endura® Grease Management

Measure Up for a Successful Installation

Each installation is unique. Ensure that the grease interceptor you install is the correct size for the application.

The growth of fats, oils and grease (FOG) interception programs has increased the awareness and need for proper grease management. The following article outlines the available sizing methods for hydromechanical grease interceptors (HGI) as well as a recently adopted method for estimating the maintenance frequency based on the estimated grease production of the facility. HGI's are sized and tested around volumetric flow rates, as reflected in the unit sizing, e.g. 25 gallons per minute (GPM).

SIZING AN INTERCEPTOR

Sizing an interceptor based on flow rate can be done through two methods: Drainage Fixture Unit (DFU) Equivalency, or a Volumetric Demand Calculation (VDC).

1. Drainage Fixture Unit (DFU) Equivalency Method

DFU sizing relies on using fixture equivalents from a table (UPC Table 1014.3.6 or IPC 1003.3.6), providing a point based system to find the appropriate unit. This method provides a capacity sizing estimation tool based on industry standards. Using a 30-minute retention time to allow for grease separation, the flow rate can then be calculated. For example, a 35DFU system would require a 1,000 gallon gravity grease interceptor.

2. Volumetric Demand Calculation (VDC) Method

Volumetric sizing requires fixture-specific information. Each fixture's maximum potential volumetric demand must be calculated. For example, a 10" x 14" x 10", three-compartment sink provides a volumetric capacity of 4,200 cubic inches. Seventy-five percent of this value accounts for a fill factor underneath the total fixture capacity, leaving 3,150 cubic inches, or 13.64 gallons. Using a 1-minute drainage period results in 13.64 gallons per minute (GPM) demand, or a 15gpm unit.

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Secondary Sizing Method

An additional method has recently been adopted by ASPE to estimate grease production based on facility type, and as a result, provides maintenance frequency recommendations (ASPE Plumbing Engineering Design Handbook, Volume 4, Chapter 8). This method is meant to be used as a secondary sizing method after a unit has been sized based on flow. This sizing method considers the food type, meals per day, and types of food service to estimate grease production per day. For example, if a restaurant produces an estimated 0.025lbs/meal of grease, and it serves 100 customers a day, it should produce an estimated 2.5 pounds of grease a day. If a 25-gallon per minute unit was sized based on flow, with a maximum grease capacity of 73 lbs. (specific to manufacturer, based on ASME A112.43.3 testing), the pump out period would be about 29 days. Endura® recommends pumping out a grease interceptor every 30 days to ensure compliance with local effluent pH requirements. However, should the local jurisdiction allow a longer pump out period, a larger capacity unit could be selected, such as a 35 GPM unit with a maximum grease capacity or 138.5 lbs. This would allow for a 55-day pump out.

Choosing the correctly sized HGI for the job requires multiple design considerations. The intent of local governing codes must be met, and the volumetric demand must be satisfied (via DFU calculations or through peak flow rate). These calculations will ensure that a hydromechanical unit will operate efficiently and will pass inspection. The newly adopted estimated grease production method allows a secondary up-sizing method for calculating a flexible and convenient pump-out period.

endura® Calculator

For additional Sizing Tools and Maintenance Interval Optimization, use our Endura® Calculator online. Or Email tech-support@endurainterceptor.com

Check with your local governing codes to ensure compliance, and feel free to visit Endura® Grease Management at www.EnduraGreaseManagement.com.

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