

BIG DIPPER[®] **PASSIVE**

Installation & Operation Instructions For Big Dipper[®] Passive Units

Models LD-200, LD-250, LD-350, LD-500, LD-750, LD-1000



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

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Big Dipper® Passive Grease Interceptor *Installation and Operations Manual*

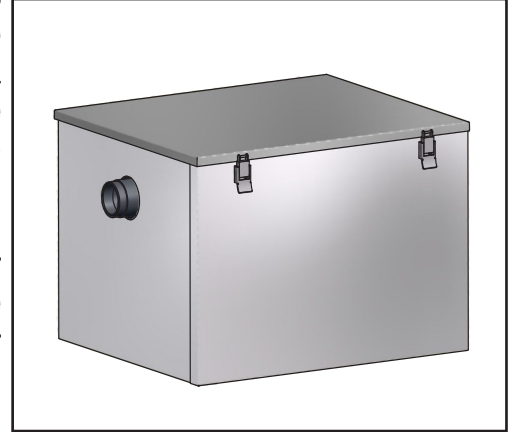
Contents

1.0 Big Dipper Passive System Overview.....	3
2.0 Big Dipper Passive Maintenance.....	4
3.0 Big Dipper Passive unit overflows.....	4
4.0 Objectionable odor.....	4
5.0 How To Reverse Big Dipper Passive® Unit Operation.....	5
6.0 Big Dipper® Passive System Plumbing Installation.....	6
6.1 Locating the Unit.....	6
6.2 Inlet/Outlet Piping.....	6
6.3 Flow Controls.....	6
6.4 Venting the Outlet.....	6
6.5 For High Head Height Applications Over Six (6) Feet (1.95 m).....	6
6.6 Vessel Vent Connection.....	6
7.0 Big Dipper® Passive System Plumbing Installation (For Installations With Head Height Greater Than 6 feet (1.95m).....	7
8.0 Big Dipper Passive Limited Warranty & Remedy.....	8

1.0 Big Dipper Passive System Overview

The Big Dipper[®] Passive Hydromechanical Grease Interceptor passively separates and retains free-floating grease & oils from kitchen drain water flows. As most food service facility managers already know, grease buildup within a building's plumbing drainage system is a major cause of problems due to drain line blockages. These problems jeopardize normal operations as well as create health and safety hazards within the facility itself.

The proper installation of a Big Dipper Passive can reduce or eliminate grease problems. Use of the Big Dipper Passive assures minimization and/or elimination of costly sewer surcharges and fines through efficient separation and removal of free-floating grease & oils.



The Big Dipper Passive system is a passive Hydromechanical Grease Interceptor. As greasy kitchen effluent drains from kitchen fixtures, the unit captures the free-floating grease & oils. Only the “cleaned” water exits the unit and flows into the facility drain lines. Point Source Big Dipper Passive units operate most efficiently when servicing single fixtures such as a 1 to 4-compartment sink or a pre-rinse station. Centralized Big Dipper Passive models can be used to handle entire kitchen flows.

The Big Dipper Passive system's compact footprint allows installation directly at the source where grease problems originate. The Big Dipper Passive system design allows for maximum installation flexibility. Reversing the system operation is as simple as rotating the unit.

Grease interceptors, automatic recovery units, grease removal devices and other similar plumbing devices receiving kitchen flows from sinks, floor drains, woks and other food bearing sources may generate odors. There are many factors influencing odor evolution and dissemination. These include room ventilation, kitchen menu, ambient temperatures, ware washing practices, grease/oil input, daily input fluid volume, sanitizers, installation plumbing design and product maintenance/upkeep. Odors are usually prevented by good area ventilation, frequent fluid inputs, good product maintenance practices and proper product installation. Additional steps, including aeration, chlorination, improved area ventilation and additional maintenance control, may be needed at some sites.

2.0 Big Dipper Passive Maintenance

The Big Dipper Passive Hydromechanical Grease Interceptor operates by separating and retaining fats, oils, and grease from kitchen effluent. Proper maintenance of the Big Dipper Passive requires periodic cleaning of the unit at an interval defined by local municipal pretreatment officials. The following instructions for maintenance are the manufacturer's recommendation, but alternative maintenance may be required by local municipal code.

(1) Clean out and dispose of grease, liquids and sediment as needed or as required by local municipal code. Exceeding the rated capacity of the separator may result in blockages and/or fines. Municipality may require that grease interceptor be cleaned by a licensed professional. Contact local authorities for regulations and a list of approved contractors.

(2) Refill tank with water from attached fixture after cleaning. Do not pour previously removed contents back into separator.

3.0 Big Dipper Passive unit overflows

(1) Check to see that the outlet pipe is not reduced to a smaller size, the outlet piping is vented, has as few 90 degree outlet turns as possible, and that no "P" trap is installed on the outlet. Re-plumb the piping, if necessary. Check outlet piping for clogs. Have a plumber clean the line, if necessary.

2) Check the bottom of the grease chamber for excessive solids and silt buildup which may be blocking the outlet baffle. Use a long handled spatula or similar instrument to stir the bottom while water flows through the unit. If necessary, drain and clean the sediment from the unit. To prevent recurrence, schedule this cleaning to be done on a regular basis (properly used, a wet vac may be appropriate for cleaning sediment from the bottom of the unit) or install an external solids strainer at the fixture.

3) Make sure the flow rate to the unit does not exceed the maximum flow rate, which is shown on the nameplate. If necessary, have a plumber install an approved flow control to restrict the inlet flow to the specified level or install a properly sized Big Dipper Passive for the application.

4.0 Objectionable odor

(1) Make sure contents are being properly removed from the unit when maintained.

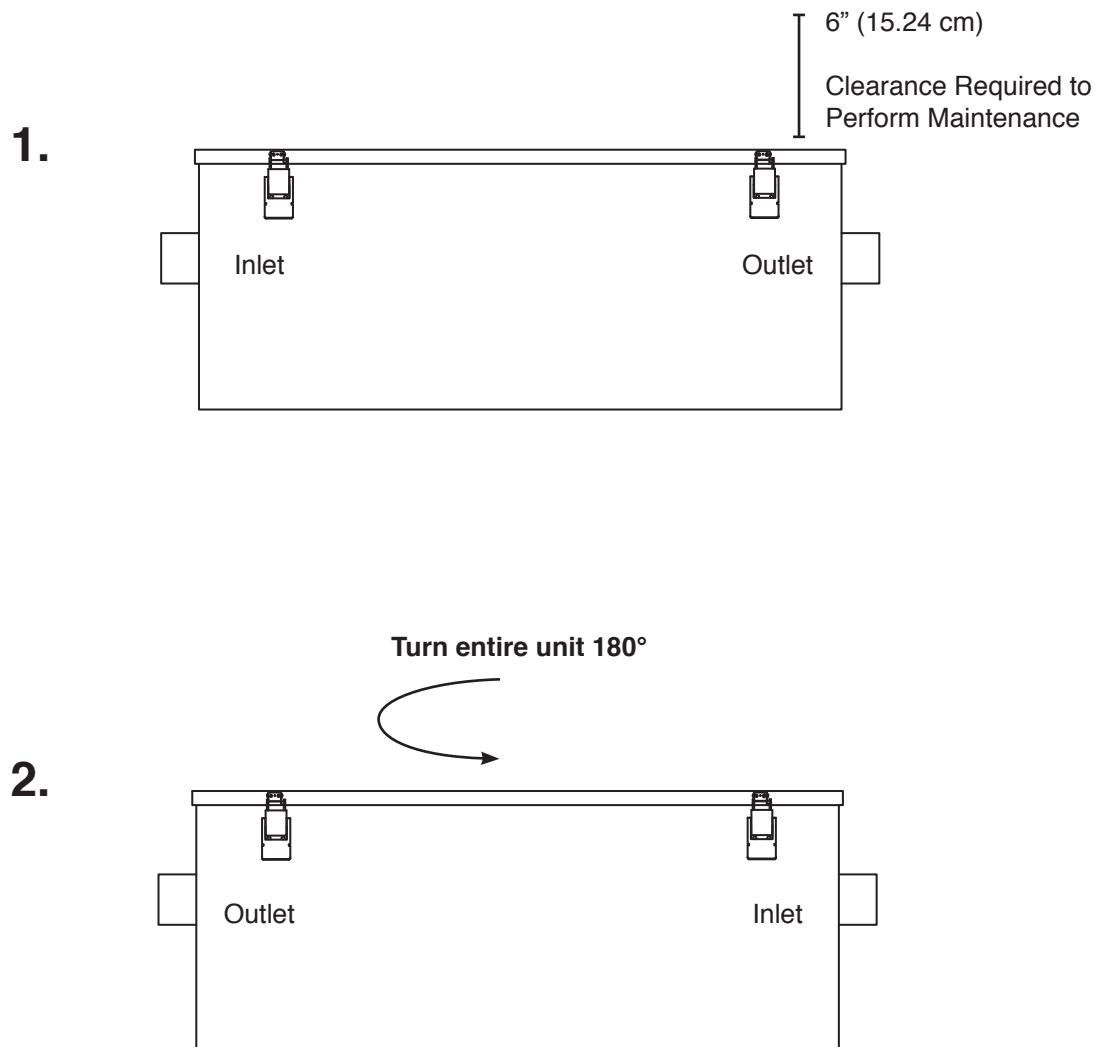
(2) If excessive sediment has collected on the bottom of the unit, clean the unit as described in item 3 in "Big Dipper Passive unit overflows."

(3) The Big Dipper Passive does not have a built-in solids strainer. Large amounts of solids in the tank can cause odors in the unit. Install an in-sink or external strainer at the fixture to minimize solids accumulation in the tank.

(4) Grease interceptors, automatic recovery units, grease removal devices and other similar plumbing devices receiving kitchen flows from sinks, floor drains, woks and other food bearing sources may generate odors. There are many factors influencing odor evolution and dissemination. These include room ventilation, kitchen menu, ambient temperatures, ware washing practices, grease/oil input, daily input fluid volume, sanitizers, installation plumbing design and product maintenance/upkeep. Odors are usually prevented by good area ventilation, frequent fluid inputs, good product maintenance practices and proper product installation. Additional steps, including aeration, chlorination, improved area ventilation and additional maintenance control, may be needed at some sites.

5.0 How To Reverse Big Dipper Passive® Unit Operation

Big Dipper Passive has a fixed inlet and outlet configuration. In order to switch the direction of the unit, simply turn the entire unit 180° so that the fixtured drain into the inlet side of the unit.



6.0 Big Dipper[®] Passive System Plumbing Installation

6.1 Locating the Unit

To minimize grease build-up in piping, a Big Dipper Passive system should be located as close as possible to the fixture it is serving. The system should be visible and easily accessible for maintenance and inspection. The unit must be in a level position. **Be sure to check the Specification Sheet for your model for the exact clearances needed for installation.** If the system is located directly on the floor, the bottom should be sealed to the floor with an approved silicone type sealant. Make sure the height above the access covers is enough to adequately maintain the unit.

6.2 Inlet/Outlet Piping

The inlet and outlet piping connections require flexible sleeve pipe couplings. Keep outlet piping as straight as possible. Use only “sweep” connections. Do not reduce the pipe sizing on the outlet piping. Do not install “P” trap on outlet connection of system. (Note: The system already has a internal gas trap)

6.3 Flow Controls

Big Dipper Passive systems are equipped with an internal flow control located inside the inlet end of the system. Verify its location and placement prior to connecting the inlet piping.

6.4 Venting the Outlet

An outlet vent or approved vacuum breaker of at least 1/2 the diameter of the system’s outlet connection must be present as close as possible to the Big Dipper Passive outlet to prevent possible siphonage problems. Failure to provide a vent for the system voids Thermaco’s Warranty for the system.

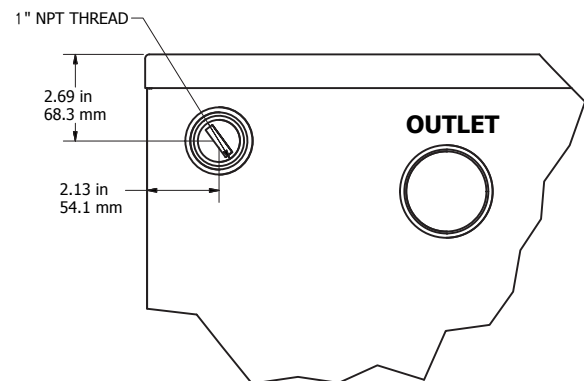
6.5 For High Head Height Applications Over Six (6) Feet (1.95 m)

Big Dipper Passive systems are equipped with an internal flow regulator located inside the inlet end of the system. Verify its location and placement prior to connecting the inlet piping. If your code

requires a vertical type flow regulator, an approved control with a flow rating matching the system’s flow rate should be used. Note: When a Big Dipper Passive is servicing multiple fixtures, some codes require separate flow controls for each fixture. See following page for suggested high head height flow regulation installation.

6.6 Vessel Vent Connection

Each Big Dipper Passive is equipped with a 1” NPT vessel vent connection located on the outlet side of the tank. Installations without Upstream Facility Vents or other Air Relief require the use of the vessel vent (also referred to as a chamber vent) to prevent air bound conditions.



Note: Drawing for reference only. Equipment must be installed in compliance with all applicable laws, regulations and codes, including plumbing codes. Installation should be performed by a qualified plumber.

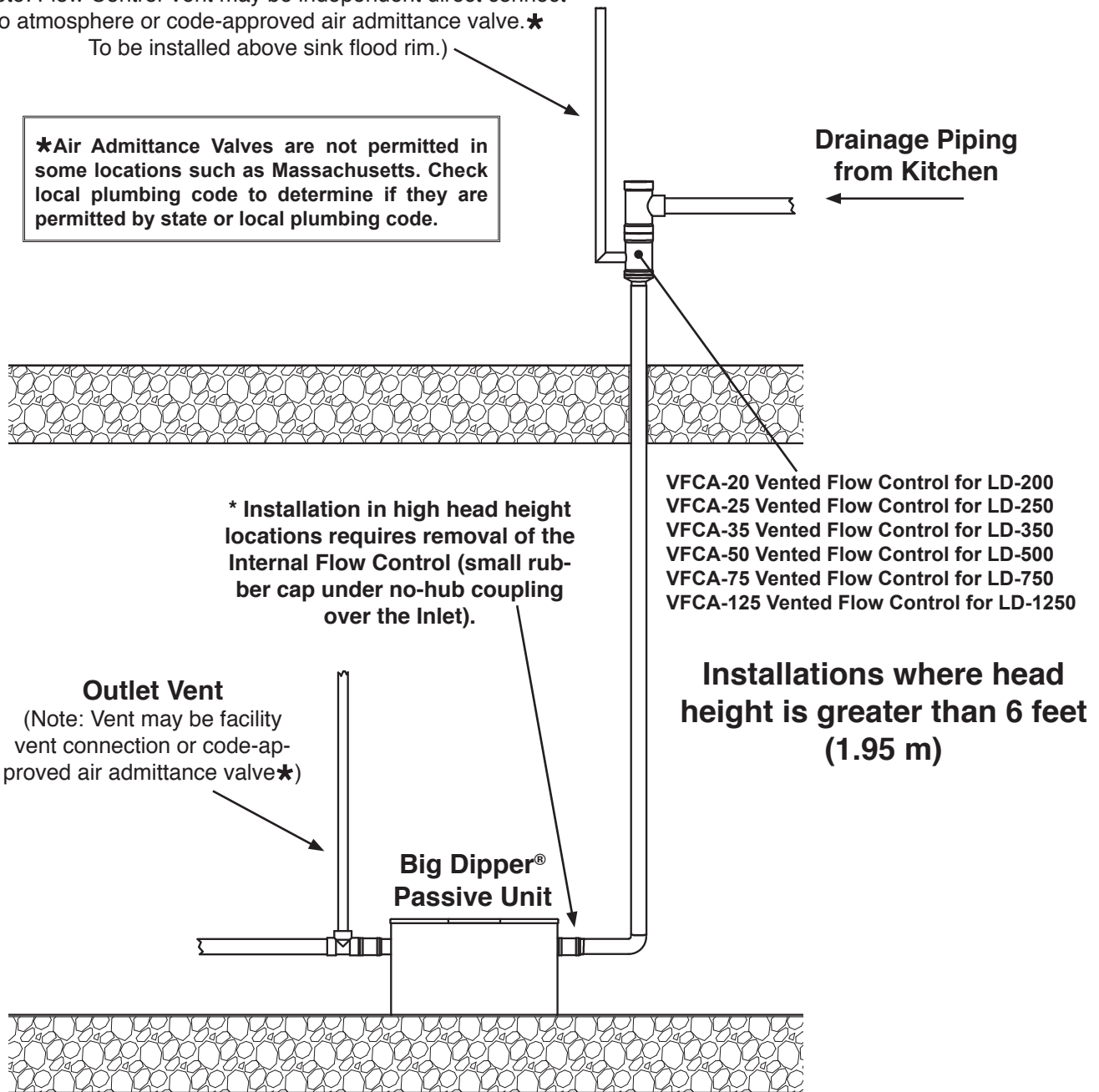
7.0 Big Dipper[®] Passive System Plumbing Installation (For Installations With Head Height Greater Than 6 feet (1.95m))

For installations where there is a significant amount of head height (More than 6 ft./1.95 m), Thermaco, Inc. recommends installation of the optional VFCA Vented Flow Control module.

Flow Control Vent/Air Intake

(Note: Flow Control Vent may be independent direct connect to atmosphere or code-approved air admittance valve. ★
To be installed above sink flood rim.)

★Air Admittance Valves are not permitted in some locations such as Massachusetts. Check local plumbing code to determine if they are permitted by state or local plumbing code.



NOTE: Drawing for reference only. Equipment must be installed in compliance with all applicable laws, regulations and codes, including plumbing codes. Installation should be performed by a qualified plumber.

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8.0 Big Dipper Passive Limited Warranty & Remedy

Thermaco, Inc. warrants to the original user that the products manufactured by it delivered with this warranty shall be free from material defects in workmanship and materials for a period of 12 months from the date of invoice to the distributor (if sold by an authorized Thermaco distributor) or the date of invoice to the purchaser (if sold directly by Thermaco, Inc.), but in no event longer than 15 months from date of shipment from Thermaco's production facility.

Any claim must be made in writing to Thermaco at 646 Greensboro Street, Asheboro, NC 27203 promptly after discovery of the defect and within the applicable warranty period. The product must be delivered, prepaid, to Thermaco, together with proof of purchase, the serial number from which the item was removed and a return authorization number issued by Thermaco. If Thermaco determines upon examination that the component is defective and that the warranty conditions are met, Thermaco's sole obligation under this warranty, and the purchaser's sole and exclusive remedy, is the repair or replacement, at Thermaco's option, of the defective component, including parts and labor. The replacement will be furnished F.O.B. point of shipment. If Thermaco determines that the component is not defective or that the other conditions of this warranty are not met, then any return of such part to the purchaser shall be at purchaser's cost.

This warranty shall not cover any defect in otherwise covered products resulting directly or indirectly from: (i) failure to properly install, operate or maintain the product in accordance with Thermaco's instructions and procedures, including, without limitation, use in excess of rated flow, use to remove emulsified fats and oils or use that fails to comply with applicable laws, regulations or codes; (ii) damage in transit, handling or installation; (iii) modifications, adjustments, repairs, or alterations made by unauthorized persons; or (iv) other causes not arising out of defects in workmanship or materials. Thermaco shall not be responsible for damage to products resulting from vault flooding, sewer line back-up, pumping or lift station failure, ambient water flow or other sources of water damage. This warranty does not cover equipment or parts not manufactured by Thermaco. Purchaser's costs relating to any service, adjustment, removal, repair, packing, or otherwise incurred with respect to the defect prior to submission for warranty are the responsibility of purchaser.

No distributor, sales person or other person is authorized to make any warranty statements on behalf of Thermaco regarding Thermaco products other than as set forth in this warranty. This statement of warranty supersedes any quote, brochure, or other statement or document with respect to warranty of Thermaco products.

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The sole and exclusive remedy with respect to this warranty any other claim relating to defects or any other condition or use of Thermaco products, however caused, and whether such claim is based upon warranty, contract, tort, strict liability or any other theory, is LIMITED to the repair or replacement of the product, excluding labor or any other cost to remove or install said the product or, at Thermaco's option, repayment of the purchase price. IN NO EVENT SHALL THERMACO, INC. BE LIABLE, WHETHER IN CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, INDEMNITY OR ANY OTHER LEGAL THEORY, FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR ANY OTHER LOSS OR COST OF A SIMILAR TYPE. UNDER NO CIRCUMSTANCES WILL THE AGGREGATE LIABILITY OF THERMACO FOR ANY CAUSE OF ACTION RELATED TO THE PRODUCTS COVERED HEREBY EXCEED THE NET PURCHASE PRICE RECEIVED BY THERMACO FOR THE PRODUCTS. Any action or suit by purchaser against Thermaco relating to Thermaco products must be brought within one (1) year of the date of the invoices referenced above. The exclusions and limitations set forth herein are separate and independent from any remedies which purchaser may have hereunder and shall be given full force and effect whether or not any or all such remedies shall be deemed to have failed of their essential purpose.