Methodology & sources

How the on-site food-residue comparison is derived — figures, scope and references. GWM d.o.o., Zagreb, Croatia · European Union.

	Griffon	On-site composter	Dehydrator	Classic collection
Leftover material	None — drains as liquid	Yes — solid output	Yes — dried mass	Yes — full mass
Usable on a vegetable garden? [1]	Nothing to apply	No	No	—
Legal to spread on land? [2]	Not applicable	No — approved facility	No — approved facility	Hauler
Plumbing [3]	Standard kitchen drain	—	—	—
Process energy [4]	0.03–0.06 kWh/kg	≈0.28 kWh/kg	≈0.58 kWh/kg	—

1. Is the output usable on a vegetable garden?

On-site composters and dehydrators reduce and hygienise food residues, but peer-reviewed work shows the material is typically biologically immature and not equivalent to finished compost: it needs further curing before use, and studies have detected phytotoxicity persisting even after several weeks of curing. Regulatory guidance likewise states that dried food residue is not compost and must be rehydrated and blended before composting. Applied directly to edible crops, immature material can inhibit germination and damage plants, and it engages food-safety obligations for the food business. Griffon produces no solid material — nothing to cure, store or apply.

Sources: Science of the Total Environment (2020); BioCycle, "Electric Kitchen Composter Confusion" (2023); CalRecycle guidance.

2. Is it legal to spread the output on land?

Under EU law, catering and kitchen food residues are animal by-products (Category 3). Converting them into compost or digestate intended for land application must take place in a facility approved under Regulation (EC) 1069/2009 using a validated process — not in an on-site kitchen appliance. In practice the output of an on-site machine is therefore still removed and, in most cases, handled as waste. Griffon produces no solid output, so this land-application pathway does not arise.

Sources: Regulation (EC) 1069/2009 and Commission Regulation (EU) 142/2011; Croatian Pravilnik on animal by-products not intended for human consumption.

3. Plumbing — the standard kitchen drain.

Each Griffon connects to the existing kitchen drain, which — like the dishwasher and every other appliance — runs to the building's grease separator (EN 1825), the standard pre-treatment every commercial kitchen already has. Measured effluent is around 1700 mg/L COD, and below 500 mg/L after the grease separator — comparable to ordinary domestic wastewater. The enzymes and micro-organisms used in digestion continue to act downstream on fats, oils and grease, in the same way as documented grease-trap bioaugmentation, which peer-reviewed studies associate with lower fat/oil/grease deposition, fewer sewer-line blockages and reduced COD load to treatment plants. Across our installations to date we have recorded no wastewater problems, and on some sites an improvement in trap and drain-line condition was observed (field observation, not a controlled laboratory measurement).

Sources: peer-reviewed grease-trap bioaugmentation literature (e.g. Bioresource Technology; Journal of Environmental Sciences); Griffon effluent measurement and field experience.

4. Running cost — electricity.

Griffon is driven by small, single-phase, continuous-duty motors — 0.18 kW on the GR-70/GR-150 up to 1.5 kW on the GR-1000 — with no high-power drying stage. At maximum rated throughput this is approximately **0.03–0.06 kWh per kilogram** of food residues (nameplate rating — a conservative upper bound; actual draw is typically lower). This matches the University of Zagreb figure reached by a different route: 21.40 kg CO_2/t at the study's 0.60 kg CO_2/kWh factor is about 0.036 kWh/kg. For context grounded in physics: any process that reduces mass by drying must supply the latent heat of vaporisation of water — on the order of 0.45–0.55 kWh per kilogram of residues at typical 70–80% water content (standard steam tables), before any system losses. Because Griffon discharges water as liquid rather than evaporating it, this dominant energy term does not apply. The composter (≈0.28 kWh/kg) and dehydrator (≈0.58 kWh/kg) values are derived from the CO_2 figures at the same factor.

Sources: Griffon motor nameplate specifications; University of Zagreb, Faculty of Geotechnical Engineering (2022); standard steam tables (latent heat of vaporisation of water).

> **What we do not claim.** We do not claim Griffon is net carbon-negative or environmentally superior on a full lifecycle basis — composting and anaerobic digestion can be net-negative thanks to resource-recovery credits. Competitor electricity values are derived or modelled, not measured on a specific third-party device. Wastewater improvement is an operational observation, not a controlled measurement. This document is general technical and regulatory information, not legal advice.