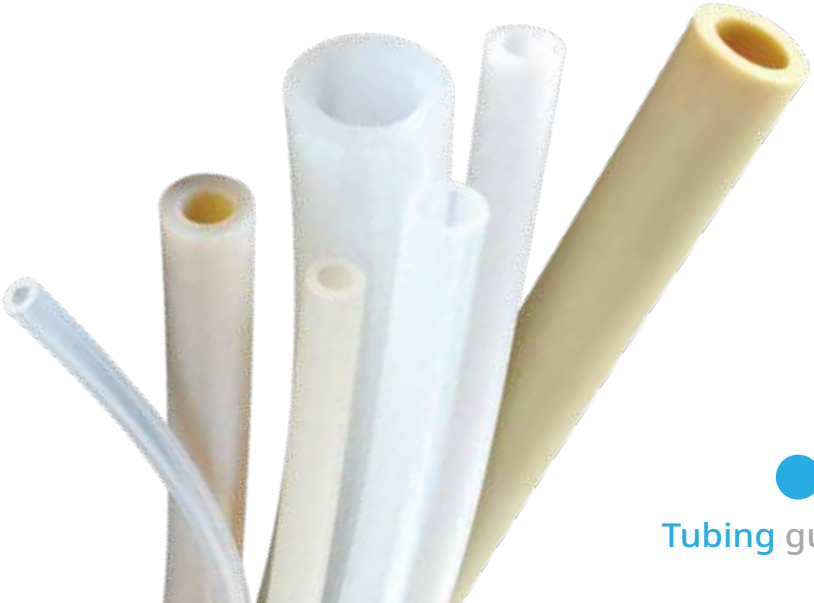
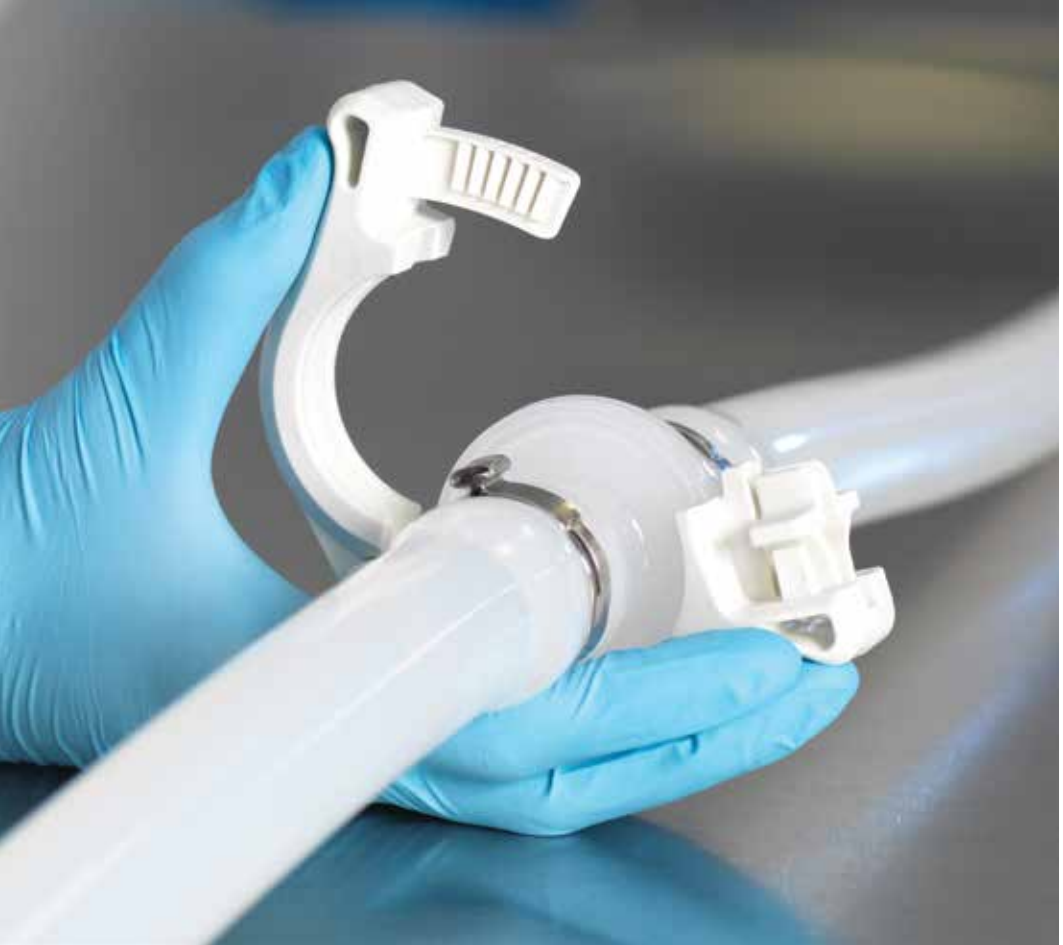
WATSON MARLOW Tubing

THE PERFECT TUBING

For every part of your process



Tubing guide



Contents

Choosing the right tube

The best way to select a tube is to decide which materials are chemically suitable, and best meet the physical demands of your application.

For maximum tube life
Use a large-bore tube at low speed

For maximum flow rate
Use the largest tube at maximum speed

For maximum accuracy
Use a small bore tube at high speed

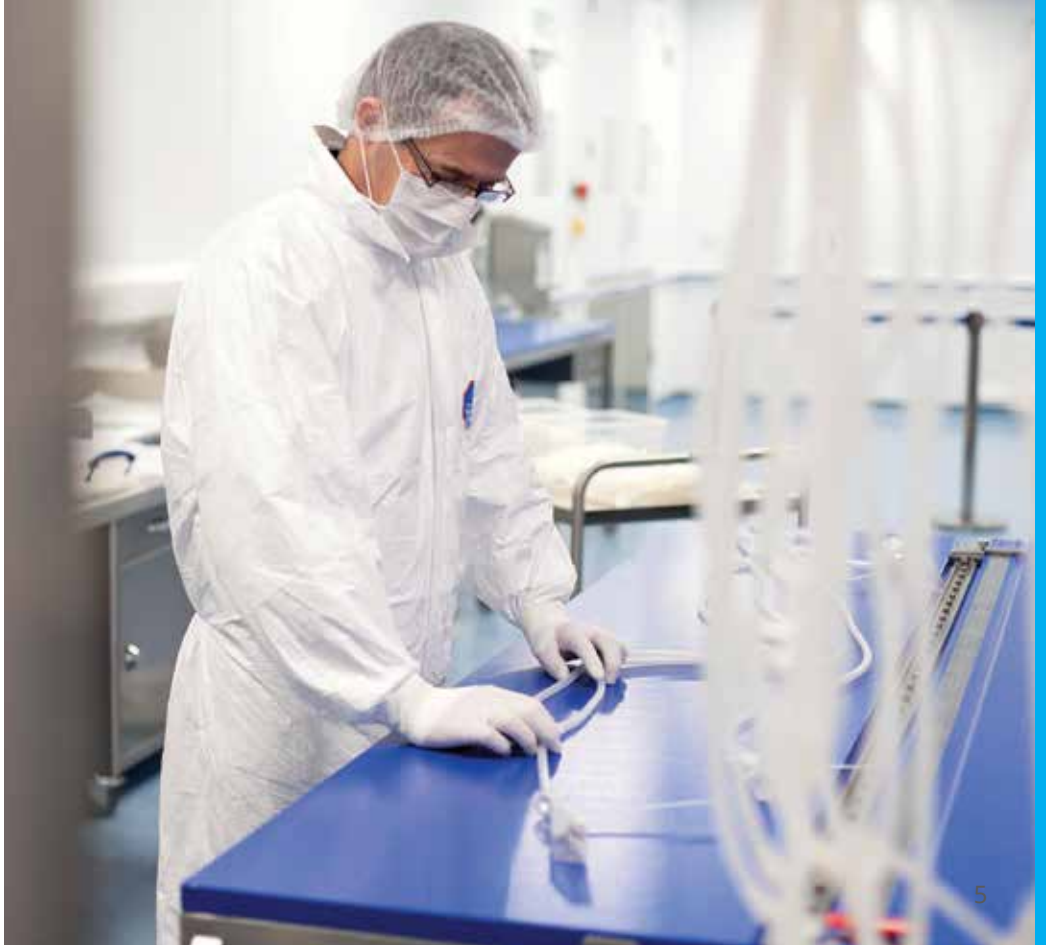
Tubing performance and selection
Watson-Marlow Fluid Technology Solutions is the only peristaltic pump manufacturer to make their own tubing. The characteristics of the pump, including suction lift, pressure, life, flow rate and efficiency are all largely determined by the tubing.

The results of using tubing from other suppliers are unpredictable. If you have any question about tube performance or the selection of tubing for a new application,we will always be pleased to give you the best possible advice. Full technical datasheets are available for each material in this brochure. The datasheet will also provide full part codes for ordering.

Checking with an immersion test
Request a tube sample card if you would like to check chemical compatibility with any tubing material.

Chemical compatibility
Chemical compatibility tables are available at www.wmtubing.com and from any Watson-Marlow distributor.

Validation packs
Comprehensive validation packs are available for Pumpsil, PureWeld XL, Bioprene and STA PURE PCS.



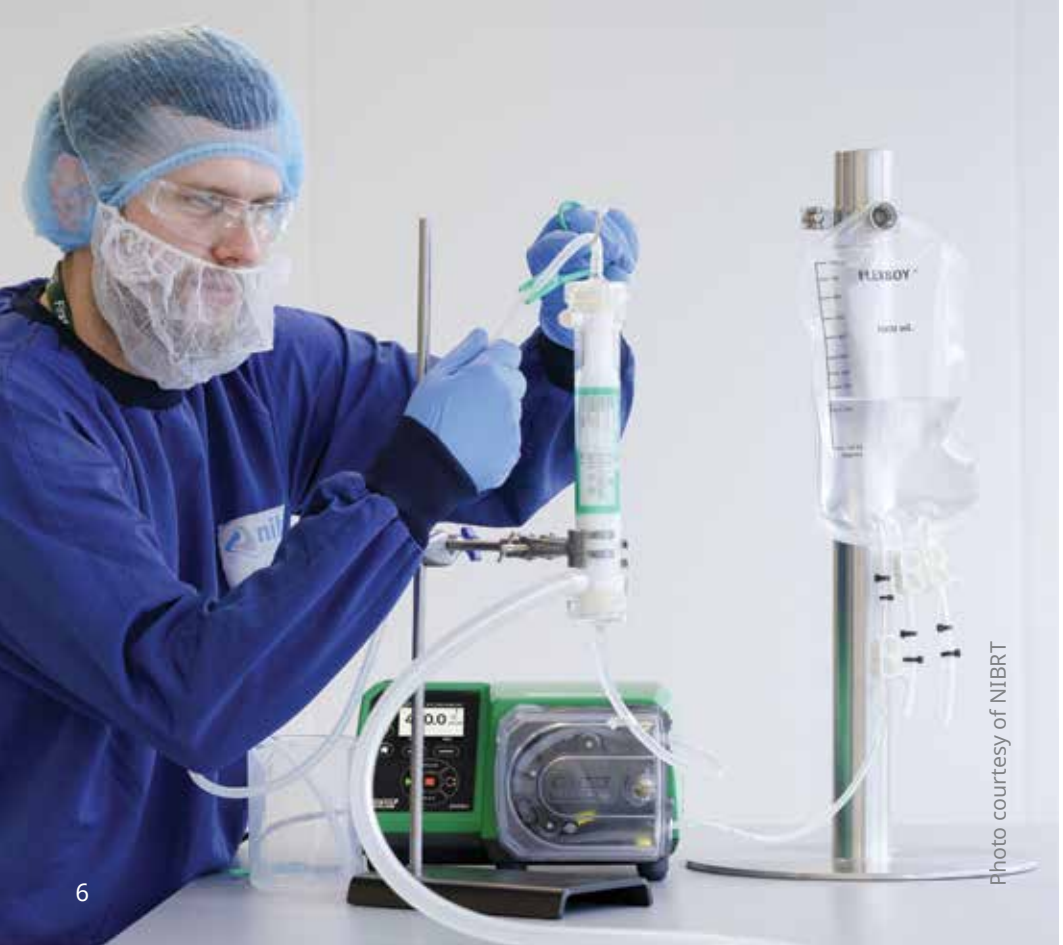


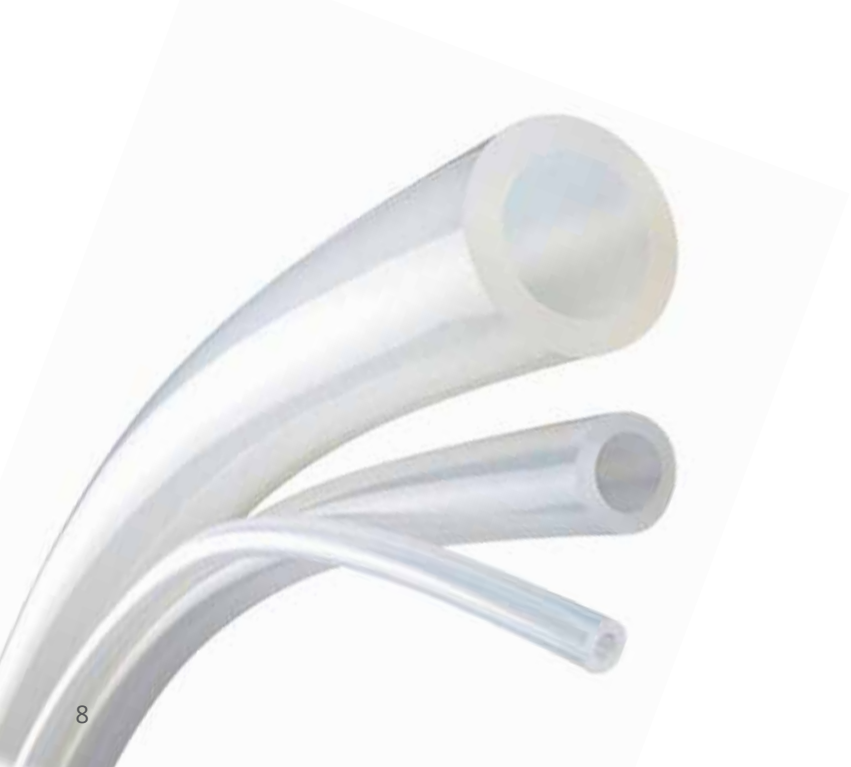
Photo courtesy of NIBRT

Biopharm

Pumpsil®
PureWeld® XL
Transfer tubing and hose
Bioprene®
GORE® STA-PURE Series PCS
GORE® STA-PURE Series PFL
Hygienic LoadSure® tubing elements
Fluid path components for bioprocessing

Pumpsil®

Platinum-cured silicone tubing



Single-use biopharm tubing for accurate metering, transfer and filtration duties. Absolute traceability with laser-etched part number, lot number and use-by date. Fully documented biocompatibility and comprehensive validation pack.

Pumpsil Typical Characteristics

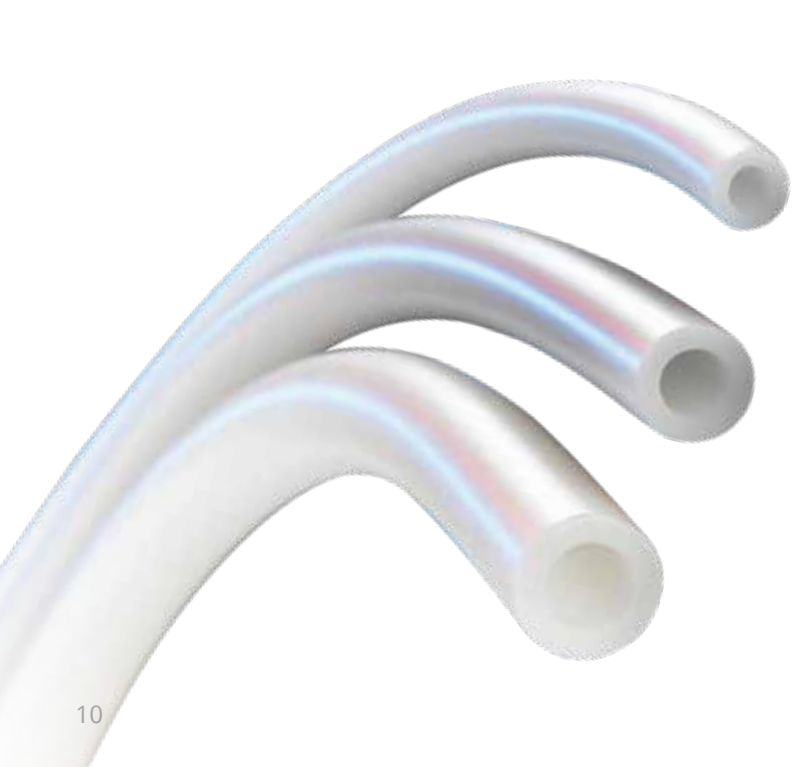
Colour/transparency	Translucent
Spallation	Low
Certification	USP Class VI, FDA regulations 21 CFR 177.2600 for food contact. eur.Ph. 6.5: 3.1.9
Sterilisation methods	gamma, autoclave, EtO
Operating temperature	-20C to 80C

Sizes

Available in 30 different bore sizes, five wall thicknesses and three coil lengths including bulk reels. See material datasheet for full range and ordering information.

PureWeld® XL

Weldable biopharmaceutical tubing



Designed for secure, cost effective peristaltic pumping and transfer duties, PureWeld XL delivers longer pump life than leading TPE competitors.

PureWeld XL has excellent chemical resistance, making it suitable for a range of bioprocessing fluids.

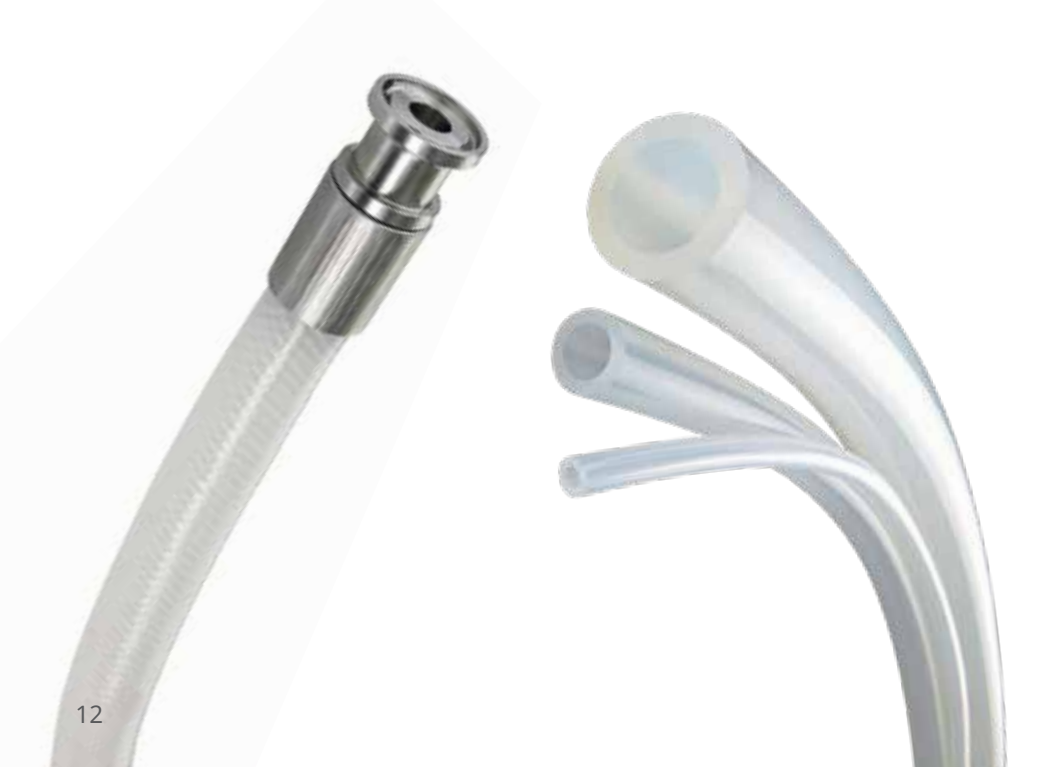
PureWeld XL Typical Characteristics

• Colour/transparency	Opaque
• Spallation	Very low
• Certification	USP Class VI, raw material meets FDA regulations 21 CFR 177.1810 for food contact. USP<85>, USP<661>, USP<788>
• Sterilisation methods	Gamma, autoclave, EtO
• Operating temperature	-20C to 65C

Sizes

Available in 13 different bore sizes, and four wall thicknesses.
See material datasheet for full range and ordering information.

Transfer tubing and hose



Platinum-cured silicone braided hose

BioPure high pressure flexible braided hose with continuously extruded Platinum-cured silicone core, ensures product integrity while delivering increased pressure capability.

Braided Hose Typical Characteristics

- Evaluated for extractables using a multi-solvent approach to BPOG guidelines
- USP Class VI and EP 3.1.9 compliant and Animal Derived Component Free (ADCF)
- Suitable for for sterilisation by gamma irradiation up to 50kGy and repeat autoclave
- Lot traceability
- Product also available as a braided hose assembly

Platinum-cured silicone transfer tubing

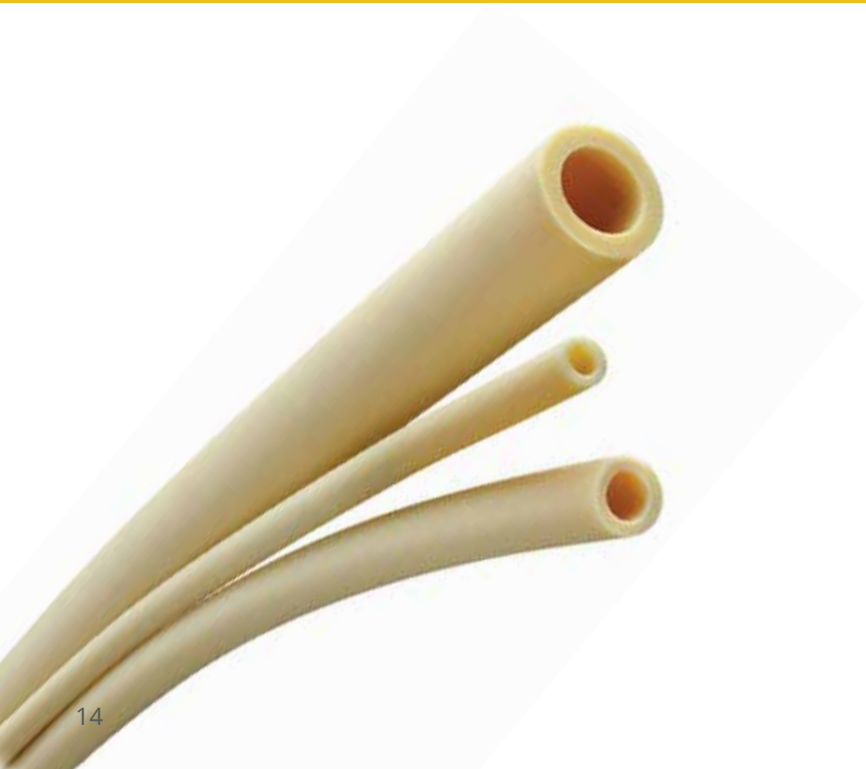
BioPure silicone transfer tubing provides a value-based solution in critical bioprocess fluid transfer applications. Complete with a robust validation pack, including extractable profiles and USP <85> Bacterial Endotoxin testing, BioPure silicone transfer tubing is simple to integrate throughout your bioprocess.

Transfer Hose Typical Characteristics

- USP Class VI compliant and and Animal Derived Component Free (ADCF)
- Tested in accordance with EP 3.1.9
- Lot traceability
- Autoclavable and gamma stable up to 50 kGY

Bioprene®

Biopharmaceutical precision TPE tubing



Bioprene tubing is USP Class VI and FDA compliant and suitable for biopharmaceutical and food applications. Bioprene's long peristaltic life ensures process security, reducing risks in critical cGMP applications. Bioprene demonstrates broad chemical compatibility.

Fully documented biocompatibility and comprehensive validation pack, including FDA drug Master File.

Bioprene Typical Characteristics

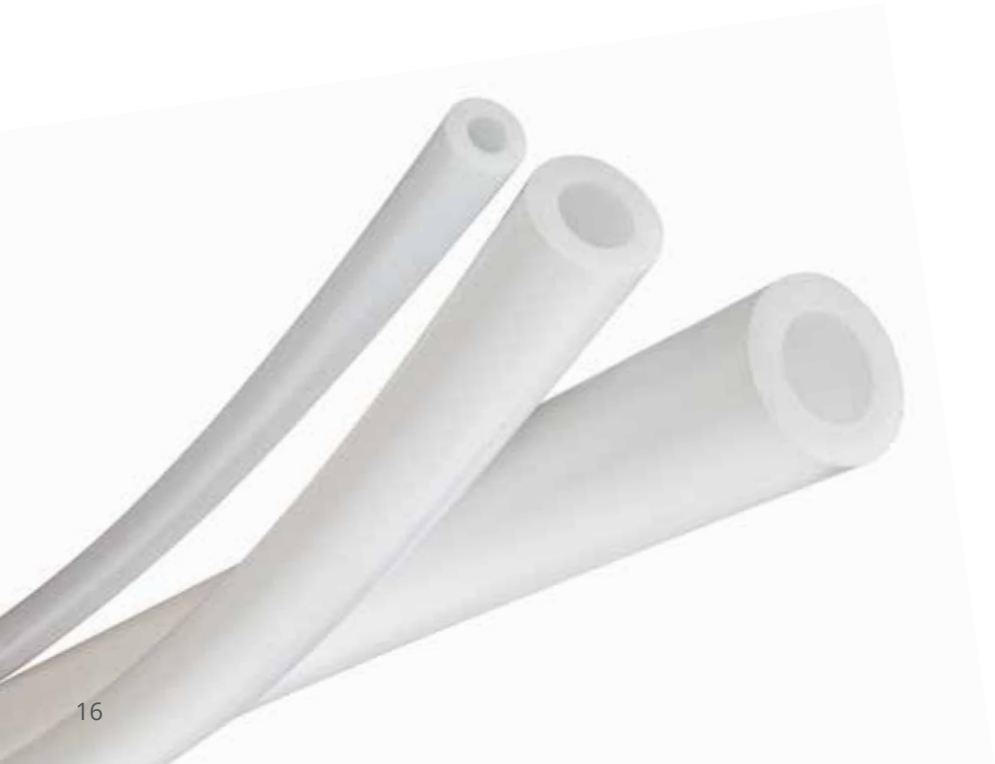
• Colour/transparency	Beige/opaque
• Spallation	Low
• Certification	USP Class VI, FDA regulations 21 CFR 177.2600 for contact with aqueous food and NSF listed
• Sterilisation methods	Gamma, autoclave, EtO, CiP, SiP
• Operating temperature	5C to 80C

Sizes

Available in 15 different bore sizes, five wall thicknesses and three coil lengths including bulk reels and LoadSure® elements. See material datasheet for full range and ordering information.

GORE® STA-PURE Series PCS

PTFE-reinforced silicone tubing



PTFE-reinforced silicone tubing which provides long term performance with repeatable accuracy, vital in pharmaceuticals and other high technology industries. Suitable for pressures up to 7 bar (100 psi) GORE STA-PURE PCS provides the longest available tube life with virtually no spallation.

Fully documented biocompatibility and comprehensive validation pack.

STA-PURE Series PCS Typical Characteristics

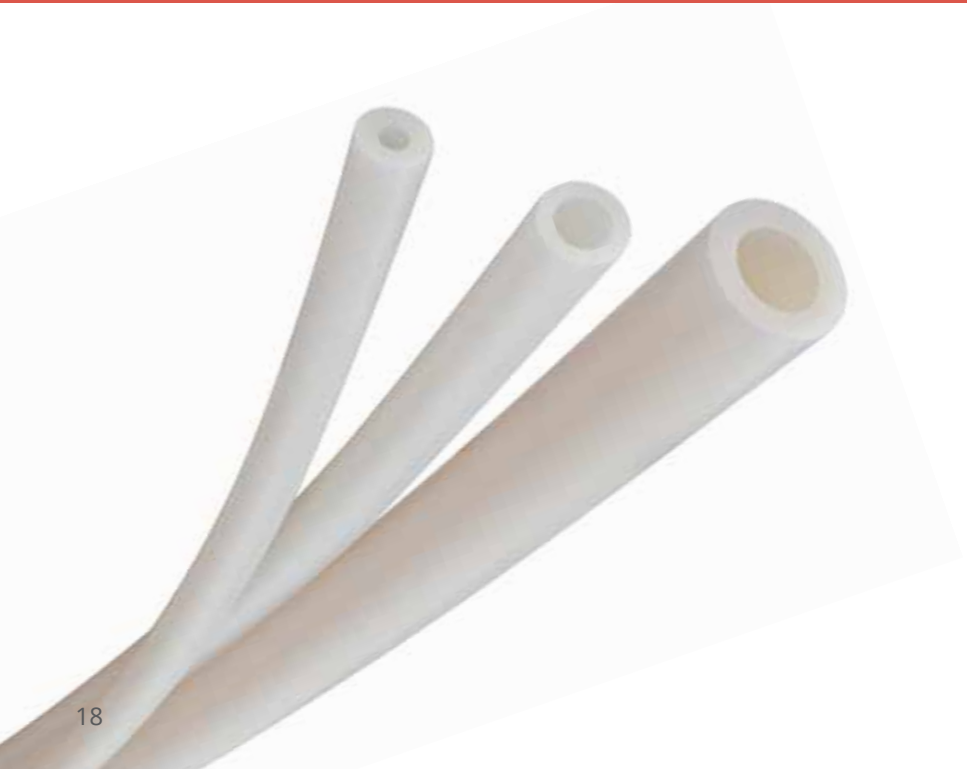
• Colour/transparency	Off-white/opaque
• Spallation	Very low
• Certification	USP Class VI
• Sterilisation methods	Autoclave, CIP, SIP
• Operating temperature	-20C to 80C

Sizes

Available in 20 different bore sizes, three wall thicknesses and three element lengths. See material datasheet for full range and ordering information.

GORE® STA-PURE Series PFL

PTFE-reinforced fluoroelastomer tubing



PTFE-reinforced fluoroelastomer tubing which handles nearly all aggressive chemicals, including organic solvents such as methyl ethyl ketone, toluene and acetone. With 50 times longer life than other fluoroelastomers and pressures up to 4 bar.

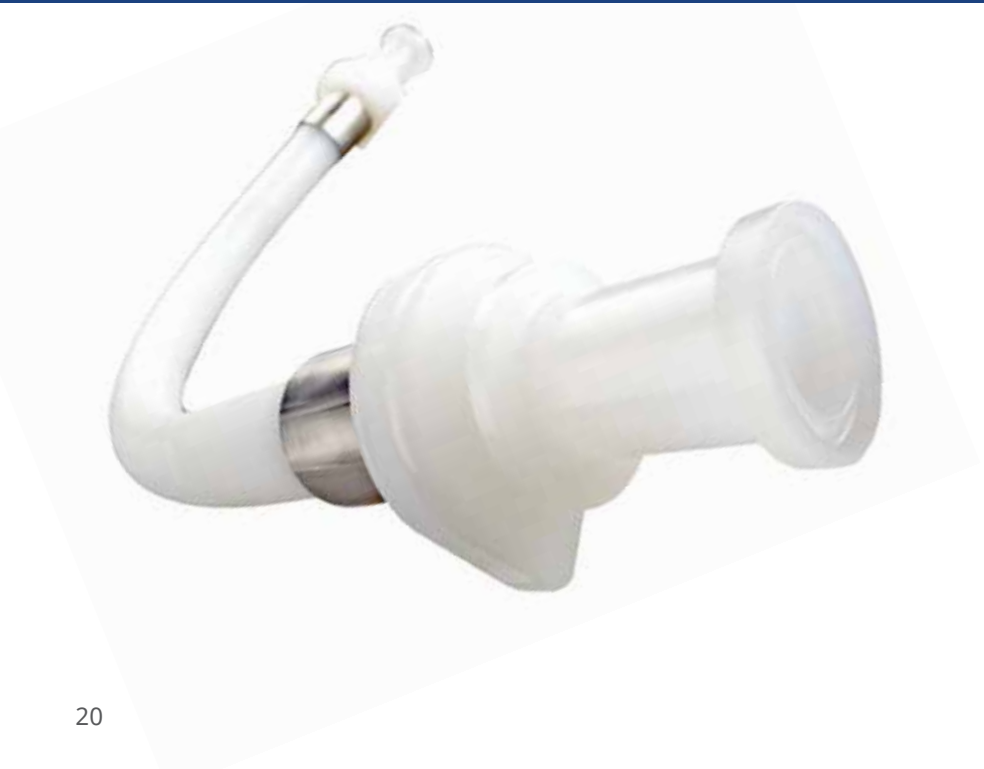
STA-PURE Series PFL Typical Characteristics

• Colour/transparency	Off-white/opaque
• Spallation	Very low
• Certification	USP Class Vi, iSO 10993-1
• Sterilisation methods	Autoclave, CiP, SiP
• Operating temperature	-20C to 80C

Sizes

Available in 20 different bore sizes, three wall thicknesses and three element lengths. See material datasheet for full range and ordering information.

Hygienic LoadSure® tubing elements



When you need a pump with positive connection points and error-free tubing loading, choose Watson-Marlow LoadSure tube elements.

530 series pumps

LoadSure tube elements are available as high pressure up to 7 bar, medium pressure up to 4 bar and low pressure up to 2 bar. All elements use Tri-clamp style PVDF connectors. The element connectors are colour coded to match the correct pumphead. element materials include Bioprene and STA-PURE PCS for high pressure, Bioprene®, STA-PURE PCS and STA-PURE PFL for medium pressure, Bioprene®, STA-PURE PCS and STA-PURE PFL and Pumpsil® for low pressure.

630 series pumps

LoadSure tube elements are available in two bore sizes of 12 mm and 17 mm and for medium pressures up to 4 bar or low pressure up to 2 bar. All elements use Tri-clamp style connectors. element materials include Bioprene and STA-PURE PCS for medium pressure and Bioprene, Pumpsil and STA-PURE PFL for low pressure.

730 series pumps

LoadSure tube elements are available in four bore sizes of 12.7 mm, 15.9 mm, 19.0 mm and 25.4 mm, for pressures up to 2 bar and use Tri-clamp style connectors. Element materials include Bioprene, Pumpsil and STA-PURE PCS.

Consult Watson-Marlow for options on installation, interfacing pipework and fittings.

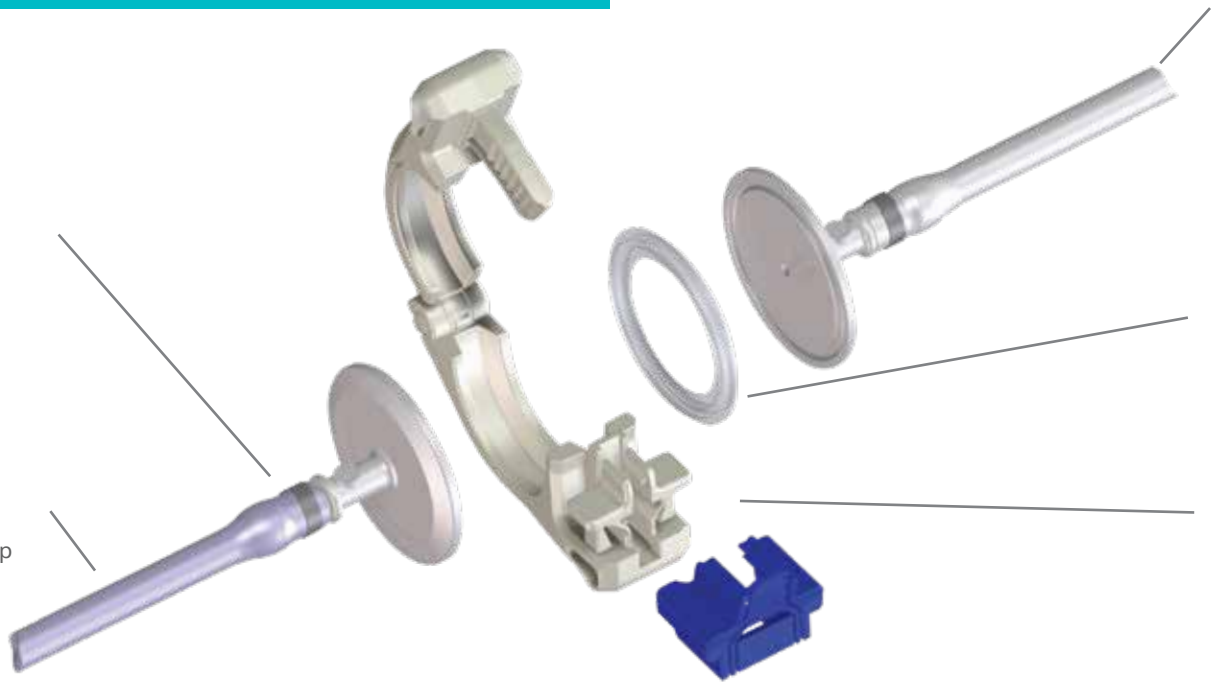
Fluid path components for bioprocessing

BioBarb™

- Enhanced Tri-Clamp design reduces turbulence, allows complete drainage and reduces the risk of a seal failure
- puresu® assemblies use Oetiker clamps for a 360° radial seal

Pumpsil®

- Platinum-cured silicone tubing optimised for post gamma performance
- Excellent flow stability and low spallation during perisaltic pump applications
- High purity tubing with low extracible profile



PureWeld® XL

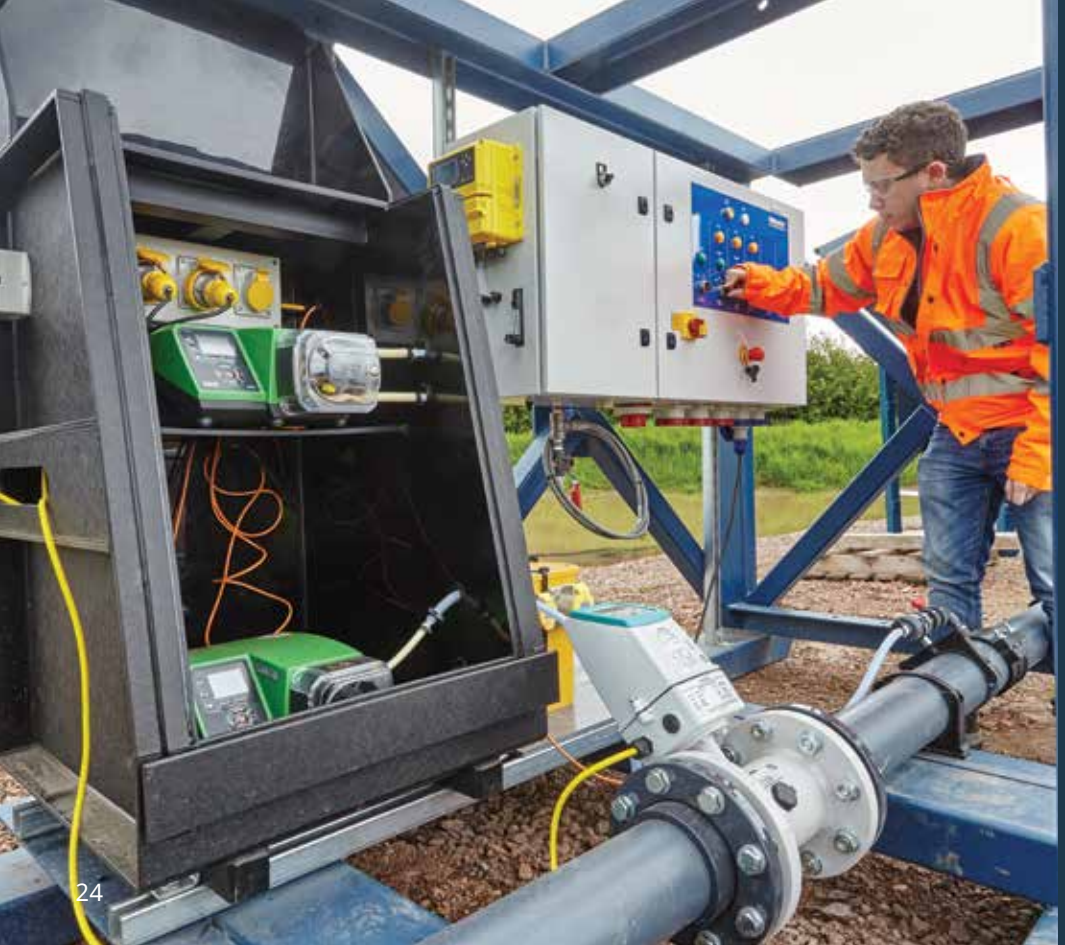
- Delivers longer pump life than leading TPE competitors
- Sealable/weldable sterile connectivity
- Excellent chemical resistance

BioPure gaskets

- Platinum-cured silicone delivers high purity and low extractables
- Flanged and unflanged size options
- Lot number lazer etching available for traceability

Q-Clamp

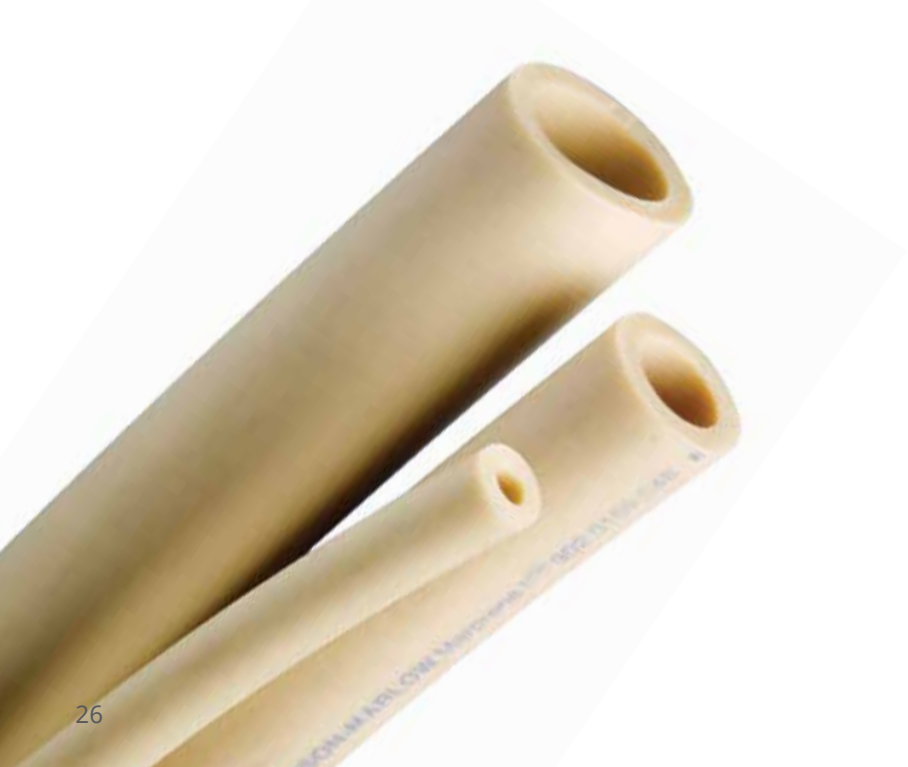
- Quick, easy, secure clamping system with tamper-evident identification
- ½ to 1½˝ sanitary connection and universal geometry compatible



Industrial

Marprene®
Maxthane® tubing elements
Industrial LoadSure® tubing elements

Marprene®



A long life thermoplastic elastomer with resistance to a wide range of chemicals. Marprene is highly resistant to oxidising agents such as ozone, peroxides and sodium hypochlorite.

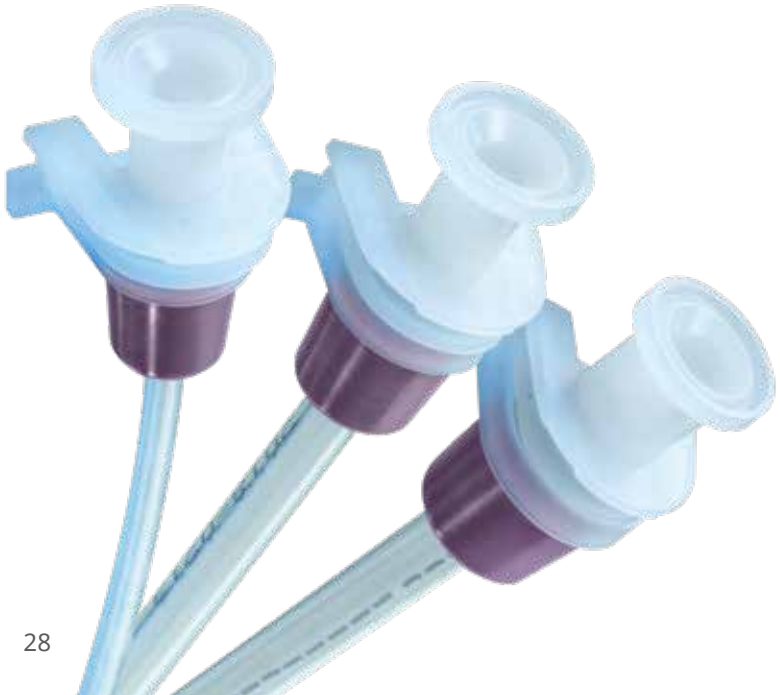
Marprene Typical Characteristics

• Colour/transparency	Beige/opaque
• Spallation	Fair
• Standards	FDA regulations 21 CFR 177.2600 for contact with aqueous food.
• Operating temperature	5C to 80C

Sizes

Available in thirty different bore sizes, five wall thicknesses and three coil lengths, including bulk reels which provide cost savings. Also suitable in LoadSure® elements. See material datasheet for full range and ordering information.

Maxthane® tubing elements



Maxthane is the perfect choice for peristaltic dosing and metering applications. The tubing is compatible with a broad range of chemicals. The long service life of Maxthane tubing makes it ideal for flavour, colour and additive dosing in food manufacturing.

Fully recyclable thermoplastic polyurethane construction achieves high-performance pumping with reduced environmental impact. Use Maxthane with 520RET pumpheads.

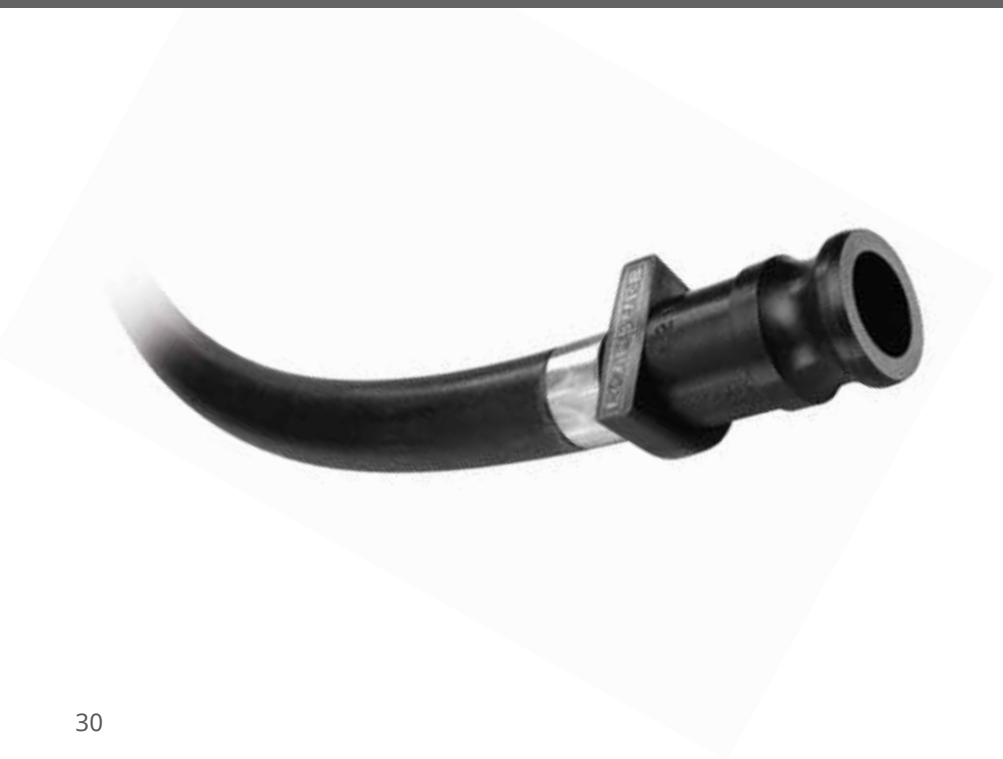
Size and format options

LoadSure® Elements
3.2 mm
6.4 mm
9.6 mm

Food and beverage compliance

- FDA regulations 21 CFR 177.1680
- EC1935/2004, EU 10/2011

Industrial LoadSure® tubing elements



When you need a pump with positive connection points and error-free tubing loading, choose Watson-Marlow LoadSure tube elements.

530 series pumps

LoadSure tube elements are available as high pressure up to 7 bar, medium pressure up to 4 bar and low pressure up to 2 bar. All elements use quick-release PVDF connectors. The element connectors are colour coded to match the correct pumphead. Element materials include Maxthane® for pressures up to 7 bar, Marprene®, Pumpsil® and Neoprene®.

630 series pumps

LoadSure tube elements are available in two bore sizes of 12 mm and 17 mm and for medium pressures up to 4 bar or low pressure up to 2 bar. All elements use industrial PVDF Cam and groove connectors. lement materials include Marprene for medium pressure and Marprene, Pumpsil and Neoprene for low pressure.

730 series pumps

LoadSure tube elements are available in four bore sizes of 12.7 mm, 15.9 mm, 19.0 mm and 25.4 mm, for pressures up to 2 bar and use industrial PVDF Cam and groove connectors. Element materials include Marprene, Pumpsil and Neoprene.

WATSON MARLOW Fluid Technology Solutions

INNOVATION IN FULL FLOW

WATSON MARLOW Pumps

WATSON MARLOW Tubing

Flexicon Liquid Filling

bioPURE

ASEPCO

Bredel Hose Pumps

masosine Process Pumps

AFLEX HOSE

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