

Kanban Sizing

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

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Kanban Sizing

Size every kanban loop: the cards each part needs from demand, lead time, safety allowance and container size, and what resizing does to stock and cash.

For: Lean and continuous-improvement engineers, material planners, production supervisors and supply-chain managers running pull systems.

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Quick start

1. On Setup, type your company name and currency, then list your suppliers and internal processes and your loop types.
2. On Kanban Loops, add one row per part per loop: daily demand, replenishment lead time, safety allowance, container quantity, unit cost and cards in the loop today.
3. Read the Status column: Below target means too few cards (stockout risk), Above target too many (excess stock). Card change says how many to add or pull.
4. Open the Dashboard: loops to resize, cards in loop against required, and the inventory value resizing frees or adds, by supplier or process.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Company, currency, the suppliers and processes that replenish your loops, and the loop types.
Kanban Loops	One row per part per loop: demand, lead time, safety and container size give the cards the loop needs.
Dashboard	Which loops carry too many or too few cards, and what resizing them does to inventory value.
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
Lead-time demand	Daily demand x replenishment lead time.	units
Safety stock	Lead-time demand x safety allowance.	units

Quantity	How it is calculated	Units
Cards required	(Lead-time demand + safety stock) / container quantity, rounded up to a whole card. Excel: =ROUNDUP(ROUND((LTD + SS) / container, 9), 0)	cards
Kanban quantity	Cards required x container quantity: the most stock the loop can hold.	units
Days of cover	Kanban quantity / daily demand.	days
Card change	Cards required - cards in loop now: + add, - pull out.	cards
Status	On target when the change is 0; Below target when cards are short (stockout risk); Above target when there are too many (excess stock).	-
Kanban value	Now: cards now x container x unit cost. Required: kanban quantity x unit cost. Change: card change x container x unit cost.	currency
Roll-ups	SUMIFS and COUNTIFS by supplier or process and by loop type; KPI tiles sum every loop.	-

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 Dashboard with the example data for Aurora Hydraulics, 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.

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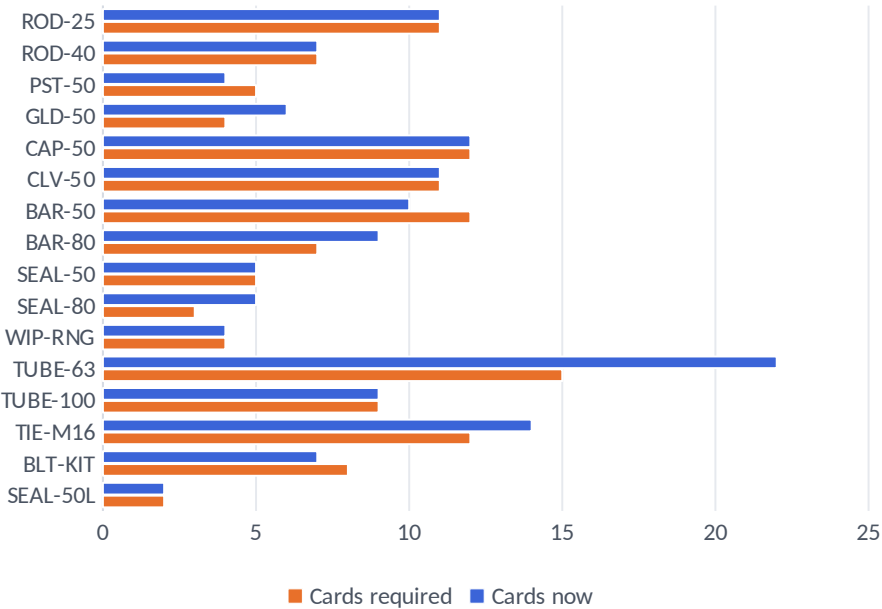
Which loops carry too many or too few cards, and what resizing them does to inventory value.

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Sizing 16 loops for Aurora Hydraulics (example). Cards required = (lead-time demand + safety stock) / container quantity, rounded up.

LOOPS TO RESIZE	LOOPS SHORT OF CARDS	KANBAN VALUE REQUIRED (EUR)	CHANGE FROM RESIZING (EUR)
8	3	69,030	-8,737
Cards in loop differ from required	Stockout risk: add cards first	Inventory at the required cards	Negative = inventory value freed

Cards in loop now vs required



Kanban inventory value by supplier or process

