

# ALFA LAVAL VORTEX

Exclusive Distributor

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Single source supplier for complete drilling fluids mixing systems



The Alfa Laval Vortex range delivers a new standard in safer and more efficient mud mixing – a clean break from mud rooms of the past. Engineered to work together, our fully integrated blending systems offer the fastest, safest, cleanest way to reduce overall mud mixing costs, as well as maximize rig productivity and profits. We are your one-stop source for complete mud mixing, dust recovery, tank mixing and agitation, and bulk storage and transport systems for offshore and onshore applications.

System know-how:

- Proprietary and patented products result in exceptional operations and provide optimal drilling fluids performance
- Experience in designing and operating mud mixing equipment on land and offshore
- Superior engineering, manufacturing and compliance expertise
- Commitment to HSE, service quality and performance

Improved efficiency with advanced technologies

The Alfa Laval Vortex range of drilling fluids mixing systems are designed utilizing innovative and patented technologies, as well as high quality materials of construction that provide corrosion resistance in even the most hostile environments. These technologies ensure ultimate blending performance that helps to eliminate the loss of product, reduce drilling costs and realize significant savings in mud mixing – while creating a cleaner, healthier work environment.

Patented technologies

## Alfa Laval Vortex Lobestar Mixing Nozzle®

Effective in performing more than one function, the Alfa Laval Vortex Lobestar Mixing Nozzle is capable of suspending solids in a liquid, blending and emulsifying liquids, as well as dissolving polymers, powders and granular materials in a liquid environment. With its unique geometry, this patented three-dimensional nozzle generates a more turbulent pattern – resulting in a more homogeneous product.



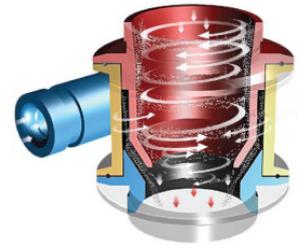
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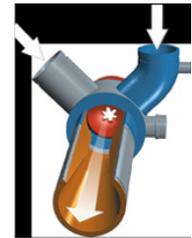
## Alfa Laval Vortex Radial Premixer

The Alfa Laval Vortex Radial Premixer pre-hydrates chemical additive particles, preventing clumps of additive particles from appearing in the mixed fluid as fish eyes or microgels. It also helps reduce air entrainment through the Alfa Laval Vortex Lobestar Mixing Eductor, and eliminates dust when used as a high rate mixer for bulk barite. The swirling flow pattern and resulting vortex of air, powder and fluid created by the premixer provides initial hydration of the product, and results in complete product mixing to ensure ultimate blending performance.



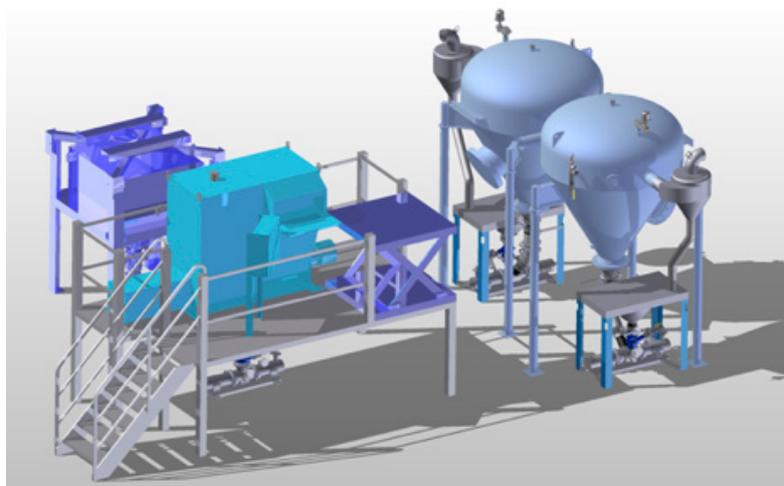
## Alfa Laval Vortex Lobestar Mixing Eductor®

With its innovative design, the Alfa Laval Vortex Lobestar Mixing Eductor incorporates a patented three-dimensional nozzle to generate a more turbulent mud mixing pattern – resulting in near perfect vacuum strength, more uniform blending, and rapid hydration in mud mixing liquid and slurry applications.



## Complete drilling fluids mixing systems

The Alfa Laval Vortex range of solutions are designed and manufactured to be fully integrated drilling fluids mixing systems for all mud mixing and blending, dust recovery, tank mixing and agitation, and bulk storage and transfer applications.



## Mud mixing and blending

The mud mixing and blending solutions provide a superior system – utilizing proprietary technologies to mix faster, while delivering complete hydration and a more homogeneous, consistent drilling mud that improves drilling and mud mixing efficiency.

Advantages:

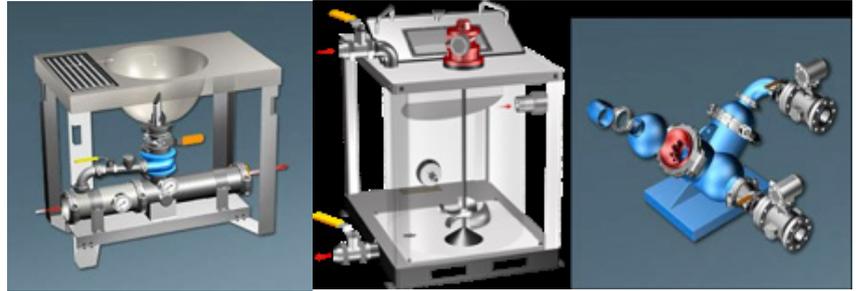
- Reduces overall drilling fluid and mud mixing costs by reducing mud mixing product loss through dust recovery and containment
- Patented Alfa Laval Vortex Shear-Mixer consistently outperforms other mud mixing systems – while delivering a more homogeneous and consistent drilling fluid
- Shear mixing combined with the dust containment capabilities, consistently reduce overall mud mixing cost – due to more complete hydration and shearing of the drilling fluid, while minimizing solids fallout

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Systems:

- Alfa Laval Vortex Shear-Mixer
- Alfa Laval Vortex DS Shear-Mixer
- Alfa Laval Vortex Mixing Head
- Alfa Laval Vortex V-Slide
- Alfa Laval Vortex HR
- Alfa Laval Vortex MOTF
- Alfa Laval Vortex Mixmate
- Alfa Laval Vortex Lobestar IME
- Alfa Laval Vortex Lobestar Hopper
- Alfa Laval Vortex LCM



## Dust recovery

On average, up to 15% of bulk drilling fluid additives can be lost in the form of dust during transport, storage and mixing. The full suite of dust recovery systems help with the elimination of dust in the mud mixing process.

Advantages:

- Ensures a dust-free environment
- Safe, reliable and rapid speed mixing capabilities
- Eliminates mud additive loss
- Creates a clean and healthy work environment

Systems:

- Alfa Laval Vortex DFSM
- Alfa Laval Vortex DRS



## Tank mixing and agitation

Drilling mud agitation is necessary for drilling mud maintenance, such as removing drilled solids. This ensures complete mixing, while maintaining a homogeneous fluid blend throughout the entire surface mud system. These tank mixing systems offer unique tank mixing eductors, as an alternative to the more traditional mechanical paddle agitators, which are large, require additional support structures, and can create dead spots in mud pits where settling can occur.

Advantages:

- Considerably lower in cost with a smaller footprint
- Low-pressure mud guns result in up to four times the total fluid movement and upward velocity in drilling mud pits
- Use as primary means of pit agitation or as a compliment to an existing mechanical agitator to eliminate dead spots
- Unique models available featuring mud agitation coupled with dynamic fluid shearing

Systems:

- Alfa Laval Vortex Radial Eductor
- Alfa Laval Vortex PS Radial Eductor



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## Bulk storage and transport

The storage and pneumatic transport of bulk dry drilling product to and around offshore drilling rigs and large land drilling rigs is a necessity. The advanced conveying and bulk handling systems efficiently transport and store materials required to produce efficient drilling fluids.

Advantages:

- Improved productivity, providing time and safety benefits
- Rapid mixing of mud additives directly from bulk bags and storage silos
- Dust minimization
- Increase in bulk transfer rates

Bulk storage systems:

- Alfa Laval Vortex BBS
- Alfa Laval Vortex PD tanks and silos Transport systems
- Alfa Laval Vortex Bulk Booster
- Alfa Laval Vortex Booster Elbow AE



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## Advanced automation

Our automated controls deliver complete integrated solutions for the mud mixing process – controlled through fully automated systems, and configured to meet customer specifications. With a single-point of contact, the core automation team is available to ensure the consistent and efficient ease-of-use for operating personnel.

Full system automation improves the accuracy, precision and helps to reduce the operating costs of the mud mixing process. It ensures less exposure to chemicals and other hazards, as well as reduces human error. The automated controls also help to minimize chemical losses and optimize mud use for an improved working environment.

## Extending performance with a trusted partner

Trusted around the world, oil and gas companies, drilling contractors, engineering and construction companies have counted on our drilling fluids mixing systems to outperform all others for many years. With the global strength and reach of Alfa Laval, these innovative systems are more robust than ever — providing even greater levels of service and quality support, experienced and knowledgeable sales resources, as well as a worldwide customer support network. We help to extend system performance, deliver maximum uptime and optimization, as well as offer a suite of innovative Performance Agreements and service solutions.

## Safety

The innovative drilling fluids mixing systems set new standards, not only in mud mixing efficiency and productivity, but also in mud mixing safety. From the Front End Engineering Design (FEED), we continuously find new methods for mitigating potential risks on the rig – while making the system user-friendly and safe for operating personnel.

## Knowledgeable sales force

Our sales force has the knowledge and experience to guarantee systems meet customer specifications and requirements – every time. Alfa Laval specialists are available to provide more information about our complete offering to advise on the optimal systems for your operations.

## Service and quality

Support is available 24/7, 365 days a year for the full line of drilling fluids systems – delivering peace of mind around the clock. Dedicated staff will work closely with suppliers and customers throughout the entire system lifecycle – including supply, delivery and installation, as well as the maintenance and service of the equipment. Extending performance to help minimize operational, environmental and safety risks is our top priority.