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# The Gas Flow Rate Calculator

Air and gas will expand and contract with changes is pressure and temperature.

Standard or normal volume is used as a reference when measuring air and gas as a way to remove the effects of pressure and temperature from the measured value.

For example, 1 normal cubic metre (Nm3) of air is 1 cubic metre of air at 1013.25 mBar (a) and 0 C. If the pressure is doubled, the actual volume will be halved, but it will still be 1 Nm3.

1 normal or standard cubic metre has a known mass which remains the same regardless of temperature of pressure. Since the Softflow flow meter measures in mass, the measurement is in effect a measurement directly in standard or normal volume, so there is no need to compensate for variations in pressure or temperature.

The Softflow gas flow calculator is used for flowmeter sizing calculations to convert the flowrate at line pressure and line temperature (also known as actual conditions) to standard and normal flowrate.

In the example below, air flowing at 500 actual cubic metres per hour, at 0C and 2026.5 mbar(a) is 1000 Nm3/hrs  with a velocity of 2.21 Nm/s,

The gas flow calculator is available for download at :
http://www.softflow.de/Download-e.htm (Select gasvolumecalculator)

***Enter flowrate, pressure and temperature under actual condition***

***The softflow insertion mass flowmeter displays Norm, standard or ISO flow***

***Enter the pipe diameter.***

***Velocity at normalized flow, used for sensor sizing.***