

Sizing

(Outdoor) Grease/Trap Interceptor

$$Q=(D*HR*GL*LF)/2$$

Capacity of external grease/trap interceptor = Q= _____

Seats in dining area = D= _____

Hours of operation per day = HR= _____

Gallons of wastewater generated per meal = GL= _____

(Use 5 for Restaurants)

Restaurant loading factor = LF = _____

LF= 1.25; interstate/freeways

LF=1.0; recreation areas

LF=0.8; state routes

LF=0.5; local roads and highways

(Indoor) Automatic Grease Recovery Unit

Sinks

L=length = _____

W=width = _____

H= height = _____

$$V \text{ (gallons)} = \frac{L*W*H \text{ in}}{231 \text{ in/gal}}$$

$$V_d = \text{volume displaced (gallons)} = 0.25*V$$

$$V_{\text{sink}} \text{ (gallons)} = V - V_d$$

$$D = \text{discharge from sink over a two minute period, (gpm)} = V_{\text{sink}} / 2\text{mir}$$

Thermaco
BIG DIPPER[®] Kitchen Grease Removal



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Automatic Grease Interceptor Sizing Worksheet



**STOP Grease
at the Source**

Worksheet

Calculate the volume of EACH fixture being serviced. Measure and record dimensions in inches, length, width, depth.

Fixture # or Location	Length (inches)	Width (inches)	Depth (inches)	# of Basins	Total Volume (cubic inches)
1.	_____ x	_____ x	_____ x	_____ =	_____
2.	_____ x	_____ x	_____ x	_____ =	_____
3.	_____ x	_____ x	_____ x	_____ =	_____
4.	_____ x	_____ x	_____ x	_____ =	_____

Total Volume of all Fixtures (cubic inches) _____

Convert Total Fixture Volume from cubic inches to gallons:

Divide Total Volume of all Fixtures by 231 (cubic inches per gallon) = Total Volume in Gallons _____

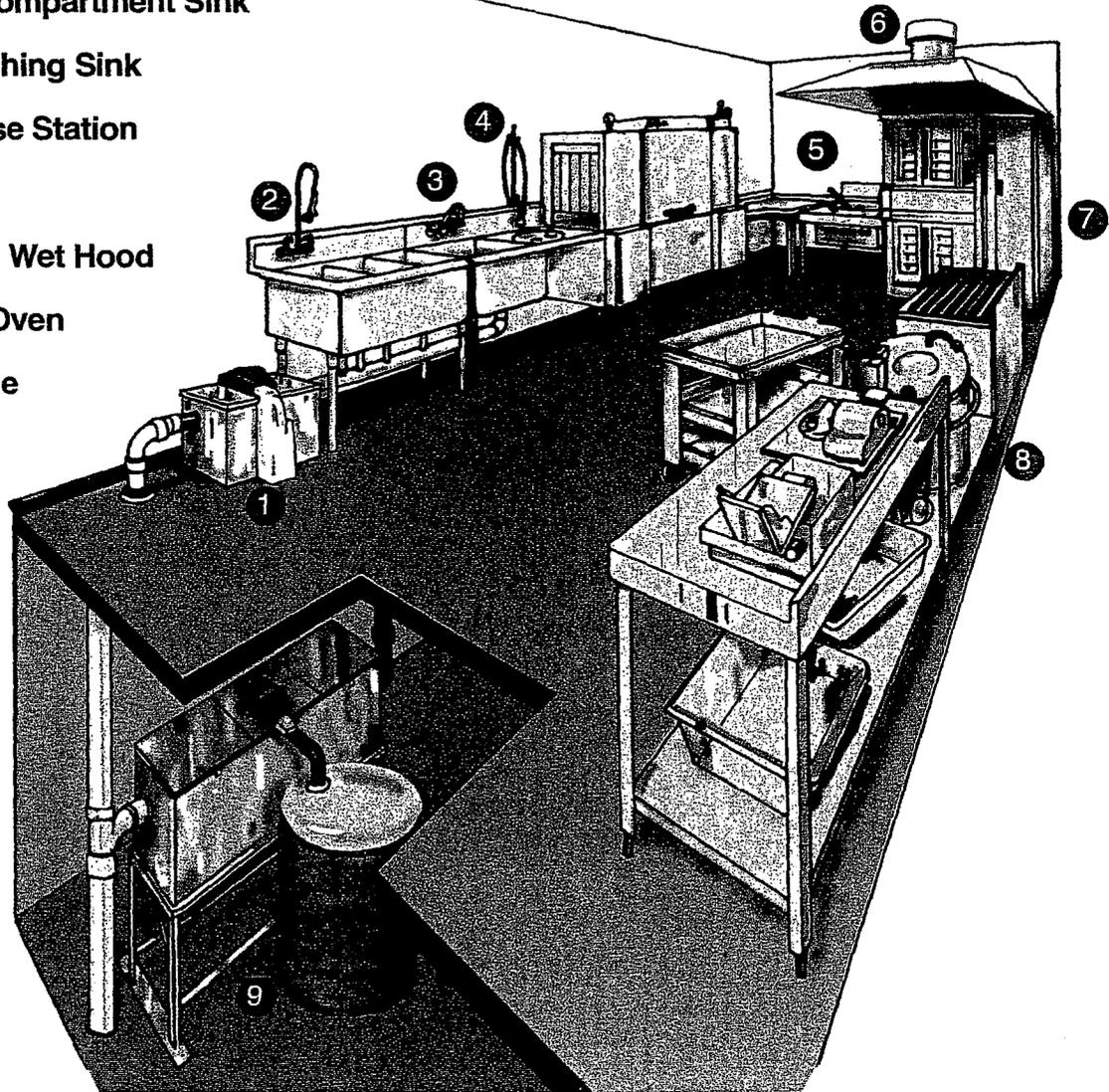
Multiply Total Volume in Gallons by .3 = Flow Rate in Gallons per Minute (GPM) _____

Compare GPM to table of sizes - Match GPM to nearest larger model. Model # AGI - _____

Low Engineering recommends sizing for increased flow - DO NOT undersize unit.

Most Effective Sites in a Kitchen

- ② Three Compartment Sink
- ③ Pot Washing Sink
- ④ Pre-Rinse Station
- ⑤ Wok
- ⑥ Exhaust Wet Hood
- ⑦ Combi-Oven
- ⑧ Tilt Kettle



Point Source Grease Removal

Smaller installations such as fast food restaurants, schools, or cafeterias usually require point-source removal units. ① These will be installed directly at the source, usually at a three-compartment sink or a pot-washing sink. These units easily fit under a counter at the three-compartment sink or pre-rinse station in the kitchen operation. Point-source grease removal units include the W-150-IS (15 GPM) through W-500-IS (50 GPM) Big Dipper systems.

Central Grease Removal

Some installations require the removal of grease & oils from a centralized location with kitchen effluent flows coming in from several different sources. ⑨ These include sites such as hospitals, correctional facilities and casinos - any site that has a large, institutional-type kitchen. The larger units in the Big Dipper® equipment line are best suited for these installations. These units are easily located in a basement or equipment room site. Central grease removal units include the W-750-IS (75 GPM) and W-1250-IS (125 GPM) Internal Strainer, W-750-AST (75 GPM) and W-1250-AST (125 GPM) Automatic Solids Transfer Big Dipper systems. Systems servicing higher GPM capacities are also available.

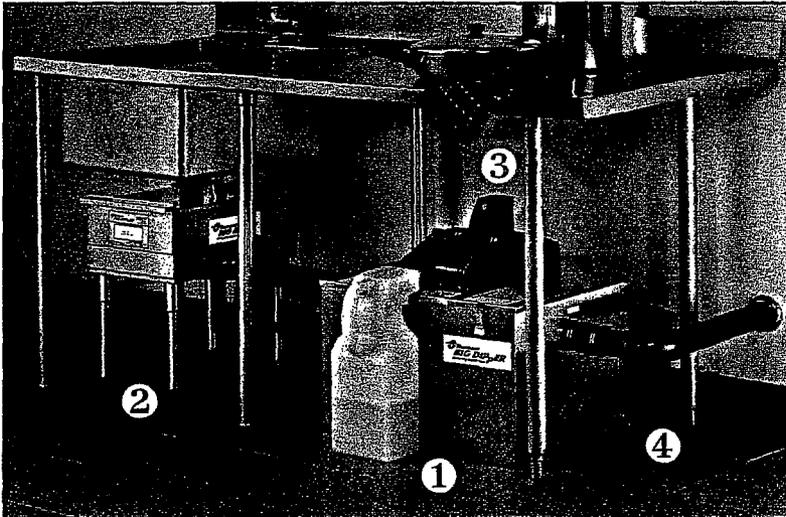
BIG DIPPER® Product Applications

Restaurants
Shopping Centers
Cafeterias
Schools

Hospitals
Correctional Facilities
Casinos
Hotels

Resorts
Airports
Grocery Stores

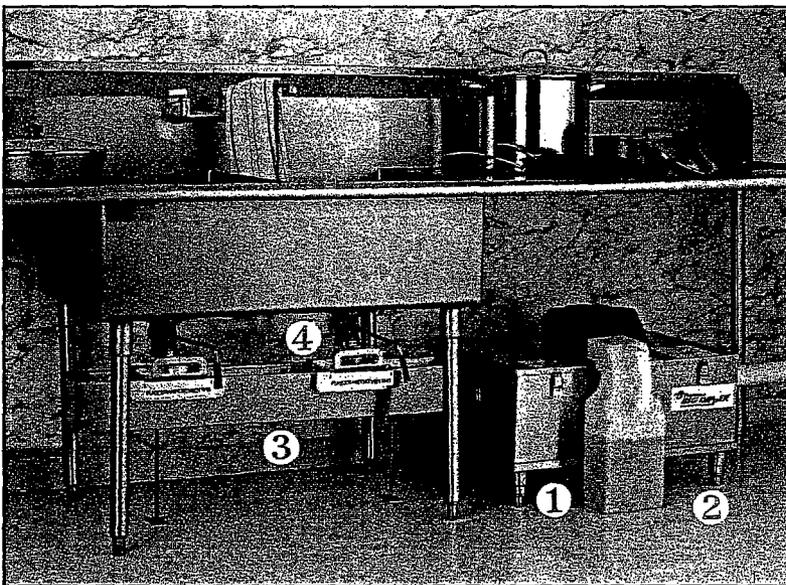
BIG DIPPER® Installation with Option Modules



① 20 GPM Point Source BIG DIPPER® Model W-200-IS

- ② The FS-1 Flat Strainer separates & collects coarse solids such as rice, coleslaw and other food scraps larger than 0.125" (3.175 mm) in diameter found in point source drain flows. Designed to replace garbage disposals. Dewatered solids may be emptied into a trash receptacle. All Stainless Steel Construction.
- ③ The AP-6000-1 Series Alarm Probe provides an early warning that grease is building up either in the BIG DIPPER® Unit (model AP-6000-1-TK) or in the DRUM-55 grease collector (model AP-6000-1-DR). Emits a loud warning tone when attention is required. Optional alarm probe with dry contact for warning light available.
- ④ The CleanZone™ (CZONE-1) provides a sanitary shroud between BIG DIPPER® Model W-200-IS and W-250-IS and the wall of the installation. Keeps refuse from falling behind the unit and allows easy mopping around the BIG DIPPER®. CleanZone™ is field-modifiable for flexibility in installation.

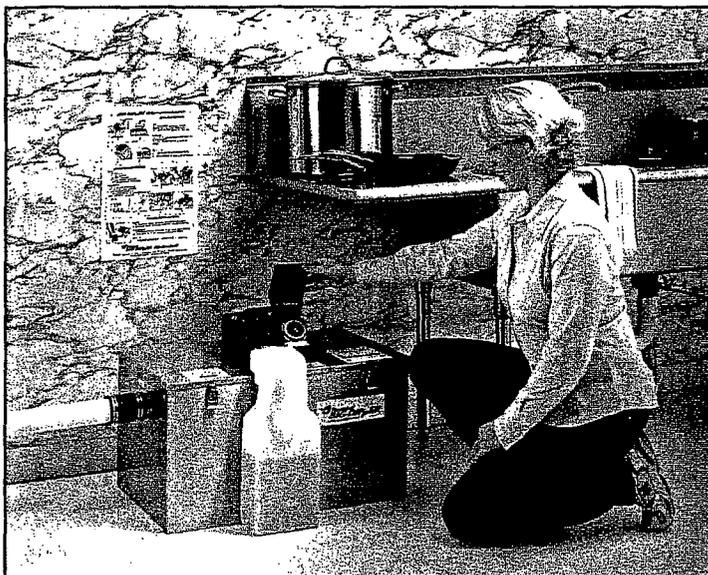
BIG DIPPER® Installation with Option Modules



① 15 GPM Point Source BIG DIPPER® Model W-150-IS

- ② The SFK-150 Support Frame Kit raises Big Dipper Point Source Models W-150-IS, W-200-IS and W-250-IS off of the floor for easy cleaning underneath the unit. Complete with adjustable legs for flexibility in installation.
- ③ The HAG Horizontal Air Gap Assembly Kit offers a simple yet effective method for providing an air gap for meeting health department or plumbing code requirements. Prevents cross-contamination between sink bowls.
**US & International Patents/Patents Pending*
- ④ The optional field-installable HAG-BA-1 Solids Strainer Baskets collect incidental solids from the drain flow entering the HAG Horizontal Air Gap. Dewatered solids may be emptied into a trash receptacle.

Which Unit Works Best in What Setting?



BIG DIPPER® W-250-IS



BIG DIPPER® W-1250-IS

Thermaco, Inc. offers three types of Automatic Grease & Oils Removal Systems. These include the Point Source Grease Removal IS (Internal Strainer) system, the Central Grease Removal IS system and the Multiple Source AST (Automatic Solids Transfer) system. What's the difference between these types, and which one works best in what setting?

**Point Source Units:
Internal Strainer (IS) Series
W-150-IS
W-200-IS
W-250-IS
W-350-IS
W-500-IS**

The Point Source Grease Removal BIG DIPPER® Internal Strainer (IS) series units utilize an internal strainer basket to capture incidental solids in kitchen wastewater flows. It has a skimming wheel mechanism inside the unit that skims the grease & oils out of the retention area when activated by an integral timer. The strainer basket should be emptied at least once per day, more often if the kitchen is a particularly busy one. IS units work well inside fast food-type restaurants or food preparation facilities where grease removal directly at the source is paramount. BIG DIPPER® IS unit sizes handle kitchen flows of 15 to 50 gallons per minute.

**Central Grease Removal
Units:
Internal Strainer (IS) Series
W-750-IS
W-1250-IS**

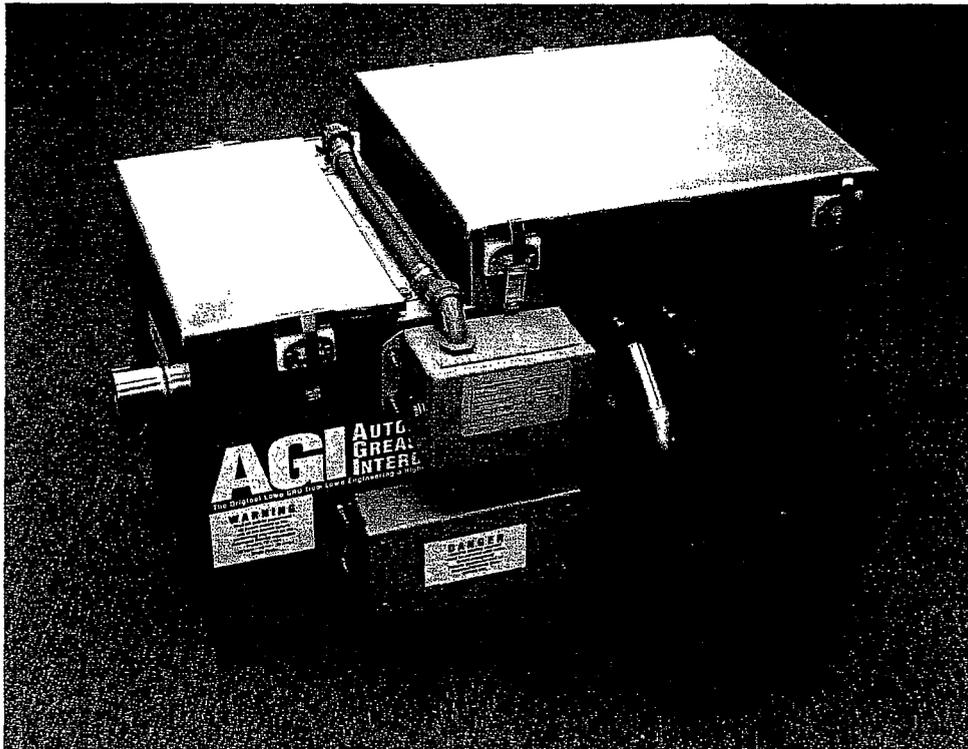
The Central Grease Removal BIG DIPPER® Internal Strainer (IS) series units handle larger flows than Point Source IS units and are designed to treat flows from multiple sources. A larger strainer basket is used to capture incidental solids present in kitchen drainwater that needs to be manually emptied at least once per day. Like the Point Source IS series, a skimming wheel mechanism inside the unit skims the grease & oils out of the retention area when activated by an integral timer. Multiple Source IS models treat kitchen wastewater flows from 75 to 125 gallons per minute. These systems are geared towards higher kitchen flow installations where grease removal from a central location is important but where small loadings of incidental solids are present.

**Automatic Solids Transfer
(AST) Series
W-750-AST
W-1250-AST**

The Central Grease Removal BIG DIPPER® Automatic Solids Transfer (AST) series units provide full automatic grease removal and solids handling. Incidental solids are strained out of the kitchen wastewater and trapped in the solids chamber. Periodically, a water-driven eductor automatically empties the incidental solids out of the solids chamber. Like the IS series, the AST series has a skimming wheel mechanism inside the unit which skims the grease & oils out of the retention area when activated by an integral timer. AST models treat kitchen wastewater flows from 75 to 125 gallons per minute. These systems are geared towards larger facilities like hospitals, correctional facilities or casinos where grease removal from a central location is important and where heavy loadings of incidental solids are present.

AGI-15 - 100 Automatic Grease Interceptors

Low Engineering



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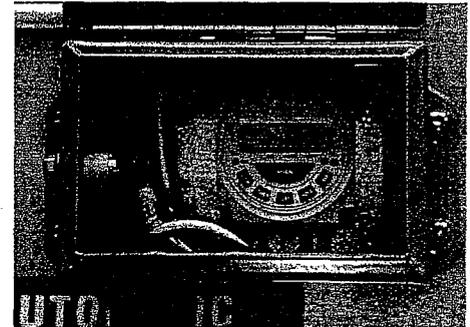
WASTE DISPOSER

Approvals

- PDI-G101
- UPC (IAMPO)
- ASME 112.14.3 & ASME 112.14.4 - 2000



All NEW Digital Timer is preset at the factory and can easily be reprogrammed for specific site conditions and requirements.



AGI Automatic Grease Interceptors

Low Engineering Model AGI Automatic Grease Interceptors are designed to intercept and remove large quantities of fats, oils, and grease (FOG) discharged from food service facilities and large commercial/institutional kitchens, which might interfere with the proper drainage and treatment of municipal wastewater.

Model AGI Automatic Grease Interceptors are relatively small, allowing installation in a kitchen under a sink or other limited space. Model AGI Automatic Grease Interceptors incorporate an electrically powered grease-skimming device.

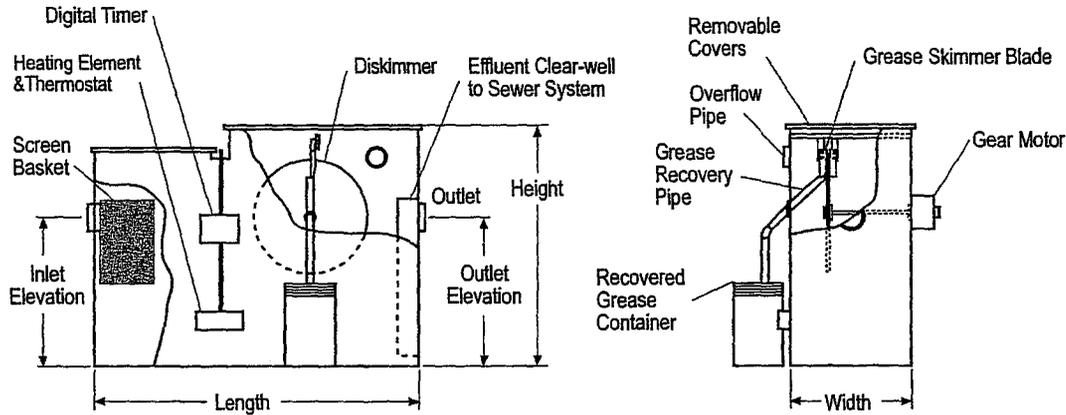
During operation, the grease is separated by gravity floatation. Since grease is lighter than water, it floats and can be skimmed off the top surface of the water on a time or event controlled basis. The skimmed grease is essentially scraped or wiped from the skimmer surface, removed from the interceptor, and collected in a waste disposal container. The accumulated grease and oils can be disposed of or recycled.

AGI units ship with a UL-Approved, heavy-duty plug for use with a properly installed GFI outlet, according to appropriate electrical code. The plug can be removed for direct wiring if required by authority having jurisdiction.

Proven Performance

- Recovers, removes and recycles fats, oils and grease.
- Extremely low maintenance - only one moving part!
- Quality design and construction
- The Lowe Engineering Automatic Grease Interceptor - The Original Automatic - Still the best available interceptor!

General Arrangement



Model	Dimensions			Static Water	†Grease Holding Capacity	Inlet / Outlet Diameter	Inlet / Outlet Height
Capacity	Length	Width	Height	(Gallons)	(lbs.)		
*AGI - 15	23"	12"	17"	9	50	2 1/2"	9 7/8"
*AGI - 20	27"	14"	18"	13	69	2 1/2"	9 7/8"
*AGI - 25	33"	16"	18"	17	91	3 1/3"	9 7/8"
AGI - 25L	40"	22"	18"	19	83	3 1/3"	6 7/8"
AGI - 30	36"	17"	19"	23	124	3 1/3"	10 7/10"
AGI - 35	36"	18"	26"	44	253	3 1/3"	17 1/17"
AGI - 50	40"	18"	33"	50	292	4 1/4"	18 1/18"
AGI - 75	48"	18"	36"	75	458	4 1/4"	22 7/22"
AGI - 100	60"	20"	36"	104	636	4 1/4"	22 7/22"

† National Plumbing Code requires a minimum 2 lbs. of grease detention for each GPM of flow.

* Low inlet/outlet height (at 6") available on AGI models 15, 20 & 25.
Custom sizes, inlet/outlet elevations available, consult factory.

Advantages

- Removes and recovers nearly 100% of the fats, oils and grease from kitchen and food processing drains.
- New Digital Technology removes grease automatically on a pre-programmed, timed basis.
- Constructed of stainless steel and other corrosion resistant materials - suitable for installation in almost any location.
- Includes an electric immersion heater to maintain grease temperature and consistency for effective removal.
- Recovered grease is collected in an external Waste Grease Container.
- Easy access to interior for maintenance and cleaning.
- Eliminates costs of cleaning pipes and/or holding tanks inside and outside of the building.
- Removable screen basket collects and contains solids.
- Automatic timing device assures removal of grease on a daily basis.
- Removal of grease quickly eliminates decomposition and rancid chemical reactions.
- Reduces Total Suspended Solids (TSS) and Biological Oxygen Demand (BOD) loading.
- Recycled grease conforms to most environmental protection programs.
- Extensive range of standard sizes and capacities; Custom manufacturing is available.
- Plug in unit can be hard-wired if required by authority having jurisdiction.



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