

# High-productivity, high-precision **conformal coating systems**

MYSmart™ series MYC50™ in-line coating



# Introducing the MYC50 platform

## High-performance conformal coating systems

As electronics continually become embedded into an endless variety of products, the need for high-precision conformal coating is greater than ever before. Automate complex coating processes, monitor process parameters and switch spray patterns without interruption. The MYC50 gives you powerful, software-driven process flows that ensure years of productivity for even the most complex printed circuit boards.



- 1 Fast and stable operation.
- 2 Spray patterns can be changed on the fly, significantly improving process efficiency.
- 3 Flexible multi-axis control enables precise coating of complex PCBs.
- 4 Powerful process controls result in precise coating that consistently meet strict quality guidelines.
- 5 Barcode reader enables automatic program loading and traceability.



-  Fast and stable operation
-  Automated spray pattern changeovers
-  Flexible multi-axis control for complex processes
-  Powerful process controls enhance quality
-  Barcode-defined program selection

The MYSmart series MYC50 in-line conformal coating platform combines high-accuracy edge definition with advanced feedback systems. A wide range of process parameters can be monitored enabling high quality output. Options such as fan width control, flow monitoring, heated fluid systems and barcode readers are a few examples of process control enhancements that are possible. Wherever ruggedized electronics are required, the MYC50 helps to prevent material waste while ensuring highly controlled coating film thickness, coating area and process speed.

### Applications

- Consumer electronics
- Industrial electronics
- Household appliances
- Automotive electronic control panels
- Military electronics
- Computer control panels
- Agricultural equipment control panels
- Battery protection boards
- Led lighting
- Outdoor led displays
- Converter circuit boards
- Security control panels
- Motor control boards
- Power management devices

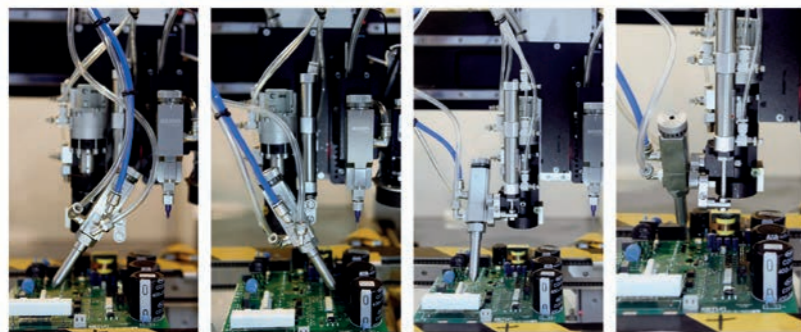
# Highly configurable **for precise conformal coating results**

The MYC50's high-precision platform, multi-angle rotation configuration and flexible software operation ensures perfect selective conformal coating output.



#### High speed, high precision motion platform

- Robust design of frame structure and axis
- High precision ball screw and AC servo motor
- High speed operation with extreme precision



#### Angle and rotate coating capabilities

- Four-direction tilting
- Software controlled
- Modular design for easy installation and removal
- Suitable for spray and jet valves



#### Intuitive software design

- Offline programming
- Easy software to operate and learn
- Rich functionality to meet complex processes
- A variety of program input methods including camera teaching



**Smart coating made simple**  
The MYC50 is built upon years of coating experience, condensing that knowledge into a robust, easy to use system. The result is a highly capable platform that's simple to program and operate, yet powerful enough to add increasing value to your in-line operations as volume, complexity and automation demands grow. Giving you more ways than ever before to handle tomorrow's production challenges.



# Valve configurations for every application



### Three mode valve V-5000

V-5000 is suitable for middle to low viscosity fluids. The three modes are line, swirl and spray. The V-5000 valve has high edge definition and good balance between efficiency and effect.

#### FEATURES AND ADVANTAGES

- Controlled film thickness at high speed
- Viscosity range: 500-10,000 CPS
- Optional 360 degree rotation structure
- Easy maintenance

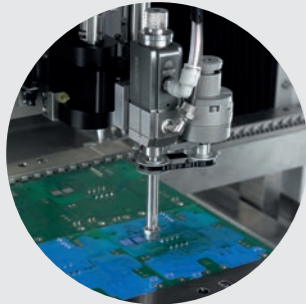


### Needle jet V-420A

The V-420A needle jet is suitable for low viscosity materials and mainly used in selective coating applications. Maximum dispensing speed is 100 dots per second. For tall component coating areas and very small tolerances of noncoating requirements, the best choice is V-420A configured with spray or film valve.

#### FEATURES AND ADVANTAGES

- Good sealing effect, especially for low viscosity materials
- Cost effective
- Simple structure and easy maintenance
- Flexible needle sizes and changeable needles
- Adjustable flow rate by parameter settings
- High precision dispensing accuracy



### Film valve V-5400

The V-5400 film coating valve is suitable for low viscosity fluids and solvent-based materials. A special nozzle structure enables the material to be applied in a non-atomized manner, with a utilization rate of up to 99 percent. Optional sizes of nozzles help achieve the best results of film width and thickness for your application.

#### FEATURES AND ADVANTAGES

- Non-atomizing mode reduces emissions
- Adjustable film width and high transfer efficiency
- High material utilization, reduced waste and low cost
- Standard 90 degree rotation of film direction
- No masking required



### Low pressure spray valve V-5800

The V-5800 low pressure spray valve is for medium and low viscosity fluids. It can achieve a small width and a thin film thickness, ideal choice for precision selective spraying and thin deposition requirements. help achieve the best results of film width and thickness for your application.

#### FEATURES AND ADVANTAGES

- Non-atomizing mode reduces emissions
- Adjustable film width and high transfer efficiency
- High material utilization, reduced waste, and low cost
- Optional 90 degree rotation of film direction
- No masking required



### Gel valve V-420A

The V-420A Gel valve is for conformal coating materials formulated at higher viscosities that are used as a barrier to prevent the lower viscosity coating material from flowing to undesired locations. The V-420A Gel valve is normally used in a 3 valve configuration with the V-410 Needle jet and either the film valve or one of the spray valves.

#### FEATURES AND ADVANTAGES

- Controlled deposition of higher viscosity coating materials
- Positive cutoff for clean material cut-off
- Adjustable stroke to optimize material flow
- Easy maintenance

## Specifications MYC50 in-line

MOTION SYSTEM	
X-/Y-AXIS	Z-AXIS
Speed: max 800 mm/s	Speed: max 300 mm/s
Acceleration: max (0.8g peak with s-curves)	Acceleration: max (0.3g peak with s-curves)
Repeatability: $\pm 25 \mu\text{m}$ , $3\sigma$	Repeatability: $\pm 25 \mu\text{m}$ , $3\sigma$
Drive mode: servo motor, ball screw	Drive mode: servo motor, ball screw
D-AXIS	
Rotation angle: $\pm 90^\circ$	Rotation angle: $\pm 30^\circ$
Repeatability: $\pm 0.1^\circ$	Repeatability: $\pm 0.1^\circ$
Drive mode: cylinder	Valve rotation axis
WORK AREA	
ONE WORK STATION	TWO WORK STATIONS
Single valve max: 650 x 450 mm	Single valve max: 450 x 450 mm
Dual valve max: 560 x 450 mm	Dual valve max: 450 x 450 mm
Dual valve with tilting module max: 560 x 380 mm	Dual valve with tilting module max: 450 x 380 mm
3 valves max: 530 x 380 mm	3 valves max: 450 x 380 mm
	Max clearance above and below PCB: 100 mm
BOARD HANDLING	FACILITY REQUIREMENTS
Drive mode: stepper motor, stainless steel chain	Power: 220 V, 2.5 kW, 16 A, 60 Hz
Payload capacity: 5 kg	Air supply: 80 psi (5.5 bar)
Min board/carrier width: 40 mm	System footprint: 1,290 x 1,364 x 1,638 $\pm$ 50 mm (W x D x H)
Max board/carrier width: 500 mm	Machine weight: 900 kg
Max board/carrier length: 650 mm (1 station) 450 mm (2 stations)	Standards compliance: CE, UL (optional)
Min board edge: 3 mm	Exhaust volume: diameter 200 mm, volume $\geq 13 \text{m}^3/\text{min}$
Width adjustment drive mode: stepper motor	
Communication signal: SMEMA	
CONTROL SYSTEM	FLUID DELIVERY METHODS
Computer: IPC, LCD monitor, keyboard	V-5000 three-mode spray valve
Operating system: Windows 10	V-420A jet valve
Control software: Axxon/Mycronic software	V-5400 film coater
	V-5800 low pressure spray valve
	V-420A gel valve
STANDARD FEATURES	OPTIONAL FEATURES
Industrial computer and software and monitor	Conveyor module/bottom return conveyor
X-/Y-/Z-axis and motion platform	Cleaning platform
Conveyor auto-width adjustment	Pressure tank supply module
Ultraviolet and white light	Low liquid alarm module
Safety interlock	Fluid heating module
Audible alarm	Pump supply module
Exhaust port	Laser height detection module
Fluid supplying pipe	Laser fan width adjusting control (V-5400)
Material changeover module	Nozzle calibration module
CCD camera	Exhaust detection module
Offline programming	Four direction tilting module (for V-420A and V-5000 series valve)
Fiducial alignment software	Electric tilt and rotate module (for V-420A and V-5000 series valve)
Machine spare part kit	2D barcode reader module
Valves spare part kit	Flow monitoring
	Closed loop flow controls
	Automatic coating inspection
	THT component detection

# Bringing tomorrow's electronics to life

MYCRONIC

MYCRONIC.COM

## SWEDEN

Mycronic AB  
PO Box 3141  
Nytorpsvägen 9  
SE-183 03 Täby  
Sweden

Tel: +46 8 638 52 00

## NETHERLANDS

Mycronic B.V.  
High Tech Campus 10  
5656 AE  
Eindhoven  
Netherlands

Tel: +31 402 62 06 67

## FRANCE

Mycronic S.A.S.  
1 rue de Traversière  
CS 80045  
94513 Rungis Cedex 1  
France

Tel: +33 1 41 80 15 80

## SOUTH KOREA

Mycronic Co. Ltd.  
3rd Floor, Jung-San Bldg.  
163 LS-ro Gunpo-Si  
Gyeonggi-Do, 15808  
South Korea

Tel: +82 31 387 5111

## SINGAPORE

Mycronic Pte., Ltd.  
9 Tagore Lane,  
#02-08/09  
9@Tagore  
Singapore 787472

Tel: +65 6281 7997

## GERMANY

Mycronic GmbH  
Biberger Straße 93  
D-82008 Unterhaching  
bei München  
Germany

Tel: +49 89 4524248-0

## UK

Mycronic Ltd.  
Unit 2, Concept Park  
Innovation Close  
Poole, Dorset, BH12 4QT  
UK

Tel: +44 1202 723 585

## CHINA

Mycronic Co., Ltd.  
Unit 106, E Block  
Lane 168, Da Duhe Road.  
Putuo District, 200062  
Shanghai P.R. China

Tel: +86 21 3252 3785/86

## JAPAN

Mycronic Technologies KK  
KDX Chofu Bldg.7th floor  
1-18-1 Chofugaoka,  
Chofu-shi  
Tokyo 182-0021  
Japan

Tel: +81 42 433 9400

## USA

Mycronic Inc.  
554 Clark Road  
Tewksbury  
MA 01C876-1731  
USA

Tel: +1 978 495 9799