



## Liquid Handling Systems

→ HTS → Drug Research → Genomic Solutions → Protein Crystallography  
→ **NEW:** Combinatorial Compound Arrays → **NEW:** MicroFISH Assays



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**All prices upon request!**

# Gryphon, Crystal Gryphon, Gryphon LCP and Crystal Gryphon LCP

## Modular Liquid Handling Systems



**Crystal Gryphon**



**Crystal Gryphon LCP**

The “**Gryphon**” is a compact modular dispenser. Due to the use of flexible and long-lasting Nitinol-needles the “Gryphon” is an environmentally friendly liquid handling system **without follow-on cost for disposables**. The “Gryphon” accomplishes **fast, efficient liquid handling** by moving air-tight seals inside 96 or optionally 24 or 384 precision glass syringes arrayed in microplate spacing. The **innovative design** of the “Gryphon” dispensing head allows users to easily remove the syringe head for servicing or for changing to a different syringe format. An operator can **change syringe heads in minutes**, without the use of any tool. For protein crystallography, the “Gryphon” is available in three configurations: **Crystal Gryphon, Gryphon LCP** and the **Crystal Gryphon LCP**. A basic **Gryphon** is also available as standard dispenser with a 96-channel head.

The **Crystal Gryphon** is set up for soluble proteins and includes a 96-channel head for handling screens from 96 deep well blocks and a **non-contact nano dispenser** for the precise dispensing of 50 nl up to 100 µl protein sample. It can be upgraded at any time to include the LCP dispenser.

The **Gryphon LCP** includes the 96-channel head and the LCP (Lipidic Cubic Phase) dispenser, whereby the mixing and **crystallization of membrane proteins** is facilitated. The LCP syringe allows the dispensing of 25 nl of viscous solutions with a CV of < 5% in less than 90 seconds. The LCP syringe also can be used for aspirating and dispensing of micro-crystals for **seeding applications**.

The **Crystal Gryphon LCP** combines a 96-channel head, the nano and the LCP dispenser, allowing the handling of screens, the dispensing of proteins and viscous solutions.

	<b>Gryphon LCP</b>	<b>Crystal Gryphon</b>	<b>Crystal Gryphon LCP</b>
LCP Dispenser	✓	Upgradable	✓
Nano Dispenser	Upgradable	✓	✓
XY Stage	✓	✓	✓
Wash Module	✓	✓	✓
96 Head: 100 µl	✓	✓	✓
24 Head: 250, 500, 1000 µl	Optional	Optional	Optional
384 Head: 100 µl	Optional	Optional	Optional
96 Head: 250, 500, 1000 µl	Optional	Optional	Optional

### **“Gryphon” general features:**

- No disposables, cutting operating costs
- The “All-In-One” Microdispenser enables screen and protein drop-setting in one protocol
- Modular design allows for custom set-ups to meet needs of application
- 96-heads with flexible needles with 100, 250, 500 or 1000 µl volume options
- 24-head and 384-head options are available
- Up to 4 protein source positions
- Flex syringe dispense head for dispensing down to 100 nl with a CV < 5%
- 2 position X-Y stage
- Integrated wash system
- Small space-saving footprint (h x w x d): 20 x 23 x 23 inches (51 x 59 x 59 cm)

### **Optional LCP (Lipidic Cubic Phase) module:**

- Seeding and for highly viscous samples
- Syringe based lipidic cubic phase, bicelle dispenser
- Lipidic sponge-phase screen for membrane proteins
- Integrated LCP mixing station
- Dispensing 25 nl of viscous solutions with a CV < 5%
- Quick change syringe design makes loading the syringe easy
- Self-aligning syringe needle
- Aspirate from 0.2 ml tubes with an optionally added longer needle
- 8 tube positions for seeding applications
- 96-well sandwich plate ready to seal in less than 2 minutes

### **Non-contact Nano-dispenser module (optional):**

- For protein aspiration and dispensing 50 nl up to 100 µl (1-, 2- or 3-channels possible)
- For on-the-fly dispense of water soluble proteins
- Gradient dispensing possible
- For set-up of sitting drop, hanging drop and microbatch reaction

### **Software:**

- “Easy-to-learn” and “easy-to-use” graphical interface
- Drag-and-drop protocol creation and real-time protocol validation
- Windows-based software
- Plates can be easily selected from the plate library, or new plates can be quickly defined.

### **“Gryphon” specifications:**

- Dispense volumes:      96 Head:                    100 nl to 100 µl  
                                 Nano:                            50 nl to 100 µl  
                                 LCP:                             25 nl to 2 µl LCP
- Size:                            Base (h x w x d):            20 (51) x 23 (59) x 23 (59) inches (cm) / 68 lbs, 31 kg  
                                 Wash (h x w x d):            6 (15) x 6.5 (17) x 14 (36) inches (cm) / 5.5 lbs, 3.5 kg  
                                 Nano (h x w x d):            9.5 (24) x 6 (15) x 16 (41) inches (cm) / 18.5 lbs, 8.4 kg
- Electrical:                    Base:                            120/240 Vac, 3 A, 50/60 Hz  
                                 Wash:                            120/240 Vac, 2 A, 50/60 Hz  
                                 Nano:                            120/240 Vac, 1.5 A, 50/60 Hz
- Software:                     Windows dotNet



# COBRA

## 1 or 4 Channel Nano Dispenser



“Cobra 4 Channel“

The “Cobra” line of non-contact nano-dispensers is available with 1 or 4 channels and for dispense volumes ranging from 300 nl to 5 ml. It allows fast on-the-fly dispensing, which quickly fills all kinds of microplates. The “Cobra” can be used in aspirate/dispense mode or bulk-dispense mode. It is ideal as a **PCR tool**, takes up very little bench space, allows low volume reactions and saves expensive reagents. Two plate positions add to the versatility of the “Cobra”.

### “Cobra” features:

- Ideal for PCR Master Mix dispensing
- Low dead volume minimizes waste
- Fast on-the-fly dispensing into 96-, 384- and 1536-well plates and deep well blocks
- Dispense 300 nl to 5 ml using 1 or 4 non-contact nano-dispensers
- Dispense gradients for direct dilutions
- Integrated wash system
- Easy-to-use, computer controlled “drag-and-drop” software
- Dispense any volume, any well with up to 4 independent reagents
- Mixed modes in one run are possible (switch between aspirate/dispense and bulk dispense)
- Aspirate from deep well blocks, 0.2 ml and 1.2 ml tubes
- 2 position plate deck
- Liquid level sensing for all reagent bottles
- Can be integrated into automatic systems for storage of plates
- Small space-saving footprint: (w x d x h) 35.5 x 50.8 x 40.6 cm

## Dispense Volumes

The performance of the Cobra is reliable, precise and accurate through a large range of volumes.

Cobra 4 Channel Nano Dispenser		
Dispense Volume $\mu\text{l}$	Relative Fluorescence Value	CV %
25	40300	2.9
10	18762	3.5
5	10126	3.3
2	4022	2.9
1	2008	3.2
0.3	589	6.1

Individual features and specifications of the different “Cobra” models:

### “Cobra 1 Channel” (Cat. No. 630-1000-10)

- Versatile 1-channel dispense head for small research labs.
- Ideal for PCR master mix set-ups, assay development and cell dispensing.
- Aspirate/Dispense mode allows minimal waste of valuable PCR reagents.
- Bulk dispense mode from reagent bottles to quickly dispense large volumes.

### “Cobra 4 Channel” (Cat. No. 630-1000-40)

- 4-channel dispense head for increased throughput.
- Dispense up to 4 separate reagents in the same pass.
- Aspirate/Dispense mode allows minimal waste of valuable reagents.
- Bulk dispense mode from reagent bottles to quickly dispense large volumes.
- Assign Aspirate/Dispense mode and Bulk-Dispense mode on per-channel basis.
- Bulk Dispense mode can be combined with Aspirate/Dispense mode to optimize performance.
- Mixed volumes for all channels are possible



Compatible with deep well blocks or 1536-well plates.

**Please ask for our separate Accessories Price List including spare syringes and plates**



## Screen Builder



The “**Scorpion**” is a single-channel high-speed dispenser and part of the successful **Art Robbins Instruments (ARI)** liquid handling family. This **extremely versatile** work station can be used to perform anything that can be done with hand-held pipettors with the speed, reliability and precision of an automated dispenser. Due to the **high displacement speed** of the Scorpion it is possible to perform a variety of different liquid handling applications including genomic methods such as PCRs. A liquid level sensor completes this innovative device.

The Scorpion utilizes **3 dispense modes**, each with unique advantages. Forward, Sequential and Reverse Modes, combined with tip usage criteria, create a powerful liquid handling tool set.

The **intuitive software** allows the easy design of n-dimension optimization grids and arrays. Using a straightforward software interface, grids can be set up across a plate or in any position of a plate. The software graphically shows the content of each well.

### “Scorpion” features:

- Compatible with 50 µl, 200 µl and 1000 µl pipette tips with dispensing down to 0.5 µl
- Multiple tip sizes can be used in one protocol. Suitable pipette tips: see separate price list
- Dispense data can be defined as volume, concentration or pH
- Deck will accommodate a choice of 6 SBS-format plates, and/or 96 racked 15 ml tubes, a deep well block, and a rack of pipette tips for setting up plates from 15 ml tubes (adapters for other formats available)
- Pipette head is designed to reach the bottom of tall tubes such as 15 ml and 50 ml tubes as well as deep well blocks
- Re-array screens from 15 ml tubes into 96-well plates
- Set-up 24-well protein crystallization plates with an optimized screen and dispense the protein.
- Movement velocity of 2 meters / sec. with extreme accuracy
- Intelligent motion control software optimizes dispense paths and volumes
- Easily build n-dimension optimization grids for the creation of optimization screens
- Easy set-up of user-defined and gradient screen plates using an innovative graphic software
- Possibility to import / export csv-files facilitates data transfer and the creation of custom screens
- **NEW:** Combinatorial Compound Arrays
- Positive air displacement pipette head and a vast reagent database with pre-defined settings make it easy to work with a wide range of fluid viscosities, such as 50 % PEG 20,000, and 80 % Glycerol
- Can be used in a cold-room or up to 70 °C, non-condensing
- Small footprint (w x d x h) 48.3 x 48.3 x 69.8 cm / 41 kg weight

### Accessories included:

- Desktop computer with multi-seat software license
- 2 x 50 ml tube racks à 8 x 50 ml tubes
- 2 x 15 ml tube racks à 24 x 15 ml tubes
- 2 x pipette tip racks
- 2 x 96 pipette tips 1000 µl, racked
- 2 x 96 pipette tips 200 µl, racked
- 4 x tube rack inserts for 1.5 ml or 2.0 ml tubes
- Spare airline tube
- Emergency stop
- Calibration tip
- Ethernet cable

**Scorpion with desktop computer: Cat. No. 640-1000-10**

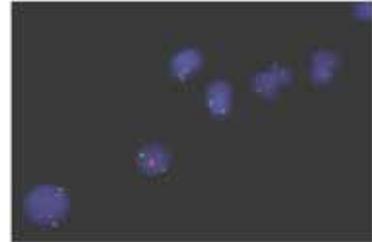
**NEW!**

*Scorpion*

for MicroFISH



Deck of the Scorpion MicroFISH



100x Magnification EGR-1 Probe

Together with the American company SciGene, the “**Scorpion**” has now been converted to **automate MicroFISH assay preparation**. When used with the MicroFISH slides from SciGene, your lab now has an automated and miniaturized slide-based FISH assay that **reduces probe cost** per test up to tenfold, and the labour used to prepare and process assay slides by over 60 %. The MicroFISH assay uses a multi-well slide for performing up to eight independent micro-volume FISH assays using only 1 µl of cell sample and probe.

With a user-friendly software and high speed motion, the Scorpion streamlines the workflow and **increases quality control** by automating slide dropping and probe application, while providing inventory tracking and batch reports with a probe lot number and expiration date.

The **intuitive user interface** of the software guides the user through the test set-up process, assuring accurate data entry. The hardware to hold patient samples, MicroFISH slides, and the probes is designed to match the user interface. All locations are labeled to assure probes and samples are put into the proper positions.

Patient name and ID are entered by the user for each test sample. Probe information is loaded from a probe data base containing all information such as lot number and expiration date. Frequently used panels can be defined, saved, and assigned to any test slide.

**Optional slides and processing equipment are available on request.**

→ For more information please see overleaf

### **Scorpion for MicroFISH features:**

- Set up 12 patient samples in 10 minutes
- Step-by-step software interface guides the user through the test set-up
- Store probe library including lot numbers, expiration dates, manufacturer and catalogue number
- Software automatically pauses for the cell bake step before adding the probes
- Generate test reports showing all patient and probe data
- Liquid level sensing allows the tip to follow liquid levels improving aspirate and dispense accuracies
- Precisely dispense patient cells and probes to 1  $\mu$ l
- Fast, accurate and reliable dispensing assures consistent test results
- Assay slides and optional process equipment available on request

### **General Scorpion features:**

- Compatible with 50  $\mu$ l, 200  $\mu$ l and 1000  $\mu$ l pipette tips with dispensing down to 0.5  $\mu$ l
- Pipette head is designed to reach the bottom of tall tubes such as 15 ml and 50 ml tubes as well as deep well blocks
- Movement velocity of 2 meters / sec. with extreme accuracy
- Intelligent motion control software optimizes dispense paths and volumes
- Liquid level sensing allows the tip to follow liquid levels improving aspirate and dispense accuracies
- Easy set-up of tests using an innovative graphic software
- Positive air displacement pipette head and a vast reagent database with pre-defined settings make it easy to work with a wide range of fluid viscosities
- Can be used in a cold-room or up to 70 °C, non-condensing
- Small footprint (w x d x h) 48.3 x 48.3 x 69.8 cm / 41 kg weight



**Patient Sample Tube Holder**

- **Accessories included:**
  - Desktop computer with software for MicroFISH
  - MicroFISH slide holder
  - Patient sample rack
  - Probe rack
  - Emergency stop
  - Calibration tip
  - Ethernet cable



**MicroFISH Slide Holder**



**Probe Tube Holder**

**Scorpion for MicroFISH with desktop computer: Cat. No. 640-1001-10**

# Phoenix

## High-throughput liquid handling platform



The “Phoenix” is a **multi-position, high-throughput liquid-handling platform** that incorporates a space-saving design with flexible dispensing options. The “Phoenix” provides increased efficiency and cost-effectiveness and uses an innovative syringe- and needle-technology therefore **avoiding follow-on costs for disposable tips**. The “Phoenix” is designed to meet the demanding requirements of protein crystallography, high-throughput screening and genomics laboratories. This unique instrument combines the precise **low-volume dispensing capabilities** of a syringe head with an **on-the-fly non-contact nano-dispenser**. Since the “Phoenix” is equipped with 9

assay positions it is ideally suited for high-throughput applications. The “Phoenix” accomplishes **fast, efficient liquid handling** by moving air-tight seals inside 96 or 384 precision glass syringes arrayed in microplate spacing. The 96-syringe head is available in 100, 250, 500, 1000  $\mu\text{l}$  with flexible needles - or choose the 384-head with flexible needles. The dispensing head can be exchanged easily for servicing within minutes, without the use of any tools. Besides this, the “Phoenix” can be equipped with up to four non-contact **nano-dispensing modules** enabling the accurate dispensing of 50 nl up to 100  $\mu\text{l}$ . The “Phoenix” is operated by a user-friendly graphical drag-and-drop interface that enables **real-time protocol validation**. The software has an integrated predefined plate library containing most commonly used microplates. New plates can be easily added to the plate library.

### “Phoenix” features:

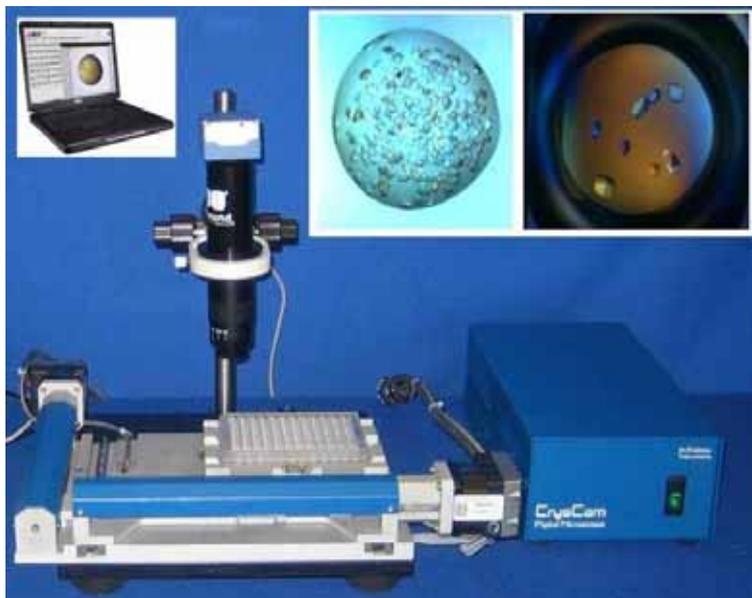
- **No disposables, cutting operating costs**
- Set-up sitting drops, hanging drop and microbatch reactions
- Nine assay positions: 6 source or destination plate positions, 2 reagent positions, 1 wash station position
- 96- or 384-channel positive displacement syringe heads with flexible Nitinol-needles
- Head volumes of 100, 250, 500, 1000  $\mu\text{l}$ . Dispense volumes down to 100 nl with a CV < 5 %
- < 50 sec. to dispense protein and screen to the small wells or hanging drop seals
- The speed of dispensing the screen and protein eliminates the problem of evaporation even when dispensing as little as 100 nl
- Optional non-contact nano-dispenser drive: can accommodate 1-, 2-, 3-, or 4-channels to deliver volumes as low as 50 nl with a CV < 5 %
- Gradient dispensing possible
- Nano dispenser can dispense viscous liquids up to 30 % glycol or 20 % PEG4000
- Nano dispenser can be used in aspirate/dispense or bulk dispense modes
- Closed-loop motion control on each axis: verification of task completion via encoders on each motor

### “Phoenix” specifications:

- Dispense volumes:      96 Heads:                      100 nl to 100  $\mu\text{l}$   
   Nano:                                50 nl to 100  $\mu\text{l}$
- Size:                              Base (h x w x d):            29 (73.6) x 25 (63.5) x 27 (68.6) in (cm) / 142 lbs, 64.4 kg  
   Wash (h x w x d):            13 (33) x 6.5 (17) x 14 (36) inches (cm) / 5.5 lbs, 2.5 kg  
   Nano (h x w x d):            9.5 (24) x 6 (15) x 16 (41) inches (cm) / 18.5 lbs, 8.4 kg
- Electrical:                      Base:                              120/240 Vac, 3 A, 50/60 Hz  
   Wash:                             120/240 Vac, 2 A, 50/60 Hz  
   Nano:                             120/240 Vac, 1,5 A, 50/60 Hz
- Software:                        Windows dotNet

# CrysCam™ and **New** CrysCam UV™ Digital Microscopes

for Protein Crystal and Microplate Observation and Documentation



The CrysCam™ Digital Microscope allows you to capture the images of an entire plate with a click of the mouse. The stage and easy-to-use software automatically captures the image of each well and then moves to the next. With their small footprint they fit into a small space. They can also be set up in a cold room. The CrysCam™ can also be used to see crystals during crystallization, instead of looking through a microscope. The high resolution and precise X-Y stage easily mounts to the CrysCam™ base.

**CrysCam™**

## ***CrysCam™ general features:***

- Compatible with 96-well, 24-well Linbro and Terasaki plates (see adapters)
- Small footprint; light weight.
- Can be used in a cold room at 4°C.
- Quality par focal zoom lens with iris.
- Integrated cross polarization.
- 6x zoom with 3.87 mm x 5.16 mm – 0.6 mm x 0.8 mm field of view (UV model: see page 11)
- 3 Mpix CMOS, 1/3 inch sensor USB cameras. (UV model: see page 11)
- Smooth large base platform with integrated LED lighting.
- Image acquisition and processing software.
- Reads a 96-well plate in less than three minutes.
- Easy-to-use Windows software.
- Integrated scoring database for analysis of score in the software
- Accurate and precise closed-loop control system.
- Predefined plate library makes choosing the right well location quick and easy.
- Stage resolution down to 0.00013 inch (0.0033 mm).

**Special features for UV-version: see page 11**

**NEW!**



## CrysCam UV™

### **CrysCam UV™ extra features:**

- Automatically scan the plates and capture visual and UV images.
- The instrument reads and captures all 96 visual images, then reads the plate a second time to capture all 96 UV images.
- View both visual and UV image for a specific well at the same time.
- Filter removes UV reflections from plates.
- Powered focus and zoom through the software, and the camera stays focused when zooming.
- Scans multiple wells in one run, possible to scan sub-wells.
- Can flag wells of interest.
- Can view individual wells and sub-wells with or without a polarizer.
- User definable input of different plate formats.
- Determine crystal X-Y-Z position for use with in-situ crystal diffraction.
- The CrysCam UV™ can be used to capture crystal images in nano size drops.
- Artemis VS60 camera with a resolution of 2750 x 2205 (6.0 Mpix).
- Digital image of 2.37 microns/pixel with a minimum zoom to 0.7 microns/pixel.
- Enclosure covers lens and plates to block stray light.

Cat. No.	Description
610-1000-11	"CrysCam™" Digital Microscope System incl. X-Y Stage, 3 Mpix camera, 6.5 zoom ratio lens, Crys Score image capture and scoring software; <b>with</b> laptop
610-9000-00	"CrysCam UV™" Digital Microscope System incl. X-Y Stage, 6.0 Mpix camera, Crys Score image capture and scoring software; <b>with</b> laptop
610-1001-01	Plate Adapter for "CrysCam™" – Linbro Plate
610-1001-02	Plate Adapter for "CrysCam™" – Q Plate
610-1001-03	Plate Adapter for "CrysCam™" – Terasaki Plate
25-1000-50	Hood for Digital Microscope System "CrysCam™"

## Hood and Trolley for the “Phoenix” and “Gryphon”

- Panels and doors manufactured in clear plastic
- Frame in aluminum
- Opening with sleeve Ø 80 mm (right) for cables
- Front with door and extra reach-through opening
- Inclusive:
  - Ultra-sonic humidifier
  - Humidistat
  - Humidity sensor
- Optional:
  - Trolley, 4 adjustable rollers,
  - Base plate and 2 shelves
- Slight design changes possible



Cat. No.	Description
25-1000-01	Hood for the <b>single-channel</b> "Crystal Phoenix" or <b>all</b> "Gryphon" modular system combinations, to assure constant humidity (attention: max. 70 %), without trolley base, exterior dimensions (w x d x h): 900 x 900 x 900 mm
25-1000-11	Hood for the <b>four-channel</b> "Crystal Phoenix", to assure constant humidity (attention: max. 70 %), without trolley base, exterior dimensions (w x d x h): 1200 x 900 x 900 mm
25-1000-02	Trolley, 4 adjustable rollers, base plate and 2 shelves dimensions (w x d x h): 900 x 900 x 900 mm
25-1000-12	Trolley, 4 adjustable rollers, base plate and 2 shelves dimensions (w x d x h): 1200 x 900 x 900 mm

## Refurbished "Hydras"

Art Robbins Instruments still offers a full line of **reconditioned "Hydra" Instruments** to meet your needs for high-speed aspirating and dispensing of finite volumes at cost-effective prices. Each unit has been inspected and rebuilt by the original "Hydra" design and assembly team. All syringes have been refurbished to as-new condition. **A full one-year warranty** is offered on all units.

### Refurbished Hydra features:

- 384- or 96-syringes
- Equipped with or without a wash module
- Equipped with or without a plate positioner
- Syringe sizes 100 µl, 290 µl, 580 µl or 1 ml
- Flexible Nitinol or PTFE coated stainless steel needle syringes



## LCP Mixing Station for mixing of lipids and proteins

The stand-alone LCP (Lipidic Cubic Phase) Mixing Station is ideally suited for the mixing of viscous solutions often used for the crystallization of membrane proteins.

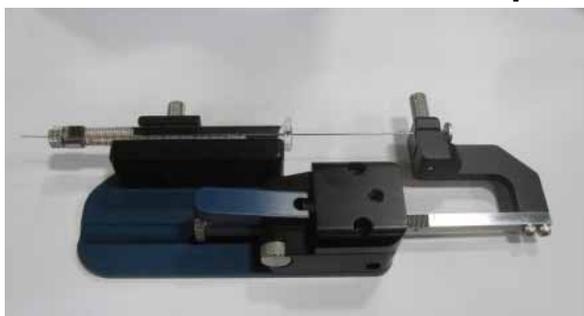
### LCP Mixing Station Features:

- Accommodates different syringe types including Hamilton style and the ARI LCP dispensing syringe
- Any volume syringe can be used if both syringes are the same volume
- Elapsed mixing time is displayed
- Quick and easy to load
- Loading the syringe automatically sets the mixing stroke so that the mix volume is equal to the sample volume in the syringe
- Audible alarm can be set to sound off after defined elapsed time
- Easy to clean polished stainless steel mixing chamber
- Compact size: 34.3 x 13.9 x 11.4 cm



<b>Cat. No.</b>	<b>Description</b>
620-4000-00	LCP Mixing Station
	<b>Accessories (ask for our “Accessories Price List”)</b>
620-1300-01	ARI- Syringe Ferrule Assay with Coupling
620-1300-02	ARI-Hamilton Syringe Ferrule Assay with Coupling
620-1300-03	Hamilton-Hamilton Syringe Ferrule Assay with Coupling

## LCP Hand Held Multi Volume Dispenser



The new LCP Hand Held Dispenser can be used with syringes from different manufacturers such as Art Robbins Instruments or Hamilton.

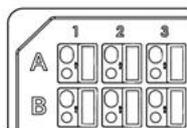
The Hand Held Dispenser allows setting up to 200 steps and can move 1, 2 or 3 steps per click. Depending on the volume of the used syringe, you can dispense per step either 1/200, 1/100 or 3/200 of the total syringe volume.

<b>Cat. No.</b>	<b>Description</b>
620-4100-00	LCP Hand Held Multi Volume Dispenser (syringe not included)
	<b>Accessories</b>
620-1005-03	LCP Syringe, 100 µl, graduated
620-4101-00	LCP Syringe Assembly 10 µl (no needle)
620-4102-00	Replacement needles for 10 µl LCP Syringe (case 3)

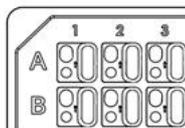
## “Intelli-Plates“ for protein crystallization applications

- Molecular structural analysis
- Three-dimensional structure of proteins
- Structure based drug research

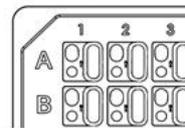
### 96-well INTELLI-PLATE®



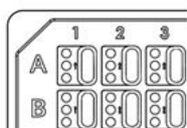
Catalog #: 102-0011-00  
Original INTELLI-PLATE  
Well Volume: 4µL and 10µL  
Reservoir Volume: 300µL max



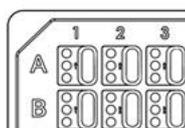
Catalog #: 102-0001-00  
96-2 Low volume reservoir  
Well Volume: 4µL and 10µL  
Reservoir Volume: 100µL max



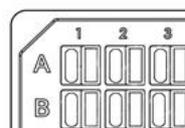
Catalog #: 102-0001-10  
96-2 Low profile  
Well Volume: 4µL and 10µL  
Reservoir Volume: 100µL



Catalog #: 102-0001-03 \*  
96-3 Low volume reservoir  
Well Volume: 1µL  
Reservoir Volume: 100µL max



Catalog #: 102-0001-13 \*  
96-3 low profile INTELLI-PLATE  
Well Volume: 1µL  
Reservoir Volume: 100µL max



Catalog #: 102-0001-01  
Flat bottom  
Well Volume: N/A  
Reservoir Volume: 300µL max

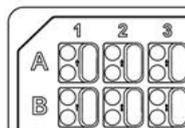
### UV Compatible Plates\*

102-0001-03

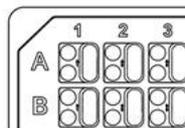
102-0001-13

102-0001-20

102-0001-21

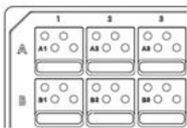


Catalog #: 102-0001-20 \*  
96-2 Shallow well  
Well Volume: 2µL  
Reservoir Volume: 100µL max

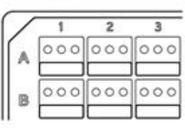


Catalog #: 102-0001-21 \*  
96-2 Shallow well low profile  
Well Volume: 2µL  
Reservoir Volume: 100µL max

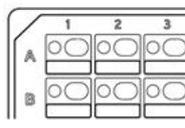
### 24-well INTELLI-PLATE® 48-well INTELLI-PLATE®



Catalog #: 102-0004-00  
24-4  
Well Volume: 5µL  
Reservoir Volume: 650µL max



Catalog #: 102-0003-00  
48-3 Screening  
Well Volume: 4µL  
Reservoir Volume: 500µL max



Catalog #: 102-0002-00  
48-2 Optimization  
Well Volume: 4µL and 20µL  
Reservoir Volume: 500µL max

- Rigid, optically clear plates for sitting drop vapour diffusion
- PS or low birefringence
- Standard SBS microplate footprint, suitable for automation and HTS
- Round wells facilitate easy handling with crystals
- Strengthened rims around each well for effective sealing with foil
- Antistatic packaging, individually wrapped
- 96-well “Intelli-Plate” (8 versions):
  - **two** crystallization wells (max. 4 µl and 10 µl) and optionally 300 µl or 100 µl reservoir
  - **three** crystallization wells (1 µl) and 100 µl reservoir
  - **low profile** and **shallow well** plates, now **UV-compatible**
  - with highly polished, flat crystallization area and 300 µl reservoir
  - all plates available with barcode
- 48-well “Intelli-Plate” (2 versions):
  - for optimization with **two wells** (4 µl and 20 µl) and 500 µl reservoir
  - for screening with **three wells** (4 µl) and 500 µl reservoir
  - screening and optimization plates with standard SBS microplate footprint
- 24-well “Intelli-Plate”:
  - for “sitting drop”, with four wells (5 µl) and max. 650 µl reservoir

Please ask for our separate price list

## Excerpt Tissue Typing Products (complete list on request)

### Reconditioned Automatic Serum Dispenser

The Robbins Automatic Serum Dispenser is a precision multichannel dispenser for adding microliter volumes of serum to all wells of a typing tray simultaneously. It consists of a fixed array of glass syringes whose plungers move up and down in unison to fill and dispense serum into the tray. Operation is completely automatic. After selecting the syringe fill and dispense volumes and number of syringe wash cycles through the display on the front of the unit, a rack containing serum tubes is placed on the platform. Upon depressing the up button, the motorized platform lifts the rack to the syringe needles, the syringes fill to the volume selected and the platform returns to its original, down position.

To fill trays, a single typing tray is placed on the platform and the dispense operation activated using the Dispense button. The platform raises to the needles and the volume of serum selected is dispensed into the wells with the volume of serum remaining in the syringes updated on the display. After filling the desired number of trays, serum remaining in the syringes is returned to the serum by pressing the Empty button.

- With 60- or 72- syringe head
- Glass syringes with stainless steel needles and replaceable PTFE tips on plungers
- Button or foot switch to lift the operating platform
- Full one-year warranty
- Selectable parameters:
  - Fill volume: 10 - 290  $\mu$ l in increments of 10  $\mu$ l
  - Dispense volume: 0,5 - 9,5  $\mu$ l in increments of 0,5  $\mu$ l
  - Wash cycles: continuous or 1 - 10 cycles

All units are **refurbished, inspected, assembled and thoroughly tested** by the same technicians who originally built and serviced these Serum Dispensers for many years and who are the most qualified to ensure the instruments are performing to original specifications.



### Automatic Typing Tray Oiler

The Automatic Typing Tray Oiler dispenses in one step a predetermined volume of oil into all wells of a typing tray. Consisting of a head with stainless steel pins arranged in the spacing of the typing tray wells, the head first dips into a reservoir of oil and then automatically moves and touches the wall of the typing tray wells delivering the oil. The volume of oil delivered is adjustable from 1 -15  $\mu$ l by selecting the depth that the pins penetrate the oil in the self-refilling reservoir. A removable clear acrylic cover protects the oil reservoir from contamination with dust during operation.

To operate the instrument, trays are positioned on a platform on the front of the unit and a switch depressed that activates the head to dispense the oil. The oiler can also be operated in continuous mode with the head automatically dispensing oil every six seconds: a sufficient time interval for removing and placing trays on the platform. Interchangeable heads are available for 60, 72 and 96 well trays. Heads are easily changed without tools by releasing two knurled screws.

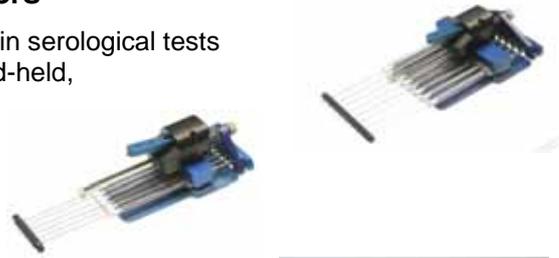
- Fills tissue typing trays with oil
- Volume of oil delivered is adjustable from 1 - 15  $\mu$ l, selecting the depth that the pins penetrate the oil in the self-refilling reservoir
- With 60-, 72- or 96-syringe head
- Oil reservoir capacity: approx. 500 ml, for approx 1.500 plates



## Excerpt Tissue Typing Products

### Single and multiple hand-held syringe dispensers

- Designed to simplify the multiple liquid handling steps in serological tests
- Single, six and eight precision glass syringes in a hand-held, push button repeating, dispensing mechanism
- Less than 1% variation between the single syringes
- Syringe plungers with PTFE tips
- Syringe volumes from 25  $\mu$ l to 500  $\mu$ l



### Tissue typing single microsyringes and repeating dispensers

- Coated stainless steel syringes (fixed, inflexible)
- „Soft-drop“, wide syringes, hanging drops by dispensing
- „Shooting“, narrow syringes, drop-dispensing by pressure



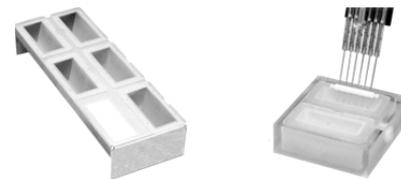
### Stream Splitter

- For 36-, 60-, 72- und 96-well plates
- Applicable for Oil, Eosin or Formalin
- 3 dispensing heads available: 6, 8 or 12 needles



### „Complement Cooling System” and accessories

- Cooling system for 6 x 10 ml complement cups
- For tests without icebath
- With freezing coolant solution



### Serum tubes

- Rimless, Polyethylene, 200 and 400  $\mu$ l
- Fit into dispensing racks
- Can be stored below -70  $^{\circ}$ C
- With or without caps
- Clear, red, yellow, blue or green



### Microcentrifuge tubes

- Polystyrene, choice of 3 sizes
- Can be stored at -70  $^{\circ}$ C, especially suitable for biological material
- Polyethylen caps, separately available
- Clear, red, yellow, blue, green, purple or peach



### Racks for serum- and microcentrifuge tubes

- Acrylic, for 48, 60, 72, or 96 tubes

### Nylon wool – different pack sizes available

Nylon wool is specially prepared for Separation of T and B lymphocytes by selective adhesion. Each lot of wool is carefully washed, then combed to remove clumps and packaged ready for use. When human or mouse blood cell preparations are passed over a column or through a straw packed with nylon wool, B lymphocytes and granulocytes adhere to the fibers while T cells pass through the column unimpeded. B cells can then be eluted separately by agitation of the nylon wool in buffer. Nylon wool is autoclavable, available in several package sizes and nonsterile (Julius et al, 1973).