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STAHL IST UNSER METIER

seit 1959



# Gas holder



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## Our company

**We have been active in the tank construction business since 1959.**

Henze-Harvestore GmbH is an internationally active tank construction company with a focus on Europe. We are active in the industrial, municipal, biogas and agricultural sectors.

### **International**

Over 90,000 tanks in more than 110 countries – the numbers speak for themselves.

### **... and yet, individual**

We offer proven solutions for our customers, taking into consideration their specific requirements. With our technical expertise, we adapt tanks to suit customers' specific requirements. The wide variety of tank diameters and heights means a suitable tank can be used for every system.

### **Service**

We also supplement this area of business with services, conversion as well as the dismantling and re-construction of existing systems.

## Our product

### **Steel is our job**

With our extensive expertise and strong commitment, we work with bolted steel segments and equipment components.

Our broad spectrum of services and supplies means we can provide you with a suitable tank for almost any medium.

We use enamelled steels, stainless steels in the grades 1.4301 (AISI 304) and 1.4404 (AISI 316L) / 1.4571 (AISI 316Ti) and standard steels.

## Our advantages

A common feature of all our gas depots is that they are bolted together onsite from individual steel segments after careful preliminary planning and construction.

The advantages of this include:

- Quality control of components still in the factory
- Precisely fitting construction elements
- Short construction time with maximum independence of weather conditions
- No work at great heights, no scaffolding, no sandblasting or coating work on the system
- Excellent corrosion protection thanks to the use of enamelled steel and stainless steel





## Low pressure gas holder

As dry gas depots, low pressure gas depots are excellently suited for the storage of sewage gas.

The digester acts as a pressure generator lifting the weighted ballast plate and storing the produced gas under constant pressure. Downstream consumers can be operated without any additional increase in pressure.

Low pressure gas depots have the advantage that there is permanent pressure in the entire gas system and therefore no risk of oxygen entering the gas system when the depot is full. The linear movement of the ballast plate furthermore enables very accurate measurement of the stored gas volumes.

We supply low pressure gas depots from 50 m<sup>3</sup> to 7,000 m<sup>3</sup> and at pressures ranging from 20 mbar to 65 mbar.

The depots are designed as biogas tanks with a weighted membrane in accordance with DWA M-376. Since all roller guides are located outside the gas compartment, the ballast plate guide is maintenance-free.

As corrosion-resistant materials are used, such as stainless steel and enamelled steel, refurbishment of the depot – as with coated black steel constructions – is unnecessary.

## References

Here you can see some low pressure gas depots we have already built:



Nordhorn treatment plant  
Low pressure gas depot 50 mbar  
Volume: 1,000 m<sup>3</sup>



Trittau treatment plant  
Low pressure gas depot 30 mbar  
Volume: 250 m<sup>3</sup>



Mainz central treatment plant  
Low pressure gas depot 55 mbar  
Volume: 2,500 m<sup>3</sup> and 3,700 m<sup>3</sup>



Bremen Seehausen treatment plant  
Low pressure gas depot 50 mbar  
Volume: 5,000 m<sup>3</sup>



Rietberg treatment plant  
Low pressure gas depot 50 mbar  
Volume: 1,000 m<sup>3</sup>



Wiesbaden-Biebrich treatment plant  
Low pressure gas depot 45 mbar  
Volume: 2,500 m<sup>3</sup>

## Unpressurised gas holder

Suspended in the tank is a gas membrane, which is usually filled by the pressure of the upstream digestion tank. By means of a downstream compressor, the gas is fed for further utilisation.

The membrane unfurls or contracts depending on the gas fill level. With centrally suspended gas bags, the fill level can be measured continuously. The tank is operated without pressure. An overpressure safety device activates at 5 mm WS.

### Operating instructions

If a gas network is connected directly to an unpressurised gas depot and no pressure-retaining measures (e.g. pressure-retaining valve) are in place, the prevailing condition is virtually unpressurised. Consumers can only be operated with a downstream compressor.

### Pressure curve

In regular operation, the gas bubble of the tank is unpressurised. Because the gas bubble unfolds, there is no significant increase in pressure when the tank is filled further. Only when the pressure bubble is full and bulging does the pressure increase.

## References

Here you can see some unpressurised gas depots we have already built:



Vestenbergsgreuth treatment plant  
Unpressurised gas depot  
Volume: 200 m<sup>3</sup>



Nantan treatment plant (Japan)  
Unpressurised gas depot  
Volume: 500 m<sup>3</sup>



Edenkoben biogas plant  
Unpressurised gas depot  
Volume: 1,200 m<sup>3</sup>



Übach-Palenberg treatment plant  
Unpressurised gas depot  
Volume: 250 m<sup>3</sup>



Friedrichshagen treatment plant  
Unpressurised gas depot  
Volume: 2,500 m<sup>3</sup>



Halle treatment plants  
Unpressurised gas depot  
Volume: 384 m<sup>3</sup>

## Refurbishment and loan gas depot

In addition to the construction of new tanks, our offered services include the maintenance, conversion and refurbishment of gas depots for all manufacturers.

Using our own team, we replace reverse-drawing tank shells and renew telescopic guides. For the renewal of corrosion protection coatings, we work together with long-standing partners.

We keep an extensive stock of spare parts for the maintenance and/or refurbishment of cable-guided dry gas depots.

If desired, we can provide a rental gas depot of at least 50 m<sup>3</sup> during implementation of refurbishment measures.



Corrosion protection



Replacement of reverse-drawing tank shell



Renewal of telescopic tube



Overpressure/underpressure protection

## Quality certificates

- Object-related structural design, verifiable or verified
- Material certificates 3.1 pursuant to DIN EN 10 204
- MPA monitoring contract
- Certificate DIN EN 1090
- Leak test protocols
- Specialist company in accordance with Section 19 I WHG (German Water Resources Act)
- SCC certification
- DIBt building authority approvals





## Equipment

An individual product requires individual accessories. We have the accessories and components to suit your needs:

- Gas-tight or odour-reducing roofs - materials: Stainless steel, fibreglass (GFK) or PVC
- Funnels 35°, 45°, 60°, 70°
- Steel construction: Hatches, flanges, sight glasses, ladders, platforms, jacket staircases, staircase towers, walkways, clear water channels, special building components
- Gas-specific equipment: Overpressure and underpressure valves, ballast plate with telescopic guide, rental of horizontal gas depot
- Concrete floor protection made of: HDPE, stainless steel, coating, leakage-monitored flooring
- Thermal insulation, active and passive
- Agitators, level measurements, other machine technology

## Overview of our products

Stainless steel, enamelled and epoxy coated tanks can be supplied from 8 m<sup>3</sup> to 14,000 m<sup>3</sup>.

Tank materials are selected according to the content matter of media to be stored.

- |                                |                            |
|--------------------------------|----------------------------|
| * Digesters                    | * High efficiency reactors |
| * SBR tanks                    | * Hydrolysis               |
| * Thickeners                   | * Aeration tanks           |
| * Primacy/secondary clarifiers | * M + E tanks              |
| * Sludge tanks                 | * Leachate depots          |
| * Thick sludge depots          | * Drinking water depots    |
| * Extinguishing water tanks    | * Bulk storage silos       |
| * Foreshaft equipment          | * Conical tanks            |
| * Emergency overflow           | * Pressure protection      |
|                                | * Gas domes                |



Fulfilling your desires is our top priority. We are happy to provide complete system solutions to suit your needs.

Ask us for more detailed information or visit our website: [www.harvestore.de](http://www.harvestore.de).

Please feel free to contact us. We are happy to provide you with a non-binding offer.

You can also find out more about our other products:



Biogas



Tower silos



Slurry silos



Sewage

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