Parts Counting Scales

A counting scale determines piece count by dividing total weight by an average piece weight learned from a sample. Accuracy depends far more on piece-weight consistency and internal counting resolution than on the displayed weight increment, which is why counting scales quote a separate internal resolution such as 1/1,000,000.

Counting scale selection

Application	Typical capacity	Typical readability	Notes
Electronics, small hardware, jewelry findings	1.2–6 kg	0.01–0.1 g	Compact balance with count mode
Fasteners, kitting, stockroom counts	6–30 kg	0.1–1 g	Dedicated counting scale
Bulk bins and totes	60–150 lb	0.005–0.01 lb	Bench counting platform
Two-scale remote counting	Base + remote	Combined	Sample on the fine scale, bulk on the coarse

Certification and compliance

- Authorized A&D Weighing dealer. Sold as an authorized dealer since 1998, so every unit carries the full manufacturer warranty and factory firmware — not grey-market stock.
- NIST-traceable calibration certificate. Any instrument can ship with a calibration certificate produced in our Cypress, Texas lab using mass standards traceable to NIST, with as-found and as-left values recorded.
- NTEP legal-for-trade options. Models in this category are available with an NTEP Certificate of Conformance evaluated against NIST Handbook 44, ready for sealing by your state weights-and-measures authority.
- ASTM E617 / OIML R111 test weights. Verification weights are supplied in ASTM Class 1–6 or OIML E2–M3 tolerances, sized so the standard's tolerance stays inside one third of the scale's smallest division.
- In-house repair & on-site service. Factory-trained technicians repair, adjust and re-certify weighing equipment in our own Texas workshop and on-site across the Houston metro.

Specification checklist

- Lightest piece weight. One piece should weigh at least 10 display divisions on the scale doing the sampling.
- Internal counting resolution. Look for the internal figure (e.g. 1/1,000,000), not the displayed increment.
- Sample size options. 5/10/25/50/100-piece sampling plus automatic average refinement.
- Memory. Stored piece weights for repeat SKUs remove the sampling step entirely.
- Capacity for the container. Include the bin or tote weight — tare does not give capacity back.

Frequently asked questions

How accurate is a counting scale?

Counting accuracy is limited by piece-weight variation, not the scale. With consistent parts and a 100-piece sample, ±0.5% counts are realistic; with mixed-lot or plated parts, error grows quickly.

How do I improve counting accuracy?

Sample more pieces, use a scale with finer readability for the sampling step, count one lot at a time, and re-sample when the part supplier or plating changes.

Can a regular scale count parts?

Only if it has a counting mode. Any balance can approximate counting by dividing total weight by piece weight manually, but dedicated counting scales apply automatic average refinement that manual division does not.

What is average piece weight (APW)?

APW is the mean mass of one item, learned by weighing a known sample quantity. All piece counts are total weight divided by APW, so APW error scales directly into count error.

Terminology

Accuracy	How close a displayed weight is to the sample's true mass. Accuracy is limited by readability, repeatability and linearity together, so a scale can never be more accurate than its specification sheet's worst of those three figures.
Auto-zero tracking	A function that continuously re-zeros small drifts near zero so the display stays at 0 when the pan is empty. It can mask a very slow addition of material, so it is disabled for some dispensing work.
Calibration	Adjusting a scale's span so it reads a certified test weight correctly, documented with as-found and as-left values. Distinct from verification, which records a reading without changing anything.
Capacity	The maximum mass a scale is rated to weigh. Usable capacity is the rated capacity minus every container, fixture or platform that sits on the pan, because tare does not add capacity back.
Counting mode	A mode that divides total weight by a sampled unit weight to report piece count instead of mass. Count accuracy depends on how many display divisions the single lightest piece weighs — at least ten is the practical minimum.
Division (d)	The smallest increment the display can change by, also called readability or scale interval. A 1200 g x 0.01 g balance has a 0.01 g division and 120,000 divisions across its range.
Resolution, internal	The number of counts the analog-to-digital converter actually resolves internally, typically ten to a hundred times finer than the displayed readability. High internal resolution is what makes stable, fast display averaging possible.
Stabilisation time	How long after a load is applied before the reading is stable enough to record. It determines real throughput far more than capacity does in high-volume weighing.

EK1200i.com — authorized A&D Weighing dealer since 1998. Calibration, repair and application support from Cypress, Texas.
Call 832-290-3120 · info@mnmscales.com · https://ek1200i.com/counting-scales