Steam Trap Survey Log

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

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Log every steam trap test, price failed traps from surveyed loss or the DOE orifice table, and track repairs, open losses and the share of traps losing steam.

For: Maintenance, energy and utilities managers and steam system technicians who survey steam traps and need the losses in money.

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Quick start

1. On Setup, type your plant name and currency, then your steam headers (pressure, pressurized hours, steam cost), trap types and surveys.
2. On Survey Log, add one row per trap tested: survey, date, tag, header, type, orifice and the condition found.
3. For a leaking trap, type the surveyed loss; for a failed-open trap the DOE table fills it in at 15, 100, 150 or 300 psig.
4. When a trap is repaired, type the date. Read the Check column, then open the Dashboard and pick a survey or header.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Your plant and currency, steam headers, trap types and surveys, the DOE discharge table, a steam cost helper and a survey planner.
Survey Log	One row per trap tested in a survey: its condition, steam loss, annual cost and repair.
Dashboard	What failed steam traps cost in the survey you choose, how the share losing steam has moved, and what is still open.
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.
About MFG Calcs	Everything MFG Calcs offers, free: calculators, templates, tariff tools, data and the Calkee AI helper.

What each number means

Quantity	How it is calculated	Units

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Condition	Typed per row: OK, Leaking, Failed open, Failed closed, Not in service or Not tested. Traps tested = OK + Leaking + Failed open + Failed closed; losing steam = Leaking + Failed open.	-
DOE loss	The DOE Steam Tip Sheet #1 discharge rate for the orifice at the header's pressure, only when the pressure is 15, 100, 150 or 300 psig; blank otherwise (no interpolation).	lb/h
Steam loss	Leaking or failed open: the surveyed loss; failed open with none typed: the DOE loss. 0 for every other condition.	lb/h
Steam lost per year and annual cost	Steam loss x the header's pressurized hours; x the header's steam cost / 1,000.	lb/yr, currency/yr
Repair cost used and payback	Failed traps: the repair cost typed or the trap type's replacement cost; payback = repair cost / annual cost.	currency, years
Status and open cost	Failed traps: Repaired when a repair date is typed, Retested when a later test of the same tag exists, otherwise Open. Open cost = the annual cost of Open rows.	currency/yr
Survey shown	The survey picked on the Dashboard, or when blank the survey of the row with the latest test date. View = 1 for rows in that survey and the header filter.	-
Share losing steam	Traps losing steam / traps tested in the rows in view, against the target on Setup.	%
Simple repair payback	Repair cost of the traps losing steam / their annual cost.	years
Open losses to fix first	Open rows in the header filter from every survey, ranked by annual cost by COUNTIFS (ties by tag, then date).	-
Survey workload	Traps / inspection rate x (1 + allowance); elapsed hours = workload / surveyors / 60; shifts = hours / productive hours per shift.	person-min, h
Fuel cost of steam	Fuel price / 1,000,000 x 1,000 lb x heat to make 1 lb / combustion efficiency (DOE Steam Tip Sheet #15).	currency/1,000 lb

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 Corbel Hill Foods, 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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What failed steam traps cost in the survey you choose, how the share losing steam has moved, and what is still open.

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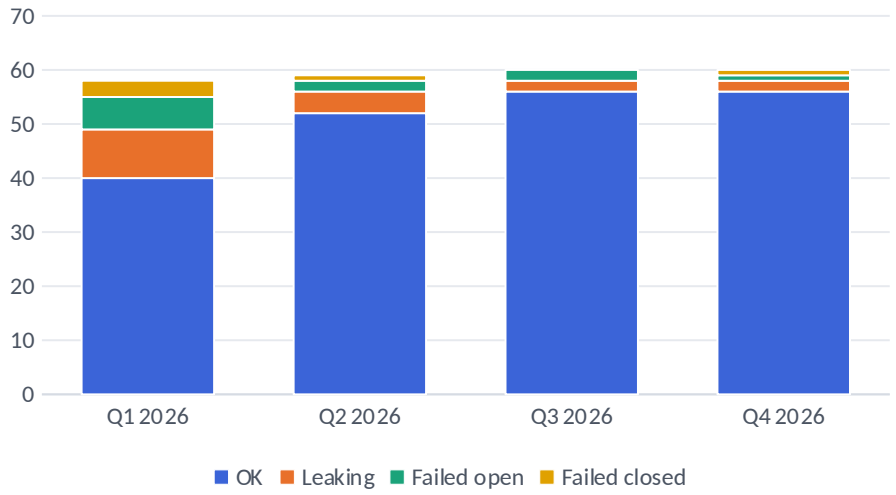
Survey

Header

Showing the Q4 2026 survey, all headers: 60 traps tested. Leave Survey blank for the latest survey. Money in USD.

TRAPS TESTED	TRAPS LOSING STEAM	SHARE LOSING STEAM	STEAM LOST (LB/H)
60	3	5.0%	79.3
OK, leaking, failed open or closed	Leaking or failed open	Target 5.0%	Surveyed or DOE table loss
		On target	

Trap condition by survey



Annual cost of steam losses found, by survey

