Hidrostal have developed two types of system for automatically desludging primary and humus sedimentation tanks

1. Lever and winch type desludgers

This is the simplest method of desludging sedimentation tanks and works on the principal of a plug valve and bellmouth being positioned in an adjacent desludging chamber. Desludging begins when the plug valve is lifted from the bellmouth and ceases when the valve reseats.

The plug valve can be lifted by two methods:-

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Lever type

This method is suitable for mechanical scraped radial tanks. The plug valve is operated by a lever actuated by a cam mechanism attached to the end of the rotating bridge. The desludging time is determined by the bridge speed and cam length. Desludging takes place once per revolution of the rotating bridge.

Features:

- No additional power required
- Virtually maintenance free
- Operating costs are virtually nil

Winch type

With this method the plug valve is operated by the use of a timer controlled electro/mechanical winch assembly which allows for variable timed desludging. A control panel is either supplied individually for each desludger or if there are more than one desludger on site, a common panel can be supplied to operate multiple units.

Features:

- Only a single phase 5 amp supply is required
- Fail safe plug valve close on power interruption
- Variable desludging time periods
- Easy to install and maintain

Winch type

Hidrostal Automatic Winch Type Desludgers can be used on any type of Primary or Secondary sedimentation tank. The equipment is designed to enable completely automatic desludging to be achieved under hydrostatic head conditions.
In the majority of instances, the existing desludging chamber bottom gate valve is used as the connection point for the bend and bellmouth. In most cases adaptation can be achieved easily, and on new tanks the connection point can be designed to suit the system. Desludger plug valve size has been standardised at 150mm (6”), although in some instances the tank desludging pipework can be larger. Standard adaptation to 200mm (8”) if required.

When considered necessary an extension pipe is provided for deeper desludging chambers, to control and reduce the hydraulic head available for desludging. Ideally the hydraulic head should be set between 0.5m and 0.2m to obtain optimum desludging results, depending on sludge type.

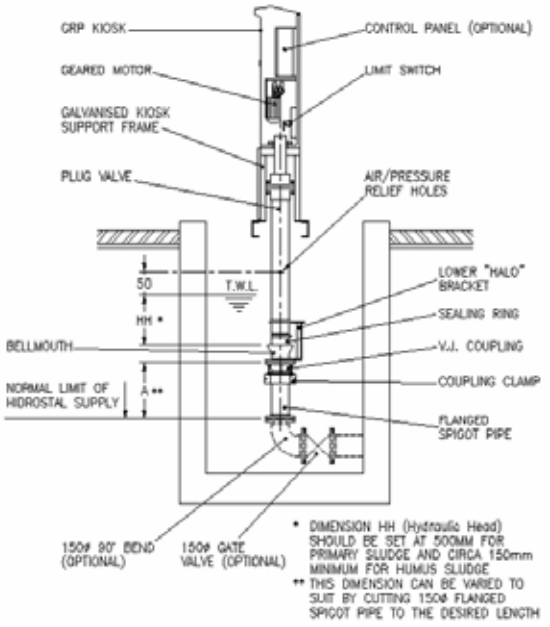
The Hidrostal Automatic Winch Desludger can be used instead of, or to replace the following systems:-

Actuated Bellmouths/Gate Valves

This system requires regular maintenance, usually a 3 phase power supply, is difficult for use with sludge density measurement equipment, and will not fail safe without expensive additions.

Air Lift Systems

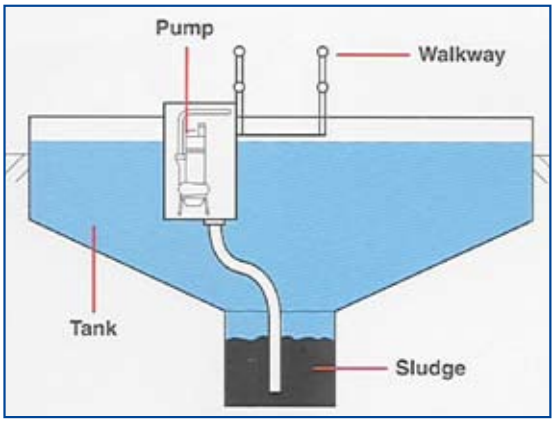
Require regular blower maintenance and often regular adjustment. The system is often unreliable particularly on thicker primary sludges. Usually a 3 phase power supply is required and the blower unit requires weather protection.



2. Pump desludgers

This method makes use of the Hidrostal A2Q pump with its screw centrifugal impeller and its ability to draw sludge from the bottom of sedimentation tanks.

The pump is positioned in a small chamber within the tank to ensure that the pump is primed and is controlled by a timer to automatically desludge the tank..



Pump type desludging

Features:

- Simple and effective design.
- Proven reliability
- Variable desludging time periods
- Easy to install and maintain
- Pump available for either single or 3 phase supply

The Hidrostal pump supplied for the pump desludging system offers the following benefits :-

- Clog free operation
- High efficiency – low running cost
- Steep performance curve – giving pressure reserve when pumping thick materials
- 50mm solids handling