

NEW Predictive Control

There are many types of die casting machines and almost as many methods of controlling them. All the various types of control must do the following:

- Watch what happens.
- Decide if an adjustment is needed.
- Make an adjustment.

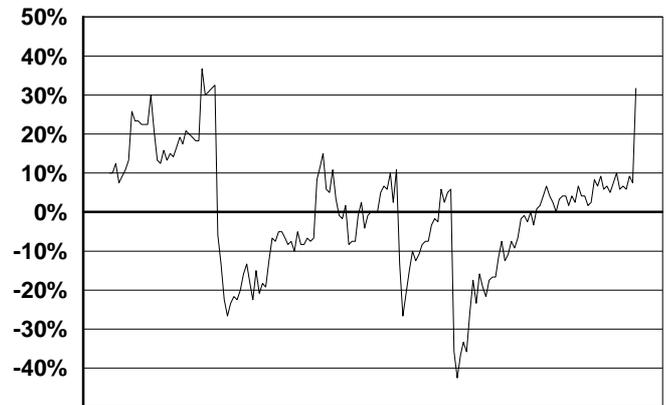
These three steps are repeated no matter what type of control is used.

The most basic control system, and the most common, is that the operator looks at the part and/or listens to the machine, and decides to make an adjustment. In this type of system it is the skill and experience of the operator that determines the quality of the part.

The next level of control is to have a computer take measurements, and to make adjustments automatically, before the next cycle occurs. This method is called adaptive control, and allows at least one bad cycle before the problem is corrected.

The next generation is real-time control, which measures the performance of the machine during the injection, and makes thousands of adjustments during the SAME cycle. The key

Variation During 12 IPS Slow Shot
without Predictive Control

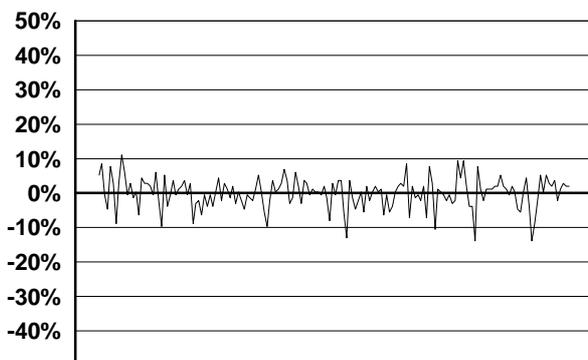


to real-time control is response time: the faster the error is detected and corrected, the better the control. Real-time control still must detect a subtle variation before a correction can be made. This means the shot does vary a small amount before being corrected, since you can not correct something that hasn't happened yet... or can you?

With enough information and understanding of how everything interacts you can PREDICT what will happen. If you can PREDICT that something will happen, and if you have the required technology, you can PREVENT it from happening. The knowledge and data gathered from supplying real-time control systems since 1984 has allowed Tymac to create a model of die casting machine performance, based on conditions present in previous cycles and conditions leading up to the next cycle, that can be used to PREDICT and PREVENT faults before the cycle begins.

Predictive Control is available exclusively for Tymac control systems. Any existing Tymac control system can be upgraded to include Predictive Control.

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Tymac Controls Corp