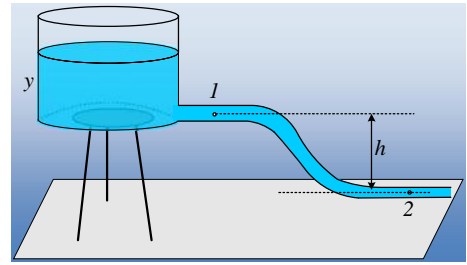


## Η διαφορά πίεσης σε ένα μικρό δίκτυο.

μ, μ μ -  
 (μ μ ) μ ,  
 , μ  
 μ 2 μ ,  
 μ  
 μ μ 1 2 ( p<sub>21</sub>=p<sub>2</sub>-p<sub>1</sub>),  
 h,



y μ ;

i) μ ( ) .

ii) μ μ , μ μ 1 2 ( = 2).

iii) μ μ , μ μ 1 2, =2 2.

μ μ μ μ .

:

i) μ μ , μ μ μ 1  
 2 :

$$p_2 - p_1 = \dots gh$$

μ μ μ -

!

μ :

μ , μ Pascal μ :

$$p_1 = p_{at} + \dots gy, \quad p_2 = p_{at} + \dots g(y+h)$$

$$p_2 - p_1 = p_{at} + \dots g(y+h) - p_{at} - \dots gy = \dots gh$$

ii) μ Bernoulli μ μ μ μ μ 1 2 -  
 μ :

$$p_1 + \frac{1}{2} \rho v_1^2 + \dots gh = p_2 + \frac{1}{2} \rho v_2^2 \quad (1)$$

μ 1 2 μ :

$$A_1 \cdot v_1 = A_2 \cdot v_2 \quad (2)$$

μ , v<sub>1</sub> = v<sub>2</sub>, (1) :

$$p_1 + \dots gh = p_2 \rightarrow p_2 - p_1 = \dots gh$$

μ

μ ,

μ μ , μ !

iii)

(2)

μ :

$$A_1 \cdot \hat{v}_1 = A_2 \cdot \hat{v}_2 \rightarrow 2A_2 \cdot \hat{v}_1 = A_2 \cdot \hat{v}_2 \rightarrow \hat{v}_2 = 2\hat{v}_1$$

μ

(1) μ :

$$p_1 + \frac{1}{2} \rho \hat{v}_1^2 + \rho gh = p_2 + \frac{1}{2} \rho (2\hat{v}_1)^2$$

$$p_2 - p_1 = \rho gh - \frac{3}{2} \rho \hat{v}_1^2 \quad (3)$$

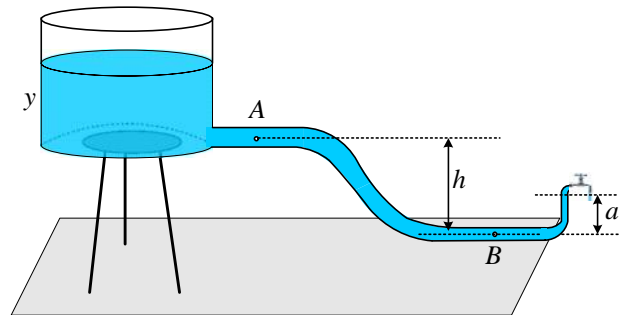
1

μ ,

y.

μ

μ



Bernoulli

μ

μ

μ

μ :

$$p_{at} + \frac{1}{2} \rho \hat{v}_0^2 + \rho g(h+y) = p_{at} + \frac{1}{2} \rho \hat{v}^2 + \rho ga$$

$$\hat{v} = \sqrt{2g(h+y-a)} \quad (4)$$

$v_0=0$

μ .

μ

μ 1

:

$$A_1 \cdot \hat{v}_1 = A_3 \cdot \hat{v} \rightarrow \hat{v}_1 = \frac{A_3}{A_1} \cdot \hat{v} \rightarrow \hat{v}_1 = \frac{A_3}{A_1} \cdot \sqrt{2g(h+y-a)}$$

(3)

:

$$p_2 - p_1 = \rho gh - \frac{3}{2} \rho \left( \frac{A_3}{A_1} \cdot \sqrt{2g(h+y-a)} \right)^2$$

$$p_2 - p_1 = \rho gh - 3 \rho g(h+y-a) \cdot \left( \frac{A_3}{A_1} \right)^2$$

## Υλικό Φυσικής-Χημείας

Γιατί το να μοιράζεσαι πράγματα, είναι καλό για όλους...

μ :

