

Job Shop Quote

How-to guide: what the workbook does, how to use it and what every number means.

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Job Shop Quote

Turn an RFQ into a priced, customer-ready quote with quantity breaks, lead times and a capacity check.

For: Estimators, owners and sales engineers in machine shops, fabrication shops and contract manufacturers.

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Quick start

1. On Setup, enter your company details, currency, terms, costing defaults, work-centre rates and material prices.
2. On Quote Builder, fill in the RFQ details, the material and blank size, and up to five quantity breaks.
3. List the routing (operation, work centre, setup hours, cycle minutes), any outside processing and any tooling or one-off charges.
4. Read the price per unit, margin and lead time for each break; run the capacity check against the hours you have open.
5. Print or save the Quote sheet as PDF and send it.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Your company, currency, terms, costing defaults, and the work-centre rates and materials every quote uses.
Quote Builder	Everything that sets the price: RFQ, material, routing, outside processing, tooling, quantity breaks.
Quote	The customer-facing quotation. Print it or save it as PDF; it fills itself from the Quote Builder.
Method	How every number is calculated, with assumptions, limits and sources.
Verify	Self-check: the workbook's formulas recomputed on fixed inputs against an independent reference.

What each number means

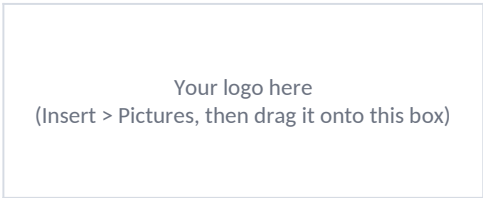
Quantity	How it is calculated	Units
Blank volume	Round bar: $\pi \times (\text{diameter} / 2)^2 \times \text{length}$. Rectangular: width x thickness x length. Converted to cm ³ (mm ³ x 0.001, or in ³ x 16.387064).	cm ³
Blank mass	Volume x density / 1000. Pounds = kg / 0.45359237 (exact).	kg, lb

Quantity	How it is calculated	Units
Material price per kg	From the Materials list; a price per lb is divided by 0.45359237.	currency/kg
Material cost per blank	Blank mass x price per kg x (1 + material allowance).	currency
Parts to start	CEILING(quantity / first-pass yield): scrapped parts are remade, so they consume material and run time.	parts
Material per part	Material cost per blank x parts to start / quantity.	currency/part
Routing totals	Setup cost per batch = sum of setup hours x work-centre rate; run cost per part started = sum of cycle minutes / 60 x rate; setup hours and cycle minutes summed over the operations.	currency, h, min
Machining and labour per part	Run cost per part started x parts to start / quantity.	currency/part
Setup per part	Setup cost per batch / quantity.	currency/part
Tooling and NRE per part	Tooling and NRE to amortise (rows billed 'Amortise') / quantity. Rows billed separately are printed as their own lines on the Quote instead.	currency/part
Outside processing per part	For each outside process, the larger of its lot charge and price per part x quantity; summed, / quantity.	currency/part
Markups	Material per part x material markup; outside processing per part x outside processing markup.	currency/part
Shop overhead	(Setup + machining and labour per part) x overhead %. Set 0% if your rates are fully burdened.	currency/part
Total cost per part	Material + material markup + machining + setup + tooling + outside processing + its markup + overhead.	currency/part
Unit price	CEILING(total cost / (1 - target margin), rounding step). Margin is on price: 25% margin = 33.3% markup on cost.	currency/part
Margin achieved	(Unit price - total cost) / unit price; slightly above target because of rounding up.	%
Lead time	Material lead + CEILING(production hours / (scheduled hours per day x uptime)) + sum of outside processing lead times + queue, packing and shipping. Production hours = total setup hours + parts to start x total cycle minutes / 60.	working days
Capacity check	Same as the live calculator: run hours = MAX(0, open hours x uptime - setup); parts started = run hours x 60 / cycle; quotable good parts = FLOOR(parts started x yield); hours the order needs = (setup + quantity / yield x cycle / 60) / uptime; parts to start = CEILING(quantity / yield).	parts, h

Assumptions, limitations, sources and the self-check (the Verify sheet, which recomputes the workbook's formulas on fixed test inputs) are in the workbook. The last page shows the Quote sheet with the example data for Northfield Precision, a fictional business.

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Engineering estimates for planning and improvement work. Verify the results against your own process, data and standards before you rely on them.



QUOTATION

Northfield Precision (example)

Unit 4, Mill Lane Industrial Estate, Northfield, NF1 2AB
+1 555 0142 quotes@example.com

To	Halden Pump Systems (example)	Quote number	Q-2026-0142
Attention	Purchasing	Date	12 Oct 2026
Your reference	RFQ-88213	Valid until	11 Nov 2026
		Prepared by	Estimating
Part number	HP-2207-14 (rev C)		
Description	Pump shaft coupling, turned and milled, clear anodised		
Material	Aluminium 6082-T6		

Quantity	Unit price (USD)	Extended (USD)	Delivery after order
25	83.38	2,084.50	16 working days
100	42.32	4,232.00	17 working days
250	34.74	8,685.00	19 working days
500	32.53	16,265.00	23 working days
1,000	31.45	31,450.00	30 working days

Charges billed separately

First article inspection report	USD	180.00

Terms

Payment	Net 30 days from invoice
Delivery	Ex works, packed for road freight
Validity	Valid for 30 days from the quote date.

Prices are per part in the currency shown and exclude sales taxes and freight unless stated. Lead times are working days from receipt of order and approved drawings. Charges billed separately are invoiced with the first delivery. Replace this example text with your own terms of sale.

Acceptance

Accepted for and on behalf of	
Name and position	
Signature and date	
Purchase order number	