

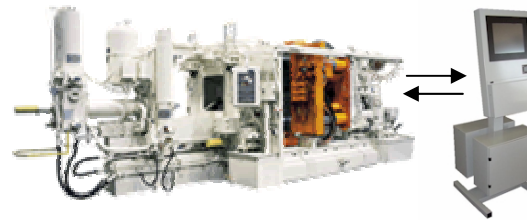
4-cavity die and only one cavity was affected then the robot would accept the other 3-cavities as good parts and only segregate the bad one rather than all 4-parts. This feature, allows for the reduction of scrap and provides you with the option of fixing the pin right away, or to continue running the machine and produce 3 good parts every shot, at a 75% yield.

Die Maintenance & Tracking

If you need a way to monitor and manage all of your die maintenance operations then the Mentium Die Maintenance and Tracking software is just what you need. There are just too many features to cover in this brochure but here are just a few. Whenever your machine cycles, the Mentium system will automatically update all of the shot count information on all dies and die inserts so that you know the complete die life/insert history and the number of shot since the last PM. The system can also inform you when your dies/inserts are reaching their expected life or how long until the next PM. The system can also track all costs associated to a die maintenance work order, including the cost of all labor and materials. The system will also keep track of the amount of calendar time, to the second, since the work order was issued.

Mentium Visual Management

Do you need to generate an awareness of your machines and how their producing? Do you need to improve the responsiveness of your engineering and maintenance personnel? Our visual management system can do this for you. The visual management software will display for you, either on any computer in your office or on large plasma displays in your plant, the actual status of each machine. Displayed are the productivity and efficiency of each machine by shift over the past 3-shift period; number of good parts produced by shift over the past 3-shift period; and how long the machine has been idle, down or in production. The information is always current because the Mentium system at each machine, will update all of this information continually. You as well as your customers will be happy to know you are top of your game.



Mentium Products

- Die Casting Process Planner
- Mentium Monitoring and Control System
- Mentium PLC Interface
- Mentium Workstation
- Mentium Tie Bar / Temperature Monitoring
- Mentium Squeeze Pin Monitoring
- Mentium Die Maintenance and Tracking
- Mentium Visual Management System

BISNET, LLC

P.O. Box 8608
Benton Harbor, MI 49023

Web: www.bisnet2000.com

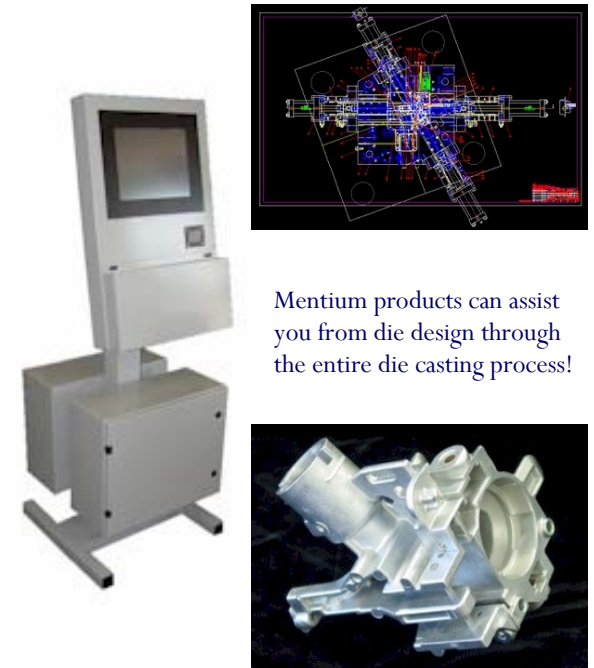
Phone: (269) 408-1641

Fax: (269) 408-1642

Email: lglenening@bisnet2000.com

BISNET, LLC

The Mentium Product Family



Mentium products can assist you from die design through the entire die casting process!

SOLUTIONS FOR THE FUTURE, TODAY!

Phone: (269) 408-1641

Web: www.bisnet2000.com

The Mentium Product Family

Mentium Monitoring & Control

The Mentium Monitoring and Control system is the heart of the Mentium Product Family and is a 4th generation system designed with you in mind. Its purpose is to help keep your process under control, minimize scrap, increase your machine capacity, and reduce production costs.

The hardware design is simple and uses all off-the-shelf components minimizing your dependency on Bisnet to supply parts. Ever need a part in a hurry? Most of the components are available to you from your local electronics store.



Knowing that the die casting environment is not the cleanest, we designed the system to utilize a touch screen for the primary user interface. Although supplied with the system, no keyboard or mouse is required to use the system. Keeping these components sealed, minimizes downtime and reduces system maintenance.

The Mentium system is not just a typical shot end monitoring and control system, it also provides you with the ability to monitor and control many other process and machine functions as well. Have you ever wanted to know why your cycle time keeps changing or why your machine won't cycle? Have you ever wanted to be able to automatically segregate the good and bad parts? Once you have the machine producing good parts, have you ever wanted to lockdown your process to keep operators from making changes that can produce scrap. Have you ever wanted to know who, what and when a setting was changed and what the setting was before the change? Have you ever had a need to view setup drawings, quality procedures, setup instructions, maintenance manuals, training video, etc. at the machine? The Mentium system can do all this for you and more, lots more....



Mentium PLC Interface

The Mentium PLC Interface is probably one of the most beneficial add-ons. It allows you to monitor and control machine functions using the Mentium system.

Have you ever had your process running well and then someone makes a simple change, only to find out later that the parts are bad and the machine is not running to the process? By using this interface, you can eliminate many of the manual switches, dial settings, thumb wheels, etc. So, lock down your process and keep operators from changing these settings. All of your timer settings, speeds, speed trigger positions, pressures, cores on/off, temperature settings, and anything you can think of, can be set using this interface. 256 set points are available for you to use. This will help you control your process thus saving your time, reduce downtime and minimize scrap.

Have you ever tried to cycle your machine and it just won't cycle, so you have to call maintenance over to hookup the PLC programmers panel to find out why? If so, then the Mentium PLC Interface can solve this problem for you. You can define up to 256 PLC faults that the system can retrieve from the PLC to find out what's happening on a second by second basis. Faults can be critical or non-critical faults. Critical faults, typically those that keep the machine from cycling, will automatically be displayed for the operator. Don't waste your operators time, just think of the downtime that can be saved.

Are you concerned about cycle time? The Mentium PLC interface can read from the PLC up to 8-timers that can be used to define your total cycle time. Examples are: spray time, die close time, ladle time, shot time, dwell time, die open time, etc. The Mentium system will treat each of these values as process variables that can warn you if any of these timers are out of an allowable range. Letting the Mentium system automatically notify you of these instances will help you maintain a consistent overall cycle time and also let you know if there are potential machine problems. Over a year, reducing your cycle time by 2-seconds every minute can save you 292 production hours and the related cost.

You can also define up to 64-PLC variables calculated by the PLC, that can be retrieved from the PLC. These variables can then be used as process variables to segregate parts as to good/bad, and monitor the machine/operator for safety reasons.

Some more PLC interface features for later discussion are tie bar monitoring, temperature monitoring and control, PLC register scanning, and part/shot number/date part etching.

Mentium Workstation

The Mentium Workstation software allows you to monitor your process just as if you were at the machine from your office, home, or anywhere if you have an internet connection. The workstation software also allows you to create new setups and edit existing ones from your desk, where it's quiet and more comfortable.

Tie Bar / Temperature Monitoring

Save costly repairs and downtime by minimizing tie bar breakage. Know on a second by second basis, what your tie bar strain is. The ability to monitor up to 14- temperatures should help you identify problems associated with die life/fatigue. Monitor your die temperatures, water inlet/outlet temperatures, furnace temperatures, oil temperature, etc.

Squeeze Pin Monitoring

If you use squeeze pins, then you probably from time to time have experienced sticking pins. This means you are probably producing scrap. The Mentium system can monitor up to 8-squeeze pins in 4-cavities. We can capture the velocity and position displacement of each pin, as well as the pressure supplied to each pin. The data collected allows us to obtain the peak velocity, total displacement and maximum pressure of each pin. Those values then become process variables that can be used to segregate parts. If you have a multi-cavity die then we can instruct the robot to only segregate the cavity/cavities where a squeeze pin variable exceeded the alarm condition. Therefore, if it's a