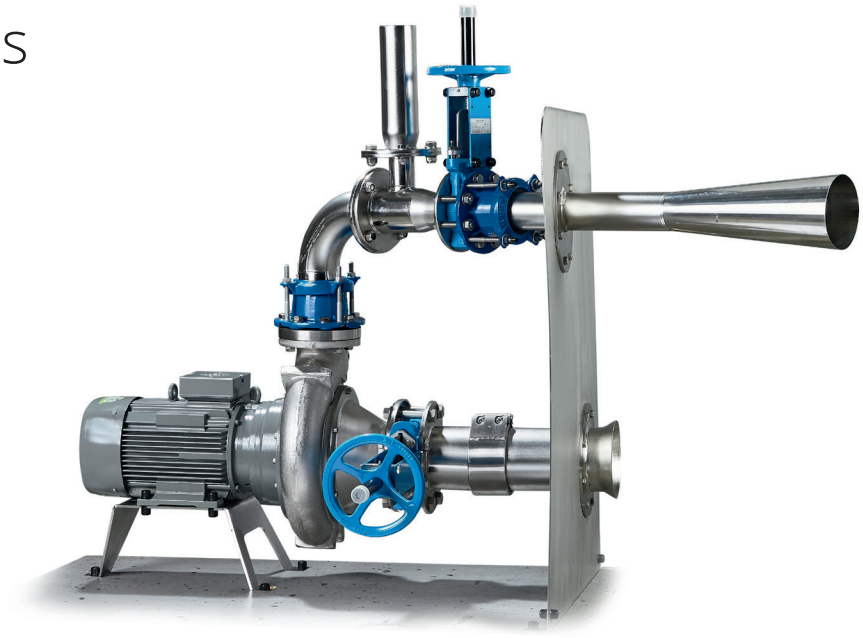
AirJet

The answer to your
aeration requirements



Landia®

ENGINEERED TO LAST

AirJet systems
– ideal for both industrial and municipal applications

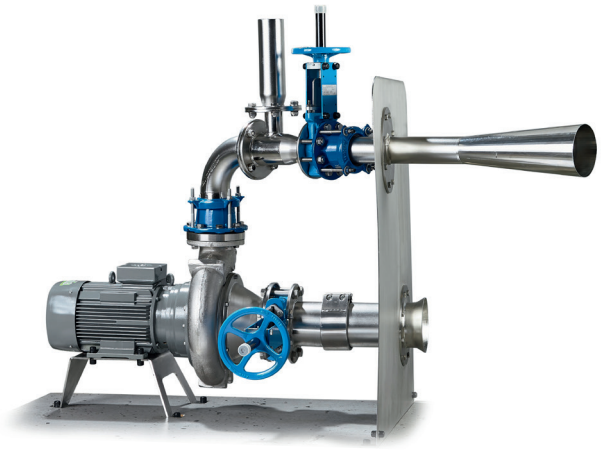
The Landia AirJet provides an economical and effective approach to the aeration and mixing of wastewater.
The AirJet is ideal for highly polluted wastewater due to the non-clogging construction, which includes a heavy-duty Landia chopper pump.

Over the past two decades, Landia has installed AirJet aerators in numerous municipal and industrial wastewater treatment plants around the world. Due to their flexibility, solids handling capability and efficiency, the AirJet is commonly used in equalization tanks, aerobic digesters, aeration tanks, sludge holding tanks, stormwater basins, and for the aeration of leachate.

By working closely together and understanding the requirements of the application, we can ensure you that the AirJet will perform to its optimum level, helping bring about benefits throughout the whole process.

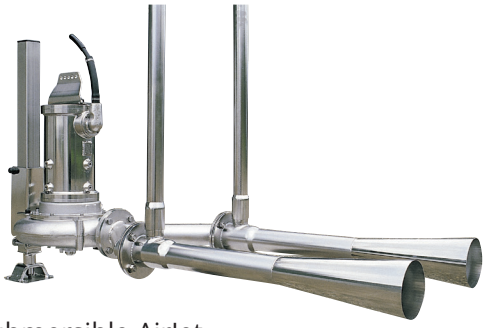
"A bonus from replacing the existing diffuser system with Landia AirJet was a 30% lowering of the energy costs"
Rob Decker, Roquette America.

"We have been using the Landia AirJet for over a decade, for mixing and aerating our wastewater EQ tank. The AirJet is a strong and reliable system that works very well for us"
James Blodgett, Operations Manager, Gun Barrell City, TX

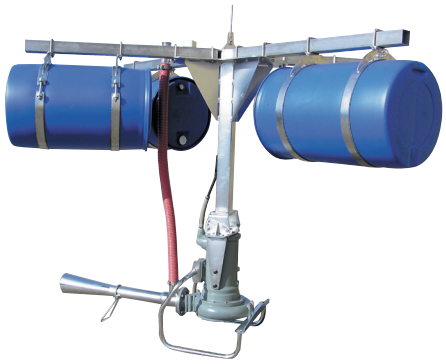


Externally mounted AirJet
For above-ground tanks

Submersible AirJet
Free-standing on bottom of tank or lagoon



Submersible AirJet
Guide rail-mounted, horizontally and vertically adjustable



Floating AirJet
Suspended on pontoons, suitable for lagoons adjusting to liquid levels

Unique advantages

- Self-aspirating - no need for compressed air supply
- Easy installation - even in a full tank
- Combined aeration and mixing
- Non-clogging aeration system – no cleaning of system is required
- The integrated chopper pump is available in stainless steel for aggressive wastewater
- Low noise level compared to other systems
- Odor reduction by preventing septicity
- Very low maintenance costs – only the pump needs to be serviced

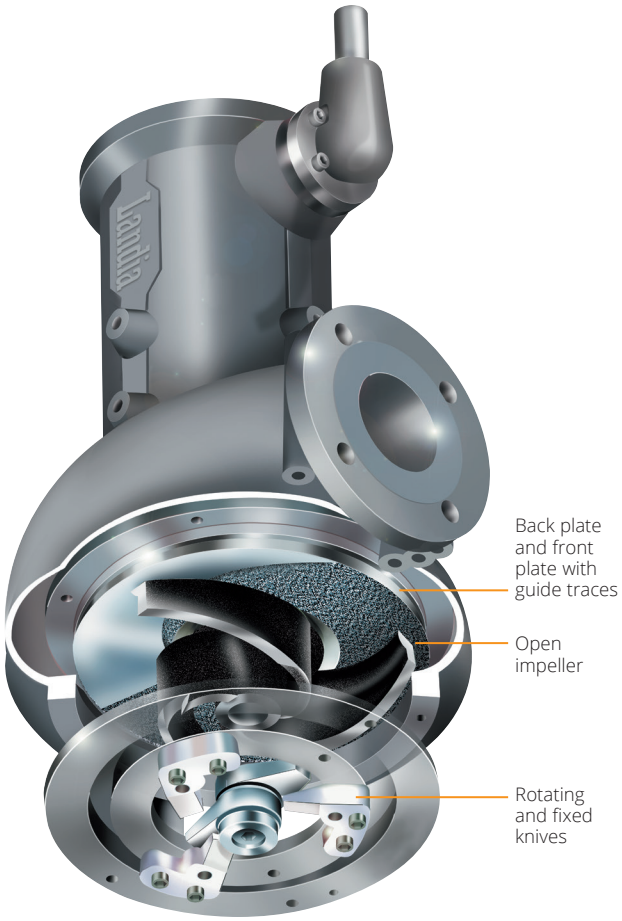
The Chopper Pump

– the heart of the AirJet

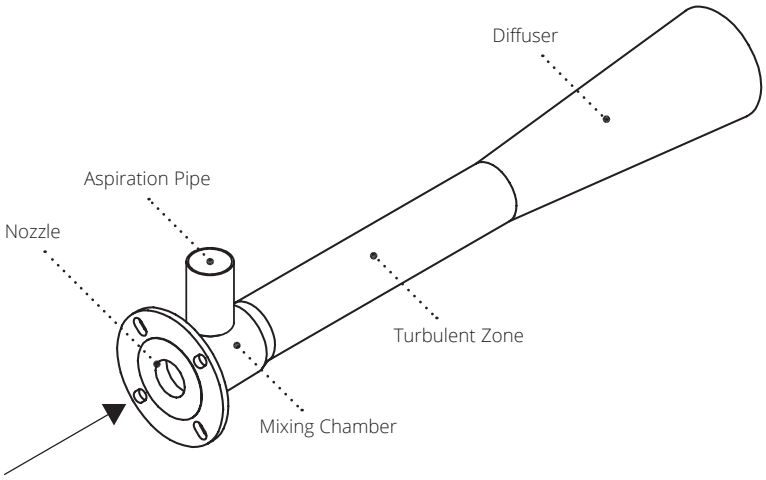
The Landia chopper pump is an integral part of every Landia AirJet system.

The chopper pump is designed for use under severe conditions and can pump sludges and other difficult to handle substrates with higher solids content and viscosity than almost all other pumps. The pump's ability to cut large particles ensures that the AirJet system never stops and contributes to improved oxygen transfer efficiency.

The Landia chopper pump is simple and robust in its construction, easy to service and with proven low life-time costs.



How it works



The liquid is pumped through the nozzle into the mixing chamber. Passing the nozzle, liquid velocity is increased significantly. This creates a stable negative pressure resulting in the air being drawn through the aspiration pipe.

In the mixing chamber, air and liquid are mixed thoroughly. The mixing is enhanced in the ejector's high turbulent zone after which the liquid/air mix is flushed out through the diffuser by means of the pressure created by the pump.

Landia AirJet product range and performances

➔ Models

The AirJet is available as submersible, floating, and for dry installation. According to process and application requirements the AirJet can be supplied with single or dual ejectors.

➔ Pumps

A comprehensive range of AirJets with chopper pumps from 5 HP to 30 HP rated motor power is available. Pump material of construction is acid-resistant stainless steel, cast iron, ductile iron, or combined versions depending on the application.

➔ Material of construction

The air ejector is manufactured from stainless steel. Please see above for pump material of construction.

➔ Flexibility

The submersible AirJet, including a stainless steel guide rail system, makes adjustment of horizontal and vertical positioning of the aerator possible. Inspection and maintenance is simple due to the integrated lifting device.

➔ Performance

Oxygen transfer rates according to SOTR (ANSI/ASCE 2-91) up to 60 lbs O_2/h.

Complete technical data and performance documentation are available on request. Contact us for sizing and process optimized solutions to your application.

Landia AirJet systems
– recommended by satisfied customers

Hutto South WWTP, Texas

Design Parameters:
Tank Type: Sludge Holding Tanks
Tank Sizes: One 12 ft. diameter x 12 ft. deep; one 58 ft. diameter x 21 ft. deep
Tank Types: One fiberglass tank; one concrete tank
Sludge characteristics: Municipal WAS and TWAS; from 1% to 5% total solids
Application: Mixing and aeration of sludge prior to dewatering
AirJet Pumps: One model MPTK-I 80 6.5 HP; two model MPTK-I 105 30.2 HP
Year: 2015

Landia was selected as the sole-source supplier for this project due to the AirJet offering the most cost-effective solution, in addition to its completely external installation, which requires no blowers and no diffusers in the tanks.

Laita, Landernau, France

Design Parameters:
Tank diameter: 74 ft.
Volume: 528,000 gallons
Substrate characteristics: Storage tank for wastewater from dairy factory
Dry matter content: 2-3%
Type of tank: Concrete
AirJet Pumps: Three model MPTKR-I 105 25 HP
Year: 2015

Landia was selected as the supplier for this project due to our stainless steel pumps and the capability to supply a customized solution.

The AirJet pump
The model MPTKR-I AirJet pump is a highly efficient chopper pump made of acid-resistant stainless steel. It is ideal for aggressive liquids with a low or high PH level, as well as liquids with a high dry matter content.

All MPTKR-I pumps can be equipped with a knife system at the inlet to the pump, which can ensure problem-free operation under conditions where many other pumps experience problems with clogging.

Dairy Crest, United Kingdom

Dairy Crest, makers of some of the UK's best-loved food brands, has upgraded its wastewater treatment process by investing in a new mixing system from Landia.

Four new stainless steel AirJets, which incorporate the chopper pump that Landia invented back in 1950, have been installed in balance tanks that require thorough mixing.

Dai Williams, Project Manager at Dairy Crest, said: "Initially we did a try-before-you buy with Landia, renting an AirJet unit at low cost to put it through its paces. It proved robust, reliable and effective".

He added: "As demand for our products has increased, so has the need to increase our production capacity, so it is important that we invest in top quality equipment with a long lifespan and low maintenance.

Landia's AirJet very much meets these requirements – and removes the cost of adding chemicals or using energy-intensive blowers".

Supplied on free-standing frames for easy servicing, the Landia AirJet (consisting of a Landia chopper pump and an ejector system) is designed with a highly effective knife system that stops the aerator from being clogged by solids.

Producers of household-name brands such as Cathedral City, Clover and Vitalite, Dairy Crest work in close partnership with farmers to help their businesses grow and become more successful.

Landia is much more
– than AirJet!

Landia's experience with wastewater goes back to the mid 80's. Since then numerous wastewater projects have been completed throughout the world. Landia has proven to be not only a supplier of high quality products but also to be a company dedicated to the wastewater industry and with extensive knowledge and experience. Below please find examples of other products suitable for your wastewater treatment plant.

Submersible Chopper Pump Model DG-I

All Landia chopper pumps are equipped with a knife system at the inlet to the pump, which ensures hassle-free operation under conditions in which many other pumps have problems with clogging. The submersible DG-I pump is ideal for pumping highly polluted wastewater such as in lift stations and septic sludge tanks but is also superior for the pumping of high viscosity sludge.

Dry Installed Chopper Pump Model MPTK-I

The MPTK-I pump with a unique combination of fixed and rotating knives, is the optimal solution for chopping and pumping sludges with a high dry matter concentration.

Submersible Mixer Model POP-I

The Landia POP-I is a versatile and efficient submersible mixer that is available with propeller speeds from 140 to 360 rpm. The three-blade propeller and the low propeller rpm make it ideal for the mixing of wastewater and sludge with high TS concentration and viscosity.
Many sizes, fittings and hoisting systems are available. Easy to install - even in a tank already containing slurry.

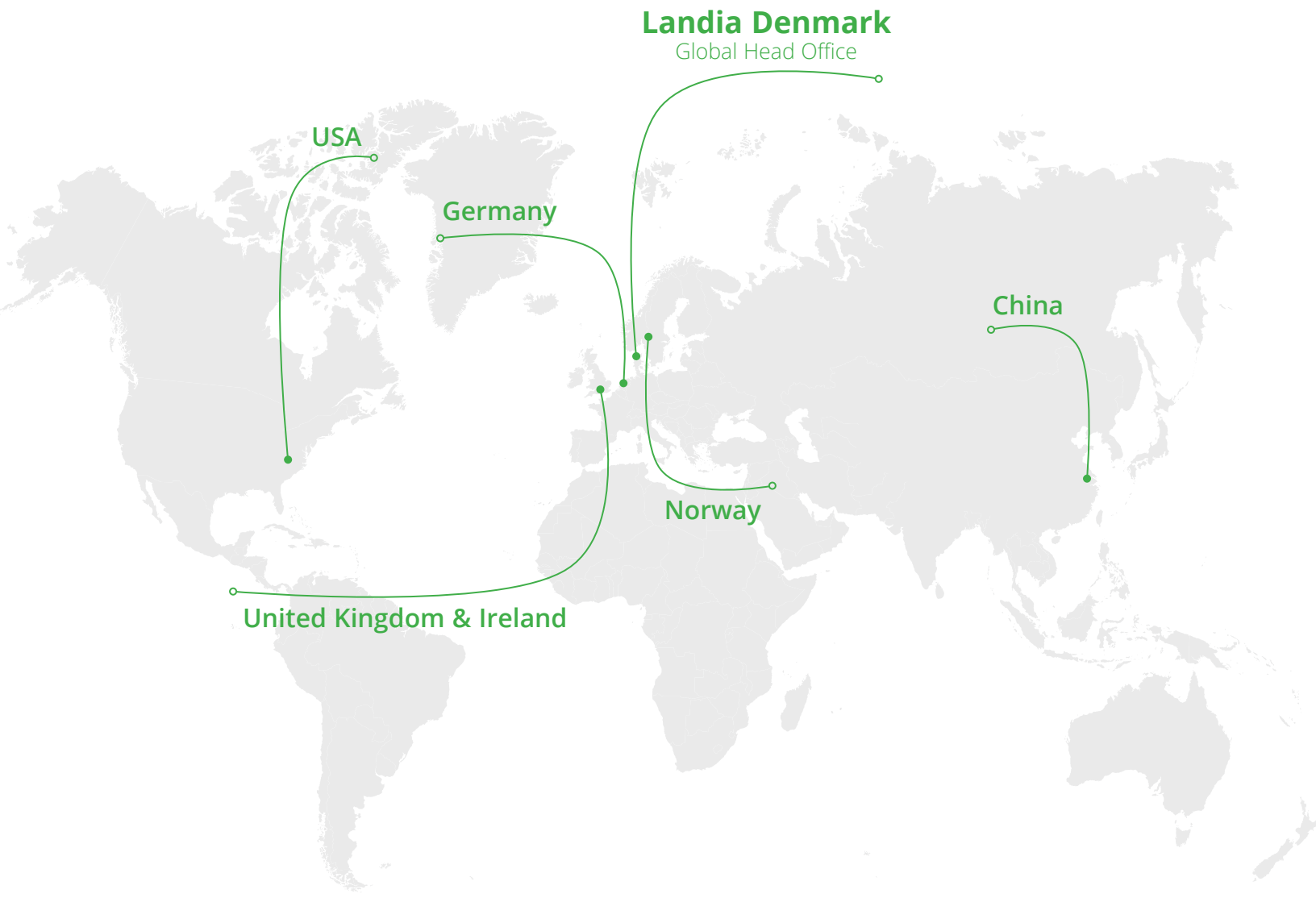
Recirculation Pumps/Propeller Pumps

Landia offers a range of low head recirculation pumps – 12", 20" or 30". Capacity up to 45 MGD.
Also available in AISI 316 stainless steel construction upon request.

Landia was founded in 1933 and is today a modern, successful manufacturer of a comprehensive range of chopper pumps, propeller mixers and aerators, offering customized solutions and systems for difficult to handle liquids with high dry matter content, liquid biomass and other organic waste.

Our customers are involved in the conception and construction of biogas plants, municipal and industrial wastewater treatment, processing of by-products and waste from the food industry, agricultural slurry handling and much more.

We support our customers through our subsidiaries and offices in the US, Germany, Norway, the UK and China – plus a worldwide network of professional distributors.



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AVANCERT ISO 9001:2015 CERTIFIED

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