



IPA DEBATE CLUB QUESTION 11



Is Oil & Grease Separator recommended to be installed in STP? Where should this be located and what are the precautions to be taken.

RESPONSES

RESPONSE 1

Oil & Grease separator should be installed at source / area where excess wastage is envisaged (wherein Oil & Grease levels are more than 50 mg/l) OR Oil & Grease is non edible in nature. It is recommended to have Oil & Grease separator at Large Kitchens serving community. If large quantity of edible Oil & Grease is let into sewer, will cause formation of film in pipeline which in turn causes accumulation of solids, formation of microbial colony and leading to choking of line. Hence at source separation is best option.

For small quantity of edible oil & grease (less than 50 mg/l), microbial growth in Sewage Treatment Plant takes care of degradation and hence no separate trap is recommended.

However, if oil & grease trap is provided as common unit after screening in Sewage Treatment Plant, then trap will be the point of odor nuisance. Trap is designed based on retention time with "T" pipe arrangement to separate free floating oil & grease from sub-natant wastewater carrying faecal solids. Due to low velocity in trap, faecal solids will settle and over the period generate odor due to putrefaction of faecal matter. Hence providing Oil & Grease Trap in STP is not recommended

-Sanjay Sharad Javanjal

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RESPONSE 2

No, it should be always outside considering maintenance effectiveness.

- Grease trap to be installed as close as possible to the main kitchen but if it is not possible then it can be located in the basement and instal Grease trap at the distance of 10 times of a pipe dia where vertical pipe turning into Horizontal, Example: Your pipe dia is 200 mm the horizontal distance should not be less than 2 meters.
- Always use 2 nos. of 45 elbow instead of 90-degree bend.
- Full Euro EN 1825 Certification should be there (DIBT – German Institute for Construction Technology)
- If the inlet pipe is longer than 10 m it must be vented separately.

- Objects (cutlery, crown corks, mustard sachets, bones etc.) interfere with or damage separating operation and the sludge recirculation pump (option). Have proper strainer/sludge basket in the kitchen.
- Free working space of at least 1 m around the grease separator system for easy of maintenance.
- Inlet with stilling section of min. 1 m (gradient 1:50).
- If internal pipe is running more than 100 meters then Under counter grease traps to be installed.
- Centralized Grease trap to be maintained once in month and under-counter on daily basis.

Kamal Jeet Singh

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RESPONSE 3

Oil & grease separator should not be installed in the STP at the inlet because this will create build-up of organic matter in this chamber & create foul smell. this item is not required in any STP.

Pradeep Chakravarti

Vice Chairman, Kolkata IPA Chapter, L-549

RESPONSE 4

You can install an oil and grease separator before the (STP) Plant. Because the purpose of the oil & grease separator is to prevent oil, sludge, and grease from entering the STP, as they can cause operational issues and negatively impact the treatment process.

Here are some key considerations regarding the installation, location, and precautions for an oil and grease separator in an STP:

-> Sizing: The size of the oil and grease separator should be appropriate for the expected volume of oil and grease discharge. It should be sized according to the anticipated flow rates.

-> Installation area /place where you are installing: The installation of grease separator can install both above ground and underground, depending on various factors including space availability, site layout, and design considerations.

> Installation and Handling:

Depending on the situation at the site, the grease

separator is available in both automatic and manual versions.

-> Design Standards: Follow relevant design standards like EN 1825, DIN standards, and guidelines for the installation of oil and grease separators. These may vary depending on location and regulatory requirements.

-> Regular Maintenance: The separator should be regularly inspected and cleaned at least once in a month to prevent clogging and ensure proper functioning. Follow a maintenance schedule as recommended by the manufacturer or relevant guidelines.

It's important to consult with relevant reputed companies and experts in wastewater treatment during the planning and installation process of the grease separator.

Pawan Kumar

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No. IPPL-20/01/2021/0258



RESPONSE 5

Grease separators need to be installed before the sewage collection tank. The grease separator needs to be maintained every week in residence, daily needs to be maintained in commercial kitchens.

P. K. Murugesan

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RESPONSE 6

Yes oil and grease trap is recommended to be used in STP. It should be used after bar screen and grit chamber.

Maharaj Zutshi

CONCLUSION

The maximum permissible Oil & Grease (O& G) content in wastewater is 50 mg/l. When O & G exceeds this limit it can disturb the microbial activity thus impeding the effective treatment of the waste.

For commercial applications such as hotels, restaurants, food courts and large kitchens it is recommended to trap this oil and grease at the point of generation thus preventing the travel of this fatty substance in the pipeline which would otherwise get clogged.

In the case of predominantly residential waste, it is not possible to install grease traps in every kitchen. Generally, the O & G content in residential waste is not very high.

Providing Oil & Grease separator at the inlet after the bar screen does not really serve any purpose as the waste is mixed with the other organic and faecal matter which will create a huge odour nuisance. In case it is required to be provided then care should be taken to ensure that the grease trap is cleaned and maintained at least once in a week. However it is seen that practically this periodic cleaning never happens and the O& G trap is clogged and non- functional.



Sharat V Rao

Convener, IPA Technical Committee

Manging Editor, IPT

Note: Editorial Board appreciates the wonderful response of IPA members in answering this Debate Club Q and making the Debate Club as a interesting feature. We will send gifts to each of the respondents for their contribution.