

# Single Pot System VMA



The Bohle Single Pot System guarantees excellent granulating results with short drying times.

The advantages of the VMA include:

- Top drive impeller with chopper
- Optimized bowl and impeller geometry for perfect granulation results
- Strip gas (VAGAS<sup>®</sup>) and microwave drying
- Controlled discharge cycle including in-line milling
- User-friendly software
- Optional containment
- Optional CIP-Cleaning



# Single Pot System VMA

	VMA 70	VMA 300	VMA 600	VMA 1200
<b>Batches [l]</b>	20 - 55	90 - 240	180 - 480	360 – 960
<b>Impeller [rpm]</b>	15 - 400	5 - 220	5 - 173	5 - 145
<b>Chopper [rpm]</b>	150 – 1500, variable adjustable			
Liquid dosing	Piston membrane pump, included in control panel			
<b>Bowl / Lid temperature control</b>	10 – 80° C			
<b>Vacuum [mbar]</b>	20			
Vacuum feeding	For easy, fast and low dust emitting feeding			
<b>Control system</b>	PLC controlled, Visualisation by In Touch from Wonderware			
Overall dimensions approx. (LxWxH) mm	1800x1300x2500	2290x1650x2950	2525x1850x3350	3365x2150x4400
Impeller torque measurement	Patented measurement of mechanical torque/power			
Power supply	3 x 400 V / 50 Hz (or acc. to local demand)			
<b>Choice of Options</b>				
<b>Stripping gas</b>	Enhanced drying			
Microwave	Including product and personnel safety functions, for very fast drying times			
Mechanical seals	Impeller and chopper shaft			
Solvent granulation	According to RL 94/9/EG (ATEX 95) , with solvent recovery system			
Video process monitoring	For better granulation understanding			
Containment execution	With isolator integration and split butterfly valves for feeding and discharging			
Machine height	According to customer demands			
Cleaning	Variety of cleaning possibilities (from Wetting over WIP to CIP)			
Qualification	DS, FS, DQ, IQ, OQ			
21 CFR part 11 compliance	Electronic records			
Computer validation	According GAMP 4 guideline			

Technical modifications reserved.

Bohle single pot systems are designed for closed, dust-free processing of pharmaceutical granules from charging through discharge including in-line milling. Mixing, granulation, and drying cycles are completed in a single machine under contained conditions.

The core of the system is the process bowl with its integrated, top-driven impeller and chopper. The impeller wing is precisely shaped to the process bowl which ensures a yield rate of 99%. The integrated chopper prevents excessive increases in granule size. It also supports the distribution of granulation liquid into the product. Gentle and very effective drying procedures provide the highest efficiency. A combination of vacuum drying with an additional gas stripping system (Bohle VAGAS® System) is optionally supported by microwave drying. Full CIP-cleaning is provided by a high quality wash system. The system can be optionally prepared for operation with organic solvents in explosion proof areas. An integrated solvent recovery system is included.