

Model 2005/50 Lab Dispersator

High-Performance, High-Speed

Our line of Laboratory Dispersators produce consistently repeatable dispersions through faster mixing action and improved motor performance. The high-performance, high-speed unit ensures constant mixing speed regardless of product weight, viscosity or other variables. It circulates and shears dispersions and emulsions with ease, blending materials faster than other laboratory dispersers.

The Laboratory Dispersator breaks up agglomerates, reduces particle size, overcomes surface forces and speeds up chemical reactions involving insoluble materials. It even shears off swollen, half-dissolved layers formed by gums, resins, rubber and other difficult dispersion materials. A standard for any laboratory or pilot plant set-up. Interchangeable mixing heads with "Stub Shaft" design for quick change outs. See back page for mixing head examples.

Model 2005/50 Common Features:

- 1 HP open universal motor. (non-explosion proof)
- Runs up to 10,000 rpm's to wet-out difficult products.
- All 316 SS wetted components.
- Heavy-duty base, column and bracket arrangement.
- Durable, light-weight, cast aluminum motor housing grip and quick-release clamp for fast, simple height adjustments of blades.
- 1-1/2" and 2-1/2" diameter high-vis heads included.
- Container holding device is included to secure vessels from 1 pint to 5 gallons.

Model 2005 Controller Features:

- Digital speed monitoring.
- Large L.E.D. readout indicates speed, percent load or elapsed time.
- Extended low speed capacity to approximately 500 rpm with accurate control. (10,000 rpm max. speed)
- Automatic return to low speed in the event of communication loss.
- Safety feature prevents accidental high speed startup.

Model 50 Controller Features:

- Low cost, manual speed control.
- Dependable and easy-to-use.
- 1 to 120 reference scale.
- Optional mechanical tachometer available for speed monitoring.



**Model 2005
Controller**
*Style of controller
subject to change.*



**Model 50
Controller**



Principles of Operation

Simplex and Duplex Heads: Both are carefully balanced precision slotted cylindrical heads with internal baffles and both rotate at high speed. Performing much like a submerged centrifugal pump, fluids are pulled into the head and centrifugal force whirls the material radially out through the precision slots. Double shearing: First, hydraulically sheared as it passes through the narrow, vertical slots and second, by radially exiting “blades” of material knifing into the lower velocity liquid mass. Double shearing and at high pumping rates. The result: high intensity action, faster and more thorough mixing, dispersing and emulsifying.

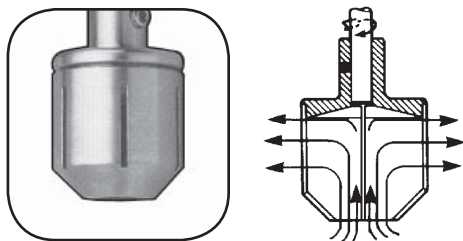
Hi-Vis Head: This head has a rotating flat disc with carefully angled teeth along the periphery. When thick liquids and high percent solids suspensions are being dispersed, the high inertial drag (between the numerous material layers, the spinning disc and the immediately adjacent layer) a shearing action is created. Additional shearing action occurs as the teeth “cut” the radially moving layers. Particularly designed and engineered teeth (both shaped and angled) move the product rapidly around the tank. The product being mixed comes in contact totally with the high speed disc and is effectively and efficiently sheared. The result: very high shearing action is quicker and more complete dispersions.

Rotor/Stator Head: The Rotor/Stator flow pattern is bottom suction with horizontal discharge. The rotor draws liquid from the bottom of the mixing vessel into the center of the stator housing. The liquid/solids mixture is accelerated by the rotor and discharged through the stator slot openings by centrifugal pumping force. Suspended solid particles are exposed to mechanical shearing forces when impacted by the high speed rotor, or crushed between the rotor and stator housing. The result: a powerful combination of mechanical and hydraulic shear.

Choosing the Right Mixing Head

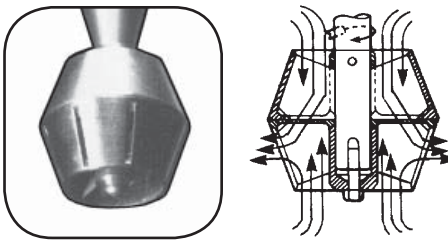
Simplex Head:

- Disperses material heavier than the suspending liquid. Excellent for low viscosity emulsifying and liquifying.



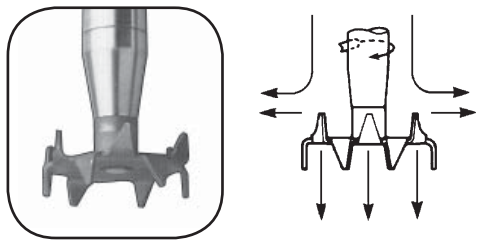
Duplex Head:

- Disperses material that float and sink. Excellent for mixing low viscosity materials with solids that tend to settle.



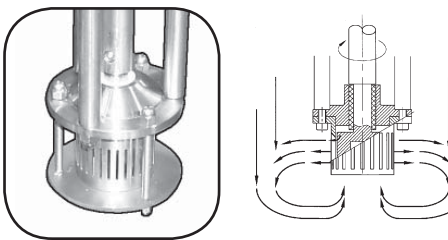
Hi-Vis Head:

- When maximum shear is needed, for medium viscosity liquids from 1,000 to 50,000 cps.



Rotor/Stator Head:

- Disperses, emulsifies and reduces particle size in low viscosity products which require a higher level of shear.



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For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.premiermill.com.

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