

SCALE with STAR6

High-Capacity PVD Coating System for Large-Scale Operations



SURFTECH

STAR6 PVD Coating System

Control What You Can Control

Sturdy

Trendy

Affordable

Reliable

6 cathodes

The STAR6 is the highest-capacity PVD coating system of the STAR series. The key features include fast cycle time, easy operation with a 5-axis planetary carousel, and six sets of $\Phi 6$ " circular cathodic arc evaporators. STAR6 is ideal for customers looking to scale PVD coating capacity or coat larger parts up to 43".

2040+

Tools per batch

10+

Coating Types

4

Runs Per Day

3 EASY Guarantees for YOU

STAR6 PVD coating system is designed with the user in mind to deliver the best PVD coating experiences.

✓ EASY DESIGN

STAR6 is the largest system from the STAR series with a high loading capacity of 500kg ($\Phi 580 \times 750$ mm) perfect for large-scale operations.

✓ EASY OPERATION

STAR6's 5-axis planetary carousel and loading wagon can easily load up to 2000+ tools at each batch. It only takes 15 minutes for a single operator to switch a 6" round cathode without any supportive jigs.

✓ EASY MAINTENANCE

STAR6 is designed to perform like a workhorse to meet your PVD coating demands with minimum maintenance work. The round cathode design requires no maintenance until the end of its life cycle.

3 FAST Guarantees for YOU

STAR6 PVD coating system is designed to maximize your productivity without compromising coating performance.

FAST SETUP

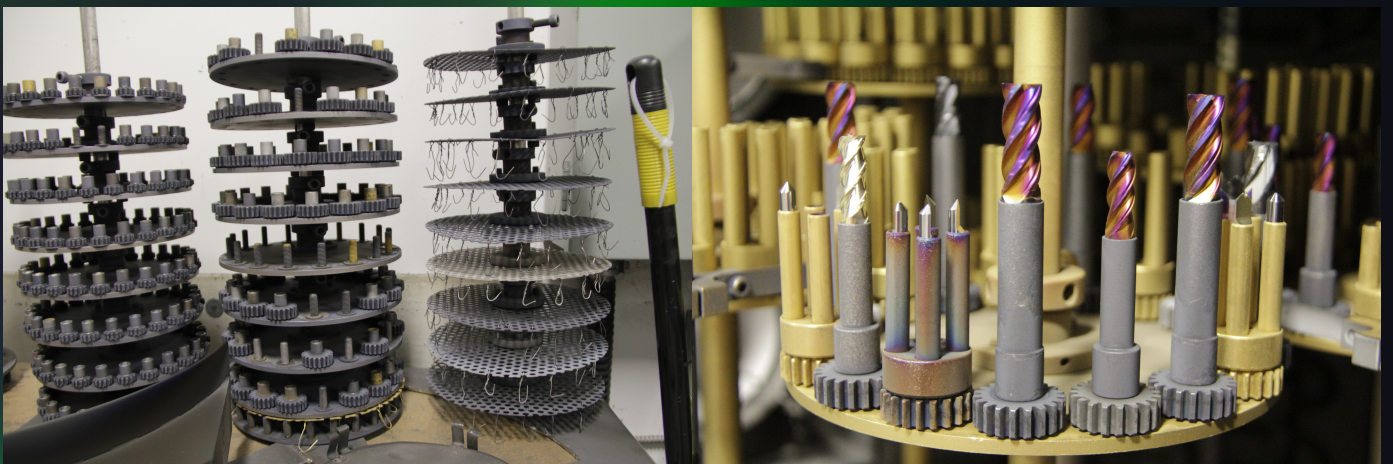
Maximize your productivity and minimize downtime with STAR6's planetary carousel system and round target design.

FAST HEATING

The 24-KW heater can heat up the entire chamber and all the tools to the desired coating temperature in no time.

FAST CYCLE

The compact chamber design is equipped with three pumps to give fast pumping and allows the shortest coating time possible in this size. Coating more than 4,000 tools daily can be achieved with STAR6.



STAR6 PVD System Specification

Vacuum Chamber

Construction	Stainless steel with chamber shutter
Cooling	Double walled chamber with water cooling
Chamber Size	Φ 850 × 1150 mm (Φ 33.5" x 45.3")
Effective Plasma Zone	Φ 580 × 750 mm (Φ 22.8" x 29.5")

Cathodic Arc Evaporation Source

Evaporator	6 sets of Φ 6" circular cathodic arc evaporator/ Auto triggering mechanism
Power Supply	6 sets of 200A digital DC power supply / Auto triggering mechanism
Water Cooling	1 spare set of cathode cooling base

Pump System

Primary Mechanical Pump	65 m ³ /h (Leybold German made)
Root Pump	500 m ³ /h (Leybold German made)
Turbomolecular Pump	2200 l/s (Leybold German made)
Vacuum Gate Valve	Vacuum valves (Leybold German made)
Dust Filter	Filter for vacuum route (MANN German made)

Vacuum Measure & Component

Piezo Gauge	1 set (Edwards Japanese made)
Pirani Gauge	2 sets (Edwards Japanese made)
Penning Gauge	1 set (Edwards Japanese made)
Baratron Gauge	1 set (INFICON Swiss made)

Gas Flow Control

Mass Flow Controller: Ar & N2	1 set (FUJIKIN Japanese made)
Mass Flow Controller: C2 & H2	1 set (FUJIKIN Japanese made)
Reactive Gas Filter & Valve	SS filters and valves (FUJIKIN Japanese made)

Heater

Heater Specification	24kW 3 sets (chamber sides and door)
Controller	1 set of PID temperature control / 2 sets of thermocouple

Cycle Time

Batch Cycle Time	5 Hours
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Equipment Footprint

Footprint	L 2500 x W 1850 x H 2200 mm L 98.5" x W 72.8" x H 86.6"
Recommended Operating Footprint	L 5000 x W 5000 mm 16' x 16'

Electronics and Software

Electrical System	3 Φ 380/400V 50/60Hz 45kW
Industrial PC system	17" HMI touch panel PC
Industrial PLC system	Ethernet programmable logic controller
Software Function	<ul style="list-style-type: none">• User-friendly interface with touch screen control• Password protected coating parameter input• Automatic and manual process control• Coating log and record & Self-monitoring• Uninterruptible power supply (UPS) for Controller• SMC water flow sensor• Remote diagnostics• Safety interlock protect function

Loading Carousel

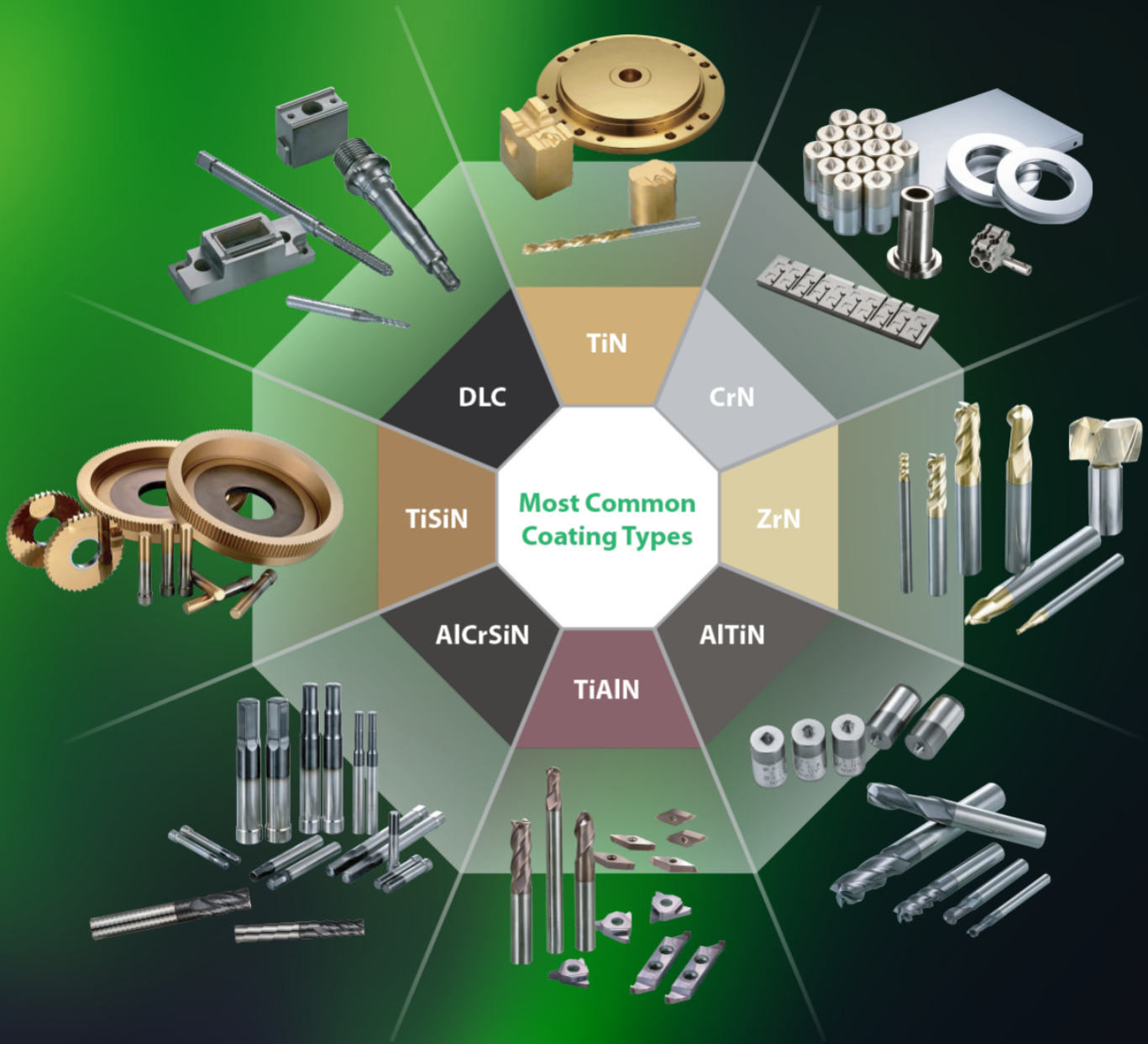
Carousel Configuration	5-axis planetary carousel
Carousel	2 sets of carousel & loading wagon
Loading Capacity – Weight	500 kg
Loading Capacity - Space	Φ 580 \times 750 mm
BIAS Power Supply	20kW 1000V arc suppression (Huttinger German made)

Carousel Loading Capacity

Regular Round Cutting Tool	\varnothing 1/2" \times 3" OAL - 750 pcs
Small Round Cutting Tool	\varnothing 1/4" \times 3" OAL - 2040 pcs
Long Round Cutting Tool	Up to 10" OAL - 170 pcs

*OAL: Overall Length

STAR6 Coating Technology





AURORA
SCIENTIFIC CORP.

Aurora Scientific Corp is the global distributor-partner of Surftech and is headquartered in Vancouver, Canada.

Aurora sells, installs, and services STAR Series for North American customers and provides PVD coating services to customers in its 4000 sq/ft facility offering more than 10 coating options.

Aurora serves many industries, including Tooling, Biomedical, Aerospace, Marine, and Woodworking clients. Its engineering and research teams in Vancouver are dedicated to testing and evaluating new coating applications and developments, and also to providing in-depth coating consultations for all its customers.

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