

HIGH SHEAR MIXER GRANULATOR

Tapasya's High Shear Mixer Granulator is designed to meet special needs of tablet formulation technology. This is achieved by reducing processing time, homogeneous mixing, even distribution of binder, wetting, nucleation and granule size growth with sampling provision for in process analysis and proven safety during processing, compliant to cGMP norms.

Tapasya's High Shear Mixer Granulator is designed to meet the special needs of drying of Pharmaceuticals (Formulations and Bulk Drugs). It offers a controlled, channelised process in a quest to achieve product homogeneity, fluidity, stability by lower heat transfer, clean & hygienic air medium using pneumatics, superior MOC, proven manufacturing expertise and application of cGMP at all stages.



Features:

- Unique design incorporating Impeller, Granulator, Online Co-mill, Side discharge valve & dryer
- Internal and External surfaces of Mixing Bowl, Mixing Bowl cover, Impeller, Granulator, and Discharge Chute constructed in SS 304/316L
- Specially mounted torque sensor arrangement for critical parameters of granulation like end point determination & desired granule profile
- Impeller Lifting Options:
 - Pneumatically Operated Bottom Impeller Lifting for ease of cleaning
 - Electromechanical impeller lifting and removing mechanism
- Hydraulically operated Lid lifting
- Parts easy to dismantle, clean and re-assemble
- Pneumatics pre-tubed
- Gaskets of Teflon / Silicon
- Bowl surface finish of 0.3RA (inside / outside)
- ATEX Compliant option available
- Customised capacities available
- Optional features of Jacketed models, Vacuum / Gravity Charging, Mechanical Seals, Binder spraying systems, CIP / WIP systems, Vacuum drying, Scada Solutions available
- Drying under vacuum, at lower temperature with solvent recovery system
- Optional features for dryer include PLC control with printer, Turnkey with hearing, vacuum and solvent recovery system



Specially designed Radial Impeller



'C' shaped standard chopper



Online wet Co mill



Product charging through gravity transfer



Product charging through closed loop vacuum transfer

Features:

- Multiple options available for Impeller blade, Chopper and Co mill blade and screen
- In-house pressure tested 2 Bar HSMG

Level of Instrumentation:

Parameter	Indication	Record	Control	Alarm	Interlock	Export
Impeller Speed	√	√	√	√	√	√
Chopper Speed	√	√	√	√	√	√
Processing Times	√	√	√			Time Start, Time Finish
Product Temperature	√	√		√		
Impeller Power	√	√	√	√	√	√
Loading	√				√	Time Start, Time Finish
Lid Position	√			√	√	
Valve Positions	√			√	√	
WIP Mode	√		√			

Parameter Setting - 2

Cycle Timer Setting

Cycle steps	Dry Mix Cycle (Sec.)	Wet Mix Cycle-1 (Sec.)	Wet Mix Cycle-2 (Sec.)	Wet Mix Cycle-3 (Sec.)	Wet Mix Cycle-4 (Sec.)
Mixer Slow :	15 Sec.	16 Sec.	17 Sec.	18 Sec.	19 Sec.
Mixer Fast :	20 Sec.	21 Sec.	22 Sec.	23 Sec.	24 Sec.
Delay to Chopper :	5 Sec.	6 Sec.	7 Sec.	8 Sec.	9 Sec.
Chopper Slow :	10 Sec.	11 Sec.	12 Sec.	13 Sec.	14 Sec.
Chopper Fast :	20 Sec.	19 Sec.	18 Sec.	17 Sec.	16 Sec.

Auto Feed Cycle

	Cycle - 1	Cycle - 2	Cycle - 3	Cycle - 4
Spray Number :	5	6	7	8
Spray Duration :	3 Sec.	4 Sec.	5 Sec.	6 Sec.
Spray Interval :	5 Sec.	6 Sec.	7 Sec.	8 Sec.
Peristaltic Pump Speed :	0 RPM	0 RPM	0 RPM	0 RPM

No. of Wet Mixing Cycles : 2

Previous Next

IPC - PLC based Automation Control

Benefits For You:

- Single equipment for Mixing-Granulating-Drying
- Uniform distribution of all formulation ingredients
- Short mixing and granulation time to achieve desired granules profile
- Useful working capacity of upto 80% to 30% of bowl volume
- Uniform granules by gentle processing
- Wide range of applications
- Easy scale up & Scale down between machine sizes
- Bowl shape designed to have no dead spaces
- Fully Automated System for QBD compliant
- Standard documentation package provided
- Designed to meet cGMP requirements
- Designed to check leakages & prevent cross-contamination & also designed with inbuilt safety checks
- Final product of superior quality due to low attrition, lower drying temperature and time



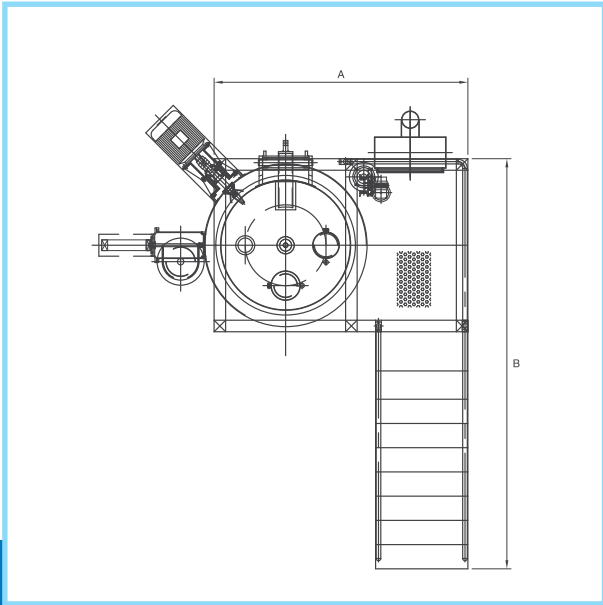
Granulator - Dryer



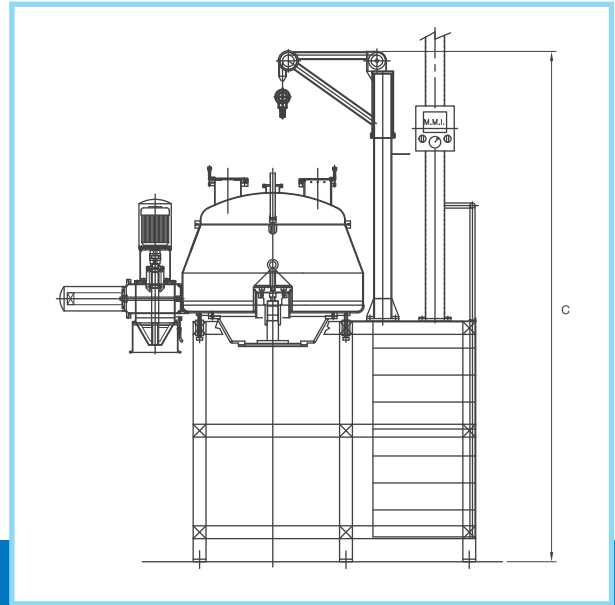
Vacuum rated bowl



Mimic Display for Process Monitoring and Control



Plan view



Elevation view

Technical Specifications:

MODEL	GROSS CAPACITY (in Liters)	WORKING CAPACITY (in Liters)	OVERALL DIMENSIONS (in mm)			MOTOR HP	APPROX. WEIGHT (in kg)
			L	B	H		
TAP-HSMG-25	25	20	1100	650	1300	7	1000
TAP-HSMG-75	75	60	2300	2600	2400	13	1500
TAP-HSMG-150	150	120	2400	2700	2600	21	2000
TAP-HSMG-250	250	200	2600	2800	2900	38	2500
TAP-HSMG-400	400	320	2700	3100	3300	48	3000
TAP-HSMG-600	600	480	2800	3250	3500	62.5	3500
TAP-HSMG-800	800	640	2900	3400	3800	72.5	3500
TAP-HSMG-1000	1000	800	3100	3600	4100	82.5	4000
TAP-HSMG-1400	1400	1120	3800	3750	4300	120	4500
TAP-HSMG-1700	1700	1360	4200	4100	4600	140	4800

Customised sizes available on request
 10 bar compliant equipment available
 Laboratory model design available

High Shear Mixer Granulator used in Industries:

- Pharmaceutical
- Nutraceutical