

The Complete Power Station Buying Guide

How to choose the right portable power station for your needs

Portable power stations can be confusing. Watt-hours, surge power, battery chemistry — it's a lot. This guide breaks down everything you need to know before you buy.

Understanding Capacity (Wh)

Watt-hours (Wh) tell you how much energy the station can store. This is the most important specification.

Capacity	What It Can Power
250Wh	Phones (15+ charges), laptops (2-3 charges)
500Wh	Mini-fridge (8-10 hrs), CPAP (overnight)
1000Wh	Full-size fridge (4-6 hrs), power tools
2000Wh+	Whole-home backup, extended off-grid

Understanding Output (W)

Watts (W) tell you how much power the station can deliver at once. Check your devices' wattage on their labels.

Output	What It Can Run
300W	Electronics only (phones, laptops, lights)
1000W	Small appliances (mini-fridge, CPAP, TV)
1800W	Large appliances (microwave, coffee maker)
3000W+	Whole-home backup

Battery Chemistry

Li-ion (NMC) — Lighter, Cheaper

- 500-800 charge cycles
- Lighter weight
- Lower cost
- Good for occasional use

LFP (LiFePO4) — Longer Life

- 2500-3500+ charge cycles
- Heavier
- More expensive
- Best for daily use and long-term ownership

Calculating Your Needs

1. List everything you want to power simultaneously 2. Add up the wattages 3. Multiply by hours of needed runtime 4. Add 20% for inefficiency Example: 100W (lights + router) × 24 hours = 2400Wh. With 20% buffer: 2880Wh minimum.

Our Top Picks

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