

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**

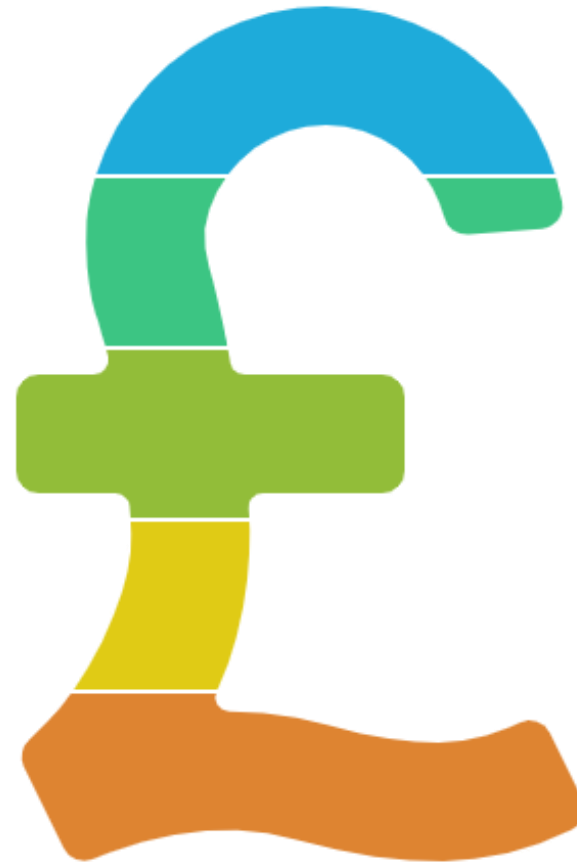
**Colouring
agents**

**Flavoring
agents**

**Sweetening
agents**

Made with  Napkin

Tablet Diluents



Definition

Fillers used to increase tablet bulk



Secondary Reasons

Improve tablet properties and manufacturing



Properties

Essential characteristics for diluents



Ideal Characteristics

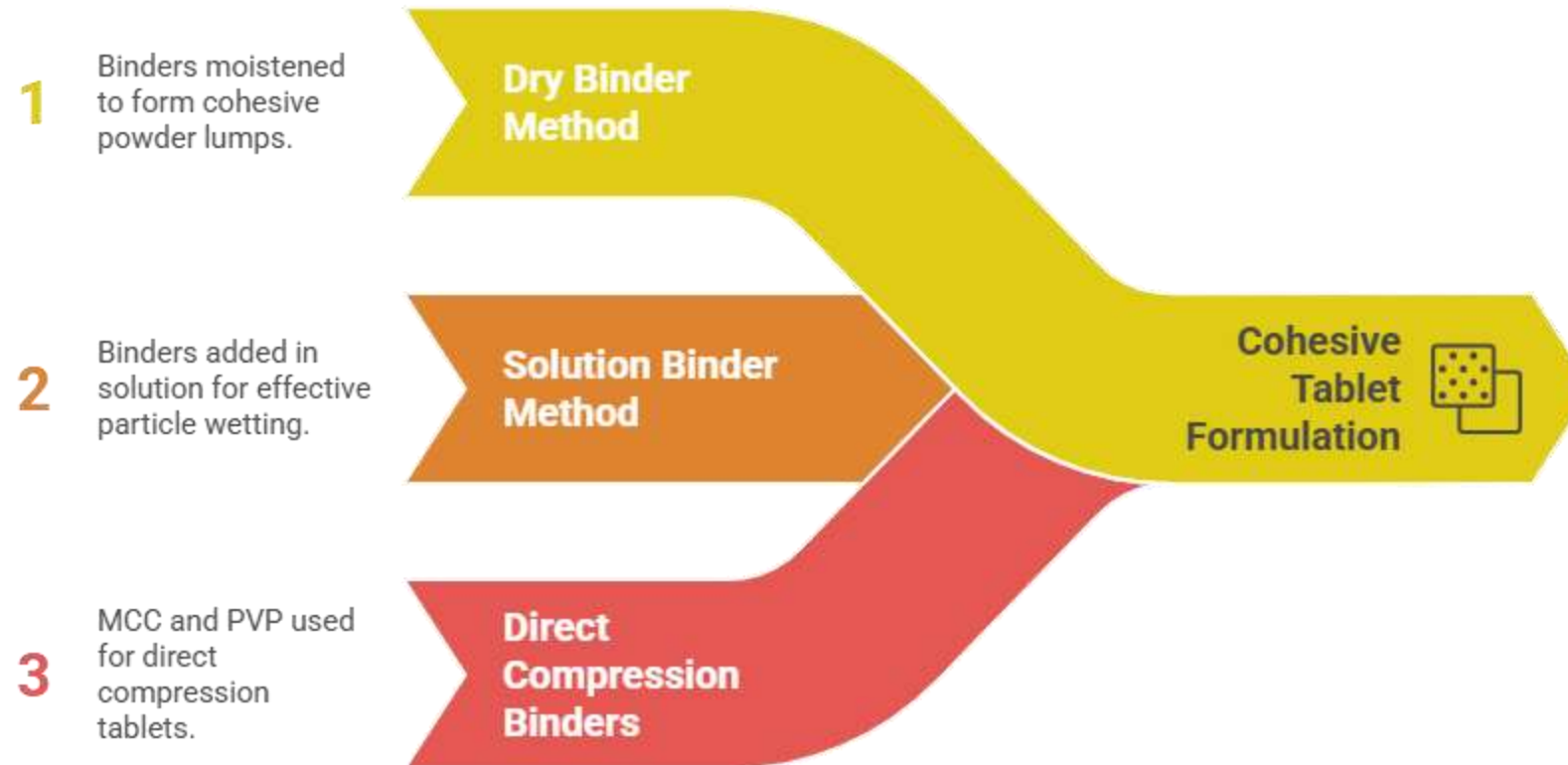
Desired traits for optimal diluents



Commonly Used Diluents

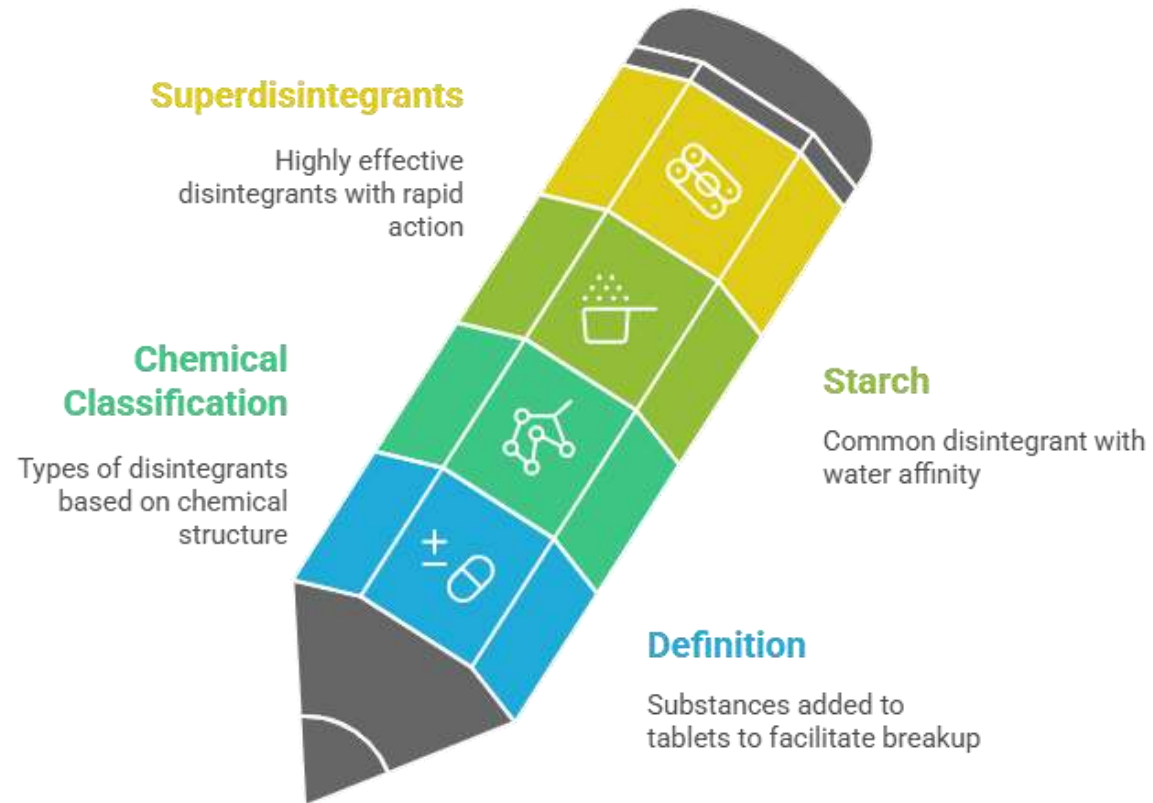
Examples of frequently used diluents

Tablet Cohesion/Binders



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Disintegrants



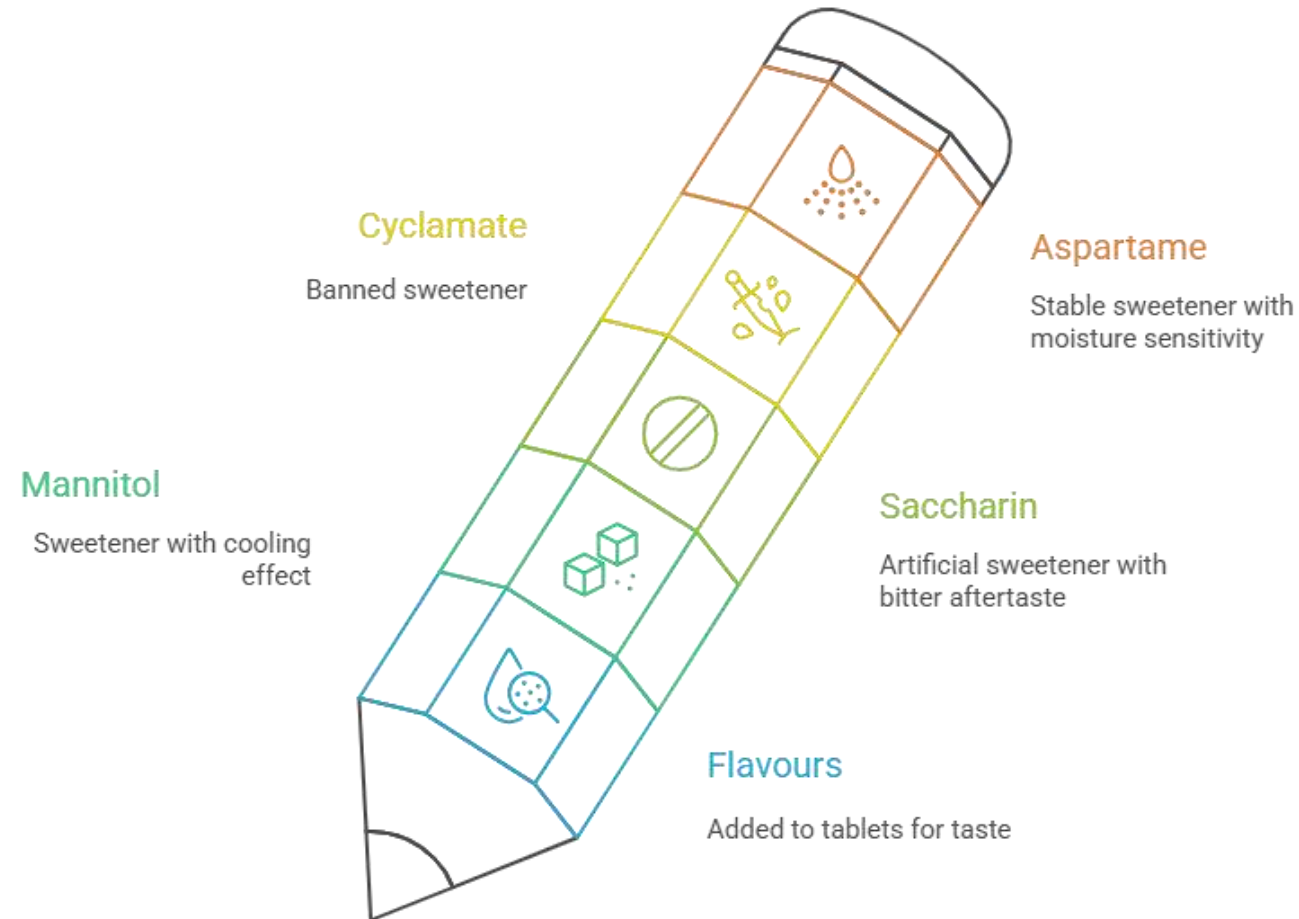
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Lubricants and Glidants



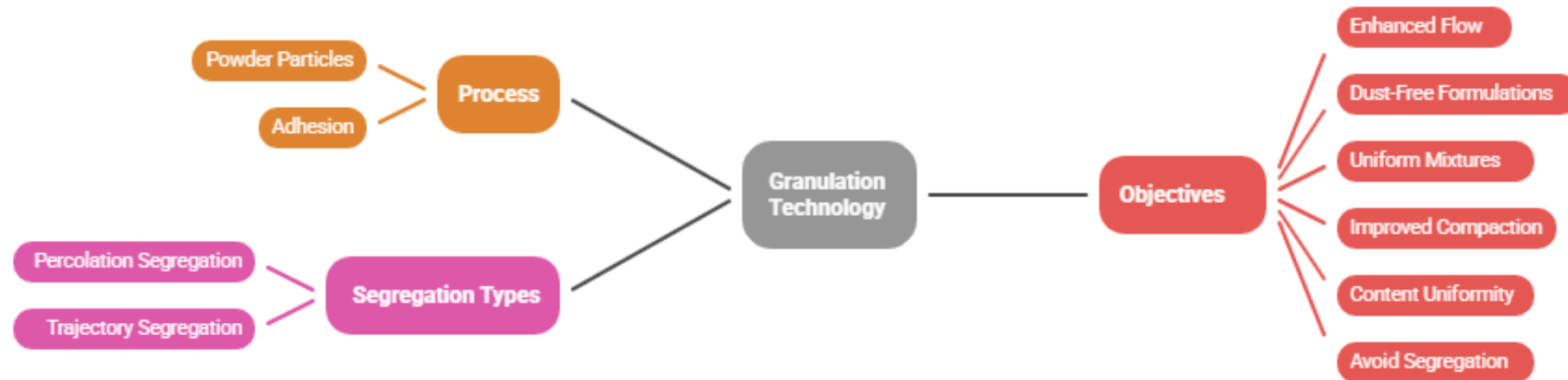
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Enhancing Tablet Experience



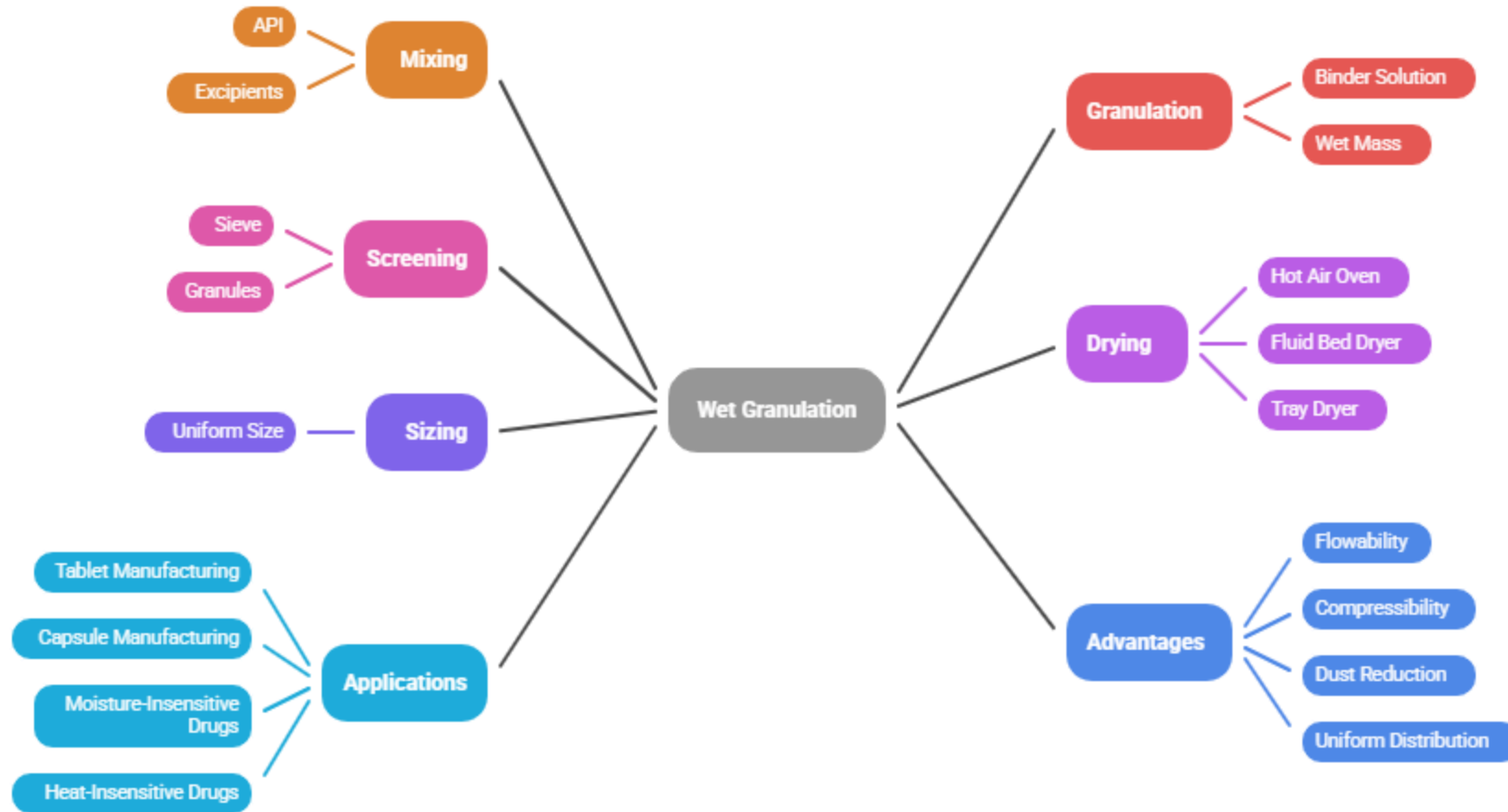
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Granulation Technology: Process, Objectives, and Segregation Types

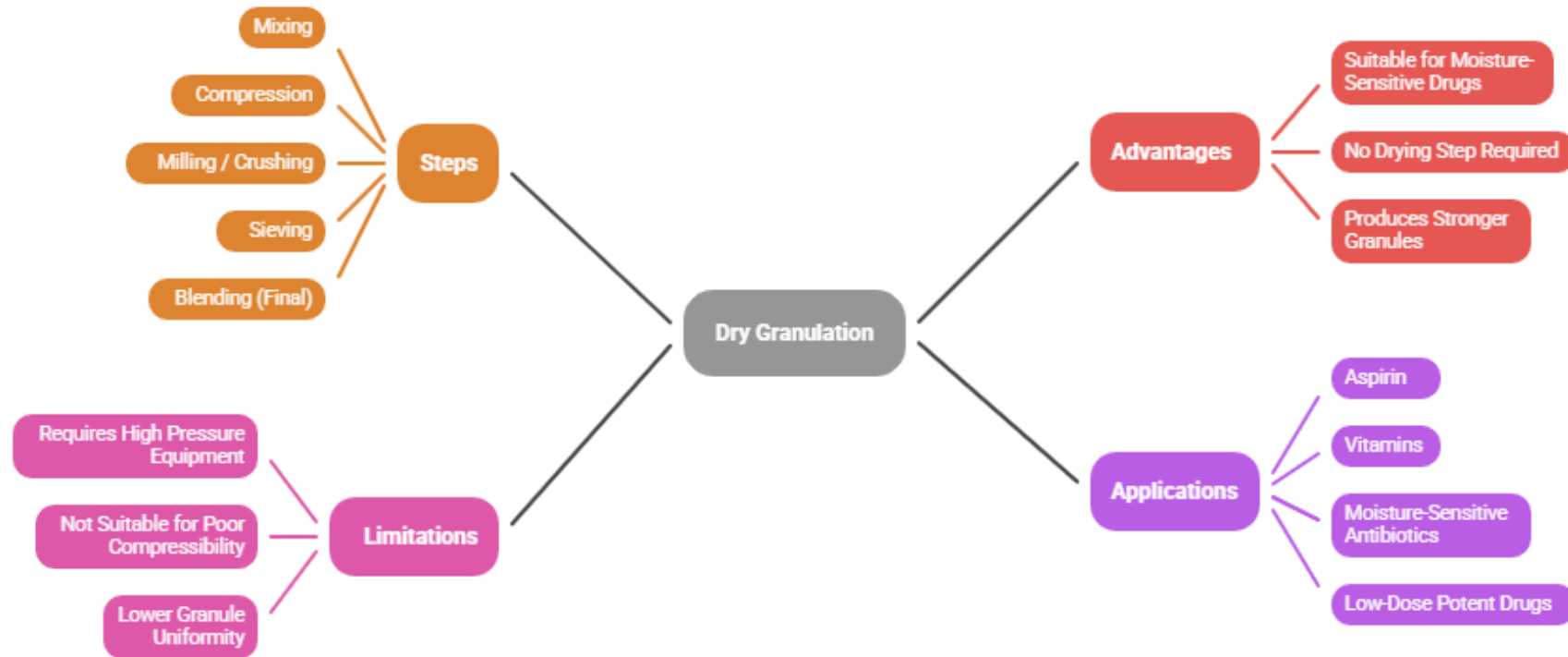


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Wet Granulation Process: Steps, Advantages, and Applications

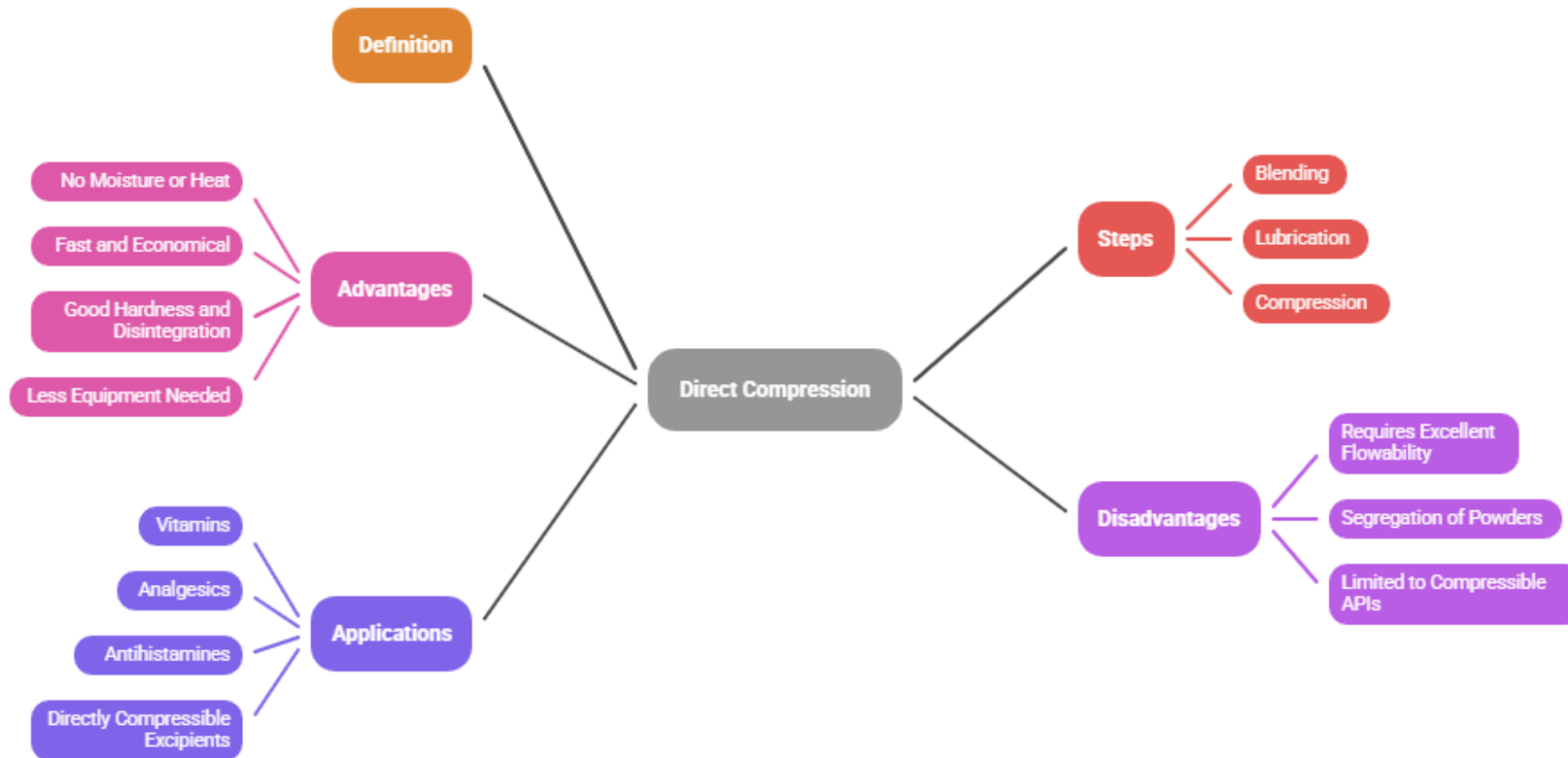


Dry Granulation Process and Applications



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Direct Compression: Tablet Manufacturing Method



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TABLET COMPRESSION PROCESS

16:9
landscape



Deformation Modes


Elastic Deformation


Plastic Deformation


Particle Fragmentation


Particle Bonding

Time Dependency



Time Independent

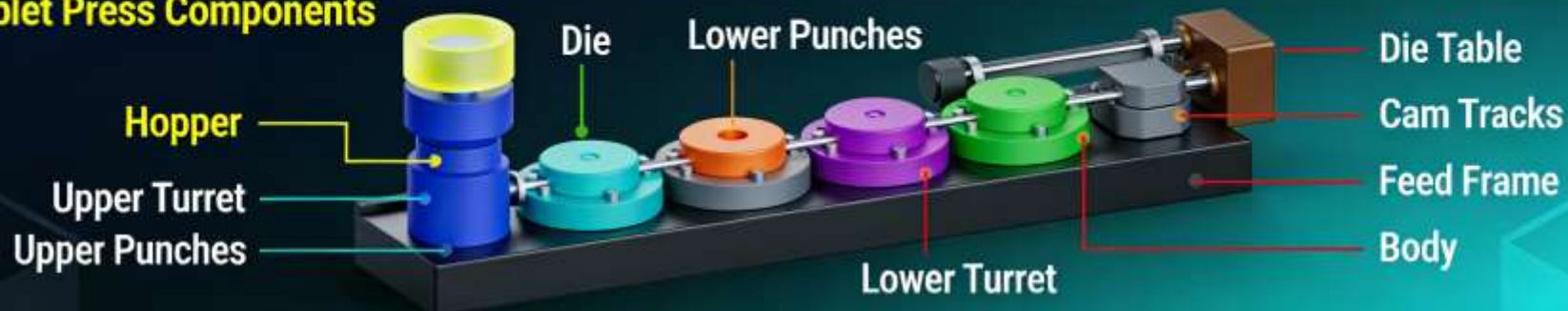
Elastic & plastic deformation

Time Dependent

Viscoelastic & Viscous



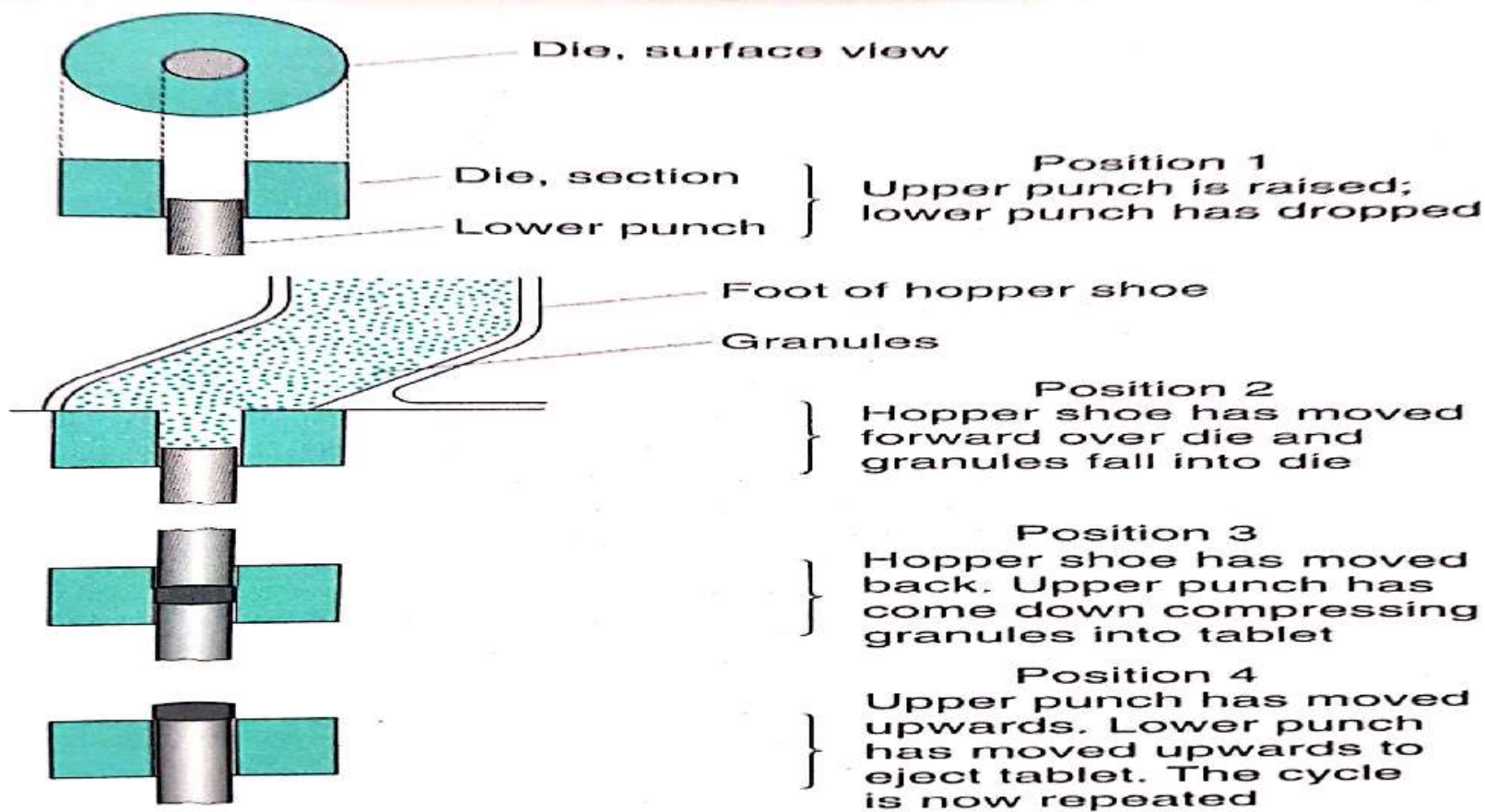
Tablet Press Components



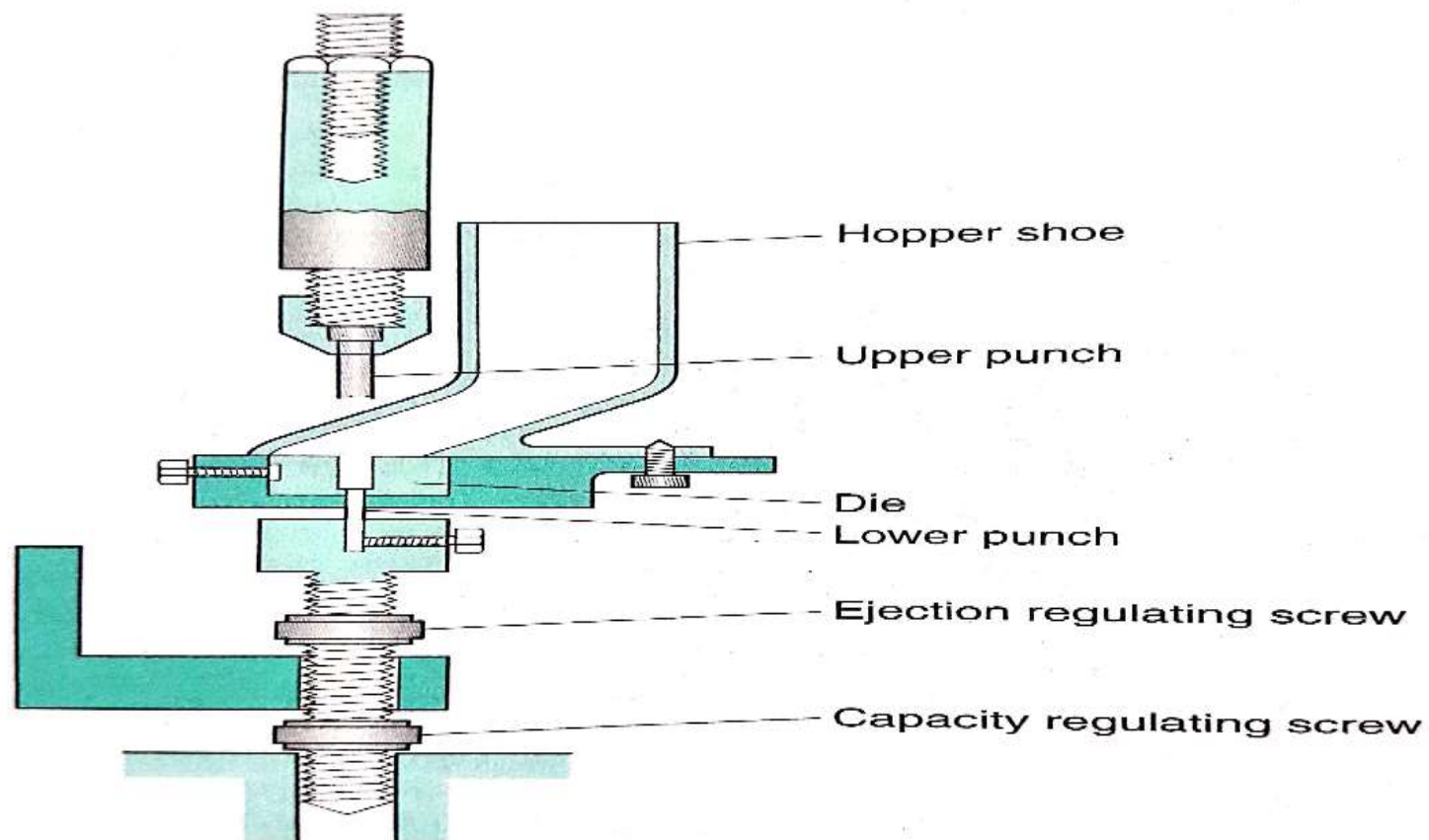
Tablet Compression Machine



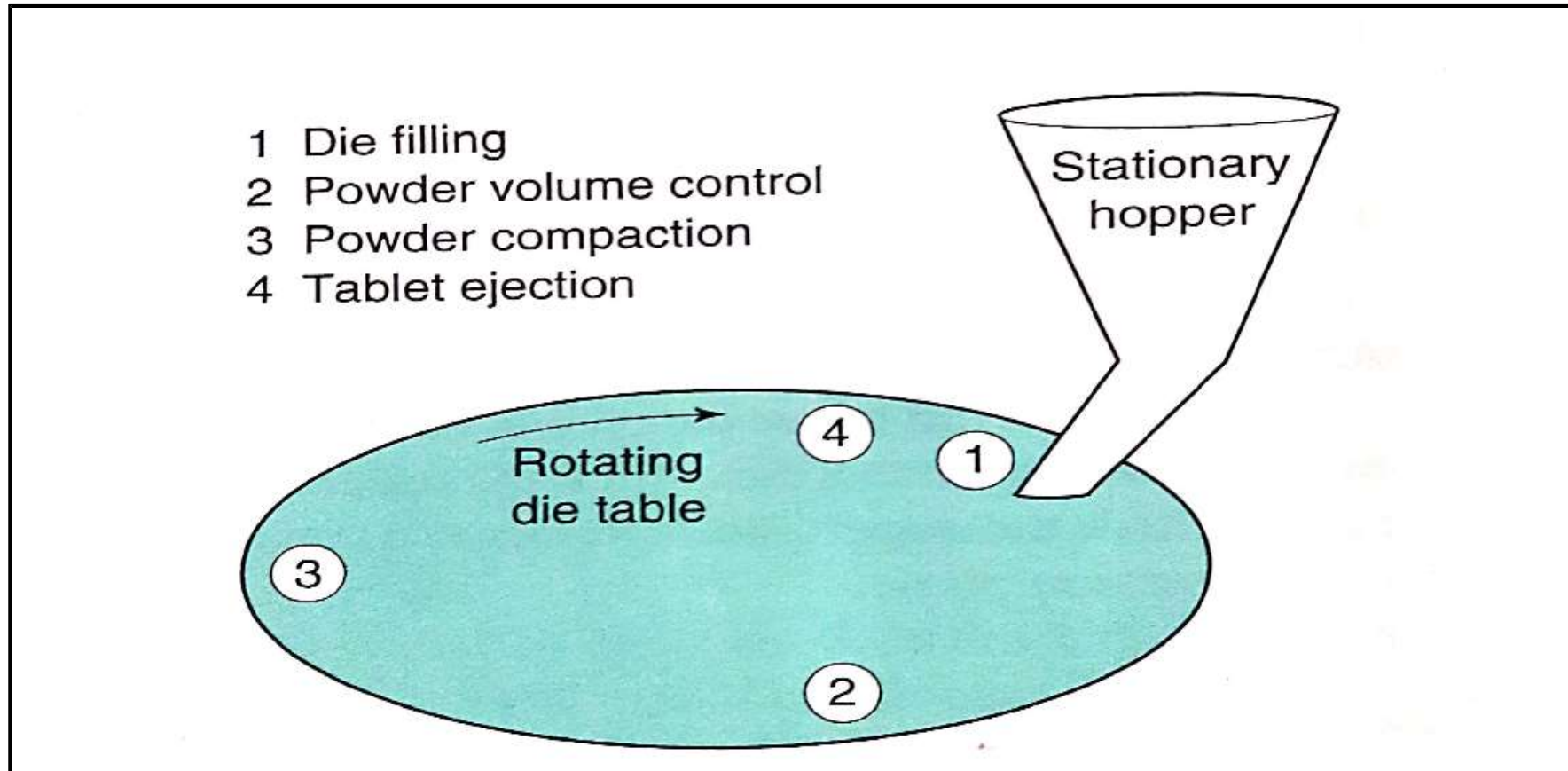
Sequence of events involved in the formation of tablets.

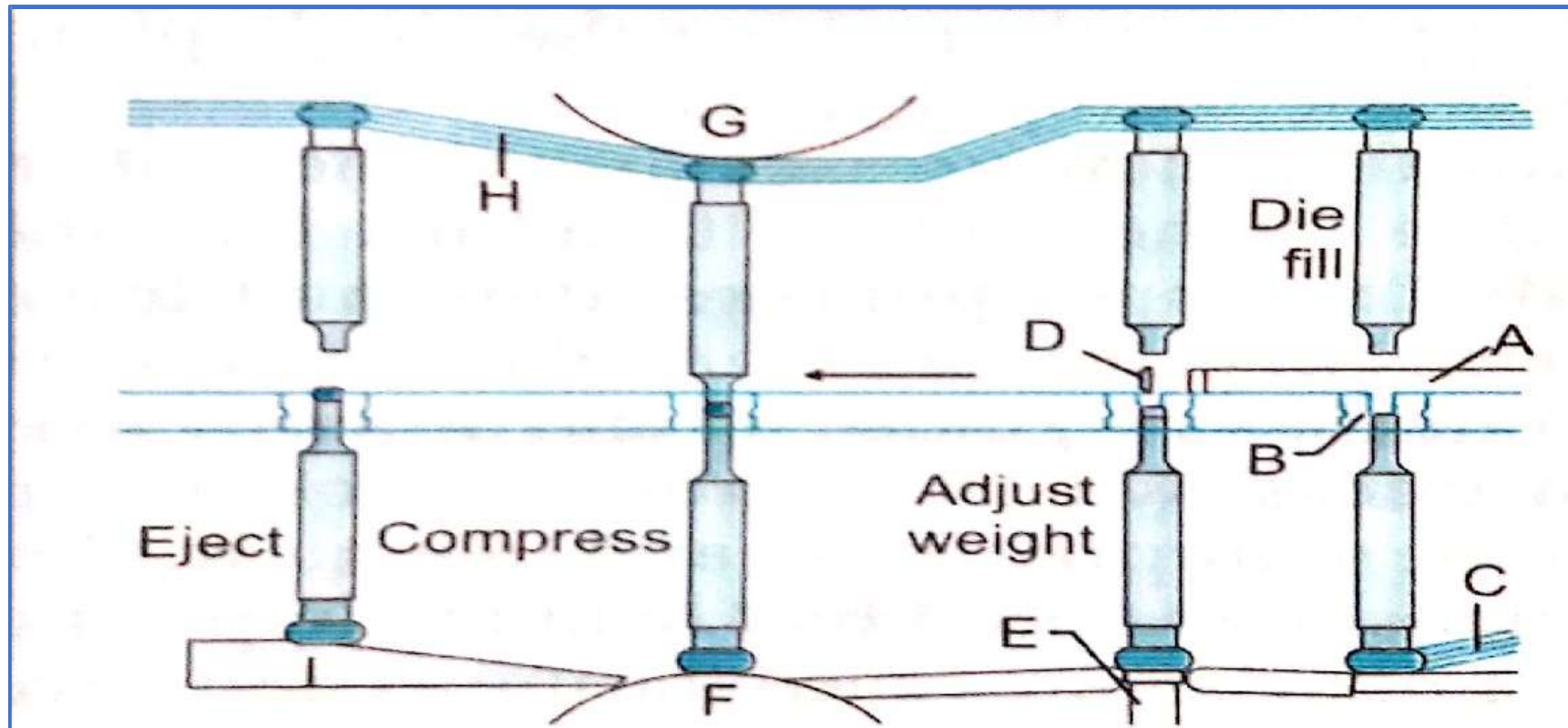


A single punch tablet press.

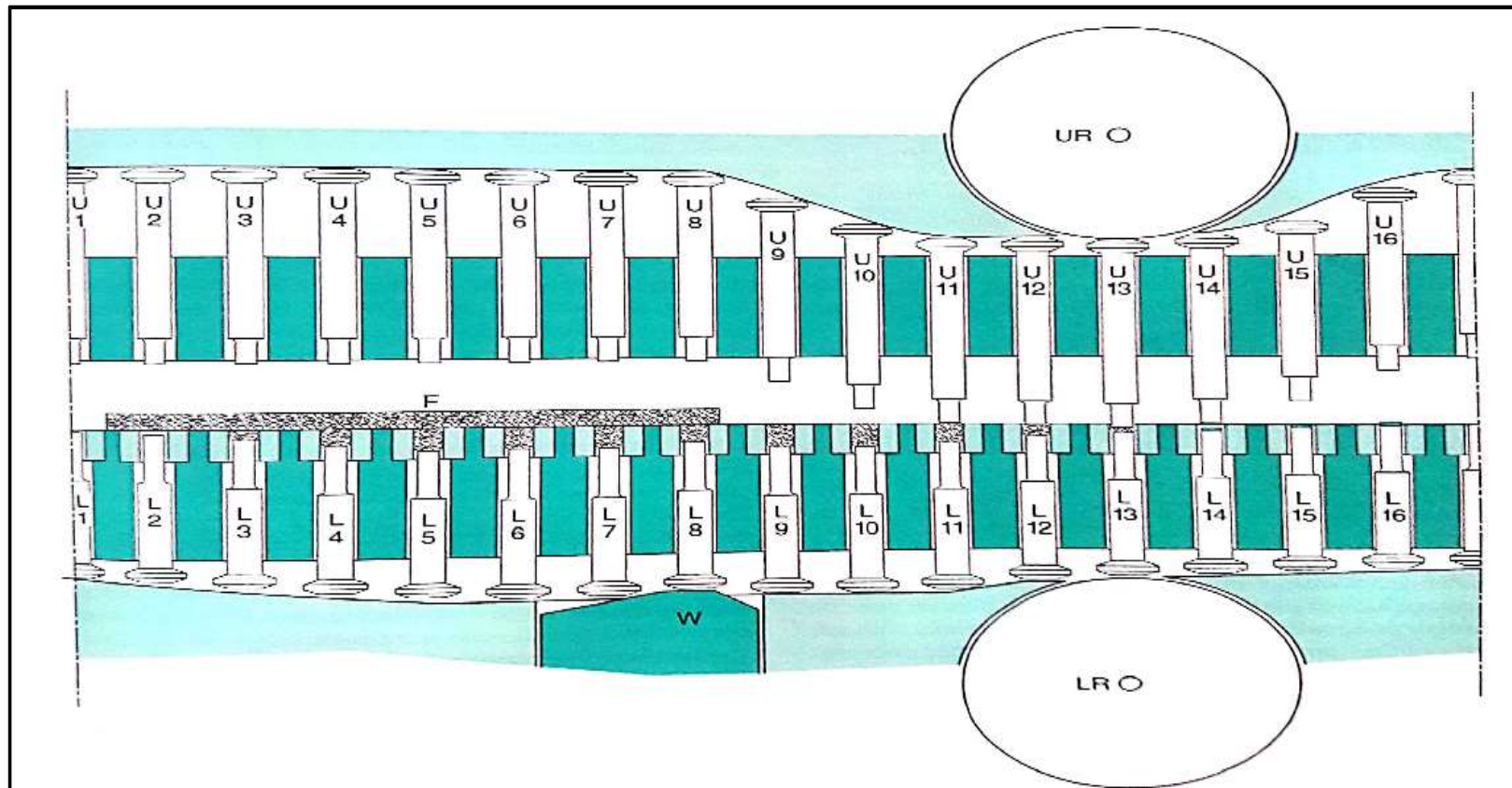


Schematic diagram for the formation of tablets with Rotary Press.





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



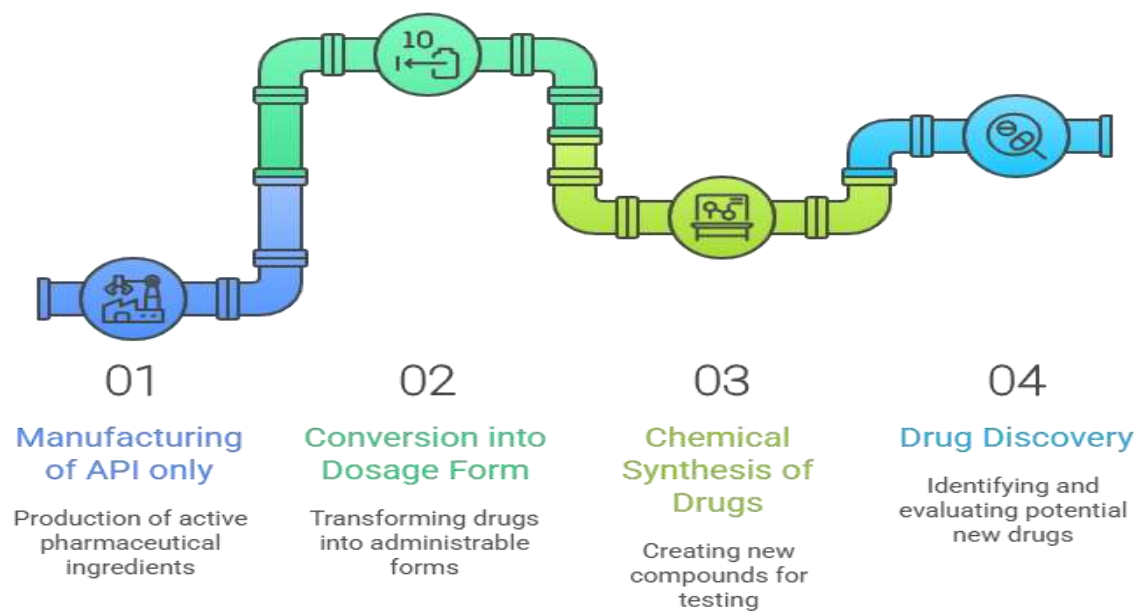
Tablet machine **out put** is regulated by three basic characteristic like:-

- 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

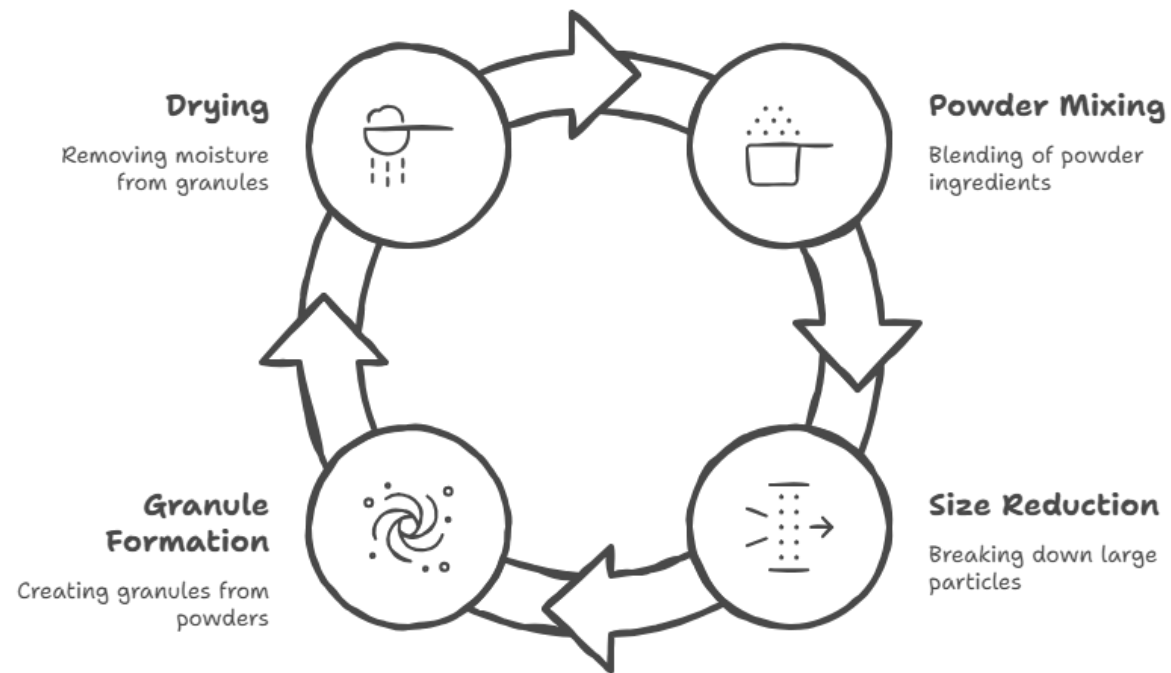
1. Formulation refers to:



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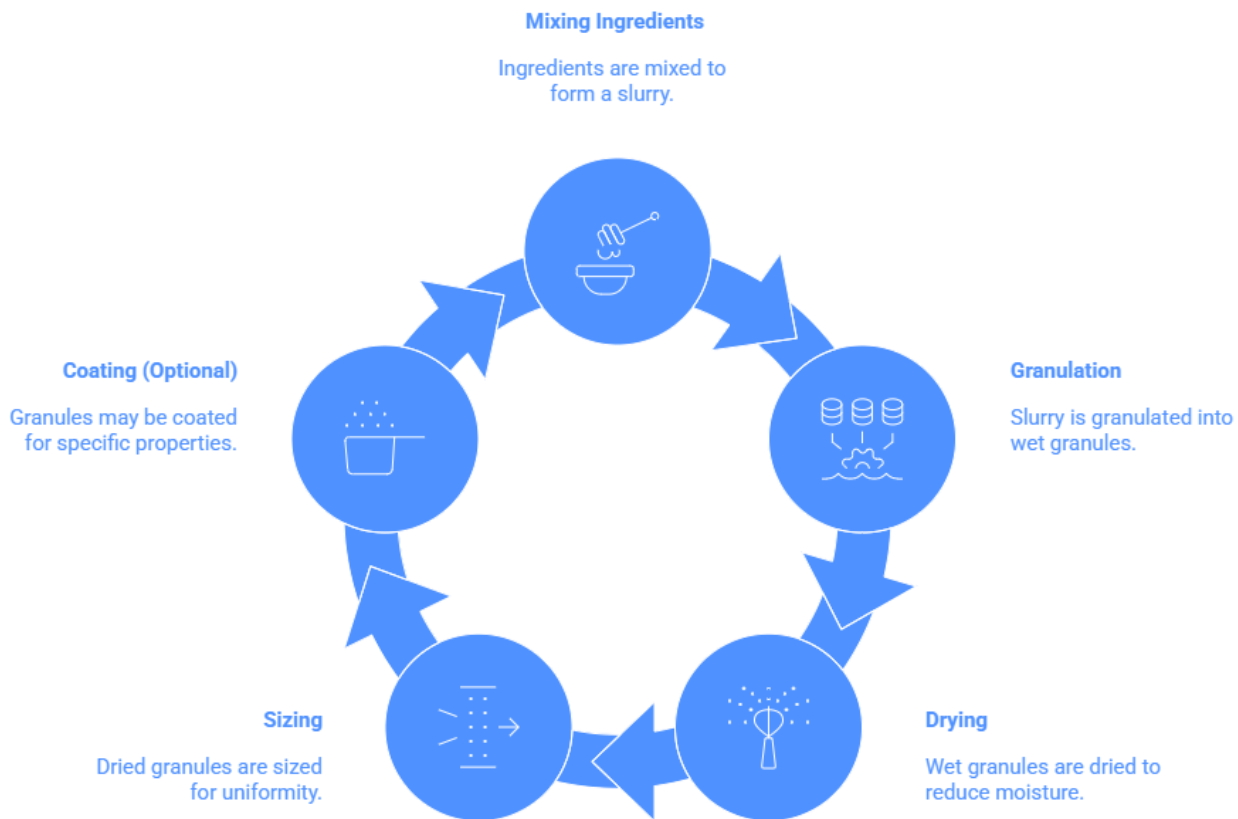
2. Granulation is the process of:



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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

