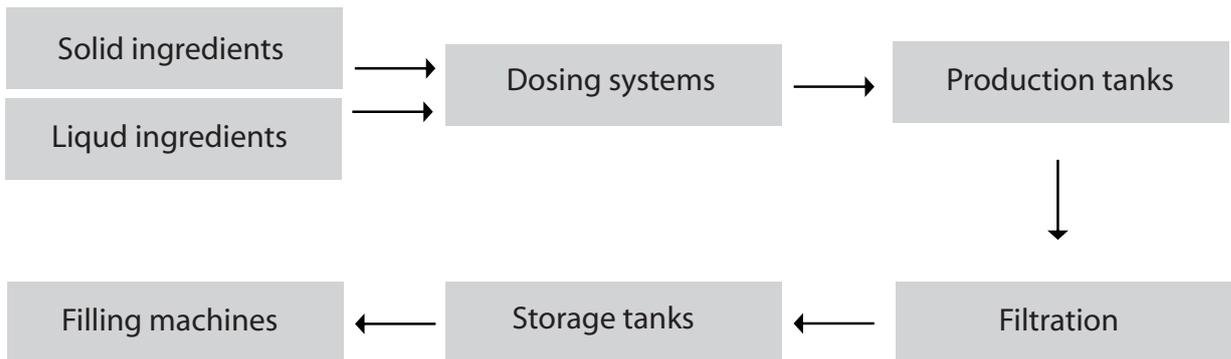


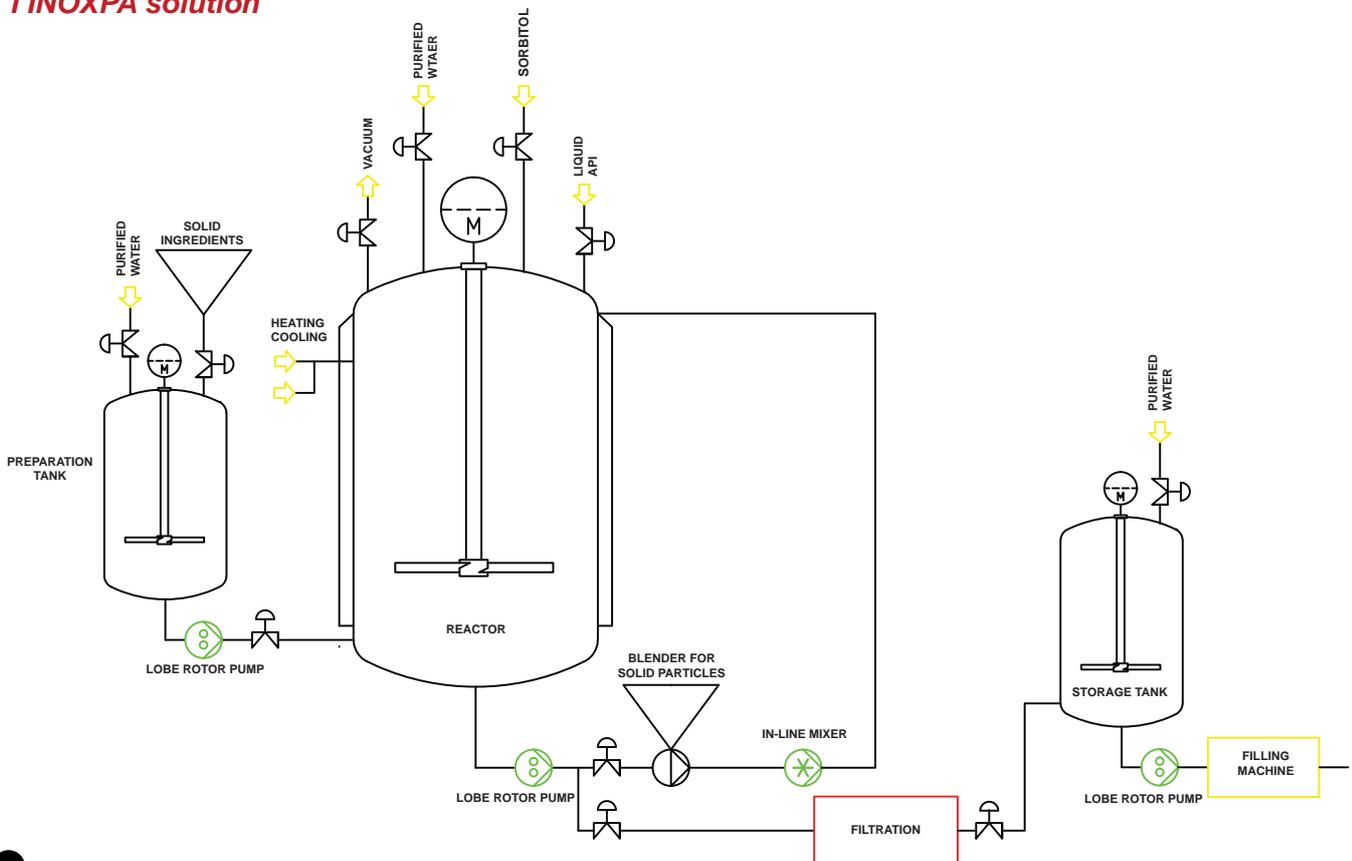
PRODUCTION OF PHARMACEUTICAL SYRUPS

I Process description

Pharmaceutical syrups are produced by mixing purified water, sweeteners, active ingredients (API), aromas, flavours and other ingredients (thickeners, etc.). The ingredients are added by means of metering or dosing systems like flow meters and load cells to one or more reactors, the order and quantity of the ingredients to add is specified in the recipe. Usually, preparations are heated before finishing the addition of components. Solid products are added by means of solid-liquid blenders or vacuum systems. When the process is finished, the end product is filtered (if required) and sent to a storage tank. The product is transferred from the storage tanks to the filling machines by pumps.



I INOXPA solution



PRODUCTION OF PHARMACEUTICAL SYRUPS

I Process features

- High efficiency operation to produce different types of end product.
- The measuring systems ensure the correct dosing of each ingredient.
- INOXPA components designed according to the pharmaceutical standards.
- Equipment designed according to GMP biopharmaceutical standards.
- Production lines and tanks are prepared for CIP and sanitation.
- Automatic control allows repeatability in the manufacturing process, reducing the number of errors; greater flexibility of manufacturing parameters; reduction in the number of plant operators.
- Validation protocols: design (DQ), installation (IQ) and operation (OQ).

I Required components

- Lobe rotor and centrifugal pumps.
- Agitation systems.
- High-shear mixers.
- Dosing systems for solid ingredients.
- Measuring devices.
- Heated preparation tanks.
- Vacuum system.
- Filtration.
- Control system.
- Cleaning and sanitation system.



ME 4100 in-line mixer



Diaphragm valves



HLR lobe rotor pump

