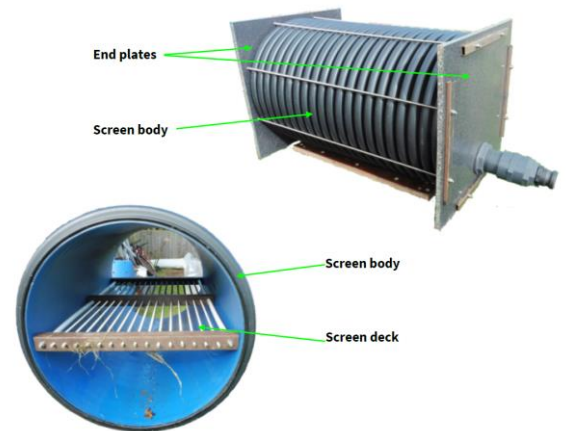


Feecal Sludge Screen prototype

to prevent solids entering pumphouse and storage tanks

The sludge screen prototype (L:1m, D:450mm) is to be fitted on the suction side of a pumping unit and is designed to prevent larger solids entering the pump or the sludge reservoir. The screen is a solution while emptying pit latrines, as experience learned that many pits are used to dispose garbage. This garbage can block reservoir in or outlet and damage pumps. In general septic tanks contain less solids and adding the screen to empty septic tanks is in most cases not required.



Treatment technology:	The unit is designed to take out solids from the feecal sludge. The distance between the metal bars can be adjusted.
Treatment objective	n/a
Treatment capacity	Treatment capacity will largely depend on the amount of solids in the sludge and pump capacity. During testing, screening 1000L of sludge took less than 20 minutes. Depending on the amount of solids the screen needs to be opened and easily cleaned after use.
Site requirements	For cleaning it is recommendable to have (surface) water at hand. The unit works well with vacuum pumps.
Life expectancy	The prototype did function well a more solid version will now need to be created.
Weight and volume	Shipping weight; 85.5 kgs Shipping dimension; 1100 x 2000 x 950 mm
Startup time	Ready for immediate use
Capital cost	Prototype development costed 3400 Euro.
Operational cost	The unit can only be used in combination with a Vacuum or other pump. It will require regular cleaning, depending on the amount of solids within the sludge.
Equipment overview	1. Screenbody (L:1m, D:450mm) 2. Removal filter screen with steel bars of 10mm 3. 3" inlet 4. 2"outlet
Process overview	The unit or screen will prevent solids entering a pump house or storage tank. And thus will facilitate the process of transport and storage. For operating and specially cleaning the screen protective clothing is required
Additional considerations	- The unit is rather large to increase the length of the screen and avoid the screen getting clogged too often, but therefore not very easy to transport, - As the principal was working well a stronger model will need to be made which can resist higher pressures and will allow easy opening.

	<ul style="list-style-type: none"> - The prototype developed did not allow the unit to be connected on the pump outlet, the unit functioned well at the inlet of a vacuum unit it will work less on the inlet of centrifugal pumps due to increased friction losses.
<p>Advantages over other options</p>	<ul style="list-style-type: none"> - Taking out the rubbish from pit latrines is currently often done manually, with rakes or other fishing tool; - Experience learned that commonly used strainers do block very fast due the high amount of rags, and other garbage mixed into the pit latrines; - Experience learned that the fecal sludge sometimes also contains sharps like broken bottles and stones that can damage the liner of the reservoir or block the outlet; - Arguably the quickest solution is to manually take solids out of the sludge at the source.



Bar screen during testing

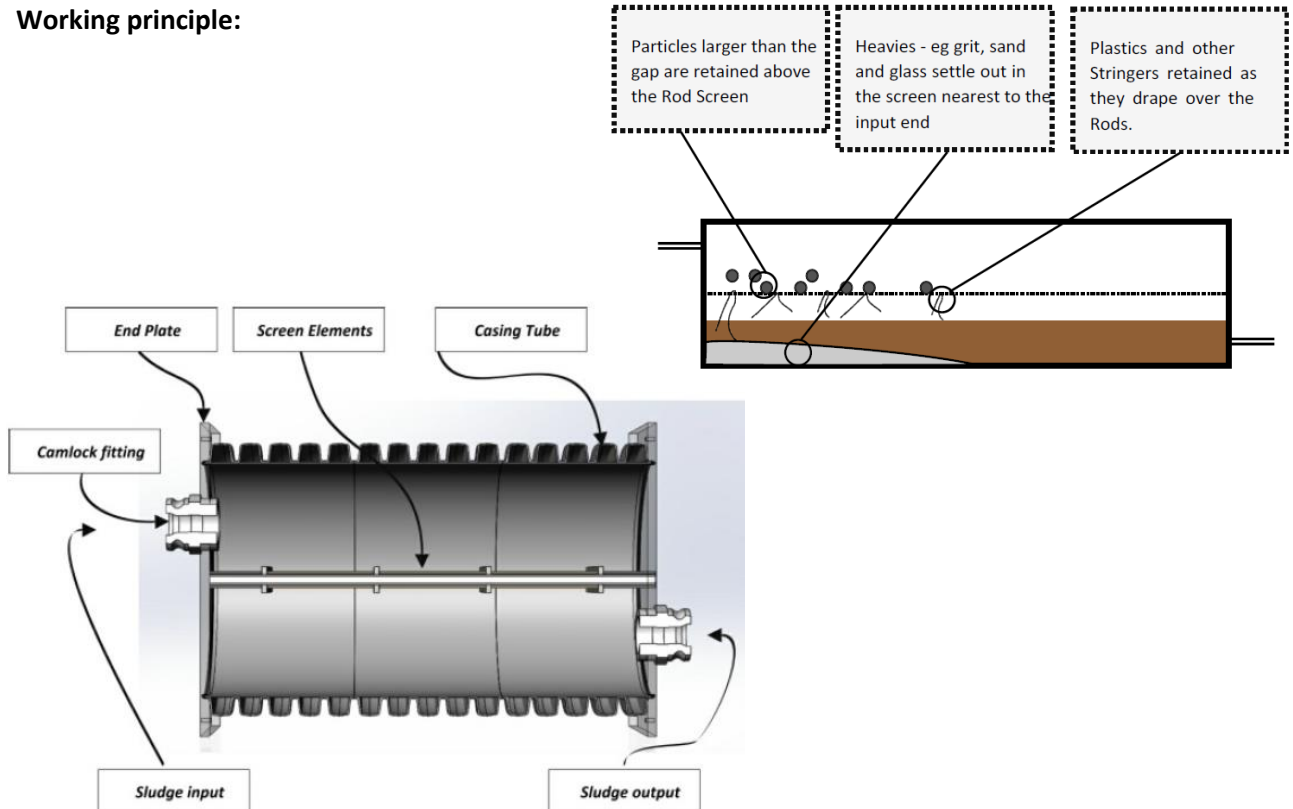


filtered material from sludge



cleaning of bar screen

Working principle:



Learn more at www.emergencysanitationproject.org or email Jan Heeger at JHeeger@redcross.nl