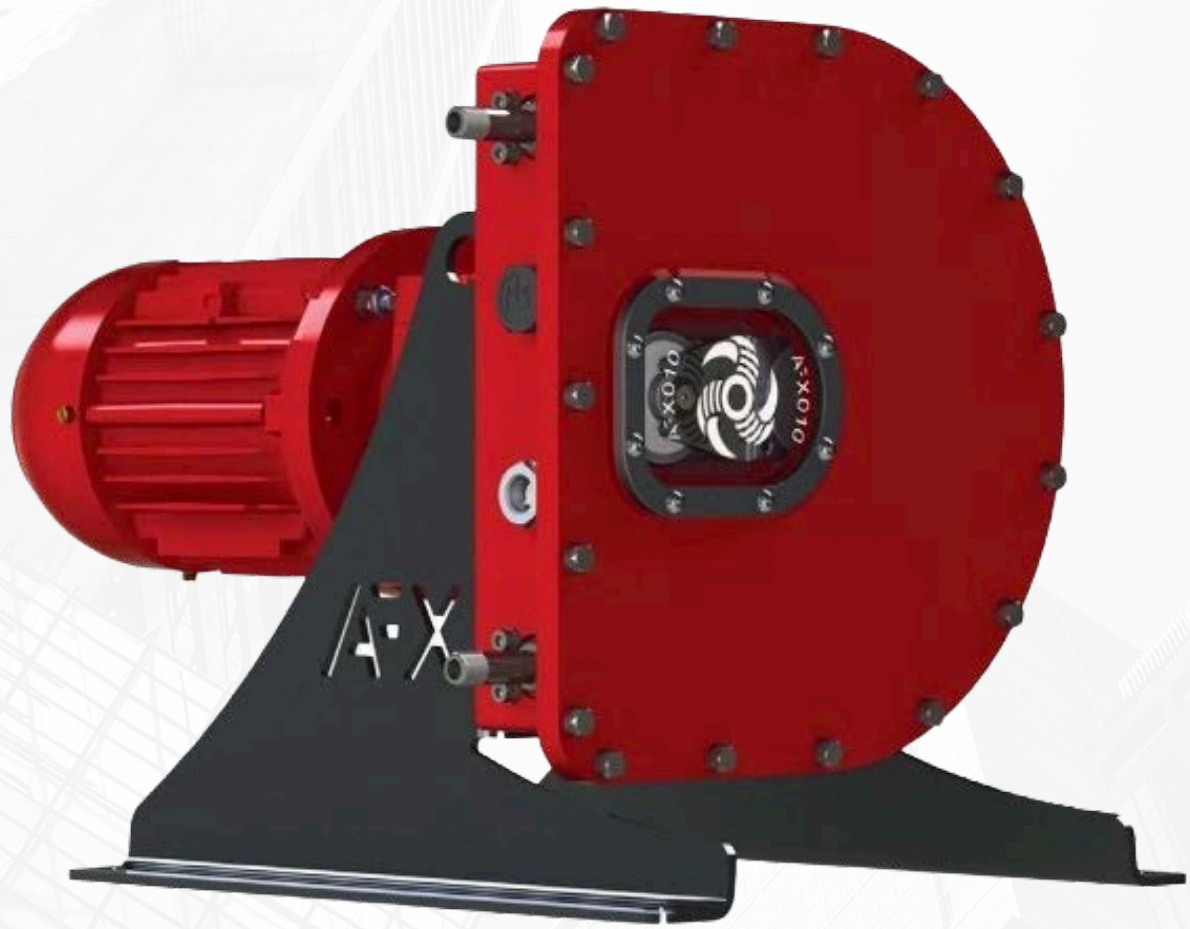
AFX HOLDINGS

AFX PUMPS BROCHURE

KEEPING FLUID IN MOTION



www.afxholdings.com

+27 (0) 11 397 6911

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 and beverage, pulp and 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.

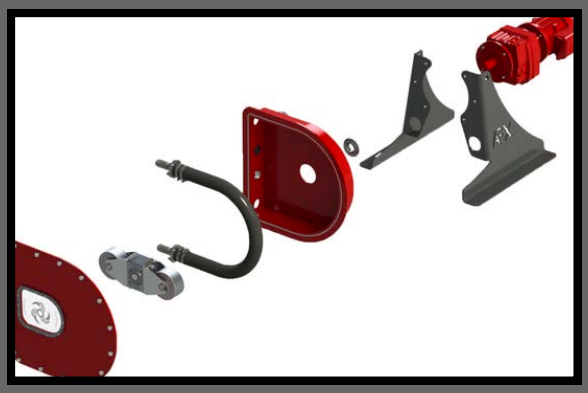
PUMPS

Simple in design – Simple in operation

Building on a proven pumping concept, AFX has introduced a fresh approach to peristaltic pumping. By combining the advantages of compression rollers used in tube pumps with the lubricated compression shoes of hose pumps, we deliver significant operational cost savings. Thanks to a simple and practical design, maintenance times are greatly reduced, ensuring a lower overall cost of ownership throughout the pump's lifespan.

Operating principle

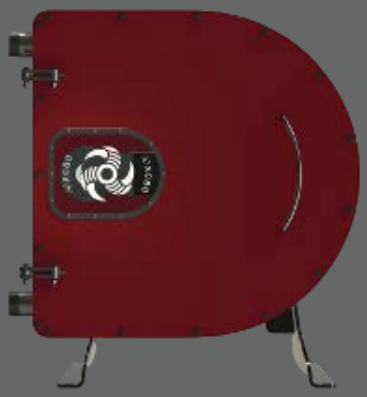
The pumping action results from alternately compressing and relaxing a specially designed machined hose between the pump housing and the pump compression rollers. The fluid is pushed along the hose towards the discharge by the compression rollers, whilst the reopening hose behind the roller draws more fluid into the pump. With 100% hose closure at all times, there is no internal slip. This ensures excellent metering accuracy and pressure delivery. With no seals or valves, abrasive and particle-laden slurries are handled with ease. The inner wall of the hose is the only part in contact with the pumped fluid making it ideal for aggressive fluids.



COST BENEFITS

- Pumps abrasive slurries, corrosive material, solids and gaseous liquids with ease.
- Ideal for high viscosity or shear sensitive products.
- Pumps can be run-dry indefinitely without damage.
- No check valves or seal water flush systems.
- Fully reversible. Pumps in either direction.
- Minimal maintenance. The hose is the only wearing part.
- Pump casing available in a choice of materials including stainless steel.
- Suction lift capability up to 9.5 meters and self-priming.
- Highly accurate.

PUMPS



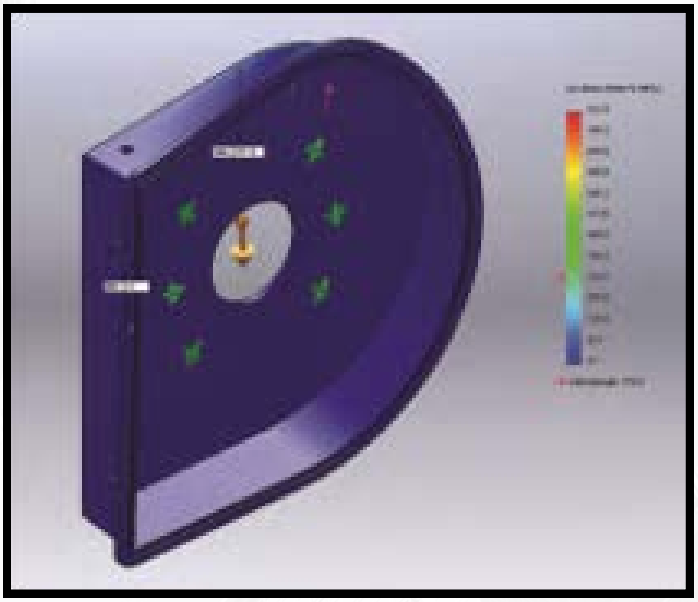
APPLICATIONS

- Chemical
  Corrosive acids and shear sensitive media.
- Water and Waste Treatment
  Sludge pumping and chemical transfer of dosing.
- Fishing Industry
  Bulk transfer, ship unloading and effluent handling.
- Paint and Pigments
  Dispersion mill feed, pigment and latex transfer.
- Pulp and Paper
  Dyes, sizing agents, and titanium dioxide.
- Mining
  Underflow pumping, tailing slurries, sludges and reagents.
- Ceramics
  Clay slip and glazes.
- Construction
  Cements, coatings, spray concrete, colorants and aggregate.
- Print and Packaging
  Inks, coatings and adhesives.
- Food and Drink
  Yeast cropping, fillings, sauces, flavorings, additives and effluents.
- OEM
  Bespoke manufactured unit designed for integration into other equipment.

PUMP SELECTION

We attach the same care and dedication not only to pump and hose designs, but to the selection and application of our pumps. To ensure consistent and repeatable success, application engineers have access to our in-house developed software for accurate pump selection.

To ensure optimum performance and product life, and to minimize operational cost and maintenance downtime, every AFX pump is carefully selected, configured and equipped for a specific application's requirement.



Design and function: our pumps are designed using Finite Element Analysis and go through robust physical testing.

HOSES

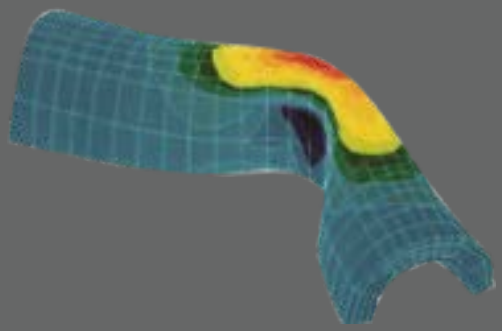
THE "HEART" OF THE PUMP

At AFX, we know that the hose is the single most vital component of a peristaltic pump. That's why each one is carefully designed and manufactured for exceptional performance, durability, and efficiency.

Every hose is produced under strict quality control, using high-quality compounded rubbers and reinforced with four layers of braided nylon set at optimum angles. Once cured, the hose is precision-machined to exacting tolerances for a perfect fit.

This perfect sizing ensures complete compression, eliminating internal slip. This maximises efficiency and protecting against premature wear, even in the toughest abrasive slurry applications.

DESIGNED AND MANUFACTURED TO PERFECTION



Utilising design tools such as finite element analysis (FEA), backed up by physical tests and theoretical calculations, our hoses are designed to perfection - right down to the position of the reinforcing layer, the braid angles, cord thickness, and the thickness of surrounding rubber.

The roller geometry and the profile of the pump housing are all designed and engineered to optimise the performance of the pump hose.

For hoses to last as long as possible, we manufacture and machine with extreme precise measurements. All of our hoses exceed the requirements set out in ISO 1307 and DIN7715, demonstrating the high quality of our products.

HOSES

AVAILABLE HOSE LINER MATERIALS

EPDM

Ethylene propylene diene rubber. Good chemical resistance, especially if traces of ketones, esters, alcohols and some concentrated acids are present.

Max. fluid temperature: 90 °C

Min. temperature: -10 °C

Nitrile (NBR)

Acrylonitrile butadiene rubber. A durable material suitable when there are traces of oils, greases, alkalis and detergents. A food grade version is also available compliant to European BfR standards, this liner can also be used in a wide range of applications in the food industry.

Max. fluid temperature: 80 °C

Min. temperature: -10 °C

CSM (Hypalon®)

Chlorosuphonyl polyethylene rubber. Good chemical resistance to higher concentration of acids and other oxidising materials.

Max. fluid temperature: 80 °C

Min. temperature: -10 °C

Natural Rubber (NR)

A general purpose material with excellent mechanical and abrasion resistant properties. First choice material in a peristaltic hose for all water-based applications and mild acids, alkalis and oxidising agents.

Max. fluid temperature: 80 °C

Min. temperature: -20 °C

THE ANATOMY OF OUR HOSE

HOSE CONSTRUCTION

1. Underground outer cover
2. Precision ground finished hose
3. Layers of reinforcement braid
4. Inner hose liner

OPTIONS AND ACCESSORIES

We pride ourselves on delivering solutions, not just products. Where required, we can supply a full range of ancillary equipment to complement our core offerings. As a manufacturer with a flexible, can-do approach, we specialise in customisation and bespoke manufacturing to meet unique process requirements. Whether you need expert advice or a tailored design, our team is ready to assist with any pump-related query.

Some of the commonly used accessories supplied with our pumps include:

1.Suction and discharge pulsations dampeners

Peristaltic pumps are by nature inherently pulsing in operation. Excessive pressure spikes and pulsations within the pump system can be extremely damaging to the pump hose and the process system.

Appropriate pump selection will ensure pulsations are kept to an acceptable level. In certain circumstances where other constraints exist, it is possible to fit appropriate pulsation dampening equipment.

Correctly sized pulsation dampeners and inlet stabilisers can:

- eliminate up to 90% of pressure spikes,
- protect pump, pipeline and instrumentation,
- reduce vibration, hammer and noise maintain pump efficiency and hose life.

**Specific details and recommendations are dependent upon the application. Please enquire for further details.

2.Hose failure detection

Pump hose failure is inevitable and can occur at any time, often when no one is present to immediately switch off the pump. A Hose Failure Detector provides a simple and effective solution. When a hose fails, the pumped product is contained within the pump housing, where it mixes with the hose lubricant and causes the liquid level to rise. The Hose Failure Detector senses this increase in liquid level and activates a contact relay, automatically switching off the pump.

OPTIONS AND ACCESSORIES

***Please take note:** Data published is based upon pumps operating on water under controlled conditions. Actual site operational conditions including pipeline lengths, temperatures and fluid characteristics will affect pump choice and selection.

AFX PUMP CAPABILITIES						
Pump	**Temperature**	**Max continuous speed**	**Max discharge pressure**	**Max continuous flow rate**	**Max intermittent flow rate**	**Standard Connections**
AFX010	MAX 80°c	70 rpm	10 Bar	210 l/hr	300 l/hr	1/4" BSPP Male
AFX015	MAX 80°c	70 rpm	10 Bar	420 l/hr	600 l/hr	1/2" BSPP Male
AFX020	MAX 80°c	90 rpm	10 Bar	1,242 l/hr	1,380 l/hr	3/4" BSPT Male
AFX025	MAX 80°c	90 rpm	10 Bar	2,214 l/hr	2,460 l/hr	1" BSPT Male
AFX032	MAX 80°c	70 rpm	10 Bar	3,990 l/hr	5,130 l/hr	1 1/2" BSPT Male
AFX040	MAX 80°c	60 rpm	10 Bar	6,552 l/hr	8,736 l/hr	1 1/2" BSPT Male
AFX050	MAX 80°c	50 rpm	10 Bar	10,380 l/hr	16,608 l/hr	2" BSPT Male
AFX065	MAX 80°c	45 rpm	10 Bar	19,170 l/hr	25,560 l/hr	2" BSPT Male
AFX080	MAX 80°c	35 rpm	10 Bar	25,893 l/hr	36,990 l/hr	3" BSPT Male
AFX100	MAX 80°c	30 rpm	10 Bar	43,200 l/hr	57,600 l/hr	4" BSPT Male
AFX150	MAX 80°c	25 rpm	10 Bar	105,000 l/hr	147,000 l/hr	6" BSPT Male

MAKE THE RIGHT CHOICE FOR YOUR BUSINESS

AFX is a **global leader** in peristaltic pump technology. Manufactured in South Africa and distributed worldwide, we offer the world's largest range of peristaltic pumps, including the AFX200, **the largest peristaltic pump in the world.**

With fourteen different models delivering flow rates of up to approximately 300 m^3/hr, our pumps are built to handle some of the toughest applications across a wide range of industries.

WHY AFX PUMPS

- For a given flow rate our pumps run slower than most competitive pumps, resulting in longer life and reduced time between failures.
- Slower speed also results in reduced energy consumption.
- Studies show that the costs of replacing a regular pump with our peristaltic hose pump, could be recovered in less than two months of daily use.

AFROMIX

CONTACT US AFRICA

T +27 (0) 11 397 6911
E sales@afromix.co.za

HEAD OFFICE

25a Rudo Nell Road
Jet Park
Boksburg
South Africa

AFX MIXING AND PUMPING TECHNOLOGIES

EUROPE

T +44 (0) 1 202 798 452
E contact@afxmixing.co.uk

Unit 17 Abbey Business Park, Holton Heath, Poole BH16 6NN, United Kingdom

AFX MIXING AND PUMPING TECHNOLOGIES

NORTH AMERICA

T +1 (0) 289 291 7770
E contact@afxmixing.com

Unit 105, 18663 52 Avenue, Surrey, BC, V3S 8ES, Canada