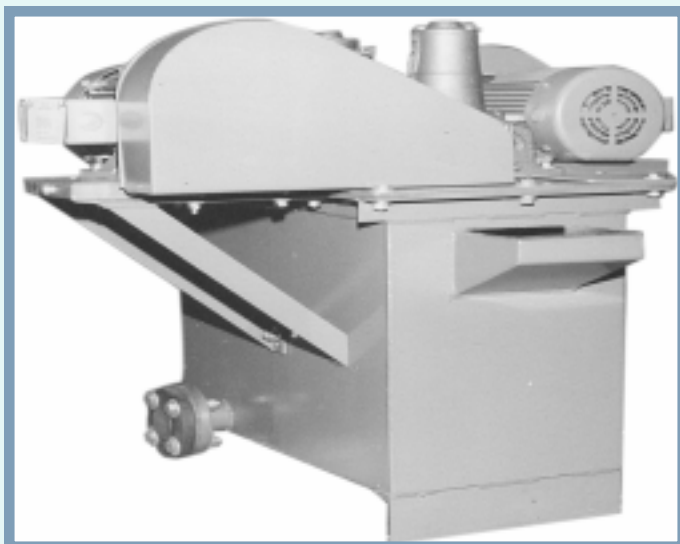




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Attrition Scrubber

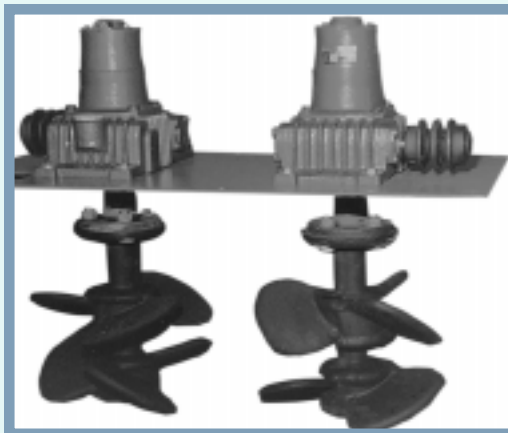


4 Cell Attrition Scrubber,
2 CF Cells

SEPOR Attrition scrubbers have found applications in mineral processing, industrial processes and chemical processes where an intensive particle surface to surface action is required to either change the surface properties of the particle or to remove contaminants or valuable products from solid particles.

Examples of actual applications include:

- * Removal of contaminants from glass sands.
- * Upgrading uranium ores by separating high grade slimes from low grade sands.
- * Removal of clay slimes from potash, phosphate and other ores.
- * Changing surface properties of solids prior to flotation, both by particle to particle interaction and by chemical conditioning.
- * Removing contaminant particles or chemicals from soils in soil remediation projects.



Opposed Rubber Covered
Propellers, Shaft

SEPOR's attrition scrubbers range in size from 1 to 3 cubic foot cells, with up to four multiple cells per bank. This size range is particularly suitable for pilot plant projects, environmental remediation projects and small production operations.

The attrition scrubbers have two opposed axial flow propellers (100% and 150% pitch) to create a high intensity impact zone between these propellers. Each particle is violently impacted with many other particle surfaces many times before discharge from the vessel. The actual scrubbing time is dependent upon residence time in the attrition scrubber.

Single cell attrition scrubbers may be operated as batch units.

Multiple cell attrition scrubber units are designed to create a continuous flow through the bank of cells. The discharge from the first cell is forced down and under the propellers of the second cell, where the flow is more upwardly and is discharged to the top of the third cell. This alternating flow pattern assures an even conditioning and efficient flow pattern throughout a multiple cell scrubber unit.

Attrition scrubber tanks are of a square configuration and do not require additional baffles.

All wetted components are covered with rubber or neoprene for abrasive resistance as well as corrosion resistance. Mild steel covers have inspection ports for viewing the scrubber in operation.

SPECIFICATIONS

Tanks are welded mild steel construction, lined with rubber or neoprene, have a feed box and flanged discharge and drain outlets.

Multiple cells may be furnished as 2 cell units (closed flow design) with a flanged discharge between the second two units. Alternatively, the attrition scrubbers may be configured in the standard method (open flow), with cells in line and flow between the cells.

Gear reducers provide the ideal speed for each diameter propeller and are totally enclosed and running in oil design.

Propeller assemblies are comprised of opposed axial flow propellers covered with rubber or neoprene, permanently fixed to a shaft, also covered with rubber or neoprene.

V-belt drives are of a fixed speed, however by changing the pulleys, varying speeds may be achieved.

Drive guards are closed type guards.

Motors are totally enclosed fan cooled, with standard electrical requirements of 230 V, 380 V, 460V/3 Ph/50-60 Hz and are mounted on supporting superstructure.

All units are prepared and painted with one coat of enamel.

Attrition Scrubber Units are shipped completely assembled.

SIZE	VOL/ CELL	HP/ CELL	CELL SIZE*	DIMENSIONS (IN.)				1 CELL		2 CELL		3 CELL		4 CELL		
				B	C	D	F	G	A	E	A	E	A	E	A	E
1	1 CF	1.5	12X12	12.75	31	4	17.5	15	19.75	24	32.5	34	45.25	34	58	34
2	2 CF	2	15X15	15.75	36	6	20.5	18	26.75	27	42.5	37	58.25	37	74	37
3	3 CF	3	18X18	18.75	39	8	23.5	21	31.75	30	48.5	40	67.25	40	86	40

* Dimensions in Inches

GENERAL ARRANGEMENT OF ATTRITION SCRUBBER

