

# CHEMICAL PLANT & ENGINEERING

40 Years of Manufacture and Supply Experience



## EDIBLE OIL AGITATION



## 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**



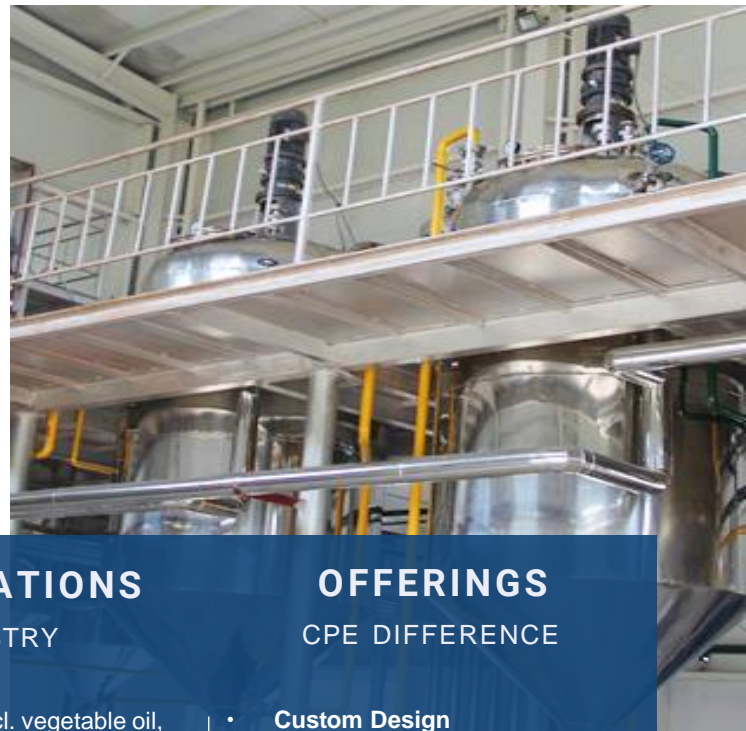
**Powder Blenders**

# OILFOIL™ AGITATORS

EDIBLE OIL INDUSTRY

CPE is a world leading designer, manufacturer and supplier of edible oil mixing solutions, OILFOIL™. With decades of knowledge, experience and market exposure, we thoroughly understand the requirements of edible oil processing.

CPE has many installations in major edible oil processing plants throughout the APAC Region.



## DESIGN SCOPE

### OUR FOCUS

- OILFOIL™ is designed and manufactured with the requirements of edible oil processing in mind.
- We provide custom design services to meet the process requirements of each application.

## APPLICATIONS

### INDUSTRY



Edible Oil (incl. vegetable oil, tallow etc.)



Other edible oils (rice bran, coconut, peanut etc.)



Biofuel

## OFFERINGS

### CPE DIFFERENCE

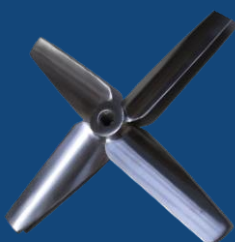
- **Custom Design**
- **World Leading Technology:** fast mixing at a fraction of energy input offering significant cost savings
- **Optimised Product Quality**
- **Maximum Plant Utilisation**
- **Laboratory and Pilot Plant Testing**
- **Aftermarket Services:** process optimisation, failure analysis



## IMPELLER OPTIONS

OILFOIL™ is offered in a range of agitator configurations to meet various customer and process requirements.

### High Efficiency Hydrofoil (RTF4)




Low Shear Mixing  
Solid Suspension  
Mass & Heat Transfer

### Pitched Blade Turbine (P Series)



Medium Shear Mixing  
Solid Suspension  
Dissolving

 **OILFOIL™** agitators are suitable for processing and storage of a range of oils including vegetable oil, tallow and other edible oils such as rice, coconut, peanut, etc. Oilfoil™ can be custom designed to ensure reliable and optimum mixing performance.

Pilot Plant units are available for on-site or laboratory testing.

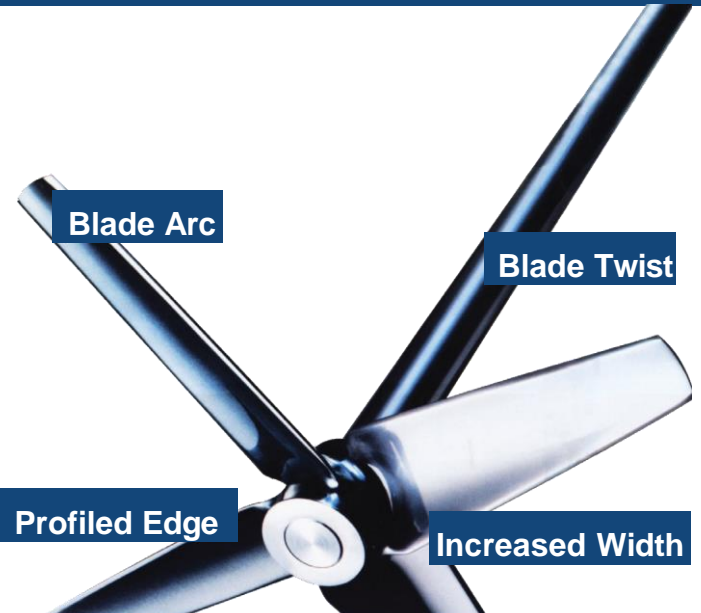


Retractable agitators offer ease of maintenance by eliminating confined space work and the need for emptying the tank before conducting any maintenance work.

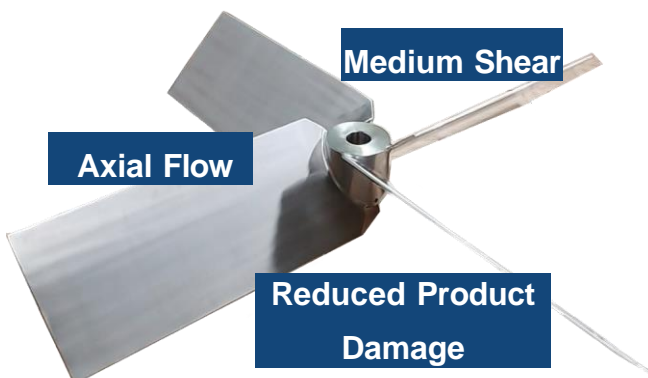


## Hydrofoil Technology - RTF4

- Thorough and effective mixing in a short time offering maximum plant utilisation and major cost savings
- Gentle on product, thus no product damage while enhancing product quality (taste, colour, transparency, etc.)



Thanks to its unique geometry, RTF4 impeller can transform all available power to axial flow leading to high turnaround volume at minimum energy input



The flow created by the P series impellers provides the required duty to cut through thicker liquids or to dissolve additives into the liquid body without damaging the product

## Medium Shear - P Series

- Used for additive mixing and medium shear blending
- Axial flow with medium shear
- Often used in combination with RTF4 impeller for the best outcome

## OILFOIL™ Configurations



- Top and Side Entry
- Direct drive and gear reduced motors
- Retractable agitator to conduct maintenance with full tank
- Various Seal Options (sanitary seal available)
- Explosion proof motor available
- Sanitary Flange and Pedestal types (straight or angled, etc.)



## Agitation Process Optimisation

At CPE, we can conduct in-depth analysis of your process and recommend cost-effective solutions to optimise your process.

### When to Retrofit an Agitator?

- Time to uniform mixing is long or never!
- Frequent mechanical failure or maintenance shutdown
- Excessive energy consumption
- Considerable change in physical properties of the product

### Why Agitators Fail?

- Undersized agitator (impeller or motor)
- Wrong impeller design
- Wrong flow rate/pattern
- Low service factors in agitator design

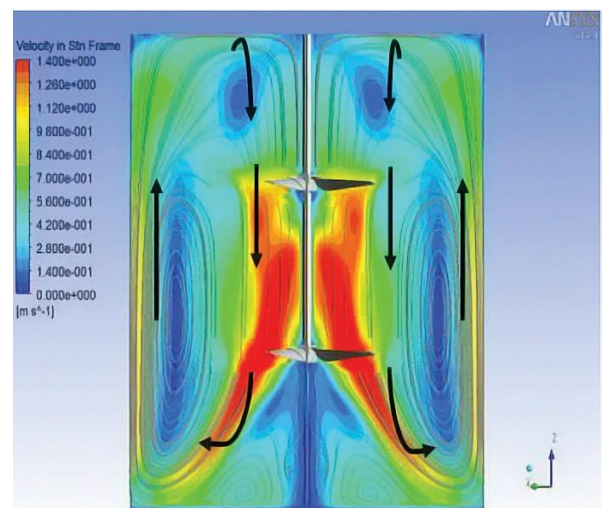
In most cases, retrofitting of an existing agitator involves impeller replacement (same size or different) without changing the motor and gearbox.

## BENEFITS of agitator retrofits with RTF4 Technology

CPE has a long history of retrofitting underperforming mineral processing agitators to provide enhanced performance and efficiency.

Our world leading **RTF4 impeller technology** offers:

- quicker mix time at the same power input
- lower power consumption and maximum plant utilisation
- increased mixing capacity
- lower power loadings, thus longer lasting agitator



Flow analysis of a top entry hydrofoil agitator

## Why Use OILFOIL™ ?

- 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.
- Pilot plant units available for in-house or customer trials.



### Aftermarket Services



**Process analysis & Optimisation to reduce mix time and energy consumption**



**Supervision of installation and commissioning**



**Retrofitting of existing agitators to enhance performance**

### Applications & Processes

Impeller Type	Process	Application
Hydrofoil (RTF4)	<ul style="list-style-type: none"> <li>• Low Shear Mixing</li> <li>• Low Shear Blending</li> <li>• Additive Mixing</li> </ul>	<ul style="list-style-type: none"> <li>• Edible oil processing and storage</li> </ul>
Pitched Blade (P series)	<ul style="list-style-type: none"> <li>• Medium Shear Mixing</li> <li>• Immiscible Liquid Blending</li> <li>• Liquid Mixing</li> <li>• Additive Mixing</li> </ul>	<ul style="list-style-type: none"> <li>• Edible oil processing and storage</li> </ul>



## Chemical Plant & Engineering

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



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