

## Equipment for General Liquid Handling, Chemistry, Protein Crystallography and HLA

**Phoenix/Chemistry**



Organic Solvent Transfers  
Enzyme Optimization

**Scorpion/Chemistry**



Synthetic Chemistry  
HTS / Kinetics / LC-MS

**Cobra 1- or 4-Channel**



Biochemical Assays  
PCR Master Mix

**Gryphon**



Protein Crystallography  
Lipidic Cubic Phase Option

**Crystal Phoenix**



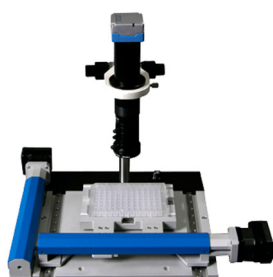
Protein Crystallography  
HTS / Genomics

**Scorpion**



General Liquid Handling  
Screen Building

**CrysCam™**



Protein Crystal Observation

**CrysCamplus**



Protein Crystal Observation  
with visible and UV-light

**CrysCamUV**



Protein Crystal Imaging  
with visible & UV-light and  
fluorophore option

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## Liquid Handling Work Station and Screen Builder



1 ml Tip Test Data (please enquire for 200 µl data)		
Reagent	Volume	CV
Water	1 µl	4.4 %
DMSO	1 µl	2.3 %
"	10 µl	2.5 %
DMSO 80 %	1 µl	5.0 %
Methanol	10 µl	3.9 %
Ethanol	10 µl	2.0 %
Isopropanol	10 µl	3.7 %
Glycerol 50 %	10 µl	2.1 %

### Accessories included:

- 1 x pipette tip racks
- 2 x 96 pipette tips 1000 µl, racked

→ also available: *Scorpion for Chemistry* (page 4)

### Scorpion features:

- Extremely versatile work station can perform anything that can be done with hand-held pipettors, but with the speed, reliability and precision of an automated dispenser.
- High displacement speed gives the opportunity to perform a variety of different liquid handling applications including genomic methods such as PCR assays or complex grids and titrations.
- 3 dispense modes: Forward Mode, Sequential Mode, Reverse Mode.
- Compatible with 20 µl, 50 µl, 200 µl and 1000 µl pipette tips with dispensing down to approx. 1 µl.
- Multiple tip sizes can be used in one protocol. Suitable pipette tips: ask for separate price list.
- Liquid transfers can be defined as volume, concentration or pH.
- Possibility to set up multiple plates with varying pH, different additives and varying concentration such as normalization of salt screens.
- The deck has 6 SBS-format positions and can accommodate 96 racked 15 ml tubes, deep well blocks, standard 96, 384, 1536 and 24 well plates, 96 and 24-well protein crystallization plates, as well as tip racks.
- Pipette head is designed to reach the bottom of tall tubes such as 15 ml or 50 ml tubes and deep well blocks.
- Re-array screens from 15 ml tubes into 96-well plates.
- Large database of screening reagents contains all the common commercial screens.
- 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.
- Liquid level sensing allows the tip to follow liquid levels improving aspirate and dispense accuracies.
- Intuitive software allows for the easy design of n-dimension grids and assays.
- Easy set-up of user-defined and gradient screen plates using an innovative graphic software.
- Software graphically shows the content of each well.
- Possibility to import / export csv-files facilitates data transfer and the creation of custom screens.
- 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, 80 % Glycerol and DMSO.
- Environment: 4 °C to 70 °C, non-condensing / (w x h x d): 48.3 cm x 69.8 cm x 48.3 cm

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

## Scorpion Accessories:

### Pipette Tips and Tip Rack

Pipette tips for the Scorpion for 50 µl, 200 µl and 1000 µl volume options. Tips are available sterile, non-sterile, with or without filter.



Cat. No.	Description
640-1300-00	1000 µl Pipette Tips, 1536/case
640-1300-01	200 µl Pipette Tips, 2304/case
640-1300-02	50 µl Pipette Tips, 2304/case
640-1301-00	1000 µl Pipette Tips with filter, 1536/case, sterile
640-1301-01	200 µl Pipette Tips with filter, 2304/case, sterile
640-1201-01	Pipette Tip Rack

### Tubes and Tube Racks

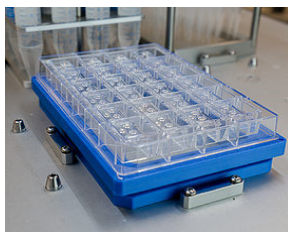
Each rack is magnetically keyed to the Scorpion deck to ensure proper alignment.



Cat. No.	Description
640-1099-01	Tube Rack Inserts for 1,5 ml and 2,0 ml tubes (4 pieces)
640-1200-01	15 ml Tube Rack (for up to 24 x 15 ml tubes)
640-1200-02	50 ml Tube Rack (for up to 8 x 50 ml tubes)
640-1401-01	1.5 ml Microcentrifuge Tubes (PE, 100 pieces)
640-1400-01	15 ml Centrifuge Tubes (50 pieces)
640-1400-02	50 ml Centrifuge Tubes (50 pieces)

### Spring Plate for Low Volume Optimization

Set up complete optimization plates on the Scorpion with the spring fixture. Ideal for setting up the Intelli-Plate 24-4 (Cat. No.: 102-0004-00) as scale-up optimization plate. Please contact us for further information on this application.



Cat. No.	Description
640-1206-01	Scorpion Low Volume Dispense Platform

### Plate Adapter

Set up optimization directly into a Linbro plate with the Scorpion Plate Adapter-Linbro.

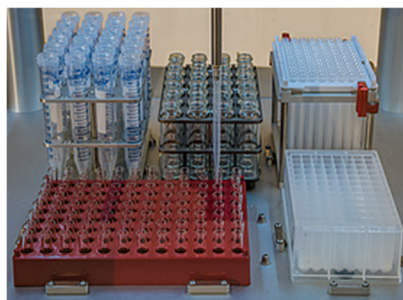


Cat. No.	Description
640-1205-01	Scorpion Plate Adapter-Linbro

For more information on Intelli-Plates and other accessories from Art Robbins Instruments, please see pages 16 - 19 and ask for our separate price lists.

# Scorpion

## for Chemistry



Deck of the Scorpion for Chemistry



Flow control to purge the Scorpion for Chemistry

### Applications:

- High-Throughput Experimentation
- Reaction optimization
- Reaction minimization to screen conditions without wasting precious samples
- Long term scheduled reaction sampling for kinetic assays
- High-Throughput screening of ligands or substrates for reactions
- Preparation of LC-MS samples

### Scorpion for Chemistry features:

- The speed and versatility of the Scorpion make it the ideal choice for synthetic chemists to automate High-Throughput Experimentation.
- 10-fold increase or more in the number of experiments that can be set up versus a manual workflow.
- Small footprint fits into standard sized fume hoods.
- Enclosed workspace and airflow system allow for an inert atmosphere to be created which makes it possible to use sensitive reagents with confidence.
- Liquid level sensing allows the tip to follow liquid levels improving aspirate and dispense accuracies.
- Single channel head and optimized dispense modes make it easy to work with a wide range of solutions.
- Intuitive and user friendly software makes setting up complex experiments a simple task.
- The open design of the workspace and powerful software allow the system to be configured for virtually any type of lab ware.
- The single channel head design allows the Scorpion to access any type of tube, vial or plate.
- Optional heater/stirrer system available which allows to place a choice of heating blocks achieving a maximum temperature of approx. 300 °C and stirring speeds of 50 to 1.500 rpm
- The deck has up to 6 positions and can accommodate 96 racked 15 ml tubes, 24 racked 50 ml tubes, glass vials, dram tubes, deep well blocks or other multiwell plates in SBS-format, as well as tip racks.
- The Scorpion makes your work safer and limits lab personnel exposure to solvents.
- Multiple tip sizes can be used in one protocol. Suitable pipette tips: see separate price list.
- Environment: 4 °C to 70 °C, non condensing / (w x h x d): 48.3 cm x 69.8 cm x 48.3 cm

Cat. No.: 640-1000-20 → Scorpion for Chemistry with desktop computer



# Phoenix

for the Chemical Research Laboratory



96 head with 1 ml syringes

## **Fields of application:**

- Biofuel research
- Bacterial metabolic engineering
- Biocatalyst development
- Enzyme optimization

## **Accessories included:**

- Desktop computer, mouse and mouse pad
- Multi-seat software license
- Syringe wash-system (optional)
- Four spare syringes

## **Phoenix features:**

- **No disposables, cutting operating costs.**
- Ideal dispensing system to work with organic solvents such as Methyl Isobutyl Ketone (MIBK) and Butyl Acetate.
- Glass, stainless steel and a fluoropolymer are the only wettable surfaces.
- 96-head compatible with all commonly used chemicals (contact us for further information).
- Chemically resistant deck.
- Capacity for six blocks and/or tube racks plus three wash positions.
- Compact size allows to place the system in a fume hood.
- Closed-loop motion control on each axis: verification of task completion via encoders on each motor.
- Integrated wash-system with computer controlled peristaltic pumps and wash reservoirs.
- Windows-based drag-and-drop software.
- Choice of 96-head with 1 ml TCSS, widebore TCSS, or flexible needles. (please contact us for more information)
- Dispense head can be exchanged easily for servicing within minutes.
- Dispense volumes down to 1  $\mu$ l with a CV < 5 %.

**Cat. No.: 600-0000-00** → Phoenix base module with desktop computer

**Cat. No.: 600-1013-00** → 96 syringe head with 1 ml flexible needles

**Further options and accessories upon request**



# COBRA

## 1- or 4-Channel Nano Dispenser



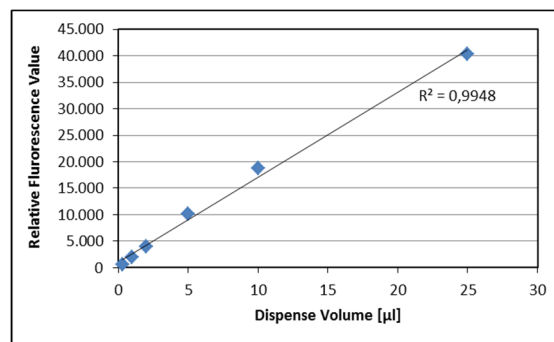
“Cobra 4-Channel“

### Cobra features:

- Ideal for PCR Master Mix dispensing, biochemical assays and drug development.
- Low dead volume minimizes waste.
- Fast non-contact dispensing into 96-, 384- and 1536-well plates, deep well blocks and PCR plates.
- Suitable for cell dispensing into Terasaki plates (only 1-Channel System, adapter available).
- Holds full-skirt and semi-skirted PCR plate adapters.
- Dispense 300 nl to 5 ml using 1 or 4 non-contact nano-dispensers.
- Dispense any volume, any well with up to 4 independent reagents in the same pass.
- Dispense gradients for direct dilutions.
- Easy-to-use, computer controlled “drag-and-drop” software.
- 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 → ask for further information
- Integrated wash system.

## Dispense Accuracy:

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.
- Suitable for cell dispensing into Terasaki plates → ask for our flyer on HLA-products!
- Aspirate/Dispense mode allows minimal waste of valuable PCR reagents.
- Bulk dispense mode from reagent bottles to quickly fill many plates.
- Small space-saving footprint: (w x h x d) 35.5 x 40.6 x 50.8 cm; 21 kg

### “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.
- Small space-saving footprint: (w x h x d) 35.5 x 40.6 x 50.8 cm; 26 kg

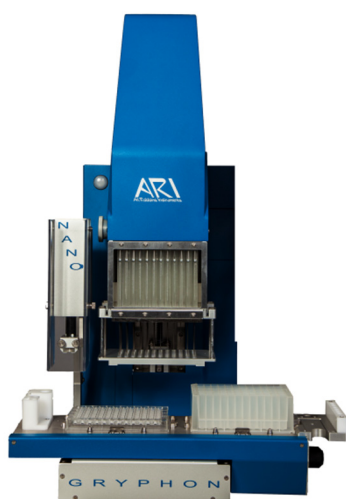
## Accessories included:

- Computer, mouse and mouse pad
- Wash reservoir and pump
- Multi-seat software license
- Extra nozzle
- One wash/reagent bottle per channel

**Please ask for our separate Accessories Price List including needles and plates.**

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

Modular Liquid Handling Systems



**Crystal Gryphon**



**Crystal Gryphon LCP**

	<b>Gryphon</b>	<b>Gryphon LCP</b>	<b>Crystal Gryphon</b>	<b>Crystal Gryphon LCP</b>
LCP Dispenser	Upgradeable	✓	Upgradeable	✓
Nano Dispenser	Upgradeable	Upgradeable	✓	✓
XY Stage	✓	✓	✓	✓
Wash Module	✓	✓	✓	✓
96 Head: 100 µl	✓	✓	✓	✓
24 Head: 100, 250 µl	Optional	Optional	Optional	Optional
384 Head: 100 µl	Optional	Optional	Optional	Optional
96 Head: 250, 500, 1000 µl	Optional	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
- Sitting and hanging drop vapour diffusion crystallization experiments
- Batch crystallization drops (under oil)
- Combines individual precipitant and protein solutions into crystallization trial wells
- X-Y stage with two plate positions and one wash station
- Low maintenance

### **96 Syringe Head\*:**

- 96 flexible Nitinol needles (memory metal)
- Dispensing accurate 100 nl to 100 µl volume with a CV of less than 5 %
- Aspiration from different deep well blocks (e. g. 1 ml and 2 ml)
- Aspiration from reservoir wells into crystallization wells of one crystallization plate
- 96 head is suitable for further volume options such as 250 µl, 500 µl or 1000 µl
- For dispensing buffers and additives

\*= 24 Syringe Head and 384 Syringe Head are further options



### **Optional 24 syringe head:**

- Set-up of optimization plates
- Suitable for work with deep-well, 24- and 48-well plates

### **Compatibility with Plates:**

- Suitable for work with deep well, 96-, 384- and 1536-well plates
- Compatible with most crystallization plates with up to 5 crystallization wells and one reservoir well
- Common plates from several companies will be included in the software (ARI Intelli-Plates, Greiner, Swissci MRC, Corning, Molecular Dimension)
- Further plate definitions can be added in the software

### **Nano Protein Dispense Head (optional):**

- Non-contact nano-dispenser for dispensing proteins
- Dispenses 50 nl up to 100 µl with a CV of less than 5 % (1-, 2- or 3-channels possible)
- Two options to aspirate/dispense: air backed and liquid backed
- Sample recovery possible to minimize total consumption of protein solutions
- Suitable for work with 24-, 48-, 96-, 384- and 1536-well plates

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

- Matrix 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 eliminates the need for constant calibration
- 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

### **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

### **Specifications:**

<b>Dispense volumes:</b>	96 Head:	100 nl to 100 µl
	Nano:	50 nl to 100 µl
	LCP:	25 nl to 2 µl
<b>Size:</b>	Base (w x h x d):	59 cm x 51 cm x 59 cm, 31 kg
	Wash (w x h x d):	17 cm x 33 cm x 36 cm, 2.5 kg
	Nano (w x h x d):	15 cm x 24 cm x 41 cm, 8.4 kg
<b>Software:</b>	Windows 10	

# Crystal Phoenix

## High-throughput Liquid Handling Platform



### **Crystal Phoenix general features:**

- No disposables, cutting operating costs.
- Designed to meet requirements of protein crystallography, high-throughput screening and genomics laboratories.
- Nine assay positions: 6 source or destination plate positions, 2 reagent positions, 1 wash station position.
- Windows-based drag-and-drop software.
- Closed-loop motion control on each axis: verification of task completion via encoders on each motor.
- Integrated wash-system with computer controlled peristaltic pumps and wash reservoirs for the 96-syringe head as well as the nano-dispenser.
- User-friendly software enables real-time protocol validation.
- Software has an integrated predefined plate library containing most commonly used microplates. New plates can be added easily to the software.

### **96-head Dispenser:**

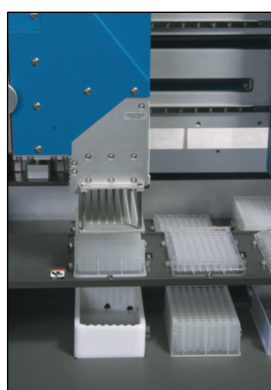
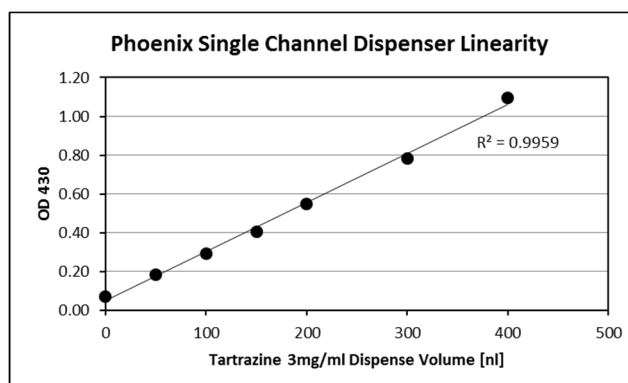
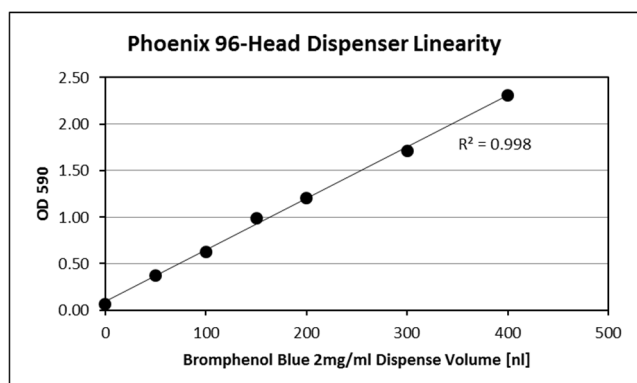
- 96- or 384-channel positive displacement syringe heads with flexible Nitinol-needles.
- Head volumes of 100, 250, 500, 1000  $\mu$ l available.
- Dispense head can be exchanged easily for servicing within minutes.
- Dispense volumes down to 100 nl with a CV < 5 %.

### **Single Channel Dispenser:**

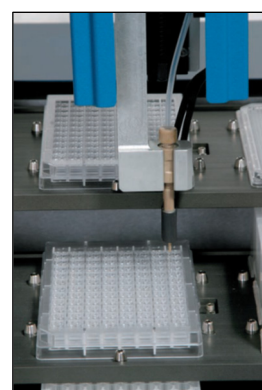
- Optional non-contact Nano-Head can accommodate 1-, 2-, 3-, or 4-channels to deliver volumes as low as 50 nl with a CV < 5 %.
- For set-up of sitting drops, hanging drops and microbatch reactions.
- < 50 sec. to dispense protein and screen to the small wells or hanging drop seals.
- The speed of dispensing the screen and protein eliminates the problem of evaporation even when dispensing as little as 100 nl.
- Gradient dispensing possible.
- Nano-dispenser can dispense viscous liquids up to 30 % glycol or 20 % PEG4000.

**Dispensing accuracy of Phoenix with 100 µl 96-head with flexible needles and single channel dispenser:**

Dispense Volume nl	96 head dispenser (OD 590)	CV %	Nano dispenser (OD 430)	CV %
400	2.312	4.28	1.095	3.25
300	1.712	4.33	0.781	3.84
200	1.206	4.82	0.550	3.61
150	0.988	2.92	0.404	3.33
100	0.623	3.09	0.292	3.83
50	0.375	5.45	0.183	4.13
0 (background)	0.068	1.91	0.072	1.67



96-Head Dispenser



Single Channel Dispenser

**Specifications:**

<b>Dispense volumes:</b>	96 Heads:	100 nl to 100 µl
	Nano:	50 nl to 100 µl
<b>Size:</b>	Base (w x h x d):	63.5 cm x 73.6 cm x 68.6 cm / 64.4 kg
	Wash (w x h x d):	17 cm x 33 cm x 36 cm / 2.5 kg
	Nano (w x h x d):	15 cm x 24 cm x 41 cm / 8.4 kg
<b>Electrical:</b>	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

**Cat. No. : 602-0001-10** → Crystal Phoenix with desktop computer

**Cat. No. : 602-0001-11** → Crystal Phoenix with laptop

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

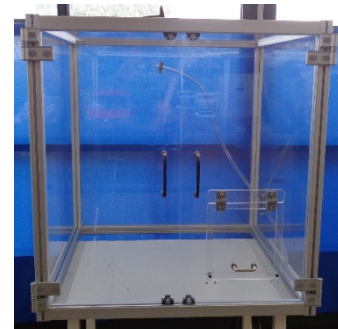
- Panels and doors manufactured in clear plastic
- Frame in aluminum
- Opening with rubber cover Ø 80 mm (right) for cables
- Front door with extra reach-through opening
- Single-channel Phoenix and all modular Gryphon robots from **Art Robbins Instruments** fit into the hood
- Suitable for all robotic systems which require a constant humidity (see below for measurements)

- Inclusive:
  - Ultra-sonic humidifier
  - Humidistat
  - Humidity sensor

- Optional:
  - Trolley: 4 locking castors, base plate and 2 shelves

- Slight design changes possible

Cat. No.	Description
25-1000-01	Hood for robotic systems to assure constant humidity (attention: max. 70 %), without trolley base, exterior dimensions (w x h x d): 900 x 900 x 900 mm
25-1000-02	Trolley, 4 locking castors, base plate and 2 shelves dimensions (w x h x d): 900 x 900 x 900 mm



## *Refurbished “Hydras”*

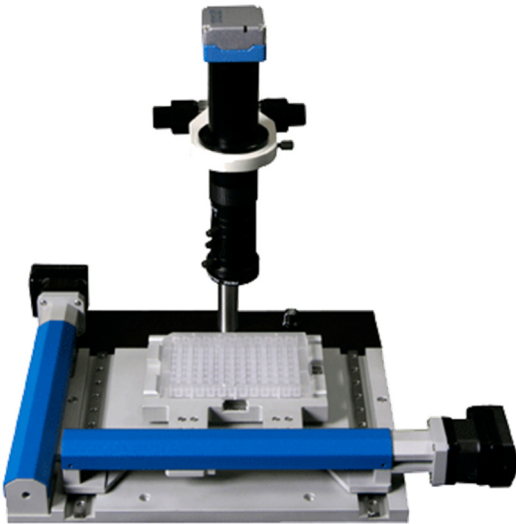
Art Robbins Instruments still offers a full line of **reconditioned “Hydra” Instruments** to meet your needs for high-speed aspirating and dispensing of finite volumes at cost-effective prices. Each unit has been inspected and rebuilt by the original “Hydra” design and assembly team. All syringes have 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



## Digital Microscope for Protein Crystal 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 capture the image of each well and then moves to the next. With the small footprint, the device fits into a small space and can also be set up in a cold room. The CrysCam™ can 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™ features:

- Compatible with 96-well, 24-well Linbro and Terasaki plates (see adapters - overleaf).
- Reads a 96-well plate in less than three minutes.
- Can be used in a cold room at 4 °C.
- Quality par focal zoom lens with iris.
- Integrated cross polarization.
- 6.5 x zoom with 3.87 mm x 5.16 mm - 0.6 mm x 0.8 mm field of view.
- 3 Mpix CMOS, 8.38 mm sensor USB camera.
- Modular and upgradeable components.
- Smooth large base platform with integrated LED lighting.
- Image acquisition and processing software.
- Easy-to-use Windows software (Windows.NET).
- 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 0.0033 mm.
- Size: (w x h x d) 44.45 cm x 33.02 cm x 34.29 cm, 10.66 kg
- Users can upgrade their system to a CrysCam*plus*



**Camera head**

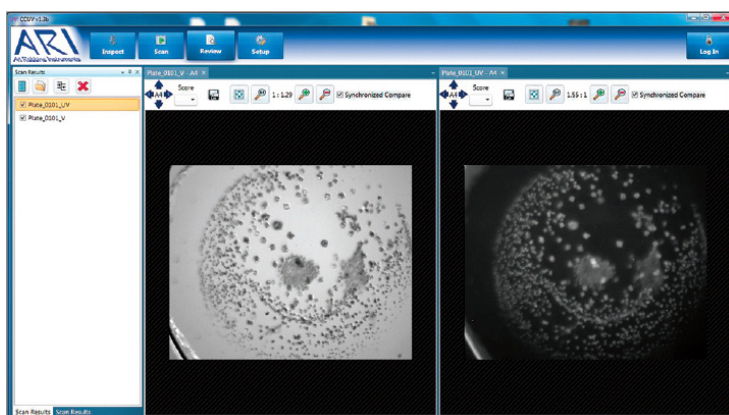


# CrysCam<sup>plus</sup>

## Digital Microscope for Protein Crystal Observation and Documentation with visible and UV-light

### CrysCam<sup>plus</sup> features:

- Modular customized configurations.
- Available with 1 or 2 objectives: 5 x, 10 x, 15 x
- View both visual and UV-images for any well side-by-side.
- Monochromatic 6 Mpix camera.
- Compatible with polarization and fluorophores such as CY3 and GFP.
- Score and compare wells of interest.
- Compatible with all SBS format plates, LCP slides, Linbro, and VDX plates.
- Can be placed in a cold room.
- Any existing CrysCam™ can be upgraded to a CrysCam<sup>plus</sup>
- Also available without stage – please contact us for further information.



- The software makes it quick and easy to compare UV and visible images or sets of images taken on different days.
- The magnification and position of the well in each viewing window can be synchronized for easy comparison.
- Multi-seat software licenses allow all users to view images from any computer.

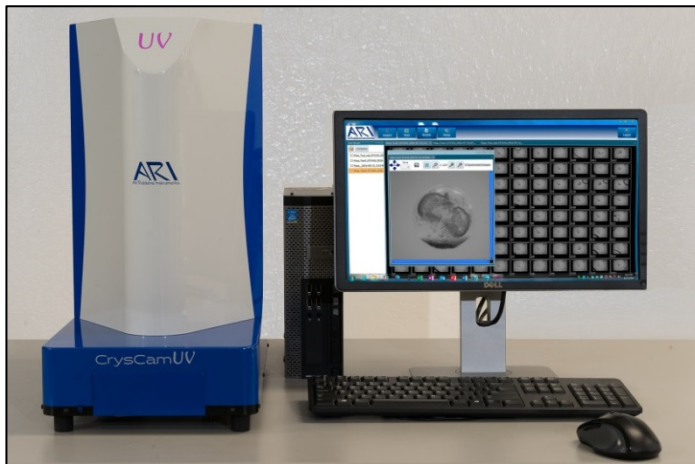
LCP Slide: 50 nl + 800 nl drop size

### Ordering information:

- Cat. No.: 610-1000-10 → CrysCam™ Digital Microscope System with **desktop** computer
- Cat. No.: 610-1000-11 → CrysCam™ with same features as 610-1000-10, but with **laptop**
- Cat. No.: 610-8000-10 → CrysCam<sup>plus</sup> Digital Microscope System with **desktop** computer
- Cat. No.: 610-8001-10 → CrysCam<sup>plus</sup> Digital Microscope System with **desktop** computer, **without stage**
- Cat. No.: 610-8100-01 → Upgrade CrysCam<sup>plus</sup> Digital Microscope System for existing CrysCam™ users
- Cat. No.: 610-1001-01 → Plate Adapter for CrysCam™ – Linbro Plate
- Cat. No.: 610-1001-02 → Plate Adapter for CrysCam™ – Q Plate
- Cat. No.: 610-1001-03 → Plate Adapter for CrysCam™ – Terasaki Plate
- Cat. No.: 25-1000-50 → Hood for CrysCam™ or CrysCam<sup>plus</sup> (dust protection made from acryl)

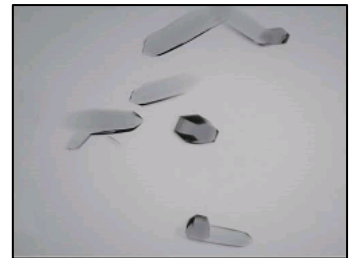
# CrysCamUV

## Protein crystallization imaging system with UV and visible light, and options for working with fluorophores



### CrysCam UV features:

- Automatically scan the plate and capture visual and UV images and save for review at any time.
- Scan multiple wells in one run, possible to scan sub-wells.
- View both visual and UV image for any well side-by-side (see overleaf).
- Capture images with two different wavelengths in the UV-spectrum: 334 nm and 365 nm.
- Customized filter options for working with fluorophores available e. g. Texas Red or GFP  
→Please contact us for more information!
- The CrysCam UV can be used to capture crystal images in nano size drops.
- Ability to capture multiple slices and create a highly detailed image of the complete drop (see image on right).
- Powered focus and zoom through the software control.
- Score and compare wells of interest.
- Software offers integrated database for analysis and score.
- Parfocal lens remains focused when zooming.
- Camera with a resolution of 2750 x 2205 (6.0 MPix) and sensor size of 2.54 cm.
- Digital image of 2.37 microns/pixel with a minimum zoom to 0.7 microns/pixel.
- Can flag wells of interest.
- Can view individual wells and sub-wells with or without a polarizer.
- Compatible with all plates in SBS-sized format and Linbro plates.
- Determine crystal X-Y-Z position for use with in-situ crystal diffraction.
- Filter removes UV reflections from plates.
- Integrated cooling function can set temperature of the camera down to -10 °C.
- Enclosure covers lens and plates to block stray light.
- Size: (w x h x d): 60.96 cm x 53 cm x 35.56 cm, 18 kg



### Ordering information:

**Cat. No.:** 610-9000-10 → CrysCam UV with desktop computer and adapter for Linbro plates

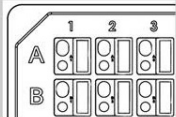
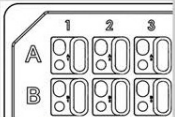
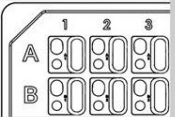
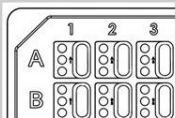
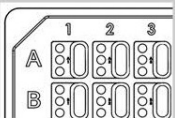
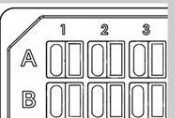
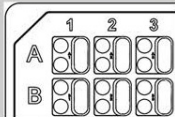
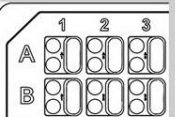
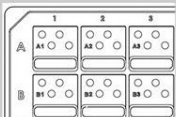
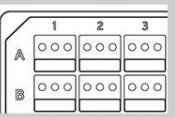
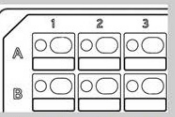
**Cat. No.:** 610-9101-01 → Filter set for Texas Red Option on CrysCam UV

**Cat. No.:** 610-9101-02 → Filter set for GFP Option on CrysCam UV

**Plate incubators for 42, 210 and 504 plates available → please enquire.**

# “Intelli-Plates“ for protein crystallography 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: 4 µl and 10 µl Reservoir volume: 300 µl	Catalog #: 102-0001-00 96-2 Low volume reservoir Well Volume: 4 µl and 10 µl Reservoir Volume: 100 µl	Catalog #: 102-0001-10 96-2 Low profile Well Volume: 4 µl and 10 µl Reservoir Volume: 100 µl
		
Catalog #: 102-0001-03* 96-3 Low volume reservoir Well Volume: 1 µl Reservoir Volume: 100 µl	Catalog #: 102-0001-13* 96-3 low profile INTELLI-PLATE Well Volume: 1 µl Reservoir Volume: 100 µl	Catalog #: 102-0001-01 Flat bottom Well Volume: N/A Reservoir Volume: 300 µl
<b>UV Compatible Plates*</b> 102-0001-03 102-0001-13 102-0001-20 102-0001-21		
	Catalog #: 102-0001-20* 96-2 Shallow well Well Volume: 2 µl Reservoir Volume 100 µl	Catalog #: 102-0001-21* 96-2 Shallow well low profile Well Volume: 2 µl Reservoir Volume: 100 µl
24-well INTELLI-PLATE®		48-well INTELLI-PLATE®
		
Catalog #: 102-0004-00 24-4 Well Volume: 5 µl Reservoir Volume: 650 µl	Catalog #: 102-0003-00 48-3 Screening Well Volume: 4 µl Reservoir Volume: 500 µl	Catalog #: 102-0002-00 48-2 Optimization Well Volume: 4 µl and 20 µl Reservoir Volume: 500 µl

→for prices see separate price list

- **96-well “Intelli-Plate” (8 versions):**
  - two crystallization wells (max. 4 µl and 10 µl) and optionally 100 µl or 300 µl reservoir
  - three crystallization wells (1 µl) and 100 µl reservoir
  - low profile and shallow well plates, now UV-compatible
  - highly polished, flat crystallization area and 300 µl reservoir
- **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
- **24-well “Intelli-Plate”:**
  - for “sitting drop”, with four wells (5 µl) and 650 µl reservoir
  - ideal for optimization assays with the “Scorpion” (ask for our separate flyer)
- **Features for all plates:**
  - All plates available with barcode
  - Standard SBS microplate footprint
  - Single packaged to prevent electrostatic charging of the plates

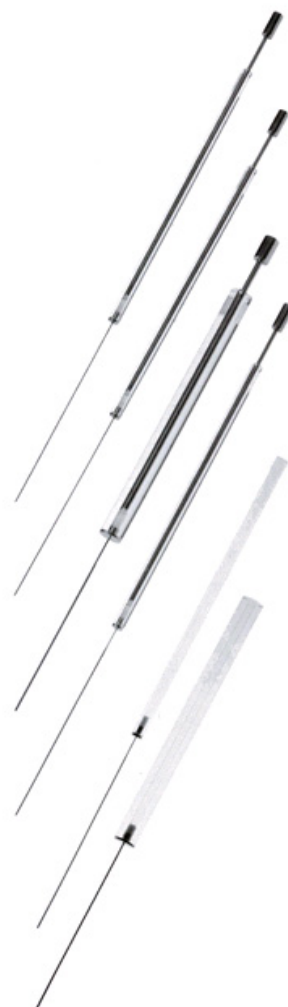


We also offer compatible sealing foils (ThermalSeal RTS) from Excel Scientific to protect your protein samples. Please contact us or visit our webpage for further information.

## “Phoenix”, “Gryphon” and “Hydra” Disposables

Art Robbins Instruments offers a complete line of **Replacement Syringes and Syringe Barrels** for your “Phoenix”, “Gryphon”, “Cobra” or “Hydra” instrument. Complete syringes or barrels are available in all sizes (100 µl, 250 µl, 500 µl, or 1 ml) with either PTFE coated stainless steel or flexible Nitinol needles.

**TCSS = PTFE coated stainless steel; flexible = Nitinol**



Description	<u>Replacement syringe</u>	<u>Replacement barrel</u>
	(incl. Needle, Glass Barrel, Plunger and PTFE tip)	(incl. Needle, Glass Barrel and PTFE tip, <u>excl.</u> Plunger)
	<b>Cat. No.</b>	<b>Cat. No.</b>
100 µl, TCSS	102-9440-01	102-9450-01
100 µl, flexible	102-9440-04	102-9450-04
250 µl, TCSS	102-9440-00	102-9450-00
250 µl, flexible	102-9440-05	102-9450-05
250 µl, TCSS wide-bore	102-9350-00	102-9360-00
500 µl, TCSS	102-9470-00	102-9480-00
500 µl, flexible	102-9470-02	102-9480-02
500 µl, TCSS wide-bore	102-9350-01	102-9360-01
1 ml, TCSS	102-9470-01	102-9480-01
1 ml, flexible	102-9470-03	102-9480-03
1 ml, TCSS wide-bore	102-9350-02	102-9360-02
100 µl, TCSS (384)	102-9370-01	102-9380-01
100 µl, flexible (384)	102-9370-04	102-9380-04

**Replacement PTFE Tips** are available to keep your syringes in proper condition for maximum efficiency.

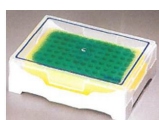
Cat. No.	Description	Cs.
105-9010-11	50 µl	100
105-9220-01	100 µl	100
105-9230-01	250 µl	100
105-9260-01	250 µl for wide-bore syringes	100
105-9240-01	500 µl	100
105-9270-01	500 µl for wide-bore syringes	100
105-9250-01	1 ml	100
105-9280-01	1 ml for wide-bore syringes	100
105-9320-01	100 µl (384)	400
105-9900-01	Plunger tip loading tool (PTFE)	1

**Cleaning Wires** are available to help maintain your syringes.

102-9490-00	For 250 µl, 500 µl and HLA syringes	10
102-9490-01	For all 100 µl and all flexible syringes	10
102-9490-02	For all wide-bore syringes	10

Replacement **Nano Needle** for “Phoenix” and “Gryphon” Nano Modules

600-3102-00	Nano Needle (new type)	1
600-3000-01	Nano Needle (old type)	1



Chilling block



Hanging Drop Tool and Seals

600-4001-01	Chilling Block (pink)	1
600-4001-02	Chilling Block (yellow)	1
600-4002-00	Protein Tubes, 0,2 ml	500/bag
600-4003-00	Wash Reservoir	5/pack
600-4004-00	Hanging Drop Tool	1
600-4005-00	Smoked Dispense Plate	1
600-4006-00	Hanging Drop Seals	50/pack
600-4007-00	Zymit & EDTA Wash Solution Kit	1
600-4007-01	Micro 90 Cleaning Solution	1
600-3400-05	“Gryphon” Antimicrobial Tubing Kit	approx. 1 m
600-3400-06	“Phoenix” Antimicrobial Tubing Kit, for Head Pump	approx. 1 m
600-3400-07	600-3400-06 for Nano Pump	approx. 1 m

**Please ask for our separate Accessories Price List.**



## 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.



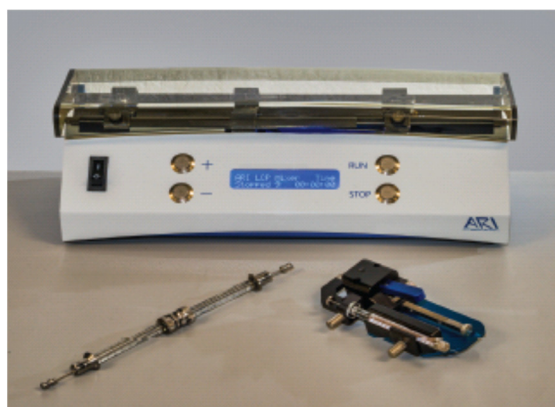
### LCP Mixing Station Features:

- Accommodates different syringe types including Hamilton style and the Art Robbins Instruments LCP dispensing syringe.
- Any volume syringe can be used if both syringes are the same volume.
- Eliminates user-to-user and day-to-day variation in LCP set-ups.
- 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: (w x h x d) 34.3 cm x 13.9 cm x 11.4 cm

Cat. No.	Description
620-4000-00	LCP Mixing Station

## LCP Mixer/Dispenser Starter Kit

Get the LCP Mixing Station (as above), the Hand-Held Multi Volume Dispenser and a number of useful accessories as a complete Starter Kit.



### Parts included in the starter kit:

- 1 x LCP Mixing Station
- 1 x LCP Hand-Held Multi Volume Dispenser
- 1 x 10  $\mu$ l Syringe plus 3 x Needles (cat. nos.: 620-4101-00 and 620-4102-00)
- 2 x 100  $\mu$ l Syringe (cat. no.: 620-1005-03)
- 1 x LCP Coupling and Ferrule Mix, ARI-ARI syringe (cat. no.: 620-1200-01)
- 1 x LCP Coupling and Ferrule Mix, ARI-Hamilton syringe (cat. no.: 620-1200-02)

Cat. No.	Description
620-4250-00	LCP Mixer/Dispenser Starter Kit

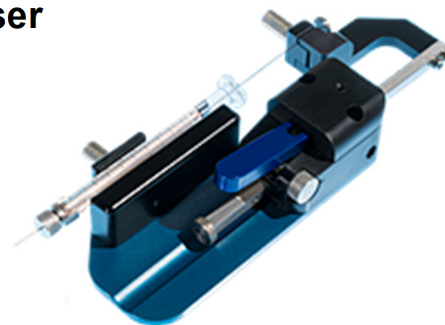


## LCP Hand-Held Multi Volume Dispenser

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

The Dispenser allows setting up to 200 steps and can move 1, 2 or 3 steps per click.

The volume of the syringe can be divided into 50, 100 or 200 steps per dispense, e. g. for 10 µl the dispense volume can be set to 50 nl, 100 nl or 200 nl.



Cat. No.	Description	Qty.
620-4100-00	LCP Hand-Held Multi Volume Dispenser	1
620-1005-03	LCP Syringe, 100 µl, graduated	1
620-4101-00	LCP Syringe Assembly 10 µl (no needle)	1
620-4102-00	Replacement needles for 10 µl LCP Syringe	3

ARI offers quality **LCP syringes** and replacement parts that can be used in combination with the “Gryphon” LCP dispenser, the **LCP Mixing Station** and the **LCP Hand Held Dispenser**



Cat. No.	Description	Qty.
620-1005-02	LCP Syringe, 50 µl, graduated (including needle)	1
620-1005-03	LCP Syringe, 100 µl, graduated (including needle)	1
620-4101-00	LCP Syringe Assembly 10 µl (no needle)	1
620-4102-00	Replacement needles for 10 µl Syringe	3

### LCP Syringe

620-1100-01	Replacement Needles Mix for LCP syringes, short	3
620-1100-02	Replacement Needles Mix for LCP syringes, long	3



620-1200-01	LCP Coupling and Ferrule Mix (ARI-ARI syringe)	1
620-1200-02	LCP Coupling and Ferrule Mix (ARI-Hamilton syringe)	1
620-1200-03	LCP Coupling and Ferrule Mix (Hamilton-Hamilton syringe)	1

### LCP Coupling and Ferrule

620-1300-01	ARI-Syringe Ferrule Assay with Coupling	1
620-1300-02	ARI-Hamilton Syringe Ferrule Assay with Coupling	1
620-1300-03	Hamilton-Hamilton Syringe Ferrule Assay with Coupling	1



### LCP Coupling

620-1500-01	Replacement Plunger Rod with tip, 100 µl, LCP	3
620-1500-02	Replacement Plunger Rod with tip, 50 µl, LCP	3
620-1600-01	Replacement LCP Syringe Needle Nut (holds the needle onto the syringe)	3
620-1600-02	Replacement LCP Nut for Mixer	1
620-1600-03	Replacement LCP Mix Coupling (holds ferrule and 2 syringes together)	3



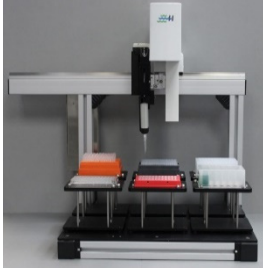
### LCP Chiller Sleeve

620-1700-01	Replacement LCP Plunger Tip, 100 µl, PTFE	6
620-1700-02	Replacement LCP Plunger Tip, 50 µl, PTFE	6
620-1800-00	LCP Tube Rack	1
620-1900-00	LCP Chiller Sleeve	1

Please ask for our separate flyer on the LCP product range.

## Laboratory Automation Products

### Automated Liquid Handling Systems



**SOLO™ Liquid Handler**



**Rapid Wash™  
Microplate Washer**



**Micro10x™  
Reagent Dispenser**



**FilterPress™  
Extraction System**

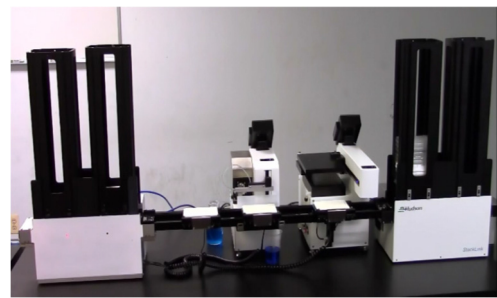
### Microplate Handling



**Robotic Arms**



**PA1000 Barcode Labeller**



**LabLinX™ Microplate Stacking System**

### Colony picking



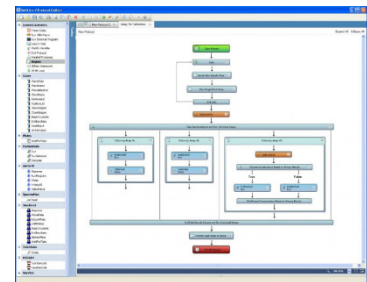
**RapidPick™  
Colony Pickers**

### pH Meters



**Rapid\_pH™  
Automated pH Meters**

### Software



**SoftLinX™ Laboratory  
Automation Software**

Please visit our webpage [www.dunnlab.de](http://www.dunnlab.de) or contact us for more information on the Hudson Robotics product range.