

# The New Standard in Automated Extraction

## InnuPure<sup>®</sup> C16 *touch*

Automated Extraction



## InnuPure® C16 touch

### A classic reinvents itself:

InnuPure® C16 *touch* combines highly precise liquid handling with automated extraction of high-quality nucleic acids.

This instrument raises the bar when it comes to reliability and user-friendliness. The well-established walk-away principle ensures that the entire process - up to and including analysis - is fully automated once the initial manual loading step is complete. This feature consistently eliminates potential risks: ready-to-use reagent strips and/or plates make pipetting errors a thing of the past, while 1 ml pipette tips with aerosol filters effectively prevent contamination of the dispensing unit and samples. The integrated piercing function and (optional) UV lamp rule out additional contamination risks.

The integrated 10" tablet in combination with IPextract make the InnuPure® C16 *touch* convenient to operate. Depending on the starting material used, the system automatically suggests the perfect combination of kit, extraction protocol and parameters - alternatively, it can also give users fast, direct access along with a flexible selection of different settings. The barcode reader can be used for importing relevant information directly from the kit's label.



## InnuPure® C16 touch

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#### Efficient:

Fully automated nucleic acid extraction

- **Universally applicable** thanks to a wide range of extraction kits for isolating DNA and RNA
- **Nucleic acid adsorption** onto magnetic or paramagnetic particles
- **Combined magnetic/heating** unit offers flexible support for the automated process and collects the bound nucleic acids effectively
- **Extraction based on patented, low-salt DC-Technology®**

#### Intelligent:

Sophisticated designed kit architecture simplifies handling

- **Prefilled reagent strips and/or plates** for processing between 1 and 16 samples in parallel
- **Sealed reagent cartridges** simplify and speed up the process
- **Manual work is limited** to loading the sample tray

#### Established:

Over 25 years of experience in liquid handling

- **Highly precise pipetting;** guaranteed pipette tip seal
- **Desired elution volume** can be automatically set between 20 and 500  $\mu$ l
- **Final step:** Isolated nucleic acids transferred to storage tubes with lids

#### Reliability:

Risk of cross-contamination eliminated

- **1 ml pipette tips** with integrated aerosol filter provide reliable protection for the dispensing unit
- **Reagent cartridges** do not need to be opened manually: instrument pierces seals
- **Optional UV lamp** provides a simple means of decontaminating the sample chamber

#### Convenient:

Intuitive operation with IPextract

- **Stand-alone operation** with integrated 10" Tablet
- **Wizard feature** guides beginners through the menu; experienced users have quick, direct access to preinstalled extraction protocols
- **Barcode-marked extraction kits** contain all relevant information

## Fully Automated Nucleic Acid Extraction

The InnuPure® C16 *touch* with optimized chemistry is a system for flexible, efficient nucleic acid extraction. Customers can prepare an extremely wide variety of starting materials thanks to the system's large number of ready-to-use kits.

In addition to automated protocols for bacteria, viruses, as well as human, animal and plant tissues, customers can easily process complex forensic samples and highly processed food. The system also provides enrichment routines for cell-free nucleic acids and allows users to conduct bisulfite conversion for epigenetic analyses.

High-quality magnetic and paramagnetic particles act as the solid phase for binding nucleic acids. Buffer conditions are set both to create a fine particle dispersion in solution and to ensure fast, quantitative sedimentation during collection, while the multifunctional heating/magnetic unit (**IHMU** - **I**ntelligent **H**eating/**M**agnet **U**nit) is moved into position under the bottom of the reagent cartridges. The liquid can then be reliably aspirated without transferring magnetic particles.

The heating function supports the automated process during lysis, drying and elution. Residual solvent, which can potentially inhibit subsequent applications, are removed effectively, and nucleic acids are efficiently desorbed in the elution buffer.

- Fully automated DNA and RNA extraction
- Also suitable for processing complex samples such as forensic materials and processed foods
- Optimized protocol for nucleic acid enrichment and bisulfite conversion
- Multifunctional heating/magnetic unit
- Flexible support for the overall extraction process
- Reliably prevents magnetic particle and liquid transfer

Rounding out the overall application is the use of patented DC-Technology® (Dual-Chemistry). The use of variable buffer systems while simultaneously reducing the concentrations and/or ionic strengths required creates the perfect conditions for proteolytic lysis and reduces the potential risk of transferring salts into the eluted sample. This results in optimized workflow times and the extraction of high-quality nucleic acids.



### Intelligent kit architecture

When used with the InnuPure® C16 *touch*, ready-to-use extraction kits greatly simplify routine laboratory work while saving resources. The time-consuming job of filling reservoirs, for example, is a thing of the past. Prefilled cartridges also eliminate the risks of filling the wrong tubes and of spilling reagent. Most importantly, however, having so many kit elements prepared in advance saves valuable time.

All kits come in two types of packaging: one that includes Reagent Strips for individual extraction processes for small numbers of samples and one with reagent plates for up to 16 extractions at medium sample volumes. This limits prep work for the InnuPure® C16 *touch* to simply loading the sample tray.

- Process 1 to 16 samples in parallel
- Prefilled, sealed Reagent Plastic for exceptionally easy preparation
- Fast and reliable



## Core Liquid Handling Competencies

Over 25 years of experience with high-throughput (HTS) technologies has made liquid handling systems one of Analytik Jena's core competencies.

The use of a highly precise pipetting system makes InnuPure® C16 *touch* workflows accurate and reproducible. In addition, the high-quality pipette tips used guarantee optimal while minimizing the amount of liquid remaining in the tips.

- Adjustable to elution volumes of 20 to 500 µl
- Highly precise liquid handling
- Superior reproducibility

The integrated dispensing unit allows operators to set the elution volume to a value between 20 and 500 µl; transfer is then automatic. The pipette tips and Elution Tubes are all included as components of the extraction kit.

### Excellent reliability – no cross-contamination

Various features of the InnuPure® C16 *touch* and the corresponding extraction kits reduce the risk of potential cross-contamination to an absolute minimum. The aerosol filters in the 1 ml pipette tips, for instance, reliably prevent any impurities from reaching the dispensing unit or sample. The pipetting system does not require a complex cleaning process. An optional UV lamp is also available as an efficient tool for decontamination between two runs.

- Piercing function: Sealed reagent cartridges no longer need to be opened manually
- Simple, user-friendly process that simultaneously improves reliability
- Optional: UV lamp (254 nm)

**Special benefit:** The piercing function of the InnuPure® C16 *touch* eliminates the need for manually peeling the film off of the sealed reagent cartridges. Not only does this efficient feature reduce the prep work required, it also eliminates the need for mixing buffer solutions and the resulting negative impact on performance.

## IPextract for the Ultimate in User Convenience

The integrated 10" tablet PC turns the InnuPure® C16 *touch* into a compact, stand-alone system that can be operated without any additional peripherals.

The IPextract software package comes with all of the necessary extraction protocols, eliminating the often time-consuming process of adjusting to automated liquid handling. An integrated wizard is also available, making it easier for users just starting out in automated nucleic acid extraction to familiarize themselves with the process. Experienced users, on the other hand, can call up and begin using the protocols they want right away.

If processing relatively large numbers of samples especially for diagnostic applications the system can be connected to a 2D barcode reader via a USB port. This allows operators to import sample ID's, as well as to track and document samples. Kits with a barcode can also be scanned in.

- Comprehensive software package for intuitive operation
- Modern 10" Windows 8.1 touch screen
- Sample-based wizard makes protocol selection extraordinarily easy





# Technical Data

Extraction	
Basis	Magnetic or paramagnetic particles
Duration of extraction	<ul style="list-style-type: none"> <li>▪ External lysis: &lt; 45 min (without lysis)</li> <li>▪ Internal lysis: &lt; 75 min (incl. lysis)</li> </ul>
Ø Yield	<ul style="list-style-type: none"> <li>▪ Depending on type and amount of sample</li> <li>▪ Tissue (20 mg): up to 50 µg</li> <li>▪ Whole blood samples (200 µl): up to 10 µg</li> <li>▪ Plant (100 mg): up to 60 µg</li> </ul>
Elution volume	20 µl up to 500 µl (in steps of 10 µl)
Field of application	DNA and RNA extraction
Sample parameters	
Number of samples	Up to 16 samples in parallel, incl. single sample preparation
Sample amount	<ul style="list-style-type: none"> <li>▪ Depending on the type of sample</li> <li>▪ Up to 10 ml or 180 mg respectively</li> </ul>
Tempering	<ul style="list-style-type: none"> <li>▪ Up to 70 °C inside the sample</li> <li>▪ Support of lysis, drying and elution</li> </ul>
Control	
Control	Stand-alone control
Display	10" tablet PC, color, touch, WIN 8.1
Features	<ul style="list-style-type: none"> <li>▪ Sample-based wizard</li> <li>▪ Automatic pipetting of chosen elution volume</li> <li>▪ Automatic transfer of eluates into storage tubes with lid</li> <li>▪ Pre-installed extraction and decontamination protocols</li> <li>▪ Video sequences and display of residual time for ideal overview of the run</li> <li>▪ User management with 3 user levels</li> </ul>
Liquid handling	
Pipetting head / Channels	Dosing unit with 16 channels
Tips	1 ml tip with aerosol filter
Working volume	Up to 1000 µl
Functions	Pipetting and piercing function of the sealed reagent plastic
Accessories	
Cleaning / Decontamination	<ul style="list-style-type: none"> <li>▪ Big front door for easy access and wipe decontamination of the sample room</li> <li>▪ Optional: UV lamp for decontamination between two runs by 254 nm UV light</li> </ul>
Kits and Reagents	Ready-to-use kits for DNA and RNA extraction
Additional	Priming Station and Sample Tray

## Additional Technical Data

### Additional technical data

Interface	Tablet: USB for data transfer, barcode reader
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Noise emission	Max. 55 dB
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Warranty	2 warranty on device system incl. tablet PC
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### Dimensions

Weight	Approx. 30 kg
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Dimension (W x H x L)	400 mm x 543 mm x 550 mm
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# Order Information

Order number	Description
845-00020-2	<b>InnuPure® C16 touch</b> Instrument system stand-alone, incl. 10" Tablet PC, Priming Station and Sample Tray
845-60025-0	<b>Priming station for InnuPure® C16 touch</b> Priming Station for InnuPure® C16 <i>touch</i> and the usage of up to 2 Sample Trays for the easy preparation with all necessary kit components needed for automated extraction
845-60026-0	<b>Sample Tray for InnuPure® C16 touch</b> Sample Tray for InnuPure® C16 <i>touch</i> and the usage of up to 2 Reagent Plates and the preparation of up to 16 samples in parallel. For single sample handling adapters for usage of up to 4 Reagent Strips are available (optional)
845-60006-0	<b>Adapter for 4 Reagent Strips</b> Adapter for the Sample Tray of InnuPure® C16 <i>touch</i> and usage of up to 4 Reagent Strips for single sample handling; one Sample Tray can be used with up to 2 adapters

#### Headquarters

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Pictures: Analytik Jena AG  
Subject to changes in design and scope of delivery as well as further technical development.