

ENGR 292 Fluids and Thermodynamics

Design a Pump and Pipe System

Step 8

Supporting Docs

Feb.03, 2017

Step 8

- **The Turbulent flow is rather chaotic and is constantly varying. For these reasons, we must rely on experimental data to determine the value of friction factor f .**

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Step 8

- **Friction Factor (dimensionless)**
 - **Dependent on two other dimensionless numbers: Reynolds number and the relative roughness of the pipe**

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- **The Moody Diagram**
 - **One of the most widely used methods for evaluating the friction factor employs the Moody diagram.**
 - **Figure 8.7**

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- **The Moody Diagram**

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Step 8

- **Use of the Moody Diagram**

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Step 8

- **Use of the Moody Diagram (semi-log)**
 - **Reynolds number (N_R) - x Axis**
 - **Relative roughness (D/ϵ) – A family of curves**
 - **Friction Factor (f) - y Axis**

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