XBM Navigator™
PC Control System
Intuitive Navigation

Typical Extruder Control Screen

We utilize a well thought-out display scheme that makes navigating easy. With Graham Engineering Corporation’s (GEC’s) XBM Navigator™ you are never more than “two touches away from any screen”.

- **Left Hand Vertical Menus (1)** - For access to key machine parameters (screen groups). These do not change.
- **Lower Horizontal menus (2)** - Buttons update based on which screen group (Main, Parison Programmer, Extruder One, Extruder Two, etc.) is active.
- **Easy to navigate**—only two key touches to any screen. Simply select the group button on the left side (1) and then the desired screen button on the bottom (2)
- **A screen title is always visible for every screen.**
Intuitive Color Schemes

We use consistent color schemes to subtly train the operators on which values are to be set, and which ones are for display only. For example, some of these are:

• Process set values shown as black text on a white sunken background.
• Actual feedback values shown as red text on a yellow raised background.
• Similar standard color schemes are used for other conditions and set values.
• Heater bands change colors in real time—blue if “calling for cooling” and red if “calling for heat”.
• Varying colors for different alarm states.

Consistent “Display Format”
Access Control

Access Control Set Screen

Four unique levels of access give you complete control over who can make changes to the process. To make changes to the set points, the user must touch the screen, and enter his unique four digit access code. All setting changes are recorded—you will know who made every change, the old value, new value, and time and date when the change was made.

- Level One—Basic Operator. Limited to changing only a few key parameters to adjust the process.
- Level Two—Shift Supervisor—Additional parameters are opened for access.
- Level Three - Process Supervisor - Can change most parameters.
- Level Four - Unlimited Access. Can change all parameters, and adjust which parameters can be changed for access levels 1-3.
Parison Programming

GEC has a successful history of parison programming excellence, forged on years of experience in high output production machinery. We have learned how to combine the right hardware and program logic for fast response and repeatability. Then, we made it intuitive and easy to program.

- Up to 180 programming points. Touch the general region you want to program, and a "zoom mode" box displays for fine tuning (shown below). Master points allow curves to be programmed quickly.
- Adjust points via "sliders" or keypad for specific values. Course and fine mode for sliders.
- Real time feedback curve of actual die position. “Ghost Curve” to compare to a stored profile.
- Additional functions—smooth profile, shift profile, wrap profile, etc.

*Typical Parison Programmer Screen During Adjustment*
I/O Diagnostics

Direct Access to I/O Modules

When you really need to know what is happening “under the hood”, the XBM Navigator™ PC Control System gives you unprecedented access to the I/O modules.

- First, access a screen showing the different I/O modules as they relate to different machine components.
- Next, touch an individual I/O module (as shown above).
- Diagnostics for Universal Power Supply (UPS), IPC and control panel.
- Real time display of all I/O Signals (digital and analog)
- Select individual I/O Module for full description and wire label.
Trend Charting

To help you visualize the process, GEC has integrated a trend charting feature into the control screens.

- Display multiple curves.
- User control over which variables to plot, as well as min/max axes set points.
- Monitor the blow molding process in real time.
- Option to export data to a file to be used by other SPC or plant monitoring packages.
Remote Access Support

By using remote diagnostics support over the Internet, GEC can provide troubleshooting expertise without leaving our factory.

- Lower costs to you—no need to pay for travel expenses.
- Many issues can be resolved in the same day.
- Software and capabilities integrated as standard.
- Machine diagnostics, process troubleshooting, and software updates.
If you have a machine that is still in good shape, but in need of a control overhaul, give us a call. GEC can implement our award-winning XBM Navigator™ PC Controls on many of our old machines, and even some competitive machines.

From parison programmer replacements to complete electrical control systems, we have the skill and experience to optimize your operation.
Attention to Detail

Take a Look
Take one quick look inside the cabinet of any GEC blow molding machine—and you will see an attention to detail:

- Wires labeled on each end
- Neat bundling of wires
- Room to work and maneuver
XBM Navigator™ PC Control System

... While Seeing the Big Picture

This same attention to detail carries across to everything we do.

- Manuals are thorough and up-to-date.
- Documentation has liberal use of photos and illustrations to convey meaning.
- Thoughtfully laid out control menus.
- The same “look and feel” appearance across all product lines aids in operator proficiency.
Reliable Performance

Simply stated, our control systems are just like our blow molding machines—well designed, solid, and built to last. This is the Graham Engineering philosophy - we are not satisfied until you are.