



SLUDGE THICKENER

Gravity thickening is one of the most common methods of sludge thickening used and is accomplished in a tank similar in design to a conventional sedimentation tank.

Mechanism

Normally a circular tank is used and the dilute sludge is fed to a center feed well. The feed sludge is allowed to settle and compact, and the thickened sludge is withdrawn from the conical tank bottom. Conventional sludge collecting mechanisms with deep trusses or vertical pickets stir the sludge gently, thereby opening up channels for water to escape and promoting densification. The supernatant flow that results is drawn off and returned to either the primary settling tank or a return flow treatment process. The thickened sludge is pumped to the digesters or dewatering equipment as required.



Sludge Thickener



Picket Fence Arrangement in Sludge Thickener

In operation a sludge blanket is maintained at the bottom of the thickener to aid in concentrating the sludge. Blanket depths may range from 0.5 to 2.5m; shallower depths are maintained in the warmer months.

Special Features

- Picket fence arrangement to prevent air pockets and ensure proper mixing of sludge
- Hopper scraper arrangement to ensure continuous removal of accumulated sludge

Drive Arrangement

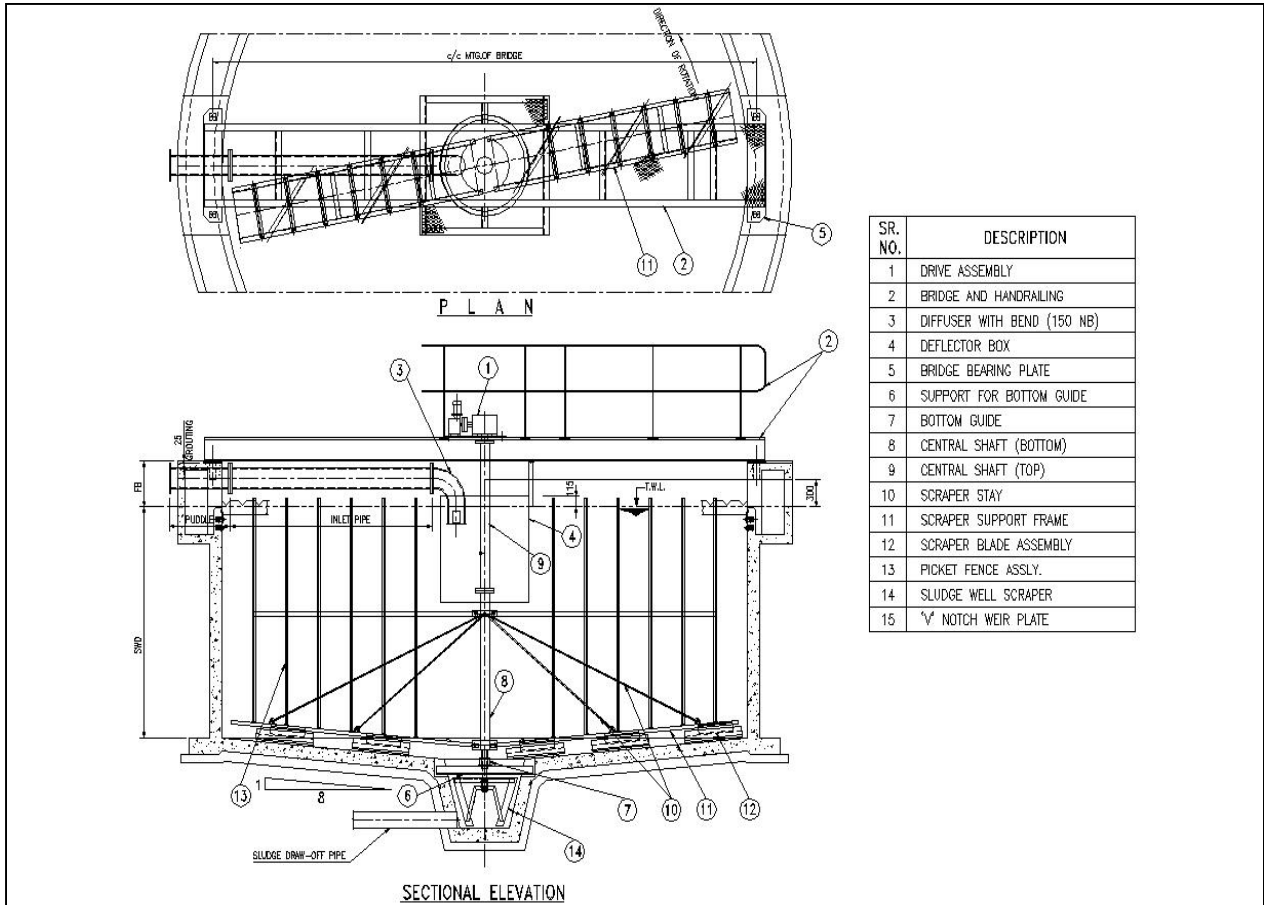
Central drive comprising of a combination of gearboxes for smaller diameter tanks and slewing ring drive with scrapers connected to centrally driven cage for larger diameter tanks.

Performance

Gravity thickening is most effective on primary sludge. Sludge consistency of about 4% is obtained with the use of thickener.

Applications

Sludge thickener is generally used in treatment process where the wastewaters that have a high suspended solid concentration. Typical applications include common effluent treatment plants, textile industries,



distilleries, dairies, etc.

Typical Views of Sludge Thickener

Size Range

Voltas has supplied and installed thickener mechanism for tank size range of 3 m diameter to 27 m diameter.

Material of Construction (Under Water Parts)

Mild Steel Epoxy Coated/ Galvanized/ FRP Coated/ Stainless Steel 304/ Stainless Steel 316

<p>For more information contact:</p>	<p>Voltas Limited Water Management Business Division Voltas House B, T. B. Kadam Marg Chinchpokli, Mumbai 400033 Tel: +91 (0) 22 66656666 (Board) +91 (0) 22 66656571 (Direct) Fax: +91 (0) 22 66656592 E-mail: dkelapur@voltas.com</p>
--------------------------------------	--