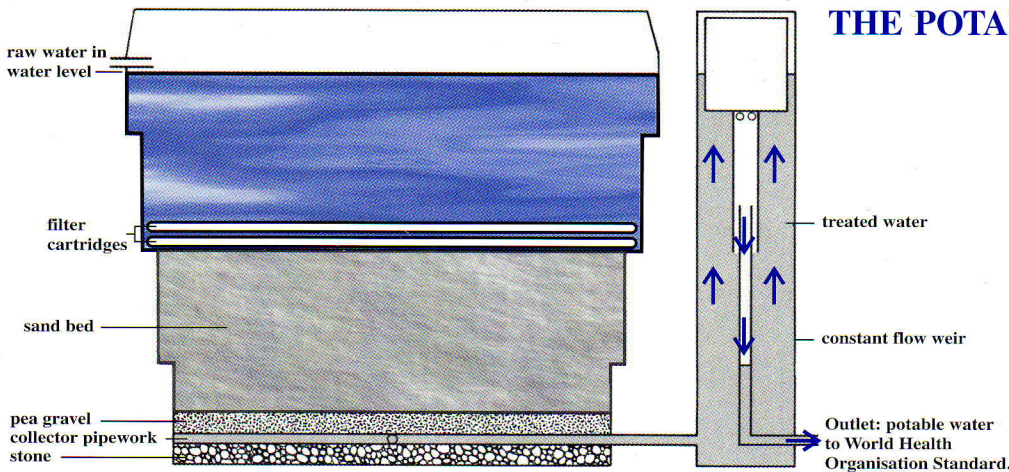


POTAPAK

TECHNICAL DATA SHEET



THE POTAPAK 250 - CUTAWAY VIEW

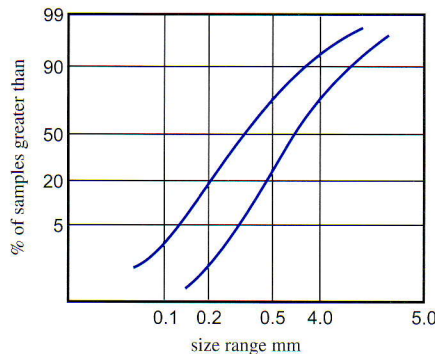
DIMENSIONS & MATERIALS

Filter Tank	
- moulded polyethylene	6mm
- diameter	1380mm
- height	1400mm
Constant Flow Weir	u-pvc
Filter Fabric	polyester
- area	1.3m ³
Sand & Gravel Bed Depth	600mm
Piping Supplied	u-pvc
Valves & Fittings	u-pvc/Acetol

SAND GRADES

The Potapak unit can make use of a variety of locally available coarse sand grades. The World Health Organisation issue a specification for the ideal grading of sand for slow sand filtration (figure 1) and if sand of this grade is not easily available it is a simple matter to wash and regrade the sand bed in situ by vigorous backwashing during commissioning. Standard coarse builders sand can be made into an effective bed. A bottom layer of gravel is also required.

Sand grade 'coarse'	Quantity 0.6m ³ per unit
Gravel grade 'pea' 3mm	Quantity 0.1m ³ per unit
20 - 50 mm	Quantity 0.1m ³ per unit



WHO LIMITS FOR SIZE DISTRIBUTION OF PARTICLES FOR SLOW SAND FILTERS

PERFORMANCE

Reduction in Faecal Coli/100ml	99-99.9%
Reduction in Turbidity NTU	99%
Daily Throughput	12.5m ³
Maximum Flow	520 l/hr
Filtration Velocity	0.45 m/hr
Inlet Water Head Required	1.5m
Head Loss	0-1m
Population Served (@ 25 l/head per day)	500

INSTALLATION & COMMISSIONING

All main components are prefabricated and delivered on site; all interconnections on installation involve either flexible hose and clamps or glued u-pvc fittings. The moulded polyethylene tank is placed on a roughly level site about 4 square metres in area with a depression at one side to accommodate the sump and constant flow weir device. Distributor piping is fitted at the bottom of the tank and covered in a layer of gravel before sand is added up to a mark on the tank; filter cartridges are dropped into place and inlet and outlet connections are made. To commission the system the assembled bed is backflushed several times and after some 5 to 10 days of continuous water flow the filter will have matured sufficiently to provide safe drinking water thus indicating commissioning has been completed.

SPECIAL OPERATIONAL FEATURES

The design and use of the constant flow weir and the patented system of fabric protection result in a drastically reduced and simplified maintenance requirement compared with conventional designs of slow sand filter. A backflushing operation is required at approximately monthly intervals: the operator lifts out the upper of the two filter cartridges and washes it out under running water before replacing it below the remaining cartridge; while the cartridges are out of the tank the flow through the bed is reversed by changing over a valve connecting the filter to an adjacent on stream unit and within 12 hours of returning to normal operation the treated water has returned to an acceptable standard.

At approximately six monthly intervals skimming is required; the bed is drained down and the top 20mm of sand is removed and replaced with previously washed sand; a filter cartridge is cleaned as above, and within 48 hours water quality from the unit has returned to an acceptable standard.

Simple management of cleaning schedules will ensure that water from a group of 2 or more filters never falls below an acceptable standard.

The constant flow weir eliminates the need for daily adjustment of the flow through the plant by automatically compensating for increases in head loss between backwashes. A weekly visit to observe the float level in the weir, which indicates when the filter needs cleaning is all that is required.

