Mass Flow Unit Converter (kg/s, kg/h, t/h, lb/h)

Convert a mass flow between kilograms per second and per hour, tonnes per hour and per day, kilograms per day and pounds per hour and per second.

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

Input parameters

Unit system: SI

Parameter	Value	Unit
Mass flow (choose its unit)	27.778	kg/s

Calculated results

Parameter	Value	Unit
kilogram per second	27.778	kg/s
kilogram per hour	100,000	kg/h
kilogram per day	2,400,000	kg/d
tonne per hour (TPH)	100.00	t/h
tonne per day	2,400.0	t/d
pound per hour	220,462	lb/h
pound per second	61.240	lb/s

Notes for this case

- kg/s × 3.6 = t/h.

Formula and method

$$x_{\text{unit}} = \frac{x_{SI}}{f_{\text{unit}}}$$

Variables

x	Mass flow (choose its unit)	kg/s

Method and standards

Each unit's factor to the SI unit is held once in the unit registry.

Assumptions and limits

- Exact factors where the definition is exact.

References

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

Report details

Report reference	FCC-K6SE-A3PN (the same inputs always give the same reference)
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Calculator	Mass Flow Unit Converter (kg/s, kg/h, t/h, lb/h)
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Software release	FireCAD Calc, release of 17 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/mass-flow-unit-converter

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.