Indexing Conveyor Cycle

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

Indexing Conveyor Cycle

Build every indexing machine's cycle from move, settle, dwell and handling times, and check its units an hour against the output the schedule needs.

For: Automation and manufacturing engineers, line builders and production planners running rotary dials, walking beams and pallet indexers.

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Quick start

1. On Setup, type your plant and the near-capacity threshold.
2. On Machines, give each indexing machine a row: type, product, index move, settle and locate, process dwell, load and unload, and required output.
3. Fix anything the Check column names.
4. Open the Dashboard: cycle output against required output, and where each cycle's time goes.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Plant and the near-capacity threshold.
Machines	One row per indexing machine: move, settle, dwell and handling times and required output in; cycle, output and gap out.
Dashboard	Cycle output of every indexing machine against its required output, and where each cycle's time goes.
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
Total cycle	Index move + settle and locate + process dwell + load and unload.	s
Index overhead	(Index move + settle and locate) / total cycle.	%
Dwell plus handling	Process dwell + load and unload.	s
Cycle output and output gap	3,600 / total cycle; required output - cycle output.	units/h
Load and status	Required / cycle output; Over capacity above 100%, Near capacity from the threshold on Setup.	%, -

Quantity	How it is calculated	Units
Dwell available	3,600 / required output - move - settle - load and unload.	s

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 Kessock Automation, 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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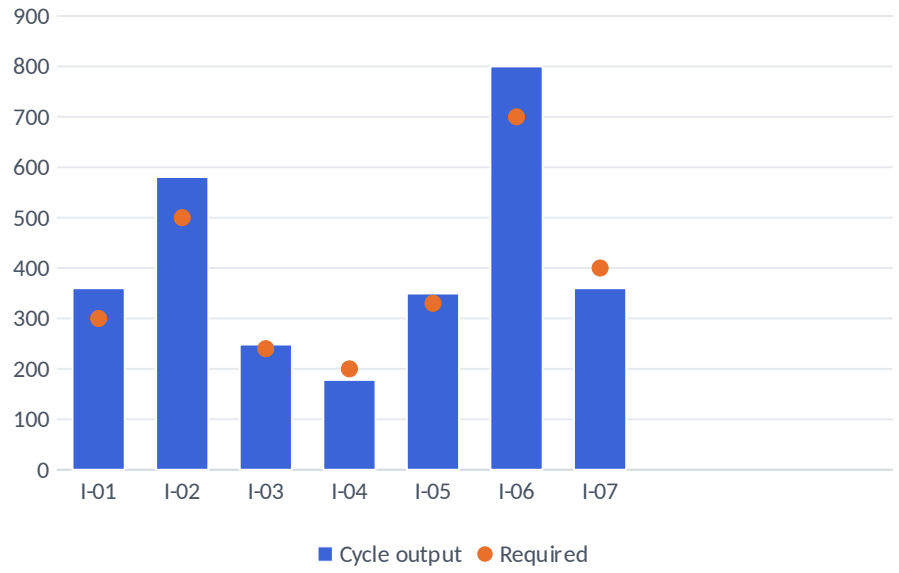
Cycle output of every indexing machine against its required output, and where each cycle's time goes.

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Kessock Automation (example): 7 indexing machines.

MACHINES	SHORT OF REQUIRED OUTPUT	LARGEST SHORTFALL (UNITS/H)	AVERAGE INDEX OVERHEAD
7	**2**	**40.0**	**25.5%**
Rows with a cycle output	Required above cycle output	Required - cycle output	Move + settle share of the cycle

Cycle output against required (units/h)



Where each cycle's time goes (s)

