

Anaerobic Digestion Solutions



WESTECH
Process Equipment. Process Driven.

Digester Covers

Options to Suit Your Process

WesTech provides innovative designs for custom digester covers using the latest structural standards while integrating ease of erection and economical value. By offering you three major structural designs - truss, beam, and DuoSphere™ - WesTech can provide the right system design to meet your specifications. WesTech Anaerobic Digester Covers are an excellent choice for your new or retrofit installations.

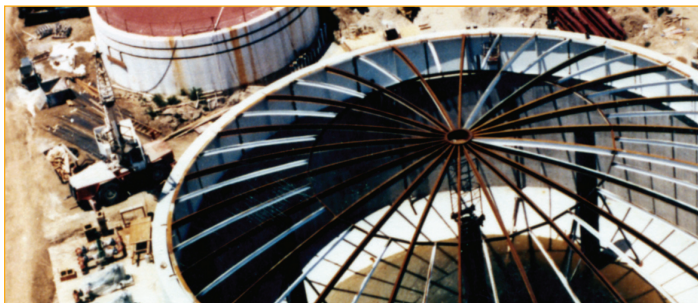


Truss Cover

Truss Structure

- **Ideal for Buoyant Cover Design**
- **Attic Space for Insulation**

Truss covers include steel plates welded to both the top and bottom of the trusses to form an attic space, which protects the structural members from corrosion and provides insulation for the sludge.



Radial Beam Cover

Radial Beam Structure

- **Fixed and Gasholder Cover Designs**
- **Economical Option**

With no ceiling plates and 50% less field weld length than a truss cover, beam covers are a very economical choice for anaerobic digester covers.

DuoSphere™ Digester Covers

- **Lowest Installed Cost**
- **Significant Gas Storage Volume**
- **Variable Liquid Level Capabilities**

The DuoSphere™ membrane digester cover is the most versatile cover available. The tank mount design provides an innovative and cost-effective solution for new and replacement covers.



DuoSphere™ Gasholder Cover

Digester Cover Types

Fixed Covers

- **Best Option for Small Liquid Level Variations**
- **Complete Gas and Odor Containment**
- **Most Economical Steel Cover Option**

Innovative designs incorporating a water launder or more advanced seal materials can overcome liquid level variation limitations. A conventional annular seal design relies on the sidesheets being submerged in the sludge to achieve a pressure seal and prevent odors from escaping.

Buoyant Covers

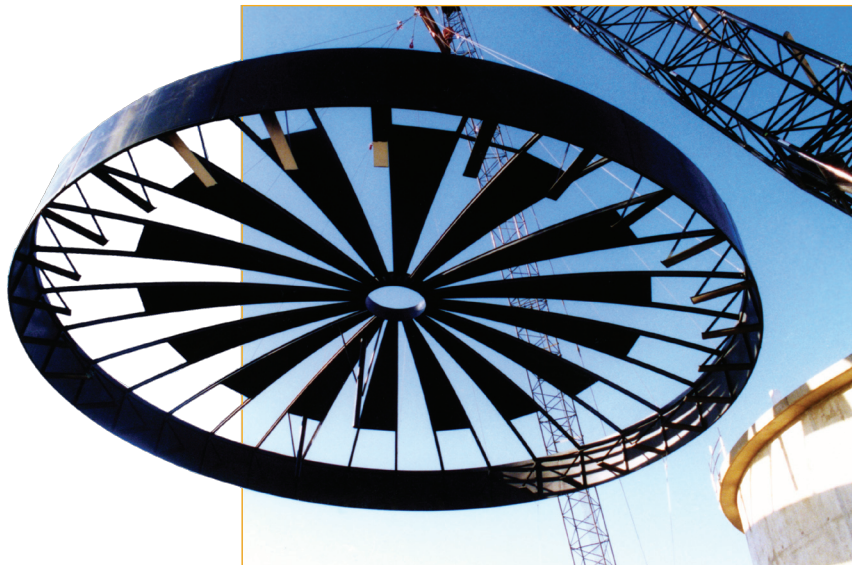
- **Best Option for High Liquid Level Variability**
- **Truss Design Increases Stability of Cover**
- **Attic Space Provides Thermal Insulation**

Buoyant floating covers are in contact with the sludge, which reduces the exposed liquid surface area and prevents a large scum blanket.

Gasholder Covers

- **Stores Digester Gas and Maintains Pressure**
- **Pressurized Gas Storage for Optimized Downstream Utilization**

Gasholder covers can be constructed using radial beams, trusses, or engineered textiles as in the case of the DuoSphere™ dual membrane covers.



- **Prefabricated Beam Roof Sections for Faster Installation**
- **Designed for Tank Diameters That Range From 20 to 125 Feet**



Fixed Cover



Buoyant Floating Cover



Gasholder Cover

Extreme Duty™ Sludge Mixers

The most maintenance-friendly, cost-effective, durable sludge mixer in the industry.

WesTech's **Extreme Duty™ Sludge Mixers** provide vigorous mixing of digester contents to prevent stratification and improve the anaerobic digestion process. Our sludge mixers reliably speed gas production for energy recovery while reducing foam and scum accumulation that typically occur in pump mix systems.

■ Available in both internal top-mounted and external wall-mounted models

■ Designed to perform even in the most demanding digester applications



Internal Top-Mounted Sludge Mixer

Downward and Upward Pumping

Unlike pump mix and gas mix systems, the Extreme Duty™ Sludge Mixers provide the flexibility of flow reversal. Downward pumping reduces foam and scum buildup that upsets the digestion process. Changing flow directions eliminates dead zones and stratification in your tank to optimize digester performance.

Unmatched Warranty

WesTech is so confident in our Extreme Duty™ Sludge Mixers that we offer you an unprecedented **5 year warranty** that covers all costs including crane, freight, parts and labor.

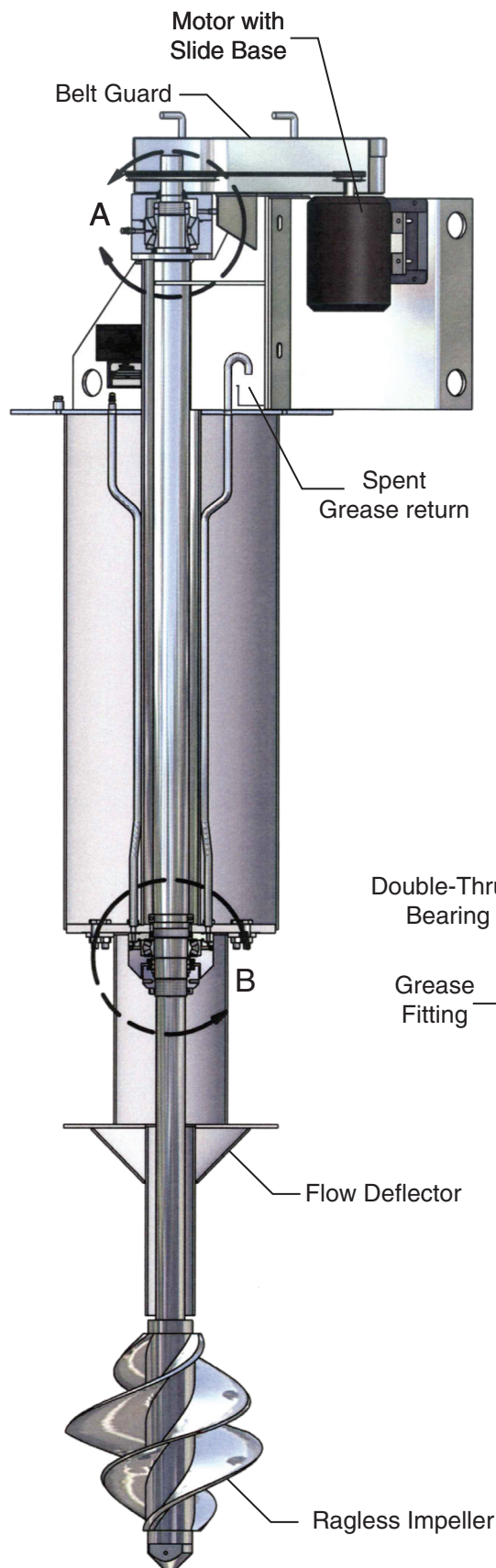
All Grease Lubrication

- **Simple and Robust Lubrication Design**
- **Low-pressure Grease Delivery System Prevents Excessive Pressurization of Seals**
- **Upper and Lower Bearings Use Low-Viscosity “Triple-Aught” Grease**

WesTech provides lubrication equipment and an initial supply of the proper grease with each shipment of mixers to ensure that good lubrication starts from the very beginning. The grease lubrication system employs a spent grease return line that allows monitoring of the lower bearing condition. This inspection helps prevent downtime and keeps your operations running smoothly.



External Wall-Mounted Sludge Mixer



It's All in the Details

Bearings - A double-thrust bearing and a spherical roller bearing keep the shaft in place and prevent wear from uneven loads. Bearings are sealed with mechanical and double-lip seals to ensure complete protection.

Mechanical Seal - Tough abrasion resistance combined with excellent heat resistance makes our heavy duty bellows type mechanical seal durable in extreme applications.

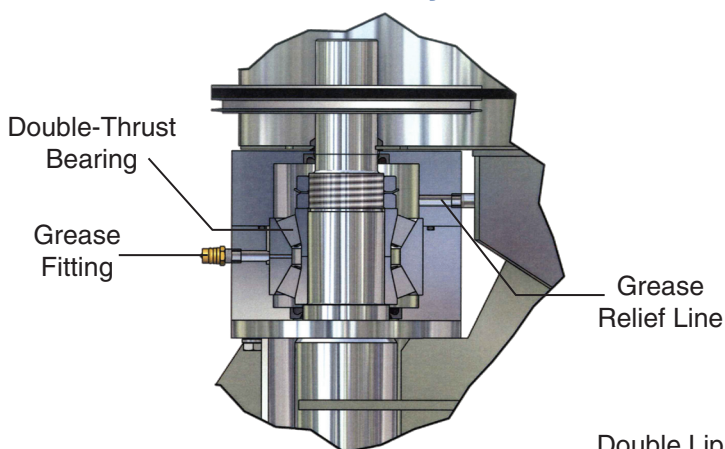
Double Lip Seal - Strong double lip seals are significantly stronger than a single lip seal for reliable protection of the lower bearing.

Spent Grease Return - Provides you with up-to-date information on the condition of the bearings and seals in the mixer.

Flow Deflector - Guards the seal from sludge flow and debris.

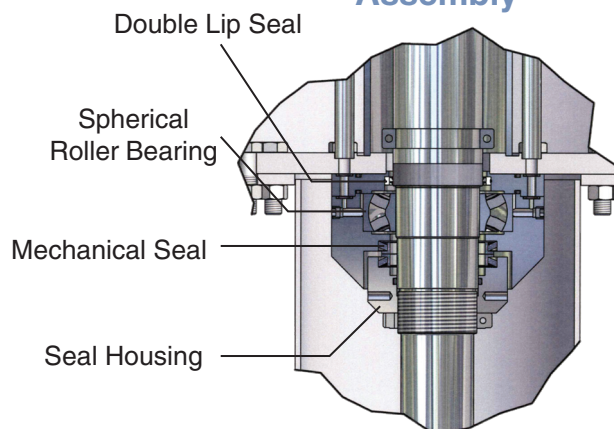
Ragless Impeller - Dynamically balanced cast iron impeller is designed with a ragless, reversible design. By simply changing the mixer rotation regularly, the Extreme Duty™ sludge mixer self-cleans to prevent rag buildup and stringy mass accumulation.

Upper Bearing Assembly



Detail A

Lower Bearing Assembly



Detail B



Combination Boiler/Heat Exchanger

Optimal Digestion Heating

WesTech offers heating solutions for nearly any anaerobic digestion application. From mesophilic to thermophilic, WesTech's versatility and experience ensures that our sludge heating equipment will provide years of dependable service. We provide heat exchangers that pipe into existing hot water systems as well as complete boiler/heat exchanger packages.



Draft Tube Heat Exchanger

Combination Boiler / Heat Exchangers

- **Utilize Reclaimed Energy**
- **Skid-Mounted Units**

Our package heating system is dual-fuel capable, using primarily digester gas with a conventional backup fuel source. This allows for efficient use of the valuable biogas produced in anaerobic digestion.

Draft Tube Heat Exchangers

- **Efficient Heating and Mixing**
- **Simple Operation and Maintenance**
- **Cost-Effective**

Instead of pumping sludge to a remote heat exchanger, hot water is piped to the heat exchanger mounted on the draft tube of an internal or external sludge mixer. Heat is transferred to the sludge as the mixers circulate flow through the hot water jacket region of the draft tube.

Tube-In-Tube Heat Exchangers

- **Efficient Counter Flow Design**
- **Long-Term Energy Savings**
- **Large Sludge Passages Prevent Clogging**

Sludge is pumped from the digester while hot water is pumped from the boiler. Heat is transferred within the tube-in-tube heat exchanger.



Tube-In-Tube Heat Exchanger

WesTech Slide Guides

WesTech's Slide Guides prevent new and existing floating and gasholder covers from tipping and binding as they move vertically within the tank. Ultra-high Molecular Weight (UHMW) Polyethylene slide plates on three sides of the structural steel tube can resist wind, seismic, and unbalanced loads in both the radial and tangential directions. The durable, low-friction UHMW surfaces remove the need for lubrication, enabling maintenance-free operation.



- Great for Retrofits and Upgrades
- Eliminates Tipping and Binding
- Corrosion-Proof Slide Plates
- No Lubrication Required
- Loads are Distributed over Several Guides
- Adjustable for Easy Installation and Alignment
- Install with Old Cover In Place



Truss Gasholder with Slide Guides



Radial Beam Gasholder with Slide Guides

DuoSphere™ Gasholders

The DuoSphere™ offers innovative designs for digester gas storage and an alternative to conventional digester covers. DuoSphere™ gasholder structures are strong, lightweight, and versatile – a preferable choice in biogas storage for your municipal or industrial applications.

- High-Strength Fabric
- Affordable Gas Storage
- Constant Pressure Regulation
- Inner Membrane Access
- Custom Flows and Sizes
- Fast Installation = Low Cost

Simple Assembly for Fast Installation



DuoSphere™ Gasholder



ANAEROBIC DIGESTION

Component designs are being continually refined through field experience and the application of emerging technologies. Such refinement provides our customers with demonstrated, trouble-free, highly efficient, proven sludge equipment. In addition, WesTech's commitment to customer service and determination to stand behind our products has resulted in a long list of satisfied customers.



WesTech Anaerobic Digestion Products

- *Fixed Digester Covers*
- *Floating Buoyant Digester Covers*
- *Gasholder Digester Covers*
- *Sludge Heating Systems*
- *Mechanical Sludge Mixers*
- *DuoSphere™ Gasholders*
- *Viewports*
- *Gas Safety*
- *Accessories*

How Does An Employee-Owned Company Benefit You?

Our employee-owners have a deep commitment to the success of WesTech. As the sole stockholders in WesTech, employee-owners directly benefit from successful projects and happy customers.

Employee ownership creates an environment in which people want to contribute to this common goal. You will notice extra attention to customers and pride in our equipment at WesTech.



CALL TODAY TO DISCUSS YOUR ANAEROBIC DIGESTION NEEDS.

WESTECH
Process Equipment. Process Driven.

Tel: 801.265.1000
Fax: 801.265.1080
www.westech-inc.com
info@westech-inc.com
P.O. Box 65068,
Salt Lake City, Utah
84165-0068

Represented by: