

Unirub Techno India Pvt. Ltd. is a renowned supplier of rubber-coated fabrics and inflatables. We provide bladder tanks designed for a variety of applications, including but not limited to the following:

1. *Flexible bladder for a foam-filled bladder tank*
2. *Flexible bladder for a Surge tank*



Fig. Flexible bladder Tank

Flexible bladder for a foam-filled bladder tank

A foam-filled bladder tank is a type of firefighting equipment used to store and dispense fire-suppressing foam concentrate in emergencies. Here are some key points about foam-filled bladder tanks:

Bladder Tank Design: Foam-filled bladder tanks consist of a cylindrical or rectangular tank that is usually made of stainless steel. Inside the tank, there is a flexible bladder made of Buna-N rubber or similar material. This bladder separates the foam concentrate from the water in the tank.

Foam Concentrate: The bladder tank stores a specific type of foam concentrate, such as AFFF (Aqueous Film-Forming Foam) or AR-AFFF (Alcohol-Resistant Aqueous Film-Forming Foam). These foams are used to suppress various types of fires, including those involving flammable liquids and hydrocarbons.

Water Inlet: The bladder tank is connected to a water supply, and water is typically kept in the space between the tank and the bladder. This water acts as a cushion to provide pressure to push the foam concentrate out of the bladder.

Bladder Function: The bladder within the tank holds the foam concentrate until it's needed. When a fire breaks out and the system is activated, the water pressure forces the bladder to collapse, which in turn pushes the foam concentrate out into the firefighting system.

Activation: Foam-filled bladder tanks are usually linked to a fire suppression system, such as a deluge system or a sprinkler system. When a fire is detected, the control system releases the foam concentrate, which is then mixed with the water and dispensed through nozzles to suppress the fire.

Application: Foam-filled bladder tanks are commonly used in industrial settings, such as chemical plants, fuel storage facilities, airports, and warehouses, where there is a higher risk of fires involving flammable liquids or hydrocarbons.

Flexible bladder for a Surge tank



Fig. Surge Tank

A surge tank, also known as a surge vessel or surge drum, is a device used in various industries to control and manage pressure fluctuations and surges within a fluid system. Here are some key points about surge tanks/Flexible bladder:

Tank Design: A surge tank typically consists of a flexible bladder or membrane that is enclosed within a rigid shell. The bladder is made from durable Rubber coated fabric and it separates the liquid (or gas) within the tank from the external atmosphere. The rigid shell provides structural support and protection to the bladder.

Bladder Function: A flexible bladder inside the surge tank is used to absorb and mitigate pressure variations, often caused by sudden changes in fluid flow or system dynamics. By doing so, it helps to maintain a more stable and consistent pressure in the system.

Applications: Water Distribution, Oil and Gas Industry & Industrial Processes.

Benefits: Prevents Water Hammer, which can lead to pipe damage and leaks.

Unirub flexible Bladder tanks are custom-engineered to suit the fluid pressure and the properties of the surrounding fluid media. Typically, these flexible tanks are Manufactured from a robust polyamide fabric coated with high-strength Nitrile (Buna-N), Butyl, Neoprene and Hypalon rubber. The flexible bladder can be tailored to align with the specific vessel design provided by the customer.

Our range of flexible tanks is available in the following size options:

Parameter	Range
Capacity (Litres)	200 - 15000 or as per customer requirement
Diameter (MM)	500 - 2000 or as per customer requirement
Total length(MM)	1000 -10000 or as per customer requirement
Flange	ANSI B16.5 CLASS 150 or as per customer requirement
Number of Flanges	2 / 4 or as per customer requirement

Our tank is Manufactured using the following rubber-coated fabric, and you can find typical values listed below.

Sr. No.	Test parameter	Unit	Test Method	Specification
Coated Fabric Specifications				
1	GSM	-	ASTM D 5261	1500 ± 150
2	a) Breaking Strength - Warp (Min)	Kg/ 50 mm	ASTM D 751	300
	b) Breaking Strength - Weft (Min)	Kg/ 50 mm		
3	a) Elongation at Break - Warp	%	ASTM D 751	Warp : 24.6 ±6
	b) Elongation at Break - Weft	%		Weft : 26.6 ±6
4	Peel Strength (Min)	kg / 50 mm	ASTM D 413	5
5	Air leak proofness	-	ISO 15372	No Leakage

Note :The fabric specifications are subject to customization according to the customer's needs.

Contact us

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Inflatable Bladder/ Rubber Bladder / Surge Bladder

Unirub being one of the Pioneer in development of various- composite material based on Elastomer & textile reinforcement - comprising of combination of

- High tenacity textile reinforcements such as Kevlar/Nomex/Polyester/Nylon/Polyamide
- Unique elastomer compositions -which are designed keeping in view the working environment & exposure media e.g Nitrile/EPDM/Butyl/CSM/Silicon/Viton/Neoprene
- Unirub has now developed & established a full range of Inflatable bladders.
- Bladders can be designed as per customer requirement -based on design input
- These bladders are designed for specific applications- as per working environment & based on application requirement e.g working pressure – Working temperature- Fluid resistance etc.
- End connections – flanges are designed based on end customer requirements – matching to connection parts.
- These bladders can be of typical cylindrical shape -with dish ends -Refer Typical sketch

Typical capacity table is to be added in below format

1. Volume- dimension – Working pressure – Test pressure

Sr No	Bladder Volume in LTR	Length	Diameter
1	400	1415	610
2	600	1240	760
3	800	1215	860
4	1300	1460	1010
5	1500	2370	1000
6	1700	2020	1010
7	1800	1320	1210
8	2200	1710	1210
9	2500	2700	1200
10	2800	2295	1210
11	3000	1640	1410
12	4750	2890	1410
13	5000	2160	1610
14	6000	2755	1610
15	7500	3330	1610
16	7750	3025	1735
17	9500	3850	1735
18	12000	5030	1735
19	15000	6440	1735

These flexible, inflatable membranes can be mounted inside metal bladder tanks (or anti-water hammer balloons) and allow to absorb shocks or to exert pressure on a volume of water. It protects against water hammer.

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Advantages of the Product

- Easy to install in the vessel tank
- Increasing the lifespan of networks
- Securing the tank
- Avoids constant regulation of the tank by compressor
- Custom-made on demand
- Simulation and analysis water hammer
- Full division between fluid and air
- Reduction operation and maintenance costs
- Ensure that the fluid pressure is maintained
- Be adapted to vertical or horizontal tanks

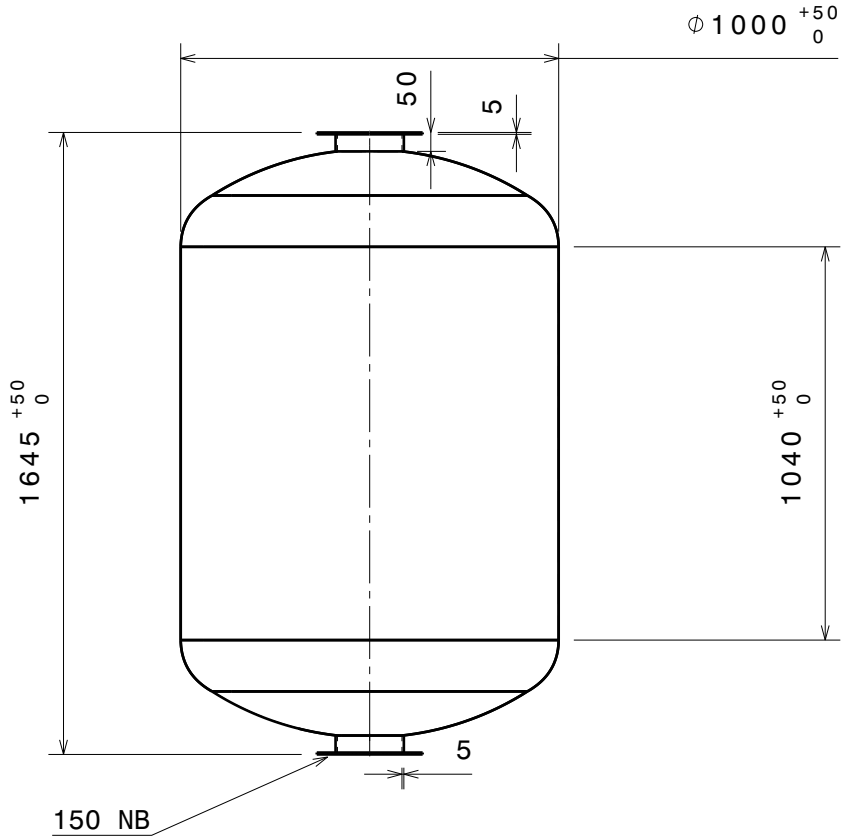


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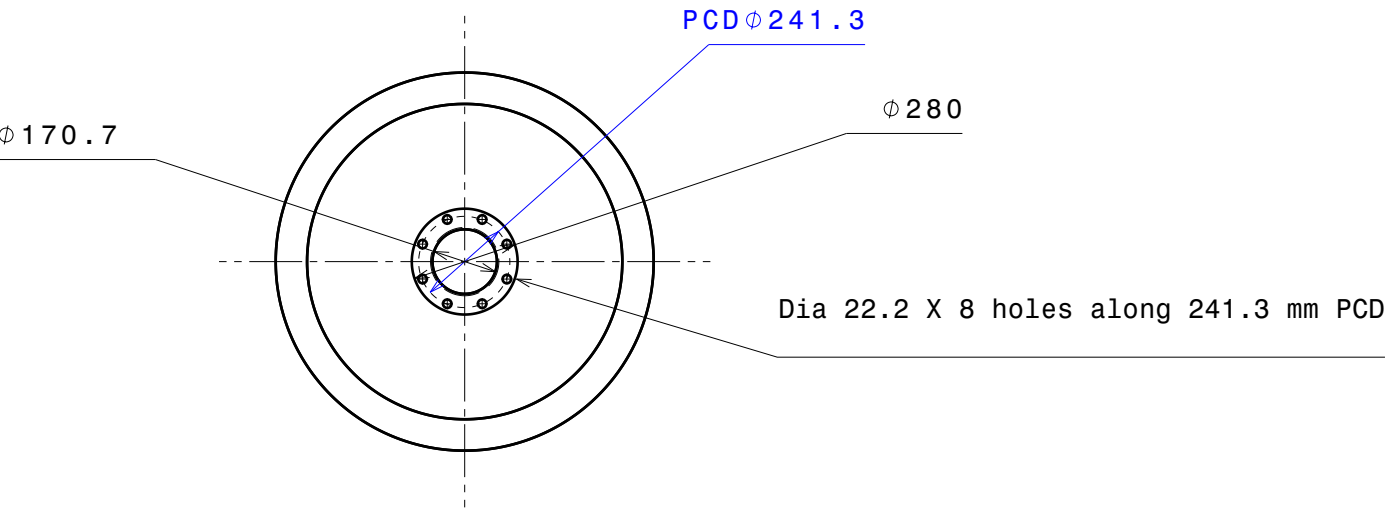
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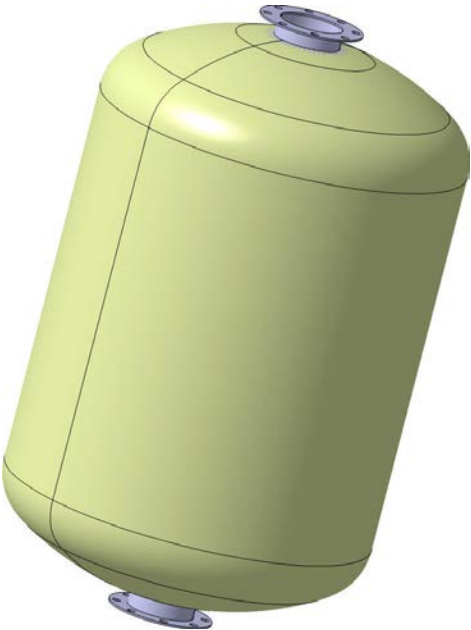
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Front view



Top view



Isometric view

Note :

- 1. Material : Buna N (Minimum fabric thickness 1.27 mm)
- 2. Colour : Black
- 3. Service temperature : 49 Degree C (Max)
- 4. Capacity : 1000 lit
- 5. Dish End : 2:1 Ellepsoidal

All dimensions are in mm

This drawing is our property. It can't be reproduced or communicated without our written agreement.		Unirub Techno India Pvt. Ltd.		
		DRAWING TITLE Bladder tank		
DRAWN BY BVY		SIZE	DRAWING NUMBER UTI/25/7/23	REV
CHECKED BY BVY				
DESIGNED BY		SCALE 1:1	WEIGHT (kg)	SHEET 1/1

OUR PRODUCTS



Foundation Cloth for Carding Industry



Air Cell for Transformer Industry



Gas Holder Balloons



Rubber Inflatable Life Rafts



Rubber Inflatable Boat



Quick collapsible Inflatable Tents



Helipad Membrane



Rubber Inflatable River Rafts



Rubber Coated Fabrics



Rubber Sheets



Collapsible Water Storage Tanks

- All products are custom made as per the customer's requirement.
- Various kinds of fabrics are available from 0.3 to 2.5 mm thick and width upto 165 cm, coated with different rubber compounds such as NBR, CR, Viton etc. as per the application requirement or as per the customer's requirement.
- Rubber sheets are available with various rubber materials such as NR, SBR, EPDM, Neoprene etc.

Unirub

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