



**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 a leading role:



Syrris is a world leader in modular flow and batch chemistry reactor systems: applications including process development, drug discovery, calorimetry, crystallization and filtration.



AGI Glassplant engineered glass systems for chemical processing: From laboratory to pilot plant and manufacturing scale. Off-the-shelf, as well as custom-made products.



Tecnic produces a wide range of bioprocess equipment: Bioreactors and Tangential Flow Filtration including upscaling from Lab to Process scale.



Dolomite Microfluidics provides microfluidics-based solutions for a wide range of applications, including drug encapsulation, droplet manufacturing, and particle generation. This includes application-specific systems, microfluidic components and custom devices.

Particle Works

Particle Works produces platforms for nanoparticle generation from screening to production. These nanoparticles are an excellent delivery method for vaccines, drugs, gene therapies and other APIs.



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 H₂) and solids, to continuous flow operations.



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, and for the isolation 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.



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



Teledyne Hanson specializes in the design and manufacturing of

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

Our markets



Chemical industry



Pharmaceutical industry



Food - Feed - Beverages



Agriculture



Environment



Energy resources

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Batch synthesis From Lab scale to Pilot scale

Atlas HD Automated Reactor System

- Fully automated control of parameters
- Vessel range: 50ml to 5L
- Temperature range: -90°C to +250°C
- Captures process data
- Intuitive Touch Screen
- High performance hotplate or circulator temperature control and stirring are optional
- Available in different configurations e.g. for crystallization & calorimetry



ORB Affordable Reactor System

- Wide range of vessels: from 100ml to 10L
- Maximum chemical resistance: all wetted parts are glass or PTFE
- Temperature range: from -90°C to +250°C
- Pressure range: vacuum (50 mbara) to 0.25 bar
- Quick vessel change, no tools needed



ORB PILOT effortless SCALE-UP

Wide range of vessels: 10L, 20L, 30L and 50L

- Rapid vessel change: easy motor lift
- Detachable bottom outlet valve: easy cleaning and maintenance
- Temperature range: from -40°C to +235°C
- Rapid change baffles: enables high performance stirring across a wide range of viscosities



Check pages 20 & 21 of this brochure for our thermostats

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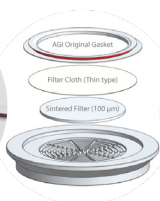
Benchtop Filter reactor

Offers multi-mode product collection upon completion of a filtration process. A single support structure for vessels of up to 5L.

- Reaction and (vacuum) filtration in a single vessel
- Minimal direct handling - prevent product loss
- Temperature range: from -40°C to +200°C
- Interchangeable vessels and accessories



Filter with gasket



Filtration unit parts



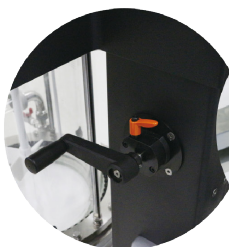
Gasket for thicker filters



Pilot Plant Filter Reactor PLUS

Available in 10-30L volumes with a large filtration area. A mobile filter base ensures safe and easy product cake collection with minimal loss. Suitable for complex reactions and filtration processes.

- Reaction and (vacuum) filtration in a single vessel
- Easy access to filter
- Wide temperature range: -90°C to +200°C
- Support structure with castors for mobility



Rotating handle located on the side of the stand. Can be fitted on either side of the stand



The filter plate can be easily pushed to the side



The product cake is easily accessible for collection



eLAB® 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°, agitation, foam and pO₂ with cascade strategies



eLAB® 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



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



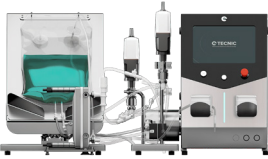
ePROD® Bioreactor - Stirred Tank Bioreactor



- Working volumes ranging from 100L to 5000L
- Can be customized to meet specific needs
- Built-in SIP and CIP (Clean in Place) 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 m²
- 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 m²
- Specifically designed to support the most challenging applications



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

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- Fully automated system
- Working volume range of 10 to 100L
- Filtration surface ranging from 0.5 to 2.5m²
- High flow rates, high solute retention
- Easy integration into existing pipelines



ePROD® TFF



- Fully automated system
- Working filtration area of 7 to 65m²
- Auto CIP/SIP functionality



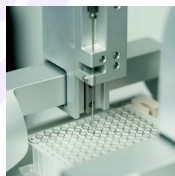
Automated Library Synthesis (ALiS) System

The ALiS system enables high-throughput screening of Lipid Nanoparticle formulations of for example mRNA candidates in early-stage development.

- High-throughput: Aspirate from and dispense into covered 96 well plates
- Excellent encapsulation efficiency
- Process up to 96 samples in a typical working day
- Broad range of particle sizes: 40 – 800 nm
- Monodispersity: Excellent Poly Dispersity Index (PDI) < 0.2
- Automation: Walk-away during experiments increasing laboratory efficiency
- Anti-dispersion Technology: Work with smaller reagent volumes as low as 100 μ l
- Flexibility: Modify both process parameters and formulations for each experiment
- Scalability: Scale seamlessly to process & protocol optimization
- Cost saving: Reduced reagent use and reusable chips



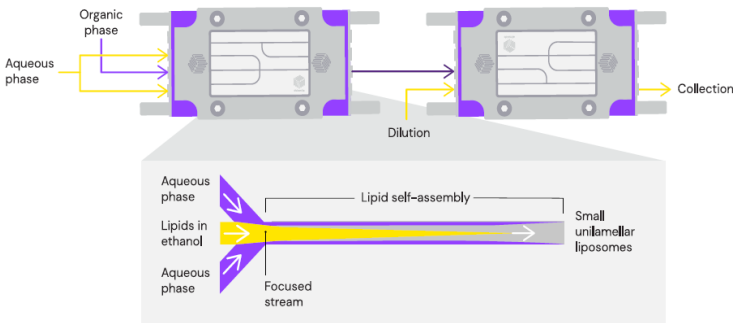
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Automated Nanoparticle (ANP) System

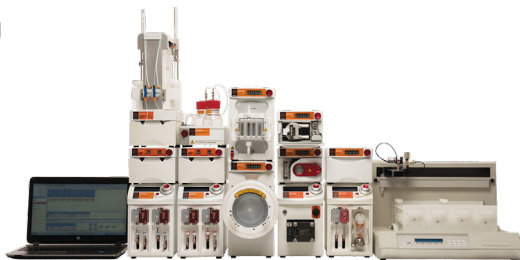
The ANP system is designed for automation and acceleration of process development and initial production of larger samples.

- Monodispersity: Excellent PDI (< 0.2) and encapsulation efficiency
- Broad range of particle sizes: 40 – 800 nm
- Scalability: From 200 µl to continuous production
- Rapid optimization timeframes
- Highly reproducible
- Flexibility: Easy to set up and modify parameters
- Cost saving: Reduced reagent use and reusable chips
- No IP Licensing



ASIA Modular Flow Chemistry

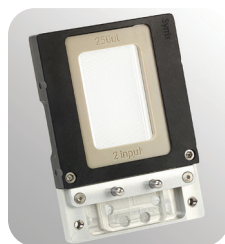
- Reactor temperature: -15°C to $+250^{\circ}\text{C}$
- Liquid phase reactor volumes: 62.5 μl , 250 μl , 1 ml, 4 ml, 16 ml
- Solid phase reactor volumes: 0.7 ml, 2.4 ml, 5.6 ml, 12 ml
- Pressure: 0 – 20 bar (300 psi)
- Flow rate: 1 $\mu\text{l}/\text{min}$ – 10 ml/min per pump
- Residence times: 1 second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



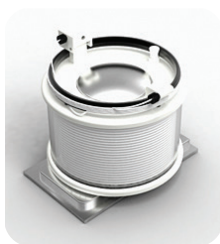
Asia is a modular system. All modules can be acquired separately and arranged in any fashion to add new functionalities on an existing system.
Your system evolves with your needs!

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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 Labscale 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 to 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 μ L, 250 μ 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 increase production rates
- No external cooling required
- Select from a wide range of wavelengths
- Process parameters are monitored



H-Cube MINI plus

Safe and affordable hydrogenation

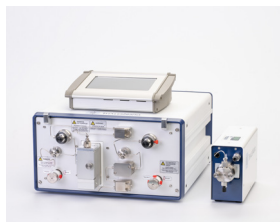


- H₂ is generated in situ
- Hydrogenation without cylinders
- Fast catalysed reactions
- Easy to use
- Max 100°C / Max 100 bar



H-Cube PRO®

Continuous-flow Benchtop Hydrogenation Reactor



- Flow rate: 0.1-3 mL/min
- Temperature range: 10-150°C
- Pressure: 1-100 bar
- High throughput and control: two electrolytic cells to reach max. 60NmL/min of H₂
- Auto inlet/outlet valve control
- Intelligent software



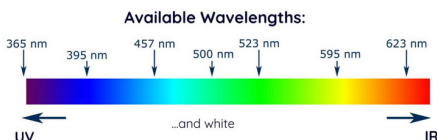
PhotoCube

Batch and flow reactions in one reactor with several wavelengths

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- Batch, flow, stop-flow and CSTR reactions in the same platform
- 7+1 wavelengths in one instrument



Phoenix II Flow Reactor

Multifunctional Module compatible with H-cube Pro™ and H-genie I and II



- Innovative: performs chemistry till 450°C & 200 bar (for liquids)- not possible in standard lab reactors
- Fast: reactions in seconds
- Simple: 2 buttons and automated touchscreen
- Versatile: perform reactions in a loop homogeneously or use a range of different catalyst cartridges



H-Genie II

Safe and powerful hydrogen generator

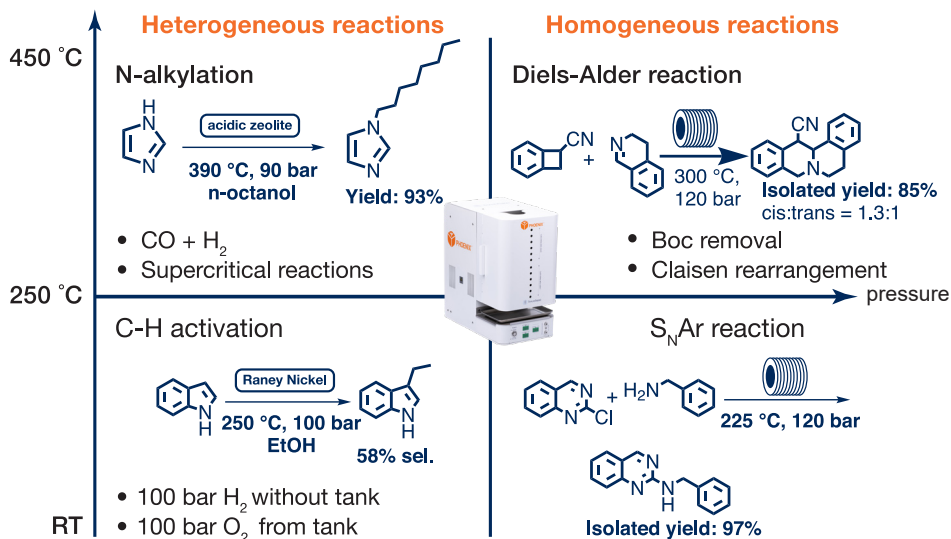
- Expand chemistry in batch and flow with up to 100 Bar of H₂, generated from water
- Accurately log how much hydrogen is used in your reaction
- Up to 1 NL of H₂ / min
- Simple and safe



The H-Genie® II **combined with the Phoenix Flow Reactor™** II is an **all-in-one flow chemistry setup** for catalyst screening, synthesis, optimization, and scale-up that fits in any fume hood in any lab.



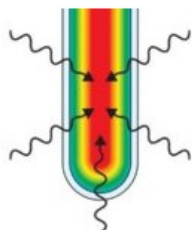
This combination offers you a wide temperature and pressure range in addition to high pressure hydrogen generated safely without cylinders for your reactions, granting you the capability of synthesizing from milligrams to kilograms of product on the same system.



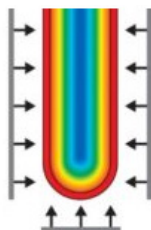
Why should I use a microwave?

Microwave technology has become a common tool for chemical synthesis both in academia and industry. Compared to conventional means of synthesis, the advantages of heating with a microwave system include:

- Faster reaction times
- Higher yields
- Improved purity
- Better reproducibility
- Enhanced reaction control



Microwave Heating



Conventional Heating

Additional sensors **ensure end-user safety at all times:**

- Tempguard™ — user defined safe temperatures to prevent programming errors
- DuoTemp™ — optional dual-infrared and fiber-optic temperature measurement that prevent exothermic reactions
- Reactiguard™ — acoustic sensor disables heating
- SafetyLock™ Door — reinforced, steel frame design
- Turntable sensor — disables heating if vessel carousel stalls

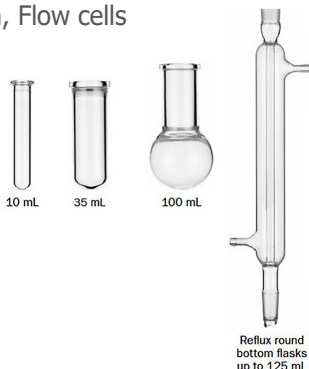
Microwave Chemistry Applications

Fully customizable, the MARS 6 Synthesis benchtop system can be dedicated for synthesis or serve as an all-in-one microwave reactor for a variety of applications.

- Organic Synthesis
- Teaching Laboratories
- Inorganic Chemistry
- Nanomaterials Production
- Polymer Synthesis
- Parallel Reaction Processing
- High-throughput Laboratories
- Solvent Extraction

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



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.

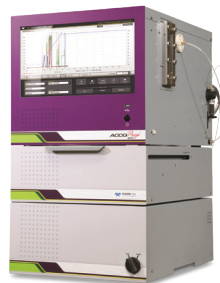
During the reaction, the gas source is completely shut off from the microwave, ensuring your safety at all times.

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 of 2 and 3 cm columns
- 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
- GLS handles easy sample collection



CombiFlash® NEXTGEN 300+

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

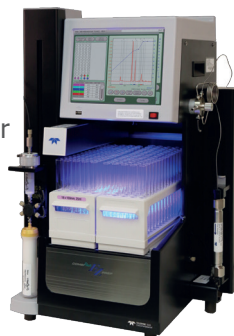
- Standard features include active solvent and waste level monitoring
- Flow rates range from 1 to 300 ml/min
- Operating pressure can reach up to 300 psi (20 bar)
- Detection options include UV, UV-VIS, ELSD and MS
- Compact design to save lab space
- Default methods increase flow speed without sacrificing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



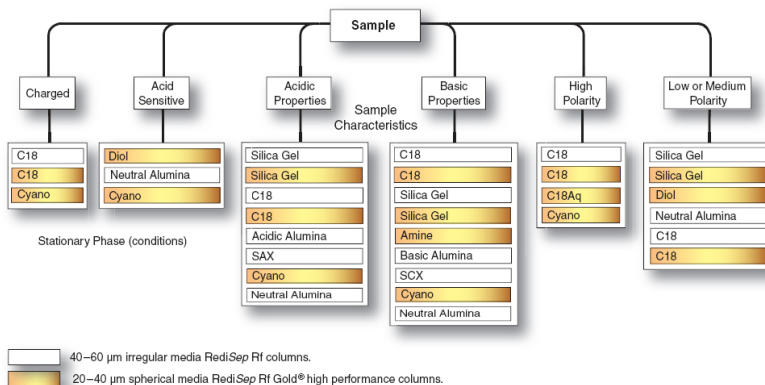
REDISEP Flash Chromatography Columns

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



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



	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
1000x	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	
500x	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	
500xv	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
260x	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	
65x	68 mL	0.00001–25	0.3% of Setpoint	10–24,000 0.7–1,655	0.5% FS	1/4" F250C	39.8x10.7x18.4 in 101x27x47 cm	0.00001–16	

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Benchtop Evaporators

Modern high performance rotary evaporators with direct self-cooling condenser technology and zero consumables.

- More than twice as fast as traditional rotavaps
- Self-cooling technology
- Small footprint
- No need for glycol, dry ice, or water: eliminates the major sources of material waste associated with conventional rotavaps



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.

Generic drug testing

The **CD14 Comparative Dissolution** with 14 vessels allows testing of two different drugs at once. It is often used in bio-equivalence and generic studies.



Manual Diffusion testers

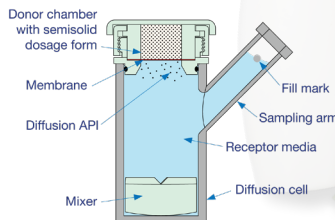
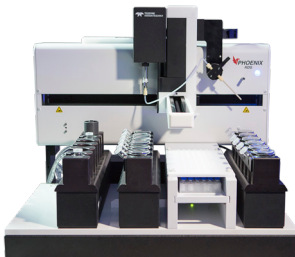


The patented Phoenix™ range of dry-heat systems makes diffusion-cell (or FRANZ) testing faster, easier, and more economical. The Phoenix DB-6 manual sampling system offers six-cell manual sampling in a compact footprint with an advanced touch screen display.



Automated Diffusion testers

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



Who are we?

Support and Product Xperts

ChemSPX is part of BRS, a leading supplier of laboratory equipment for more than 30 years.

Within this group, ChemSPX is active in the field of Chemical Synthesis. For instance, instrumentation for batch- and flow synthesis, prep- and flash chromatography 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. IQOQPQ + reporting
6. Validation & Calibration services
7. Omnium service contracts
8. Demo lab
9. Remote & application support



Cl

Fe

Next to ChemSPX, BRS has other business units:



BioSPX
A new focus on life science

BioSPX: Life Science - www.biospx.com



SciSPX
Analysis simplified

SciSPX: Analysis simplified - www.scispx.com



ChemSPX
Chemistry connects

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