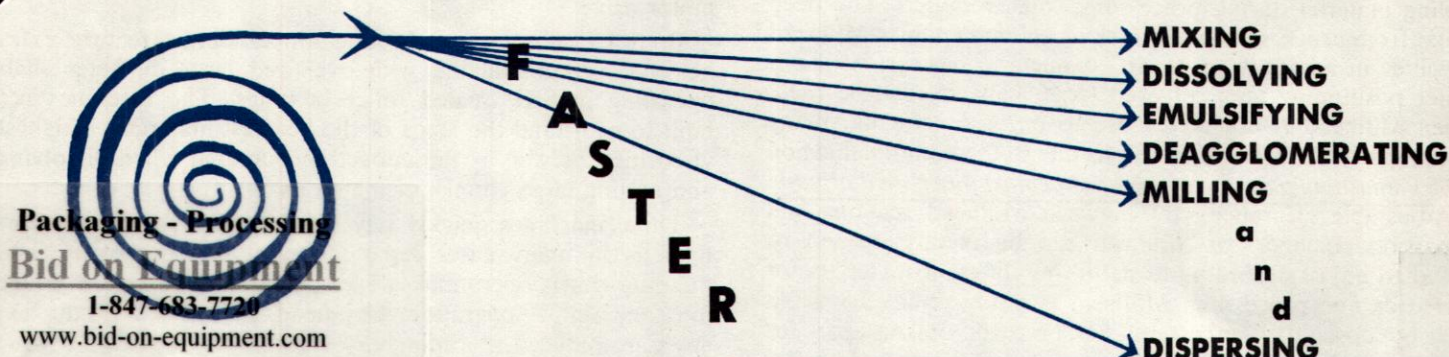


EXTRA HEAVY DUTY HIGH SPEED DISPERSER

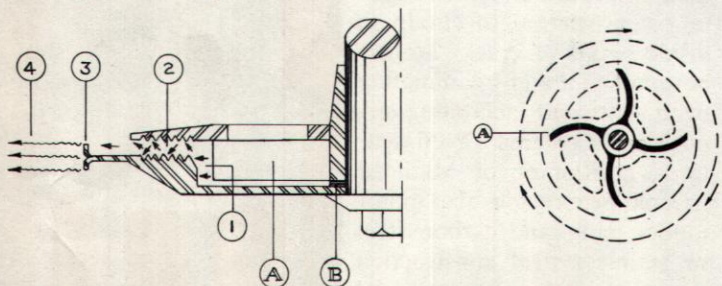
DEVELOPS TREMENDOUS IMPACT AND SHEAR FOR:



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These latest Ross variable speed units are designed for the fastest processing of all types of materials of thin or very heavy paste consistency and viscosity up to 70,000 Centipoises. They can be used either as a premixer or as a complete disperser to produce the finest ultimate dispersions up to #8 grinds (on North standard gauge) with proper formulations. Both laboratory and production size Dispersers give the most effective shearing action yet developed and assure maximum horsepower delivery to offer production many times faster than other types of High Speed Mixers and Mills.

The precision machined Ross MULTIPLE ACTION MILL-HEAD subjects the material to an action of (1) *tremendous direct impact* as material, after being shredded and broken apart in contact with Impeller vanes (A), is smashed laterally with centrifugal force against inner vertical walls of Millhead (an effect that might be compared to throwing a snowball against a brick wall). (2) *Intense abrasive action* further reduces agglomerates as material is pumped through specially machined inner chambers of Millhead (an effect similar to pushing a soft lump of material over a file or sandpaper).



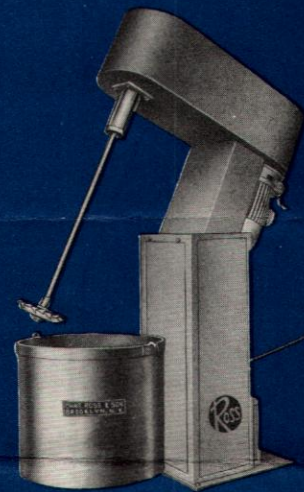
Only after these actions take place is material (3) *cut and shredded* by the outside sawteeth which in addition to the direct mechanical action also imparts extremely high velocity to the material as it is jetted out in thin streams at speeds up to 120 MPH into the slow moving surrounding mass of material for (4) *further attrition and hydraulic shear*. As the high velocity material impinges on the slow moving surrounding mass a tremendous hydraulic shear and attrition results from the violent impact and shearing of particle against particle. This hydraulic action supplements the three direct mechanical dispersion actions that have already taken place within the Millhead to greatly reduce processing time and give finer dispersions. Most pigments and dry powders are reduced to their original particle sizes and thoroughly wetted by the (1) & (2) actions within the Millhead even before being subjected to the (3) & (4) actions developed by the outer teeth.

The action of the high velocity jet streams create a circulating effect which keeps the entire batch in motion, preventing stratification, and eliminating the need of raising and lowering



#140DI Production Size (50-500 gal.)
 Disperser in operating position.

the Impeller in tank as is necessary with other type of High Speed disc type Mixers. The efficient pumping action developed by the vanes within the Millhead provides continuous recirculation of all material through the Millhead where further attrition and dispersion occurs, and a perfectly uniform finely dispersed batch is produced in a very short time. Special Millhead design and speed control maintains the proper amount of vortex, without incorporation of air into the product.



#140DI Disperser raised for removal of tank.

With the special Multiple Action Millhead these machines disperse as no single action high speed Mixer can. The (4) or (5) impact and shearing actions developed by the Multiple Action Millhead prove to surpass results obtainable in rotor-stator type processing equipment, while offering greater ease of cleaning. Also the Millhead can be positioned and locked anywhere in the batch to control flow, vortex, and entrapment of air.

With the #140DI production size Dispenser tanks can be furnished in any size up to 40" diameter x 45" deep; either round, octagonal, or square with rounded corners. Tanks are furnished jacketed on sides and/or bottom for heating or cooling material during processing, when required. The deep throat from center of shaft to face of column enables Millhead to center in any tank up to 40" diameter, however, with off-center positioning tanks of even larger capacity can be used. When Millhead is operated close to one side of tank, many users report even faster dispersions due to the additional action of (5) *smashing particles of material against inner shell of tank.*

Adjustable clearance (B) between Millhead sections and dispersion chambers of Millhead can be readily opened or closed to adjust according to nature or different materials for coarse or fine processing. Millhead is easily removable from shaft by loosening one bolt and can be readily taken apart for cleaning. Self cleaning effect of the rotary action keeps Impeller free of plugging from solids. For most applications cleaning is achieved by revolving the Millhead in an empty tank or operating in solvent for 1-2 minutes. Millhead, shaft, and all parts coming in contact with material are of stainless steel construction.

Both Laboratory and Production size Dispensers incorporate a built-in hydraulic jacking unit to quickly raise Millhead from tank or to lower into operating position. The hydraulic raising device is compact, fast, and simple to operate. On the #140DL Laboratory Dispenser the Millhead and entire drive assembly

are raised vertically 14"; while the Millhead and drive assembly on the #140DI Production size Dispenser first raises vertically 20" and then arcs back to enable the use of large tank sizes. On both units the Millhead can be located and locked at any required depth in tank.

Variable speed motor drive is furnished as standard on all Ross Dispensers. The #140DL Laboratory size unit incorporates standard motor operating through "V" belt drive with variable pitch sheaves; while the #140DI Production size unit is driven by a U.S. Varidrive motor operating through variable pitch sheaves. Shaft and Millhead speeds are easily set or adjusted as required by merely turning handwheel at back of motor drive.

Both Laboratory and Production size units feature extra heavy duty construction with oversized large diameter shaft operating in SKF sealed roller bearings. The machines are built to withstand the loads of the heaviest material or highest viscosities, as well as the impact encountered when dissolving and cutting large chunks of material.

These machines quickly pay for themselves within a short time as in many cases separate premixing, dispersing, and thinning down operations are combined in the one machine into one simple operation. Overhead, labor, and production costs are reduced accordingly.

Let us prove the superiority of Ross Dispensers to you. Send us a test sample of your material and we will demonstrate the results obtainable — or in certain cases we will install a Dispenser in your plant to demonstrate how these units will deliver better results for you.

GUARANTEE:

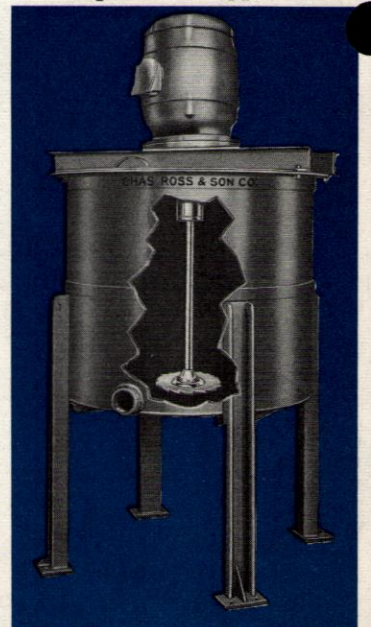
As with all Ross equipment each Dispenser is guaranteed for one year from date of shipment, and we will replace within that time any part proving defective either in material or workmanship.



#140DL- 5 gal. Laboratory size Dispenser.

STATIONARY TANK TYPE DISPENSERS are furnished complete as one unit as shown. They are available in any size and with various optional features to fit particular applications.

Ross Multiple Action Millhead of special diameter and speed is provided for most effective action as described above. Tanks are furnished with or without jackets. Bottom of tank incorporates special sanitary construction to eliminate inside seams or cracks around bottom and thereby eliminating dead spots and facilitating circulation. Centered or off-centered positioning of Millhead in tank, neoprene rubber motor mount pads, and carbon steel or stainless steel construction are some of the other optional features that are furnished according to individual requirements.



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SPECIFICATIONS CHART

Machine	Maximum Capacity (centered)	Std. Motor	Maximum Motor Size	Variable Speed Range	Shaft Center to Column	Ht. of Millhead Off Floor (or base-plate)	Rise of Millhead	Overall Length (less tank)	Overall Width (less tank)	Height Overall Raised	Height Overall Lowered	Weight on Skids	Weight Boxed	Cubic Meas. of Box
#140DL Lab. Size	14" dia. x 14" deep	1 HP	2 HP	884-2654 RPM	7¾"	1"	14¼"	39"	13"	38¼"	24"	335 Lbs.	430 Lbs.	10 cu. ft.
#140DI Prod. Size	40" dia. x 45" deep	7½ or 10 HP	40 HP	650-3260 RPM	21½"	2½"	47"	62"	24"	125" (for 40" deep tank)	72"	1395 Lbs.	1675 Lbs.	110 cu. ft.

*Weights and sizes given are for the Dispensers with standard size motor drives. Weights and sizes of special Dispensers or those having special oversized motor drives can be obtained on request.

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