kalkman
Marine Propulsion

since 1924
kalkman

Kalkman Marine Propulsion, progress begins below the waterline.

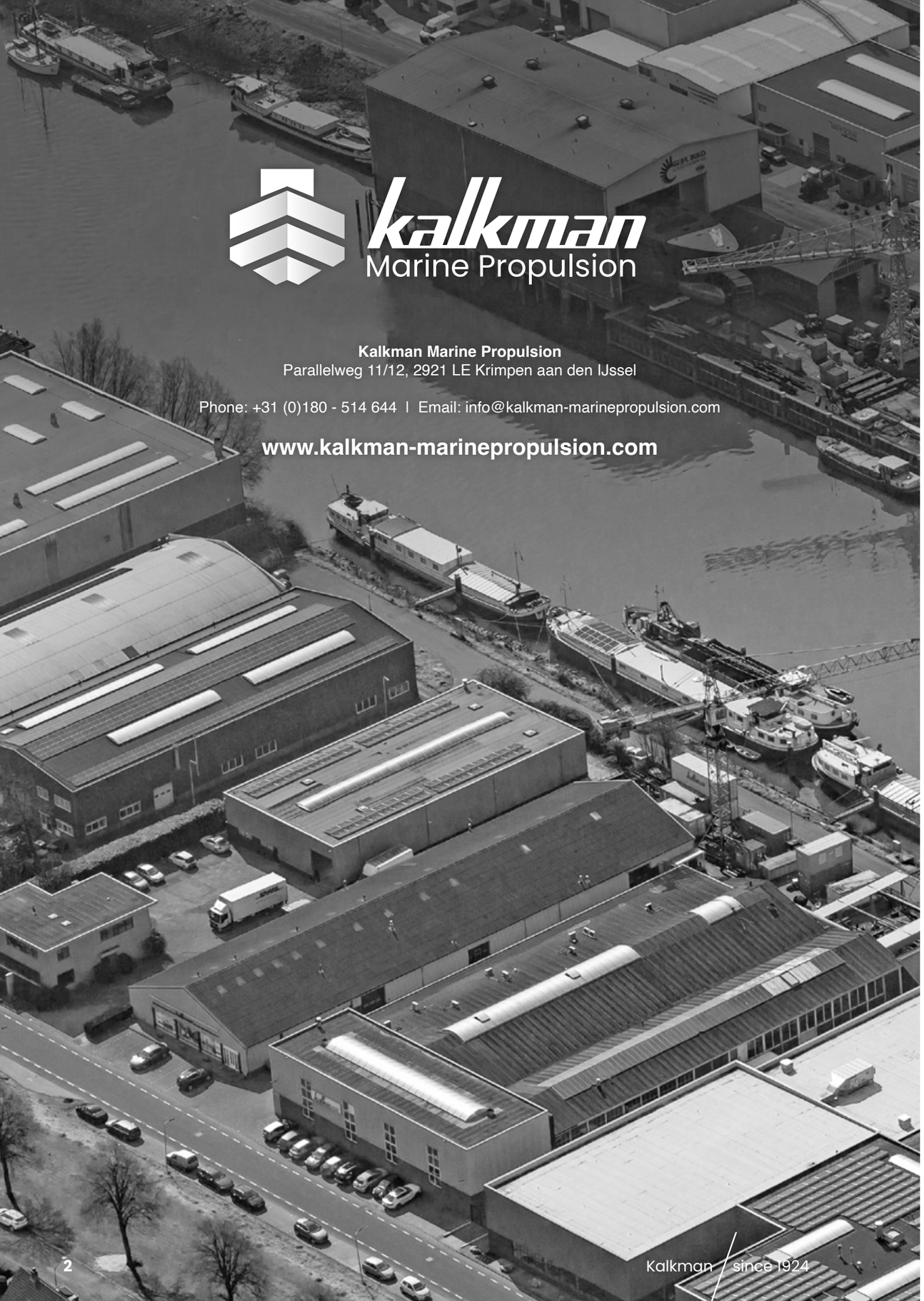

Channel Bow Thruster


Ballast Jet


Steering Grid Bow Thruster


Azimuth Thruster


Tunnel Thruster



Contents

"Kalkman Marine Propulsion combines craftsmanship and innovation in maritime solutions that last for generations."

Kalkman

Over 100 years of progress

Since 1924, Kalkman has been actively developing technical solutions that enable movement. What started as a small workshop specialising in diesel engine repair and installation has evolved into a comprehensive marine engineering company with a strong reputation across multiple sectors. From the very beginning, quality, customisation and customer focus have been the pillars of this family business.

Over the years, Kalkman has continued to grow in line with changing market demand. In the early 1980s, this led to the establishment of **Kalkman Marine Propulsion**, a specialised branch within the company focused on the production of Bow Thrusters and Thrusters. This expansion built on existing technical expertise and quickly became an established name in inland shipping, passenger shipping and recreational boating.

With a wide range of products, from bow thrusters to ballast pumps and complete high-load applications, Kalkman Marine Propulsion delivers reliable and sustainable solutions worldwide. Everything is developed and produced in-house, supported by a team of experienced engineers, a modern workshop and service technicians who assist customers on site. **From design to maintenance**, the entire process is focused on customisation and practical applicability.

In order to meet the growing demand for integrated technical systems, Kalkman Scheepselektro was founded in 2022. This separate company brings together all electrical engineering expertise, enabling Kalkman to offer total solutions in which mechanics, hydraulics and electrical engineering are perfectly integrated.

Reliability and sustainability are central to everything Kalkman does. The choice of high-quality materials, well-thought-out designs and easy-to-maintain systems ensures that Kalkman's solutions are durable and easy to use. Customers appreciate not only the quality of the products, but also the personal approach and long-term relationships that the company strives for.

With over a century of experience and a forward-looking vision, Kalkman continues to invest in innovation, people and technology. Kalkman Marine Propulsion and Kalkman Scheepselektro together form the driving force behind reliable maritime solutions that are used worldwide – supported by the craftmanship of dedicated employees and the trust of customers that sometimes spans generations.

since 1924 kalkman

Founders Willem and Pieter with Dirk.

From left to right: Piet van der Velden, Huib de Jong, Uncle Janus (Adrianus) Kalkman, Piet Demper and Piet Pols. The gentlemen pose behind the 100th Steering Grid Bow Thruster in 1986.

The factory hall in the 1950s.

The entire team in the 1950s.

Kalkman L-Drive.

Kalkman Marine Propulsion

Progress begins below the waterline

Since its inception, Kalkman has been involved in activities related to shipping. Grandfather Willem and his brother Pieter carried out repairs on vessels and installed diesel engines.

Numerous vessels relied on Kalkman for professional diesel engine overhaul and repair. At the time, Krimpen aan den IJssel had two shipyards that built new vessels, and Kalkman was responsible for completing the hulls with engines.

In the 1970s, vessels became increasingly larger, making them more difficult to steer with only a rudder at the rear. This gave Kalkman the idea to develop a revolutionary Bow Thruster that could be lowered under the vessel. This significantly improved the vessel's manoeuvrability.

Huib de Jong, who has been working at Kalkman for 55 years, remembers it well. "A test setup was built in the factory and the Bow Thruster was placed in a water tank. On a number of Saturdays, skippers were invited to view the Bow Thruster in action. Production could begin, because many skippers bought this new bow thruster, which we called "Alpha".

Development continued. Thanks to the experience gained and ideas from customers, more and more bow thruster models were developed in the following years. This resulted in a suitable model in terms of design and power for every type of vessel. All the different models were given names from the Greek alphabet.

> ***"Notably, the majority of Amsterdam's tour boats are equipped with a Kalkman Bow Thruster."***

It was Janus and Dirk's decision to set up the shipping activities separately as Kalkman Marine Propulsion and to further develop and professionalise the company. Focused on the product range of Bow Thrusters, Thrusters and later Ballast Jets.

Huib: "We no longer built just for the inland shipping, but also for fishing, maritime shipping

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Images of various products.

Huib de Jong, former manager in Marine Engineering, has been working at Kalkman for 55 years.

and tour vessels. Notably, the majority of Amsterdam's tour boats are equipped with a Kalkman Bow Thruster.

"The Channel Bow Thruster was developed in 1994. It is available with two, three or four channels. A patent was obtained for this invention in the rotating channel drum which provides approximately 15% higher thrust efficiency under comparable operating conditions. Important developments took place in 1997 and 1999. The Kalkman Watch Alarm System and Ballast Jet were introduced. Hundreds of Ballast Jets have been sold and they are still being produced in large series. Developments continued. For example, a range of rudder propellers has been developed for propelling vessels, available in various power ratings and drive types, such as electric and hydraulic or with a diesel engine. "

"Many shipyards regularly purchase our Kalkman Bow Thrusters. Exports have expanded to Croatia, America, Africa, Sweden, Asia, and so on."

The future? Exports will continue to grow. There are still many opportunities, and Kalkman will remain alert and keep listening to what customers want. Digitalisation will also play an increasingly important role. Engineers will be able to monitor, provide service and carry out preventive maintenance remotely in real time.

But keeping production in our own hands and making it even more our own, monitoring the stability and quality of the service and products, is an entrenched but still proudly upheld value that will certainly last for another 100 years. ●

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- Hydraulic
- Electric
- Hybrid
- Diesel

Progress

begins below the waterline

Our in-house engineering department employs experienced designers and draughtsmen, enabling us not only to optimise existing systems, but also to develop new solutions for complex or unique applications.

Reliability, durability and craftsmanship are central to everything we do. In modern vessels, aids such as Bow Thrusters and pumps have become essential for manoeuvrability, safety and operational efficiency. That is why we only supply systems that will continue to perform for years under harsh conditions.

Our products are available with diesel, electric, hybrid or hydraulic drive and can be supplied with class or certification if desired.

Since 1924 – proven quality

Kalkman is a family business with almost a century of experience in marine engineering. This long history is reflected in the care with which we work, the lasting relationships we build and the reliability of our products. We believe in personal contact, short lines of communication and thinking along with you to find solutions – from the initial sketch to commissioning. ●

kalkman Marine Propulsion

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Scan the QR code for more information or visit: https://kalkman-marinepropulsion.com/en/products/bow-thrusters/

Tunnel Thruster

Our Tunnel Thruster delivers instant thrust when it matters most – ideal for precise manoeuvring in ports, locks or during tight course corrections. Reliable, powerful and engineered for continuous high-load performance in demanding operational conditions.Thanks to its efficient design, you get maximum thrust from every kilowatt – without unnecessary losses.

Proven power for a wide range of applications
These Tunnel Thrusters are available with power ratings up to approximately 1,250 kW and propeller diameters up to 2,000. They are widely used on tugboats, tour vessels, and seagoing vessels, among others, where thrust in two directions is sufficient or where the available space limits the use of other systems. The design is robust, reliable, and easy to integrate.

Compact configurations are available for installations with restricted space
A series of compact models has been developed for smaller vessels and recreational boating applications. These models combine power with quiet operation and easy installation.
Take a look at the 24V Tunnel Bow Thruster on page 17, for example—the solution for those looking for reliability in a small package. ●

Tunnel Thruster – Respond quickly. Manoeuvre precisely. No compromises.

Key Features

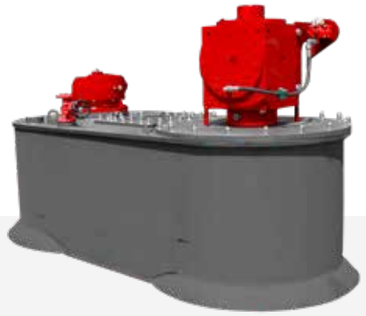
- **High thrust per kW thanks to efficient tunnel design.**
- **Suitable for power ratings up to approx. 1,250 kW and propeller diameters up to 2,000 mm.**
- **Reliable when manoeuvring in ports, locks, and narrow waterways.**
- **Robust, maintenance-friendly construction for intensive use.**
- **Easy to install, even in limited technical space.**
- **Compact versions available for smaller vessels.**

Steering Grid Bow Thruster

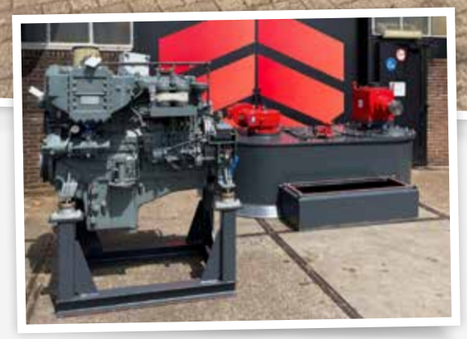
Kalkman developed a Bow Thruster for inland vessels that makes optimal use of the flat bow: a horizontally rotating propeller sucks water from under the vessel and feeds it through a special Bow Thruster housing to a 360° rotatable steering grid. This creates direct thrust in any desired direction – without protruding parts or openings in the hull that impede navigation.

This Steering Grid Bow Thruster has been continuously perfected over the years and is now available in power ratings up to approximately 600 kW.

Its compact construction, robust design, and maintenance-friendly features make this system an ideal solution for manoeuvrability and reliability under challenging conditions. ●



Thrust in every direction – without compromise.



Key Features

- **Fully 360° rotatable steering grid** for maximum manoeuvrability.
- **No protruding parts or hull penetrations** for minimal disruption to navigation.
- **Horizontal propeller,** easily accessible and maintenance-friendly.
- **Propeller replacement without docking.**
- **Compact design, ideal for flat hulls.**
- **No grease lubrication required –** environmentally friendly.
- **Suitable for continuous use.**
- **Optional with road-dependent and/or forward control.**
- **Available in power ratings from 20 to approx. 600 kW.**
- **Can be connected to DP systems for accurate positioning.**
- **Prepared for autonomous sailing.**

Channel Bow Thruster

Kalkman's Channel Bow Thruster provides maximum manoeuvrability with minimal draught. The system draws water from beneath the vessel using a horizontal propeller and subsequently directs it through two, three, or four fixed channels by means of a rotating channel drum. This intelligent channel distribution generates targeted thrust exactly where and when it is required.

Kalkman has developed a patented variant for the 3- and 4-channel versions, in which the outlet openings to all channels are identical. Delivers up to 15% higher thrust efficiency compared to conventional systems under similar operating conditions. Available in capacities from 20 to approximately 1,250 kW and with propeller diameters up to approximately 2,000 mm. ●

Maximum thrust, minimum draught.

Key Features

- **Patented channel design** with equal outlet openings
- **Available in 2, 3 or 4 channels** Flexible application.
- **No protruding parts below the surface** – ideal for shallow water.
- **Environmentally friendly design,** without grease lubrication.
- **Propeller replacement without docking.**
- **Suitable for continuous use.**
- **Available from 20 to approx. 1,250 kW power.**

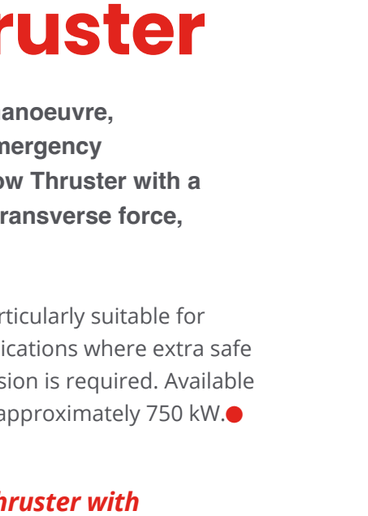
Tunnel / Steering Grid Combination Bow Thruster

For situations in which a Bow Thruster needs to do more than just manoeuvre, Kalkman has developed a unique system that can also be used as emergency propulsion. This Bow Thruster combines the principle of a Tunnel Bow Thruster with a 360° rotatable steering grid, enabling the system to not only deliver transverse force, but also provide active propulsion.

The vertically positioned propeller rotates in a tunnel and propels the water outwards via the steering grid. This not only creates steering power in all directions, but also allows the system to function as a rudder when reversing. Even at full speed, the system continues to function – ideal for applications requiring precise thrust control and continuous-duty reliability.

This bow thruster is particularly suitable for shallow water and applications where extra safe or independent propulsion is required. Available in power ratings up to approximately 750 kW.●

Tunnel Bow Thruster with steering grid function



Key Features

- Combination of Tunnel Bow Thruster and 360° steering grid.
- Suitable for use in shallow water.
- Can be used as emergency propulsion.
- Fully functional at full cruising speed.
- Power ratings up to approximately 750 kW.

Compact Tunnel Thruster

The Compact Tunnel Thruster is a further development of our well-known Tunnel Bow Thruster, specially designed for vessels operating in shallow waters.

Thanks to the horizontal suction and thrust direction in the plane, this Bow Thruster remains fully functional even at shallow draughts – without compromising manoeuvrability or reliability.

This makes the Compact Tunnel Thruster particularly suitable for vessels that are very shallow but still need a working bow thruster. The compact design delivers strong performance while significantly reducing installation footprint. ●

Tunnel Bow Thruster for shallow draught.

Key Features

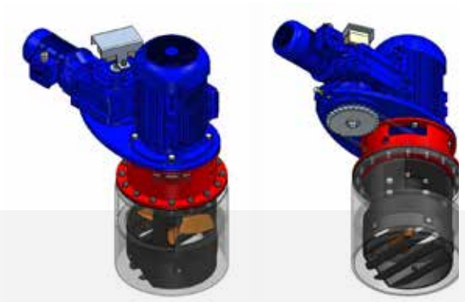
- Fully operational even at shallow draughts.
- Further development of the proven Tunnel Bow Thruster.
- Compact design with powerful performance.
- Optionally available under class or certification.

Smart-Steer Bow Thruster

For vessels with sufficient draught, Kalkman offers a powerful combination of a Channel Bow Thruster and a 360° steering grid.

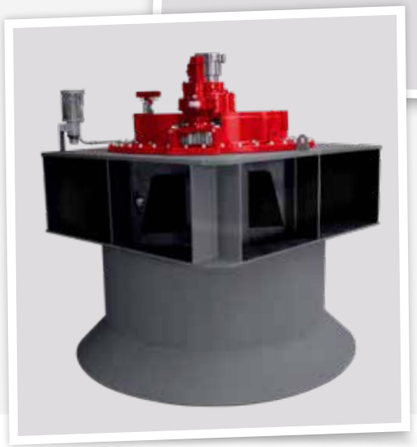
This system delivers accurate thrust in all directions and is ideal for applications where manoeuvrability, precision and reliability are essential.

This Bow Thruster can be used as an emergency propulsion system, but in maritime shipping it is also frequently linked to DP systems (Dynamic Positioning) to keep vessels exactly in position – even under challenging conditions. With power ratings of up to approximately 600 kW, this is a robust and versatile solution for professional applications. ●



Key Features

- Combination of Channel Bow Thruster and 360° steering grid.
- Can be used as emergency propulsion.
- Can be connected to DP systems for accurate positioning.
- Prepared for autonomous sailing.
- Full thrust in any direction.
- Suitable for demanding maritime applications.
- Available up to approximately 600 kW power.



Bow Thruster for DP systems and emergency propulsion

24V Tunnel Bow Thruster

Kalkman has developed the 24V Tunnel Bow Thruster especially for smaller vessels – a compact, reliable solution with impressive thrust performance for its size.

The vertically positioned propeller in a tunnel provides direct thrust to starboard or port and is known for its high efficiency per kilowatt.

Thanks to its simple operation, robust construction and quiet operation, this model is particularly suitable for pleasure craft, tour vessels and small passenger vessels.

Compact Tunnel Bow Thruster for recreational craft and passenger vessels.

The 24V Tunnel Bow Thruster is available in two power variants:

- 12 HP – 8.8 kW
- 24 HP – 17.6 kW

Each model is constructed using high-quality materials and is optionally available with a bow that extends above the waterline – ideal for quick inspection or removing debris. In addition, there are several control options available, such as black/white switching, speed control or even wireless control. ●

Key Features

- Compact Tunnel Bow Thruster for small vessels and pleasure craft.
- Thrust to starboard or port.
- Easy operation and installation.
- Available in 12 and 24 HP.
- High thrust-to-power ratio.
- Optional with above-water housing, speed control or wireless control.

Ballast Jet

Scan the QR code for more information or visit: **https://kalkman-marinepropulsion.com/en/products/kalkman-ballast-jet-rapid-ballasting**

The Kalkman Ballast Jet is the solution for those who want to take in and discharge ballast water quickly – without complicated installations or major modifications. This compact, electrically powered system delivers exceptionally high water output with low energy consumption, and maintains full performance while sailing. Ideal for vessels that regularly encounter limited passage heights or varying loads.

The system is easy to operate via touchscreen, push-button control or remote control. Thanks to its low mounting position, the space is completely emptied, and the frequency converter control allows for stepless speed adjustment.

The Ballast Jet does not require ballast pipes – an important advantage in new construction and retrofits. The Kalkman Ballast Jet has now been installed on almost 1,000 inland vessels and has proven itself in practice: fast, reliable and space-saving. ●

Smart ballast water management without piping.

Key Features

- Fast intake and discharge of ballast water.
- Full output even when the vessel is sailing.
- High capacity at low power (e.g. 1,200 m³/hour with only an 11 kW motor).
- No piping required – compact installation.
- Low mounting position for maximum suction.
- Infinitely variable speed control via frequency control.
- Easy operation via touchscreen, push-button control or remote control.
- Stainless steel 316 pump housing – robust and corrosion-resistant.
- Electrically driven, energy-efficient design.
- Can be supplied with E-box and shut-off valves (manually operated or electric).
- Higher power ratings available on request.

Video Kalkman Ballast Jet.

Azimuth Thruster

Scan the QR code for more information or visit: **https://kalkman-marinepropulsion.com/en/products/azimuth-thrusters**

The Kalkman Azimuth Thruster is a powerful, 360° rotatable thruster designed for maximum manoeuvrability, precise positioning and continuous load. This thruster is developed and manufactured entirely in-house and is available in both L-Drive and Z-Drive versions, depending on the desired drive configuration on board.

L-Drive: compact and electrically efficient
In the L-Drive, the electric motor is positioned directly vertically above the propeller. This results in a compact, low-maintenance design without intermediate gearboxes – ideal for electrically powered vessels and applications where space is limited.

L-Drive & Z-Drive Thrusters – Manoeuvrability with customized power.

Z-Drive: flexible and powerful
The Z-Drive is equipped with a right-angle gearbox and is driven via a propeller shaft or flexible coupling from a diesel or electric motor. This configuration offers design freedom in the placement of the drive motor, for example when it cannot be placed directly above the thruster. This is particularly suitable for vessels where space around the thruster is limited, or where a specific weight distribution is required within the design or operation of the vessel.
The Z-Drive comes with hydraulic or electric steering for precise positioning and can be optionally equipped with a nozzle, integrated rudder or emergency steering device for extra course stability. ●

Key Features

- Fully rotatable through 360° for ultimate manoeuvrability.
- Available as L-Drive (compact, electric) or Z-Drive (flexible installation).
- Hydraulic or electric steering possible.
- Drive via diesel, electric, hybrid or hydraulic motors.
- Optional with nozzle, integrated rudder or emergency steering.
- Suitable for continuous use in demanding conditions.
- Entirely developed and produced in-house by Kalkman.

Why choose Kalkman?

Where other suppliers offer standard solutions, Kalkman provides truly customised solutions. Thanks to our in-house engineering and production, we can tailor the system entirely to your vessel, propulsion system and operational requirements. Our rudder propellers are designed for maximum reliability, easy servicing and a long service life – with support close to home.

The systems are also prepared for connection to DP systems and suitable for use in autonomous vessels.

Watch Alarm System

Scan the QR code for more information or visit:
https://kalkman-marinepropulsion.com/en/products/kalkman-watch-alarm-system

An alert helmsman saves lives. That is why Kalkman developed a smart Watch Alarm System that significantly increases safety on board – as proven in independent German research. The system continuously monitors the helmsman's presence using sensors and automatically intervenes if no activity is detected within the set time.

The alarm operates in multiple phases, ensuring that fellow crew members are alerted in good time and dangerous situations can be avoided. The watch alarm has four adjustable time intervals, a dimmer for the lighting and a reset button. Thanks to the PC connection, installation in the bridge console is not required – ideal for modern wheelhouses.

Ready for autonomous sailing too
New is the fully integrated version in the Kalkman touchscreen control panel, which makes the watch alarm part of a single, clear, central management system. This version can be operated remotely and offers remote monitoring options, making the system suitable for integration into autonomous navigation systems.

Safety that thinks ahead.

Key Features

- **Multiple monitoring phases during inactivity.**
- **Four adjustable time intervals.**
- **Dimmer and reset function for ease of use.**
- **Connection to PC – installation in the bridge console is not required.**
- **Full integration into Kalkman touchscreen control panel.**
- **Remote control and monitoring.**
- **Suitable for use in autonomous vessels.**

Quality as a foundation

Craftsmanship as a promise

Since 1924, Kalkman has been synonymous with technical reliability. What started as a small family business in Krimpen aan de Lek has grown into an established name in the maritime sector. Hundreds of vessels at home and abroad are now equipped with Kalkman Bow Thrusters, Thrusters and pumps – each one designed with knowledge, care and precision.

Reliability, solidity and commitment are not empty words for us, but values that we have upheld for generations. We build installations that our customers can rely on – whether it's a single component or a complete system. Because in shipping, only one thing matters: it has to work. Always.

At Kalkman, we believe that good technology starts with good listening. Every vessel, every sailing area and every customer is different. That is why we never provide standard solutions, but tailor-made solutions that fit the practical situation. Our engineers and technicians are involved from the very beginning. They bring experience, creativity and a practical view of what works on board.

Our installations are manufactured using high-quality materials in our own workshop, under strict quality control. We go beyond mere functionality: we design systems that are energy efficient, maintenance-friendly and future-proof. And which, if required, are supplied under class or certification, in accordance with the requirements of leading certification bodies.
This means you can be sure of a product that not only meets today's requirements, but is also ready for tomorrow's demands.

We are proud of what we make – and of the trust we receive in return. Whether it concerns inland shipping, round trips, maritime shipping or special projects: our customers know that they can count on Kalkman for knowledge, short lines of communication and craftsmanship that continues to deliver.

Almost a century of experience is not only reflected in our products – it is also evident in our approach to work. We continue to innovate, invest in people, and build lasting relationships. For us, quality is not an end result. It is the beginning of everything.

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kalkman Scheepselektro B.V.

Scan the QR code for more information or visit: **https://kalkmanscheepselektro.nl/en**

Kalkman Scheepselektro: innovation and expertise in marine electronics

Kalkman Scheepselektro is the newest company within the Kalkman group and is an important addition to the existing expertise within the shipping sector.

At the end of 2021, the idea that led to the establishment of Kalkman Scheepselektro was born. During discussions between Ruben Boeren and Kalkman Marine Propulsion, it became clear that there was a growing need within the shipping sector for a professional, specialised approach to electrical engineering work. This shared vision led to the launch of an independent company in April 2022, built on a solid partnership.

From the outset, one mission has been central: to support vessel owners with reliable, innovative electrical engineering solutions. By bringing all of the Kalkman Group's electrical activities under one roof, the foundation was laid for quality and efficiency – for both internal and external customers.

Kalkman Scheepselektro carries out a wide range of projects: from repairing electrical system faults on board to realising complex new construction projects. Every project requires a customised approach, and that is precisely where the team's strength lies.

In a short period of time, the company has already achieved impressive results. A notable example is the complete overhaul of the electrical system on a crane vessel, which enabled an advanced electric crane to be optimally powered. The modernisation of a wheelhouse in inland shipping, including a sleekly designed control panel, also demonstrates the combination of technical know-how and ease of use.

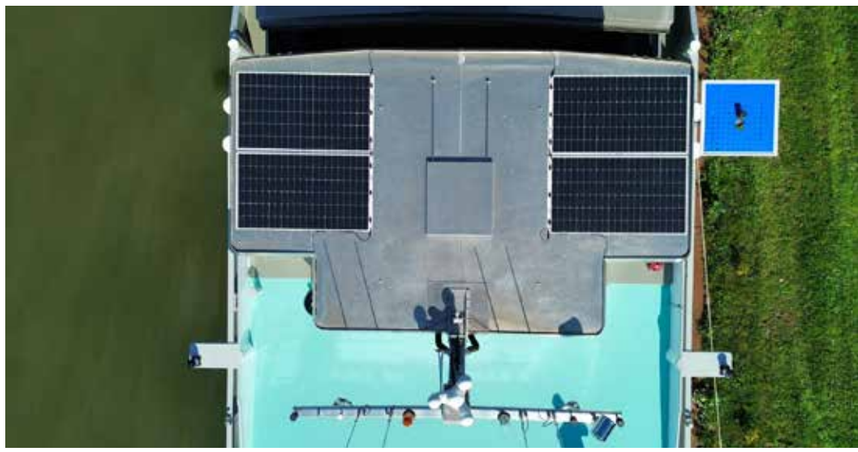
Sustainability is an important issue. Kalkman Scheepselektro helps vessel owners to make their fleets more environmentally friendly. This includes installing solar panels or electric high-load applications, which enable the sector to take a step towards a cleaner future.

Despite being a recently established division, Kalkman Scheepselektro has grown into a strong industry player with ten dedicated team members. Each and every one of them is passionate about technology and has a keen eye for quality.

With a clear focus on innovation, customer focus and sustainability, Kalkman Scheepselektro proves that cooperation and vision can be the driving force behind future-proof maritime solutions.

Electrical installations for both new construction and renovation.

- Maintenance
- Repair
- Service



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