Example:

$C_d = 0.890$

$C_f = 0.472$

$A_t = 0.01824\ m^2$

$R = 8.314472\ J/(mol \cdot K) = 8.314472\ (m^2 \cdot kg)/(s^2 \cdot mol \cdot K)$

$p_{in} = 98.496\ kPa$

$T_{std} = 293.15\ K$

$p_{std} = 101.325\ kPa$

$Z = 1$

$M_{mix} = 28.7789\ g/mol = 0.0287789\ kg/mol$

$T_{in} = 296.85\ K$

$$\dot{Q} = 0.89 \cdot 0.472 \cdot \frac{0.01824 \cdot 8.314472 \cdot 98.496 \cdot 293.15}{101.325 \cdot \sqrt{1 \cdot 0.0287805 \cdot 8.314472 \cdot 296.85}}$$

$\dot{Q} = 2.155\ m^3/s$