THE #1 NAME IN
AUTOMATIC GREASE REMOVAL

BIG DIPPER®
A THERMACO® Technology

30,000+ AGRD's Sold Worldwide

Most Patents in the Industry

Manufactured in the US since 1979

...NOW INTRODUCING THE ALL NEW
40000 SERIES BIG DIPPER® MODELS
with DIGITAL CONTROL FEATURES

Why Choose a Big Dipper®?

If you plan to build a Foodservice Facility or renovate an existing one, a Big Dipper® Automatic Grease Removal Unit can help you avoid costly maintenance fees and interruptions while meeting plumbing and pretreatment requirements.

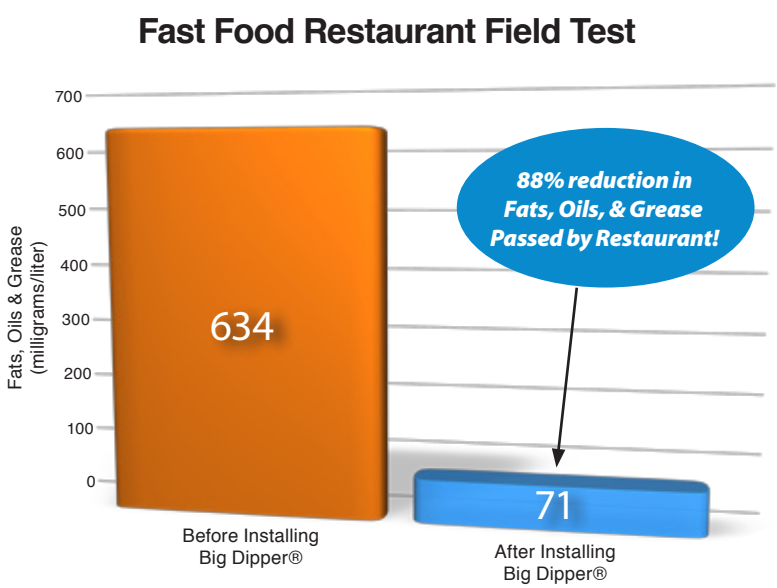
The Ideal Solution for Grease Removal

An affordable Big Dipper system solves tough free-floating drainwater problems by removing and recovering up to 98.7%[1] of the grease, oils, fats[2] and incidental food solids from kitchen and food processing flows. Big Dipper products help prevent drain line clogging and protect septic fields and on-site treatment facilities. Big Dipper systems are designed to eliminate grease trap pumping costs and expensive sewer surcharges while saving the cost of large in-ground grease traps or interceptors. Big Dipper systems have been performance-proven in thousands of worldwide restaurants, hospitals, schools, prisons, casinos and food processing plants over the past 35 years.

Big Dipper systems are designed for easy field upgrading and a range of options enable installations to be customized to meet various conditions. For example, air-gap kits are available in code-required areas. Solids strainers are available to filter food scraps and other solids from kitchen drain flows. A Big Dipper representative can assist you with choosing the correct models and options to fit your application.

Avoid Pipe Blockages and Costly Line-Jetting

This section of pipe was removed from a major fast food restaurant in a large metropolitan city before they installed a Big Dipper unit. A large precast concrete grease trap had previously serviced the restaurant. The copper nipple at the top had been an attempt to clear grease congestion using enzymes and bacteria. The restaurant had been using these enzymes and bacteria for nearly eight years. You can see the results yourself! If you are having problems with grease clogging your pipes, Big Dipper presents a clear solution.



Proven Performance

The most important characteristic about Big Dipper removal systems is that they work. There are countless success stories. One nationally known fast food facility cut grease trap pumping costs by over $25,000. A large hospital in the Northeast saved an estimated $50,000 a year in fines and maintenance costs by installing a Big Dipper.

Big Dipper systems solved a huge grease problem at a major correctional facility and weekly remove more than 100 gallons of grease from each prison. A major North American sports franchise recently opened its brand new stadium using 48 Big Dipper Units to remove grease at the facility's concessions. Furthermore, in most applications, the recovered grease can be recycled and used in bio-diesel fuel, cosmetics, animal foods and more.

[1] as tested to ASME standards A112.14.3 and A112.14.4.
[2] non-emulsified fats, oils. and grease

Satisfying the Inspector

Many local plumbing codes require large in-ground grease traps. Approximately 30% of existing foodservice sites cannot install large in-ground traps because of space restrictions or excessive site construction costs ($10,000-$45,000)!

With thousands of systems installed in the field worldwide, Thermaco, Inc. is the number one manufacturer of automatic grease & oil removal units. Featuring a small footprint, Big Dipper systems are the logical solution for space-constrained sites. Big Dippers also work well in metropolitan and heavily developed settings, where exterior space for installing a large, in-ground trap is limited or non-existent.

Satisfying the Sewer Authority

Grease that collects in sewers and treatment plants is a problem shared by all wastewater treatment and collection system operators. In the past, engineers and operators designed systems to remove grease after it got to the plant. In the meantime; however, the grease would clog pipes, create large grease balls, and damage equipment like lift stations.

Today, wastewater treatment plant operators are lowering operating costs and making their plants significantly more efficient by eliminating grease before it reaches the plant. Requiring system users to install automatic grease removal units accomplishes this.

Reliability and Maintenance

Big Dipper products have an international reputation for reliability and effectiveness in wastewater pretreatment. Constructed of corrosion resistant materials, the systems are engineered for longevity and low maintenance.

Customer Service and Assurance

Customer service and dedication to quality does not end with the sale. Experienced sales and technical support personnel are available to help customers with special needs. Big Dipper products are backed by years of testing and in-service refinement. Of the more than 30,000 systems installed throughout the world in the past three decades, most are still operating efficiently every day. This is quality you can trust.

Commitment

Big Dipper is committed to total customer satisfaction. We are dedicated to the continuous improvement of our products through uncompromising attention to quality in both design and workmanship. Our drive to do the best job possible has been demonstrated in the evolution of our products and methods.

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What Sets Big Dipper® Apart?

- Big Dipper units separate fats, oils and grease with a **proven efficiency of up to 98.7%** [1]. Automatic removal of grease retains unit separation efficiency.
- **Automatic, self-cleaning cycle with digital control.** Removes collected grease & oils from tank without any operator assistance.
- Constructed of **durable, corrosion resistant materials**. Suitable for installation in virtually any location.
- Integrated Electrical Assembly with motor, heater, push button controls, and grease outlet. Enables **fast, do-it-yourself unit operation reversal**.
- The Automatic Solids Transfer (AST) Line **automatically removes incidental solids**.
- Big Dipper models come with an **easy to lift and pour grease collector**. Simplifies grease collection container emptying.
- **Compact footprint** makes installation possible in tight spaces.

[1] *As tested to ASME standards A112.14.3 and A112.14.4*

Big Dipper® W-750-IS
with options SFK-3 Support Stand, SA-1 Sump Adapter, SH-3 Sump Hose and DRUM-55 Grease Collection Barrel

All-New Big Dipper® Digital Control Features

The 40000 Series Big Dipper introduces brand new, never before seen features, including the industry-redefining digital time controller with push button controls and a thermistor permitting greater heater controls.

Light (I), Moderate (II), and Heavy (III) Settings offer pre-programmed operation, minimizing the amount of setup necessary to keep the unit running at optimal frequency.[2] A Start Button offers immediate testing of the unit's operation for inspectors or maintenance professionals.

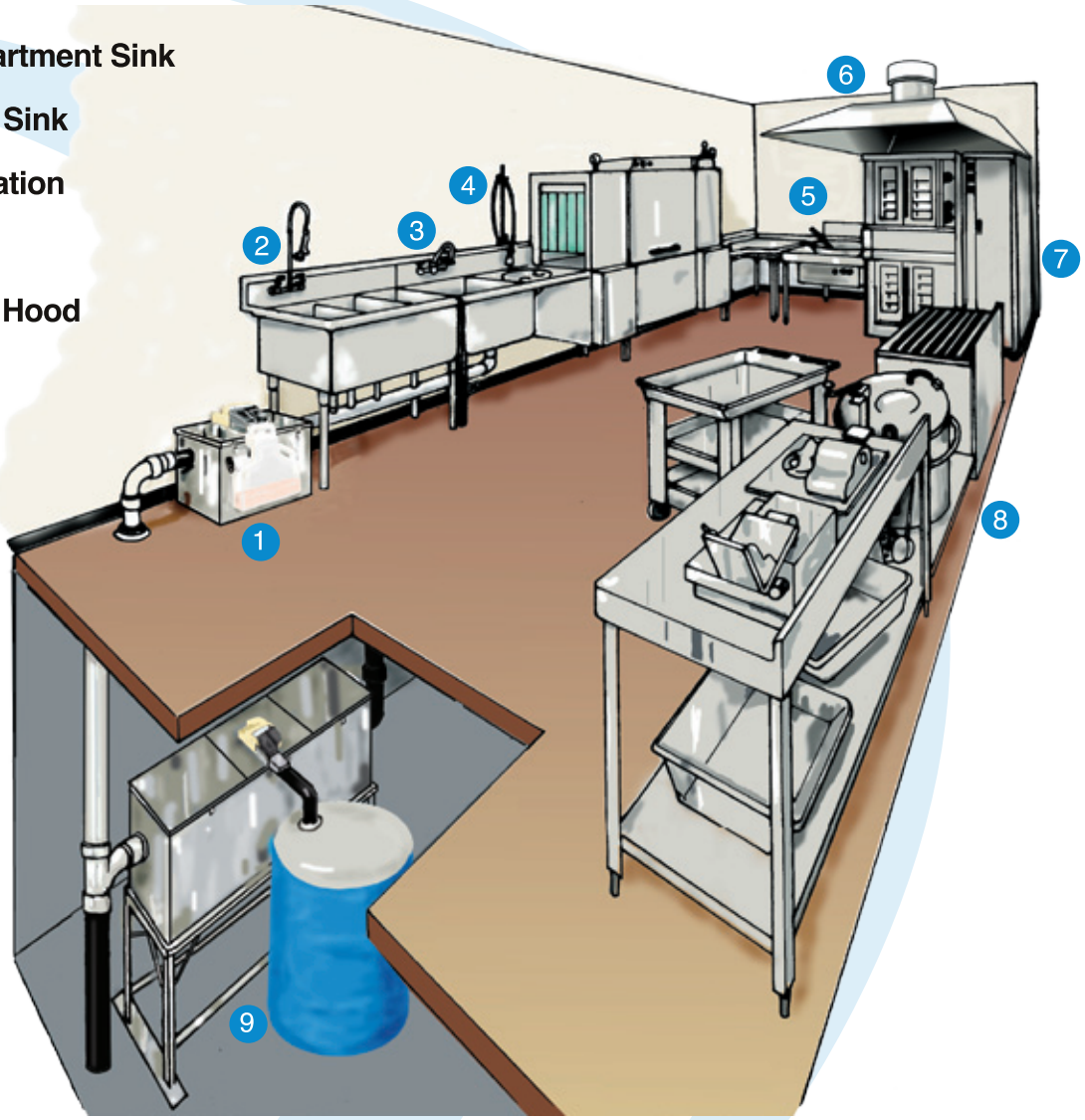
Additional features include:

- **Motor periodically exercises itself between skim cycles, increasing longevity.**
- **New Fluid Preheat Setting may be activated to raise the temperature of the liquid in the tank before skim cycle begins.**
- **Thermistor constantly monitors temperature and prevents liquid from dropping beneath 40° F.**
- **When used with a Supplemental Water Supply on a Rotisserie or Combi-Oven, thermistor senses changes in temperature and automatically operates as necessary during flow events.**

[2] *See Operations Manuals for Specific Run-Times and Frequency, as well as additional settings available.*

Where Can I Install a Big Dipper®?

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 units are typically installed directly at the source, usually at a three-compartment sink or a pot-washing sink. Point-Source Units easily fit under the drain boards at the three-compartment sink or pre-rinse station in the kitchen operation. Point-Source Removal Units include the W-200-IS (20 GPM) through the W-500-IS (50 GPM) Internal Strainer Series units and the W-250-AST (25 GPM) Automatic Solids Transfer unit.

Central Grease Removal

Some installations require the removal of grease & oils from a centralized location such as a basement or mechanical room. Here, several different effluent sources from the kitchen may be plumbed through the Big Dipper. These include sites such as hospitals, correctional facilities, casinos, and other large, institutional-type kitchen sites where high-volume kitchen flows and heavy loadings of incidental solids are present. The larger units in the Big Dipper equipment line are best suited for these installations. 9 These units are easily located in a basement or equipment room site. Central Removal Units include the W-750-IS (75 GPM) and W-1250-IS (125 GPM) Internal Strainer Series units and W-750-AST (75 GPM) and W-1250-AST (125 GPM) Automatic Solids Transfer units. Grouped systems servicing up to a 500 GPM capacity are available using horizontal flow splitter modules to parallel couple up to four (4) Big Dipper units.

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Available Big Dipper® Lines

Thermaco, Inc. offers two distinct lines of 40000 Series models, **Internal Strainer (IS)** and **Automatic Solids Transfer (AST)**. Both lines have various models that may be used for Point Source and Central Grease Removal, depending upon local code and your specific needs. Read below to see the difference between these lines, and which one works best in what setting.

Big Dipper® W-200-IS

Big Dipper® IS (Internal Strainer) Line

- Utilize an internal strainer basket to capture incidental solids[1].
- Strainer basket must be emptied at least once per day, more often if necessary.
- Skimming wheel mechanism removes grease & oils from retention area when activated by digital control.
- Point Source (20 to 50 gallons per minute) and Central Grease Removal (75 and 125 gallons per minute) options available.

Big Dipper® AST (Automatic Solids Transfer) Line

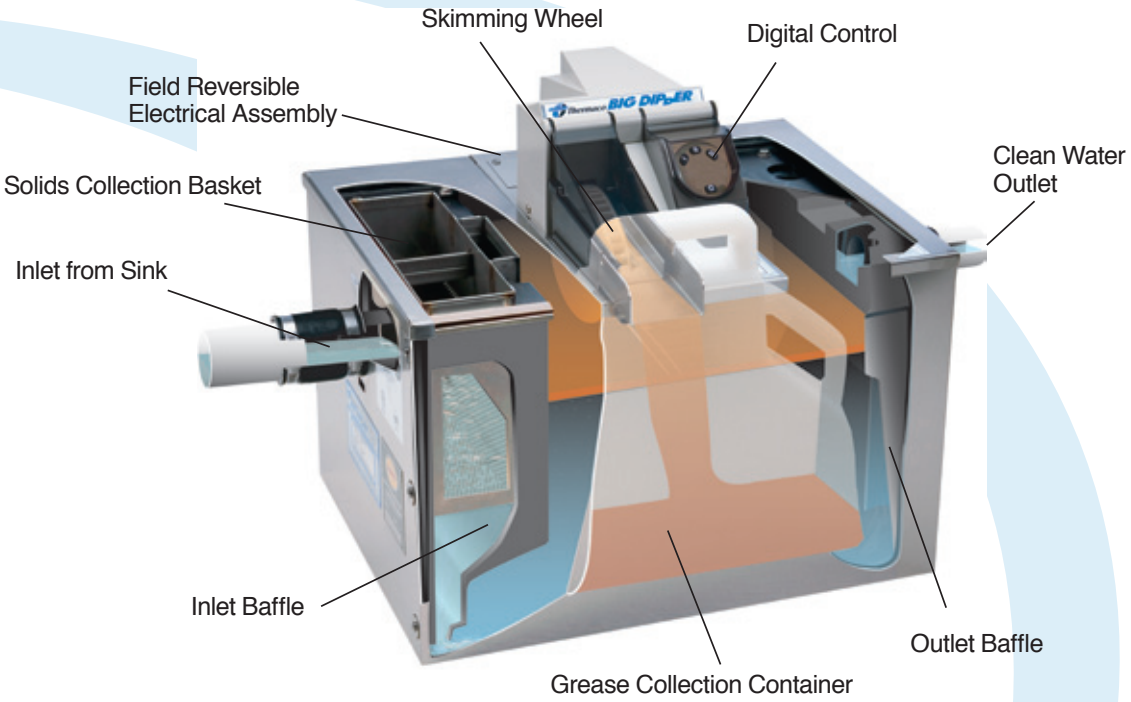
- Incidental solids[1] strained out of kitchen wastewater and trapped in solids chamber.
- Larger solids still trapped by solids strainer assembly which should be emptied at least once per week, more often if necessary.
- Periodically, water-driven eductor automatically empties the incidental solids our of the solids chamber and down the sewer line.
- Skimming wheel mechanism removes grease & oils from retention area when activated by digital control.
- Point Source (25 gallons per minute) and Central Grease Removal (75 and 125 gallons per minute) options available.

Big Dipper® W-750-AST
with options SFK-3 Support Stand, SA-4 Sump Adapter, SH-3 Sump Hose and DRUM-55 Grease Collection Barrel

[1] *Incidental solids are small food solids typical of those that are rinsed off of plates before going to a dishwasher. They do not include non-food products such as plastic, rubber and metal articles. The Eductor of the W-250-AST is designed to transfer incidental solids less than 1" (25 mm) in diameter. The Eductor of the W-750-AST and W-1250-AST is designed to transfer incidental solids less than 1.5" (38 mm) in diameter.*

Big Dipper® Tip: In certain applications, both series may be useful. Often Health Care Facilities and other Institutional settings may want to consolidate all kitchen wastewater flows to a single a location where an Automatic Solids Transfer Model may be useful, but still want to protect the long plumbing runs to this location by placing Internal Strainer Units at the fixtures with the highest grease output.

Big Dipper® Internal Strainer Unit Operation



Cutaway Drawing of Big Dipper® W-250-IS

Internal Strainer Model Specifications

W-200-IS • 20 GPM (1.26 l/s)

Exterior Construction: 304 Stainless Steel, Bright Finish
Skimming Rate: 20 lb./hr (9.08 kg/hr)
Solids Strainer Capacity: 1.85 gallons (7 l)
2" Inlet/Outlet (50 mm)
520W • 115V • 50/60 Hz[1]

W-250-IS • 25 GPM (1.58 l/s)

Exterior Construction: 304 Stainless Steel, Bright Finish
Skimming Rate: 20 lb./hr (9.08 kg/hr)
Solids Strainer Capacity: 1.85 gallons (7 l)
2" Inlet/Outlet (50 mm)
520W • 115V • 50/60 Hz[1]

W-350-IS • 35 GPM (2.21 l/s)

Exterior Construction: 304 Stainless Steel, Bright Finish
Skimming Rate: 20 lb./hr (9.08 kg/hr)
Solids Strainer Capacity: 2.5 gallons (9.5 l)
3" Inlet/Outlet (75 mm)
520W • 115V • 50/60 Hz[1]

W-500-IS • 50 GPM (3.15 l/s)

Exterior Construction: 304 Stainless Steel, Bright Finish
Skimming Rate: 20 lb./hr (9.08 kg/hr)
Solids Strainer Capacity: 2.5 gallons (9.5 l)
3" Inlet/Outlet (75 mm)
520W • 115V • 50/60 Hz[1]

W-750-IS • 75 GPM (4.73 l/s)

Exterior Construction: 304 Stainless Steel, Bright Finish
Skimming Rate: 20 lb./hr (9.08 kg/hr)
Solids Strainer Capacity: 3.7 gallons (14 l)
4" Inlet/Outlet (100 mm)
520W • 115V • 50/60 Hz[1]

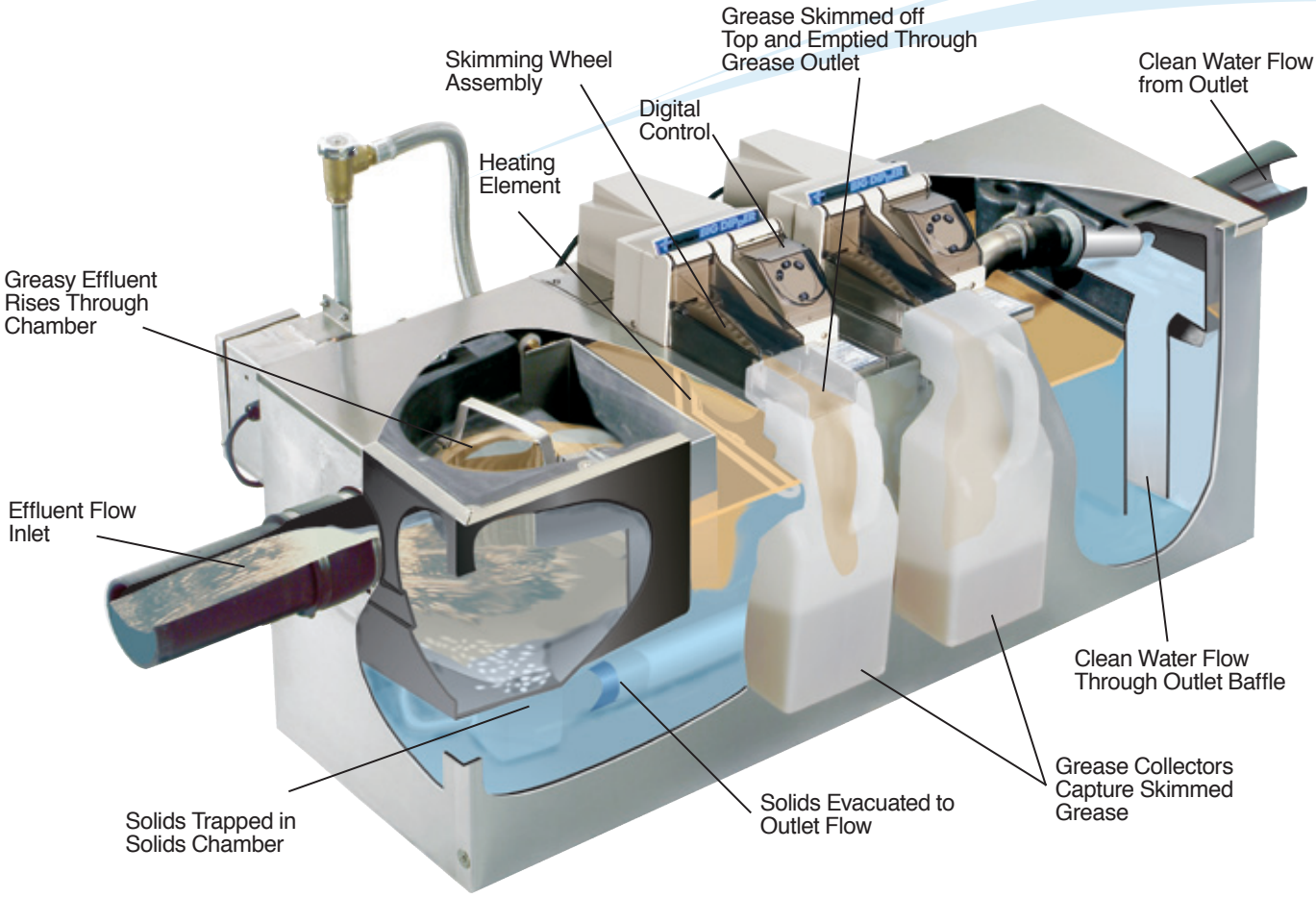
W-1250-IS • 125 GPM (7.89 l/s)

Exterior Construction: 304 Stainless Steel, Bright Finish
Skimming Rate: 40 lb./hr (18.16 kg/hr)
Solids Strainer Capacity: 3.7 gallons (14 l)
4" Inlet/Outlet (100 mm)
1040W • 115V • 50/60 Hz[1]

[1] 220-240V • 50/60Hz models available

Note: Installations must comply with all applicable local, state and national codes for your area.

Big Dipper® Automatic Solids Transfer Unit Operation



Cutaway Drawing of Big Dipper® W-1250-AST

Big Dipper® Automatic Solids Transfer Model Specifications

W-250-AST • 25 GPM (1.58 l/s)

Exterior Construction: 304 Stainless Steel, Bright Finish
Skimming Rate: 20 lb./hr (9.08 kg/hr)
Automatic Solids Transfer Feature
2″ Inlet/Outlet (50 mm)
535W • 115V • 50/60 Hz[1]

W-750-AST • 75 GPM (4.73 l/s)

Exterior Construction: 304 Stainless Steel, Bright Finish
Skimming Rate: 20 lb./hr (9.08 kg/hr)
Automatic Solids Transfer Feature
4″ Inlet/Outlet (100 mm)
535W • 115V • 50/60 Hz[1]

W-1250-AST • 125 GPM (7.89 l/s)

Exterior Construction: 304 Stainless Steel, Bright Finish
Skimming Rate: 40 lb./hr (18.16 kg/hr)
Automatic Solids Transfer Feature
4″ Inlet/Outlet (100 mm)
1055W • 115V • 50/60 Hz[1]

Big Dipper® Tip: All Units must be continuously supported across their bottom to maintain structural integrity. The stainless steel SFK Support Frame Kits are designed specifically to work with Big Dipper Models.

[1] *220-240V • 50/60Hz models available*

Advantages of Using an Automatic Solids Transfer Model

- **Fully Automatic -** Not only is grease automatically removed from the retention area, but incidental solids are also flushed.
- **Least Maintenance Required -** Time and effort required to maintain unit is drastically reduced, resulting in long-term savings for customers.
- **Reduced Risk of Downtime -** Incidental solids, which interrupt normal grease separation and removal, are regularly purged from the system.
- **Versatile Installation -** For new and existing buildings with minimal exterior space to locate a gravity grease interceptor*, the AST line provides an effective, proven alternative that only requires a single electrical socket and water connection (see below for water supply requirements).
- **Easy to Update -** The all-in-one electrical assembly may be quickly switched out, while still utilizing the durable, polyethylene interior tank, and stainless steel wrap and lids.
- **A Powerful Combination -** Use a centrally located AST Model or point source AST Models to protect internal plumbing infrastructure and reduce pumping frequency and costs of maintaining an existing gravity grease interceptor.

Big Dipper® W-250-AST

Big Dipper® W-1250-AST
with optional SFK-4 Support Stand

Big Dipper® Tip: Any Unit installed more than 6 ft. (1.95 m) beneath the fixtures they serve should be installed using a Vented Flow Control Assembly (VFCA) that matches the flow rating of the model. The VFCA must be installed at the level of the fixtures to prevent overflows.

Big Dipper® Automatic Solids Transfer (AST) Installation Considerations

Big Dipper AST Models require a separate, facility-supplied water supply for operation.

The W-250-AST requires a 5 GPM (.315 l/s) water supply while the W-750-AST and W-1250-AST require a 12 GPM (.757 l/s) water supply. Thermaco, Inc. provides a 0.5" (13 mm) garden hose female connector to accommodate this connection. Regardless of model, minimum water supply pressure should be 50 PSI (3.45 Bar); maximum water supply pressure should be 70 PSI (4.83 Bar). Thermaco, Inc. also provides a 0.5" (13 mm) Backflow Preventer for connection between the water supply & AST Water Supply.

***Note: Installations must comply with all applicable local, state and national codes for your area.**

Big Dipper® Modular Configuration Options

Big Dipper® Point Source Model W-200-IS
shown with options

1. The **Support Frame Kit (SFK-1)** raises Big Dipper Point Source Models 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.
2. The **Horizontal Air Gap Assembly Kit (HAG)** 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.
3. 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.

4. The **Flat Strainer (FS-1)** 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 food disposals. Dewatered solids may be emptied into a trash receptacle.

5. The **Alarm Probe (AP-6000-1)** 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.

Big Dipper® Point Source Model W-250-IS
shown with options

6. The **SWS-1 Supplemental Water Supply System** is designed to mate with a Big Dipper W-200-IS or W-250-IS Point Source Grease Removal Unit for servicing Rotisserie Ovens, Combi-Steam Ovens and similar cooking devices. The SWS-1 water replenishment system supplies a flow of water to replace the removed grease.

Big Dipper® Installation with Option Modules

1 The **Big Dipper® SFK Support Frame Series** raises Big Dipper units off of the floor. It also enables the customer to use the larger 2 **DRUM-55 Grease Collector**. Best used in conjunction with Big Dipper units installed in basement locations or mechanical rooms.

3 The **Sump Adapter (SA-1)** together with the **Sump Hose (SH-3)** enables a Big Dipper to discharge to a Drum-55 Grease Collector.

4 The **In-Line Strainer (ILS)** separates and collects coarse solids larger than 1" (25 mm) in diameter found in institutional-type kitchen flows. Comes supplied with adjustable 48" support legs for flexibility in installation. Designed to couple with Big Dipper Central Grease Removal Units.

Big Dipper® W-750-AST
shown with options

Additional Options

The **Horizontal Flow Splitter (FSH)** divides a kitchen drain flow into two equal flows. Allows two smaller units to do the job of one large unit; for example, couple two 50 GPM W-500-IS Point Source Units in place of one 125 GPM W-1250-IS Centralized Grease Removal Unit to treat a 100 GPM kitchen flow. Designed to couple Big Dipper units in a side-by-side (horizontal) manner.

The **External Solids Strainer (ESU)** is an additional point source solids separator used in conjunction with Big Dipper W-200-IS & W-250-IS systems. Separates & collects coarse solids larger than 0.125" (3.175 mm) in diameter. Best utilized where codes require a separate solids strainer in front of point source grease removal units. Dewatered solids may be emptied into a trash receptacle.

Big Dipper® Product Applications

- **Restaurants**
- **Shopping Centers**
- **Cafeterias**
- **Schools**
- **Hospitals**
- **Correctional Facilities**
- **Casinos**
- **Hotels**
- **Resorts**
- **Airports**
- **Grocery Stores**

BIG DIPPER® •IS

BIG DIPPER® •AST

** Please consult Thermaco, Inc. for specific models tested, certified and/or listed by these organizations.*

BIG DIPPER® Thermaco, Inc. Patents

7,153,439	6,800,195	5,543,064
7,134,152	6,491,830	5,492,619
7,060,179	6,413,435	5,360,555
6,878,270	5,934,309	5,271,853

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