

TPU Bladder or Oil Storage Tank

Flexible TPU oil storage bladder tank liquid pillow bladder tank is used for temporary and long-term storage of drinking water, gasoline, diesel, jet fuel, industrial grease and other substances.

The Oil Storage Tank is a flexible, closed oil storage system designed for safe and contamination-free storage of transformer insulating oil and other industrial oils. It utilizes a high-strength Thermoplastic Polyurethane (TPU) bladder to ensure complete isolation of stored oil from atmospheric air, moisture, and environmental contaminants.

Product Description

Liquid containments food grade storage tanks are foldable containers made of TPU coating. Welded together by high frequency thermal welding. Available from 50 liters to 500,000 liters. It plays an important role in water supply and oil transportation, and is especially suitable for hilly, mountainous, plateau and other geographical environment.



Construction

The bladder tank consists of a heavy-duty outer support structure and an internal TPU (Thermoplastic Polyurethane) flexible bladder.

Key components include:

- High-strength TPU flexible bladder
- Reinforced outer protective frame or tank enclosure
- Inlet and outlet oil connection ports
- Air venting and pressure equalization ports
- Support straps and lifting arrangements (optional)

The TPU material provides excellent flexibility, abrasion resistance, and chemical compatibility with transformer oil.

Working Principle

The TPU bladder acts as a flexible barrier between the stored oil and atmospheric air.

- When oil is filled into the bladder, it expands while maintaining a sealed environment
- As oil is withdrawn, the bladder collapses accordingly
- The system ensures that oil is never exposed to air, preventing oxidation and moisture absorption

This controlled expansion and contraction maintains oil quality and ensures long-term stability during storage and handling.

Features

- Fully sealed oil storage system
- High-strength TPU flexible bladder construction
- Excellent resistance to oil, aging, and abrasion
- Prevents oxygen and moisture contamination
- Space-efficient and modular design
- Suitable for indoor and outdoor installations
- Low maintenance and long service life

Advantages

- Maintains transformer oil dielectric strength
- Prevents oxidation and sludge formation
- Eliminates contamination during storage and transfer
- Reduces oil handling losses
- Ensures safe and clean oil management system
- Cost-effective alternative to rigid storage tanks with inert gas systems

Applications

- Transformer oil storage and handling facilities
- Electrical utility maintenance depots
- Oil filtration and reclamation plants
- Power transformer manufacturing units
- Renewable energy substations
- Industrial oil storage systems

Parameter	Specification
Type	TPU Flexible Bladder Tank
Material	Thermoplastic Polyurethane (TPU)
Medium	Transformer insulating oil / industrial oil
Storage Type	Flexible sealed storage system
Operating Principle	Expansion and contraction bladder system
Protection	Fully sealed from atmospheric exposure
Installation	Ground-mounted / frame- supported
Maintenance	Minimal

Product parameter:

- Material: heavy duty TPU coated tarpaulin(food grade)
- Color: army green
- Thickness: 0.9mm
- Shape: Pillow, square, onion
- Capacity range: 50L~500,000L
- Max Working Pressure(MPa):0.3 MPa
- Applicable temperature: -30°C ~ +70°C

Benefits of Pillow Tanks:

- Easy to assemble.
- Supply fuel anywhere anytime.
- Easy operation & easy carriage(Movable and transferable to anywhere you want).
- Flexible and folded, easy packing, long life and low maintenance costs.
- Customized service is available.

Applications:

- Usage of TPU Oil Tank
- Chemicals, such as gasoline/diesel/jet fuel/industrial grease/weak acid and alkaline/non-organic solvent, etc
- TPU food grade storage bladder, can be used to store drinking water, food liquid goods

