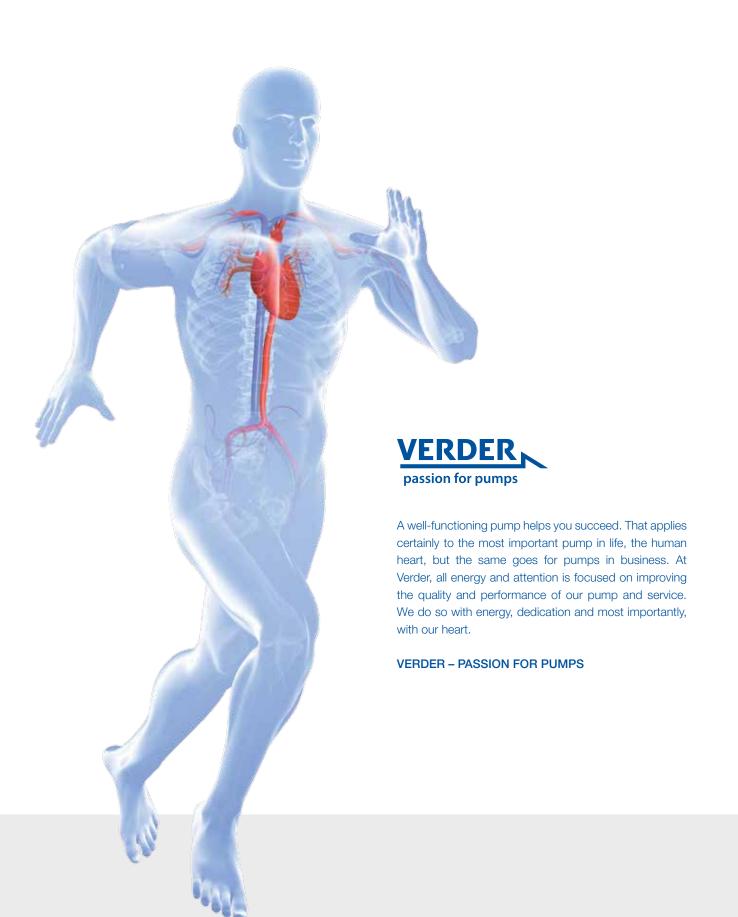


Benefits

- Longest hose life − most reinforced hoses
- → Easy to maintain: no flaps or valves, only 1 service part
- No damage: Gentle, low shear transfer of almost all liquids







- → 1 Company
- → 26 Countries
- → 55 Years of expertise
- → Global network
- ▲ Local distributors
- → A solution for every application

THE VERDER GROUP

The Verder group is a family owned business formed over 55 years ago in the Netherlands; the group consists of a worldwide network of production and distribution companies. Group companies are involved in the development and distribution of industrial pumps, pumping systems, high-tech equipment for quality control, research and development into solid material (solids sample preparation and analytical technologies). The Verder Group employs over 1600 people and has an annual turnover is in excess of 380 million Euros.

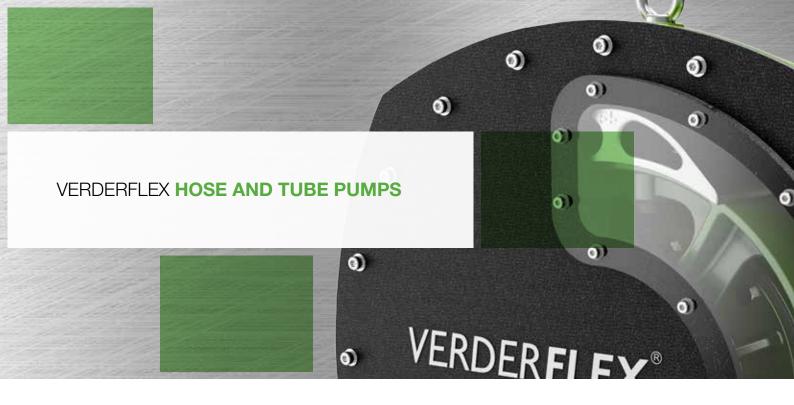
Among the most successful of Verder's technologies is its innovative Verderflex, peristaltic hose and tube pumps range.

Verderflex peristaltic pumps

Verderflex is a core Verder group product, solving pumping problems in such varied industries as: chemical manufacturing, food production, environmental remediation, water treatment, mining and general manufacturing, whilst also developing custom OEM solutions.

Verderflex peristaltic pumps are manufactured in the EU within ISO 9001, ISO 14001 and ISO 18001 accredited facilities, and the products have a range of food and similar industry specific certifications.

Verderflex peristaltic hose and tube pumps are the ideal solution for "difficult to pump" liquids or demanding applications. These range from smaller vending machine OEM pump modules and precision metering tube pumps to the world's largest high pressure hose pumps pumping dense, solids laden, mining thickener slurries and highly abrasive, viscous or corrosive liquids.



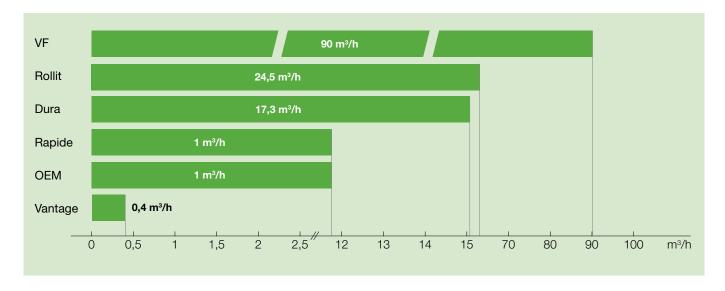


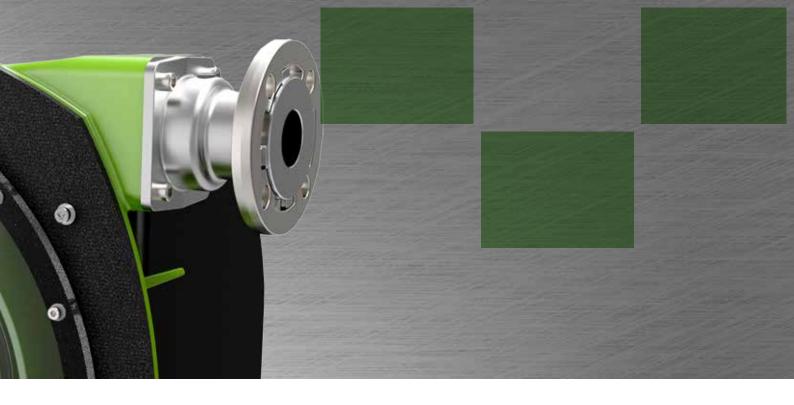
Verderflex positive displacement pumps are used with a large variety of fluids. The liquid is totally contained within a flexible hose or tube fitted inside the pump casing. The hose or tube is the pump's only consumable part. All Verderflex pumps can be used in hygienic applications thanks to several food grade hoses and tubing.

Verderflex characteristics

- → Flow rates from 1 ml/min to 90 m³/h
- → Discharge pressures from 1 to 16 bar
- → Ideal for pumping liquids that are abrasive, highly corrosive, shear sensitive, solids-laden or highly viscous
- → Ideal for precise dosing and metering
- → Simple designs with only the hose or tube as a consumable part
- → Suction lifts up to 9.5 mWc

Verderflex Performance Overview

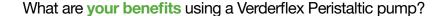




How does a peristaltic pump work?

Peristaltic pumps work by alternating compression and relaxation of a hose or tube, drawing fluid in and propelling it away from the pump. A rotating shoe or roller passes along the length of the hose or tube creating a seal between the suction and discharge sides of the pump. As the pump's rotor turns this sealing point moves along the tube or hose displacing product into the discharge line.

The hose or tube recovers after the pressure has been released, creating a vacuum. This is the priming mechanism, which draws the product into the suction side of the pump. Combining these suction and discharge principles results in a powerful self-priming positive displacement action.



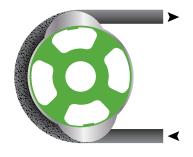
Verderflex pumps mean realiable pumps. Less maintenance and downtime for your process. The three core elements of every Verderflex pump are:

Longest hose life

- Extended service intervals maximum fatigue strength for longest hose life
- Abrasion resistant: no worn parts
- Can pump air: eliminates vapour locking downtime
- Dry running: no burnt stators
- Minimal service time: Fast hose or tube changeovers in minutes

Easy to maintain

- Only 1 service part: the easy to change hose or tube
- Service in situ: no need to remove the pump to a workshop
- Simple design: no complex sealing arrangements
- No additional seals or valves eliminating additional equipment



Gentle, low shear transfer

- Minimises chemical usage:
 Maintains flocculent particle size
- Maximises process recovery: live cell concentrations preserved
- Gentle pumping action: low velocity, no product degradation





Verderflex Dura

Compact, low to medium flow high pressure pump The Verderflex Dura is the most compact peristaltic pump in the market. Thanks to the innovative design the footprint can be reduced up to 70%, optionally in an ATEX rated format.

Flow max. 17.3 m³/h Pressure max. 16 bar



Verderflex VF

Powerful high flow, high pressure pump Robust Verderflex VF hose pumps are excellent for pumping viscous, abrasive or corrosive fluids and can be ATEX certified.

Flow	max. 90 m³/h	Pressure	max. 16 bar	





Verderflex Rollit

Lubricant free, low pressure, low power pump The lubricant free pump for high flow rates and low power consumption. Available with single or twin head, 2 or 4 bar pressure and as hygienic version.

Flow max. 24.5 m³/h Pressure max. 4 bar



Verderflex OEM

Custom system integration solutions Verderflex OEM pumps offer a selection of custom pump designs, motor options and tubing. The range can be configured into an optimal solution for any OEM pump requirement.

Flow max. 17 I/min	Pressure	max. 2 bar
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Verderflex Vantage

Precision, controlled dosing

The innovative Verderflex Vantage is a very precise, controllable dosing system with a USB back-up. Ideal for dosing abrasive, corrosive, shear sensitive and viscous fluids. Several control options and pump heads are available for this pump series.



Verderflex Rapide

Simple low pressure industrial dosing These simple IP 55 industrial style pumps can be easily integrated into existing equipment. They are ideal for liquid transfer and can be easily controlled by external inverters (VFD's).

Flow max. 17 I/min Pres.	sure max. 2 bar
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Hoses for Verderflex Dura and VF pumps

The Verderflex hose can reach up to 15 million compressions - maximising hose life by optimizing the fatigue strength. Thanks to the hose design the Verderflex hose offers many advantages:

- Longest hose life: Maximum fatigue strength gives optimum rebound performance
- No burst danger: constant high quality in each and every single hose
- Controlled manufacturing: external machining is unnecessary
- Superior lubricant distribution: textured surface's capillary effect creates micro lubricant pockets, for better coverage and improved hose life.
- Better hose cooling: textured surface reduces surface friction, lowering hose temperature for improved hose life







NR - Natural rubber











The most widely used hose in all market segments is made of natural rubber. Both inner layer and outer surface are made of natural rubber and very resistant to abrasion. Suitable for use with slightly corrosive chemicals, very abrasive slurries, inorganic products, etc.

Temperature	-20 to +80 °C
Colour of the label	White
Pressure	max. 16 bar

This hose is particularly suitable for corrosive chemicals and inorganic compounds. Unlike many other EPDM hoses, the homogeneous Verderflex EPDM hose is made totally from EPDM, making the hose extremely resistant to corrosive chemicals and ideal for working at elevated temperatures.

Temperature	-20 to +100 °C
Colour of the label	Red
Pressure	max. 16 bar

NBR - Nitrile-Buna rubber

natural rubber.

Temperature

Pressure

Colour of the label

Available for:



the outer lining is a mixture of styrene-butadine rubber and

This hose is particularly suitable for oily, greasy or organic
products. The inner lining is made of nitrile butadine rubber,

CSM - Hypalon®

Available for:



The CSM or Hypalon® hose is used when highly corrosive media, e.g. strongly oxidizing media, must be transferred. The inner layer is made of CSM, the outer surface of SBR / NR. Hypalon is a trademark of DuPont™.

Temperature	-20 to +85 °C
Colour of the label	Green
Pressure	max. 16 bar

NBRF - Food Grade Nitrile Buna rubber (FDA) Available for:



The NBRF hose has an inner lining suitable for FDA compliant applications or those with a similar high hygienic standard.

-20 to +80 °C

max. 16 bar

Yellow

Temperature	-20 to +80 °C
Colour of the label	white / yellow
Pressure	max. 16 bar
FDA, EC 1935	

Verderprene

Available for:

This opaque, cream coloured hose provides a food grade, low-spallation hose for the Dura pump.

Temperature	+5 to +80 °C
Colour of the label	Beige
Pressure	max. 3 bar
FDA	·

Hoses for Verderflex Rollit pumps

Natural rubber (NR)



Natural rubber is a highly abrasion resistant, general purpose hose material, ideal for use on slurries and pastes.

Temperature	+5 to +60 °C
Pressure	max. 2/4 bar
Max. temperature	80 °C short term

Food Grade Natural rubber (FN)

Available for:



The Food Grade Natural rubber hose complies with FDA CFR 21 and is ideal for food and drink applications requiring such certification.

Max. temperature	60 °C continuous
Pressure	max. 2 bar
Max. temperature	80 °C short term
FDA	

Verderprene (VP)

The Rollit's Verderprene hoses are designed specially for use in the low pressure, 2 bar Verderflex Rollit Hygienic pumps. These low particle loss, food grade hoses comply with FDA CFR21 and EC/1935.

Max. temperature	80 °C continuous
Pressure	max. 2 bar
Max. temperature	95 °C short term
FDA, EC	

Neoprene (CR)

Available for:



Neoprene is an alternative hose material useful when pumping more oily liquids.

Temperature	+5 to +60 °C
Pressure	max. 2 bar
Max. temperature	80 °C short term

Tubing for Verderflex tube pumps

Verderflex tubing offers several standard materials with various diameters, thicknesses and chemical compatibility. They are compliant with various standards worldwide.

Verderprene

Available for:



Platinum Cured Silicone for higher purity Available for:



This opaque, cream coloured tube is the most popular choice Platinum cured Silicone is a translucent, odourless tubing with for tube pumps (FDA or NSF compliant depending on pressure). low residuals (FDA & USP compliant).

Temperature	+5 to +85 ° C
Colour of the label	Beige
Pressure	max. 3 bar
FDA or NSF	

Temperature	+10 to +85 ° C
Colour of the label	Beige
Pressure	max. 3 bar

Other materials including chemically resistive grades of Tygon® and Viton® are available on request.

Lubrication

Peristaltic hose pumps use a lubricant bath to help the hose dissipate the energy stored in the re-enforcing layers and require lubrication to optimize pump performance. Verderlube (glycerine based) is the standard lubricant for Verderflex pumps. When strong oxidisers or nitrogenous chemicals are pumped Verder also offers Verdersil, a silicone based lubricant that is also suitable for higher temperatures.



Both lubricants are purpose designed to work with Verderflex hose pumps acting as a lubricant and coolant for efficient pumping and prolonged hose life. For dry running pumps, including the Verderflex Rollit, Verderflex provides a range of lubricant greases including standard, NSF food grade and Silicone free options.

Accessories

Verder supplies pumps equipped with many accessories including Custom base plates, Mobile systems and "dropin" skids, pH, and Redox probes and Chlorine concentration cells. Pulsation dampers, Quick change connector hoses and lances, Revolution counters, Variable frequency drives.





Up to

less floor space required than traditional peristaltic pumps.

The Verderflex Dura is the first real innovation in hose pump technology since the high pressure hose was developed. Combining the compactness of a close coupled pump with all the benefits of the traditional long coupled pump, the Verderflex Dura offers new application possibilities.

Features of the Verderflex DURA 5 - 35 hose pumps

- Space saving footprint
- → Very robust one piece rotor
- → Special 5 and 7 mm hoses for high pressure, low volume applications
- → Timesaving and easy hose change. Simple taper fit flange assembly
- → Polypropylene and PVDF insert options for aggressive chemicals
- → Safe: Gearbox is totally isolated from pump head

Features of the Verderflex DURA 45 - 55 hose pumps

- → Drain channel for gearbox protection
- → Fully supported shimmable rotor shoes
- Independently supported rotor
- → Stalled rotor protection

Technical details

Flow rate	Max. 15.3 m ³ /h	Dry Suction Lift	< 9.5 mwc
Discharge pressure	Max. 16 bar	Options	Atex





The innovative Dura gearbox mounting design

- Zero possibility of cross contamination: gearbox and pump body are totally separated
- → Simple and safe: the gearbox's hollow shaft slides on to the pump's drive shaft and is locked in place with a key
- Reliable high-rigidity gearbox mounting

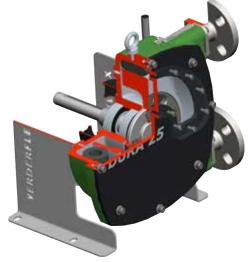
Quick and easy hose replacement

- Advanced hose clamping design simplifies hose replacement
- → Secure: hose is totally enclosed inside pump casing
- The innovative conical flange nozzle compresses the hose against the housing taper to form a perfect seal
- → Chemical resistant inserts are available in PP and PVDF
- → Flexibility: universal flange mates with DIN, ANSI and JIS pipe work

Bearing supported rotor

- Extended gearbox lifetime: rotor is centrally located over its support bearings
- → Reduced maintenance: sealed for life bearings
- Lower maintenance cost: stalled rotor protection minimises damage from plugs and chokes





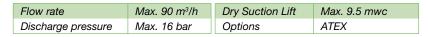


The Verderflex VF range of industrial hose pumps are a proven, medium to high flow, high pressure, heavy duty abrasion resistant family of peristaltic pumps. They can pump high solid content (up to 80%) and high s.g. slurries (up to 2.0), reducing water usage and improving process efficiencies. These field proven VF pumps offer reliable solutions in difficult pumping situations worldwide. Replacement VF hoses typically cost just around 10% of the initial pump price - the long life hose is rapidly changed without removing the pump to a workshop, saving time, money and frustration.

Features of the Verderflex VF hose pumps

- → Flow rates up to 90 m³/h
- Rigid pump housing design for heat dissipation and strength
- → Fit-in hoses; no adjustment needed
- → Reduced downtime
- → Minimise maintenance costs















Rotors and Rotor Shoes

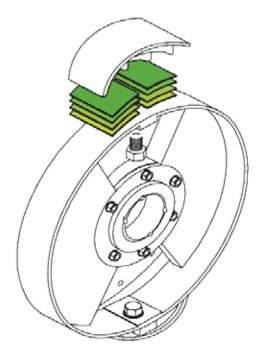
Precise alignment between system pressures and hose life

Every Verderflex VF pump has 2 diametrically opposed rotor shoes, normally precision cast Aluminium, fitted on their robust cast iron rotor. These large radius of curvature shoes provide a gentle, gradual transition between full hose occlusion and total hose relaxation, minimising the hose's re-enforcement fibre stress and helping maximise hose life unlike the harsh transition of small radius roller designs.

Each rotor shoe's compression and the associated hose occlusion can be custom configured using shims to closely match the hose's compression with the pump's operating pressure optimising the trade off between hose compression and hose life. This simple combination readily withstands the ingress of pumped product on a hose burst unlike the complex bearing and seal arrangements used by roller assemblies.

Options

- → ATEX versions
- Hose burst monitoring
- → Hose connections for VF15
- Hydraulic motors
- Optional hygienic connections to standards including Tri-clamp and Dairy
- Pulsation dampers
- → Screw on sherardized (vapour galvanised) mating flanges for the VF100 and VF125
- Special coatings for corrosion protection
- Stainless steel Rotor shoes, base frame and fasteners
- → Vacuum installations to increase the suction power





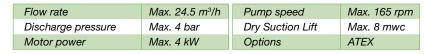
The Verderflex Rollit is a series of easy to use, lubricant free hose pumps for flow rate up to 24.5 m³/h. Easy to maintain, with 3 rolllers for less pulsation. Energy efficient Verderflex Rollit pumps are dry self-priming up to 8 mwc and are available as single and twin channel models.

The Rollit is available as high pressure version with up to 4 bar or as a twin head pump. Thanks to the clever arrangement of the rollers this version offers even less pulsation than the standard model. The Rollit pumps are also available with a hygienic hose which meets the requirements of the FDA and is certified to En1935 / 2004.

Features of the Verderflex ROLLIT hose pumps

- → EC & FDA Food grade hoses
- → Hose changeover takes less than 3 minutes
- No lubricant bath
- No seals, flaps and valves
- Optional ATEX versions
- → Self-priming up to 8 mwc
- Small footprint
- → Standard & low pulsation Twin pump head options

Technical details











The Verderflex Rapide is a series of compact, simple to operate, low to medium flow, low pressure peristaltic pumps. Tube changeovers require no special tools, for fast, very easy tube changeovers.

Features of the Verderflex RAPIDE pumps

- Compact size
- → Simple control systems using variable frequency drives (VFDs) or
- → inverters for variable flow applications
- → Fast tube change
- → Easy integration into third party equipment, such as printing presses
- → Duplex versions available

Technical details

Flow rate	Max. 17 I/min	Discharge pressure	Max. 2 bar	

Options: Single phase motors, lower pulsation rotor options, custom OEM specifications











The Vantage is a compact, precise dosing pump series. It offers precision repeatable dosing for low and medium flows at low and medium pressures. Pumps can be remotely controlled using a range of industry standard protocols and can be used to reliably dose single volumes or cyclically dose the same volume from remote controllers such as footswitches or using the pump's own controls. All pumps bring the benefit of reduced parts count over other dosing technologies by eliminating additional ancillary equipment including check valves and strainers.

Vantage 5000

The Verderflex Vantage 5000 easy dosing pumps have an advanced touch screen technology, with downloadable jobs and pump histories and can be remotely monitored using the Verderflex App. The Verderflex Vantage 5000 accurately doses liquids at pressures up to 7 bar in many industries. The Vantage 5000's flow ranges a tiny 70 µl/min up to 6600 ml/min.

Benefits

- Easy to use: set up the pump in seconds using intuitive icon based menus
- Flexibility: Analogue Remote control options include 4 to 20mA, SCADA and 0-10V
- Local memory: each pump stores up to 30 dosing programs
- → Precision metering: 4000: 1 turndown
- → Protection: USB backup of programs and Pump History
- Remote Monitoring with the Verderflex App
- → Secure: Multi Level Password Access

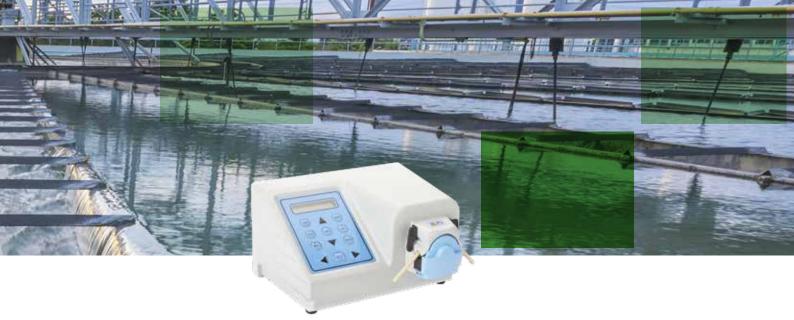
Features

- → Advanced touch screen technology
- → Digital control options include MODBUS®, PROFIBUS® & RS485
- → High flow per revolution
- Remote control: 0-10V, 4-20mA & Frequency plus 7 Control Volt Free Inputs & 4 Configurable Outputs
- → User selectable languages

Technical details

Flow rate Max. 6600 ml/min	Discharge pressure	Max. 7 bar	
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Vantage 3000

These pumps are perfect for laboratory applications such as dosing low volumes of shear sensitive fluids. Different models have different capabilities including simple manual transfer, remote control using external signals or switches or programmable dosing. Some of the models can be equipped with multiple heads for multi-channel pumping requirements.

Your benefits

- → Easy tube change in seconds
- → Economic manual transfer version
- Programmable dosing
- Remote speed control options: 0-10V, 4-20mA and potentiometer inputs
- Simple keyboard programming

Technical details

Flow rate Max. 3.25 I/min	Discharge pressure	Max. 2 bar
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Features

- → Great flexibility thanks to many tube options
- demanding applications
- Quick and easy tube changeovers
- Multiple heads pump options

The Verderflex peristaltic **OEM Pump range**

Our OEM Product Range offers a selection of custom pump designs, motor options and tubing. The Verderflex OEM range can be configured into an optimal solution for any OEM pump requirement.

Verderflex M-Series

The Verderflex M-series pumps are a simple, family of well proven solutions suitable for integration in dosing, dispensing, vending, transfer and bottle filling systems. Normally used for low flow dosing, the pump range offers a wide range of flows up to 17 l/min. Available with different motor specifications depending on application e.g. commercial vending, hygienic or dirty industrial and extraction environments. The M60 pump head has a snap-on tube assembly for rapid tube changeovers

Verderflex Miniload & EZ

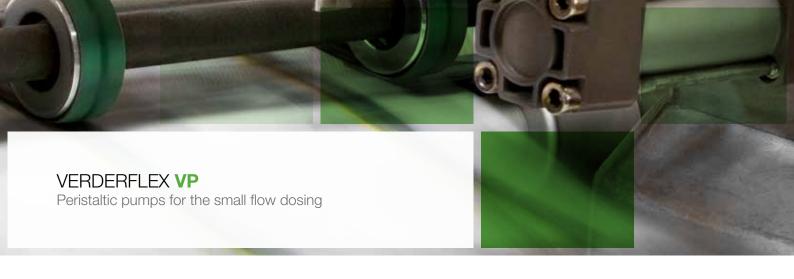
The Verderflex Miniload and EZ head are "flip top" pump head pumps with a quick and easy tube change system. They can be stacked for multi-channel pumping. Motor options include permanent and brushless D.C. or the Steptronic precision drive for custom speed/flow rate configurations.

Innovative: Verderflex Steptronic Drive

The Verderflex Steptronic configurable drive is a programmable brushless stepper motor with a 12 bit analogue resolution and 4-20 mA or 0-10 V speed control inputs. With a maximum speed of 400 rpm and a speed accuracy of 0.1 % it's perfect for all precision dosing applications using the M60, Miniload or EZ pumpheads.

Flow range	0 - 1,310 ml





The Verderflex peristaltic VP Pump range

Verderflex VP peristaltic pumps are perfect for low flow dosing with timer, pH or redox control options. The pumps are self priming, with an innovative stable flow control to maximise tube life. Typical applications are dosing chemicals or cleaning agents for original equipment (OEM) manufacturers of washing machines, dishwashers and beverage machine dispensers. Other common application areas are in the chemical industry, medical industry, laboratory and analysis, swimming pools, cleaning & hygiene.

Features

- Compact low flow dosing pumps
- Choice of different water parametric control options
- Large number of product options to suit many applications
- → OEM systems proven

Verderflex VP, Verderflex VP Dual and Verderflex VP Pro series pumps

Compact Single channel Verderflex VP peristaltic tube pumps have models with integrated dosing functions such as timer, pH control or Redox control.

The easy to program and maintain Verderflex VP Dual series are compact all in one solutions for monitoring widely varying water parameters including pH, Redox, Chlorine and temperature via built in instruments that adjust dosing rates in response to parametric changes.

Max. flow	30 l/h	Max discharge pressure	3 har

The 3 Verderflex VP Pro versions provide pH / Rx, mA and CI monitoring with extended, digital and proportional dosing; variable speed control options, adjustable setpoint alarms and switch on time delays.

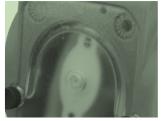
Max. flow 6 I/h	Max. pressure	1 bar
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Verderflex VP Pre- Assembled Panels

Verderflex VP ready to use panels have several Verderdos and Verderflex pumps mounted, complete with all accessories. The compact, fast set-up IP65 panels have easy to reach connections and simple sliding brackets for quick and easy pump replacement.









VERDERFLEX PUMPS

Applications



Verderflex offers a wide range of pumping solutions for complex, pumping applications. Below are a few examples where Verderflex pumps have cost effectively solved customer's pumping process problems.

Anaerobic Digestion Sludge Transfer

Verderflex pumps transfer high solid content, viscous sludge to anaerobic digester tanks requiring powerful suction capabilities.





Aseptic Pharmaceutical Dosing

The Vantage 3000 has a smooth liquid passage and no valves or moving parts in the liquid stream. Only the sterilized tube is in contact with the media. This Vantage 3000 repeatably doses low volume clinical trial products into bags.





Dosing Alum

Eight Rapide R17S dose Aluminium Sulphate to purify drinking water. These Rapides replaced problem high maintenance cost solenoid operated pumps giving more consistent dosing performance.





Metering Abrasive Coatings

Verderflex Rollit lubricant free pumps gently meter viscous laminate coating resins, containing abrasive carborundum. The Rollit eliminates seal wear, eliminate air bubbles and reduces job changeover times.





Pumping Kieselguhr

Several Dura 25s dose and transfer Kieselguhr (Diatomaceous Earth or Diatomite) at a Bavarian brewery, filtering 1200 hl of beer in every 8-10 hour cycle.





Phosphorous Removal Metering Skid System

3 Vantage 5000 pumps are installed on a single "drop-in" skid system to treat fly ash run off water to neutralise high phosphorus residual levels. The first pump precisely doses CaCl2 raising the leachate's pH level for optimal flocculation by the other two pumps. The flocculants dosing pumps gently to remove the residual phosphorous, avoid costly over-dosing and minimising treatment costs. Each pump is easily controlled using simple 4 to 20mA signals with real time performance feedback and status alarms and the "drop-in" skid minimises on-site commissioning time.





Dosing Sterilising Solutions

M500 OEM pumps dose critical sterilising solution volumes to clean milk transfer tanks and lines, maintaining equipment sterility and eliminating the risk of bacterial contamination.





Transferring High Solids Mining Slurry

VF100 & VF125 pumps earned a reputation as the mining industry's slurry pumping workhorse. They excel pumping high SG slurries with up to 80% fine solids content and minimal abrasive wear. For the miners, these translate into drastically reduced water requirements, power and infrastructure savings. Additionally, their gentle pumping action supports bio-remediation techniques reducing cyanide usage.







Dosing and Transfer of Refuse Leachate to Incinerators

A Chinese Waste Incineration Plant uses 12 Verderflex peristaltic pumps to dose solids laden, abrasive leachate to a collection reservoir.





Dosing Flocculent

Verderflex Dura 10 pumps reliably dose high emulsion flocculent. They replaced dry running progressing cavity pumps with because of the high maintenance costs of burnt stators.







Dosing Lime into Drinking Water

2 Dura 55 pumps dose lime 24 hours a day, 7 days per weeks into the water supply for a major UK city. They replaced problem progressing cavity pumps suffering from abrasive stator wear, ongoing replacement parts costs and excessive pump downtime. The operational cost savings justified the purchase of an additional 3 Dura 55 pumps.





Contact Verderflex

If you would like to know more about Verderflex peristaltic pumps then please visit our website www.verderflex.com where you will find the full breakdown of our pump range as well as application stories, latest news and technical datasheets and more.

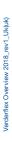
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To provide you with the best possible service Verderflex are supported by a distribution network that covers all five continents and is continuing to expand. Our group of distributors includes members of the Verder Group and experienced independent companies. Our worldwide distribution network also help to provide our customers local support and spares availability.

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