

Dryer Load Calculator

Estimate connected dryer load, demand-adjusted VA, and line current from entered nameplate rating, dryer quantity, demand factor, voltage, and phase.

Generated October 10, 2026

<https://www.elecatrix.com/residential-load-service/dryer-load-calculator/>

Inputs

Input	Value	Unit
Dryer nameplate load	5	kW
Dryer count	3	count
Demand factor	75	%
System voltage	240	V
Phase	Single-phase	

Results

Result	Value	Unit
Connected dryer load	15000	VA
Demand dryer load	11250	VA
Dryer current	46.875	A
Phase multiplier	1	x

Calculation details

Detail	Value	Unit
Calculation basis	Connected dryer load equals entered nameplate kW times quantity. Demand dryer VA applies the entered demand factor before current conversion.	
Selection boundary	Dryer load estimate only; no dwelling load calculation, dryer demand table, branch-circuit sizing, conductor, breaker, or code-compliance result is made.	

Formulas

Connected dryer VA = nameplate kW x 1000 x dryer count

Demand dryer VA = connected dryer VA x (demand factor (%)/100)

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Phase multiplier = 1 for single-phase, $\sqrt{3}$ for balanced three-phase

Dryer current = (demand dryer VA/phase multiplier x voltage)

Warnings and limitations

This dryer load estimate uses user-entered nameplate and demand-factor assumptions. It does not apply dryer demand tables, size circuits, or prove code compliance.