

**Table 5.14** Rules-of-Thumb for Locating Process Equipment

Process Equipment	Location Above Ground Level <sup>c</sup> , ft
Pumps	0
Condensers	20
Reflux Drums	10
Phase Separators	3 to 5
Skirt <sup>a</sup> Height for Columns <sup>b</sup> (2 to 12 ft in diameter)	3 to 6
Heat Exchangers	1 to 4

- a) A "skirt" supports the column. The skirt diameter equals the column diameter.  
 b) Source: Reference 57  
 c) To convert to meters multiply by 0.3048.

**Table 5.15** Approximate Frictional Pressure Drop Across Process Equipment

Flow System Component	Pressure Drop <sup>b</sup> , bar	Reference
Pipeline	0.35	5.50
Control Valve	0.70	5.46
Interchanger	0.35 <sup>a</sup>	5.55
Air Cooler	0.60	5.23
Surge Vessel	Small	

- a) Pressure drop for a fluid with a viscosity less than 1 cp (0.001 Pa-s)  
 b) To convert to psi multiply by 14.5.