VacuShear®

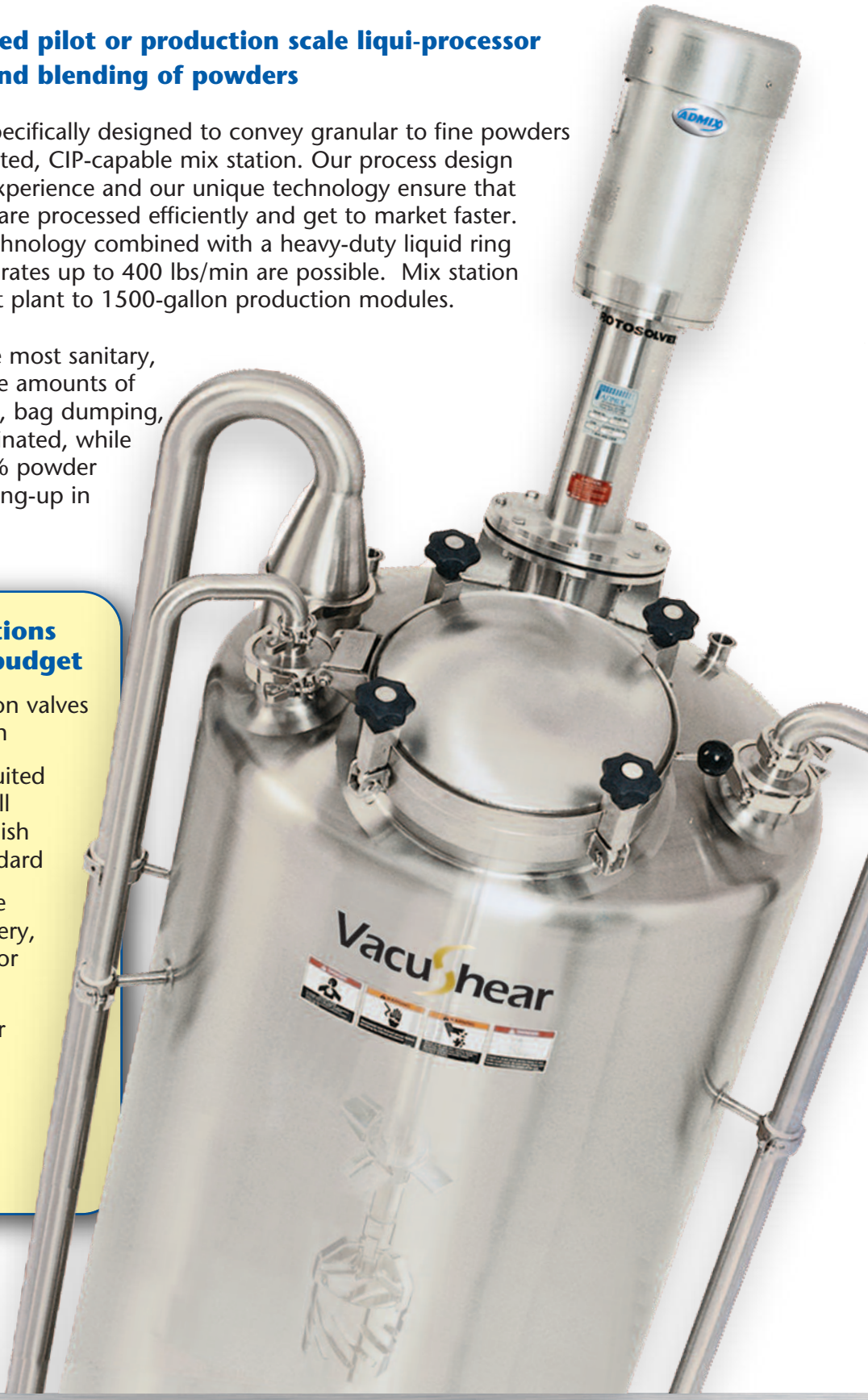
Vacuum Conveying and Mixing from Bulk Source to Mix Station

Advanced Mixing Technologies

A fully integrated, full-featured pilot or production scale liqui-processor combining rapid conveying and blending of powders

The VacuShear Liqui-Processor is specifically designed to convey granular to fine powders at high flow rates into a vacuum rated, CIP-capable mix station. Our process design expertise, decades of application experience and our unique technology ensure that your most challenging ingredients are processed efficiently and get to market faster. Using our Rotosolver dispersion technology combined with a heavy-duty liquid ring vacuum pump, powder conveying rates up to 400 lbs/min are possible. Mix station volumes range from 20-gallon pilot plant to 1500-gallon production modules.

VacuShear technology provides the most sanitary, ergonomic method of moving large amounts of powder quickly and safely. Dusting, bag dumping, entrained air and foaming are eliminated, while high intensity mixing ensures 100% powder incorporation with no bypass or hang-up in the mix station.



Models and system options to fit every project and budget

- ✔ Powder drop tube with isolation valves for subsurface powder addition
- ✔ All 316SS tank construction, suited for 14.5 psig to full vacuum, all internal welds blended, #4 polish inside and 28 outside are standard
- ✔ Fully integrated powder source options include bulk bag delivery, bag dump, or vacuum wand for drums and bags
- ✔ Rotosolver high shear disperser meets 3A® standard #73-01 for easy CIP and maintenance
- ✔ Process automation with load cell batching or loss-in-weight

The VacuShear Design Advantage

The VacuShear is manufactured to meet your specific needs and requirements, and the model design is affected by powder bulk density, slurry viscosity, conveying distances and rates.

SELECTION TABLE					
MODEL	**VS-050**	**VS-100**	**VS-200**	**VS-300**	**VS-500**
TYPICAL BATCH SIZE (GALS)	20-60	50-100	100-200	150-300	250-500
TYPICAL HORSEPOWER RANGE (HP)	5-15	10-20	10-30	15-30	20-40
MODEL	**VS-600**	**VS-750**	**VS-1000**	**VS-1500**	**VS-2500**
TYPICAL BATCH SIZE (GALS)	300-600	350-750	500-1000	750-1500	1250-2500
TYPICAL HORSEPOWER RANGE (HP)	25-40	25-50	30-50	40-60	50-75

How The VacuShear Works

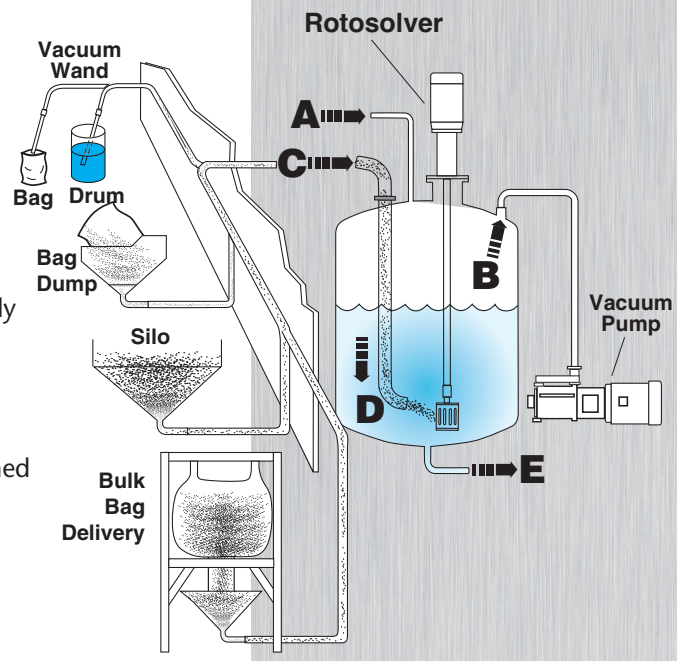
(A) Liquid materials introduced into mix tank to a level of 1/3 to full batch height. The Rotosolver is turned on from mixer control panel.

(B) Vacuum pump is engaged, and vacuum builds in the tank, providing positive suction at in-tank delivery tube.

(C) Dry powders, solids, semi-solids or liquids are introduced via the vacuum delivery system directly from bags, drums, bag dump stations, or loss-in-weight feeders. A unique benefit of the VacuShear is its ability to store and convey all materials from a remote, dry area and avoid messy clean-ups of powder additions. Powder feed rates exceeding 500 lbs/min automatically occur as vacuum is maintained.

(D) All dry materials are introduced below the liquid level immediately at mixing head. Constant vacuum eliminates aeration, foaming and dusting commonly generated by conventional processors.

(E) Once charging is complete and isolation valves are closed, the Rotosolver can be shut off or slowed down, while vacuum is maintained to allow complete de-aeration and de-foaming. When all parameters are satisfied, tank is unloaded under atmospheric conditions.



Features and Benefits

Eliminates Entrained Air and Foaming While Mixing
Vacuum introduction of dry ingredients reduces the generation of air and foam, followed by de-aeration as vacuum is maintained.

Eliminates Bottom Seal
Top-entry high shear Rotosolver completely eliminates high maintenance associated with conventional bottom entry liqui-processors. No bottom bearings or seals. No complicated orientation of drive and mixer at tank outlet.

Dust Free Features Reduce Safety Hazards
Dry ingredient hoppers, dump stations and wands are engineered to reduce or eliminate dusting typically found with bag feeding.

Ergonomic, Efficient and Sanitary
Waist-high or ground level vacuum feed stations reduce back strain and climbing accidents while eliminating paper/plastic scraps from falling into the batch.

Eliminates Manual Delivery of Powders
The vacuum system provides hands-free conveying of materials while the vacuum tank maintains positive suction directly into the mixing head.