

MÜNZING defoamers/deaerators for waste water and sludge treatment

1. General information

Foam always occurs when the surface tension of water decreases and air is incorporated due to turbulences. Other possibilities could be the addition of air or gas forming reactions during the process.
Surface foam can be easily identified by foam bubbles in contradiction to entrapped air or gas bubbles which often become visible by disturbing effects within the operation.
AGITAN defoamers/deaerators are highly effective products available in different forms adjusted to the respective purpose -they positively support the prevention and combat of foam in the waste water and sludge treating processes.

2. Mechanism of action

The defoamer particles, active at the interface, destabilize the bubbles on their surface and thus make them burst. Gas particles are gathered by the defoamer to bigger bubbles which rise to the surface where they escape. Owing to these features each defoamer has a more or less strong deaerating effect depending on its composition. This characteristic has to be taken into account when applying the defoamer in certain areas of waste water treatment plants.

3. Composition

One has to distinguish between oil- and dispersion defoamers depending on the structure.
Oil defoamers are rather used to combat surface foam.
Dispersion defoamers often have a higher deaerating effect. Generally they have to be diluted before usage to achieve a better distribution in smaller dosage quantities.

4. Laboratory tests

Different trial facilities are available for the selection of the appropriate defoamer/deaerator. In order to achieve reproducibility relating to the practice, it is important to imitate as many influences and parameters as possible contributing to the creation of foam during the testing process.

5. Application

The selection of the dosage point is most important to achieve an optimum effect of the defoamer/deaerator. Defoamers should only be applied after thorough pre-tests in process stages where air is required for the technology.

Possible dosage points are as follows:

Biology

Effluent to the final sedimentation tank

Fermenting tower

- spraying

- application into the circulation pipeline

Sedimentation tank for the deaeration before sedimentation Collecting tank.

A distribution of the total quantity to several dosage points may be advantageous.

The most favourable dosage point is to be determined by industrial trials. In case of increased foam, the quantity of the defoamer should only be increased gradually. Experience shows that an over-dosage does not have any impact on the effect but can influence the operation unfavourably.

6. Installation technique

Specially developed unit construction systems for dosage and dilution are available for the problem-free and economical application of AGITAN defoamers.

Please ask for individual consultation of any kind of problem linked to foam occurs.