

Crossflow Filtration

Crossflow filtration is the membrane process utilized in reverse osmosis (RO), ultrafiltration and microfiltration units. It uses pressure to force feedwater against a fine membrane, thereby removing particles larger than the membrane size. In RO for instance, the membrane pores are so small only water and a small amount of dissolved minerals pass through. Ultrafiltration membranes allow minerals to pass with water while removing all bacteria, viruses and sediments.

The filtered stream in crossflow filtration is called the permeate, because it has permeated the membrane, while the remaining solution is called the concentrate or reject because it contains the unwanted contaminants and minerals. The flow of water is parallel to the membrane and not perpendicular to it, hence the process is termed “crossflow”.

