

The Verderflex® Series

Verderflex®

- Operating pressures to 16 Bar/230 PSI and flow rates to 90m³ /hour (390 US GPM)
- Simplified hose connection for easy maintenance
- Specially designed hose construction for longer hose service life
- Supplied in close coupled or long coupled (bare shaft) designs
- DIN, ANSI and JIS flanges or hygienic compliant connections
- Certified to EHEDG standards for use in the food and drinks industry
- Can be supplied with accessories including pulsation dampers, dosing controllers even as a complete dosing station
- Supplied with a 2 year warranty covering any defects in workmanship and material under normal use



Verderflex® Dura

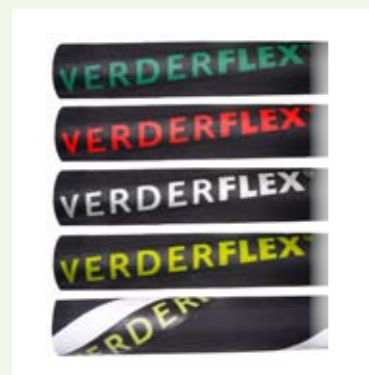
- Flows from 14 l/h (0.06 US GPM) to 170 l/h (0.75 US GPM)
- Maximum discharge pressures up to 12 bar (174 PSI)
- Longer hose life †
- Quick & easy maintenance †
- Close coupled pump with long coupled advantages
- 70% smaller footprint †
- Up to 25% reduction in operational noise †

† Compared with similar products



The Verderflex® Hose

- 12 standard hose sizes from 5mm (3/16") to 125mm (5")
- All are designed to maximise hose life by optimising the hose's fatigue strength
- Hoses are available in Natural Rubber (NR), Nitrile Buna Rubber (NBR), FDA approved Food Grade Rubber (NBRF), EPDM and Hypalon®
- Hoses have colour coded identification tape bonded into the outer during manufacture to clearly identify material type - eliminating the risk of error in hose selection.



Verderflex® Smart F-Series Industrial Tube Pump Range

- The Smart F-Series is an ideal solution for low pressure dosing
- Flows from 0.25ml/min (0.004 US GPH) to 27 l/min (428 US GPH)
- ATEX certified versions are available to special order
- Industrial style F-series design using standard gear motor unit & optional inverter for process plants
- Wide range of tube materials including Verderprene and Silicone
- Easy-fit tube saddle with optional leakage detection
- Industrial gearbox with optional sparkproof and flameproof motors
- Up to 4 pump heads can be fitted to a single drive



Verderflex® Smart High Accuracy Depositors

Eliminating waste and preventing overflow by highly accurate control of flow - The Verderflex® Smart offers a quick return on investment.

The Verder system based on its smart technology series of peristaltic pumps offers a flexible solution to most filling requirements.

Due to the modular design of the system, individual build configurations can be offered within a standard package. All pumps are glandless and leak free, protecting the product from any external ingress of foreign material.

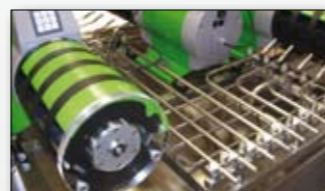
- All units are factory tested as a package
- Option for assistance with installation on site
- Commissioning and production testing service
- Training programmes for operators

One of the main features of the unit is the control system. A standard, yet tailored system, driven through a visual touch screen interface with simple graphics showing status and allowing straightforward adjustment of recipes, rinse cycles and cleaning cycles etc.

The use of multi-coloured graphics specifically tailored to each application means production changes can be made quickly. Product changes are equally as quick to undertake using the units twenty four recipe menu. Within each recipe each pump drive can be individually tuned for optimum weight accuracy, catering for any variance across the width of the production machine.

The panel also controls the fill and scavenge pumps as well as all the actuated valves. Rinse and cleaning cycles are therefore automatic and interlocked allowing all cleaning and hygienic requirements to be met.

The unit is suitable for a wide range of food products including egg mixture, sugars and syrups, milk, custards, glaze, gravy and yogurts.



VERDERFLEX® SMART

Verderflex Smart® Peristaltic Tube Pump



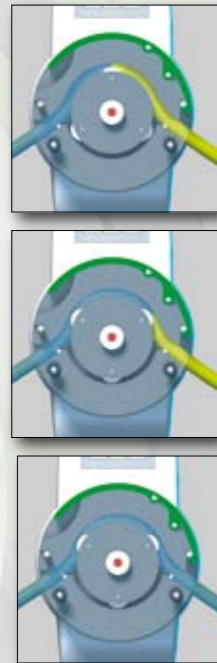
Verderflex® Smart

Peristaltic pump principle

The principle of the peristaltic tube pump is based on alternating compression and relaxation of the tube within the pump head, operating in a similar way to our throat and intestines.

The medium to be pumped does not come into direct contact with any of the moving parts of the pump and is totally contained within a tube. The rollers of the pump head pass along the length of the tube compressing it totally closed and upon restitution of the tube a strong vacuum is formed which draws the product in and along the tube.

Each rotation of the pump displaces a constant quantity of product with high efficiency which allows a Verderflex® Smart to be suitable for accurate dosing applications.



Without any seals or valves, a Verderflex® peristaltic pump is ideal for handling:

- Abrasive fluids
- Corrosive fluids
- Viscous fluids
- Shear sensitive fluids
- High density fluids
- High Solid content fluids

The Verderflex® Smart series is an excellent, low dosage pump capable of handling viscous, abrasive and chemically aggressive media with total containment and leak free pumping.

The pump has an easy-fit saddle mechanism which has been developed to be operated with one hand and because the tube is top-loaded, changing the tubes on the Verderflex® Smart is much simpler than other tube pumps.

The range has three drive options allowing the pumps to be programmed with different functions. This means the pump can be operated either manually, remotely or through a pre-programmed control system.

Add to this a choice of three pump heads providing flow rates from 0.25 to 27000 ml/min per channel and the capability of expanding up to 4 channels on a single drive.

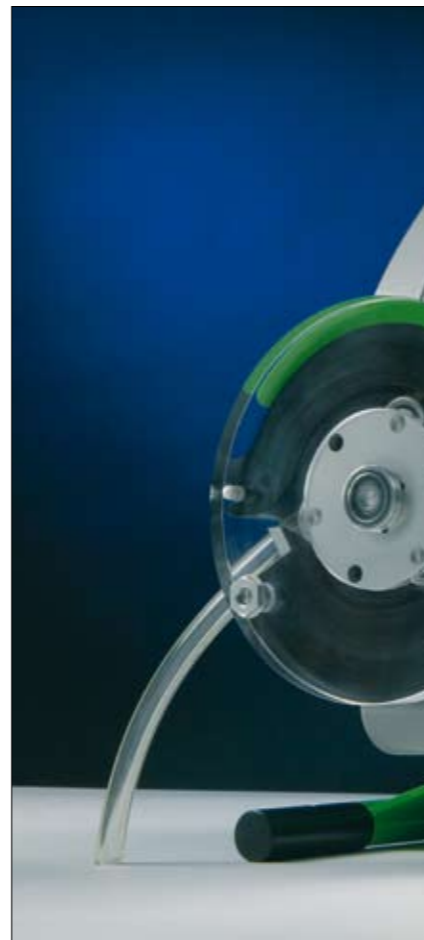
The Solution is Verderflex® Smart.

Pump head

- Easy-fit tube saddle for rapid tube changes
- Automatic tube clamp
- Manufactured from chemical-resistant POM
- Transparent front cover (Polycarbonate)
- Can be expanded to a maximum of 4 pump heads
- Pressure range 0 - 4 bar (a special hose is required for higher pressures)
- A choice of 3 or 6 rollers, low-pulsation version optional
- Safety interlock to stop the drive when removing the saddle (SSD)
- In-line tube arrangement, providing a kink free tube solution

Drive

- Robust powder-coated aluminium housing (IP55)
- Ergonomic construction with a clear, accessible display for clockwise/anti-clockwise, On/Off and rpm control
- Illuminated display which is clearly legible

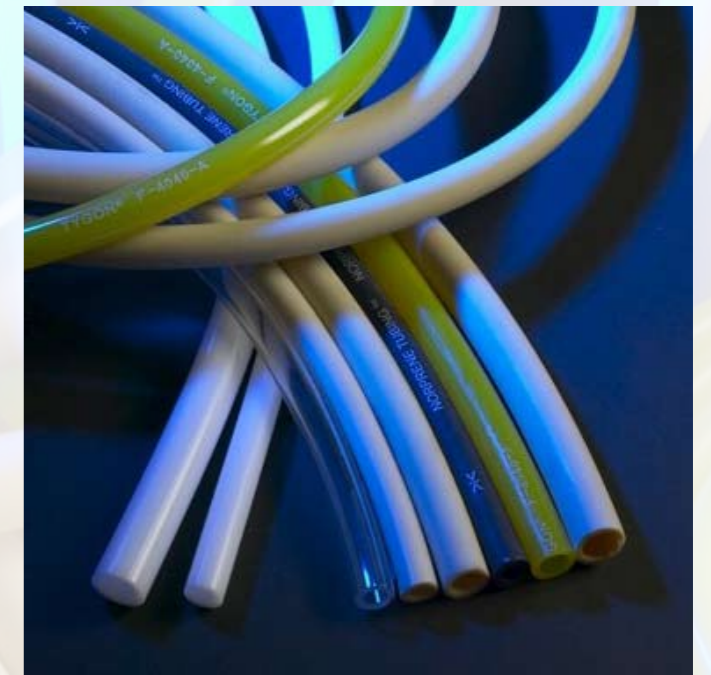


Verderflex® Smart Tubing

Verder has a wide variety of tubes which offer the ideal choice for every application. In our range we offer several standard materials with various diameters and thicknesses. Special tubes are available on request.

Not all tubes are suitable for use in a peristaltic pump. The following criteria are important when selecting a tube:

- Chemical resistance
- Food grade quality
- Tube life
- Physical compatibility
- Sterilisation capability



Tube Properties

Verderprene - General purpose tubing

The most popular choice for use in peristaltic tube pumps. This tube has good chemical resistance, mechanical properties and lifespan.

- Temperature range: - 50 to + 135 °C
- Meets FDA, 3-A and NSF criteria
- Can be autoclaved repeatedly
- Compatible with most CIP solutions and SIP

Silicone - Ideal for higher temperatures and sanitary applications

Used in applications where a long tube life is required. This tube can be sterilised and autoclaved. It is highly elastic and has a high flex factor which makes it a reliable tube for fluid transfer especially in dosing applications.

- Temperature range: - 20 to + 200 °C
- Meets FDA, USP Class VI and BGW/BGA XV criteria

Verderfuel - Process fluids tubing

Specifically designed to handle most fuels and industrial lubricants this tubing resists the swelling and hardening caused by hydrocarbon based fluids. These properties significantly reduce the risk of failure - due to cracking and leakage.

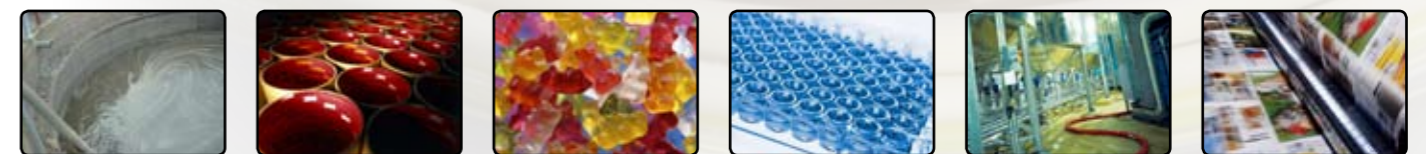
- Temperature range: - 37 to + 74 °C
- Yellow colour for positive identification
- Suitable for fuels, heating oils, glycol, coolants and cutting fluids

Fluran® F-5500A - Aggressive chemical tubing

Fluran® is strong, resilient and flexible tube which provides excellent resistance to corrosive chemicals, oils, fuels, solvents and most mineral acids. It can also handle corrosive chemicals at temperatures as high as 204 °C.

- Temperature range: - 22 to + 204 °C
- Resists ozone, sunlight and weathering
- Opaque black color helps protect light sensitive fluids

Fluran® is a registered trademark of Saint Gobain Performance Plastics



Lightning Fast Tube Change

The easy-fit tube saddle is designed for single handed operation and is based on the design of a ski boot fastener, allowing the tube to be loaded quickly and easily from above.



Insert the tube on top of the rollers



Fit the saddle to one set of dowels



Open up the lever and fit the claw over the other set of dowels

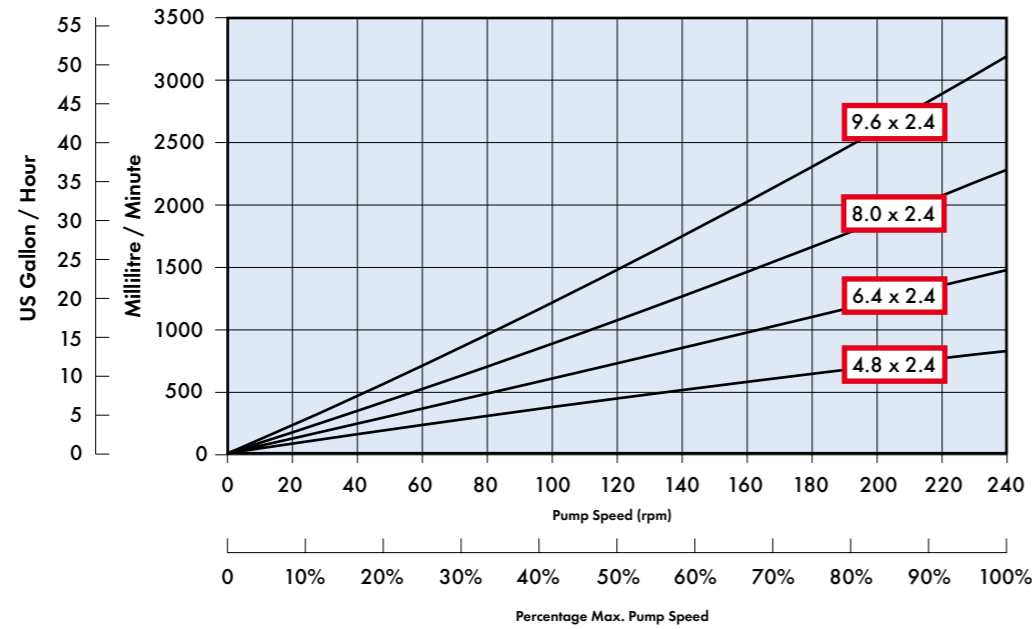


Push the lever down to lock the saddle into place

Tube loading in less than 1 min!

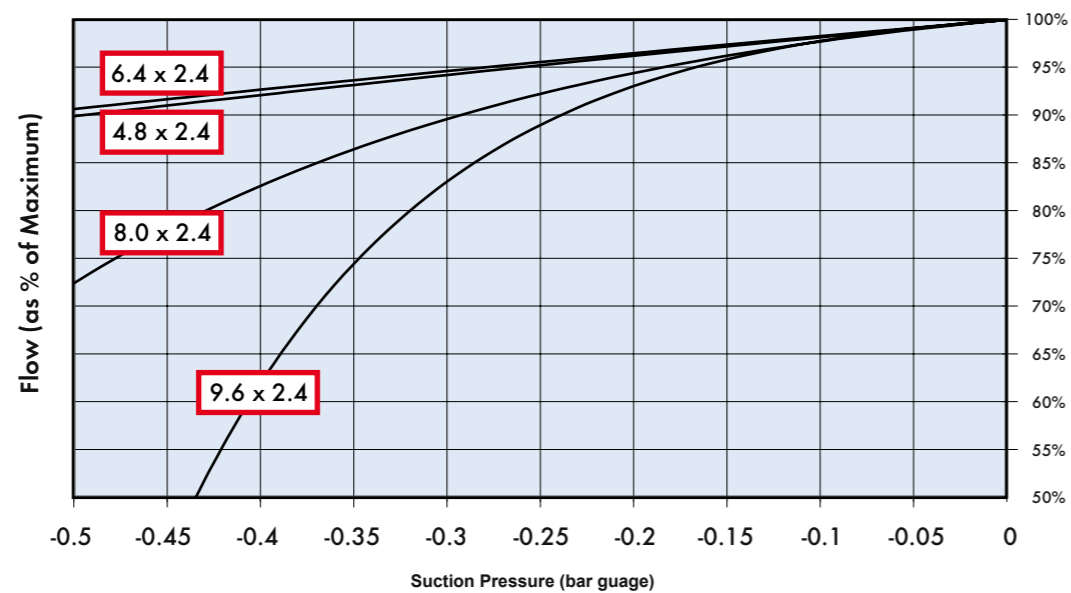


Smart S20 3 Roller Free Flow Curve For 2.4mm Walled Tube

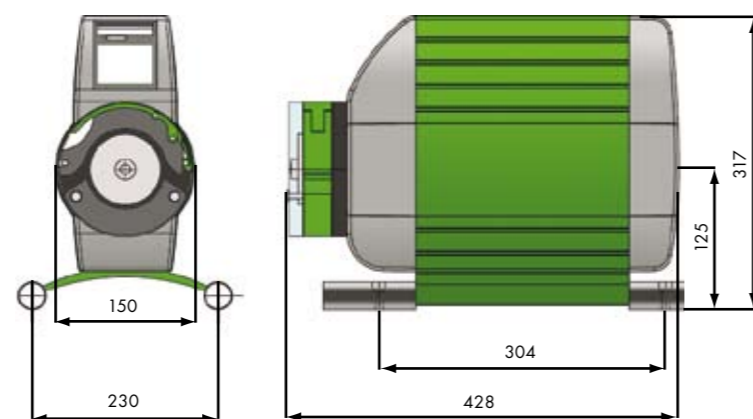


Correction graphs for suction

■ Capacity/Flow loss depends on discharge head

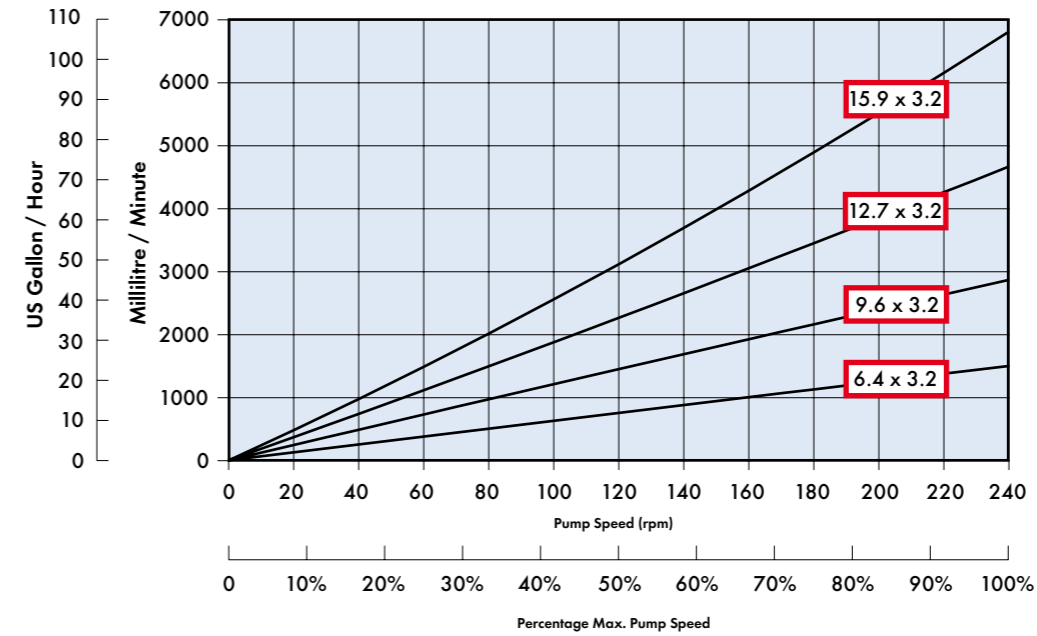


General Arrangement Layout



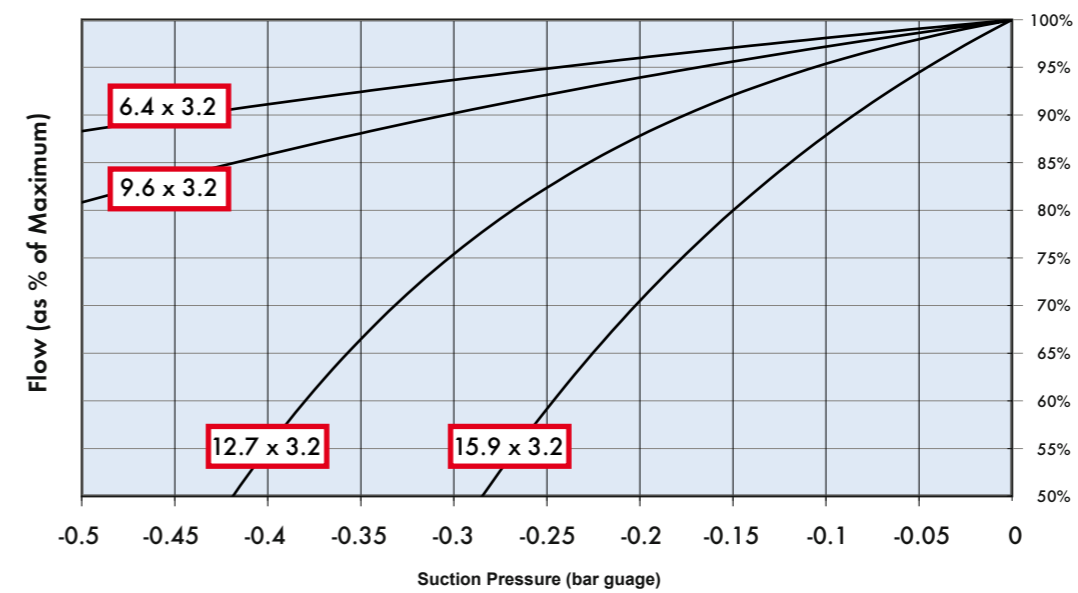
The S20 Pump Head is supplied with a saddle for a 2.4mm wall thickness tube as standard

Smart S30 3 Roller Free Flow Curve For 3.2mm Walled Tube

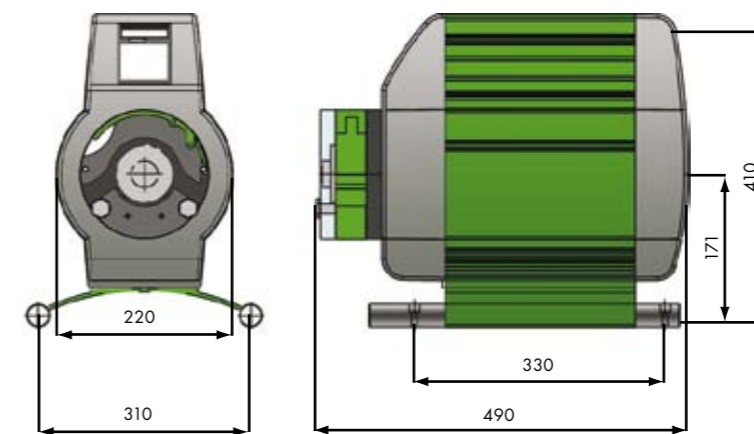


Correction graphs for suction

■ Capacity/Flow loss depends on discharge head



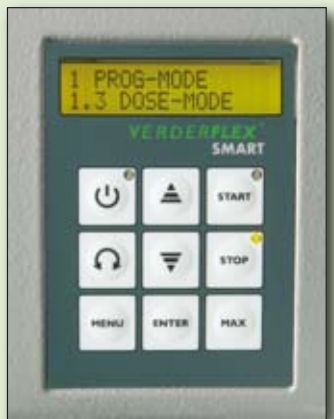
General Arrangement Layout



The S30 Pump Head is supplied with a saddle for a 3.2mm wall thickness tube as standard

Unique features

- The illuminated central display is easy to read from all angles and the menu has been designed so that it is simple and logical to navigate.
- As there is no pump head beside the display it can be operated by left and right handed people and the buttons are large enough to be operated even whilst wearing gloves.



Multi-channel expandability

- The Smart series offers the flexibility to add further pump heads, up to a maximum of four, which allows the user to operate several lines from the same pump, whilst the extended feet keep the pump stable.
- If pulse-free operation is required, the flow can be split between two channels to cancel out pulsation.



Applications

Agriculture

- Dosing of feed additives

Biotechnology

- Chromatography
- Circulate cell suspension in fermentation
- Injection metering
- Dispensing agar into petri dishes
- Filtration

Chemical Industry

- Caustic detergents
- Elutriation
- Flow injection analysis
- Infusion for tissue
- Metering of pH acid/base
- Tank transfer
- Toxicology assays for salt solutions

Cleaning

- Laundry chemicals dosing

Construction Environment

- Adhesives for cement
- Contaminated ground water
- Flow injection analysis
- Sewage/sludge analysis
- Waste water sampling
- Water salinity analysers

Food

- Bag-in-box cream dispensers
- Nutrition & prescriptive dosing
- Sauces

Pharmaceutical Industry

- Cosmetic dispensing
- Dispensing of sterilised fluids
- Dissolution testers
- Fermentation control
- Harvesting cell media
- Nutrient supply for cultures

Printing industry

- Dosing of inks

Pulp and Paper industry

- Pulp quality monitoring

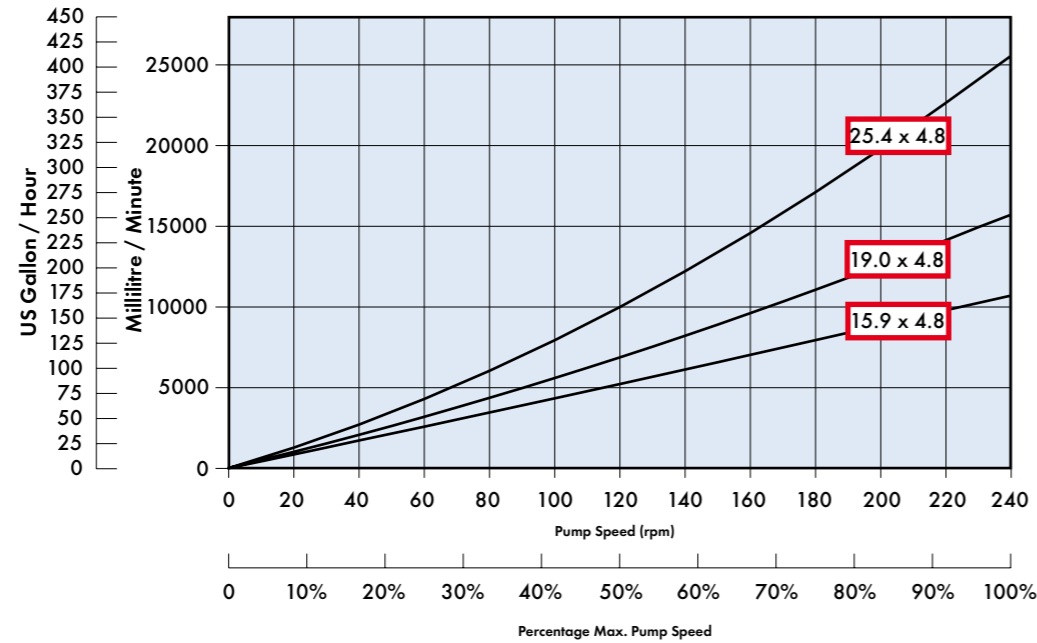
Textile

- Dosing of dyes

Water Treatment

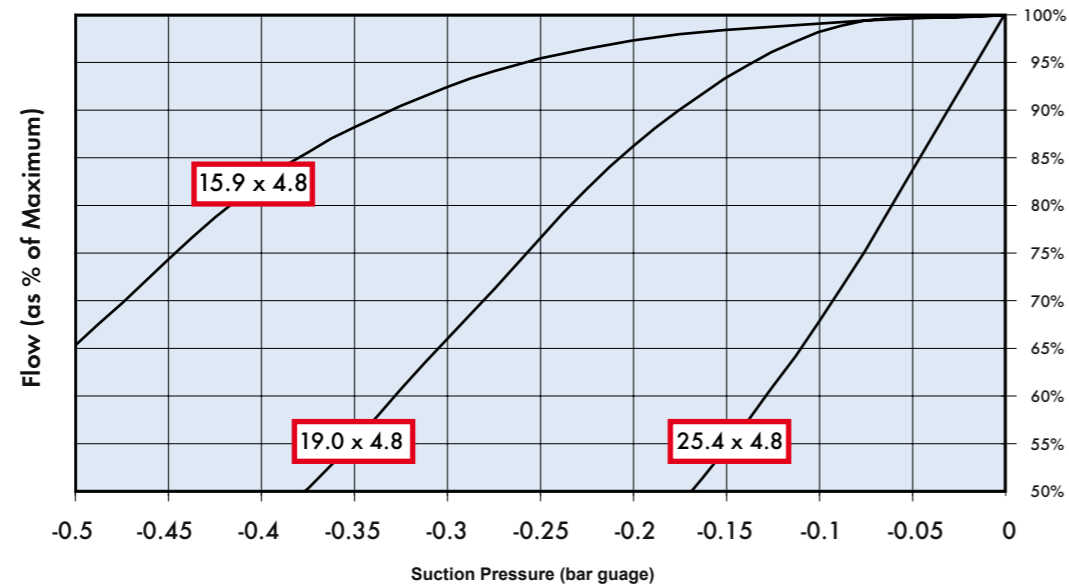
- Lime Dosing
- Ferric Chloride
- Polymer dosing
- Potassium Permanganate
- Sodium Hypochlorite
- pH control of effluent
- Sodium Bisulfate
- Silicone water rinse
- Sodium Hydroxide

Smart S40 3 Roller Free Flow Curve For 4.8mm Walled Tube

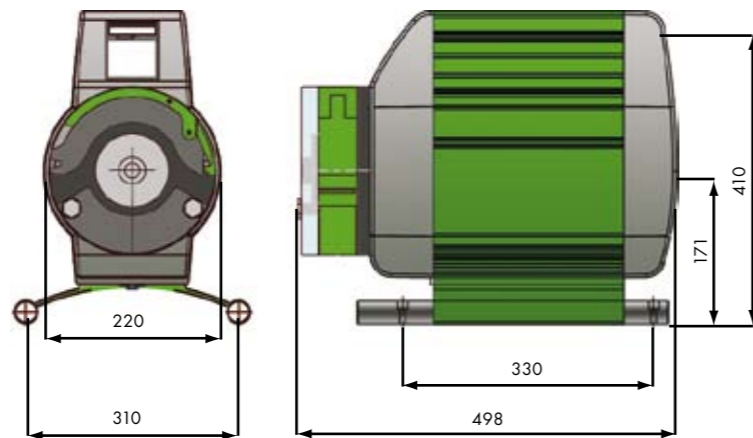


Correction graphs for suction

- Capacity/Flow loss depends on discharge head



General Arrangement Layout



The S40 Pump Head is supplied with a saddle for a 4.8mm wall thickness tube as standard



Capacity (ml/min) per channel

Smart 20 Head		
Tube INT/WALL (mm)	MIN	MAX
4.8 x 2.4	45	900
6.4 x 2.4	70	1500
8.0 x 2.4	100	2300
9.6 x 2.4	130	3150

Smart 30 Head		
Tube INT/WALL (mm)	MIN	MAX
6.4 x 3.2	65	1500
9.6 x 3.2	70	2800
12.7 x 3.2	200	4700
15.9 x 3.2	280	6900

Smart 40 Head		
Tube INT/WALL (mm)	MIN	MAX
15.9 x 4.8	460	10500
19.0 x 4.8	500	15500
25.4 x 4.8	650	27000

Measured with water at 20°C without suction or delivery pressure

Verderflex® Smart - Technical Overview

The drives are available in **three** options:

B model:	standard on-off, left-right functions;
C model:	remotely controlled operation;
L model:	programmable & remote operation

	B Model	C Model	L Model
Speed	Max. 240 rpm	Max. 240 rpm	Max. 240 rpm
Turndown ratio	100:1	100:1	100:1
Multi-channel	up to 4 channels	up to 4 channels	up to 4 channels
External control	×	0-10V / 4 - 20mA	0-10V / 4 - 20mA
Computer signal	×	×	✓
Calibration	×	×	✓
Auto reverse	×	×	✓
Protection class	IP55	IP55	IP55
Rapid start	×	✓	✓
Keypad	✓	✓	✓
	S20	S30	S40
Weight (drive including head)	12.5kg	22kg	23kg
Voltage	115/230V	115/230V	115/230V
Frequency	50/60Hz	50/60Hz	50/60Hz
Power Consumption	250W	330W	330W

Description	Material		
	S20	S30	S40
Backplate / Clampbase / Saddle	POM (Black)	POM (Black)	POM (Black)
Rotor	POM (Black)	POM (Black)	Machined Aluminium 6082 (Clear Anodised)
Skiboot Handle & Catch	Machined Aluminium 6082 (RAL 6018 Green)	Machined Aluminium 6082 (RAL 6018 Green)	Machined Aluminium 6082 (RAL 6018 Green)
Clamp / Block / Adjustment Screw / Nut	Machined Aluminium 6082 (Clear Anodised)	Machined Aluminium 6082 (Clear Anodised)	Machined Aluminium 6082 (Clear Anodised)
Drive Shaft / Coupling / Tiebar	Stainless Steel Grade 1.430	Stainless Steel Grade 1.430	Stainless Steel Grade 1.430
Saddle / Handle / Roller Pins	Stainless Steel Grade 1.457	Stainless Steel Grade 1.457	Stainless Steel Grade 1.457
Roller	POM (Black)	Stainless Steel Grade 1.457	Stainless Steel Grade 1.457
Frontplate	PMMA Clear	PMMA Clear	PMMA Clear
Magnet	Neodymium	Neodymium	Neodymium
Clamp Spring	BS 5216:1991 Spring Steel	BS 5216:1991 Spring Steel	BS 5216:1991 Spring Steel
Bearings	Stainless Steel	Stainless Steel	Stainless Steel