Working Process of Tablet Coating Machine

The tablets are put in a closed drum, which is forced to revolve constantly in an orbital fashion under the effect of a streamlined plate, in order to coat them with a coating solution. To prevent excessive coating on the tablets, the coating medium is sprayed on automatically during the orbital motion of the tablets in a systematic manner.

Angled baffles are also included in the drum, and airflow is also supplied, which serves as a way of mixing the tablets. The baffles force the tablets to be raised and rotated away from the edges of the drum and toward the center, exposing both sides of the tablets to the coating that has been sprayed on the tablets. In addition, while the spraying is taking place, hot air is injected from the 50 percent perforated tablet bed, which allows the coating medium to dry quickly. The hot air is drawn in via the intake fan and is controlled both in terms of temperature and volume.

The management of the air enables the preservation of the drum pressure in relation to the pressure in the outside chamber, which is necessary for the provision of a totally isolated process environment. The manipulation of the air also allows for more precise control over the drying and extraction rates of the tablets. It also enables an equally distributed medium over the tablets, resulting in a smooth, firm surface on the tablets. Coating pans, spraying guns, exhaust and heating pipes, and other components may be included in a tablet coating machine. It is possible that the technique will comprise film coating or sugar coating.

The procedure is also carried out in batches, and each batch goes through many stages, including batch identification and recipe selection. Loading of the essential raw ingredients, heating, spraying of the coating while the tablets are being rotated, drying, chilling, and finally unloading of the coated tablets are all steps in the manufacturing process.

One can question what the significance of coating pills is in the first place. The medication release may be controlled with the use of a tablet coater. Thus, the medication is delivered to the body in safe doses that the body can tolerate, and its impact on the body is maximized as a result of its administration. Light and air, for example, may induce oxidative degradation of the tablets, which can be prevented by using a covering on the tablets.

Another benefit of tablet coating is that it makes it easier for the pills to be ingested by masking the bad taste that the tablets may have. It is possible for the coating to be tasty or bland. This is due to the fact that certain pills taste harsh or do not have a very pleasing flavor.

The coating also gives the tablets their distinctive hue, which makes them easier to identify and makes them more compatible with other medications as well. It also shields the medicine

from exposure to an acidic gastrointestinal environment, enabling it to reach the location where it is supposed to be absorbed.

In coating machines, several criteria are taken into consideration. Air capacity is one of the criteria to consider. The composition of the coating, the surface area of the tablet, and, finally, the efficiency of the equipment are all considered.