

## Paper Department

### PAPER – addition of fillers and glues

In paper production plants, the chemical-physical analyses carried out by automatic analyzers are aimed at the automatic regulation of continuous processes.

We have installed various analyzers that concern different points of the production processes in this sector. The final part of a continuous paper production plant can be represented as shown in the figure below.

#### PROCESSES INVOLVED:

##### Addition of fillers and glues

Paper made exclusively of cellulose is not suitable for printing and must therefore be mixed with other fibrous substances, glues, binding materials and fillers that make it suitable for use.

The main properties required of filler materials are: a high degree of whiteness, opacity, covering power, fineness, insolubility in water, chemical inertia, absence of abrasives, low specific weight, affinity with the fibrous material.

In paper making the filler materials are usually prepared in automated plants, and generally, these are aqueous solutions and suspensions for which it is important to check the content (concentration).

Incorrect concentration of the solutions can bring about considerable problems in the successive processing phases.

An example of checking the concentration is seen in the preparation of the **STARCH** solutions (it is called starch, but is often a more complex product), where it is necessary to maintain the concentration constant in a preparation tank from which the pipes are given out to the machines.

This task can be carried out by the **UR20** refractometer fitted in "recirculation" on the preparation tank and by measuring the starch concentration makes it possible to carry out the necessary correction. Suitable conversion scales make it possible to transform the refraction index in % of **STARCH** and to compensate the measurement of temperature variations.

