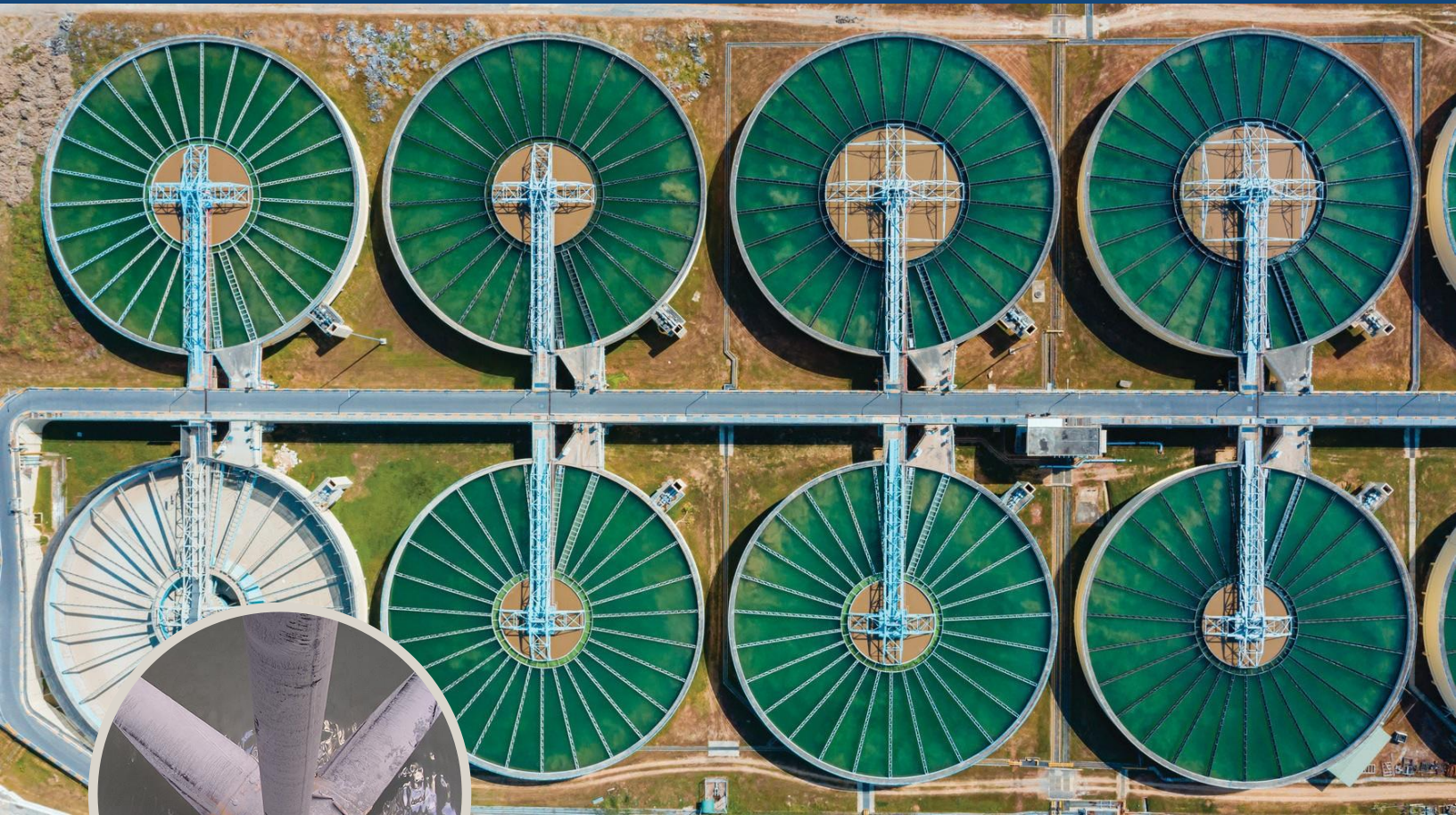


# CHEMICAL PLANT & ENGINEERING

40 Years of Manufacture and Supply Experience



## ENVIRONMENTAL APPLICATIONS





## CHEMICAL PLANT & ENGINEERING

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Chemical Plant & Engineering (CPE) is a world leading designer, manufacturer, and supplier of field process technology, and a division of CEM International Pty Ltd which is a wholly owned Australian company.

CPE specialises in global supply of Liquid Agitation, Filtration, and Powder Mixing solutions to a wide variety of industries including Wine and Spirits, Food and Beverage, Mineral Processing, Chemical and Pharmaceutical, Environmental, and Oil & Gas industries.

Headquartered in Melbourne, Australia, the company enjoys multiple strategic manufacturing partnerships and licensing agreements across the world. CPE's global presence is strengthened via agents and partners in New Zealand, SE Asia, South Africa, Europe, and America.



**Agitators**



**Filters**



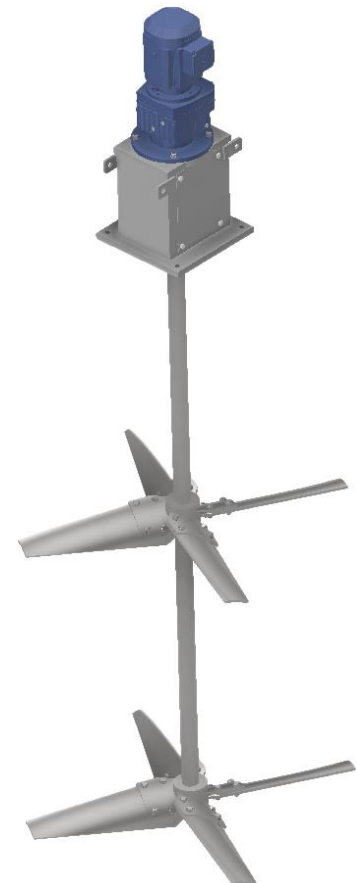
**Powder Blenders**

# CHEMIX AGITATORS

## ENVIRONMENTAL

CPE is the world leading designer, manufacturer, and supplier of Environmental Mixing Solutions, CHEMIX™. With decades of knowledge, experience, and market exposure, we thoroughly understand the requirements of this industry.

CPE has numerous installations in major water/wastewater processing plants, waste management plants, and storage facilities throughout the APAC region.



### DESIGN SCOPE

#### OUR FOCUS

- CHEMIX™ is designed and manufactured with the process needs of environmental applications in mind.
- We provide design services to meet the different process requirements of each application.

### APPLICATIONS

#### INDUSTRY

-  Fertiliser production & storage
-  Water & Wastewater Treatment
-  Plastics & Polymer Recycling
-  Industrial Waste Management

### OFFERINGS

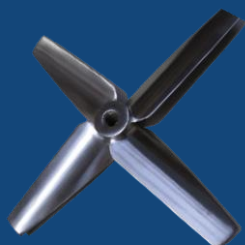
#### CPE DIFFERENCE

- **World leading technology:** Fast mixing at a fraction of energy input offering significant cost savings
- **Optimised Product Quality**
- **Maximum Plant Utilisation**
- **Laboratory and Pilot Plant Testing**
- **Aftermarket Services:** process optimisation, failure analysis

## IMPELLER OPTIONS

CHEMIX™ is offered in a range of agitator configurations to meet various customer and process requirements. Pilot plant units are available for on-site or laboratory testing to ensure the results meet customer expectations.

### High Efficiency Hydrofoil (RTF4)



Low Shear Mixing  
Solid Suspension  
Mass & Heat Transfer

### High Shear Rotosolver™ (RS)



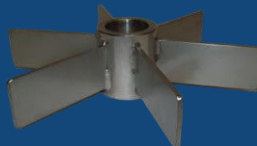
High Shear Mixing  
Dissolving  
Homogenisation Other  
Difficult Mixing

### Pitched Blade Turbine (P Series)



Medium Shear Mixing  
Solid Suspension  
Dissolving

### Flat Blade Turbine (S Series)



Low Liquid Level Mixing.  
Used when foaming is an issue (placed at liquid level) or for suspending heavy precipitants (placed close to tank bottom)

### Rushton and Smith Turbines (Gas Dispersion Impellers)



### ViscoPro Series (Anchor, Helix, Counter Rotating)

For High Viscosity Mixing

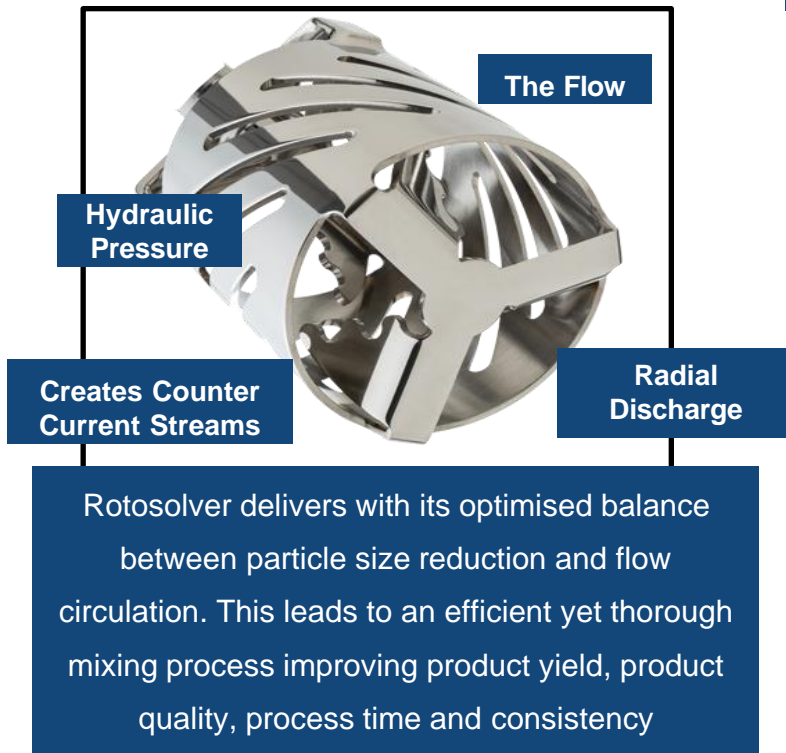
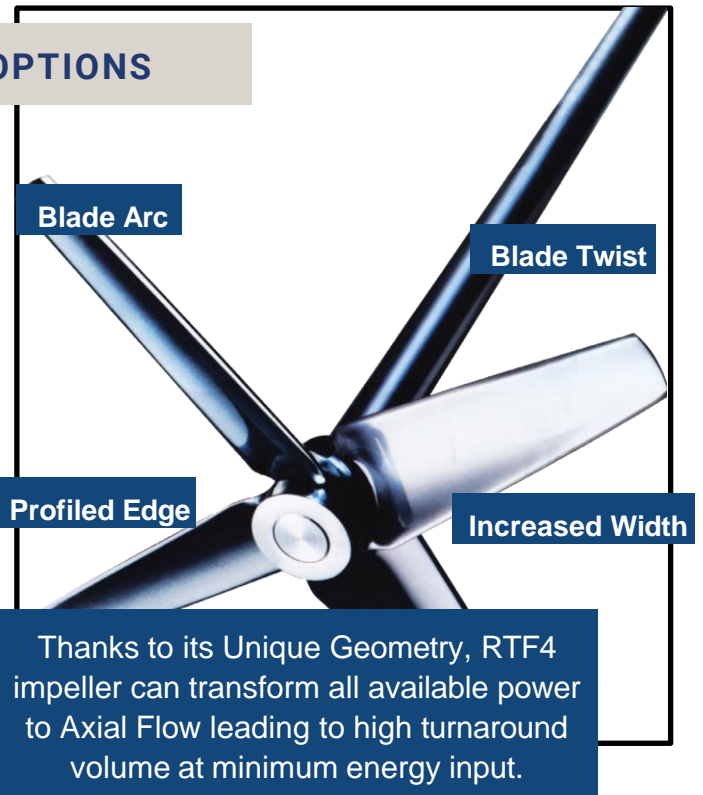
Retractable agitators offer ease of maintenance by eliminating confined space work and the need for emptying the tank before conducting any maintenance work.



## IMPELLER OPTIONS

### Hydrofoil Technology - RTF4

- Suitable for fast and thorough mixing and effective solid suspension.
- Efficient with minimum energy input to achieve desired results, leading to major cost savings
- Fast heat stabilisation
- Anti-scaling



### High Shear Technology - Rotosolver

- Maximum efficiency and intensity
- Fully dissolves and hydrates powder in a short time at lower energy input
- Guarantees volume scalability
- Optimises the balance between shear rates, particle size reduction, and tank flow/circulation

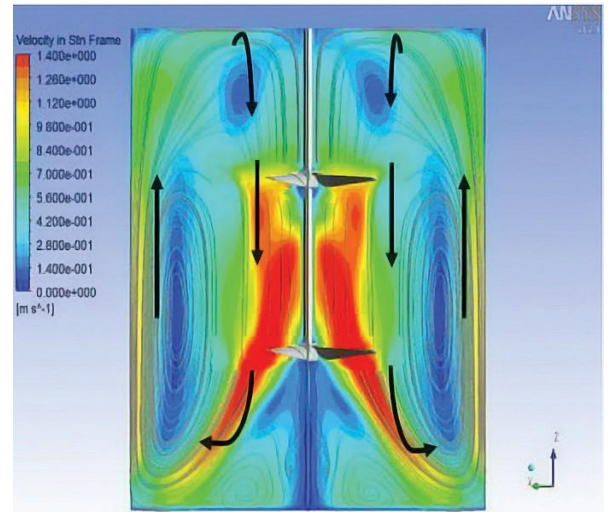
## CHEMIX™ Configurations



- Top, side, and bottom tank entry points (portable agitator available). Our top entry agitators are cantilevered which eliminates the need for a steady bearing assembly.
- Direct drive and gear reduced motors
- Electric or air operated motors available to meet hazardous zoning requirements.
- Retractable agitator for ease of maintenance
- Various seal options (mechanical, lip, hydraulic, etc.)
- Explosion protected motor available

## Why Use CHEMIX ?

- Decades of design, manufacture and global supply experience.
- Superior agitation technology with many installations worldwide.
- Manufacturing facilities in Australia and strong global partnerships.
- We can custom design agitators to your specific process needs.
- A range of agitator configurations to suit various application requirements.



Flow analysis of a top entry hydrofoil agitator

## Water & Wastewater Treatment

Chemix™ agitators are widely incorporated in water and wastewater processing plants across the world, offering below process benefits:

- Ensures activated sludge is maintained in suspension and not precipitated during the process
- Optimises solid/liquid movement in the tank to promote bacterial contact with activated sludge
- Provides sufficient mixing force to prevent short circuiting and anoxic zone stagnation
- Minimises disruption to the liquid surface thus inhibiting oxygen transfer and limitation of foam build up
- Improves process efficiency through higher plant utilisation, lower energy consumption, and minimised maintenance



## Aftermarket Services:



**Process analysis using CFD modelling for failure analysis or process optimisation**



**Supervision of installation and commissioning**



**Retrofitting of existing agitators to enhance performance or reduce energy consumption**

## Chemical Plant & Engineering

CPE is a world leading designer, manufacturer, and supplier of agitation solutions.  
CPE is a division of CEM International Pty Ltd.



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