

### Ground Mounted Double Membrane Biogas Holder

V(m <sup>3</sup> )	3/4 Sphere		V(m <sup>3</sup> )	3/4 Sphere		V(m <sup>3</sup> )	3/4 Sphere	
	D(m)	H(m)		D(m)	H(m)		D(m)	H(m)
44	4.00	3.46	700	10.10	8.75	1353	12.58	10.89
101	5.30	4.59	752	10.34	8.95	1402	12.73	11.02
151	6.05	5.24	801	10.56	9.15	1453	12.88	11.15
201	6.66	5.77	852	10.78	9.34	1500	13.02	11.28
252	7.18	6.22	905	11.00	9.53	2001	14.33	12.41
302	7.63	6.61	953	11.19	9.69	3004	16.41	14.21
351	8.02	6.95	1007	11.40	9.87	4005	18.06	15.64
403	8.40	7.27	1053	11.57	10.02	5002	19.45	16.84
451	8.72	7.55	1103	11.75	10.18	6004	20.67	17.90
501	9.03	7.82	1151	11.92	10.32	7005	21.76	18.84
550	9.32	8.07	1204	12.10	10.48	8005	22.75	19.70
601	9.60	8.31	1250	12.25	10.61	9004	23.66	20.49
652	9.86	8.54	1302	12.42	10.76	10010	24.51	21.23

### Double Membrane Biogas Holder Roof

V(m <sup>3</sup> )	1/4 Sphere		V(m <sup>3</sup> )	1/4 Sphere		V(m <sup>3</sup> )	1/4 Sphere	
	D(m)	H(m)		D(m)	H(m)		D(m)	H(m)
12	4.58	1.32	520	16.04	4.63	2618	27.50	7.94
19	5.35	1.54	598	16.81	4.85	2844	28.27	8.16
29	6.11	1.76	683	17.57	5.07	3080	29.03	8.38
41	6.88	1.99	775	18.33	5.29	3328	29.79	8.60
56	7.64	2.21	877	19.10	5.51	3593	30.56	8.82
75	8.40	2.42	986	19.86	5.73	3868	31.32	9.04
97	9.17	2.65	1105	20.63	5.96	4160	32.09	9.26
123	9.93	2.87	1232	21.39	6.17	4780	33.61	9.70
154	10.70	3.09	1368	22.15	6.39	5116	34.38	9.92
189	11.46	3.31	1516	22.92	6.62	5463	35.14	10.14
230	12.22	3.53	1672	23.68	6.84	5828	35.91	10.37
276	12.99	3.75	1840	24.45	7.06	6209	36.67	10.59
327	13.75	3.97	2017	25.21	7.28	6605	37.44	10.81
385	14.51	4.19	2205	25.97	7.50	7019	38.20	11.03
449	15.28	4.41	2407	26.74	7.72	7445	38.96	11.25

# YHR BIOGAS HOLDER



# COMPANY PROFILE

YHR is a pioneer in the field of environmental equipment manufacturing, specializing in Glass-Fused-to-Steel (GFS) Tank, Fusion Bonded Epoxy (FBE) Steel Tank, Anaerobic Reactor and Double Membrane Biogas Holder. With nearly 20 years of industry experience, we offer comprehensive services including design, engineering, manufacturing, and supply. Our products are widely utilized across diverse regions worldwide, including Asia, Europe, Africa, America, Oceania, etc.

At YHR, we are committed to driving environmental protection and sustainable development through continuous innovation and strict quality control. Our factory, equipped with advanced technology and machinery, ensures precision, efficiency, and outstanding quality. Focusing on environmental protection equipment, our skilled workforce and specialized workshops adhere to the highest standards of safety, sustainability, and productivity, consistently delivering exceptional results for every project.

# MAIN PRODUCTS

## GFS/FBE Tanks

01

Our Glass-Fused-to-Steel (GFS) Tank and Fusion Bonded Epoxy (FBE) Steel Tank offer exceptional durability and corrosion resistance, ideal for storing water, wastewater, and chemicals. Designed for harsh environments, they ensure long-term stability with minimal maintenance, providing a reliable and cost-effective solution for municipal, industrial and agricultural needs.

## Anaerobic Reactor

02

Our Anaerobic Reactor efficiently produce high-quality biogas and treat wastewater. They offer high efficiency, low operational costs, and reliable performance. Suitable for various scales, they provide an eco-friendly solution with reduced environmental impact.

## Double Membrane Biogas Holder

03

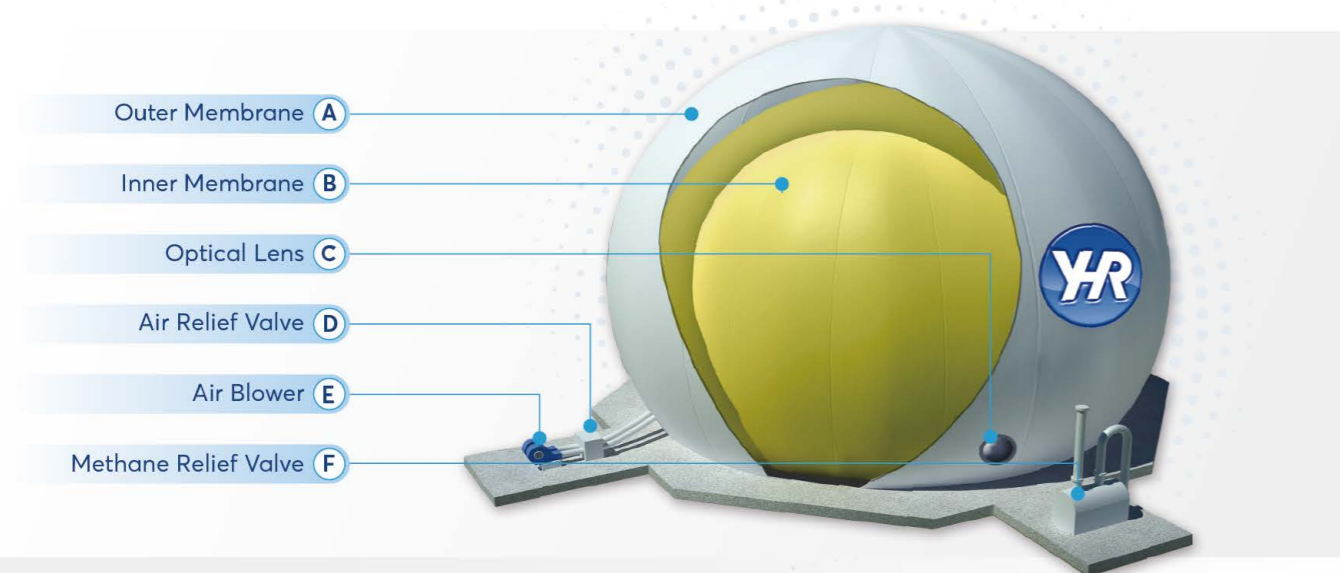
The Double Membrane Biogas Holder provides secure and efficient biogas storage with an innovative dual-membrane design. It ensures reliable gas containment while offering cost-effective solutions for biogas projects.

# BIOGAS HOLDER

**YHR Biogas Holder** is a cutting-edge solution for biogas storage, designed with three sophisticated components: the outer membrane, inner membrane, and bottom membrane. The inflated outer membrane provides a robust protective layer that maintains pressure stability even in extreme weather conditions such as storms. The inner membrane handles biogas storage, automatically adjusting its expansion or contraction based on gas volume to ensure consistent internal pressure. The bottom membrane, laid over the foundation, seals the storage space completely between the inner membrane and the foundation.

Manufactured to DIN 4102 B1 standards, our membranes offer excellent flame resistance, antifungal and UV-resistant properties, and superior impermeability to CH<sub>4</sub> gas. This innovative design not only ensures secure gas containment and environmental protection but also offers the lowest investment costs compared to other storage methods. The YHR Biogas Holder stands out as an economical and reliable choice for biogas projects, providing both long-term cost savings and enhanced performance.

## MAIN COMPONENTS



# SPECIFICATION

Content	Technical Parameters
Biogas Holder Capacity	50-10000 m <sup>3</sup>
Operating Pressure	0.5-2 KPa
Service Life	≥10 years
Membrane Material	Biogas-specific membrane
Permeability Rate	≤400 cm <sup>3</sup> /m <sup>2</sup> · 24h · 0.1MPa
Outer Membrane Tensile Strength	≥5000N/5cm (Type III membrane or higher)
Inner Membrane Tensile Strength	≥4000N/5cm (Type II membrane or higher)
Weld Seam	HF70, HF80
H <sub>2</sub> S Corrosion Resistance	1000ppm
Fire Rating	>B1
Explosion-Proof Fan	D-class explosion-proof
Inner Membrane Folding Resistance	≥100,000 times
Sunlight Fastness	Better than grade 7
Temperature Range	-30°C to 70°C
Surface	≤109Ω
Wind and Snow Load Resistance	Refer to load calculation

## ADVANTAGES

**Excellent Airtightness**

The membrane roof uses advanced sealing technology and high-quality materials to effectively prevent gas leakage, ensuring safe storage of gas within the tank.

**Convenient Maintenance**

The design is simple and reasonable, making daily maintenance and inspections quick and easy, reducing maintenance time and costs, and improving efficiency.

**Flexible Environmental Adaptability**

The design is flexible and can be customized according to different usage requirements and environmental conditions, adapting to various complex working conditions and climates.

**High Safety Standards**

The design includes multiple safety measures to ensure safety under various operating conditions, avoiding potential dangers and accidents.

**Strong Durability**

Made with high-strength, wear-resistant membrane materials, it can be used long-term in harsh environments, extending its service life.

**Intelligent Control**

It can be integrated with advanced control systems to achieve intelligent management of gas storage and usage, enhancing operational convenience and safety.

# CASES

## Ground Mounted Double Membrane Biogas Holder

### 1 Weifang, Shandong

#### Youran Dairy Hanting Pasture Manure Treatment Project

- Raw Material: Cow Manure
- Effective Volume: 2500 m<sup>3</sup>
- Biogas Holder Dimension: Ø15.44x14.37m (H) \*2 units
- Construction Time: 2023

### 2 Sanhe, Hebei

#### Tianlong Group Biogas Project

- Raw Material: Corn Stalks + Wheat Stalks + Cow Manure + Kitchen Waste
- Effective Volume: 1600 m<sup>3</sup>
- Biogas Holder Dimension: Ø23.68x6.84m (H) \*1 unit
- Construction Time: 2016

### 3 Zunhua, Tangshan

#### Meikeduo Group Biogas Project

- Raw Material: Chicken Manure + Corn Stalks
- Effective Volume: 2500 m<sup>3</sup>
- Biogas Holder Dimension: Ø15.45x18.2m (H) \*2 units
- Construction Time: 2018

## Double Membrane Biogas Holder Roof

### 1 Tongliao, Inner Mongolia

#### Guoneng Biomass Natural Biogas Project

- Raw Material: Corn Stalks + Pig Manure
- Effective Volume: 3800 m<sup>3</sup>
- Biogas Holder Dimension: Ø31.32x7.38m (H) \*8 units
- Construction Time: 2020

### 2 Harbin, Heilongjiang

#### Huaren Group Derun Yilan Combined Heat and Power Project

- Raw Material: Corn Stalks
- Effective Volume: 2100 m<sup>3</sup>
- Biogas Holder Dimension: Ø28.65x6.99m (H) \*8 units
- Construction Time: 2019

### 3 Qujing, Yunnan

#### Shizong County Agricultural Resource Recycling Project

- Raw Material: Pig Manure + Corn Stalks
- Effective Volume: 2200 m<sup>3</sup>
- Biogas Holder Dimension: Ø25.97x4.91m (H) \*6 units
- Construction Time: 2022

