



AFX MIXING AND PUMPING
TECHNOLOGIES INC.



A DIVISION OF AFX HOLDINGS

KEEPING FLUID IN MOTION

COMPANY OVERVIEW

This profile details the capabilities of AFX Mixing and Pumping Technologies Inc., highlighting some of our key projects, as well as demonstrating our ability to design and manufacture agitators and peristaltic pumps for all industries. It also showcases our capacity to provide world class equipment from standard product to custom design and manufacture. No matter the application we will find a solution.



What makes us different

➔ Powerful track record

With more than 30 years experience and over 1 000 major installations to its credit, the AFX group of companies has supplied some of the largest agitators and peristaltic pumps in the world.

➔ World class products with a world class guarantee

With process requirements and operating plants increasing in size, agitators and process equipment are becoming larger and their impact on plant performance more critical. AFX provides exceptional product guarantees and back-up service with representation around the globe.

➔ Problem solving

AFX Mixing and Pumping Technologies Inc. has developed a solid reputation for solving difficult plant problems throughout the world through a combination of solid manufacturing and engineering disciplines, backed by guarantees and a hands-on approach to partnerships.

➔ Increased plant productivity

Our on-site inspection and service reports guarantees enhanced plant productivity and reduced maintenance.

➔ Our design and manufacturing are spot on

The AFX design concept and its manufacturing techniques ensure that all equipment is manufactured to stringent standards. In most cases our manufacturing procedures produce a level of quality well within our stringent specified limits. AFX aligns its agitator shaft assemblies using sophisticated techniques, allowing us to produce shafts in excess of 20 meters.

➔ Manufacturing 'exotic' materials for a range of industries

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

➔ Ongoing R&D

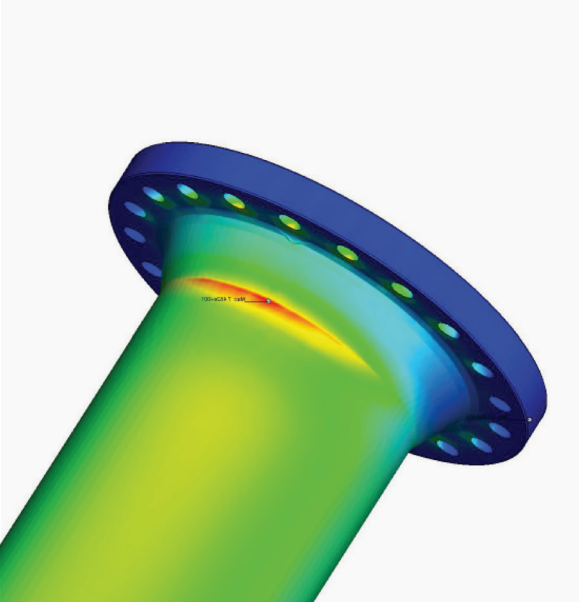
AFX's on-going R&D and continuously improving manufacturing techniques ensure that its product range assists processing plants in achieving optimum process results, with minimum downtime.

➔ 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 choice of selection and impeller geometry on our agitators ensure optimum power and operating efficiencies.



ENGINEERING



Finite Element Analysis

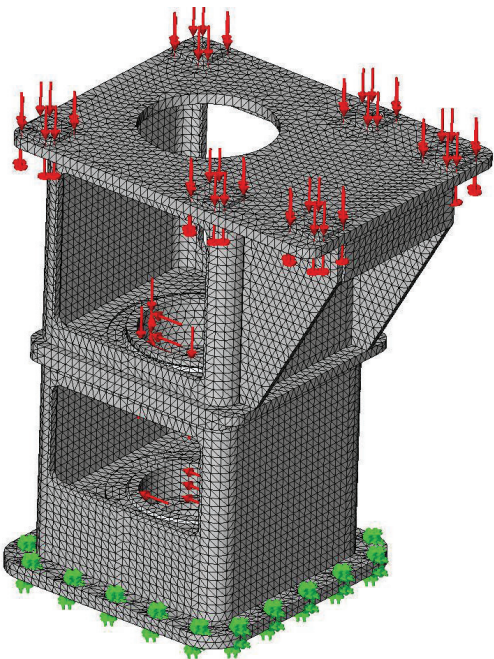
The application of FEA to our designs allows AFX's in-house engineers to model the combination of loads applied to the components resulting from equipment rotation and its interaction with the different fluid regimes. In this way the applied bending moment, torque and thrust can be predicted and accommodated in the designs.

Our analysis combines all operating loads within the system, allowing the designer to identify potential weaknesses prior to manufacture. Where important components carry critical loading, detailed FEA analysis is used.



Design

AFX Mixing and Pumping Technologies Inc. makes use of custom design packages that incorporates the mechanical and process design of the equipment. These state of the art design packages ensure that every piece of AFX equipment fulfills your expectations.



MANUFACTURING

Agitator shafts and hubs

Shafts are manufactured to stringent straightness tolerances. This would entail all shafts being machined, no matter the length. Ears are attached to circular machined hubs using deep penetrating continuous welds. Ears are never attached directly to hollow shafts.

Hubs and ears are machined using CNC machines to minimize clearances between ear and hub, thereby ensuring weld strength. After final assembly shafts are stress relieved and pressure tested to ensure integrity

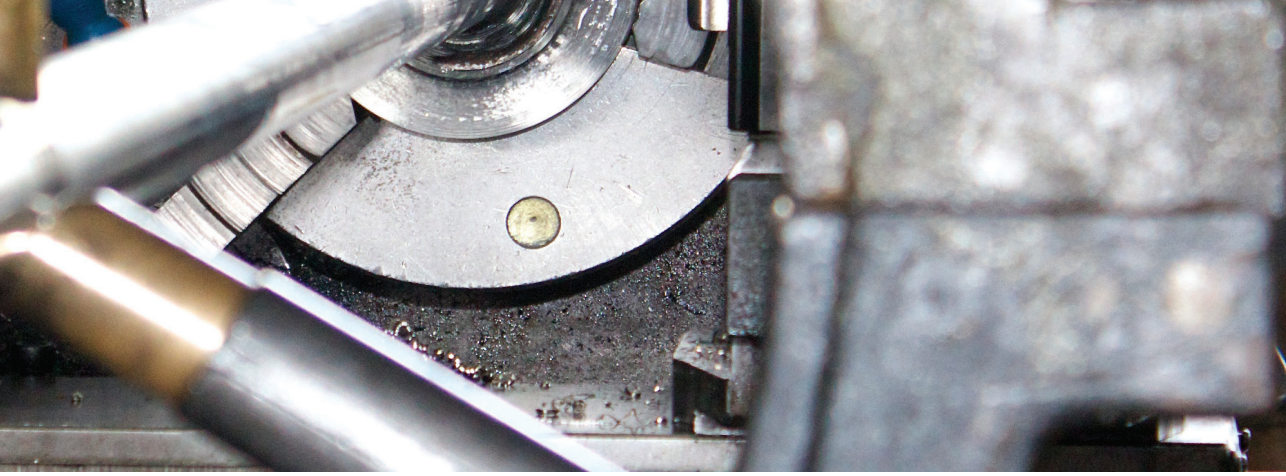


Agitator mounting bases

Mounting bases are critical in ensuring that gearboxes are correctly aligned and mounted to the beams or structure. This reduces the potential of twisting or flexing in the gearbox housing - a common cause of failure in some gearboxes.

All large, top entry AFX agitators are fitted with integral mounting bases, or pedestals, where necessary. All bases have machined pads or surfaces, top and bottom, to ensure accurate and positive alignment.





Agitator impeller blades

AFX manufactures impellers for all applications, including high viscosity duty. Most applications are either flow or shear dependent, therefore our F-range of high flow impellers, or the P-range of high efficiency gas dispensers, are the workhorses in the AFX stable.

Available range of impellers include:

- F-range of flow impellers
- P-range of pressure impellers for gas dispersion and medium viscosity
- R-range of flat and curved blade radials
- FS-range of pitch blade turbines
- High viscosity anchors and helical
- Specialized impellers for pumping, foam breaking and dispersion.

Impellers are manufactured in all materials, including exotics, and can be coated in rubber, urethane, epoxy or other specialized materials. Where rubber and urethane lining are required, the leading edges of the blade are machined to maximize bonding with the metal. Leading edges are double layered as a standard to increase wear life.

Impeller blades are carefully checked to ensure that tolerances on angle, camber and curve are achieved. Out-of-specification blades are rejected.

Special attention is paid to blade ear interface. We ensure that both surfaces are within tolerance so that no additional preload is added to the bolt. Additional bolting is allowed for between the blade and ear.

As bolt failures can be catastrophic, we allow for additional bolts as a simple, yet inexpensive solution to address the problem.



ABOUT US

AFX Mixing and Pumping Technologies Inc., a division of AFX Holdings, is a leading manufacturer of mixers and peristaltic pumps. Although historically its primary market has been the mining industry, AFX's growing markets include the chemical, food & beverage, pulp & paper, water treatment and pharmaceutical industries.

In 2013 AFX Holdings partnered with financial giant Investec – a move that will enhance the AFX's future growth strategy, performance and reputation through the international banking and asset management company's extensive networks and financial know-how.



A global footprint

Through its reputation for supplying proven quality products and services, AFX has grown its global presence with offices and regional representation in many parts of the world including Africa, Europe, Australia, South and North America and Canada. Example projects include:

- ➔ Large Gold CIL plants
- ➔ Cyanide detox plants
- ➔ Copper leach and iron removal plants
- ➔ Gold and silver leaching plant
- ➔ Pulp and paper plant
- ➔ SX (Solvent Extraction) plants
- ➔ Large bacterial leach plants

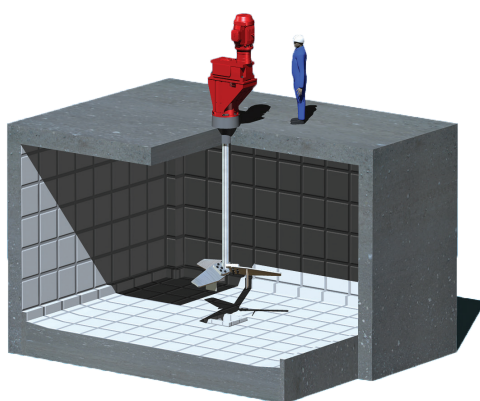
FAST FACTS

Origins and structure

- The AFX group of companies has more than 30 years experience in the engineering and manufacture of mixers, with a history that goes back to Aeromix.
- In 2006 Aeromix changed its name to AFROMIX, to reflect its growth in both the African and international markets.
- In 2013 Investec Bank Limited's acquired 30% of AFX Holdings, reflecting a new company structure and strategic direction. Majority shareholder Eugene Els continues as Managing Director of the company.
- In 2014 Canadian-based AFX Mixing and Pumping Technologies Inc (AFX) is established within the group to design and manufacture for the North American markets.

A clear focus

- AFX has extensive experience in mineral processing, chemical, pulp & paper, water & waste treatment, food & beverage, petrochemical and pharmaceutical production. To date AFX is credited with more than 1 000 successful major installations.
- Using in-house programs for FEA (finite element analysis); 3D drawings and animations; engineering & process design; laboratory testing and modeling; and customer on-site training, AFX has raised mixing and peristaltic pumping technology to a new level and will continue being the supplier of choice.
- AFX has a clear focus on developing products that will bring substantial customer benefits. This includes a range of peristaltic pumps with flow rates up to 150m³/hr and whole life operational costs at a fraction of competitor products.
- AFX is committed to delivering quality products from its ISO 9001-rated in-house manufacturing facility.



AFX range of products

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