

What Is Inventory Turns?

Inventory Turns measures how many times your MRO storeroom cycles through its stock in a given period. It answers a deceptively simple question: is the money sitting on your shelves actually moving, or is it parked there collecting dust?

A higher number means your inventory is being consumed and replenished efficiently. A lower number means capital is tied up in parts that aren't being used. But context matters enormously. A nuclear plant with 0.5 turns might be perfectly healthy. A transit fleet shop at 0.5 turns almost certainly has a dead stock problem. The number only means something when you know what it should be for your industry and your operation.

THE FORMULA

$$\text{Inventory Turns} = \text{Total Issue Value} / \text{Average Inventory Value}$$

EXAMPLE

Total Issue Value (12 months): \$1,200,000

Average Inventory Value: \$ 800,000

Inventory Turns: 1.5

In manufacturing, the numerator is typically Cost of Goods Sold. In MRO and maintenance, you rarely have a COGS figure, so the standard substitute is **Total Issue Value**: the dollar value of all parts issued from the storeroom over the measurement period (usually 12 months). **Average Inventory Value** is the mean of your beginning and ending on-hand inventory value for the same period. Some organizations use a rolling monthly average for more stability.

CALCULATION NOTE

This guide uses a consumption-based version of Inventory Turns: Total Issue Value divided by Average Inventory Value. This measures how quickly stocked material is actually being consumed by maintenance. SMRP's Stores Inventory Turns metric uses Value of Stock Purchased divided by Value of Stock on Hand. Both are valid for different purposes, but do not mix the two methods when comparing sites, industries, or year-over-year results.

In Maximo, issue history comes from the Material Use Transactions (MATUSETRANS) table, filtered to material issue types and valued using the transaction line cost. On-hand balances come from the Inventory Balances (INVBALANCES) table, with cost support from Inventory (INVENTORY) or Inventory Cost (INVCOST) depending on the costing setup. One thing to keep in mind: INVBALANCES gives you a point-in-time snapshot, not a historical average. For the denominator, you need beginning and ending inventory values or, better yet, periodic snapshots to calculate a rolling average.

Be consistent about whether returns, transfers, direct-charge material, consignment stock, and repairable or rotatable items are included in your calculation. Changing the inclusion rules between periods makes

trend analysis meaningless.

A Note on the Number Itself

Inventory Turns is an aggregate metric. Your overall storeroom might show 2.5 turns, but that single number hides critical differences. Consumables like filters and lubricants might turn 8 to 12 times a year. Insurance spares for critical equipment might sit for years without moving, and that is by design. Dead stock (items with no consumption history and no foreseeable need) turns zero times and drags the aggregate down.

The real value of Inventory Turns comes when you segment it: by ABC classification, by storeroom, by commodity group, by equipment criticality. The aggregate tells you whether to investigate. The segments tell you where to act.

Industry Benchmarks

These ranges represent what I typically see across organizations with reasonably mature inventory programs. They are working references, not research claims. Your operation may sit outside these ranges for perfectly good reasons. Use them as a starting point for the conversation, not as a verdict.

INDUSTRY	TYPICAL RANGE	MAXIMO ADD-ON
Aviation	0.5 – 2.0	MAS Aviation
Oil & Gas	0.8 – 2.5	MAS Oil & Gas
Transportation	1.5 – 4.0	MAS Transportation
Utilities	1.0 – 3.0	MAS Utilities
Nuclear	0.3 – 1.0	MAS Nuclear

Do not compare your result to another site, company, or industry benchmark unless the numerator, denominator, inventory categories, and measurement period are defined the same way.

Aviation

Typical range: 0.5 to 2.0 turns per year

Aviation MRO inventory operates under constraints that make low turns not just acceptable but necessary. Rotable pools, life-limited parts, and long-lead components like engine modules and landing gear assemblies can sit in a bonded storeroom for months or years between overhauls. FAA and EASA regulations dictate traceability and certification requirements that eliminate the option of just-in-time sourcing for many line items. If a part requires a Certificate of Conformance or batch traceability documentation, you stock it or you ground the aircraft waiting for it.

The real danger in aviation inventory is not low turns on rotables and insurance spares. That is the cost of doing business. The danger is low turns on consumables and expendables: O-rings, hardware, sealants, lubricants, and shop supplies that should cycle frequently. When your consumable segment shows turns below 3.0, you likely have overstock from bulk buys that went stale, expired shelf-life material still sitting in bins, or items for aircraft types no longer in the fleet. MAS Aviation tracks tail numbers and fleet configurations, which means you can tie inventory directly to active versus retired airframes and identify typical range of 4.0 to 5.0 turns per year.

Oil & Gas

Typical range: 0.8 to 2.5 turns per year

Oil and gas operations stock inventory against two competing realities: the enormous cost of production downtime and the logistical difficulty of getting parts to remote locations. An offshore platform, a pipeline compressor station in northern Alberta, or a refinery turnaround all require pre-positioned critical spares because lead times from suppliers can exceed the window you have before production losses dwarf the carrying cost of the part. The result is large insurance spare inventories that intentionally turn slowly.

Where oil and gas operations lose money on inventory is not in those strategic insurance spares. It is in the accumulation of project surplus, turnaround leftovers, and vendor minimum order quantities that exceed actual consumption. A turnaround might require 200 gaskets of a specific type. The vendor minimum is a box of 500. AftletT* (car spar 3e 200 gaskegoney letTed shrs, aneftooseveory ageetresipltify) Tj 0947 Tes thp

Electric, water, and gas utilities carry inventory across widely distributed storerooms and service centers. A single utility might operate a central warehouse plus 10 to 30 satellite locations, each stocking parts for the assets in its geographic territory. That distributed model inherently pushes turns down because the same safety stock gets replicated across locations rather than pooled centrally. A transformer bushing that would turn twice a year in a central warehouse turns 0.3 times at each of ten substations that each stock one.

Utilities also face demand spikes that wreck inventory planning models built for steady-state consumption. Storm seasons, heat waves, freeze events, and water main break clusters can exhaust months of planned inventory in days. The organizations that manage this well maintain separate storm stock or emergency reserve categories and exclude them from their routine turns calculation. Those that do not end up with inflated average inventory values that make their turns look worse than their actual operational consumption warrants. MAS Utilities manages linear network assets (poles, pipes, feeders, mains) and ties inventory to the network, supporting both geographic segmentation and event-driven demand analysis.

Nuclear

Typical range: 0.3 to 1.0 turns per year

Nuclear power plants carry the lowest inventory turns of any asset-intensive industry, and for good reason. Nuclear Regulatory Commission (NRC) requirements and 10 CFR 50 Appendix B quality assurance programs mandate that safety-related and quality-class spare parts be available on demand. A reactor coolant pump seal, a safety injection valve, or a diesel generator component cannot be sourced just-in-time. The consequence of a stockout on a safety-class item is not a production delay. It is a regulatory event, a potential forced shutdown, and an entry into the Corrective Action Program.

In nuclear, the inventory turns conversation is almost inverted compared to other industries. Extremely low turns on safety-class and quality-class inventory is a sign of responsible management, not waste. The metric still matters, but you apply it selectively. Consumables, maintenance supplies, scaffolding materials, and balance-of-plant (non-safety) spares should still turn at rates comparable to other power generation facilities (1.5 to 3.0). Where nuclear plants accumulate unnecessary cost is in carrying commercial-grade inventory to safety-class standards when it does not need to be, or in stocking spares for equipment that has been replaced or abandoned in place during a modification. MAS Nuclear manages the quality classification and regulatory compliance tracking that makes this segmentation possible without spreadsheets.

The Number You Have to Watch Alongside Turns

Every industry section above mentions the same risk from a different angle: improving Inventory Turns without watching what happens to Part Stockout Rate is not inventory optimization. It is storeroom starvation dressed up as efficiency.

Turns going up and stockouts staying flat means you genuinely reduced waste. Turns going up and stockouts climbing means you cut too deep, and now your technicians are waiting on parts, your emergency purchases are spiking, and your work order cycle times are stretching. The improvement in carrying cost gets eaten by expediting fees, production losses, and crew idle time.

Always report Inventory Turns and Part Stockout Rate together. If someone in your organization is celebrating higher turns without checking stockouts, hand them both numbers side by side. The story

changes fast.

Best Next Action

Run Inventory Turns three ways: total storeroom, consumables only, and critical/insurance spares excluded. Then compare each result against Part Stockout Rate and Dead Stock %. That is where the real story appears.

Go Deeper: The Inventory Turns Guide

This benchmark tells you where you stand. The full **Maximo KPI Guide: Inventory Turns** covers the complete implementation: building the query in Maximo, segmenting by ABC classification and storeroom, running the drilldown diagnostic from aggregate to root cause, setting up automated KPI tracking in KPI Manager, and building the business case with real dollar scenarios. It also includes companion coverage of Part Stockout Rate and Dead Stock % so you manage the full picture, not just one number.

Available on Amazon.com.

Quick Maximo questions are always free. Reach out on LinkedIn at [linkedin.com/in/brockjason](https://www.linkedin.com/in/brockjason). I never charge for chatting.

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