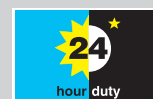


# qdos 20, 30, 60, 120

**qdos**  
Peristaltic Metering  
Watson-Marlow Pumps

## FEATURES AND BENEFITS

- Flow rates 0.1–2000ml/min (0.001–31.7USGPH) and up to 7 bar (100psi) RMS pressure
- ReNu 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 20000:1 with  $\pm 1\%$  accuracy
- Manual, analogue, PROFIBUS or contact mode functionality available
- PROFIBUS Bus speed 9.6–1,500 kb/s
- 12–24V DC option



*Watson-Marlow...Innovation in Full Flow*

## PERFORMANCE

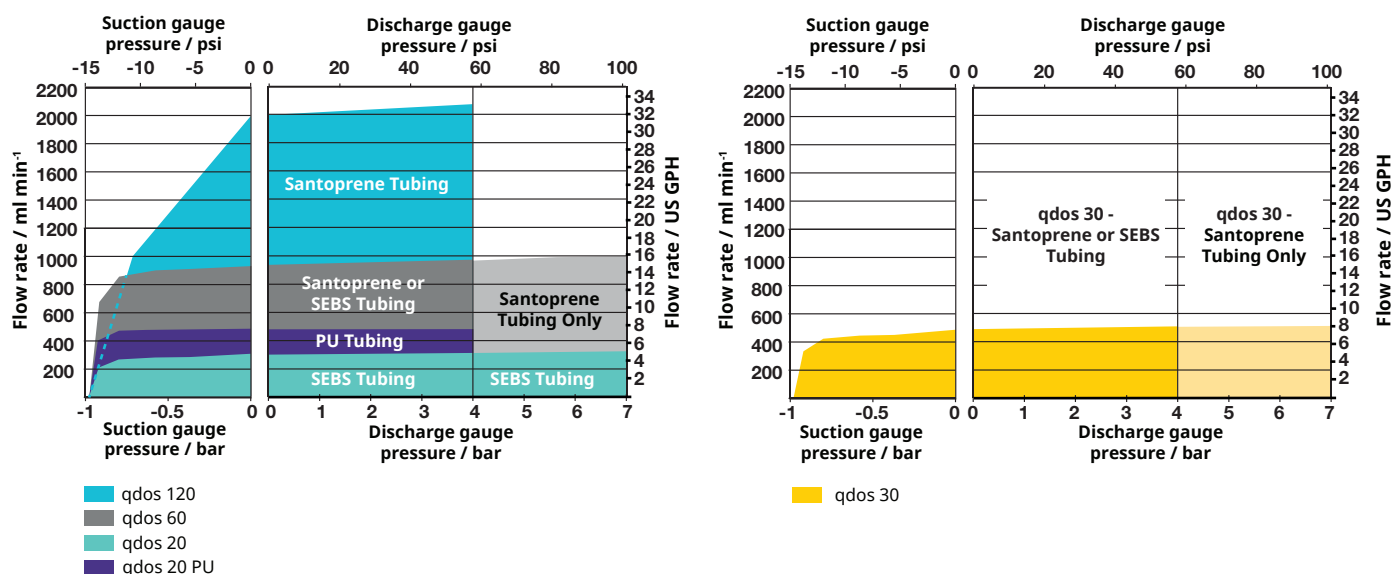
qdos pump typical flow rates

	qdos		qdos remote	
	Speed (rpm)	Flow ml/min (USGPH)*	Speed (rpm)	Flow ml/min(USGPH)*
qdos 20	0.017-55	0.1-333 (0.001-5.3)	0.034-55	0.2-333 (0.003-5.3)
qdos 20 PU	0.017-55	0.1-484 (0.001-7.67)	NA	NA
qdos 30	0.025-125	0.1-500 (0.001-7.93)	0.078-125	0.3-500 (0.005-7.93)
qdos 60	0.013-125	0.1-1000 (0.001-15.85)	0.078-125	0.6-1000 (0.01-15.85)
qdos 120	0.006-140	0.1-2000 (0.001-31.7)	0.078-140	1.25-2000 (0.02-31.7)

\*accuracy  $\pm 1\%$ , repeatability  $\pm 0.5\%$

\*Flow rates shown can be affected by discharge pressure

Flow rate with discharge pressure for ReNu pumpheads



## TECHNICAL SPECIFICATION

	qdos 20	qdos 30	qdos 60	qdos 120
Ingress rating	IP66			
Enclosure	Watertight / dustproof			
Humidity	80% up to 31°C (88°F), decreasing linearly to 50% at 40°C (104°F)			
Temperature (Santoprene)	N/A	5C–45C (41F–113F)		
Temperature (SEBS and PU)	5C–40C (41F–104F)			N/A
Drive weight	4.6 kg (10lb 2oz)	4.1 kg (9lb 1oz)	4.6 kg (10lb 2oz)	
Pumphead weight	1.1kg (2lb 7oz)	0.95kg (2lb 2oz)	1.1kg (2lb 7oz)	
Control ratio	3330:1	5000:1	10000:1	20000:1
Control ratio (Remote)	1600:1			
Noise	< 70dB(A) at 1m			
Standard	CE, NSF 61, cETLus, IRAM S Mark, C-Tick, CSA			
Power supply options	Switch mode power supply ~100-240V 50-60Hz 190VA Country specific plug options			
	12-24V DC power supply Typical 12V current (100W) = 10A Typical 24V current (100W) = 5A Terminal connectors: M8 (5/16") ring terminals (hole diameter 8.33mm (0.328"))			

## MATERIALS OF CONSTRUCTION

### Fluid path components

Component	Pump Variant			
	qdos 20	qdos 30	qdos 60	qdos 120
Tube or fluid contacting element	SEBS PU	SEBS Santoprene	SEBS Santoprene	
Fluid connection ports	PVDF	PP (Santoprene) PP (SEBS)	PP (Santoprene) PVDF (SEBS)	
Fluid connectors	PP (standard) PVDF (option)			
Fluid connection seals	Santoprene	FKM	Santoprene	

### Materials of construction that have the potential of being wetted when the tube or fluid contacting element fails

Component	Pump Variant			
	qdos 20	qdos 30	qdos 60	qdos 120
Pumphead enclosure	30% GF PPE+PS PC PP 316 stainless steel	40% GF PPS 20% GF PP PC PA6 316 stainless steel	30% GF PPE+PS PC PP 316 stainless steel	
Pumphead enclosure seals	NBR	NBR	NBR	
Rotor	PA6 PP (ReNu 20 PU)	PA6	PA6	
ReNu window	Polycarbonate (PC)			
Bearings	Steel			
Internal baffle	POM	-	POM	
Vent body	30% GF PPE+PS	PP POM	30% GF PPE+PS	
Vent springs	316 stainless steel	316 stainless steel Steel	316 stainless steel	
Lubricant	PFPE			

### Materials of construction for external casing

Component	Pump Variant			
	qdos 20	qdos 30	qdos 60	qdos 120
Keypad	Polyester			
Drive casework	20% Glass Filled PPE / PS			
Drive shaft	Stainless steel 440C			

\*The pump housing contains aluminium components which can react with some chemicals to produce explosive gas.

\*It is the user's responsibility to comply with local health and safety regulations, including ensuring chemical compatibility between the duty fluid, the tube and lubricant contained in the ReNu Pumphead. For guidance refer to [www.qdospumps.com](http://www.qdospumps.com).

## TECHNICAL DATA - CONTINUED

Operational modes	Manual	Remote	PROFIBUS	Universal	Universal+
Manual	•		•	•	•
PROFIBUS—bus speed 9.6–1,500 kb/s			•		
Contact				•	•
4-20mA		•		•	•

Features	Manual	Remote	PROFIBUS	Universal	Universal+
Numerical flow display	•		•	•	•
Numerical speed display	•		•	•	•
Fluid level monitor	•		•	•	•
Max (prime)	•		•	•	•
Auto restart (after power restored)	•	•	•	•	•
Fluid recovery	•		•	•	•
Leak detection	•	•	•	•	•
3.5" (88.9mm) colour TFT display	•		•	•	•
Fault reporting	•	LED status icons	•	•	•

Control methods	Manual	Remote	PROFIBUS	Universal	Universal+
Input/Output Options*		L	L	L or R	L or R
Manual control capability	•		•	•	•
4-20mA input		•		•	•
4-20mA input two point calibration					•
4-20mA output		•			•
Contact input (pulse/batch)				• L or R	• L or R
Run stop input		•		•	•
Run status output		•		•	L
Alarm output		•		•	L
Four configurable relay outputs					R
Remote fluid recovery		•		•	•

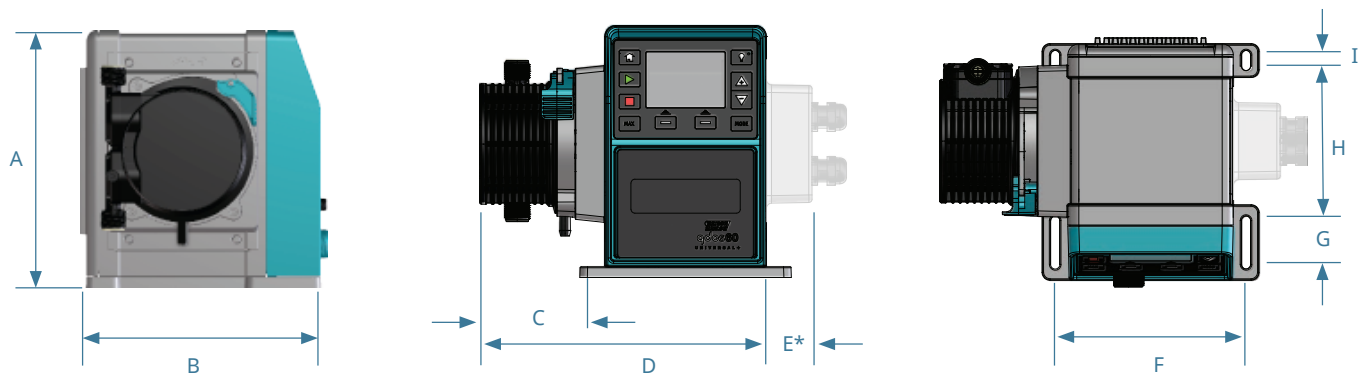
PROFIBUS	Manual	Remote	PROFIBUS	Universal	Universal+
Speed set point			•		
Speed feedback			•		
Flow calibration function			•		
Hours run			•		
Revolution counter			•		
Leak detection			•		
Low fluid level alarm			•		
Diagnostic feedback			•		

Security	Manual	Remote	PROFIBUS	Universal	Universal+
Keypad lock	•		•	•	•
PIN lock to protect set up	•		•	•	•

Power supply options	Manual	Remote	PROFIBUS	Universal	Universal+
12–24V DC	•			•	•
~100-240V AC	•	•	•	•	•

*Control options - Universal and Universal+ models		
Variant	Standard pump (L)	
Input	5–24V DC	Front mounted M12 connectors
Output	Open collector	
Variant	Relay Module (R)	
Input	5-24V DC or 110V AC	Spring terminals in a side mounted connection module
Output	Contact rating 110V AC, 4A 30V DC, 4A	

## DIMENSIONS



Note: Pumphead appearance and fluid port positions may differ between models.

Model	A	B	C	D	E—Optional relay modules (H or R)	F	G	H	I
qdos 20	234mm (9.2")	214mm (8.4")	104.8mm (4.1")	266mm (10.5")	43mm (1.7")	173mm (6.8")	40mm (1.6")	140mm (5.5")	10mm (0.4")
qdos 30	234mm (9.2")	214mm (8.4")	71.5mm (2.8")	233mm (9.2")	43mm (1.7")	173mm (6.8")	40mm (1.6")	140mm (5.5")	10mm (0.4")
qdos 60	234mm (9.2")	214mm (8.4")	104.8mm (4.1")	266mm (10.5")	43mm (1.7")	173mm (6.8")	40mm (1.6")	140mm (5.5")	10mm (0.4")
qdos 120	234mm (9.2")	214mm (8.4")	104.8mm (4.1")	266mm (10.5")	43mm (1.7")	173mm (6.8")	40mm (1.6")	140mm (5.5")	10mm (0.4")

## ORDER INFORMATION

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**Model**  
 1: qdos 20  
 2: qdos 30  
 3: qdos 60  
 4: qdos 120

**Fluid path material†**  
 2: Santoprene  
 5: PU  
 8: SEBS

**Model**  
 1: Remote  
 3: Manual  
 4: Universal  
 5: Universal+  
 7: PROFIBUS

**Digital I/O type**  
**Manual, Remote and PROFIBUS models**  
 L: Standard pump variant  
**Universal and Universal+ models**  
 L: Open collector outputs, 5–24V DC inputs  
 R: Volt free 110V AC 30V DC relay contacts, 5–24V DC or 110V AC inputs

**Pumphead orientation\***  
 L = Left  
 R = Right

**Plug options**  
 A: US  
 E: European  
 U: UK  
 K: Australia  
 R: Argentina  
 C: Swiss  
 D: India/South Africa  
 V: 12–24V DC

† For guidance on chemical compatibility see [www.qdospumps.com](http://www.qdospumps.com)

Pumphead product codes	
Description	Partcode
ReNu 20 pumphead PU / PFPE 4 bar (60psi)	0M3.1500.PFP
ReNu 20 pumphead SEBS / PFPE 7 bar (100psi)	0M3.1800.PFP
ReNu 30 pumphead Santoprene / PFPE 7 bar (100psi)	0M3.2200.PFP
ReNu 30 pumphead SEBS / PFPE 4 bar (60psi)	0M3.2800.PFP
ReNu 60 pumphead Santoprene / PFPE 7 bar (100psi)	0M3.3200.PFP
ReNu 60 pumphead SEBS / PFPE 4 bar (60psi)	0M3.3800.PFP
ReNu 120 pumphead Santoprene / PFPE 4 bar (60psi)	0M3.4200.PFP

\* The pumphead side location is required when ordering. The left/right perspective assumes the user is looking at the front of the pump. The pump in the dimensions diagram is considered a pumphead located to the left.

All flow rates shown were obtained pumping water at 20C (68F) with zero suction and delivery heads. qdos drives are not ATEX rated and should not be used within explosive atmospheres. 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, Qdos, ReNu, LoadSure, Bioprene, Pumpsil and Marprene are trademarks of Watson-Marlow Limited. STA-PURE PFL® and STA-PURE PCS® are registered trademarks of W.L Gore & Associates Inc. Please state the product code when ordering pumps and tubing.

**WATSON  
MARLOW  
Pumps**

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