

# **SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES**

*Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai*

*Approved by Pharmacy Council of India, New Delhi.*

**Coimbatore -641035**



**COURSE NAME : INDUSTRIAL PHARMACY I (BP 502 T)**

**V SEM / III YEAR**

**TOPIC 1 : TABLETS**

**SUB TOPIC: Formulation and Granulation of Tablets**

## Tablet Excipients

**Diluent / Filler**

**Binder and adhesive**

**Disintegrants**

**Lubricants and glidants**

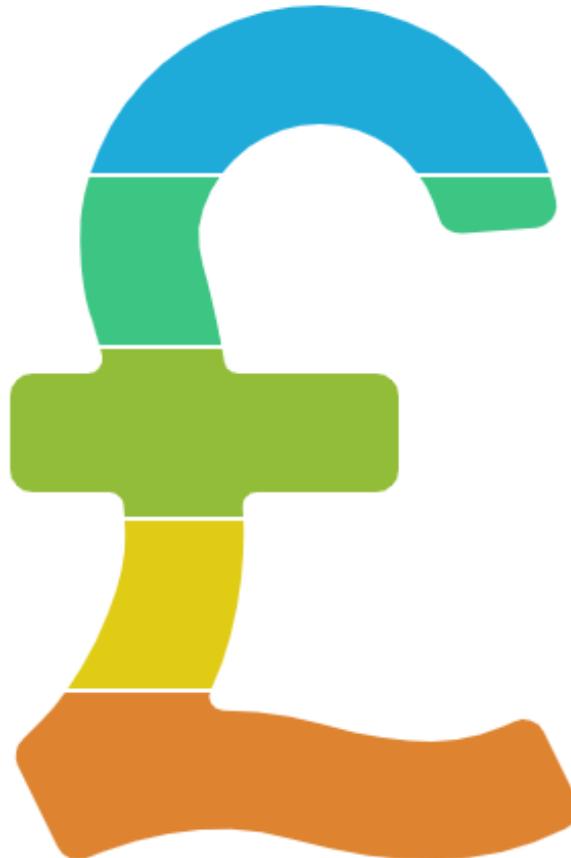
**Colouring agents**

**Flavoring agents**

**Sweetening agents**

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# Tablet Diluents



## Definition

Fillers used to increase tablet bulk



## Secondary Reasons

Improve tablet properties and manufacturing



## Properties

Essential characteristics for diluents



## Ideal Characteristics

Desired traits for optimal diluents



## Commonly Used Diluents

Examples of frequently used diluents

## Tablet Cohesion/Binders

**1** Binders moistened to form cohesive powder lumps.

**Dry Binder Method**

**2** Binders added in solution for effective particle wetting.

**Solution Binder Method**

**3** MCC and PVP used for direct compression tablets.

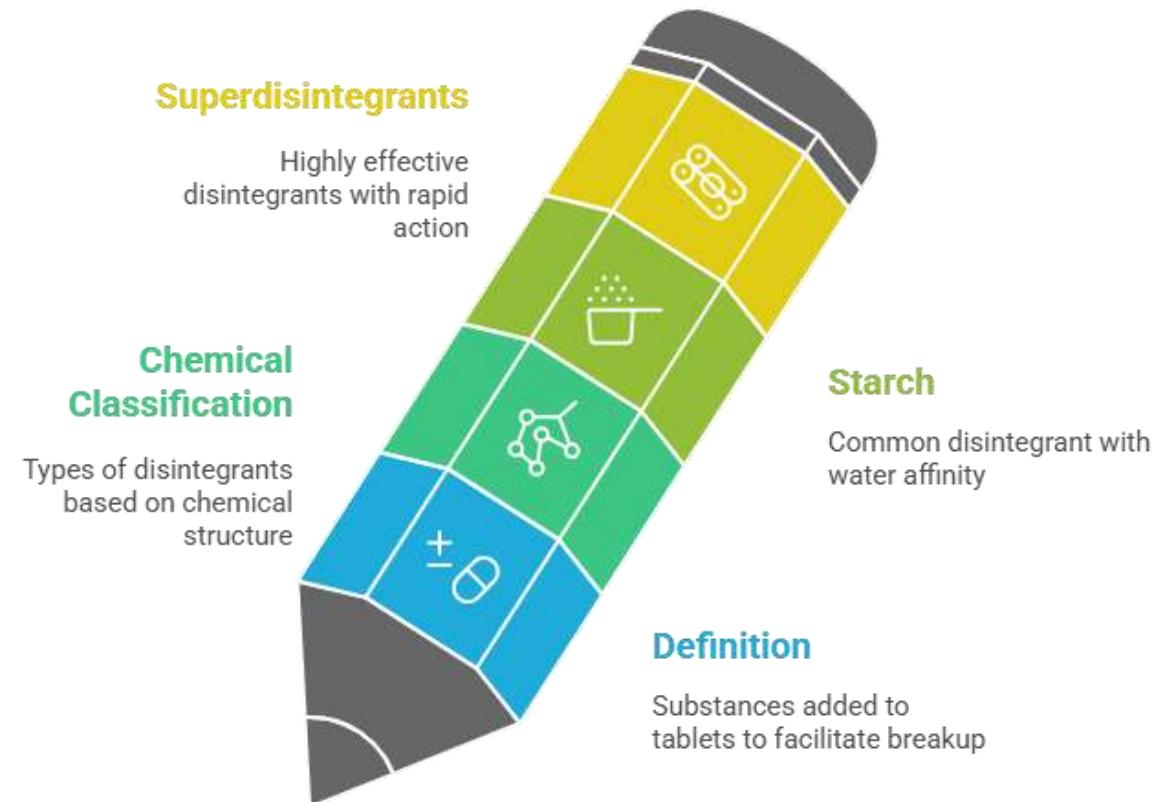
**Direct Compression Binders**

**Cohesive Tablet Formulation**



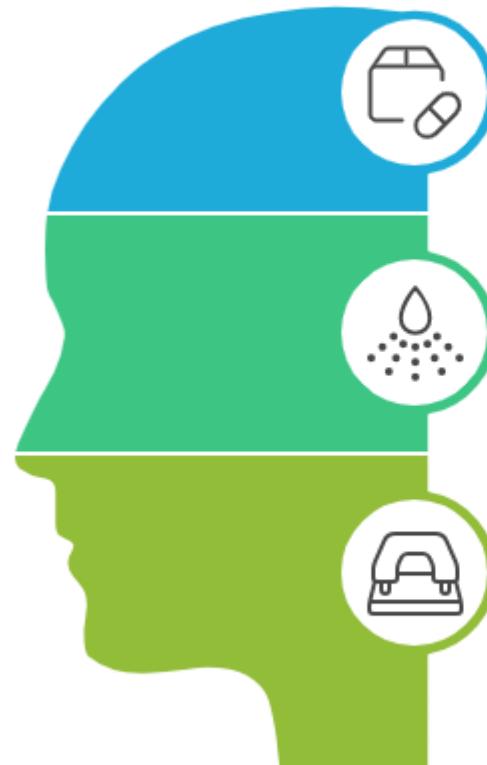
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## Disintegrants



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## Lubricants and Glidants



### Lubricants

Prevents adhesion and reduces friction

### Glidants

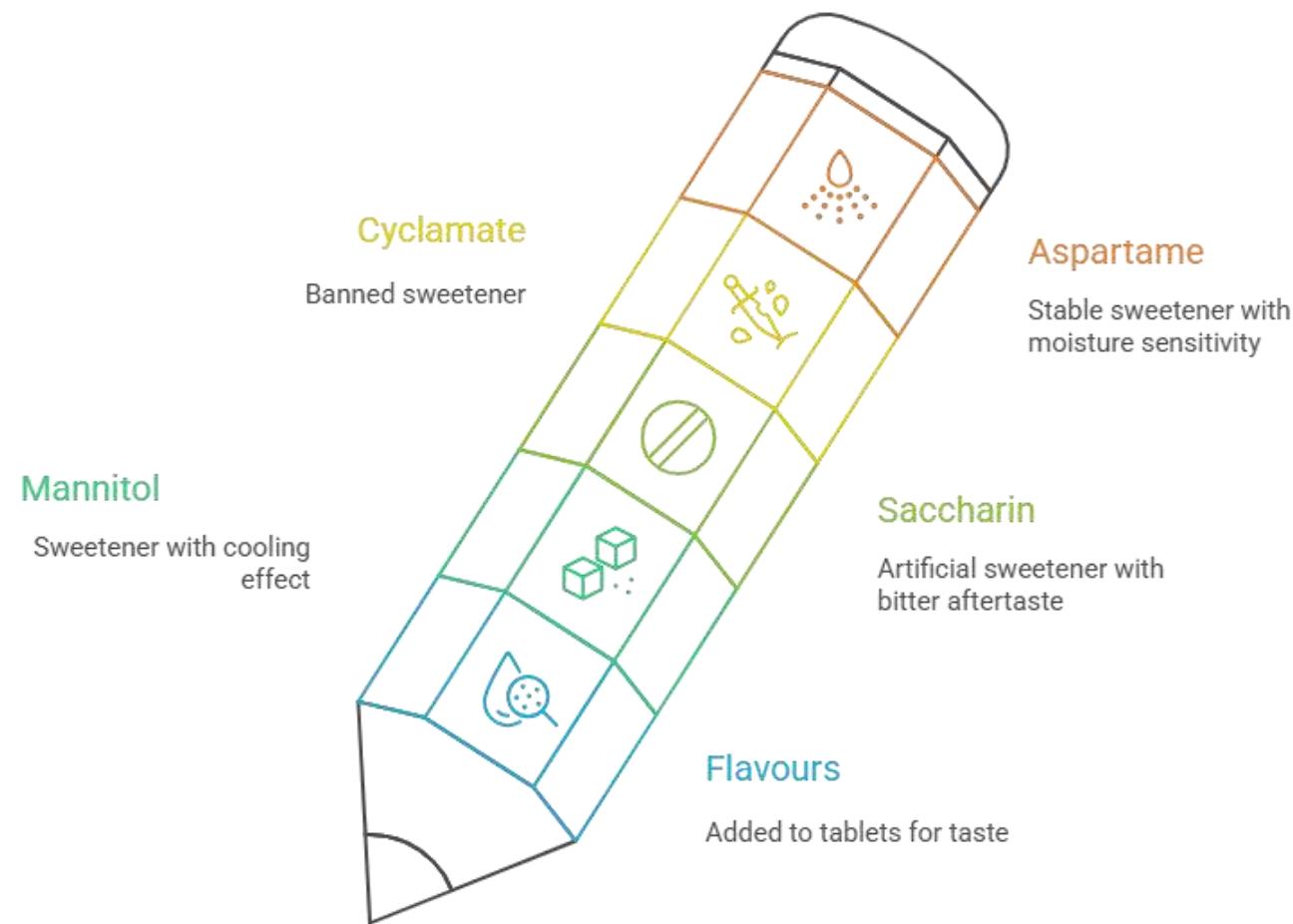
Promotes flow by reducing inter-particle friction

### Antiadherents

Reduces sticking to punches and die walls

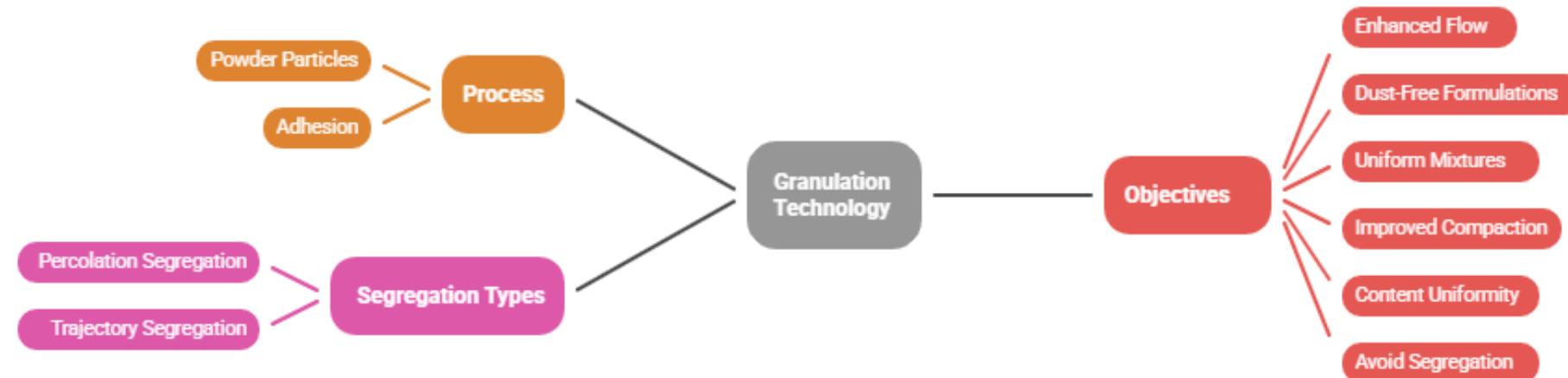
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# Enhancing Tablet Experience



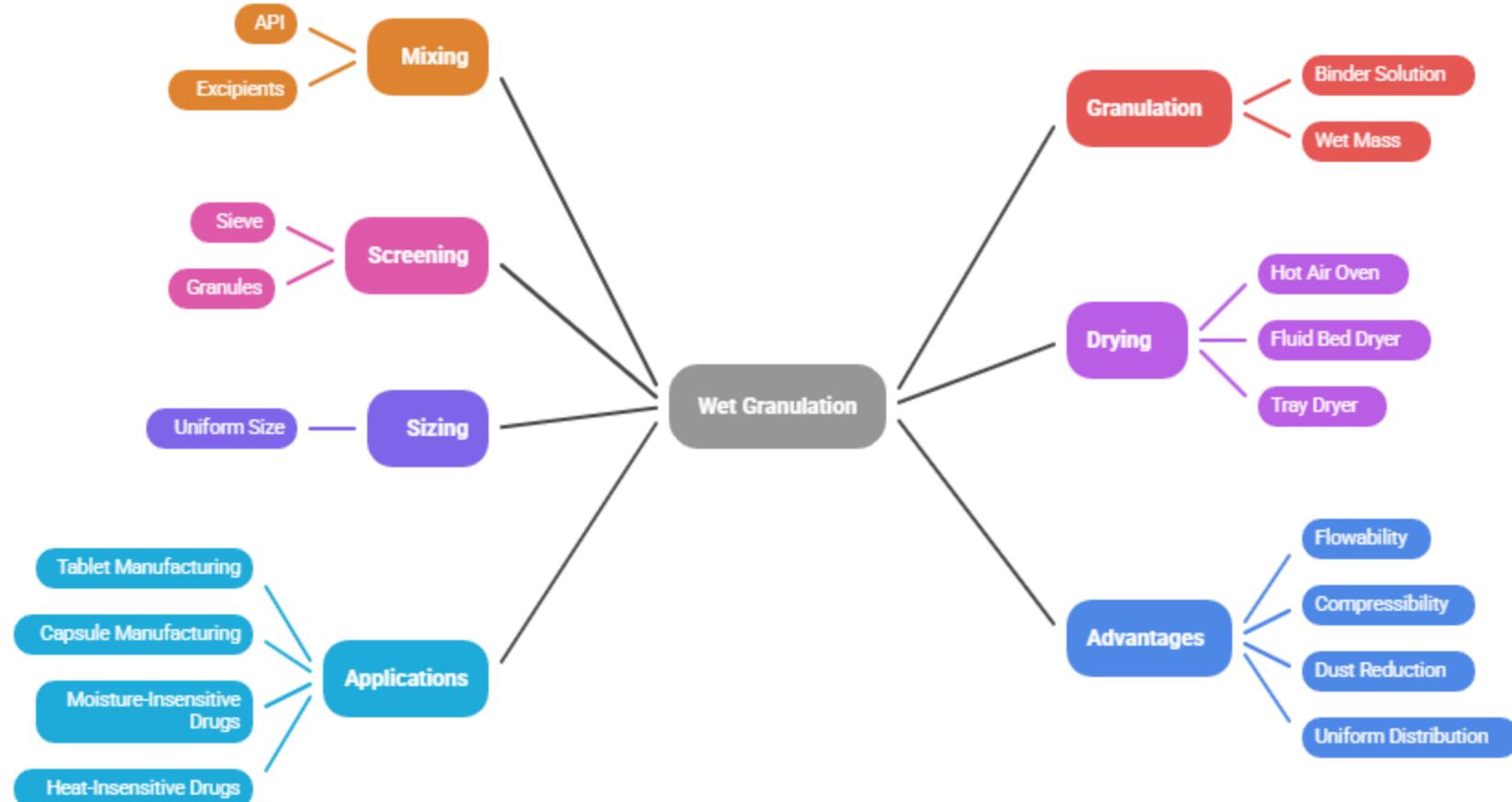
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## Granulation Technology: Process, Objectives, and Segregation Types

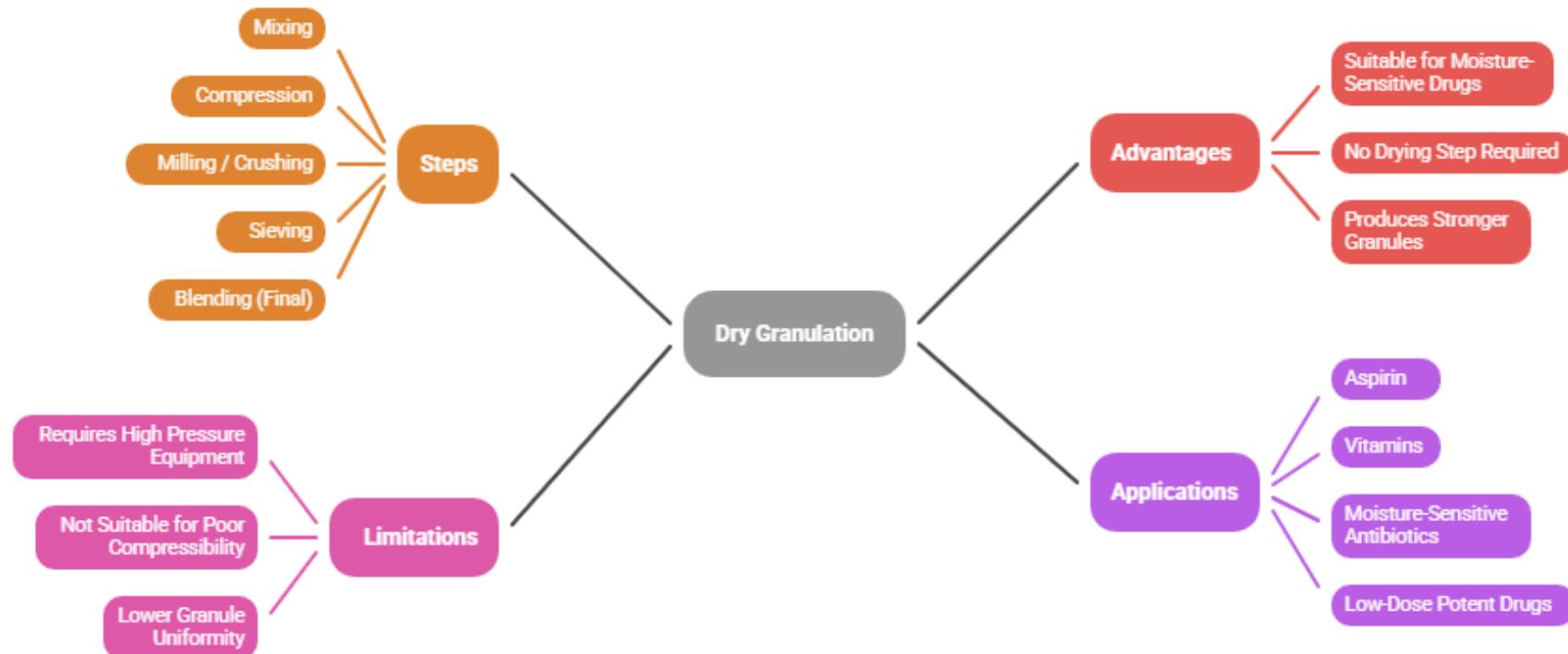


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## Wet Granulation Process: Steps, Advantages, and Applications

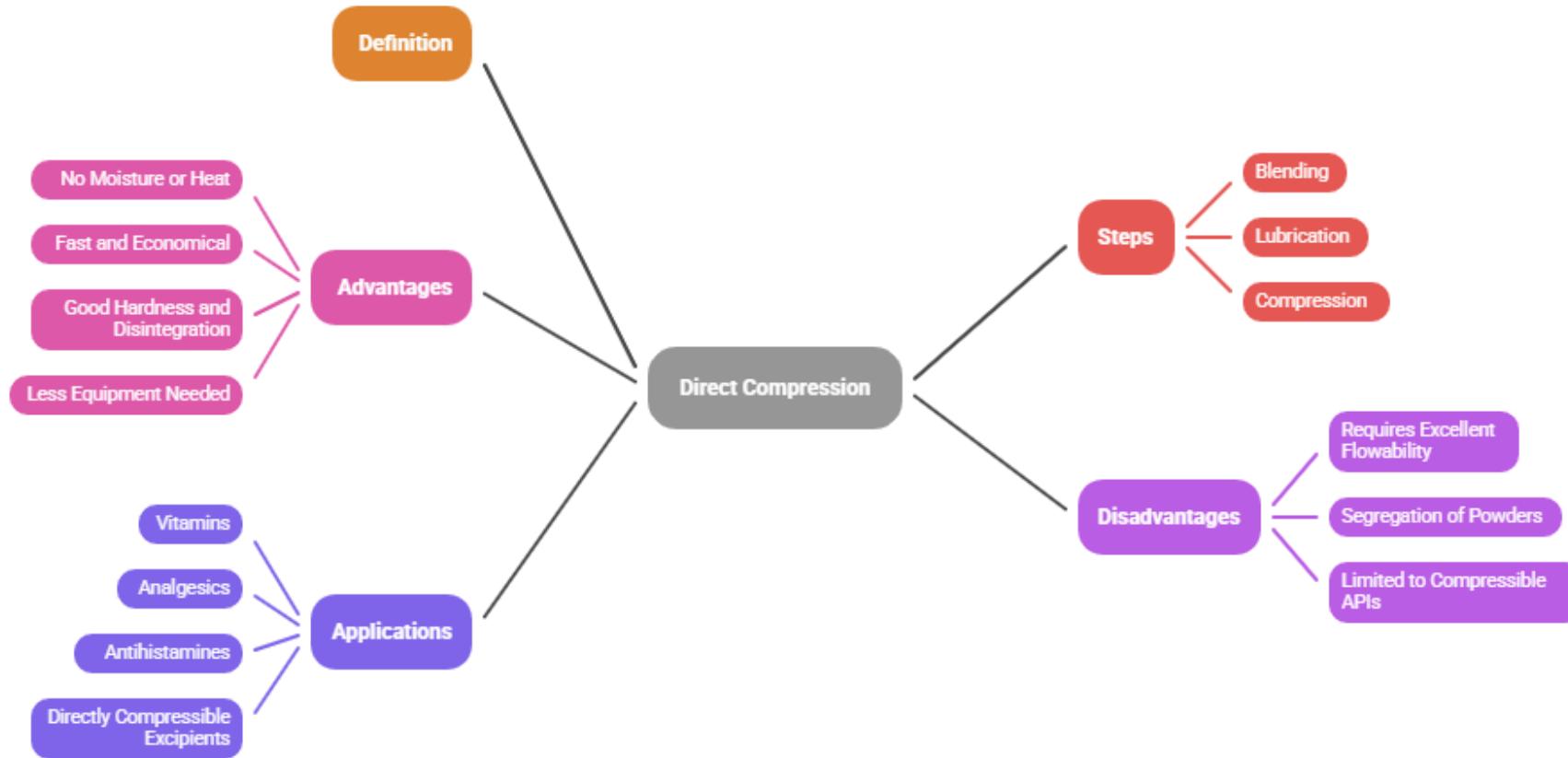


## Dry Granulation Process and Applications

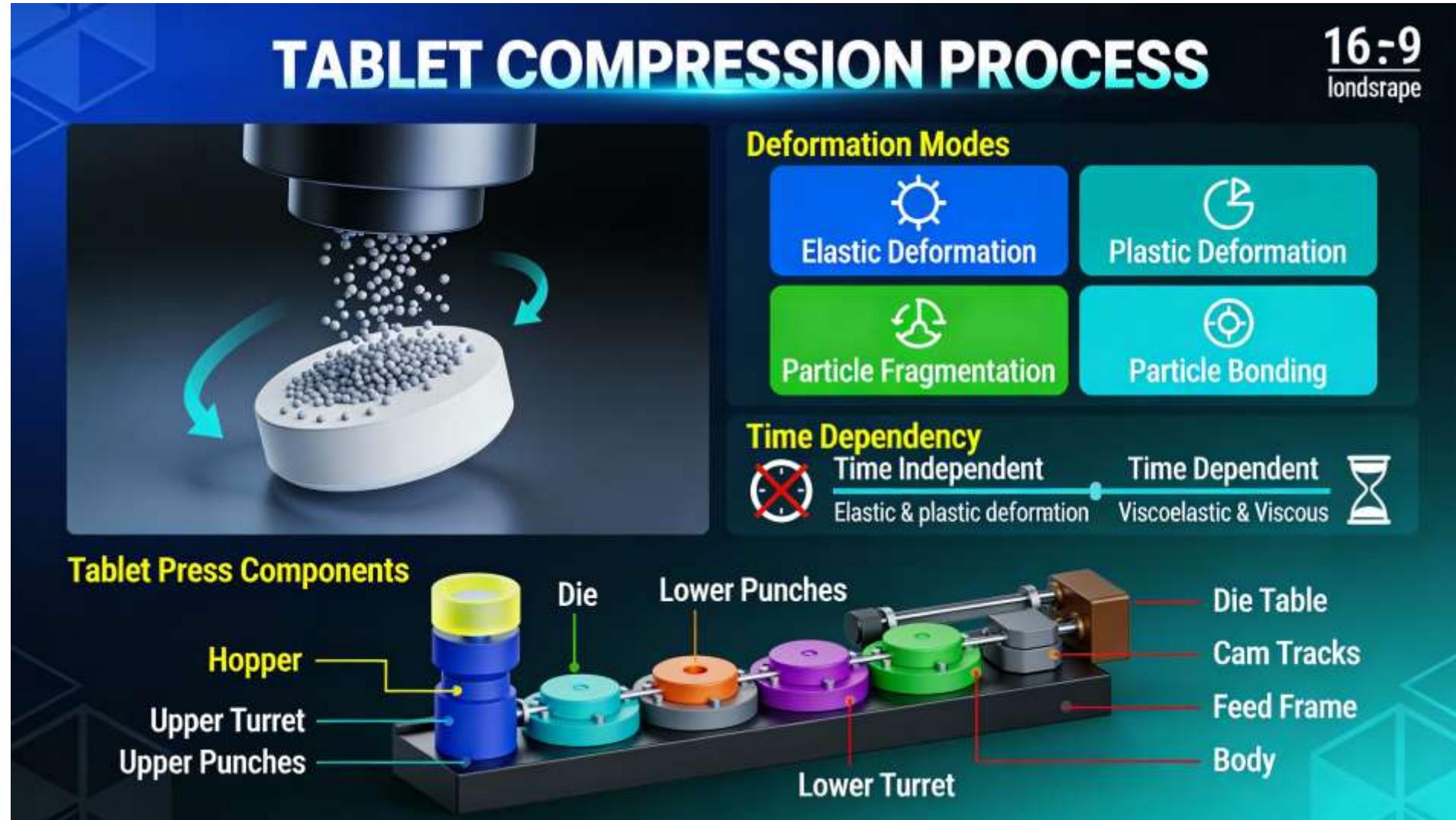


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## Direct Compression: Tablet Manufacturing Method



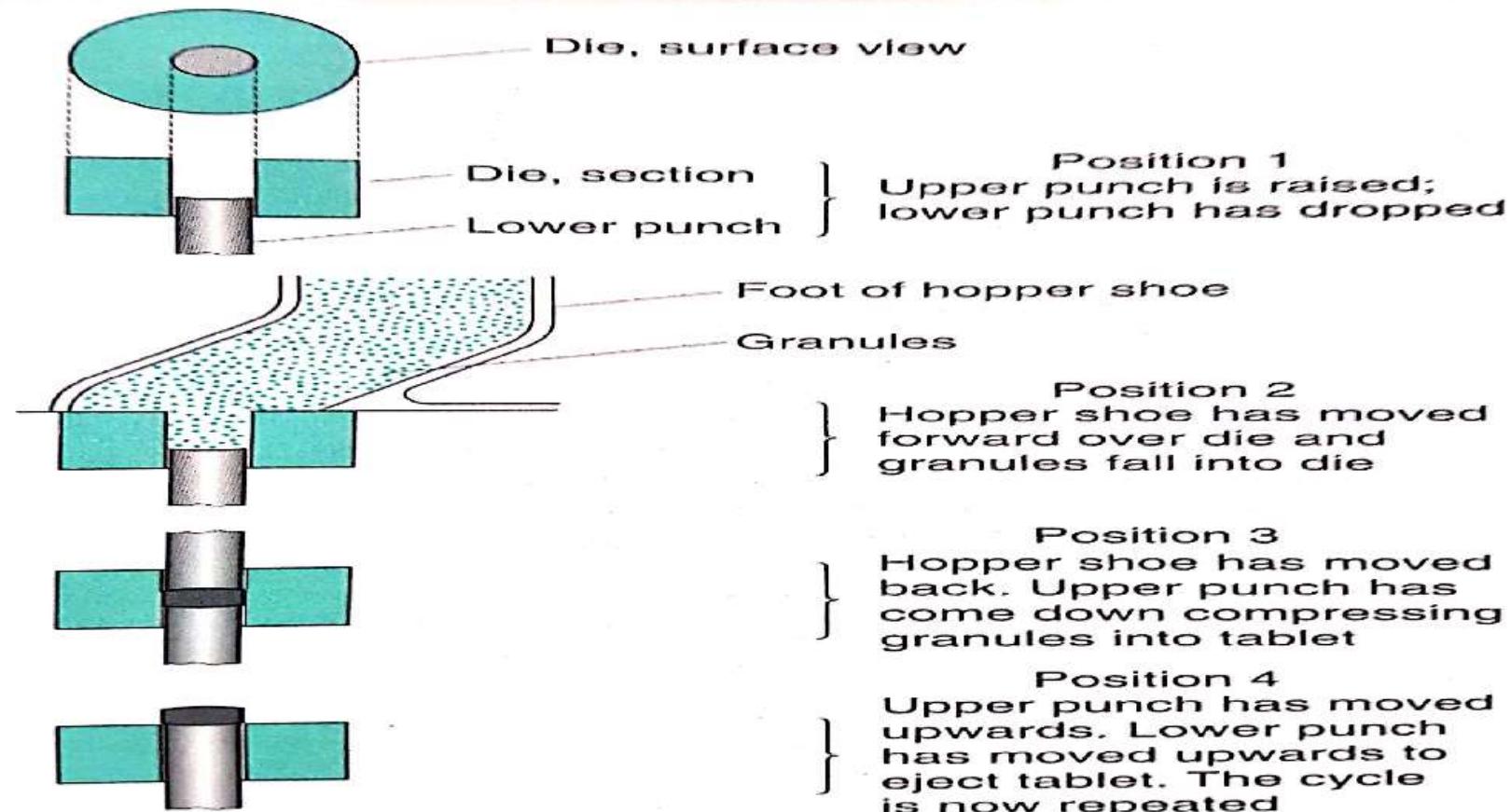
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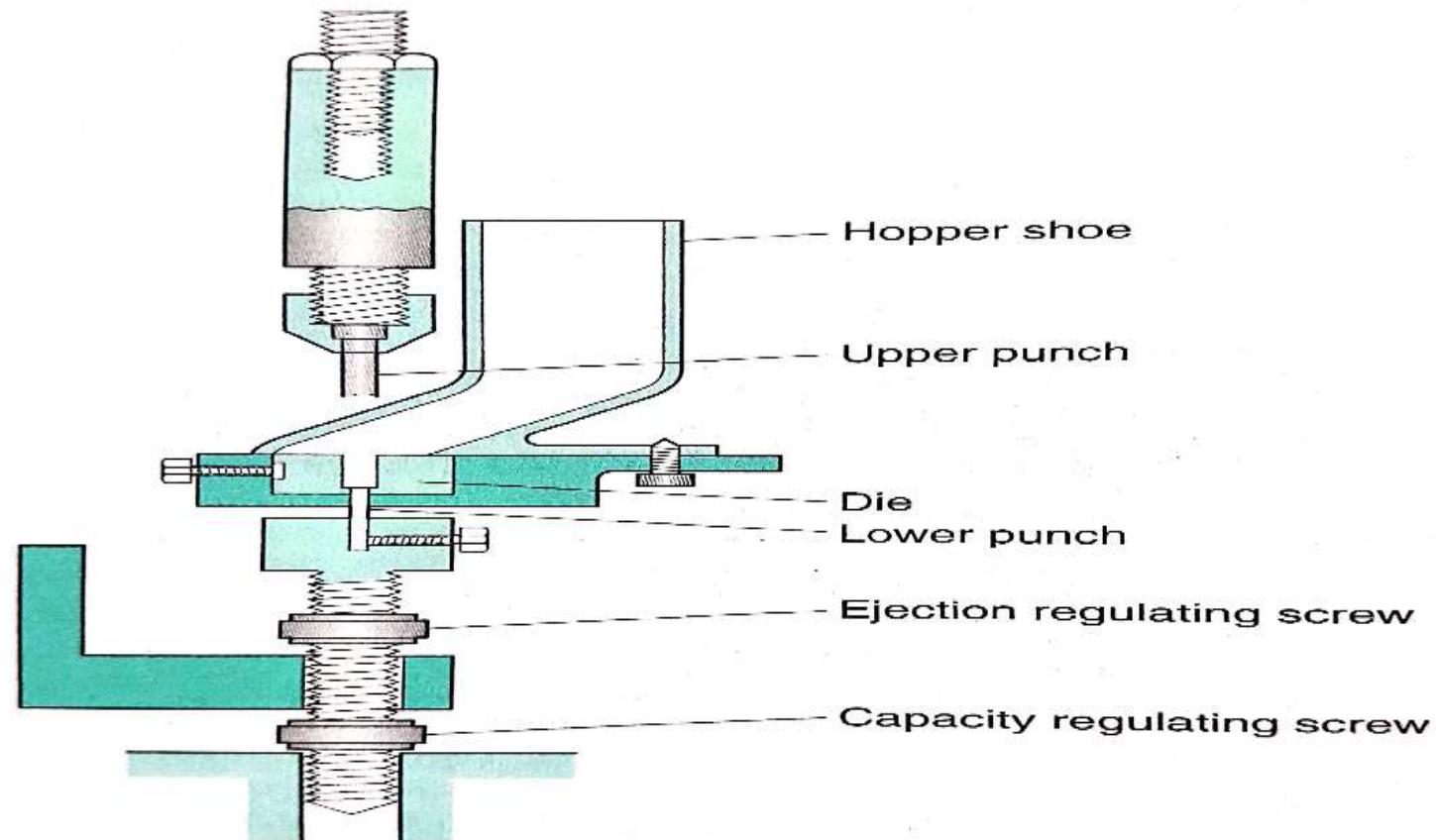
## Tablet Compression Machine



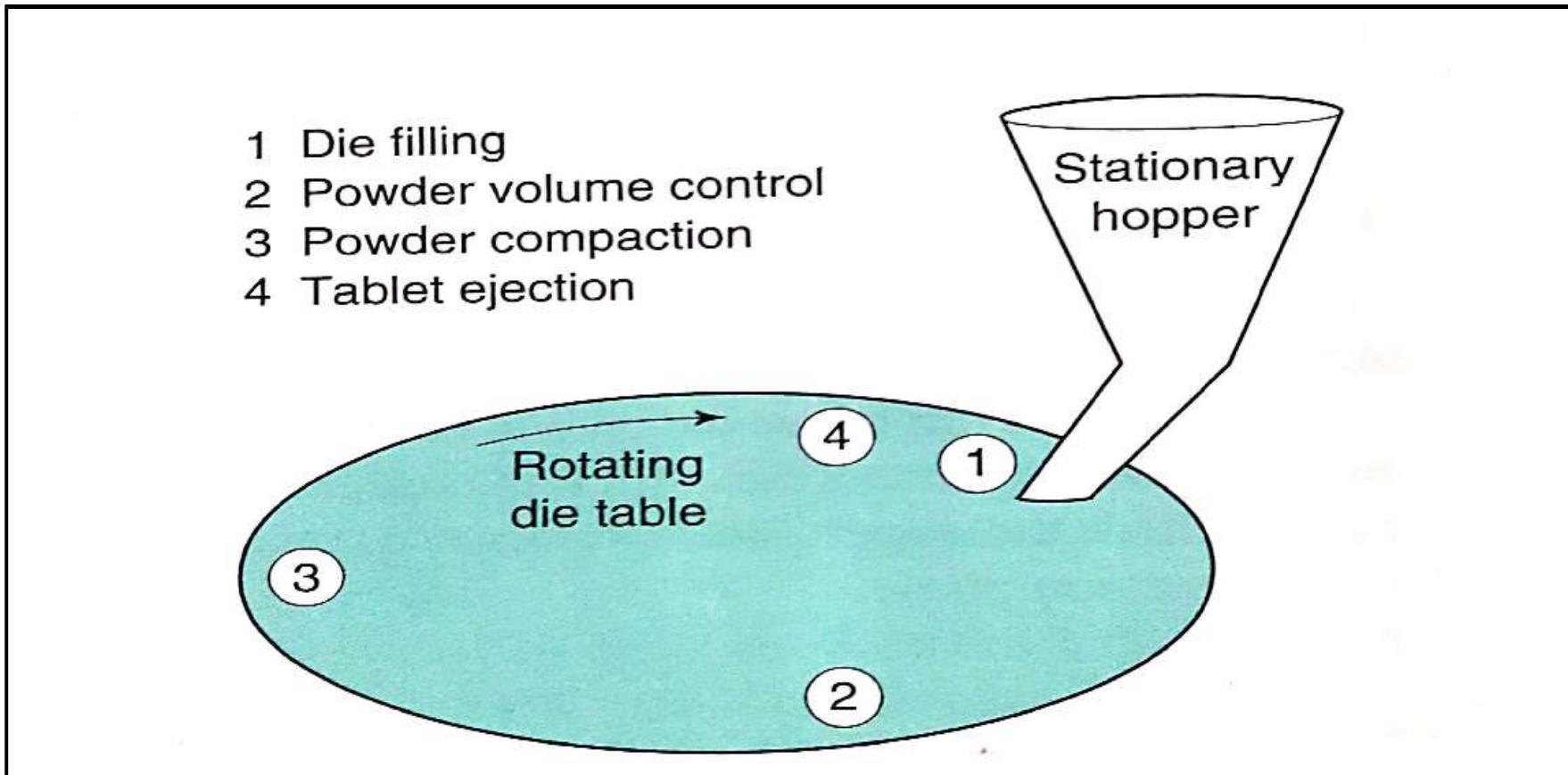
## Sequence of events involved in the formation of tablets.

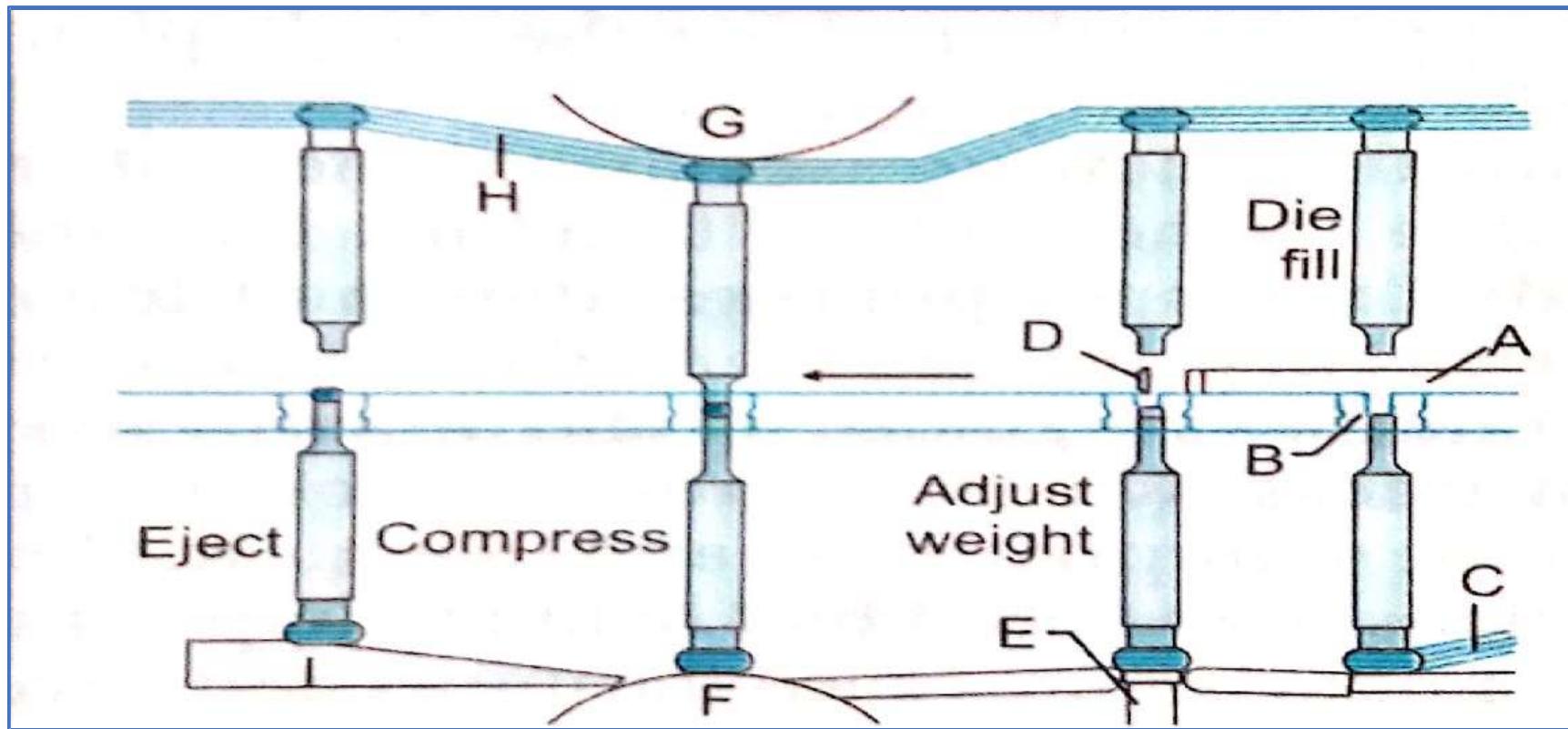


## A single punch tablet press.

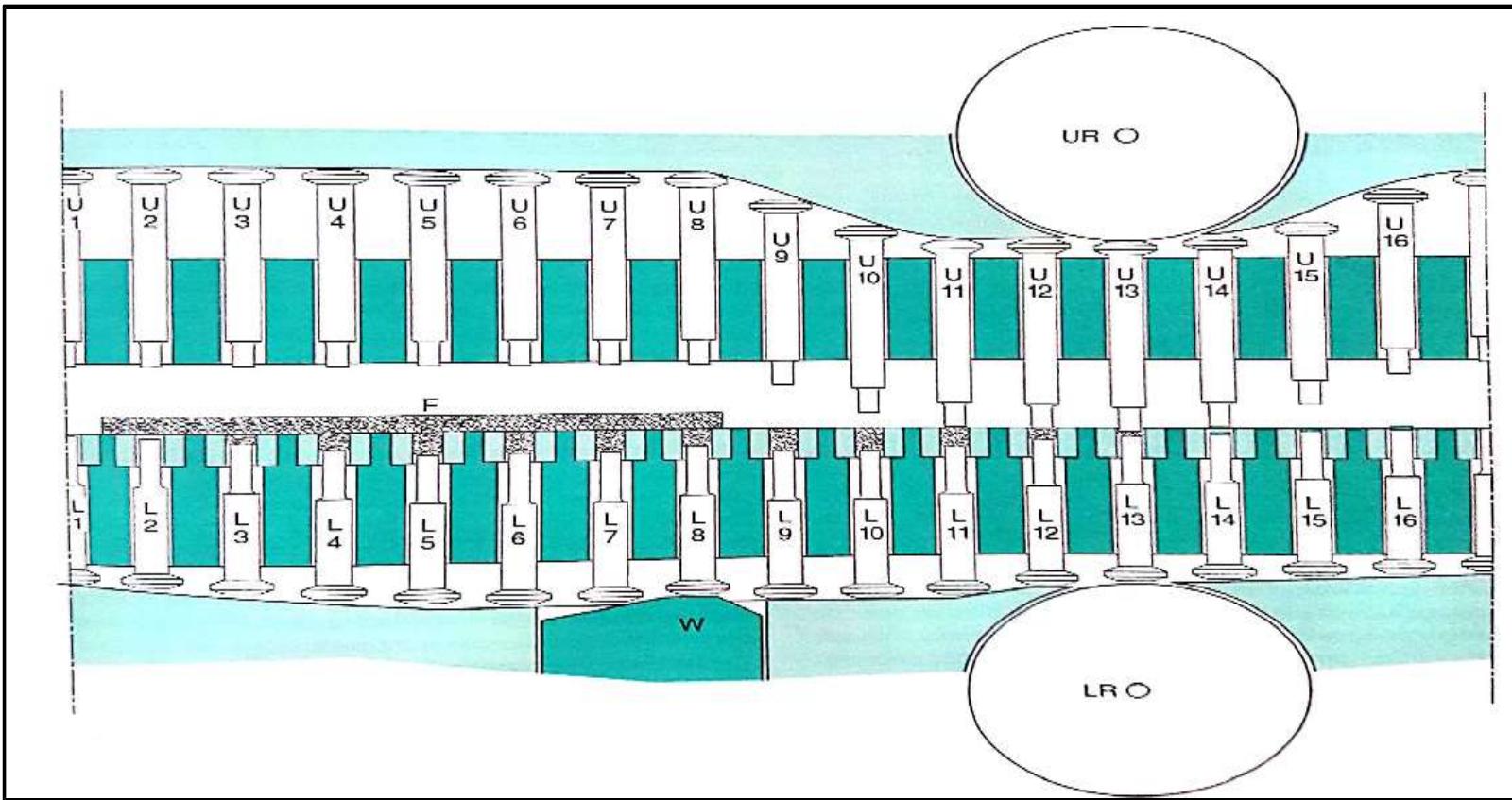


## Schematic diagram for the formation of tablets with Rotary Press.





A- Feed frame, B- Die, C- Pull down cam, D- Wipe off blade, E- Weight control cam,  
F – Lower compression roll, G- Upper compression roll, H- Rising cam, I- Ride up cam



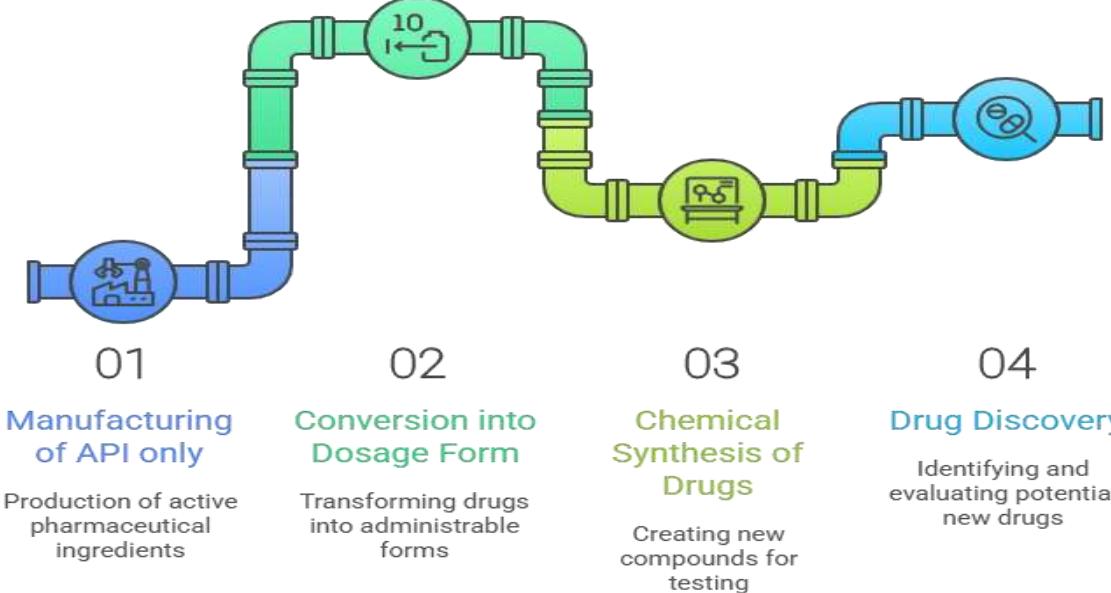
Tablet machine **out put** is regulated by three basic characteristic like:-

- No of tooling sets
- No of compression station
- Rotational speed of press.

Rotary presses are engineered for fast & economical production of all kind of tablet.

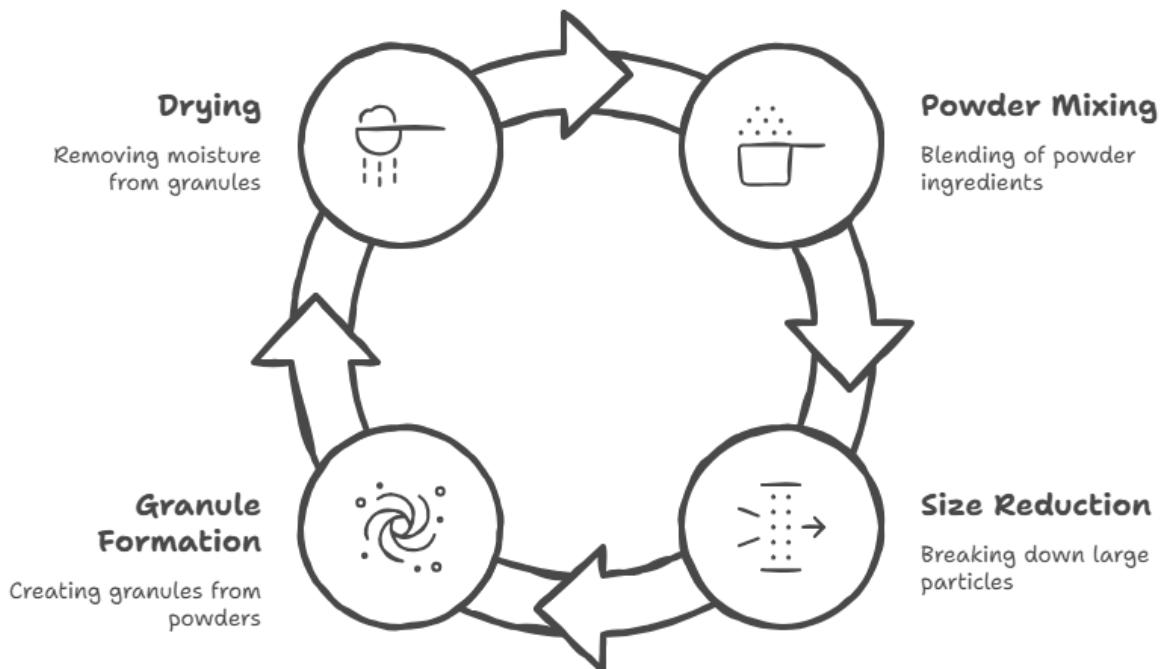
## CLASS ASSESSMENT

### 1. Formulation refers to:



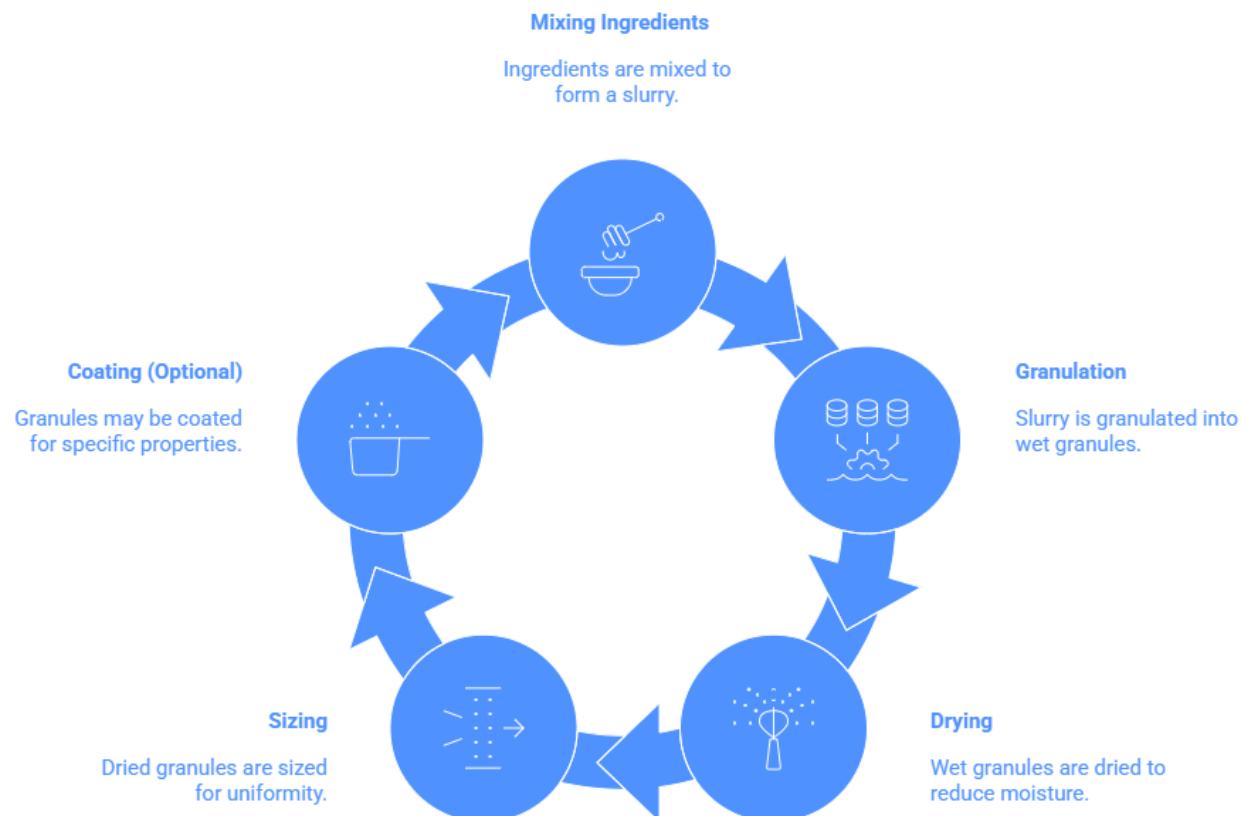
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## 2. Granulation is the process of:



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## Wet Granulation Equipment commonly used?



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## REFERENCES

1. Lieberman HA, Rieger MM, Banker GS. "Pharmaceutical Dosage Forms: Disperse System", vol.3; Second Edition, 473-511
2. The theory and practice of industrial pharmacy by Leon Lachman, Herbert A. Liberman, Joseph L. Kanig; Third edition
3. Aulton, ME. "Pharmaceutics, The Science of Dosage Form Design", 2nd edition, Churchill Livingstone, London, 2002, pp 309-322.
4. Lachman L, Lieberman HA, Kanig JL. "The Theory and Practice of Industrial Pharmacy", 3rd edition, Varghese Publishing House, Bombay, 1991, pp 457-477.



# Thank You