



Product datasheet

WEMCO® Attrition Scrubber

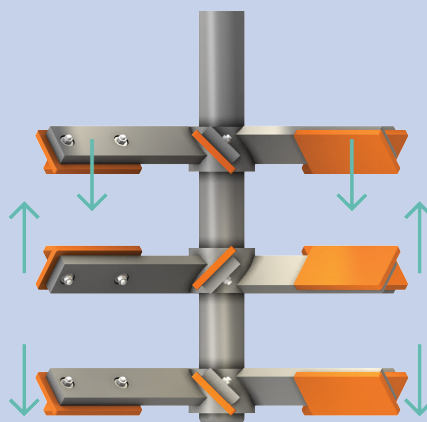
Designed to achieve the strongest possible scrubbing without reduction of particle size, the WEMCO Attrition Scrubber sets the stage for maximum product quality and recovery throughout your circuit.

Optimal attrition happens when a balance occurs between power and control – when feed material is cleaned thoroughly without damage to particles. By effectively scouring unwanted contaminants, impurities, and pollutants, the WEMCO Attrition Scrubber plays a crucial role in downstream recovery.

The impeller has three sets of blades with opposing pitches. The blades reverse the pulp flow twice in each cell to produce the ideal controlled turbulence necessary for effective scrubbing action.

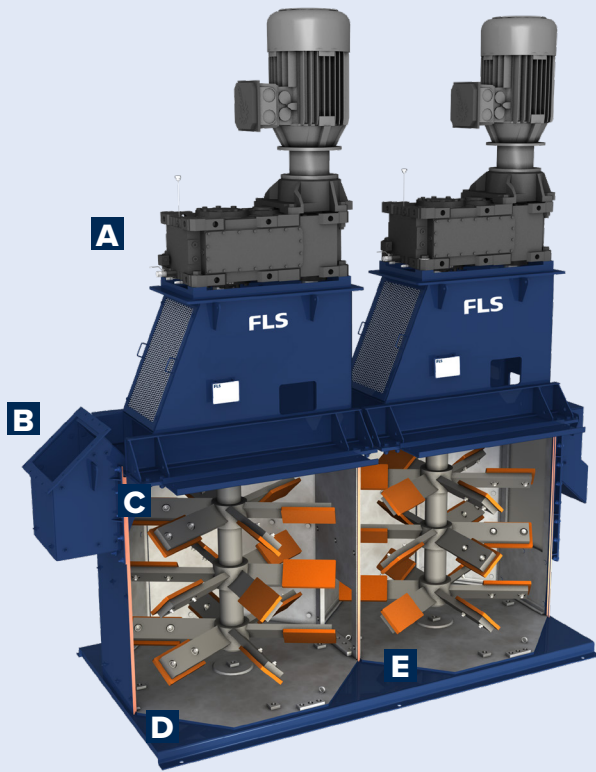
Key benefits

- Powerful attrition scrubbing action without particle degradation
- Three-blade, reverse-pitch impeller design produces controlled turbulence
- Small footprint due to compact size
- Simple to install and operate
- Low maintenance



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Optimal attrition by design

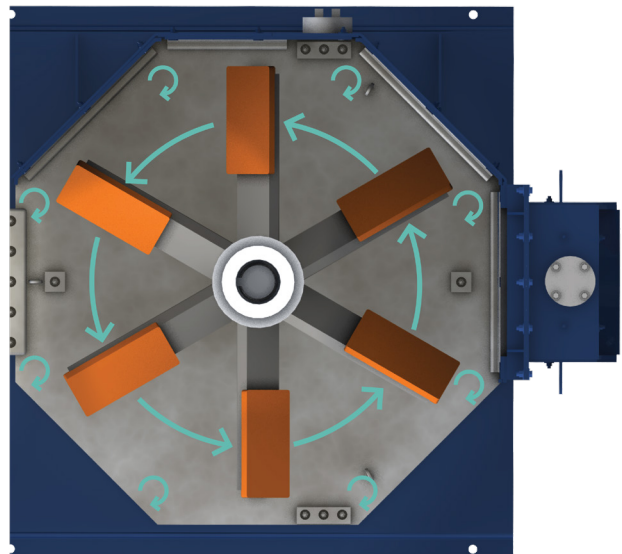


As a crucial first step in the separation process, adequate attrition scrubbing removes surface films, coatings, or slimes to improve mineral values. This action increases your recovery of viable product, making it more marketable.

- A** Direct drive unit offers long-term operation without any sacrifice in performance
- B** Proper feed is introduced at high density – 70-80% solids in the case of sand – with a consistency approaching concrete mix
- C** Unique 3-blade design features two impellers that oppose each other, while the third works the pulp either upward or downward in the cell
- D** The tank's octagonal design, in conjunction with the impeller motion, creates a clockwise mixing action to ensure thorough mixing
- E** Standard paddles are made of cast alloy; for excessively abrasive feed with coarse, hard particles, we recommend Ni-Hard or rubber-covered paddles and rubber covered tank liners

Uniform treatment and flow pattern

The top of each cell shows a characteristic flow pattern of controlled turbulence as the slurry folds inward around the impeller shaft. The octagonal shape of the WEMCO® Attrition Scrubber tank reduces “dead zones” for more efficient scrubbing than is achievable with a square tank.



Powerful performance in particle scrubbing

The WEMCO® Attrition Scrubber efficiently scrubs the surface of particulates, scouring unwanted contaminants, impurities, and pollutants on the surface. This also includes the removal of clay slimes and stripping surfaces of soft or conglomerate impurities.

Appropriate applications

Ideal for attrition of thick, high-density pulp, the WEMCO® Attrition Scrubber supplies the energy, while the particles themselves perform the work.

Compatible feed materials

- Industrial sand
- Glass sand
- Metallic ores
- Heavy mineral sand
- Iron ore
- Amber-grade glass sand
- Phosphates

Materials testing and research

Our Minerals Testing and Research Centre can help you fine-tune your attrition process to improve your operational performance.

We will thoroughly test your material samples and then consult with you regarding the best practices for your circuit.

We provide the following tests to most accurately assess your needs:

- Feed and product particle size distribution
- Retention time determination
- Optimum percent solids
- Elemental and mineral characterisation

CELL SIZE OPTIONS

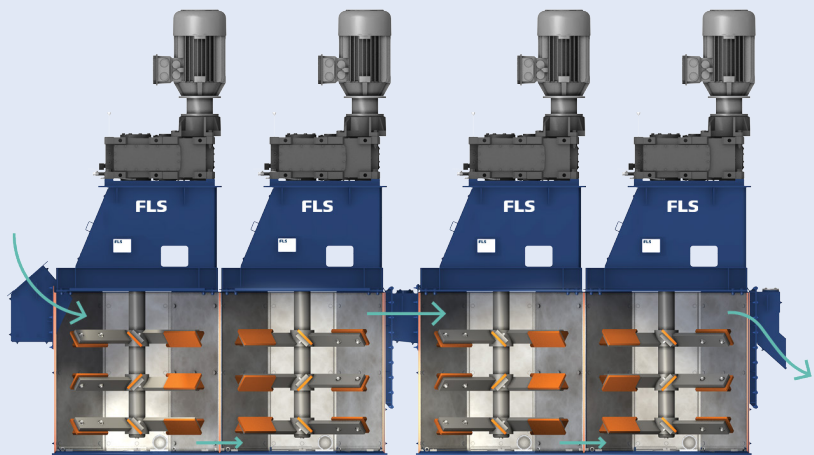
No. 60	No. 120	No. 200
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Feed size: normal, 1/4" x 0, maximum, 3/8" x 0		
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Controlled turbulence for effective cleaning

The overall flow direction is downcast in odd-numbered cells and upcast in even numbered cells, with ports or weirs between the cells. Staggered scrubbing zones enhance attrition capabilities when lined up in a circuit (a minimum of two cells).

This design ensures no material can short-circuit from one cell to the next, and all material is uniformly treated. Our design also provides treatment of the material for only the required time, resulting in savings related to installation and operating costs.



WEMCO® Attrition Scrubber specifications

Feed size: normal, 1/4" x 0, maximum, 3/8" x 0

No. 60	
Principle use	Intense scouring of particle surfaces
Standard impeller	40" diameter
Motor, each cell	75 HP, 900 RPM
Effective cell volume	60 cu. ft
Feed density	70% - 80% solids
Maximum *capacity	Approx. 100 – 120 TPH
Treatment time (sand)	1.2 min/cell @ 120 TPH & 70% solids 1.6 min/cell @ 100 TPH & 75% solids

No. 120	
Principle use	Intense scouring of particle surfaces
Standard impeller	64" diameter
Motor, each cell	75 -150 HP, 1800 RPM
Effective cell volume	120 cu. ft
Feed density	70% - 80% solids
Maximum *capacity	Approx. 225 TPH
Treatment time (sand)	1.2 min/cell @ 225 TPH & 75% solids

No. 200	
Principle use	Dispersion of soft or loosely cemented particles
Standard impeller	51" diameter
Motor, each cell	75 -150 HP, 1800 RPM
Effective cell volume	200 cu. ft
Feed density	65% - 70% solids
Maximum *capacity	Approx. 250 TPH
Treatment time (sand)	1.7 min/cell @ 250 TPH & 67% solids

*Capacity is the number of tons per hour (dry weight) of feed that will flow through a bank of cells it depends on the density and viscosity of the pulp and is limited by the flow over the cell weirs. For a higher tonnage than maximum, two or more banks are used in parallel. For a feed of higher specific gravity than that of sand or quarts, a proportionately higher feed density is used and capacity is greater.

WARNING

Guards, access doors and covers must be securely fastened before operating this equipment. Lock out power before removing guards, access doors, and covers. Failure to follow these instructions may result in personal injury of property damage.

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