AFROMIX

A DIVISION OF AFX HOLDINGS

KEEPING FLUID IN MOTION

AFROMIX is an industry favourite for peristaltic pumps in many countries. Manufactured in South Africa and distributed to the international market, we offer the world's largest range of peristaltic pumps. Boasting eleven different pump models offering flow rates up to approximately 150m³/hr (660 USGPM) and handling some of the toughest applications across a wide range of industries.

PUMPS

Simple in design – Simple in operation

Building upon the already well proven pumping concept, Afromix have brought a fresh new approach to the world of peristaltic pumping. Combining the benefits of compression rollers in peristaltic tube pumps with lubricated compression shoes in peristaltic hose pumps, significant operational cost saving benefits have been achieved.

Maintenance times have been significantly reduced due to simple and practical design concepts, with whole life cost of ownership in mind.

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 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 casings available in a choice of materials including stainless steel
- Suction lift capability up to 9.5 metres and self-priming
- Highly accurate

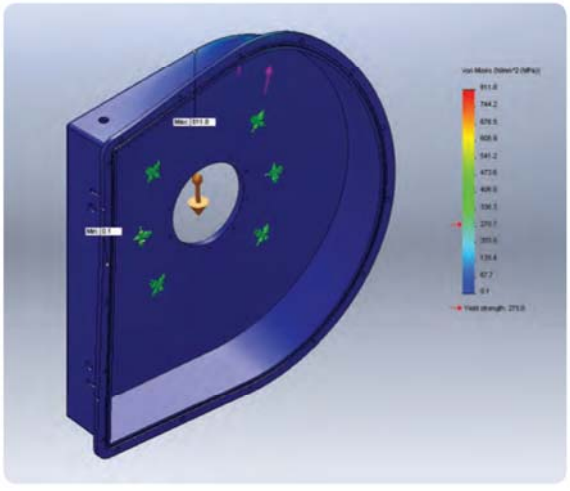
Applications

- **Chemical**
  Corrosive acids and shear sensitive media
- **Water and Waste Treatment**
  Sludge pumping and chemical transfer and 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, flavourings, additives and effluents
- **OEM**
  Bespoke manufactured units designed for integration into other equipment

Pump selection

We attach the same care and dedication not only to pump and hose design, but also 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, as well as to minimize operational cost and maintenance downtime, every AFX pump is carefully selected, configured and equipped for a specific application's requirements.



Design and function: our pumps are designed using finite element analysis and go through robust physical testing.

HOSES

The 'heart' of the pump

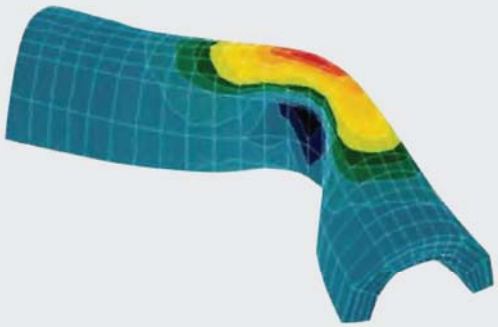
A carefully designed and manufactured hose element is the single most vital component for the performance, durability, and efficiency of any peristaltic hose pump.

To ensure a good pump you must have a good hose, and this is where Afromix excels.

Each hose we supply is built under stringent quality control measures, using high quality, compounded rubbers, reinforced with four individual layers of braided nylon carefully set at optimum angles. Once cured, the outer diameter of each hose is precision machined to exacting tolerances ensuring a perfectly sized hose.

An accurately sized hose ensures perfect compression, which eliminates internal slip. Internal slip reduces pump efficiency and allows for the abrasive slurries to prematurely destroy the hose.

Designed and manufactured to perfection



Our hoses undergo stringent tests to ensure 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 layers, the braid angles, cord thickness, and the thickness of the 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.

To consistently deliver optimum hose life, you must manufacture and machine a hose to exacting tolerance. All our hoses exceed the requirements set out in ISO 1307 and DIN7715, demonstrating the high quality of our products.

Available hose liner materials

Natural Rubber (NR)

A general purpose material with excellent mechanical and abrasion resistant properties. Suitable for all water-based applications and mild acids, alkalis or oxidising agents.
Max. fluid temperature: 80 °C
Min. temperature: -20 °C

Nitrile (NBR)

Acrylonitrile butadiene rubber. A durable material resistant to oils, greases, alkalis and detergents. 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

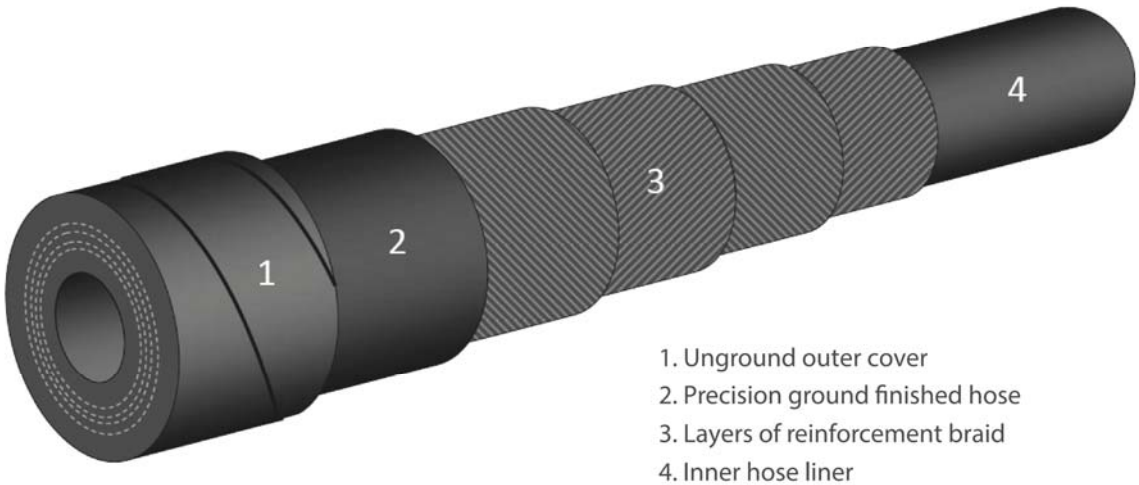
EPDM

Ethylene propylene diene rubber. Excellent chemical resistance, especially to ketones, esters, alcohols and concentrated acids.
Max. fluid temperature: 90 °C
Min. temperature: -10 °C

CSM (Hypalon®)

Chlorosuphonyl polyethylene rubber. Excellent chemical resistance to high concentration acids, ozones, and other oxidising materials.
Max. fluid temperature: 80 °C
Min. temperature: -10 °C

The anatomy of our hose



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

Hoses for use in other manufacturers' pumps

So confident are we of the quality of our hose, we will supply hoses, produced to original tolerances, for a number of the major peristaltic pump manufacturers pumps. We have successfully reduced operational costs for a large number of customers by using our hose in their existing peristaltic hose pumps. Call us for further details.

OPTIONS AND ACCESSORIES

As a company we pride ourselves in offering our customers solutions, not just products. Where required we can supply ancillary equipment to complement our core products. As a manufacturer with a flexible 'can do' approach, we can undertake many forms of customisation and bespoke manufacture. Feel free to call us on any pump related query.

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

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.

Hose failure detection

Pump hose failure is inevitable. When a hose fails it is dependent upon many factors and may not be when someone is watching the pump ready to switch it off. Installing a Hose Failure Detector is a simple solution. When a pump hose fails, pumped product is contained within the pump housing mixing with the hose lubricant and raising the liquid level within the pump housing. The Hose Failure Detector will sense this rise in liquid level activating a contact relay, switching the pump off.

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 Barg	210 l/hr	300 l/hr	1/4" BSPP Male
AFX015	MAX 80°c	70 rpm	10 Barg	420 l/hr	600 l/hr	1/2" BSPP Male
AFX020	MAX 80°c	90 rpm	10 Barg	1,242 l/hr	1,380 l/hr	3/4" BSPT Male
AFX025	MAX 80°c	90 rpm	10 Barg	2,214 l/hr	2,460 l/hr	1" BSPT Male
AFX032	MAX 80°c	70 rpm	10 Barg	3,990 l/hr	5,130 l/hr	1 1/2" BSPT Male
AFX040	MAX 80°c	60 rpm	10 Barg	6,552 l/hr	8,736 l/hr	1 1/2" BSPT Male
AFX050	MAX 80°c	50 rpm	10 Barg	10,380 l/hr	16,608 l/hr	2" BSPT Male
AFX065	MAX 80°c	45 rpm	10 Barg	19,170 l/hr	25,560 l/hr	2" BSPT Male
AFX080	MAX 80°c	35 rpm	10 Barg	25,893 l/hr	36,990 l/hr	3" BSPT Male
AFX100	MAX 80°c	30 rpm	10 Barg	43,200 l/hr	57,600 l/hr	4" BSPT Male
AFX150	MAX 80°c	25 rpm	10 Barg	105,000 l/hr	147,000 l/hr	6" BSPT Male

*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

THREE KEY ADVANTAGES

1. For a given flow rate our pumps run slower than most competitive pumps, resulting in longer life and reduced time between failures.
2. Slower speed also results in reduced energy consumption.
3. 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

Tel: +27 (0) 11 397 6911
Fax: +27 (0) 11 397 6712
Email: sales@afromix.co.za
Website: www.afromix.co.za

Afromix Head Office

25a Rudo Nell Road
Jet Park
Boksburg
South Africa

International Offices

AFX MIXING AND PUMPING TECHNOLOGIES INC.
Vancouver
Tel: +1 604 380 4458
Email: contact@afxmixing.com

AFX MIXING AND PUMPING TECHNOLOGIES
London
Tel: +44 (0) 203 627 4005
Email: contact@afxmixing.co.uk