



Twin Rotary Magnetron

PLATIT® **11** - Series

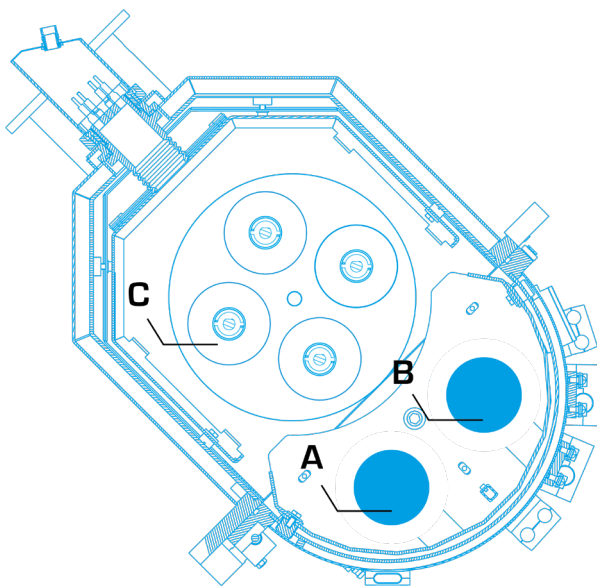
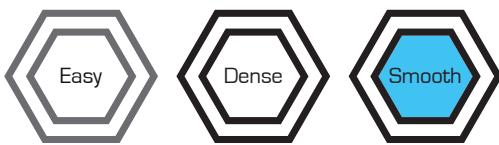
- 2 x Bipulse HiPIMS cathode
- clean, compact, efficient
- dense, smooth coatings
- wide range of materials

NEW

Newest coating unit in the P1111 family

111 Twin Rotary Magnetron

The Pi111 TRM is a state-of-the-art PVD coating unit featuring PLATIT's Twin Rotary Magnetron technology. Its two rotating sputter cathodes with advanced magnetron technology deliver dense, droplet-free coatings essential e.g., for micro tools and challenging applications such as reamers or taps. The Pi111 TRM ensures superior coating performance and flexibility. Ideal for manufacturers seeking a fast, efficient sputtering machine with the latest technology at a reasonable cost, the Pi111 TRM is the perfect addition to any advanced coating operation.



- A** Bipulse HiPIMS rotating cathode
- B** Bipulse HiPIMS rotating cathode
- C** Carousel

Specifications

Etching technologies applied:

- LGD® (Lateral Glow Discharge)
- Plasma etching with argon, glow discharge
- Metal ion etching (Ti, Cr)

Load and cycle times:

- Max. coating volume: 353 × H 498 [mm]
14 × H 20 [in]
- Max. load: 160 kg | 352 lbs

Modular carousel systems:

- 4 axes carousel – gearbox system
- A comprehensive set of gearboxes, sleeves, pipes, revolvers, dummies etc. is available

Software:

- Simple use and maintenance
- PLATIT SmartSoftware (PC and PLC system)
- Modern control system with touch screen
- Data recording and real-time display of process parameters and flow
- Manual and automatic process control
- Remote diagnostics and maintenance

Machine dimensions:

- Footprint: W 2,000 × D 1,550 × H 2,250 [mm]
- Footprint: W 79 × D 61 × H 89 [in]

Batch times*:

Micro tools (0.5 μm):	ø 3 × 48 [mm] ø 1/8" × 1.89 [in]	1280 pcs.	≈ 4 h
Shank tools (2 μm):	ø 8 × 70 [mm] ø 5/16 × 2.75 [in]	288 pcs.	≈ 6 h

* Average cycle times in an ongoing production with max. number of cathodes in use.

PLATIT offers all known PVD and PECVD coating technologies tailored to individual needs, providing complete process know-how from a single source. With Pi111 TRM, we also provide application specific holder systems e.g., for micro tools and other challenging applications.

Technologies applied:

- 2 x bipulse HiPIMS rotary magnetrons

Rotating cathodes have several advantages:

- The composition of a coating by unalloyed targets is flexibly programmable
- A larger, more effective target surface area ($\pi \times d$) with a constant target length h ($\pi \times d \times h$) extends the target service life
- Rotating cathodes achieve excellent process control and stability
- A homogeneous vertical coating thickness distribution is created in the coating chamber

Highlights:

- High power of rotating cathodes
- Wide range of materials and coatings to fit the applications needs
- Dense coatings thanks to the high power pulsing for challenging applications such as micro tools
- Smooth coatings free of droplets
- Both metals as well as low thermal conductivity materials such as pure ceramics are used as targets
- Bipulse HiPIMS enables actively to control the pulse and ion distribution - also low temperature processes possible
- Highly energetic ions with high impart have enough energy to go in substrate voids
- Increased adhesion thanks to high ionization and high energetics
- Cost-competitive setup, using one HiPIMS supply for both cathodes



Released with following coatings:

- TiN (-, Ti)
- Omnis (AlCr35, AlCr35)
- TiXCo3 (AlTi40, TiSi20)

Targets 2	Max. Load 160 kg	Solution Turnkey	Service Worldwide

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