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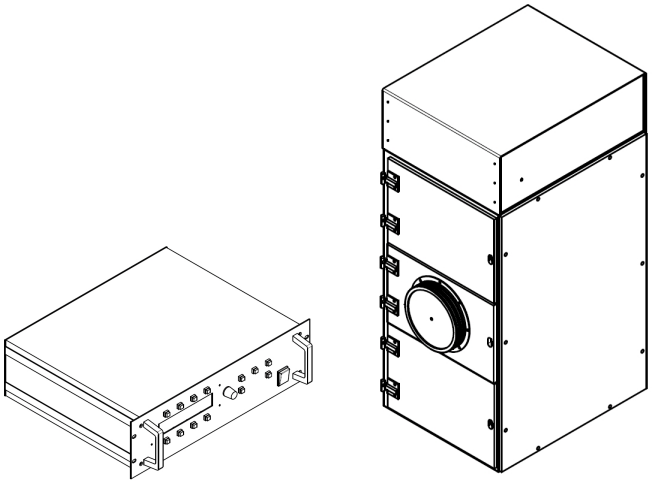
Coater 5 H specification sheet



The H version of Coater 5 coating device is designed for coating of long samples. Total carriage displacement is 460 mm and a vessel with coating liquid might be mounted below the coating box to the flange in the coating box bottom. It makes device ideal for coating samples as long as 460mm, for example segments of optical fibers.

The coating box is designed to be mounted on the wall so the space below the box is free. Of course, device may be installed as bench-top standalone device as well.

In standard version, front and side covers are made of acrylic and are mounted to the frame by bayonet locks. See options table for other possibilities.

Coating box is not hermetically sealed, but is tight enough to be filled with nitrogen or another inert gas during dip cycle. Gas inlet and outlet are provided on the rear side of the device. Six M4 threads in the back cover and 16 M4 threads in the ceiling of the coating box are available to attach other equipment inside the box e.g. uv curing lamp, heat curing furnace.

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.

Special flange is mounted at the bottom cover of coating box which allows vessel with coating liquid to be attached below the coating box. Due to that, the whole carriage displacement of 500mm might be utilized when coating long samples.

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.

Options

Code	Option	Description
OP1	Glass covers	Front and side covers made of 5mm float window glass instead of acrylic.
OP2	Glove entries	Three 160mm diameter glove entries in front and side covers (see picture).
OP4	Side covers on hinges	Side covers are mounted on hinges opening to the rear (see picture) instead of bayonet locks.

Options might be combined freely.

Specifications

Motion control	speed range	mm/min	1..300
	resolution	mm/min	1
	accuracy	mm/min	0.01
Position range	max. displacement	mm	460
	resolution	mm	1
	accuracy	mm	1
Sample	sample holder clearance	mm	100
	max. sample weight	g	150
Chamber dimensions	length	mm	300
	width	mm	400
	height	mm	700
	max. additional vessel diameter	mm	16
Communication	computer control link 1	-	USB
	computer control link 2	-	RS232
Materials	coating box 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