BLADDER TANK

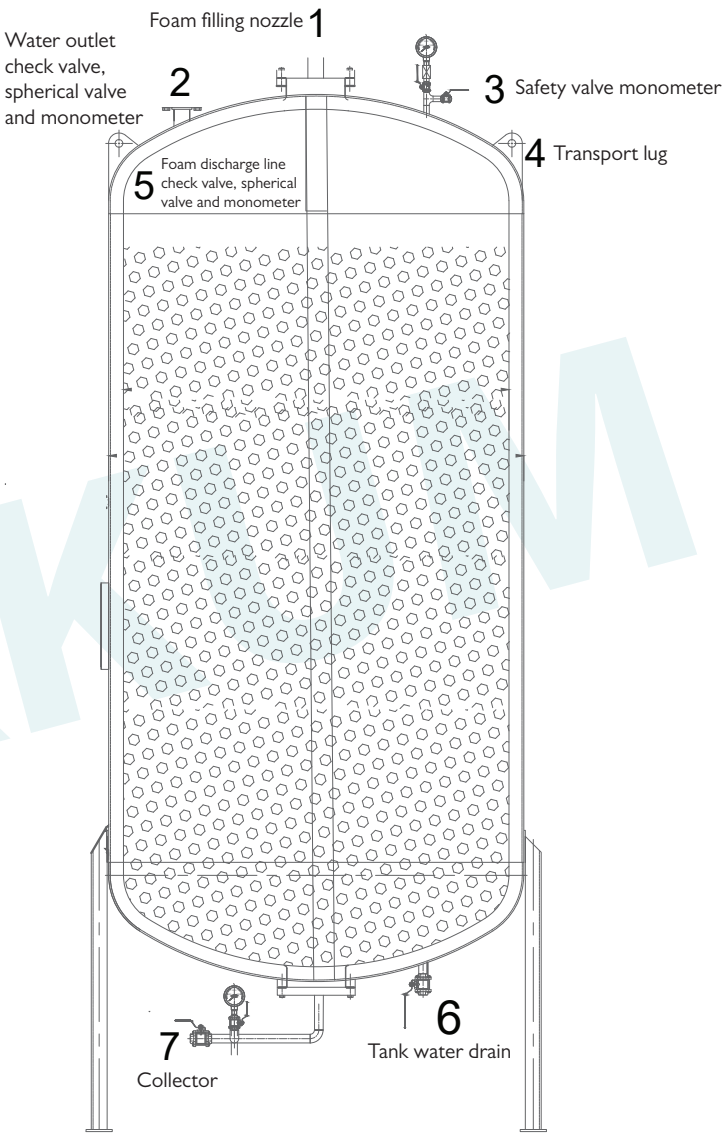
1. GENERAL DEFINITION

The bladder tank consists of a pressurized tank membrane and a proportioner on the same line. It is to mix the water and the foam concentration in a balanced way to produce an effective quenching medium together with controlled proportion. Bladder tank technology is a reliable and precise mixing method widely used in stationary fire protection systems.

This method automatically adjusts the variable flow rate and pressure conditions which arise during the system operation thus giving a stable water and foam ratio. This feature makes the bladder tanks particularly suitable for multi-hazard systems, sprinkler systems and those other systems that have variable and unpredictable flow & pressure conditions.

The bladder tank is a carbon steel pressure vessel containing an elastomeric membrane between water and foam concentrations. The membrane allows the water pressure to be transferred to the foam concentration without the two liquids mixing.

► *This Technical Data Sheet is intended for the trained professionals. It provides the basic information required to use the described product.*
► *For more information, please contact the relevant technical office or consult the technical documentation.*



2. CERTIFICATES AND APPROVALS

▪ TANK ASME Sec. VIII Div. I or design and manufacturing according to EN 13445

▪ BLADDER TANK CATEGORY OO MODULE 2 TUV C€ 0408

▪ PROPORTIONER EN 13565 VALVE GROUP TSE optional UL FM

THE AREAS OF USAGE:

► *Refining facilities*
► *Chemical plants*
► *Ports and cargo ships*
► *Waste and recycling facilities*
► *Open and general storage areas*

WAKKUM

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3. TECHNICAL DATA

3.1 Manufacturing
Boiler Sheet P265GH
Ground Fixing Holes on Feet
175PSI (12.1 bar) or custom manufacturing
100% pressure test according to the applied design code
Argon welding – Inert-gas welding
Machine welded circumferential and longitudinal seams for maximum quality and durability
Welded lifting lugs to facilitate safe handling operations
Grounding lug for electrical safety
Safety thermal valve for the water side of the tank to prevent slow overpressure and reduce thermal fluctuations
Large size (allows for volume expansion) to allow concentrated thermal expansion
Tank equipped with internal protection in any opening to avoid damaging the bladder tank
Internal HDPE foam concentration distribution pipe ensures optimum foam concentration utilization
To prevent the unnoticed corrosion on the tank shell behind the plate a nameplate holder is added
Observation Tube level indicator

Volume (lt)	Max. Working Pressure (Bar)	Position	Diameter (mm)	Body Length (mm)	Flatside Edge to Edge (mm)	Total Length (mm)	Total Length (mm)
500	12	VERTICAL	850	750	1260	1810	DN200
1000	12	VERTICAL	850	1500	2010	2560	DN200
1500	12	VERTICAL	1150	1000	1690	2240	DN400
2000	12	VERTICAL	1150	1500	2190	2740	DN400
2500	12	VERTICAL	1400	1100	1940	2490	DN400
3000	12	VERTICAL	1400	1500	2340	2890	DN400
4000	12	VERTICAL	1600	1500	2460	3010	DN400
5000	12	VERTICAL	1600	2000	2960	3510	DN400
6000	12	VERTICAL	1900	1500	2640	3190	DN400
8000	12	VERTICAL	1900	2000	3140	3690	DN400
10000	12	VERTICAL	1900	3000	4140	4690	DN400
12000	12	VERTICAL	2000	3000	4200	4850	DN400
14000	12	VERTICAL	2200	3000	4320	4970	DN400
16000	12	VERTICAL	2300	3000	4380	5030	DN400
18000	12	VERTICAL	2400	3000	4440	5090	DN400
20000	12	VERTICAL	2600	3000	4560	5210	DN400

For all tanks a maximum of 400 millimeters should be added to the total length for the valve set.

3.2 STANDARD MATERIALS

Tablo 3.2.1 Standard Materials	
Tank Bulge and Metal Sheet	P265GH
Bladder	Plaspolymer / Nitryl
Trim Valves	Stainless Steal / Brass
Emergency Relief Valve	Stainless Steal / Brass
Level Indicator	PVC Tube
Paint	Epoxy Rich Zinc
Standart Colour	RAL 3000
Water and Foam Connections	2'' - 3''

3.3 STANDARD DESIGN FEATURES

Table 3.3.1 Standard Design Features	
Design Pressure	175PSI (12.1 bar) or custom manufacturing
Operating Temperature Range	* 35 ° F to 120 ° F (1.7 ° C to 49 ° C)
Capacity	See the tables
Empty Weight	See the tables
Proportioning Range	See the Ratio Controller Data Sheet
(*) Other temperature limitations are due to foam concentration and water.	

3.4 TANK GENERAL STANDARDS AND THE OTHER TECHNICAL STANDARDS

1- EN 286-1	SIMPLE FLAME TANKS DESIGNED TO STORE COMPRESSED AIR OR NITROGEN PART 1: PRESSURE TANKS FOR GENERAL PURPOSES
2- EN 13445 - 1,2,3,4,5,6	PRESSURE VESSELS WHICH SHOULD NOT GET IN CONTACT WITH FIRE
3- AD2000 CODE	TECHNICAL RULES FOR PRESSURE VESSELS
4- EN 10025-2:2005	HOT ROLLED BUILDING STEELS
5- EN 10028-2:2003	STEEL FLAT PRODUCTS – FOR PRESSURE PURPOSES
6- TS EN 10204 : 2004	METALLIC PRODUCTS - FOR INSPECTION AND TEST DOCUMENTS TYPES

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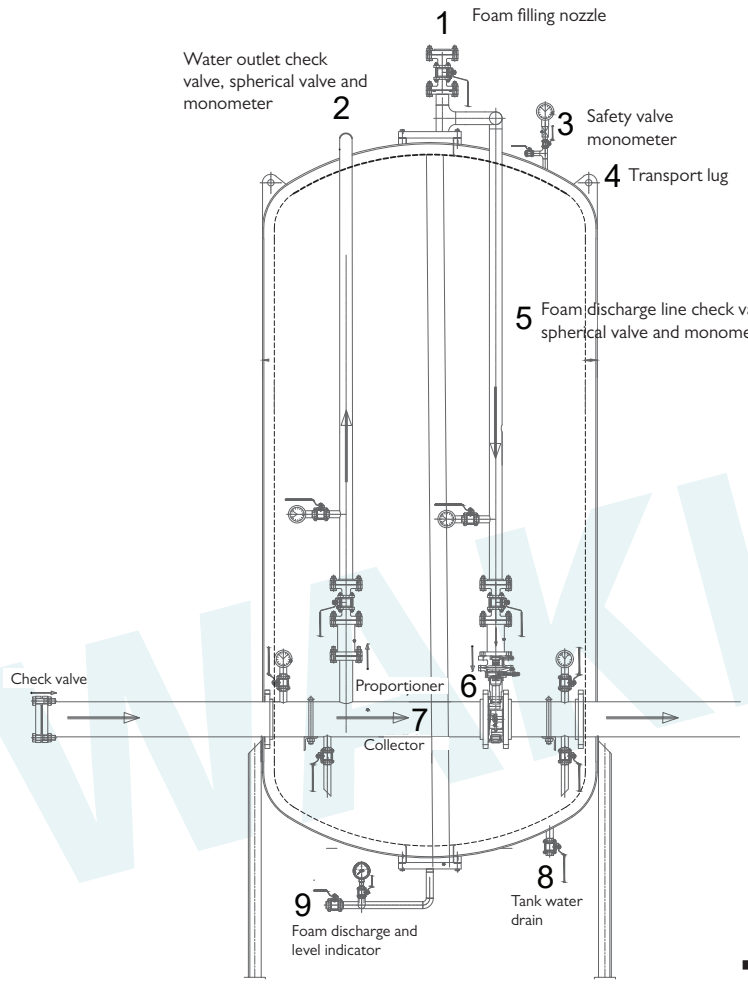

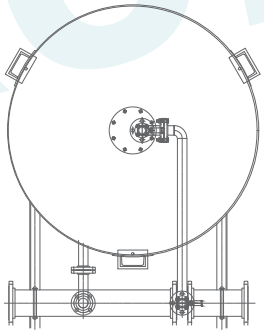

▪ *The hydraulic foam concentration valve is optional.*

DEPLOYMENT

- Fill the foam concentration into the membrane.
- Add water and pressure to the tank gradually, increasing.
- The foam outlet valve should be open when the water flow starts.
- When the water flow starts, discharge the air trapped inside the tank and the membrane through the drain valves at the top of the tank gradually and in a controlled manner.
- If your installation is suitable for this, check if there is foam in the proportioner. .

4. SCOPE OF DELIVERY

- Please be sure that all components are complete and they are all in good condition.
- The bladder tank is supplied in or on a suitable wooden pallet cradle or shipping crate in a horizontal position.
- All bladder tanks are equipped with lifting lugs to ensure safe maneuverability in the field.
- The tank is provided empty with a pre-installed inner membrane.
- Small trim valves are content level device are supplied pre-installed in the tank as standard.
- Safety valves are supplied from the warehouse for an additional fee and are UV marked according to ASME BPVC Sec. VIII Div.1.
- Anchor fixing bolts are not part of our scope of supply.

WAKKUM

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