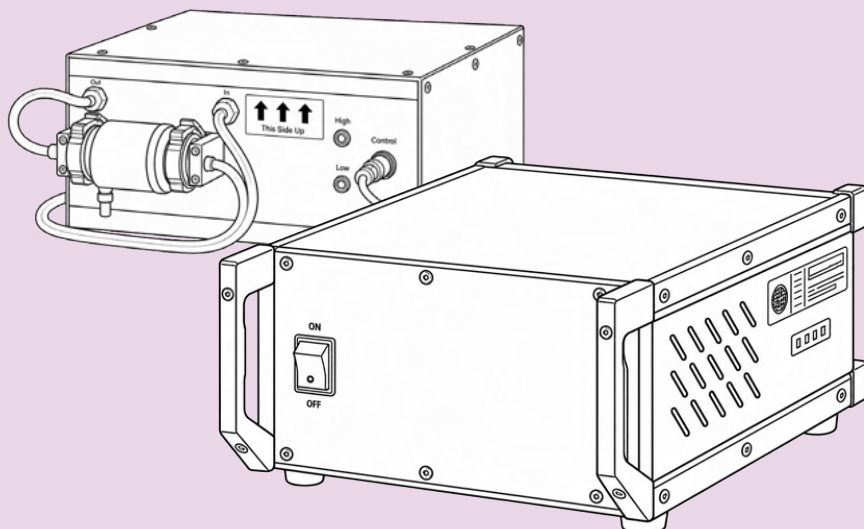
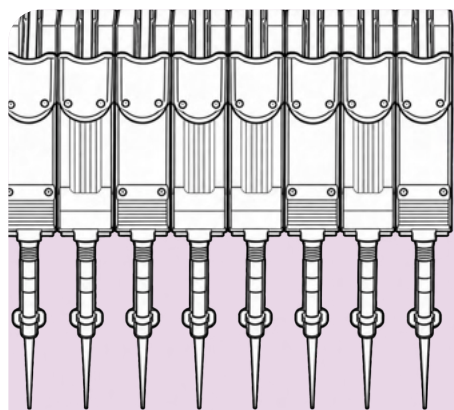
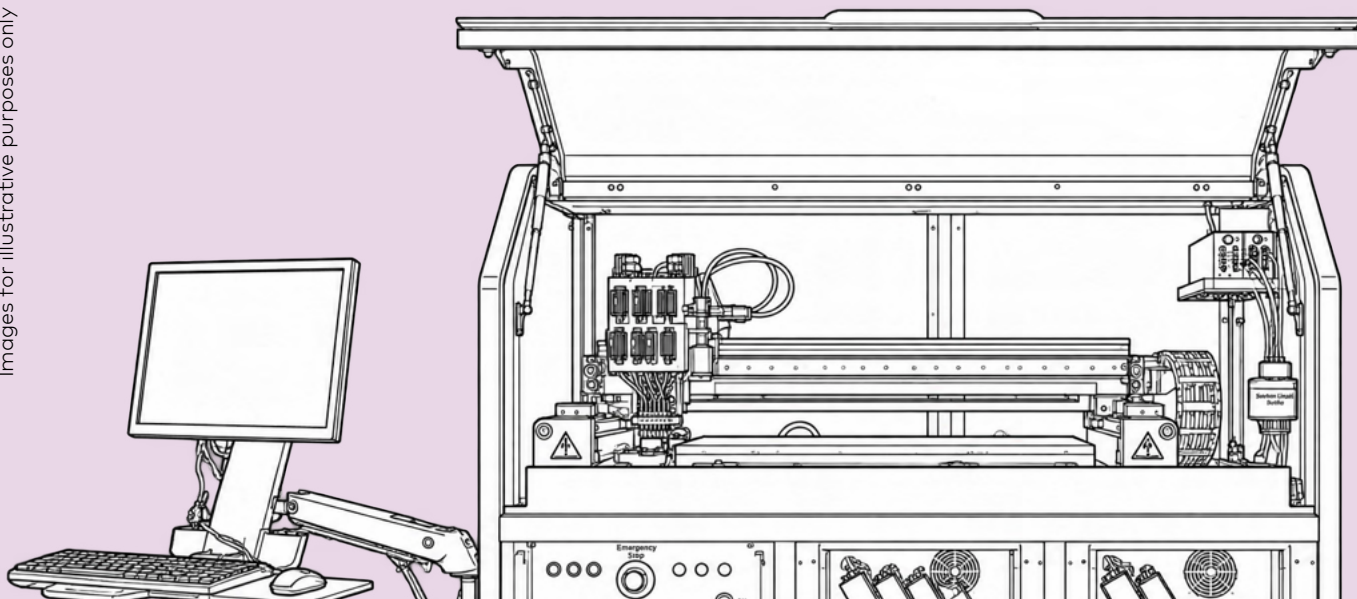


SCI|FLEXARRAYER

Optional extras and software packages

The sciFLEXARRAYER platform is a modular precision microdispensing solution. Optional hardware and software packages extend the platform, from initial setup and daily operation through to advanced dispensing, quality verification, environmental control, substrate handling, process reliability and production enablement.

Images for illustrative purposes only



Some options are model-specific (S3, S12, SX or S100) as indicated. Detailed technical specifications, compatibility lists and application data are available on request.

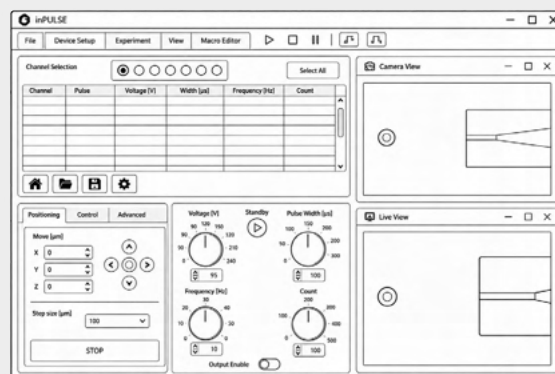
Workflow setup and onboarding

How do I get productive quickly and create a consistent starting point for new users?

USB software and documentation package (S00340)

Foundational software and documentation delivered on a USB stick, comprising user manuals in PDF format and demo and training software.

This ensures immediate usability of the system after installation and provides a consistent onboarding reference for every new user.



sciSTARTERKIT (S00340)

Contains the essential consumables and materials required to begin operating and maintaining the system directly after installation. Includes a selection of standard source and target consumables, system and capillary cleaning solutions, filtration and wiping materials.

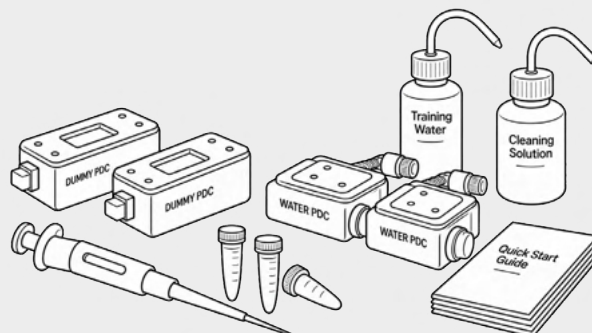
sciSTARTERKIT reduces the setup burden on new sites and shortens the time to a first productive run.



PDC training kit (S00326)

Includes two Piezo-Dispense Cappillaries (PDCs) and two water PDCs dedicated to training and user onboarding.

This kit enables new users to familiarise themselves with instrument handling and dispensing operation before working with fully functional PDCs, reducing the risk of damaging application-specific consumables during the learning phase.



Spotting, dispense control and liquid handling

Full control over how, what and how fast you dispense.

How do I improve dispense flexibility, volume range, throughput and liquid compatibility?

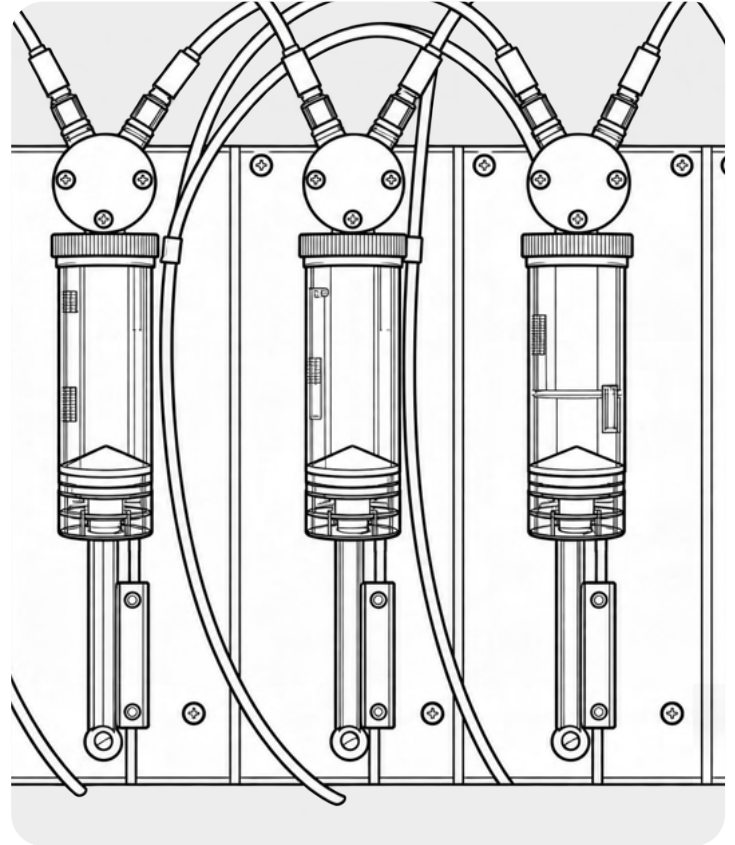
Liquid handling channel, sciDROP PICO (S00342)

Supplies the fluidics for one PDC, including a syringe pump, valve, syringe and all related fittings and tubing.

For droplets comprising 20 to 800 pL (liquid compatibility list on request).

Each channel is supplied and controlled individually and is compatible with a wide range of organic and inorganic solvents.

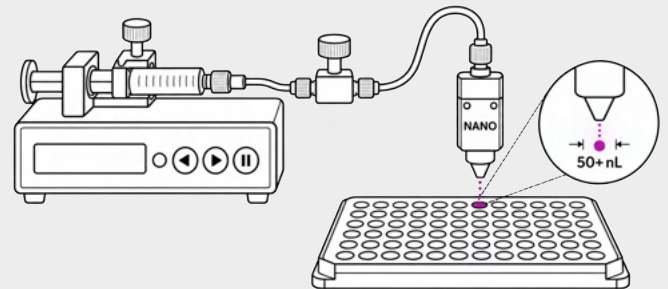
Additional channels can be added to enable parallel dispensing (up to 8 channels on S3/S12/SX, up to 12 per portal on S100), which increases throughput and reduces processing time per batch.



Liquid handling channel, sciDROP NANO (N003-2080) - S3 NANO A/D only

NANO channels enable higher-volume (50+ nL) jetting via electromagnetic valve technology, extending the sciFLEXARRAYER platform beyond the picolitre range served by sciDROP PICO.

NANO technology offers the greatest flexibility across liquid viscosity range.



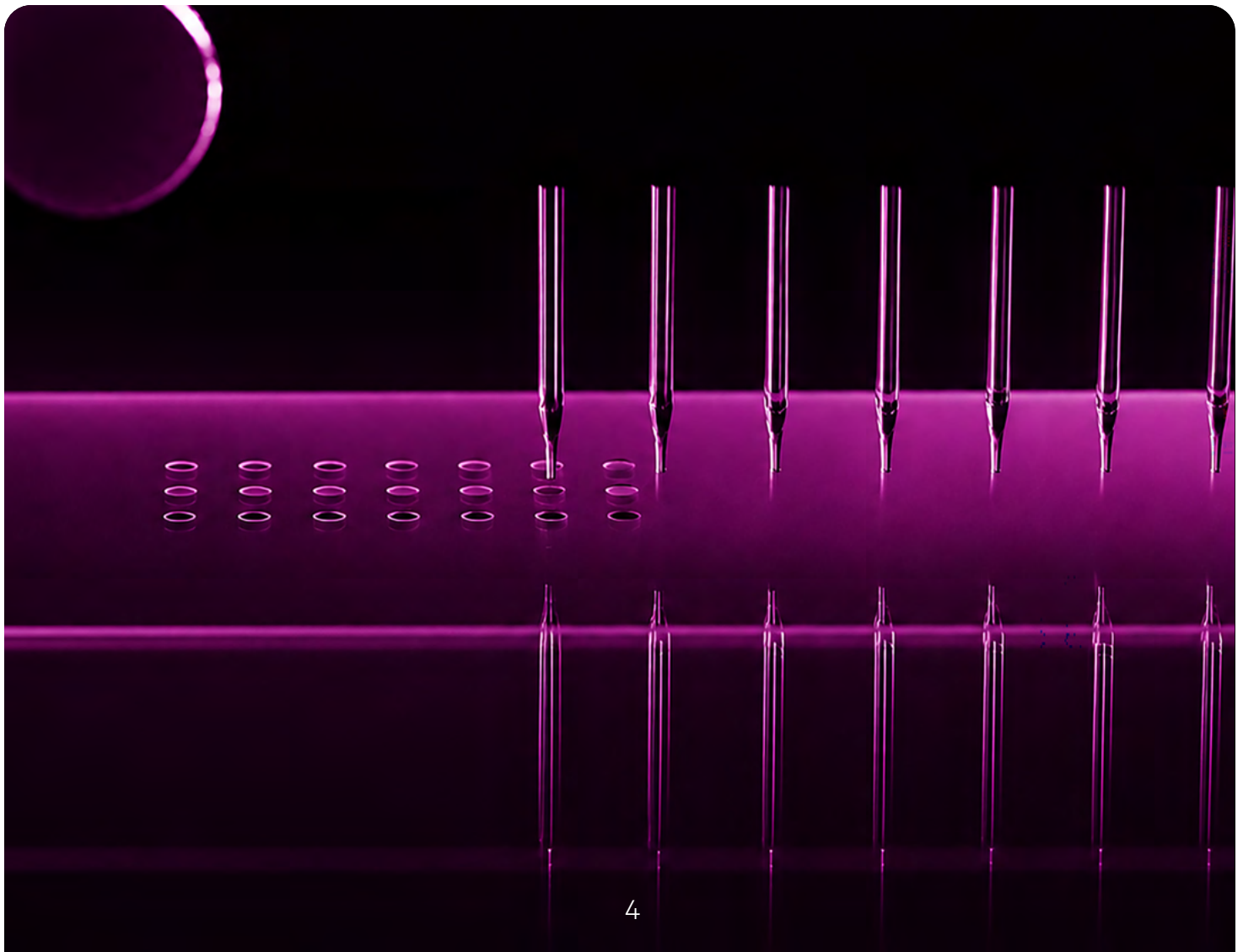
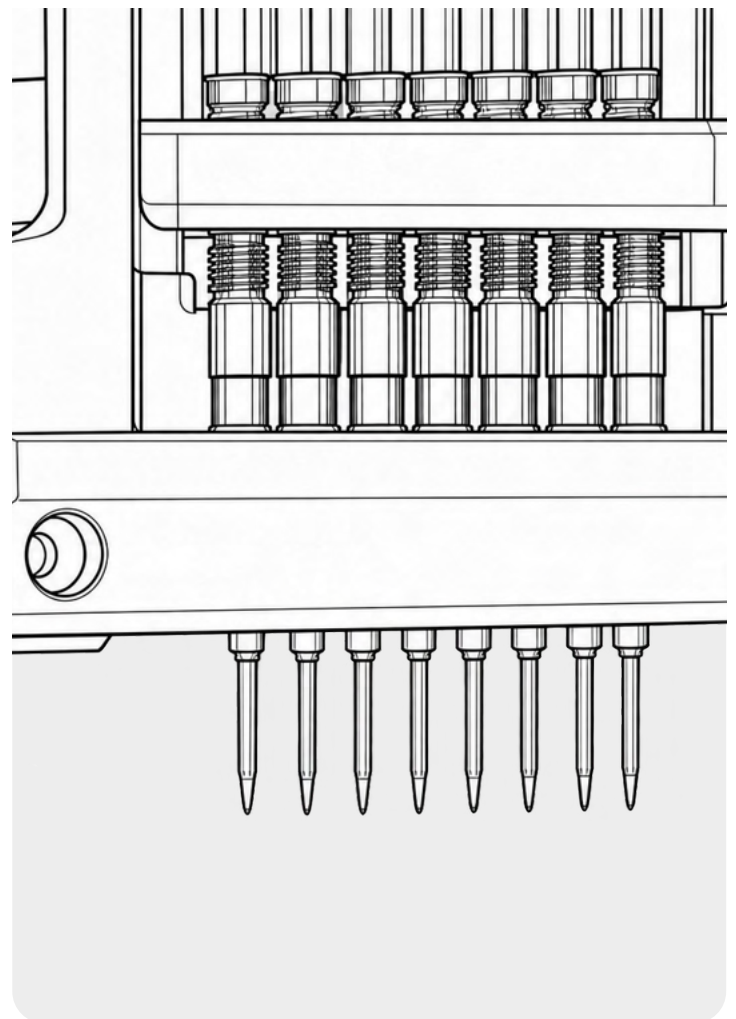
Dispense heads, 8 channels (S00346)

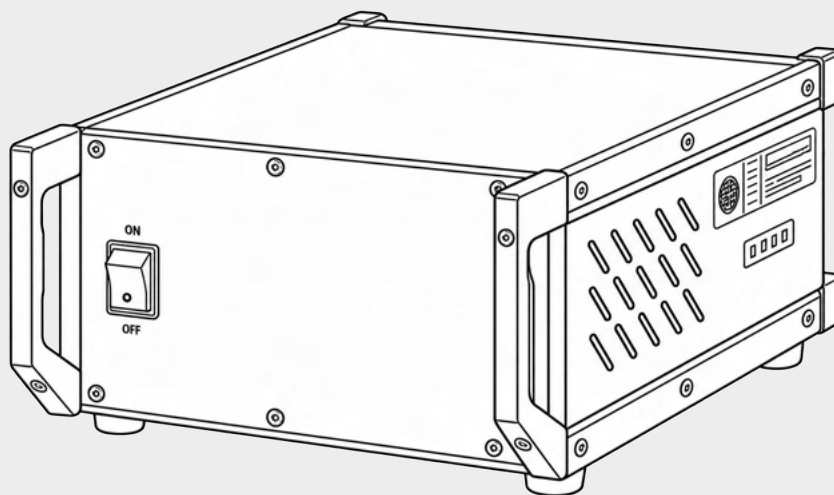
sciFLEXARRAYER dispense head holds up to eight PDCs or NDCs with 4.5 mm capillary spacing, displaying simple magnetic snap mechanism.

Extend the compatibility of your system to temperature-sensitive workflows and reagents that require controlled thermal conditions during dispensing.

The heated dispense head (S00345) offers active temperature control, enabling printing temperatures up to 70°C. Maximum capacity is reduced to seven PDCs when a temperature sensing nozzle is installed as feedback device.

Experience simple, safe exchange of individual capillaries or of the head itself, minimizing downtime when switching between applications, liquid types or channel configurations.





sciPULSE Device

Universally applicable hardware device that modifies the pulse shape applied to a PDC and updates the standard software with a sciPULSE feature.

Users can select from a library of predefined pulse profiles for challenging applications.

Available as 1-channel (S00366), 4-channel (S00367), or 1-channel ALL-IN (S00368), the latter bundling all five sciPULSE application packages.

sciPULSE extends the accessible volume range and liquid compatibility of the platform and reduces the protocol validation effort required to bring new applications into routine use.

sciPULSE Application Packages

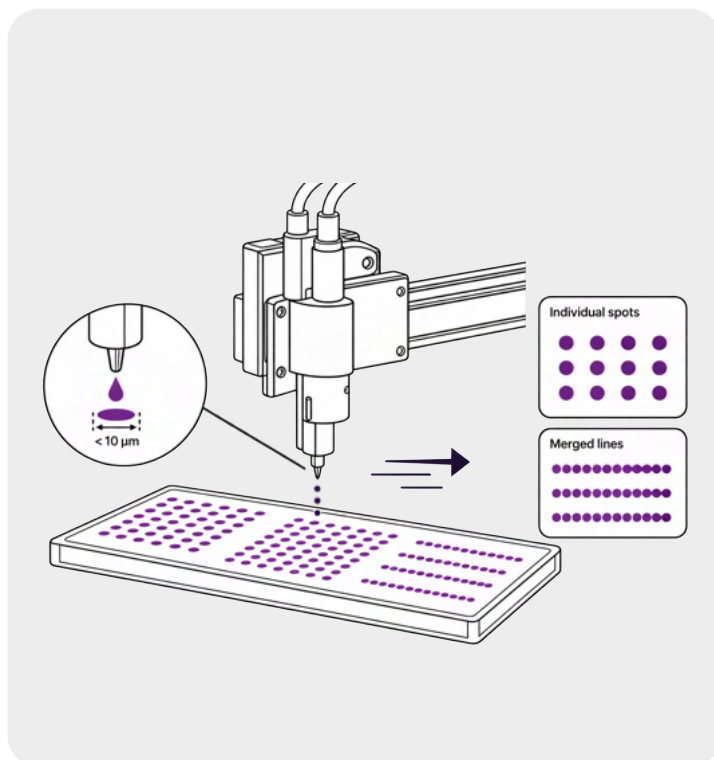
Standardised pulse profiles designed for specific dispensing conditions, each reducing protocol validation time and lowering implementation cost for the corresponding application. Purchased with a sciPULSE device.

Application Package	Part Number	Description
Low volume	S00369	Droplets between 150 and 220 pL with PDCs 60, 70 and 80.
Ultra low volume	S00370	Droplets down to 20 pL. PDC selection on request from tech support.
High viscosity	S00371	Samples up to 22 mPa·s. PDC selection on request from tech support.
High volume	S00372	Droplets between 600 and 800 pL.
1 nL	S00373	Droplets up to 1.3 nL; nL-range volumes generated by multiple deposits on the same position, using the same technology as PICO dispensing.

Spot-on-the-Fly (SPOTF) [S12 and SX only] (S00384)

High-speed printing of accurate arrays in various configurations, as individual spots or merged lines. Positional precision remains below 10 μm . QC is possible for the individual arrays and lines with additional QC software.

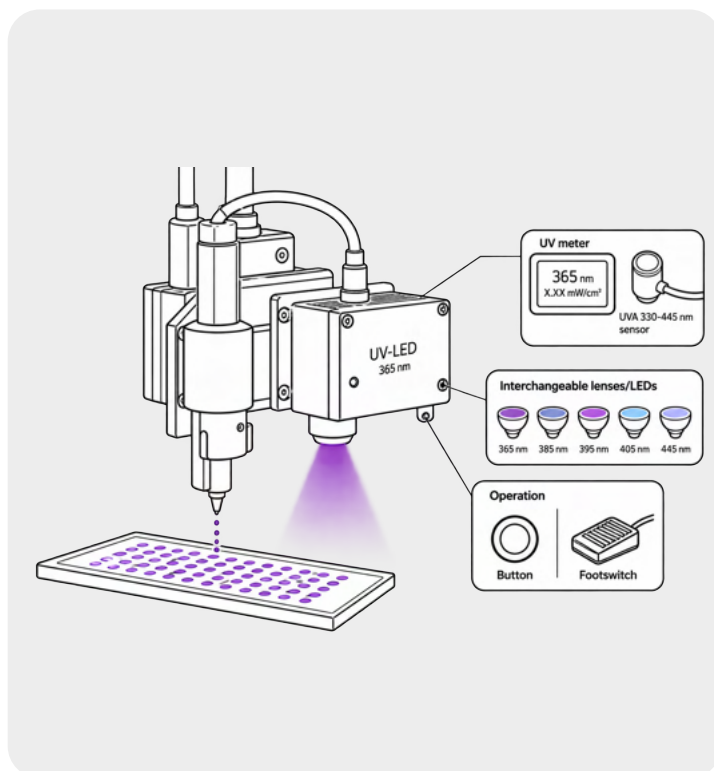
Depending on array layout, this mode can increase spotting speed by up to 50 times compared with traditional stop-and-spot mode, which makes it well suited for high-density arrays and arrays with many replicas.



UV-LED irradiation package 365 nm (S00354)

UV-LED light source mounted on the side of the dispense head with software-steerable positioning. Standard 365 nm wavelength with adjustable and programmable irradiation (intensity and time). Includes a UV meter with UVA 330-445 nm sensor calibrated for 365 nm. Replaceable lenses and LEDs at 385, 395, 405 and 445 nm are available on request. Operated at the press of a button or by footswitch.

Combine printing and UV crosslinking workflows.



Layer mode (S00397)

Enables the creation of multiple layers within targets on the arrayer, supporting complex spotting patterns such as different filling patterns per target or selective loading of samples to specific targets. Reduces the number of runs required, saves time and reagents, and enables assay designs that would otherwise call for multiple separate runs.

Channel electronics, sciDROP PICO, 8 channels (S00341)

Individually configurable control of up to 8 sciDROP PICO channels with freely adjustable voltage, pulse width, frequency and drop count per position. Self-cleaning mode per channel.

Few drops (S00380)

Captures the image of as little as a single drop for valuable-sample workflows and for controlling samples that behave differently in single-drop vs multi-drop dispensing.

Line spotting (S00383)

Prints continuous lines or dots in line, bi-directional. Ideal for loading lateral flow devices or coating surfaces. QC applies to the starting spot only, not the full line.

Individual pulse parameter (S00394)

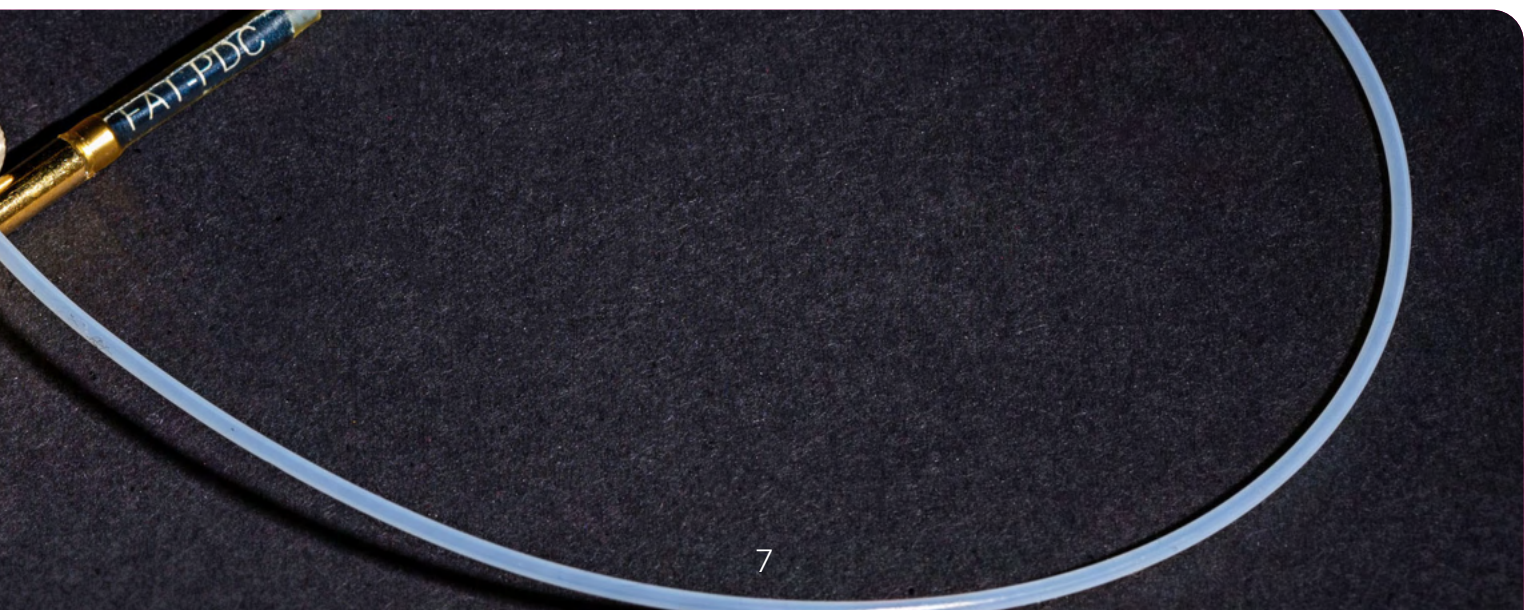
Assigns specific voltage and pulse parameters to each source-plate well for improved run stability across mixed samples.

Lateral flow (S00406)

Recommended configuration for lateral flow applications, combining software and hardware: Online Array QC, Scan Spot Area, Find Target Reference Points, Line Spotting, Head Camera, Illumination Ring, Vacuum Target Holder L.

Advanced patterns (S00407)

Recommended bundle for advanced target configurations and precious samples: sciBITMAP, Position File Advanced, Layer Mode, Few Drops, Individual Pulse Parameter.



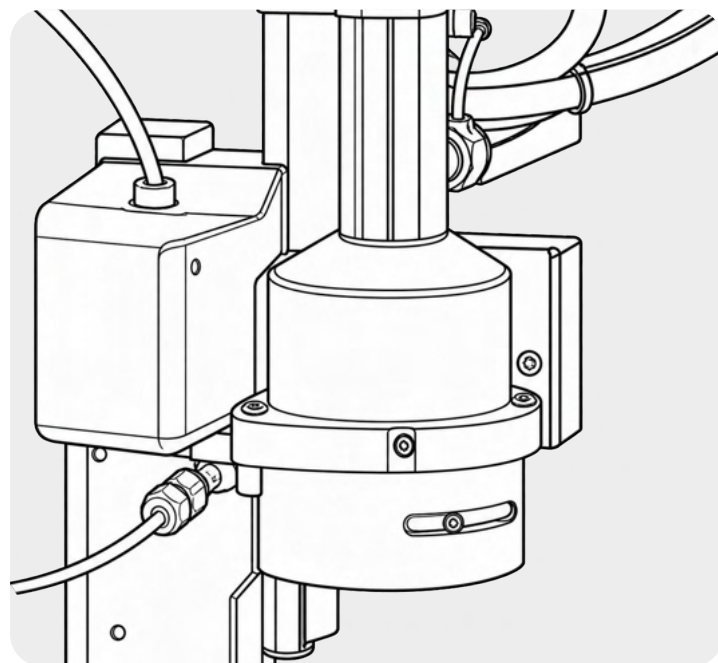
Visualization, target alignment and online QC

Verify every spot as it lands.

How do I align to complex targets, inspect results and reduce failed runs?

Head camera with coaxial illumination (S00353)

Vertically mounted B/W CMOS camera mounted on the dispense head, connected to the PC and supported by the instrument control software. Resolution 1280 x 1024 pixels, field of view 6.8 x 5.4 mm. Camera type and light source can be adapted at additional cost; alternative cameras (colour, other magnifications) available on request. This option is a prerequisite for most alignment and online QC options



Implement full optical control and data acquisition of the targets before, during and after spotting.

Online array QC software (S00389)

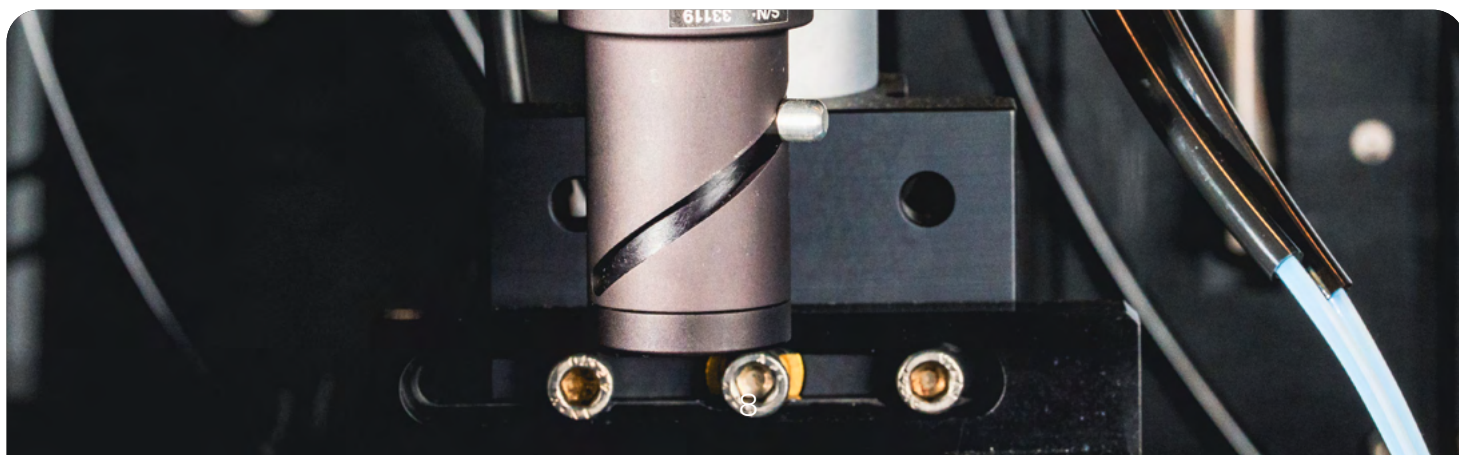
Automated imaging and image analysis: each target area is analysed for spot roundness, missing spots and positional accuracy, with inter- and intra-array analysis and graphical and numerical reports. Requires Head Camera.

Automate an objective, in-process verification of dispense performance and generate reports that support traceability.

Find target reference points (S00387)

Detects one or more marker patterns on the target to establish a reference point and target orientation, whether the markers appear in one field of view or across several. Requires Head Camera.

FTRP enables accurate spotting relative to complex or structured substrates such as biosensors and biochips, and removes the need for operators to manually align each target.



Illumination rings

Mounted around the head camera to improve contrast on surfaces such as paper or rough nitrocellulose. Available in UV (S00335), white (S00332), green (S00333) and red (S00334).

Scan spot area (S00390)

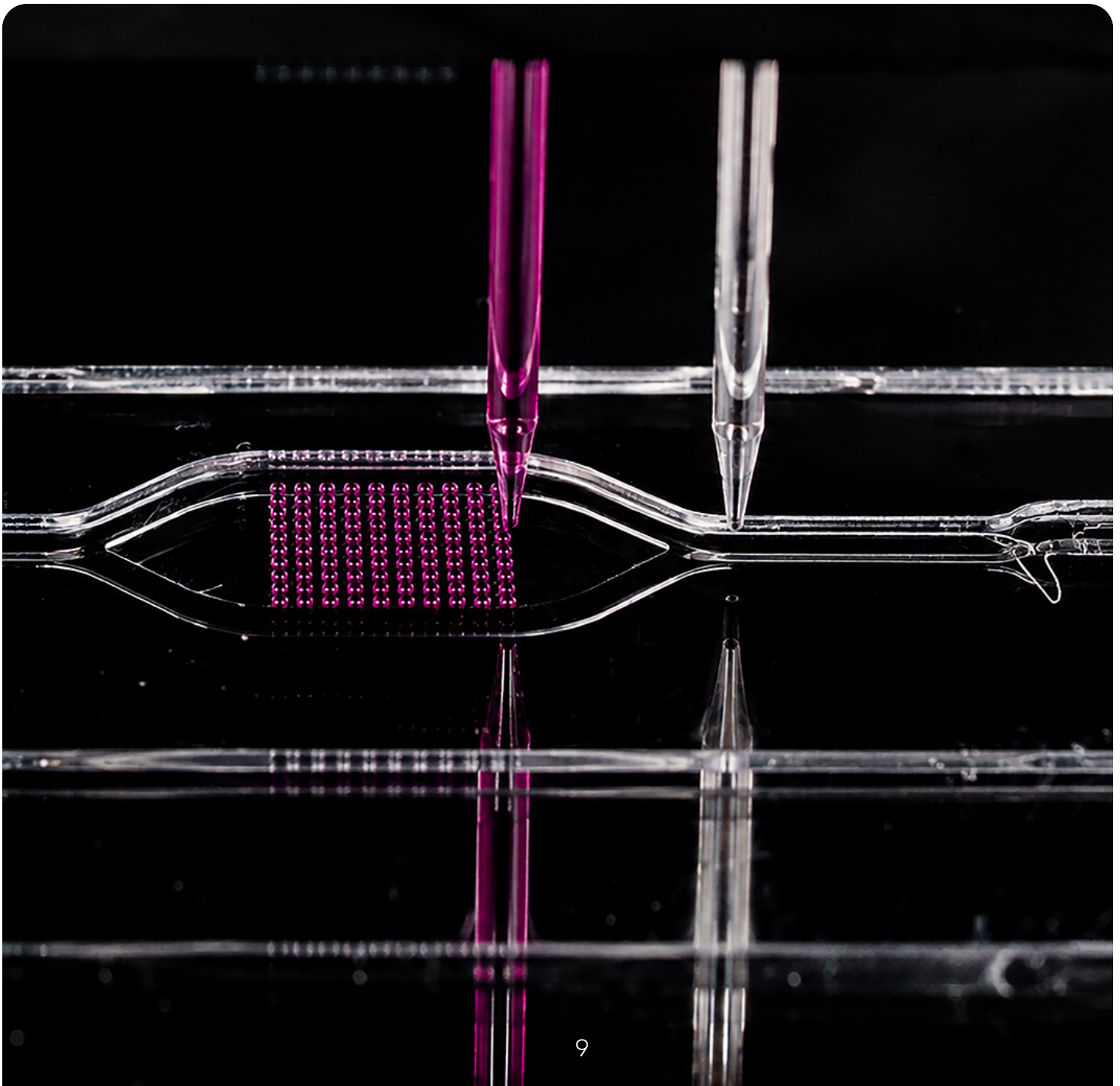
Moves the camera over the spot area to image the full target or defined regions; multiple images can be stitched into a single image. Requires Head Camera.

sciBITMAP (S00392)

Converts pictures (JPEG, BMP, PNG) or typed text into x/y coordinates that can be imported into any sciFLEXARRAYER and spotted.

Position file advanced (S00393)

Loads individual maps of structured target substrates (e.g. biochips) with predefined spot positions, allowing navigate, zoom, click and draw configuration. Frees the user from the restrictions of regular array patterns.



Environmental and temperature control

Control the environment. Control the outcome.

How do I control humidity, temperature and condensation risk for sensitive workflows?

Humidity control (S00359)

External humidifier with humidity and temperature sensor and controlling software. Regulates humidity inside the environmental enclosure at any value between 10% above room humidity and 85% (non-condensing during operation).

Keep stable atmospheric conditions as required by sensitive proteins, antibodies and biosensor chemistries, and reduce run-to-run variability caused by ambient humidity swings.

Dew point control (S00381)

Calculates the dew point from humidity and temperature in the hood and regulates the source plate holder temperature to prevent condensation. Requires the humidity package and the PC-controlled cooling/heating unit.

Protect your sensitive samples and reagents from dew formation on cooled surfaces.

Cooling/heating unit, PC controlled (S00358)

Active cooling and heating of the source plate module and/or slide holder, temperature range -20°C to 120°C, controlled by the instrument control software. This is a prerequisite for dew point control.

Operate temperature-sensitive workflows.

Temperature sensing nozzle (S00360)

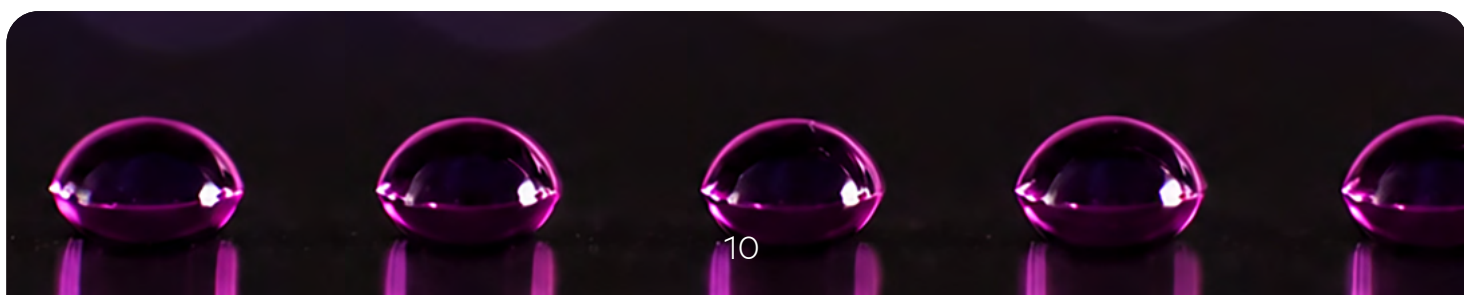
Probe inserted in the heatable nozzle head as heat sensor. Non-dispensing; reduces the maximum number of dispensing PDCs in the heatable head to seven.

sciENVIRO Report (S00396)

External tool that groups, summarises, displays and saves environmental parameters (humidity, temperature, source plate and target holder cooling) over a selected time period. Output as Excel-compatible text files. Especially recommended for manufacturing runs.

Environment control bundle (S00405)

Recommended package for temperature and humidity sensitive applications, comprising Cooling/Heating Unit, Humidity Control, Dew Point Control and sciENVIRO Report



Substrate handling, stability and clean environment

Built for complex biosensors and structured substrates.

How do I hold unusual formats securely and reduce environmental or vibration-related variability?

Vacuum target holders (model-specific).

Securely fix targets during dispensing across a broad range of formats within the same instrument.

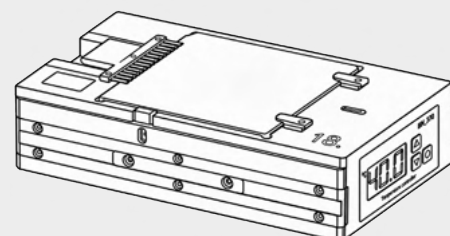
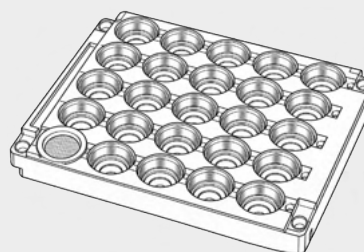
Vacuum target holders offer optional temperature control at the target level on the coolable variants.

Option	Compatibility	Part Number	Size/Capacity
Vacuum target holder L, non-coolable	S3 only	S00347	20 x 30 cm; 24 landscape slides or 32 portrait slides; 4 multi-well plates, membranes or biosensors (One vacuum pump required)
Vacuum target holder XL, coolable	S3 only	S00348	24.6 x 30 cm; 36 landscape slides or 36 portrait slides; 4 multi-well plates, laminated membranes or biosensors (One vacuum pump required)
Vacuum target holder, coolable	S12 only	S00350	380 x 380 mm; up to 75 slides, multi-well plates, membranes or biosensors (One vacuum pump required)
Vacuum target holder, coolable	SX only	S00349	825 x 360 mm; up to 140 slides, multi-well plates, membranes or biosensors (Two vacuum pumps required)

Custom target holder (S00351)

Application-specific holders on request, including for biosensors, MTPs and non-laminated membranes.

Potentialize your sciFLEXARRAYER with custom target holders adapted to substrate formats that fall outside the standard product range.



Vacuum pump (S00352)

Clean-room compatible pump which securely holds substrates flat and stable for reliable, repeatable and precise spotting. Enables confident printing on membranes, biosensors, slides and custom substrates. Suction capacity 4 m³/h, final pressure 70 mbar, typical noise level 45 dBA, weight 11 kg, operating temperature range 10-40°C. Available in 110/220 V, 50/60 Hz.

Laminar flow add-on for environmental enclosure [S3 only] (S00379)

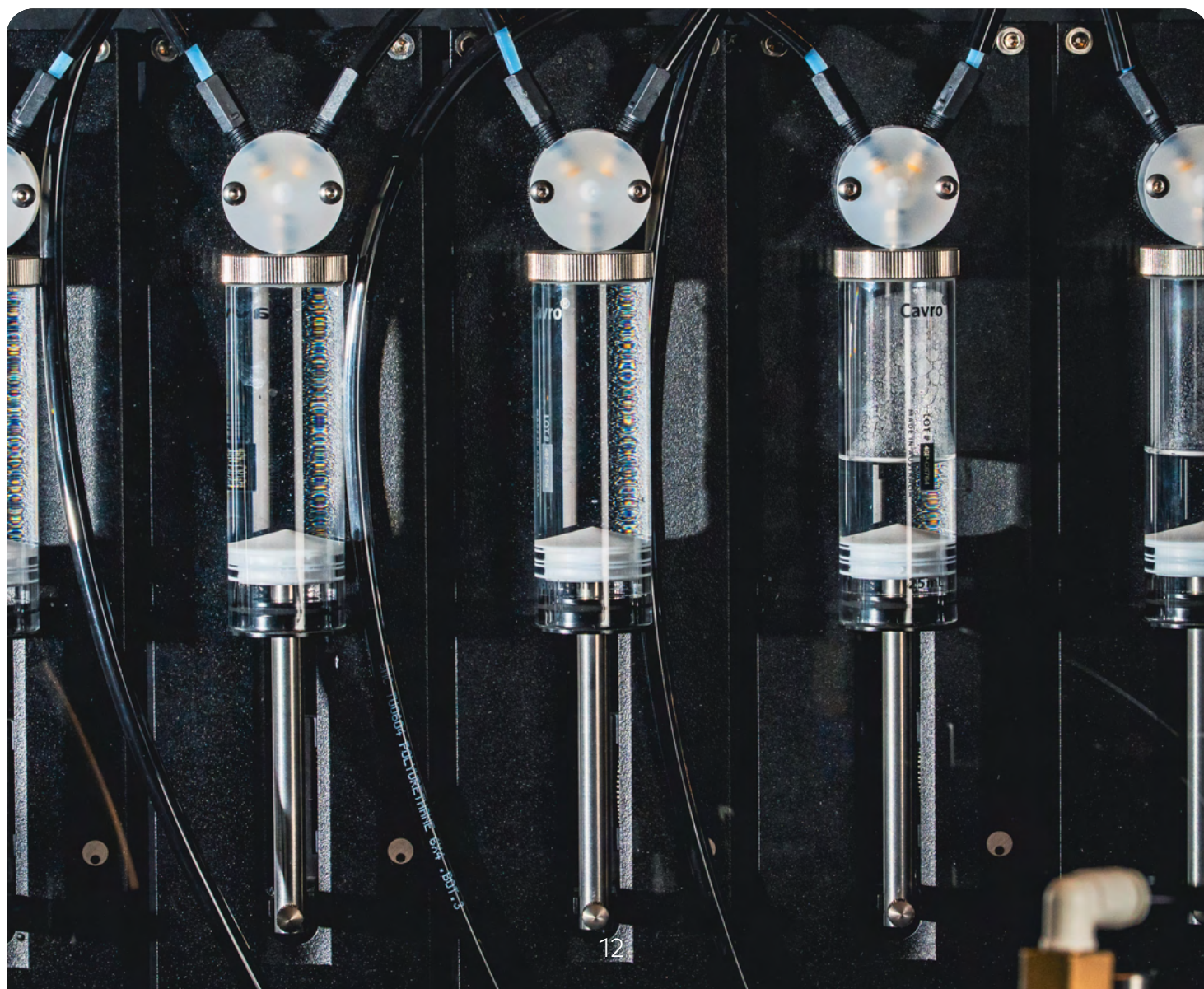
HEPA filter reducing dust entering the hood for a cleaner spotting environment. Site validation required. Only available with the heavy-duty table (S00378).

De-ionizing bar

Horizontal antistatic bar that discharges static build-up on target substrates, particularly polymers, nitrocellulose and biosensors. Reduces deflected spots and cross-contamination caused by static charge, especially when dispensing into plastic wells. Model-specific part numbers: S00361 for S3, S00362 for S12, S00363 for SX.

Heavy-duty platform [S3 only] (S00378)

Table reducing vibration during high-speed spotting.



Process reliability, cleaning and fluid conditioning

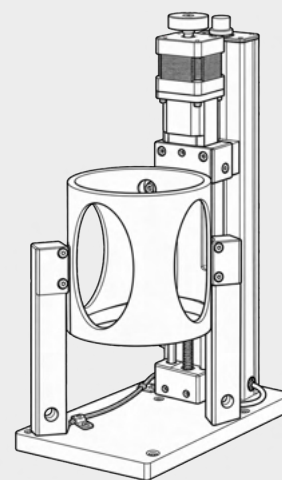
Built to run long, run clean, run unattended.

How do I reduce clogging, bubbles, static, carryover and operator intervention?

sciLinesMan (S00365)

External device that automatically and continuously adjusts the system liquid bottle height to match the tip of the Piezo Dispense Capillary. The PDC tip height is detected by a sensor and the bottle position is corrected by an automated lift.

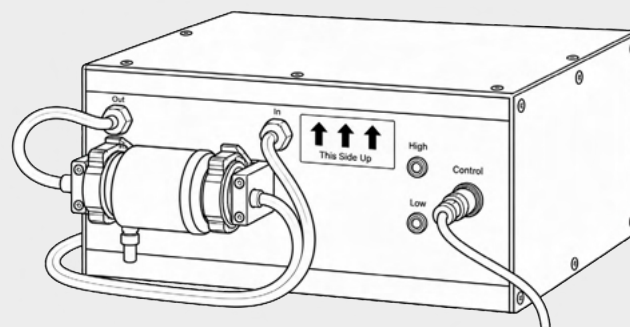
Gain in autonomy: sciLinesMan maintains consistent hydrostatic conditions and improves process consistency across extended production.



sciGUARD

External hardware device that continuously degases and filters liquids as they are fed into the system, combining a hydraulics system and a vacuum pump. Achieves the oxygen saturation levels needed to prevent compressed gas building up within the dispensing system, which reduces bubble-related failures during long runs. Available in manually controlled version sciGUARD-M (S00356) and software-controlled version sciGUARD-D (S00357), the latter for SX only.

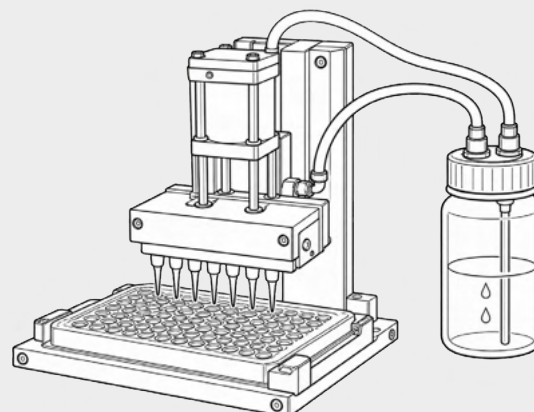
Reduce time and operational need for start up.



sciDRY (S00355)

Pneumatically driven aspiration device that lowers a Teflon nozzle onto the target or into an MTP well and aspirates excess liquid. Movements and aspiration are controlled by dedicated tasks in the software.

sciDRY removes the need for manual drying steps and reduces carryover between dispensing operations.



sciPURATOR (FOSP)

Complete system for filtering and degassing system liquid. Comprises ultrasonic bath, vacuum pump, trap bottle, system liquid filtration device and Teflon bottle connector.

Additional tray station (S00374)

Chemically inert PTFE tray with a single 1.8 ml chamber for additional sciCLEAN wash solutions.

Additional wash station, normal volume control (S00376)

Chemically inert wash chamber with ultrasonic assistance and peristaltic pump. Suitable for many organic and inorganic solvents (list on request).

Flow sensor, low volume range (S00343)

Integrated into the dispense module for online volume measurement, enabling adjustments and tuning of required volumes. Each channel requires its own sensor unit.

sciDAB station (S00364)

Cleaning setup mounted next to the wash station using non-particle foam and lens cleaning paper. Combines gentle mechanical wiping of the PDC surface with dissolution of contaminants using water or ethanol. Improves PDC cleaning efficiency and reduces misaligned spots.

Additional 200 µl reaction vessel holder (S00375)

Holds up to four individual 200 µl reaction vessels for single-sample sources or additional wash solutions.

Additional wash station, precise volume control for organic solvents (S00377)

Same wash chamber principle with a syringe pump and inert tubing for precise-volume workflows.

Flow sensor, high volume range (S00344)

Same principle as the low-volume flow sensor, for higher volume ranges.



Software packages, reporting and production enablement

From dispensing to controlled manufacturing.

How do I configure software packages for R&D, production, reporting, access control and application workflows? (See Page 17)

R&D Full (S00400)

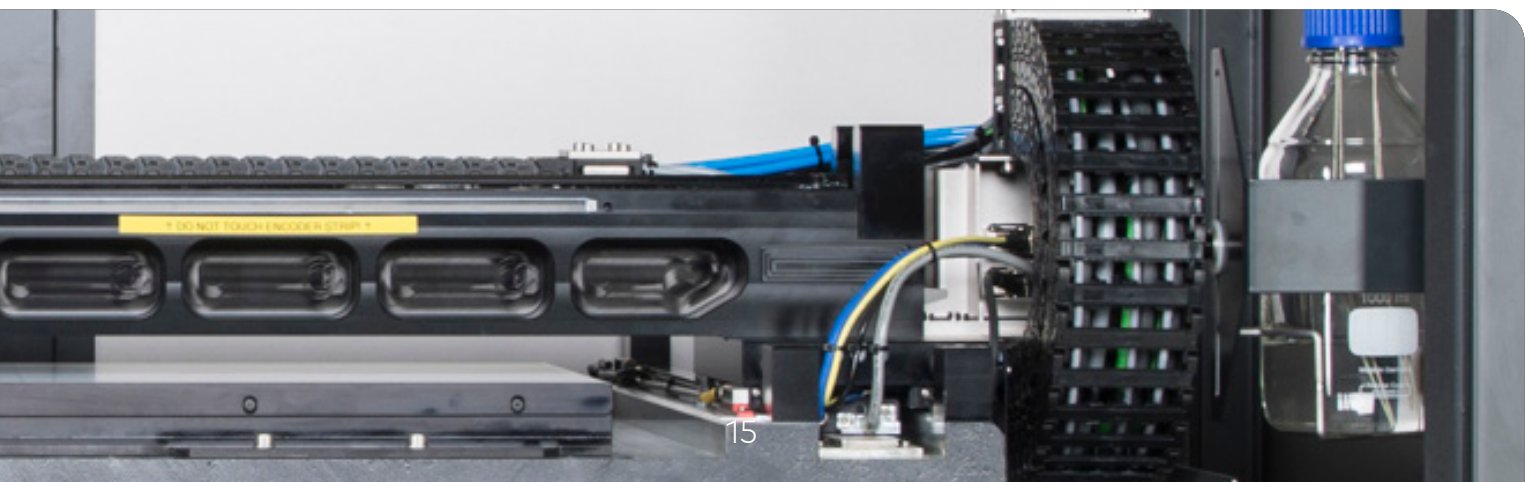
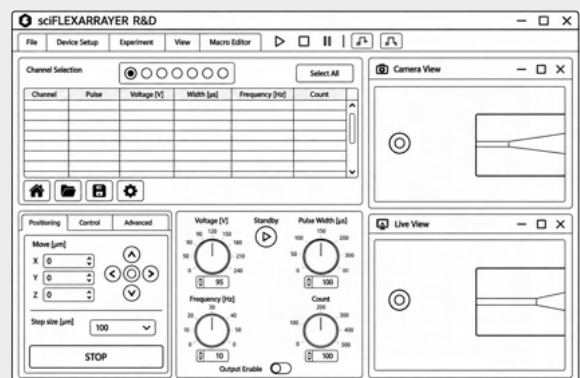
Standard software configuration for R&D use, including QC, alignment and advanced dispensing features. Comprises Online Array QC Software, Scan Spot Area, Find Target Reference Points, Few Drops, Individual Pulse Parameter and sciSPOT Report. Requires Head Camera.

R&D Full software package provides a ready-to-deploy software environment for the most common R&D workflows without requiring customers to select and configure each module individually.

Production Full (S00404)

Standard software configuration for batch production, including QC, alignment, reporting and access control. Comprises Online Array QC Software, Scan Spot Area, Find Target Reference Points, sciSPOT Report and Access Levels. Requires Head Camera.

The Production Full Software Package is aligned with the traceability and user-management requirements typical of manufacturing environments.



Access levels (S00382)

Multi-user level functionality with password protection for each level. Supports role-based operation of the system in regulated or shared-use environments.

Shortest path (Travelling Salesman) (S00391)

Calculates the shortest path between spot positions to reduce spotting time and optimise overall performance.

sciSPOT Report (S00395)

External tool that groups, summarises, displays and saves drop volumes and dispense parameters (pulse, voltage) over a selected time period, sourced from AutoDrop detection result files. Excel-compatible output.

R&D Lite I (S00398)

Minimal R&D configuration including QC features and one alignment function. Ideal for biosensor dispensing. Comprises Online Array QC Software, Scan Spot Area and Find Target Reference Points. Requires Head Camera.

R&D Premium (S00401)

Full-featured R&D configuration for demanding applications: QC, alignment, advanced patterns, reporting and access control. Requires Head Camera. Combinable with the Environment Control bundle.

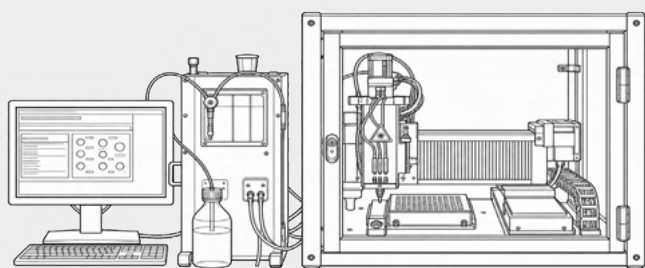
Production Lite I (S00402)

Minimal production configuration including QC features and one alignment function. Requires Head Camera.

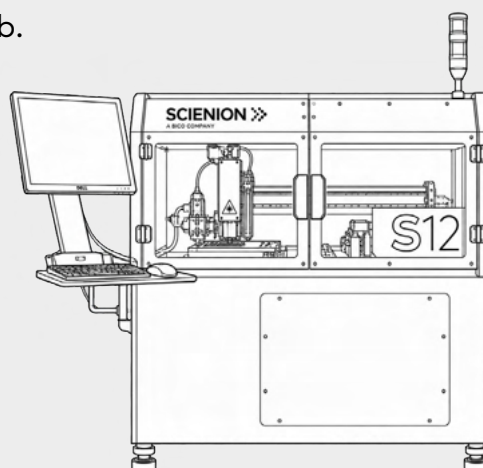
Production Premium [S12 and SX only] (S00408)

High-throughput production configuration with QC, alignment, access control, Spot-on-the-Fly and Shortest Path. Requires Head Camera. Combinable with Environment Control and Advanced Patterns.

a.

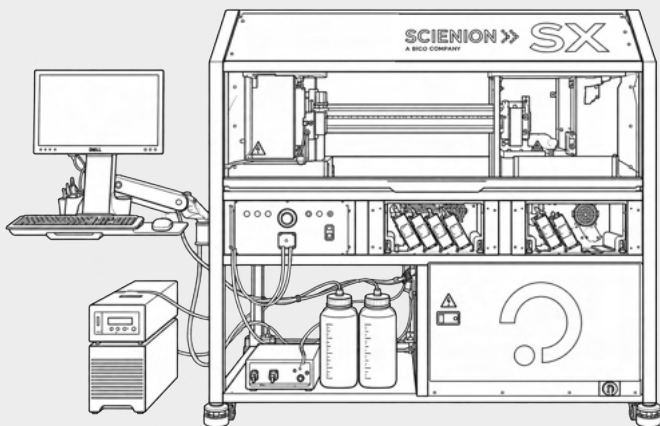


b.

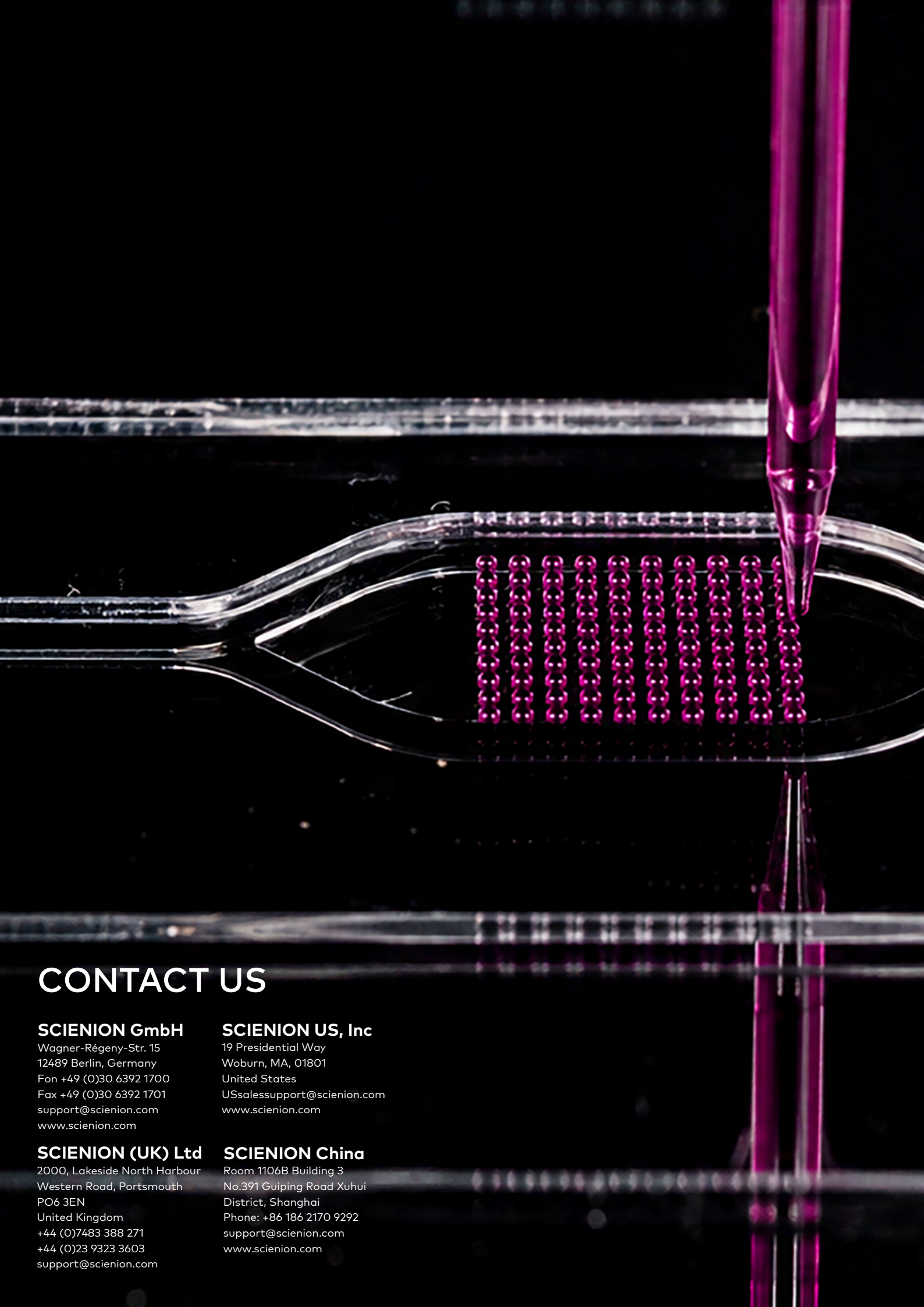


Software Options	R&D Lite I	R&D Full	R&D Premium	Production Lite I	Production Full	Production Premium	Advanced Patterns
Online Array QC Software	✓	✓	✓	✓	✓	✓	
Scan Spot Area	✓	✓	✓	✓	✓	✓	
Find Target Reference Points	✓	✓	✓	✓	✓	✓	
Few Drops		✓	✓				✓
Individual Pulse Parameter		✓	✓				✓
sciSPOT Report		✓	✓		✓	✓	
sciBITMAP			✓				✓
Position File Advanced			✓				✓
Layer Mode			✓				✓
Access Levels			✓		✓	✓	
Find Target Array							✓
Spot-on-the-Fly (SPOTF)						✓	
Shortest Path (Traveling Salesman)						✓	

C.



- a. sciFLEXARRAYER S3
- b. sciFLEXARRAYER S12
- c. sciFLEXARRAYER SX



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