POWER RATINGS AND 4 A PER KW

QUICK ONE. HOW MANY AMPS DOES A 3 KILOWATT IMMERSION DRAW?

Working out current from an appliance's power rating is how you **size protective devices and cables** in domestic installations.

HOW MUCH CURRENT DOES A 10,000 W COOKER DRAW ON 230 V?

$$I = P \div V = 10{,}000 \div 230 = 43.48 \text{ A}$$

> **Rule of thumb:** at 230 V, **1 kW ≈ 4 A** (1000 ÷ 230 = 4.35 A). A 3 kW immersion heater draws about 12–13 A, and a 10 kW cooker about 43 A. It's a good starting point when you work out cable and protective device sizes.

Later this feeds into choosing a cable's **CSA** (cross-sectional area). That depends on the current, but also on the cable's length and how it's installed.

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