



DREVA 1050 LAM HYDROGEN-FREE CARBON COATING SYSTEM

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MAIN FEATURES

- Field proven, reliable and refined equipment concept
- Laser-Arc-Modul (LAM) for ta-C deposition, optional with macroparticle filter
- Arc evaporation sources for base coatings
- Option: Sputter cathodes (planar and tubular), including HIPIMS
- Hollow cathode for plasma pre-treatment
- Segmented substrate heating unit
- Usable coating volume: Ø 1,050 mm x 1,100 mm
- High capacity combined with high productivity
- Adjustable substrate carrier: dedicated holding fixtures for various tool and component designs
- Fully automated control system and data logging

APPLICATIONS

- ta-C deposition in combination with subsequent polishing step for tribological systems
- Macroparticle filtered ta-C deposition for thin layers on 2D and 3D substrates

PROCESS BENEFITS

- Low friction coefficient of polished ta-C down to $\mu < 0.01$, supra lubricity verified
- Indentation acc. to ISO 14577: E-modulus 300 – 600 GPa / hardness 40 – 80 GPa
- ta-C layer properties: sp³/sp² up to 80%, H-content < 0.1 at % (at detection limit of NRA)
- Thermal stability of layer properties in use: < 400°C (Δ < 750°F)
- Low deposition temperature: < 180°C (Δ < 360°F)
- Many substrate materials: steel, hard metals, Si, Al, Ti-alloys, glass, polymers
- Certified ta-C adhesion to substrate material in tribological applications
- Layer thickness: up to 30 μm in use
- Thick ta-C coatings > 3 μm can be polished to achieve a very smooth surface
- Production proven & effective deposition rate on substrates: up to 1 μm/h on surface area of about 8m² per batch (macroparticle filtered ta-C deposition: up to 0.3 μm/h)

CUSTOMER BENEFITS

- Superior wear protection of up to 30 μm thick ta-C layers with outstanding properties
- Deposition rate at the maximum physical limit shortens process time to a competitive advantage
- Production proven technology, equipment concept and layer properties

RANGE OF COATINGS

- Standard layer stack: Cr / ta-C
- Optional base coatings: Cr, Ti, CrN, WC
- Other hard coatings on request

WORLDWIDE SALES AND SERVICE

VON ARDENNE GmbH (headquarters) | Am Hahnweg 8 | 01328 DRESDEN | GERMANY

Sales: ☎ +49 (0) 351 2637 189 | sales@vonardenne.com

Service: ☎ +49 (0) 351 2637 9400 | support@vonardenne.com

VON ARDENNE Vacuum Equipment (Shanghai) Co., Ltd. | ☎ +86 21 3769 0555 | 📠 +86 21 6173 0200 | sales-vave@vonardenne.com; support-vave@vonardenne.com

VON ARDENNE Malaysia Sdn. Bhd. | ☎ +60 4408 0080 | 📠 +60 4403 7363 | sales-vama@vonardenne.com; support-vama@vonardenne.com

VON ARDENNE Japan Co., Ltd. | Tokyo office | ☎ +81 3 6435 1700 | 📠 +81 3 6435 1699 | sales-vajp@vonardenne.com; support-vajp@vonardenne.com

VON ARDENNE North America, Inc. | Ohio office | ☎ +1 419 386 2789 | 📠 +1 419 873 6661 | sales-vana@vonardenne.com; support-vana@vonardenne.com

VON ARDENNE Vietnam Co., Ltd. | ☎ +84 966 29 29 50 | sales-vavn@vonardenne.com; support-vavn@vonardenne.com