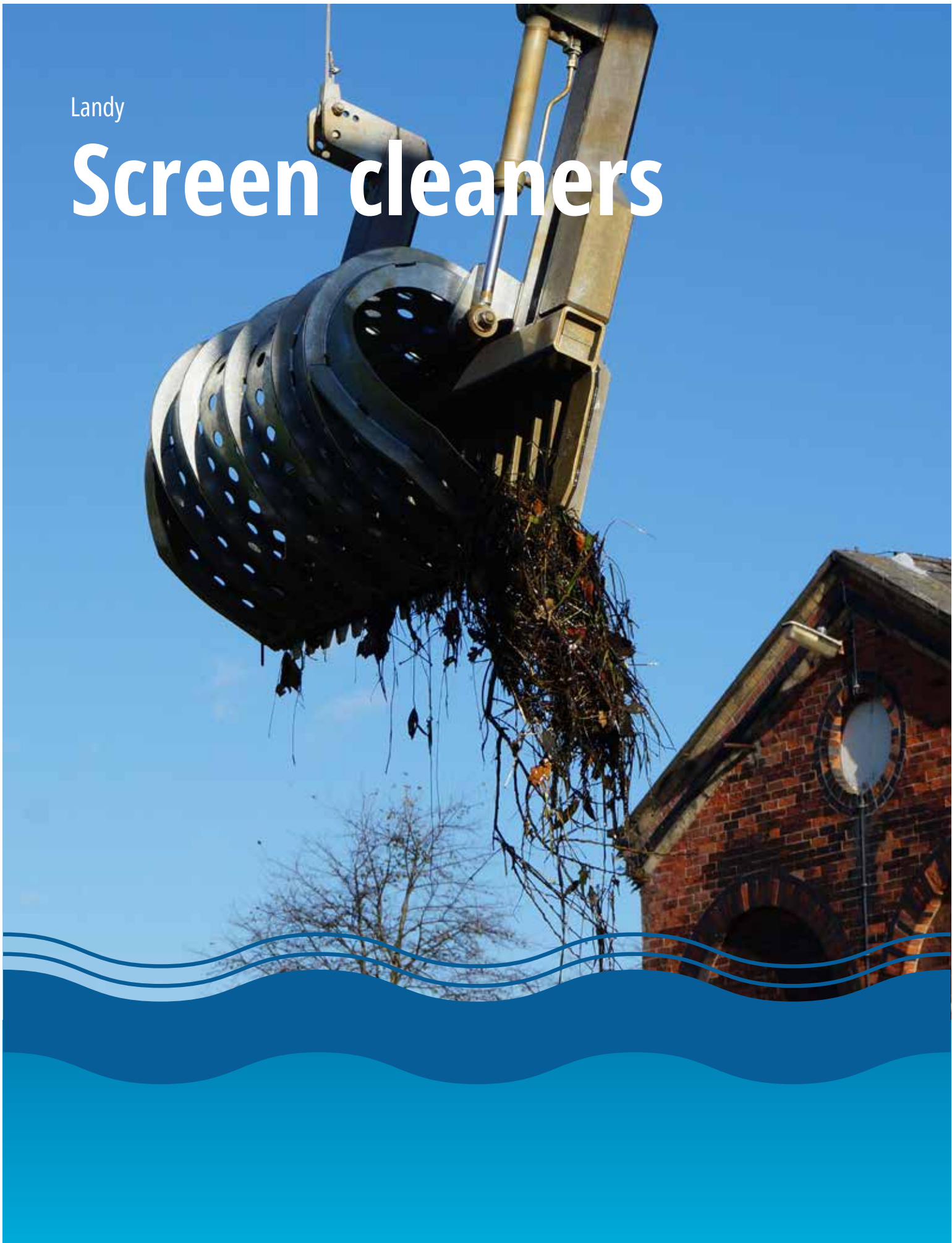
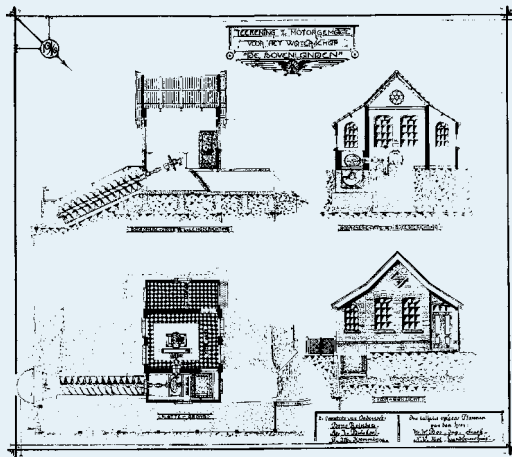


Landy

Screen cleaners





OVER 100 YEARS OF HISTORY

- In 2013 Landustrie celebrated its 100th anniversary.
- The foundations were laid in 1913, when the company was active in the agricultural sector and the evolving phases of polder drainage. As early as 1916, electrically driven pumping stations were installed with Landustrie Archimedes screw pumps alongside countless wind driven pumping stations. Production progressed rapidly and in addition to the polder drainage pumps a range was developed to handle sewage. By the 1950s these advances contributed to wastewater purification units being used widely and efficiently. From the very beginning Landustrie has played a pivotal role in the development and improvement of pumps with dozens of new types and styles being introduced.
- These developments in pumps led on to Landustrie becoming involved with screen cleaners, resulting in the 1960s in the launch of the first screen cleaners in the global market. In 1964 Landustrie teamed up with the best available technology company in the field of screening expertise, Münster Apparatebau GmbH in Germany to offer integrated screen cleaner solutions to the world market.
- Today, Landustrie is a state-of-the-art manufacturing and engineering company, combining traditional well proven products and techniques with high-tech innovations.

LANDY screen cleaners

With over a century of world-wide experience, Landustrie is a leading solution provider in the field of water technology.

Landustrie designs, manufactures, installs and maintains equipment for sewage and wastewater treatment, as well as pumps and pumping stations, for both industrial and municipal applications.

Landustrie has extensive knowledge and experience and a strong track record in these markets. Customers choose Landustrie for its innovative strength and efficiency, for its reliability and quality of work.

As a result, Landustrie has built up a sound and extensive knowledge of all types of screening problems and is able to provide the best possible solution for the cleaning of single or multiple bar screens.



Pumping station with LANDY screen cleaning equipment

Water management

Water that can flow without restriction is of utmost importance for a wide range of applications: cooling water inlets of (nuclear or fossil powered) power stations, hydroelectric power plants, desalination plants, flood defence projects, drainage pumping stations (storm, polder or irrigation), water and wastewater pumping stations as well as wastewater treatment plants.

These all require highly effective bar screen cleaning systems to remove unwanted floating or suspended debris.

Simplicity of design, efficient debris handling and operational reliability make the LANDY screen cleaners the ideal solution for the most cost effective cleaning of single or multiple bar screens.

Sustainable solutions

By supplying LANDY screen cleaners with a service life up to 30 years, Landustrie provides highly sustainable solutions and the lowest possible total cost of ownership.

Landustrie ensures you achieve a truly sustainable product by combining many years of knowledge and experience with professional project guidance throughout the entire process.

Processing costs are kept low by Landustrie specialists providing expertise from conceptual design through to commissioning and start-up, thus ensuring environmentally friendly, sustainable and economically viable products. lakes.

Research & development

Landustrie builds the most durable, efficient and operationally safe screen cleaners in the world, regardless of this, we never rest, an in-house testing facility is available to our engineers where we develop new ideas, fully test them and incorporate the very best ideas into our continuing commitment to provide the very best screening products available.

In our development laboratory all new designs and ideas, go through rigorous testing and analysis using digitally monitored production systems. In this way Landustrie can reproduce real life situations, we never rely solely on computer generated theory, we physically test all the digital results that our computational finite element analysis methods provide.

The end result is that the screen cleaner we design and build for you will perform as expected.



Selection

Landustrie can offer a wide choice of screening solutions including front and back raked screen cleaners.

The LANDY designed and manufactured back raking screen is a device constructed from galvanized steel or stainless steel, comprising an adjustable transport chain driving a bar with an attached rake. This type of screen is predominantly used on smaller pumping stations with intakes up to channel widths of 4 meters and water depth up to 4 meters. As a result it is particularly suitable for single water intakes. Due to the compact and robust design of this machine almost no maintenance is required. The cleaner is driven by a low power extremely durable drive unit. This drive unit is positioned in such a way that it's easily accessible for inspection and maintenance.

The LANDY designed and manufactured front raking screen cleaner models are the clear choice for the highly effective bar screen cleaning of multiple water intakes. This machine operates more efficiently, reliably and cost effectively than any other type of screen cleaner. Tipping forward of the rake carriage in heavy debris conditions is a serious problem with some machines of this type and the very special design of the Landustrie grab prevents and eliminates this problem completely.

Several versions of the Landustrie front raked screens are available, models are available to suit bar screen spacing's from 20 mm upwards, with capacities to handle 200 kg to 2000 kg of debris loading in a single lift, intake depths with standard machines can be up to 30 m with special designs available for heavier lifts or deeper intakes. The very high number of intake screens that can be handled by a single machine and the varied design possibilities of the overhead gantry allow logistically optimized handling of the debris in any situation. Special heavy duty models and special accessories are available on request.

Bend and curves of varying radii can be included in the over-head monorail system if required, allowing access to multiple screens or remote dump sites. Debris can then be loaded directly onto a dump area, skip or trailer. Normal operation is fast, simple and fully automatic, providing 24- hour unmanned coverage, the Landustrie machine always ensures that the screen is completely cleaned from top to bottom. High grab weight and the specifically designed centre of gravity of the grab ensure secure automatic operation eliminating the problem of rake carriage "tipping".



Typical grab of LANDY front raking screen cleaner



LANDY back raking screen

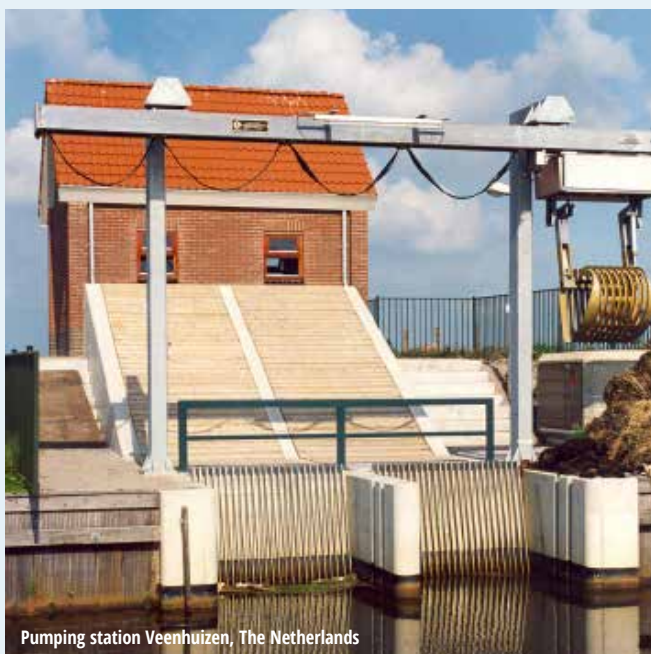
Manufacturing

To ensure that we provide the absolute highest quality product, we manufacture all of our LANDY screen cleaners at our purpose built factory in Sneek in the Netherlands. This plant is equipped to manufacture screen cleaners in all our varying models and versions, each and every one tailored to suit your situation and specific requirements.

At our 15.000 m2 state-of-the-art manufacturing facility, we have at our disposal the latest technology available to build the most durable and efficient screen cleaners currently available. From metal forming and welding to the application of corrosion protection coatings, each step, through to final assembly, is closely monitored, every activity is carried out under our own roof and importantly, under our internationally accredited quality control programs.

In our facility, we X-ray and/or perform ultrasonic tests in all critical areas of the machine to guarantee that your screen cleaner will be a robust and reliable system able to operate for decades to come.

Landustrie has earned and operates under ISO 9001-2008 and SCC (Safety Checklist Contractor) certifications.



Pumping station Veenhuizen, The Netherlands

Applications

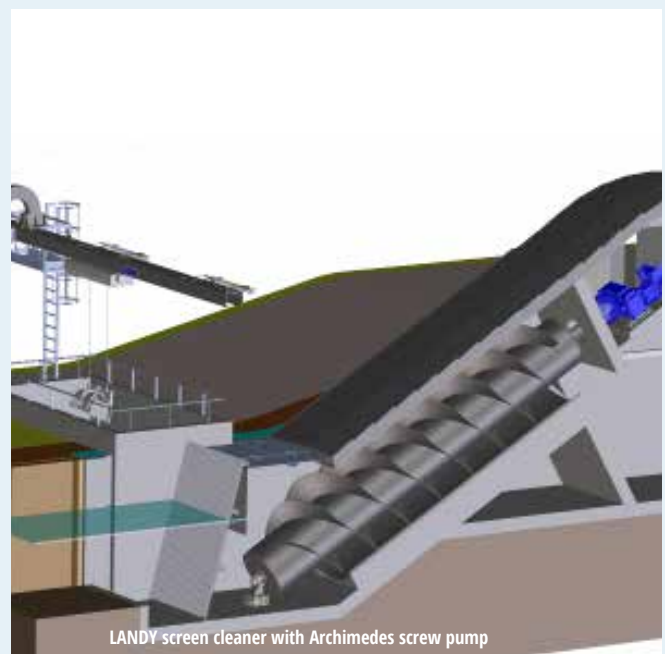
The LANDY back raking screen fits well into smaller pumping stations and smaller intakes usually up to a channel widths of 4 meters and water depth up to 4 meters, making it highly suitable for single water intakes.

The LANDY screen cleaner R66 models have the largest cleaning capacity. These are often used at hydropower plants as well as large water and wastewater pumping facilities.

The LANDY screen cleaner R71 models can be used in any application. They are typically used for cleaning screens at pumping stations, sewage treatment plants, wastewater pumping stations and also at drinking, process plants, cooling water intakes and barrages.

Like the R71 model, the LANDY screen cleaner R03 can be used on almost all applications, whether on screens at pumping stations, sewage treatment, wastewater pumping facilities, or at drinking, factory and cooling water intake stations.

The lightweight construction and lower cleaning capacity make the R03 models most appropriate for smaller water and wastewater facilities, or where less amount of debris is expected.



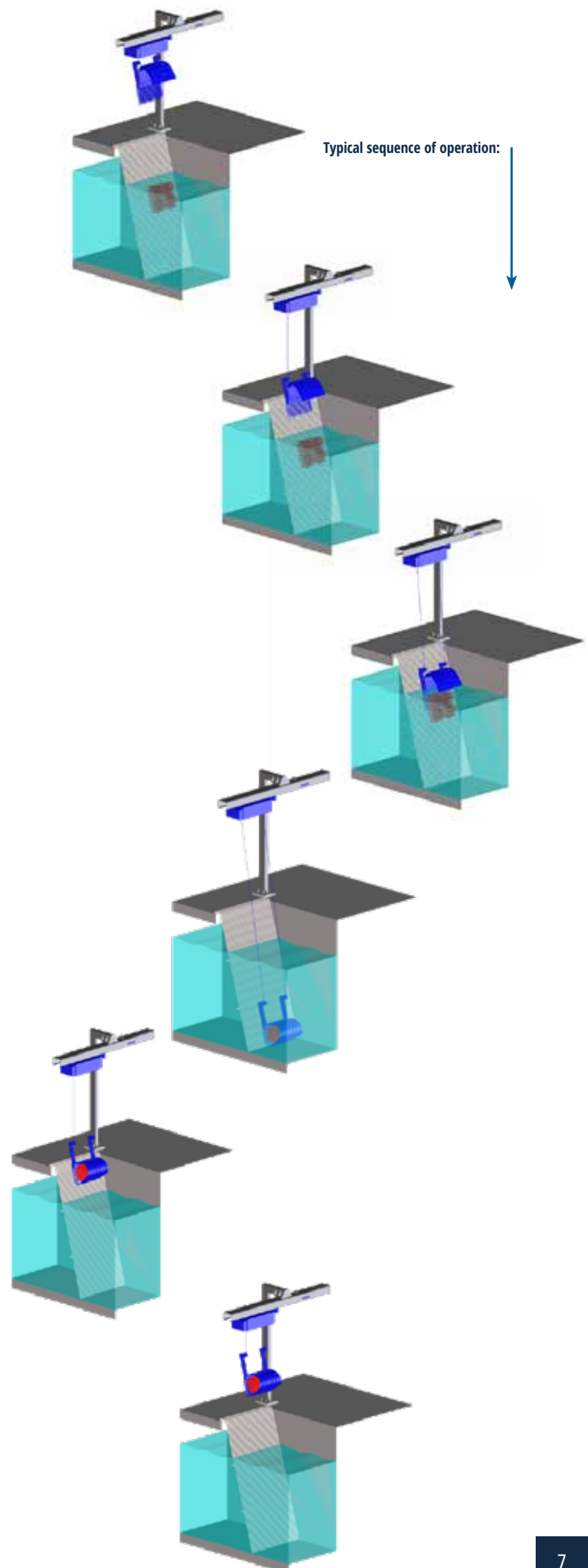
LANDY screen cleaner with Archimedes screw pump



Operation

In our machines all of the operating mechanism is on the clean side of the bar screen. The machine removes floating debris in front of the trash rack and deposits this onto a dumping platform at the back of the screen.

1. At the start signal the trolley moves over the screen, travels to the designated screen area and stops over its first pickup point age.
2. The grab is lowered.
3. The grabber prongs slide between the screen bars. Limiters prevent the grab tines interfering with the supporting cross-members behind the screen.
4. The descending grab collects the debris from the water surface to the bottom of the channel. The LANDY front raking screen cleaners R66, R71 and R03 models traverse the intake on a monorail track over the screen or screens and dump areas. Travel speeds are between 10-30 m/min. At installations with a long track length and heavy debris loading, a travel speed of 30-60 m/min can be specified to reduce the overall cleaning cycle time.
5. Once the grab arrives at the bottom of the channel, the grab closes and is lifted.
6. Once it has reached its upper position, the hoist motor is switched off and the traction motor is switched on.
7. The trolley drives back to the dump area.
8. The grab opens releasing debris into the skip, trailer or dumping area. After unloading the debris, the trolley travels back to the screen for cleaning to continue until the selected screen area is clean.



Simple and robust

Landustrie guarantees a simple and robust construction by utilizing finite element analysis (FEA) software, no matter of which grade of steel is used in the construction of the LANDY screen cleaner.

The grab is designed to meet hoisting crane specifications. The grab opens and closes hydraulically. It is by design always of sufficient weight to achieve maximum compression of debris. The construction is such that tipping over of the grab is impossible. The grab is connected to a double hydraulic hose on a single spool, protected by cable wire.

The whole assembly ensures that even large objects such as mattresses, tree-trunks and root stems arrested by the bar screen can be removed smoothly and efficiently.

Quiet

Installing LANDY machinery will never result in unacceptable operating sound levels. Careful design, based on water depths, screen widths and the expected debris loading, are all carefully considered to eliminate or greatly reduce noise levels. Many years of experience has resulted in Landustrie providing the quietest running screen cleaners in the world.

The low-noise lifting drive, the low-noise hydraulic pump and nylon wheels to move the carriage are always part of our design ensuring no significant impact on the surrounding area or operating area ambient sound levels.

Hurricane proof

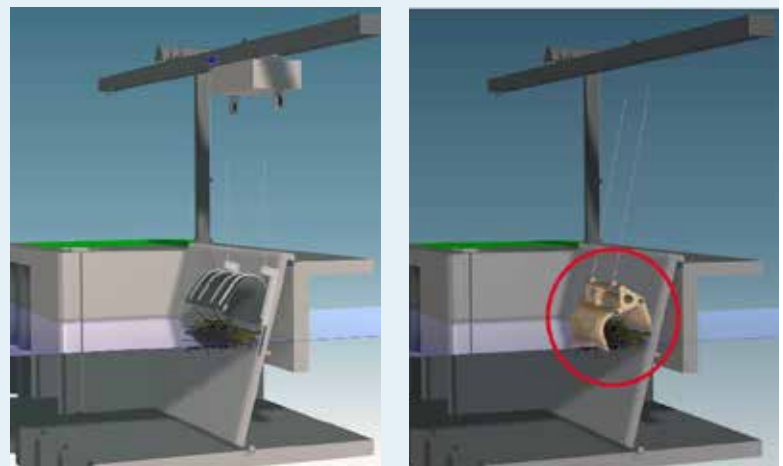
The robust design of the LANDY screen cleaners enable them to withstand all adverse weather conditions including high winds up to hurricane force.

Durable, reliable & trouble free

The LANDY screen cleaners operate at relatively low speeds. In addition all contact areas are protected with exchangeable Teflon wearing parts; the grab is also provided with Teflon guide strips. To achieve a high level of corrosion protection all carbon steel parts are hot-dip galvanised. The trolley, cable and cable drum are manufactured from stainless steel materials.

The overall results are very low levels of wear and tear on all the mechanical components, these measures ensure decades of trouble free operation.

LANDY screen cleaners are able to cope with large volumes of heavy debris, resulting in a system that operates trouble free with an exceptional low level of maintenance.



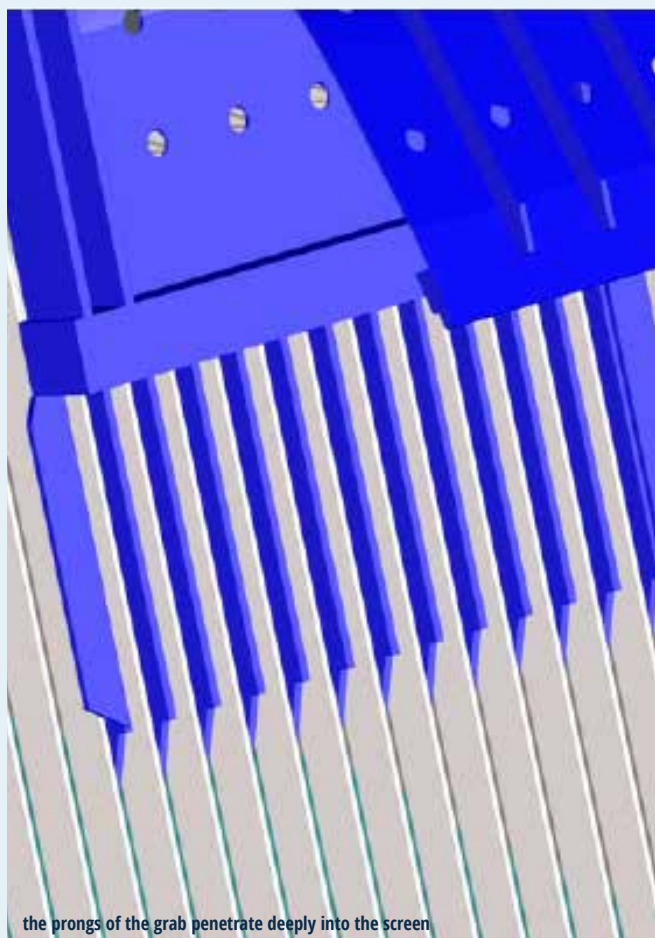
Centre of gravity does not allow rake to topple over

100% cleanliness

The prongs of the of the LANDY screen cleaner grab penetrate deeply into the bar screen while the integral guide strips ensure the grab cleans the screen in a perfectly straight line from top to bottom.

The optimum weight distribution of the grab prevents tip- over of the grab and ensures that the grab always remains in an upright position in close contact with the screen. This “no tipping” action allows the grab to cleanly remove all debris from the bar screen.

The unique features of the LANDY grab assure a clean screen is always presented to the flow. The reliability of the LANDY system and operating features of the system results in a working method guaranteeing that the bar screen is always 100% clean, from top to bottom.



the prongs of the grab penetrate deeply into the screen

Operation mode

Landustrie offers several control system options, including external signals, timer, level differential, manual start and handheld control .

External signals:

Signals from an external source are processed to start a cleaning operation.

Timer:

A timer automatically starts the machine at pre-set time intervals; this will continue if no other starts override the timer settings.

Level difference:

An automatic start is activated by detecting the difference in water levels across the bar screen. When the difference in water level exceeds a pre-set value, the machine starts.

Manual start:

In the control panel for each screen a start button is provided to give a starting command for each screen

Handheld control:

A push button console is provided for manual operation.



LANDY screen cleaner control panels

Control panel

The Landustrie control panel is the heart of the system, enabling your LANDY screen cleaner unit to be a part of an integrated, efficient water control system.

Landustrie manufactures the most sophisticated control panels and software operating systems for screen cleaner systems. In order to operate safely and efficiently in all conditions possible, the control package is manufactured in-house at our Sneek facility. This ensures a perfect match for your custom designed screen cleaner installation. The control panel provides fully automatic operation of the system, regardless of which operating mode option is selected.

By using water level sensors upstream and downstream to determine when screening is required, monitoring all important parameters of the system, your LANDY system is guaranteed to operate efficiently and safely at all times.

Remote control & Monitoring

Full remote control and monitoring of your LANDY screen cleaning system is possible on your PC, tablet or smart phone anywhere in the world. You can see precisely what your system is doing, how it is performing or detect a potential problem, anytime and from anywhere.

The LANDY remote control system enables operators to see and set parameters without being on site. Start and stop control, sequence changes and on site monitoring can all be carried out without a site visit.

Your LANDY remote control option on your PC tablet or phone literally mirrors the control panel interface in the control room

Low maintenance

Both preventive and if required, corrective maintenance for the screen cleaners, can be provided by Landustrie. Spare parts are readily available and can be quickly dispatched to your site for urgent maintenance requirements; this ensures the maximum operational time of the screen cleaner is always achieved. The use of well known and proven suppliers for all standard parts ensures a long-term and reliable supply of spare parts for the life of the plant. Landustrie is the clear choice to provide full after sales support for any of the LANDY screen cleaners.



Installation & commissioning

The Landustrie installation teams are renowned for the quality of work in the field. Under any conditions, the installation and maintenance teams are able to deliver high quality and fast solutions. On-site tuning of the screen to your specific site characteristics is one of the skills of the installation team.

The LANDY screen cleaners can always be fully installed by our specialised installation team. Landustrie supervisors are also available to work with your in house team to ensure proper installation of the screen cleaners. Our supervisor can also be called upon for commissioning and start-up of the screen cleaners as well as training of your operators to ensure optimum performance and long service life of the equipment installed.

Experience

Landustrie has been involved in screen cleaners for more than half a century in more than 60 countries worldwide. This has given Landustrie the knowledge and experience to design well functioning screen cleaning systems as well as to optimize existing screen cleaning systems. Landustrie can complete installations from single small units to multiple screen installations of the largest size.

After-sales services

Landustrie's after sales service is your connection to Landustrie, not only for spare parts but also for training, supervision of installation works, commissioning or start-up.

For more information:

aftersales@landustrie.nl

Technical specifications

LANDY screen cleaners	R66 models	R71 models	R03 models
Working depth till	30 m	14.5 m	10.7 m
Grab width	1400 - 3500 mm	500 - 1400 mm	500 - 1400 mm
Bar distance min.	20 mm	20 mm	20 mm
Grab weight	500 - 1500 kg	300 - 550 kg	250 - 300 kg
Load capacity	800 - 2000 kg	500 - 900 kg	0 - 500 kg
Actual load	300 - 1500 kg	200 - 400 kg	200 - 250 kg
Carriage speed	0 - 60 m/min	0 - 60 m/min	0 - 30 m/min
Hoist speed	15 - 19 m/min	15 - 19 m/min	0 - 15 m/min
Hoist	4.0 - 7.5 kW	2.2 - 4.0 kW	1.5 kW
Carriage	0.32 - 1.5 kW	0.37 - 0.75 kW	0.37 kW
Hydraulic motor	1.1 kW	1.1 kW	0.55 kW

Other models and special accessories are available upon request to suit special requirements not covered by above table. Each LANDY screen cleaner is manufactured in accordance with the EC-directive

Over 250 years of experience in water handling and treatment

From water intake systems to water cooling, from water management to wastewater treatment, hydropower, pump installations, and award-winning innovations in decentralized wastewater treatment; DeSaH, Hubert, and Landustrie have joined forces. Based in Sneek, Friesland, our craftsmen develop and manufacture future-proof solutions with an above-average lifespan.

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