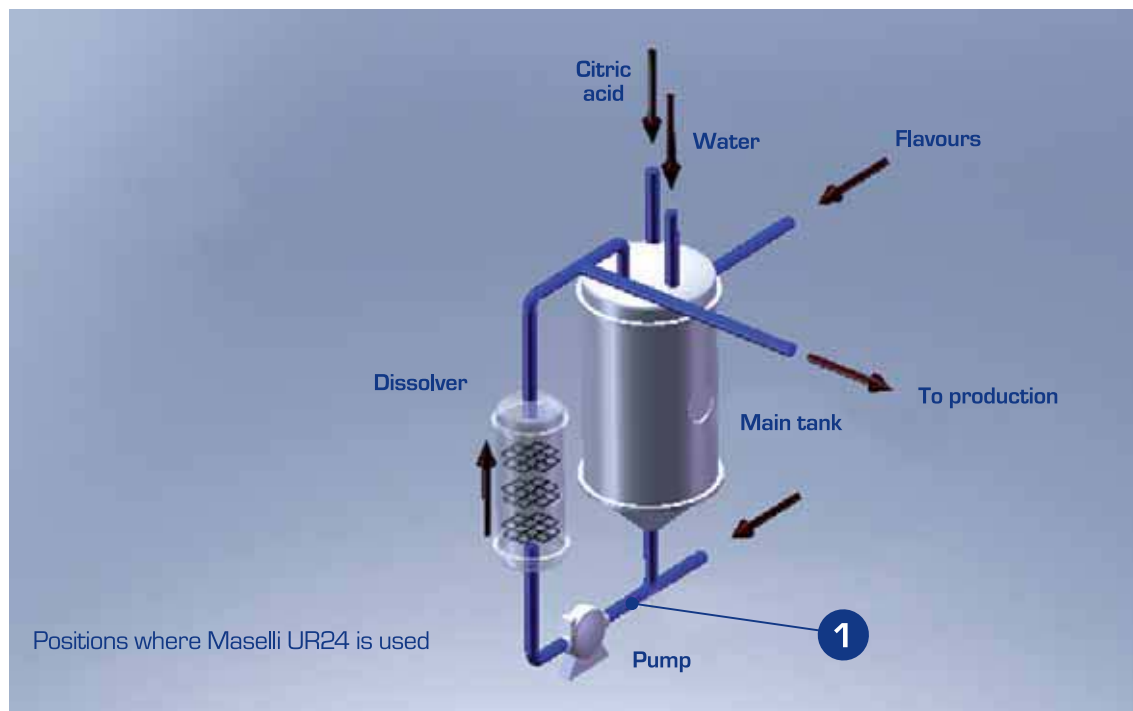


Application Focus

- **Switzerland**
- **Measure of the Citric Acid concentration during the dissolution phase**
- **Trinox (OEM)**



Description of the process

Typically the citric acid is supplied in a beverage plant as a commodity in grains (solid). In this picture, the first need is to have the possibility to dissolve it, in order to have it available for the production in liquid phase.

A smart solution is to use the same system used for the sugar dissolution (for the preparation of the sugar syrup, the base of the softdrink production) in order to dissolve the citric acid too. Citric acid has to be solved in water up to a concentration of 69% citric acid in weight.

The water temperature is about 80°C (at the beginning of the process), decreasing down to 50°C at the end of the dissolution phase.

Once the liquid solution has reached the target value it can be used for the production of the finished product, according to the various recipes.

Benefit of the installation of the Maselli analyzers

During the dissolution phase it's very important, further to the temperature, to be able to monitor the solution concentration (% in weight), in order to keep under control the whole process.

This measure can be easily and continuously performed with an UR24 Refractometer installed in a re-circulation loop on the dissolution tank.

The presence of suspended particles inside the product (grains of solid citric acid) makes this measure difficult (not stable and reliable) both for the densitometer and the sonic device, while it is not a problem at all for the Refractometer (which is not influenced by suspended particles).

The possibility to continuously measure the concentration allows to:

- Obtain a complete dissolution of the citric acid
- Always obtain a liquid solution according to the specifications (i.e. standardization)

Due to the high risk of corrosion, it's strongly suggested to use an UR24 with the prism holder in Alloy C276 (astelloy).

