

PILOT FREEZE DRYERS FOR PROCESS DEVELOPMENT

Creator S Series

Develop the cycle. Understand the product. Scale with confidence.

SJ CREATOR 1S MAX

PEPTIDE PROCESS DEVELOPMENT



The image shows a white, compact pilot freeze dryer with a black door and a digital control panel. The door is open, revealing the internal shelving system. The SJ Scientific logo is visible on the top left of the unit.



Precise shelf & vacuum control



Compact 0.12 m² pilot platform



Up to 450 × 3 mL vials*



≤-85°C condenser

SJ SCIENTIFIC LIMITED

 **sjialab.com**

*Reference capacity; confirm vial dimensions and configuration.

SHELF AREA 0.12 to 0.48 m ²	MODELS Creator 1S / 2S / 3S / 4S	APPLICATIONS Peptides, proteins, vaccines and biologics
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Creator S pilot lyophilizers combine controlled product shelves, programmable vacuum and recipe management in a compact platform for formulation screening, cycle development, small-batch work and scale-up studies.

Model selection & quotation: sjialab.com/products/pilot-freeze-dryers

MODEL SELECTION

Choose the Creator S by Shelf Area and Development Stage

All four models use 300 x 400 mm product shelves. Select by actual vial geometry, fill volume, water load and development stage rather than chamber appearance alone.



Creator 1S



Creator 2S



Creator 3S



Creator 4S

Model	Shelf area	Product shelves	Ice capacity	Approx. Ø16 mm vials*	Best fit
Creator 1S / 1S Max	0.12 m²	1	2 L	Up to 450	Formulation screening and high-value small batches
Creator 2S	0.24 m²	2	3 L	Up to 900	Peptide, protein and vial cycle development
Creator 3S	0.36 m²	3	5 L	Up to 1,350	Pilot studies, partial loads and scale-up work
Creator 4S	0.48 m²	4	6 L	Up to 1,800	Larger pilot campaigns before GMP transfer

STANDARD PLATFORM Lowest shelf ≤ -50°C; condenser ≤ -60°C	MAX PLATFORM Lowest shelf ≤ -60°C; condenser ≤ -85°C	VIAL PROCESSING Optional top stoppering; 100 mm shelf clearance
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Planning basis: *Vial counts use the current 300 x 400 mm shelf reference for Ø16 mm vials. Confirm the supplier drawing, stopper height, loading clearance, fill volume and actual load pattern before quotation.

PROCESS DEVELOPMENT

Control the Process, Not Just the Chamber

Creator S is designed for the work between a basic laboratory dryer and a production lyophilizer: building a repeatable cycle, understanding product temperature and pressure behavior, and producing evidence that can support the next scale.

1. FREEZE Define cooling, hold and optional annealing steps	2. PRIMARY DRY Manage shelf heat, pressure and product temperature	3. SECONDARY DRY Reduce bound moisture to the justified target	4. REVIEW Compare endpoint signals, batch data and product results
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Creator 1S Max field unit



Representative peptide vial cakes



Creator 3S pilot platform

Documented field images show a Creator 1S Max installation and representative dried vial cakes. Formulation, analytical result and final cycle remain product-specific.

Capability	What it gives the development team
Shelf temperature control	Silicone-oil circulation supports programmed freezing, controlled heating and repeatable ramp/hold steps.
Vacuum control	Automatic gas-bleed control supports a 1-50 Pa process range; an optional capacitance manometer can strengthen endpoint review.
Condenser options	Standard and Max refrigeration choices let the condenser margin match water load and low-temperature requirements.
Recipes and records	PLC and touch-screen control support automatic, semi-automatic and manual operation, recipes, alarms and historical review.
Vial workflow	Optional top stoppering supports development work that must consider closure inside the chamber.

CONFIGURATION AND BUYER SUPPORT

Configure the Creator Around the Product and the Next Scale

A good pilot system should fit today's experiments without closing the route to tomorrow's GMP project. SJ Scientific defines the selected platform, options, documentation and acceptance scope before manufacturing is frozen.

STANDARD Routine aqueous process development and pilot work	MAX Lower shelf and condenser temperatures for wider process margin	STOPPERING Top-stopper arrangement for vial closure development
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Creator / Command conformity document



Creator 1S Max equipment



Documented vial result

Before quotation	Information that improves model selection
Product and container	Material or formulation, vial diameter and height, stopper, fill volume, target vial count and loading pattern.
Process basis	Known critical temperature, shelf-temperature target, pressure strategy, water load, solvents or aggressive buffers, and desired turnaround.
Project scope	Standard or Max refrigeration, stoppering, probes/PAT, shelf material, vacuum instruments, voltage, documents, FAT/SAT and delivery destination.

Quality and responsibility: SJ Scientific Limited handles international sales and project contracts; Ningbo Sja Instrument Co., Ltd. provides manufacturing and engineering support. Conformity documents and model lists are checked against the quoted configuration and destination. Final commitments are defined by the approved quotation and technical agreement.



Engineering inquiry: www.sjialab.com/inquiry?lang=en | info@sjialab.com | WhatsApp +86 153 0663 8822