



# OXYGEN-REDUCED UV-SYSTEMS FOR INDUSTRIAL APPLICATIONS



## LESS OXYGEN – BETTER UV CURING

Oxygen-reduced systems are another advanced form of UV curing. The UV systems are operated with nitrogen or carbon dioxide. Quartz glass screens are usually used to separate the UV lamp unit and the reaction chamber.

### THESE NEW SYSTEM CONCEPTS PROVIDE NUMEROUS BENEFITS:

- Quartz glass screen  
A quartz glass screen is installed between the UV unit and the reaction chamber.
- Low consumption of nitrogen/carbon dioxide  
Only the nitrogen/carbon dioxide lost through the inlets and outlets needs to be supplied.
- Longer lamp and reflector lifetime – optimum efficiency and investment  
In a closed-cycle operation, lamps and reflectors are scarcely subject to dirtying and remain efficient for a much longer time period.

### DESIGN FOR OPERATION IN OXYGEN-REDUCED ATMOSPHERE

- Lamp length 400 mm
- Pneumatically-controlled sealing system
- Belt speed controlled by programmable storage sites
- Water cooling (counter-shutter) and enclosed conveyor belt required

### OXYGEN-REDUCED SYSTEMS OFFER SIGNIFICANT BENEFITS:

- Cost savings  
Increased production speeds and the need for fewer lamps than in conventional curing result in lower energy costs, reduction in spare parts required (lamps and reflectors), shorter down-time of the unit as well as reduced space requirements. An additional benefit is a low thermal load on the substrate as oxygen-reduced operation achieves excellent curing results using less UV energy.
- Reduction in the photoinitiator content  
Oxygen-reduced systems require less photoinitiators. These photoinitiators are partially responsible for undesired odour production and yellowing.
- Improved curing results  
Oxygen-reduced curing achieves an exceptionally high quality finish for both inks and varnishes, which may be chemical-resistant and scratch-proof.

## AN ECONOMICAL SYSTEM

A UV unit run under oxygen-reduced conditions creates a much faster reaction, i.e. less energy is required at equal production speeds.

## NEW APPLICATIONS FOR UV OXYGEN-REDUCED CURING

### VARNISHING OF:

- PVC-floors
- Automotive parts
- Food packaging
- Fancy papers
- Foils, thermal papers, aluminium compounds and silicone application



UV-system for varnishing of PVC-flooring



Laboratory unit

## WE HAVE THE CURE

IST METZ GmbH & Co. KG  
Lauterstraße 14-18 | 72622 Nürtingen | Germany  
Tel.: +49 7022 6002-0 | Fax: +49 7022 6002-76  
E-Mail: [info@ist-uv.com](mailto:info@ist-uv.com)

IST France Sarl | [info@fr.ist-uv.com](mailto:info@fr.ist-uv.com)  
IST (UK) Limited | [info@uk.ist-uv.com](mailto:info@uk.ist-uv.com)  
IST America – U.S. Operations, Inc. | [info@usa.ist-uv.com](mailto:info@usa.ist-uv.com)  
IST Italia S.r.l. | [info@it.ist-uv.com](mailto:info@it.ist-uv.com)  
IST Benelux B.V. | [info@bnl.ist-uv.com](mailto:info@bnl.ist-uv.com)

IST METZ UV Equipment China Ltd. Co. | [info@cn.ist-uv.com](mailto:info@cn.ist-uv.com)  
UV-IST Ibérica SLU | [info@es.ist-uv.com](mailto:info@es.ist-uv.com)  
IST Nordic AB | [info@se.ist-uv.com](mailto:info@se.ist-uv.com)  
IST METZ SEA Co., Ltd. | [info@th.ist-uv.com](mailto:info@th.ist-uv.com)