CCR TECHNOLOGY

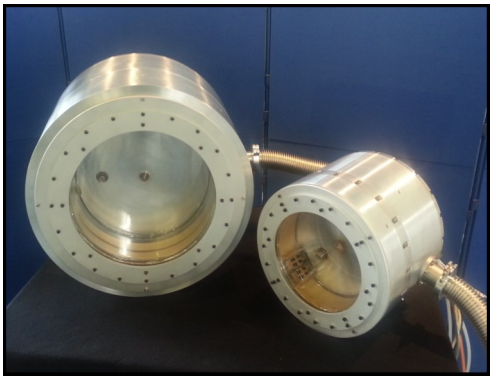
Controlled Plasma Assist for Precision Optical Coatings

developing tomorrow's surface ®

COPRA IS200, IS300, IS400 and IS500

„The Future for E-Gun Assist"

The COPRA® IS-Plasma Sources enables the assist of the e-gun evaporation process with atomic oxygen or nitrogen ion beams with independent control of ion energy and ion density. Nearly ideal oxides and nitrides can be deposited having the right mass density to be thermodynamically stable and therefore drift free with the lowest level of absorption.



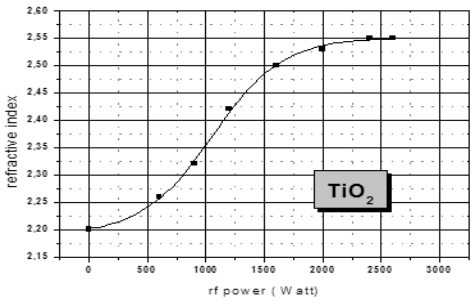
Features

- Operation with pure oxygen possible
- Quasineutral plasma beam – no filament
- Fast activation of glass and polymer substrates
- Saturation of optical properties by power variation
- Low temperature deposition on glass and polymers
- Maintenance free up to 2000 hours operation
- Highest degree of reproducibility
- Lowest consumable cost
- Contamination free

Highest n-values for stress free films

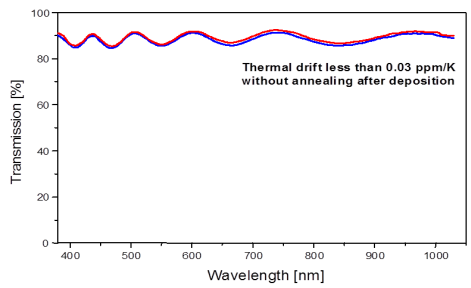
Oxide	Refractive Index
SiO_2	1,49@ 550nm
TiO_2	2.55@ 550nm
Ta_2O_5	2.19@ 550nm
Al_2O_3	1.77@ 500nm

Saturation of n vs. rf-power



Technical Specs	IS200	IS300/301	IS400	IS500/501
Installation	Free mounted built in source			
Power Coupling	Integrated ICP-Remote Match			
Pressure Range	1E-4 to 1E-3 mbar			
Beam Extraction ø	110mm	220mm	250mm	320mm
Power, 13,56 MHz	1200 W	3000 W	5000 W	5000 W
Ion Energy*	50 to 180 eV			
Ion Current Density*	up to 0.5 mA/cm^2			
*at 700 mm distance				

Drift free Oxide Layers



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