

# ***GROUNDWATER SAMPLING PUMPS***

*Introduction - Pump Options*

*Inertial Pumps (Footvalves)*

*Peristaltic Pumps*

*12V Electric Submersible Pumps*

*MicroPurge Introduction*

*MicroPurge / Low Flow Sampling*

*Piston Pump*

*Pump Accessories*

*Pump Reel*

### Pump Selection Guide

Pump Type	Max. depth	Max. flow	Min. bore diameter	Power source	Applications	Product Name	Page
Inertial Footvalve	40m+	0 - 12 L/min	12.5mm	Manual or petrol powered actuator	Purging, Sampling, Well Development	Waterra Footvalve	39-41
Peristaltic / suction	8m	2.5L/min	12.5mm	12V DC battery	Purging, Sampling, Low Flow Purging & Sampling <sup>+</sup>	Athena, Alexis, Geopump	42
Electrical 12V DC submersible centrifugal	45m+	16L/min	50mm	12V DC battery	Purging, Sampling, Low Flow Purging & Sampling	Proactive Environmental 12V Pumps	43-45
Bladder	61m up to 305m	2L/min*	25mm	Compressed air or gas	Low Flow Purging & Sampling	QED Micropurge Sample Pro & Well Wizard	46-52
Piston	330m	7.5L/min	50mm	Compressed air or gas	Purging, Sampling, Low Flow Purging & Sampling	Bennett Sample Pump	53

<sup>+</sup> Not recommended for sampling where degassing is an issue

\* Typical flow 0.5L/min



## Waterra Inertial Pumps "Footvalves"

### What is a Waterra Footvalve?

A Waterra Footvalve consists of a one-way checkvalve connected to a length of plastic tubing that when oscillated up and down in the well produces a flow of water. Users have found that this simple, reliable and versatile sampling system excels in performance and is affordable.

### Why use Waterra Footvalves?

Waterra Footvalves cost little more than bailers to dedicate, yet equal or exceed far more costly pumps in performance. Installing dedicated pumps in all your wells eliminates costly field blanks, lowers the risk and associated costs of cross contamination thus reducing labour expenses.

### What you need?

For manual purging or sampling, you need:

- Waterra Footvalve
- Tubing (LDPE or HDPE)

Sampling is achieved by oscillating the tubing in an up-and-down motion by hand.

For powered purging and sampling you need:

- Waterra Footvalve
- Tubing (HDPE is recommended)
- Powered actuator such as the Waterra Powerpump II or Waterra Powerpack 2

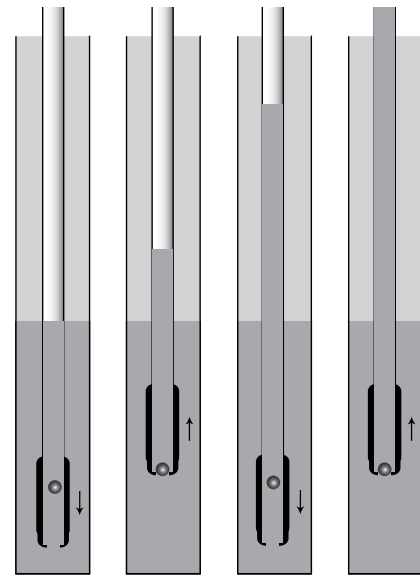
### Selecting the best footvalve for your application

Determine the desired flow rate as well as the permissible footvalve diameters for your well and your tubing. The best material usable for the sample should also be established before choosing your footvalve.

### Four Flow Rates to Choose From

Waterra Pumps are available in four performance ranges, depending mainly on diameter of tubing and footvalve. The larger the tubing, the greater the flow rate capability. Within each flow range is an assortment of different footvalves and tubing for different sampling requirements.

1. High Flow - Models D32 & SS32
2. Standard Flow - Models D25, D16 & SS19, SS16
3. Low Flow - Models D13 & SS13
4. Micro Flow - Model SS10



D25 Footvalve - Standard Flow



D32 Footvalve - High Flow



D13 Footvalve - Low Flow



SS10 Footvalve - Micro Flow

## Footvalve Selection

Waterra System	Item Code	Foot Valve Outside Diameter	Material	Maximum depth of operation		Flow Rate (L/min)	Applications
				Manual pumping (typical*)	Powered Actuator (typical*)		
Standard Flow	WTPD25	25mm	DP	10 - 20m	40m+	0 - 6	Most popular system, well suited for 50mm bores
	WTPD16	16mm	DP				Use for purging, sampling & development
	WTPSS19	19mm	SS				
	WTPSS16	16mm	SS				
High Flow	WTPD32	32mm	DP	5 - 10m	40m+	0 - 12	Well suited to 50mm and larger bores
	WTPSS32	32mm	SS				Higher flows for well purging, sampling & development
Low Flow	WTPD13	13mm	DP	10 - 19m	20m+	0 - 2	Purging & sampling in bores 19mm to 38mm diameter
	WTPSS13	13mm	SS				
Micro Flow	WTPSS10	10mm	SS	10m	10m+	less than 0.5	Suited to small diameter piezometers and damaged wells

DP = Delrin Plastic

SS = Stainless Steel

\* the performance varies depending on such factors as bore diameter, depth to water, tubing type and length. This table should be used as a guide only. Performance is maximised using HDPE tubing & Powered Actuator

**Footvalve Tubing Selection**

Tubing Size Part no.	Fits Footvalves
1in. OD WFTLDPE25	D32, SS32
5/8in. OD WFTLDPE16	D25, D16, SS19, SS16 (for depths -25m)
5/8in. OD WFTHIGHDPE16	D25, SS19 (for depths 25m+)
1/2in. OD WFTLDPE12	D13, SS13
3/8in. OD WFTMPTW-100	SS10



See following pages for mechanical actuators and accessories

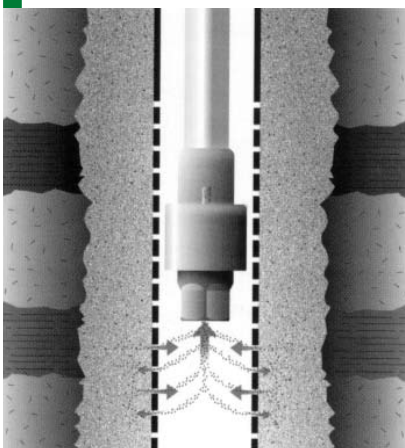
For information about our range of tubing, see page 55-56

**Waterra Surge Block Groundwater Sampling**

Surge blocks attach to either a D25 or D32 and are used for well development.

The Waterra Footvalves develop wells through a combination of mechanical surging and high volume pumping. The surging action can be enhanced with the addition of a surge block.

The capability of handling heaving, abrasive sediment loads further increases their efficiency during well development.



**Ordering Information**

- WTPWSBD25** Waterra Surge Block for D25 valve suits 50mm wells
- WTPWSBD32** Waterra Surge Block for D32 valve suits 50mm wells

Geoprobe Well Development Tool See page 15

**Waterra PowerPump II Actuator**

**Honda Engine Powered, no generator required**

**For use with Waterra footvalve system - see previous pages**

The Waterra PowerPump II is a petrol powered mechanical drive mechanism which pumps water by repeatedly lifting and dropping a tubing and footvalve assembly that is extended below the water surface in a well.

The PowerPump components include a 2.5 H.P. gasoline engine, a 19:1 parallel shaft speed reducer, a centrifugal clutch and a linear pump drive mechanism. This drive mechanism includes a reciprocating post which extends above the pump frame that connects to a tubing clamp. The pump unit is designed to hang from a well casing and is secured to the casing with a ratchet belt. All components on the pump are fully adjustable to permit operation in wells with variable casing completion heights and diameters.



**Specifications**

- Weight** 32kg
- Dimensions** 66 H x 36 W x 61 cm L
- Horsepower** 2.5
- Gearing** 19:1
- Power source** Unleaded petrol

**Ordering Information**

- WTPPPII** Waterra Power Pump II

AVAILABLE TO RENT

## Waterra Power Pack 2 Actuator

- The ultimate portability
- Light weight & Powerful
- For use with Waterra footvalve system - see previous pages

When Waterra designed the Power Pack 2, their aim was to deliver a fully portable, single operator power unit for the Waterra Inertial Pumps - and they've achieved just that! At 13 kg, this unique system is light enough to comply with one person Health & Safety lifting regulations and provides outstanding pumping performance.

The Power Pack 2 is powerful enough to lift water from over 60m depth using Standard Inertial Pump tubing and valves, and is so compact that it fits onto a back-pack frame. The PowerPack 2 incorporates clamps for Waterra High Flow and Standard tubing sizes.

The Power Pack 2 is powered by a Honda GX-22 series 4-stroke engine which uses standard unleaded fuel and can run for approximately 1 hour without refueling.

### Features:

- Lightweight
- Easy to use
- No electrical source required
- Carry anywhere



### Specifications

Weight	13kg
Dimensions	568 x 365 x 390mm
Horsepower	0.25
Power Source	Unleaded petrol
Fuel Capacity	0.45 litre
Engine Type	4 stroke

### Ordering Information

EEQP1AUS	Power Pack
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## Waterra Portable Lever Pumps

For use with Waterra footvalve system - see previous pages.

The Waterra Lever Pump was designed to provide operators with a convenient, portable mechanism which would provide some mechanical advantage when manually operating the Inertial Pump as well as facilitating the collection of samples with this system.

This actuator will fasten onto most above ground well completions quickly and easily. The tubing clamp is designed to accept both Standard Flow and High Flow tubing and the handle is adjustable in order to accommodate various casing diameters and desired stroke lengths.



### Ordering Information

WTPWLP100	Hand Pump
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**Athena®**  
Peristaltic Pump, 12V

The Athena® peristaltic pump is lightweight and compact. To use, simply attach an external power source such as a 12 volt battery to drive the pump. A high performance motor consumes only 3 amps at maximum draw making it an extremely efficient pump. The rugged Pelican™ 1300 case enclosure is made to withstand demanding work conditions. Incorporating the most accurate and precise variable speed controller for consistent flow rates will ensure the technician reliable sample integrity. Includes a built-in digital display. Sealed push buttons are used to control the pump.

**Features**

- Constant Voltage Boosting Technology
- Masterflex Easyload™ 2 pump head design
- Precise Push Button Technology
- Super strong - Pelican™ 1300 case
- LCD Display
- Push Button Back Flushing
- Low Voltage Disconnect Warning
- Auto Reset Internal Fuse
- 4.5m of DC battery clamps to hook up for super long sampling events



**Specifications**

- Max. Lift* 8m
- Max. Flow* 2.5L per min
- Min. Flow* 40ml per min

**Ordering Information**

PEPATHENA Peristaltic Pump mounted in case



Masterflex Easyload™ 2 pump head is a registered trademark of Thermo Fisher Scientific

**Alexis®**  
Peristaltic Pump, 12V

The compact Alexis® peristaltic pump can either run on its self-contained internal 17 amp AGM battery or 220 volt electric socket. This pump is lightweight and extremely durable. The rugged Pelican™ 1430 case enclosure is made to withstand demanding work conditions. Incorporating the most accurate and precise variable speed controller for consistent flow rates will ensure the technician reliable sample integrity. Includes a built-in digital display. Sealed push buttons are used to control the pump.

**Features**

- Constant Voltage Boosting Technology
- Masterflex Easyload™ 2 pump head design
- Long Lasting Internal Battery with Precise Push Button Technology
- Super strong - Pelican™ 1430 case
- LCD Display
- Push Button Back Flushing
- Low Voltage Disconnect Warning
- Auto Reset Internal Fuse
- 4.5m of DC battery clamps to hook up for super long sampling events



**Specifications**

- Max. Lift* 8m
- Max. Flow* 2.5L per min
- Min. Flow* 40ml per min

**Ordering Information**

PEPALEXIS Peristaltic Pump mounted in case with internal battery



**Geopump Series II**  
Peristaltic Pump, 12V

The Geopump peristaltic pump is designed for pumping of liquids from groundwater wells or open water channels. It uses the proven Masteflex Easy Load II pump head.

**Features**

- Variable speed
- Forward, Stop and Reverse switch positions
- Ideal for pumping water through filters right at the sampling site

**Power**

The pump kit operates from a 12 volt DC internal battery giving 4 hours of pumping or from an external power source such as your vehicle battery. It draws 3-5 amps maximum. The variable speed motor is equipped with a 5 amp fuse and a blocking type reverse polarity protection.



**Specifications**

- Max. Lift* 8m
- Max. Flow* 1L per min
- Min. Flow* 60ml per min

**Ordering Information**

GAB91350103 GPSII Series II, 12 v DC pump, reversible, variable speed, 600 rpm max, with battery leads, with Materflex series II pump head for L/S15, 24 tubing. Supplied with 1 m tubing.  
GAB91350113  
As above with hard field case  
GAB77250013  
Charger for Modular Battery Pack 240V  
GAB77250001 Modular Battery Pack

## Proactive Environmental 12 Volt Groundwater Pumps - Plastic

Simplify your field sampling with the Proactive Environmental 12V Groundwater Pumps, designed for 50mm bores. Connect to a 12V power source such as the battery of a running car and you are ready to purge and sample your groundwater wells.

### Benefits

- Sleek outside design reduces hang-ups in the well
- Flow controllers (Super Twister 2, Monsoon pumps only) to enable low-flow sampling
- Low cost makes it easier to assign cost to a job
- Ready for field use - add your tubing and a 12V DC battery

**Pump life:** 200-400 hours under operation in ideal conditions and very clean water.

### Tips for getting the most out of your pump

- In order to provide sufficient continuous power to the pump, operators typically use the battery of car that is idling or a deep discharge marine battery.
- Do not use for well development – using the pump for highly turbid water will reduce the lifetime or damage the pump.
- Do not start the pump at the bottom of the well, as the sudden high pressure might cause an impellor to blow off. Instead, start the pump in relatively shallow water and lower down whilst pumping.
- Minimise the instance of the pump running dry. Doing this will reduce the life of the pump. Do not let the pump run dry continuously for more than 5 minutes.
- The pump can handle sand, silt and small debris, however only within moderation. Take care not to start pumping from the bottom of the bore because it will suck in sediment.
- If using the pump with a controller, it is recommended that you start the controller at low speed, as opposed to starting at full speed. Starting at full speed may produce too high sudden pressure on the pump and damage it.
- Dedicating pumps to a monitoring well – it is not recommended to keep a plastic pump submerged between sampling events. The water chemistry may damage components of the pump.
- Pumps work better running continuously as opposed to starting and stopping.
- It is not recommended to ‘valve down’ a pump’s discharge in order to reduce the flow. This also applies to blockages induced by flow cells and in-line filters. A flow controller is recommended to vary flows.

**Warranty:** Due to the variable nature of their use, the Proactive Pumps have a limited warranty. Warranty is subject to returning to the manufacturer for assessment.

### Mini-Typhoon



Depth	Flow Rate
1m	9 l/min
3m	8 l/min
6m	7.5 l/min
9m	3.7 l/min
12m	0.9 l/min
15m	0 l/min

**FITS 50mm WELL**

#### Specifications

**Max. Lift** 12m  
**Power Consumption (max.)** 105 watts  
**Voltage Recommendation** 12-15 at source  
**Amp Output (max.)** 7 Amps  
**Dimensions** 47mm dia. x 240  
**Material** PVC & Stainless Steel  
**Discharge hose size ID** 10 or 12mm

#### Ordering Information

**PEPMINI-TYPHOON**  
 Mini-Typhoon 12V Pump, 12m Lift, 15m cable and battery clamps

### Twister



Depth	Flow Rate
1m	16.5 l/min
3m	14 l/min
6m	12 l/min
9m	10.3 l/min
12m	8.4 l/min
15m	5.5 l/min
16m	2.8 l/min
18m	0 l/min

**FITS 50mm WELL**

#### Specifications

**Max. Lift** 18m  
**Power Consumption (max.)** 180 watts  
**Voltage Recommendation** 12-15 at source  
**Amp Output (max.)** 11 Amps  
**Dimensions** 47mm dia. x 375  
**Material** PVC & Stainless Steel  
**Discharge hose size ID** 10 or 12mm

#### Ordering Information

**PEPTWISTER**  
 Twister 12V Pump, 18m Lift, 24m cable and battery clamps

For reel options See page 57



**Super Twister Version 2**



Depth	Flow Rate
1m	16 l/min
3m	14 l/min
6m	13.2 l/min
9m	11.3 l/min
12m	9.4 l/min
15m	6.6 l/min
16m	2.8 l/min
25m	1 l/min

**Specifications**

**Max. Lift** 25m  
**Power Consumption (max.)** 225 watts  
**Voltage Recommendation** 12-15 at source  
**Amp Output (max.)** 15 Amps  
**Dimensions** 47mm dia.

**Material** PVC & Stainless Steel  
**Discharge hose size ID** 10 or 12mm

**Ordering Information**

**PEPSUPERTWISTER-V2**  
 Super Twister 12V Pump, 25m Lift,  
 27m cable and battery clamps

**FITS 50mm WELL**

**Monsoon**  
 Requires Controller



Depth	Flow Rate
3m	16.6 l/min
6m	15.8 l/min
12m	13 l/min
15m	10.5 l/min
21m	8 l/min
24m	7 l/min
26m	6 l/min
30m	5.6 l/min
33m	4.7 l/min
36m	3.7 l/min

**Specifications**

**Max. Lift** 35m  
**Power Consumption (max.)** 450 Watts  
**Voltage Recommendation** 12-15 at source  
**Amp Output (max.)** 30 Amps  
**Dimensions** 47mm dia. x 508mm  
**Material** PVC & Stainless Steel  
**Discharge hose size ID** 10 or 12mm

**Ordering Information**

**PEPMONSOON**  
 Monsoon 12V Pump, 35m Lift,  
 39m cable and plug (to suit controller)  
 Requires controller  
**PEPPBC2**  
 Power booster 2 controller  
 12-24v adjustable  
**PEPPBC2LF**  
 Low flow power booster 2 controller  
 0-24 V adjustable

**FITS 50mm WELL**

**LVM Amazon 12V Pump**  
 Purging, Sampling and Well Development

The Amazon 12V Pump allows you to bail, sample and purge your monitor wells with the power of your car battery. What's more, it is a fraction of the cost of the more traditional submersible pumps.

The Amazon pump is reliable, easy-to-use, will pump turbid water and may be used to purge or develop any shallow well with 50mm diameter or larger. They are easily washed and rinsed, saving valuable time on decontamination of the equipment.

The Amazon can deliver up to 15psi and 18lpm at 4.5 amps and has 12mm hose barb connections. The pump is rated to pump water and diesel. Pumps feature plastic housings, synthetic rubber seals and stainless steel shaft and plastic impellers. Battery not included.

**Features**

- Suitable for continuous operation
- Battery Clips
- Heavy duty electrical cable to minimise voltage drop at the pump, providing maximum lift and flow rate

Pump Life: Amazon Rated for 150 hours of use on average.



**Specifications**

**Max. Lift** 10m  
**Max. Flow** 18l/min

**Ordering Information**

**QRKSP10A** Amazon 12V Pump  
**EEKSPCTL** Variable Flow Rate Controller for Amazon

## Abyss

### 12V Pump

The Plastic Abyss® pump is capable of pumping up to 70m from ground level by simply connecting it to a 12 volt battery.

Its reliable design is suitable for continuous sampling and purging of groundwater wells.

#### Features

- Can operate under harsh conditions with higher turbidity
- Runs continuously in water without the need for a cool down
- Estimated 3000 hour motor life
- 89mm diameter
- Sleek outside that minimises well hang-ups
- Reliable and economical pump
- Contains field replaceable wear out parts

Depth	Flow Rate
3m	4 l/min
6m	3.7 l/min
12.2m	3.7 l/min
18.3m	3.2 l/min
24.3m	3.2 l/min
30.4m	3 l/min
36.6m	3 l/min
42.7m	2.8 l/min
48.7m	2.8 l/min
54.8m	2.6 l/min
60.1m	2.6 l/min
67m	1.9 l/min



#### Specifications

**Power Consumption** 60 Watts (max)

**Volt Recommendation** 12-15 At Source

**Max. Amp Output** 4 AMPS

**Measurements** Length 300mm / Diameter 88.9mm

**Required Tubing** 1/2in. ID LDPE

#### Ordering Information

**PEPP-10380** Abyss 12 v pump for 100 mm bores, 70 m lift, 70 m cables  
Cigarette lighter plug, battery clamps

**NEW**

**MAX. LIFT  
70m**

**FITS 100mm  
WELL**

## MicroPurge Low-Flow Sampling

### What is it?

The basic ideology of Low-Flow Purging and Sampling is to pump directly from the formation whilst leaving the stagnant water in the casing undisturbed. This is achieved by pumping at a low rate that is close to or less than the natural movement of groundwater flow through the well. Typical flow rates are 0.1 to 0.5 L/min.

Instead of pumping an arbitrary number of casing volumes, Low-Flow utilises two stability controls. Firstly, a stable water level (drawdown) during purging indicates that water is being pumped directly from the formation. This is further confirmed by the second control, which is indicator water quality parameter stabilisation.

Low-Flow samples represent a flow weighted average concentrations from typical monitoring wells and is the best approach for determining the true mobile contaminant load in most monitoring scenarios.



*Low-Flow / MicroPurge sampling methods control turbidity and delivery higher quality samples.*

## Traditional Purging Vs the Low-Flow Solution

The traditional approach to groundwater sampling has focused on removing the stagnant water in the well casing prior to collecting a sample. The rationale is that once the stagnant water is removed, only fresh aquifer water remains, which may then be sampled. Purging of the stagnant water is normally achieved using bailers or a high-flow pump to remove an arbitrary volume of water such as 3-5 bore volumes.

### Disadvantages

- High purge volumes can cause underestimation of contaminant load due to dilution or overestimation due to induced plume migration, contaminant mobilisation and increased sample turbidity
- Dewatering lower-yield wells causes losses of VOCs, affects DO and CO<sub>2</sub> levels and increases sample turbidity
- Excessive drawdown can cause overestimation ("false positives") from soil gas infiltration or from mobilisation of soil-bound contaminants in the overlying formation or smear zone
- Purge water generated can be hundreds of litres from each well, with the associated handling and disposal costs

### Bailers or Footvalves

Stagnant water mixes into the sampling zone, requiring extensive purging to obtain formation water. Surging action increases turbidity, which can affect both metals and some organic compounds.

Insertion of the bailer and decanting samples causes aeration that can reduce VOCs and dissolved metals. Inability to reproduce the same purging rate and sampling position leads to data inaccuracy.

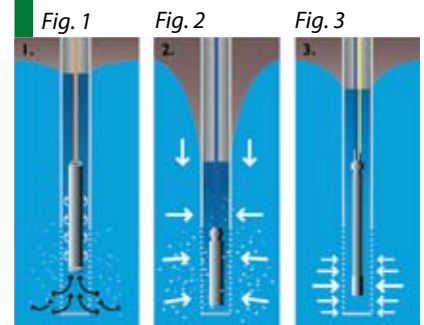
### Electric Submersible Pumps

Excessive drawdown pulls stagnant water into sampling zone and mobilises smear zone contaminants. Water from chemically distinct ones above and below the screened one are pulled into the borehole. Less accurate samples result from effects on volatiles, turbidity, mixing and dilution.

## Advantages of Low-Flow

- Samples which are representative of the mobile load of contaminants present (dissolved and colloid-associated)
- Minimal disturbance of the sampling point thereby minimising sampling artifacts
- Less operator variability, greater operator control
- Reduced stress on the formation (minimal drawdown)
- Less mixing of stagnant casing water with formation water
- Reduced need for filtration and therefore, less time required for sampling
- Smaller purging volume which decreases waste disposal costs and sampling time
- Better sample consistency, reduced artificial sample variability

Source: "Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures", Robert J. Puls & Michael J. Barcelona, EPA Ground Water Issue, April 1996.



*Bailers & portable pumps (Fig. 1) mix stagnant water, air and sediment into samples - even after purging 3 to 5 well volumes.*

*High-rate pumps (Fig. 2) reduce sampling precision due to high-flow effects on volatiles, turbidity and mixing.*

*Low-flow sampling methods with MicroPurge® equipment (Fig. 3) deliver precise samples with minimal purging; natural aquifer flow brings representative water to the sampling zone with no mixing or excess turbidity.*

### Which pump is best for Low-Flow sampling?

The pump should have variable speed control down to approximately 0.1 litres per minute, and its operation should be consistent at low rates. Dedicated pumps are preferred over portable pumps because they do not disturb the stagnant water column and eliminate cross contamination between monitoring wells. However, it is often not cost-effective to install dedicated pumps for short-term projects. Portable pumps may be used for low-flow sampling but care should be taken when inserting into the water column in order to minimise mixing and agitation.

**Peristaltic pumps** may be evaluated for suitability for shallow applications. Keep in mind however that their operation induces a vacuum that may cause degassing resulting in changes in pH and VOC losses. Peristaltics are therefore generally not recommended for VOC sampling.

**Electric/12V submersible pumps** may be used but care should be taken that they do not heat up or cause loss or gain of dissolved gasses due to highspeed rotating impellers and air/water interface in the device.



**Bladder pumps** are generally recommended for sampling all inorganic, organic (including volatiles) and biological groundwater parameters.

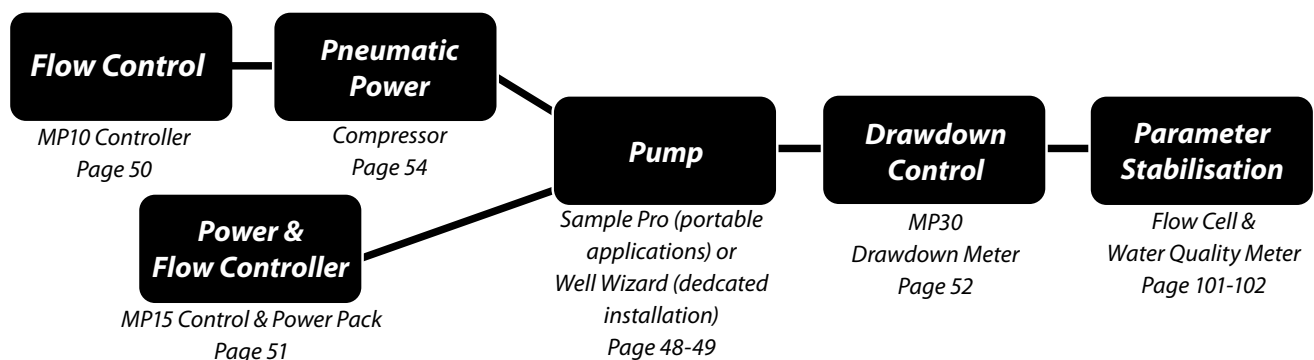
Source Appendix A EPA Victoria Groundwater Sampling Guidelines 2000.

Pneumatic Bladder Pumps are specifically designed to deliver precise, accurate samples and dependable, economical service. Their simple design with only three moving parts - two check balls and a flexible bladder - provides superior durability and wear resistance.

**Bailers and grab samplers are not suited** to low-flow purging and sampling since they cause disturbance and mixing of stagnant water. Inertial lift devices (eg footvalves) are also not recommended because of the fact that they cause disturbance to the sampling point. Use of these devices also tends to introduce uncontrolled and unacceptable operator variability.

Source: "Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures", Robert J. Puls & Michael J. Barcelona, EPA Ground Water Issue, April 1996.

### QED Micropurge Basics - What do I need?



### QED Sample Pro Portable MicroPurge Pump

The QED Sample Pro Portable MicroPurge Pump is the first pump developed specifically to bring the advantages of low-flow sampling to sites where groundwater samples are collected from many monitoring wells with the same pump.

The Sample Pro Pump is easy to disassemble, without any tools and simple to clean to eliminate any potential cross contamination. That includes the exclusive Sample Pro disposable bladder which snaps in and out without any clamps, so they can be discarded after each well is sampled.

The Sample Pro pump is available in two diameters: 1.75in. (4.45cm) to fit in 2in. (50mm) monitoring wells or larger; and 3/4in. (1.91 cm) to fit small diameter wells and direct-push boreholes. Both pump models are capable of pumping from depths up to 200 feet (61m).

#### How it works

The Sample Pro Portable MicroPurge Pump uses a quick-change, one-piece bladder design. Compressed gas squeezes the outside of the bladder to force liquid out of the pump; there is no gas contact with the pumped water inside the bladder.

Groundwater enters the pump through the inlet in the upper, head section, then flows down into the bladder. The high inlet helps keep the pump from clogging if it is accidentally lowered into a sediment-filled sump.

Check valves with stainless steel seats and check balls are located at the inlet and outlet. Inlet screens are replaceable to help ensure proper sealing of the check valves in wells with high solids levels. The Sample Pro Pump is shipped in a heavy-duty tube with rubber end caps to help keep the pump clean and protected between uses.

The pump is disassembled by a 1/4 turn of the cap and body; no special tools are needed. The bladder pulls off for replacement. Both check valves are press-in, pull-out design, and use Teflon for the fluid inlet and stainless steel in the fluid discharge.

Push-in tube fitting kits provide high pullout strength, but a cable eye is also included for applications where a support cable is desired.



»»» 3/4" (19mm) dia.  
Sample Pro  
also available

Contact your nearest EnviroEquip office for more information.

See Stainless steel cable and reels on page 33 <<<

See our range of tubing on pages 55-56 >>>

### Specifications

Max. Lift	61m
Flow Rate	
Cycles per minute	up to 6 (MP10 or MP15 Controller)
Volume per Cycle	100 mL - Pumped volume per stroke increases with greater depths.
Outside Diameter	47 mm (1-3/4in.)
Length	375 mm with Push-In Fittings 419 mm with Compression Fittings 307 mm from Bottom of pump to centerline of inlet
Weight	1.93 Kg
Construction Materials	
Body and Cover	316 Stainless Steel
Inlet, Discharge & Head	303 Stainless Steel
Bladder	Polyethylene
O-Rings	Viton®
Air Fitting	1/4in. (6.4 mm) OD
Fluid Discharge	3/8in. (9.5 mm) OD

### Ordering Information

QEDMP-SPK-6C	Sample Pro Consultants Kit. Includes the 1.75in. Sample Pro pump Model MP-SP-6C and kit. Housed in a rugged tool box, kit includes 10 each: polyethylene bladders, stainless steel inlet screens, o-ring sets, plus 5 each: Teflon check balls, stainless steel nut and ferrule sets for 1/4in. + 3/8in. tubing, cleaning brushes, portable cap and a tubing cutter.
QEDMP-SP-6C	Sample Pro portable MicroPurge pump. All stainless steel construction with 1/4in. + 3/8in. compression tube connection fittings.
QED38360	Polyethylene Bladder
QED38362	ORing Kit, 10pk
QED38361	SS Inlet Screens, 10pk
QED38408	Teflon Check Balls, 5pk
TFT20003-0402	1/4in. Push Lock Fitting
TFT20003-0604	3/8in. Push Lock Fitting



## QED Well Wizard Dedicated MicroPurge Pump

Well Wizard pumps for MicroPurge sampling systems come in an unsurpassed range of sizes, materials and capabilities, including models for deep sampling wells, narrow or obstructed casings and small-volume pumps for low-yield monitoring wells. Together with MicroPurge controllers, flow cells, and accessories, they create the most reliable, cost-effective low-flow groundwater sampling system available.

Field proven pump designs and exclusive, high performance PTFE bladder formulation offer the reliability critical to long-term monitoring.

Well Wizard pumps are built for reliability, with refinements perfected for more than 20 years of continuous engineering and improvement – extra value you won't find in any other bladder pump. One example: stainless steel in Well Wizard pumps is electropolished to passivate the surface, delivering years more corrosion resistance than competitors' models.

Pneumatic bladder pumps operate with a unique, gentle action ideal for low-flow sampling. Timed on/off cycles of compressed air alternately squeeze the flexible bladder to displace water out of the pump, and release it to allow the pump to refill by submergence, without creating any disturbance that could affect sample chemistry.

Bladder pumps run easily at low rates for extended times, without the problems of other devices.

- No overheating of high-speed electric pump motors, which can alter samples and ruin the pumps.
- No churning action, like that of bailers or inertial-lift samplers that increase turbidity.
- No suction to cause degassing of dissolved volatile contaminants.

The bladder prevents contact between the pump drive air and the sample, and the downwell equipment is permanently dedicated to each well, so both samples and the well are protected from disturbance or the danger of cross-well contamination.

### Need to pump from great depths?

Use a "drop tube" from the bottom of the pump down to the inlet depth. As long as the pump is just a few metres under the static water level, you can sample from 100's of metres below!



### Specifications

#### Flow Rate

*Cycles per minute* up to 6 (MP10 or MP15 Controller)

*Volume per Cycle* See volume in table bottom left

### Ordering Information

CONTACT THERMO FISHER SCIENTIFIC FOR ORDERING INFORMATION AND OPTIONS.



Model	Materials	Length (mm)	OD (mm)	Fitting Material	Tubing Size	Volume	Max. Lift
T1100M	PTFE	1000mm	42mm	PTFE	1/4in. (6mm) & 3/8in. (9mm)	395mL	75m
P1101M	PVC	1040mm	42mm	PP	1/4in. (6mm) & 3/8in. (9mm)	395mL	90m
P1101HM	PVC	1000mm	42mm	SS	1/4in. (6mm) & 3/8in. (9mm)	395mL	180m
ST1102M	SS & PTFE	1040mm	42mm	SS	1/4in. (6mm) & 3/8in. (9mm)	395mL	305m
T1200M	316 SS & PTFE	1040mm	38mm	SS	1/4in. (6mm) & 3/8in. (9mm)	495mL	90m
T1250	316 SS & PTFE	380mm	38mm	SS	1/4" (6mm) & 1/4" (6mm)	100mL	90m
P1150	PVC & PTFE	500mm	42mm	PP	1/4" (6mm) & 1/4" (6mm)	130mL	90m
T1300	316 SS & PTFE	1160mm	25mm	SS	1/4" (6mm) & 3/8" (9mm)	220mL	60m

SS = Stainless Steel  
PP = Polypropylene  
PTFE = Polytetrafluoroethylene (Teflon)

## QED MP10 MicroPurge Controller Digital

The MicroPurge® MP10 Controller revolutionises low-flow groundwater sampling with advanced logic control of purge flow and well drawdown. Simple up/down arrow keys increase and decrease purge flow to meet low-flow requirements. Once optimised, settings can be easily recalled in the next round of sampling.

The MP10 also offers an easy way to prevent excessive drawdown during purging of monitoring wells, by linking to the optional MP30 Drawdown/Water Level Meter. The lightweight, compact MP10 leads the field with genuine MicroPurge low-flow groundwater sampling equipment, the most complete line of equipment for low-flow sampling.

QED's MicroPurge sampling equipment is lighter and more portable and increases sampling crew productivity. Simplified, sealed electronics are put together in a design that delivers famous QED long term durability and value under true field use conditions.

The MP10 gives you three easy-to-use operating modes, to cover every sampling protocol and situation.

- MicroPurge (MP) Mode quickly optimises control settings to reach the desired pump flow rate. You don't have to worry about calculating pump cycles or refill and discharge times.
- ID Mode instantly recalls optimised settings previously established for each well, providing precise, consistent performance from event-to-event.
- User Set (MN) Mode provides manual control of pump operation for extreme depths and other special cases.



### Specifications

<b>Dimensions</b>	27x25x13 cm
<b>Weight</b>	2.5 kg
<b>Keypad</b>	6 Keys
<b>Display</b>	2 Line, 16 Character / LCD Display
<b>Power</b>	3 "AA" batteries
<b>Battery Life</b>	50,000 Cycles @ 21°C
<b>Max. Pressure</b>	120 psi (827.5 kPa) High-pressure version MP10H has a Max. Pressure of 300 psi and Max. Depth of 182m. Ultra high-pressure version MP10UH has a Max. Pressure of 500 psi and Max. Depth of 305m
<b>Max. Pump Depth</b>	250 ft. (76 m)*
<b>Operating Temperature</b>	-29 - 66°C

### Ordering Information

<b>QEDMP10</b>	MP10 MicroPurge Controller
<b>QEDMP10H</b>	MP10H High Pressure MicroPurge Controller. For 300 PSI, 182m max. lift.
<b>QEDMP10UH</b>	MP10UH Ultra High Pressure MicroPurge Controller. For 500 PSI, 305m max. lift.



\* High-pressure version MP10H has a Max. Pressure of 300 psi and Max. Depth of 182m. Ultra high-pressure version MP10UH has a Max. Pressure of 500 psi and Max. Depth of 304m.

## QED MP15 MicroPurge Controller and Power Pack

The MP15 MicroPurge® Power Pack combines advanced low-flow control with the quiet power of a built-in compressed gas source, for the ultimate in portability and ease-of-use in sampling groundwater with bladder pumps.

The MicroPurge MP15 Controller revolutionises low-flow ground water sampling with advanced logic control of purge flow and well drawdown. Simple up/down arrow keys increase and decrease purge flow to meet low-flow requirements. Once optimised, settings can be easily recalled in the next round of sampling.

The easy, advanced MicroPurge flow rate and drawdown control features are housed in a moulded case along with a lightweight CO2 cylinder, putting everything you need to operate bladder pumps into one easily portable unit. A standard padded nylon case protects the MP15 MicroPurge control & power pack in transport, provides over-the-shoulder on-site carrying convenience, and even has a hook on the back to let you hang it from the well casing during sampling. With this combination, a complete sampling setup can be carried by a single person, to reach wells where trucks or even compressor carts can't go.

The 2.3 kg capacity CO2 cylinder provides hours of sampling power, and is easily refilled. But the MP15 isn't just for remote monitoring wells. Its built-in bypass fitting allows it to be used with larger cylinders or other gas sources, extending your range even more.

The MicroPurge basics Controller's six-button keypad is your gateway to the control and power of the most advanced low-flow bladder pump control system ever made. With remarkable ease, you will achieve precise, stable control of low pumping rates, quickly and repeatably, from one sampling event to the next.

The MP15 gives you three easy-to-use operating modes, to cover every sampling protocol and situation.

- MicroPurge (MP) Mode quickly optimises control settings to reach the desired pump flow rate. You don't have to worry about calculating pump cycles or refill and discharge times.
- ID Mode instantly recalls optimised settings previously established for each well, providing precise, consistent performance from event to event.
- User Set (MN) Mode provides manual control of pump operation for extreme depths and other special cases.



### Specifications

Dimensions	65x32x25 cm
Weight	12 kg
Case Material	Polyethylene
Carry Bag	Standard
Backpack Straps	Optional
Keypad	6 Keys
Display	2 Line, 16 Character / LCD Display
Power	3 "AA" batteries
Battery Life	50,000 Cycles @ 21°C
Max. Pressure	120 PSI (8.27 bar)
Operating Temperature	-29 - 66°C
Cylinder	2.3 kg CO2
Cylinder Life	Over 3 hours at 22.8m pump depth

### Ordering Information

QEDMP15	MP15 MicroPurge Sample Pack
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## **QED MP50 Drawdown Controller and 12 VDC Compressor for Low-Flow Sampling**

QED has combined its rugged and reliable fan-cooled 12V DC air compressor with the time-proven QED MicroPurge® Basics controller to provide an “all-in-one” package.

Expert flow and drawdown control for low-volume purging and air compressor - all in one!

The MP50 also offers an easy way to prevent excessive monitoring well drawdown during purging, by linking to the optional MP30 Drawdown/Water Level Meter.

The unit includes a 12V DC compressor that produces .21 SCFM at 100 PSI and provides a solution for low flow sampling to 100' (30.5m). Simply connect to a car battery and start sampling. The unit can also be used with an external compressor or bottled gas to ~70m. Weight is only 9.5 kg.

Sales Index

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Groundwater Sampling Products

Advantages

- \* Built-in rugged, durable fan-cooled 12 VDC air compressor, with the option to use an external air source, if desired.
- \* Exclusive MicroPurge control mode uses simple arrow keys to adjust low-flow rates easily and repeatedly, using a microprocessor to re-create the flow adjustment strategies used by experienced samplers.
- \* Connection port allows linking to optional MP30 Drawdown/ Water Level Meter, which signals MP50 Controller to enter standby mode if drawdown limit is exceeded.
- \* Multi-mode digital control includes MicroPurge Mode, ID Mode for repeat events, and manual control.
- \* Weatherproof controls are housed in a rugged, compact (40.6 x 33 x 16.5 cm) case.
- \* Full digital display of all setting and status information.

Simple, stable, repeatable flow rate setting

The MP50 puts you in control of the most advanced low-flow sampling system ever made. You will purge and sample quickly and easily, with precise, steady low-flow pumping rates from one sampling event to the next. QED's new basics equipment is also designed to take advantage of the opportunities for downsized equipment, which is lighter and more portable, reduces equipment cost and increases sampling crew productivity. Simplified, sealed electronics are put together in a design that delivers famous QED durability and value.

MicroPurge basics controllers can be connected to the MP30 Drawdown Meter for optional Automatic Drawdown Control, an industry first.





Pressing the UP Arrow increases the bladder pump flow in controlled steps,



The DOWN Arrow Key decreases the pump flow rate in controlled steps.



The LEFT/ RIGHT Arrow Key adjusts the Cycles Per Minute (CPM) of your pump.



The ID Number changes when an UP or DOWN Arrow is pressed. This number can be used in ID Mode to recall the setting for the next sampling round.



The I/O Key steps through the sequence of On-Start-Off.



The MODE Key changes modes from default MP (MicroPurge) to ID Mode to MN (User Set) Mode. This key also allows battery check.



Pressing the PAUSE Key puts the controller in HOLD Mode, stopping flow. A second press delivers push button controlled vial filling. A third press returns the syst

## System Specifications

Model No.	QEDMP50
Dimensions	40.6 x 33 x 16.5 cm
Weight	9.52 kg
Case Material	Structural Resin
Keypad	6 Keys
Display	2 Line, 16 Character / LCD Display
Power	3 "AA" batteries
Controller Battery Life	50,000 Cycles @ 21°C
Compressor Power	12 VDC (Battery Cable)

\*Max Lift 30m with 12V DC source and ~70m with external source

Output	0.21 scfm@ 100 psi
Max. Pressure	105 PSI (7.24 kPa)
Operating Temperature	-29° to 49° C
Connection to MP30 Drawdown Meter	Heavy-duty cable (supplied with MP30)

\*Can be used with any bladder pump system, with the use of simple adapters

## QED MP30 MicroPurge Drawdown Meter

Limiting drawdown is one of the basic requirements of proper low-flow sampling. The MicroPurge® MP30 Drawdown/Water Level Meter provides a unique and simpler way to assure proper drawdown control.

The MP30 switches between two modes as a drawdown sensor and control when connected to the MicroPurge basics controllers; and as a high quality water level meter.

### MP30 has 3 primary modes of use

1. When connected to MicroPurge basics controllers, pump operation is automatically paused if the selected drawdown limit is reached, then resumed when the well recovers to this point.
2. The MP30 includes light and sound indicators of reaching the drawdown limit (dry condition); these function independently of the MicroPurge basics controllers, and may also be used in this way with controllers other than MicroPurge basics models.
3. When switched to water level mode, the MP30 provides conventional water level meter functions of light and sound indication upon contact of the probe with water.

### Ordering Information

**QEDMP30-45M** MP30 MicroPurge Drawdown / Level Meter, 45m, connects to the MP10 or MP15 controller to prevent excessive drawdown during low-flow purging (based on limits you set).

**QEDMP30-100M** MP30 MicroPurge Drawdown / Level Meter, 100m, connects to the MP10 or MP15 controller to prevent excessive drawdown during low-flow purging (based on limits you set).



### Features

- Cable link to MicroPurge pump controller puts pumping on standby mode until the well recovers – automatically!
- MicroPurge drawdown mode includes light and buzzer indicators to alert sampling personnel when the selected maximum drawdown point has been reached.
- Standard water level mode includes conventional probe submergence light and buzzer indicators upon water contact.
- Available with 45 or 90 metre. Chemical resistant polyethylene-coated tape.
- Compact 5/8in. (16mm) diameter probe fits narrow or crowded well casings.

For our range of  
Flow Cells  
See page 101-102



## **Bennett Sample Pump Submersible Piston Pump**

The Bennett Sample Pumps has an automatic reciprocating piston motor operated by compressed air, that generate power for operating a double acting, piston fluid pump.

Models for lifts up to 170 meters have one motor piston. Models for lifts up to 330 metres have two motor pistons, providing increased power for operating the pump. All models have a differential ratio between the motor pistons and the pump to accomplish lifts using low pressure air from small compressors.

Bennett Pumps may be operated in any position from horizontal to vertical. These pumps will operate submerged to great depths or above water with a drop tube attached to the fluid inlet.

### **Benefits**

- Controller-less pump
- Infinitely adjustable flow rate
- Air does not contact water sample
- Short length 400mm to 500mm avoids hang ups in wells
- 300m plus depth capacity with only 170psi due to mechanical advantage of the internal pistons
- Continuous flows
- Little agitation of water sample
- 36mm or 46mm diameter versions available
- Flow to 9 litres per minute
- Controller-less variable flow rate by varying air pressure
- Stainless steel construction
- Bottom filling
- 10 models available to suit your sampling needs
- Available as a Portable or Dedicated version

### **Portable Reel Options**

A pump unit for applications where portability is required. Each consists of a Bennett Pump, a tube bundle (choice of length and materials) and a reel. The reel is equipped with all controls for operating the pump. The portable units are completely assembled, tested and shipped ready for use.

### **Portable Reel Features**

- **Tube Bundle Construction:** stainless steel cable core polypropylene air supply and air exhaust tubes, choice of materials for water discharge tube, electric chord for water level indicator, nylon wire ties to hold bundle together (PVC tape wrap optional).
- **Water Level Indicator System:** A sonar alarm sounds when the probe installed in pump head touches water. System is powered by a 6 volt battery inside console.
- **Rotary Swivel:** Installed on reel axle, eliminates disconnecting lines when setting pump.
- **Flow meter:** Monitors pump discharge rate .75 to 7.5 litres per minute.
- **Air Pressure Regulator & Gauge:** Adjustable for controlling pump discharge.
- **Hand Brake:** Controls lowering speed into borehole.
- **Reel Drive:** Sprocket and chain drive with reduction ratio for hand crank operation. Power drive system available for larger reels.
- **Reel Lock:** Holds pump in fixed position in borehole.
- **Roller Head:** Guides tube bundle into borehole.

### **Tubing for Bennett Pumps**

We can supply Bennett made tubing with the pumps or locally made tubing. The tubing set is a 3 hose set for air supply, air vent and water discharge. The Bennett tubing has the mating pump fittings permanently crimped onto the bottom end of the tubing. This makes it easy to connect to the pump and provides a more reliable water proof connection, but more difficult to replace the entire tubing when the time comes. EnviroEquip can provide fittings that allow user replacement of the hosing if required. This is an extra cost up front, but makes it easy to replace tubing at any stage later on.



**For detailed information  
and specifications,  
request a brochure**

**FITS 50mm  
WELL**

## 12V Compressor

**Industrial duty for powering pumps**

### Benefits

- Powerful & compact
- 12 volt is the only power source you need is your vehicle battery
- Lightweight and easy to carry
- Easy-to-use and connect to
- 40m depth capability
- Provides the reliability associated with pneumatic pumps. Ensures you will be able to sample/purge your bores every time and not have breakdowns usually associated with electric pumps
- Oil-less operation means no maintenance required

### What about flow rates?

Pumping rates using a 12 volt compressor will be low compared to 240 volt electrical pumps or to rates achieved using larger compressors. However the advantages of this system in many situations will outweigh the loss of any time.

### Pressure switch & receiver tank

When pressure has built up in the receiver tank the compressor turns itself off until pressure falls below 75psi. This avoids unnecessary drain on your vehicle battery.



### Specifications

**Flow Rate** 0.9 cfm @ 100 psi  
2.2 cfm open flow

**Power** 12 volt

**Maximum current** 29 amps

**Air discharge port size** 6 mm

**Type** Oil free operation

**Dimensions** 150 x 250 x 370 mm  
(not mounted on platform)

**Weight** 15 kg

### Ordering Information

**EKTA4101REC** 12V Compressor, fitted with pressure switch and 6 m leads and battery clips

**RFXRNS391** Hard plastic storage crate & transport case with split hinged lid

## Renegade Petrol Compressor

### Features

- Large 170 L/min air delivery
- Cast iron pump
- 5.5HP Honda engine
- Handy trolley for getting around your work site

### Ideal for

- Remote locations with no power
- Depths greater than 50m
- Purging pumps

Great for MicroPurge as well as higher flow air-powered pumps. The Renegade petrol compressor features sufficient air pressure and flow to pump to depths beyond 50m.

Compact and light enough to be carried, these units are fitted with an exclusive Renegade patented air solenoid system. When the unit reaches peak pressure the solenoid activates a throttle control which reduces the revs back to a comfortable idle speed. This saves fuel & unnecessary wear on the Honda 5.5HP oil alert industrial engine.



### Specifications

**Flow Rate** 170L/min

**Max Pressure** 120psi

**Power** Honda petrol engine

**Air discharge port size** 6mm

**Weight** 35 kg

### Ordering Information

**TTDHP170-16P** Renegade Petrol Compressor

## QED Well Caps For dedicated pumps

Two sizes of bore caps are available to complete your monitoring well installation of a dedicated pump. They are specifically designed to make the operation of dedicated pumps ultra-easy and eliminate any decontamination requirements.

The pump tubing is locked to the bottom cap fittings which allows the pump to be hung at fixed depth. On top is a quick connect fitting to the MP10 or MP15 pump controllers. An open hole allows a water level probe to be inserted into the bore without removing the cap.

Made of cast aluminium. Optional rubber sealing cap is available.



### Ordering Information

**QEDC26** Cap for 50 mm bores with 6 & 10 mm tubing

**QEDC46** Cap for 100 mm bores with 6 & 10 mm tubing

**QEDC26S** Cap for 50 mm bores with 6 & 10 mm tubing with sealing cover

**QEDC46S** Cap for 100 mm bores with 6 & 10 mm tubing with sealing cover

## Pump Tubing

EnviroEquip stocks a wide range of tubing for many pump applications.

- **Bagged for cleanliness:** All LDPE (Low-Density Polyethylene) and HDPE (High-Density Polyethylene) is shipped in clear sealed plastic bags (or shrink wrap on large diameter coils) to keep your tubing clean.
- **Easy to handle:** LDPE tubing 5/8in. and smaller are supplied on cardboard reels/rolls which makes it easy to handle, store and reduce wastage.
- **Clearly labelled:** All rolls are clearly labelled for easy identification.



### Ordering Information

#### EEQMPTA-100

Micropurge Tubing - Airline  
Low-Density Polyethylene (LDPE)  
1/4in. (6mm) OD x 1/8in. (4mm) ID  
100m roll

#### EEQMPTW-100

Micropurge Tubing - Water/Discharge  
Low-Density Polyethylene (LDPE)  
3/8in. (10mm) OD x 1/4in. (6mm) ID  
100m roll

#### EEQLDPE16

Waterra Tubing  
Low-Density Polyethylene (LDPE)  
5/8in. (16mm) OD x 1/2in. (12.7mm) ID  
50m roll

#### EEQHIGHDPE16

High-Density Polyethylene (HDPE)  
5/8in. (16mm) OD x 3/8in. (10mm) ID  
100m roll  
*More rigid than EEQLDPE16*

#### EEQLDPE25

Low-Density Polyethylene (LDPE)  
1in. (25.4mm) OD x 0.8125in. (20mm) ID  
100m roll

#### EEQLDPE12

Low-Density Polyethylene (LDPE)  
1/2in. (12.7mm) OD x 3/8in. (10mm) ID  
100m roll



### Aqua Twin Tube

**Micropurge Water & Air lines bonded together in one simple package!**

Exclusive to EnviroEquip - Micropurge LDPE bonded tubing. Water & air lines are bonded together during the manufacturing process, so it essentially becomes a single roll of tubing. The bonding can be separated at either end by field staff to allow easier connection to pump fittings and flow cell.

AquaTwin tube set is much easier to manage than two separate tubes therefore saving significant set up time when groundwater sampling with air-powered pumps. Being easier to manage also makes it simpler to keep the sample lines clean, thus maintaining sample quality integrity.

Benefits:

- \* Suitable for QED Sample Pro and Well Wizard Pumps
- \* Less manual handling
- \* Easier to deploy pump and unwind tubing
- \* Less chance of getting stuck when pulling up pump
- \* Australian made & available now!



LDPE tubing is supplied on disposable cardboard reels.

### Ordering Information

EEQMPAW-100 Micropurge twin-bonded tubing, water & air lines, 100m roll

### QED Twin Bonded Teflon Tubing

QED offers a range of twin bonded tubing for use with their groundwater sampling pumps - this prevents tangling of tubing and cables while you're working.

Available in teflon or teflon-lined polyethylene.

### TMP Tubing

Translucent Multi Purpose (TMP) PVC hosing has a redish braid reinforced wall and is resistant to most hydrocarbons.

TMP is flexible and coils up into a small coil. Flexible hosing is specified by its inner diameter size. Greater than 200psi working pressure.

### Teflon Tubing

Available in 15m rolls.

### Ordering Information

**QEDPT5200** Teflon-lined polyethylene tubing, twin bonded design. 1/4in. OD sample tube with 1/4in. OD air line

**QEDPT5000** Teflon-lined polyethylene tubing, twin bonded design. 3/8in. OD sample tube with 1/4in. OD air line

**QEDPT5100** Teflon-lined polyethylene tubing, twin bonded design. 1/2in. OD sample tube with 1/4in. OD air line

**QEDPT5610** Teflon-lined polyethylene tubing, twin bonded design. 3/4in. OD sample tube with 1/2in. OD air line

**QEDT5200** All Teflon tubing, twin bonded, tangle-free design. 1/4in. OD Teflon sample tube with 1/4in. OD Teflon air line

**QEDT5010** All Teflon tubing, twin bonded, tangle-free design. 3/8in. OD Teflon sample tube with 1/4in. OD Teflon air line

**QEDT5110** All Teflon tubing, twin bonded, tangle-free design. 1/2in. OD Teflon sample tube with 1/4in. OD Teflon air line

**QEDP5200** All polyethylene tubing, twin bonded, tangle-free design. 1/4in. OD poly sample tube with 1/4in. OD poly air line

**QEDP5100** All polyethylene tubing, twin bonded, tangle-free design. 1/2in. OD poly sample tube with 1/4in. OD poly air line

**QEDP5610** All polyethylene tubing, twin bonded, tangle-free design. 3/4in. OD poly sample tube with 1/2in. OD poly air line

**QEDPR5010** Polypropylene tubing, cable-tied design. 3/8in. OD sample tube with 1/4in. OD air line

**ERM13350-6** TMP hosing, 3/8in. ID, per m

**ERM13350-08** TMP hosing, 1/2in. ID, per m

### Tubing Cutter

Replace your utility knife with this tubing cutter from EnviroEquip. It's a safe and efficient way to cut tubing. The durable Teflon coated blade slices through HDPE tubing cleanly and easily.

#### Features

- Faster & safer than a utility knife
- Easy-to-use
- Rotating/rocking motion produces straight, clean cut



### Ordering Information

**WTPWTCT** Polyethylene tubing cutter

### Medium Hose Reel Steel

Capacity - 35m\* hose/cable

Steel hose reel, tough and sturdy option to hold up to 35m of hosing and cable. A scabbard is fixed to the side of the reel, great for holding the pump while in storage or transit.



#### Ordering Information

- ERM2519** Medium Hose Reel, Steel, Empty
- EK550220470-1** Medium Hose Reel, Steel, Fitted with: hose connections, scabbard and power connections (**Twister, Super Twister**)
- EK550220470-2** Medium Hose Reel, Steel, Fitted with: hose connections, scabbard and power connections (**Super Twister II, Monsoon etc**)

Order tubing and pump separately

\*35m of TMP10 hosing, item code ERM13350-6

### Large Hose Reel Steel

Capacity - 80m hose/cable

Lightweight steel hose reel with enough capacity for 80m of sample pump dual hose tubing. Wheels on the base of the frame allow easy movement around a site. Complete with PVC scabbard for short length pumps.



#### Ordering Information

- ERMLRM020** Large Hose Reel, Steel, Empty
- EKLRM020** Large Hose Reel, Steel, Fitted with: hose connections, scabbard and power connections

Order tubing and pump separately

**ThermoFisher**  
S C I E N T I F I C

**Australia:** For customer service, call 1300-735-295  
Visit us online at: [www.thermofisher.com.au](http://www.thermofisher.com.au)  
**New Zealand:** For customer service, call 0800-933-966  
Visit us online at: [www.thermofisher.co.nz](http://www.thermofisher.co.nz)

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