

HARD MATERIAL COATING SYSTEMS



VTD

METZ HOLDING



# PVD – HARD MATERIAL COATING SYSTEMS

optimum protection for cutting and forming tools and machine components against wear

## DREVA 400

... for smaller coating volumes.  
Ideal for research and teaching

### • Hard material coatings

- standard: TiN, TiCN, TiAlN
- optional: AlTiN, CrN, ZrCN/NbN-multi-layers

### • Volume: 50 liters

- inner diameter of 400 mm
- (internal) height of 390 mm

### • 3 ARC coating sources ensure:

- high flexibility and shortest batch times of no more than around 90 minutes
- application-oriented coatings, development of your own distinctive coatings

### • Optional integration of sputter sources

### • Hollow cathode plasma source for process-integrated

- substrate heating and
- fine cleaning through ion etching

### • Rotary substrate table

- modular construction, threefold rotation ensures homogenous substrate coating
- diameter of 370 mm with 6 rotor rods

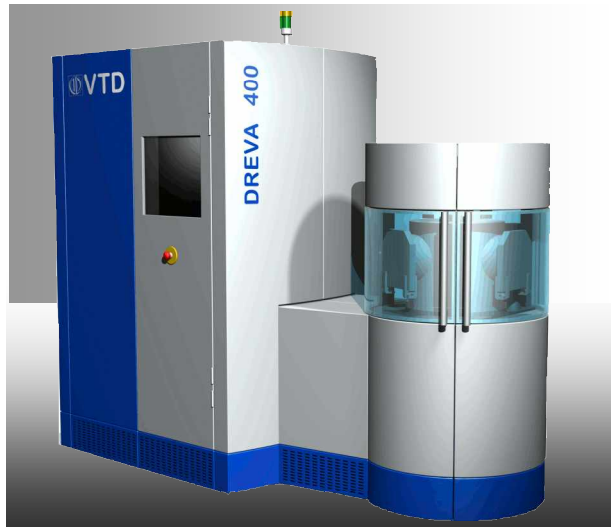
### • Control via menu-driven touch screen

- automatic and manual mode
- default technology programs
- "open" control allows you to develop your own coatings
- remote diagnosis
- exact reproducibility of the processes guarantees a consistent coating quality

### Substrate holder

Loading capacity (depends on substrate)

Tool (shank-Ø)	8...10	10 ... 20	Indexable cutter inserts
positions	125	75	1500



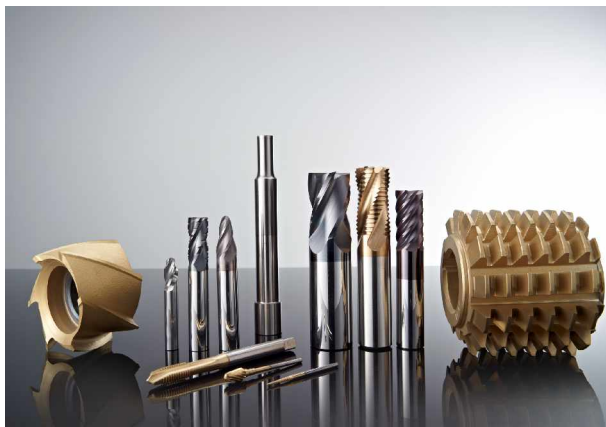
# DREVA 600

... for the highest quality and performance requirements

- **Hard material coatings**
  - standard: TiN, TiCN, TiAlN
  - optional: AlTiN, CrN, ZrCN/NbN-multi-layers
- **Volume: approx. 440 liters**
- **4 functional blocks for application-oriented, flexible equipment options:**
  - ARC sources (round or rectangular design)
  - sputter sources (optional)
  - additional heaters
- **Shortest batch times**
  - 120 min – 150 min
- **2 hollow cathode plasma sources**
- **Rotary substrate table revolves around several axes**
- **Control via menu-driven touch screen**
- **DREVA 600-LAM**  
with Laser-Arc-Module for superhard, amorphous carbon films ta-C Diamor®



FhG IWS-Dresden



<b>Vacuum chamber</b>	<b>Inner diameter:</b>	700 x 850 x 875 mm (L x W x H)
<b>Capacity</b>	<b>Levels:</b>	3 at a tool length of up to approx. 125 mm 2 at a tool length of up to approx. 240 mm 1 at a tool length of up to approx. 500 mm
	<b>Capacities:</b>	567 shank tools with Ø 8 – 10 mm (3 levels) 324 shank tools with Ø 10 – 20 mm (3 levels) 108 shank tools with Ø 20 – 40 mm (3 levels)

## TINA 1000

... the latest addition to the TINA series –  
economical and efficient

- **Hard material coatings**
  - decorative and functional coatings:  
TiN, TiCN, TiC, CrN, TiAlN, ZrN, TiZrN.
- **Volume:** 680 liters
- **2 rectangular ARC or sputter sources**  
(optional)
- **Batch time** (depending on technology)
  - decorative 60 – 90 min.
  - functional 80 – 150 min.
- **1 hollow cathode**
- **1 radiation heater**
- **Rotary substrate table revolves**  
around several axes
- **Control via menu-driven touch screen**

### vacuum chamber

Inner diameter: 900 mm

Chamber height: 900 mm

### Substrate carrier

Rotary substrate table: 6/12/24 axes

Envelope diameter: 240/125/60 mm

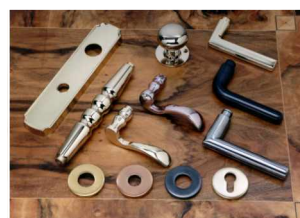
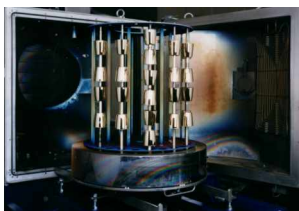
Effective coating height: 500 mm

### VTD offers more:

- **Complete turnkey systems consisting of:**
  - cleaning system
  - coating system with customized  
substrate holders
  - water cooler
  - coating characterization instruments
- **Support in every project phase**
  - system conception, planning
  - installation / commissioning / training
  - supply of consumables  
(e.g. targets, hollow cathodes)
  - technological up-date
- **Sample coating**
- **System demonstrations**
- **All advantages of a medium-sized  
enterprise**
  - flexibility
  - short response time
  - reasonable system prices

### VTD coating systems

- **Hard material coating under your  
own control! Advantages:**
  - short delivery periods
  - little logistics
  - one-stop quality service
  - development of your own distinctive coatings
  - fast refinancing through productivity



**Strong coatings for success**



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