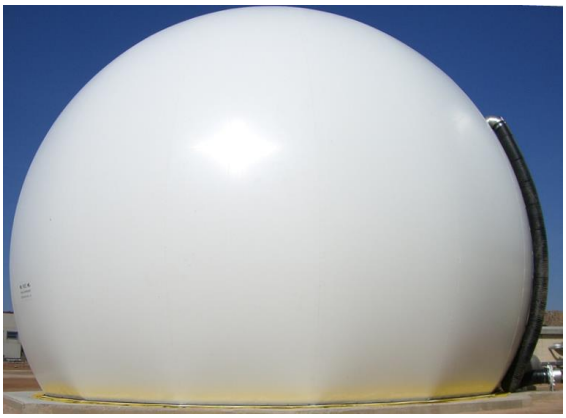
ENVIRONTEC
BIOGAS SOLUTIONS

DOUBLE MEMBRANE GASHOLDER DM



- Double membrane gas holder for the storage of sewage gas / biogas pursuant to ÖWAV rule sheet 30
- Cost effective gas storage solution for up to 12,000 m^3 storage capacity
- With ultrasound fill level gauging
- Low maintenance and energy efficient support air fans
- Hydraulic pressure & vacuum protection
- Short installation time
- Optional standby support air fan
- Optional gas alert system
- Optional auxiliary shaft equipment

ENVIRONTEC`S DOUBLE MEMBRANE GASHOLDER

The outer membrane forms the actual protective construction and is always exposed to a positive pressure required for structural integrity. The processes inside the storage container can always be monitored through an inspection glass built into the outer membrane. The actual useable storage space is formed by the inner membrane. This membrane moves up or down depending on the fill level. In a gas storage container with a foundation plate the bottom membrane seals the storage space from the concrete foundation. The membranes are attached to the foundation by the anchor ring. Each storage container is individually load-calculated (internal pressure, wind and snow loads). Consequently, membranes with a high tear resistance are selected. The PVC-coated membranes are flame-resistant pursuant to DIN 4102 B1, fungicide treated and fitted with extended UV protection. The inner and bottom membranes are specially coated for protection against the substances contained in the biogas (CH4, CO2, H2S, etc.).

The support-air fan ensures that the pressure inside the gas storage container required for absorbing external forces such as snow and wind loads and for the pre-pressurisation of the gas system is maintained. A special air hose connects the fan with the storage container. The non-return valve prevents air escaping in case of a fan failure. As a safety measure a pressure control valve is installed in the air system. This valve controls the operating pressure and automatically closes on reaching a required minimum positive pressure (structural stability, fan failure) in the outer membrane. This mechanism maintains the stability of the storage container during gas production. Fill level gauging facilitates the optimum utilisation of the storage volume and the control of subsequent devices (e.g.: flare, motor, burner, etc.).

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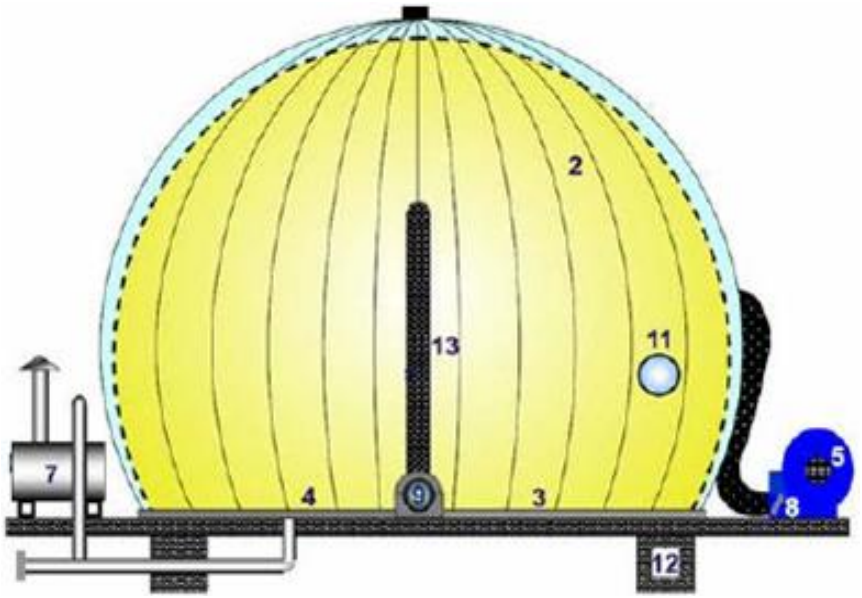
DESIGN PARAMETERS

- Gasholder sizes: from 10 to 12,000 m^3
- Positive operating pressure: approx. 5 – 50 mbar
- Ambient temperature: -30°C to +50°C
- Max. permissible gas temperature: +50°C
- Max. permissible pos. operating pressure: +50mbar
- Max. permissible neg. operating pressure: -2.5mbar
- Max. permissible roof snow load: 150 kg/m^2
- Max. permissible wind load: 150 km/h (higher snow/wind loads on request!)



1. Outer membrane
2. Inner membrane
3. Bottom membrane
4. Anchor ring
5. Fan
6. Pipelines
7. Safety valve
8. Non-return valve
9. Pressure control valve
10. Gauge
11. Inspection window
12. Foundations
13. Air hose

TYPE SPECIFICATION

FT 01 ▬ **XXX** ▬ **Y** ▬ **Z**

- **FT 01**: Size in m^3
- **XXX**: Gas inlet/outlet in m^3
- **Y**: Operating pressure
- **Z**: Accesories

Y Operating pressure in mbar

Z
0__standby load-bearing air fan
1__gas alert system
2__condensate pot inside shaft

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