

# INERT GAS

## UV Curing System

**Atmospheric oxygen reduces the effectiveness of UV curing in some inks and coatings. The inert gas curing system can be used to overcome this. Inert gas (usually nitrogen) is used to purge the curing chamber of oxygen, increasing production speeds significantly.**

### The benefits of inert gas curing

- Allows curing of low migration inks for food grade applications
- Improves the curing speed of all free radical inks
- Enables curing of free radical silicone coatings
- Reduces ink odour

### Choice of systems

#### Constant PPM System

A sensor within the curing chamber determines the oxygen concentration in parts per million (ppm). The operator can set the desired maximum oxygen level and the system automatically adjusts the flow of purging

nitrogen to achieve better than the desired oxygen level. The HMI displays live oxygen levels for each lamp, together with any relevant warnings and alarms.

#### Constant Flow System

A sensor on the nitrogen flow valve measures the flow rate of purging nitrogen. The system automatically adjusts the flow to the level set by the operator, irrespective of press speed or oxygen level. Oxygen ppm level is still displayed on the touchscreen for the operator to view and control the process.

#### Process Control package

In accordance with EC Regulation No. 2023/2006 on "good manufacturing practice for materials and articles intended to come into contact with food", the GEW Process Control package includes a means of recording live system curing performance data on a job by job basis.

Data appropriate to the UV system configuration is recorded such as oxygen level (ppm), UV intensity and any warning and fault conditions that occur during the logged period.

Customisable logged data can be transferred to the customer as csv files on a weekly basis. Other data transfer options may be available on request, please contact your sales representative for more information.



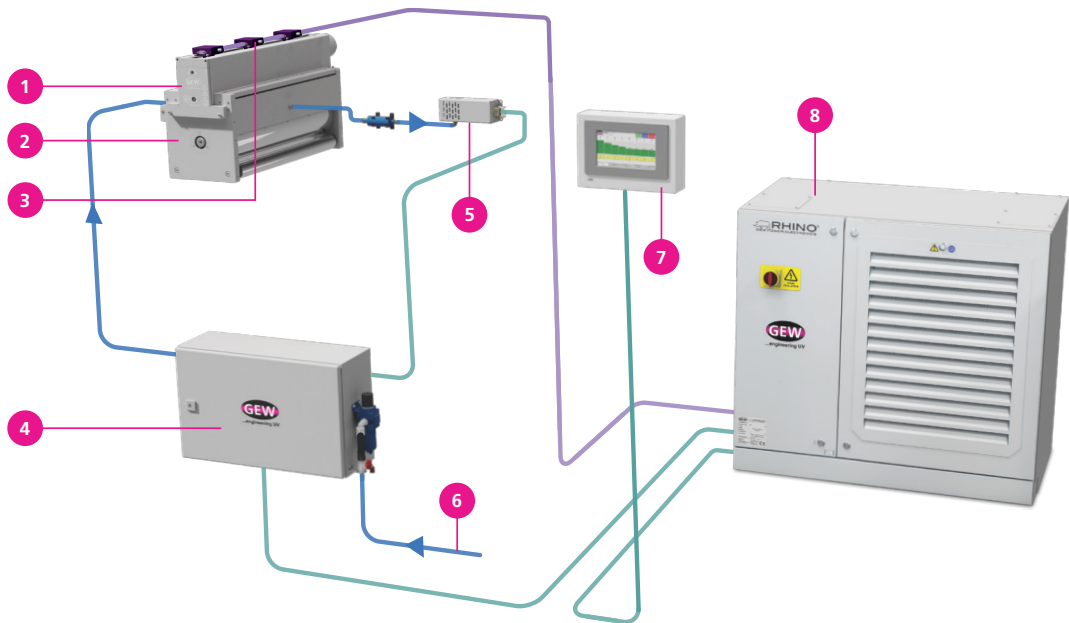
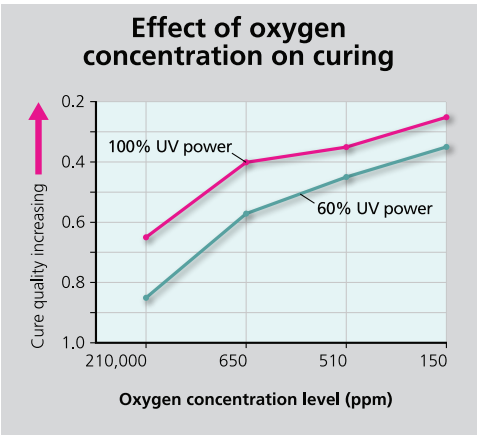
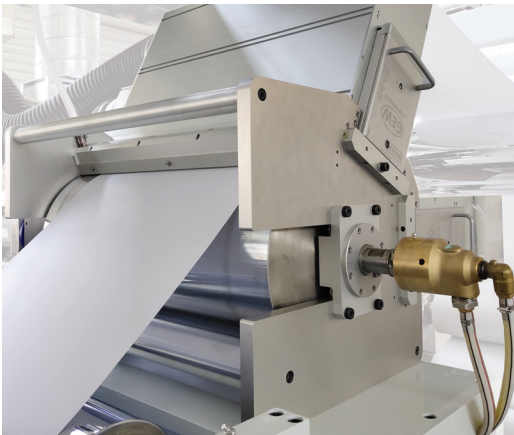
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...engineering UV

# Inert gas installation

All parts are normally serviceable from the operator side of the machine via a removable sealed quartz window.



KEY ELEMENT	DETAILS
1 UV lamphead	Compatible with: E2C - up to 60cm / E4C - up to 130cm / NUVA2 - up to 250cm / LED - Up to 250cm.
2 Inert gas curing chamber	Available with water-cooled roller or inline water-cooled heatsink.
3 Multi-point UV monitors (optional)	Enables continuous monitoring of UV intensity. Measurements are displayed on the touchscreen.
4 Inert gas control box	All-electronic control to monitor and regulate inert gas flow.
5 Oxygen analyser	Compact oxygen sensor mounted near chamber for rapid response. Precision pump controls sample rate.
6 Inert gas feed	Inert gas feed to control box.
7 HMI touchscreen	GEW UV process control displays real-time oxygen concentration for each chamber.
8 Rhino Power Electronics	Ultimate efficiency electronic control is used to power the UV lamp and manage the inert gas system.



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