

# Mixing Technologies

## Water & Wastewater Treatment Solutions



**NOV**



# Reliability and Technology in Mixing

Mixing Technologies, a Group of NOV, has been designing and manufacturing standard and customized fluid agitation equipment and systems for over 60 years. We are recognized as a leader in advanced mixing solutions for the municipal and industrial water and wastewater treatment industries.

Our engineers and field representatives have extensive application expertise in the industry. They apply a breadth of proprietary application evaluation methodologies in analyzing customers' fluid processing requirements to optimize every solution.

Backed by extensive research and a proud heritage for technical innovation, we have a proven reputation for product design and manufacturing quality that ensures outstanding performance and long service life for overall low total cost of ownership.

Through the combination of quality mixing products, application experience and exceptional customer service, we can satisfy all of your water and wastewater treatment applications. For reliability and technology in mixing, we have the solution.



*HT agitators working to treat waste and suspend solids at an Arizona treatment facility*



*Colorado water processing plant utilizing Model 20 GT agitators*

## Impeller Design and Technology

Our impeller designs are the result of over six decades of research and applied application experience, resulting in the broadest range of durable and efficient impeller options. Proprietary technologies are applied to thoroughly analyze all process parameters, ensuring proper impeller selection for optimal performance in every application. Carbon steel, 316/316L stainless steel, high alloys and coatings are available for all impellers.

Our mixing expertise includes high flow, low shear blending, gas dispersion, solids suspension, high shear blending and viscous mixing. Whether it is R&D or production phase, we have the expertise to solve your mixing challenges.

The RL-3 ragless impeller is specifically engineered to prevent fibrous material build up. This is accomplished through several key product design

features that eliminate any edges or protrusions that would allow fibrous material to agglomerate. Some of the design features include:

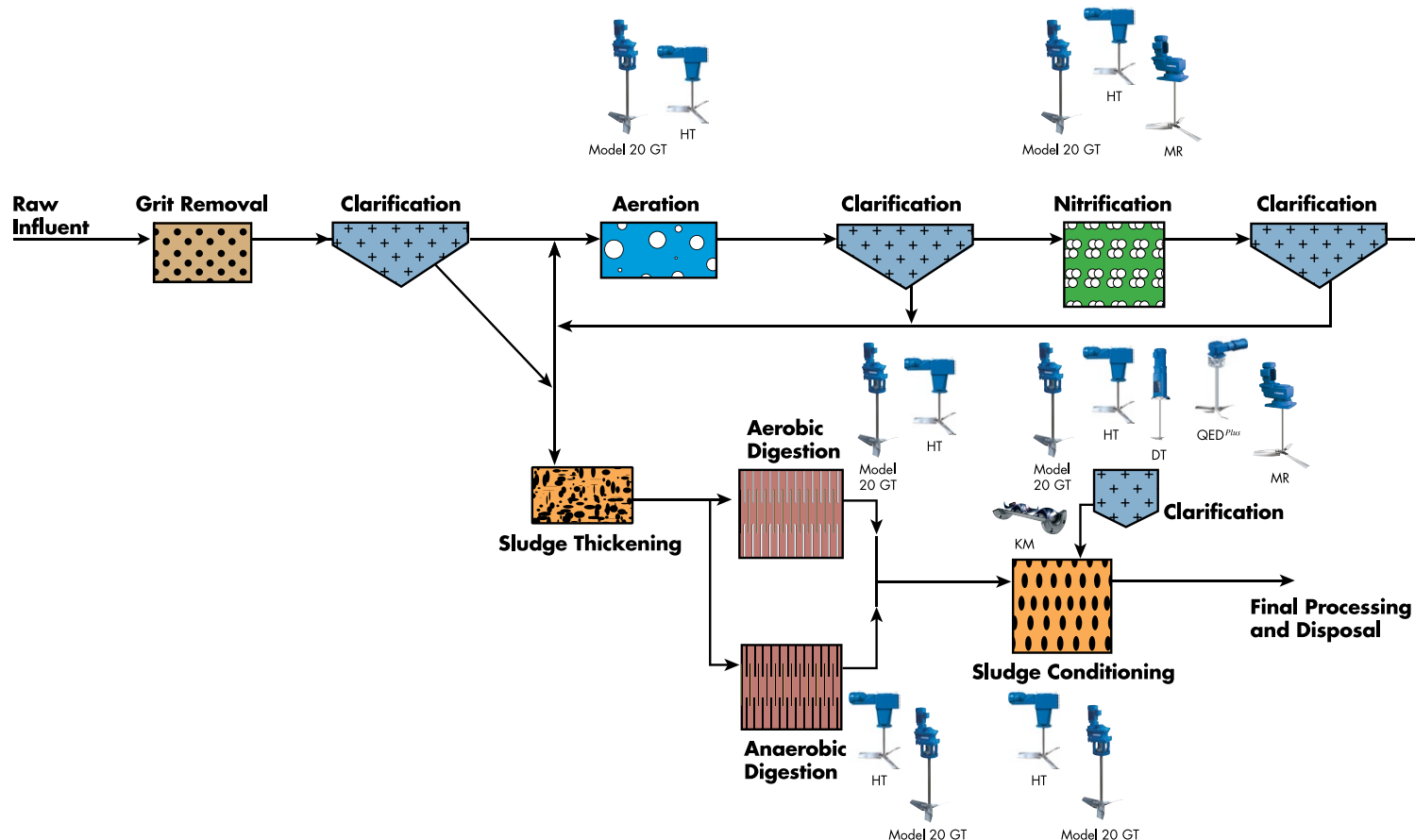
- A sweeping leading edge on the impeller blades
- A swept back connection to the central hub
- Welded design or bolted design with non-protruding fasteners
- High axial flow RL-3 impeller for superior mixing performance in blending and solids suspension applications



*RL-3 provides rag free mixing minimizing downtime*

# Mixing Technologies Provides Solutions Throughout Water

## Wastewater Treatment Process Flow



## Technical Support and Replacement Parts

A dedicated team of experienced technical support staff provide a full range of services to help achieve your operating performance goals for your mixing processes. We offer multiple options to get your process back up and running in the event of a breakdown. A network of highly trained field service technicians are ready to deploy to assist your maintenance crews with repairs or troubleshooting. Our staff is also trained and qualified to install your agitation equipment on site if needed.

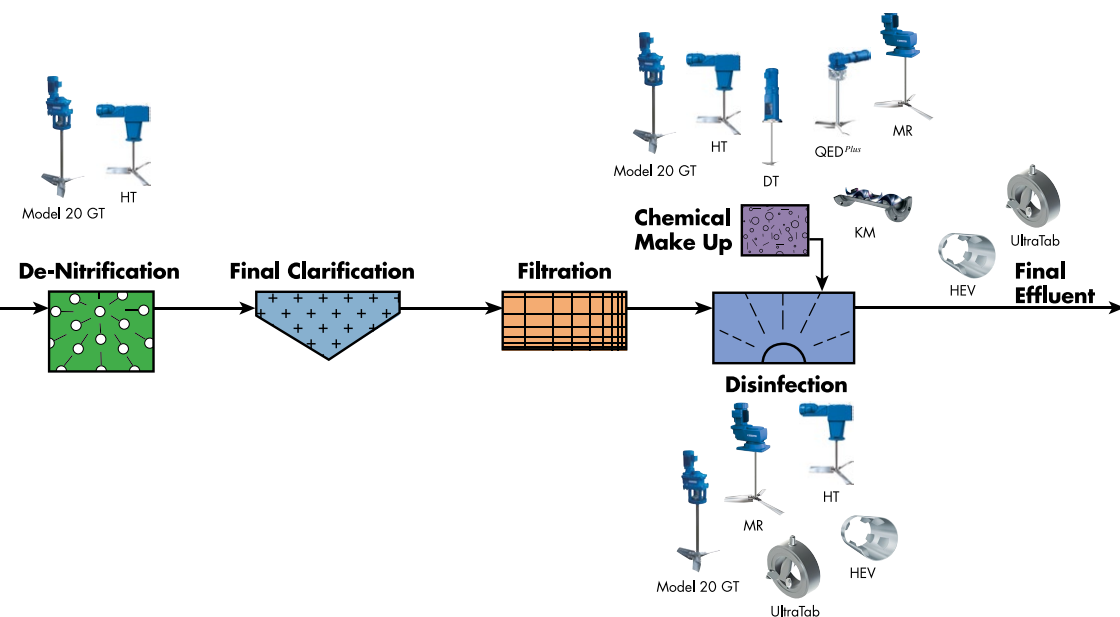
We offer a wide variety of services including:

- A large inventory of genuine Chemineer and Kenics replacement components, subassemblies and gearboxes
- 24 to 48 hour shipment on stocked replacement parts
- A refurbished gearbox program that allows you to exchange your old gearbox for a completely refurbished unit guaranteed at a cost savings for you
- Service centers are available for repairs, failure analysis, and replacement assemblies

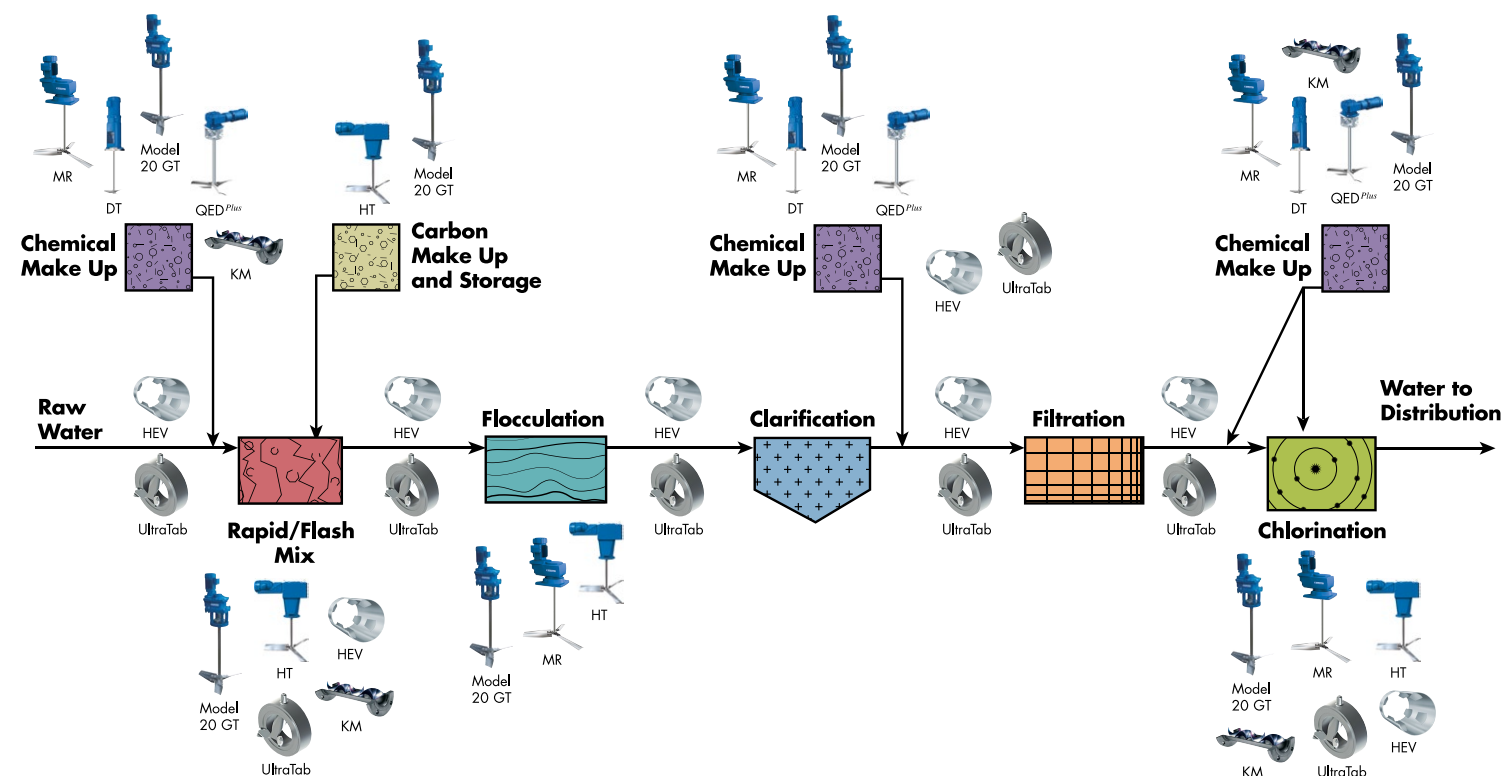


*UltraTab mixing alum into water at a Colorado municipality*

# and Wastewater Treatment Processes



## Water Treatment Process Flow



# Extensive Product Range

Our extensive line of Chemineer™ agitators, with advanced impeller design options, and Kenics™ static mixers for water and wastewater treatment applications provide unique advantages and extend the range of effective mixing solutions available.

## Chemineer



### HT

- Rugged, field proven gearbox design with hardened helical and spiral bevel gear sets
- Drive sizes from 1 to over 1,000 HP
- Speeds from 5 to 350 rpm



### Model 20 HT/GT

- Double and triple reduction gear drive designs with hardened helical or spiral bevel gears
- Right angle or parallel shaft configurations
- Drive sizes from 1 to 75 HP
- Speeds from 8 to 350 rpm



### QEDPlus

- Proprietary worm gear drive
- Cast iron housing
- Drive sizes from 1 to 5 HP
- Speeds from 17 to 175 rpm



### MR

- Parallel shaft drive with helical gearing
- Drive sizes from 3/4 to 100 HP
- Speeds from 7–380 rpm



### DT

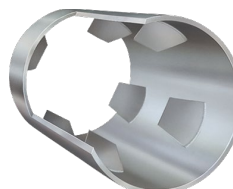
- Top entering fixed mount, right angle drive and portable configurations
- Drive sizes from 1/4 to 5 HP
- Flexible selection of output speeds

## Kenics



### KM

- Provides uniform blending or dispersion for any combination of liquids, gases or solids
- Eliminates gradients in concentration or temperature across a wide range of flow regimes
- Alternating helical construction from a wide variety of materials including metal, PVC, FRP, and PTFE



### HEV

- Tab geometry maximizes the conversion of turbulent energy into efficient mixing
- Adaptable to a variety of line and open channel shapes and sizes
- Ideal for applications where pressure loss and length are critical



### UltraTab

- Compact design and short mixing length saves pipe lengths and optimizes plant layout
- Low pressure drop through the UltraTab element enhances energy efficiency of the process and saves pump energy
- Multi-point injectors are optional for mixing several additives to the main flow

<p> <b>Chemineer</b>          7909 Parkwood Circle Drive          Houston, Texas 77036          USA          +1 937 454 3200  <a href="mailto:chemineer@nov.com">chemineer@nov.com</a> </p>	
<p> <b>Manufacturing Facilities</b>  <b>US</b>          +1 937 454 3200  <a href="mailto:chemineer@nov.com">chemineer@nov.com</a> </p>	<p> <b>Sales Facilities</b>  <b>US Ohio</b>          +1 937 454 3200  <a href="mailto:chemineer@nov.com">chemineer@nov.com</a> </p>
<p> <b>United Kingdom</b>          +44 1332 363 175  <a href="mailto:chemineeruk@nov.com">chemineeruk@nov.com</a> </p>	<p> <b>US North Andover</b>          +1 978 687 0101  <a href="mailto:navinfo@nov.com">navinfo@nov.com</a> </p>
<p> <b>China</b>          +86 21 6124 0001  <a href="mailto:chemineercn@nov.com">chemineercn@nov.com</a> </p>	<p> <b>United Kingdom</b>          +44 1332 363 175  <a href="mailto:chemineeruk@nov.com">chemineeruk@nov.com</a> </p>
<p> <b>Singapore</b>          +65 6271 1121  <a href="mailto:chemineeruk@nov.com">chemineeruk@nov.com</a> </p>	<p> <b>China</b>          +86 21 6124 0001  <a href="mailto:chemineercn@nov.com">chemineercn@nov.com</a> </p>
<p> <b>Mexico</b>          +52 55 3300 5370  <a href="mailto:chemineerventasmx@nov.com">chemineerventasmx@nov.com</a> </p>	<p> <b>Singapore</b>          +65 6271 1121  <a href="mailto:chemineeruk@nov.com">chemineeruk@nov.com</a> </p>
<p> <b>Austria</b>          +43 1 8923481  <a href="mailto:chemineeruk@nov.com">chemineeruk@nov.com</a> </p>	<p> <b>Mexico</b>          +52 55 3300 5370  <a href="mailto:chemineerventasmx@nov.com">chemineerventasmx@nov.com</a> </p>

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**Corporate Headquarters**  
 7909 Parkwood Circle Drive  
 Houston, Texas 77036  
 USA