

4



If this form was completed by a business with fewer than 20 employees, please provide an estimate of the time taken to complete this form.

Hours [ ] Minutes [ ]

# APPLICATION FOR A TARIFF CONCESSION ORDER (TCO)

The form should be read carefully before being completed

- (a) Before lodging an application for a TCO, the applicant should determine whether a suitable TCO already exists. Information on existing TCOs is contained in the schedule of Concessional Instruments (CI), a copy of which is available at each Regional Office of Customs. A TCO can be used by any importer.
- (b) An application will be date stamped on the day it is first received in Canberra by an officer of Customs. Receipt of an application will be acknowledged. Any resultant TCO will operate from the date of receipt. Instructions on how to lodge this form are provided at the end of this form.
- (c) Where an application is accepted as being a valid application, the identity of the applicant and of the importer for whom the applicant is acting will be published in the *Gazette*.
- (d) Section 269F of the *Customs Act 1901* requires that a TCO application to be in writing, be in an "approved form", contain such information as the form requires, and be signed in the manner indicated in the form. **This is the approved form for the purposes of that section.**
- (e) Section 269FA of the *Customs Act 1901* states "It is the responsibility of an applicant for a TCO to establish, to the satisfaction of the Chief Executive Officer (CEO), that, on the basis of:
  - (i) all information that the applicant has, or can reasonably be expected to have; and
  - (ii) all inquiries that the applicant has made, or can reasonably be expected to make;
 there are reasonable grounds for asserting that the application meets the core criteria". The application is taken to meet the core criteria if, on the day of lodgement of the application, no substitutable goods were produced in Australia in the ordinary course of business.
- (f) **Every question on the form must be answered.** Failure to supply the information required by this form will result in rejection of the application (and in the loss of operative date).
- (g) Where the form provides insufficient space to answer a question, an answer may be provided in an attachment. The attachment should clearly identify the question to which it relates.
- (h) All information about inquiries into the production of substitutable goods must relate to the date the application is lodged with Customs.
- (i) Customs may require an applicant to substantiate, with documentary evidence, any information provided in the application form.
- (j) Further information on the Tariff Concession System is available in Part XVA of the *Customs Act 1901*, in the foreword to the Schedule of Concessional Instruments, in the administrative guidelines in Volume 13 of the Australian Customs Service Manual, in Australian Customs Notice No. 98/19, on the internet at [www.customs.gov.au](http://www.customs.gov.au), by e-mailing [information@customs.gov.au](mailto:information@customs.gov.au) or by phoning the Customs Information Centre 1300 363 263.

## APPLICANT DETAILS (An agent/broker should provide details on the next page)

Applicant's Name <b>BIO-STRATEGY DIST PTY LTD</b>		Australian Business Number (A.B.N.) <b>78 105 668 282</b>
Postal Address <b>P.O. Box 498 BARD WYN NORTH VIC. 3101</b>		
Applicant's Reference <b>ROBOTICS</b>	Owner Code (if applicable) <b>78 105 668 282</b>	
Company <b>[REDACTED]</b>	Position Held <b>[REDACTED]</b>	
Telephone Number <b>1800 008 453</b>	Facsimile Number <b>1800 008 453</b>	E-mail Address <b>[REDACTED] bio-strategy.com</b>

If you do not intend to use the TCO to import into Australia the goods the subject of the application, you must provide, in the section below, the identity of the Importer for whom you are acting (refer to paragraph 269F(3)(c) of the *Customs Act 1901*)

## IMPORTER DETAILS

Importer's Name (If same as applicant, write "as above") <b>AS ABOVE</b>		A.B.N.
Postal Address		
Importer's Reference	Owner Code	
Company Contact	Position Held	
Telephone Number	Facsimile Number	

Released by Department of Home Affairs under the Freedom of Information Act 1982

AGENT/BROKER DETAILS (if applicable)

Agent's Name: WHITE AMY & ASSOCIATES P/L A.B.N. 96 084 483 698

Postal Address: P.O. Box 6065, ALEXANDRIA, NSW, 2015

Agent's Reference: SIO - STRATEGY Agency <sup>s47F</sup> [REDACTED]

Telephone Number <sup>s47F</sup> (02) [REDACTED] Facsimile Number <sup>s47F</sup> (02) 9695-1297

DESCRIPTION OF GOODS

- (a) The description of the goods in the application will be used as the description of the goods in the TCO (if made).
- (b) The application should provide a full description of the goods, including the physical features of the goods or the various components of the goods. It should not describe the goods in terms of what they do.
- (c) In accordance with section 2693J of the Customs Act 1901, the CEO must not make a TCO in respect of goods:
  - (i) described in terms other than in generic terms; or
  - (ii) described in terms of their intended end use; or
  - (iii) declared by the regulations to be goods to which a TCO should not be extended.
 Goods will be taken to be described in terms other than in generic terms if, for example, their description, either directly or by implication, indicates that they are goods of a particular brand or model, or that a particular part number applies to the goods.
- (d) Guidance on the drafting of the description of goods is contained in Volume 13 of the ACS Manual and in Australian Customs Notice No. 98/19.

1 Describe the goods

ROBOTICS, LABORATORY, LIQUID HANDLING  
WORKSTATIONS FOR AUTOMATION OF ASSAYS,  
SAMPLE IDENTIFICATION AND BARCODE ID.  
COMprising not less than 96 and not more  
than 384 Probe Heads.

ILLUSTRATIVE MATERIAL

2 Attach technical, illustrative descriptive material and/or a sample to enable a full and accurate identification of the goods the subject of the application.

TARIFF CLASSIFICATION

3 Identify the tariff classification (to 8 figure subheading level) 84795090

Identify the General Duty rate  5 %

If a Tariff Advice for the goods has been sought or obtained, please provide the TA No.         or attach a copy.

USES OF THE IMPORTED GOODS

4 Describe ALL uses (including design uses) to which the goods can be put.

FOR TRANSFER OF LIQUIDS FOR ANALYSIS  
BY ME REPLACEMENT

Released by Department of Home Affairs under the Freedom of Information Act 1982

**SUBSTITUTABILITY OF LOCALLY PRODUCED GOODS**

- (a) A local manufacturer's goods are substitutable when they are put, or are capable of being put, to a use that corresponds with a use (including a design use) to which the goods the subject of the application can be put (subsection 269B(1) of the *Customs Act 1901*). Even if not identical, locally made goods may be substitutable.
- (b) In determining whether the uses of Australian produced goods correspond with the uses of the goods the subject of the application, the ability of the goods to compete with each other in any market is not relevant.
- (c) The applicant must provide written information as to the inquiries made to establish that there are reasonable grounds for believing that there are no producers of substitutable goods in Australia. The application must include a copy of the research material sourced and a copy of correspondence, and replies from, potential local manufacturers or relevant industry associations. The application will be rejected if it fails to provide all written information as to the inquiries made.

**NOTE:** The Australian Customs Service suggests that potential local manufacturers should be given at least 10 working days to respond to inquiries concerning local manufacture.

5 Provide details of the nature of ALL inquiries you have undertaken in order to establish that substitutable goods are not produced in Australia, and the results of those inquiries. Attach copies of all correspondence or directory searches, etc.

K&M Press WEBSITE INDICATES NO  
LOCAL MANUFACTURERS - REFER ATTACHED  
LITERATURE.

6 Provide any additional information in support of discharging your responsibility to establish that there are reasonable grounds for asserting that there are no substitutable goods produced in Australia in the ordinary course of business.

IMPORTEX IS NOT MADE OF AWT LOCAL  
MANUFACTURERS.

**PRESCRIBED ORGANISATIONS**

Have you made inquiries of a prescribed organisation to obtain advice about whether there are producers in Australia of substitutable goods?

YES  NO

If YES, attach a copy of the advice received.

Note that under subsection 269M(6) of the *Customs Act 1901*, the CEO may, despite section 16 of the *Customs Administration Act 1985*, give a copy of all, or of a part, of the application to a prescribed organisation.

**ADDITIONAL INFORMATION**

8 Provide any additional information in support of your application.

REFER ATTACHED SAMPLE LITERATURE  
REFER SIMILAR TARIFF CONCESSION (TC 0604625)  
(84 79 50%)

**DECLARATION**

I, [Redacted]

Position Held TARIFF CONSULTANT.

Company (if applicable) WHITE AMY & ASSOCIATES

declare that:

- 1 To the best of my knowledge and belief the information contained in this form is correct; and
- 2 I have the authority to act on behalf of the company/applicant; and
- 3 I agree, in submitting this form by electronic means (including facsimile) that, for the purposes of Sub-Section 14(3) of the Electronic Transactions Act, this application will be taken to have been lodged when it is first received by an officer of Customs, or if by e-mail, when it is first accessed by an officer of Customs, as specified in Sub-Section 269F(4) of the Customs Act.

Signature of Applicant/Agent/Broker

[Redacted Signature]

Date 30/04/09

NOTE: SECTION 234 OF THE CUSTOMS ACT 1901 PROVIDES THAT IT IS AN OFFENCE TO MAKE A STATEMENT TO AN OFFICER THAT IS FALSE OR MISLEADING IN A MATERIAL PARTICULAR.

WHEN THIS FORM HAS BEEN COMPLETED LODGE IT WITH CUSTOMS BY:

- posting it by prepaid post to the National Manager, Tariff Branch  
Australian Customs Service  
Customs House  
5 Constitution Avenue  
CANBERRA ACT 2601
- or
- delivering it to the ACT Regional Office located at  
Customs House, Canberra
- or
- sending it by facsimile to (02) 6275 6376
- or
- e-mailing it to tarcon@customs.gov.au.

Released by Department of Home Affairs  
under the Freedom of Information Act 1982



MEDIA PTY LTD

ARE YOU LOOKING?  
ARE YOU SEARCHING?

With a global business database,  
niche market directories and  
your local business advertisers,  
JPM Media has a customized  
solution for your business needs.

CALL 1300 550 470

info@ipmmmedia.com.au

ANZIDECC

HOSPITAL & HEALTH

AUSTRALIAN EXPORTERS

KOMPASS

INDEPENDENT SCHOOLS

SHOPLOCAL PAGES

REGISTER NOW

DIRECT MARKETING

ADVERTISING

ADMINISTRATION

User: [redacted] logged in [Logout]

HOME | ABOUT JPM MEDIA | CONTACT US | FEEDBACK

### Kompas Australia Database Search

Home :: Kompas Australia :: Database Search

Location	Business Type	Busin
<p>Address: (incl. Postal Address)</p> <input type="text"/>	<p>Business Category: [Expand List]</p> <p>Any Producer Manufacturing</p>	<p>Staff #</p> <input type="text"/> Between
<p>State</p> <p><input checked="" type="checkbox"/> NSW      <input checked="" type="checkbox"/> SA  <input checked="" type="checkbox"/> VIC      <input checked="" type="checkbox"/> WA  <input checked="" type="checkbox"/> QLD      <input checked="" type="checkbox"/> TAS  <input checked="" type="checkbox"/> ACT      <input checked="" type="checkbox"/> NT</p> <p><input checked="" type="checkbox"/> All States</p>	<p>Select Product Codes [Clear]</p> <p>Product Keywords</p> <input type="text" value="robotics - laboratory"/>	<p>Turnover \$</p> <input type="text"/> Between
<p>Region: Choose Region</p>		<p>Export Reve</p> <input type="text"/> Between
<p>Postcode: <input type="text"/></p>		

Filter By:

Importer Person     Exporter     Exporter & Importer     Quality Rated     Has website

Terms & Conditions | JPM Media Pty Ltd. / Copyright © JPM Media 2009 / ABN 55 120 718 783

Released by Department of Home Affairs  
under the Freedom of Information Act 1982



MEDIA PTY LTD

ARE YOU LOOKING?  
ARE YOU SEARCHING?

With a global business database,  
niche market directories and  
your local business advertisers,  
JPM Media has a customized  
solution for your business needs.

CALL 1300 550 470  
info@jpmmedia.com.au

- ANZIDECC
- HOSPITAL & HEALTH
- AUSTRALIAN EXPORTERS
- KOMPASS
- INDEPENDENT SCHOOLS
- SHOPLOCAL PAGES
- REGISTER NOW
- DIRECT MARKETING
- ADVERTISING
- ADMINISTRATION

User: [redacted] logged in [Logout]

HOME | ABOUT JPM MEDIA | CONTACT US | FEEDBACK

### Kompas Australia Database Search Results

[Home](#) :: [Kompas Australia](#) :: [Search Again](#) ::  
Search Results

Number of search results shown is limited to 5 records  
To get full access to Kompas Australia database,  
please contact JPM Media to subscribe; 1300 550 470  
or email [info@jpmmedia.com.au](mailto:info@jpmmedia.com.au)

Filter By:  Sort

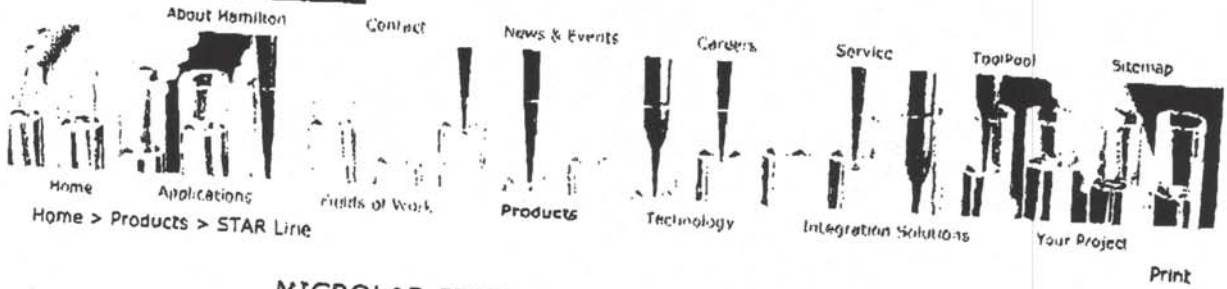
By: Advertiser

No results found! Please  
refine your search criteria and  
try again.

[Terms & Conditions](#) | JPM Media Pty Ltd. / Copyright © JPM Media 2009 / ABN 55 120 718 783

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

# Hamilton Robotics: STAR Line - Liquid Handling Workstations



Home > Products > STAR Line

Print

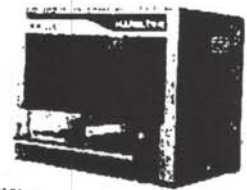
## MICROLAB STAR Liquid Handling Workstations

The STAR line workstations are based on superior air displacement pipetting technology. This increases accuracy and repeatability while providing chain of custody with pipette condition monitoring and recording. Each workstation can be configured with multiple arms and each arm can be configured with multiple pipetting and labware gripping devices. Pipetting channels and labware grippers move independently of each other, supporting the use of a wide range of labware. The autoloader option provides barcode tracking of samples, labware, racks and carriers. All workstation functions and integrated third-party devices are controlled by the Venus software.

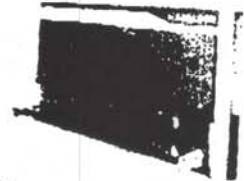
Venus One is the newest software package for the STAR Line. It offers the most intuitive, flexible and powerful programming control. Venus offers all the tools to allow simple to complex programming, without limiting your imagination or compromising your requirements. Data can be tracked and processed within the application as well as interfaces to internal and external databases, including LIMS. The STAR can serve as a simple pipettor for serial dilutions or act as the center of a large system with multiple workstations and third party devices such as incubators, cell counters, centrifuges, etc.

Click [HERE](#) to take the STAR TOUR!

Click [HERE](#) to download the STAR Line brochure.



STARlet



STAR



STARplus

### Technology

- Tip attachment (CO-RE)
- Pipette monitoring (TADM)
- Tip positioning system
- Chain of custody

- Pressure liquid level detection
- Capacitive liquid level detection
- Monitored air displacement (MAD)
- Anti-droplet control (ADC)

### Software

- Venus Software
- Scheduling

Protein Crystallization

### Pipetting Options

- 1000 µl Channels
- 5ml Channels
- 96 Probe Head
- 384 Probe Head
- Nanopipetting Head

- Disposable tips
- Tip feeder
- Needles & wash station
- Hi-speed reagent dispenser
- Pip tool

### Labware Manipulation Tools

- CO-RE grippers
- CO-RE lid tool
- CO-RE SPE column lifter
- CO-RE tube weighing

- SWAP robotic hand
- Tube gripper channel
- Microlab SWAP

### Carriers & Accessories

- Multiflex flexible carriers
- Standard fixed carriers
- Accessories
- Auto-load & bar code reading
- HEPA Filter Hood

- Shakers
- Plate heater/cooler
- CCD camera channel
- 2D vial bottom barcode reading
- Vacuum Systems (SPE)

### Integrated 3rd Party Devices

- Centrifuges
- Cryostats
- Decappers
- Dispensers

- Nano Pipettors
- Readers
- Sample Storage
- Sealers

### Unique Scalability

Do you want to get started in automation with a benchtop workstation and have the option of expanding your system if needed? The compact STARlet can be converted on-site to a STARplus by means of an extension module, more than doubling your deck capacity. Thanks to the scalability of the STAR line instruments, the widest possible range of throughputs and budgets can be accommodated: additional pipetting channels, a 96 or 384-probe head or an integrated robotic arm can be fitted to existing configurations. It is even possible to add a second pipetting arm working in parallel.

Released by Department of Home Affairs under the Freedom of Information Act 1982

# Hamilton Robotics: STAR Line - Liquid Handling Workstations

Dryers  
Enclosures  
Fume Hoods  
Hotels and Incubators

Shakers  
Thermocyclers  
Vacuum pumps  
Washers



Want to start sma

© 1998-2009 Hamilton Company

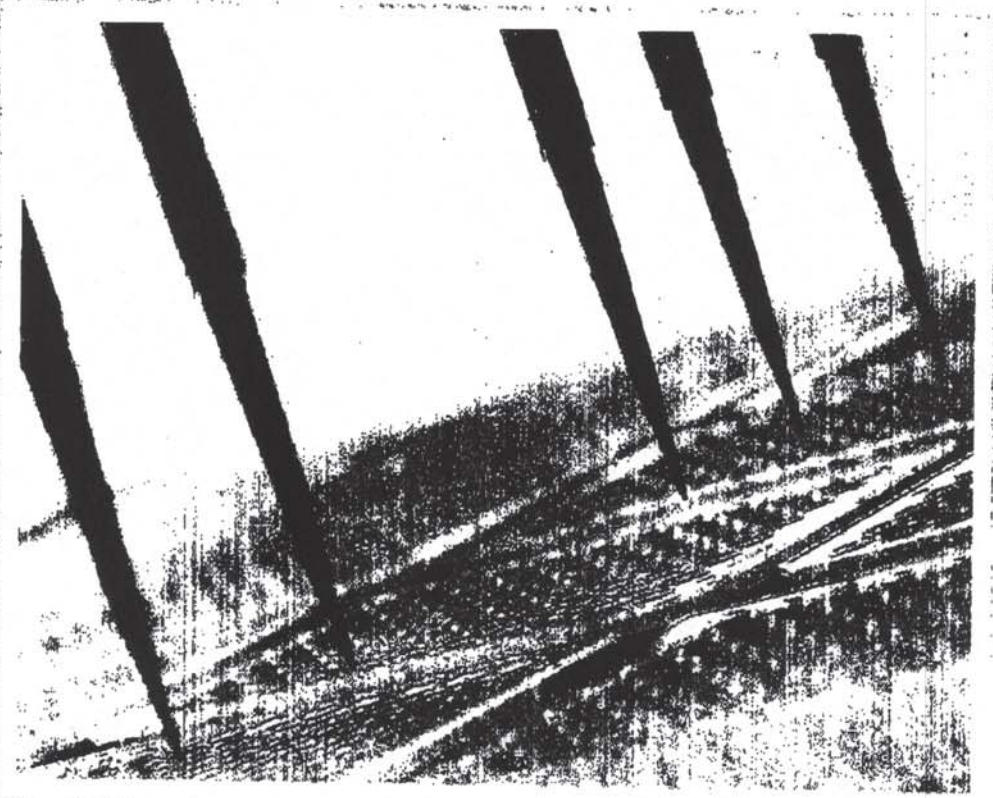
Contact Hamilton to find out more about the STAR.

Imprint

Released by Department of Home Affairs  
under the Freedom of Information Act 1982



# LIFE SCIENCE ROBOTICS



**MICROLAB® STAR LINE**

Released by Department of Home Affairs  
under the Freedom of Information Act 1982



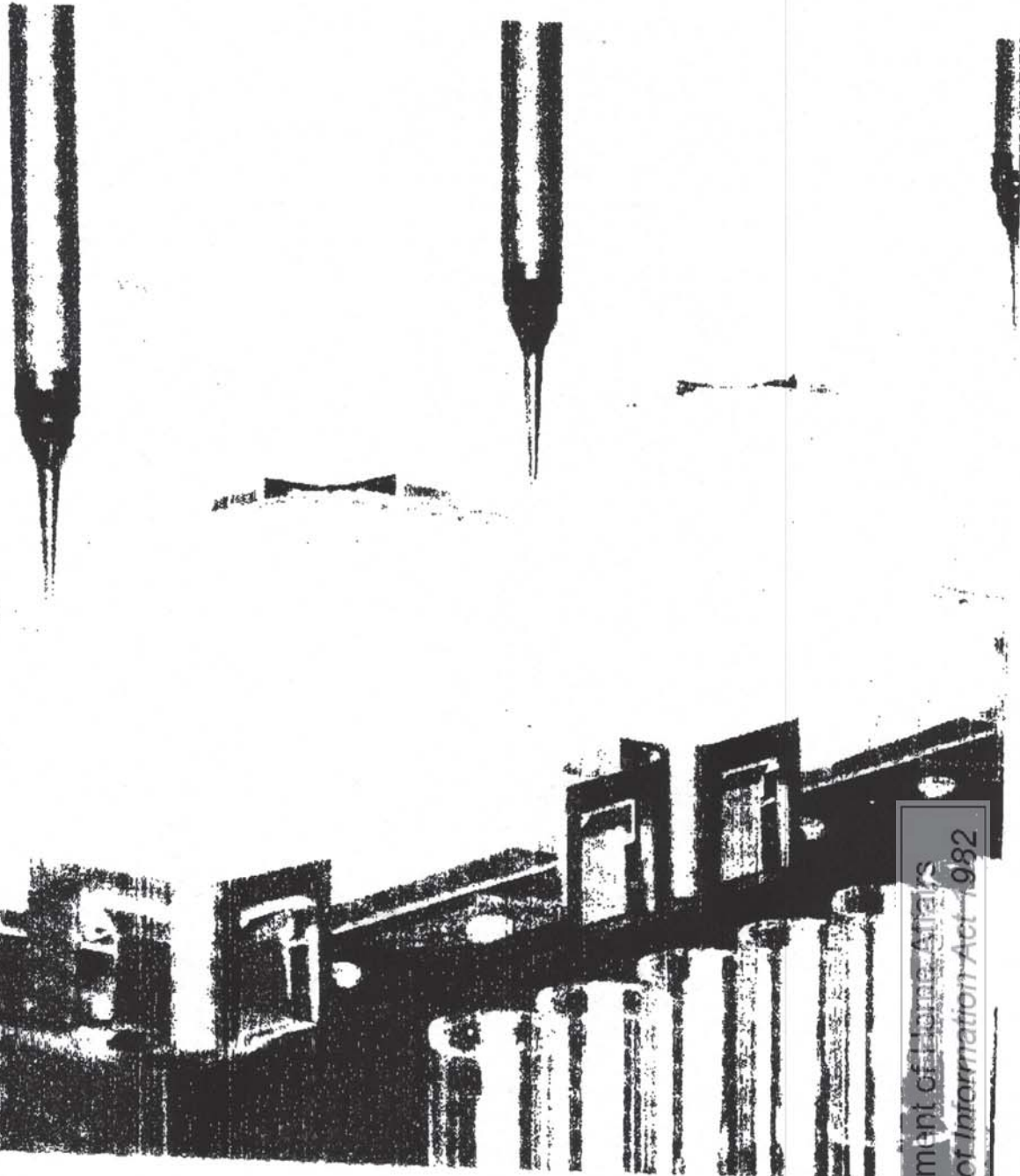


# MICROLAB® STAR Line

Today's laboratories require flexible and fast compact robotic workstations to efficiently automate assays and sample preparation. HAMILTON's MICROLAB® STAR line liquid handling platforms deliver this performance by combining:

- Leading pipetting technology
- Highly scalable platforms
- A wide range of applications
- Easy to use software
- Modular accessories

# MICROLAB® STAR



## Expertise in Liquid Handling Automation

When you choose a STAR line workstation, you get a system that has been developed based on 50 years of expertise in liquid handling. Valuable feedback from many customers has been constantly incorporated into our product development and has led to innovative solutions for a broad range of applications.

## Commitment to Quality

In order to ensure that HAMILTON instruments reliably operate in the laboratory for many years, HAMILTON strives to apply quality thinking to all levels of product development, manufacturing, application engineering, installation and support.

Released by Department of Health & Human Services under the Freedom of Information Act - 1982

## MICROLAB® STAR Line

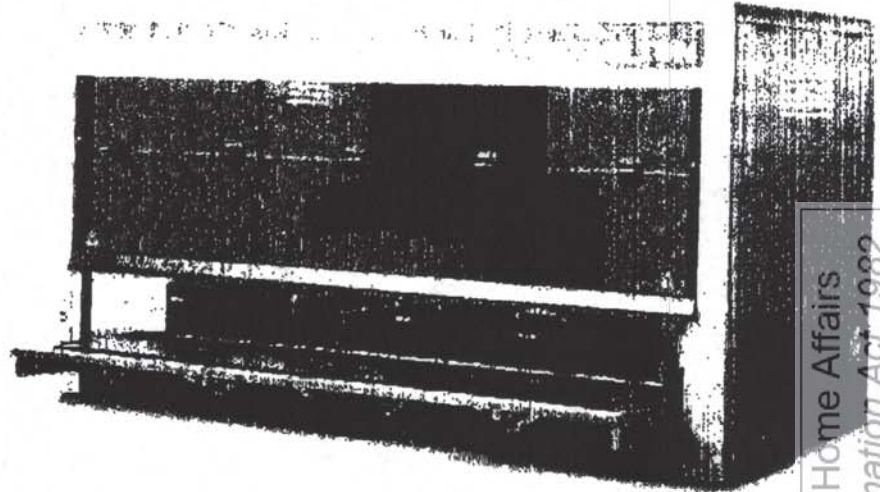
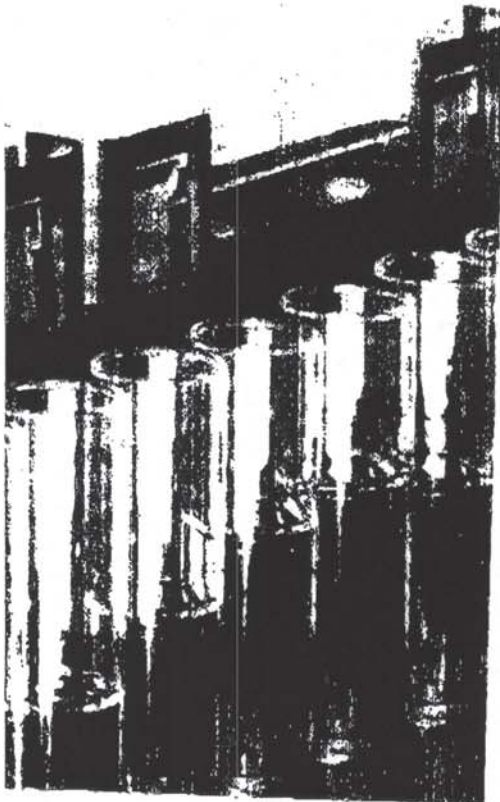
*The Industry Standard for Laboratory Automation*

### Advanced Liquid Handling

- Up to 16 independent pipetting channels
- Optional multiprobe head (96, 384 or Nano)
- Air displacement pipetting technology
- Easy maintenance and serviceability
- CO-RE precision tip attachment
- Tip ejection without aerosol production
- Dynamic Positioning System (DPS) with independently spreadable pipetting channels
- Monitored Air Displacement (MAD)
- Total Aspiration and Dispense Monitoring (TADM)
- Dual liquid level detection (pLLD/cLLD)
- Easy to use VENUS software
- Complete sample traceability
- Positional accuracy for 1536-well plates

### Designed Flexibility

- Modular pipetting heads, deck layouts and accessories
- Compatible with sample tubes, microplates, and custom labware
- Barcode identification for samples, microplates, reagents and carriers
- Data output in multiple formats for LIMS integration
- Wide integration possibilities for readers, washers, incubators etc.
- Microplate storage/stacking on deck



### Regulatory Compliance

The STAR line offers all the tools you need for fully compliant GMP operation, including 21 CFR Part 11 compliance tools. The MICROLAB® STAR line was specifically designed for regulated laboratories,

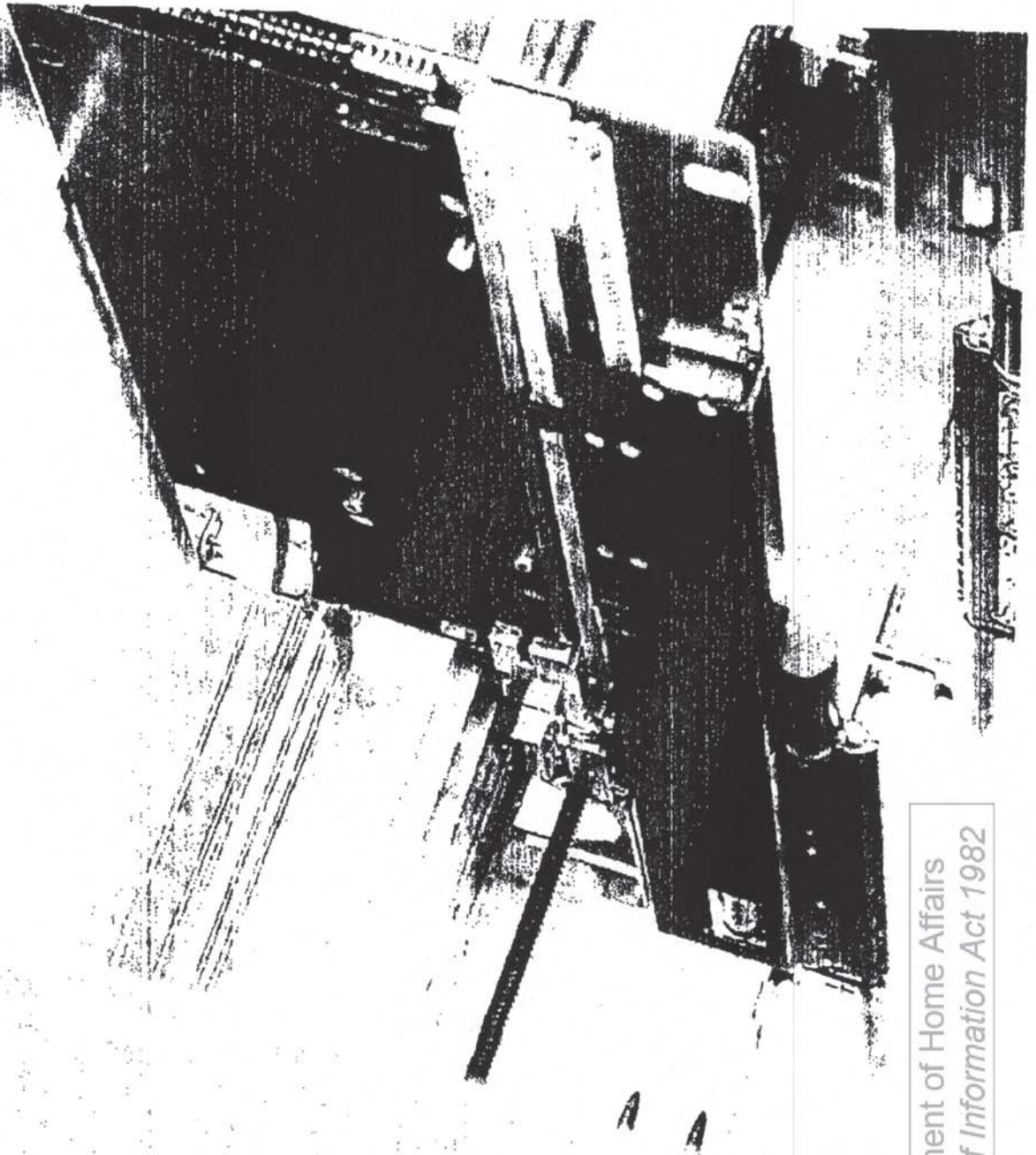
ensuring productive and safe operation. HAMILTON has served the clinical market for many years and continues to excel at meeting the demands of regulated environments.

## Advanced Technology

Technological innovations implemented on the STAR line include independent and asymmetric positioning of pipetting channels, precise tip attachment and unrivalled dual liquid level detection. These innovations provide a wide volume range and quality pipetting.

Thus the STAR line meets the strictest requirements regarding positional accuracy, precision and flexibility. With MAD, CO-RE, and DPS, you can be assured that your application will be automated with the best process security, reliability and throughput available.

# TECHNOLOGY



### Air Displacement Pipetting

The STAR line uses air-displacement technology, which is analogous to a hand held electronic pipette. The benefits of this technology include the following:

- In combination with disposable tips, the risk of contamination of critical assays is reduced to an absolute minimum.

- High accuracy and precision from sub-microlitre volumes to 1 ml can be reached with the same pipetting channels.
- No system liquid, diluters, valves or complicated tubing is required.
- No dilution effects of samples with system fluid.

## MICROLAB® STAR Line

*Innovative Technology for Higher Process Reliability*

### Monitored Air Displacement: MAD and ADC

By monitoring the air-based pipetting action, the instrument detects clogs or empty wells during the aspiration step in real time.

It can also be used to pipette highly volatile solvents that prevent automation of assays relying on such solvents on conventional pipetting robots. This Anti-Droplet Control (ADC) compensates for pressure changes in the channels that are caused by the high vapour pressure of volatile solvents in real time.

Monitored Air Displacement eliminates uncertainty in automated assays by providing reliable, consistent walk-away automation.

### Total Aspiration and Dispense Monitoring: TADM

During crucial sample transfers, such as in an In Vitro Diagnostic (IVD) laboratory, parameters may be set up by the user to monitor, in real time, both the aspiration and dispensing steps. TADM verifies with a traceable digital audit trail that a sample has been transferred.

### Dual Liquid Level Detection: Unrivalled Sensitivity

The independent pipetting channels offer two modes of liquid level detection (LLD): capacitive LLD and HAMILTON's unique pressure-based system. The capacitive LLD system detects nearly all liquids in most labware containers. The pressure-based LLD system detects all liquids — including non-conductive organic solvents — independent of the container type.

The multiprobe heads (96-, 384- and Nano) allow liquid level sensing in reagent troughs eliminating the need to program specific pipetting heights.

### Compressed O-Ring Expansion: CO-RE

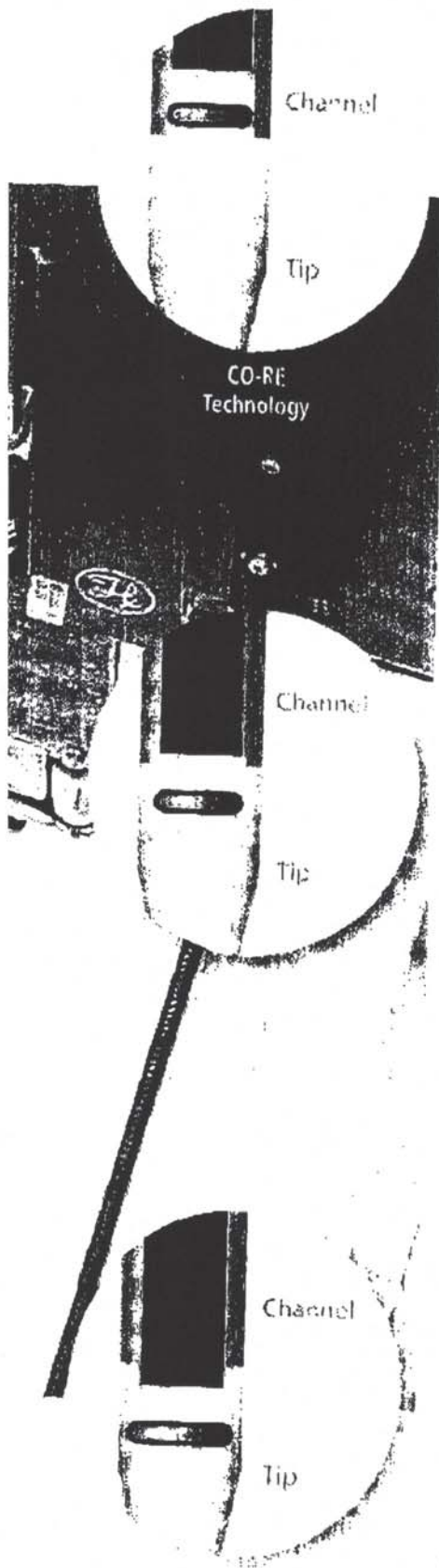
Many of today's applications require precision in tip attachment and positioning. In order to ensure such precision, HAMILTON uses quality engineered components and the CO-RE tip attachment technology.

The CO-RE system attaches disposable tips or steel washable needles to the pipetting channels with a stable lock-and-key fit. This enables a precision of  $\pm 0.1$  mm on all axes. The system requires no vertical force for tip attachment or tip ejection, thus eliminating mechanical stress and improving the overall system reliability along with pipetting speed and dexterity. Furthermore the pipetting channels can:

- make use of disposable tips and washable tips within the same run
- pick up a gripper and other tools
- eliminate aerosol production upon tip ejection

### Flexible and Precise Positioning: DPS

The Dynamic Positioning System (DPS) of the STAR line moves each pipetting channel independently on the Y-axis, as well on the Z-axis. Each channel uses its own high-precision motors and electronics to reach any position on the deck without the need for teaching. In applications such as hit-picking, where samples need to be transferred in an irregular pattern, this flexibility improves throughput.

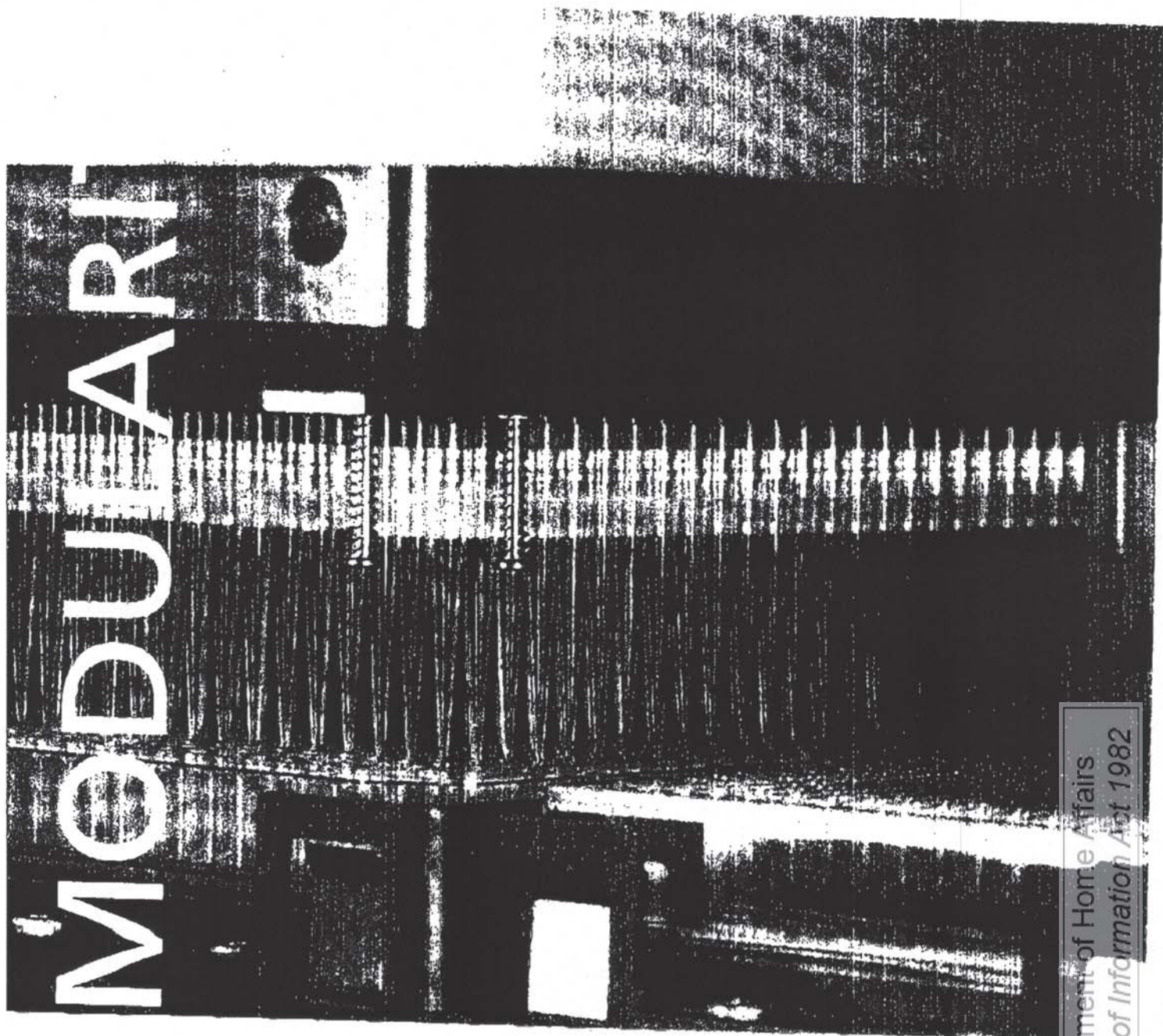




## Design Your Own Instrument

The STAR line's modular and flexible design allows easy configuration of your instrument according to your needs: choose from three platforms, modular pipetting units, plate handling tools and a wide range of accessories.

Due to the modular design, changes and upgrades to existing configurations are easy. As your projects change, your STAR line workstation can also evolve to meet new challenges.



### Unique Scalability

Do you want to get started in automation with a benchtop workstation, but want the option to expand your system if needed? The STARlet can be converted on site to a STARplus by means of an extension module. Deck capacity is thereby more than doubled.

Thanks to the scalability of the STAR line instruments, the widest possible range of throughputs and budgets can be accommodated: additional pipetting channels, a 96-, 384-probe head or an integrated robotic arm can be fitted to existing configurations.

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

## MICROLAB® STAR Line

### Flexible System Configuration

#### Platforms

Platform	Deck Size	Plate Columns	Plate Positions
STARlet	1.0 m	5	25
STAR	1.5 m	9	45
STARplus	2.0 m	11	55 plus additional integration area

The instruments allow full access to 5 plate positions per row. Plates may also be stacked up to 8 high, increasing capacity dramatically.

#### Pipetting Units

For your configuration you can select from:

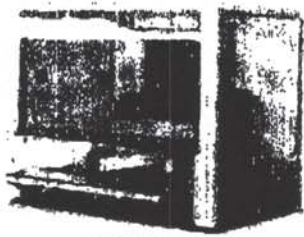
- up to 16 independent pipetting channels. Since the channels are independent units, instruments can be upgraded when the need arises. With 16 channels two microplates may be processed simultaneously, doubling throughput.
- a multiprobe head (96-, 384- or Nano) that can be fitted on the instrument for increased throughput. If a multiprobe head is not part of your initial configuration, you can still add it at a later stage. This ensures that flexibility to increase throughput is retained whatever your initial budget.

Head	Volume Range	Tip Sizes
Channels	0.5µl-1000µl	10µl, 50µl, 300µl & 1000µl
5ml-Channels	50µl-5000µl	5000µl
96-Probe Head	0.5µl-1000µl	10µl, 50µl, 300µl & 1000µl
384-Probe Head	0.5µl-50µl	30µl & 50µl (using 4to1 Tip-adapters, the CO-RE 384 head can be turned into a CO-RE 96 head with a volume range of 2µl-300µl on the fly)
Nanopipetting Head	20nl-20,000nl	n/a

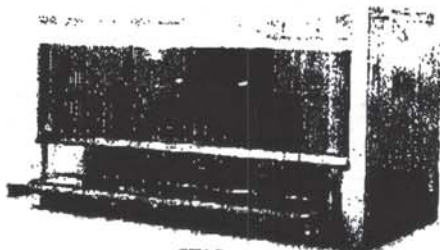
#### Plate Handling Tools

Depending on the complexity of the labware handling involved in the application, you can select from

- the small CO-RE Gripper that can be picked up by two channels during a run. With this tool the channels can transfer plates on the deck - without the need for a robotic hand.
- the internal robotic hand iSWAP - when rotation of plates or access to peripherals outside or below the deck is required (incubators, hotels etc.). It can reach positions up to 100mm beyond and below the deck. Both CO-RE gripper and iSWAP do not require teaching of positions.
- the tube-gripper channel offers handling possibilities for reagent tubes (diameter 8mm-20mm).



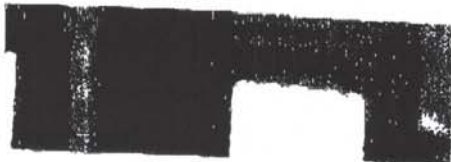
STARlet



STAR



STARplus

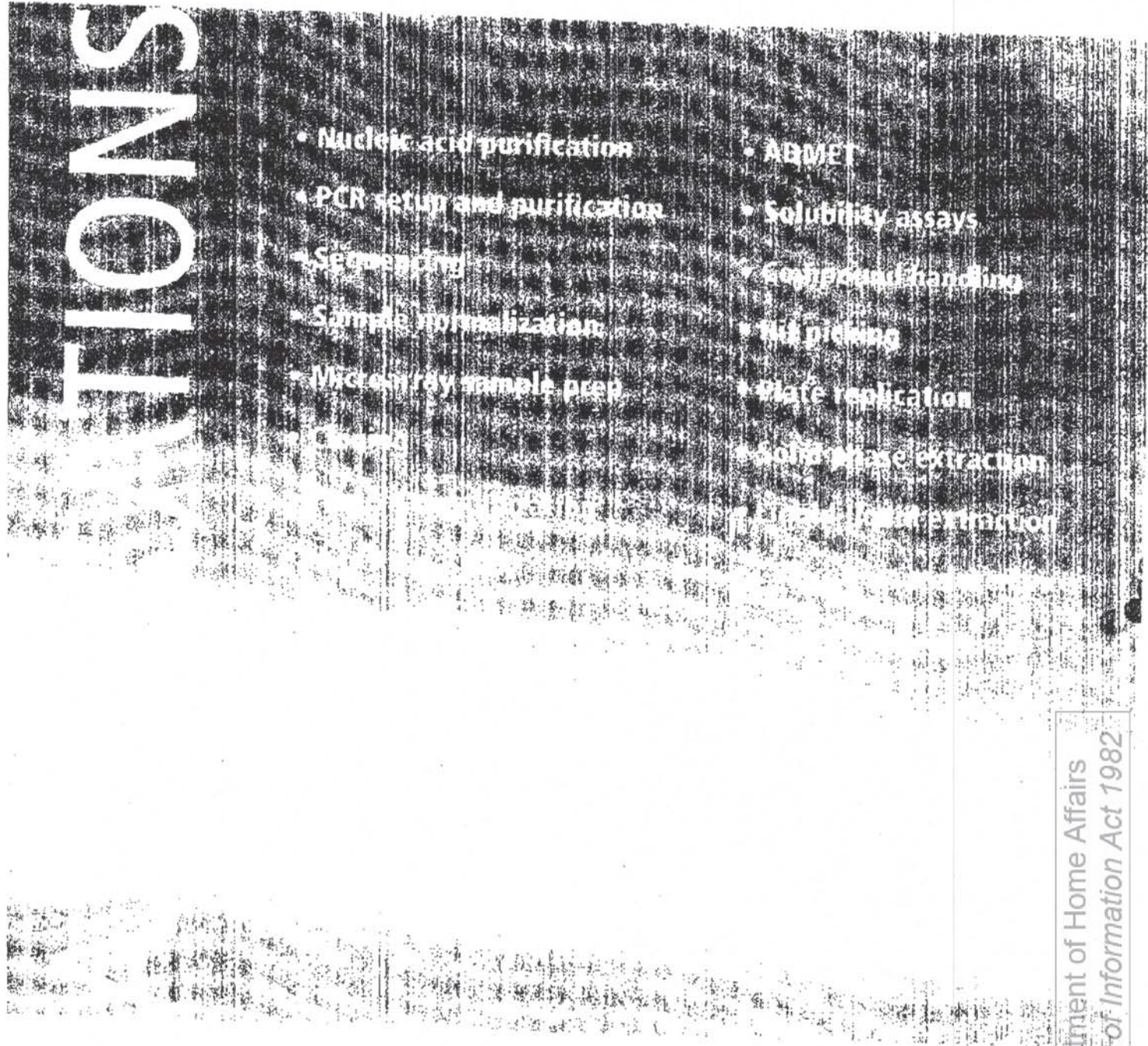




# Automating Life Science Applications

STAR line instruments excel in automating multiple applications for both the biological and analytical sciences. Thousands of STAR line workstations have been installed around the world to automate a wide range of applications. They offer the flexibility

and modularity you need to create the perfect automated solution for your laboratory. For specific demands, the HAMILTON application engineering group is available to design everything from custom racks to complex system integrations.



- Nucleic acid purification
- PCR setup and purification
- Sequencing
- Sample normalization
- Microarray sample prep
- ABMET
- Solubility assays
- Compound handling
- Pipetting
- Plate replication
- Solid phase extraction
- Protein determination

## Selecting the Right Automation Solution

With the modularity and flexibility of the STAR line instruments, almost any configuration is possible. Selecting from a wide variety of platforms, modules and accessories you can create the perfect configuration for your specific application based on:

- desired degree of automation
- throughput, number of samples, walk-away time and precision
- requirements regarding data handling, sample tracking or integration into LIMS systems

Released by Department of Home Affairs under the Freedom of Information Act 1982





About Hamilton

Contact

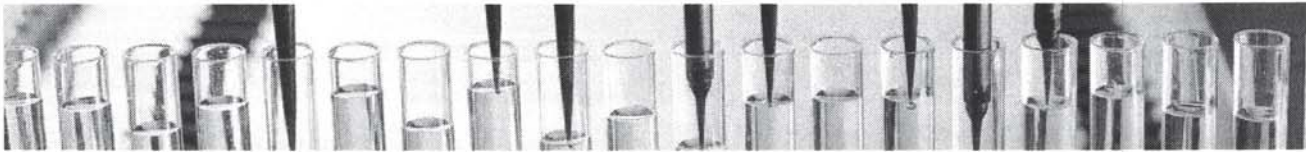
News & Events

Careers

Service

ToolPool

Sitemap



Home

Applications

Fields of Work

Products

Technology

Integration Solutions

Your Project

Home > Products > STAR Line

Print

## MICROLAB STAR Liquid Handling Workstations

The STAR line workstations are based on superior air displacement pipetting technology. This increases accuracy and repeatability while providing chain of custody with pipette condition monitoring and recording. Each workstation can be configured with multiple arms and each arm can be configured with multiple pipetting and labware gripping devices. Pipetting channels and labware grippers move independently of each other, supporting the use of a wide range of labware. The autoloader option provides barcode tracking of samples, labware, racks and carriers. All workstation functions and integrated third-party devices are controlled by the Venus software.

Venus One is the newest software package for the STAR Line. It offers the most intuitive, flexible and powerful programming control. Venus offers all the tools to allow simple to complex programming, without limiting your imagination or compromising your requirements. Data can be tracked and processed within the application as well as interfaces to internal and external databases, including LIMS. The STAR can serve as a simple pipettor for serial dilutions or act as the center of a large system with multiple workstations and third party devices such incubators, cell counters, centrifuges, etc.

### Technology

Tip attachment (CO-RE)	Pressure liquid level detection
Pipette monitoring (TADM)	Capacitive liquid level detection
Tip positioning system	Monitored air displacement (MAD)
Chain of custody	Anti-droplet control (ADC)

### Software

Venus Software Scheduling	Protein Crystallization
---------------------------	-------------------------

### Pipetting Options

1000 µl Channels	Disposable tips
5ml Channels	Tip feeder
96 Probe Head	Needles & wash station
384 Probe Head	Hi-speed reagent dispenser
Nanopipetting Head	Pin tool

### Labware Manipulation Tools

CO-RE grippers	iSWAP robotic hand
CO-RE lid tool	Tube gripper channel
CO-RE SPE column lifter	Microlab SWAP
CO-RE tube weighing	

### Carriers & Accessories

Multiflex flexible carriers	Shakers
Standard fixed carriers	Plate heater/cooler
Accessories	CCD camera channel
Auto-load & bar code reading	2D vial bottom barcode reading
HEPA Filter Hood	Vacuum Systems (SPE)

### Integrated 3rd Party Devices

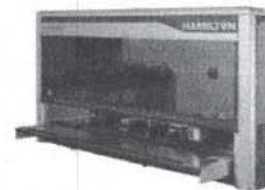
Centrifuges	Nano Pipettors
Cryostats	Readers
Decappers	Sample Storage
Dispensers	Sealers

Click [HERE](#) to take the **STAR TOUR!**

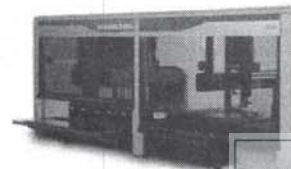
Click [HERE](#) to download the **STAR Line brochure.**



STARlet



STAR



STARplus

### Unique Scalability

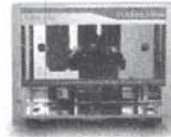
Do you want to get started in automation with a benchtop workstation and have the option of expanding your system if needed? The compact STARlet can be converted on-site to a STARplus by means of an extension module, more than doubling your deck capacity. Thanks to the scalability of the STAR line instruments, the widest possible range of throughputs and budgets can be accommodated: additional pipetting channels, a 96 or 384 probe head or an integrated robotic arm can be fitted to existing configurations. It is even possible to add a second pipetting arm working in parallel.

Released by Department of Home Affairs under the Freedom of Information Act 1982



Dryers  
Enclosures  
Fume Hoods  
Hotels and Incubators

Shakers  
Thermocyclers  
Vacuum pumps  
Washers



**Want to start sma**

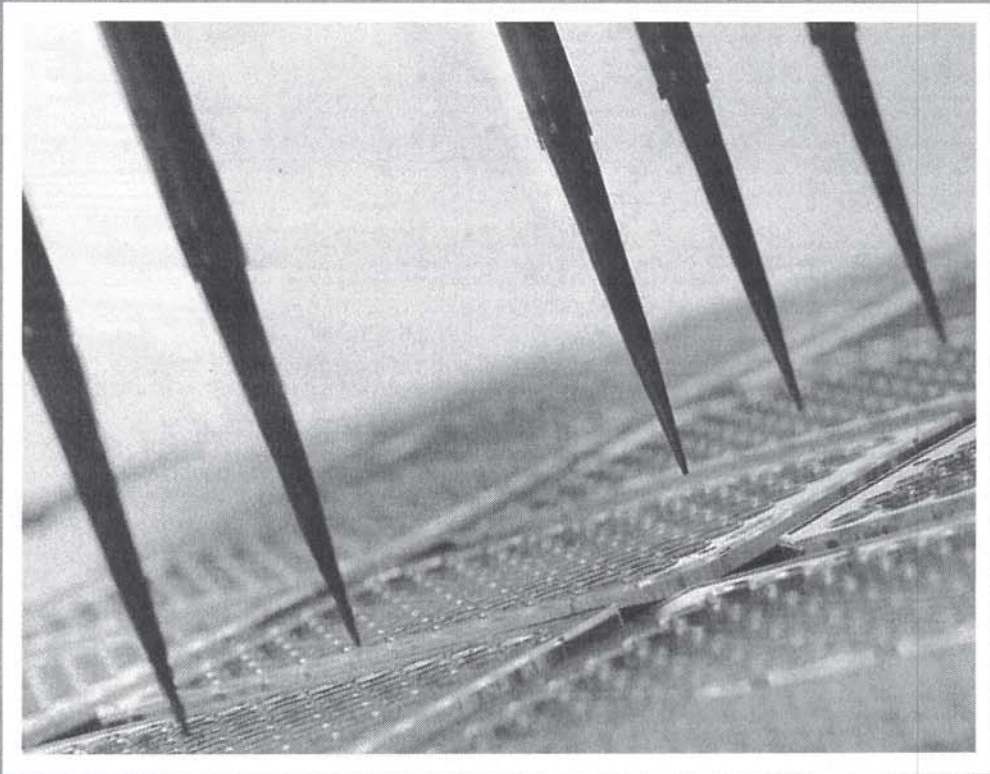
Contact Hamilton to find out more  
about the STAR.

© 1998-2009 Hamilton Company

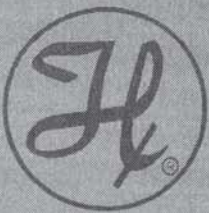
Imprint

Released by Department of Home Affairs  
under the *Freedom of Information Act 1982*

# LIFE SCIENCE ROBOTICS



**MICROLAB® STAR LINE**



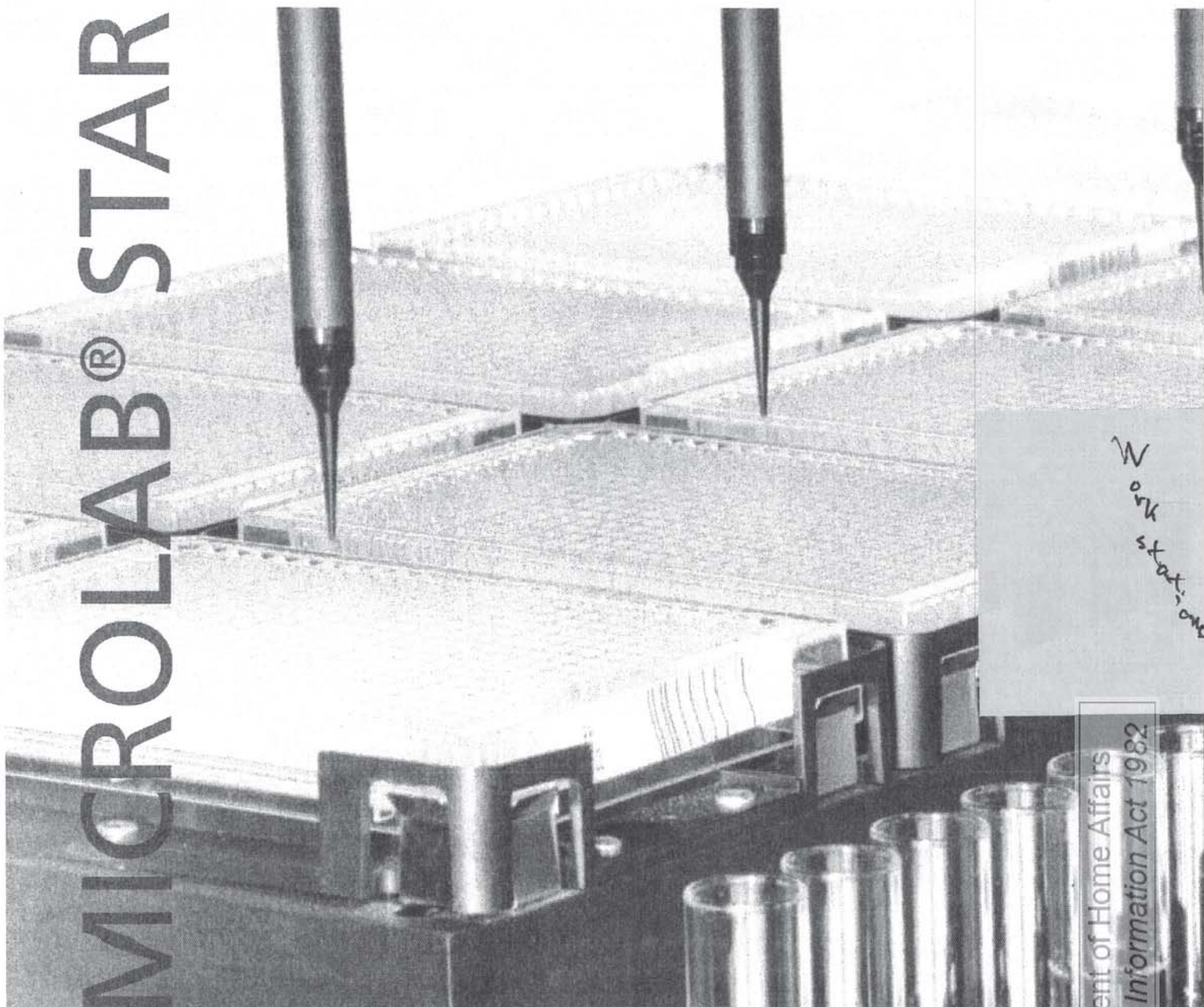
Released by Department of Home Affairs  
under the *Freedom of Information Act 1982*

## MICROLAB® STAR Line

Today's laboratories require flexible and fast compact robotic workstations to efficiently automate assays and sample preparation. HAMILTON's MICROLAB® STAR line liquid handling platforms deliver this performance by combining:

- Leading pipetting technology
- Highly scalable platforms
- A wide range of applications
- Easy to use software
- Modular accessories

# MICROLAB® STAR



### Expertise in Liquid Handling Automation

When you choose a STAR line workstation, you get a system that has been developed based on 50 years of expertise in liquid handling. Valuable feedback from many customers has been constantly incorporated into our product development and has led to innovative solutions for a broad range of applications.

### Commitment to Quality

In order to ensure that HAMILTON instruments reliably operate in the laboratory for many years, HAMILTON strives to apply quality thinking to all levels of product development, manufacturing, application engineering, installation and support.

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

## MICROLAB® STAR Line

Today's laboratories require flexible and fast compact robotic workstations to efficiently automate assays and sample preparation. HAMILTON's MICROLAB® STAR line liquid handling platforms deliver this performance by combining:

- Leading pipetting technology
- Highly scalable platforms
- A wide range of applications
- Easy to use software
- Modular accessories

# MICROLAB® STAR



### Expertise in Liquid Handling Automation

When you choose a STAR line workstation, you get a system that has been developed based on 50 years of expertise in liquid handling. Valuable feedback from many customers has been constantly incorporated into our product development and has led to innovative solutions for a broad range of applications.

### Commitment to Quality

In order to ensure that HAMILTON instruments reliably operate in the laboratory for many years, HAMILTON strives to apply quality thinking to all levels of product development, manufacturing, application engineering, installation and support.

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

## MICROLAB® STAR Line

*The Industry Standard for Laboratory Automation*

### Advanced Liquid Handling

- Up to 16 independent pipetting channels
- Optional multiprobe head (96, 384 or Nano)
- Air displacement pipetting technology
- Easy maintenance and serviceability
- CO-RE precision tip attachment
- Tip ejection without aerosol production
- Dynamic Positioning System (DPS) with independently spreadable pipetting channels
- Monitored Air Displacement (MAD)
- Total Aspiration and Dispense Monitoring (TADM)
- Dual liquid level detection (pLLD/cLLD)
- Easy to use VENUS software
- Complete sample traceability
- Positional accuracy for 1536-well plates

### Designed Flexibility

- Modular pipetting heads, deck layouts and accessories
- Compatible with sample tubes, microplates, and custom labware
- Barcode identification for samples, microplates, reagents and carriers
- Data output in multiple formats for LIMS integration
- Wide integration possibilities for readers, washers, incubators etc.
- Microplate storage/stacking on deck



### Regulatory Compliance

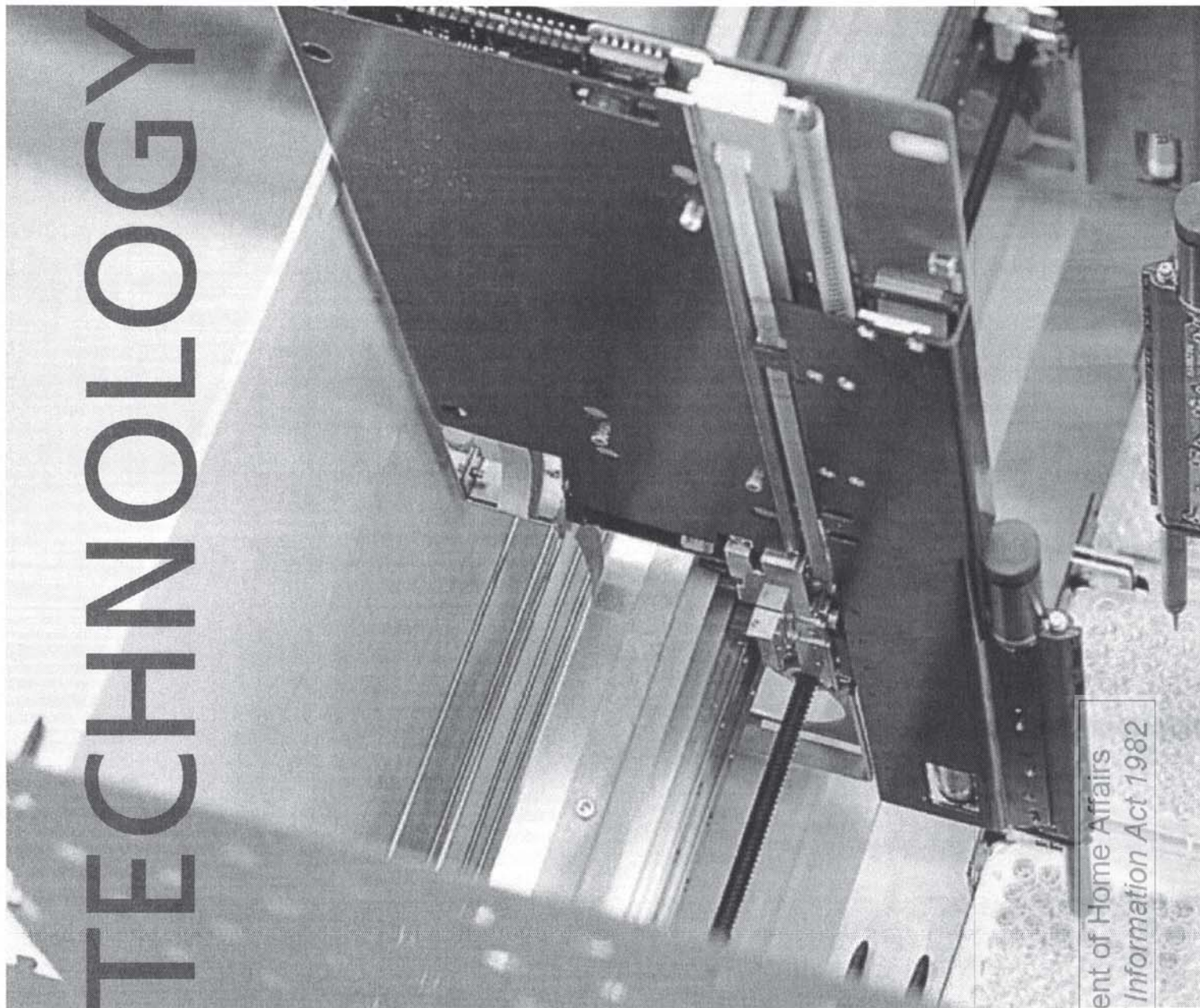
The STAR line offers all the tools you need for fully compliant GMP operation, including 21 CFR Part 11 compliance tools. The MICROLAB® STAR line was specifically designed for regulated laboratories,

ensuring productive and safe operation. HAMILTON has served the clinical market for many years and continues to excel at meeting the demands of regulated environments.

## Advanced Technology

Technological innovations implemented on the STAR line include independent and asymmetric positioning of pipetting channels, precise tip attachment and unrivalled dual liquid level detection. These innovations provide a wide volume range and quality pipetting.

Thus the STAR line meets the strictest requirements regarding positional accuracy, precision and flexibility. With MAD, CO-RE, and DPS, you can be assured that your application will be automated with the best process security, reliability and throughput available.



### Air Displacement Pipetting

The STAR line uses air-displacement technology, which is analogous to a hand held electronic pipette. The benefits of this technology include the following:

- In combination with disposable tips, the risk of contamination of critical assays is reduced to an absolute minimum.

- High accuracy and precision from sub-microlitre volumes to 1 ml can be reached with the same pipetting channels.
- No system liquid, diluters, valves or complicated tubing is required.
- No dilution effects of samples with system fluid.

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

## MICROLAB® STAR Line

*Innovative Technology for Higher Process Reliability*

### Monitored Air Displacement: MAD and ADC

By monitoring the air-based pipetting action, the instrument detects clots or empty wells during the aspiration step in real time.

It can also be used to pipette highly volatile solvents that prevent automation of assays relying on such solvents on conventional pipetting robots. This Anti-Droplet Control (ADC) compensates for pressure changes in the channels that are caused by the high vapour pressure of volatile solvents in real time.

Monitored Air Displacement eliminates uncertainty in automated assays by providing reliable, consistent walk-away automation.

### Total Aspiration and Dispense Monitoring: TADM

During crucial sample transfers, such as in an In Vitro Diagnostic (IVD) laboratory, parameters may be set up by the user to monitor, in real time, both the aspiration and dispensing steps. TADM verifies with a traceable digital audit trail that a sample has been transferred.

### Dual Liquid Level Detection: Unrivalled Sensitivity

The independent pipetting channels offer two modes of liquid level detection (LLD): capacitive LLD and HAMILTON's unique pressure-based system. The capacitive LLD system detects nearly all liquids in most labware containers. The pressure-based LLD system detects all liquids — including non-conductive organic solvents — independent of the container type.

The multiprobe heads (96-, 384- and Nano) allow liquid level sensing in reagent troughs eliminating the need to program specific pipetting heights.

### Compressed O-Ring Expansion: CO-RE

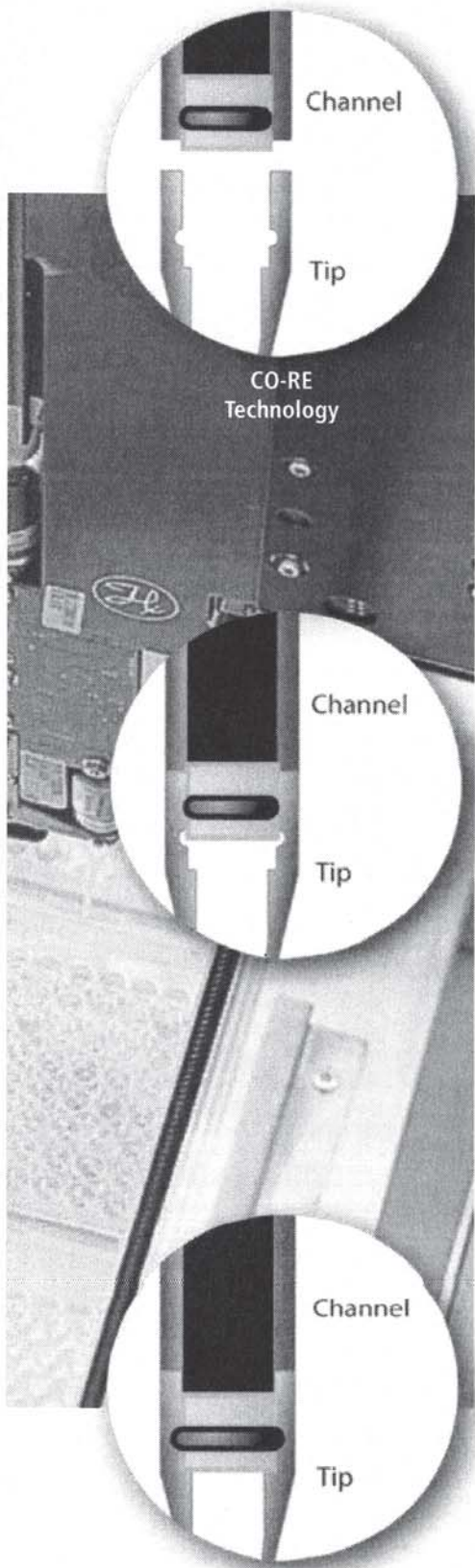
Many of today's applications require precision in tip attachment and positioning. In order to ensure such precision, HAMILTON uses quality engineered components and the CO-RE tip attachment technology.

The CO-RE system attaches disposable tips or steel washable needles to the pipetting channels with a stable lock-and-key fit. This enables a precision of  $\pm 0.1$  mm on all axes. The system requires no vertical force for tip attachment or tip ejection, thus eliminating mechanical stress and improving the overall system reliability along with pipetting speed and dexterity. Furthermore the pipetting channels can:

- make use of disposable tips and washable tips within the same run
- pick up a gripper and other tools
- eliminate aerosol production upon tip ejection

### Flexible and Precise Positioning: DPS

The Dynamic Positioning System (DPS) of the STAR line moves each pipetting channel independently on the Y-axis, as well on the Z-axis. Each channel uses its own high-precision motors and electronics to reach any position on the deck without the need for teaching. In applications such as hit-picking, where samples need to be transferred in an irregular pattern, this flexibility improves throughput.





## Design Your Own Instrument

The STAR line's modular and flexible design allows easy configuration of your instrument according to your needs: choose from three platforms, modular pipetting units, plate handling tools and a wide range of accessories.

Due to the modular design, changes and upgrades to existing configurations are easy. As your projects change, your STAR line workstation can also evolve to meet new challenges.

# MODULARITY



### Unique Scalability

Do you want to get started in automation with a benchtop workstation, but want the option to expand your system if needed? The STARlet can be converted on site to a STARplus by means of an extension module. Deck capacity is thereby more than doubled.

Thanks to the scalability of the STAR line instruments, the widest possible range of throughputs and budgets can be accommodated: additional pipetting channels, a 96-, 384-probe head or an integrated robotic arm can be fitted to existing configurations.

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

## MICROLAB® STAR Line

### Flexible System Configuration

#### Platforms

Platform	Deck Size	Plate Columns	Plate Positions
<b>STARlet</b>	1.0 m	5	25
<b>STAR</b>	1.5 m	9	45
<b>STARplus</b>	2.0 m	11	55 plus additional integration area

The instruments allow full access to 5 plate positions per row. Plates may also be stacked up to 8 high, increasing capacity dramatically.

#### Pipetting Units

For your configuration you can select from:

- up to 16 independent pipetting channels. Since the channels are independent units, instruments can be upgraded when the need arises. With 16 channels two microplates may be processed simultaneously, doubling throughput.
- a multiprobe head (96-, 384- or Nano) that can be fitted on the instrument for increased throughput. If a multiprobe head is not part of your initial configuration, you can still add it at a later stage. This ensures that flexibility to increase throughput is retained whatever your initial budget.

Head	Volume Range	Tip Sizes
<b>Channels</b>	0.5µl-1000µl	10µl, 50µl, 300µl & 1000µl
<b>5ml-Channels</b>	50µl-5000µl	5000µl
<b>96-Probe Head</b>	0.5µl-1000µl	10µl, 50µl, 300µl & 1000µl
<b>384-Probe Head</b>	0.5µl-50µl	30µl & 50µl (using 4to1 Tip-adapters, the CO-RE 384 head can be turned into a CO-RE 96 head with a volume range of 2µl-300µl on the fly)
<b>Nanopipetting Head</b>	20nl-20,000nl	n/a

#### Plate Handling Tools

Depending on the complexity of the labware handling involved in the application, you can select from

- the small CO-RE Gripper that can be picked up by two channels during a run. With this tool the channels can transfer plates on the deck - without the need for a robotic hand.
- the internal robotic hand iSWAP - when rotation of plates or access to peripherals outside or below the deck is required (incubators, hotels etc.). It can reach positions up to 100mm beyond and below the deck. Both CO-RE gripper and iSWAP do not require teaching of positions.
- the tube-gripper channel offers handling possibilities for reagent tubes (diameter 8mm-20mm).



STARlet



STAR



STARplus

## Automating Life Science Applications

STAR line instruments excel in automating multiple applications for both the biological and analytical sciences. Thousands of STAR line workstations have been installed around the world to automate a wide range of applications. They offer the flexibility

and modularity you need to create the perfect automated solution for your laboratory. For specific demands, the HAMILTON application engineering group is available to design everything from custom racks to complex system integrations.

# APPLICATIONS

- Nucleic acid purification
- PCR setup and purification
- Sequencing
- Sample normalization
- Microarray sample prep
- Cloning
- Protein crystallization
- In-gel digestion
- MALDI TOF spotting
- Protein precipitation
- Protein purification
- Colony picking
- ADMET
- Solubility assays
- Compound handling
- Hit picking
- Plate replication
- Solid phase extraction
- Liquid-liquid extraction
- Cell culture maintenance
- ELISA processing
- Blood grouping
- Pooling
- Combinatorial Chemistry

### Selecting the Right Automation Solution

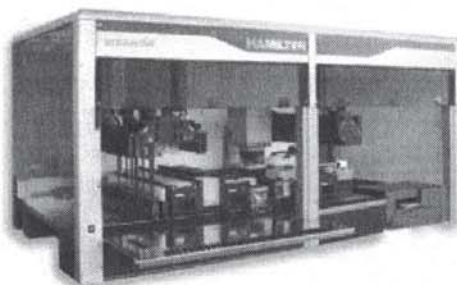
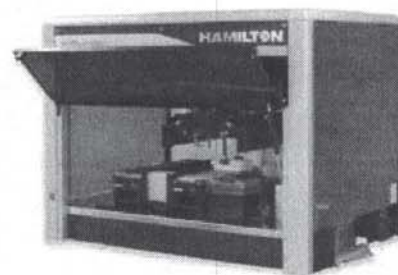
With the modularity and flexibility of the STAR line instruments, almost any configuration is possible. Selecting from a wide variety of platforms, modules and accessories you can create the perfect configuration for your specific application based on:

- desired degree of automation
- throughput, number of samples, walk-away time and precision
- requirements regarding data handling, sample tracking or integration into LIMS systems

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

### Genomics Benchtop Workstation

- Nucleic acid purification
- Vacuum or magnetic bead technology
- PCR setup and purification
- Clog check for monitoring of vacuum steps
- RNA isolation from cells and tissue

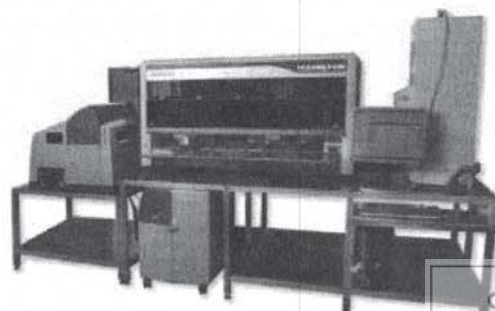


### Drug Discovery Platform

- Compound screening
- SPE
- ADME assays
- Two-arm configuration for parallel processing of two tasks
- Integration of readers, centrifuges, FACS, sealers etc.

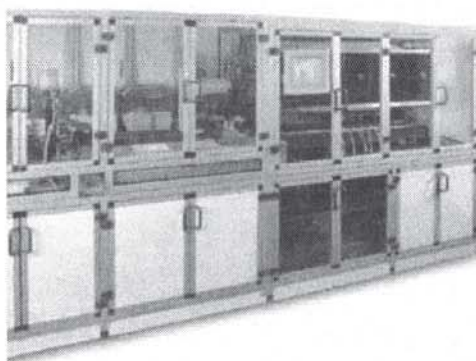
### Cell Culture System

- Cell culture media exchange
- Cell harvesting (post trypsin)
- Cell plating to create new cultures
- Addition of pharmacologically active substances to cell cultures
- Handling of fragile cell types such as embryonic stem cells
- Integration of incubators



### Compound Synthesis System

- Optimized Synthesis process by use of VENUS Dynamic Scheduler
- CO-RE technology-driven lids for standard Schott bottles to prevent evaporation
- Anti-Droplet Control (ADC) for pipetting volatile solvents
- Highly sophisticated error handling to continue an interrupted run after failure recovery



Cellomics



Genomics



Proteomics



Drug Discovery



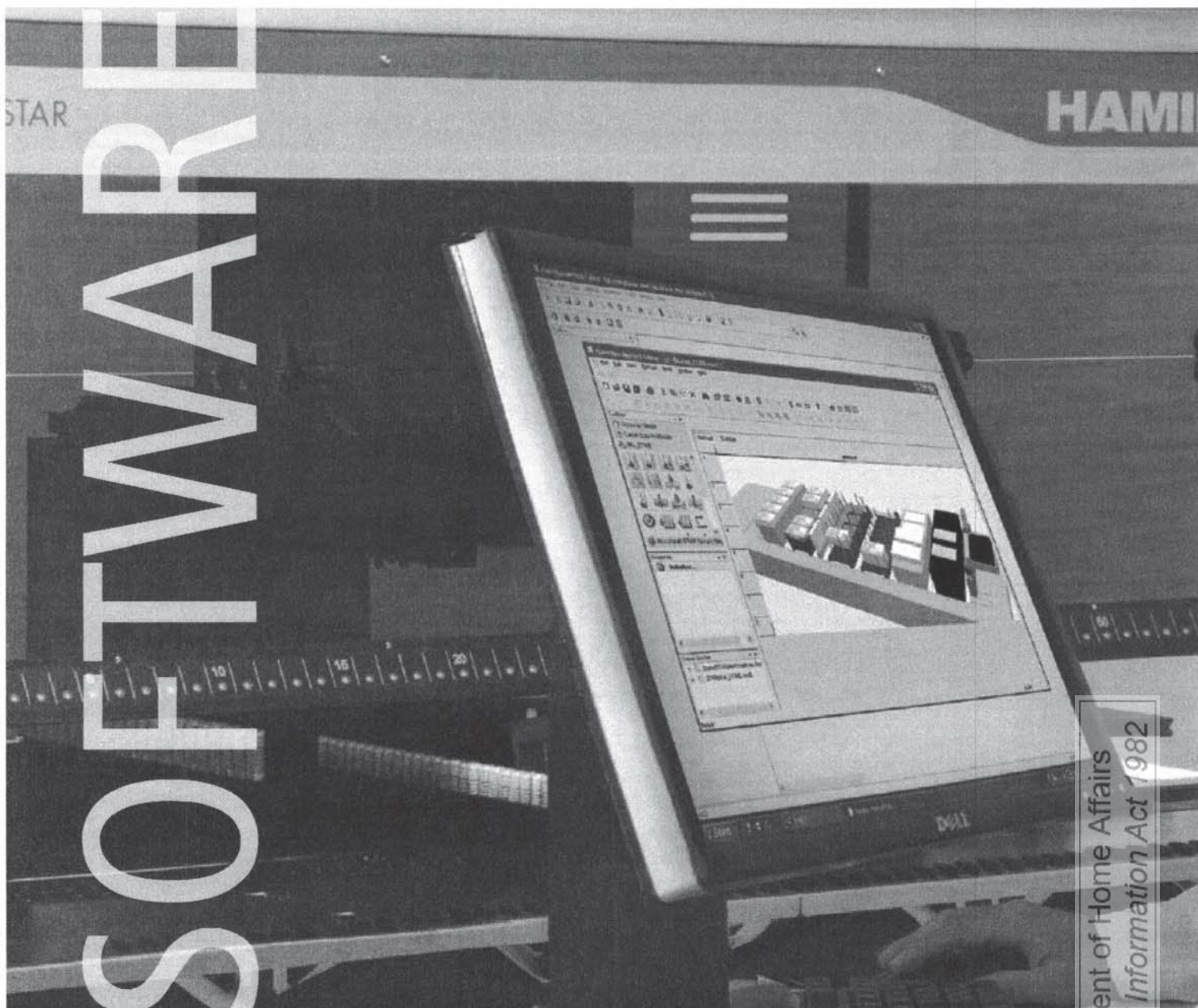
Diagnostics



## MICROLAB® VENUS Software

Flexible software allows you to efficiently define your applications and readily change them, according to your needs. MICROLAB® VENUS software offers the tools to allow simple to complex

programming, without limiting your imagination or compromising your requirements.



### Intuitive Method Creation

MICROLAB® VENUS's intuitive editors give you control over every aspect of your method. It comes with standard definitions for simple method creation and is open to custom definitions for

ultimate flexibility. Flexible methods can be created to handle daily changes in workloads and protocols by using wizards and preconfigured method blocks.

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

## Powerful Software for a Powerful Workstation

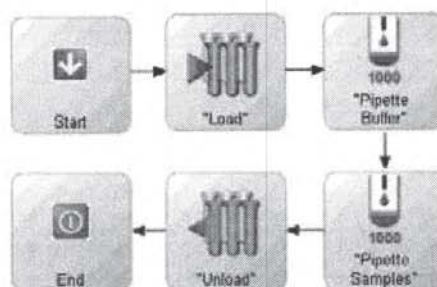
Focusing on the everyday requirements of users in today's busy labs and including valuable feedback from existing customers, HAMILTON has designed new, innovative software to control the STAR Line instruments: MICROLAB® VENUS.

The intuitive user interface reduces programming time and lets you achieve results faster with less training.

The modular concept of the MICROLAB® VENUS software covers the full range of your daily lab work: For instance you can set up a standard task like a plate copying routine in less than a minute. Yet where required you have access to the full flexibility of the software, MICROLAB® VENUS gives you all the tools needed for: Worklist handling, LIMS adaption, database- and server controls, scheduling or third party component control.

### Action Editor

The Action Editor offers you a very intuitive user interface that holds all possible actions (pipetting, transport, incubation) in a toolbox for simple drag&drop programming. With the Action Editor you can quickly carry out throughput calculations and easily customize the actions by inserting action details like pipetting volume, pipetting source and target.

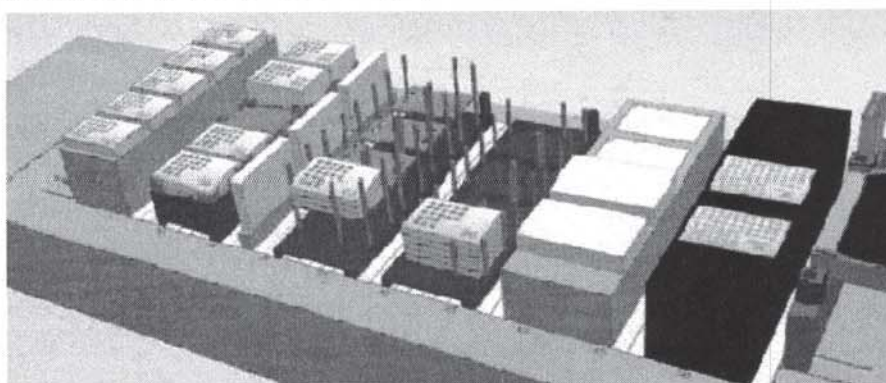


### SuperSimpleMethods

This innovative module allows you to execute the most common lab routines (copy plates, add buffer, serial dilution, etc) with the least possible user interaction: A wizard guides you through a few dialogs (e.g. to enter number of plates, Volume or liquid type) and shows you how to load the deck. You no longer have to care about labware names or deck-layout creation - all that is done automatically.

### Step Templates

With step templates you can focus on the critical parts of your assay. Step templates offer a "skeleton" of commonly used assay steps such as serial dilution, vacuum steps, stacked tip handling etc. Simply drag the template into your method and adapt it to your needs: Change the pipetting volume, specify source and target plates on the 3D deck and run the method.



### 21 CFR Part 11 Regulatory Tools

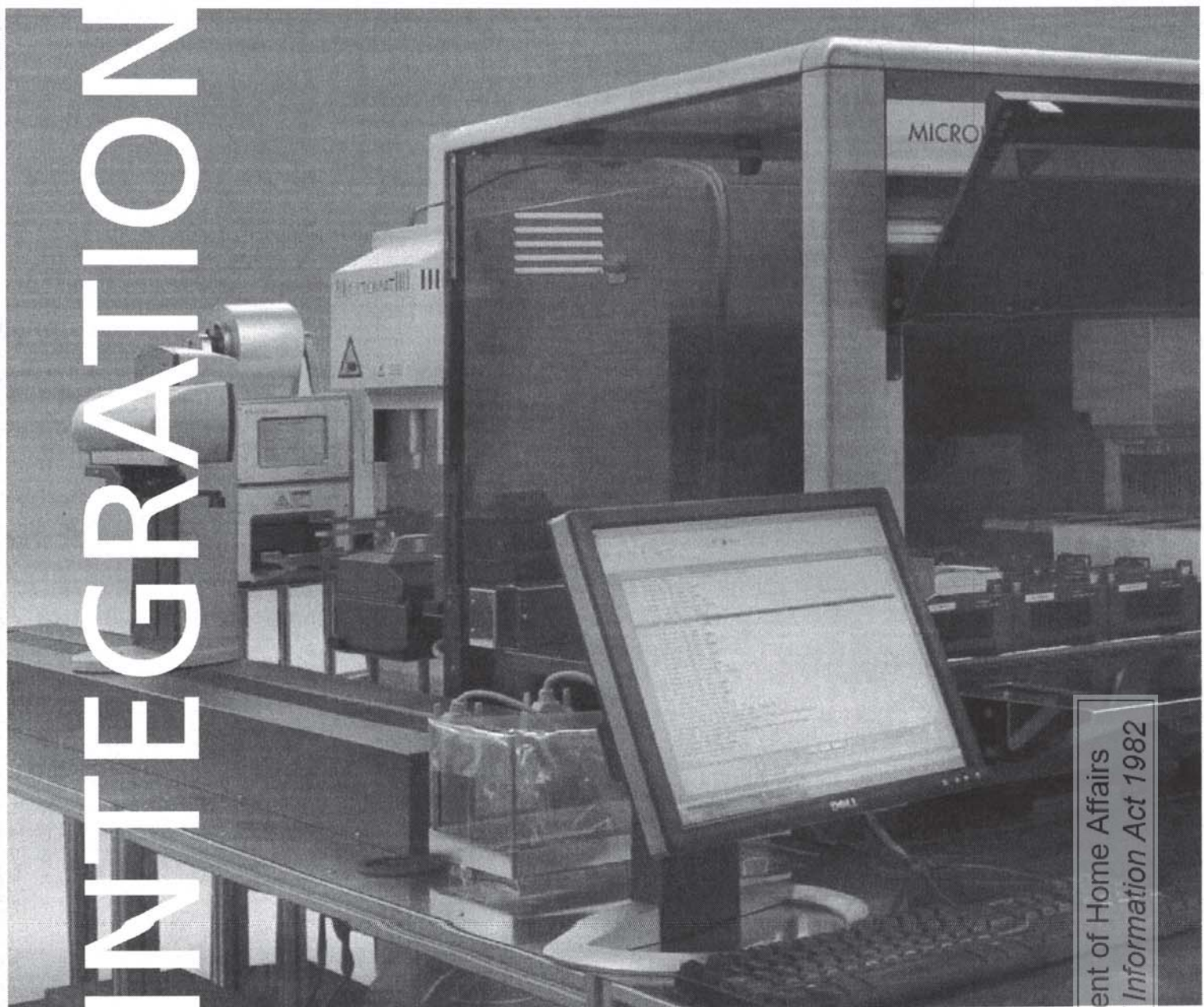
MICROLAB® VENUS contains the software tools for compliant use of STAR line instruments. The tools provide audit trails, secure software functionality based on user access and file fidelity with the checksum system.

## Integrating Hardware

Today's automation solutions often require demanding integration of third party equipment. Automation is sometimes not possible if an assay requires integration of special, existing third party

equipment. HAMILTON has responded to these needs with world class engineering, making VENUS software and the STAR line instruments integration friendly and flexible.

INTEGRATION



### Operate everything from one control center

Incubators, centrifuges, thermocyclers, plate sealers, sample dryers or sample readers: thanks to the open design, VENUS software can control most third party hardware. This concept ensures all components are used as they are needed and the

complete solution works at full speed. This intelligent setup guarantees worryfree operation where all resources work seamlessly in one, integrated system.

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

# Automating Your Assay

From Start to Finish

## System planning

Thanks to the unparalleled modularity of the STAR line you can choose from nearly 10,000 possible configurations that can be built from the standard components: HAMILTON's application specialists will select from three different deck-sizes, one or two arms, up to 16 individual channels and of course your choice of a 96-probe, a 384-probe or a nanopipetting head to match your STAR to your requirements.

The latest technology is used to configure and visualize your system, making sure you get the exact system you need. Already at this stage, hardware and software concepts for your application are created. Typically, a draft specification is also prepared for the system. For larger systems, this is done with assistance from the HAMILTON Application Engineering (APE) group.

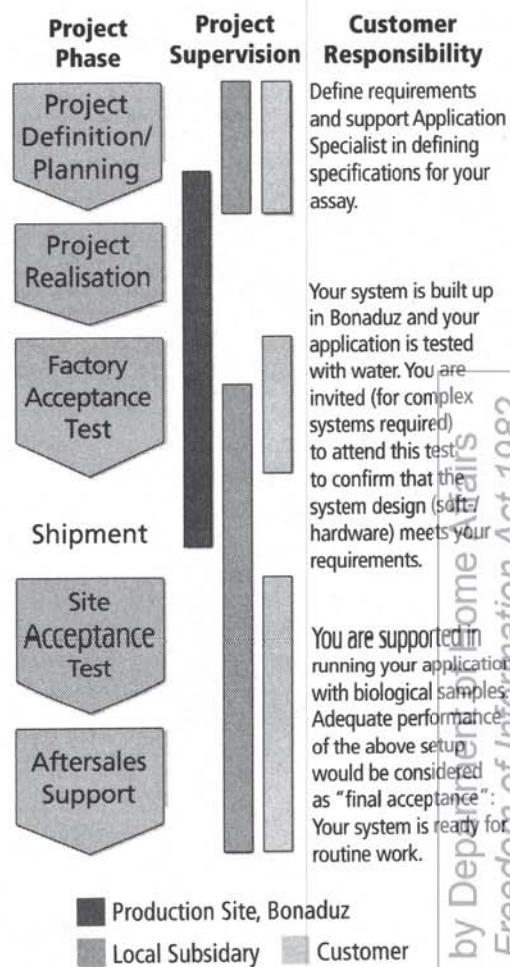


## System Setup

Once your system is finally specified and defined, the project enters the realisation and implementation phase at our headquarters in Bonaduz/Switzerland. At this stage, a Project Manager from the Headquarter's APE group takes the lead to realise your project. This realisation phase ends with the Factory Acceptance Test (FAT) which is conducted to validate the design of the system, including 3rd party component integration. Once the system passes this test, it is shipped to the customer site, where the local team takes over the responsibility and supports you to get your system up and running by providing training and support.

## An Integrated Approach

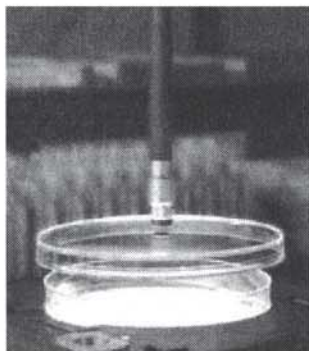
This tightly connected process management between the production site in Bonaduz and your local applications specialist/sales team ensures that you have a competent contact person at all times that can help you with all questions that may arise during and after the realisation phase of your project.





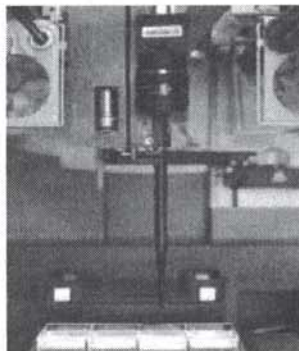
## Flexible Automation Accessories

You can create a custom workstation by selecting from the multiple standard accessories and labware carriers for the STAR line - such as shakers, temperature control for plates and reagents, plate handling tools and much more.



### CO-RE Lid Tool

The CO-RE technology allows channels to be used for tasks like lid removal. By aspiration it is possible to pick up labware with glossy surfaces - like Petridish lids.



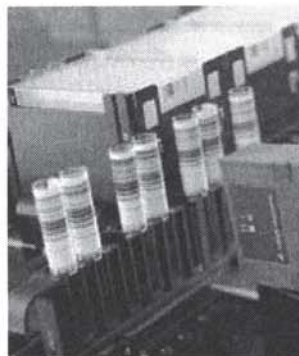
### EasyPick

For economical colony picking, a camera is mounted on one channel and is used to image bacterial colonies. These are then picked with sterile tips and can be further processed on the very same platform.



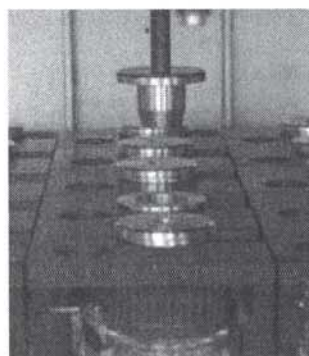
### CO-RE Gripper

By using two channels in parallel, the MICROLAB STAR can transport plates or tips on deck without the need for dedicated transport solutions.



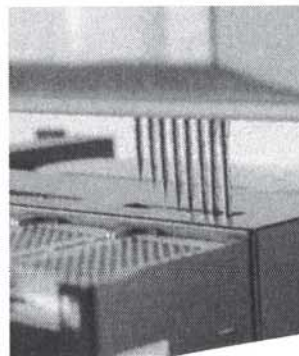
### Barcode Scanning

The Autoload option reads barcodes from sample tubes, microplates and carriers. It verifies correct labware positions for greater method security.



### CO-RE Accessories

The CO-RE technology allows the flexible use of pipetting channels. Here, air sensitive compounds are protected in Schott bottles with metal cones. Channels are used to open them.



### Needle Washing

The independent, chemically resistant needle wash station for 4 to 16 channel instruments is designed for parallel washing. Wash stations for the multiprobe heads are also available.

## Tools for the Regulated Environment

The STAR line accessories provide tools, documentation and error handling necessary for regulated laboratories, such as clinical and GMP labs. Many of the automation accessories offer self-monitoring capabilities to ensure and more importantly

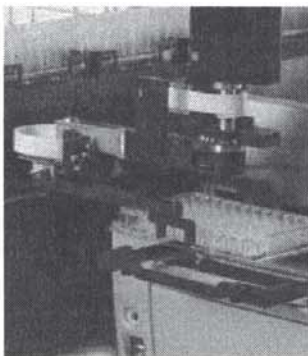
document that the instrument has completed all aspects of the run successfully. In addition, the STAR line's in-field gravimetric volume verification kit allows you to verify the accurate operation of the instrument in your laboratory.

Released by Department of Home Affairs under the Freedom of Information Act 1982

## Flexibility<sup>2</sup>: The Multiflex concept

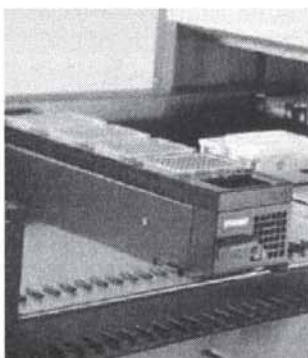
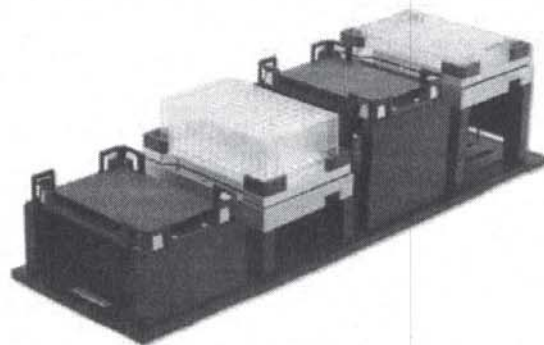
The STAR line's unique "even height" carrier concept offers process safety by detecting carriers in place and speed advantages, since the system can access all loaded labware without having to adjust the height. If not all positions of one carrier are needed for the same

labware, a Multiflex carrier can be used to build a custom carrier. From shakers to heating or cooling modules, tube or plate modules, a carrier can be designed to exactly fit the application.



### iSWAP Robotic Hand

This Gripper tool can access items on or off the deck. It is highly flexible with its vertical and rotary capabilities. The iSWAP may be used to integrate peripheral systems for plate storage, incubation, reading, washing, etc.



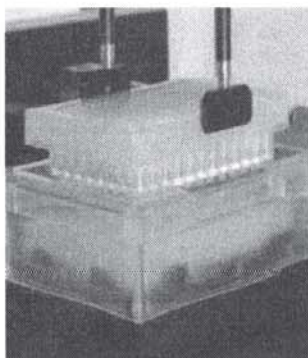
### Temperature Control

The 4-position Temperature-Controlled Carrier provides consistent, monitored temperature regulation for microplates. The carrier temperature can be set to a maximum of 60°C and a minimum of 22°C below ambient temperature.

### One carrier - multiple destinations

The Multiflex concept offers complete freedom and flexibility by maintaining the security concept: Carriers can be moved off deck to place labware eliminating the need to reach into the system, minimizing the risk of contamination.

Available modules include:



### Vacuum System

HAMILTON offers fully software-integrated vacuum systems with pressure control. They allow automation of vacuum based kits for SPE, LC-MS, genomics, and proteomics. Using the STAR line's CLLD, it is possible to check filter plates for clogged wells.



Microtiterplate



Deepwell



96well PCR



384well PCR

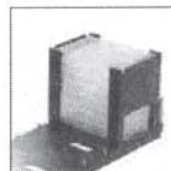
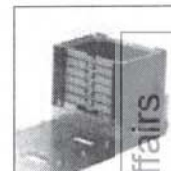
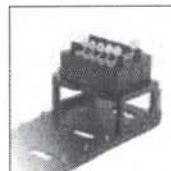


Plate Stacker



Tip Stacker



Tube Holder



Refillable Reagent Trough



Tilt Module

Released by Department of Home Affairs  
under the Freedom of Information Act 1982



# MICROLAB® STAR Line

## Technical Specifications

	MICROLAB STARlet	MICROLAB STAR	MICROLAB STARplus									
<b>Instrument Dimensions</b>	width: 1124mm, height: 903mm, depth: 795mm (autoload: 1006mm)	width: 1664mm (1990mm with multiprobe head), height: 903mm, depth: 795mm (autoload: 1006mm)	width: 2160mm, height: 903mm, depth: 795mm (autoload: 1006mm)									
<b>Work Area Dimensions</b>	width: 675mm, height: 195mm, depth: 465mm	width: 1215mm, height: 195mm, depth: 465mm	width: 1705mm, height: 195mm, depth: 465mm									
<b>Weight</b>	135 kg (8 channels), 150 kg (96-probe head and 8 individual channels)	145 kg (8 channels), 160 kg (96-probe head and 8 individual channels)	205 kg (8 channels), 220 kg (96-probe head and 8 individual channels)									
<b>Deck Capacity</b>	30 tracks (T) allow combinations of: maximum of 30 tube carriers (1 T) holding 24 or 32 tubes per carrier maximum of 5 carriers (6 T) holding 5 tip racks or 5 plate positions per carrier	54 tracks (T) allow combinations of: maximum of 9 carriers (6 T) holding 5 plates or tip racks or per carrier. Multiprobe head can reach up to 7 carriers on the deck and 65mm beyond the deck (on the left side)	82 tracks (T) allow combinations of: maximum of 11 carriers (6 T) holding 5 plates or tip racks per carrier plus 16 T for the waste container and on-deck components									
<b>Positional Accuracy</b>	X-Y-Z positional accuracy of 0.1mm											
<b>Tip Sizes</b>	low volume: 10µl, standard volume: 300µl, 50µl tips, high volume: 1000µl. Only for 5ml channel: 5ml tips. Only for 384-probe head: 30µl, 50µl and 4to1 tip adapters.											
<b>Needle Sizes</b>	low volume: 10µl, standard volume: 300µl, high volume: 1000µl, needles available only for individual channels											
<b>Pipetting Specifications for Disposable Tips*</b>	individual channels				96-probe Head				384-probe Head			
	tip size	volume	precision	trueness	tip size	volume	precision	trueness	tip size	volume	precision	trueness
	10µl	0.5µl	6.0%	10.0%	10µl	1µl	5.0%	5.0%	50µl	0.5µl	6.0%	
	10µl	10µl	1.0%	1.5%	10µl	5µl	2.0%	2.5%	50µl	1µl	3.5%	
	50µl	1µl	4.0%	5.0%	50µl	5µL	2.0%	2.5%	50µl	50µl	2.0%	
	50µl	50µl	0.75%	2.0%	50µl	50µl	1.0%	1.5%	The CO-RE 384-probe head uses special 50µl-384 tips, and can be used as a 96-probe head with the 4to1 tip adapters.			
	300µl	200µl	0.75%	1.0%	300µl	50µL	1.0%	1.5%				
	1000µl	1000µl	0.75%	1.0%	1000µl	1000µl	1.0%	1.0%				
	5000µl	5000µl	0.5%	1.0%								
<b>Typical Pipetting Data for Needles* (Needles cannot be used on the CO-RE 96 and 384 heads)</b>	individual channels				Nanopipetting Head							
	needle size	volume	precision	trueness	volume	precision						
	10µl	1µl	8.0%	5.0%	100nl (HV)	8.0%						
	10µl	5µl	2.0%	2.5%	25nl (LV)	8.0%						
	300µl	50µl	2.0%	2.0%	Two Modules: Pipetting range 20nl-3000nl and viscosity up to 4CP (LV) and 100nl-3000nl with viscosity up to 38CP (HV)							
	300µl	200µl	1.0%	1.0%								
	1000µl	1000µl	1.0%	2.0%								
	For pipetting of less than 10µl HAMILTON recommends low volume disposable tips to achieve highest pipetting precision.											
<b>Liquid Level Detection</b>	Individual Channels:	Capacitive liquid level detection (cLLD) and pressure (pLLD) on aspiration, cLLD on dispense, minimum volume 10µl, depending on container type										
	96- and 384-Probe Head:	Capacitive liquid level detection (cLLD)										
<b>Throughput</b>	8 Channels:	To fill one 96-well microtiter plate with 100µl samples (new tips for each sample): 320s										
	96-Probe Head:	Aliquot reagent to a 96-well microtiter plate (<90µl per well): 60s										
		Replication of one 96-well plate, 100µl, with cLLD on aspiration: 35s (incl. new tips)										
		Reformatting of four 96-well plates to one 384-well plate, 50µl, new tips, with cLLD on aspiration: 140s										
<b>Labware</b>	all SBS standard plate types up to 1536 wells and most commercially available tube types											
<b>Carriers</b>	for all standard labware formats and according to customer requirements											
<b>Accessories</b>	CO-RE Gripper for economical on-deck transports, iSWAP Robotic Hand for transports below or off-deck, Barcode Reader, Temperature Controlled Carriers, Needle Wash Station with parallel Needle Washing, Vacuum System, CO-RE Lid Suck Tool for Petridish Lid handling, EasyPick Camera and Accessories for economical Colony picking, Tube Gripper, Tip-Feeder.											
<b>Operating Data</b>	maximum power consumption	600 VA or 1000 VA (depending on configuration)										
	voltage	115 V~/230V~										
	frequency	50 / 60 Hz ± 5%										
	delayed action fuse	115 V~: 6.3 A, 230 V~: 3.15 A										
	operating temperature range	15°C - 35°C (relative humidity 30% - 85% with no condensation)										
<b>Recommended PC</b>	Pentium IV, ≥ 512 MB RAM, 40 GB hard drive, CD-ROM drive, Windows® XP Professional (not included in shipment)											
<b>Communication</b>	USB, RS232											

Released by Department of Home Affairs under the Freedom of Information Act 1982

## Scientists Talking to Scientists

HAMILTON's team of highly qualified scientists and engineers is in constant contact with laboratory scientists who work at the forefront of research. This intensive exchange of knowledge allows HAMILTON

to translate the latest scientific trends into automation solutions - thus providing scientists with the technology to accelerate their research.

### What Our Partners Say

*"It was our aim to develop a system for embryonic stem cells that provides high-quality cells in large numbers. From a technical point of view this constituted a considerable change. With Hamilton we found a partner who showed a high commitment to our project right from the start. Working with Hamilton's staff feels like being in one team speaking the same language and having the same goals. Another deciding factor for Hamilton was their innovative technology. One of the critical factors in automation of cell cultures is contamination often caused by system liquids. The liquid free pipetting principle of the STAR convinced us and it has proven its usefulness and reliability in our lab."*

**Prof. O. Brüstle, Life&Brain GmbH and University of Bonn**

*"Our RoBioMol recombinant protein expression service is based around a HAMILTON MICROLAB® STAR workstation. The flexibility and reliability of the STAR allows us to run automated gene cloning and protein fractionation procedures. We are now aiming at increasing the throughput of the platform to deal with the demands of both our academic and industrial partners. With HAMILTON we found a partner who showed a high commitment to our project right from the start."*

**Dr. Thierry Vernet, Group Head, Institut de Biologie Structurale Jean-Pierre Ebel (CEA/CNRS/UJF)**

*"We are using HAMILTON instruments in various laboratories for applications such as protein crystallization, liquid-liquid extraction or ADM. HAMILTON is one of our preferred suppliers, because the HAMILTON team gives us individual and competent support before, during and after project implementation. They are very responsive to our support requests. Working on a daily base with the HAMILTON solutions, we have found them to be well designed, solidly built and reliable."*

**Gerhard Bosch, Boehringer Ingelheim**

## Automation Requires Reliability

When you invest in a high-performance liquid handling workstation, you can expect the high quality, precision and reliability that HAMILTON is famous for. In-house manufacturing of all important components combined with a remarkable depth of production at our facilities in Switzerland means that only top-quality system components are used in our workstations.

For a manufacturer that also builds life-support instruments, compliance with ISO 9001, GMP and FDA regulations goes without saying. In order to minimize costly down time for our customers, HAMILTON's service teams ensure a rapid response when maintenance or service work is required.



**HAMILTON**

HAMILTON Bonaduz AG  
Via Crusch 8  
CH-7402 Bonaduz  
Switzerland  
Telephone: +41-(0)81-660-60-60  
Fax: +41-(0)81-660-60-70  
infoservice@hamiltonrobotics.com

HAMILTON Company  
4970 Energy Way  
Reno, Nevada 89520 USA  
Toll-Free: 800-648-5950  
Telephone: +1-775-858-3000  
Fax: +1-775-856-7259  
sales@hamiltoncompany.com

HAMILTON Robotics Ltd  
6120 Gnd Floor Knights Court  
Sollihull Parkway  
Birmingham Business Park  
B37 7WY, UK  
Telephone: +44-(0)121-717-0199  
Fax: +44-(0)121-717-0209  
info.gb@hamiltonrobotics.com

HAMILTON Robotics GmbH  
Fraunhoferstr. 17  
DE-82152 Martinsried  
Germany  
Telephone: +49-(0)89-5526-49-0  
Fax: +49-(0)89-5526-49-10  
info.de@hamiltonrobotics.com

HAMILTON Robotics SARL  
Parc du Moulin de Massy  
37 rue du Saule Trapu  
FR-91300 Massy/France  
Telephone +33-(0)1-69-75-16-16  
Fax +33-(0)1-60-11-57-16  
info.fr@hamiltonrobotics.com

HAMILTON Italia  
Via Tadino 52  
IT-20124 Milano  
Telephone +39-02-2953 3722  
Fax +39-02-2940 1778  
info.it@hamiltonrobotics.com

HAMILTON Bonaduz AG Shanghai Rep. Office  
German Centre, Tower 3, No. 758a  
No 88 Keyuan Rd, Zhangjiang Hi-Tech Park  
Pudong, 201203, Shanghai, China  
Telephone +86-21-2898 6567  
Fax +86-21-2898 6275  
info.cn@hamiltonrobotics.cn

[www.hamiltonrobotics.com](http://www.hamiltonrobotics.com)

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

MINUTE PAPER  
CENTRAL OFFICE

TR5

TC Number 0914405

Please provide a Tariff Classification for the goods subject of this Tariff Concession application

TC Officer: \_\_\_\_\_

OP Date: 30-Apr-09

APPLICANT: Bio Strategy Dist

GOODS: Laboratory Robotics

CLAIMED CLASSIFICATION: 8479.50.90

Date to Classification Section: 6/5/09

Required Return Date: Date to Class plus 3 \_\_\_\_\_

TA No. & CLASSIFICATION: \_\_\_\_\_

CLASSIFICATION DECISION: 

8424	89	90
------	----	----

IS TCO RESTRICTED BY REG. 185? GENERAL DUTY RATE: 

52
----

IDENTIFICATION OF GOODS: LIQUID HANDLING

WORKSTATION

HEADINGS CONSIDERED: 8424 & 8428

COMMENTS AND CHAPTER NOTES: Spoke to APPLICANT'S CLIENT

WITH <sup>s47F</sup> \_\_\_\_\_ PERMISSION 7/5/09 11:45AM.

APPLICANT'S CLIENT ADVISED THAT CORAL FUNCTION IS TO PUMP FLUID ON A PLATE I.E. DISPENSE FLUIDS.

IR1 & 6. PRINCIPLE FUNCTION - DISPENSING FLUIDS.

RETURNED TO TARIFF CONCESSIONS BY:

NAME & DATE: <sup>s22(1)(a)(ii)</sup> \_\_\_\_\_ 7/5/09

class

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

s22(1)(a)(ii)

**From:** s22(1)(a)(ii)  
**Sent:** Thursday, 7 May 2009 13:11  
**To:** s47F @whiteamy.com.au  
**Subject:** 2009/014405-01 Laboratory Robotics - 8479.89.90 - Bi Strategy Dist [SEC=UNCLASSIFIED]

**Security Classification:**  
 UNCLASSIFIED

Dear s47F

Through consultation with s47F Logistics Manager Bio-Strategy Dist Pty Ltd (permission sought and received from s47F) I have determined that the goods the subject of the concession application are not classified to heading 8479.

HSEN 84.79 (I) Machinery of general use, sub-paragraph (7) Industrial Robots for mutiple uses, explains that this heading only covers industrial robots capable of performing a variety of functions simply by using different tools. It also explains that this heading excludes those industrial robots specifically designed to perform a specific function; these industrial robots are classified in the heading covering their function (e.g. heading 84.24, 84.28 etc.).

s47F explained that their goods only place fluid on a plate using a single tool i.e. the goods perform a specific function.

A visit the to Hamilton website suggests that the goods may in fact do more than just place fluid on plates, as it has multiple arms performing a number of functions i.e. handling and dispensing.

Based on what IDM I have in my possession, and the conversation with s47F I consider that the principal function of the goods is to dispense fluid. The competing headings include: 8428 (handling gripper) and 8424 (dispensing probes). The goods are correctly classified to heading 8424.89.90 vide IR 1 and 6, and Note 3 to Section XVI - Principal function being dispensing.

If I have not considered some aspect of the goods that has not been brought to my attention please advise.

Regards

s22(1)(a)(ii) | Supervisor - Tariff Classification - Canberra | Australian Customs and Border Protection  
 Service | Tel (02) s22(1)(a)(ii) Fax: (02) 6275 6471

Released by Department of Home Affairs  
 under the Freedom of Information Act 1982



**Australian Government**  
**Australian Customs Service**

Reply to the Chief Executive Officer

Quote: TC 0914405  
Your Ref: bio strateg

Australian Customs Service  
Customs House  
5 Constitution Avenue  
CANBERRA ACT 2601  
Ph: (02) 6275 6666  
Fax: (02) 6275 6376  
Email: tarcon@customs.gov.au

24 July 2009

s47F [Redacted]

WHITE AMY & ASSOCIATES PTY LIMITED  
P O BOX 6065  
ALEXANDRIA NSW 2015

Dear s47F [Redacted]

**TARIFF CONCESSION SYSTEM**  
**APPLICATION SUCCESSFUL**

I refer to your application for Tariff Concession Order (TCO) Number TC 0914405 lodged on 30 April 2009.

As a delegate of the Chief Executive Officer I am satisfied that the application meets the core criteria on the basis of section 269C of the *Customs Act 1901* and have accordingly made a written Tariff Concession Order.

The decision to make a TCO will be published in Gazette Number TC09/30 of 29 July 2009.

The TCO, as detailed in the attachment, will also be published in the Schedule of Concessional Instruments as soon as possible.

Yours sincerely,

s22(1)(a)(ii) [Redacted Signature]

Delegate of the Chief Executive Officer

Released by Department of Home Affairs  
under the Freedom of Information Act 1982



**Description of the Particular goods including the applicable subheading of the Customs Tariff**

**Schedule 4 Item  
Last day of effect**

8424.89.90 WORKSTATIONS, ROBOTIC, LABORATORY, liquid handling, having NOT  
less than 96 probe heads and NOT greater than 384 probe heads  
Op. 30.04.09 Dec. date 24.07.09 - TC 0914405

50

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

**TARIFF CONCESSION ORDER**

Under Section 269P of the Customs Act 1901, I, s22(1)(a)(ii) a delegate of the Chief Executive Officer declare that the goods specified in Column 1 of THE TABLE are goods to which the item in Part III of Schedule 4 to the Customs Tariff Act 1995 specified in Column 2 of THE TABLE applies. This Order shall have effect from 30.04.09 and continue in force until revoked under sections 269SC or 269SD of the Act, or the date, if any, specified in Column 2.

**THE TABLE**

COLUMN 1		COLUMN 2
Description of Goods including the Customs Tariff Classification		Schedule 4 Item Number Last date of effect
8424.89.90	WORKSTATIONS, ROBOTIC, LABORATORY, liquid handling, having NOT less than 96 probe heads and NOT greater than 384 probe heads  Op. 30.04.09	50  - TC 0914405

Released by Department of Home Affairs  
under the Freedom of Information Act 1982

This is page 1 of 1 Page of the above Table.

Dated 24 July 2009

s22(1)(a)(ii)  
[Redacted]  
Delegate of the Chief Executive Officer

## EXPLANATORY STATEMENT

### Tariff Concession Instrument No. 0914405

#### *Customs Act 1901*

#### **Background**

Part XVA of the *Customs Act 1901* (the Act) sets out a scheme under which Tariff Concession Orders (TCOs) may be made by the Chief Executive Officer of Customs (the CEO). A lower rate of customs duty applies to goods that are the subject of a TCO.

Under section 269F of the Act, a person may apply to the CEO for a TCO in respect of goods. If the CEO is satisfied that the application is not in respect of goods specified in section 269SJ of the Act, which sets out those goods that cannot be subject to a TCO, the CEO must decide whether the application meets the core criteria.

Section 269C of the Act provides that a TCO application meets the core criteria if, on the day on which the application was lodged, no substitutable goods were produced in Australia in the ordinary course of business. Section 269B of the Act provides that 'goods produced in Australia' has the meaning given by section 269D, 'ordinary course of business' has the meaning given by section 269E and 'substitutable goods' in respect of goods the subject of a TCO application, means goods produced in Australia that are put, or are capable of being put, to a use that corresponds with a use (including a design use) to which the goods the subject of the application can be put.

Subsection 269P(3) of the Act provides that if the CEO is satisfied that a TCO application meets the core criteria, the CEO must make a written order (a TCO) declaring that the goods the subject of the TCO application are goods to which a prescribed item of Schedule 4 to the *Customs Tariff Act 1995* (the Tariff) specified in the order applies.

Bio Strategy Diet applied for a TCO in respect of certain laboratory robotics on 30 April 2009.

#### **Instrument**

TCO No 0914405 was made on 24 July 2009. It declares that those certain laboratory robotics are goods to which item 50 of Schedule 4 to the Tariff applies since the CEO was satisfied that no substitutable goods were produced in Australia. The general rate of duty on these goods is 5%. The rate of duty for the goods subject to the TCO is free.

#### **Consultation**

Subsection 269K(1) of the Act provides in part that as soon as practicable after accepting a TCO application as a valid application, the CEO must publish a notice in the Gazette which includes an invitation to any person who considers that there are reasons why the TCO should not be made to lodge a submission with the CEO. The CEO did not receive any submissions in response to this invitation.

### *Commencement*

Subsection 269S(1) relevantly provides that a TCO is to be taken to have come into force on the day on which the application for the TCO was lodged. TCO No. 0914405 is taken to have come into force on 30 April 2009.

The TCO does not affect the rights of a person (other than the Commonwealth) as at the date of registration so as to disadvantage that person or impose liabilities on a person (other than the Commonwealth) in respect of anything done or omitted to be done before the date of registration. The rights of importers will be beneficially affected. Under paragraph 126(1)(r) of the Regulations, importers of such goods will be able to apply for a refund of duty on goods imported since the day on which the TCO is taken to have come into force. The TCO does not impose any liabilities on any person.