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# Advantages of ES III full automatic control of glass feeders

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## Abstract

This paper presents the advantages of ES III Advanced Process Control for glass feeders. Purpose of the feeder is to deliver a homogeneous gob of glass to the production machines. To achieve this the ES III system sets up all firing and cooling zones along the entire feeder within one integral Model-base Predictive Controller (MPC). The operator no longer has to specify temperatures in the individual conditioning zones. For ES III it is enough to specify just the final production temperature for the glass article at the feeder delivery, either in the spout or at a (multiple) triple thermo-element ('9-grid'). ES III sets the firing and cooling in the feeder as optimal as possible in order to minimize the risk for re-boil in the glass and to minimize the overall mixing pressure of the feeder burners, thus saving energy for heating the feeder. The ES III system can be continuously used 24/7, also during the job changes. After the job change the ES III system stabilizes the feeder temperatures as fast as possible so the new production can start with minimal delay and minimal production losses.

**Keywords:** Advanced Control, Glass Furnace and Feeder, Glass Conditioning, Energy Saving, Process Optimization

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