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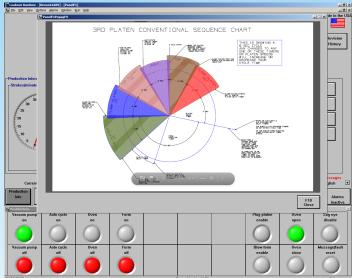
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**BROWN**<sup>®</sup>

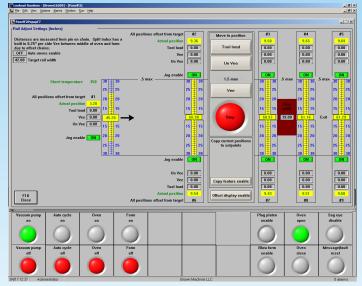
**SMART CONTROL** 

# TAKING INTELLIGENT THERMOFORMING CONTROL SOLUTIONS TO A NEW LEVEL









Index / Rail Screen

Smart Control is Brown's integrated intelligence control software which enables the machine to monitor system performance, notify operators of out-of-range operation, automatically makes critical machine adjustments, and communicate preventative maintenance needs.

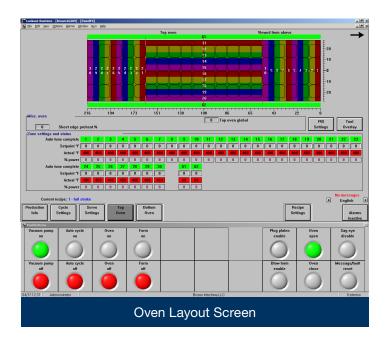
#### **BASIC SMART CONTROL**

Basic Smart Control comes standard on all Brown continuous thermoforming equipment and includes a variety of intelligent software features.

## **Process**

- On/off machine functions embedded in HMI
- Forming process display with real-time visual feedback and hot links for easy adjustment
- Trending capabilities to monitor key process statistics

- Help feature for specific machine functions
- Password protection with default levels of security
- Note section within the recipe
- Historic log of all HMI operator actions
- Strain gauges incorporated for over tonnage protection within the form station
- E-stops and guard door identification



#### Servo

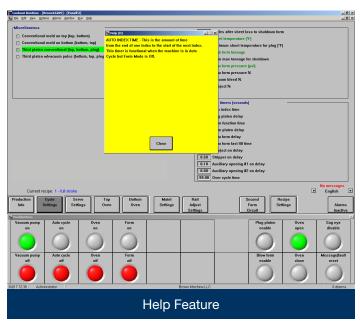
- Display warning and light when servo motor and drives are approaching fault values
- Diagnostics of the servo motion controller system

#### **Ovens**

- Mold layouts within the oven screen
- Scaled dimensions and shot lines within the oven screen
- Ovens turn on sequentially to minimize power consumption
- Sheet sag eye oven protection circuitry

Patented Servo Plug Drive – Increased process window with improved material distribution

- Teach mode
- Protection circuit
- Pressurized lubrication system circuit
- Operator initiated start-up mode
- Cold sheet plug assist protection circuit



#### Index & Rails:

- Rail protection circuitry to prevent rail/mold damage
- Self-adjusting index motor tension system
- Preventative maintenance scheduling

# Green Technology:

- Regeneration of servo power for reuse
- Independent transformer to allow Supervisory PC to remain under power

## **EXPANDED SMART CONTROL**

Expanded Smart Control is available as an option and adds even more features for intelligent system performance.

## **Process**

- Vacuum and pressure circuits trending
- Self-adjusting head to maintain a preset forming tonnage within the process recipe
- Thermocouple control for temperature control unit adjustment and upper/lower tool alignment protection

#### Servo

 Self-adjusting electronic regulators for form station balance cylinders to optimize servo motor efficiency



