



UMANG[®]
encapsulation solutions

LABORATORY & PRODUCTION MACHINERY

Hot Melt Extruder



Hot Melt Extrusion is the upgraded version of Twin screw Extruder with heating as an element, it is the robust, Novel technique to make solid dispersions to provide extended, modified & targeted drug delivery, as well as taste masking of bitter API. Hot melt Extrusion applies heat & pressure to melt a polymer & force it through an extruder in a continuous process.



In an Umang Hot Melt extruder a number of processing steps are combined, including Uniform feeding, melting, mixing, venting, discharge and chilling. The control unit facilitates online monitoring and accurate adherence of the set process parameters. Specifically designed Heating and cooling plate with cartridge heaters, RTD sensors and thermic fluid cooling system heat the product to the required temperatures at different zones. Pair of segmented screws, which will be co rotating in anti-clockwise direction inside the segmented long barrel push forward the blended powder through different heating and mixing zones to the extruder die plate.



By these a compressive force will be applied on the semi-solid mass. When the force on the semi-solid mass exceeds the minimum force for penetrating the orifice of the die plate, extrudes starts coming out. During the process the product get melted and mixed thoroughly.





Special Features

- Contact part hardened steel SS440, SS316, non contact part Ss304
- Complete process Automation with PLC controls & HMI allows integration of several process steps in one machine
- Nitride hardened SS 316 Specially Designed Mixing Elements
- Efficient Heating & cooling circulating system with modulating control

Advantage

- It Yields high product Density.
- Small footprint, even for high throughput rates
- Short processing time with excellent mixing capabilities (distributive and dispersive)
- Uniform Powder Feeder to extruder hopper
- Chilling Roller cum Cutter Unit to cool & crush extrudes into cylindrical granules.

Optional Features

- 21CFR part II.
- Different Diameter of extrusion heads (1, 2, 3 & 5 mm).
- UL Certification, CE Components.
- Chiller.

Model	UMSE-25/30	UMSE-40/30
Capacity / Batch	2-5 Kg	15-20 Kg

Our Global Reach



Umang Global Group Pvt. Ltd.
(Engineering)

Umang Encapsulation Solutions Pvt. Ltd.
(Pharma, Nutraceuticals & Food)

Umang Particle Science Pvt. Ltd.
(Personal Care)

Lab Ultima Process Technologies Pvt. Ltd.
(Spray Drying)



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