

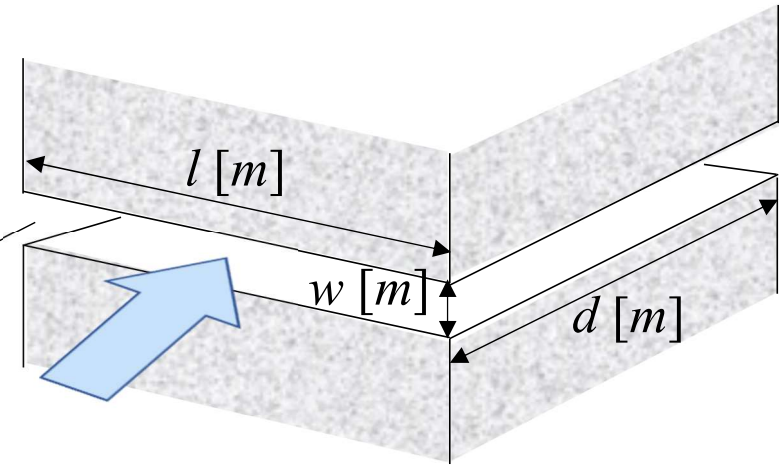
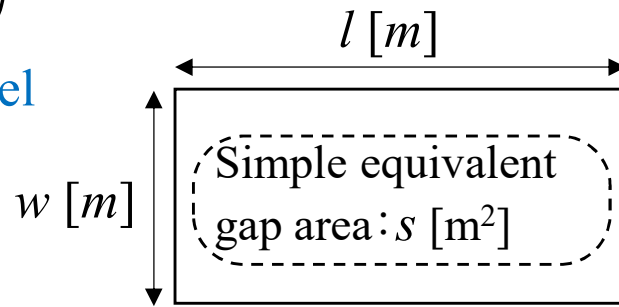
Idealized gap geometry

The gap is defined as having dimensions of length l , width w and depth d .

Simple equivalent gap area : s , Geometric equivalent gap area : wl

$$\Delta p = \frac{\rho}{2} \left(\frac{q}{s} \right)^n = D_n \cdot q^n \quad (8)$$

Power law model



Quadratic model

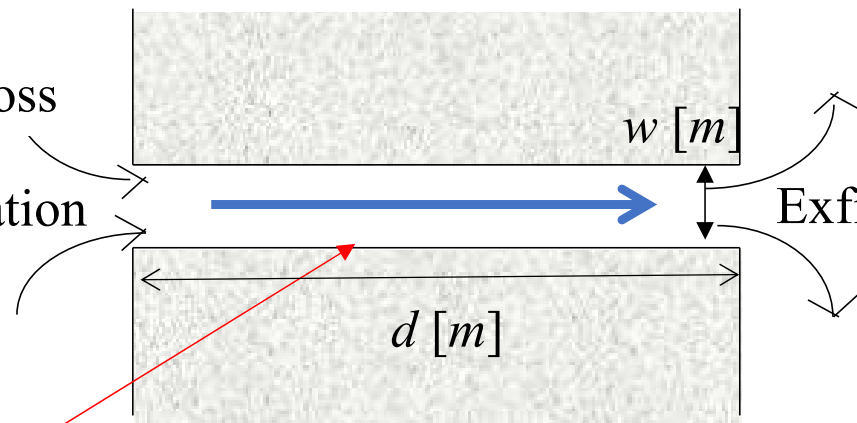
$$\Delta p = D_1 \cdot q + D_2 \cdot q^2 \quad (9)$$

Second order term:
Turbulence pressure loss

First order term:
Friction pressure loss

Infiltration

Exfiltration



The quadratic model by eq.(9) is derived from the equation of motion of the fluid.