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Lauter tun

In most brewhouses the lauter tun is the bottleneck in the production. This means, by optimizing the software you will increase the productivity.

MLogics developed in lautering an ideal control concept.

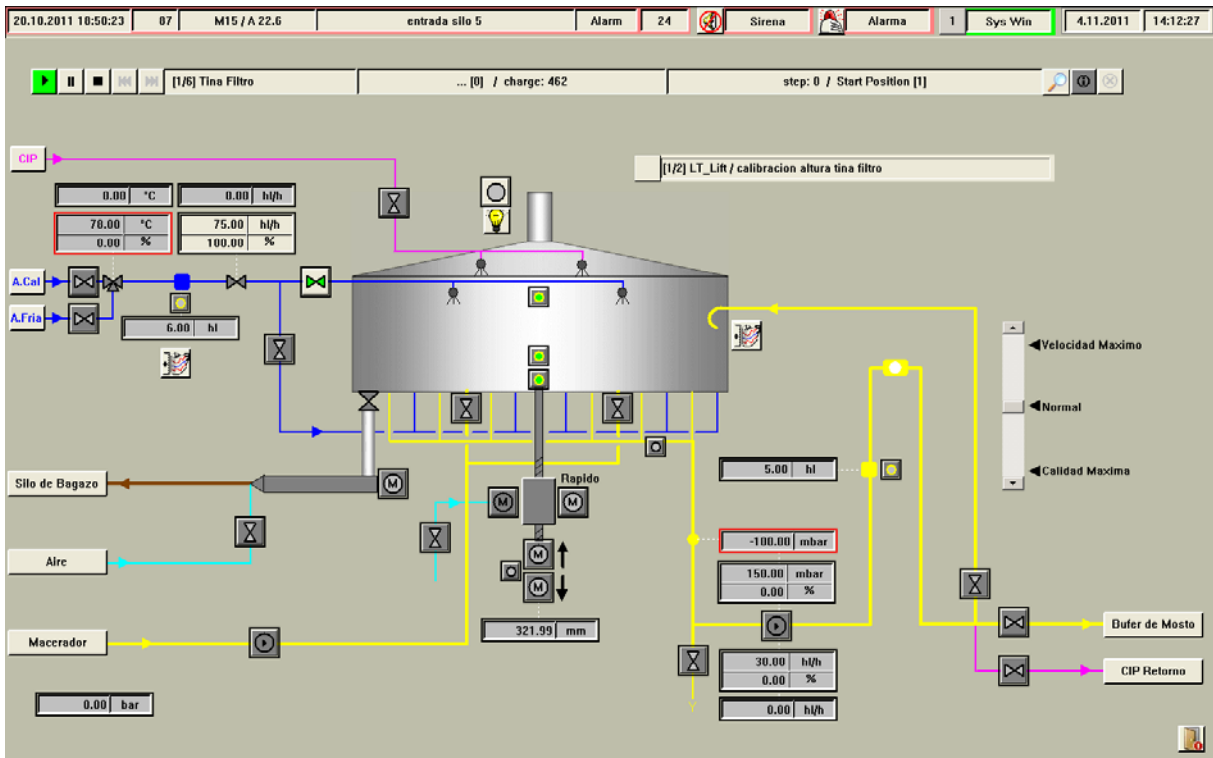
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1 Hardware

This system operates with a very simple hardware configuration. For the regulation are necessary:

- Flow meter
- Pressure sensor
- Variable speed pump (frequency converter)

Because of this simple structure you can save several thousand Euros in hardware costs. Of course, by modifications of old plants, we will use what is available. Mechanical changes are usually not necessary.



2 The control principle according patent DE19610447A1

The basic principles of the control concept were registered to the patent in the year 1996, and since then many times approved.

2.1 Wort clarify circulation

Already during the wort clarify circulation the system registers the flow and pressure values, analyzes this values mathematically and calculates the ideal setpoints for lautering

2.2 Fuzzy Logic

Using a complex fuzzy logic, these setpoints are adjusted online during the process, to keep the lautering on the ideal line.

2.3 Quality / Productivity

Of course, the target value by lautering is also quality and not only the productivity.

Beside the normal setpoints as

- Amount of wort
- Amount of water
- Flow Setpoints
- Temperature

are also technological setpoints as

- Extract
- Trubity

the basis for the lauter controller.

And because it is a fuzzy logic, the setpoints are in the form of

- Trubity OK
- Trubity High
- Trubity HighHigh

By changing of only one value on the screen, you switch over from high season to low season mode (primary target to quantity or quality) without modification of the basic recipe.

2.4 Take care of Hardware

The system try to finish the process with only few switching operations (example raising and lowering of the raking machine), to protect the hardware.

3 Example

3.1 Klosterbräu Dargun year 1996

Optimization of lautering process.

The production capacity has increased over 25%.

3.2 Isenbeck Carmeroon year 1999

New brewery with second hand equipment.

Target value by the owner: 6 productions per day

Reached value by MLogics: 9 productions per day

3.3 BBO Bolivia year 2011

New brewery with second hand equipment.

Target value by competitor: lautering time 168 minutes

Reached value by MLogics: lautering time 142 minutes