

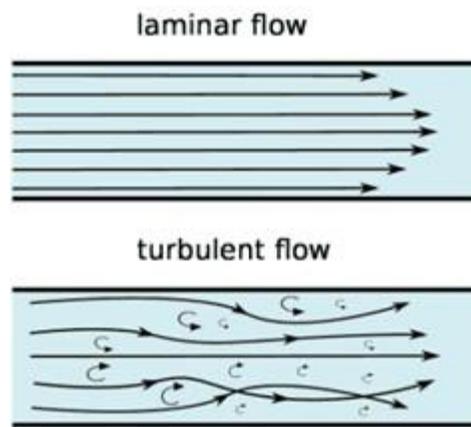
Reynold's Number

<https://www.youtube.com/watch?v=LERgzTcgojA> (Video in Hindi)

The dimensionless Reynolds number plays a prominent role in foreseeing the patterns in a fluid's behavior. The Reynolds number, referred to as Re , is used to determine whether the fluid flow is laminar or turbulent.

If the inertial forces, which resist a change in velocity of an object and are the cause of the fluid movement, are dominant, the flow is turbulent. Otherwise, if the viscous forces, defined as the resistance to flow, are dominant - the flow is laminar. The Reynolds number can be specified as below:

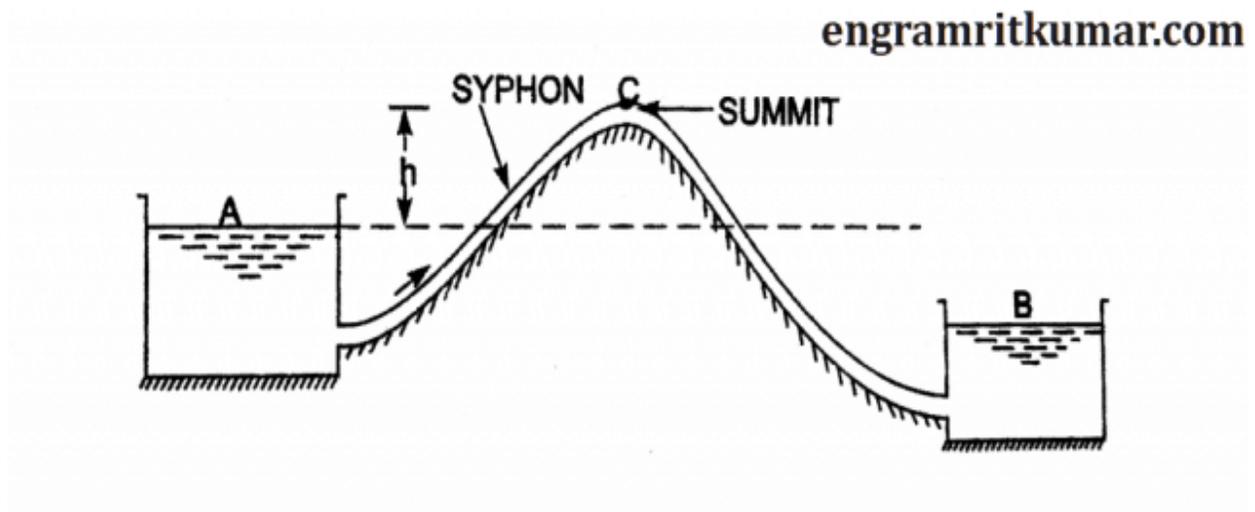
$$Re = \text{inertial force} / \text{viscous force}$$



Siphon

<https://www.youtube.com/watch?v=ZFERX0rRIHc> (Video in Hindi)

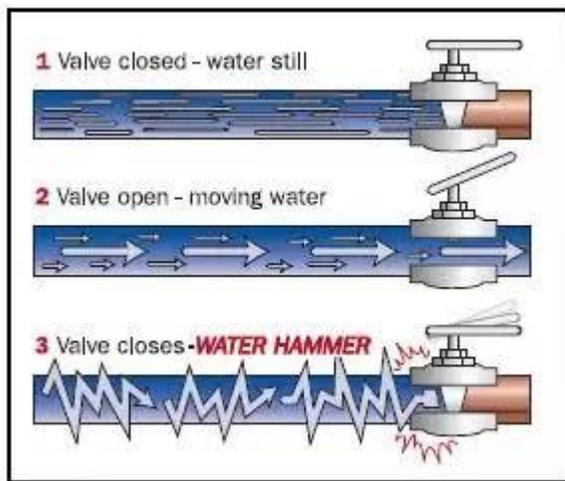
It is a long bent pipe that is used to transfer liquid from a reservoir at a higher elevation to another reservoir at a lower level when the two reservoirs are separated by a hill or high-level ground



Water Hammer

<https://www.youtube.com/watch?v=i3gloOr6SL0> (Video in Hindi)

Water hammering is caused by a pressure or shock wave that travels through the pipes, generated by a sudden stop in the velocity of the water, or a change in the direction of flow. If the pipe is suddenly closed at the outlet, the mass of water before the closure is still moving forward with some velocity, building up a high pressure and shock waves. A common example of water-hammer that takes place in most homes everyday e.g. Simply turning off a shower quickly will send a loud thud through the house.



Anchor Block

A conventional **anchor block** is a reinforced concrete **block** which is cast around a straight piece of pipe, and which is designed to restrain the pipe against longitudinal movement.

<https://www.youtube.com/watch?v=2cJqeXvBw5I> (Animation video)

Surge Tank

<https://www.youtube.com/watch?v=92B4pp-ZHw4> (Video in Hindi)

Surge tank is a water storage device used as pressure neutralizer in hydropower water conveyance system to resist excess pressure rise and pressure drop conditions.

Functions of Surge Tanks

The important functions of surge tank are as follows

- It should protect the conduit system from high internal pressures.
- It should help the hydraulic turbine regarding its regulation characteristics.
- It should store the water to raise the pressure in pressure drop conditions.

