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Coater 5 STD

specification sheet

The STD version of Coater 5 coating device is the basic dip coating model. It provides easy access to the coating box due to three removable covers (front and both side covers). Covers are mounted to the box by four bayonet locks each and might be removed completely (no hinges are used). Device consists of control unit mounted in 3U high 19" rack case and a coating box.

Dip coating mechanism

Linear positioning mechanism consists of one axis linear guide with carriage driven by precision screw. Linear guide uses two stainless steel rods and carriage with sealed linear ball bearings. Carriage is driven by lead screw with anti-backlash nut. It provides excellent smoothness and precision of motion. Mechanism is powered by dc servo motor with incremental encoder. Servo motor driver uses encoder position feedback to achieve precise motor speed as well as travel distance metering.

Sample holder is attached to carriage typically by two screws and is easily removable. Carriage has a set of threaded holes to accommodate various sample holders. Standard holder is designed for holding up to ten microscopic glass slides. Holder for different shapes of samples could be provided on request.

Control system

All experiment parameter are user adjustable using buttons and knobs on the control panel. These parameters include downwards carriage speed, upwards carriage speed, upper point delay, bottom point delay, upper point position, bottom point position, manual motion carriage speed, park position and experiment mode. There are three experiment modes available. Simple mode executes whole dipping cycle on a single button press. Automatic mode performs the whole dip coating process cycle automatically with preset parameters without a little user intervention. Manual mode allows performing dipping cycle step by step as required by user.

Device can be also controlled from a personal computer connected via USB or serial port RS232.

Specifications

Motion control	speed range	mm/min	1..300
	resolution	mm/min	1
	accuracy	mm/min	0.01
Position range	max. displacement	mm	200
	resolution	mm	1
	accuracy	mm	1
Sample	sample holder clearance	mm	100
	max. sample weight	g	150
Chamber dimensions	length	mm	300
	width	mm	300
	height	mm	400
Communication	computer control link 1	-	USB
	computer control link 2	-	RS232
Materials	coating box and covers	-	acrylic (plexiglass)
	frame	-	AISI 304 stainless steel
	carriage and rails	-	AISI 304 stainless steel
Power supply	voltage	V	230, 50Hz
	power	W	max 200

