Equivalent Length of Fittings and Valves

The application is best viewed using a resolution of 1024x768 pixels. Please set your resolution to this if it is not set so.

This application is a calculator for calculating ‘Equivalent Length of Fittings and Valves’. For calculating Pressure Drop across a pipe route, we need to calculate the total length or rather total equivalent length of that pipe route including all valves, fittings, etc. So, apart from the total length of all horizontal and vertical straight pipe runs, we need an associated length of straight pipes of the same diameter, which will incur the same pressure loss as the valves or fittings. This application will help you calculate the individual equivalent length of valves and fittings commonly used in industrial piping routes.

The application will open as below:

![Equivalent Length of Fittings & Valves](image)

- **Fittings**
- **Valves**

On selecting ‘Fittings’, the screen with following list of fittings will appear:
Except ‘Expander’, ‘Reducer’ and ‘Entry Nozzle’, on selecting any other ‘type of fitting’ and ‘Nominal Bore’ in inches from the drop down combo box, you will get the equivalent length of straight pipe as follows:

The pressure drop caused by the fitting or valve selected by you will be same as pressure drop caused by 8.5 feet of straight pipe of size 5 inch.
On selecting ‘Expander/Reducer’ you will get the following type of screen where user has to specify the fitting diameter in inches (small and large) and click on the ‘Calculate’ button to see the equivalent length.

In case of ‘Entry Nozzle’, screen will be as below where user has to specify the type of nozzle and nominal size in inches.
On selecting ‘Valves’ you will get the following screen with following different types of valves:

Select type of Valve
- Fully Open Gate valve
- Globe Valve (90 Deg Stem Angle)
- Globe Valve (60 Deg Stem Angle)
- Globe Valve (45 Deg Stem Angle)
- Butterfly Valve
- Check Valve (Ball)
- Check Valve (Plug)

Select any valve. ‘Nominal Bore’ combo box will appear. On selecting the size in inches, equivalent length will be displayed as below:
### Equivalent Length of Fittings & Valves

Select type of Valve

- Fully Open Gate valve
- Globe Valve (90 Deg Stem Angle)
- Globe Valve (60 Deg Stem Angle)
- Globe Valve (45 Deg Stem Angle)
- Butterfly Valve
- Check Valve (Ball)
- Check Valve (Plug)

<table>
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<tr>
<th>Nominal Bore</th>
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<tr>
<td>6</td>
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The pressure drop caused by Globe Valve (45 Deg Stem Angle) selected by you will be same as pressure drop caused by 72 feet of straight pipe of size 6 inch.