Asset health — which machine to look at first, and why

Menu: CMMS ▸ Asset Health...

Part 1 — What the function does

What it does. Asset Health ranks the equipment of a CMMS file by risk, so the maintenance team knows which machine to look at first. For every asset at the Equipment level ReliaEn calculates three scores, each from 0 to 100:

Score	What it says	Where it comes from
Health	How good the machine's condition is, 100 being best	Five factors, weighted: open work orders, corrective work orders in the past 12 months, age against expected life, remaining life, availability over the past 12 months
Criticality	How much a failure of the machine matters	The asset's criticality assessment, class A, B or C and its score; a machine not assessed takes its class's default, A 100, B 60, C 20
Risk	How urgently the machine needs attention	(100 − Health) × Criticality / 100

Factor	Score
Open work orders	100, less 30 for each open work order, never below 0
Corrective work orders, 12 months	100, less 20 for each closed in the past 12 months, never below 0
Age vs expected life	100 when new, falling in a straight line to 0 at twice the mean time to failure (MTTF)
Remaining life ratio	Remaining life / MTTF as a percentage, at most 100
Availability, 12 months	0 at 90 % availability or below, rising in a straight line to 100 at full availability

From what data. The open CMMS file: its work orders, criticality assessments and reliability records. MTTF and remaining life come from the asset's reliability record, which needs at least three failures; without it the age and remaining-life factors drop out. The scores are as of today, and the past 12 months count back from today.

When an engineer uses it. At the weekly or monthly planning meeting, to decide which machines to inspect or overhaul, and to put a predictive maintenance (PdM) work order in the planner's queue for each high-risk machine.

Do not use it when

Situation	Use instead
You want plant totals, availability, mean time between failures, backlog and cost	CMMS ▸ KPI Dashboard... (chapter 6.11)
A machine has no criticality assessment yet	CMMS ▸ Criticality Register... (chapter 6.13)
You want to fit the life distribution of one asset class	Life Data ▸ Time Dependence ▸ Weibull (2P) distribution...

Part 2 — The example's input data

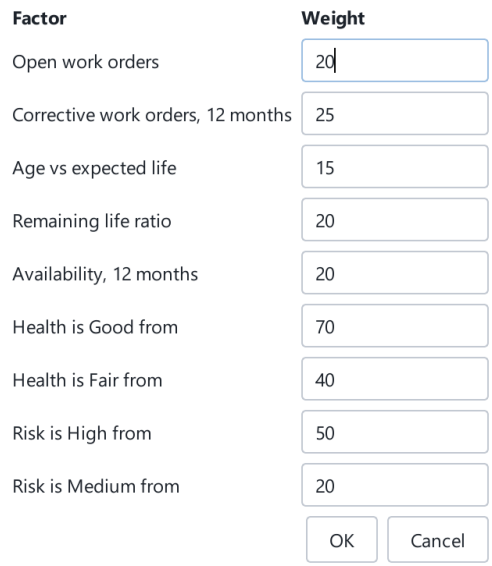
Setting. The planning meeting of 30 September 2026. The plant has six machines:

Asset	Criticality	Installed	MTTF / remaining life (h)	Open orders	CM orders closed in 12 months
P-101	A, assessed 85	2024-04-01	30000 / 12000	1	2
P-102	B, assessed 55	2021-01-01	20000 / 2000	3	4
C-201	A, assessed 90	2019-06-01	25000 / 1500	2	5
M-301	C, not assessed	2026-01-01	none	0	1
B-401	B, assessed 60	2023-10-01	40000 / 22000	0	0
E-501	C, not assessed	2026-06-01	none	0	0

The pictures of this chapter are scored as of 2026-09-30. On your computer the window scores as of today, so the age, the 12 months and the scores that follow from them will differ.

File in the worked-example zip	**6-Asset-Health/ReliaEn-AssetHealth-Plant.reliaen - the plant with its assessments and reliability records**

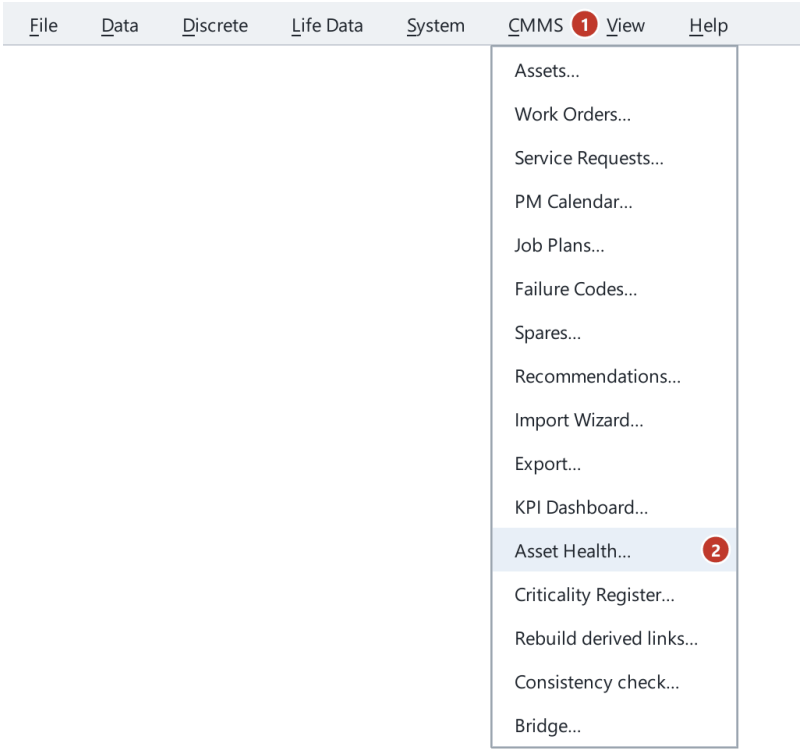
The method as delivered, under Method...:



The window Asset Health method

Part 3 — How to use it, step by step

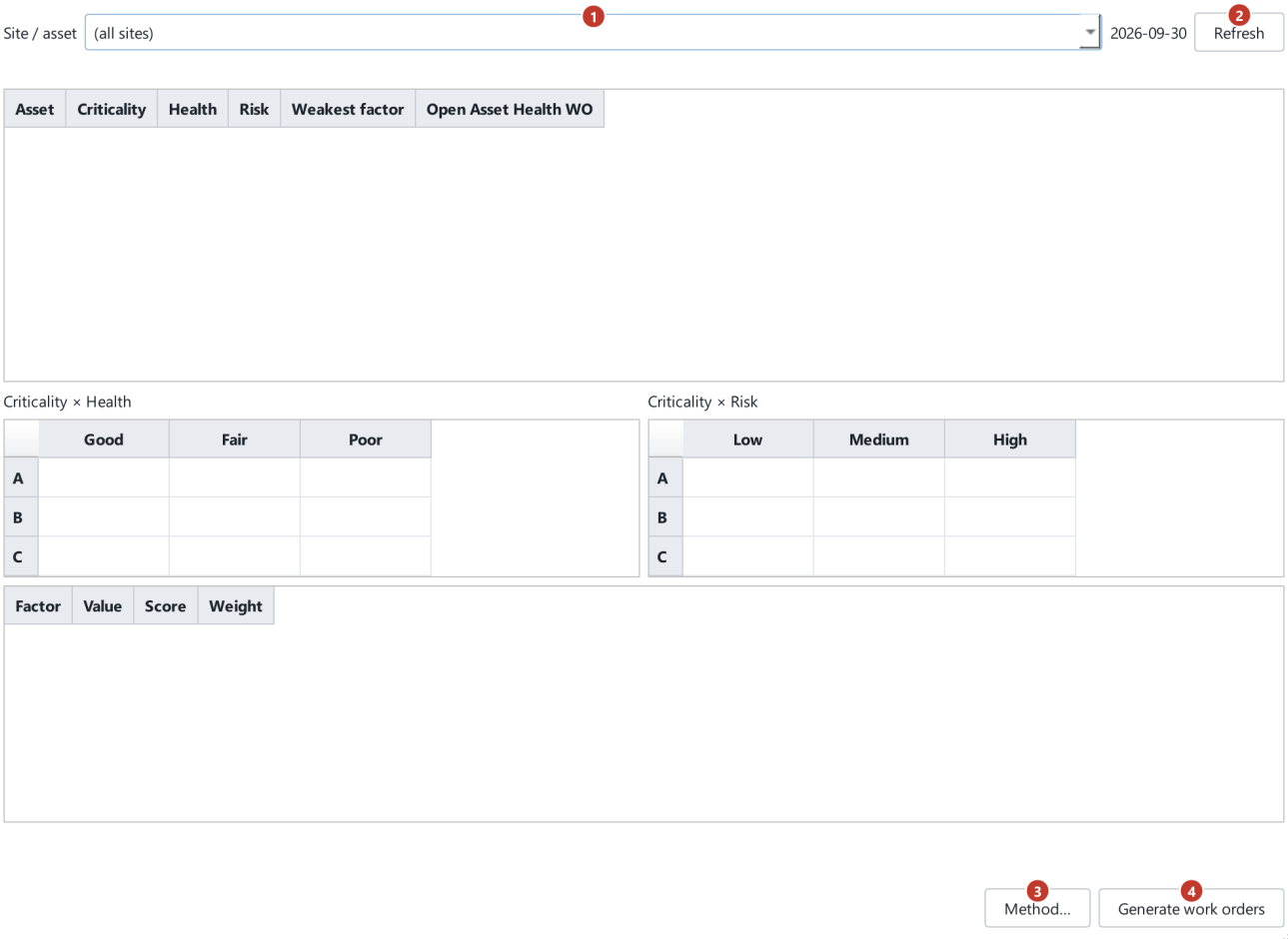
1. **Open the example's CMMS file, then choose CMMS ▸ Asset Health…** in the menu bar. The window Asset Health opens.



Step 1 — the menu path

- ① CMMS: the menu.
- ② Asset Health…: the entry to click.

2. **Score the plant**, as steps 3 and 4 do:

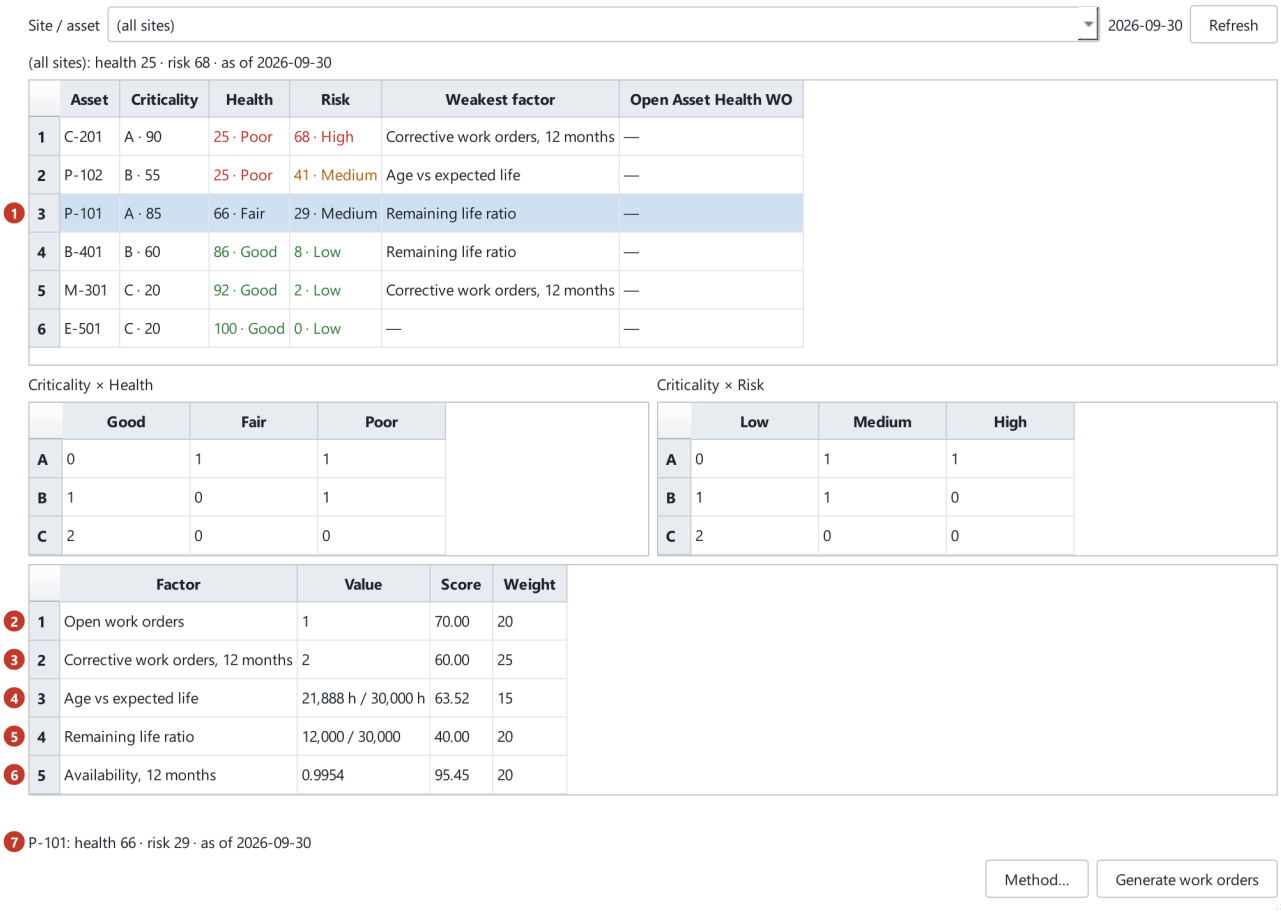


Steps 3 and 4 — the window as it opens

- ① Site / asset.
- ② Refresh.
- ③ Method….
- ④ Generate work orders.

3. ① **Check that Site / asset reads (all sites).**
4. ② **Click Refresh.** Part 4 shows the list.

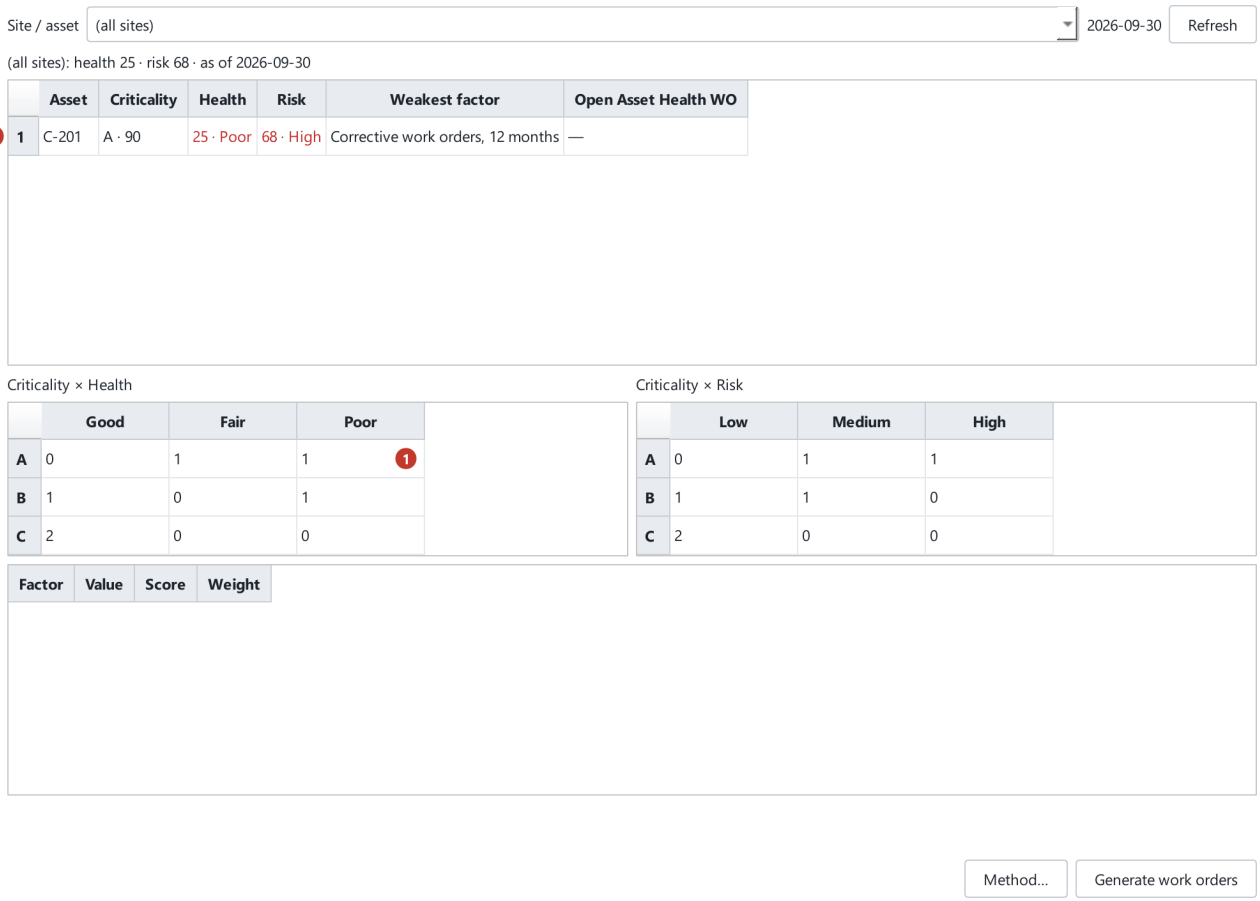
5. **Select P-101 in the list.** The factor table fills:



Step 5 — P-101 selected

- ① P-101's row.
- ② to ⑥ The five factors.
- ⑦ The machine's own line.

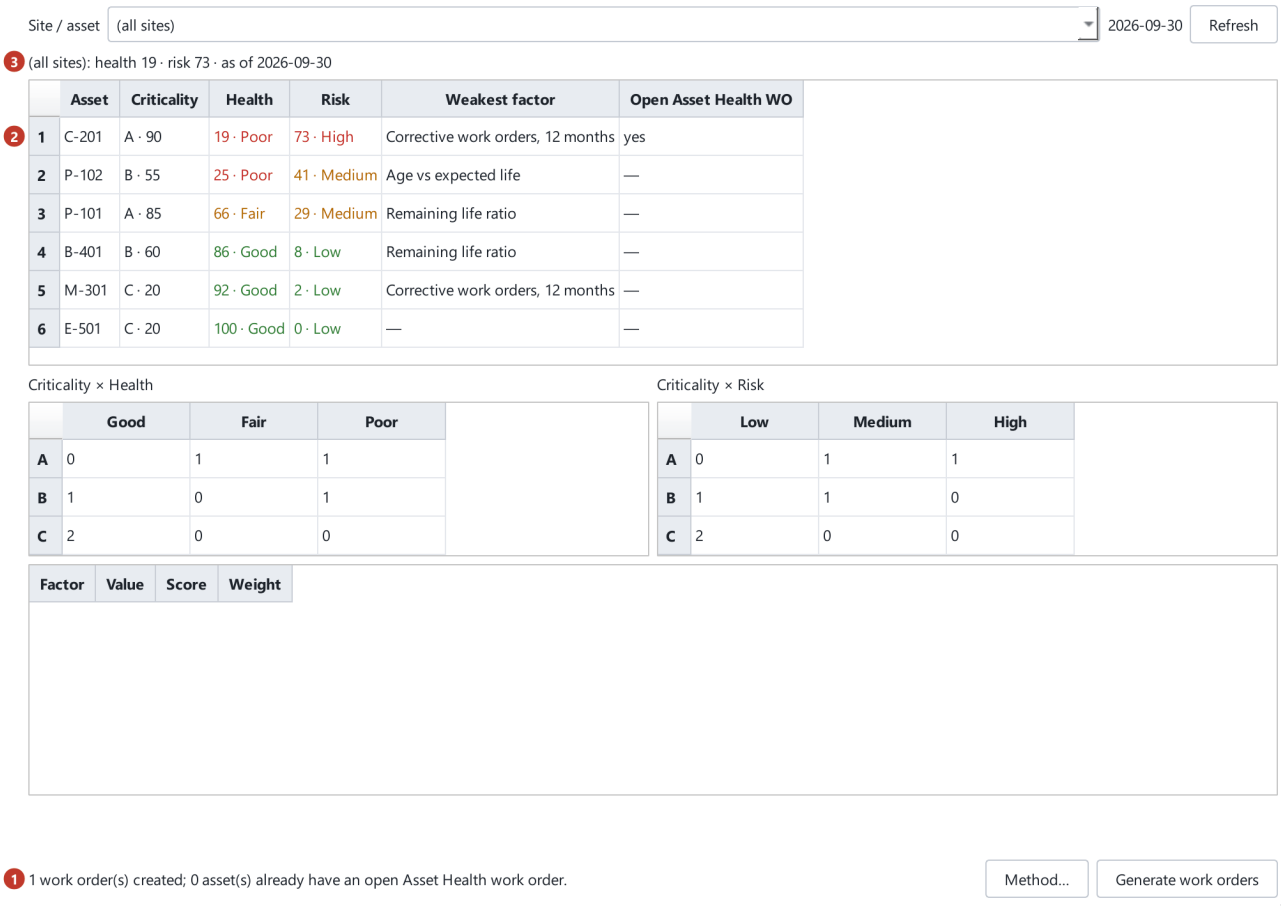
6. **Click the cell of row A, column Poor in Criticality × Health.** The list shows those machines only; Refresh shows them all again:



Step 6 — the list after the cell

- ① The cell.
- ② The list's one row.

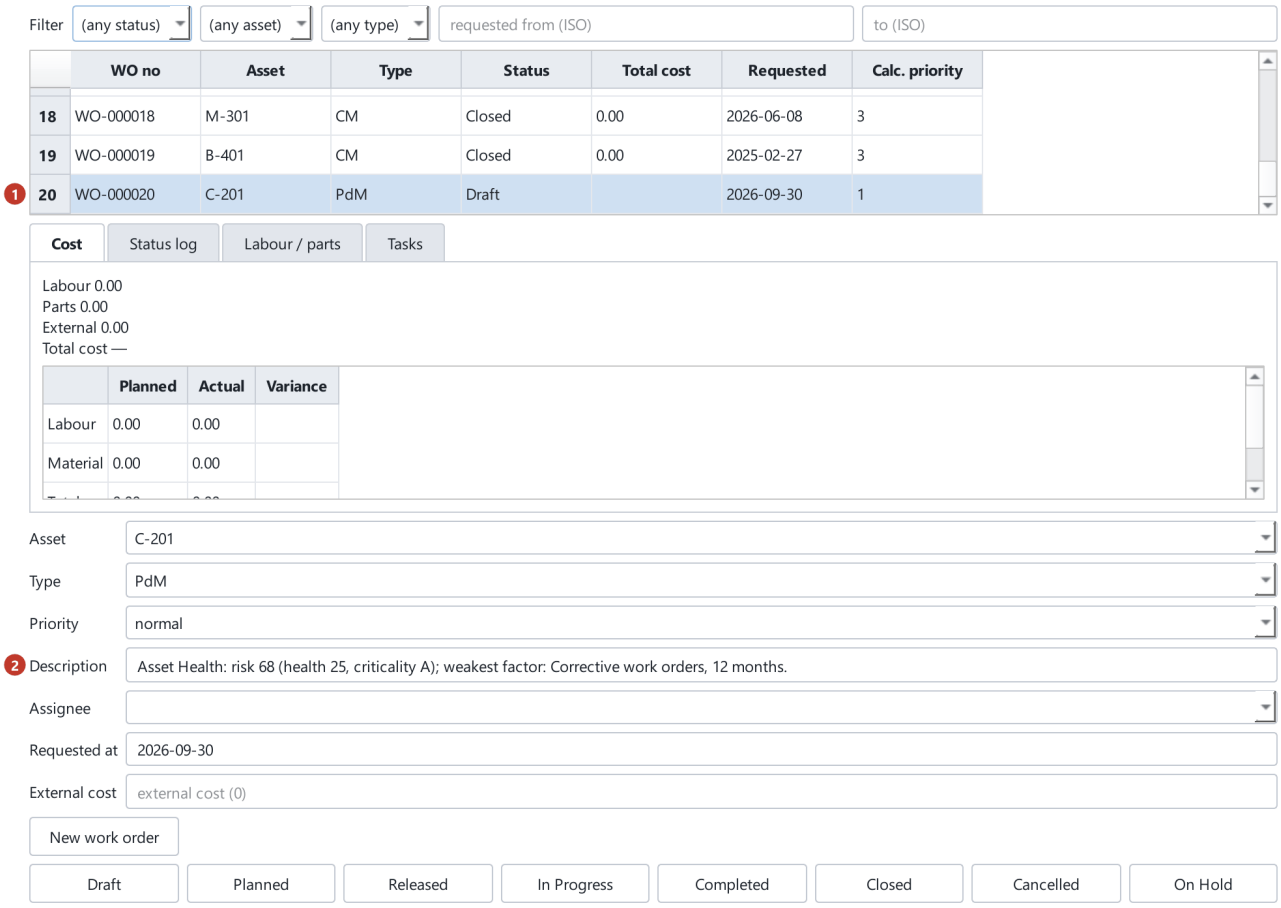
7. **Click Refresh, then Generate work orders:**



Step 7 — after Generate work orders

- ① The result line.
- ② C-201's row.
- ③ The summary line.

8. **Choose CMMS ▸ Work Orders… to see the draft:**

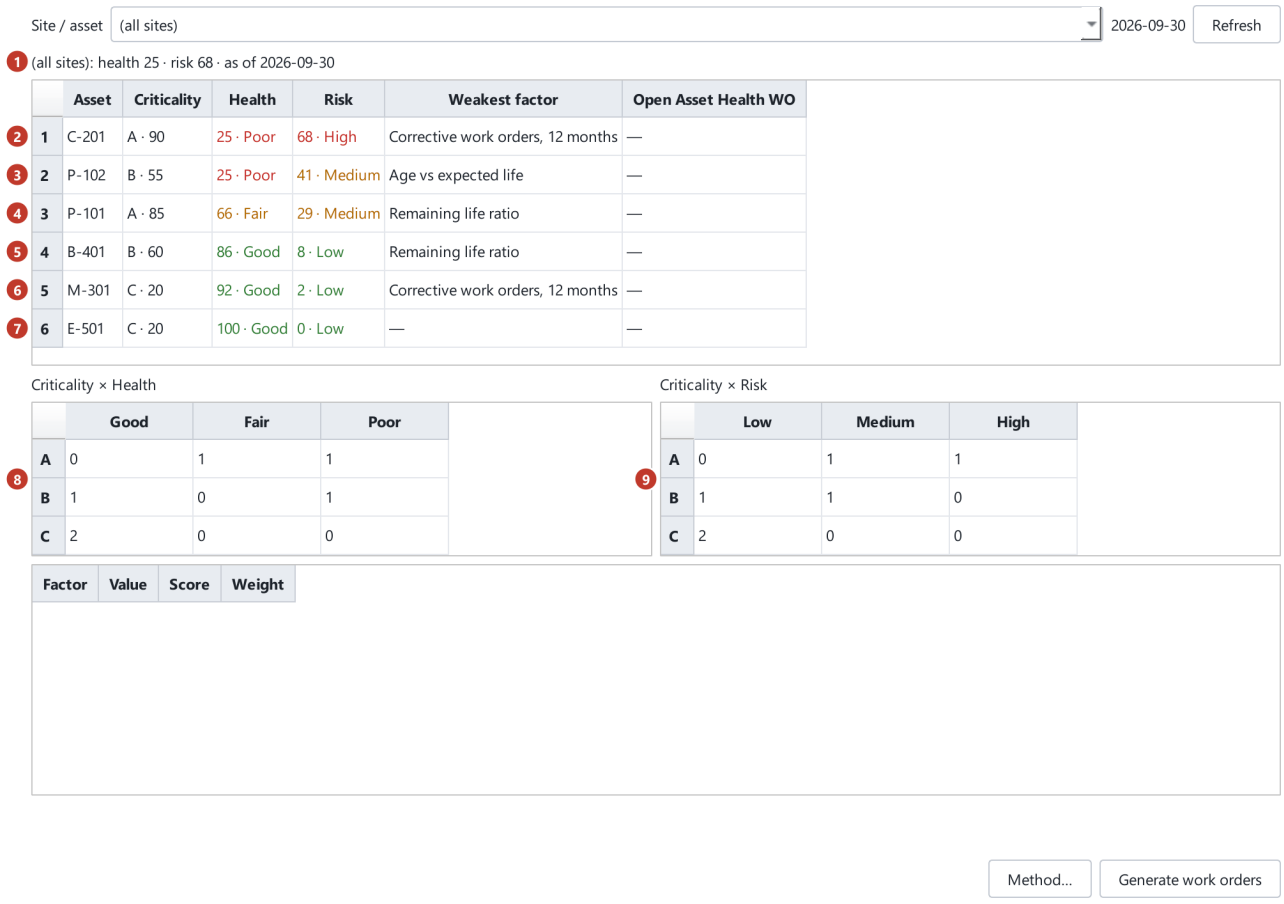


Step 8 — the drafted order

- ① The new order.
- ② Its Description.

Part 4 — The result, picture by picture

After Refresh of step 4:

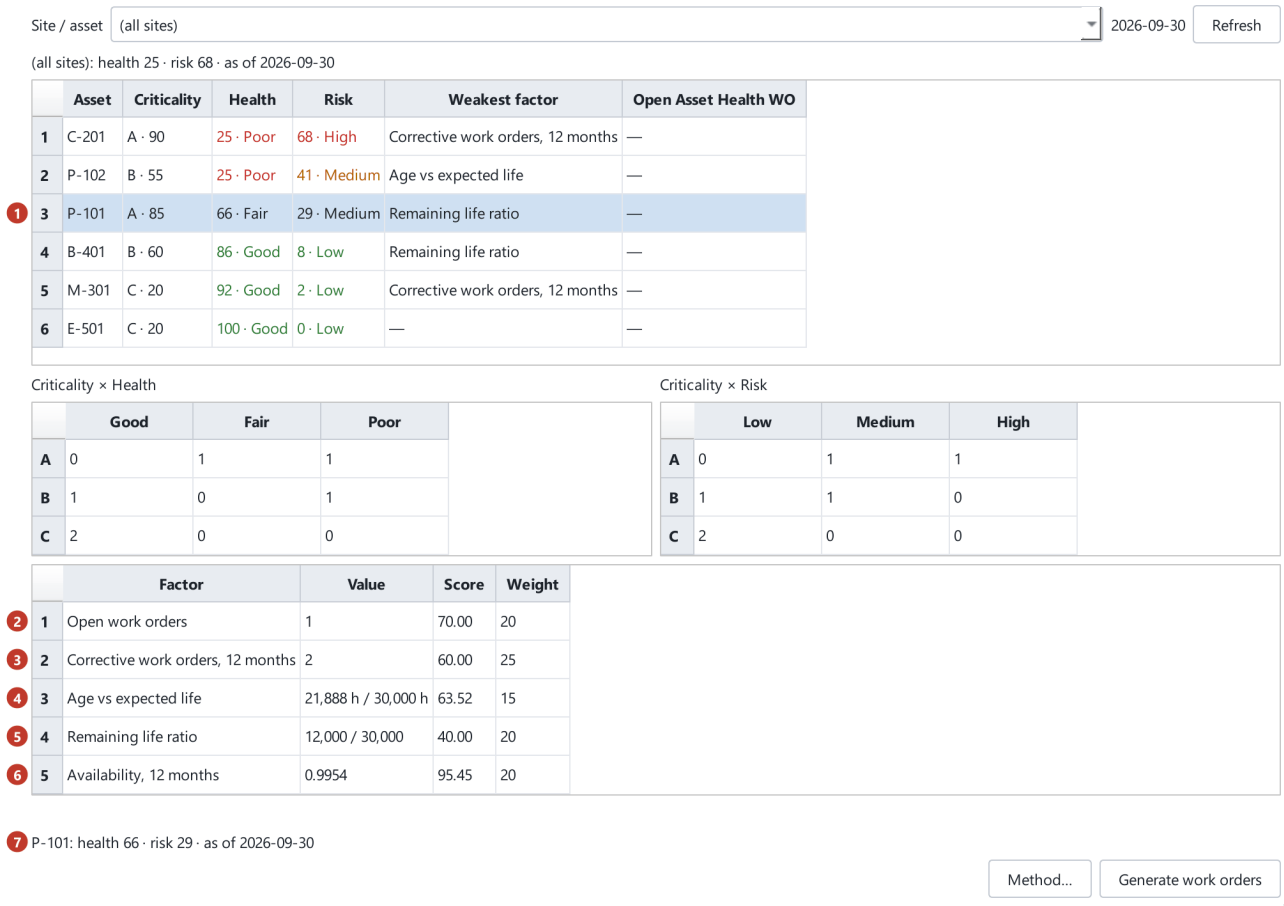


The whole plant

- ① The summary line: (all sites): health 25 · risk 68 · as of 2026-09-30, the plant's lowest health and highest risk.
- ② C-201: A · 90, 25 · Poor, 68 · High, weakest factor Corrective work orders, 12 months. The one high risk of the plant.
- ③ P-102: B · 55, 25 · Poor, 41 · Medium, weakest factor Age vs expected life. The same poor health as C-201, but a class-B machine.
- ④ P-101: A · 85, 66 · Fair, 29 · Medium, weakest factor Remaining life ratio.
- ⑤ B-401: B · 60, 86 · Good, 8 · Low.
- ⑥ M-301: C · 20, 92 · Good, 2 · Low. Criticality 20 is class C's default.
- ⑦ E-501: C · 20, 100 · Good, 0 · Low. Every factor scores 100, so no weakest factor is named.
- ⑧ Criticality × Health: row A 0, 1, 1; row B 1, 0, 1; row C 2, 0, 0.
- ⑨ Criticality × Risk: row A 0, 1, 1; row B 1, 1, 0; row C 2, 0, 0.

What to decide. Start with C-201: class A, health 25, the only High risk. Its weakest factor points to a recurring failure: plan a root-cause analysis. P-102 comes next, for its age.

P-101 selected, in step 5:

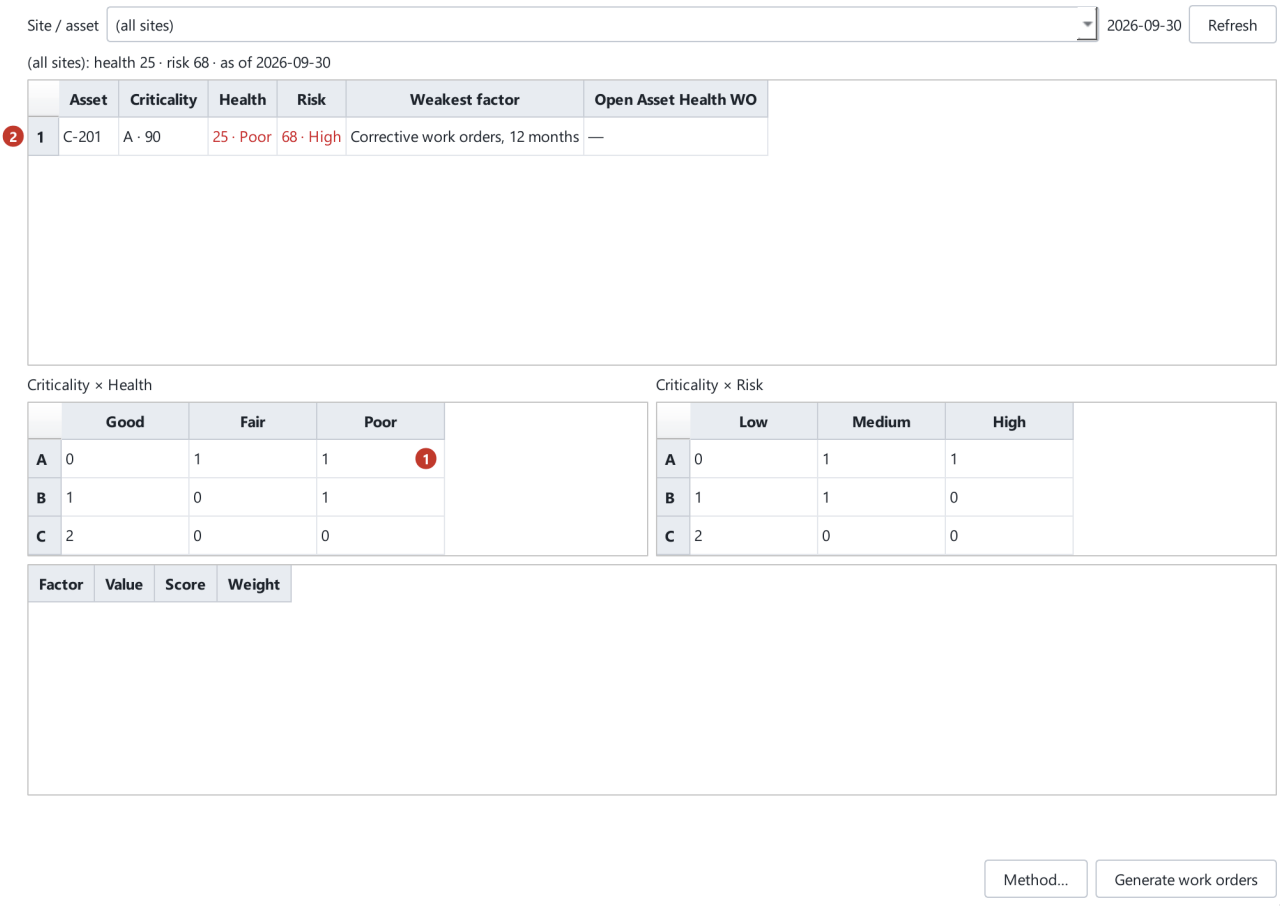


P-101 factor by factor

- ① P-101's row, selected.
- ② Open work orders: value 1, score 70.00, weight 20. One open order takes 30 off.
- ③ Corrective work orders, 12 months: value 2, score 60.00, weight 25.
- ④ Age vs expected life: 21,888 h / 30,000 h, score 63.52, weight 15.
- ⑤ Remaining life ratio: 12,000 / 30,000, score 40.00, weight 20. The lowest score: the weakest factor.
- ⑥ Availability, 12 months: 0.9954, score 95.45, weight 20.
- ⑦ The machine's line: P-101: health 66 · risk 29 · as of 2026-09-30.

What to decide. The weighted mean of the five scores is 65.6, rounded to 66; with criticality 85 the risk is 34 × 85 / 100 = 28.9, rounded to 29. The remaining life is the point to act on: plan the pump's overhaul or replacement in the coming year's budget.

After the click of step 6:

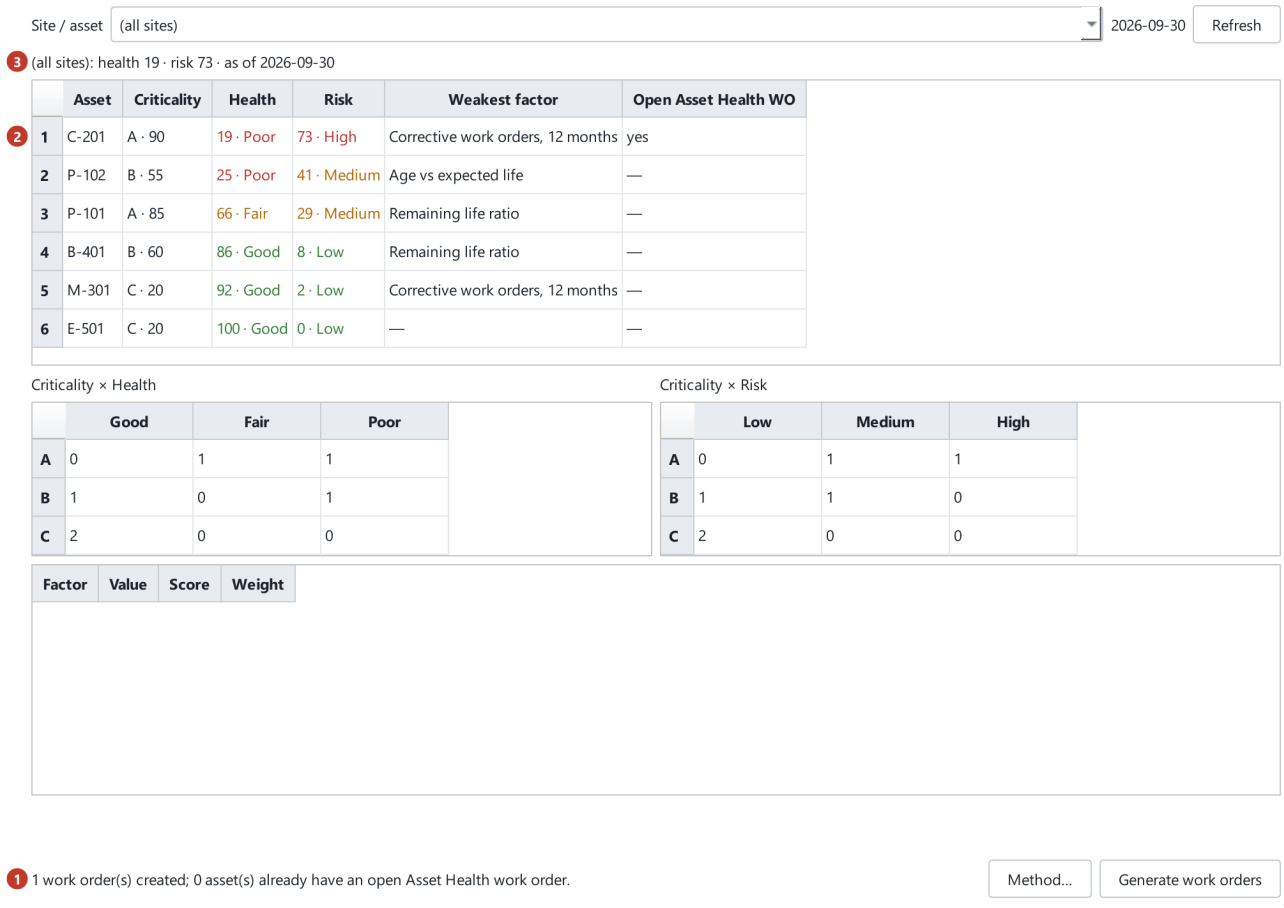


The cell (A, Poor)

- ① The cell of row A, column Poor.
- ② The list, filtered: C-201 alone.

What to decide. The class-A machine in Poor health is the cell to empty first.

After Generate work orders of step 7:

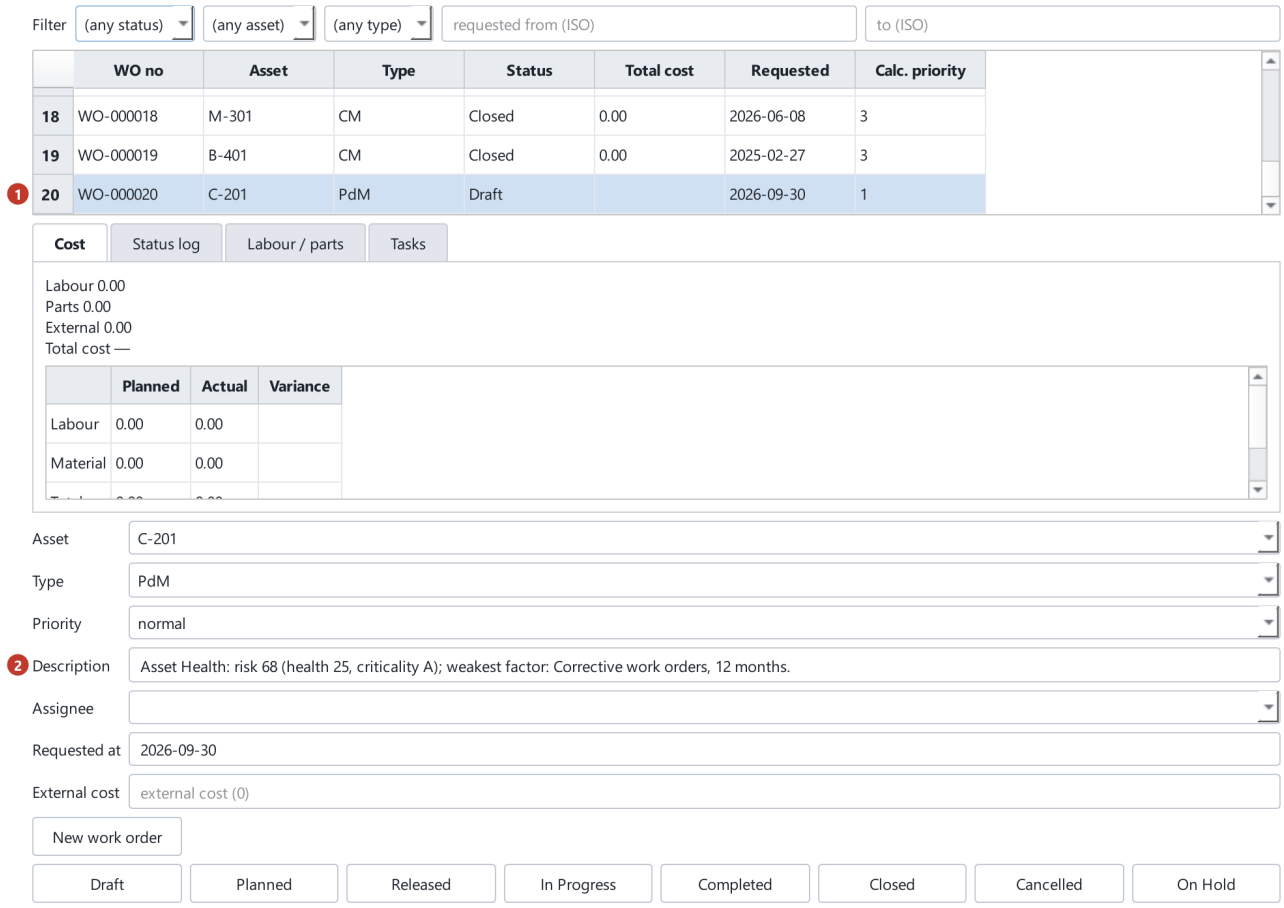


After Generate work orders

- ① 1 work order(s) created; 0 asset(s) already have an open Asset Health work order.
- ② C-201: now 19 · Poor, 73 · High, and yes under Open Asset Health WO.
- ③ The summary line: (all sites): health 19 · risk 73 · as of 2026-09-30.

What to decide. The new order is itself open, so C-201's health falls from 25 to 19 and its risk rises to 73. This is expected, not a new problem.

The list in CMMS ▸ Work Orders…:



The drafted order in the list

- ① WO-000020, on C-201, type PdM, Draft, requested 2026-09-30.
- ② Description: Asset Health: risk 68 (health 25, criticality A); weakest factor: Corrective work orders, 12 months., the state at generation.

What to decide. Review the draft, assign it and release it as any other order (chapter 6.2).

Part 5 — How to interpret the results

Start at the top of the list. It is sorted by risk, highest first.

Read the weakest factor before you plan the job. Many corrective orders point to a recurring failure and a root-cause analysis; a high age against MTTF or a low remaining life points to an overhaul or replacement; open orders point to the backlog.

Same health, different risk. C-201 and P-102 both have health 25, but criticality makes one High and the other Medium.

Use the matrices for the portfolio view. A class-A machine in Poor health is the cell to empty first.

Missing data is said, not hidden. A machine with fewer than three failures has no fitted life model: its age and remaining-life factors show — and a note says so. The health is then the weighted mean of the factors present.

Generate work orders drafts for every High machine in the scope that has no open Asset Health order yet. Clicking again creates nothing new for C-201.

Bands. As delivered, health is Good from 70 and Fair from 40, risk High from 50 and Medium from 20. Method… changes them for the whole file.