

The background features a blue gradient with a molecular structure. It includes several glowing blue spheres connected by thin lines, and several translucent hexagonal shapes that resemble chemical rings. The overall aesthetic is clean and scientific.

**Advanced  
instruments  
for your  
Chemistry**



**ChemSPX**

## Foreword

ChemSPX is an exclusive distributor of high-end lab equipment in the field of Chemical Synthesis and Purification where the following suppliers play the leading role:



**Radleys** provides innovative chemistry equipment for safer, cleaner, greener and more productive chemical research.



**Tecnic** is specialized in the design and production of bioreactors and tangential flow filtration equipment, ranging from laboratory-scale to production-scale equipment.



**Syrris** is a world leader in flow chemistry and chemical scale-up solutions.



**CEM** is the leading provider of microwave instrumentation for synthetic chemistry.



**Teledyne ISCO Chromatography** product line includes (FLASH/PREP-LC and PREP-SFC) instruments and accessories for the purification of organic compounds in normal-phase and reversed-phase separations, and for bio-purification of proteins, peptides, and other biopolymers.

**Teledyne ISCO Pumps** These rugged, do-anything pumps solve your toughest fluid delivery problems, from micro-flow to scale-up and pilot plant, pumping corrosive liquids, and safe operation in explosive atmospheres

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**ThalesNano** is widely recognized for its expertise in transforming chemical processes, with temperatures up to 450°C and pressures up to 200 bar, with both liquids, gasses (in situ made H<sub>2</sub>) and solids, to continuous flow operations.



**ThermoFisher Scientific** is known for its vast array of innovative products across all fields of science. We represent the handheld Raman division with a focus on the new PAT probe. With this collaboration a strong package is formed together with our chemical suppliers.



**Lauda** is the world's leading provider for high-precision temperature control for chemical processes.



**Teledyne Hanson** specializes in the design and manufacturing of dissolution testing, automated diffusion testing and disintegration instruments for the pharmaceutical industry.

All their products are designed to ensure your chemistry. We can deliver ready-made or custom made packages from synthesis to purification.

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# Our markets



Chemical industry



Pharmaceutical industry



Food - Feed - Beverages



Agriculture



Environment

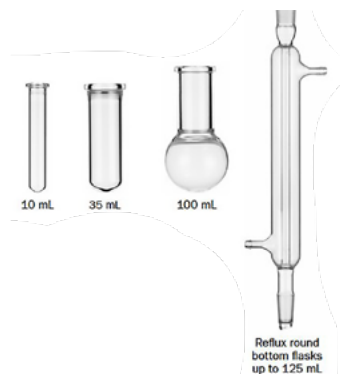


Energy resources



## Discover 2.0: The absolute best approach for Chemical Synthesis

- Pressurized vessel sizes for a single-mode microwave - 10ml, 35ml, 100ml
- iWave Temperature Sensor can see through glass, Teflon and Quartz
- Vent and reseal technology for safe handling of over-pressurization (ActiVent)
- Variable speed magnetic stirring and rapid compressed air cooling
- Optional integrated camera to observe your reaction
- Upgrade options: Autosamplers - 12/48 positions; Gaseous Addition, Flow cells



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### Autosampler

Set up multiple reactions to run overnight with the 12- or 48-place autosampler. Both autosamplers can accommodate the 10 and 35 mL sealed vessels.

### Gas Addition Kit



Specially designed for reactions involving gaseous reagents. Perform hydrogenations, carbonylations, or other reactions with gaseous reagents or use the vessel to ensure an inert atmosphere during microwave irradiation.

Allows you to purge the reaction vessel and back-fill with a gas.

During the reaction, the gas source is completely shut off from the microwave, ensuring your safety at all times.

The range of benchtop and hotplate lab equipment has a whole range of benefits including high safety standards, productivity and cost effectiveness.

You'll find lab equipment that's suitable for the following applications:

- Refluxing
- Stirring
- Condensing
- Heating
- Cooling
- Distillation
- Parallel synthesis
- Inerting



### Findenser Air Condenser™

Award-winning alternative to water-cooled condensers



### Heat-On™ Block System

Safer alternative to oil baths



### Cool-It™ Insulated Bowls

Safer and more efficient way of cooling



### StarFish™ Work Station

Space saving multi-tasker that increases productivity and cuts costs

## Mya 4 Reaction Station

**Safer, cleaner, greener, more productive.**

- 4 different zones, each with heating and active cooling
- Use one compact system for a range of experiments
- Precise temperature control
- Magnetic or optional overhead stirring
- Accepts a wide range of vessel sizes and styles
- Control your experiments and log results automatically
- Use Mya 4 with or without a chiller



The parallel reaction stations help you increase your productivity, save space and keep costs down, among many other benefits.

Radleys has parallel reaction stations for applications such as heating, cooling, condensing, work up, evaporation, inerting, filtration, heating, parallel synthesis, polymer research, process development, refluxing and stirring.

## Carousel 6 Plus Reaction Stations™

### Simultaneous heating, stirring and reflux of multiple samples.

- Powerful, even stirring in all positions
- Can use up to six vessels simultaneously: 5 to 250 ml
- Round bottom flasks fit straight onto a Rotary evaporator to evaporate your samples directly
- Option for overhead stirring for viscous materials



## Carousel 12 Plus Reaction Station™

### Simultaneous heating, stirring and reflux of multiple samples.

- Up to 12 tubes, in sizes ranging from 1 to 20 ml
- Removable Fluoropolymer insulation plate, saving up to 36% energy and preventing burns
- Integrated gas/vacuum manifold in the head to enable working under an inert atmosphere
- Integrated reflux head replaces the need for multiple condensers so refluxing in multiple positions is easy



## Tornado™ Overhead Stirring System™

### Stirring productivity increased by up to 600%.

- Integrates with Carousel 6 Plus to enable overhead mechanical stirring in all positions using a single overhead stirrer motor
- Compatible with all leading brands of overhead stirrer



### Reactor-Ready™ Flex Lab Reactor - 100 ml to 5 litres



Fully modular reaction system  
Choose from one of our 4 pre-configured packages or create your own system

- Swap vessels in seconds
- Self-aligning stirrer
- Temp range of  $-70^{\circ}\text{C}$  to  $+230^{\circ}\text{C}$
- Configure a system that suits your budget and application



### Reactor-Ready™ Pilot Lab Reactor - 5 to 35 litres

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Replace multiple reactor set-ups with a single, universal pilot scale system with interchangeable vessels that can be swapped in minutes.

- Range of single jacketed vessels from 5 litres to 35 litres
- Range of vacuum jacketed vessels from 5 litres to 10 litres
- Self-aligning stirrer



For cooling and heating your Reactor, see pages 20 & 21

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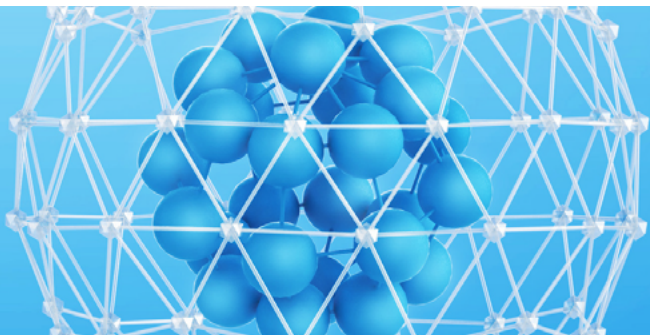


## Reactor-Ready Filter Lab Reactor

Synthesise and filter in the same vessel!

Stirred, temperature-controlled, contained filtrations

- Filter vessels are fully jacketed down to base for accurate temperature control
- Range of jacketed filter vessels in 1 and 2 litre volumes
- Filter assembly allows for efficient solid-liquid separation with minimal hold-up
- Unique filter support plate aligns the base with the vessel for tool-free assembly



### eLAB<sup>®</sup> Essentials - Compact Bioreactor



- 4x addition pumps for multiple solutions
- Wide range: vessel volumes (from 0.5 to 5L)
- Ready for single or multi-use vessels
- Full control: pH, T<sup>o</sup>, agitation, foam and pO<sub>2</sub> with cascade strategies



### eLAB<sup>®</sup> Advanced



- Connect up to 12 individual vessels in series
- Vessels sizes: 1L, 2L or 5L working volume
- Vessels available in borosilicate glass or stainless steel



### 10 | ePILOT<sup>®</sup> Bioreactor



- Easy technology transfer from the eLAB<sup>®</sup> and to the ePROD<sup>®</sup>.
- Working volumes: 10L, 20L, 30L and 50L
- Vessels available in glass or stainless steel
- Auto sterilization feature with its own steam generator for SIP



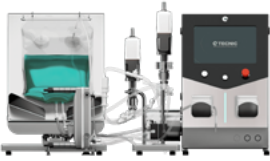
### ePROD<sup>®</sup> Bioreactor - Stirred Tank Bioreactor



- Working volumes ranging from 100L to 5000L
- Can be customized to meet specific needs
- Built-in SIP and CIP capabilities
- High-quality 316L stainless steel



## eLAB® TFF SU - Single Use



- Microfiltration or ultrafiltration, depending on the membranes used
- Equipped with a single-use plastic tank
- Volumes of 2 to 5L
- Membrane filter of up to 0,7 m<sup>2</sup>
- Supports the bioreactor range of the eLAB® wave



## eLAB® TFF - Enables fast and efficient process for tangential flow filtration (TFF)



- 5 or 10L stainless steel vessels
- Maximum filter membrane area of 0,5 m<sup>2</sup>
- Specifically designed to support the most challenging applications



## ePILOT® TFF - designed for demanding downstream bioprocessing and product recovery



- Fully automated system
- Working volume range of 10 to 100L
- Filtration surface ranging from 0.5 to 2.5m<sup>2</sup>
- High flow rates, high solute retention
- Easy integration into existing pipelines



## ePROD® TFF



- Fully automated system
- Working filtration area of 7 to 65m<sup>2</sup>
- Auto CIP/SIP functionality



## ASIA Modular Flow Chemistry

- Reactor temperature:  $-15^{\circ}\text{C}$  to  $+250^{\circ}\text{C}$
- Liquid phase reactor volumes: 62.5  $\mu\text{l}$ , 250  $\mu\text{l}$ , 1 ml, 4 ml, 16 ml
- Solid phase reactor volumes: 0.7 ml, 2.4 ml, 5.6 ml, 12 ml
- Pressure: 0 – 20 bar (300 psi)
- Flow rate: 1  $\mu\text{l}/\text{min}$  – 10 ml/min per pump
- Residence times: 1 second to several hours
- Rapid diffusional mixing
- Production volumes: mg to kg



Asia is a modular system. All modules can be acquired separately and arranged in any fashion to add new functionalities on an existing system.

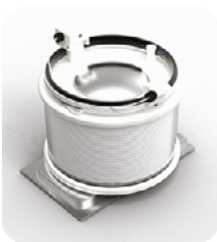
**Your system evolves with your needs!**

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### Glass Microreactors



### Tube Reactors



### Solid Phase Reactors



## Asia Pressure Controller

The Asia pressure controller allows to set the back pressure of the system, which permits solvents to be heated up above the atmospheric boiling point and therefore enables to increase the reaction rates.

- Pressure range: 1 – 20 bar (maximal pressure depends on pressure of gas supply)
- Built-in pressure sensor with an accuracy of 0.1 bar
- Wetted materials: glass and PFA





# Flow Synthesis

## From Lab scale to Production Scale



### Asia Syringe pump

The Asia syringe pump provides extremely smooth flow rates and was specifically designed for flow chemistry.

- Each pump module offers two independent flow channels with integrated pressure sensor
- Ultra-smooth flow rate is delivered by each channel of the syringe pump
- Four different syringe volumes for optimal flow rates
- Can operate at pressures up to 20 bar (300 psi)
- User-friendly: easy to operate and swap syringes
- Extremely chemically resistant: the wetted materials are PTFE and glass



### Asia Chip Climate Controller

This module is compatible with a range of glass microreactors, which can be heated or cooled by the integrated Peltier system.

- Temperature range: -15 to 150°C
- Compatible chips: 62.5  $\mu$ L, 250  $\mu$ L, 1 mL and micromixer chips
- Wetted materials (microreactor): glass or quartz



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### Asia Photochemistry reactor

Access a host of novel continuous photochemistry applications with Asia Photochemistry Reactor.



- Increase the light intensity (up to 108 W) to reduce reaction times and increases production rates
- No external cooling required
- Select from a wide range of wavelengths
- Process parameters are monitored



## ACCQPrep SFC - Supercritical fluid Chromatography

Green Preparative SFC: Chiral or Achiral Separations in a single, compact solution.

The only system enabling both bulk collection from stacked injections, and multi-sample, open access with an optional SFC AutoSampler (2×2 or 4×2).

- Flow rates from 50 to 200 ml/min for use columns of 2 or 3 cm x 25 cm or less
- Liquid co-solvent pump with standard 4-solvent selection valve capable of composition from 5 to 70%
- Column oven with selection valve for up to six columns
- Autoinjector to enable multiple injections of a single sample or stacked injection workflow
- Choice of UV or UV-Vis (PDA) detectors.



## CombiFlash® NEXTGEN 300+

RFID technology enables automated detection of columns and racks, adjusting flow rates for optimal results.

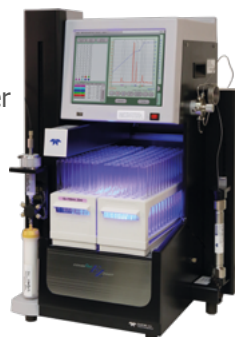
- Standard features include active solvent and waste level monitoring
- Flow rates range from 1 to 300 ml/min
- Operating pressure can reach up to 300 psi (20 bar)
- Detection options include UV, UV-VIS, ELSD, and MS
- Compact design to save lab space
- Default methods increase flow speed without sacrificing performance
- Greener approach with optimized gradients to conserve solvent



## CombiFlash® EZ Prep

Streamline Flash and Preparative HPLC

- Up to 3500 psi (240 bar) and 200 ml/min
- Run Prep HPLC columns up to 50 mm in diameter
- Flash purification for 10 mg to 33 g
- UV, UV-VIS, ELSD and MS detection options available
- Switch between normal and reverse phase solvents automatically, without user interaction



# Purification : Flash & Prep chromatography

## ACCQprep HP 150 Preparative HPLC

- Pressure range: Up to 6000 psi (413 bar)
- Flow rate range: 1 to 150 ml/min
- Detection options: UV, UV-VIS, ELSD, and MS
- Compatible with automation modules: auto injector, autosampler, and column selector module
- Automatic switching between normal and reversed phase solvents, no user interaction required



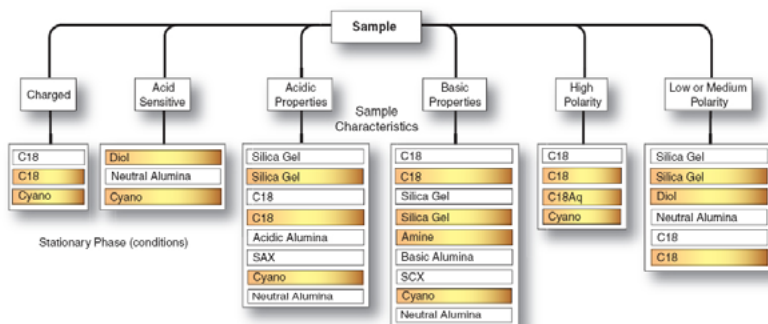
## REDISEP Flash Chromatography Columns

Designed to consistently produce high purity compounds. Easy purification and scale-up from milligram to kilogram.



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- Patented packing technique providing reliable and reproducible columns
- Extra thick walls for safe and robust columns
- Easy to use luer lock fittings
- A broad versatility on column phases for each type of purification



40–60 µm irregular media RediSep Rf columns.  
 20–40 µm spherical media RediSep Rf Gold® high performance columns.

## Reaxus single head



### **M1 CLASS**

3 MODELS: 10 ml/min - 40 ml/min - 100 ml/min  
Up to 2.000 psi (10 ml/min)  
Fluid path: Stainless steel



### **MX CLASS**

3 MODELS: 10mL/min - 40mL/min - 200mL/min  
Up to 5.000 psi (10mL/min)  
Fluid path: Stainless steel



### **LS CLASS**

3 MODELS: 10 ml/min - 40 ml/min - 100 ml/min  
Up to 6.000 psi  
Fluid path: Stainless steel or Hastelloy

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## Reaxus dual head



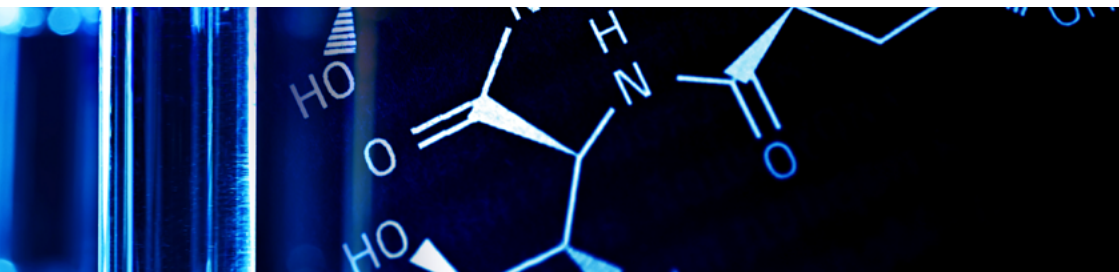
### **LD CLASS**

3 MODELS: 12 ml/min - 36 ml/min - 100 ml/min  
Up to 6.000 psi  
Fluid path: Stainless steel or Hastelloy



### **PR CLASS**

2 MODELS: 100 ml/min - 300 ml/min  
Up to 4.000 psi  
Fluid path: Stainless steel



## SyriXus Syringe Pumps

### When reliability & accuracy are critical

Teledyne ISCO SyriXus precision syringe pumps offer precise flow and pressure control across a wide operating range. These pumps ensure accurate metering without pulsation or flow irregularities commonly found in other pump types.

They can handle a wide variety of fluids including:

- Aqueous and organic liquids
- Viscous fluids
- Corrosive solutions
- Slurries and pastes
- Heated fluids
- Precision fluid delivery
- Liquefied gases
- Continuous flow mode is possible



65x



500xv



	Capacity	Flow* Range (mL/min)	Flow** Accuracy	Pressure Range (psi, bar)	Standard Pressure Accuracy	Standard Plumbing Ports	Dimensions	Continuous Flow Range (mL/min)	Higher Viscosity Materials
<b>1000x</b>	1015 mL	0.01–408	0.5% of Setpoint	10–2,000 0.7–137.9	0.5% FS	1/4" NPT	40.3x10.7x18.4 in 102x27x47 cm	0.01–265	
<b>500x</b>	507 mL	0.001–204	0.5% of Setpoint	10–5000 0.7–345	0.5% FS	1/8" NPT	40.3x10.7x18.4 in 102x27x47 cm	0.001–132	
<b>500xv</b>	507 mL	0.001–204	0.5% of Setpoint	10–5000 0.7–345	0.5% FS	3/8" NPT	40.3x10.7x18.4 in 102x27x47 cm	0.001–132	X
<b>260x</b>	266 mL	0.001–107	0.5% of Setpoint	10–9,500 0.7–655	0.5% FS	1/8" Valco	39.8x10.7x18.4 in 101x27x47 cm	0.001–70	
<b>65x</b>	68 mL	0.00001–25	0.3% of Setpoint	10–74,000 0.7–1,655	0.5% FS	1/4" T250C	39.8x10.7x18.4 in 101x27x47 cm	0.00001–16	



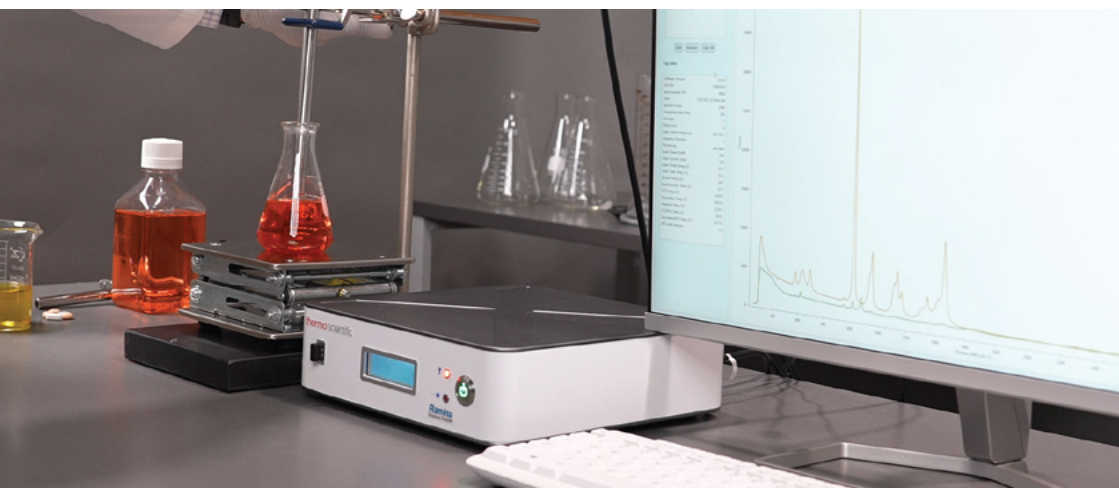
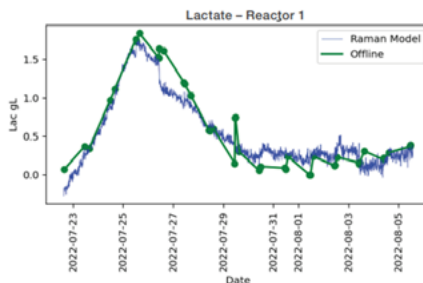
## Ramina: Process Analyzer

With this Raman spectroscopy, PAT probe scientists can make real-time measurements in reaction solutions or media, in a non-destructive and immediate manner. This enables scientists to make optimization decisions faster preventing potential loss of product.

To suit your applications needs, there are three different probes available to give the most accurate spectroscopic measurements,

- Fiberhead,
- Bioreactor Ball Probe,
- Process Ball Probe

The instrument comes with a factory calibration allowing for easy set-up within 15 minutes. Data is processed by easy-to-use software designed to simplify the necessary chemometrics.





## ECO thermostats

**From -50 to 200° C: Thermostats for economic temperature control in the lab**

- Available in standard silver (LCD display) or gold (color TFT display)
- **The circulation pump can be adjusted to six levels**
- Cooling capacities of 180 to 700 watts (at 20°C) and minimum temperatures of -15 to -50° C
- Energy-saving LAUDA SmartCool system



## PRO Circulation Thermostats

**Compact circulation thermostats for professional temperature control thermostating from -90 to 250° C**



- Thermostating from -90 to 250° C @  $\pm 0.05^\circ\text{C}$
- Small heat transfer liquid volumes for quick temperature changes
- Hybrid cooling permits cooling using ambient air or cooling water



## Variocool

**Versatile for dissipating process heat in laboratories, mini plants and production facilities**

The Variocool stands out due to its precise and flexible temperature control capabilities. It offers a wide temperature range, exceptional temperature stability, and high cooling and heating capacities.



- Variable process thermostats with cooling capacities from 1200 W to 10 kW
- Temperature range from -20 to 80 °C
- Space-saving design and versatile applications
- User-friendly operation with a color TFT display
- Standard USB interface and alarm contact, additional interfaces can be added for enhanced connectivity
- Integrated bypass and optional pumps for adjusting operating pressure and flow rate





## Integral

### High-performance process thermostats

The Integral XT process thermostats are a state-of-the-art solution for precise temperature control in professional environments



- Power options ranging from 1.5 to 18 kW,
- Wide temperature range (-90 to 320 °C)
- Advanced flow principle with cold oil superimposition
- Electronically controlled eight-stage LAUDA Variopump
- Seamless volume flow management
- Modular interface concept for integration
- Simple operation with TFT or touch display



## LAUDA Ultracool

### The next stage of Energy-Efficient Temperature control

Process circulation chiller with cooling capacity of up to 265 kW from -5 to 25° C for industrial applications

- Suitable for setup outdoors
- Ready-to-operate "Plug & Operate"
- Incl. cold water container, centrifugal pump and internal bypass
- Standard-issue temperature sensing prevents freezing of the heat exchanger
- Integrated pressure switches to protect the circuit against pressure that is too high or too low
- Chiller casing made of galvanized steel panels coated with epoxy resin protected against corrosion even in aggressive production environments



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## Dissolution testers

Choose between 6 or 8 vessels. The dissolution testers are versatile performance machines, built with the highest quality components and engineering for manual and automated dissolution testing.

The **CD14 Comparative Dissolution** with 14 vessels allows testing of two different drugs at once.



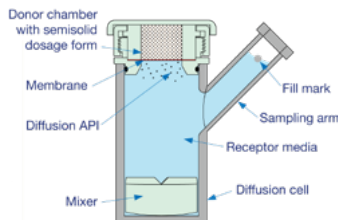
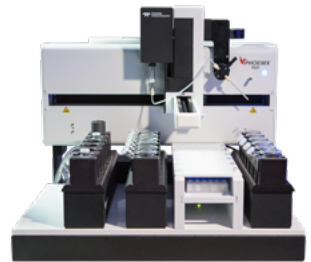
## Manual Diffusion testers

The patented Phoenix™ range of dry-heat systems makes diffusion-cell testing faster, easier, and more economical. The Phoenix DB-6 manual sampling system offers six-cell manual sampling in a compact footprint with an advanced touch screen display.



## Automated Diffusion testers

The Phoenix RDS Robotic Diffusion Station delivers fully automated sampling, collection, and media replace with the ability to run up to 24 cells at once from a single computer workstation.



## Who we are

### Support and Product Xperts

ChemSPX is part of the Beun-de Ronde B.V. group, a leading supplier of laboratory equipment for more than 100 years.

Within this group, ChemSPX is active in the field of Chemical Synthesis. For instance, instrumentation for batch- and flow synthesis, prep- and flashchromatography and thermostats are advised and installed by our Xperts.



Through our experience, versatility and organizational strength, our organization distinguishes itself as a company where every employee maximizes customer satisfaction, personal results, teamwork and communication skills. These principles help us establish a long-term relationship with our customers.

### Our Service

Our Support Engineers and Product Specialists support the whole process from advising, demonstrating developing the application, installing and maintaining your laboratory equipment.

1. Tailor-made installations of new equipment & training
2. Upgrades of existing equipment
3. Preventive maintenances with or without service contract
4. Technical support (hardware & software)
5. IQPQOQ + reporting
6. Validation & Calibration services
7. Omnium service contracts
8. Demo lab
9. Remote & application support



## Next to ChemSPX, the BDR group holds:



**BioSPX**  
*A new focus on life science*

BioSPX: Life Science – [www.biospx.com](http://www.biospx.com)



**SciSPX**  
*Analysis simplified*

SciSPX: Analysis simplified – [www.scispx.com](http://www.scispx.com)



**AddSPX**  
*Elemental & structure analysis*

AddSPX: Element and Structure Analysis – [www.addspx.com](http://www.addspx.com)

## YOU MIGHT WANT TO KNOW MORE.

In that case, don't hesitate to contact us to make an appointment for a meeting, a product presentation, or any other question.



**ChemSPX**  
*Chemistry connects*

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