# Garage Heating Safety & Sizing Cheat Sheet

From Vital Dwelling — "How to Heat a Garage or Workshop Safely" · vitaldwelling.com/how-to-heat-a-garage/

## 1 · SIZE IT IN BTU (standard 8-ft ceilings · watts × 3.41 = BTU)

| Garage | Insulated | Uninsulated |
|---|---|---|
| **1-car (~250 sq ft)** | ~9,000–12,000 BTU | ~12,000–18,000 BTU |
| **2-car (~400–500 sq ft)** | ~18,000–25,000 BTU | ~25,000–35,000 BTU |
| **3-car / shop (~750 sq ft)** | ~25,000–35,000 BTU | 35,000 BTU+ — or heat the zone, not the volume |

A 1,500 W plug-in heater is only ~5,100 BTU — a bench warmer, not a 2-car warm-up. Two temperatures: ~40°F to protect stored paint and liquids, working temperature only for the hours you are in there.

## 2 · THE 5 HEATERS, MATCHED TO THE 5 GARAGES

| | Flame King CHS20 ★ | Big Buddy PRO | DR-968 | DR-975 | Flame King 60K |
|---|---|---|---|---|---|
| **Type** | Radiant propane | Radiant propane | Electric infrared+PTC | Electric hardwired | Forced-air propane |
| **Output** | Up to 20,000 BTU | 4k / 9k / 18k BTU | 1,500 W (~5,200 BTU) | 7,500 / 4,700 W | 60,000 BTU |
| **Thermostat** | Yes | No (3 settings) | Electronic 50–85°F | Remote thermostat | Thermostatic control |
| **Ventilation** | Required | Required (≥18 sq in) | None needed | None needed | Outdoor / airflow |
| **Key safety** | ODS + tip-over | ODS + tip-over + thermal | Tip-over + overheat | Overheat + alarm, UL | Fuel + tilt shutoff |
| **Install** | None | None | Plug in 120 V | Electrician, 240 V | None (fan needs power) |

## 3 · COMBUSTION SAFETY CHECKLIST — BEFORE EVERY SESSION

[ ] **Ventilation opening open** — at least 18 sq in (a window or door cracked), every session, no exceptions.
[ ] **CO alarm in the garage, tested** — an oxygen sensor (ODS) is NOT a carbon monoxide alarm. Both layers, always.
[ ] **Clearances respected** — Big Buddy manual: 30 in above, 24 in in front, 6 in at the sides. Ignition source 18 in above the floor where codes require it; check your local code.
[ ] **No fuel near the heater** — no gasoline, solvents or refuelling anywhere near a running heater; never refuel indoors.
[ ] **Never unattended, never while sleeping** — propane heat is session heat: on while you are there, off when you leave.
[ ] **Moisture habit** — propane makes water vapour: ventilate, and wipe tools down after long sessions to stop condensation and rust.

## 4 · ORDER OF OPERATIONS — SEAL FIRST

1) Seal the door (bottom seal + weatherstripping — daylight at the edges is heat leaving). 2) Insulate the door and ceiling. 3) Then buy the heater — after sealing, the heater you need is a size smaller. Running cost: electric ≈ 27¢/hr (1,500 W) to $1.37/hr (7,500 W) at full power at the ~18.3¢/kWh US average; a 20 lb propane tank holds ~430,000 BTU.