



## FOAM BLADDER TANK

QUANZHOU FOREDE FIREFIGHTING EQUIPMENT CO.,LTD.



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#### 01 / PRODUCT INTRODUCTION

Bladder tanks are positive displacement pro-portioning systems made of a tank and an in-line mixer. The tank is equipped with an elastomeric bladder that is used to hold the foam concentrate and it is normally kept unpressurized. The mixer is directly piped to the bladder tank via two lines, the water inlet line and the foam outlet line. When in operation, water flows into the mixer passing through a water orifice that creates a pressure differential across the disc in the area of the mixer where the foam concentrate is injected.

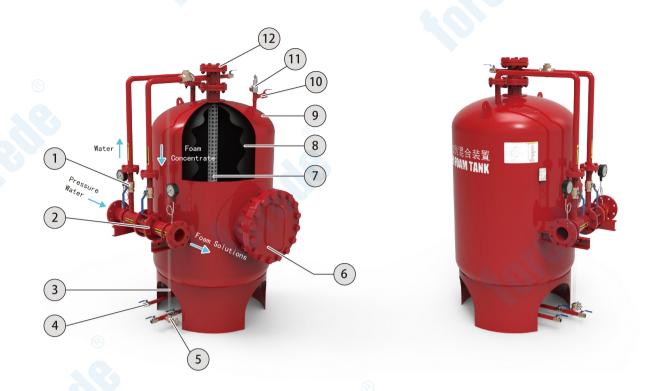
Some water from the main supply is deviated and enters the tank surrounding the bladder, increasing the tank pressure. This squeezes the bladder and forces the foam concentrate to leave the tank and enter the foam line. The concentrate is then delivered to the mixer injection point, where another orifice plate is located to meter its flow in the low-pressure water stream zone. The system works till the concentrate in the bladder has been consumed and the tank is full of water. Every unit is available in a horizontal or vertical configuration and is customized according to client requirements including accessories such as: double tank system (only for verticals), ladders for easy access to manhole(s), deluge or remote controlled valves for system automation, manual filling pump, base plates, special metal treatments or painting procedures. The Bladder tank can be manufactured also with foam concentrate to be Contained inside or outside the bladder.

#### 02 / PERFORMANCE PARAMETERS

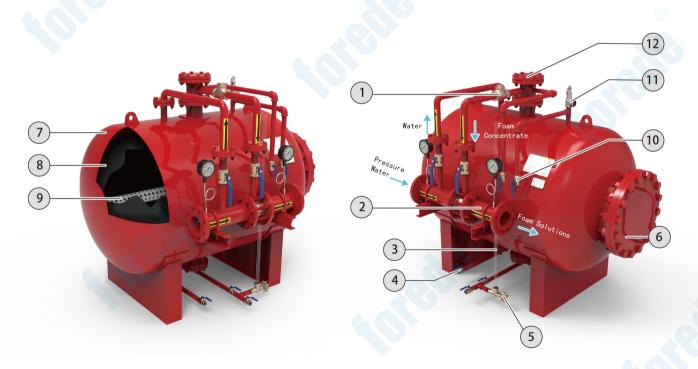
FIG.1 PHYM Parameters

| Туре         | Rated inlet pressure<br>(Mpa) | Inlet pressure range<br>(Mpa) | Solution flow rate<br>(L/S) | Solution flow range<br>(L/S) | Ratio<br>(%) | Volume<br>(L) | N.W<br>(T) |
|--------------|-------------------------------|-------------------------------|-----------------------------|------------------------------|--------------|---------------|------------|
| PHYM24-300   |                               |                               |                             |                              |              | 300           | 0.2        |
| PHYM24-500   | © (C)                         |                               | 24                          | 4-24                         |              | 500           | 0.3        |
| PHYM24-600   |                               |                               |                             | <b>(</b>                     |              | 600           | 0.3        |
| PHYM32-800   |                               |                               |                             |                              |              | 800           | 0.4        |
| PHYM32-1000  |                               |                               |                             |                              |              | 1000          | 0.4        |
| PHYM32-1200  |                               |                               | 32                          | 8-32                         |              | 1200          | 0.5        |
| PHYM32-1500  | 1.6                           | 0.6—1.6                       | 80                          |                              | 3&6          | 1500          | 0.6        |
| PHYM32-2000  | 1.6                           | 0.0—1.0                       |                             |                              | 300          | 2000          | 0.8        |
| PHYM48-3000  |                               |                               |                             |                              |              | 3000          | 1.2        |
| PHYM48-4000  |                               |                               | 48                          | 12-48                        |              | 4000          | 1.3        |
| PHYM48-5000  |                               | <b>(</b>                      |                             |                              |              | 5000          | 1.5        |
| PHYM64-6000  |                               |                               |                             |                              |              | 6000          | 1.5        |
| PHYM64-8000  |                               |                               | 64                          | 16-64                        |              | 8000          | 2          |
| PHYM64-10000 |                               |                               |                             |                              |              | 10000         | 2.3        |

## 03 / STRUCTURE & WORKING PRINCIPLE



Pic.1 Vertical Bladder Tank Structure Principle



Pic.2 Horizontal Bladder Tank Structure Principle

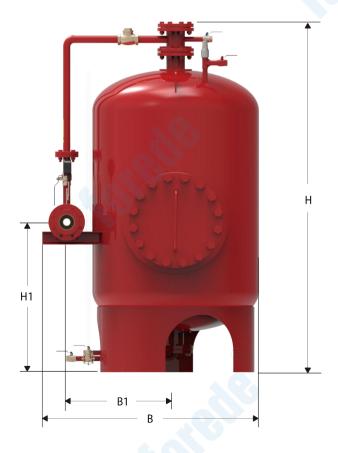
- 1 BALL VALVE
- 2 PROBPRTIONER
- 3 LEVEL GAUGE
- 4 DRAIN VALVE
- 5 FOAM DISCHARGE VALVE
- 6 MAN HOLE
- 7 TUBE
- 8 BLADDER

- 9 TANK SHELL
- 10 EVACUATION VALVE
- 11 SAFETY VALVE
- 12 FILLING HOLE

## **04** / STRUCTURE SIZE

Fig.2 PHYM Vertical Bladder Tank Outline Dimensions

| ⊗ _         | DNI  |      |     |     |      | 114 |      | Da   | Inlet Flange |  |
|-------------|------|------|-----|-----|------|-----|------|------|--------------|--|
| Туре        | DN   | L    | L1  | L2  | Н    | H1  | В    | B1   | DN           |  |
| PHYM24-300  | 600  | 800  |     |     | 1700 |     | 800  | 520  |              |  |
| PHYM24-500  | 700  | 000  |     | 020 | 1950 |     | 000  | F70  | <b>©</b>     |  |
| PHYM24-600  | 700  | 900  |     | 820 | 2200 |     | 900  | 570  | 65           |  |
| PHYM32-800  | 900  | 1100 |     |     | 1900 |     | 1100 | 680  |              |  |
| PHYM32-1000 | 1100 | 1200 | 380 |     | 2000 | 950 |      | 000  |              |  |
| PHYM32-1200 | 1100 | 1300 |     |     | 1850 |     | 1450 | 800  | 100          |  |
| PHYM32-1500 | 1200 | 1400 |     | 900 | 2100 |     |      | 680  |              |  |
| PHYM32-2000 | 1400 | 1600 |     |     | 2150 |     | 2000 | 930  | 150          |  |
| PHYM48-3000 | 1600 | 1800 |     |     | 2200 |     | 2150 | 1060 | 150          |  |





# **04** / STRUCTURE SIZE

| Fia.3 PHYM | Horizontal Bladder | Tank Outline | Dimensions |
|------------|--------------------|--------------|------------|
|------------|--------------------|--------------|------------|

| Туре         | DN   | L    | L1   | L2   | L3  | L4   | н    | H1   | В    | B1   | B2   | В3   | Inlet Flange |
|--------------|------|------|------|------|-----|------|------|------|------|------|------|------|--------------|
| PHYM32-1000  | 1000 |      |      | 800  |     |      | 1600 |      | 1250 | 760  | 600  | 650  |              |
| PHYM32-1500  | 1100 | 1700 | 450  |      |     |      | 1650 |      | 1350 |      | 770  | 675  | 3 100        |
| PHYM32-2000  | 1200 | 2300 | 550  |      |     |      | 1750 |      | 1450 | 880  | 820  | 800  | <b>S</b>     |
| PHYM48-3000  |      | 2550 | 730  | 1050 | 370 | 900  |      |      |      |      |      |      | 150          |
| PHYM48-4000  | 1400 | 2850 | 950  |      |     |      | 1950 | 1000 | 1750 | 1100 | 950  | 900  |              |
| PHYM48-5000  |      | 3400 | 850  |      |     |      | 2250 |      |      | 1120 |      |      |              |
| PHYM64-6000  | 1600 | 3550 |      | 1450 |     |      | 2150 |      | 1950 |      | 1050 | 1000 | 200          |
| PHYM64-8000  | 1800 | 3700 | 1050 |      |     |      | 2350 |      |      |      | 1120 | 1100 |              |
| PHYM64-10000 | 2000 | 4000 |      | 1650 | 400 | 1000 | 2800 |      | 2350 | 1420 | 1300 | 1250 | 250          |

