

CLAIMS

1. A FOG (Fats, Oil and Grease) collector which includes:

at least one floating member which is configured operatively to float in an effluent containing zone;

5 at least one heating arrangement configured to warm effluent in the effluent containing zone, thereby liquifying, at least partially, FOG in the effluent; and

a collecting arrangement configured to draw in at least some of the warmed effluent including the liquified FOG out of the effluent containing zone for further treatment, processing and/or separation.

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2. The FOG collector as claimed in claim 1, which includes:

a plurality of floating members and a plurality of heating arrangements arranged in a plurality of groups,

15 wherein each group includes at least one of the floating members coupled to at least one of the heating arrangements.

3. The FOG collector as claimed in any one of claims 1-2, which includes a fluid inlet configured to direct fluid towards the collecting arrangement.

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4. The FOG collector as claimed in claim 3, in which the fluid inlet is configured to:

receive warm fluid; and

direct the warm fluid around the collecting arrangement, thereby further to warm the effluent and liquify the FOG.

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5. The FOG collector as claimed in any one of claims 3-4, in which the fluid inlet is configured to direct the fluid around the collecting arrangement thereby to clean or flush the collecting arrangement.

5 **6.** The FOG collector as claimed in any one of claims 1-5, in which the collecting arrangement includes a weir or overflow arrangement to draw in the liquified FOG from the effluent containing zone.

10 **7.** The FOG collector as claimed in claim 6, in which the collecting arrangement includes a funnel having an upper lip, wherein the upper lip of the funnel serves as the weir or overflow arrangement and the funnel directs the liquified FOG towards an outlet.

15 **8.** The FOG collector as claimed in any one of claims 1-7, which includes at least one mechanical filter.

9. The FOG collector as claimed in claim 8, which includes a plurality of mechanical filters.

20 **10.** The FOG collector as claimed in claim 9, which includes at least two mechanical filters of different grades comprising a courser filter and a finer filter arranged sequentially.

25 **11.** The FOG collector as claimed in any one of claims 8-10, which includes a mechanical filter in the form of an outer mesh enclosure around the at least one floating member, the at least one heating arrangement, and the collecting arrangement.

12. The FOG collector as claimed in any one of claims 8-11, which includes an inner mechanical filter in the form of a mesh or perforated wall or rim around the collecting arrangement.

5 **13.** The FOG collector as claimed in any one of claims 1-12, which includes a support arrangement to support the at least one floating member relative to the collecting arrangement.

10 **14.** The FOG collector as claimed in claim 13, in which the support arrangement is in the form of an adjustable bracket, thereby to adjust a spatial relationship of the at least one floating member relative to the collecting arrangement.

15 **15.** The FOG collector as claimed in any one of claims 1-14, in which the at least one heating arrangement is supported by, and projects operatively downwardly from, the at least one floating member.

16. A FOG treatment system comprising:

a reservoir defining an effluent containing zone; and

20 the FOG collector as claimed in any one of claims 1-15 provided in the reservoir in the effluent containing zone.

17. The FOG treatment system as claimed in claim 16, which includes a FOG processor in fluid flow communication with the collecting arrangement.

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18. A method of collecting FOG using the FOG collector as claimed in any one of claims 1-15, the method including:

providing the FOG collector in the effluent containing zone, the at least one floating member causing the FOG collector to float;

activating the at least one heating arrangement thereby to warm effluent in the effluent containing zone and to liquify, at least partially, FOG in the effluent; and

5 drawing in the liquified FOG by the collecting arrangement out of the effluent containing zone for further treatment, processing and/or separation.