

Spin coaters

Spin coaters for laboratory use

These Spin coaters are ideal tools for the preparation of thin and ultrathin films especially for spectroscopic applications (optical, IR, X-ray, dielectrical etc.). The common design of all spin coater models is a housing made of solid anodized aluminum, a stainless steel worktop and a detachable PTFE protection cover.

- Rotational speed up to 13.500 rpm
- Passive or active vacuum hold-down of substrate
- Programmable
- Easy-to-use and maintenance-free design
- High-quality/good value-product
- 2-year warranty

Spin coater SCI-30



Spin coater SCI-30 and rotational tables

The spin soater SCI-30 is designed for routine applications and has a maximum rotational speeds of 13.500 rpm. The speed can be adjusted by a helipot. The rotational speed is displayed on the built-in LCD. Due to the special design of the rotational tables a passive (no pump needed) vacuum hold-down of the substate is achieved at medium to high rotational speeds. For heavier substrates or at slower rotational speeds an additional fixing of the substrate may be required. Delivery includes a standard rotational table with a diameter of 10 mm. Custom-designed tables with diameters up to 40 mm are available. The tables can easily be exchanged.

Spin coater SCE-150



Spin coater model SCE-150

The spin coater model SCE-150 is based on μ -controlled electronics incl. intuitive one-knob control. We offer rotational tables from 25 mm to 90 mm in diameter; its max. speed is 150 rps (9000 rpm). It features non-volatile storage of all plateau and speed settings (adjustable from 3 s to 600 s) so that work can continue as before even after voltage interruption. The quick-response, high-efficiency rotation speed control keeps the speed fixed at ± 2 rps and allows fast acceleration even when larger tables are used. All accessories can be used with all models of the spin coater family. Delivery includes the spin coater, a 30-mm-diameter rotational table, a vacuum hose with quick coupler, a power supply and manual.

Spin coater SCC-200



Spin coater model SCC

The SCC-200 spin coater is the logical further development of the spin coater series that were introduced in 1999. The new models feature a programmable ramp function with the option to store up to 10 routines in a non-volatile memory. An intuitive one-button-control and an easy-to-read display keep routine lab applications as simple as possible.

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The electronic core of the new series is a μ control unit based on Z80. Rotational speeds of up to 200 rps (12000 rpm) permit the manufacturing of thin and ultra thin films (μm to nm). A variety of tables ranging from 30 to 90 mm in diameter allow for a variety of different substrates. For very small substrates of approx. 5 mm in length we offer a 25 mm table with a plane surface. Where technically feasible, we will also provide custom-made tables for special substrates. The substrates are gently held down by vacuum suction.

The new SCC series features:

- housing made from anodised aluminum with stainless steel worktop and PTFE cover
- modern, cost and energy efficient, user-friendly, intuitive design
- alphanumeric four-line display (20 characters/line)
- an extra large range of rotational speeds
- two rotational speed ramps (acceleration/deceleration)
- programmable ramp duration: 3 to 600 s
- two rotational speed target values
- programmable dwell time: 3 to 600 s
- 10 rotational speed sequences storable in non-volatile memory
- total process times: 12 s to 40 min
- display of the remaining process time
- highly efficient, quick-response speed regulation to ± 1 rps
- quick response time even with large tables
- wide range of accessories (tables, pumps, lines, power supplies)
- full compatibility with all SCV and SCE coaters
- EU conformity (CE, RoHS)
- a great price/performance ratio

Delivery includes a standard table model VT-30, power supply, vacuum line with quick couplers and a quick reference guide. All spin coaters are delivered in a foam packing that may be used as storage box for accessories.

Vacuum pump MVP

The vacuum pump fits all spin coaters of the SCV, SCE, and SCC series. The vacuum is 675 mbar with a flow volume of 7 l/min. The noise level is 40 dB(A) max. The vacuum hose is connected by quick couplers.

Ordering information Spin coater without vacuum port	
Part number	Description
KL-SCI-30	Spin coater model SCI-30 Max. rotational speed 13.500 rpm Min. rotational speed 1.800 rpm Rotational table for 10 mm substrates

Ordering information Spin coater with external vacuum port (Vacuum pump needs to be ordered separately)	
Part number	Description
KL-SCE-150	Spin coater model SCE-150 Max. rotational speed 9.000 rpm Rotational table diameter 30 mm
KL-SCC-200	Spin coater model SCC-200 Max. rotational speed 12.000 rpm Rotational table diameter 30 mm

Ordering information Rotational tables for spin coaters series SCI Outer/inner diameter specified in mm	
Part number	Description
KL-ST-20	Rotational table \varnothing 20 mm for substrates up to \varnothing 10 mm for all SCI models
KL-ST-20QCM	Rotational table \varnothing 20 mm for QCM substrates up to \varnothing 14,1 mm, stainless steel
KL-ST-20K	Rotational table \varnothing 20 mm for substrates \varnothing 10-17 mm, custom design
KL-ST-40	Rotational table \varnothing 40 for substrates up to \varnothing 20 mm, aluminum, for all SCI models
KL-ST-40K	Rotational table \varnothing 40 for substrates \varnothing 20-38 mm, custom design, aluminum

Ordering information Rotational tables for spin coaters series SCV, SCE and SCC	
Part number	Description
KL-VT-25-PLAN	Rotational table, 25 mm diameter, plane surface, aluminum
KL-VT-30	Rotational table, 30 mm diameter, aluminum
KL-VT-50	Rotational table, 50 mm diameter, aluminum
KL-VT-70	Rotational table, 70 mm diameter, aluminum
KL-VT-90	Rotational table, 90 mm diameter, aluminum

Ordering information Vacuum pump	
Part number	Description
KL-MVP-01	Vacuum pump
KL-VSO-40	Vacuum line 0.4 m for models SCV, SCE and SCC to connect customer vacuum pumps
KL-VSO-100	Vacuum line 1.0 m for models SCV, SCE and SCC to connect customer vacuum pumps

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PC controlled Spin Coater



The CaLCTec Fr10KPA spin coater series is a robust, fully automatic spin coating system ideal for the deposition of thin films with any kind of material (photoresist, polyimides, sol-gel, varnish etc...) of finely controlled and reproducible thickness, over any kind of substrate (copper, silicon, glass, plastic, etc...).

All Fr10KPA systems feature a rock-solid stainless steel case with a stainless steel bowl of 26 cm Ø allowing the accommodation of large and heavy substrates, a built-in vacuum pump for substrate holding, and a pneumatically operated cover with safety interlock system. Intuitive and easy-to-use software for remote control and programmable ramp function with an arbitrary number of steps is also available.

We provide heated rotational tables (chucks) which allow precise temperature control from RT to 200°C during spinning. Additionally, we offer a large selection of special, custom-designed rotational tables for flexible substrates (PET sheets, copper foils, etc.), uneven and non-planar substrates, furthermore tables with an adjustable suction area, and more.

All systems are delivered in a robust wooden case which can be re-used for system protection and transportation.

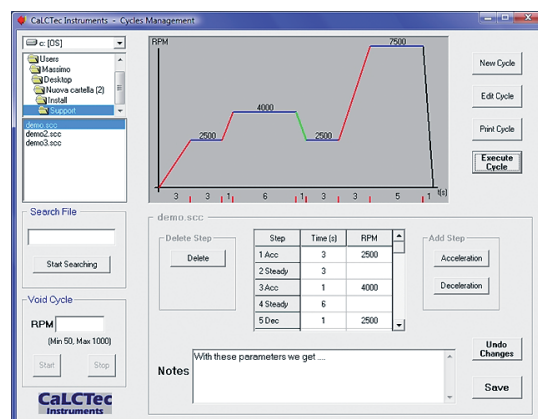
FR10KPA main features

- Robust design with stainless steel case
- Built-in vacuum pump for substrate holding
- Manual operation (on-off)
- Fully automatic, PC-controlled option
- Interlock safety system
- Emergency stop button
- Spinning of heavy substrates allowed
- Easy and quick maintenance
- Rotational tables (chucks) of any size and type

FR10KPA control software

The intuitive and easy-to-use software allows the remote control of the spin coater system and programmable operating cycles with an arbitrary number of steps. Recipes can be loaded, executed and modified at any time with just a mouse click.

- O.S. Windows 2000, XP, Vista, Windows 7, Windows 8
- Quick and easy installation
- Operating cycles with an arbitrary number of steps
- Straightforward cycle programming
- Precise definition of starting speed, acceleration/deceleration, target speed, rotation time at steady speed for every individual step
- Notes and comments of arbitrary length can be added to the recipe
- Search function for recipes based upon comment contents
- Easy management of recipes data base
- Recipe files in ASCII format



Software for remote control

Spin coaters

Temperature controlled °K-chuck option:

CaLCTec spin coaters from Fr10KPA series feature the unique °K-chuck option which allows the precise temperature control of the rotational table during both spinning and pausing. Film baking during the spinning process and "in situ" pre-curing of polymeric materials is now possible.

This exclusive feature expands the capabilities of standard spin-coating techniques by allowing the deposition of thermoplastic materials and oversaturated solutions.

The °K-chuck option includes:

- Digital PID temperature controller
- IR sensor for temperature readout
- Temperature range: RT to 200 °C
- Temperature resolution: 0,1 °C
- Dimensions rotational table (chuck): 6 cm diameter (~2.4")
- Materials: black anodized aluminium, ceramics



Temperature controlled chuck

Additional special options:

- External vacuum pump
- Vacuum pump exhaust valve for glove box operation
- Chuck without washers with adjustable suction area (samples from 10 to 70 mm diameter)
- Chuck for uneven and not perfectly planar substrates
- Porous chucks for flexible substrates
- Special chucks available on request

Specification	
Large stainless steel bowl	up to 26 cm Ø
Rotating speed	100 – 10000 rpm
Acceleration	1 – 12000 revolution/s ²
Voltage/frequency	AC 230 V/50 Hz
Dimensions	380 x 340 x 300 mm (LxWxH)
Weight	20 kg

Ordering information Spin Coaters Fr10KPA	
CT-Fr10	Spin coater system with manual operation (software for remote control NOT included; can be upgraded at a later stage)
CT-Fr10-PC	Spin coater system with software for remote control
CT-Fr10-HC	Spin coater system with software for remote control and °K-chuck option