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Simoloyer®-Technology

(advantages, delimitations, definitions)

"Why using the Simoloyer®?"
Or: "Why are conventional milling-devices substituted by a Simoloyer®?"

Application (survey)	
High Kinetic Processing for MA, HEM, RM as well as nanostructured or nano-crystalline materials, flake-formations, fine grinding etc.	
Features in brief	
high relative velocity of grinding-media dry (mainly) & wet processing up-scalable (easy, from lab to industry) principle of collision (not only shear& friction)	various types / options / features Maltoz®-software exchangeable grinding-units adaptation of various sensor systems
processing under controlled / tightened atmosphere (processing under e. g. Ar, H_2, air) & vacuum	
complete handling of powder material under controlled atmosphere (and vacuum)	
Auto-Batch- and Continuous processing - also under controlled atmosphere (closed system)	
Advantages for process:	
up to x50/x100/x1000 faster powder yield 100% (is always the target) cycle operation (discontinuous processing)	process stability / quasi dust free handling also wet-milling possible reduction of manpower (Auto-Batch / Conti)
Advantages for products:	
high quality-requirements on products, e. g. CNO(S), low contamination (during processing) high homogeneity	new materials (which other devices cannot achieve/produced); data processing record (Maltoz®), quality surveillance (QA)
Comparison to Attrition milling:	
Simoloyer®: vessel (grinding-unit) evacuable tight / closed system (much) lower processing times less contamination easy powder handling + under inert-gas/vacuum easy un-/loading under inert-gas/vacuum/air easy sampling under inert-gas/vacuum/air	Attrition: good for fine-grinding, wet processing, but to be considered: long processing times, high contamination (due to shear & friction), particle distribution inside vessel ("Brazil-nut effect" or „Granular Convection"), no full handling under inert-gas/vacuum, discharging often difficult.
Example handling: Powder is able to be provided under inert-gas using suitable Simoloyer® equipment; it is not needed to transfer the entire vessel into a Glove-Box.	
Comparison to PBM:	
Simoloyer®: not only for laboratory purposes! not only for fine-grinding! not only for hard/brittle materials! + vacuum-tight, scalable, cooled, high energy transfer etc.	PBM: good for e. g. laboratory use, analysis, basic research, no up-scaling possible, medium kinetic, processing under controlled atmosphere is laborious.

And again, why are conventional milling-devices substituted by a Simoloyer®? Especially due to high demands on products, better products, new materials, useful handling, higher energy, performance!

⇨ The Simoloyer® provides the possibilities of Attrition and other devices– **and much more**.

⇨ **high energy impact / collision / low contamination / better, new products / high demands / fast / atmosphere control / Maltoz® / Auto-Batch&Conti / scalable / options & features**

technical data subject to alterations