The Afridev and Aquadev handpumps

The Afridev handpump has a number of design features that reduce the quantity of different types of spares required for maintenance.

Important features of the Afridev and Aquadev handpumps

- Identical plastic bearings are used for handle and rod pivots. These are corrosion resistant and easy to replace, usually every year.
- Adjustable handle to suit appropriate mechanical advantage for various depths. T bar at end to ensure correct use.
- Short screwed top rod
  Note: On latest version of the Afridev the top rod does not need to be threaded but it is firmly clamped to the hanger on the rod pivot using two bolts.
- Plastic rising main is supported by conical rubber moulding compressed into metal housing by top flange.
- Non-threaded operating rods. Hooks on the Afridev (or special ends and plastic coupling on the Aquadev) make it easy to disassemble the rods. Rods can be galvanized or stainless steel.
- Solvent cemented joints on PVCu rising main. PVCu pipe is lightweight and corrosion resistant.
- Rubber rising main centralisers/stabilisers to stop the rising main swaying
- Water level
- Metal lined plastic pipe forms cylinder (50mm inside diameter, brass or stainless steel lining)
- Plastic piston with rubber cup seal and rubber poppet valve
- Plastic footvalve with rubber ‘O’ ring seal and rubber poppet valve. It snaps into retainer at bottom of cylinder and can be pulled out of the rising main using a fishing tool attached to the rods for the Afridev (or to a piece of rope for the Aquadev)
- Rope support safety device (see note at pumphead)
- Suction tube/entry pipe. (Larger diameter than rising main to reduce inlet velocity and intake of sand)

The Afridev pump has an open top cylinder which uses a ‘fishing’ tool connected to the rods to remove the foot valve after the piston has been removed. The Aquadev pump is almost identical to the Afridev but it uses unique rod connectors and uses a fishing tool on a rope to remove the foot valve. Rod connectors on both pumps were originally designed to allow the rods to be easily disconnected without the need of a spanner. However, the hooked rods formerly used with the Afridev have often not performed well so many people specify traditional screwed rods. See http://www.rural-water-supply.net/en/implementation/public-domain-handpumps/afridev .

For further information visit: http://wedd-knowledge.lboro.ac.uk/