

# Qdos 20

Qdos metering pump

**WATSON  
MARLOW**  
Pumps

## Features and benefits

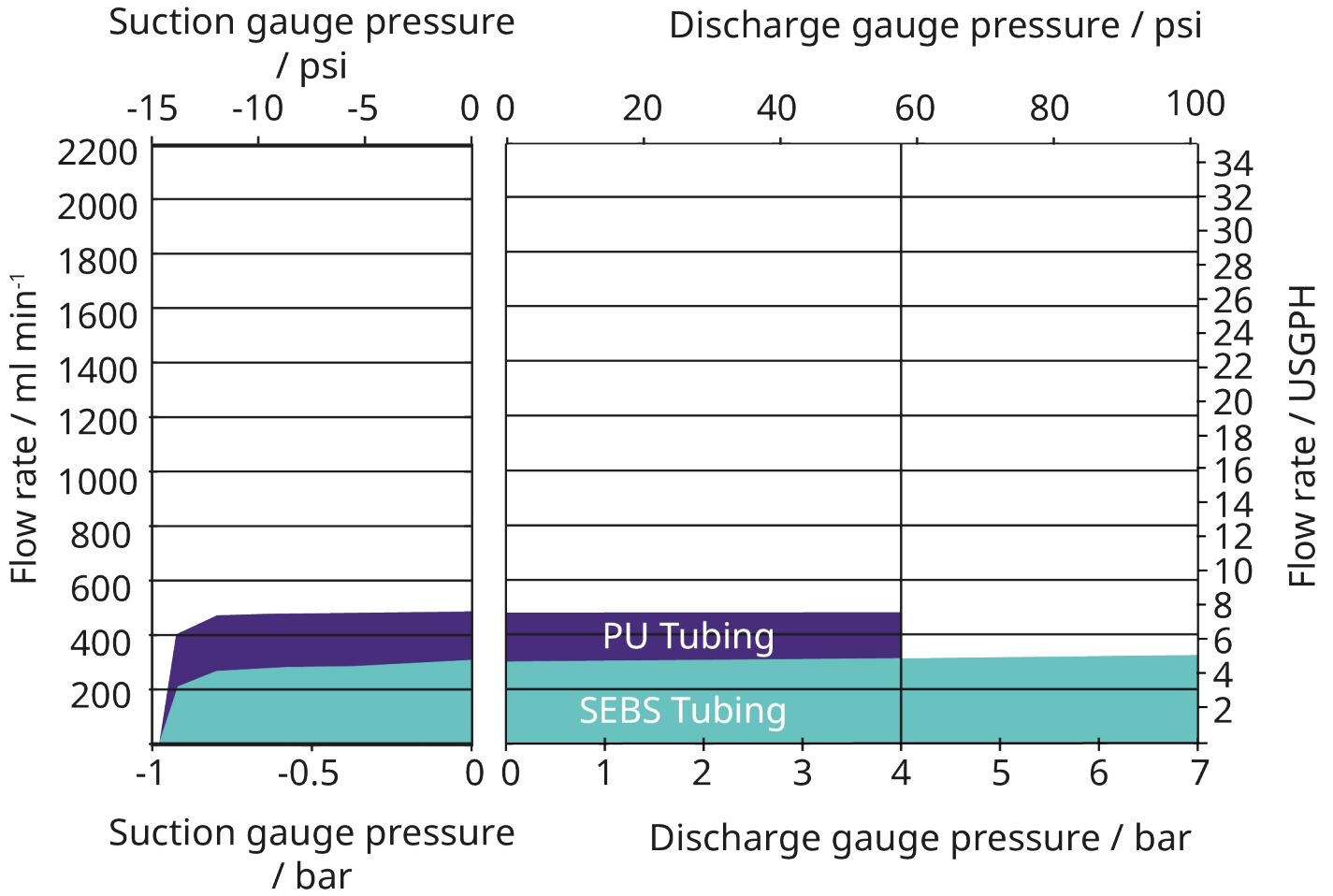
- Cut chemical cost through higher accuracy metering
- Simple drop-in installation eliminates ancillary equipment
- Reduced maintenance with single, no-tools, component replacement
- Cost of ownership is less than that of a diaphragm pump
- Flow rates from 0.1 to 450 ml/min (0.001 to 7.13 USGPH) at up to 7 bar (100 psi)
- No backpressure valves, pulsation dampener, degassing valves, foot valves, strainers or float switches



## Qdos 20 performance

	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	0.1-450 (0.001-7.13)	NA	NA

\*accuracy ±1%, repeatability ±0.5%



## Technical specifications

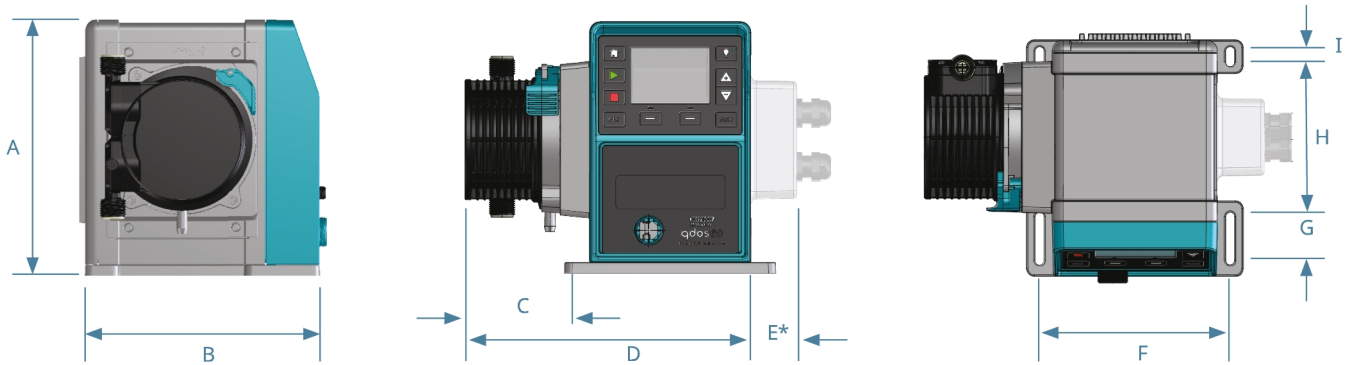
	Qdos 20
Max. flow rate	450 ml/min
Min. flow rate	0.1 ml/min
Max. flow rate	7.13 USGPH
Min. flow rate	0.001 USGPH
Max. operating pressure	7 bar
Max. operating pressure	100 psi
Max. operating speed	55 rpm
Ambient Temperature Range	5 – 40 °C
Ambient Temperature Range	41 – 104 °F
Weight	5.7 kg
Weight	12.6 lbs
Control types	Manual, PROFIBUS®, Remote, Universal, Universal+
Standards	CE, cETLus, CSA, C-Tick, IRAM S Mark, NSF 61
Drive standards	CE, cETLus, CSA, C-Tick, IRAM S Mark, NSF 61
Drive ingress protection	IP66, NEMA 4X
Drive humidity	80% up to 31°C, 88°F, decreasing linearly to 50% at 40°C, 104°F
Noise	< 70dB(A) at 1m
Max. altitude	2000 m
Power supply	100 to 240 VAC 50 to 60 Hz 190 VA, 12 to 24 V DC
Drive power supply	100 to 240 VAC 50 to 60 Hz 190 VA, 12 to 24 V DC

Minimum and maximum flow depends upon pumphead, flow unit and method of control. Pressure and speed depends on pumphead chosen.

## Materials of construction

	Qdos 20
Bearings	Stainless steel, Steel
Driveshaft	Stainless steel 440C
Drive casework	20% glass filled PPE/PS
Drive casework coating	20% glass filled PPE/PS
Fluid connectors	Polypropylene, PVDF
Drive keypad/HMI	Polyester
Lubricant	PFPE based
Pumphead body assembly	30 % glass filled PPO/PS, 30% glass filled PPO/PS
Pumphead rotor assembly	Glass filled Nylon, PP (polypropylene)
Tubing	PU, SEBS

## Qdos 20 dimensions



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

Model	A	B	C	D	E	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")

\*Optional relay module

## Control options

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

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	✓		✓	✓	✓
LED Pump status icons		✓			

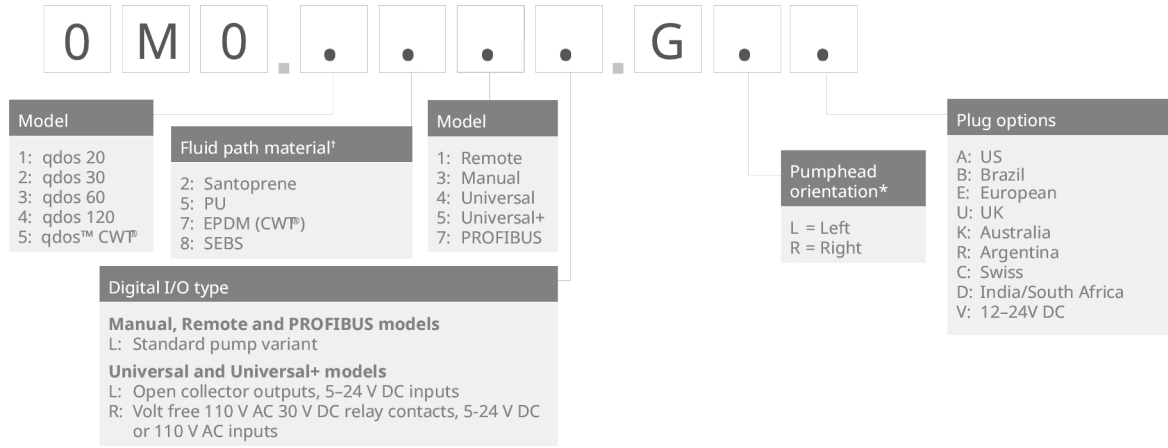
Control methods	Manual	Remote	PROFIBUS	Universal	Universal+
Input/Output Options		L	L	L or R	L or R
Manual control capability	✓		✓	✓	✓
4-20mA input		✓		✓	✓
4-20mA input two point calibration					✓
4-20mA output		✓			✓
Contact input (pulse/batch)				L or R	L or R
Manual speed adjustment range	3333:1 (Qdos 20) 5000:1 (Qdos 30) 10000:1 (Qdos 60) 20000:1 (Qdos 120)		3333:1 (Qdos 20) 5000:1 (Qdos 30) 10000:1 (Qdos 60) 20000:1 (Qdos 120)	3333:1 (Qdos 20) 5000:1 (Qdos 30) 10000:1 (Qdos 60) 20000:1 (Qdos 120)	3333:1 (Qdos 20) 5000:1 (Qdos 30) 10000:1 (Qdos 60) 20000:1 (Qdos 120)
Minimum motor adjustment speed increment (Dependent upon the operating mode and chosen flow unit)	0.006	0.078	0.100	0.003	0.003
4-20mA resolution		1600:1		1600:1	1600:1
Profibus speed resolution			550:1 (Qdos 20) 1250:1 (Qdos 30) 1250:1 Qdos 60 1400:1 (Qdos 120)		
Run stop input		✓		✓	✓
Run status output		✓		✓	L
Alarm output		✓		✓	L
Four configurable relay outputs					R
Remote fluid recovery		✓		R	R

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	✓		✓	✓	✓

*Control options - Universal and Universal+ models		
Variant	Standard pump (L)	Relay Module (R)
Input	5-24V DC	5-24V DC or 110V AC
Output	Open collector	Contact rating 110V AC, 4A 30V DC, 4A

## Product codes



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

\* 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.

Description	Partcode
ReNu 20 pumphead PU / PFPE 4 bar (60psi)	0M3.1500.PFP
ReNu 20 pumphead SEBS / PFPE 7 bar (100psi)	0M3.1800.PFP

Disclaimer: All flow rates shown were obtained pumping water at 20 °C (68 °F) with zero suction and delivery heads. qdos drives are not ATEX rated and should not be used within explosive atmospheres. 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.

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