Pressure to Head of Liquid (Specific Gravity)

Convert a pressure to the head of a liquid column and back from the liquid's specific gravity or density, in metres of liquid and metres of water.

Method: Hydrostatics p = ρ g H (water reference 1000 kg/m³)

Input parameters

Unit system: SI

Parameter	Value	Unit
Pressure (difference)	300.00	kPa
Specific gravity of the liquid (to water at 1000 kg/m³)	0.85000	
Head (to convert to pressure)	30.000	m

Calculated results

Parameter	Value	Unit
Head of the liquid p/(ρ g)	35.990	m
Head of water	30.591	m
Pressure of the head entered	250.07	kPa

Formula and method

$$H = \frac{p}{\rho g}, \quad \rho = 1000\, SG$$

Variables

p	Pressure (difference)	Pa
SG	Specific gravity of the liquid (to water at 1000 kg/m³)	-
H	Head (to convert to pressure)	m
H_l	Head of the liquid p/(ρ g)	m
H_w	Head of water	m
p_H	Pressure of the head entered	Pa

Method and standards

Hydrostatics.

Assumptions and limits

- Incompressible liquid.

References

- Hydrostatics p = ρ g H (water reference 1000 kg/m³)

Report details

Report reference	FCC-T5KV-C5NN (the same inputs always give the same reference)
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Software release	FireCAD Calc, release of 17 November 2026
Release checks	3 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/mechanical/fluid-mechanics/pressure-head-conversion

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.