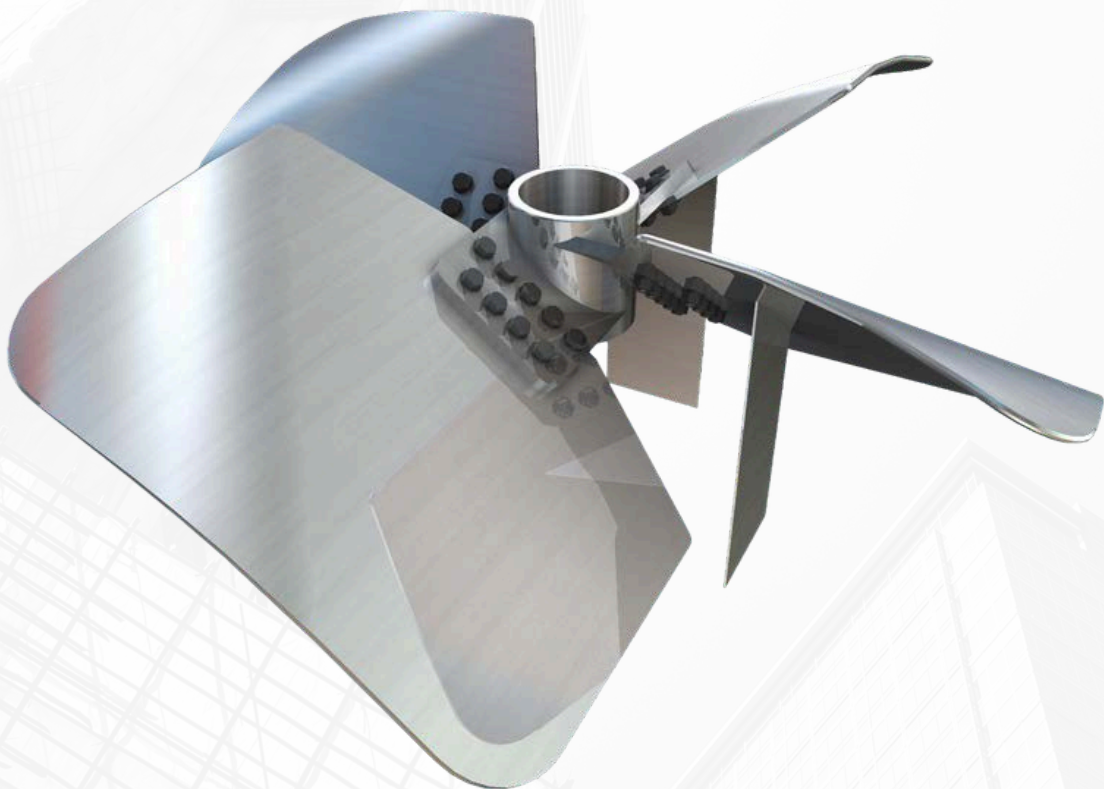


# AFX HOLDINGS

## IMPELLER BROCHURE

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KEEPING FLUID IN MOTION



[www.afxholdings.com](http://www.afxholdings.com)



604 380 4458

# ABOUT US

AFROMIX, a division of AFX Holdings, is a leading manufacturer of mixers and peristaltic pumps, with its engineering and manufacturing roots in South Africa. Backed by decades of experience and a proven track record of successful installations, the AFX Group provides reliable mixing solutions to industries worldwide.

While AFX origins lie in the mining sector, its capabilities have expanded into diverse industries including chemical, food & beverage, pulp & paper, water treatment and pharmaceuticals.

## WHAT MAKES US DIFFERENT

### POWERFUL TRACK RECORD

With more than 30 years experience and a proven track record of successful installations worldwide.

### ENERGY EFFICIENT DESIGNS

With increasing emphasis on global energy usage, AFX carefully considers power usage on all products. Our range of peristaltic pumps use a unique roller design to reduce power and increase hose life. Our careful selection of materials and impeller geometry on our agitators ensures optimum power and operating efficiency.

### MANUFACTURING "EXOTIC MATERIALS"

We manufacture in a range of "exotic" materials to meet your industry requirements.

### WORLD CLASS PRODUCTS WITH A WORLD CLASS GUARANTEE

As an ISO 9001-rated company, we provide exceptional product guarantees and back-up service, with global representation.

### OUR DESIGNS AND MANUFACTURING ARE SPOT ON

AFX ensures that all equipment is manufactured to stringent standards.

### INCREASED PLANT PRODUCTIVITY

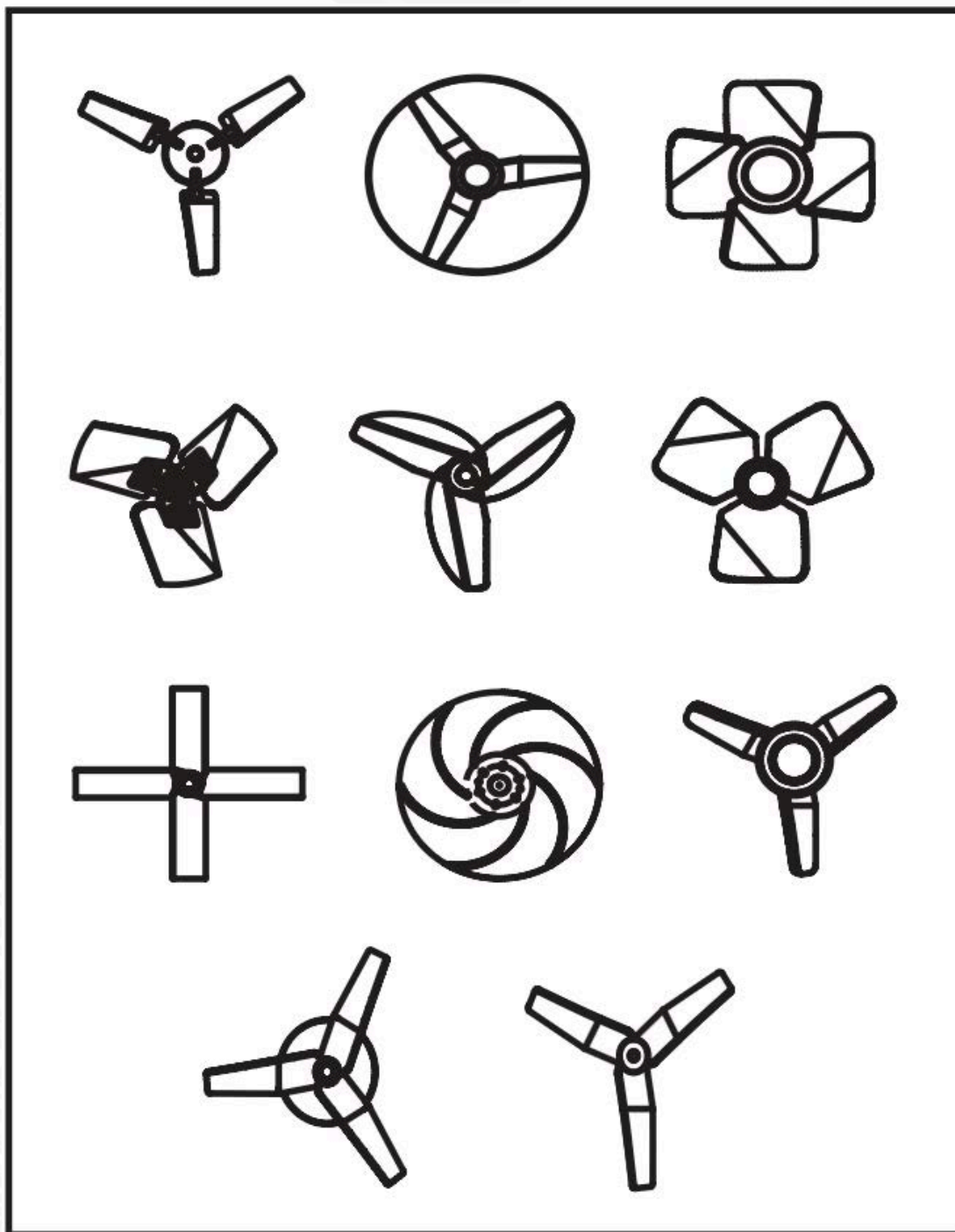
Our on-site inspections and service reports will guarantee enhanced plant productivity and reduce maintenance.

### ONGOING R&D

AFX is continuously improving manufacturing techniques, ensuring that our product range assists processing plants in achieving optimum process results with minimum downtime.

# AFX IMPELLERS

Mixing technology represents a balance between the requirements of the process and the output efficiency of the impeller within the process. Often referred to as propellers, the impellers selected for a specific agitation system are required to produce one of three basic fluid regimes: Flow (Q), Shear (H) and Pressure (P); and there is also the possibility of producing a combination of the three.



# TYPES

## FOLDING IMPELLERS

AFX offers a broad range of unique folding axial flow impellers. These impellers have been adapted to suit applications whereby the mixing process takes place inside a vessel, which has a limited opening diameter.

Before the development of folding impellers, applications such as these were approached by using impellers with fixed blades that had a diameter small enough to pass through the vessel opening. This meant that the agitator would run at higher speeds, increasing the power requirements of the agitator and reducing its overall efficiency.



Nowadays, due to the fact that we have adapted our axial flow impellers to incorporate the moving or folding blades, we are able to select the impeller which would be the closest fit in terms of your vessel dimensions and application demands. These impellers provide an economical and energy efficient agitator solution suitable to your application.



# TYPES

## IMPELLER TYPE F3

This type of impeller, also known as a hydrofoil impeller, is used in applications where high flow velocity is required, and is one of the most commonly used impellers throughout our vast industry. The F3 is called upon in many applications because of its robust and efficient structure. The impeller is able to meet the demands of the process at lower installed power than most other impellers within the range. Widely employed throughout the various industries, these F3 impellers are used where the generation of flow determines the agitator selection.

The impeller is multipurpose (by varying the blade pitch angle, one can alter the impeller's flow and shear characteristics) and is able to provide high axial flow with low shear whenever required.



This impeller is industry proven and boasts a solid track record with thousands of successful installations in multiple industries. Some industry applications and examples include:

- **Mining:** CIL & CIP, ore (copper and gold), leaching, lime make up and storage, solid suspensions, chemical reaction tanks, slurry tanks.
- **Agricultural:** Fertiliser make up tanks, water storage tanks, jojo tank mixers.
- **Pharmaceutical:** Batch mixers, laboratory mixers, homogenising reactors, pressured vessel agitators.
- **Waste and Water Treatment:** Flocculent plants, water treatment plants, chemical reaction applications.
- **Paint and Ink:** Mixing tanks, batch and blending tanks, pre-mix within 210 litre drums, large and small scale applications.
- **Chemical Industry:** IBC bin agitators, soaps, cleaners and detergent mixing, fine powders and liquid blending, household cleaning products.

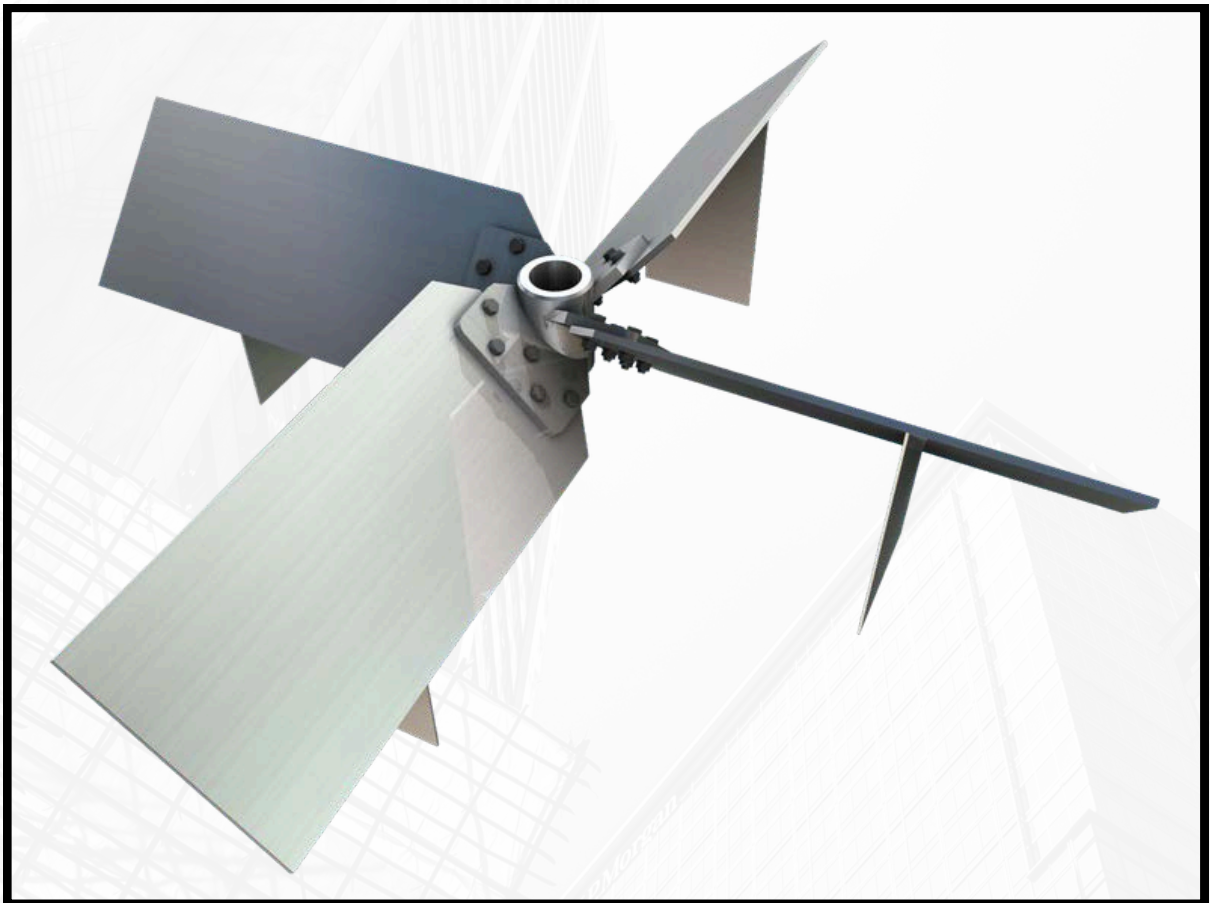
# TYPES

## IMPELLER TYPE FS4

This type of impeller, also known as a pitch blade turbine impeller, is used in applications such as high viscosity blending, applications requiring shear, and re-pulping where some flow and addition of power is still required. The FS4 impeller pitched blade turbine, consists of four blades. This type of impeller is used for applications which require higher power draw and a lower efficiency in terms of mixing.

**Some industry applications and examples include:**

- Mining: Re-pulping application.
- Agricultural: Blending applications with some solids needing to be broken up and dispersed throughout the tank.
- Pharmaceutical: Lower impeller in high viscosity batch mixers.
- Waste and Water Treatment: Aerators, sludge tanks to break up the "cake" crud collection.
- Paint and Ink: Viscous mixing tanks, batch and blending tanks, addition of solids into batches.
- Chemical Industry: Addition of solids into solutions where high power is required to assist with breaking down the solids.



# MAKE THE RIGHT CHOICE FOR YOUR BUSINESS

AFX offers a wide range of impellers, each designed to suit specific process requirements. From high-efficiency axial flow impellers to advanced gas dispersion designs, our solutions ensure optimal mixing, mass transfer, and energy efficiency. With decades of proven installations, we deliver reliable performance while reducing common process issues such as flooding, cavitation, and excessive shear.



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