

One-Piece Ceramic Mills

Wet & Dry Size Reduction

Talk with the Experts
800-524-2188

One-Piece Ceramic Mills are one of the most efficient methods of wet or dry milling of solids in a contamination free environment. PAUL O. ABBE has been designing and manufacturing tumble mills for over 100 years for applications ranging from ceramic glaze and semi-conductor materials to rare earth metals and pharmaceuticals.

Tumble milling has the advantage of providing a very narrow particle distribution, low temperature rise and repeatable results. Final particle size of <5 microns can be obtained with dry milling, while wet milling can reduce solids to <1 micron. Wet milling also has the advantage of simultaneously dispersing the solids in the liquid medium.

These crevice free, monolithic ceramic cylinders are available in size from 6 to 83 gallons of total volume. For capacities up to 3,000 gallons, PAUL O. ABBE has a range of high-alumina brick lined mills.

Alumina reinforced ceramics are suitable for temperatures up to 248°F, are compatible with all acids except hydrofluoric and most bases (ref. standard NaOH 25% at 95°F).

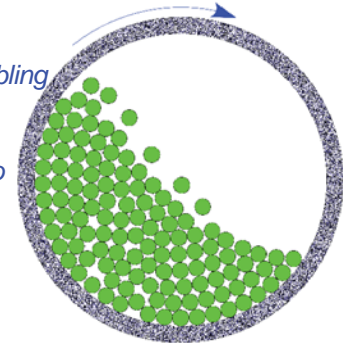
Ceramic Properties:

- Mohs Hardness: 6-7
- Density: 2.3 g/cc
- Apparent Porosity: 0

Composition:

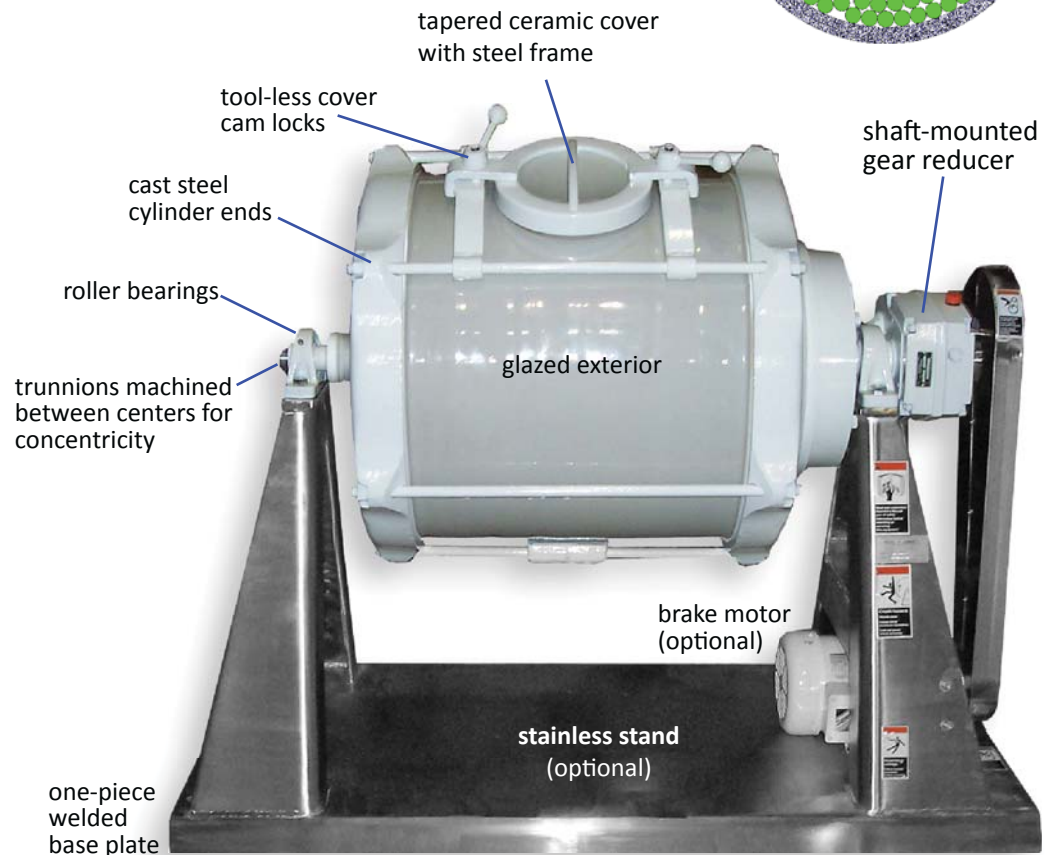
- A_2O_3 19%
- Si_2O_3 76%
- Fe_2O_3 0.6%
- K_2O/Na_2O 3.8%

The cascading and tumbling of the media impinges and impacts the solids, efficiently milling them to the micron range.



Design Options:

- Dry Discharge Housing
- Variable Frequency Drive
- Controls, Timer, PLC
- Explosion Proof Motor
- Brake Motor
- Stainless Steel Frame
- Roll Top Cage



PAULO.ABBE

Since 1911

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Roll Top Cage.



Dry Discharge Grate machined from stainless steel with 0.25" slots. The discharge grate retains the grinding media in the mill while allowing the finely milled solids to be discharged. In order to control the dust during discharge a dry discharge housing is recommended. Two designs of dry discharge housing are shown below.



Mill with dry discharge housing and removable drawer to catch milled solids.



Dry discharge housing with chute to direct solids or for temporary collection of solids.

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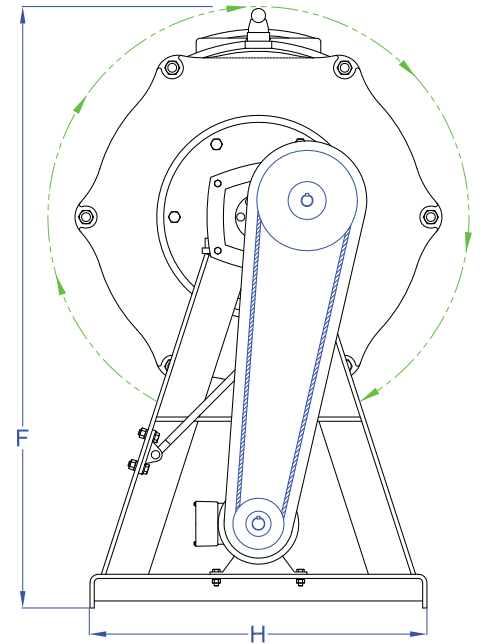
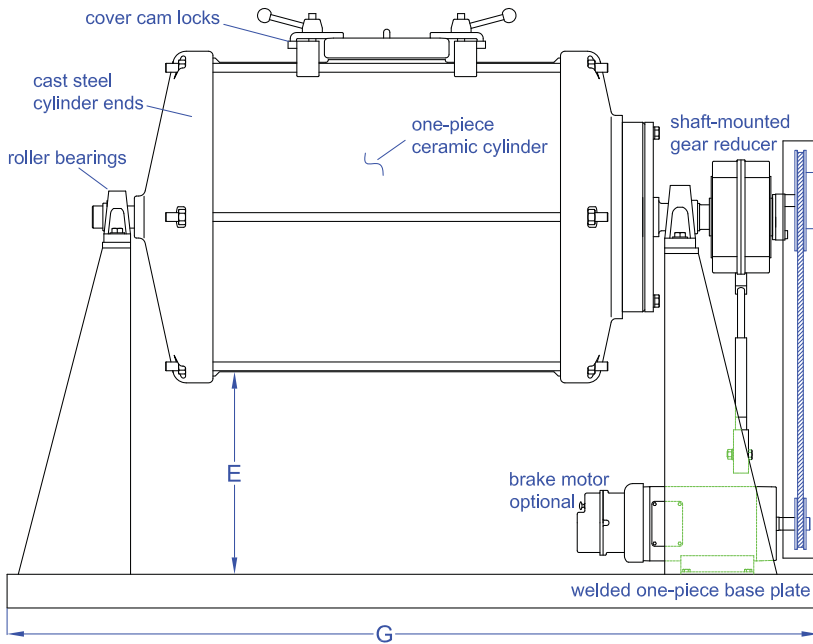
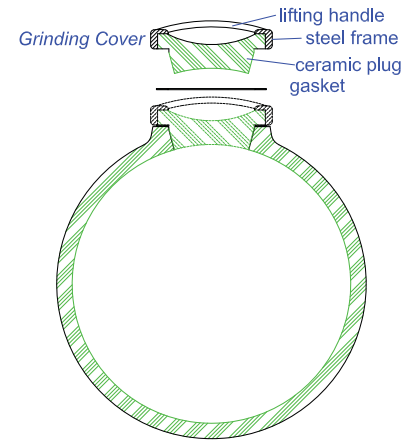
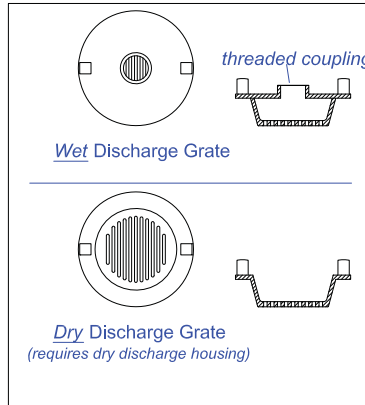
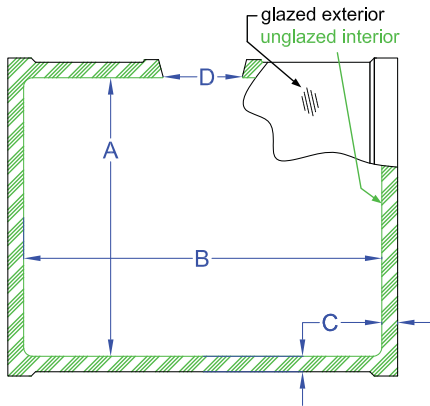
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										Cylinder and Overall Dimensions (inches)								
Model	Total Volume		WET Working Capacity (60% of total)		DRY Working Capacity (25% of total)		50% alumina media charge pounds	RPM WET milling 60% of critical	RPM DRY milling 55% of critical	A	B	C	D	E	F	G	H	weight (w/o media)
	usg	ft ³	usg	ft ³	usg	ft ³				cylinder diameter	cylinder length	shell thickness	hatch ϕ	cylinder to floor	height	length	depth	
OPCM - 6	6	0.8	3.4	0.5	1.4	0.2	51	44	40	14.2	8.3	1.2	5.3	18	47	49	23	680
OPCM - 8	8	1.1	5	0.6	2.0	0.3	72	44	40	14.2	11.8	1.2	5.3	18	47	49	23	720
OPCM - 11	11	1.4	6	0.9	3	0.4	96	44	40	14.2	15.7	1.2	5.3	18	47	52	23	780
OPCM - 25	25	3.4	15	2.0	6	0.8	227	38	35	18.9	20.9	1.2	5.3	18	50	56	26	1,300
OPCM - 52	52	6.9	31	4.2	13	1.7	465	33	30	24.8	24.8	1.4	6.7	18	54	62	30	2,000
OPCM - 67	67	9	40	5.4	17	2.2	598	33	30	24.8	31.9	1.4	6.7	18	54	66	30	2,200
OPCM - 83	83	11	50	6.6	21	2.8	740	33	30	24.8	39.5	1.4	6.7	18	54	80	30	2,300

Dimensions and capacities are approximate and may change without notice - do not use for installation.

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