

## **Upgrade your blow molding machine with our state of the art B&R machine control system.**

Uniloy is proud to introduce the B&R Control Package developed for our Reciprocating screw blow molding machines. This package provides improved machine sequence control as well as Ethernet connectivity. The package also includes a color touch screen operator interface with built in security access levels and alarms and diagnostics useful for trouble shooting machine operation and processing issues.

### **Control System Features**

#### **Standard Features:**

- Machine Sequence Control
- Ethernet Connectivity
- Alarms and Diagnostics
- 4 Security Levels
- 24 VDC Output Voltage for Solenoids
- 15" Color Touch Screen
- DC Pushbuttons
- Electrical Cabinet Doors

**Machine Sequence Control** is the process of using input and output signals and an internal sequence control counter to maintain precise order and timing of all machine movements included in each machine cycle.

**Ethernet Connection** provides Local Area Networking which means you have the ability to link your machine controller to other computers for the purpose of production scheduling, material tracking, or supervisory control. The software required to perform scheduling, tracking, and supervisory tasks, is the customer's responsibility.

**Alarms and Diagnostics** are an important feature in a machine control system. Alarms are used to alert machine operators that something within the machine or production process needs their attention. Diagnostics are provided in the form of messages which appear on the operator interface. These messages are intended to help the operator understand what needs attention or correction.

**Security Levels** are a standard feature in a Uniloy machine control system. The B&R Control System provides four security levels. These levels are Processor, Maintenance, Administration, and Service. All four levels require login passwords and each level is designed to provide the appropriate access and capabilities required for that job function.

**Output Voltage for Solenoids** on the existing machines is typically 110 VAC. They can either be left 110 VAC or they can be converted to 24 VDC. The standard B&R control system is setup to provide 24 VDC output voltages; therefore, it is most suited for machines where solenoids are 24 VDC. The

B&R control system can be adapted to work with AC voltage solenoids but this requires the addition of relays to convert the controllers DC output to AC.

**Color Touch Screens** are standard equipment in Uniloy controls packages. The B&R control system includes a 15" monitor with 24 bit color. The monitor has two RS232 communication ports and one compact flash card slot. The monitor also has two 10/100 Base-T Ethernet ports.

## Control System Options

The next step in building your controls package is to select your control system options. The options listed below may be used as a guide to determine the control system best suited for your needs.

### Package Options:

- Temperature Control
- Analog Inputs
- Power Components
- Parison Programming
- Proportional Motion Control

**Temperature Controls** can be configured for up to 42 zones with B&R. This is achieved using thermocouple control cards. This system provides closed loop control with temperature set points and actual readings displayed on the graphical interface. Solid state heat contactors are provided to replace the old mercury contacts in the existing panel.

**Analog Inputs** are used to provide the controller with information about the machine. There are 7 analog inputs which are available with B&R.

- Screw Position
- Clamp Position
- Swing Arm Position
- Extruder Speed
- Extruder Load
- Melt Pressure
- Hydraulic Temperature

**DC Pushbuttons** are standard (24 VDC), which replace existing 110 VAC buttons and switches in your operator stations. The new DC pushbuttons and switches are ANSI compliant.

**Electrical Cabinet Doors** are standard to replace doors that are in poor condition, to replace doors with large cutouts which are no longer necessary, or to facilitate a controls retrofit that will not fit on a small subpanel.

**Power Components** are an option which is available for the B&R controls retrofit. The state of the art power components included are:

- Master Control Relay
- AC/VF Drive Relay (if required)
- Circuit Breakers
- Main Breaker
- Motor Contactors (mercury free)
- Motor Overloads
- Power Supply
- Distribution Block

**Parison Programming** is an option which is available using the B&R controller. Parison programming provides the capability to change the thickness of the parison while it is being extruded. The parison thickness is determined by a profile, programmed into the machine controller. The machine controller uses the profile to drive proportional hydraulic valves and cylinders which open and close the gap between the die and mandrel.

**Proportional Motion Control** is an option which is also available to control proportional hydraulic valves on the clamp and swing arms. This control option is available with the B&R control system.

**Cooling Bed and Trimmer Control** is an option which is not currently available using B&R. If a B&R control system is desired for your blow molder, and you also wish to have new, updated controls for your downstream equipment, the following list includes current independent control systems available:

- Impact Trimmer      Allen Bradley Compact Logix
- Cooling Bed          Siemens Logo
- Rotary Trimmer      Siemens Logo
- VIT                      B&R (Independent of machine)

For more information about the downstream control systems or for a formal quote, contact your Uniloy Sales Representative.