

Case Study: Chemical feed pump reduces maintenance and improves safety at California water reclamation facility

The City of Oceanside, California's San Luis Rey Water Reclamation Facility was experiencing issues with its pumps feeding sodium hypochlorite in the post-chlorination cycle. Replacing the diaphragm pumps with Qdos peristaltic metering pumps saw a decrease in the need for maintenance and a significant reduction in the risk of chemical exposure for workers. However, operating pressures rising to over 60psi were exceeding the pumps' operating parameters. The higher pressure operating demands were a perfect match for the new Qdos® CWT™.

The innovative design of the Qdos pump with conveying wave technology ensures consistent, long-life performance at higher pressures up to 100psi, unaffected by off-gassing from chemicals such as sodium hypochlorite and associated vapor locking that can cause some pump types to shut down. Maintenance, when required, is simple, quick and safe through tool-free, pumphead replacement.

**WATSON
MARLOW** Fluid
Technology
Solutions

**WATSON
MARLOW**
Pumps

INDUSTRIAL SOLUTIONS

**WATSON
MARLOW**
Pumps

**WATSON
MARLOW**
Tubing

Bredel
Hose Pumps

masosine
Process Pumps

AFLEX HOSE

Watson-Marlow Fluid Technology Solutions

Watson-Marlow Fluid Technology Solutions supports its customers locally through an extensive global network of direct sales operations and distributors

wmfts.com/global



qdos® CWT™

An evolution in long-life
chemical metering

wmfts.com/cwt

**WATSON
MARLOW** Fluid
Technology
Solutions

wmfts.com/cwt

Disclaimer: The information contained in this document is believed to be correct but Watson-Marlow Limited accepts no liability for any errors it contains and reserves the right to alter specifications without notice. It is the users responsibility to ensure product suitability for use within their application. Watson-Marlow, LoadSure, Qdos, ReNu, LaserTraceability, Pumpsil, PureWeld XL, Bioprene, Marprene are registered trademarks of Watson-Marlow Limited. Tri-Clamp is a registered trademark of Alfa Laval Corporate AB. GORE and STA-PURE are registered trademarks of W.L. Gore and Associates.

A Spirax-Sarco Engineering plc company

Copyright © 2022 Watson-Marlow Fluid Technology Solutions
HB01015 ISSUE 2

Qdos® Conveying Wave Technology™

an evolution in long-life chemical metering

Qdos® CWT™ is the next level in high performance for our industry leading Qdos® range of chemical metering pumps. Conveying Wave Technology™ (CWT) delivers all the benefits of a peristaltic pump but with significantly longer service life than traditional tube designs. Qdos® CWT™ gives superior accuracy in chemical metering and dosing applications while eliminating expensive ancillary equipment.

The sealed pumphead minimizes operator exposure to chemicals, and can be safely changed in less than a minute.

- Flowrates to 7.925 GPH at up to 100 PSI
- Long service life at high pressure
- Reliable, low-maintenance metering



No-tools, quick and easy pumphead replacement

Low maintenance. No valves or seals to clog, leak or corrode



Advancing our industry leading Qdos® series

Qdos CWT is built on established Qdos drive technology. The Qdos series has a wide range of communication and connection options. Operator and environmental safety is assured through:

- Sealed pumphead for chemical containment
- Leak detection software
- Failure alarm capabilities

Qdos CWT pumps provide outstanding chemical dosing accuracy in sustainable water treatment applications. Pumps do not suffer vapor locking and consistently dose chemicals including sodium hypochlorite, without the need to overdose to ensure reliable treatment.

They are unaffected by ambient temperature variations and will provide long service life, lowering the cost of ownership.

IP66 NEMA 4X rated casing for industrial environments

High visibility keypad and TFT display

Direct connectivity to a range of external monitoring systems

Technical Data

Range

- **Universal+:** Flexibility for automatic and manual control together with configurable 4-20mA input and output
- **Universal:** Automatic and manual control
- **Manual:** Manual speed control
- **Remote:** Remote control for absolute process security
- **PROFIBUS:** Manual and PROFIBUS control

Features

- Flow rates 0.1-500 ml/min and up to 7 bar RMS pressure
- CWT pumphead provides accurate, linear and repeatable flow
- Process uptime is maximised with no gas-locking, no valve blocking and rapid no-tools pumphead replacement
- Fluid recovery ensures operator safety and avoids chemical waste
- Flow control up to 5000:1 with ±1% accuracy
- 3 year warranty

Dimensions

A	B	C	D	E	F	G	H	I	J	K	L
9.2"	8.4"	5.8"	3.1"	0.5"	5.9"	1.7"	4.6"	6.8"	1.6"	5.5"	0.4"

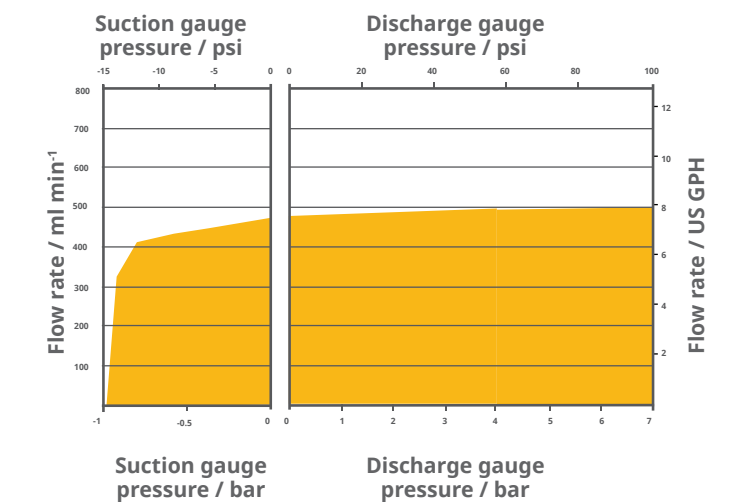
* Optional relay modules (H or R)

Control options

- **Inputs:** Manual, 4-20mA, pulse, PROFIBUS, run / stop
- **Outputs:** 4-20mA, up to four configurable digital outputs, run / stop, alarm, leak detection, fluid level, auto / man, fluid recovery

Performance

Flow rate with discharge pressure



Flow rates based on pumping water at 20C with zero suction and delivery heads

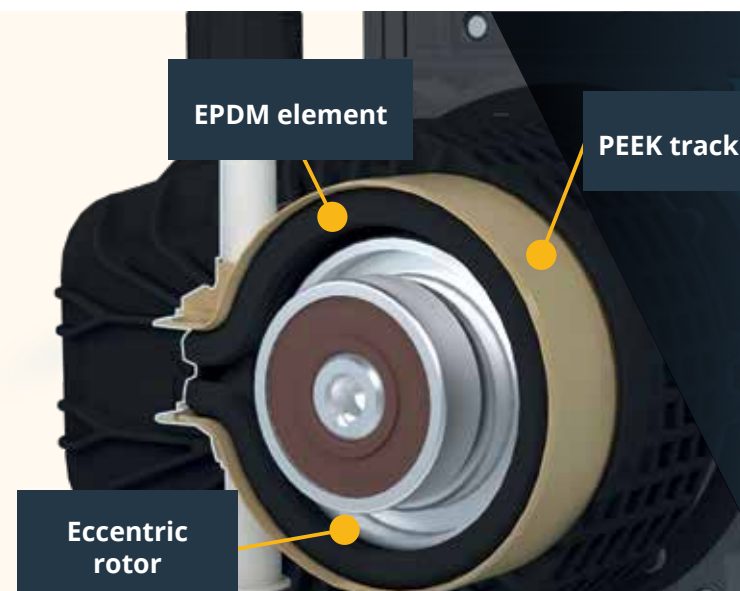
What is Conveying Wave Technology™?

Conveying Wave Technology (CWT) employs the peristaltic principle to operate a unique fluid contact element.

To achieve the peristaltic pumping action, the pump incorporates an EPDM element rather than a tube, which acts against a PEEK track. As a result the fluid contact elements are subjected to very low stress levels. In use, this means a Qdos CWT pump will deliver significantly longer service life than a traditional pump.

CWT with its unique fluid contact element has the following benefits:

- No gas locking
- Stable performance, even with temperature and pressure fluctuations
- Mechanical restitution provides consistently high accuracy for the life of the pump



Typical installation comparing a diaphragm metering pump with the Qdos

