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PRIAMUS Fill & Cool with TTC-eDAQ 8102



Gammaflux TTC Controller with integrated
PRIAMUS Fill & Cool System



THE SWISS WAY TO IMPROVE THE QUALITY OF YOUR PLASTIC PRODUCTS

PRIAMUS Fill and Gammaflux

PRIAMUS Fill controls, monitors and balances the melt flow in hotrunner molds. By integrating the PRIAMUS Fill system into the Gammaflux

TTC hotrunner control family, for the first time, a compact system is available that balances viscosity variations and minimizes part deviations.

Enhanced part quality

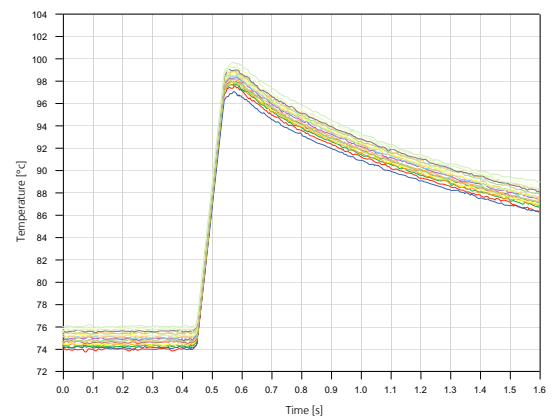
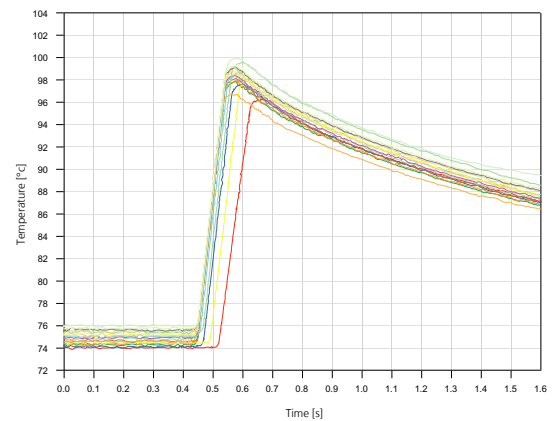
Part quality is influenced by viscosity changes. If cavities are not filled at the same time, part variances in dimensions and weights are inevitable. The PRIAMUS Fill system, integrated

with in the TTC-eDAQ controller, adjusts viscosity changes by balancing the fill times of the different cavities.

Control with cavity temperature

PRIAMUS cavity temperature sensors recognize when the melt reaches the sensors. Thus, different fill times can be automatically detected. The PRIAMUS Fill system matches

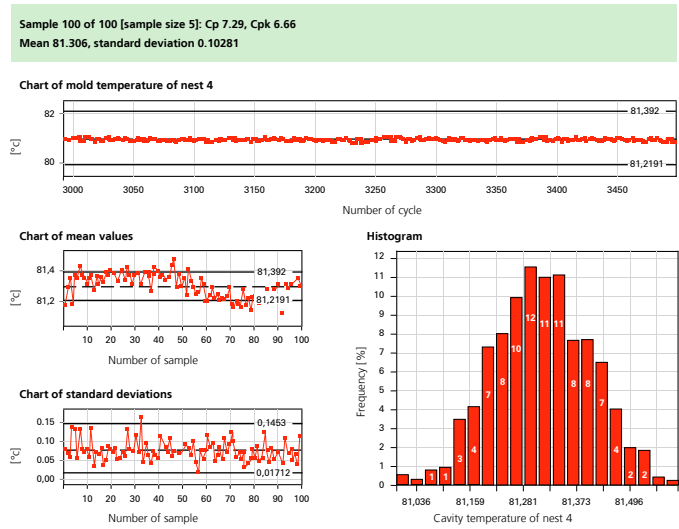
these fill times by automatically adjusting the temperature set points of the TTC-eDAQ hotrunner controller.



The first sample shows the different temperatures curves in a multi cavity mold. It indicates that the fill time difference between the first and the last filled cavity is considerable.

The next sample shows the same cavities after optimum balancing. The fill times are almost identical.

Cavity temperatures and information on fill times are displayed in histograms and control charts. Also, the process capabilities during production are calculated and displayed.



Process monitoring directly at the part

The TTC-eDAQ 8102 acquires machine signals, cavity temperatures and cavity pressures and monitors them in real time. As soon as a measuring signal is out of the selected tolerance limit, an alarm signal in real time is generated

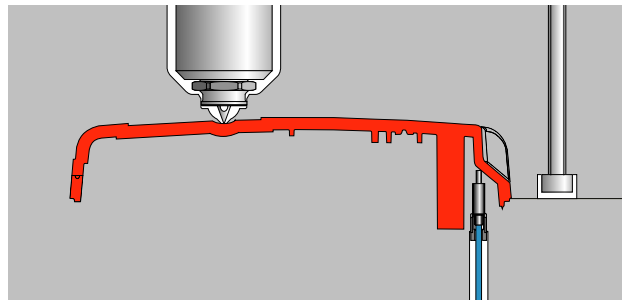
and can be used for further applications. Thus, even individual bad parts of a multi cavity mold can be detected and rejected.

Automatic switchover to holding pressure

Cavity temperature sensors are normally installed at the end of the flow path. They precisely detect when the melt reaches this position and, always at the right time, automatically switch over to

holding pressure. The same principle is used for automatic core pulling, for automatic venting, in gas assist and sequential molding applications.

- Optimum switchover to holding pressure
- Self optimizing
- No fill study necessary
- No flash
- No unfilled parts



Installation of the temperature sensor near the end of the flow path.

PRIAMUS Cool – automatic balancing of the surface temperature

The TTC-eDAQ 8102 system package not only controls and balances the melt flow in hotrunner systems, but also the cavities' surface temperatures. PRIAMUS Cool analyzes the cavity temperatures before the melt arrives. Then it automatically changes the set points of the temperature

controllers until the surface temperatures of all cavities (or within all temperature circuits of a large cavity) are the same. Thus, differences in shrinkage can be reduced to a minimum.

	PRIAMUS Fill Hotrunner balancing Melt front control	PRIAMUS Cool Temperature controller balancing Cavity temperature control
Minimum weight distribution	✓	
Optimum dimension stability	✓	
Optimum shrinkage behaviour		✓
Minimum warpage		✓
Optimum process conditions	✓ ✓	✓ ✓

The 'All-in-one' TTC-eDAQ 8102 system package

- Hotrunner controller Gammaflux TTC
- Automatic melt flow control PRIAMUS Fill
- Automatic cavity temperature control PRIAMUS Cool
- Optimum part quality
- Minimum scrap
- Process monitoring directly at the part
- No follow-up costs after finishing of the parts
- Automated processes
- Documented process
- Optimization of production times
- Compensation of different material batches
- Considerable reduction of costs

