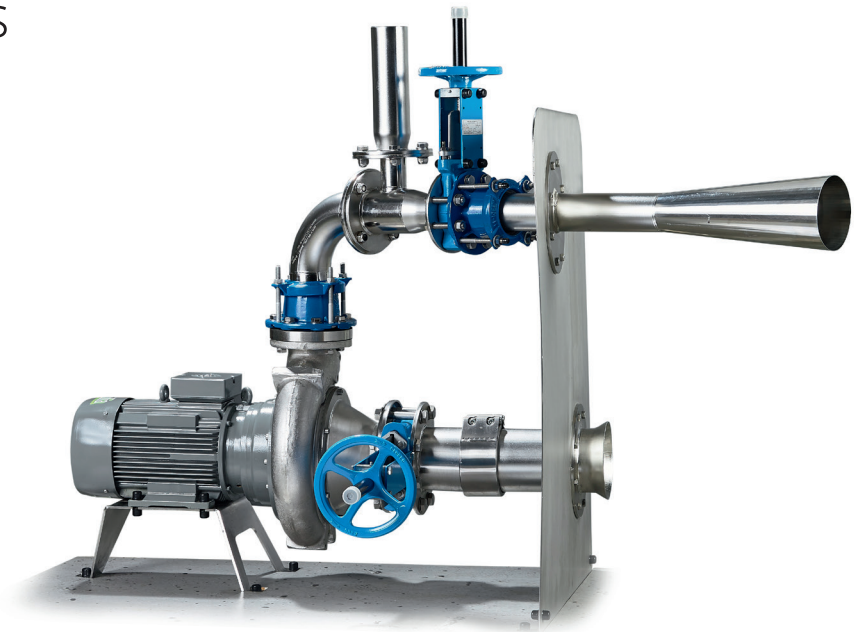
# AirJet

The answer to your aeration requirements



Landia®

ENGINEERED TO LAST

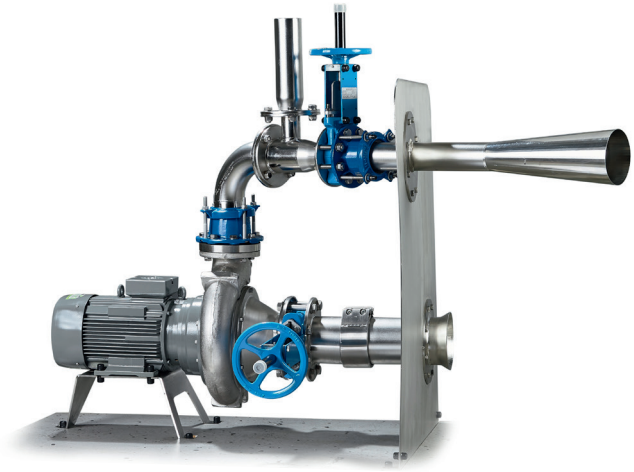
# AirJet systems
## - ideal for both industrial and municipal applications

Landia AirJet provides an economical and effective approach to the aeration and mixing of waste water.
AirJet is ideal for highly polluted waste water due to the non-clogging construction including a Landia chopper pump.

Over the past two decades, Landia has installed AirJet aerators in numerous municipal and industrial waste water treatment plants around the world. Due to their flexibility, large solids handling capability and efficiency, AirJet is commonly used in aeration tanks, sludge holding tanks, storm water basins and for the aeration of leachate whether in tanks or lagoons.

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

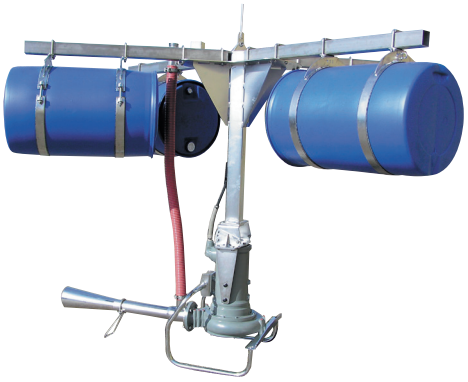
*"A bonus from replacing the existing diffusor system with Landia AirJet was a 30% lowering of the energy costs"*
Rob Decker, Roquette America.



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 available in stainless steel for aggressive waste water
- Low noise level compared to other systems
- Odour reduction by preventing septicity
- Very low maintenance costs – only the pump needs to be serviced

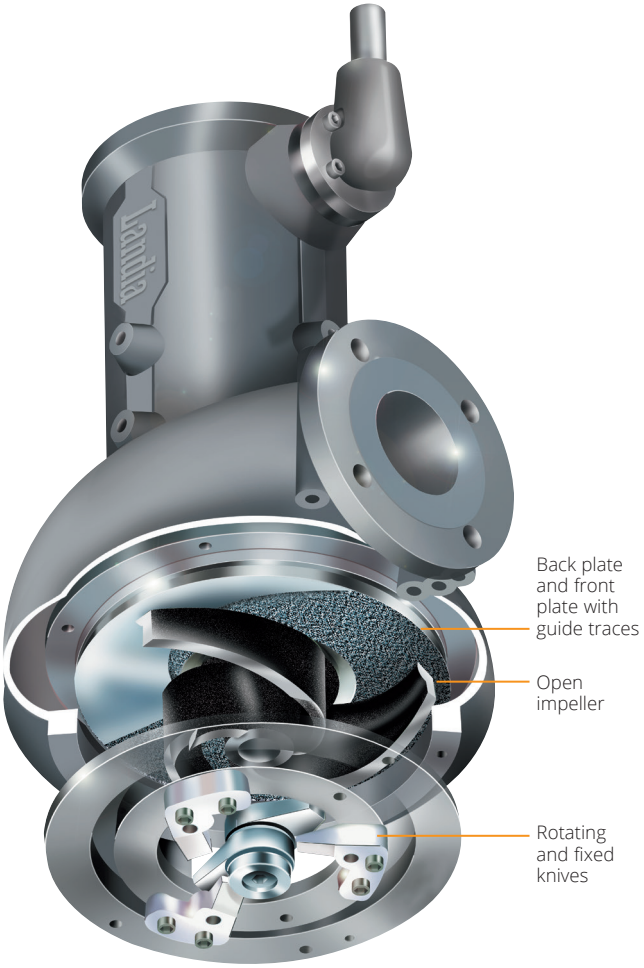
# The Chopper Pump

## - the heart of the AirJet

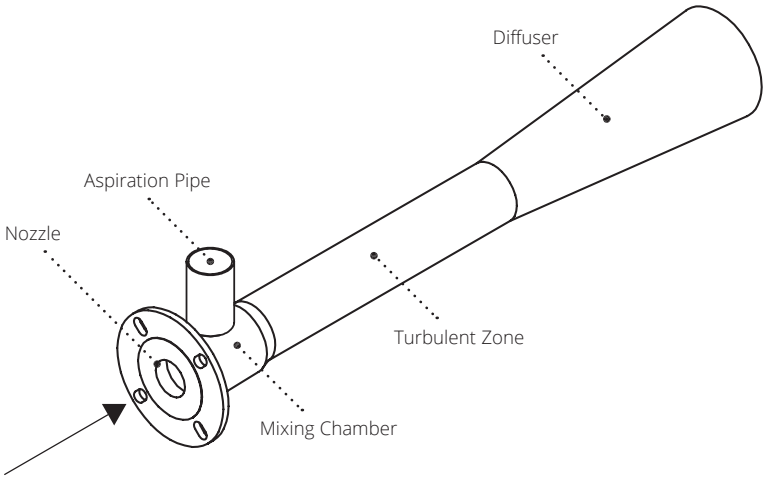
The Landia chopper pump is an integral part of every Landia AirJet system.

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 remarkably. 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 high pressure created by the pump.

## Landia AirJet product range and performances

### Models

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

### Pumps

A comprehensive range of AirJet with chopper pumps from 3.0 kW to 18.5 kW rated motor power is available. Pump material of construction is acid resistant stainless steel, cast iron or combined versions depending on the application.

### Material of construction

The complete AirJet system is manufactured from stainless steel. For pump material of construction please see above.

### Flexibility

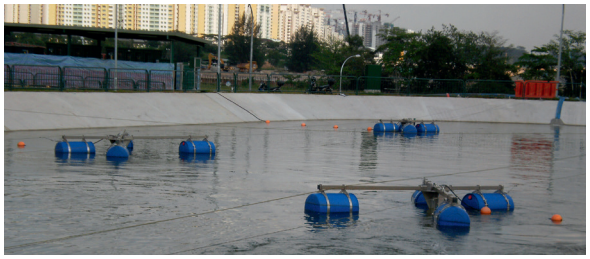
The submersible AirJet including a stainless steel guide rail system makes adjustment of horizontal and vertical position of the aerator possible. Inspection and maintenance is simple due to the integrated lifting device.

### Performance

Oxygen transfer rates according to SOTR (ANSI/ASCE 2-91) are up to 1.2 kg O2/kWh.

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

## Lor Halus Wetland, Singapore

Leachate Aeration and Mixing

Design Parameters:
Lagoon length: 80 m
Lagoon width: 30 m
Volume: 6,300 $m^3$
Design: Inclined sides
Substrate characteristics: Leachate
Liquid temperature: 25-30º C
No. of lagoons: 2
Year: 2009

A total number of 8 floating aerators and 4 floating mixers were supplied for the Lor Halus Leachate Project. Due to the aggressive characteristics of the leachate all aerators and mixers was made from AISI 316 stainless steel. The pontoon solution is ideal for lagoons where it is impossible to fasten guide rails to the tank floor.

## Laita, Landernau, France

Design Parameters:
Tank diameter: 22,6 m
Volume: 2,000 $m^3$
Substrate characteristics: Storage tank for waste water from dairy factory
Dry matter content: 2-3%
Type of tank: Concrete
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 MPTKR-I pump is a highly efficient chopper pump made entirely of acid-proof steel. It is ideal for aggressive liquids with a low or high PH value, 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 operations under conditions where many other pumps have problems with clogging.

## Diary Crest, United Kingdom

Dairy Crest, makers of some of the UK's best-loved food brands, has upgraded its waste water 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 waste water goes back to the mid 80's. Since then numerous waste water 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 waste water industry and with extensive knowledge and experience. Below please find examples of other products suitable for your waste water treatment plant.


### Submersible Chopper Pump Model DG-I

All Landia 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 waste water 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 RPM of 150 or 300. The three-blade propeller and the low propeller rpm make it ideal for the mixing of waste water 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.

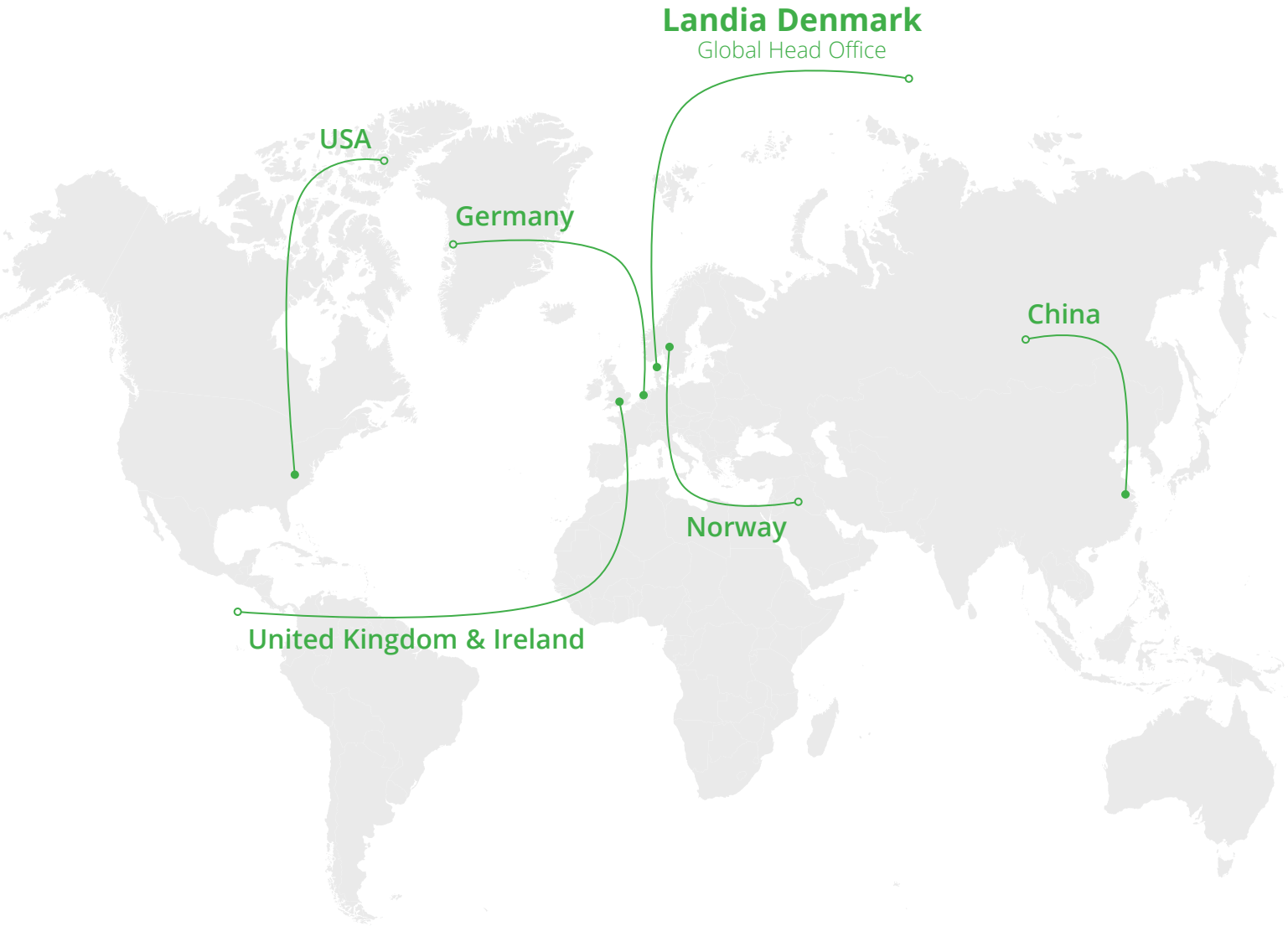

### Recirculation Pumps/Propeller Pumps

Landia offers a range of low head recirculation pumps – 300, 500 or 800 mm. Capacity up to 5,000 m³/h
Also available in stainless steel SS316 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 customised 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 waste water 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 UK, Germany, Norway, the US and China – plus a worldwide network of professional distributors.

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