

Fluid Mechanics

Many disciplines come into play when designing water and wastewater treatment systems. All of them require the basic understanding of Fluid Dynamics.

When calculating fluid flow through pumps and piping systems, many things must be taken into consideration: the pressure drop through pipe, pressure drop through various fittings, pipe line velocities, friction head loss, pump suction line losses, suction head, discharge head, total dynamic head, etc.

HydroFlo uses a series of sophisticated in house fluid dynamic modeling programs and calculations to solve for TDH in our engineered systems. But for those looking for on line reference info, no one has more on line data than Engineeringtoolbox.com

Follow these links for [Piping Systems](#), [Codes and Standards](#), [Corrosion](#), [Design Strategies](#), [Dimensions](#), [Fluid Flow and Pressure Drop](#), [Heat Loss and Insulation](#), [Pressure Ratings](#), [Temperature Expansion](#) and [Valve Standards](#).

Follow this link for [Fluid Mechanics](#).

Another useful site is engineersedge.com. Follow the link below for all kinds of data on fluid dynamics.

[Fluids Flow Hydraulic and Pneumatic Knowledge Menu - Engineers Edge](#)

NOTE: There are many on line resources for engineers solving particular fluid dynamic issues.

While having access to all of this on line information is beneficial, misapplication is commonplace.

There are many criteria to be taken into account when designing a clarifier, a pumping system, an oil/water separator or other piece of wastewater treatment equipment. Many designers will solve for what they believe to be the major aspect of the overall fluid dynamic problem when, most of the time, there are multiple contributing factors that need to be taken into account.

For example, when designing a clarifier or oil/water separator the major aspect of the design is total projected surface area. While it is true that these devices need to have a minimum projected surface area to be effective, there are many other fluid dynamic issues that play a major part in the overall operating efficiency of these devices.

Make sure that you take all known issues into account when solving for any fluid dynamic problem.