HARLAND MEDICAL SYSTEMS

RDX-XL SERIES

Coating Systems

MACHINES

ON THE SURFACE

We touch life first

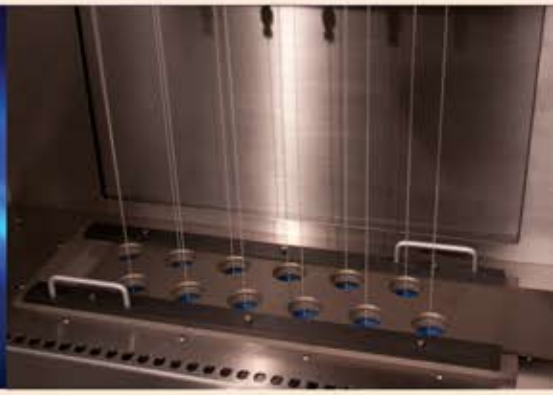
A compact versatile platform for applying and curing medical device coatings.

RDX-XL SERIES
Coating Systems

MACHINES

Automated product platforms designed specifically to apply and test advanced Materials on your products

Color touch screen makes creating coating protocols fast and easy.



Devices are lowered into individual solution tubes with a funnel opening. A dual solution option lets you incorporate a second coating solution into your coating protocol

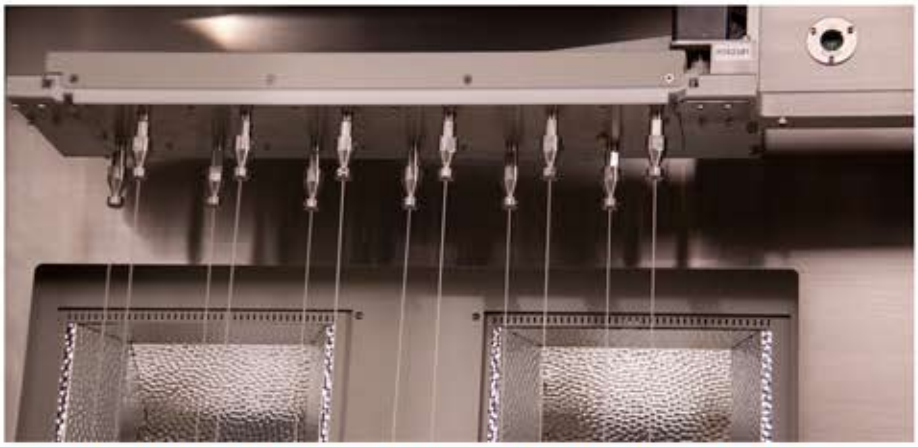
Precision Coating, Simple Operation

- Can process around 100,000 parts per year per shift (assuming an 11 minute process time)
- User friendly programmability
- Accepts and stores a wide range of coating processes
- Compact size occupies minimal floor space
- Complete installation, maintenance and after sale service

The RDX-XL Coating System from Harland Medical Systems is a production scale coater for applying and curing ultraviolet cured medical device coatings. Available in four models, the RDX-XL coaters integrate both dip coating and curing in one compact unit.

RDX-XL Series Coaters are ideal for coating catheters, guidewires, pacing leads and similar medical devices. Their modular construction means you can select the predesigned feature packages and automation level you need for your particular application without the long lead times and high costs incurred with custom designed equipment.

Ultraviolet light sources provide ample curing power for today's UV cured coating chemistries. Lights can be added to the prewired modules to handle up to 170 cm of coated length.



Removable cassette can be loaded with fresh parts outside the coater while a batch is being processed.

	RDX-XL 100	RDX-XL 150	RDX-XL 175	RDX-XL 195
Maximum Overall Device Length*	100 cm	150 cm	175 cm	195 cm
Maximum Coated Length	95 cm	150 cm	170 cm	170 cm
Device Capacity Per Batch	12	12	12	12
Motion Control	Servo motor controlled	Servo motor controlled	Servo motor controlled	Servo motor controlled
Maximum Number of Coating Solutions	Two	Two	Two	Two
Maximum Number of Coats	10	10	10	10
Extraction Speed Range	0.1 – 5.0 cm/s	0.1 – 5.0 cm/s	0.1 – 5.0 cm/s	0.1 – 5.0 cm/s
Power Requirements	230 volts Single phase 50 amps	230 volts Single phase 50 amps	230 volts Single phase 50 amps	230 volts Single phase 50 amps
Venting Requirements	Exhaust for 600 cfm	Exhaust for 1,100 cfm	Exhaust for 1,100 cfm	Exhaust for 1,100 cfm
Materials of Construction	Stainless steel Anodized aluminum Powder coated steel	Stainless steel Anodized aluminum Powder coated steel	Stainless steel Anodized aluminum Powder coated steel	Stainless steel Anodized aluminum Powder coated steel
Outside Dimensions	Height: 75.5 inches Width: 60 inches Depth: 30 inches	Height: 98 inches Width: 60 inches Depth:30 inches	Height: 106 inches Width: 60 inches Depth: 30 inches	Height: 113 inches Width: 60 inches Depth: 30 inches

**custom coater heights also available*

Accessories

- Dual solution dipping module
- Automatic coating solution replenishment
- Automatic coating solution replenishment/recirculation
- UVR335 Radiometer for measuring UV Curing irradiance
- Coating solution level monitor
- Coating solution viscosity monitor
- Rigid dipping module for straight dipping of inflexible parts

Recirculation Module automatically replenishes consumed coating solution and helps extend solution pot life.

THE 4M FRAMEWORK™

Harland manages all of these elements as an integrated program to provide you with a complete surface enhancement solution tailored to precisely meet your particular technical, functional and economic requirements.

MATERIALS – **proprietary chemistries that enable advanced surface enhancement on your medical devices, healthcare disposables or life science products.** Harland provides unique, world class chemistry platforms for solving customer surface enhancement challenges.

METHODS – **processes and protocols to effectively and efficiently apply and cure surface enhancing materials.** Harland creates and validates robust methods that optimize the integration of Materials and Machines to meet your product's requirements.

MACHINES – **automated systems designed specifically to apply and test advanced Materials on your device.** Engineered to meet your technical, commercial and operating requirements including throughput and total cost of ownership.

MANUFACTURING – **with either Harland Contract Coating Services or customer- owned coating operations.** Harland is uniquely positioned to offer a full spectrum of surface enhancement manufacturing options based on your manufacturing strategy and volume requirements.

Total Solution

As a total solution provider, Harland Medical Systems will work with your team through the entire project, providing feasibility and prototype coated devices, process development (OQ and PQ), and regulatory and automation support.

Whether you ultimately choose to take advantage of Harland Medical Systems' ISO13485 certified contract coating capabilities or coat your devices in-house, you can be assured of total support through the entire process.

Dip Process

A servo-controlled motion column lowers a cassette of devices into individual solution tubes. These tubes are removable and disposable to help keep coating solution fresh. You program the immersion speed, immersion distance and extraction speed that is right for your device and coating chemistry. J-shaped tubes allow you to coat long devices without the need for unusually high ceiling clearance. The deck of solution tube openings can be configured to a height convenient for your device length. And for coating shorter lengths, a Straight Dip configuration is available. A Dual Solution option accommodates two separate solutions for those coating technologies requiring two unique fluids. Other options include automatic solution replenishment/recirculation, solution level monitoring and solution viscosity monitoring.

Cure Process

The UV Cure Sources produce a flood of the proper spectrum UV light to cure today's coating chemistries. To assure uniform cure, the parts individually rotate in front of the UV sources. Each source can cure 25 cm of part length. Additional sources can be added into prewired compartments to increase the total cure length. An automatic cover closes over the solution tube openings to protect ight- sensitive coating solution during coating. A mechanical shutter opens and closes for precise control of cure time. When this shutter is closed and no curing is under way, UV sources can be reduced to standby power to conserve energy and extend bulb life.

CoatingWorks Software

The versatile, intuitive Harland CoatingWorks software helps you program each operation of the RDX-XL Coater. Coater actions are selected from a menu and added to the coating sequence. These protocols can then be stored in memory for future use. After programming, PLC firmware takes over the actual operation of the coater. Program creation and editing are password protected.

HARLAND MEDICAL SYSTEMS

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