argus XE  UNIVERSAL DISC MEASUREMENT SYSTEM

Forward-looking off-line replication process control, for all formats and all generations

A compact system which fulfils all requirements, now and in the future.
argus XE combines high-precision measurement, powerful data analysis and user-friendly operation to offer all the functionality required to monitor, control and optimise the replication process.

Precise, Reliable Measurements

- All laser measurements have high local resolution thanks to the small size of the laser spot, giving superior performance compared to alternatives such as LED illumination. Resolution is especially critical at the edges of layers, where problems are most likely to occur.
- Equipped with red, green or blue laser according to format and task; all measurements are made at the optimum wavelength for maximum accuracy.
- Disc temperature confirms that birefringence, tilt etc are measured according to specification.

  ✓ Highly accurate measurements with outstandingly high local resolution

Easy Handling and Operation

- User-friendly operation is based on intuitive Windows XP® software and a fully-automated measurement process. A typical measurement cycle takes approximately 15 seconds, including 5 seconds for evaluation and disc handling.
- Options for the display and presentation of results include a high-resolution 'Top View' mapping the distribution of measured values across the entire surface of the disc.

  ✓ Top View shows process deviations ‘at a glance’

  ✓ Network-compatible for easy export of measurement results

Advanced Features for Process Control

- High performance statistic and trend analysis for process monitoring.
- Extensive data storage and export functions, including a database solution for easy access to all saved measurement data, allowing systematic evaluations.

  ✓ argus XE offers instruments to effectively improve the production process and increase yield

www.schwabinspection.com
**Diffraction Order Measurement**

Diffraction order measurement provides information about disc structure: groove width, depth and volume, plus dye fill grade for recordable media. argus XE measures first and second orders for CD and DVD formats; for Blu-ray Disc, first orders of s- and p-polarised incident light.

- **Groove Width and Depth for all formats without approximation**

**Other Laser Measurements**

- Birefringence measurement identifies material stress in substrates and finished discs.
- Tilt measures distortion of the disc surface; calculates vertical deviation, vertical runout and axial acceleration.
- Transparency, reflectivity, dye and sputter layer thickness are measured by laser, taking zero and first diffraction orders into account to minimise effect of groove structure variation.

- **All laser measurements take diffraction orders into account!**

**Layer Thickness Measurements**

- argus XE uses both, spectrometer and interferometer technologies for high-resolution measurement of the thickness of space, cover and hard coat layers, plus substrate and seal lacquer thickness.
- dr.schwab high-speed and high-resolution spectrometers and interferometers are designed and built in-house
  - **Optimum accuracy in each thickness range, without compromise**
  - **Including all Space and Cover Layers of 4-layer BD-100**

**Configuration**

argus XE is a modular system. The base unit provides a core set of measurements and is equipped with red or blue laser illumination; optional modules are added to reach the desired configuration. For full details of the measurement modules, please see the argus XE White Paper.

- **Individually configurable for any format**

**Result Comparison Software**

The unique Result Comparison software offers numerous possibilities for advanced process analysis.

- Identifies the effect of modifications to process parameters (eg: adjusting the temperature of the moulding machine)
- Compares current disc quality with that of earlier samples to monitor the drift of a line
- Compares results from different lines or manufacturing sites
- Gauges the effect of special tests (eg: disc degradation after exposure to specific environmental conditions)

**Contact dr.schwab Inspection Technology GmbH:**

Email: info@schwabinpection.com   Web: www.schwabinpection.com
Tel: +49 (0)8251 9008 0   Fax: +49 (0)8251 81194

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