Spares — the stock ledger, the average cost and the reorder warning

Menu: CMMS ▸ Spares...

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# Part 1 — What the function does

**What it calculates.** CMMS ▸ Spares... keeps the stock of spare parts, per part and store location, as a ledger of transactions - receipts, issues, returns, adjustments and stock counts. From the ledger ReliaEn derives, never types:

| Result | How ReliaEn derives it |
|---|---|
| On hand (MAIN) | The sum of the ledger: receipts and returns add, issues subtract, an adjustment adds its signed quantity, a count replaces the running figure |
| Avg cost | A moving average that receipts alone change: a receipt of q units at price c gives (on hand × average + q × c) / (on hand + q) |
| Order qty | Under a reorder policy, a part at or below its minimum gets maximum − on hand, listed in the reorder inbox with a warning |

**From which data.** The transactions posted in this window, and the parts issued to work orders from CMMS ▸ Work Orders..., which draw on the same ledger.

**When an engineer uses it.** The storekeeper records what arrives, leaves and is counted; the planner sets each part's reorder rule and reads the reorder inbox as the shopping list.

**When not to use it.**

| Situation | Use instead |
|---|---|
| The minimum and maximum from the failure behaviour of the assets that use the part | The button Spares policy from the fitted assets of this window |
| The stock that protects a fleet over one planning window, from a life distribution | System ▸ Spare Parts Optimization... |

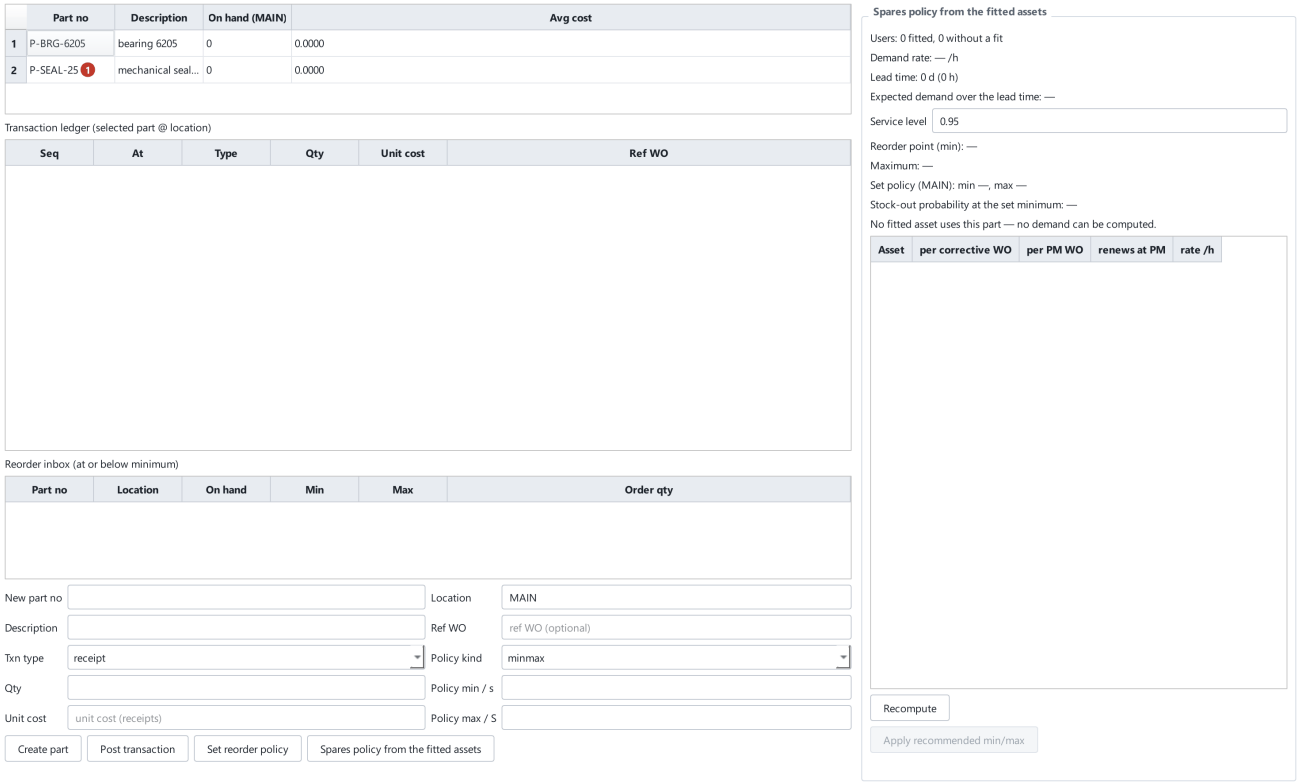
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# Part 2 — The example's input data

*Setting.* The store MAIN carries the mechanical seal P-SEAL-25 with no stock yet. Two deliveries of ten seals arrive at different prices; the planner then sets a min-max reorder rule; a shutdown job takes 16 seals.

| # | Entry | Values |
|---|---|---|
| 1 | Receipt | 10 seals at 120 each |
| 2 | Receipt | 10 seals at 140 each |
| 3 | Reorder policy | min-max: minimum 4, maximum 12 |
| 4 | Issue | 16 seals |

| Input | Value |
|---|---|
| File in the worked-example zip | 6-Spares/CMMS-Example-Spares.reliaen - the store MAIN with the parts P-SEAL-25 and P-BRG-6205; an empty ledger |



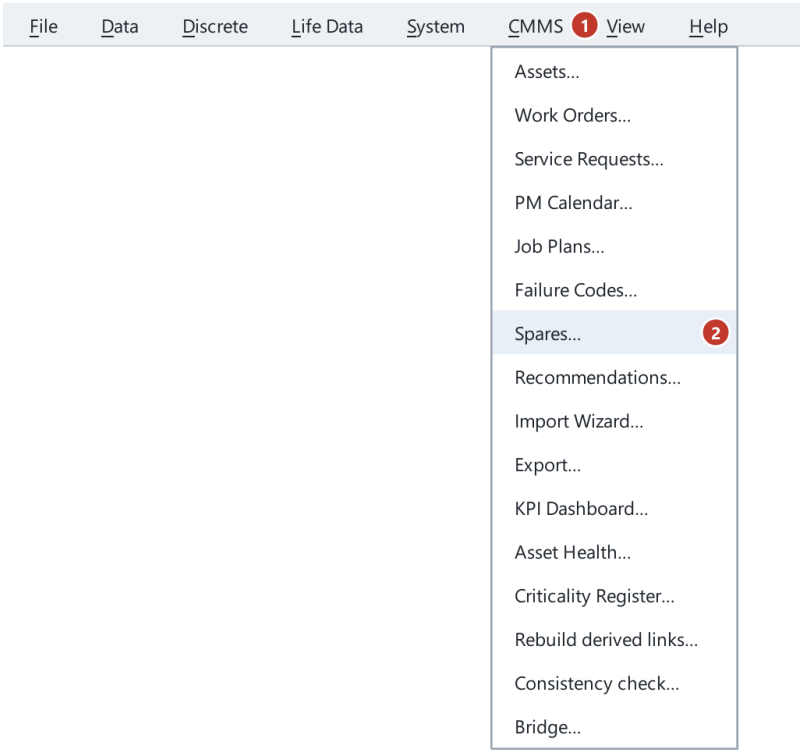

The window as it opens

- ① P-SEAL-25: the seal of this example, in the parts list; no stock yet.

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# Part 3 — How to use it, step by step

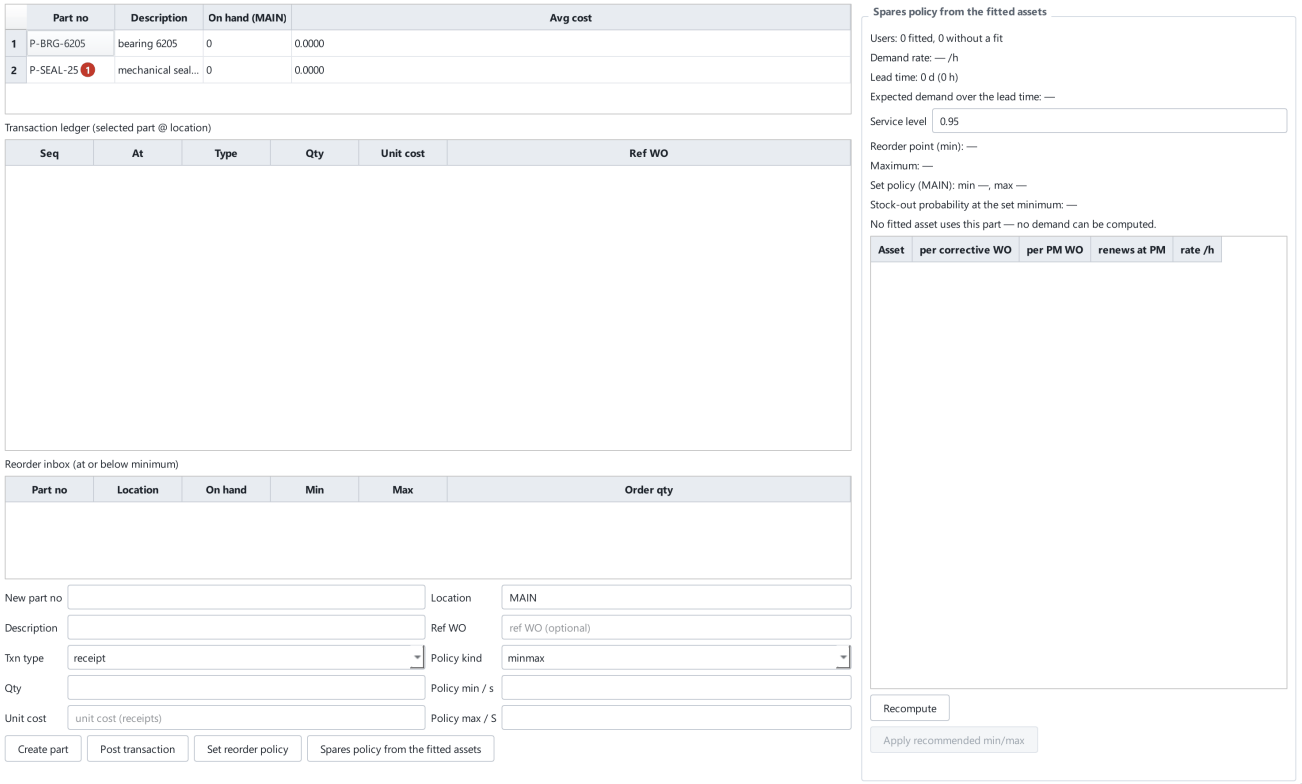
1. **Choose CMMS ▸ Spares…** in the menu bar. The first time in a session ReliaEn asks for the file in the box Open or create a CMMS file: choose your copy of CMMS-Example-Spares.reliaen. The window CMMS — Spares opens.




Step 1 — the menu path

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

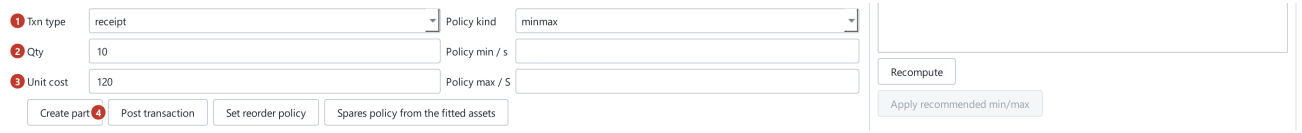
2. ① **Click P-SEAL-25** in the parts list.




Step 2 — P-SEAL-25 in the parts list

- ① P-SEAL-25: the part to click.

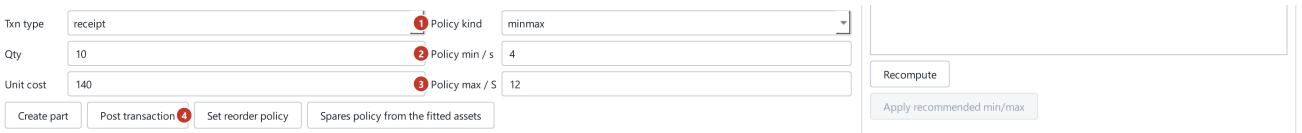
Steps 3 to 6 are marked ① to ④ in the picture:




Steps 3 to 6 — the first receipt typed

3. ① **Txn type**: receipt.
4. ② **Qty**: 10.
5. ③ **Unit cost**: 120.
6. ④ **Click Post transaction.** The line under the buttons reads on hand 10, avg 120.0000.
7. **Post the second receipt** the same way, with Unit cost 140.

Steps 8 to 11 are marked ① to ④ in the picture:

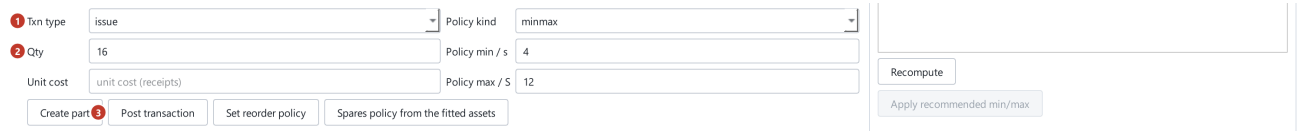



Steps 8 to 11 — the reorder policy typed

8. ① **Policy kind**: minmax.
9. ② **Policy min / s**: 4.
10. ③ **Policy max / S**: 12.
11. ④ **Click Set reorder policy.**

12. **Read the line:** Reorder policy set. At 20 on hand the part is above its minimum, so the reorder inbox stays empty.

Steps 13 to 15 are marked ① to ③ in the picture:

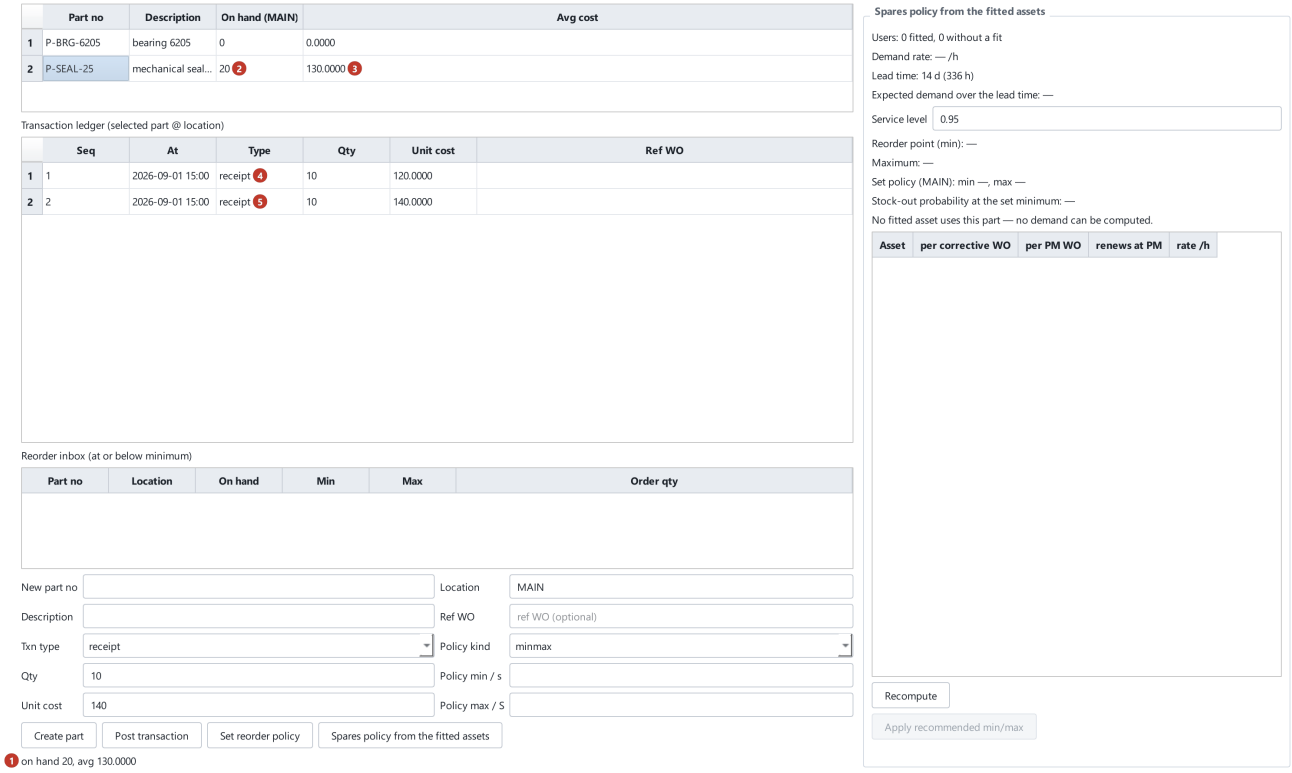



Steps 13 to 15 — the issue typed

13. ① **Txn type**: issue.
14. ② **Qty**: 16, with Unit cost left blank.
15. ③ **Click Post transaction.**

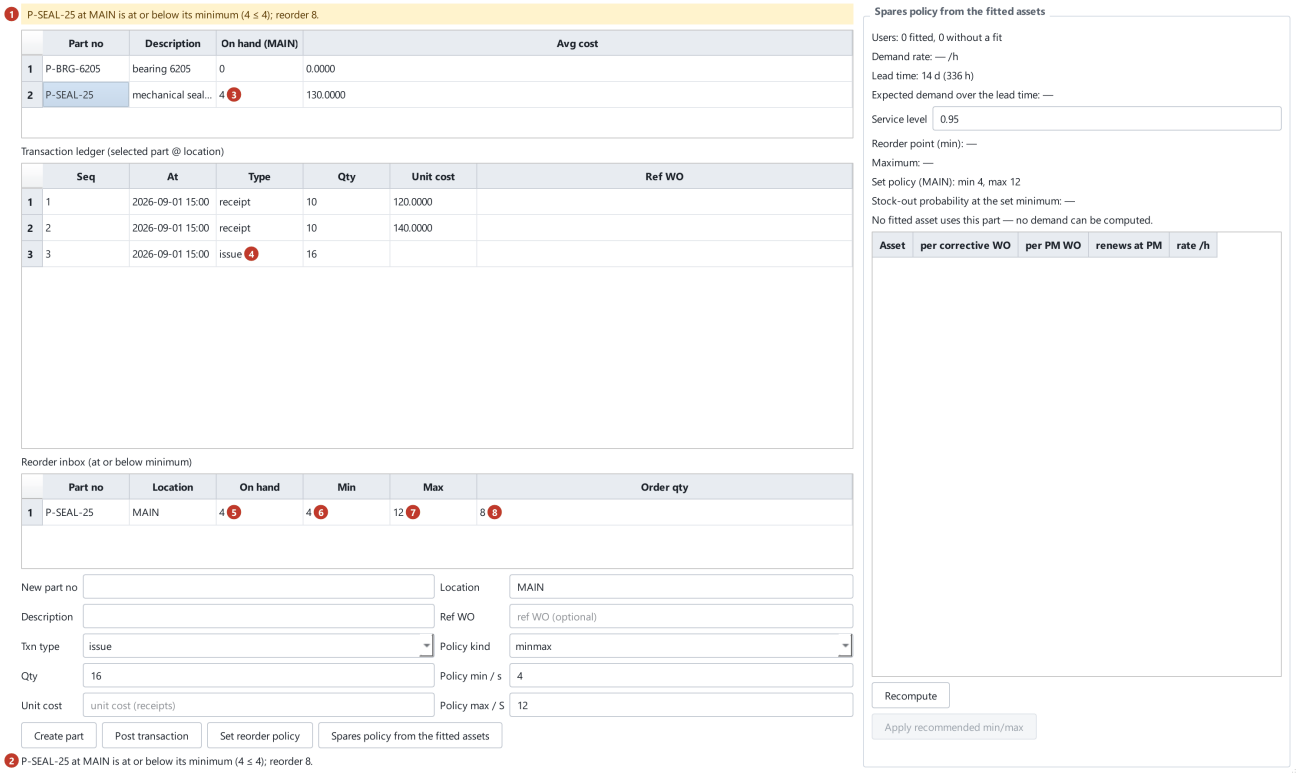
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# Part 4 — The result, picture by picture




The window after the second receipt

- ① The line: on hand 20, avg 130.0000.
- ② On hand (MAIN): 20.
- ③ Avg cost: 130.0000, the average of the two deliveries: (10 × 120 + 10 × 140) / 20 = 130.
- ④ Ledger row 1: receipt, Qty 10 at Unit cost 120.0000.
- ⑤ Ledger row 2: receipt, Qty 10 at Unit cost 140.0000.




The window after the issue of 16

- ① The banner: P-SEAL-25 at MAIN is at or below its minimum (4 ≤ 4); reorder 8. It shows while the part stays at or below its minimum.
- ② The line: the same warning. The issue is posted; the warning does not block it.
- ③ On hand (MAIN): 4, that is 20 − 16. Avg cost stays 130.0000: an issue does not change the average.
- ④ Ledger row 3: issue, Qty 16.
- ⑤ The reorder inbox, row P-SEAL-25 at MAIN, On hand: 4.
- ⑥ Min: 4, the policy's minimum.
- ⑦ Max: 12, the policy's maximum.
- ⑧ Order qty: 8, the quantity that brings the stock back to the maximum: 12 − 4.

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# Part 5 — How to interpret the results

**What does a seal cost a job?** 130.0000 each: every seal issued to a work order is charged at the average cost of that moment, not at the price of the delivery it came from. A wrong unit cost on a receipt moves the average for every later issue, so check the line after each receipt.

**What to order now?** 8 seals, to bring the stock back to 12. The warning does not block issues: the stock keeps falling until the order arrives, and the order quantity grows with each issue below the minimum. Post the receipt when the order arrives; the part leaves the inbox once it is above its minimum.

**Are 4 and 12 the right limits?** The minimum should cover the seals used while an order is on its way; the maximum caps the money held on the shelf. To set them from the failure behaviour of the pumps that use the seal, open the panel Spares policy from the fitted assets.

**What if the shelf disagrees with the ledger?** Post a count with the figure found: it sets the quantity on hand, leaves the average unchanged, and the ledger keeps both the history and the count - look for seals taken without an issue being posted.