

The Biax Film Application Package is an integral part of Thermo Fisher Scientific's unique Biax industry solution. It takes full advantage of the power of Wonderware® InTouch™ software. This application package is designed specifically for biaxially oriented film lines with measurements at both the cast and film ends and cascaded control loops.

The Biax Film Application Package defines basic real-time measurement, network communications, data processing, and operator interface functions. Optional enhancements, such as special displays, control, SPC, IndustrialSQL Server™, third party I/O servers, etc., are available to expand the basic application package to a comprehensive process management system.

Embedded in the Application Package is communications support for Ethernet network. The scalable nature of the system's architecture, coupled with the flexibility and expandability associated with the Wonderware Package, allows the system to be adapted to evolving process and business requirements.

Cascaded MD control for Biax lines with mass balance algorithm uses two control loops: Film and Cast. The Film control loop feeds back information to the Cast control loop. The Cast control loop modifies the controlled speed based on both the Cast and Film errors. MD Control greatly improves product quality by adjusting the process to hold product to its film average target. Nominal Control adjusts product average to a fixed target. Target Management Control adjusts product to a System calculated flexible target, while providing both low point and low average protection.

Automatic Profile Control (APC) package for Biaxially oriented extruded film uses a mass balance algorithm for CD control of the final film. Measurements of the film, both before (Cast) and after it is oriented (Film) are used for controlling the Automatic die at the Cast end. APC package includes hardware and software to control auto dies to achieve and maintain cross-direction uniformity of the film. When coupled with Nominal Control, APC ensures final film product uniformity and superior roll quality, resulting in quality improvement, scrap reduction, and material savings for tangible economic returns.

Thermo Scientific 21Plus!™ provides a platform for the integration of data and displays of optional software packages widely used in the Biax Industry, such as EM-3 temperature controllers, Roll Quality Management System Reports etc.

FEATURES AND BENEFITS

- Application Package provides core operating software for biaxially oriented film lines
- Accommodates full line of nuclear and full spectrum infrared sensors for a wide variety of Biax measurements. This includes Interferometer (MicroBeam) for thin film measurements.
- Auto Profile Control is based on mass balance algorithm using both Cast and Film profile measurements.
- Machine Direction (MD) control uses cascaded loops of Cast and Film
- Supports network communications between distributed frame controllers, scanners, interface modules, process controllers, and workstations
- Continuously monitors and pre-processes product and process data for viewing, archiving, reporting and analysis
- Provides platform for all special displays, control, reporting, and interface packages
- Provides for a multitude of Link options to various Biax line controls such as PLCs.

DESCRIPTION

The Biax Film Application Package provides the core system software. This application package is designed to operate on a Windows workstation.

FILM MEASUREMENTS

The Biax Film Application Package provides full support for the complete family of products. Available on-line measurements include basis weight, thickness, and discrete layer measurements. Standard sensor processing features include automatic edge-of-sheet detection as well as neck-in compensation to account for shrinkage.

DISTRIBUTED DATA ACQUISITION

The Biax Film Application Package provides support for distributed process inputs. Communications to other devices is by means of a high speed Ethernet Network.

INTUITIVE DISPLAY STRUCTURE

The system is designed to allow operators to easily navigate the system and access information quickly. This intuitive menu structure enables access to all process information through a split touchscreen. Values and text are modified with a pop-up keypad or menu, which is called by simply touching the field. The common display header on each screen provides direct access the most common displays such as Scan, Control, Recipe, Alarm and Status messages.



PLATFORM FOR PROCESS INTEGRATION

Optional software packages allow the Biax Application Package to be expanded to address full process integration. These enhancements include advanced control, display, communications, analysis, and database functions. The scalable architecture of the system enables these advanced functions to be added incrementally, as process and business requirements dictate.

STANDARD DISPLAYS

Profile	Alarms
– High resolution	Messages
– Zone	Sample Check
– Full	Setup
– Split	– Frames
– Zoom	– Sensors
– Freeze	– MD control*
Roll Summary	– APC control*
– Current	– Reports
– Previous	Translations
Product Recipes	Auto control*
Trends	– Machine direction (MD) cascaded
Data	– Cross Machine direction (APC) cascaded
Billboard	
Single Point	
Measuretrend	
Plus with historical time-zoom*	FFT MD frequency analysis*
	SPC charting*

* *OPTIONAL*