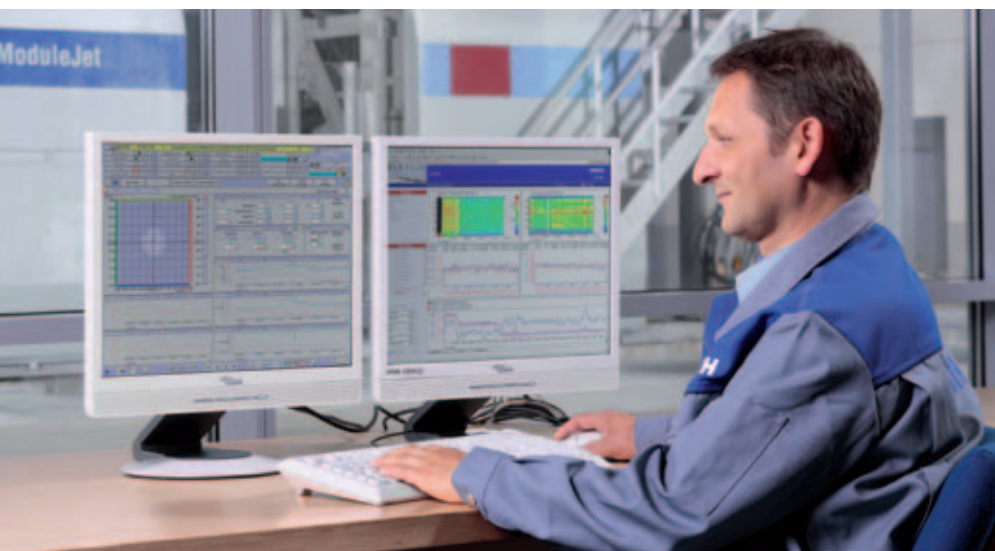


## OnQ GradeControl Color

### Comprehensive control concept for optimum quality color



#### Color as a mark of quality

In paper production, color is an important quality attribute. To satisfy the stringent requirements that this parameter has to meet, it is crucial to respond quickly to process changes or new product requirements. Accurate control is rendered more difficult by the complex interaction of different influencing variables, in particular.

Even the use of two dyes makes it difficult to adjust chromaticity by manually setting the dosing rates, as each dye affects the chromaticity differently in every chromaticity coordinate. The color control system OnQ GradeControl Color takes account of these individual variables and therefore achieves speedy adjustment of optimum color quality.

#### Less broke and minimal cost for dyes

OnQ GradeControl Color offers various benefits over conventional controllers or manual color adjustment:

- Cost savings through optimized dosing of dyes
- Optimized dosing rates to achieve minimal color variation from specified value
- Fast color changes using model-based controls, even in the case of greater chromaticity variations and grade changes
- Integrated control of optical brighteners
- Compensation of influences caused by dye components or production fluctuations
- Accurate measuring results and optimum control in conjunction with the Voith LSC Color Sensor

### Optimum control of color values

The color control system OnQ GradeControl Color uses spectral color measurement to identify the proportion of dye in the paper and determines the ideal dosing amounts to ensure the minimum possible deviation from the specified chromaticity. In the process a full physical model takes account of dyes, optical brighteners and the process chemicals used for dyeing. By including all influencing variables in this way, the coloring-specific processes can be accurately managed and optimum control outcomes achieved, particularly in the event of grade changes.

In contrast to conventional linear color controls, the model-based decoupled control strategy allows a targeted and very fast adjustment even of more extensive chromaticity variations. As a result, this substantially reduces the amount of broke caused by exceeding color tolerances or failing to meet them in time. When using several dyes the costs of the dosing quantities can be limited, achieving optimum color quality at minimal cost for the dyes.

### The perfect match for premium quality color

The combination of OnQ GradeControl Color and the Voith LSC Color Sensor for non-contacting measurement achieves the best possible results in measuring and adjusting color values.

### Voith LSC Color Sensor

The sensor (image recto) was specially developed for the paper industry and determines color, whiteness and opacity of the web consistently and reliably. The Xenon flashlight bulbs used allow accurate measurement of the light intensity distribution while excluding the effects of glare. The Voith LSC Color Sensor enables precise calculation of color data in all known color systems and lighting.

The plug'n play design means that the sensor can be installed quickly and easily as there is no need for cable and hoses.

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### Traditional controller vs. OnQ GradeControl Color



### Scope of supply

- OnQ GradeControl Color for chromaticity control
- Integration into OnQ GradeManager database
- Automation system comprising CPU and operator station
- Connection to existing process control system (OPC or profibus)
- Commissioning and optimization by experienced Voith technicians
- Operator training for simplified induction process
- Optional integration of Voith LSC Color and Whiteness Sensor