



HALF BRIDGE CIRCULAR CLARIFIERS

The Envirex® half bridge pier supported circular sludge collector is available as small as 30 feet in diameter, although the economics of construction generally favor half bridge designs no less than 40 feet diameter.

There is no upper limit on the diameter of the collector other than process considerations. For clarifiers between 40 and 50 feet in diameter, operator preference will usually decide between the full bridge and half bridge designs.

Main Components

The pier supported design consists of a support pier, influent feedwell, rotating cage and scraper arms, and access bridge spanning from the tank wall to the center column and H Type drive unit. A wide range of scraping, skimming and process options are available with this design.

Influent Feedwater and Pier

Flow enters the influent dispersion well through the center support pier or a side feed pipe. If a side feed is used, the pipe is supported from the bridge structure.

When used as an influent pipe, the support pier is provided with a large inlet area designed to reduce inlet turbulence.

Depending on the process, the well can be a simple influent well with baffle arrangement or a flocculation well. In all instances, the well is designed to diffuse and disperse inlet water energy, based on process requirements. The well can be supported from the sludge scraper arms, from the cage or from the access bridge, depending on design conditions.

For wastewater applications, the influent well is equipped with baffled scum ports that permit floating material to escape from the feedwell while preventing short circuiting.



Storm water half bridge clarifier installation with walk through truss bridge.

Half Bridge Circular Clarifiers H Type

Designed to AGMA standards and manufactured by Evoqua for circular sludge collector operations, the H Type drive will provide the full rated torque over its 20 year service life. That is one assurance of dependable sludge collector performance.

Another is in the field, where thousands of H Type drives are installed in municipal and industrial water and wastewater treatment facilities worldwide.

In addition, each H Type drive is backed by Evoqua, so owners have single source responsibility for service and replacement parts, if required.

The H Type drive consists of primary, intermediate and final reduction units, designed as a workhorse system with a low power draw.

A helical gear unit serves as the primary reducer. Power is transmitted from it to the intermediate worm gear reduction unit via a chain and sprocket coupling arrangement. This can be provided with a shear pin overload device, if desired.

The driven worm shaft in turn drives the main worm gear. Overload protection, including alarm and shutdown microswitches, operates from the thrust of the worm shaft. Stability of the large diameter worm gear is assured by a hardened, precision ball bearing.

The final reduction pinion gear, driven by the worm gear, engages the spur gear to complete the transmission of power. The spur gear is supported by a large diameter ball bearing, contained in a raceway with removable liners.

All gears and bearings run in an oil bath for extended and trouble free operation. Oil levels are easy to monitor and maintain. An easy to reach drain makes changing oil simple.

Main Components

The spur gear is split for easy access to the ball bearing and raceway liners. The gear, bearings and liners can be replaced without moving the access bridge.

With this feature, not commonly available in the water and wastewater marketplace, maintenance costs can be significantly reduced. In most instances, a worn spur gear, bearings and raceway can be replaced for far less than the cost of a new drive.



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