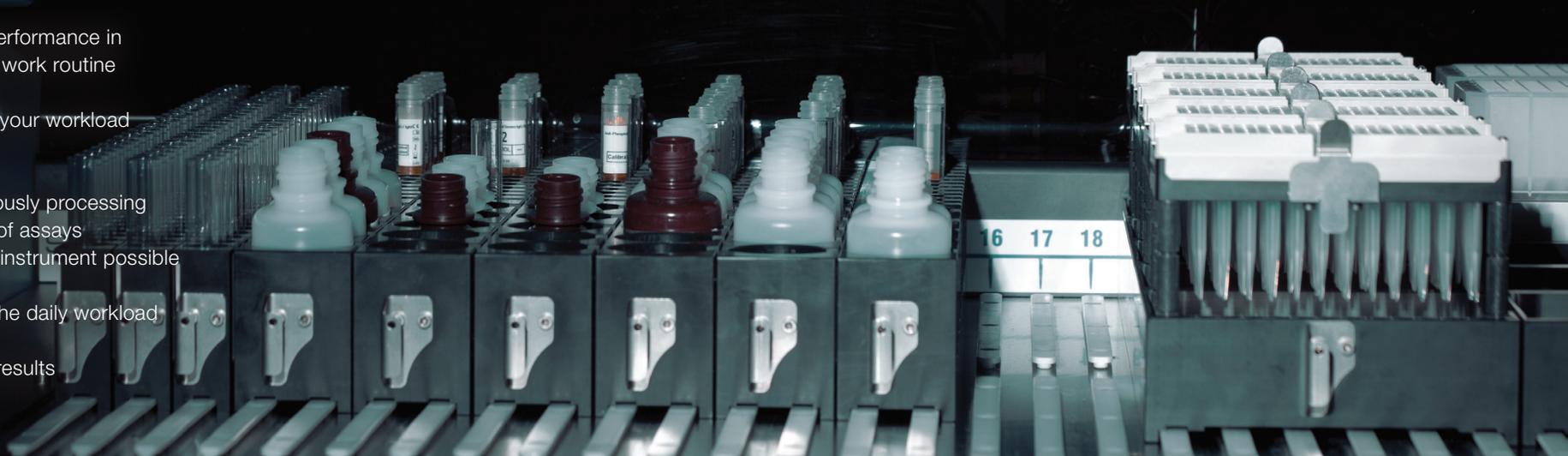
The NEW  
Generation  
in Powerful  
Microplate  
Automation



# NEXgen

NEXgen: a constant maximum performance in laboratories with a daily versatile work routine

- fast and reliable processing of your workload
- high speed pipetting
- continuous loading of samples
- up to 7-microplates simultaneously processing
- extreme flexible programming of assays
- remote support and control of instrument possible
- minimum training of operator
- maximum operational time of the daily workload
- reliable data processing
- cost effective testing and test results
- labour saving advantages



## Sample Work Area

NEXgen is an analyser that processes microELISA plates.

Thanks to the flexibility of the working area, NEXgen is an instrument that naturally adapts to meet many requirements of the today's laboratories, and it is designed to be easily integrated with a pre-analytical system. As well as LIMS/LIS systems.

NEXgen can combine different assays in one plate, or is testing just one assay in one plate: all for your maximum flexibility in programming and testing.

NEXgen has flexible configurations for sample processing, in variations between either about 600 samples for one assay, or 280 samples for up to 7 different assays simultaneously. Samples are loaded via a 'sample sliding tray' that can load 28 (primary) sample tubes per tray. The sample sliding tray enables continuous loading of samples.

The barcode labels on all the resources on board are read by an automatic barcode reader, which enables your true PSID (positive sample identification).

## Reagents

NEXgen is using bar coded reagents to ensure maximum assay control and a validated test routine from the assay.

All bottles (Reagents – Standards – Controls) are accommodated in the reagent sliding tray. Multiple reagents sliding tray positions on board.

Reagents bottles up to 60-mL fit into the reagent sliding tray. The reagents system is designed for combining more than one assay per reagent tray for maximum flexibility in your daily test routine.

## Microplate Platform

The working platform has 7 positions for microplates, and can accommodate all bottom shaped 96 well microplates from the main manufacturers.

On-board is standard 1 shaker/plate rocker unit, this configuration is easy upgradable with up to 4 shaker units.



Fully Automated 7 Microplates Analyser

## Pipetting Station

NEXgen is equipped with 2 innovative dispensing systems that allows it to work simultaneously or independently, providing maximum efficient pipetting.

Efficient pipetting allows minimising the drift effect detecting zero carryover by using standard disposable tips. The innovative and unique dispensing technology secures precision and accuracy, in addition to identification and protection from clots and bubbles during the dispensing and sampling process.

## Washing station

The washing station washes microplates in the working area, while in the same moment pipetting of the next microplates can take place. This unique feature enables the washer to maintain proper incubation of the microplate.

The washer unit has the following features:

- Up to 6 different washing buffers
- Waste tank with 8 liter capacity
- Ability to control the washing flow

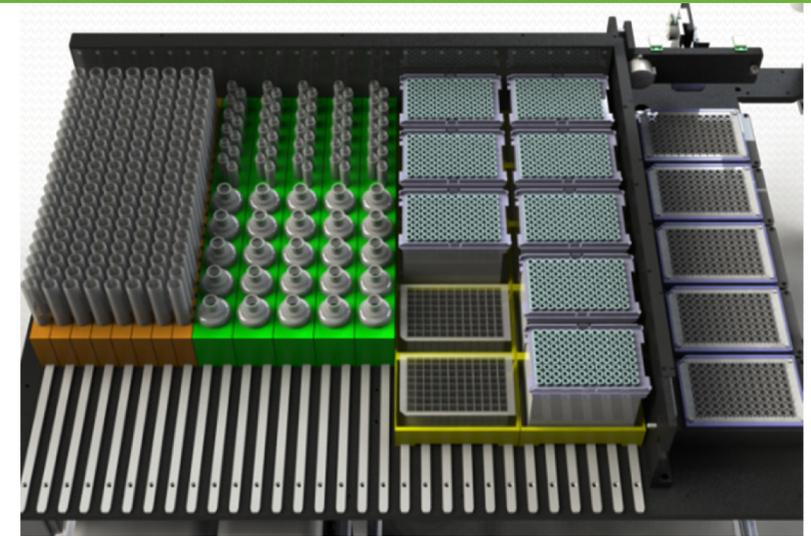
Maximum flexibility in washing programs provides you extremely flexible and adaptable processing of microplates to virtually any microplate based assay. Weight sensors relay precise volume information related to the washing processes on board. The waste tank has remote draining capability for ease of emptying. The independent wash manifold is washing the microplate directly at the incubation station.

## Reading Station

The LED reading system for the microplates allows precision, reduced maintenance and a 3.3 OD dynamic range. The LED reading system is located under loading area.

A state of the art LED light-source provides:

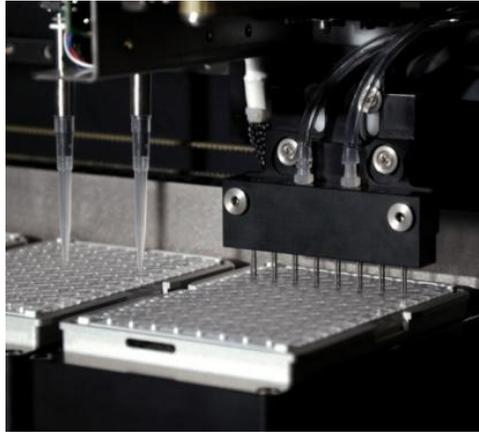
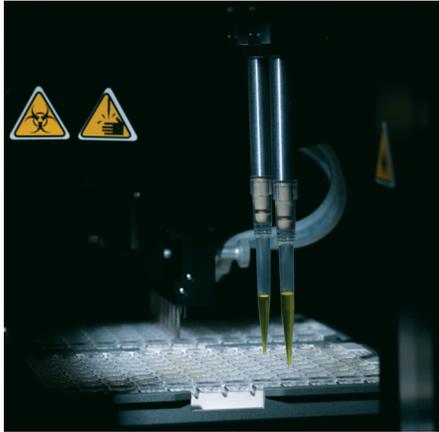
- High performance - minimal heat output for maintaining precise temperatures in incubation area.
- Minimum maintenance due to long life LED lamps.
- Large measurement range and excellent reproducibility.
- High resolution scanning: each well is measured at a resolution of 0.2 mm providing 29 measurement values across each well.



## Incubation Station

■ The incubation station can accommodate up to 5-microplates to be incubated directly on the loading area. 2 further positions under the working area, 1 with shaker.

- Allows easy access for both the pipetting system and wash head.
- Optional incubator/shaker modules installed for specific need (located under the sample loading area).
- Microplates are transported by elevator to incubator area, loading positions or reader station.
- The incubators can maintain temperatures between AT and 50° C.
- By placing the incubators under the microplates, all assay test steps are performed without moving the plates. This novel design allows the microplates to be always accessible by the washer and the pipettes, even during the incubation step. This unique approach allows minimising the drift effect.



## EASY MAINTENANCE

### Daily

- End of run cleaning procedure – Fully automated

### Weekly

- General Cleaning of work area of any liquids
- Emptying all tanks to remove residual buffers. Rinsing with DI-water

### Monthly

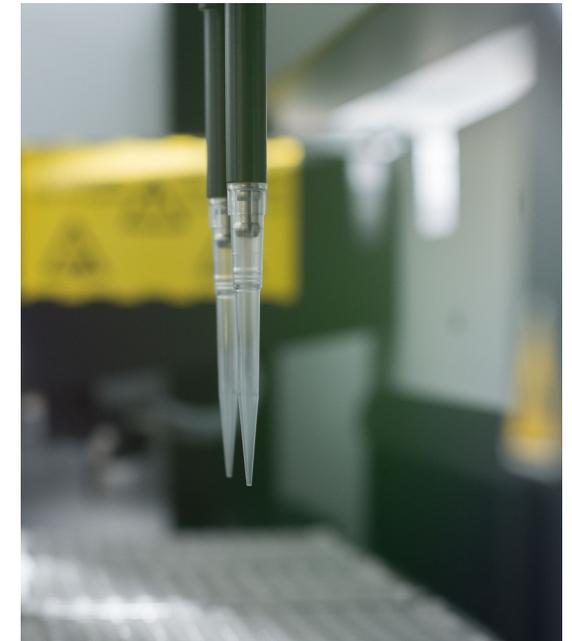
- Wipe down of work area, racks and tip disposal bin
- Inspect tanks and visible tubing's

## NEXGEN FUTURE FEATURES

NEXgen is additionally an automated IFA processor, that facilitates sampling, incubation and colouring of IFA samples\*.

NEXgen can process simultaneously microELISA assays in a microELISA plate and IFA assays on the dedicated IFA slides - even from the same samples!

\* Detection shall be done by suitable microscope (not provided with the instruments).



## Technical Specifications

## General Specifications

Number of plates	Standard 7
Number of IFA slides	Standard 28 (7 holders x 4)
Sample capacity	Up to 616 primary tubes
Continuous sample and tips loading	Yes
Sample tube size	Diameter: max 16 mm Height: max 100 mm
Number of reagents	Up to 55
Number of controls	Up to 132
Assays per plate	Up to 12 (depending on tests compatibility)
Reagent fluid capacity	Up to 60 mL bottles
Self-test at start-up	Yes

## Pipetting Station

Number of pipettes	2 independent channels using disposable tips for sample and reagents
Sample tip type	Adaltis disposable tips
Tip size	200 -1000 $\mu$ L
Sample pipetting volume	5-200 $\mu$ L
Estimated transfer time	< 9 seconds per sample
Time to dispense	< 14 minutes (for 96 samples with volume of 100 $\mu$ L)
Precision	Reagents: $\leq$ 3% CV (10 Replicates) for any operating volume above 25 $\mu$ L Samples: $\leq$ 3 % CV (10 replicates) for any operating volume above 10 $\mu$ L
Accuracy	Reagents: $\pm$ 3% CV (10 replicates) for any operating volume above 25 $\mu$ L Samples: $\pm$ 3% CV (10 replicates) for any operating volume above 10 $\mu$ L
Adding reagent to full 96 plate	From 3 to 7 minutes depending on reagent volume (50 to 200 $\mu$ L)

## Incubation Station

Number of incubators	Standard 7, with following configuration: 5 independent under plates on the working area and 1 under plate below the working area 1 shaker-incubator unit below the working area 1 to 3 optional extra shaker-incubator units below the working area
Temperature range	RT (+ 7°C) to + 50°C
Accuracy	$\pm$ 1°C
Temperature uniformity	$\pm$ 1°C
Shaking	Yes (optional up 4 plates) 200-1000 rpm

## Washing Station

Manifold configuration	1 (8-way wash head)
Programmable volume	-50 - 2000 $\mu$ L
Residual wash volume	< 3 $\mu$ L per well in a flat bottom plate
Wash containers	6 tanks at 2.0 L
Buffer level alarm	Yes (with continuous level sensing)
Waste container	8 L with continuous level sensing
Dispense precision	$\leq$ 5% CV (with 300 $\mu$ L H <sub>2</sub> O in 96 well)
Liquid level sensing	Gravimetric for all tanks and waste container

## Electrical Requirements

Voltage	from 110 to 230V AC $\pm$ 10%
Frequency	50-60 Hz
Power	450 VA (typical)

## Operator Console

PC All in One, Windows 10
Dedicated NEXgen operational software

## Reading Station

Photometric range	0 - 3.3 OD
Spectral range	400 nm to 700 nm
Filter slots	8
Precision	0.01 SD (at 0.000 to 0.500 OD) $\leq$ 1% CV (at 0.501 to 2.000 OD) $\leq$ 1.5% CV (at 2.001 to 2.500 OD) $\leq$ 5:2.0% CV (at > 2.501 OD)
Accuracy	$\pm$ 0.01 OD or 2.5% (at 0.000 to 3.300 OD) whichever is greater
Read time	5 seconds, single wavelength 8 seconds, dual wavelength

## Other Specifications

Number of reagent tips	96
Reagent pipetting volume	Up to 1000 $\mu$ L
Number of sample tips loaded	Up to 9 tip racks (864 in total). No tip number limits in continuous loading mode
Dilution Range	1 part in 200 one stage dilution 1 part in 40000 two stages dilution
Direct in-plate predilution	Yes
Barcode reader for samples and resources identification	Yes, with capability of reading EAN/UPC, Code 39, Interleave 2 of 5, Code 93 and Code 128 barcode formats

## Dimensions

Size	Width 130 cm, Depth 94 cm, Height 98 cm
Weight (net)	220 kg

NEXgen Code	NXG
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Dedicated and user-friendly software warrants your simplified routine and hassle free operation of the instrument, every time

## General Specifications

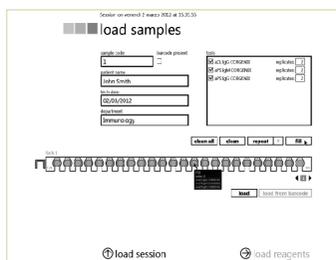
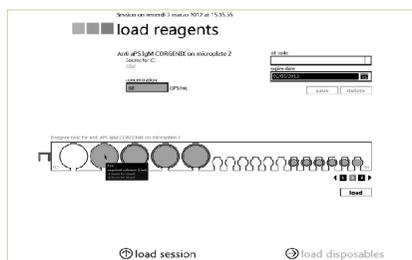
NEXgen is designed to give you a comfortable user experience during the instrument operation by ease of use on all levels of instrument operations.

On board Dedicated Software Modules (ODSM) are created to provide the 'best in class' experience for the user/operator:

- State of the art user interface that guides the operator step wise and hassle free through all operations.
- Flawless operations enable the application specialist, technician or operator, to implement in easy way any application protocol on the NEXgen analyser.
- Dedicated software module for communication support will ease your management of the connected LIS/LIMS systems and pre-analytical systems.
- Newly applied software technology allows in a single file, the storage of all the data produced by the instrument during a test run. This software module is created to meet regulatory requirements such as 21 CFR Part 11.

## NEXgen Software guides operator intuitive:

- Instrument calculates all reagents, disposables, buffers and microstrips required for the volume of tests.
- Software takes the user through a step wise process of loading each of these components.



## Intuitive User Software

NEXgen operator software enables a 'true open system' experience, and gives maximum flexibility for programming a vast variety of assays. If it is a single program, protocol or dedicated profiles, the possibilities are near to unlimited. The operator software allows all operations and programming required for today's works in the laboratories:

- Cut-off (threshold) method for quantitative and qualitative analysis
- Interpolation according to calibration curve using the following methods:
  - Cubic Spline
  - Point-to-point
  - 4 parameters
  - Lin/Log
  - Single point
  - Linear regression
  - Log/Log
- Qualitative and Quantitative applications with dedicated controls and calibrators

In addition to automatic management of different application protocols in a single session, creation of work lists, customised reports:

- tests/applications
- job lists
- test result
- results by sample
- history of performed testing.

Adaltis Service engineers can provide remote services and modify the instrument calibration, load and assay protocols. As an option trouble shooting may be done almost in real time.

System Options		Q-ty
AD-P314000095	External PC ALL IN ONE 16" keyboard and mouse set	1

Accessories		
Racks		
NEXC18936920	Slide holder 4X	2
NEXC18936890	Sample Rack	6
NEXC18213722	Reagent and Controls Rack	6
NEXC18249003	Dilution/Tips Tray 5x Assembly	2
NEXC18936880	Tips support	8
NEXC18936960	Dilution support with labelling	3
Other Accessories		
NEXC18937010	Tip Container (used tips)	1
NEXC18937020	Tank caps kit	1
NEXC18936970	Transportation Handles	2
NXG5999	STP cross over cable Instrument Computer	1
NEXC18930850	External Waste Pipe	1
NEXC18930860	External Tank ass'y	1
NEXC18930870	Microplate Holder ass'y	7
NEXC18930970	Kit of fuses 10A 5x20 GT520310	2
NEXC18930880	Suction Needle Cleaning Tool	1
NEXC18930890	Throw Needle Cleaning Tool	1
NEXC18930940	Pipetting arms calibration jig (tip taking calibration tool)	1
NEXC18937360	Calibration Tool for Washing Head	1

System Options		Q-ty
AD-P314000095	External PC ALL IN ONE 16" keyboard and mouse set	1

Consumables		
NEXC18090326	200µl Disposable Tips	96x10
NEXC18090426	1000µl Disposable Tips	96x10
NEXC18062910	Dilution Cuvette	50
NEXC1805181R	Dilution rack	8x12
NEX9600 Start-Up kit		
93749026	Caps for Reagent Vials	100
ADP314000022	STD/CTRL vials 3 mL	250
93560027	Reagent Vials 20mL	50
93560052	Reagent Vials 60mL	50
93560053	Standard/Control Vials 5mL	50
NEXC18090326	200µl Disposable Tips 96x10	1
NEXC18090426	1000µl Disposable Tips 96x10	1
NEXC18062910	Dilution cuvette	50



# EIAgen

## MicroELISA Assay Product Line

The EIAgen line is a complete range of microplate assays able to satisfy the requirements of the most demanding laboratories.

- The EIAgen assays are completely automated on NEXgen instrument. All application protocols have been validated and approved.
- The excellent quality of Adaltis products, outstanding performance and ease of use, make the EIAgen assays the best solution for every laboratory.
- Almost all assays include reagents that are ready to use and have a good shelf life.

Our wide offer of microplate assays includes the following lines:

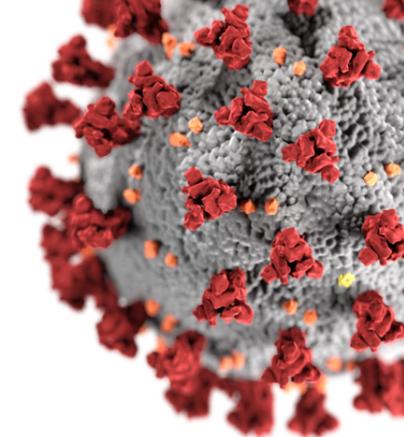
- Respiratory Diseases
- ToRCH
- Retrovirus
- Hepatitis
- Syphilis
- Hormones



The EIAgen line is completed with SARS-CoV-2 fast and reliable microplate assays, as a response to COVID-19 Emergency.

Qualitative detection of IgM, IgG, IgA, antibodies to SARS-CoV-2 in human serum or plasma with the “Capture” system. It is intended for evaluating the immune response of patients suspected to be infected by SARS-CoV-2, for seroepidemiologic studies and as an aid in the diagnosis of Coronavirus disease 2019 (COVID-19).

- U-SARS-CoV-2 IgM Kit
- U-SARS-CoV-2 IgG Kit
- SARS-CoV-2 IgA Kit



For more information

## WWW.ADALTIS.NET

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ADALTIS is certified in compliance with ISO9001 and ISO 13485.  
Our products are CE-IVD.