

**WATSON
MARLOW
Pumps**



qdos

Accurate, versatile chemical
metering and dosing pumps

**WATSON
MARLOW** Fluid
Technology
Solutions



Precision dosing and chemical metering with Qdos

The Qdos® range of peristaltic chemical metering and dosing pumps cut costs through higher precision metering, with an accuracy of $\pm 1\%$ and repeatability of $\pm 0.5\%$ in dosing.

Qdos pumps minimise chemical consumption for applications in water and wastewater treatment, industrial process fluids, industrial effluent, mining and mineral processing, and food and beverage.

The Qdos range consists of six pumps—20, 30, 60, 120, CWT and H-FLO—to fulfil your chemical metering and dosing requirements.

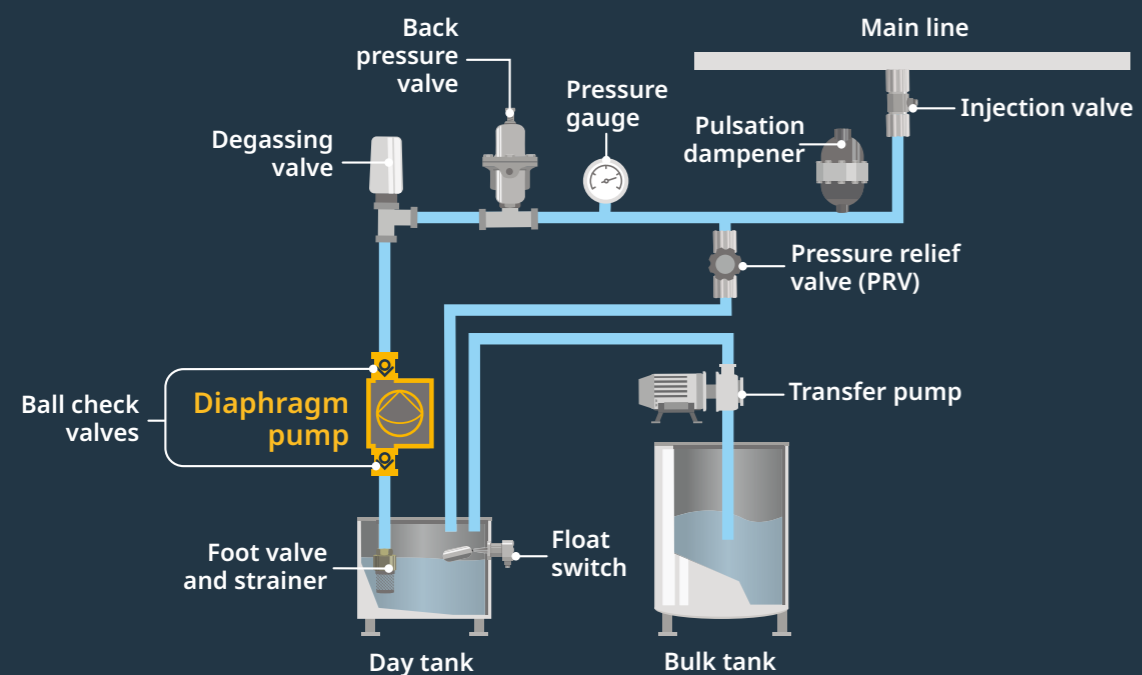
Benefits:

- Cuts chemical cost through higher accuracy metering ($\pm 1\%$)
- Simple plug-and-play installation eliminates ancillary equipment
- Easy maintenance with single, no-tools, component replacement
- Flow rates from 0.1 mL/min to 600 L/hr at up to 7 bar
- Valveless design of pump reduces the possibility of pump blockages from fluids such as ferric chloride
- Ability to run dry
- Ability to handle gaseous fluids such as sodium hypochlorite
- Suction lift of up to 9 m means the Qdos range is ideal for sampling applications

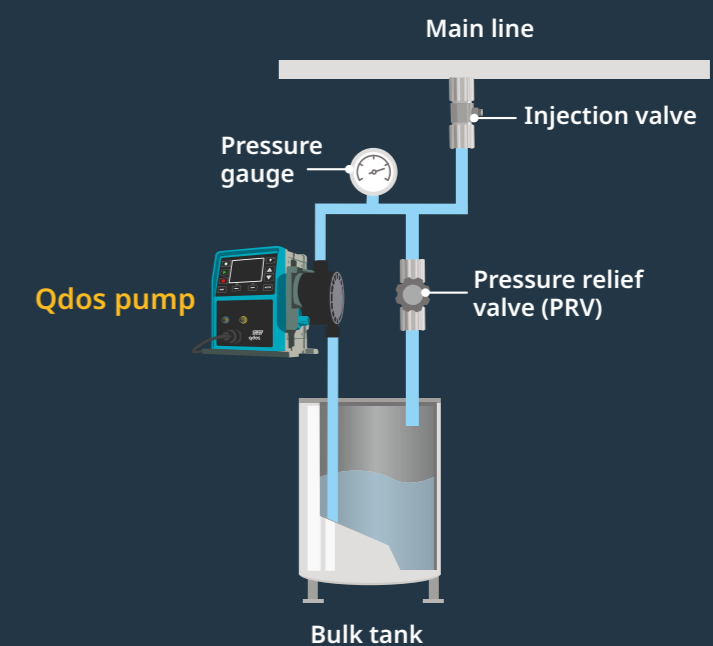
Qdos pumps offer a low total cost of ownership

Qdos peristaltic pumps are designed for chemical dosing applications and eliminate the need for ancillary equipment while maintaining accurate, linear and repeatable metering for all process conditions.

- No backpressure valves
- No pulsation dampener
- No degassing valves
- No foot valves or strainers
- No float switches



Typical installation comparing a Diaphragm metering pump with a Qdos pump





HMI protection screen on Qdos H-FLO
(available to order for other Qdos models).

Easy access high-visibility interface
Keypad and large TFT colour display provide easy access and high-visibility status indication. Configurable in 11 languages.

Reduce your chemical costs
Accurate, linear and repeatable flow, with varying process conditions. Keeps pumping even when off-gassing occurs or when the chemical contains solids. No need to over-meter chemicals.

Rugged plastic case
Designed for chemical environments. IP66, NEMA 4X.

Direct connectivity to a range of external monitoring systems

12 to 24 V DC Optional
For mobile skids or remote locations without mains power.

Six models in the range
Qdos 20, Qdos 30, Qdos 60, Qdos 120, Qdos CWT and Qdos H-FLO.

Pressure Sensing Kit*
Optional Pressure Sensing Kit provides real time pressure monitoring, which enhances process security and improves safety. The Pressure Sensing Kit comes with configurable high-low warnings and alarms.

Improved Safety
The sealed ReNu and CWT pumphead with integral leak detection minimises operator exposure to chemicals.

Replace your pump in seconds
Process uptime is maximised with no-tools maintenance with quick and easy pumphead replacement.

Low maintenance
No valves or seals to clog, leak or corrode, giving minimal maintenance. Plug-and-play replacement for diaphragm metering pumps.

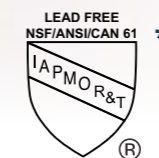
Simplify your system design
High suction lift and viscous handling eliminates the need for flooded suction, day tanks and specialist piping systems.

Certified for:*

- EC1935/2004, EU regulation 10/2011
- FDA regulation 21CFR parts 170-199
- The Renu 150, 300, 600 Santoprene and Renu 300 SEBS are certified for NSF/ANSI/CAN 61 and to NSF/ANSI/CAN 372 for lead free requirements.



EtherNet/IP™



*Certifications dependent upon product variant



Reliable pumphead technology



The unique ReNu® pumphead achieves cost savings through minimal maintenance downtime. ReNu technology is a tool-free pumphead that fully contains fluid, which keeps your production area clean and free from contamination risk.

The patented design enables accurate and repeatable flow for fluids of a wide range of viscosities.

No-tools maintenance means quick, safer and easy pumphead replacement with no specialist training or maintenance technicians.

The contained pumphead design with integral leak detection reduces wastage and minimises operator exposure to chemicals.

Qdos CWT

Qdos CWT® (Conveying Wave Technology) delivers all the benefits of a peristaltic pump, but with significantly longer service life than traditional tube designs.

Qdos CWT provides outstanding chemical dosing accuracy for more sustainable water treatment applications.

Pumps do not suffer vapour locking and consistently dose chemicals including

sodium hypochlorite, without the need to overdose to ensure reliable treatment.

- Flowrates to 500 mL/min at up to 9 bar
- Long service life at high pressure
- Reliable, low-maintenance metering

Capable of handling a broad range of chemicals

ReNu SEBS	Optimised for sodium hypochlorite and sulphuric acid applications
ReNu Santoprene	General purpose with great chemical compatibility across a range of applications
ReNu PU	Optimised for oil-based polymers
CWT EPDM	General purpose with great chemical compatibility across a range of applications



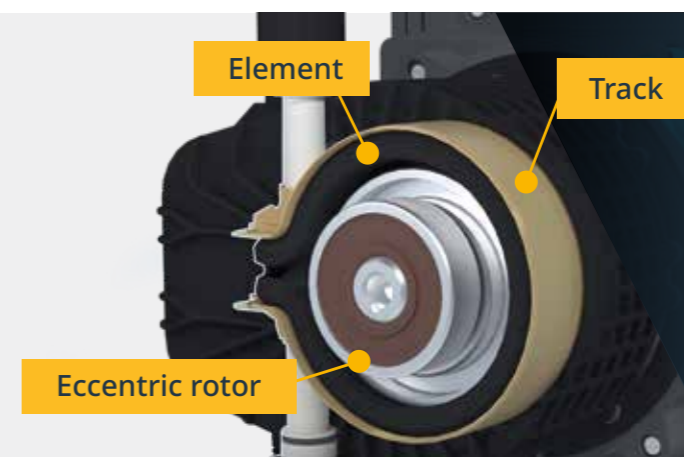
What is Conveying Wave Technology?

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

To achieve the peristaltic pumping action, the pump incorporates a fluid contact element rather than a tube, which acts against a 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.

With its unique fluid contact element, CWT 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





Qdos H-FLO—for higher flows

Qdos H-FLO delivers the same outstanding accuracy and reliability as other Qdos pumps but for higher flow rates, with a high chemical compatibility through a range of pumpheads.

Network integration, control and communication options include EtherNet/IP, PROFINET and PROFIBUS for easy integration with PLC, DCS and SCADA systems.

Qdos H-FLO high-precision dosing pump offers flexibility and is scalable with your process, whether it is in water treatment, wastewater treatment, mining and mineral processing, food and beverage or pulp and paper.

- Flowrates from 2.0 mL/min to 600 L/h
- Pressure capability up to 7 bar pressure
- RFID pumphead detection increases process security and safety
- Revolution counter for pumphead service maintenance
- Leak detection and fluid containment prevent spills and chemical exposure
- One common pump drive with several pumphead options for changing process conditions and chemistries

Qdos dosing applications

- Disinfectants
- Coagulants
- Flocculants
- Acids/alkalis
- Mining reagents
- Pigments
- Cleaning agents
- Surfactants
- Additives
- Odour control
- Sampling
- Releasing agents
- Dyes



Case study

Qdos 60 PU peristaltic pump doses polymer for three years without leaks or maintenance downtime

A Qdos 60 PU peristaltic pump completed three years of maintenance-free operation without any messy leaks of polymer in a trial at the City of Oak Ridge water treatment plant in Tennessee, United States.

The Qdos 60 PU peristaltic pump with ReNu PU pumphead is dosing polyaluminium chloride at Oak Ridge. The Qdos 60 PU pumphead has provided efficient, safe, leak-free and reliable polymer metering.

Mark Terry, Plant manager at the City of Oak Ridge water treatment plant in Tennessee, said:

"The Qdos 60 pump that is used to feed coagulant—a polyaluminium chloride polymer called DYPAC 5461—and the prototype pump head that we were given to try out from Watson-Marlow has been absolutely amazing.

"The pumps that we previously used to add coagulant into our facility's raw water were quite old and, from time to time, were prone to clogging.

"The two most obvious benefits that the Qdos pump has provided to my water treatment plant is that we've experienced no polymer leaks since the Qdos pump was put into service and, aside from occasional calibrations, the pump has maintained a very consistent and accurate feed rate of the coagulant that we add to our raw water.

"Low maintenance and non-stop running of the Qdos pump at our facility is vitally important because our plant, aside from a few unplanned episodes, runs 24 hours a day, seven-days-a-week. Based upon these realities the Qdos pump has been a great choice for the needed application."



Accessories

Pressure Sensing Kit*

The Qdos Pressure Sensing Kit is an accessory that provides real time pressure monitoring on Qdos pumps.

Benefits include:

- Enhances your process security and improves safety
- Designed specifically for Qdos chemical metering and dosing pumps
- Configure your High-Low warnings and alarms
- Easily detect leaks and blockages



Qdos hose connector kit*

Flexible, robust hoses designed for simple connection into process lines. The chemical resistant PTFE hose provides simple, safer and secure connection of a Qdos pump.



*Not currently available with Qdos H-FLO

Control options

Qdos pumps have a wide range of communication and connection options.

Universal+	Universal	Manual	Remote*	PROFIBUS	EtherNet/IP**	PROFINET**
Manual	Manual	Manual	No HMI	Manual	Manual	Manual
4–20 mA input	4–20 mA input	speed	4–20 mA input	PROFIBUS	EtherNet/IP	PROFINET
4–20 mA output	Contact pulse	control	4–20 mA output			
Contact pulse			Process Security			

* Not available for Qdos H-FLO

** Available for Qdos H-FLO only

Pumphead flow rates

Model	Flow (ml/min)					
	Qdos 20	Qdos 30	Qdos CWT	Qdos 60	Qdos 120	Qdos H-FLO
Universal+, Universal, Manual, PROFIBUS	0.1 to 333	0.1 to 500	0.1 to 500	0.1 to 1000	0.1 to 2000	2 to 10,000
Remote	0.2 to 333	0.3 to 500	0.3 to 500	0.6 to 1000	1.2 to 2000	-
EtherNet/IP	-	-	-	-	-	2 to 10,000
PROFINET	-	-	-	-	-	2 to 10,000



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