ViscoMAX™ multi-shaft mixers

Product Guide

ULTIMATE MIXING AND UNIFORMITY BATCH AFTER BATCH

MorehouseCowles ViscoMAX multi-shaft mixers are designed for dissolving extremely high viscosity materials of up to 4,000,000 cP. These mixers feature two to three shafts with each having its own specific function to ensure complete homogeneity. Dual or triple motor designs are power matched to your process requirements so you are assured of adequate power availability and efficiency.

SHAFTS

ViscoMAX mixers come standard with two shafts: A high-speed impeller that swirls ingredients throughout the tank and a second, low-speed anchor blade that wipes the vessel walls and pushes product continuously into the high-shear zones for thorough mixing. An optional third shaft can be added to control heat buildup. This intermediate speed shaft mixes product 50% faster than most two-shaft models and works especially well with higher viscosity materials. This eliminates dead and hot spots in heat or shear-sensitive products. Use all three blades simultaneously, or turn off the high-speed impeller to only use the sweep and third shaft when shear is not required. The third shaft is available in standard and custom styles depending on the application.

CUSTOM CONFIGURE YOUR VISCOMAX

These advanced systems are highly customizable to fit your specific needs. Our technical experts are here to help determine the best configuration to provide you with the best mixing power. From shaft speed or horse power, to tanks, impellers and sweep blade designs, we can help match the technology to your product mix.

Made in the USA

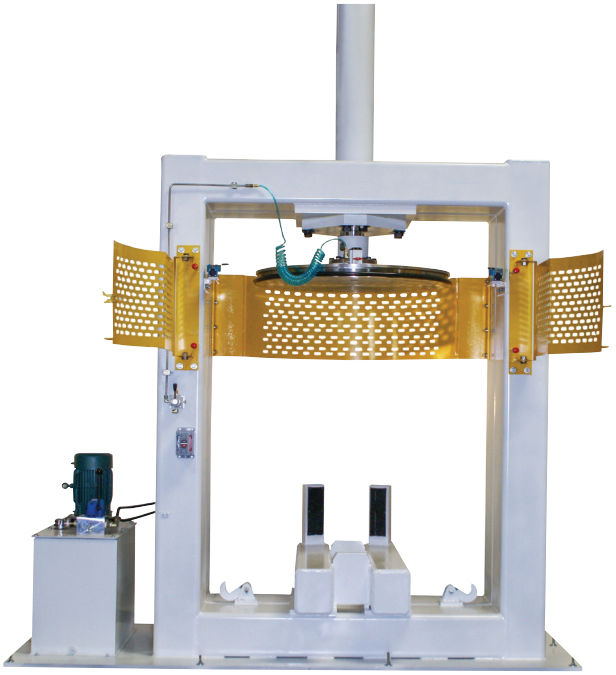
QUALITY IN DESIGN AND CONSTRUCTION

Quality shines through every part and every weld. No one builds a multi-shaft dissolver with more attention to detail than MorehouseCowles. We use more steel than most manufacturers, our welds are strong and our parts are finely machined and fitted. The dual or triple motor designs are matched to your process requirements so you are assured of adequate power availability and efficiency.

RAM DISCHARGE

More product to sell, less to waste

Your heavy, viscous products can be effortlessly removed from the tank when you activate the MorehouseCowles hydraulic Ram Discharge System. With a powerful push, your product is forced out of the dispersion tank so it takes less labor and time to empty and clean your equipment.



SPECIFICATIONS

	VML-1	VML-5	VML-10	VML-25	VML-50	VML-100	VML-250	VML-500	VML-750
CAPACITY GAL (LITERS)	0.25 – 0.75 (0.94 - 2.83L)	5 (18.92L)	10 (37.85L)	25 (94.6L)	50 (189.2L)	100 (378.5L)	250 (946.3L)	500 (1892.7L)	750 (2839L)
TANK SIZE - FLAT BOTTOM	6.5" ID X 8" H	12' ID X 14" H	16' ID X 16" H	20" ID X 26" H	26' ID X 28" H	32" ID X 38" H	44" ID X 50" H	60" ID X 60" H	64" ID X 68" H
HP* (HIGH-SPEED)	2	5	7.5	10	15	25	50	60	100
HP* (LOW-SPEED)	1	3	5	7.5	10	15	30	40	60
SPECIAL FEATURES	– Dual and triple motor designs for adequate power – Energy efficient – Variable speed – Designed for easy, less costly maintenance – Glass filled Teflon™ scrapers mounted on slow speed blade for sides and bottom of tank – Thermowell attached to cover, with digital readout.								
SAFETY FEATURES	– **VML-5 or larger only:** Tank holder with limit switch – will not run if tank is not in place, and locator pin – tank will always be centered in place – Lift height limit switch – will not run if unit is raised – Drive guard – covers belts and pulley								

*HP is based on equipment mixing a maximum viscosity of 250,000 cP

OPTIONS:

LIFT

1. Tank-mount designs
2. Hydraulic lifts for easy tank change: Single or dual hydraulic lifts in either air over oil or electric hydraulic powered

DRIVE

1. Variable speed drives are available in variable frequency motor drives
2. Remote drive controls for all drives

SHAFTS

1. Third shaft
2. Custom options: augers, gate blades, butterfly mixers, rotor-stator and axial turbines

TANKS

1. Temperature controls
2. Cooling and heating jackets
3. Spare tanks
4. Ram discharge press

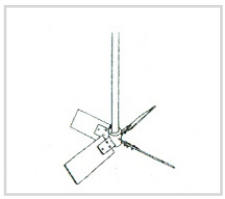
OTHER

1. Vacuum powder loading tube

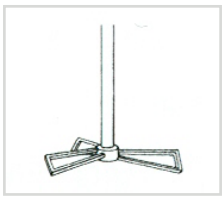
Blade options

LOW-SPEED STYLES

Low-speed impellers come in a variety of designs, each configured to do a particular job.

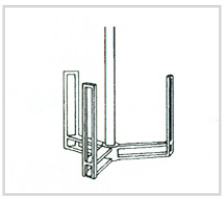


Axial Turbine

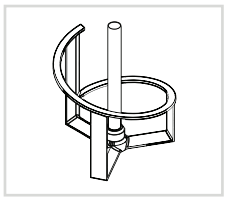


Bow Tie

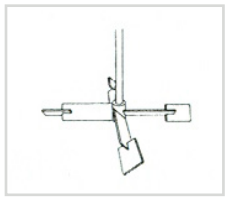
Curved Radial



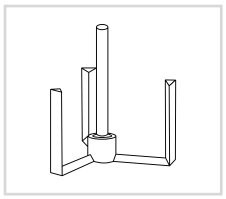
Flat Bar Sweep



Helical Sweep



Pitched Blade



Tri-Section Sweep

Axial Turbine
The axial turbine blade design pushes product from top to bottom.

Bow-Tie
One of the oldest low-speed blade designs for viscous product mixing, the "bow-tie" or "butterfly" provides good shear and mixing for moderately viscous products such as inks, auto body filler, synthetic marble and other high volume products.

Curved Radial
The curved radial blade design pushes the product from the center of the batch towards the outer wall of the tank. The curved blades help accelerate product movement.

Flat Bar Sweep
The bars are slightly angled to provide vertical flow and promote product movement around the tank. This design is used for more viscous products where the material being mixed must be pushed around the tank to the high-shear impeller.

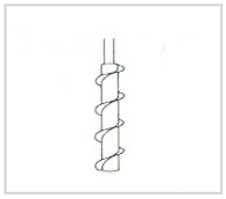
Helical Sweep
The helical sweep design creates excellent side-to-center and top-to-bottom or bottom-to-top movement.

Pitched Blade
This blade design produces strong downward pumping action in the center of the tank while lifting the product on the outer edge.

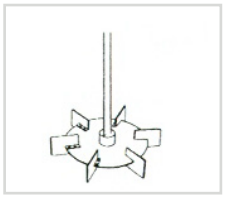
Tri-Section Sweep
For use with a very viscous product or where clean-up is a major consideration. Each arm of this impeller has a triangular cross section that is hollow for weight saving, but still strong and does an excellent job of moving product around the tank.

INTERMEDIATE-SPEED

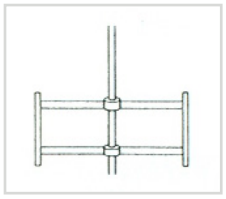
Intermediate-speed mixing blades are almost always used in conjunction with a sweep blade and high shear blade in a three-shaft machine. The third shaft allows the side-by-side mixing shaft for more challenging products which would otherwise only be mixed by planetary machines.



Auger Shaft



Disc-Mounted



Gate Blade

Auger

The Helix shaped auger, similar to that used in a screw conveyor, has several desirable qualities. Almost always used in vacuum machines with extremely viscous products, the auger does a superb job of pumping "up" or "down" and can be reversed when used with a reversing motor starter.

Disc-Mounted

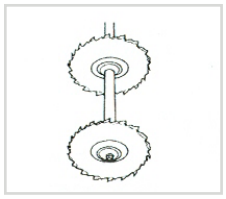
The disc-mounted blade is used for products with lower viscosity and to push the product from center to the outer wall.

Gate Blade

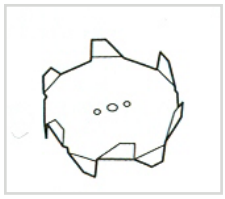
This "upside-down-tuning-fork" shaped blade is used on the third shaft where vigorous beating is required. While the gate blade doesn't provide good vertical mixing, it is excellent in promoting wall-to-center mixing and is easy to clean.

HIGH-SPEED STYLES

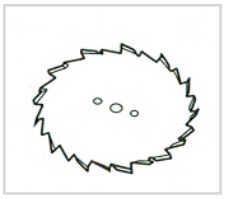
Our high-speed impellers are used for ultimate dispersion, mixing, dissolving, emulsifying and de-agglomerating.



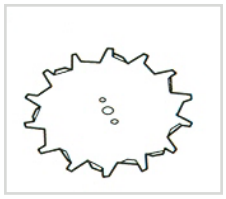
Dual Hi-Speed



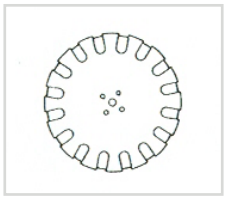
Hi-Vane



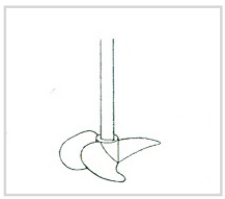
Hi-Shear



Pick



POLY-PELLER™



Propeller

Dual Hi-Speed Impeller

The dual impeller design is used when a tank is tall and narrow to get even dispersion throughout the batch. It is also used for higher viscosity products that can be difficult to achieve full dispersion and a single blade does not have enough pumping capability.

Hi-Shear Impeller

The go-to blade of our line, whether dispersing low or high viscosity materials or mixing dry-to-liquid or liquid-to-liquid products, it offers the best combination of pumping and high shear.

Hi-Vane Impeller

Hi-Vane Impellers fill the intermediate range between low-speed and high-speed mixing. High-volume pumping action and radial flow promote better blending, while low shear minimizes temperature rise.

Pick Impeller

For rapid dispersion of fibrous materials or solid materials such as rubber, MorehouseCowles pick impeller alternates high-shear vanes with sharp horizontal blades for rapid cutting.

POLY-PELLER™ Impeller

The POLY-PELLER is used for similar applications as the hi-shear impeller, but it is designed for abrasive applications such as water-based, solvent-based, titanium-dioxide dispersions, or where the products cannot be in contact with metal.

Propeller

The propeller design is primarily used in low to medium viscosity products where aggressive product movement is needed, either top-to-bottom or bottom-to-top mixing.

Made in the USA

For more information, visit **morehousecowles.com** or contact MorehouseCowles experts today at **sales@morehousecowles.com** or **+1 (909) 627 7222.**

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