



SYRUP AND SUSPENSION

HIGH STANDARDS NON-STERILE PLANT



NON-STERILE PLANT,

yet with the same
high-quality standards
of sterile process



Syrup and Suspension process plant is usually designed following the same high-quality standards as for sterile process, to ensure compliance with GMP standards for customers.



MAIN FEATURES

of the final products

Manufacturers tend to produce syrup on their own, as this allows to have better control of final product. Syrup is produced by blending the API with water, sweeteners, flavour concentrates and minor excipients.

On the other side, aqueous suspension preparations for injection are often a water-insoluble local anesthetic and/or narcotic analgesic in form of particles. In suspension, sedimentation and agglomeration of particles of active agents can occur, thus leading to clogging of injection needles or catheters.

SPECIFIC EQUIPMENT

for peculiarities
of the products

The use of in-line homogenizer and mixer becomes essential during the process to ensure dissolution of the sugar in syrup preparation and to maintain the suspension stable.

What differentiates syrup and suspension is that the first is a solution where sugar is quite swiftly dissolved in other solvents, while the suspension is a biphasic liquid system which contains insoluble particles in the liquid medium. The active principle is therefore soluble in syrup, while suspension keeps solid particles in the liquid phase.

During manufacturing process is fundamental to properly hydrate powdered ingredients and dissolve sugars to form the syrup, avoiding crystallization and damage of API while cooling/heating.

Pharmaceutical suspensions instead are liquid dosage containing insoluble particles suspended in the medium. Their production involves multiple steps, starting from the procedure to obtain particles in the micrometer range and then the addition of necessary adjuvants.





AUTOMATION SYSTEM:

full control
of the process

The plant can be managed by automation system to monitor operation mode; manual controls; general parameters management; alarms managing; interlock; batch managing; data management and so on.



A large, cylindrical industrial tank made of polished stainless steel. On top of the tank is a complex assembly of pipes, valves, and a central vertical column. The tank is situated on a light blue floor. In the background, other industrial equipment is visible.

MT 02

**WE LISTEN, WE DESIGN,
WE CREATE WITH PASSION.**

IT IS THE MIND THAT SHAPES THE STEEL

Solutions for the
pharmaceutical and
biotechnological industries



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