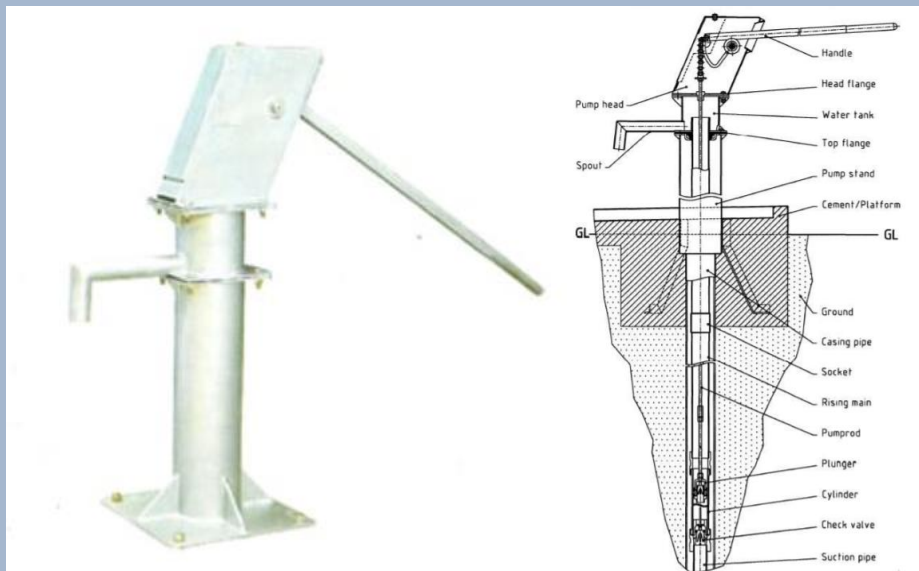


# CLEANURUBOGOBOGO

## SPECIFICATIONS

FOR YOUR BOREHOLE PROJECT

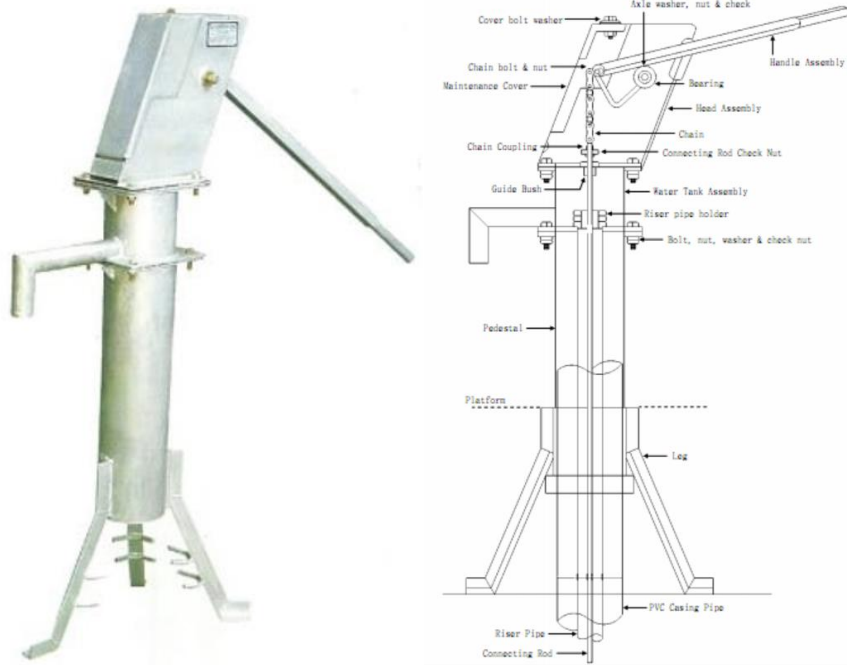
1. India Mark II Hand Pump
2. India Mark V Hand Pump
3. Afridev Hand Pump
4. U3 Modified Deepwell Handpump



## Specifications of India Mark II Hand Pump

India Mark II Hand Pump was designed in the 1970s in a joint effort between the Government of India, UNICEF, and The World Health Organization (WHO). It is world's most widely used water handpump.

Our improved India Mark II Hand Pump deliver flows minimum 1.5 m<sup>3</sup>/h, it can work over 15 hours per day. One improved India Mark II hand pump can cover over 1000 persons' water need per day. Its lifetime is 20 years.



### Features:

**The Handle Assembly** – This is a long lever, which is connected to a piston in the pump (Pump Cylinder) that draws water up to the tap (spout). A longer hand lever can more efficiently draw water from a deeper well with fewer strokes.

**The Pedestal** – This is the outside main body of the borehole, protection the parts inside.

**The Water Tank Assembly** – This is the part where water from the pipes collects before it goes out through the spout. It is where the rising main is connected using thread in the riser pipe holder.

**The Pump Head Assembly** – This houses many of the mechanical components of the borehole handle, including the pump-lever, chain, upper connecting rods, and the pivot.

**Connecting Rods and Rising Mains** – These pieces usually come in 10 feet lengths and are threaded with male and female sockets to allow for connection for variable well depths. Connecting rods are attached to the pump cylinder. This drives the pistons which draws water from the well. Riser pipes are usually 1 1/2-inch diameter pipes that carry water up to the spout.

**Pump Cylinder** – This is the main pump, which is set in the aquifer deep underground. Includes the plunger rod, upper and lower valves, rubber seating and sealing rubbers, brass liner, reducer caps and cylinder body. The depth that a pump is set is based on the desired yield rates. A minimum yield of 1.5 cubic meters per hour is usually targeted.

## Specifications of India Mark V Hand Pump

The India Mark V VLOM hand pump incorporates the latest R & D developments in hand pump technology. It is based on non-corrodible below-ground components, using modern lightweight engineering plastics such as  $\mu$ PVC Riser Pipes and Fibre Reinforced Glass (FRG) Connecting Rods. The use of FRG connecting rods has been developed in association with SKAT, Switzerland. The pump's design features substantially improve maintainability while meeting the requirements of working in adverse water quality and water table conditions. The pump is also available in the conventional Galvanised Iron (GI) Riser pipe and Cast Iron (CI) cylinder combination.

These pumps have successfully completed field trials in Andhra Pradesh, India and have been used in India and Africa. Our improved India Mark V Hand Pump deliver flows minimum 2 m<sup>3</sup>/h, it can work over 15 hours per day. One improved India Mark II hand pump can cover over 1000 persons' water need per day. Its lifetime is 20 years.



### Features:

Specially developed for Extra Deep applications with light weight below-ground assemblies -  $\mu$ PVC Riser pipes and FRG connecting rods.

Reduced static load on the pumping system leading to a longer working life.

Monolithic cylinder valve assemblies and interchangeable Bobbin Valves contributing to simplicity, durability and ease of maintenance.

FRG connecting rods facilitating operation and maintenance for deeper cylinder installations between 40 m to 90 m.

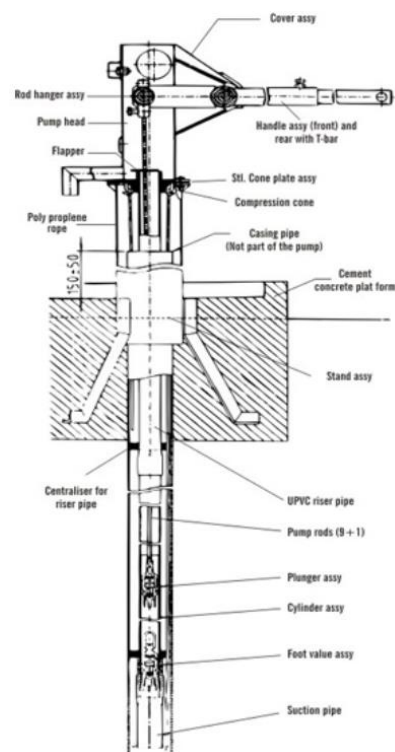
PVC Riser pipes with FRG connecting rods provide a non-corrodible and cost-effective alternative to GI and stainless steel under aggressive groundwater conditions.

Can be installed in minimum 90mm dia. bore thereby reducing cost of well construction.

## Specifications of Afridev Hand Pump

The Afridev hand pump is one of the few recommended by UNICEF as pumps benefiting from its VLOM (Village Level Operation and Management of maintenance) label, in other words, robust pumps that can be fully maintained locally, either by the community members themselves or by a technician that they can call out quickly, and which are also produced locally and selected, managed and maintained by the community. It is designed for heavy duty use, with a conventional lever action.

Our improved Afridev Hand Pump deliver flows minimum 1.5 m<sup>3</sup>/h, it can work over 15 hours per day. One improved India Mark II hand pump can cover over 1000 persons' water need per day. Its lifetime is 20 years.



### Features:

Static water level - 10 meters to 45 meters

Stroke length -  $225 \pm 6$  mm

Pump Rod - it is either Threaded, Eye Hook type made of SS or MS or FRP pump rod in 3 meters length

Riser pipe - UPVC (OD 63 mm x thickness 4.7 mm) in 2.9 meters or 3 meters

Above ground i.e. Head Box Handle front and Rear and Stand Assembly. ( Hot dip galvanized mild steel)

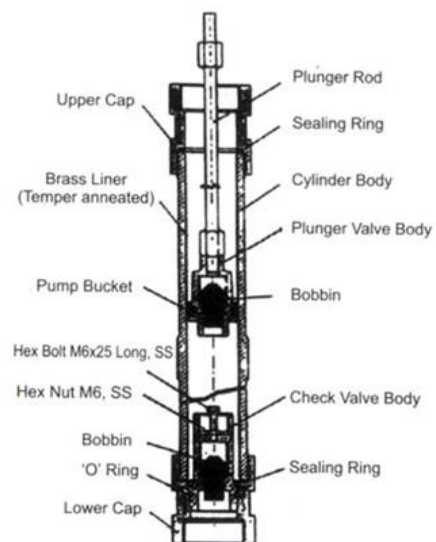
Cylinder Assembly - it is made of UPVC pipe with brass liner inside and plunger valve and foot valve either brass or nylon (Derlin)

Casing Pipe - 100 mm to 200 mm.

## Specifications of U3 Modified Deepwell Handpump

The U3 modified deep well hand pump is broadly a combination of IM-III and the Afridev deep well hand pump and is recommended for aggressive water conditions, where GJ. Pipes cannot be used. The above ground pumping mechanism is essentially of IM-III pumps, whereas the below ground pumping mechanism is similar to Afridev Handpump i.e. UP VC Riser Pipes (63mm OD-spigot socketed joints) and Cylinder Assembly with UP VC Brass Liner (50mm dia, open top VLOM). The standard connecting rods are of India Mark- II, India Mark-III type and option of Fibre Reinforced Plastic (FRP) connecting rods is also available.

Our improved U3 Modified Deepwell Handpump deliver flows minimum 2 m<sup>3</sup>/h, it can work over 15 hours per day. One improved U3 Modified Deepwell Handpump can cover over 1000 persons' water need per day. Its lifetime is 20 years.



### Features:

Pump Type : U3 modified deep well hand pump as per SKAT-HTN Switzerland specifications with 50mm dia open top, UPVC brass lined cylinder assembly with extractable plunger and foot valves assemblies.

Recommended for water level setting depth (metres): 20-65

Minimum ID of bore (milimetre): 100

UPVC Riser Pipe: 63 mm ODX 4.7wt \* 3meters length.

MS/SS Conneting Rod Dia: 12 mm