All-Round Measurement for the Physical Properties of Blu-ray Discs





Off-Line Solution with Focus on Mechanical and Optical Parameters

With nearly two decades of experience in the design and production of Off-Line measurement systems Dr. Schenk presents the PROmeteus MT-200.blue. As a consequent enhancement to the established PROmeteus family, which is recognized as industry and research standard for more than 15 years, the MT-200.blue specializes on the measurement of physical properties of Blu-ray discs (prerecorded, recordable and rewritable SL and DL). At the same time this all-round system offers broad functionality for quality assurance and production process control during optical disc replication of the red media formats of GEN I and II.

As perfect complement to In-Line inspection, the PROmeteus MT-200.blue tests and evaluates all relevant physical properties and verifies the strict mechanical and optical specifications. Unmatched in efficiency and reliability this system analyzes the whole disc, embodying an indispensable analytical tool for process stabilization and root cause analysis. Fast feedback on the production process enables the replicator to take corrective actions at an early stage, leading to yield enhancement and a noticeable improvement of the production process.

THE INDUSTRY STANDARD FOR OFF-LINE TESTING

- Industry and research standard for an easy comparison of measurement results worldwide
- Measurement of Blu-ray discs with blue-laser (at 405 nm) according to BD specifications
- Stable operation based on embedded LINUXTM
- Unreached spot accuracy for most precise layer thickness measurement crucial especially at Blu-ray layer edges
- Very high scanning frequency up to 700,000 measurement points/inspection to guarantee superior spatial resolution
- User interface according to SEMI standard known from the Dr. Schenk In-Line scanners
- Fully network-compatible for an easy export of test results into customer data bases
- Tests blue and red formats in only one system



SYSTEM FEATURES & VALUABLE FUNCTIONS

- Transmission TO and Reflectivity RO at 405 nm
- Radial, Tangential and Vertical Deviation
- Vertical Runout and Axial Acceleration
- Relative & Absolute Birefringence Inplane Blue (405 nm)
- Birefringence Orientation
- Data Transfer Program PROPC-200
- Data storage with capacity for up to 120,000 measurements
- Touchscreen and printer package



The vizualisation software PRO.viz - Easy data presentation with multi diagram function

BLU-RAY	Diffraction efficiency 1st order (405 nm) Transmittance and reflectivity Groove Evaluation for Blu-ray
LAYER-THICKNESS	Substrate thickness, cover layer and space layer thickness
PERP-BIREF-BLUE	Perpendicular birefringence at 405 nm Δn Inplane and Δn perpendicular birefringence both at 405 nm
HIGH-RES ACC	Enhanced evaluation of local deformations (ACC)
LACQUER	Lacquer thickness measurement
DVDR DYE	Optical density / thickness of BD -R, DVD-R and DVD±R Dyes
DVDR DL DYE	Optical density / thickness of dyes for DL BD-R, DVD±R and DVD±R (option includes DVDR DYE)

ACCELERATION DEFECT ANALYSIS

The HIGH-RES ACC option enables enhanced evaluation of acceleration defects on the complete disc. This high-resolution measurement of smallest local deformations is particularly important for high-speed Blu-ray discs, demanding maximum flatness for proper recording.

Previously, only possible on electrical testers with significant time delay, the HIGH-RES ACC option provides immediate feedback on process issues. This allows corrective actions to be taken in time, ensuring continuous high yield.

TECHNICAL DATA

Radial Measurement Range	19 70 mm	
Measurement Resolution	Radial: 0.1 mm, 0.25 mm, 0.5 mm, 1 mm, 2 mm (selectable) Tangential: 256 points per turn 2048 points per turn with option HIGH-RES ACC	
Measurement Duration	Typically 20 sec, depending on disc diameter and measurement resolution	
Display	15" color TFT display, Touchscreen, Resolution: 1024 x 768 pixels	
Power Supply	100127 VAC, 200240 VAC, 5060 Hz, 250 VA	
Dimensions	Height: 500 mm (+ 330 mm for TFT-screen), Width: 480 mm Depth: 560 mm (+ 230 mm for keyboard drawer)	
Laser Class	Class 1 laser and LED product	

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