

TINA^{INLINE} 4000

PVD – Coating system for the economic production of high grade corrosion and wear resistant hard material surfaces



A multi-chamber inline (continuous) system for decorative hard material coating. Lower manufacturing costs, higher productivity and ecologically harmless operation are some of the main economic advantages for the user.

The system concept enables fully automated processing and integration into another automated production line. This also ensures absolute reproducibility of the coating results. The combination of two PVD processes achieves high technological flexibility.

Individual steps in the coating process are:

- Radiation heating and glow discharge
- Ion etching
- PVD-barrier coating
- PVD-top coating

Preferred fields of application are the areas of door furniture, sanitary fittings and equipment. Materials, such as brass, zinc die cast and plastic can – after galvanic pre-treatment – be given corrosion proof coating. The feasibility of colour identical coatings for plastic and metallic substrates is another advantageous feature of the system concept.

TINA ^{INLINE} 4000 – Survey

Technical parameters		
<i>Vacuum chamber</i>		
Modules*	Number	5
<i>Pumping unit</i>		
Pre-vacuum		
Rotary slide valve vacuum pump	Number	2 x for In-sluicing
Roots pump	Number	8 x for Out-sluicing
High vacuum**		
Cryo pump	Number	3
<i>Substrate carrier</i>		
Axles	Number	3 or 8
Max. diameter allowable per rotor	mm	420 - 180
Coating height***	mm	500
<i>Process parameter</i>		
Cycle time	min	20
Charge time total	min	100
<i>System dimensions</i>		
Width	mm	3,550
Height	mm	2,680
Length	mm	6,600
<i>Weight</i>		
System total	kg	approx. 8,000

Technological modules		
<i>1. Module – In-sluicing</i>		
Radiation heating	kW	2 x 3,5
Glow discharge	kW	2 x 2,4
Gas inlet		Ar
<i>2. Module - Cleaning</i>		
Hollow cathode-plasma source	Number	2
Voltage	V	15 - 50
Power current	A	60 - 150
Performance	kVA	7,5
Gas inlet		4 x Ar
Bias-power supply	kW	5 x bei max. 300 V
<i>3. Module – Sputter modules</i>		
Magnetron sputter source	Number	4
Performance	kW	10
Operating mode		DC
Gas inlet		Ar, N ₂ , C ₂ H ₂
Bias-power supply	kW	5 x by max. 300 V
<i>4. Module – ARC-evaporation</i>		
ARC-evaporator	Number	4
Voltage	V	20 - 30
Power current	A	100 - 200
Performance	kW	5
Gas inlet		Ar, N ₂ , C ₂ H ₂
Bias-power supply	kW	5 x bei max. 300 V
<i>5. Module – Out-sluicing</i>		
Graded ventilation		

* depending on application; ** other pumps of request; *** on plane substrates

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