

„COPRA“ Sputter Solution

Versatile Coating Concept enabling different coating solutions as:

- Plasma Assisted Magnetron Sputtering two step high deposition rate process for low loss optical filter, and high end decorative market applications
- PVD - PECVD coating solution for high rate DLC applications:

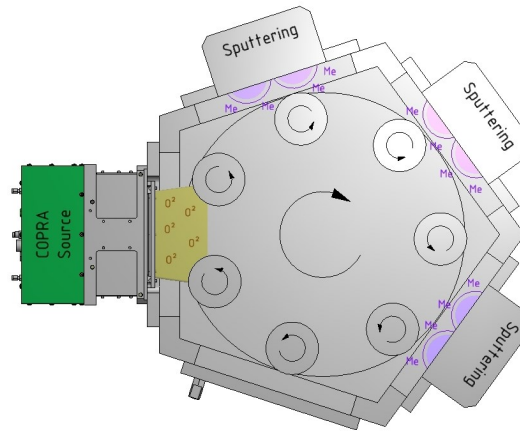
SP3 as well as SP2 Applications
 Deposition rate for DLC f.e. 1nm/s for
 Hardness of 40 GPa or more



COPRA LS670x201 mounted on an typical batch coater sputter system

How does the COPRA work?

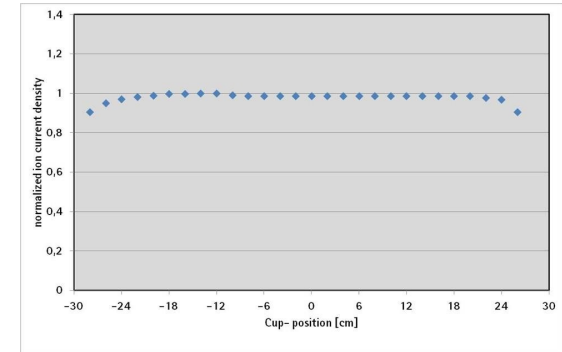
The COPRA plasma source transforms the reactively sputtered thin oxide layers into stoichiometric layers thus providing also highly efficient plasma cleaning, etching and preconditioning of the substrate surfaces. The high dissociation degree of the gas provided by the source technology is not increasing the process temperature thus enabling also temperature sensible processes.



COPRA LS-Source laterally placed by providing pure radical Oxygen in an planetary moving sputter system

The thin reactively sputtered layers carrying a controlled deficit of oxygen are successively oxidized by the COPRA Source with reactive oxygen. Any other reactive gases are also possible. The COPRA Sources are optimized to achieve higher throughput sputter rates through their excellent and fast oxidation properties for high industrial Needs.

O₂ Beam Profile COPRA LS-Source



Advantages by using the COPRA

- Excellent homogeneous distribution of the ion current density
- Ion energy and Ion current density are independently settable thus providing high process scalability for the desired substrate dimension
- Works with all gas types and reaches dissociation degrees of up to 90% and plasma densities $>1 \times 10^{12} \text{ cm}^{-3}$
- Sources can be customized in nearly every dimension in order to perfectly fit on existing machines
- No adjustment in pressure range is required—COPRA can also work in normal sputter pressure ranges
- Reproducibility of process characteristics

COPRA LS ICP Source

The COPRA LS-Source is an ICP Plasma-source which perfectly suites to existing batch coaters etc.. The design of the source dimensions could be fully customized making it a perfect allround solution for both existing and future new industrial coaters.

Pressure Range: 5×10^{-4} to 1×10^{-2} mbar

RF-Power(max.): 5 kW

Frequency: 13,56 MHz

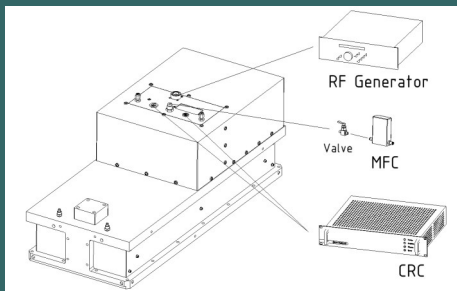
Cooling Water: approx. 3l/min

Body: AL

Proecess gas: almost any

Operation pure O₂: Yes

Matching: via Remote Control CRC



If you have got any questions or you want to become a part of the COPRA Family please contact us:

 CCR TECHNOLOGY

Camp-Spich-Str. 3a

D-53842 Troisdorf

Tel.: +49 (0) 2241-93215-0

Fax.: +49 (0) 2241-93215-200

Email: contact@ccrtechnology.de

www.ccrtechnology.de

 CCR TECHNOLOGY



COPRA Plasma Sources
Ensure Sustainability of your Plasma
Assisted Coating Productions

