Michael Smith Engineers

The UK's leading pump specialist since 1971

Specialist pump distributor since 1971

Exclusive UK representative for 13 overseas manufacturers

Average length of staff service of 20 years in the company

Head office in Woking, Surrey

Northern office in Wetherby, Yorkshire

In-house design and engineering capability

Fully equipped workshops and test bay

Specialists in sealless pump technology

Factory trained engineers

In-house and on site repairs, servicing and troubleshooting

Rapid response to technical enquiries

Over £200,000 of pumps and spare parts in stock

ISO 9000 accredited for the distribution of specialist pumping equipment since 1990

PUMP TYPES

Metering Pumps	High Pressure Diaphragm Pumps
Internal Gear Pumps	Valveless Piston Pumps
External Gear Pumps	Vane Pumps
Centrifugal Pumps	Side Channel Pumps
Magnet Drive Pumps	Turbine Pumps
Peristaltic Pumps	Rotary Disc Pumps
Tubular Diaphragm Pumps	Twin Screw Pumps
Barrel Emptying Pumps	Immersible Pumps
Air Operated Double Diaphragm Pumps	Piston Pumps

DUTY PARAMETERS

Low flows down to 1 microlitre/min
High flows up to 1000 m^3/hr
Low temperatures down to -85°C
High temperatures up to 510 °C
Low viscosities down to 0.2 cP
High viscosities up to 2,000,000 cP
Low NPSHR down to 1.0 m
High system pressures up to 345 Bar
High differential pressures up to 500 Bar
High differential heads up to 300 m
Suction lift up to 7.5 m
Solid content up to 60%

PUMP CHARACTERISTICS

Low shear
Self priming
Seal-less leak free
Accurate
Non metallic wetted parts
Smooth flow
Corrosion resistant
Metallic wetted parts
Controllable
Dry running
Dispensing
ATEX compliant

Markets & Industries Served

Chemicals
Pharmaceuticals
Refrigeration, Heating, Ventilation
Oil & Petrochemicals
Biotechnology
R&D / Laboratories / Universities
Biofuels
Power Generation
Food & Drink
Aerospace & Defence
Metal Treatment & Finishing
Original Equipment Manufacturers

Pumps for Laboratories, Research & Development Projects & OEMS

HNP MZR Micro-Annular Gear Pumps

HNP MZR ultra low-flow, miniature, positive displacement pumps are designed for precise, accurate, smooth, pulse-free pumping and dispensing of a wide variety of liquids. The compact size and low mass of the HNP MZR pump/motor units ensure they can easily be incorporated into the designs of many systems.

- Accurate dispensing of volumes as small as 0.25 microlitres
- Flow rates from nanolitres/hr to 1150 ml/min at differential pressures up to 150 Bar
- Accurate smooth pumping within +/- 1%
- Choice of drive options and wetted materials
- Wide range of viscosities from 0.3 to 150,000 mPas

Micropump Gear Pumps

Micropump compact, lightweight, magnet drive gear pumps are leak free and give positive displacement pumping without any pulsations.

- Standard models cover capacities from 0.5 to 720 lit/hr at discharge pressures up to 6.9 Bar
- Pumps are available in Stainless Steel Hastelloy, Titanium and Alloy 20
- All the pumps can be close coupled to a wide range of drives and motors
- High capacity models up to 2500 lit/hr and high system pressure models up to 340 Bar are also available

FMI Piston Pumps

FMI rotary piston pumps are ideally suited for dispensing, filling and sampling duties. With only one moving part no valves to block, these compact units give continuous, accurate, positive displacement pumping over millions of cycles

- The range covers capacities from microlitres to 4600 ml/min at discharge pressures up to 6.9 Bar
- Available in a choice of inert wetted materials
- Instantly reversible and viscosity independent
- Large selection of drives, motors and controllers

Ismatec Peristaltic Pumps

An extensive range of peristaltic tubing pumps capable of accurate, trouble free, continuous pumping of almost any media including highly viscous liquids, fluids with up to 60% solids concentration, corrosive fluids and sterile media

- Range covers flow rate from 0.001 ml/min up to 3000 ml/min at discharge pressures up to 2 Bar
- Ten different tubing materials available
- Can be dry run without problems
- All units are reversible and are self-priming
- A wide choice of drives, motors and controllers and multi-head options are available

Process Pumps

Codip Air Operated Tubular Diaphragm Pumps

Codip pumps combine an innovative pump design with a robust construction using durable materials.

- Maximum flow rates from 20 lit/min to 300 lit/min at discharge pressures up to 10 Bar
- Pure PTFE wetted construction available for ultrapure pharmaceutical applications or for maximum corrosion resistance
- Codip pumps can be run dry, are self-priming and offer double containment as standard

Liquiflo Gear Pumps

When you need reliable and accurate pumping of aggressive, corrosive or hazardous fluids, Liquiflo gear pumps are perfect for pumping small volumes of thin or viscous liquids at high pressures, delivering smooth, pulseless flows

- Maximum capacities from 0.5 to 200 lit/min at maximum differential presures up to 24 Bar
- Self-priming and extremely accurate
- Can handle liquids at temperatures up to 300°C
- Wide choice of wetted materials and drive options
- Sealed and seal-less configuration

Liquiflo PFA-Lined Gear Pumps

Liquiflo PFA Lined Gear Pumps are an excellent choice for pumping chemicals that require expensive alloys in metallic pumps, such as inorganic acids, bases and salts. They are also the first choice for high purity services where contact with metallic components must be avoided. Wetted materials include PFA pressure components with Silicon Carbide shafts and a choice of non-metallic materials for the bearings, wearplates and gears.

- Flows up to 47 l/min
- Differential pressures up to 6.9 Bar
- Magnet drive so zero leakage
- Pulseless flow – easy to monitor
- Accurate output
- Simple to service – minimises downtime

Viking Gear Pumps

Viking pumps provide an unmatched combination of application expertise and positive displacement pumping to meet your pumping needs. Choose from a wide range of models which meet the most challenging pumping applications

- Capacities to 345 m^3/hr and differential pressures to 103 Bar
- Wide choice of material options
- Sealed and seal-less configurations available
- Positive displacement with smooth, low pulse output

Finish Thompson Stainless Steel Centrifugal Pumps

The Finish Thomson range of centrifugal pumps are compact, easy to operate and economically priced and can be tailored for your specific application. Built from 316 stainless steel, these robust centrifugal pumps are designed to operate in the harshest chemical environments.

- Flows to 58 m^3/hr at differential heads to 53 metres
- Close coupled or frame mounted versions available
- Choice of different seal combinations, port sizes and impeller designs
- Corrosion resistant 316 stainless steel construction
- ATEX versions available for flameproof applications

M Pumps SC Mag-M Side Channel Pumps

M Pumps side channel pumps are specifically designed for efficient, economical pumping of low volumes of liquids at high differential pressures. They are leak free and can pump large amounts of entrained gas without any problems, making them ideal for loading and unloading duties.

- Flows to 35 m^3/hr at differential heads up to 360 metres
- Self priming with very low NPSH requirements
- Trouble free pumping of boiling liquids and volatile liquids
- Wide choice of wetted materials
- Standard barrel design suitable for system pressures to 50 Bar

M Pumps Centrifugal Pumps

M Pumps magnet drive centrifugal pumps are leak-free by design, so are particularly suited to handling toxic, flammable or other dangerous liquids. Available in close coupled or frame mounted configurations, M Pumps centrifugal pumps can be supplied in a number of different wetted materials, minimising the effects of corrosion and chemical attack

- Flows to 4000 m^3/hr at differential heads to 220 metres
- Multi-stage option for differential heads to 700 metres
- High system pressure and high temperature versions available
- Comprehensive choice of wetted materials to minimise corrosion
- Models to API 610 and API 685 available for petrochemical applications

Finish Thompson Ultra-Chem Lined Centrifugal Pumps

Ideal for pumping hazardous, hard to handle chemicals, Ultra-Chem magnetically driven pumps use a ductile iron casing and incorporate a Tefzel (ETFE) lining for high corrosion resistance. The Ultra-Chem product has been designed with a range of features to minimise wear on the pump components so maximising the time between routine service

- Maximum capacities up to 329 m^3/hr
- Differential heads up to 69 metres
- Powerful Neodymium magnet drive guarantees leak free operation
- Non metallic wetted parts for maximum corrosion resistance
- Dry-Coat shaft and bushing options for occasional dry running

M Pumps Peripheral Regenerative Turbine Pumps

The M Pumps range of seal-less magnet drive turbine pumps are ideal for low flow/high head applications and can be a very efficient and cost effective alternative to multistage centrifugal pumps. Available in a wide range of wetted materials, these pumps are ideal for pumping corrosive and hazardous liquids.

- Flows up to 12 m^3/hr at differential heads up to 500 metres
- Material options include 316 stainless steel, polypropylene or PVDF
- Self priming versions available
- Low and high temperature configurations for -100°C to +350°C

M Pumps Sliding Vane Pumps

M Pumps vane pumps are pulse free, accurate positive displacement pumps suitable for metering, dosing, transferring and circulating small amounts of liquids. Available with metallic or plastic wetted parts, these seal-less leak free magnet drive pumps can self prime up to 4 metres.

- Flows up to 3 m^3/hr at differential heads up to 210 metres
- Material options include 316 stainless steel, polypropylene or PVDF
- Self priming dry lift up to 4 metres
- Accurate, pulse free, leak free pumping

Metering Pumps

Hydra-Cell P Series Pumps

Hydra-Cell P Series metering solutions are compact, cost-effective pump systems for high-performance metering applications. Used in place of ordinary metering pumps to provide superior performance at a lower cost, Hydra-Cell metering solutions give virtually pulse-less linear flow accurately and repeatedly.

- Electronic flow control is more accurate and reliable
- Greater choice of materials enhance capability
- Reduced pulsations improve operation
- Capacities from 1 lit/hr to 2600 lit/hr at discharge pressures up to 170 Bar

Gear Metering Pumps

Our range of gear pumps are the ideal choice for metering viscous liquids. With smooth, near pulseless flows, our gear pumps are easy to monitor and to control and give consistent linear metering, dosing and dispensing of your pumped liquid.

- Accuracies better than 1% possible
- Flow rates from nanolitres/hour to 345 m^3/hr
- Differential pressures to 500 Bar
- Viscosities to 2,000,000 cp
- Material options include cast iron, tool steel, stainless steel, hastelloy and titanium
- Wide range of motors and drives available

Hygienic Pumps

Inoxpa Centrifugal Pumps

Hygienic and sanitary construction centrifugal pumps for pumping low viscosity liquids. Ideal for applications in the dairy, pharmaceutical and beverage industries. These compact close coupled units provide gentle handling of the product and offer excellent resistance to chemical agents.

- Flows to 1000 m^3/hr
- Differential heads to 90 metres
- EHEDG certified models available
- Special models for liquids with up to 60% solids
- Self priming versions available
- FDA approved mechanical seal

Side Channel Pumps

The sanitary side-channel self-priming pump is suitable for use in the food-processing, pharmaceutical and chemical industries. It is specially designed for pumping materials containing gas or air, and it can be used for negative suction applications with prior priming. Ideal for clean-in-place (CIP) requirements.

- Capacities to 56 m^3/hr
- Differential heads to 40 m
- AISI 316L
- Inside surface finish: Bright polish
- External mechanical seal (spring does not see the product)
- Hardened silicon carbide faces for the seal as standard

Rotary Lobe Pumps

The positive displacement rotary lobe pump of hygienic or sanitary design is suitable for use in the dairy, food-processing, beverage, cosmetics, pharmaceutical and fine chemicals industries. The lobe rotor design coupled with slow operating speeds ensures low shear rates and gentle transfer of liquids.

- Capacities to 160 m^3/hr
- Differential pressures to 12 Bar
- AISI 316L
- Inside surface finish: Ra ≤ 0.8 µm
- FDA approved mechanical seal
- Special design option for chocolate duties
- Models also available for use with hydraulic motors

Flexible Impeller Pump

The RF pump is a sanitary flexible impeller pump. Due to the design, these pumps are reversible and self-priming with a maximum suction lift capability of 5 metres. Applications include the transfer of dairy products, edible oils, wine and beverages. They can also be used for viscous food and cosmetic s transfer including jam, soap and toothpaste.

- Capacities to 28 m^3/hr
- Differential pressures to 2 - 4 Bar
- AISI 316L
- Inside surface finish: Ra ≤ 0.8 µm
- Able to pump thin and viscous liquids

General Industry Pumps

DB Series Magnetic Drive Pumps

The DB Series of non-metallic, reliable, leak-free, magnet drive pumps are designed for pumping aggressive hard to handle fluids. By using rare earth magnetic technology, DB pumps give high performance from a compact, robust unit.

- 8 series of pumps covers flow rates up to 50 m^3/hr and heads up to 43 metres
- NPT or BSP threads, raised face adjustable flanges or union
- Superior run dry ability helps protect the pump from system upset or operator error

SP Series Self-Priming Magnetic Drive Pumps

SP Series magnetic drive self-priming pumps are seal-less, leak-free, magnet drive self-priming pumps. The SP Series offer deep lift capabilities and lightning fast priming and can handle the most difficult applications with no seal replacement, no leaks and the capability to run dry without damage.

- 4 series of pumps cover flow rates up to 45 m^3/hr and heads up to 37 metres
- Capable of lifting fluids from 5.5 m in less than 90 seconds
- Use only a fraction of the energy AOD pumps require
- Corrosion resistant polypropylene or PVDF to handle most corrosive chemicals

ARBO Mechanical Seal Centrifugal Pumps

The ARBO range of thermoplastic mechanical seal centrifugal pumps are the ideal choice for any chemical handling application where metal pumps suffer from corrosion. ARBO pumps are machined from solid block and as their manufacture involves no injection moulding or welding, they are not susceptible to stress cracking.

- Capacities to 500 m^3/hr
- Differential heads to 90 metres
- Close coupled and long coupled versions
- Horizontal and vertical mounting options
- Choice of wetted materials

ARBO Immersible Centrifugal Pumps

The ARBO range of thermoplastic immersible pumps are single stage centrifugal pumps designed for installation in sumps or open tanks. The pump end is immersed in the pumped liquid and the motor remains above the liquid surface and so they are the ideal choice for any chemical handling application where metal pumps suffer from corrosion

- Capacities to 300 m^3/hr
- Differential heads to 80 metres
- Different lengths available
- Pumps can run dry
- Choice of wetted materials

Hydra-Cell Industrial Pumps

The simple design of the Hydra-Cell Industrial pumps make them durable and able to handle the fluids that can destroy other pumps. These positive displacement pumps give smooth, near pulse free output accurately, reliably and repeatedly.

- Capacities from 0.4 – 128 lit/min at pressures up to 170 Bar
- Seal-less leak-free design that can dry run
- Wide choice of materials of construction for pump heads, diaphragms and valve assemblies
- Heavy duty industrial construction for long service life in harsh conditions

Finish Thompson Air Operated Double Diaphragm Pumps

FTI AIR is a comprehensive line of air-operated double diaphragm pumps meticulously designed from the ground up, using state-of-the-art computer-aided design resources. Every pump component was run-tested continuously for many hundreds of hours at Finish Thompson and in field tests during development, resulting in one of the most reliable, rugged and affordable air-operated double diaphragm pumps on the market today.

The FTI AIR design incorporates its own unique features including a lubrication-free, non-stalling air valve, ideal for numerous applications and environments. The air valve contains very few components compared to other air valves in the market, reducing servicing time, maintenance costs and downtime.

Every pump is tested prior to packaging and shipping and FTI AIR is backed by a strong 5 year warranty

- Five different sizes – ½", 1", 1½", 2", 3"
- Metallic options include stainless steel and aluminium
- Plastic options include polypropylene and PVDF
- Capacities to 900 l/min
- Discharge pressures to 8.3 Bar

Finish Thompson Drum Pumps

A complete range of lightweight, robust, portable pumps for emptying barrels, drums and carboys. These reliable units are ideal for handling a wide range of liquids including corrosives, solvents and viscous fluids

- Capacities up to 150 lit/min
- Viscosities up to 100,000 centipoise
- Wide choice of wetted materials
- Available in different tube lengths
- Motor options include electric and air drives

Testimonials

"The support from Michael Smith Engineers Ltd has been very good. They respond quickly and are always willing to meet us on site to assist with pumping questions"

Martin Koenigsberger for Dow Chemical Company Ltd

"Overall, I would describe Michael Smith Engineers Ltd as one of our best performing vendors"

Richard Smith, Senior Process/Project Engineer for Harman Technology Ltd

"Michael Smith Engineers Ltd acted to ensure the installation was completed successfully and quickly and have proven to us they are a supplier we can truly rely on."

Toby Mankertz, Product Manager for Aeroform Ltd

"I am pleased to give an example of Michael Smith Engineers Ltd technical expertise, capabilities and honesty in placing the customers's interest truly first. This was their recommendation that we change the materials of construction as a result of a site duty change. Their recommendation has been successful and the savings to our company significant"

Pete Walker, Site Buyer for Croda Ltd

Testimonials

"We have used Nikkiso canned motor pumps for probably the best part of ten years and, thanks to the help from Michael Smith Engineers Ltd, have been able to operate them successfully and economically."

Pete Walker, Site Buyer for Croda Ltd

"I, personally, have been working with Michael Smith Engineers Ltd for over five years and find them extremely helpful. Their technical knowledge is very strong and their products competitively priced."

Richard Smith, Senior Process/Project Engineer for Harman Technology Ltd

"Due to Michael Smith Engineers Ltd track record we continue to ask them to assist us with further pumping applications"

Martin Koenigsberger for Dow Chemical Company Ltd

"Michael Smith Engineers were very helpful, and their Sales Manager, was knowledgeable and readily available. Our ammonia transfer which operates critically 24 hours, 7 days a week, is now totally reliable"

Fred Phelps, Terra Nitrogen Ltd

Testimonials

"We were aware of the problems involved when pumping latex and thanks to Michael Smith Engineer's understanding of our requirements and recommending the most suitable type and model of pump, it is working perfectly "

John Shirley, Engineering Manager for Bituchem

"Here at Flotech we have enjoyed and appreciated working with Michael Smith Engineers for many years. The Viking gear pumps deliver the performance we require for our additive and injection skids"

Richard Harris, Technical Director for Harman Technology Ltd

"We are happy with the Inoxpa Lobe pumps supplied by Michael Smith Engineers, as we have now have minimal air ingress into the process, no product contamination and reduced maintenance downtime "

George Mears, Technical Manager for Malibu Health Products