TSURUMI PUMP
STRONGER FOR LONGER

Pump Head

This term represents the capacity of a submersible pump to lift a fluid to a certain height and overcome the resistance within a system. It's an important concept to carry out a proper pump selection and also to understand the performance of a pump.

The total pump head is expressed with the following formula:

H = Ha + Hf + Ho

Where:

H: Total head [m]

Ha: Actual head [m]

Hf: Total loss of head [m]

Ho: residual velocity head [m]

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The actual head **[Ha]** of a submersible pump is defined as the height of the top end of the discharge pipe above the water suction level.

Total loss of head represent the resistance of the system. It's the consumed energy by the friction against pipe walls, curved pipe, valves, etc. when fluid flows through a piping system. This is a significant factor, particularly when the piping is long or has many bends or valves.

When a fluid flows through a pipe or a channel and exits into the open atmosphere or another area, it possesses a certain velocity due to its motion. This velocity creates kinetic energy in the fluid. The residual velocity head is a measure of this kinetic energy in terms of the equivalent height that the fluid could be lifted to using this kinetic energy.