# Pressure Drop per Length Converter (Pa/m, bar/km, psi/100 ft)

Convert a pressure drop per unit length of pipe or duct between Pa/m, kPa/m, bar/km, mmWC/m, inWC/100 ft, ftWC/100 ft and psi/100 ft.

**Method:** Unit definitions per NIST SP 811 and the SI Brochure (exact where defined)

## Input parameters

Unit system: SI

| Parameter | Value | Unit |
|---|---|---|
| Pressure gradient (choose its unit) | 226.21 | Pa/m |

## Calculated results

| Parameter | Value | Unit |
|---|---|---|
| Pa/m | 226.21 | Pa/m |
| kPa/m | 0.22621 | kPa/m |
| bar/km | 2.2621 | bar/km |
| mmWC/m | 23.067 | mmWC/m |
| inWC/100 ft | 27.680 | inWC/100 ft |
| ftWC/100 ft | 2.3067 | ftWC/100 ft |
| psi/100 ft | 1.00000 | psi/100 ft |

### Notes for this case

• Pipe and duct sizing tables give friction loss per length: water pipes are often sized for 100–400 Pa/m (about 1–4 ftWC/100 ft), ducts for about 1 Pa/m (0.1 inWC/100 ft), and gas pipelines in bar/km. 1 inWC/100 ft is 8.17 Pa/m; 1 psi/100 ft is 226.2 Pa/m.

## Formula and method

$$1\ \text{inWC/100 ft} = 8.174\ \text{Pa/m}, \quad 1\ \text{psi/100 ft} = 226.2\ \text{Pa/m}$$

### Variables

| | | |
|---|---|---|
| $\Delta p/L$ | Pressure gradient (choose its unit) | Pa/m |

### Method and standards

Gradient units.

### Assumptions and limits

- Water column at 4 °C conventional density.

### References

Unit definitions per NIST SP 811 and the SI Brochure (exact where defined)

## Report details

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|---|---|
| Report reference | FCC-38AT-BRA2 (the same inputs always give the same reference) |
| Generated | 23 November 2026, 18:01 UTC |
| Calculator | Pressure Drop per Length Converter (Pa/m, bar/km, psi/100 ft) |
| Method last reviewed | 17 November 2026 |
| Software release | FireCAD Calc, release of 22 November 2026 |
| Release checks | 2 reference cases of this calculator, computed independently, are checked on every release |

Results are for engineering estimation. Verify critical designs against the referenced standards and your own data.

This calculator online

https://calc.firecad.com/general/unit-conversions/pressure-gradient-converter

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.