Kitchen Grease Trap Sizing

Working volume of a kitchen grease trap from the peak flow of the connected sinks and appliances, the retention time and a storage factor for grease.

Method: Retention-time sizing of grease interceptors

Input parameters

Unit system: SI

Parameter	Value	Unit
Peak flow from fixtures	60.000	L/min
Retention time	30.000	min
Storage factor for grease and solids	1.2500	

Calculated results

Parameter	Value	Unit
Working volume	2,250.0	L
Volume without the storage factor	1,800.0	L

Notes for this case

• Grease separates by floating, so the trap must hold the incoming flow long enough for fat droplets to rise: about 20–30 minutes at peak flow. The storage factor adds room for the grease and food solids that collect between cleanings. Hot water and detergents keep grease emulsified and reduce separation; cool the flow and clean the trap regularly. Check local plumbing codes, which may use fixture-unit methods instead.

Formula and method

$$V = k_s \dot{V} t_r$$

Variables

$\dot{V}$	Peak flow from fixtures	m³/s
t_r	Retention time	s
k_s	Storage factor for grease and solids	-
V	Working volume	m³
V_h	Volume without the storage factor	m³

Method and standards

Grease trap.

Assumptions and limits

- Peak flow and retention as entered.

References

Retention-time sizing of grease interceptors

Report details

Report reference	FCC-SPCJ-CGQF (the same inputs always give the same reference)
Generated	23 November 2026, 17:50 UTC
Calculator	Kitchen Grease Trap Sizing
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Release checks	3 reference cases of this calculator, computed independently, are checked on every release

Results are for engineering estimation. Verify critical designs against the referenced standards and your own data.

This calculator online

https://calc.firecad.com/civil/hydraulics/grease-trap-sizing

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.