

# HOSOKAWA MICRON PULVIS DRY AGITATING MEDIA MILL



**HOSOKAWA MICRON CORPORATION**

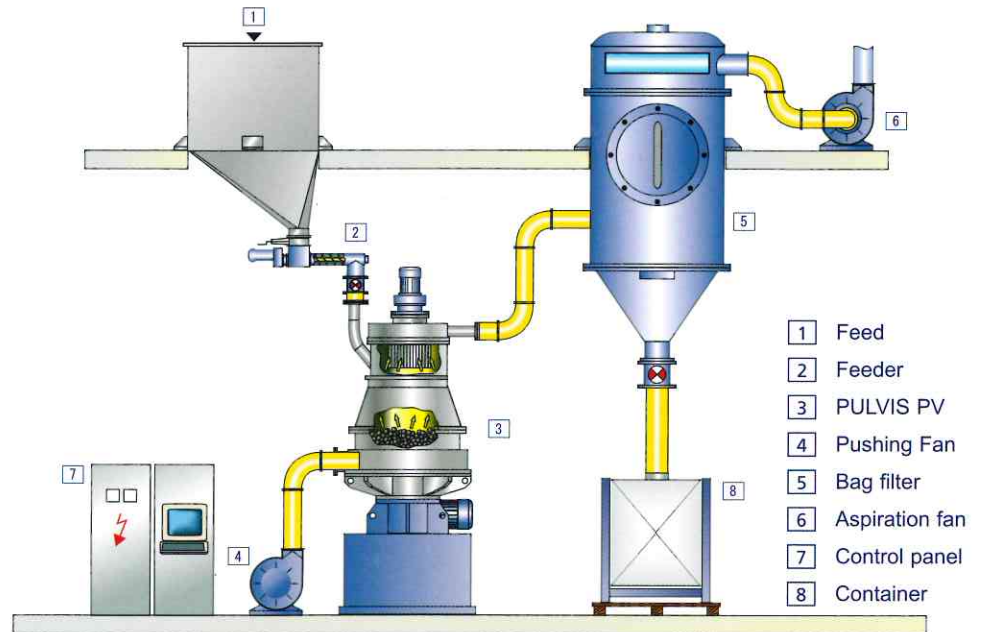
**PROCESS TECHNOLOGIES FOR TOMORROW™**

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The PULVIS was developed as an energy-efficient ultra-fine grinding machine. This high-efficiency mill produces sub-micron size particles.

The finer the particles to be produced, the higher the energy that is needed for the production. That is why we at Hosokawa develop technologies allowing our customers to produce finer and finer particles at reduced energy consumption. The PULVIS, a combination of a vertical agitated ball mill and a high performance air classifier represents a further milestone on our way.



- 1 Feed
- 2 Feeder
- 3 PULVIS PV
- 4 Pushing Fan
- 5 Bag filter
- 6 Aspiration fan
- 7 Control panel
- 8 Container

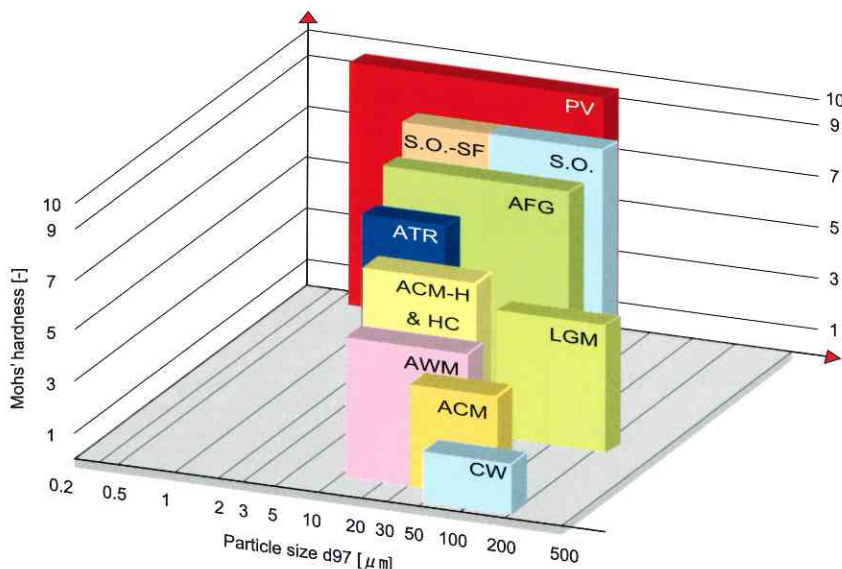
### OPERATING PRINCIPLE

The milling part is located at the bottom of the machine. Feed material is ground by agitated media that combine impact grinding and attrition. The gasflow injected from the bottom side transports and cools the particles on their way through the grinding media. Ground particles are conveyed by air, passing through the grinding chamber to the classifier. The classifier separates the required fine product from coarse particles. The coarse particles return to the grinding zone for further grinding.

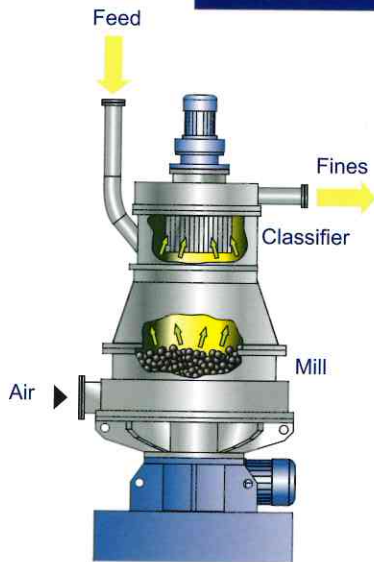
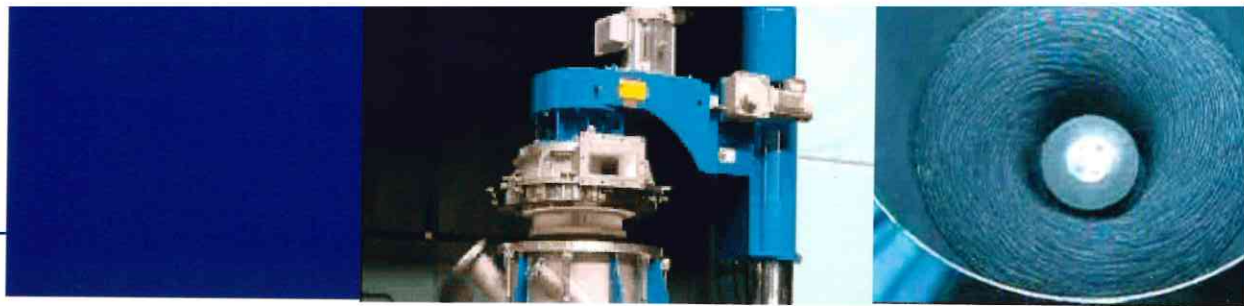
PV	PULVIS, Dry agitated media mill
AFG	Fluidised bed opposed jet mill
ATR	Vertical agitated ball mills (Dry)
AWM	Table roller mill
CW	Contraplex wide chamber mill
LGM	Long gap mill
S.O.	Super Orion ball mill
S.O.-SF	Super Orion ball mill "super-fine"
ACM	ACM classifier mills
ACM-H&HC (C : Ceramics parts)	The latest model of ACM

### FEATURES

- Compact design
- From Laboratory to production scale, with possibility to scale-up over complete range
- Energy efficient  
With high grinding efficiency specific energy consumption is reduced by more than 80%. Finer particle sizes are possible compared to jet milling.
- Easy adjustment particle size  
Fineness is determined by changing the classifier speed.
- Ultra fine particles  
The compact unit reliably produces very fine products with particles sizes in the sub-micron range (refer to the Hosokawa's Mill Series)
- Easy access  
Easy assembly, disassembly and cleaning are achieved with this design. ideal machine for frequent material changes.

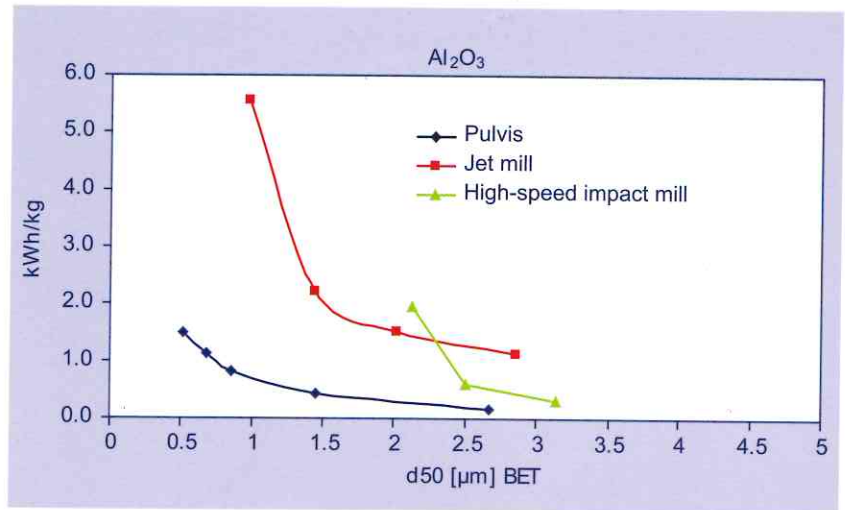


Hosokawa's Mill Series



## WEAR PROTECTION

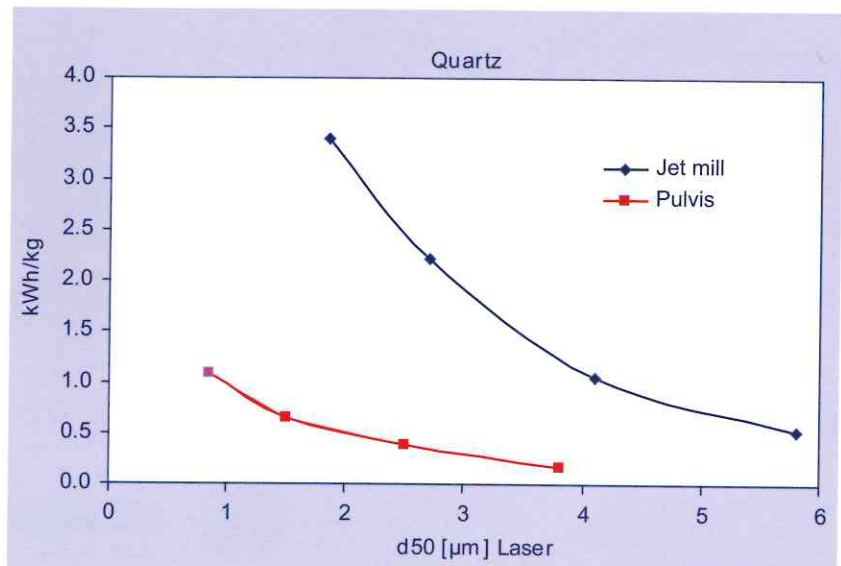
Grinding parts and classifying parts including grinding beads are available in various ceramic qualities.



## APPLICATIONS

The PULVIS is the right choice for the ultra-fine grinding of hard, temperature non-sensitive materials. In the grinding process also additives can be used. Typical application for the PULVIS are for example:

- Battery materials (cathode precursor)
- Anorganic pigments
- Ceramic materials
- Metal oxides
- Industrial minerals
- Glass, glass frits
- Metal hydride
- Magnetic materials (process with inertgas)
- Graphite (anode of LIB)



If the product has to be free of any contamination, then a jet mill or an agitating media mill has still to be chosen for grinding.

Product line

PULVIS PV Type		PV-150	PV-270	PV-450	PV-600	PV-800	PV-1000
Mill drive	kW	0.75	2.2	11	18.5	37	75
Classifier drive	kW	1	1	3,7	7.5	15	30
Grinding media	Liter	1	5	25	50	100	200
Air flow rate	m <sup>3</sup> /min	0.7	1 - 1.5	6 - 9	10 - 15	18 - 28	30 - 40

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