



## MULTI-ARC ION SERIES

**Fast Cycle**

**Large Batch**

**Ion Coating**

**Plasma System**

ADD: NO. 81 Jinniu West Rd, Yuyao, Ningbo City, Zhejiang Province, China

Contact: Sara Sun

Phone: +86-15867869979

Email: [coating@dankovac.com](mailto:coating@dankovac.com)

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## System Summary

**Arc Discharge:** An electric arc or arc discharge is an electrical breakdown of a gas that produces an ongoing electrical discharge. The current through a normally nonconductive medium such as air produces a plasma; the plasma may produce visible light. An arc discharge is characterized by a lower voltage than a glow discharge, and it relies on thermionic emission of electrons from the electrodes supporting the arc.

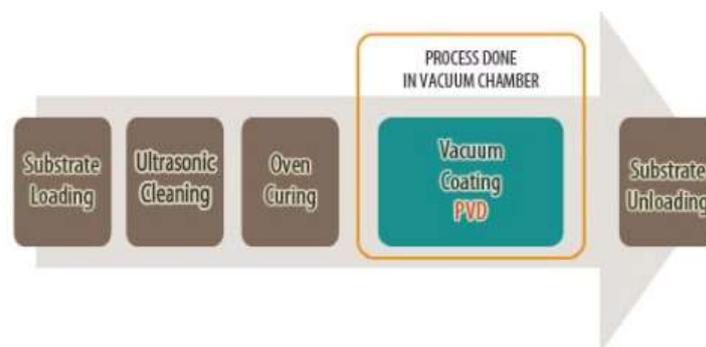
Multi-arc ion coatings can be deposited in a wide range of colors. The range of colors can be further enhanced by introducing reactive gases into the chamber during the deposition process. The most widely used reactive gases for decorative coatings are nitrogen, oxygen, argon or acetylene. The decorative coatings are produced in a certain color range, depending on the metal-to-gas ratio in the coating and the structure of the coating. Both of these factors can be altered by changing the deposition parameters.

Prior to deposition, the parts are cleaned so the surface is free of dust or chemical impurities. Once the coating process has started, all the relevant process parameters are continuously monitored and controlled by an automatic computer control system.

- Substrate Material: Glass, Metal (carbon steel, stainless steel, brass), Ceramics, Plastic, Jewelry.

- Structure Type: Vertical structure/Horizontal structure, #304 Stainless Steel
- Coating Film: Multi-functional metal film, composite film, transparent conductive film, reflectance-increasing film, electromagnetic shielding film, decorative film
- Film Color: multi colors, gun black, titanium golden color, rose golden color, stainless steel color, purple color and other more colors
- Film type: TiN, CrN, ZrN, TiCN, TiCrN, TiNC, TiALN and DLC
- Consumables in production: Titanium, Chromium, Zirconium, Iron, alloy target

## PROCESS:



## MACHINE CONFIGURATION:

Mode	DKMA-1011	DKMA-1215	DKMA-1416	DKMA-1618	DKMA-1820
Dimension	1000×1100	1200×1500	1400×1600	1600×1800	1800×2000
Coating	Multi-functional metal film, composite film, transparent conductive film, reflectance-increasing film, electromagnetic shielding film, decorative film				
Power supply	DC power supply, MF power supply, arc power supply, bias power supply				
Target type	Multi-arc, MF twin targets or flat target				
Vacuum chamber structure	Vertical single door (double jacket layer for water cooling or sink type cooling)				
Vacuum system	Mechanical pump, Roots pump, holding pump and diffusion pump or molecular pump				
Heating system	Using some single tube red line heating tubes, thermocouple and U-type heating pipe to make the temperature to be heated up to 250 degrees.				
Air system	Mass flow control system(1-4road)				
Ultimate vacuum	$5 \times 10^{-4}$ pa				
Pumping time	No-loading from air to $8 \times 10^{-3}$ pa<10mins.				
Pressure-keeping rate	1h≤0.67pa				
Workpiece rotary	Top rotary/bottom rotary with public rotation and self-rotations frequency conversion stepless controllable and adjustable				
Control mode	Manual/Semi-automatic/Automatic, PLC touch screen				
Remark	The dimension of the vacuum chamber can be customized				

## APPLICATION:

- Glassware, such as glass cup, glass lamps, glass artworks
- Table wares, like metal forks and knives.
- Golf wares, like golf head, golf pole and golf balls.
- Sanitary Products/bathroom wares
- Door handles & locks
- Watches parts, like watch case and belt
- Metal jewelry
- Large size sheet, plate, pipe, tube and so on. Like large stainless steel plate and furnitures.

**PRODUCTS IMAGES:**



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**Machine Components:**





## AFTER-SALES SERVICE & SUPPORTING:

Danko Vacuum Systems and our global service partners can provide onsite installation, repair service, preventative maintenance, applications and service training. We are available to provide support for your system 24/7.

Free warranty for full equipment for 12 months.

Long term providing the target, vacuum materials and accessories at reduced prices.

Providing vacuum coating machine operation and training of personnel at site.