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Product Name: ADNap 20 Automated nucleic acid extraction system

Part Number:

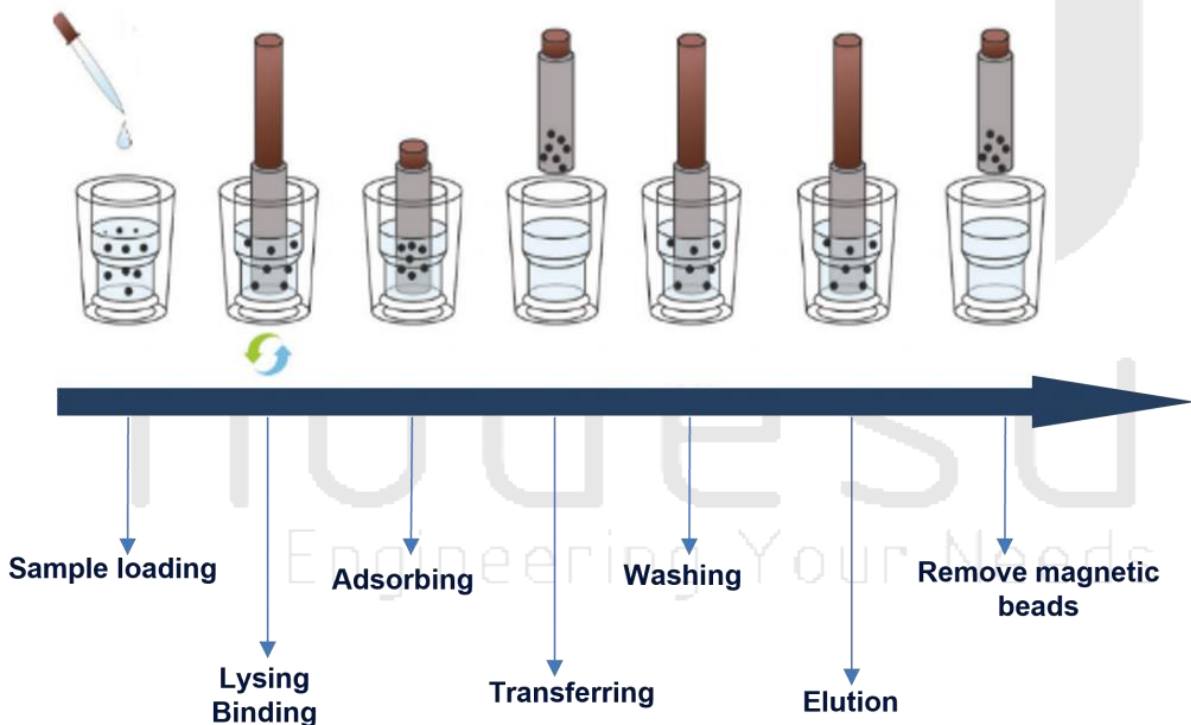
Product Description:

### ADNap 20 Automated nucleic acid extraction system

ADNap 20 is a fully automated bench top system for high-throughput extraction of nucleic acids from a variety of sources. The system relies on an automated 96-channel magnetic head for reliable and rapid extraction of high-quality nucleic acids. Like all of Aurora's liquid handlers, this system is open and flexible.

### Principle

The ADNap 20 uses a 96-channel head of magnetic bars combined with disposable tip combs to mix and transfer magnetic beads. The magnetic bars move up and down, allowing mixing of the reagents and beads following lysis. Once the magnetic beads collect at the bottom of the tip comb (that surrounds the magnetic rods) the magnetic head moves to a different plate and the beads are released into the new plate by moving the magnetic rods out of the tip comb. This process is repeated for bead washing and elution steps.



[GET MORE INFORMATION ON ADNap 20](#)

### Applications

Extracted nucleic acids can be used for a number of applications including

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- High throughput genomic applications such as next generation sequencing.
- Processing samples for genetic testing
- Microbiome research including infectious diseases.
- Drug development.

## Features and Benefits

Compact bench top system

High quality and reproducibility

Open and flexible system.

Easy to use touch-screen interface.

Stores up to 1000 different programs

Heating blocks (up to 90 °C)

Built-in UV lamp combined with the use of disposable magnetic tip combs and extraction tubes delivers effective and decontamination

## Typical extraction workflow on the ADNap 20



Plate prep  
~15 mins



Program selection  
1 min



Plate loading  
1 min



Start run



Run time  
30-60 mins

## The ADNap series



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96-channel magnetic head



32-channel magnetic head



16-channel magnetic head

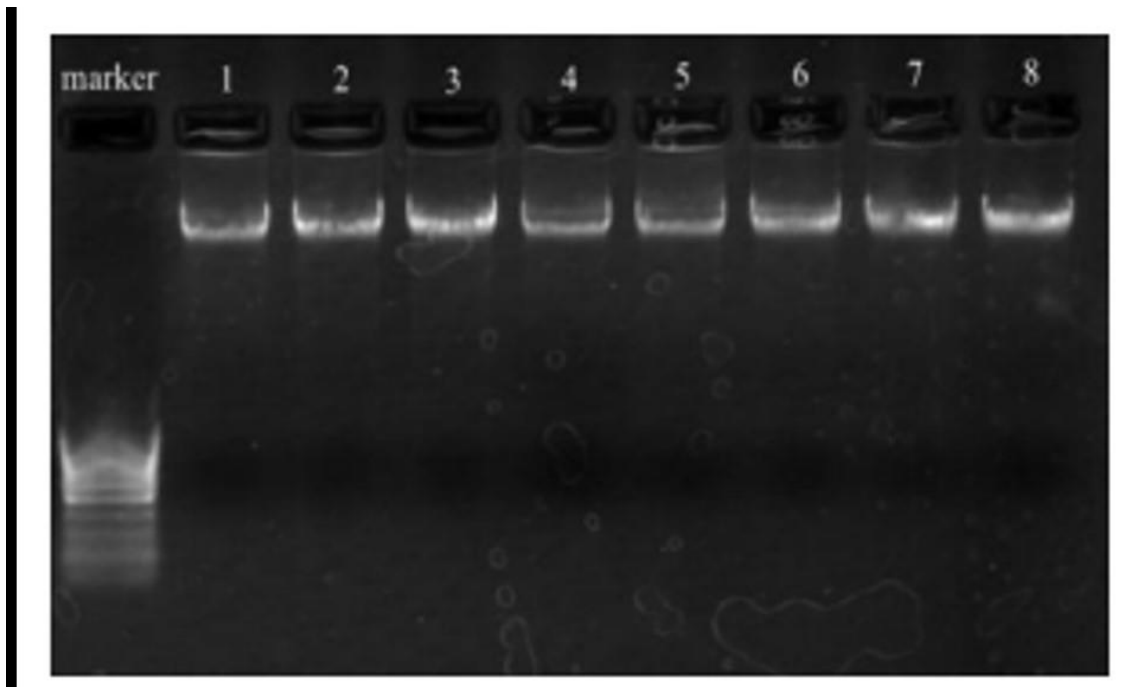
## Performance

Positive COVID-19 samples (n=20) were extracted by three different methods (reagents), and the positivity detection rates were compared. Saliva samples were diluted with normal saline at 1:9 dilution and made up to 50 and 30 copies/mL of the viral culture.

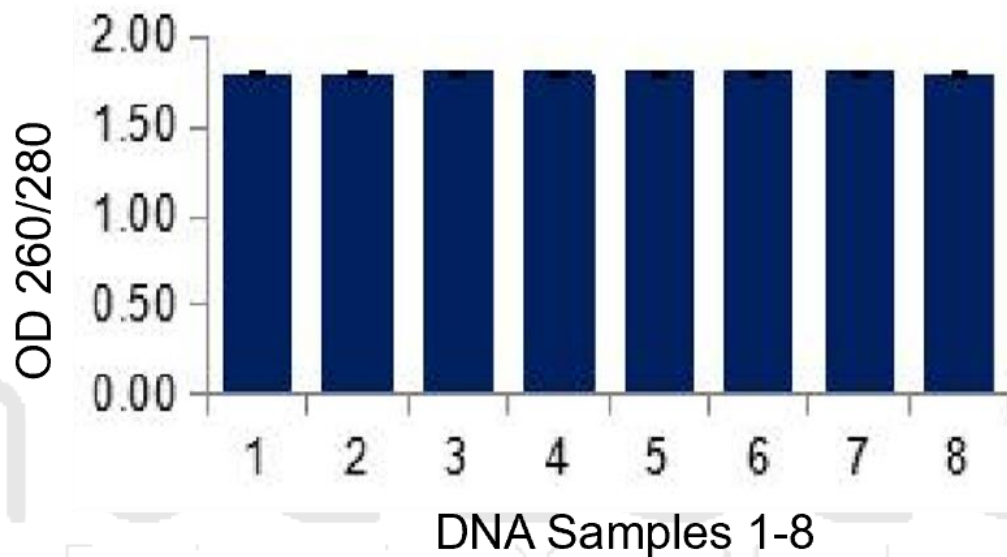
COVID-19 viral target gene sequence	<i>Orf1ab</i>	<i>Nucleoprotein (N)</i>
50 copies/mL	Detection rate	100.00%
	Positive rate	100.00%
30 copies/mL	Detection rate	80.00%
	Positive rate	95.00%

Gel electrophoresis and nanodrop readings of DNA extracted from whole blood.

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Agarose gel electrophoresis of gDNA samples from blood shows high yield of genomic DNA using ADNAP-20. The bands are clear without smearing indicating pure and undegraded gDNA



Nanodrop readings of DNA extracted from whole blood. The readings are around the 1.8 value indicating pure gDNA

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## Product Specification

MODELS	ADNAP 20 (96)	ADNAP 20 (32)	ADNAP 20 (16)
Samples per run	96	32	16
Processing volume	20-1000 $\mu$ L	30-1000 $\mu$ L	30-1000 $\mu$ L
Sample volume	$\leq$ 500 $\mu$ L	$\leq$ 500 $\mu$ L	$\leq$ 500 $\mu$ L
Deep well disc	96 well	96 well	96 well
Magnetic rods	96 pieces	32 pieces	16 pieces
Consumables	SBS Standard 2.2mL Square 96-deep well plate + 96 Tip comb	SBS Standard 2.2mL Square 96-deep well plate + 96 Tip comb	SBS Standard 2.2mL Square 96-deep well plate + 96 Tip comb
Purification sensitivity	>95% positivity detection at 100 copies/mL sample	>95% positivity detection at 100 copies/mL sample	>95% positivity detection at 100 copies/mL sample
CV	<1%	<3%	<3%
Heating blocks	up to 90°C	up to 120°C	up to 120°C
Mixing	speed adjustable	speed adjustable	speed adjustable
Processed bead size	>100nm	>100nm	>100nm
Reagent type	Magnetic bead-based reagents	Magnetic bead-based reagents	Magnetic bead-based reagents
Operation interface	7-inch touch screen display	10-inch touch screen display	7-inch touch screen display
Internal procedure	It can store more than 1000 programs, and each program can store more than 1000 steps	It can store more than 1000 programs, and each program can store more than 1000 steps	It can store more than 1000 programs, and each program can store more than 1000 steps
Program management	Create, edit, delete, copy programs using touch screen display	Create, edit, delete, copy programs using touch screen display	Create, edit, delete, copy programs using touch screen display
UV light	Yes	Yes	Yes
Exhaust mode	Negative pressure	Negative pressure	Negative pressure
Run time	15-30 minutes/run (time depends on specific kits/ reagents used)	15-30 minutes/run (time depends on specific kits/ reagents used)	15-30 minutes/run (time depends on specific kits/ reagents used)
Weight	55 Kg	35 Kg	12 Kg
Dimension (L *W * H)	60 cm x 50 cm x 50 cm	40 cm x 40 cm x 45 cm	25 cm x 32 cm x 27.5 cm

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Product Name: VERSA Series Micro Array Spotter

Part Number:

Product Description:

### **VERSA 10/110/1100 Microarray Spotter**

Microarrays have the potential to impact genomics and proteomics research by reducing the time, materials, and costs related to specimen-based marker validation, as well as maximizing the number of specimens that can be analyzed on a given surface. In comparison to manual methods, automation reduces the possibility of human errors, while saving valuable time, experimental costs and increasing research throughput.

VERSA® Microarray Spotter workstation can streamline automation of proteomic and genomic workflows for applications such as drug screening, tissue engineering, bio-diagnostics, vaccine development, cancer research etc. The robotic arm of the workstation is capable of repeatedly pipetting sub- microliter volumes of samples like peptides, nucleic acids, organic compounds etc. in parallel for synthesis of high-density microarrays in simple or complex user defined patterns. The customizable deck layout of the workstation can support printing on diverse substrates like filter papers, cellular membranes, glass slides, silicon chips, micro well plates etc. The workstation's base model is equipped with a single channel pin head, but this can be customized to 2~40 channels depending on the customer's needs. Meanwhile, washing and drying modules are designed to minimize risk of cross contamination and the instrument can be integrated with a temperature and/or humidity control unit for workflows that require a controlled environment.

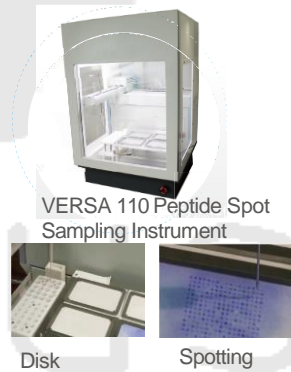
<https://youtu.be/Fi9zRSu9uOs>



VERSA 1100



VERSA 10



VERSA 110 Peptide Spot Sampling Instrument

Disk

Spotting

### **Applications**

- ✓ Nucleic acid microarray: analysis of gene expression, discovery of new genes, detection of genetic diseases, non-invasive DNA detection, non-invasive prenatal diagnosis, molecular biological analysis, etc.
- ✓ Peptide synthesis: antineoplastic, antiviral, peptide- oriented drugs, cytokine mimetic polypeptides, antimicrobial active polypeptides, polypeptides for cardiovascular diseases, diagnostic polypeptides, etc.
- ✓ Cell microarray: drug-eluting microarrays , cell signaling pathway, cell morphology analysis, immunocytochemical analysis, etc.
- ✓ Disease diagnosis and research: pathological analysis, early cancer screening and diagnosis, radiotherapy and chemotherapy efficacy evaluation, targeted drug and therapy efficacy prediction, post- operation recurrence detection, etc.

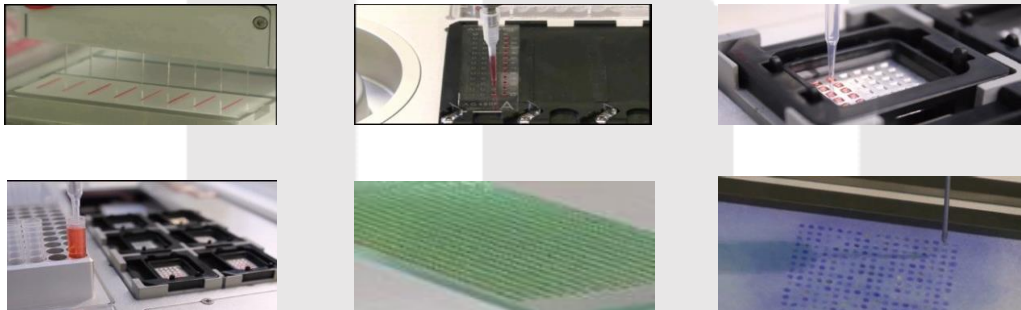


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## Features & Benefits

- ✓ Contact spotting and non-contact spotting options that are suitable for printing various samples onto different target surface.
- ✓ Flexible single spotter pin head and robotic arm controlled by the computer, which can move in 3D direction. Accurate positioning with no more than 0.5mm error and repeat spotting on same position is available.
- ✓ Spotting volume from 20 nL to 300  $\mu$ l.
- ✓ Optional upgrade to sonicating wash station for spotter pin cleaning and drying.
- ✓ Piping is resistant to various organic solvents
- ✓ Various adapters available for flexibility in sample format and target surface.
- ✓ Optional UV HEPA filtered enclosure to eliminate potential cross contamination from external environment.
- ✓ Customized solutions
  - Humidity control at 30%-55%, to prevent easy crystallization solution from crystallizing and plugging pipelines
  - Temperature and carbon dioxide concentration control: providing suitable environment for cell culture
  - Cell imaging capability are available as a customization, for cell morphology analysis and evaluation

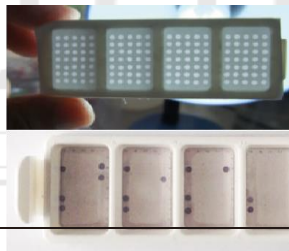
## Examples of Spray Printing: Multiple Substrates, Densities, Shapes



## User Cases



Diagcor, a leading laboratory in Hong Kong, focuses on clinical diagnosis, early cancer screening, evaluation of the efficacy of radiotherapy and chemotherapy, prediction of the efficacy of targeted drugs, detection of early recurrence after surgery, etc. Aurora's 35-channel VERSA1100 Spotter was purchased to fabricate gene chips on nylon membranes. HBV, HCV, thrombosis tendency, thalassemia and other genotypes were rapidly detected by nucleic acid hybridization technology, as well as fetal sex identification.



- 35 channel pin head, which can print 35 points simultaneously in a very small area, is superior to other brands of similar products;
- Patented sample kit can handle up to 35 different reagents at the same time in a high throughput manner and minimizes the risk of cross-contamination.
- Uniform microarray morphology, no scatters or splashes. Hybrid dyeing can clearly distinguish the experimental results.



國立臺灣大學 生物技術研究中心

Professor of Biotechnology Research Center in the National Taiwanese University specially configured a VERSA10 Spotter to study the regulation of cell signaling, pathways and the influence of drug molecules on cell signaling pathways.

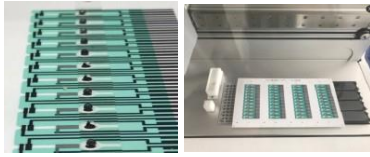
The same or differing cell solutions were spotted on a 15X15mm coverslide in the form of 10X10 arrays with a volume of each point between 100-300nl. The slide was then immersed in the medium and cultured. Next, the corresponding drug molecules were printed onto the corresponding cell clusters and cultured. Finally, the cell morphology was observed under a microscope. In order to provide an optimal user experience, Aurora's professional technical team specializes in setting up software programs according to customer requirements to achieve simple one-click operation.



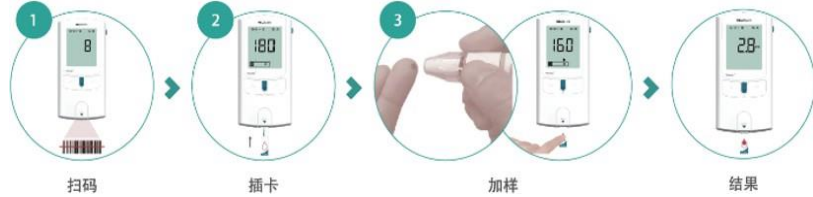
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Guangzhou Haozhi Biotechnology Co., Ltd. is a research and development-oriented high-tech biotechnology company dedicated to the research, development, production, sales, and technical service of medical diagnostic products. Haozhi Biotechnology focuses on the development of clinical molecular detection products, timely detection equipment platforms, and promotes the development of precision medicine with innovative professional capabilities and values that serve society.



DNAMicroarray (1-4µl Non-Contact) Serpentine



Application: The VERSA 10 spotter is utilized to produce a prothrombin time detection card, used in conjunction with a coagulation test (suitable for INR detection of patients with oral warfarin) to quantitatively measure prothrombin time of fresh fingertip capillary blood.

## Product Specification

Specifications – VERSA Microarray Printers



### VERSA for Peptides

Single Channel

Small and Compact

40 nL – 100 µL Spotting Volume

0.05 mm Positioning Error

Optional UV/HEPA Enclosure

Compatible with all Slide Types



### VERSA for Cells

Single Channel

Increased Deck Area

40 nL – 100 µL Spotting Volume

0.05 mm Positional Error

Optional UV/HEPA Enclosure

Optional Sonicated Wash station



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#### VERSA for DNA

10, 20 or 35 Channel

Simultaneous Peptide Spotting  
Bulk Peptides Quickly Constructed  
Heavily Customizable  
Optional UV/HEPA Enclosure  
Compatible with all Slide Types

## DNA Array & Chips



### DNA Microarray Spotter

The VERSA 1100 35-channel automated microarrayer is capable of spotting cDNA microarray assays by an automated, robotic based, spot printing technique. The VERSA system accommodates a fixed pipetting pin setup, available in contact, or non-contact format, capable of dispensing nanoliter aliquots, down to 30 nL.

### Automated Microarray Printing Method

Spotting volume area – 300 nL / spot, approximately 2 mm in diameter

Sample – nucleic acid

Microarray surface – nylon membrane; 3mm between spot centres, 1mm spacing along perimeter

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For DiagCor's purpose, the assay is used to differentiate between diseases of the same genotype, on a nylon membrane microarray format.

|The hybridization of the cDNA strands, labelled with a fluorescent dye, will illuminate with a lavender based colour signal

|The non-specific bonding sequences can be easily washed with the ReagentDrop™, leaving the paired strands that have the strongest binding affinity.

|The fluorescence signal that remains on each "spot" correlates to the strength of labelled target sequence that has effectively hybridized.

|Quantification of this step can be conducted on downstream instrumental analyzers, which enable scanning of fluorescence signal, normalization, and data analysis.

Background & Application Areas

DNA microarray analysis identifies inflections in gene activity, that lead to small variations in DNA sequence, which are known as polymorphisms. Molecular analysis, targeted gene expression profiling, genetic disease detection, and non-invasive prenatal diagnosis are just some of the applications of DNA microarray analysis.

Further on that, SNP (single nucleotide polymorphisms) detection is a common and most frequent type of variation in the human genome. However, with the automated microarray printer, users can elucidate it. Applications include forensic analysis, disease prognosis, genotyping, oncology based somatic mutation evaluations, and drug-target candidate identification.

## Peptide Array & Peptide Synthesis



The VERSA 110 automated microarrayer for peptide synthesis automates the process using Fmoc-based chemistry (or Fmoc solid-phase synthesis). With an easy to use software and accommodation for low-cost porous membrane materials, it is an effective and robust pipetting system.

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Specifically, for peptide synthesis using the SPOT technique, the VERSA 110 is stable and allows for high-throughput printing, higher-density microarrays, and allows for pipetting amino acids and reagents as low as 40 nL.

The instrument is stable and robust, we have had zero breakdowns since it was installed many years ago. The VERSA SPOTTER would provide a more cost-efficient solution, with higher density, higher accuracy, and faster printing, all at a lower price. The minimum printing volume would be as low as 40 nL.

- User Testimony.

### Background

Solid-Phase peptide synthesis involves linking of multiple amino acids via peptide bonds for the production of peptides. This process imitates the biological process of producing long peptides. In solid-phase peptide synthesis (SPPS), the peptide is 'immobilized' on a solid surface and can be retained during washing of liquid-phase reagents. Solid-phase peptide synthesis also allows the synthesis of natural peptides which are difficult to express in bacteria, the incorporation of unnatural amino acids, and peptide/protein backbone modification.

## Cell Microarray & Tissue Array



At the National Taiwan University, the VERSA system is used to conduct experiments for cell microarrays, printed onto a microscope slide surface. The cell microarray is used as a tool to elucidate cell signaling pathway regulation and the impact of drug molecule binding interactions.

### Printing Method

Spotting volume area - 100 nL - 300 nL / spot, approximately 2 mm in diameter

Sample - cell solution (uniform, or different, printed onto 10×10 array format

Microarray surface - 15×15 mm microscope cover glass, immersed in culture medium

Once the cell solution is spotted onto a microscope slide in a 10×10 array format, the corresponding drug molecules are printed onto the slide surface. After cultured for a period of time, the slide can be observed under a microscope to examine cell morphology.

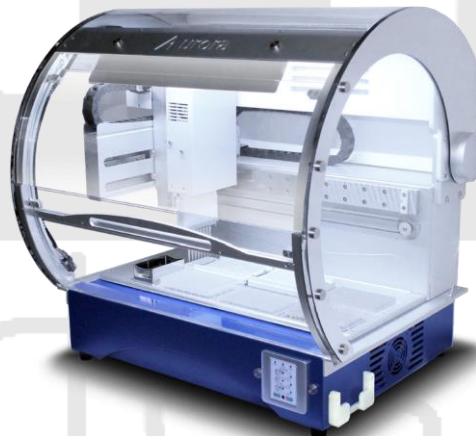
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**Product Name:** Aurora VERSA 10 Nucleic Acid Purification Workstation/PCR Workstation

**Part Number:**

### **Product Description:**

The VERSA® 10 Gene workstation is a compact and cost-effective automated liquid handling workstation designed to support various genomic workflows. The 4 or 8-channel pipetting head streamlines protocols while the single channel functionality offers the flexibility to perform complex liquid handling tasks. The VERSA 10 Gene, like all of Aurora's liquid handlers, is an open system that permits the use of most 3rd party kits and numerous types of labware. Its high reproducibility, accuracy, and throughput help conserve reagents and eliminate pipetting errors while increasing the productivity of your laboratory



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### **Features**

- Compact, versatile, and economical - A liquid handling workstation with a small lab footprint
- Plate mover - For moving plates or tube racks to different deck positions
- UV HEPA filtered enclosure - Ensures no free floating DNA, helps eliminate cross contamination
- Air displacement pipette technology - Ensures highly accurate liquid dispensing

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- Temperature regulation modules - For precise temperature control of reagents and samples
- Open system - Compatible with diverse reagents, kits and labware

### Applications

#### Genomics Workflows:

- DNA/RNA Purification
- Single and Mutlplex Real-Time qPCR and PCR Setup
- Enzymatic Reaction Setup
- Sequencing Reaction Setup

#### General Liquid Handling:

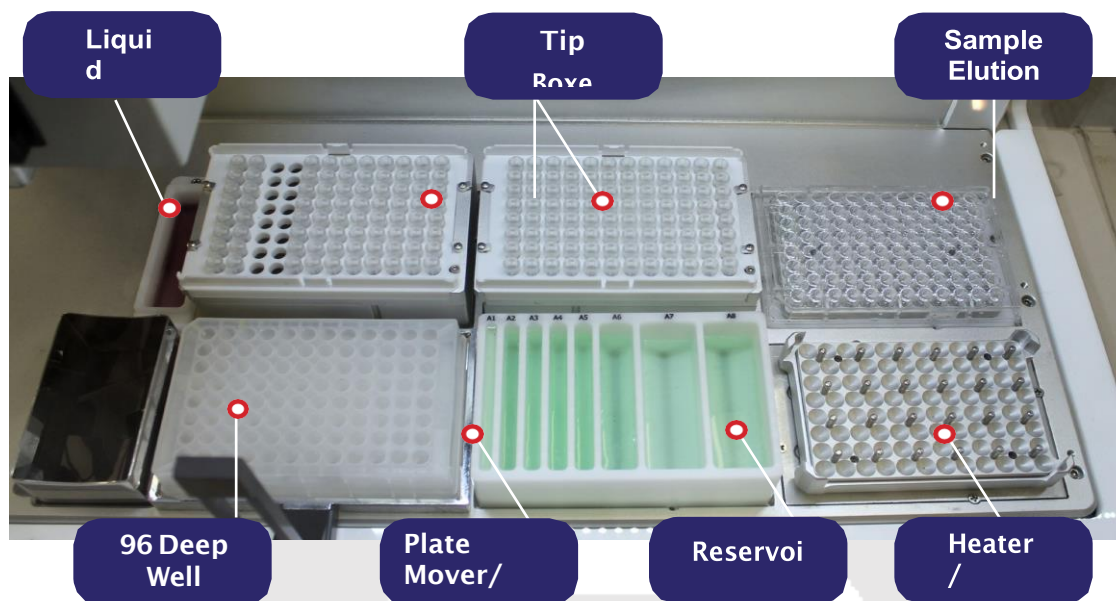
- Sample Normalization
- Plate Replication and Reformatting
- Serial and Parallel Dilution
- Cherry Picking and Sample Pooling
- Environmental Sample Preparation
- Microarray Spotting
- Immuno and Biochemical Assays
- Cell-Based Assays

### Product Specification:

Deck Layout

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**Sample VERSA 10  
DNA/RNA  
Purification Deck  
Layout**

Volume	PCR Setup 1 $\mu$ L to 250 $\mu$ L	DNA/RNA Purification 1 $\mu$ L to 1000 $\mu$ L
Deck Capacity	6 deck positions for microtiter plates (supports both 96 and 384-well plates and includes adaptor to accommodate individual and/or 0.1 mL and up strip-tubes), deep well reservoirs and tip boxes	
Pipetting Head	4 or 8 channel syringe pipettor with single channel functionality	
Plate Transporter	Moves plate from magnetic block to heater/shaker	
Accessory Options	<ul style="list-style-type: none"> <li>• Plate cooler / heater</li> <li>• Reagent cooler block</li> <li>• Shaker with or without integrated heater</li> <li>• HEPA/UV/Fluorescent light enclosure</li> </ul>	
Length	65 cm / 25.6 in	
Depth	43 cm / 16.9 in	
Height	52 cm / 20.5 in	
Weight	27 kg / 59.5 lbs	



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Product Name: VERSA 1100 Differential Digestion Work Station

Part Number:

Product Description:

### **VERSA 1100 Differential Digestion Work Station**

With the ever-increasing amounts of backlog from sexual assault evidence collection kits (SAECK), the need for automated differential digestion analysis has become a necessity. Utilizing DNase I, the Oakland Police Department completely eradicated their backlog using the VERSA 1100 Gene. As the VERSA 1100 is an open platform, automation of slide staining was easily achievable, and so is automatically separating all fractions. It allows for simultaneous work on the extraction of a certain fraction if needed

### **Application User Case:**

The Oakland Police Department , California employs VERSA 1100 Differential Digestion workstation to eliminate their backlog of SAKs and keep pace with their current case load.

√Graph of the reproducibility study. The study consisted of two sets of eight samples (L1 and S1).The graph shows the autosomal DNA concentration and the male DNA concentration. The horizontal line across each set of data represents the average value for that particular set of data.

√Electropherogram comparison of a sample digested using both manual and automated protocols. Samples were digested (A) manually (B)

robotically using the selective degradation protocol on the VERSA 1100 automated liquid handling workstation.the results shows that there was less variability in automated samples.

### **Feature**

- ReagentDrop - dispenses bulk reagents such as lysis buffers without the use of pipette tips
- Heater/Shaker - incubates sample up to 95°C and agitates sample all in one module
- Plate Gripper - transfers sample plates between shaker and other modules
- UV-HEPA filter hood - ensures no free floating DNA, thereby eliminating cross contamination
- Slide Adaptors - fits slides to be used for confirmatory stain testing
- Magnetic Block - can be equipped with a magnet for additional extraction capabilities
- Scalable throughput - up to 96 samples per run, separating all three fractions in a completion on time that is six times faster

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## Product Specification:

<b>Feature</b>	<b>Differential Digestion Workstation</b>
Deck Capacity	15
Pipetting Head (Single Channel Function, Disposable Tip)	8 or 96 channel or 4 channel with independent Z-axis
Reagent Drop	Selection of 5-8 Channelsc
Magnetic Block	1
Temperature Regulation Block	1-4
Reagent Cooling Block	1
Plate Shaker	1
Gripper	1
96-Tip Aspirator	Optional
Liquid Level Sensing	Optional
HEPA/UV/LED Enclosure	Included
Width x Depth x Height (cm)	98.5 x 75.2 x 108.2
Weight (kg)	200

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Product Name: VERSA 1100 LLE Work Station

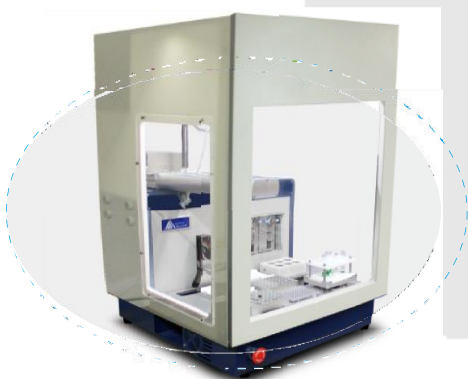
Part Number:

Product Description:

### **VERSA 1100 Liquid-Liquid Phase Extraction (LLE) Work Station**

Liquid-Liquid phase extraction workstations (LLE) are often used to extract analytes for a variety of application sectors- such as health care, forensics, environmental monitoring and academic research. The workstation can automatically perform processes of sample distribution, mixing, fraction transfer, extract fractions are suitable for downstream analysis. In addition, our liquid-liquid extraction workstations can automate sample processing. A protective safetyhood and ventilation system can be included to effectively prevent volatile compounds from escaping into the laboratory, so ensuring the safety of operators. The instrument software can provide researchers with flexible and customizable automation options.

Aurora Biomed VERSA Series provides customers with two liquid-liquid extraction workstation models. With a single-channel steel tip, VERSA 110 liquid-liquid extraction workstation is a compact design. The single-channel pipette ensures accuracy in the range of 1-1000 $\mu$ L. VERSA 1100, a four-channel syringe pump with disposable pipette tips, reduces the risk of cross-contamination to the greatest extent. It can automate complete liquid-liquid extraction workflows, steps include sample transfer, reagent addition, shaking extraction mixtures, phase transfer, etc. VERSA 1100 is therefore able to satisfy a wide range of laboratory extraction needs.



VERSA110 liquid-liquid extraction

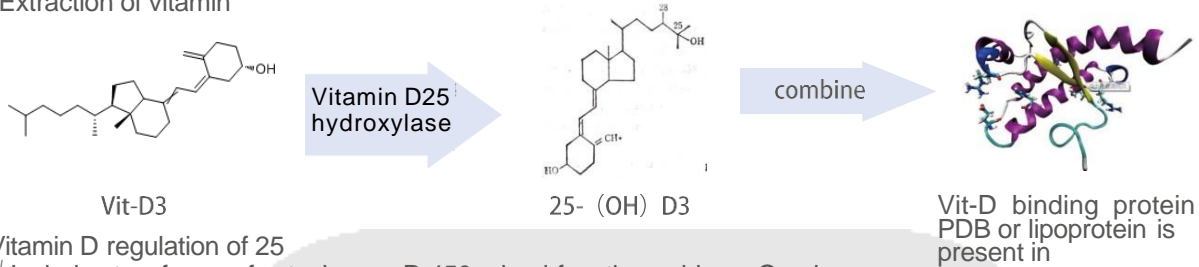
#### Applications

- ✓ Anti-Doping Analysis
- ✓ Vitamin D in blood/urine
- ✓ Drug Abuse in Forensic Identification and Analysis
- ✓ Compound Purification in Drug Research and Development
- ✓ Isoflavones Separation from Urine
- ✓ Aflatoxin in Seafood
- ✓ Food Safety
- ✓ Growth Promoters in Blood
- ✓ Semi-volatile and Non-volatile Substances

VERSA1100 liquid-liquid extraction

User Cases

Extraction of vitamin



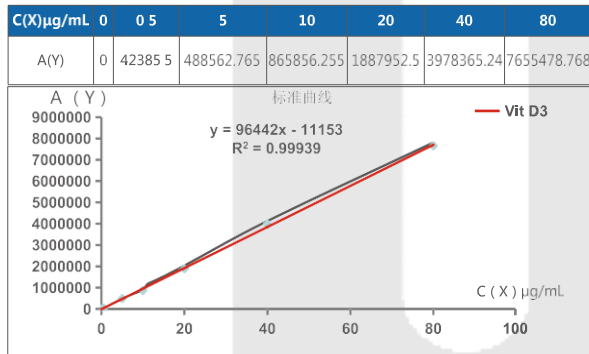
Vitamin D regulation of 25

√ Includes two forms of cytochrome P-450 mixed-function oxidase. One is a affinity and high capacity enzyme in endoplasmic reticulum, and the other high affinity and low capacity enzyme in mitochondria.

√ 25 hydroxylase is mainly regulated by the concentration of vitamin D in liver, and is hardly inhibited by 25-(OH)D3. The cyclic level of 25-(OH)D3

good indicator of vitamin D nutritional status.

Serum Recovery of Vitamin



Recovery rate	5	10	20
Add the concentration(ug/mL)	5	10	20
Add the amount Q1(ug)	15	30	60
A (Y)	1335688.295	2697568.765	4663857.5
Real measurement Q2(ug)	13.96529826	28.08653662	58.81265942
recovery rate % ( Q2/Q1)	93.10%	93.62%	98.02%
Recovery rate RSD%	2.8% < 3%		

The recovery rate result analysis

Recovery rate between 90% and 110%, recovery rate of RSD < 3%. The results conform to the standard. Versa 1100 SPE can enrichment and purification Hydrochloric acid procainamide from the sample.



Kaiser Permanente, the largest non-profit medical institution in the United States, purchased Aurora liquid-liquid extraction workstation to test 25-(OH)D3 content. It found that vitamin D from human serum were highly repeatable with the same extraction rate as manual extraction, saving time.

**Cancer**

Reduce the incidence of breast cancer, lung cancer, colon and other

**Importance of Vit-**

**prevention and of Diseases**

Prevention and treatment of autoimmune diseases, hypertension and infectious diseases

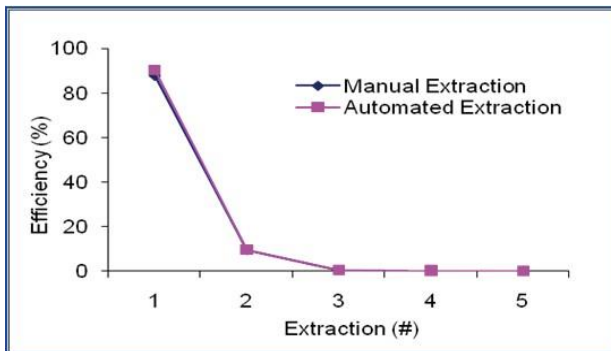
**Reducing the Incidence of Disease**

Adequate intrauterine and infant vitamin D can reduce the incidence of type 1 Diabetes, Asthma and

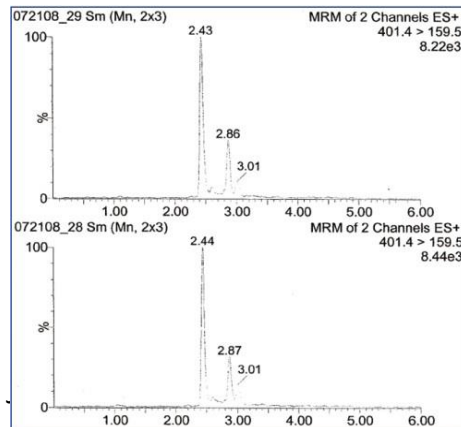
**Regulation of Placental Development and**

Regulates the development and function of the placenta. Required prevent pregnancy complications such as abortion, preeclampsia and premature

**Prevention and Treatment of vitamin D deficiency are very important for the overall development, especially women and**



Comparison of extraction rates between instrument extraction and manual



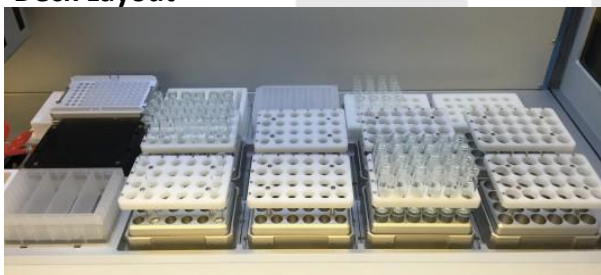
Parallel experimental chromatographic results of vitamin D extraction from human

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### Function Features:

- ✓ Choose from disposable pipette tips or fixed steel needle pipette heads
  - ✓ Liquid level detection, for precise phase transfer
  - ✓ High throughput solution for parallel processing of multiple samples
- reduce reagents wasting and consumable use
- ✓ An open modular system supports a variety of consumables and test tubes, including HPLC vials. Through customization, we can support various sizes of consumables
  - ✓ Robotic arm allows for pipetting at various levels from extraction tubes
  - ✓ ReagentDrop system for bulk dispensing of reagents such as water and washing buffers without the use of pipettes
  - ✓ Reagent cooler/heating module, which can be used to hold six 50 ml reagent tubes
  - ✓ Nitrogen dryer module for sample drying
  - ✓ User-friendly, customizable software interface
  - ✓ High-efficiency safetyhood, with HEPA filter and UV light, to ensure no contamination from the external environment
  - ✓ Automation Methods can be customized according to user's protocols
  - ✓ Open system, compatible with various third-party reagents and consumables

### Deck Layout



Liquid-liquid extraction workstation disk layout (VERSA1100)

### Product Specification:

	VERSA 110	VERSA 1100
Desk Capacity	8	15
Pipetting Head	Single Channel w/Dual Injection	4 or 8 channels with single channel functionality
Reagent Drop	Up to 4 channels	Up to 8 channels
Matched Consumables Type	24 or 48 test tubes/vials 96 deep-hole discs	24 test tubes/vials 96 deep-hole discs

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Tray Mover System	Shifting Tray	Manipulator
Reagent Tank/Cooling Plate	One of the two	One of the two
Nitrogen Drying Modules	N/A	24 or 96 channels
Heating Oscillator(2400RPM,RT-90°C)	Standard	Standard
Liquid Level Detection	Optional	Optional
High efficiency safety hood with HEPA filter	Optional	Optional
L*W*H(cm)	59*66*90	99*75*90
Weight(Kg)	40	162





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**Product Name: VERSA 1100 Nucleic Acid Purification Work Station**

**Part Number:**

**Product Description:**

### **VERSA 1100 Nucleic Acid Purification Work Station**

Aurora equips the VERSA Automated DNA Extraction system (sometimes referred to as automated nucleic acid extraction system) with modules to automate challenging steps for any automatable DNA or RNA extraction, purification, or isolation protocols. The versatility of this system accommodates diverse applications in genomics, proteomics and general liquid handling with high precision, throughput and accuracy. Additionally, this workstation conserves expensive reagents, eliminates concerns associated with manual volumetric variations and automates all repetitive pipetting protocols.

VERSA Gene Nucleic Acid Purification Workstation (NAP) is especially configured for nucleic acid extraction. The Magnetic Bead Vortex ensures homogeneous bead suspension and distribution throughout the plate. The combination of the ReagentDrop bulk dispensing module and 96-Tip Aspirator offers fast and efficient bead washing and elution steps while saving tip costs. Aurora's automated nucleic acid purification and extraction systems feature a gripper that enable more flexibility in tailoring different protocols. The VERSA NAP automated DNA/RNA extraction systems are compatible with various commercial kits, reagents, and labware.



**VERSA 1100 Workstation**

#### **Application:**

##### Genomics

- ✓ Nucleic acid extraction and isolation
- ✓ DNA size selection
- ✓ Bioseparations
- ✓ Bioenrichment
- ✓ Protein Isolation
- ✓ Cell Isolation

##### General Liquid Handling

- ✓ Cherry Picking

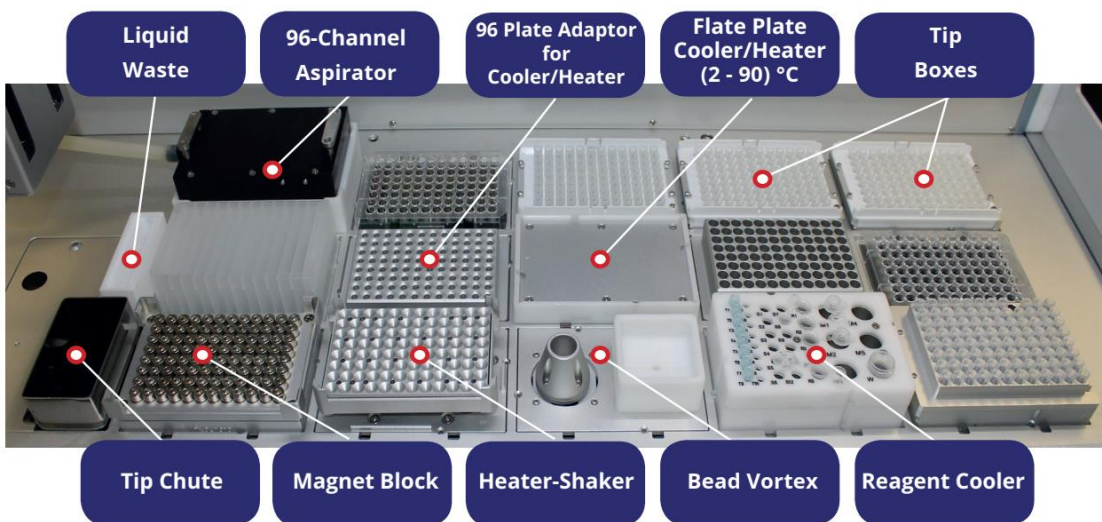
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- ✓ Reagent Pooling
- ✓ Tube to plate transfer
- ✓ Serial and parallel dilution
- ✓ Plate transfer, reformatting and replication

### **Characteristic Feature**

- Magnetic bead vortex ensures homogenous bead suspension
- ✓ Highly accurate air-displacement technology
- ✓ 4- or 8- channel liquid handling head with single channel function
- ✓ Temperature regulation modules including
  - Plate heater/ cooler block
  - Reagent cooler block
  - Shaker with integrated heater
- ✓ 96-tip aspirator reduces protocol time and tip usage
- ✓ ReagentDrop module provides accurate dispensing of bulk reagents allowing conservation of reagents and tips
- ✓ HEPA Filtered UV/Fluorescent light enclosure with automatic door minimizes the risk of samples contamination
- ✓ Open system - compatible with diverse kit chemistry and labware including 96- and 384- well plates
- ✓ User-friendly software interface

### **Deck Layout**



**Sample VERSA 1100 Gene Deck Layout**

#### **1.VERSA 1100 NAP 4/8 Channel**

#### **VERSA 1100 NAP 8 Channel**

Aurora VERSA 1100 NAP 8CH was used to extract Genomic DNA from blood using NucleoMag Blood 200 ULL Kit from MN Company. Aurora has

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developed an automation program that is optimized to maximize DNA yields and reduce the risk of contamination. The concentration of DNA was high, and the amount of DNA extracted from blood was more than 10 mg per 200  $\mu$ L. Secondly, the extraction quality is excellent; the 260/280 ratio of each sample is about 1.8, which indicates that the extracted DNA sample is of high purity. The product can be directly used in downstream experiments such as PCR and quantitative PCR.

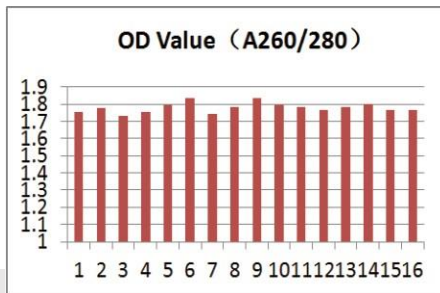
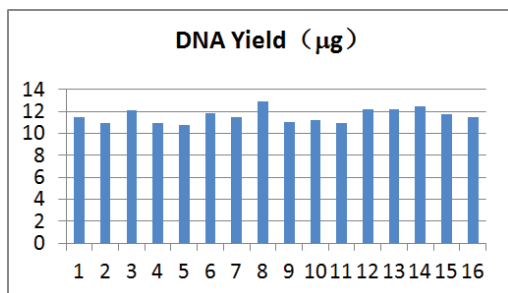


Figure1: DNA extraction analysis

Figure 2: DNA purity analysis

### VERSA 1100 NAP 4 Channel

VERSA 1100 Four-Channel Independent Motion Nucleic Acid Extraction Workstation

Aurora's VERSA 1100 4-Channel Independent workstation features four 1000  $\mu$ L syringe pipettors, each with independent Z axis movement capable of working out of source samples tubes. This system features four 1000  $\mu$ L syringe pipettors, each with independent Z-axis movement and volume control. The built in liquid level sensing and clot detection features are ideal for handling blood samples where volumes vary and clots are often present. The VERSA 1100 4-channel independent workstation is designed to satisfy the needs of any lab that has high blood sample processing demand.

### 2.VERSA 1100 96 channels nucleic workstation

Aurora's 96-Channel Liquid Handling Workstation is capable of processing up to 96 samples in parallel with the flexibility that is required by biological assays. VERSA 1100 96 Channel Workstation is an open system, which is compatible with various microplate formats and labware, and can easily scale up your applications. The 96-Channel Liquid Handling Workstation comes with proprietary modules suitable for various magnetic bead based biological applications and high throughput liquid handling, such as nucleic acid purification, sequencing reaction setup, PCR/RT-PCR setup, plate replication and reformatting, and serial and parallel dilution.

	Basic Configuration	Recommended Configuration
Syringe Pipettor (Disposable Tips)	8-channel	8 or 96-channel
Reagent Drop Channnels (Multiple Reagents)	5	8
Liquid-Level Sensing	Optional	Optional
Plate Shaker	1	1
96-tip Aspirator	1	1
Temperature Regulation Block	2	2
Reagent Cooling Block	1	1
Magnetic Block	Included	Included
Plate Gripper	Included	Included
HEPA / UV/ Fluorescent Light Enclosure	Optional	Included
Length	98.5 cm / 38.8 in	98.5 cm / 38.8 in
Depth	75.2 cm / 29.6 in	75.2 cm / 29.6 in
Height	89 cm / 35 in	108.2 cm / 46.2 in
Weight	162 kg / 357 lbs	225 kg / 496 lbs
Deck Capacity	15	15

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Product Name: VERSA 1100 Next Generation Sequencing Work Station

Part Number:

Product Description:

### **VERSA 1100 Next Generation Sequencing Work Station**

Next generation sequencing (NGS) has revolutionized the ability to perform genomic analyses by providing the power to sequence an entire genome economically in a single day.

Automation to support NGS technologies needs to meet the throughput required by NGS workflows and offer robustness and Flexibility to fully realize the power of NGS. The VERSA Gene 1100 workstation was developed as a complete walk- away solution for all genomic workflows.

Aurora's VERSA1100 Next Generation Sequencing Sample Preparation workstation features an 8-channel pipetting head to enable the high throughput demanded by NGS technologies but offers the flexibility to handle other tasks such as library normalization and sample pooling via the single channel function of the head. Aurora has worked to streamline the library preparation process by offering unique features such as the magnetic bead vortex, the magnet/shaker elevator, and the 96-tip aspirator. These modules were designed with the goal of reducing library preparation time while improving sample recovery and consistency.

VERSA's innovative modules are designed to tackle the challenging steps of Automated NGS Library Preparation (also known as NGS automation). The Magnetic Bead Vortex ensures homogeneous bead suspension and distribution. The combination of ReagentDrop bulk reagent dispensing module and 96-Tip Aspirator offers fast and efficient bead washing steps while saving tip costs. The VERSA automated Next Generation Sequencing (NGS) library preparation and sample preparation workstations are compatible with various commercial available kits, reagents, and labware. VERSA automated NGS library and sample preparation workstations are highly scalable for different throughputs and budget.

#### **Application:**

- √ Genomics:
  - NGS library preparation
  - DNA/RNA Extraction and Purification
  - DNA/RNA fragment size selection
  - Enzymatic reaction setup
  - Library normalization and pooling
  - Single and multiplex real-time PCR setup
  - Sequencing reaction setup
  - Oligo-based gene synthesis plate setup
  - Magnetic bead based applications
- √ General liquid handling:
  - Cherry picking / reagent and sample pooling
  - Plate transfer, replication and reformatting
  - Serial and parallel dilution
  - Master mix preparation and distribution



User cases

Here, we present the validation and implementation of an open liquid handling platform, the VERSA™ 1100 GENE (Aurora Biomed, Vancouver, BC) for medium to high-throughput library preparation for routine utilization with the Ion AmpliSeq™ Cancer Hotspot Panel v2 (CHP2) assay on FFPE clinical specimens, including FFPE Quality Control (QC) materials (1).



Virginia Commonwealth University  
弗吉尼亚联邦大学



Validation of an Automated Method for Library Preparation for a Next-Generation Sequencing-Based Assay for Oncology

Catherine I. Dumur, Paula Anderson, M. Fernanda Sábato, Celeste N. Powers, Andrea Ferreira-Gonzalez  
Department of Pathology, Virginia Commonwealth University, Richmond, VA

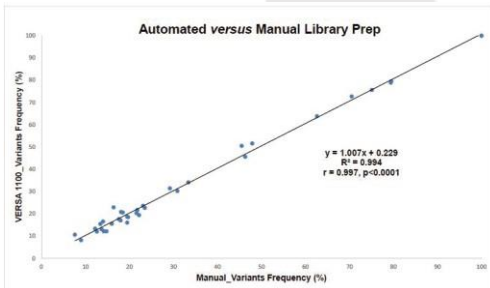
checker-board cross-contamination experiment

Well	Sample ID	Library Conc. (ng/mL)	Well	Sample ID	Library Conc. (ng/mL)
1A	Pos Ctl	196	2A	NTC	0
1B	NTC	0	2B	Pos Ctl	782
1C	Pos Ctl	318	2C	NTC	0
1D	NTC	0	2D	Pos Ctl	598
1E	Pos Ctl	280	2E	NTC	0
1F	NTC	0	2F	Pos Ctl	572
1G	Pos Ctl	288	2G	NTC	0
1H	NTC	0	2H	Pos Ctl	582

MiaPaCa-2											
Gene ID	CDS_mut_syntax	AA_mut_syntax	Chrom	hg19 Position	Ref	Variant	Frequency	Quality	Coverage	Allele Cov	Strand Bias
APC	Not a HotSpot	Not a HotSpot	chr5	112175770	G	A	74.7	19084.4	1997	1491	0.50
FGFR3	Not a HotSpot	Not a HotSpot	chr4	1807894	G	A	100.0	11210.5	899	899	0.50
FLT3	Not a HotSpot	Not a HotSpot	chr13	28610183	A	G	84.0	14997.7	2200	1281	0.52
HRAS	c.81T>C	p.His27His	chr11	534242	A	G	83.1	8543.8	993	627	0.51
KDR	Not a HotSpot	Not a HotSpot	chr4	5580239	C	T	100.0	7165.1	455	455	0.50
KRAS	c.34G>T	p.Gly12Cys	chr12	25368285	C	A	100.0	31607.9	1986	1986	0.50
MET	Not a HotSpot	Not a HotSpot	chr7	116339672	C	T	68.3	16596.2	1999	1366	0.51
NOTCH1	Not a HotSpot	Not a HotSpot	chr9	139340822	G	C	100.0	21173.3	1325	1325	0.50
PDGFRA	Not a HotSpot	Not a HotSpot	chr4	55141055	A	G	100.0	14788.1	924	924	0.50
RET	Not a HotSpot	Not a HotSpot	chr10	43613943	G	T	87.6	15035.9	1846	1247	0.50
RET	Not a HotSpot	Not a HotSpot	chr10	43615633	C	G	85.9	12191.1	1564	1030	0.52
STK11	Not a HotSpot	Not a HotSpot	chr19	1220321	T	C	87.2	8842.7	1094	735	0.51
TP53	c.742C>T	p.Arg248Trp	chr17	7577539	G	A	100.0	31566.4	1983	1983	0.50

Negative Control											
Gene ID	CDS_mut_syntax	AA_mut_syntax	Chrom	hg19 Position	Ref	Variant	Frequency	Quality	Coverage	Allele Cov	Strand Bias
APC	Not a HotSpot	Not a HotSpot	chr5	112175770	G	A	48.9	9248.7	1899	923	0.51
ATM	c.2872T>C	p.Phe858Leu	chr11	108138003	T	C	51.4	10560.2	1996	1025	0.50
FGFR3	Not a HotSpot	Not a HotSpot	chr4	1807894	G	A	100.0	16809.8	1048	1048	0.50
FLT3	Not a HotSpot	Not a HotSpot	chr13	28602252	T	C	47.6	9375.2	1996	960	0.52
FLT3	Not a HotSpot	Not a HotSpot	chr13	28610183	A	G	100.0	32079.3	2000	2000	0.50
HRAS	c.81T>C	p.His27His	chr11	534242	A	G	47.9	8761.1	1220	584	0.50
KDR	Not a HotSpot	Not a HotSpot	chr4	55872974	T	A	50.3	7480.7	1455	737	0.51
KDR	Not a HotSpot	Not a HotSpot	chr4	5580239	C	T	100.0	9211.1	880	580	0.50
PDGFRA	Not a HotSpot	Not a HotSpot	chr4	55141055	A	G	100.0	19424.4	1228	1228	0.50
RET	Not a HotSpot	Not a HotSpot	chr10	43613943	G	T	100.0	30332.6	1892	1892	0.50
STK11	Not a HotSpot	Not a HotSpot	chr19	1220321	T	C	51.0	4307.5	828	422	0.53
STK11	c.1082C>G	p.Phe354Leu	chr19	1223125	C	G	49.5	8451.3	1704	843	0.51
TP53	Not a HotSpot	Not a HotSpot	chr17	7576210	T	C	51.3	10561.7	1999	1026	0.51
TP53	Not a HotSpot	Not a HotSpot	chr17	7579472	G	C	92.2	18216.1	1337	1233	0.52

NGS Data from Ion AmpliSeq Cancer Hotspot Panel v2



Dr. Catherine Dumur from Virginia Commonwealth University validated VERSA 1100 GENE performance by using FFPE clinical samples and Ion AmpliSeq™ kit. From the checkerboard experiments, it was concluded that this automated liquid handling system shows no evidence of cross-contamination, by either no library on the no template control (NTC) wells, or no variants called on negative samples after sequencing using the CHP2 assay. The results show that the performance of the VERSA™ 1100 Gene automated liquid handling workstation is very robust and helps eliminate human-introduced errors, when compared to the manual library preparation method for the CHP2 assay.

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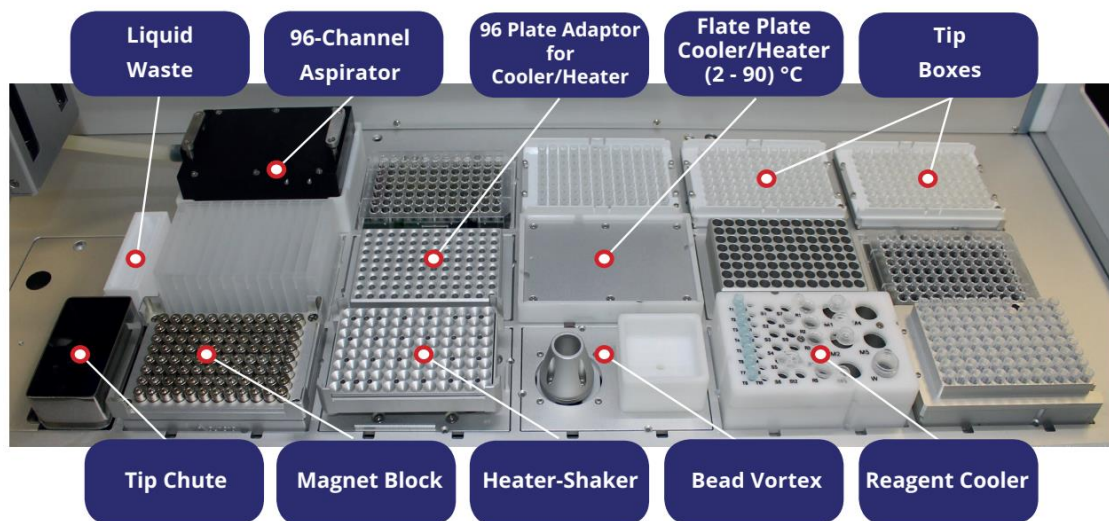
Features:

- ✓ The complete NGS sample preparation process can automatically complete the construction of enzymatic reaction systems such as nucleic acid extraction, nucleic acid purification, PCR, and liquid handling processes such as concentration normalization and merger sequencing. It also covers DNA-Seq, RNA-Seq, Exome-Seq, Chip-Seq, microRNA-Seq and other applications.
- ✓ Open system - compatible with diverse kit chemistry and labware such as illumina, Life Technology, Pacific Biosystems and a variety of third-party Brand Library Building reagents, including but not limited to Roche KAPA, Agilent, etc.
- ✓ 96-tip aspirator reduces protocol time and tip usage
- ✓ Magnetic bead vortex ensures homogenous bead suspension
- ✓ ReagentDrop module provides accurate dispensing of bulk reagents allowing conservation of reagents and tips

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- ✓ Cooling plate - suitable for various consumables on the market, such as centrifugal tubes, PCR plates, etc., preserves precious dNTPs, buffers and enzymes at 4 degrees
- ✓ Gripper - moves sample plates between magnetic bead separator and shaker for on-deck mixing and washing
- ✓ Magnetic Bead Separator- pulls down magnetic beads for sample purification and facilitates homogenous suspension of the sample
- ✓ HEPA Filtered UV/Fluorescent light enclosure with automatic door keeps samples contaminant free
- ✓ Software interface is friendly, concise, easy to learn and powerful
- ✓ Personalized customization can be accepted according to user's scheme

### Deck Layout



Sample VERSA 1100 Gene Deck Layout

### Product Specification:

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	Basic Configuration	Recommended Configuration
Syringe Pipettor (Disposable Tips)	8-channel	8 or 96-channel
Reagent Drop Channnels (Multiple Reagents)	5	8
Liquid-Level Sensing	Optional	Optional
Plate Shaker	1	1
96-tip Aspirator	1	1
Temperature Regulation Block	2	2
Reagent Cooling Block	1	1
Magnetic Block	Included	Included
Plate Gripper	Included	Included
HEPA / UV/ Fluorescent Light Enclosure	Optional	Included
Length	98.5 cm / 38.8 in	98.5 cm / 38.8 in
Depth	75.2 cm / 29.6 in	75.2 cm / 29.6 in
Height	89 cm / 35 in	108.2 cm / 46.2 in
Weight	162 kg / 357 lbs	225 kg / 496 lbs
Deck Capacity	15	15



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Product Name: VERSA 1100 PCR Work Station

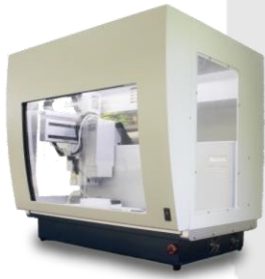
Part Number:

Product Description:

### **VERSA 1100 PCR Work Station**

The VERSA PCR setup workstation is a compact, automated liquid handling workstation designed to perform PCR setup with high precision, throughput and accuracy. This PCR setup workstation is inherently appropriate for genomic protocols, as it accommodates workflows requiring labware with varied well spacing. In addition, this system ensures high accuracy in liquid handling over a wide range of volumes.

The liquid handling head is equipped with a 4 channel ReagentDrop module for bulk dispensing of reagents. The ReagentDrop reduces tip consumption while simultaneously decreasing sample processing time. With built-in shaker modules, temperature control positions, and either a magnetic block or vacuum manifold, the VERSA PCR Setup Workstation is ideal for researchers desiring increased throughput and consistent results.



### Applications

- ✓ Single and multiplex PCR reaction setup
- ✓ Sequencing reaction setup
- ✓ Oligo-based gene synthesis plate setup
- ✓ Colony PCR screening
- ✓ Real-time PCR reaction setup/PCR clean up
- ✓ Tube to plate transfer, replication and reformatting
- ✓ Cherry picking/Reagent pooling
- ✓ Nucleic acid extraction and isolation
- ✓ Screening of gene library
- ✓ Plate transfer, replication and reformatting
- ✓ Genomic library screening

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✓ General liquid transfer

Advantage:

The versatility of this system permits many diverse protocols (including PCR/qPCR setup, serial dilution, plate reformatting and plate replication from one type of labware to another) to be carried out with high precision, throughput and accuracy.

✓ VERSA PCR setup workstation is extremely easy to use and is pre-configured to automatically prepare PCR master mixes, add DNA / RNA templates and load samples into reaction plates / capillary tube carousels.

✓ The underlying versatility of the workstation is clear through the VERSAware software, which allows users to perform a variety of

liquid handling functions. Customized methodologies are easy to create and save or import into the library of stored protocols.

✓ Provide professional and flexible solutions: Hardware can be configured with suitable solutions (providing pipette, adapter and other options); Establish appropriate software interfaces and procedures for customer applications

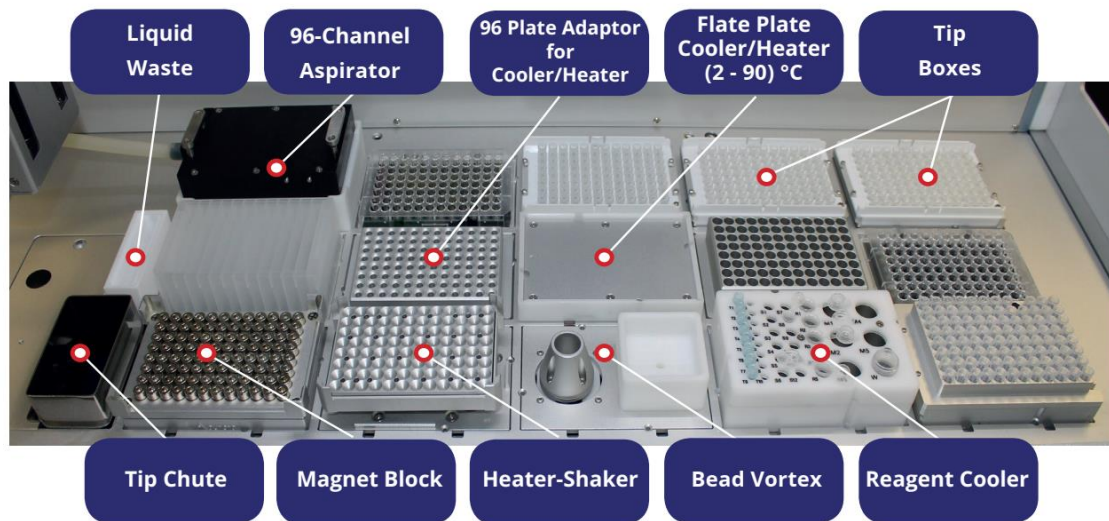
### Features & Benefits

- Compact – Fit on benchtop and in biosafety cabinets
- 4 or 8 channels with single channel function
- Minimal Maintenance – No priming of pump
- Flexible 6-positioned modular deck tailoring to your needs
- Open System – Keep your protocols, kits and labware
- Contamination-Free with optional HEPA/UV/LED enclosure
- Intuitive software pre-programmed with your protocols
- On-site training and installation

### Deck Layout

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Sample VERSA 1100 Gene Deck Layout

### Product Specification:

	VERSA 10 PCR	VERSA 110 PCR	VERSA 1100 PCR
Deck Capacity	6 Decks	8 Decks	15 Decks
Pipetting head	4/8channels	Double Injection Pump Single Channel	4/8 channels Or 96channels
Volume Range	250µL Disposable pipette tip		
ReagentDrop Channel	1 channel	4 channels	8 channels
ReagentDrop Liquid Range	5-5000 µ L	5-5000 µ L	5-5000 µ L
Tips Box Adapter	optional	optional	optional
TemperatureRegulationBlock	optional	optional	optional
Reagent Cooling Block	optional	optional	optional
Gripper/PlateTransporter	Plate Transporter	PlateTransporter	Gripper optional
Liquid Level Sensing	optional	optional	optional
HEPA/UV/LED Enclosure	optional	optional	Standard
Length x width x height (cm)	65×43×52	60×60×45	98.5×75.2×108.2
Weight (kg)	27	35	200

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Product Name: VERSA 1100 SPE Work Station

Part Number:

Product Description:

#### **VERSA 1100 Solid Phase Extraction(SPE) Work Station**

Solid phase extraction (SPE) is an increasingly widely used chromatographic separation technology. For the separation of target compounds from biological and chemical substances, the traditional manual process is cumbersome, time-consuming, labor-intensive, and prone to cross-contamination and human errors. This can lead to loss of samples and increased expenses.

The VERSASPE automatic solid phase extraction workstation automates the manual separation process, improves sample handling throughput, reduces manual operation steps, improves product quality and results reproducibility while meeting the increasingly stringent analysis and testing requirements required by regulators.

VERSASPE workstations are suitable for sample preparation and purification steps before analysis and testing, using HPLC, LC/MS, GC/MS, approaches. SPE can even be used for preliminary process in the field of genomics and proteomics. The workstation is equipped with positive pressure system and/or vacuum system to improve extraction efficiency. Also on the deck are a heating shaker and nitrogen blowing module that can be used to facilitate sample drying before automation of sample derivatization on the workstation. This improves working efficiency and simplifies laboratory workflows. Therefore, the powerful and practical VERSASPE workstation is an ideal platform for various biochemical analysis laboratories, providing an economical and effective automated solid phase extraction solution for drug research and development, clinical diagnosis, forensic identification, food and beverage inspection fields.



VERSA 1100 SPE Workstation

#### **Applications:**

- ✓ Food safety testing
- ✓ Extraction of Vitamin D from Blood/Serum
- ✓ Detection of Toxic Substances in Public health Laboratories

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- ✓ Detection of drugs of abuse in Forensic Laboratories
- ✓ Detection of growth-promoting agents in blood (doping in sports)
- ✓ Detection of illegal compounds (e.g. malachite green) and toxins (e.g. aflatoxin) in aquatic products.
- ✓ Purification of Drug R&D Compounds
- ✓ Isoflavones, Isoflavones, Isoflavones, Isoflavones
- ✓ Treatment of Non-volatile or Semi-volatile Analytical Compounds
- ✓ Detection of Chloramphenicol in Food
- ✓ Simplify sample matrices

### Feature:

- ✓ Disposable pipette tips used to reduce risk of cross-contamination to the greatest extent in the market. Ideally suited for forensic, medical and anti-drug testing.
- ✓ High throughput sample processing.
- ✓ Automate complete SPE process of column conditioning, sampling, elution, nitrogen drying and sample derivatization.
- ✓ Tip SPE instrument reduces risk of cross contamination. No need for needle washing,
- ✓ Four-channels simultaneous positive pressure applied to columns
- ✓ 24-channel nitrogen blowing drying and concentration of samples, saves time. N2 pressure monitoring to control the flow rate of liquid through the column.
- ✓ High-efficiency filter safety enclosure, with HEPA/UV disinfection/LED lighting function, to ensure the safety of operators.
- ✓ ReagentDrop facilitates the dispensing of large reagent volumes saves time, and saves reagent and suction head losses.
- ✓ Disk surface is equipped with negative or positive pressure module, which can control pressure and flow rate.
- ✓ 4-channel pipette head with single-channel pipette function.
- ✓ Compatible with 1,3 and 6 mL extraction column, and 96-well SPE plates. adaptors to hold most common sample tubes on deck of workstation.
- ✓ Reagent cold tank is beneficial to prevent volatilization of highly volatile reagents.
- ✓ Upgradable to include LLE module for liquid- liquid extraction.



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**Modular Deck Design**

VERSA Solid Phase Extraction Workstation can realize the automatic SPE processing of and subsequent derivatization of samples. The use of positive pressure module and/or module ensures reliable flow rate through columns. The perfect combination of heating shaker, plate gripper and nitrogen dryer modules enable sample processing rates to be achieved, while also ensuring the accuracy of the experiments and reproducibility of results. The flexibility of VERSA SPE workstation ensure that it can requirements for sample



**4-Channel air-Pipetting**

It has the function of channel liquid



**Vacuum module pressure**

Ensure that samples reagents pass through extraction column effective



**4-channel positive pressure**

By changing the original single pump control to four independent pumps, pressure control of the four independent channels is successfully achieved, making flow of these four channels more



**Plate**

Moves plate, adaptors and nitrogen drying module between deck position for hands-free



**Nitrogen**

Sample drying and derivatization nitrogen



**ReagentDrop(R)**

Suitable for fast and accurate dispensing of liquid volumes, so pipette tip



**Heating**

Promoting more effective sample processing derivatization



**Reagent**

Effective preservation samples and during



**SPE Column**

Holds SPE columns for them between on-deck

**Consumables - SPE columns**



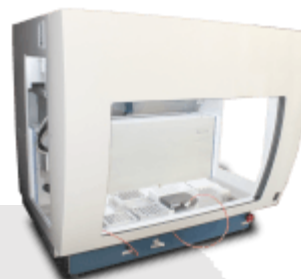
- HLB Hydrophilic-lipophilic Balance
- MCX Mixed Cation Exchange
- MAX Mixed Anion Exchange
- C18 capped octadecyl C8 octyl

- Florisil Residual Florisil Silica
- C8/SCX Mixed Column
- C8/SAX Mixed Column
- 96-well SPE extraction

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Product Specification:

## Specifications



### VERSA 1100 Automated Solid Phase Extraction (SPE) System

Deck Capacity	15
Pipetting Head (Single Channel Function, Disposable Tip)	4 or 8 channel
ReagentDrop	up to 8
Supported Cartridges	1, 3 or 6 mL cartridges or 96 SPE cartridge plate
Gripper	Gripper
Pressure Module(s)	4 channel positive pressure module and/or vacuum manifold (negative pressure)
Nitrogen Dryer	24 or 96 channels
Shaker-Heater (2400rpm, RT to 90° C)	Optional
Reagent Block Cooler	Optional
Liquid Level Sensing	Optional for Liquid Liquid Extraction
HEPA/UV/LED Enclosure	Included
Width x Depth x Height (cm)	99 x 75 x 90
Weight (kg)	162

For Any Technical Questions, Please Contact at [info@nodesus.com](mailto:info@nodesus.com)

Product Name: VERSA 2100 Work Station

Part Number:

Product Description:

### **VERSA 2100 Work Station**

VERSA 2100 has a 45-position modular deck configuration with options such as magnetic bead vortex, temperature control module and ReagentDrop that allows optimization of a variety of protocols including RNA and DNA extraction for high throughput applications.

The system is combines accurate liquid handling technology, with scalability, and a large modular deck of 45 positions which can be configured or reorganized based on the downstream applications.

VERSA 2100 also allows external equipment integration – for example, automated electroporation instrument, Microplate readers, thermocycles, etc.



VERSA 2100 Work Station

### **Applications:**

High throughput genomic applications such as nucleic acid sample prep for qPCR, next generation sequencing etc.

Peptide microarray printing

PCR set up and reaction using third-party thermocyclers

Upstream processing for mRNA Vaccine development

RNA interference (RNAi) experiments for gene therapy and drug development.

### **Feature:**

Flexible 45-positioned modular deck tailoring to various applications.

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Allows for third party equipment integration

Independent Z-axis movement

Bulk dispensing ReagentDrop reduces reagent and tip waste

Optional on-deck incubations to preserve reagents and samples

8-channel air piston pipetting system with single-channel function (5 $\mu$ L-1000 $\mu$ L),

Optional 96-channel pipette, suitable for high-throughput processing needs

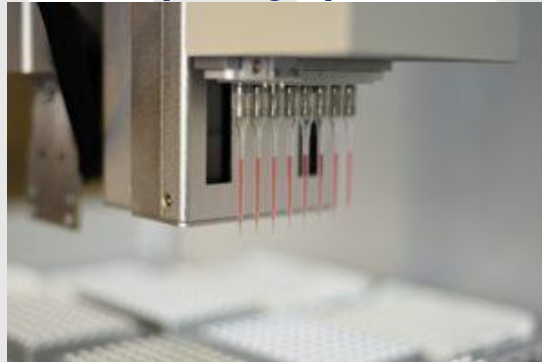
Open and modular System

Contamination-free with optional HEPA/UV/LED enclosure

Intuitive software pre-programmed with your protocols

On-site training and installation

### Pipetting Options



8 Channel Syringe Pipettor



single Channel Syringe Pipettor



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For Any Technical Questions, Please Contact at [info@nodesus.com](mailto:info@nodesus.com)

96 Channel Syringe Pipettor



96 Channel Aspirator

### Arm & Enclosure Options



Gripper



UV/HEPA Enclosure



Reagent Drop Cluster



Magnetic separator

**[READ MORE INFORMATION ON COMPATIBLE MODULES](#)**

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## Application Specific Deck Options



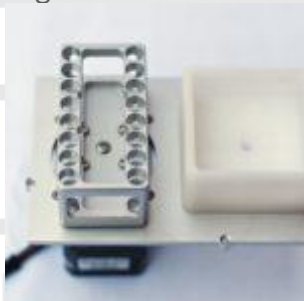
Heater Shaker



Custom Tube Adaptors



Magnetic Bead Vortexer



Magnetic bead mixer



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## Product Specification

Deck Capacity	45
Precision	CV <5% at 5µL
Volume Range	5-1000 µL
Pipetting Head	8 Channels
Single Channel Pipetting Function	Yes
Major modules and Accessory Options	ReagentDrop (up to 8)
	Temperature control module
	Heater-shaker module
	Magnetic bead separator
	mechanical arms at the upper
	and lower level of the workstation
	Independent Z Movement
	Gripper
HEPA/UV Enclosure	
Dimensions (W x D x H)	98cm x 158 cm x 183 cm
Weight	100-150 kg

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