



**JÄGER**

Umwelt-Technik

INSTALLATION INSTRUCTION

**JETFLEX<sup>®</sup> SSD**

Smart Strip Diffuser

# INSTALLATION INSTRUCTION

## 1. DELIVERY

JetFlex® SSDs are usually pre-assembled and ready for operation. When mounting separately supplied components (support body / membrane sleeve), the relevant installation instructions must be observed.

For information on packaging, transport and storage, please refer to the **operating instructions**. Furthermore, the diffusers and components must be protected against the influences mentioned in those instructions during installation.

## 2. PREPARATION FOR INSTALLATION

Before installing the aeration systems, pipes and tanks must be cleaned of any impurities such as stones, pieces of wood, etc. All work in and around the aeration tank that is not related to the aeration installation, in particular construction, drilling, welding, grinding and similar work

must be completed before installing the JetFlex® SSD! The air distribution including the air outlets to the diffuser elements including shut-off valves must be completely assembled. Close 50% of the downpipes to increase the air flow rate for flushing. Gradually open the closed lines and close the cleaned lines. If the air distribution system is very dirty, clean it with water.



The blowers must be ready for operation and functionally tested.

**Attention: The air distribution system must be flushed for at least 10 min. with maximum air flow before the installation of the diffusers in order to remove any work residues and other contaminants**

Close 50% of the downpipes at a time to increase the air volume for flushing. Gradually open the closed lines and close the cleaned lines. If heavily soiled, clean the air distribution system with water.

### 3. HANDLING OF THE JETFLEX® SSD

The diffusers must be lifted into the basin with suitable lifting gear. Lifting the diffusers with a crane or forklift truck may only be carried out with units in their original packaging.

Any opened packages and individual aerators must be transported by hand. Diffuser modules (diffuserlines) may only be assembled in the basin and may not be carried pre-assembled.

### 4. AIR CONNECTION

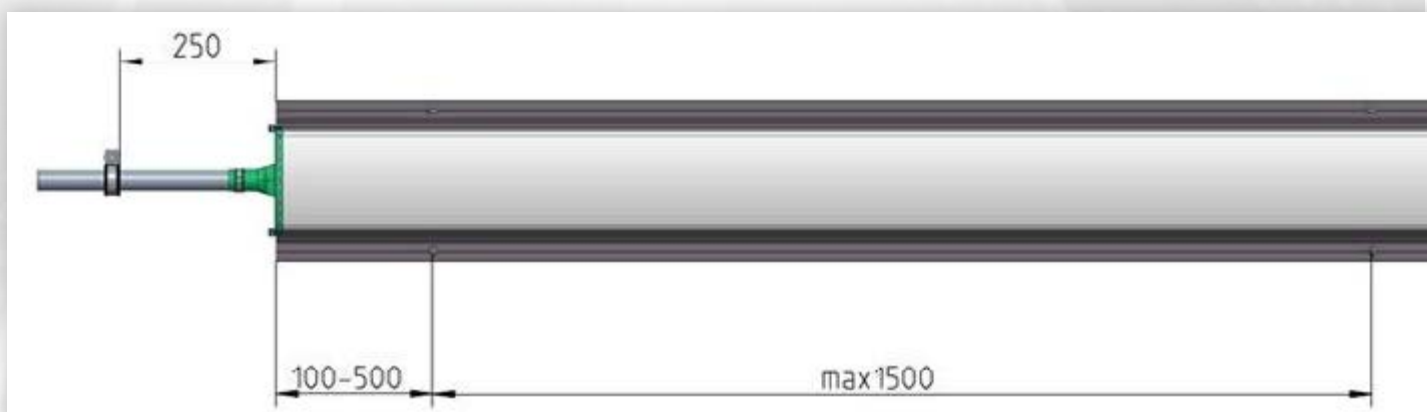
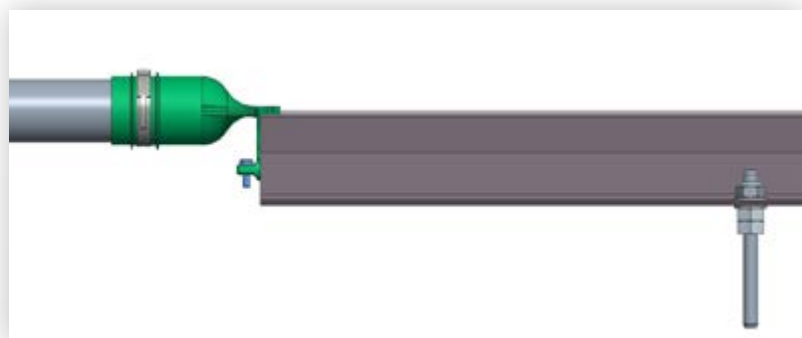
Before fixing the diffusers to the floor, the connection to the air distribution lines has to be made. For this purpose, the diffuser is pushed onto the air line up to the stop (approx. 45mm) and the connection is sealed with a 1-ear clip at the point designed for this purpose. It must be ensured that the pipe of the air supply line is not pushed too deep into the inlet of the diffuser.

The distance between the air feeder and the next pipe fastening must be not more than 250 mm. The connections must be tight, kink- and tension free.



1. **Do not step on the diffusers**
2. **Do not place any mounting Tools** or sharp-edged metal parts on the aerators, especially the membrane
3. **Avoid damage** to the membranes in any case

Sufficient number of fixings shall be provided to avoid vibrations. Especially at plants with mixers the influence of the current must be taken into account and the distance to the first fastening needs to be half of the one recommended above.



## 5. DIFFUSER FASTENING

During handling and installation the diffusers must be protected against shocks and mechanical damage. The SSDs can be mounted as individual diffusers or in line.



If the tank bottom is plane and horizontal with a maximum deviation of  $\pm 25$  mm, the diffusers can be mounted directly on the tank bottom. For fastening the diffusers it is recommended to drill a hole directly through the groove designed for this purpose in the base profile. No hammer drill may be used for this purpose. Through this hole the profile can be fixed to the floor with screws or threaded rods, washers and plugs or chemical anchors. The screws or threaded rods must have a minimum diameter of 8 mm.

In tanks with an uneven floor or slope or if other circumstances require it, the diffusers can be installed at a distance from the floor.

For height adjustment we recommend threaded rods with nuts and washers above and below the base profile. The lower nut must be secured with a second nut ( counter nut ).



**The diffuser / diffuser modules must be mounted horizontally with a tolerance of  $\pm 5$  mm. In the entire tank the height difference must not exceed 50 mm.**

A self-locking nut or similar is to be used for the upper fastening. For distances up to 200 mm to the floor, threaded rods with a minimum thickness of 8 mm are sufficient. For distances up to 400 mm, threaded rods with a thickness of 10 mm are recommended. For larger distances, threaded rods with 12 mm thickness or support constructions must be used.

The anchors used must be designed for a tensile force of 750 N. The number and stability of the fixing must be dimensioned appropriately, if the diffusers are installed in the direction of flow of mixers.

The holes for the fastening must be drilled in pairs on both sides. The distance between two fixings in longitudinal direction must not exceed 1500mm. The distance of the first hole from the front side must not be greater than 500mm and minimum 100mm. A minimum distance of 100mm must be maintained if it becomes necessary to drill a new hole.

The diffuser mounting must be adapted accordingly to the alternative if the standard base profile is not used.

For a safe installation under the influence of current, the supplier must be contacted.

## 6. FILLING OF THE TANK

After completion of the installation work, the tank must be filled with clean water. **It must be ensured that the water does not drop directly onto the diffusers or excessive flow conditions affect these.** The diffusers must be covered with water by at least 100mm.



## 7. TIGHTNESS CHECK

For the tightness check, all valves to the diffusers must be fully opened and all relief valves and drainage systems must be closed. For the leak test, the blowers are to be switched on at the lowest output. The air must flow from all diffusers. Differences in bubble pattern are normal at low water levels and low blower capacity and will compensate at higher water levels and longer operating times. The tank can be filled completely and put

into operation if no leaks are detected. The supplier must be contacted if leaks are detected on the JetFlex®

SSD. The instructions for idle periods must be followed if the diffusers are not directly put into regular operation.



## 8. RECORD OF ASSEMBLY

Keep a record of the assembly with pictures of the installation for the operation manual of the plant.



**Attention:** record the pressure drop at the nominal air flowrate and the nominal water level.

## 9. IDLE PERIODS, SUN RADIATION, FROST

JetFlex® SSDs must be protected from exposure to sunlight exceeding 48 hours in order to avoid damage from heat and UV radiation. **Immediately after installation, the diffusers must be covered with at least 1 m of water to prevent damage caused by the above-mentioned effects and falling objects.** In case of longer idle periods, the water loss through evaporation must be compensated. At temperatures below freezing point, the water level must be raised to prevent frost damage to the diffusers (to approx. 1.5 - 2.0 m). Antifreeze must not be used.

The diffusers must be installed quickly, without interruption and after all related work has been completed.

The diffusers must be operated for at least 10 minutes / day with an average air volume of 10 Nm<sup>3</sup>/h per metre of diffuser length.



**Attention:** Clear water is no protection against UV radiation. For idle periods longer than 1 month, effluent water from the secondary clarifier must be used, which must become turbid after 2 weeks. Contact the supplier if this does not happen.