Problem 1 HW 13

\[ \Delta P_{AB} = \frac{f_{AB} \frac{1}{2} \rho V_{AB}^2 L_{AB}}{D_{AB}} \]

Problem 2 HW 13 unlike Prob 2 HW 13 from Fall '07

\[ p = \text{const} \] along S.L.

\[ h = b \]

Steady

\[ \Delta P_{pump} = \rho g H \]

\[ \Delta P \]

Loss curve of hose/piping system

Operating point

Pump performance curve
\[ Q = 1310 \text{ L/s} \]
\[ e_{\text{cast iron}} = 0.26 \text{ mm} \]
\[ D = 508 \text{ mm} \]

1. Find \( V \):
\[ V = \frac{Q}{A} \]
\[ A = \frac{\pi D^2}{4} \]

2. Know \( Re, RR \) ⇒ find \( f \) (same for all pipes)