

 JÄGER Umwelt-Technik Language: English	Technical Information Date revised: 08 October 2012	Diffuser Engineering Guide 20. February 2015
Leak and Pattern Test for JetFlex® Diffusers		

Immediately after completion of diffuser installation, remove all debris from the aeration tank and run a leak and pattern test of the entire diffuser system. If the test has to be postponed for more than 24 hours, fill tank with clean water some 20 cm above the diffusers, see Installation Manual “Assembly, Operating and Maintenance Instructions” for details.

A leak and pattern test is indispensable for all aeration systems where diffusers are operated intermittently or shut off for irregular time intervals, voluntarily or involuntarily (e.g. power outages). Correct all leaks and re-test until aeration is approved. A report has to be issued and handed over to the end-user, who acknowledges receipt of that test-report in writing. A missing test report, an insufficient or inadequate leak and pattern test provokes the loss of any warranty, and absolutely no damages due to this failure will be covered by Jäger Umwelt-Technik GmbH.

Use only tap water for the leak and pattern test and fill tank to just about 5 cm above the top of the diffusers. Higher water levels obstruct small leaks and other hard to detect damages. Do not use the effluent from the final clarifier, as this water tends to foam thus hampering observations. Leaks cannot be detected from the top of the tank so walk along each header inspecting diffusers carefully. Wear adequate protective clothing, which may be ordered at <http://www.muehlberger-gruppe.de/startseite.html> and follow all safety rules. Never step onto headers or diffusers as these may be extremely slippery. Run blowers as low as possible for leak detection and increase to standard operating range for uniformity test of aeration.

- Fill tank just 5 cm above diffusers
- Use clean, non-foaming water source
- Inspect piping system and diffusers close-by
- Run blowers at lowest possible speed for leak detection
- Increase air flow to standard operating rate for uniformity test

Drop Legs, Manifolds, and Headers

- Inspect all beads and connections for leaks, especially flanges, fittings, screw joints, and pipe clips.

Diffusers

- Inspect all connections, threads, sealing components, and clamps. Leaks will cause coarse bubbles right next to the diffuser.
- Inspect diffuser membranes for damages or loose clamps. Coarse bubbles will rise at rips and cracks, loose clamps cause air to rise from the end of the diffuser.
- If possible stop air flow for areas already tested

Tiny leaks may be detected immediately after stopping air flow to a grid of diffusers. A slight excess pressure will remain in the system for a minute or two. Even tiny leaks can be detected now by their big “string of pearls” in contrast to some small bubbles rising from individual slits.

Pattern Test (Uniformity)

Increase airflow to design airflow for the given tank and check if diffusers aerate at a considerable uneven rate. Check diffuser height and correct if necessary. Slight deviation may be caused by hydrophilic residues on the surface of the diffusers (Talcum powder on sleeves, release agents on discs, etc.) These residues are regularly applied during production and will disappear after 10 – 14 days of operation.

For additional information contact us at +49-5121-9138-900 or refer to www.jaeger-envirotech.com