



P2.51

FOOT VALVE PUMPS FOR GROUNDWATER RESEARCH

Foot valve pumps are first of all intended for pumping groundwater that needs to be analyzed for purposes of environmental research. The operation is such that the escape of volatile organic substances is limited to a minimum. Cross contamination can be avoided; it is simple and inexpensive to replace the tube and the stainless steel valve can easily be decontaminated. The pumps can be applied for monitoring wells with a diameter from 15 mm, while the depth of the water may exceed 50 meter. Due to its characteristics the pump is perfect for well development and purging.

A foot valve pump consists of a tube fitted at the bottom end with a ball valve. Once submerged in the water, the water enters the tube through the valve. If the tube is then moved up- and downward making use of the inertia of the water, new water is sucked into the tube and the water is pushed upward at the same time.

The program of Eijkelkamp Agrisearch Equipment

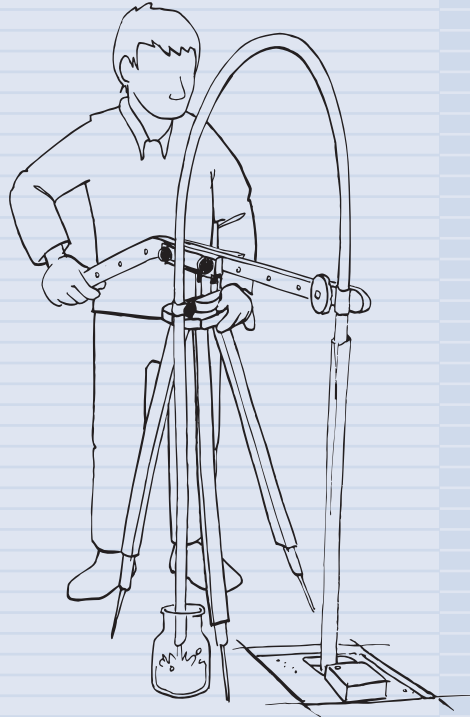
includes hand-operated as well as powered foot valve pumps.

12.13 Hand-operated foot valve pump, standard set

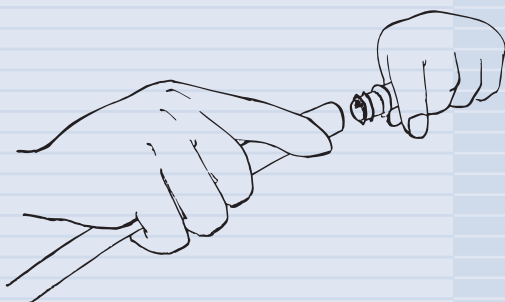
Two tubes, with a diameter of 10 or 16 mm, can be fitted on the hand-operated foot valve pump. The lever hinges on a tripod of which the height can be adjusted. In this way it is possible to take samples from wells fitted with a shaft type well cover as well as street type well covers.

The hinge point of the lever can be moved quickly, in this way the stroke lever ratio can be adjusted which makes it possible to work efficiently at all times. The advantage of the lever is that it reverses the weight of the water filled tubes so that you need not carry the weight; on the contrary, your arm will be lifted slightly. This way pumping is little effort and can be sustained much longer. You can stand upright during the operation.

Taking water samples with the hand operated foot valve pump.

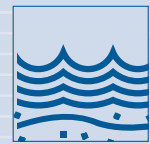


Mounting a ball valve in a tube.



Hand-operated footvalve pump

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Advantages

- Light weight.
- Easy to install.
- It can be applied to take samples from wells fitted with shaft type well covers as well as from street type well covers.

12.14 Motorized foot valve pump, standard set

Among other items the standard set contains a foot valve pump suitable for two pumping tubes, tube guides, ball valves, polyethylene tube and an aluminium tripod. The revolutionary PowerPack PP1, a borehole sampling system for groundwater and leachate, is light enough to be carried by one person. It's powerful enough to lift water from 50 m depth and is so compact, that it fits onto a back-pack frame. The PowerPack PP1 combines a power source and drive mechanism in one compact unit and is powered by the latest Honda GX-series of ultra-small 4-stroke engines. The redesigned tubing clamp provides significantly improved grip for deeper pumping.

The pump weighs 13 kg and includes a detachable backpack.

Pumps from approx. 60 depth using standard flow intertial tubing and approx. 40 m using high flow tubing.

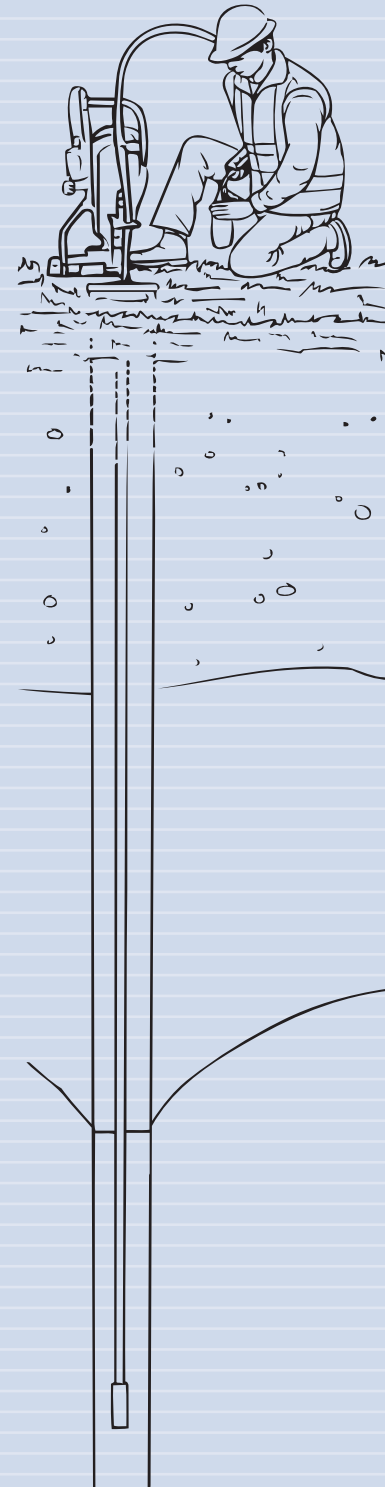
Pumping rates

Tubing system	ID (mm)	max. flow rate
Standard flow	12 mm	8 l/min.
High flow	20 mm	15 l/min.
Low flow	10 mm	1.5 l/min.
Micro flow	6 mm	0.5 l/min.

Applications

- Conventional and low flow purging/sampling in monitoring well.
- Permeability tests in bore hole.
- Well development.
- Low flow sampling in multi-level sampling xxx.
- Ideal for use with flow through cel.

Sampling a monitoring well with the motorized foot valve pump.



Motorized foot valve pump



PARTS LIST

Art.no.	Description	Qty. in set	Art.no.	Description	Qty. in set
Foot valve pumps for groundwater research (P2.51)				largest Ø 9 mm, stainless steel, set of 5 pcs.	
	Footvalve pumps are supplied as two complete standard sets:		12.20.04	Polyethylene tube, Ø 6x8 mm, roll of 100 m, with ETU-hallmark	
	- hand operated design		12.13.04	Ball valve for tube inside Ø 16 mm, largest Ø 22 mm, stainless steel, set of 5 pcs.	
	- motorized design		12.20.20	Polyethylene tube, Ø.16x20 mm, roll of 50 m, with ETU-hallmark	
12.13	Hand-operated foot valve pump, standard set		12.15.06	Tube, polyethylene, Ø 16x20 mm, extra stiff design (HDPE), roll of 50 m	
**12.13.01	Foot valve pump, hand operated, for 2 pump tubes, excl. tube guides and tripod	1		Sample bottles:	
**12.13.09	Tube guide to stiffen the upper part of the pump tube (16 mm), length 115 cm	2	99.08.07	Sample bottle, brown glass, wide neck, screw cap with teflon insertion, 1000 cc, set of 6 pcs.	
**12.13.02	Ball valve for tube inside Ø 12 mm, largest Ø 18 mm, stainless steel, set of 5 pcs.	2			
**12.20.16	Polyethylene tube, Ø 12x16 mm, roll of 50 m, with ETU-hallmark	1			
**17.04.01	Aluminium tripod with 5/8" screw	1			
12.14	Motorized foot valve pump. Standard set for sampling to a depth of 50 metres, consisting of power pack with back pack, foot valves and tubing.				
**12.14.01	Power pack unit with petrol driven, ultra small 4-stroke engine (Honda GX-series). Complete with detachable back pack frame and clamp set for tubing with outside Ø 16-25 mm.	1			
**12.13.02	Ball valve for tube inside Ø 12 mm, largest Ø 18 mm, stainless steel, set of 5 pcs.	1			
**12.13.04	Ball valve for tube inside Ø 16 mm, largest Ø 22 mm, stainless steel, set of 5 pcs.	1			
**12.15.05	Tube, polyethylene, Ø 12x16 mm, extra stiff design (HDPE), roll of 50 m	1			
**12.15.06	Tube, polyethylene, Ø 16x20 mm, extra stiff design (HDPE), roll of 50 m	1			
**12.13.09	Tube guide to stiffen the upper part of the pump tube (16 mm), length 115 cm	1			
	Separate foot valves with belonging tube (4 options):				
12.13.03	Ball valve for tube inside Ø 8 mm, largest Ø 12 mm, stainless steel, set of 5 pcs.				
12.20.08	Polyethylene tube, Ø 8x10 mm, roll of 100 m, with ETU-hallmark				
12.13.02	Ball valve for tube inside Ø 12 mm, largest Ø 18 mm, stainless steel, set of 5 pcs.				
12.20.17	Polyethylene tube, Ø 12x16 mm, roll of 100 m, with ETU-hallmark				
12.13.05	Ball valve for tube inside Ø 6 mm,				