Rotating sludge scraper and gravity thickeners

Sludge scrapers and gravity thickeners for circular tanks utilize either central operation or peripheral operation. It’s all depending on the tank diameter.
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These devices are executed in very similar basic designs. There are two configurations, with or without supplementary functions. Which type is built is primarily determined by the tank size.

Execution
The frames for both devices consist of arms that are welded together with a centre tube. Under these arms, angled scraper blades are fitted for bottom scraping. Certain devices are equipped with surface sludge scrapers that transport floating sludge to a sludge cone. The floating sludge scrapers are either mounted on the gate or under the bridge that rotates.

For central operation, the gate rotates. The drive unit is located on a stationary bridge; the gear is connected directly to the centre shaft. The centre shaft’s lower part is equipped with a removable bottom bearing made of polyethylene, which works against a steel locating pin and is lubricated by the tank water.

For peripheral operation, the bridge rotates. The bridge’s bearings are on the tank’s central column and the bridge is powered with an end-carriage at the tank edge. The drive unit in both cases is equipped either with mechanical or electronic overload protection.

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Rotating sludge scrape
Rotating sludge scrapers are equipped for continual transport of sludge to sludge pits in circular sedimentation tanks at municipal and industrial purifying plants. The rotating sludge scraper can even be equipped with hydrometers (also referred to as airlift pumps) or submersible pumps.

Sludge thickener
The sludge thickener in turn is intended to thicken the sedimented sludge from the sedimentation tanks. A predetermined number of activation rods are welded in place in the arms. The arms are also equipped with bottom scrapers to scrape the sludge to the sludge pit.

Materials and surface treatments
Materials underwater are normally made of AISI304 stainless steel. Parts above water are made of hot-galvanized steel. Motors, ball bearings and gears are supplied factory painted. Polished shafts are tectyl treated.

Info
Motors and gears are carefully engineered to maximise service life and reliability. These devices are made of AISI304 stainless steel or AISI316 acid-resistant steel.