Electric mobility on the water

ENGLISH **2019**

Avon eJET 450 – world's first electric jet tender

Advancing electric mobility 2019

More power, more energy, more silence and more convenience

For more than a decade, Torqeedo has led the way in electric mobility on the water. No other company is as trusted as Torqeedo as we build the future of marine mobility.

We are grateful for our boat builder and retail partners who have embraced Torqeedo's mission. But, most importantly, we are grateful for the boaters and commercial operators who have chosen to join us in advancing sustainable mobility on the water.

Creating products for cleaner, safer, easier and more sustainable electric boating remains our bedrock. This is how we implemented our mission in 2019.

Our Deep Blue product line offers the most powerful electric motor systems from industrial R&D and production. Up until now, 50 kW was the maximum power available from a single Deep Blue motor. Twin installations could deliver a system power of up to 100 kW.

In 2019, we will launch our new **Deep Blue 100 kW** motors. Twin installations can now provide up to 200 kW of power in a fully integrated drive system. The motors are available in two versions: a low-RPM version for displacement boats and a high-RPM version for planing boats (pages 47 and 52).

In 2017, Torqeedo adapted lithium batteries from BMW's electric cars for the marine market.
Only two years later, we are launching an upgraded, higher-capacity battery: the new **Deep Blue 40 kWh battery**. It features 31% more capacity in the same footprint and an energy density of more than 144 Wh per kg (page 58).

33% increase in energy and energy density will also extend to our 24 V batteries. Based on the new capacity, the 24 V battery has been given a new name: **Power 24-3500**, also featuring an impressive energy density of 138 Wh per kg (page 40).

Torqeedo's Travel motors have changed the way boaters power their tenders and sailing dinghies.

Small combustion engines once dominated marinas, but electric motors are now commonplace. In 2019, we will add the new **Travel 1103 C** to the range. The Travel 1103 is the quietest motor in its class, due to a gearless direct drive and silence-focused engineering. It also features optimised throttle characteristics for improved control and enhanced mechanical robustness (page 24).
In the growing sport of kayak fishing, our Ultralight models deliver industry-leading power, range, lightness and intelligence. 2019's **Ultralight 403 A** features a new mount that makes installation easier and provides more functions for control and transport. Motorised, hands-free kayak fishing is now even more convenient.

By delivering more power, more energy, more silence and more convenience, Torqeedo honors our commitment to improving customers' boating experiences and advancing marine electric mobility every year.

Welcome to clean boating.

New for 2019

Ultralight 403 A

A new mounting system simplifies installation of the Ultralight 403 A on most fishing kayaks and makes storing, stowing and using the motor even easier.

Travel 1103 C

The ultra-quiet new Travel motor generates just 33 dB while in use and offers 1,100 W of motor power with a stronger, more durable design.

Cruise 10.0 T

The flagship outboard in the Cruise model line will soon be available as a tiller model. The Cruise 10.0 T is a 20 HP equivalent, best matched with our Power 48-5000 batteries.

Fast charger 2,900 W for Power 48-5000 battery

Specifically developed for fast charging the Power 48-5000, this 2,900 W charger can fully charge a single battery in just under two hours.

Power 24-3500 battery

The 24 V Power battery will get a technical update and a capacity increase in 2019, boosting power up to 3,500 Wh with a minimal weight of just 25.3 kg.

40 kWh Deep Blue battery (i3-type)

High-capacity batteries with technology by BMW will deliver more range and even longer runtimes in 2019, with 31% more capacity in the same footprint.

Deep Blue 100i 900/2400

Two brand-new 100 kW motors extend the applications of Deep Blue. This gearless, direct-drive design comes in two RPM variants: one for fast, planing boats and one for larger, heavier vessels.

Contents

Turn the tide

Switching makes a difference. Electric boats are cleaner, for you and for the planet

Better for the water

Electric boats cause no water pollution because they don't discharge their exhaust underwater like combustion engines and there is no chance of fuel or oil spilling on the boat or fouling the water. No blue smoke – no haze of unburnt fuel and oil forming on the water's surface. When you boat electric, all you leave behind are great memories with family and friends.

Better for the air

Until recently, little attention has been paid to the air pollution caused by combustion outboards on boats. As a result, marine outboards include very little technology for filtering out and reducing pollutants. For example, even a new 80 HP, four-stroke gasoline outboard emits a vast amount of nitrogen oxides and hydrocarbon pollution. If you drive an 80 HP boat for one hour, it's like driving 350 new cars at highway speed for the same amount of time. Running a 5 HP dinghy motor for an hour emits nitrogen oxides and hydrocarbons equivalent to driving 38 cars. Nitrogen oxides and hydrocarbons are poisonous, carcinogenic and contribute to the formation of ozone and acid rain. If you can avoid these high levels of emissions by switching to a clean electric motor – then why wouldn't you?

Better for nature and the climate

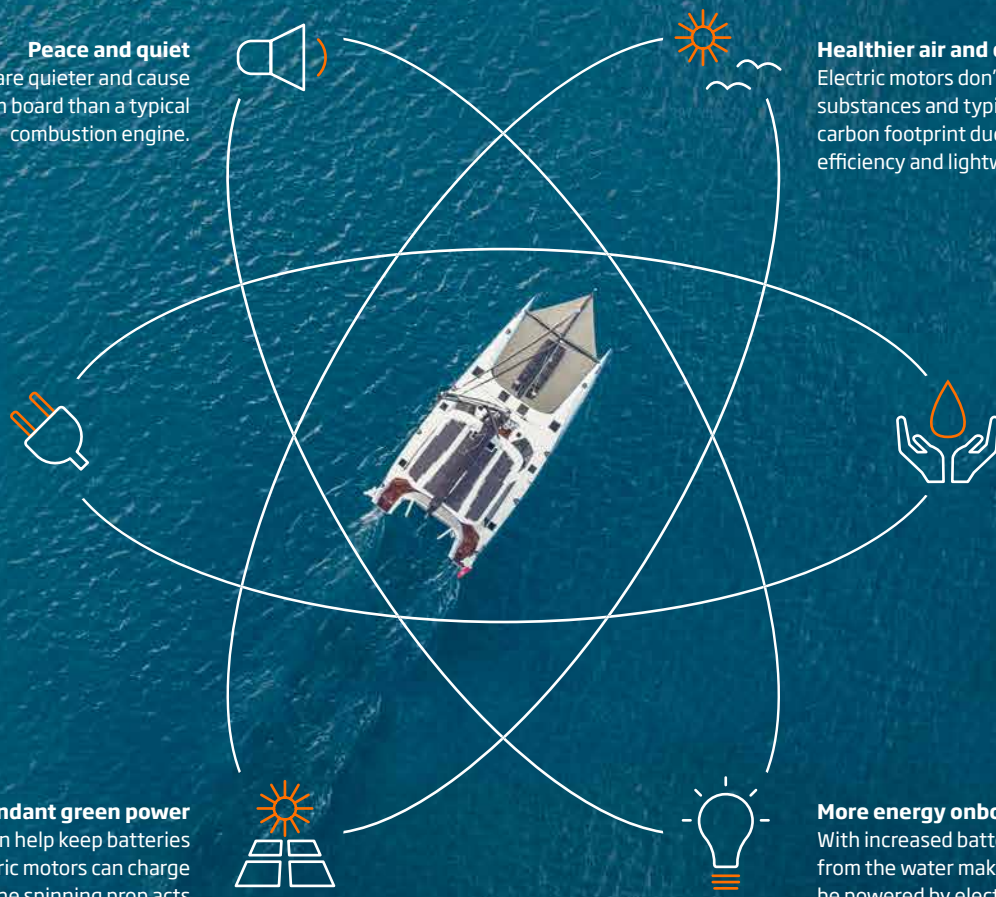
Even with today's energy mix, in almost all cases, electric boats have a significantly lower climate impact than combustion powered boats. When charged via solar or other renewables, the math gets even better.

Boaters are keen to preserve nature and enjoy clean air and unpolluted water – for today's enjoyment and tomorrow's generations. Torqeedo creates the products for the transition to sustainable boating. It's what we've been doing all along.

Boating, better

Peace and quiet
Electric motors are quieter and cause less vibration on board than a typical combustion engine.

Healthier air and climate
Electric motors don't emit toxic substances and typically have a lower carbon footprint due to their superior efficiency and lightweight design.



Convenient charging
Charging is quick and easy – most marinas are already equipped with shore power connections.

Zero pollution
Even a drop of spilled petrol can contaminate thousands of litres of water. Electric drives eliminate the oily film that forms where combustion engines are used and don't vent their exhaust under water.

Abundant green power
Solar panels can help keep batteries charged and some electric motors can charge their own batteries – the spinning prop acts as a hydrogenerator and supplies free, clean energy while the boat is under sail.

More energy onboard
With increased battery capacity, everything from the water maker to the tender can be powered by electric, further reducing climate impacts.

New mobility

Digitalisation, electrification and autonomous vehicles are changing how we get around, and Torqeedo is bringing new mobility onto the water

Moving smarter

Life is movement. We are constantly on the go – travelling to work, meeting friends, making business trips around the world or sailing for leisure. But how we move people and products and with that our entire mobility culture, is changing – and that is a good thing.

People used to travel from A to B on foot or by car, bike or train. Today, we navigate the ever-more-complex urban infrastructure with our smartphones, changing from rent-a-bike to Uber pool to subway travel in an instant. Digitalisation and connectivity are driving a mobility revolution not seen since the advent of combustion engines.

Freight transport is also reaping the benefits of intelligent connectivity and new digital products – for example, by accurately determining free transport capacities and automatically allocating them to suitable cargoes, thus avoiding empty runs. Making mobility cleaner and more efficient saves time, money and reduces our climate impact.

E-mobility on the water

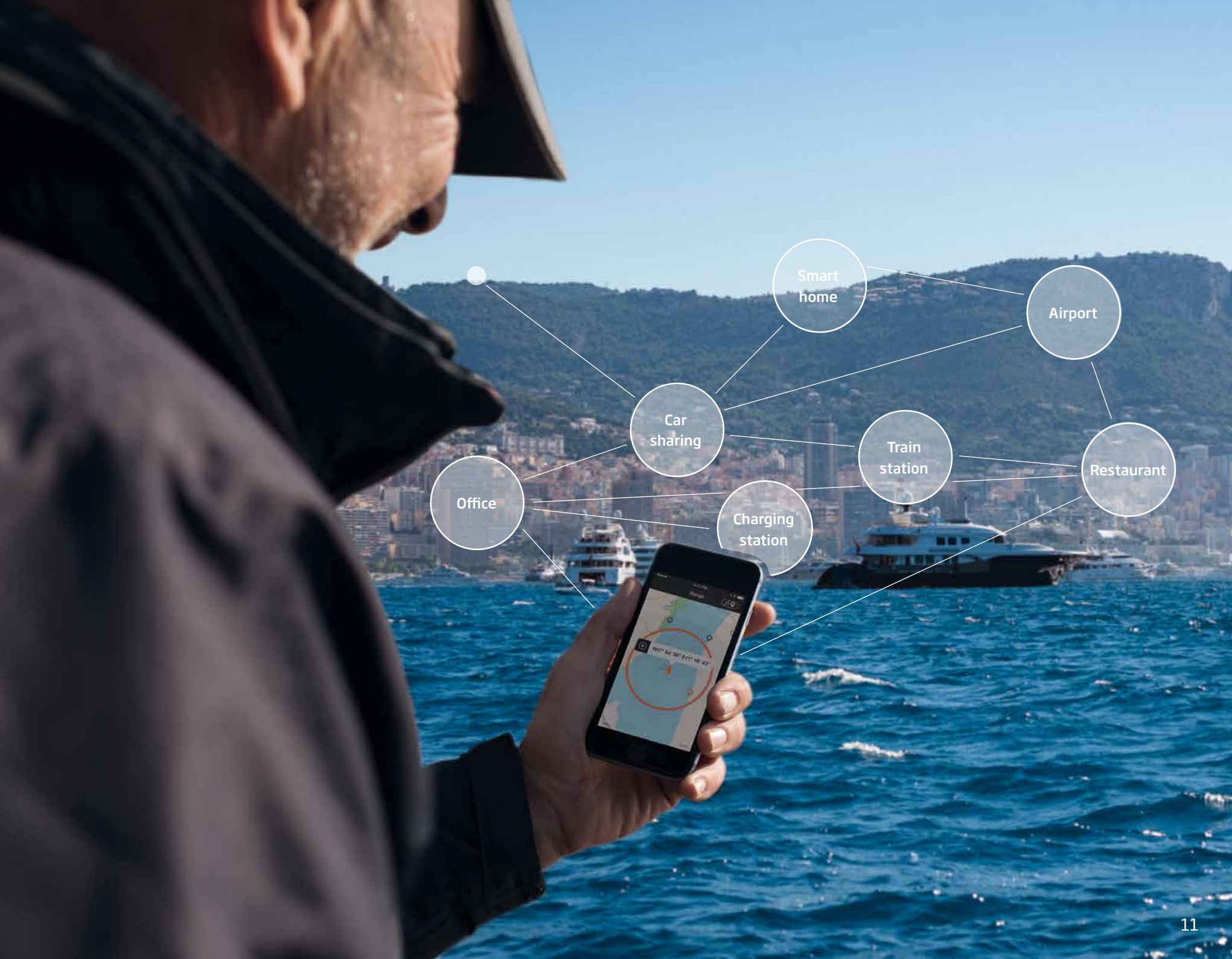
These new, smart and interconnected mobility services are now extending onto the water. Many old canals and rivers that had been covered by concrete for decades are being reopened and integrated into the public transport network in order to ease the burden on road and rail infrastructure.

In the Chinese city of Suzhou, a fleet of nearly 200 working boats is operating with Torqeedo electric motors to remove rubbish and prevent plastic pollution from reaching the ocean. Electric ferries and catamarans are covering roofs and sunlit surfaces with solar panels to generate energy and reduce pollution, or even go completely emission-free. Electric ferries are contributing to cleaner air in metropolitan areas and lowering the carbon footprint of on-water transport.

A new operating system

The mobility revolution goes beyond exchanging motors; the whole operational system is being reprogrammed. Amsterdam is the first large city to start trials of autonomous transport boats for goods distribution. Engineers are currently live-testing a Torqeedo-powered autonomous electric ferry for crossing a canal in Trondheim, Norway. Soon we will see autonomous ferries or water taxis on urban canals or rivers that will be ordered by smartphone. As 21st-century technology shouldn't be powered by 20th-century engines, electric motors are the propulsion technology of choice for this new application field.

Smart, connected electric mobility means the world's great cities can improve air and water quality, protect the climate and simultaneously improve their citizens' quality of life. We're proud to be part of this global transformation.


Smart home
Airport
Car sharing
Train station
Restaurant
Office
Charging station

Superior efficiency and performance

Our focus on optimising propulsive power and overall efficiency

Measuring power and performance

The most meaningful performance indicator of a drive system is propulsive power, which indicates the power delivered by the motor to drive the boat, taking all losses, including propeller losses, into account. This method has been used in commercial shipbuilding for nearly 100 years.

Manufacturers of combustion engines often advertise less informative measurements, such as the shaft power, input power or even the static thrust. That wouldn't be so bad if the differences between power ratings were minimal, but that isn't the case: a gasoline outboard with an advertised shaft power of 5 HP actually provides a mere 1.4 HP of propulsive power.

The efficiency advantage

Torqeedo efficiency ratings not only refer to motor efficiency, but also disclose losses in motor, electronics, cables, gears and propellers. Due to our focus on optimising the entire system, Torqeedo motors deliver the highest overall efficiency on the market. When combustion engines burn petrol or diesel, they primarily use the stored energy to produce heat; 5-15% of the supplied energy is used to propel the boat and the rest is lost due to inefficiencies. A Torqeedo drive converts between 44 and 56% of the available energy into propulsive power, extending range and runtime (graph p. 15). A Travel motor can propel a light boat more than 10 nautical miles and only consume the equivalent of 40 g of petrol.

Horsepower equivalent

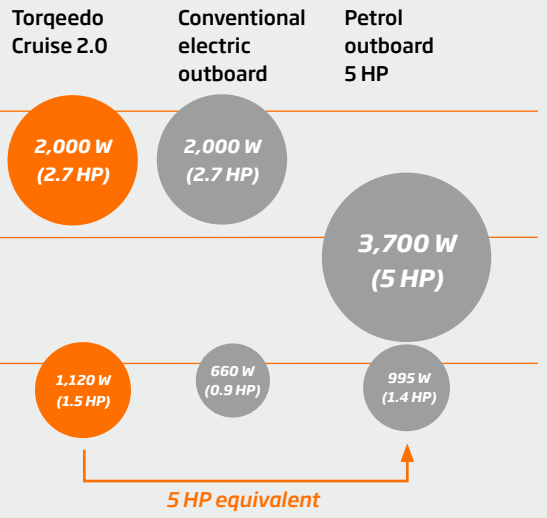
1 HP equivalent

Electric motors can achieve the same propulsive power as combustion engines with significantly lower shaft power because of the different torque curves they produce. Electric motors deliver ample torque, which is available at any rotational speed. This characteristic allows them to turn large, efficient, high-pitch propellers that would cause an equivalent combustion engine to stall at startup.
At Torqeedo, we always compare the actual propulsive power of our motors versus petrol engines. A Torqeedo motor specified as a "5 HP equivalent" provides the same power as a 5 HP combustion engine, even though its shaft and input power may be lower.

Input power: a performance indicator used for electric motors. Does not take system loss into account

Shaft power: a power rating used for combustion engines. Does not take propeller losses in to account, which can be anywhere from 20% to 75% of total power.

Propulsive power: the performance indicator used by commercial ships and by Torqeedo. Takes all losses into account and clearly indicates actual power delivered.



Convenience and value

What to expect when you switch to electric

Charging and handling are easy

An electric drive may simplify your onboard routines. Although charging batteries takes time, Torqeedo owners appreciate the simplicity of just plugging in at the end of the day – no finding a fuel station or carrying cans of fuel down the dock. Owners of Travel or Ultralight systems can charge on board via 12 V supply or the Sunfold 50 solar panel, or bring the lightweight, portable lithium battery home to charge with the included mains charger. Cruise and Deep Blue-powered boats plug in to shore power and charge overnight. Need a faster turnaround? The high-capacity batteries from these systems can also be equipped with fast chargers or multiple chargers.

Lightweight electric motors are also very easy to handle and store. Our best-selling Travel motors for dinghies, tenders and small sailboats start at just 13.9 kg including the battery. Motor, battery and tiller also come apart so one piece can be handled at a time. They never leak or stink – keeping your hands and the lazarette clean.

The economics of electric mobility on the water

In recreational boating today, cleaner and more convenient electric propulsion systems require a price premium. Depending on frequency of use, this may be offset with lower operating costs and lower maintenance and winterisation costs. Torqeedo offers full transparency on costs on our website. If you have questions, please don't hesitate to contact Torqeedo or your nearest Torqeedo dealer.

In commercial applications, electric mobility is often not only ecologically superior, but also economically superior. Due to the substantially lower operating costs, electric propulsion systems often feature lower total cost of ownership and help commercial operations improve financial performance. Contact us to find out whether electric mobility will be economical for you.

Advanced engineering

No other electric boat motor manufacturer boasts such in-depth systems development, as many patents or as much capacity for innovation as Torqeedo

Optimised components

A high-performance system requires high-performance components. Torqeedo employs in-house industrial engineering for all technologies required for electric mobility. All components are either developed by us or carefully selected to complete our systems.

A poorly designed propeller may only deliver 20% propeller efficiency, yet an outstanding one up to 75%. Torqeedo propellers are perfected over several thousand iterations by the same methods as those used when developing propellers for commercial ships and submarines. But that is not all: the propeller needs to be matched to the motor gear and the requirements of the application, a process called "drive train engineering". When combined with automotive-grade batteries and bespoke electronics and controls, you have superb building blocks for electric propulsion. But it's not a Torqeedo system yet.

We still must achieve an intelligent interaction between the individual components and create a system that is safe, does its job and delights the user. Only then have we created a true Torqeedo product. This systems-based approach is at the centre of everything we do.

Seamless integration

Our software engineers ensure that all the high-tech features of Torqeedo's motors like real-time range calculations, smartphone integrations, adaptive charging and battery safety protocols work properly. Coding can account for more than 30% of the development work for today's electric propulsion systems, depending on the system's complexity.

Torqeedo engineers develop data networks which allow different components to communicate with one another quickly and seamlessly: the system constantly exchanges status messages, integrates sensor data and evaluates the appropriate course of action in a matter of milliseconds. Software stops the motor if it senses an impact to the propeller and manages battery charging safely. All Torqeedo motors, even the smallest kayak motors, have a GPS receiver built in that constantly measures speed over ground. With speed data, together with how much power the motor is using, the displays show real-time range and runtime estimates. When integrated with a smartphone, the range remaining can even be displayed as a dynamic ring on a map. You never need to worry whether you have enough energy left to get home.

Prepared to drive the future

The most complex Torqeedo systems for large yachts or commercial applications simply wouldn't work without precisely manufactured components and painstakingly programmed software. With these bigger and more complex applications, as the world leader in marine electric drives, it is Torqeedo's responsibility to drive innovation and system development to the next level.

That's why we put so much effort into the development and preproduction process – from planning and design to final testing. Torqeedo's quality management system is ISO 9001-certified with DNV-GL and our 120 international patents for electric boating speak for themselves.

Besides rigorous endurance tests and electromagnetic compatibility testing, Torqeedo has almost 30 test benches operating just in our German headquarters outside Munich. These benches perform comprehensive and long-term testing, as well as specific tests for gaining additional product- and project-specific approvals – achieving or surpassing the highest quality standards in the maritime sector.

How we work: facts and figures

120

international and multinational patents held by Torqeedo and covering all components and systems of electric boat motors.

200,000

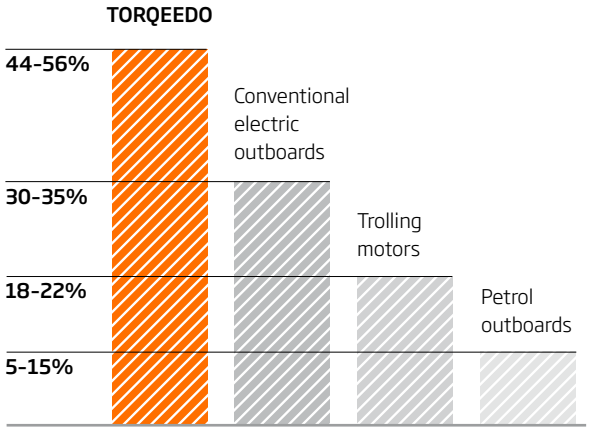
calculations

per millisecond performed by the processor in the Torqeedo Travel 1103 motor. The computing power significantly improves motor response.

12%

of Torqeedo's turnover invested in research and development every year – a Silicon Valley level.

Torqeedo has the **best efficiency levels** in the boat motor market.

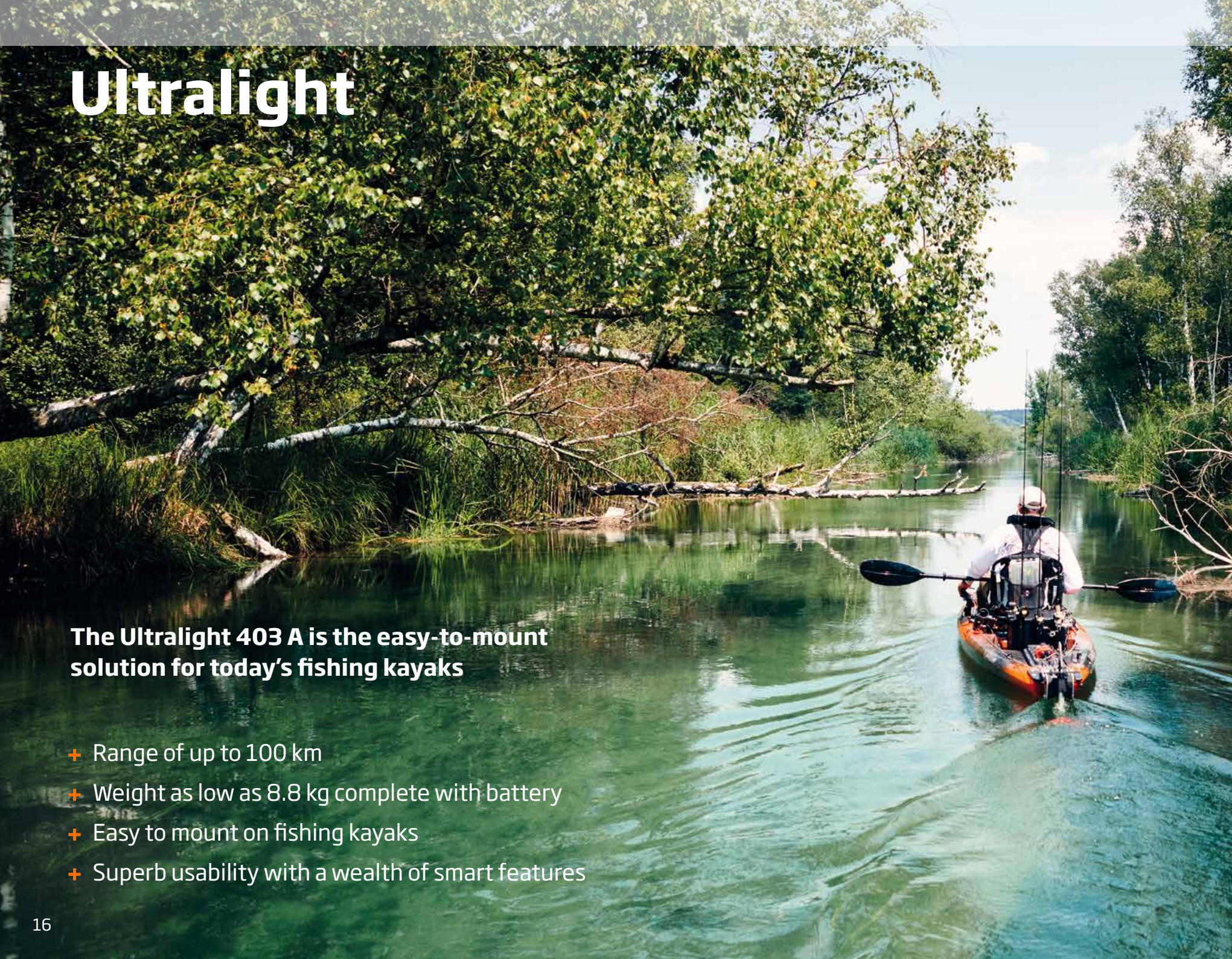


Overall efficiency levels of various outboards

28

lab benches for endurance testing and certifying compliance with international standards located in the German Torqeedo headquarters alone.

Ultralight



The Ultralight 403 A is the easy-to-mount solution for today's fishing kayaks

+ Range of up to 100 km
+ Weight as low as 8.8 kg complete with battery
+ Easy to mount on fishing kayaks
+ Superb usability with a wealth of smart features

1 HP
equivalent

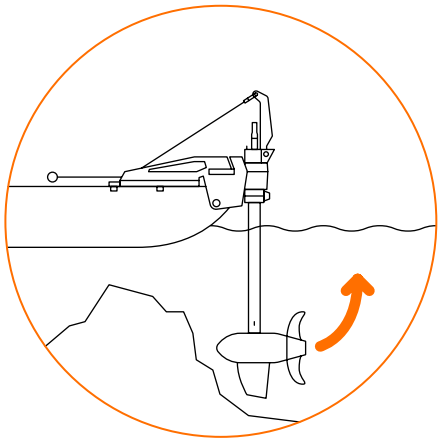
Kayaks
Canoes
Very light boats

New mount for
2019

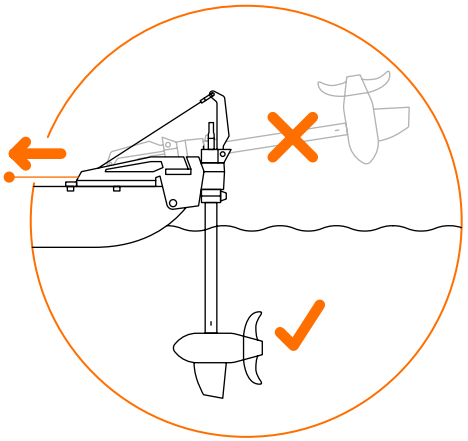
New intelligent mount

The lightweight, 1 HP equivalent Ultralight motor not only takes you where the fish are, it delivers hands-free kayak fishing, making it the preferred choice of professional anglers for years now. Torqeedo engineers have designed **a new angler mount** for the new model year, which fits the four mounting points built into the stern of most popular fishing kayaks.
Now with this durable, practical and versatile new mount for fishing kayaks, the Ultralight still allows kayakers to go farther and fish longer, with a system that's much **easier to mount, easier to use and faster to store and stow.**
Two battery options are available – 320 and 915 Wh – so anglers can choose the capacity that fits their needs, their kayak and their waterways.
The system offers a host of practical new features, including easy motor depth adjustment and a lightning-fast way to safely stow the motor for transport or remove it altogether. Simply pull and secure a cable to tilt the motor up when fishing in shallow waters or near the shoreline. The reverse lock cable allows the motor to be locked down for motoring in reverse (see description below) and then released so the automatic kick-up feature is activated again.
As before, integration with the kayak's steering system is quick and easy, and the onboard computer delivers real-time range and runtime data.
The Ultralight includes a tilt sensor and magnetic kill switch, which automatically cut the power if the kayak capsizes.
Touring kayaks, or kayaks without the four standard stern mounting points, can install the Ultralight with the optional mounting ball system.

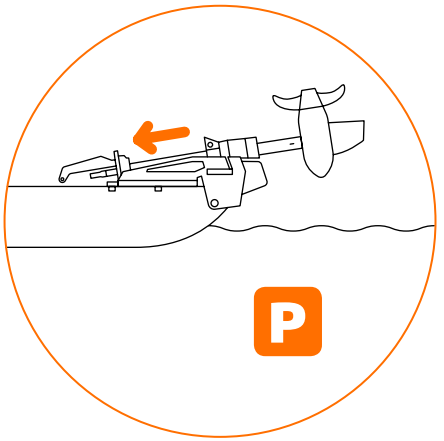
Raising, locking and parking the smart way



No problem with obstacles
The new mount allows the motor to kick up toward the stern of the kayak when it encounters an underwater obstacle, minimising damage.



Reversing with one simple action
Pull the reverse cord and simply hold tension or secure it in the included cleat. Release the cord when moving forward to enable the automatic kick-up feature.



Handy park position
Safely stowing the motor for transport is quick and easy with the new angler mount. Simply pull up and secure with the included elastic cord.

Ultralight: facts and figures

100 km is the distance an Ultralight 403 AC motor can cover at slow speed with the energy from the Torqeedo 915 Wh battery.

9.3 km/h is the top speed attained by angling kayaks with the new Torqeedo Ultralight 403 AC motor.

5 *ms* is all the time the Torqeedo emergency magnetic kill switch needs to cut the power supply to the motor, thereby quickly bringing the boat to a stop. The emergency magnetic kill switch is included with all Ultralight motors.

Fishing at the speed of Torqeedo

Torqeedo's lightest outboard, the Ultralight 403, gets you to your favorite spot faster, and lets you stay there longer. It offers reliable performance, an **innovative new angler mount** and all the high-tech features of a genuine Torqeedo system: GPS built-in, real-time range and runtime display, solar charging and the latest lithium battery technology.

1 HP equivalent

New for 2019

Ultralight 403 A/AC

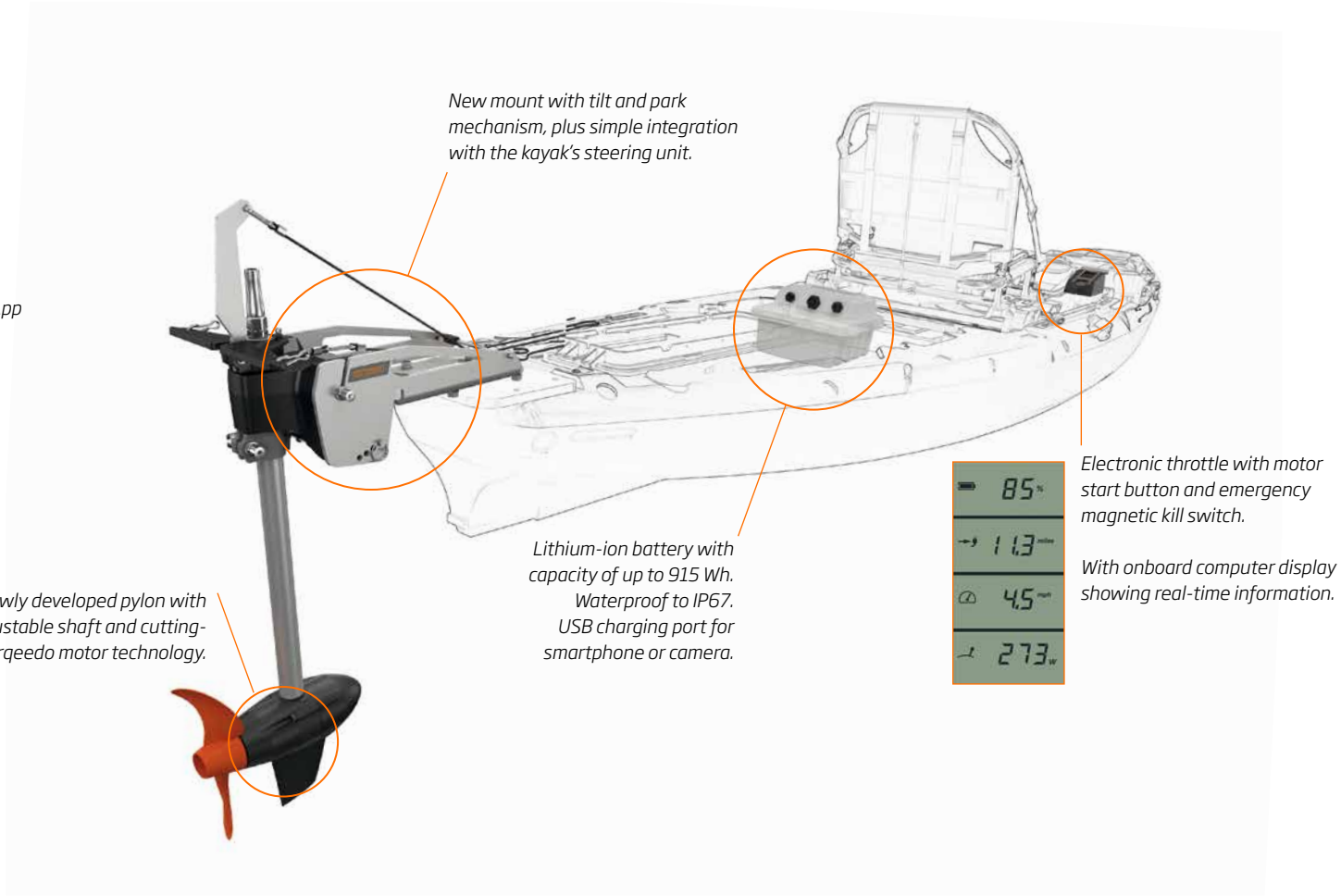
Mounting, control and charging accessories

Like all products from Torqeedo, Ultralight motors are offered with a full suite of high-tech accessories. The **optional mounting ball** can be used for attachment to a wide range of kayaks instead of the new standard mount. **Spare batteries** provide a quick and simple way of extending the range while out on the water. An optional cable connection with built-in Bluetooth module transmits all relevant boating and positioning data to the **Torqeedo TorqTrac app**.

A summary of the Ultralight accessories can be found starting on page 62 or online at www.torqeedo.com

These well-known kayak brands have developed custom Ultralight mounts

Optional TorqTrac App



PERFORMANCE
Speed and range*

Ultralight 403 A with integrated battery (320 Wh/29.6V/11 Ah)
Hobie Mirage Revolution angling kayak (4.1 m/26.3 kg)

	Speed in knots (km/h)	Range in nm (km)	Running time in hh:mm
Slow	approx. 2.3 (4.2)	approx. 18.9 (35.0)	08:20
Half throttle	approx. 3.2 (6.0)	approx. 13.5 (25.0)	04:10
Full throttle	approx. 5.0 (9.3)	approx. 4.0 (7.5)	00:48

Ultralight 403 AC with integrated battery (915 Wh/29.6V/31 Ah)
Hobie Mirage Revolution angling kayak (4.1 m/26.3 kg)

Speed in knots (km/h)	Range in nm (km)	Running time in hh:mm
approx. 2.3 (4.2)	approx. 54.0 (101.0)	24:00
approx. 3.2 (6.0)	approx. 38.3 (71.0)	11:50
approx. 5.0 (9.3)	approx. 11.7 (21.7)	02:20

* Dependent on factors such as type of boat, load, propeller and ambient conditions.
Figures for speed and range are indicative only and are not a guarantee of performance.

Travel

Ultra-quiet, clean and compact – the new flagship Travel 1103 C model raises the bar for electric outboards, boasting a 10% power boost over the Travel 1003 and an extra-robust design

1.5 HP equivalent

3 HP equivalent

Tenders
Dinghies
Daysailers

Travel 503: boats up to 750 kg
Travel 1103 C: boats up to 1.5 tons

New top-of-the-range model Travel 1103 C

+ Silent direct-drive
+ Instantaneous throttle response
+ 10% more power
+ Improved durability

All Travel models

+ Lightweight design, starting from 13.9 kg including battery (Travel 503 S)
+ Easy handling, fast battery swaps, simple to transport
+ Onboard computer with GPS, remaining range, charge status and additional functions

Quieter and more powerful

New for 2019

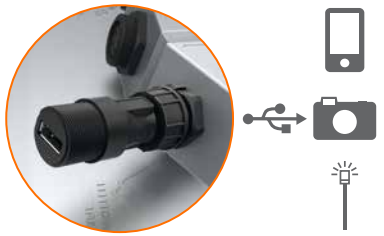
The new range-topping Travel 1103 C: powerful, efficient and quiet as a whisper

The **top-of-the-line 1103 C** model is a new addition to the globally successful Travel series. Featuring a new, direct-drive motor design, it is the quietest motor in its class at just 33 dB. It comes with the **high-capacity 915 Wh battery** – a range-extending 73% increase in capacity compared to the base model. The 1103 C also delivers **10% more power** from 1,000 to 1,100 W, a stronger aluminium pylon for increased protection from impact damage and an **upgraded transom mount**. Just like the proven Travel 1003 model, the new 1103 C is suitable for boats up to 1,500 kg, while the smaller Travel 503 model is ideal for powering boats up to 750 kg. All Torqeedo Travel motors come with a **high-performance lithium-ion battery** and a built-in onboard computer.

New for 2019

Travel 503/1003/1003 C

Travel 1103 C



1.5 HP equivalent

3 HP equivalent

Motor accessories

Like all products from Torqeedo, Travel motors are offered with a full suite of high-tech accessories. It's easy to add **a spare battery or a remote throttle** for operating the motor from the helm instead of the tiller, or choose the **TorqTrac smartphone app**. With the optional Bluetooth dongle installed, TorqTrac turns your compatible smartphone into a bright, easy-to-read onboard computer with a number of useful motor and battery readouts. The app is available from the App Store (iOS) or Google Play Store (Android).

Convenient Travel bag set protects the motor, tiller and accessories and includes a separate, easy-to-carry battery bag. Further details can be found online at www.torqeedo.com or on page 62.

Travel: facts and figures

14.9 kg is the 1003 C's overall weight, including the integrated lithium battery, making it the lightest electric outboard in its class. The new Travel 1103 C adds 10% more power, increased durability and is much quieter, while weighing just 2.4 kg more.

to fully recharge the 320 Wh battery of the Travel 503 using the standard charger. **3:50 hrs**

33 db is the noise level of a human whisper. It's also the dB rating for the new Travel 1103 C. More power and durability, yet barely audible on the water.

PERFORMANCE
Speed and range*

Travel 503 with integrated 320 Wh battery (29.6 V/11 Ah)
Inflatable, dinghy, daysailer up to 750 kg

	Speed in knots (km/h)	Range in nm (km)	Running time in hh:mm
Slow	approx. 2.0 (3.7)	approx. 12.8 (23.7)	06:20
Half throttle	approx. 3.0 (5.5)	approx. 6.4 (11.9)	02:08
Full throttle	approx. 4.0 (7.4)	approx. 2.8 (5.2)	00:42

Travel 1003 with integrated 530 Wh battery (29.6 V/18 Ah)
Inflatable, dinghy, daysailer up to 1.5 tons

Speed in knots (km/h)	Range in nm (km)	Running time in hh:mm
approx. 2.0 (3.7)	approx. 21.0 (39.0)	10:30
approx. 3.0 (5.5)	approx. 10.5 (19.3)	03:30
approx. 5.0 (9.2)	approx. 3.2 (5.4)	00:35

Travel 1103 C with integrated 915 Wh battery (29.6 V/31 Ah)
Inflatable, dinghy, daysailer up to 1.5 tons

Speed in knots (km/h)	Range in nm (km)	Running time in hh:mm
approx. 2.0 (3.7)	approx. 40.0 (74.0)	20:00
approx. 3.0 (5.5)	approx. 18.0 (33.0)	06:00
approx. 5.5 (10.0)	approx. 4.6 (8.3)	00:50

* Dependent on factors such as type of boat, load, propeller and ambient conditions. Figures for speed and range are indicative only and are not a guarantee of performance.

Custom integration: RS21

Reimagined keelboat reduces environmental impact, maximising ease of use

Sustainability was at the heart of every decision when RS Sailing, the world's largest small-sailboat manufacturer, designed their new keelboat. The result is the new RS21, with a Travel 1003 motor providing convenient electric auxiliary power. RS Sailing's team designed an innovative retractable mounting system that is incredibly easy to use. Simply slide the motor down to use it and pull it up when sailing – a bottom plate fits flush to the underside of the hull for unimpeded performance. The clean and efficient Torqeedo system ensures sailors can get home if the wind dies, offers enhanced safety and easy docking, and complements the other green aspects of the RS21's construction, including a core made from recycled plastic bottles and a design that maximises freight efficiency through a stackable design. This allows an amazing six boats to fit in a single shipping container, further lightening the RS21's climate impact.

Down position:
When it's time to motor, uncleat the line and extend the integrated Travel 1003 for 3 HP equivalent of emission-free power. Motoring in and out of harbor is simple and quiet with an integrated throttle and onboard computer with real-time range and runtime calculation.

Up position:
When it's time to sail, simply pull up the motor and secure the line. The hull is completely flush and ready for racing while the motor and battery are securely stowed. The lightweight lithium-ion battery is easy to remove when it's time to charge.

"With Torqeedo, the motor has been turned from an awkward necessity into a pleasurable feature."

Alex Southon, RS Technical MD

Cruise outboards

Proven, reliable motors with upgraded lithium batteries are the ultimate power packs for sailing or motorboats

- Minimum weight with maximum performance
- Onboard computer with GPS
- Durable and extremely robust design
- Effective corrosion protection for fresh and salt water
- Extended range thanks to very high energy density batteries

5 HP *equivalent*

8 HP *equivalent*

20 HP *equivalent*

Motorboats, dinghies, sailboats, water taxis, passenger ferries and commercial applications up to 10 tons

Well-proven, long-lasting and beautifully integrated

5 HP equivalent | 8 HP equivalent | 20 HP equivalent

Since their premiere in 2006, Cruise motors have been delighting users with power requirements between 5 and 20 HP equivalents. The outboard motor of choice for motorboats, dinghies and commercial users, the two smaller units (pictured on the left, 5 HP/8 HP equivalents) come with a choice of a tiller or an electronic throttle lever and can be fitted quickly and easily with minimal tools. Cruise motors have a **built-in GPS, with on-board computer and display**, showing information such as speed and input power, state of charge and remaining range, even with third-party batteries. They have a **robust, wear-resistant design** thanks to features such as a housing that is waterproof to IP67, pylons made from aluminium and a specially reinforced fin. They team up with the purpose-developed propellers and additional Torqeedo components to create a highly impressive package.

The flagship model in the Cruise series (pictured on the right, 20 HP equivalent) delivers 12 kW of peak output and a continuous output of 10 kW, which can propel efficient boats up to a maximum speed of 30 km/h. **This powerful motor will also be available as the tiller-equipped Cruise 10.0 T in 2019**.

New for 2019

Cruise 2.0/4.0 R

Cruise 2.0/4.0 T

Cruise 10.0 R

Cruise 10.0 T

Motor accessories

Like all products from Torqeedo, the Cruise motors combine perfectly with the safest lithium batteries on the market today (page 38), and a broad choice of **propellers** that deliver either more thrust or more top-end speed. **Premium throttles**, which come with built-in **Bluetooth** for easy integration with the **TorqTrac app**, are another standout accessory for the Cruise lineup.

The Torqeedo throttle controls are available for either side or top mounting. More information can be found on page 62 or online at www.torqeedo.com.

Side-mount motor and display

Top-mount single

Cruise: facts and figures

33% The extra energy provided by the new Torqeedo Power 24-3500 battery compared to the previous model – despite being the exact same size and almost the same weight.

26.5 km

The distance that a Cruise 10.0 motor is capable of covering with two Power 48-5000 batteries at a top speed of nearly 27 km/h or 14 knots.

2 hours

The time required by the new Torqeedo fast charger to recharge a Power 48-5000 battery.

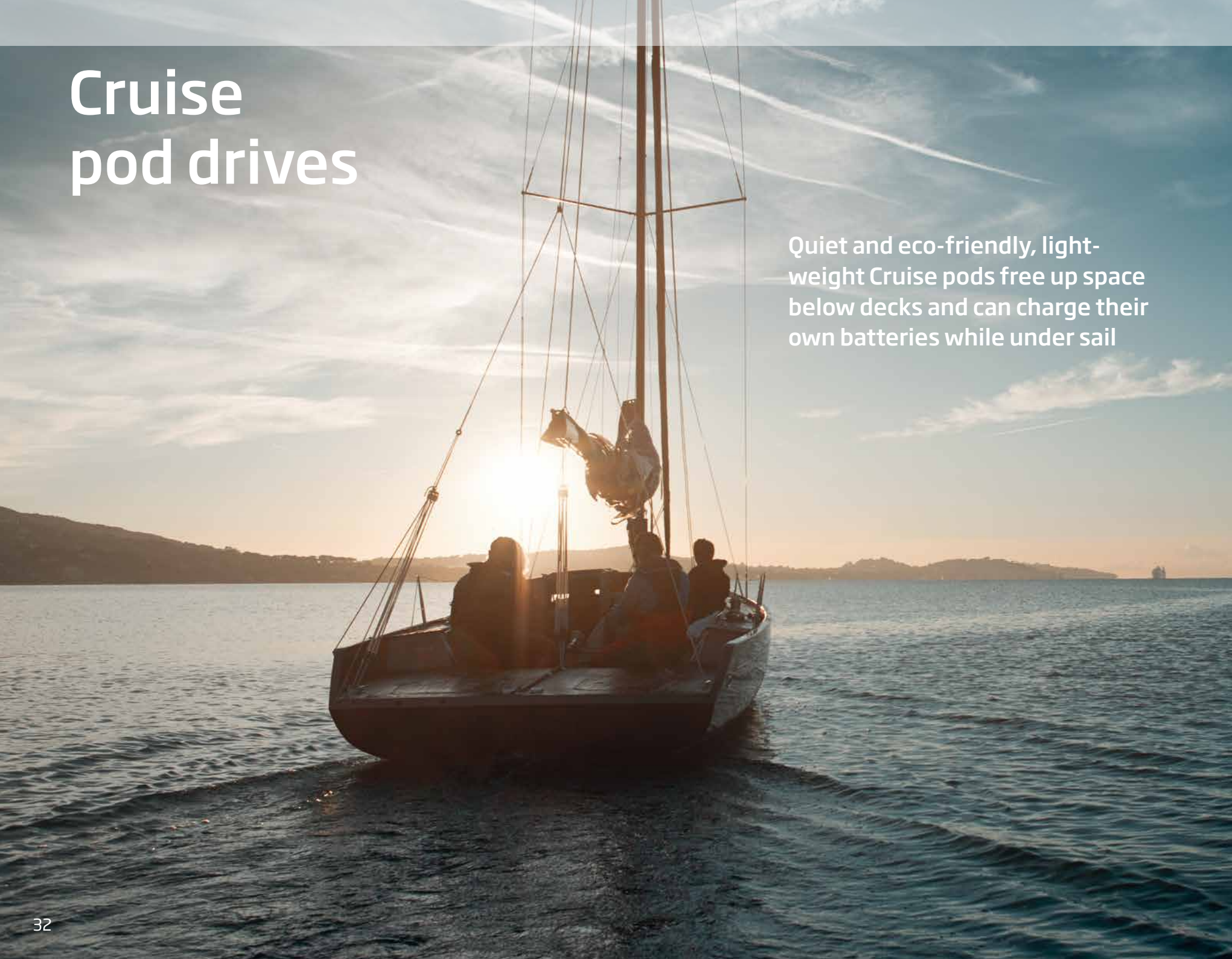
PERFORMANCE
Speed and range*

	Cruise 2.0 with 1 x Power 24-3500 (26 V, 3500 Wh, battery weight 25 kg) Motorboats and sailboats up to 3 tons			**Cruise 4.0 with 1 x Power 48-5000** (44.4 V, 5000 Wh, battery weight 37 kg) Motorboats and sailboats up to 4 tons			**Cruise 10.0 with 2 x Power 48-5000** (44.4 V, 2 x 5000 Wh, battery weight 74 kg) Motorboats and sailboats up to 10 tons		
	Speed in knots (km/h)	Range in nm (km)	Running time in hh:mm	Speed in knots (km/h)	Range in nm (km)	Running time in hh:mm	Speed in knots (km/h)	Range in nm (km)	Running time in hh:mm
Slow	approx. 2.7 (5.0)	approx. 21.0 (40.0)	08:00	approx. 2.7 (5.0)	approx. 27.0 (50.0)	10:00	approx. 4.2 (7.8)	approx. 32.0 (60.0)	06:00
Full throttle	approx. 6.0 (11.0)	approx. 10.5 (19.0)	01:45	approx. 7.0 (13.0)	approx. 9.0 (16.0)	01:15	approx. 14.0 (26.5)	approx. 14.0 (26.5)	01:00

* Dependent on factors such as type of boat, load, propeller and ambient conditions. Figures for speed and range are indicative only and are not a guarantee of performance.

Cruise pod drives

Quiet and eco-friendly, light-weight Cruise pods free up space below decks and can charge their own batteries while under sail



5 HP equivalent

8 HP equivalent

20 HP equivalent

Sailboats up to 10 tons
Commercial applications

- Much lighter than equivalent combustion saildrives
- Virtually silent while in use
- Fume-free with fuel spills eliminated
- Powerful lithium batteries provide long-range motoring
- Minimal impact on sailing speed
- Durable design and excellent corrosion protection for fresh and salt water

Long-lasting, robust and efficient

For sailboats up to 10 tons, the advantages of electric pod motors are stunningly clear. Beautifully quiet and clean-running Torqeedo motors make diesel saildrives look, sound and smell like the relics they are. Cruise pods deliver highly impressive performance and long range when paired with Torqeedo's lightweight lithium batteries (page 38), and take up minimal space below deck. The built-in GPS, onboard computer and display take all motor, battery and charging data into account and display it clearly, providing a perfectly harmonised drive system.

5 HP equivalent

8 HP equivalent

20 HP equivalent

Cruise 2.0/4.0 FP

Cruise 10.0 FP

Cruise 10.0 FP SD

PERFORMANCE
Speed and range*

Cruise 2.0 FP with 1 x Power 24-3500
(26 V, 3500 Wh, battery weight 25 kg)
Sailboats up to 3 tons

	Speed in knots (km/h)	Range in nm (km)	Running time in hh:mm
Slow	approx. 2.7 (5.0)	approx. 21.0 (40.0)	08:00
Full throttle	approx. 6.0 (11.0)	approx. 10.5 (19.0)	01:45

Cruise 4.0 FP with 1 x Power 48-5000
(44.4 V, 5000 Wh, battery weight 37 kg)
Sailboats up to 4 tons

Speed in knots (km/h)	Range in nm (km)	Running time in hh:mm
approx. 2.7 (5.0)	approx. 27.0 (50.0)	10:00
approx. 6.0 (11.0)	approx. 7.5 (13.5)	01:15

Cruise 10.0 with 2 x Power 48-5000
(44.4 V, 2 x 5000 Wh, battery weight 74 kg)
Sailboats up to 10 tons

Speed in knots (km/h)	Range in nm (km)	Running time in hh:mm
approx. 3.0 (5.5)	approx. 30.0 (55.0)	10:00
approx. 7.0 (13.0)	approx. 7.0 (13.0)	01:00

* Dependent on factors such as type of boat, load, propeller and ambient conditions. Figures for speed and range are indicative only and are not a guarantee of performance.

Accessories

Torqeedo Cruise motors work flawlessly with the specially developed **premium throttles, chargers and TorqTrac app.**

New for
2019

Fast charger 2900 W for Power 48-5000

Specifically developed for fast charging the Power 48-5000, this 2,900 W charger can fully charge a single battery in just under two hours, and a bank in less than four hours.

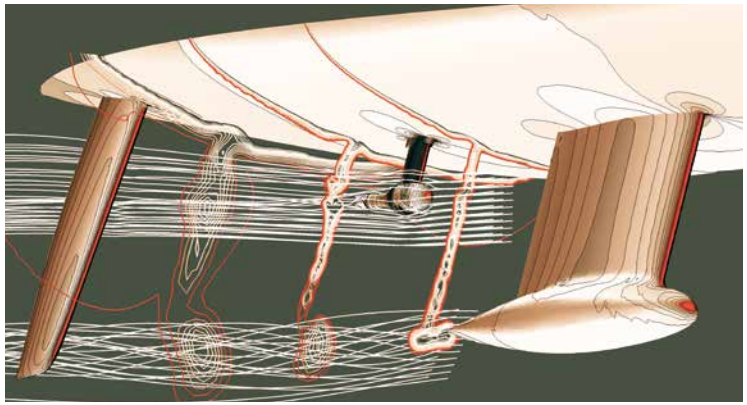
Folding propeller

The optional Torqeedo folding brass propeller minimises flow resistance and has negligible impact on sailing speed. It offers the possibility of hydrogeneration at high sailing speed.

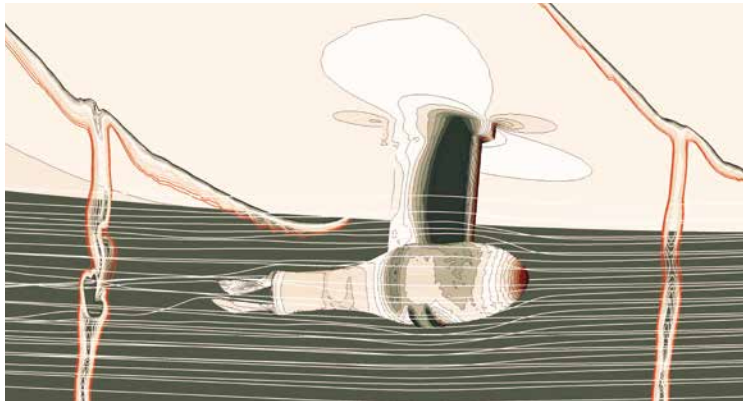
More information:
www.torqeedo.com and on page 62.

Test results: does a pod motor make sailboats slower?

As efficiency is a core principle at Torqeedo, we calculated the flow resistance of a 30' Dehler yacht with a pod motor. The impact on performance of a Cruise 2.0 or 4.0 pod motor is minimal, with a decrease in speed of less than 0.04 knots compared to the same boat with no motor installed.



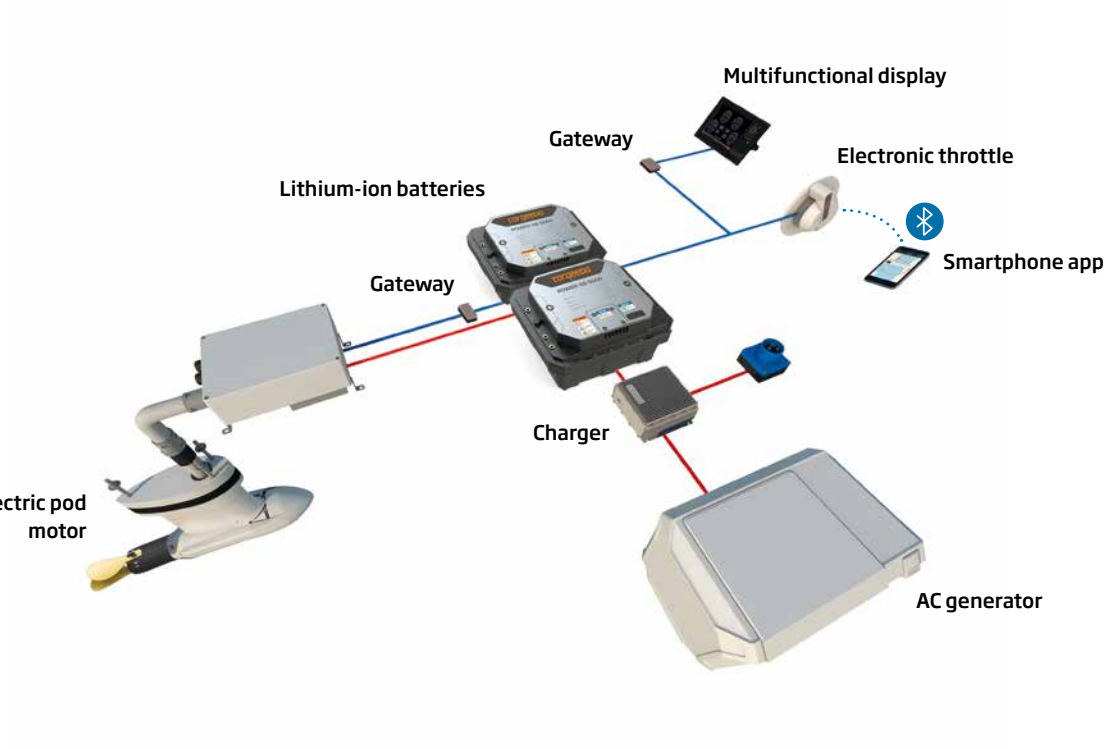
The flow pattern recorded during the measurements factors in variables such as heeling and drift.



The uniform flow lines around the Torqeedo pod motor demonstrate its minimal impact on resistance while sailing.

Your boat – our fully integrated solution

More than just a motor company, Torqeedo is the only manufacturer that can deliver a fully customisable drive system with carefully matched and tested components, all from a single source.
For this purpose, the tried-and-tested Torqeedo Cruise motors are matched with high-performance lithium-ion batteries and electronic throttles.
These are complemented by a state-of-the-art user interface plus the Torqeedo TorqTrac app for smartphones. The batteries can be charged from shore power using Torqeedo chargers, from solar power or from a generator. This smart system can also charge its own batteries while sailing if placed in hydrogeneration mode. Torqeedo's Cruise pod systems are suitable for sailboats from 25 to 40 feet.



Example layout:
Torqeedo adapts the system to the specific requirements of every customer.

High-tech and eco-friendly

Cruise motors offer an ideal, cost-effective electric alternative for ferries, tour boats or autonomous marine applications.

Cruise motors in action for whale research

The unmanned research vessel belonging to French robotics company Sea Proven tracks the song of sperm whales, who spend 90% of their time submerged at great depths. Thanks to their virtually silent operation, the Torqeedo motors are ideal for this mission as they neither disturb these noise-sensitive creatures, nor can they be heard in the recordings of the drone's own hydrophones. The vessel draws all of its energy from solar collectors and a small wind generator mounted on deck.

Benefits at a glance

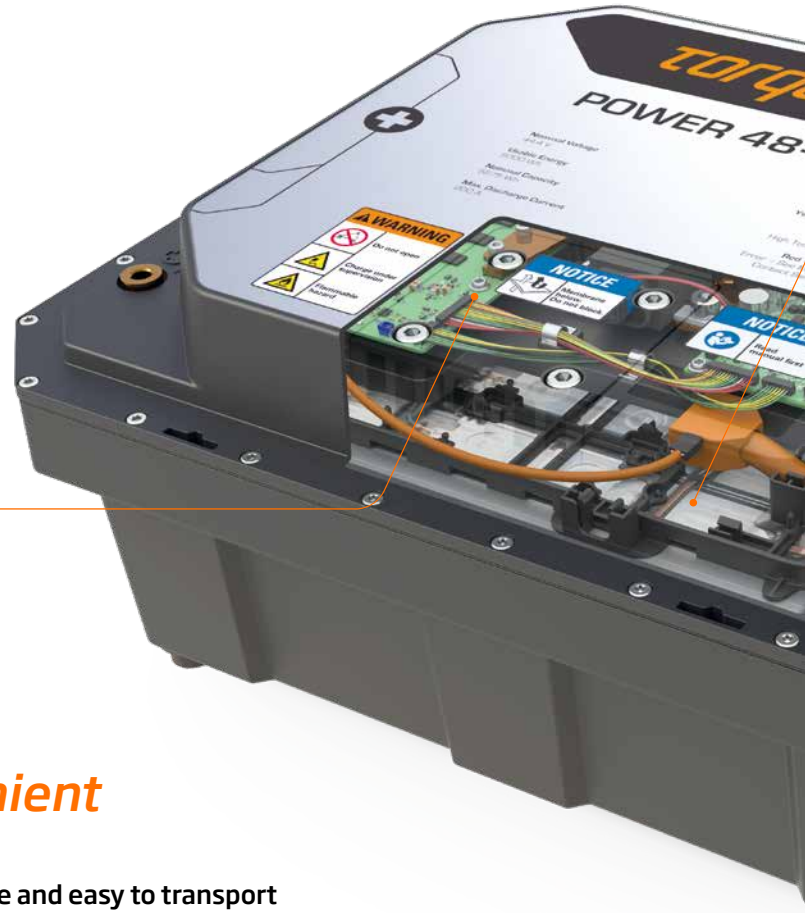
+ Excellent reliability of the Torqeedo products backed by many years of experience in the boating sector
+ Reduced maintenance requirements keep commercial boats on the water longer
+ Better for the climate and a more pleasant user experience
+ In-house development and systems expertise for complex projects
+ Years of experience supporting commercial customers

Superior battery technology

Safe, powerful and easy to use – Power batteries are the ultimate energy source for Cruise motors or hotel loads

Lithium-based batteries are the technology of choice for electric mobility applications. They store significantly more energy than all other batteries, maintain a high current (a major advantage for electric drive systems), do not lose their charging capacity, supply power reliably even in cold weather and have no memory effect. They also provide many more cycles than lead-based batteries.

Torqeedo has been a pioneer in the development of lithium batteries for marine applications for more than a decade. Since we make our batteries just a little bit better each year, we offer the most comprehensive and integrated protection and safety concept for lithium batteries on the market – coupled with performance and convenience.



Intelligent battery management system (BMS)

The BMS **monitors and protects** Torqeedo batteries against overcharging, overcurrent, deep discharge, short-circuit and overheating. The battery has comprehensive safety features, and each safety-relevant component is duplicated with a backup component should it fail. In addition to these safety features, the BMS safeguards the battery's life expectancy with balancing and deep-sleep functionality.

Convenient

Safe and easy to transport

Thanks to their **high energy density**, the volume and weight of lithium batteries are more than 70% lower than comparable AGM or lead-gel batteries. This makes our low-voltage batteries simple to handle and light to carry. On top of that, Torqeedo Power and Deep Blue batteries can be switched on and off, allowing them to be safely **transported and installed** and protecting them against unintentional discharge.

Powerful

High-quality safety cells

Several hardware mechanisms in every single cell provide additional safety. Torqeedo only uses cells based on lithium (Li-NMC) sourced from the **clean, precision production processes** of reputable manufacturers. In the case of the new Power 48-5000, the modules are produced by BMW i.

Dependable and efficient

System communications

The battery electronics continuously communicate all the details of the battery status to the onboard computer.

Completely waterproof

Waterproof housing (IP67): While battery immersion should be avoided, all Torqeedo batteries are, without exception, completely waterproof. The waterproof characteristics of each battery are individually tested prior to delivery.
Waterproof connections: whether connected or not, all cable connectors are completely waterproof to IP67.

Safety of lithium batteries

Besides performance, safety plays an important role for lithium batteries. In our view, five factors need to be considered in order to ensure that safe really means safe:

1. **Safe battery chemical engineering**, such as LiNMC (lithium nickel manganese cobalt oxide).

2. **Safe cell packaging:** Torqeedo uses only individually welded safety cells: either steel cylindrical or assembled into modules and equipped with multiple safety mechanisms. Other forms of packaging offer a lower standard of safety as they afford less effective protection against short-circuiting within the cells.

3. **Clean, precision production processes** on the part of the cell manufacturers: Torqeedo only uses cells and modules sourced from the most reputable brands in the world.

4. **Battery management system (BMS) with redundant safety features:** Unlike lead-based batteries, lithium batteries always need a BMS to perform balancing and safety functions. If electronic components of the BMS fail it can itself become a safety problem for the battery. That's why there is hardware backup for all safety-relevant components in Torqeedo batteries. Incidentally, this is also stipulated in the automotive industry, in aerospace and for medical technology.

5. **Waterproof to IP67:** Water in lithium batteries can lead to various problems such as corrosion of the BMS hardware or the creation of electrolytic gas. Lithium batteries on board a boat should, therefore, be waterproof.

Power boost

Following the launch of the Power 48-5000 last year, Torqeedo's 24 V lithium battery receives a higher capacity and a technical update for 2019. The new Power 24-3500 increases energy density to an impressive 138 Wh/kg and tips the scales at just 25.3 kg, only 800 g more than the previous model. The 1,700 W fast charger can fill up the Power 24-3500 in just under two hours, making this lithium pack perfect for recreational or commercial use.

New for
2019

Power 24-3500

Technical Data

	Power 48-5000	Power 24-3500
Useable energy	5,000 Wh	3,500 Wh
Nominal voltage	44.4 V	25.9 V
Weight	37.0 kg	25.3 kg
Energy density (weight)	135 Wh/kg	138 Wh/kg
Maximum discharge rate	200 A (8,880 W at nominal voltage)	180 A (4,500 W at nominal voltage)
Dimensions	506 x 386 x 224 mm	577.5 x 218.5 x 253.5 mm
Battery chemistry	Li NMC	Li NMC
Cycle lifetime	> 3,000 cycles at 80% depth of discharge at 25°C results in approx. 20% capacity loss	800 cycles at 100% depth of discharge at 25 °C results in approx. 25% capacity loss
Annual capacity loss	<3%	4%
Max. connections	2P	2S8P or 1S16P
Price-performance	1 EUR/Wh	0.86 EUR/Wh

Power 48-5000

Deep Blue

More powerful motors and batteries in 2019 open up new applications for this fully integrated propulsion and energy management system

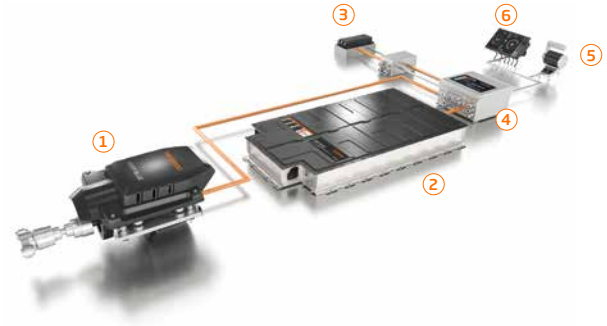
- Motors up to 100 kW are available in a high-RPM version for planing boats and low-RPM for displacement vessels
- Upgraded 40 kWh batteries deliver the latest in automotive technology, adapted for marine use
- Sets industry standards for production quality and safety systems
- Clean, renewable energy generation with automatic generator backup

25 kW 50 kW 100 kW

Yachts up to 120 feet
Large motorboats
Boats in nature reserves
Boats for commercial use, such as water taxis, ferries and tour boats

The modular, scalable, single-source solution

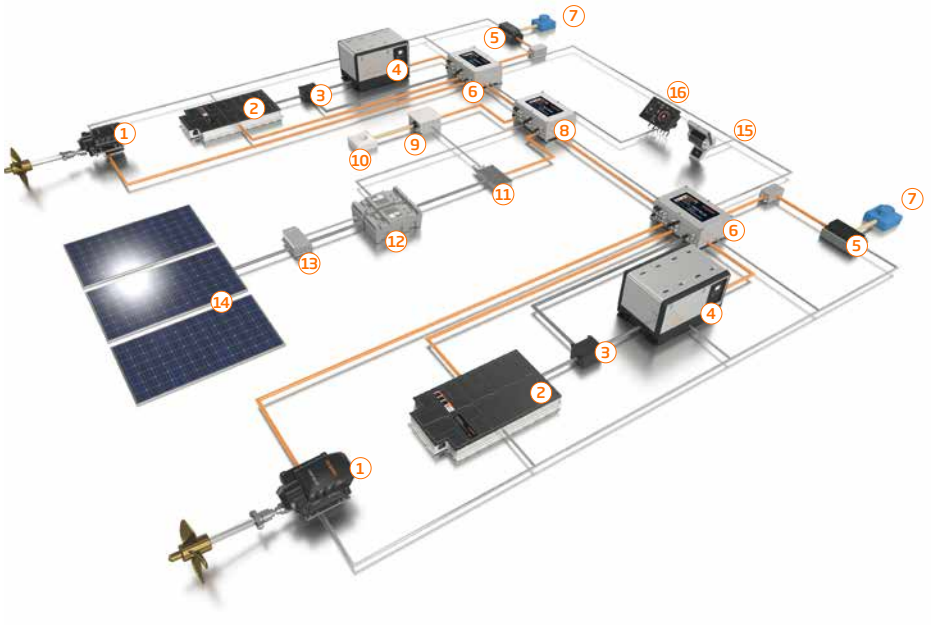
More than just a battery-powered electric motor, Deep Blue is a fully integrated propulsion and energy management system – customisable with modular components and industrially engineered to meet the highest demands. The result: exceptional performance and safety, compliance with international standards at the system level and highly intuitive operation. This single-source turnkey solution is available as an outboard, inboard or saildrive for recreational boats and commercial applications.



Deep Blue system

The essential Deep Blue configuration is suitable for vessels with access to shore charging and a priority on propulsive power. The system components, from propeller to high-tech user interface, are perfectly matched and integrated to provide emission-free, quiet and powerful propulsion.

1 Powerful electric motor
2 360 V high-capacity lithium battery system
3 Onshore power chargers
4 Drive connection box
5 Electronic throttle
6 Display with onboard computer



Deep Blue Hybrid system

This integrated, modular system is suitable for larger vessels, oceangoing yachts or commercial vessels with complex onboard energy requirements. Deep Blue Hybrid provides complete energy management – each component's energy demands are monitored and managed by the central system, ensuring economical collection and distribution of clean, renewable energy with automatic generator backup when necessary.

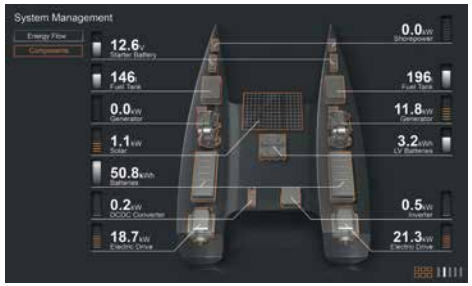
1 Powerful electric motor
2 360 V high-capacity lithium battery system
3 12 V batteries
4 Efficient state-of-the-art diesel generator
5 Onshore power chargers
6 System Management Unit
7 Onshore power connection
8 System connection box
9 AC inverter
10 Isolated AC power system (120/240 V AC current, 50/60 Hz)
11 Bi-directional DC/DC converter
12 24 V on-board batteries
13 Solar charge controller
14 Photovoltaic modules
15 Electronic throttle
16 Display with onboard computer

Always in control

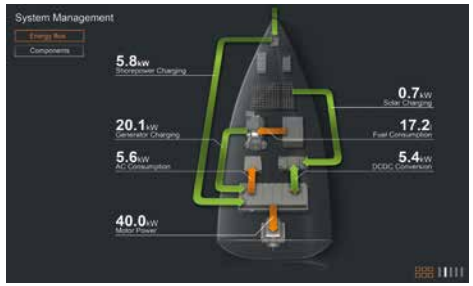
Deep Blue Hybrid offers intuitive operation presented on the multifunctional display, providing a complete overview of the entire system and access to all control functions. The software keeps an eye on everything and prevents errors like deep-discharging batteries. An easy-to-understand graphical user interface is available as either multihull or monohull and delivers complete, up-to-the-minute system visualisation.

Main menu: navigate easily between different categories.

Drive screen: All important information needed while motoring. You can choose to display or hide the information line at the top.



System management: Provides status data on all system components. Select individual components for more detail.



Energy flow: understand your system's power balance and energy flow at a glance.

Privilège

The luxurious Privilège Series 5 catamaran is known as "the ultimate liveaboard." Le Penseur, an owner's version with the complete Deep Blue Hybrid electric propulsion and energy management system, lives up to this superlative with its stunning owner's suite and spacious galley and salon. Le Penseur is powered by twin 50kW Deep Blue inboards and high-capacity lithium batteries with BMW technology (i8-type). The hybrid control system automatically harvests clean energy from a 2.4 kWp solar array and through hydrogeneration while under sail. The owner can enjoy all the amenities on board without noise and exhaust fumes because all hotel loads, including climate control, watermaker and the galley, are supplied through a 24 V Torqeedo battery bank, kept charged by the high-voltage system. An efficient DC diesel generator serves as backup to the renewable energy sources. Clean, quiet and well-appointed, the Series 5 with Deep Blue Hybrid takes living aboard to a new level of luxury and sustainability.

Throw off the bowlines

When designing a new sailing yacht or contemplating a refit, each component must be evaluated to be sure it does its job, works well with the rest of the onboard systems and provides the best user experience possible. Deep Blue and Deep Blue Hybrid, with powerful electric motors available up to 100 kW, make yachting more convenient and more environmentally friendly, while reducing dependence on shore supplies through onboard generation of clean, renewable power. Add in worldwide service, 24-hour support, a 9-year limited battery warranty and the peace of mind that comes with choosing the world leader in electric mobility on the water and this choice couldn't be clearer.

25 kW 50 kW

Deep Blue 25 SD

Deep Blue 25/50 i

Spirit

The Spirit 111, currently under construction at Spirit Yachts' headquarters in the UK, was commissioned by an experienced yachtsman who will cruise in the Mediterranean and compete in superyacht regattas. The brief to Spirit Yachts from the owner was that he wants to spend considerable amounts of time aboard while minimizing fuel consumption and emissions. Each of the 33.9 metre yacht's onboard systems has been chosen for its green credentials, including the Deep Blue Hybrid electric propulsion and clean energy management system. With a 100 kW Deep Blue inboard and four 40.0 kWh lithium batteries with technology by BMW (i3-type), this ground-breaking new superyacht will charge its own batteries while under sail and, with careful consumption, the yacht will be able to operate solely on battery power. For long-distance motoring, the Spirit 111 is installed with two efficient backup generators. When complete, the Spirit 111 will be Spirit Yachts' largest sailing yacht to date and will be one of the most environmentally friendly superyachts on the water today.

Technical data

Inboards	Deep Blue 25i	Deep Blue 50i	Deep Blue 100i 900
RPM propeller (maximum)	1,400 rpm	1,400 rpm	900 rpm
Output (peak)	33 kW	60 kW	110 kW
Output (continuous)	25 kW	50 kW	100 kW
Torque	350 Nm	350 Nm	1070 Nm
Weight (incl. electronics)	85 kg	85 kg	450 kg

Saildrive	Deep Blue 25 SD
Max. propeller speed	1,360 rpm
Output (peak)	33 kW
Output (continuous)	25 kW
Torque	180 Nm
Weight (incl. electronics)	125 kg

100 kW

New for
2019

Deep Blue 100i 900

Suitable for yachts up to 120 feet long, this robust direct-drive motor delivers the low rotational speeds necessary to efficiently power large sailing yachts and other heavy displacement vessels. This new addition to the Deep Blue family delivers 100 kW of continuous, emission-free power, ultimate torque, low maintenance and is powered by high-capacity batteries with technology by BMW i.

Independence – Atlantic crossing

Moonwave is a high-performance racing catamaran with a striking design and all carbon fiber and epoxy construction. Every aspect of this top-flight Gunboat 60 was chosen for its light weight and durability. Installing Deep Blue Hybrid's electric propulsion and energy management system made the yacht lighter and more environmentally friendly, while increasing its independence.

Moonwave's narrow, efficient hulls are easily propelled by two Deep Blue 25 kW saildrives with folding propellers. While sailing in hydrogeneration mode, the propellers are activated and add energy to the battery for propulsion or to supply the vessel's hotel loads, winches and hydraulic controls. Additionally, a state-of-the-art, 20-square-metre solar photovoltaic array by Gochermann Solar Technology delivers 4 kWp of solar power to both the high- and low-voltage onboard systems. Furthermore, under high sailing speed, the Deep Blue system is able to win back up to 7 kW power in hydrogeneration.

This abundance of power from multiple, redundant sources proved an important advantage on Moonwave's first transatlantic crossing since the refit. The clean, silently generated electricity is stored in a single Deep Blue high-capacity battery (i3-type) which delivers plenty of power for the large on-board consumers, e.g. watermaker, washing machine and electric cooking. The automotive-grade lithium battery has a 9-year capacity warranty and offers industry-leading energy density, reducing weight and increasing performance even further.

"With the Deep Blue Hybrid system, we have gained reliability, autonomy and performance. Moonwave has become more than 3 tons lighter and a big part of this is thanks to the new Deep Blue Hybrid system and components. Now that we have so much

Abundant electric power means no more propane on board for cooking, simplifying the fuel mix and increasing the time that can be spent at sea. Add an electric tender for the ultimate sustainable yachting experience.

Silent electric propulsion and all hotel loads, including the watermaker and the washing machine, can be powered by clean, renewable energy. Enjoy all onboard amenities without the drone and fumes of a running generator.

power available with increased storage capacity and two real and efficient production systems (solar and hydrogeneration), we can enjoy all the luxurious amenities on board Moonwave without restriction or compromise. Moonwave is the living proof that there is finally a hybrid system that can be trusted. 7,500 nautical miles in about two months, including an Atlantic crossing, and Moonwave is still steaming full power ahead, her crew still smiling and her owner is extremely happy," says Sébastien Lafitte, captain of SY Moonwave.

Rest easy. If renewable energy supplies aren't keeping up with demand, a highly efficient DC generator serves as backup. The system ensures the batteries are fully charged before bedtime, ensuring a good night's sleep.

"Moonwave is the living proof that there is finally a hybrid system that can be trusted."

Sébastien Lafitte, Captain of SY Moonwave.

The strong, silent type

Deep Blue delivers powerful performance without the noise, exhaust and fumes of a combustion engine

XShore

The X Shore eElectric 8000 has a distinctive Scandinavian design with clean, simple and functional lines. The innovative hull shape allows the vessel to handle offshore conditions and the twin 50 kW Deep Blue inboard motor system with BMW technology (i3-type) delivers a clean, quiet and emission-free boating experience.
The wide-open layout allows owners to haul cargo or stretch out to bask in the sun, and the rubber-clad bow makes mooring easy.
The X Shore is a boat for the smart generation.

Frauscher 740 Mirage Air

The Frauscher shipyard has been building some of the world's most luxurious yachts since 1927. The fully electric 740 Mirage Air further enhances tradition with innovation, high-tech features and eco-friendliness. Installed with a Deep Blue 50 kW inboard motor and a lithium battery with BMW technology (i3-type), the 740 Mirage Air is the perfect day yacht. Owners can cruise silently at 10 km/h for more than 6 hours, (max speed 28 km/h), appreciating both the natural world and the yacht's distinctive design and extraordinary quality.

Avon eJET450

Zodiac Nautic's luxury yacht tender brand, Avon, brought the world's first fully electric jet tender to market. Torqeedo's 50k W Deep Blue motor is matched with a custom jet drive and a single high-capacity lithium-ion battery (i3-type). The eJET gets 90 minutes of range at 23 knots, achieves a max speed of 31 knots and also has connected capabilities allowing remote maintenance and upgrades. The eJET is the perfect yacht tender, offering great performance and a reduced environmental impact.

New for

2019

40 kWh Deep Blue battery (i3-type)

Deep Blue-powered motorboats are getting an upgraded, higher-capacity power source: a 40 kWh Deep Blue battery with roughly 31% more capacity in the same footprint. Made suitable for use in the marine environment with additional waterproofing and shock protection, this battery features industry-leading energy density and a comprehensive safety system.

25 kW 50 kW 100 kW

Deep Blue 25/50 R

Deep Blue 25/50 i

New for 2019

Deep Blue 100i 2400

This brand-new 100 kW motor was specifically constructed to power fast, planing motorboats. With a reliable, low-maintenance, direct-drive design, the Deep Blue 100i delivers extraordinary performance, with up to 2,400 rotations per minute and a torque of 390 Nm.

Leave a clean wake

The first and only high-power electric drive system for motorboats from industrial production, Deep Blue offers exceptional performance, professional safety and easy operation. Motorboats and fast yacht tenders can choose from our high-tech inboard or outboard models up to 100 kW and from two lithium battery models. The 40.0 kWh i3-type battery is the ultimate standalone energy source, while the 10.0 kWh i8-type battery offers a smaller footprint and more flexibility for boats with limited space. With a 9-year limited battery capacity warranty, outstanding efficiency and a proven long service life, Deep Blue is the exclusive solution for powerful electric motorboats.

Technical data

Outboards	**Deep Blue 25 R**	**Deep Blue 50 R**
Max. propeller speed	2,400 rpm	2,400 rpm
Output (peak)	33 kW	66 kW
Output (continuous)	25 kW	50 kW
Torque	205 Nm	205 Nm
Weight (incl. electronics)	from 139 kg	from 139 kg

Inboards	**Deep Blue 25i**	**Deep Blue 50i**	**Deep Blue 100i 2400**
Max. propeller speed	1,800 rpm	1,800 rpm	2,400 rpm
Output (peak)	33 kW	60 kW	110 kW
Output (continuous)	25 kW	50 kW	100 kW
Torque	280 Nm	280 Nm	390 Nm
Weight (incl. electronics)	85 kg	85 kg	150 kg

Deep Blue: facts and figures

> 12 g

is the shock force boats may experience in heavy seas. Torqeedo designed the first shock protection device for lithium batteries in the marine industry.

1.5 hours

The Deep Blue battery can charge up to 75% capacity in as little as 1.5 hours when properly equipped with multiple chargers and adequate shore supplies are available.

31%

more energy in the same footprint with the new Deep Blue high-capacity battery

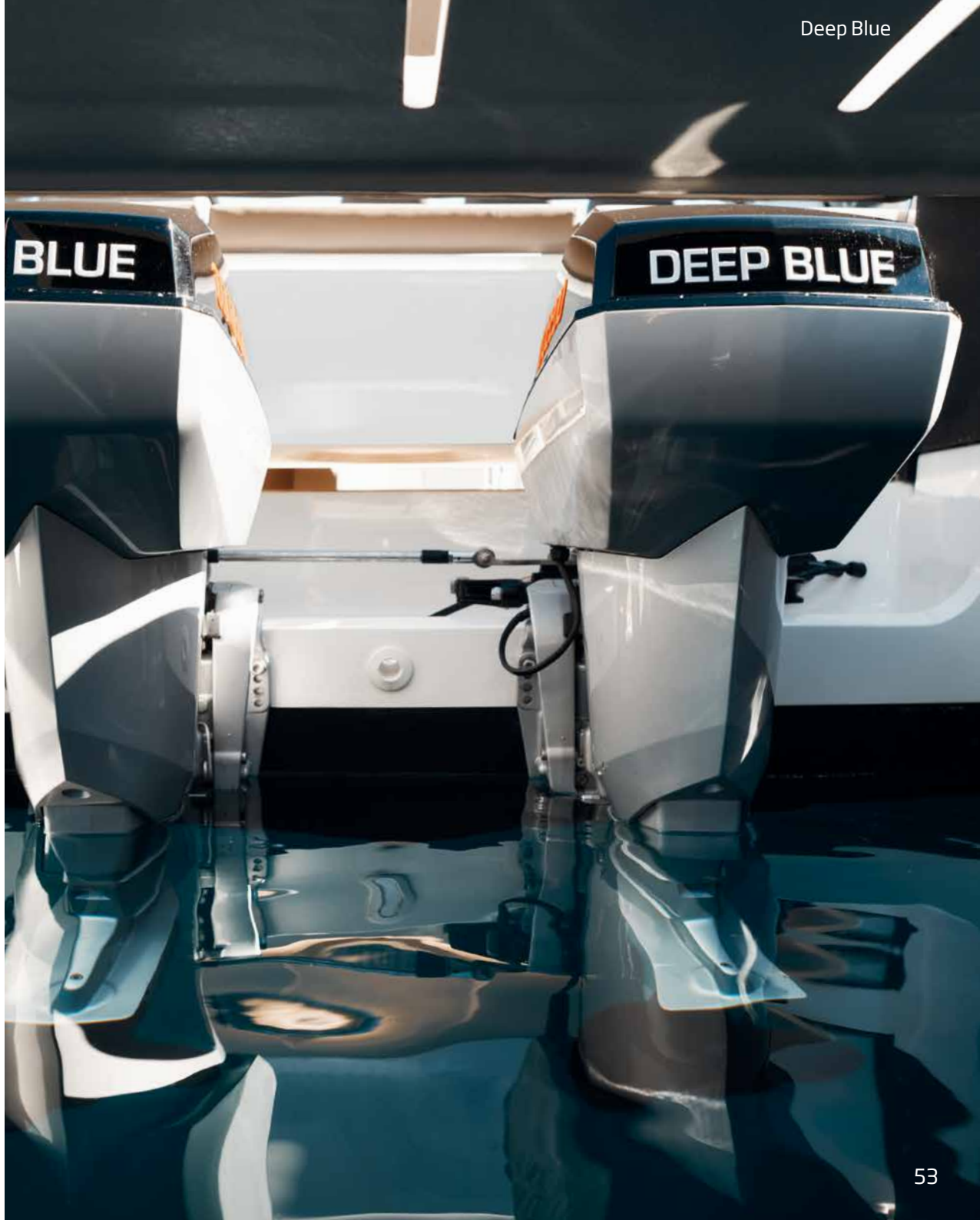
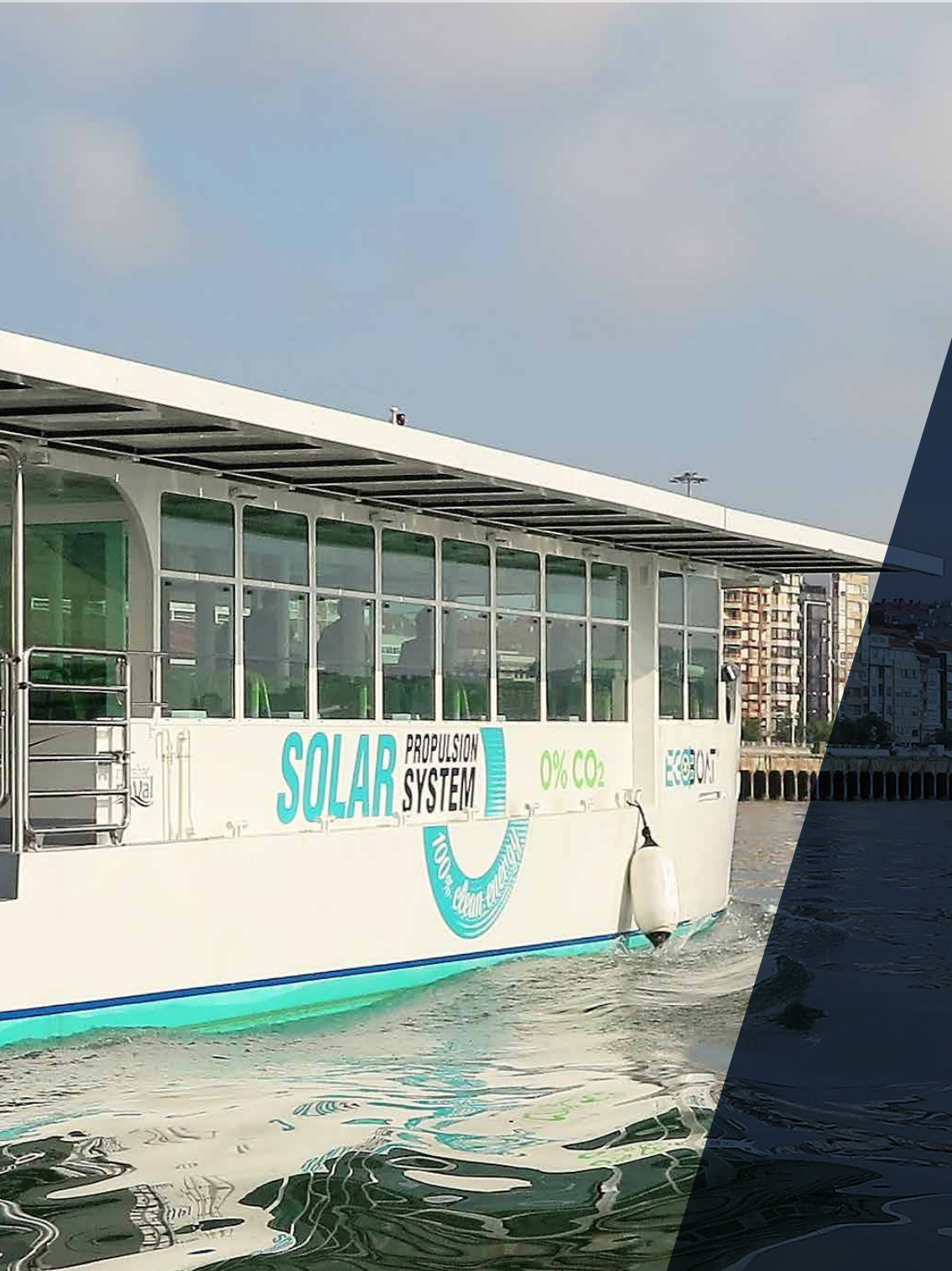


Chart a new course

Reduce operating costs, improve user experience and minimise your carbon footprint with Deep Blue



Commercial

Remote diagnostics and service
Wirelessly connect the Deep Blue Hybrid system with Torqeedo specialists for remote updates and diagnostics. Many hardware and software issues can be efficiently addressed. If First Response Kit is on site, downtime is minimised.

Dedicated telephone support
24/7 telephone support with direct access to a Torqeedo technician and/or a local service partner is available with a Premium Service agreement.

E-mail an expert
Our technicians and engineers will provide remote support and advice at your convenience. E-mail is a great way to schedule preventive and system maintenance appointments.

Torqeedo Service
Fast-response on-site service is available with a Premium Service agreement.
A Torqeedo technician will arrive at your place of business within 18–48 hours.

Commercial applications

Award-winning Spanish solar ferry

The ECOCAT is an 18-metre, 120-passenger ferry which runs on 100% solar-electric power – with no auxiliary combustion engine. The ferry is part of the Mar Menor fleet in southern Spain, an ideal climate for a fully solar vessel. Deep Blue's energy management system manages all onboard energy consumers and clean power production via 40 kWp of roof-mounted solar panels. The ferry is propelled by two 50 kW Torqeedo Deep Blue electric motors and eight Torqeedo 30.5 kWh high-capacity batteries with technology by BMW. Torqeedo received the European Commercial Marine Awards (ECM) prestigious Maritime Sustainability Award for its contributions to the development of the ECOCAT, which was built by Metaltec Naval Shipyard and designed by m2 Ingenieria Naval.

Eco-tours in Vietnam

A fleet of 15 Deep Blue-powered passenger excursion boats are used for sightseeing tours of the River Safari jungle habitat at Vinpearl Land Nam Hoi An, a massive theme park in Hoi An, Vietnam, as well as for entertainment in the replica Hoi An Old Town section of the park. The whisper-quiet electric boats allow guests to get close to the rare animals that live in the River Safari without disturbing their natural behavior. The theme park and resort will significantly lower operating costs and improve their guests' onboard experience with no engine noise, vibration or exhaust fumes. The boats are powered with a 50kW Deep Blue inboard motor and one high-capacity lithium battery and were built by Song Lo Shipbuilding Company.

E-workboat from France

Marinas, ports and harbors around the world are looking for ways to lower operating expenses and their carbon footprint. The brand-new ZenPro 580, a 5.8 metre workboat purpose-built for electric propulsion, is making it easy. Its lightweight but durable aluminium hull and Hypalon tube design weighs just 350 kg, which allows the 50 kw Deep Blue outboard and lithium battery (i3-type) to propel the RIB at up to 25 knots. The open, flexible deck design makes the ZenPro ideally suited for carrying up to eight passengers or carrying equipment for use as a harbor patrol and marina support platform. The ZenPro 580 is built in France by the electric boating experts at Naviwatt.

Advantage: electric

Torqeedo doesn't sell components – instead we provide a complete, integrated and proven electric propulsion system for your commercial project. With up to a 9-year battery capacity warranty* and worldwide service, now is the time to lower operating costs with a high-tech electric mobility system from Torqeedo.

* Up to 4,000 cycles of charging, depending on charging, driving and climate conditions.

Save 100% of your petrol or diesel costs
+ Instead, spend a fraction of saved costs on electricity and battery write-off
+ Reduce maintenance costs
+ Enjoy high reliability

= If you are out on the water 100 days a year or more, you may save money by going electric.

...and protecting our waters and atmosphere is a bonus.

We will be pleased to provide you with a calculation adapted to your requirements.

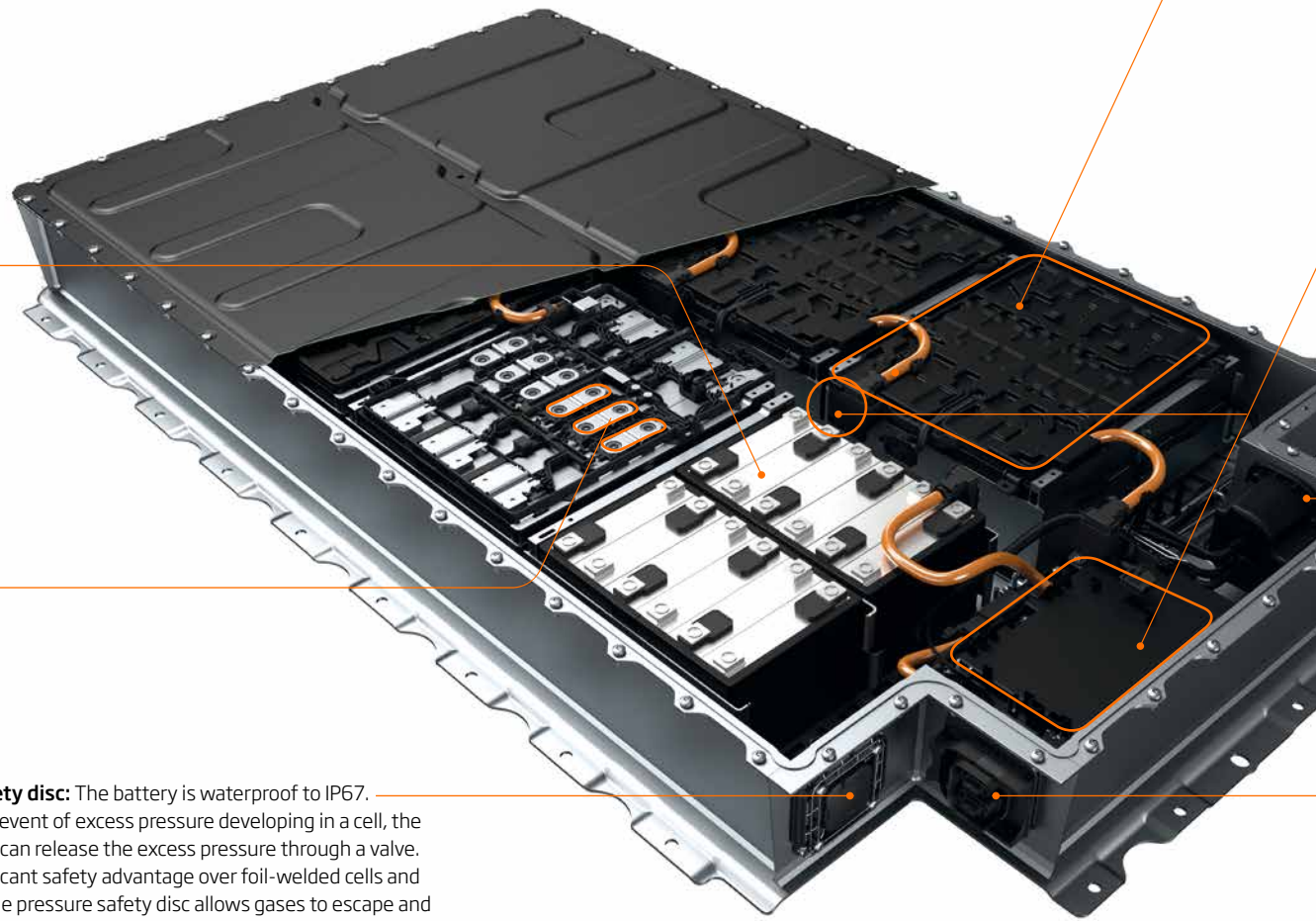
info@torqeedo.com

The power of Deep Blue: high-capacity lithium batteries with technology by BMW i

Industry-leading energy density, the latest automotive technology and highest safety standards

New for
2019 **31% more energy in the same space**

BMW i high-capacity batteries are available for boats. This technology, proven in thousands of BMW's innovative i3 and i8 automobiles, has been integrated into the Deep Blue system by Torqeedo. The BMW i8 battery is ideal for boats where space is at a premium.



The latest generation of automotive battery cells:
- Very high energy density
- Prismatic cell design allows efficient cooling, a compact form, even temperature distribution within the battery and an extremely rugged structure
- Robust protective aluminium housing with safety vent
- From the automated production process of Samsung SDI, a leading manufacturer of lithium battery cells

Laser-welded cell connections:
Over a larger surface and therefore stronger and more powerful than conventional spot-welded cell connections.

Pressure safety disc: The battery is waterproof to IP67. In the unlikely event of excess pressure developing in a cell, the prismatic cells can release the excess pressure through a valve. This is a significant safety advantage over foil-welded cells and pouch cells. The pressure safety disc allows gases to escape and ensures the battery stays waterproof in normal operation.

Automated module production:
- Prismatic cells have many advantages. However, they must be assembled extremely accurately in a very robust frame for a long service life. Otherwise charging and discharging would, over time, lead to the cells expanding and collapsing very slightly and cause them to age prematurely.
- The fully automated module production at BMW in Dingolfing has set the standard in high-precision and extremely robust battery modules.
- The very rugged design is ideal for boat applications that place high demands on shock resistance.

Battery management system (BMS) at module and battery levels:
- State-of-the-art BMS technology
- Developed to ASIL C standards as used in the automotive industry for maximum safety
- Qualification and acceptance testing at a far higher level than is typical in the boating industry

Compressor cooling: cools the battery to ensure high performance and a long service life even in high ambient and water temperatures – in all climate zones anywhere in the world.

Power and data connections from the battery to the Deep Blue system

Professional safety

The **insulation monitor** constantly monitors that the voltage from all 360 V components is completely isolated from the boat – not just for individual system components but for all of them. If damage is detected, e.g. to the cable insulation, the system will issue an alert. In the event of dangerous insulation failure, the system will be shut down.

The **pilot line** monitors all 360 V cable connections on the Deep Blue. It will shut off the system immediately if it detects exposed high-voltage contacts in order to avoid any risk. Pilot lines have been mandatory for high-voltage equipment in other industries. They are not typically found in high-voltage, made-to-order boat drives.

Automotive industry-level battery safety: The first lithium batteries for the marine industry with the advanced quality standards of the automotive sector are the result of Torqeedo's collaboration with established battery manufacturers. Integrating a battery into a drive system and the associated safety concept alone requires considerable effort that can only be achieved by working together with the battery manufacturer.

All components are waterproof: Components that were not specifically developed for boats are not always waterproof. All the components of a high-power system on a boat must be waterproof to guarantee safe operation. That is why all of our components are waterproofed and, in some cases, are further protected with water sensors.

Battery venting: In the unlikely event that the redundant safety mechanisms of the battery fail, the battery cells can reduce their temperature and pressure via a pressure valve. While batteries are installed in electric cars in such a way that they can discharge battery gases directly onto the road, on electric boats the gases must be channelled safely off the vessel. We developed the first safe venting system for boats for the Deep Blue system.

Battery damping: All components on fast and seagoing boats are subject to constant high levels of shock that exceed shock levels on the road – in some cases over 12 g of acceleration force. The same holds true when trailering the boat. Since batteries and battery electronics are not designed for these constant impacts, they need their own damping system on boats (in addition to the damping mechanisms within the battery). Torqeedo is the only company in the world that provides this for maritime use.

Two powerhouse options

New for
2019

Deep Blue battery (i3-type)

Latest battery technology from the BMW i3 series: high energy density, long service life, robust and built to the highest standards of quality and safety. Its capacity has been upped from 30.5 kWh to 40 kWh for 2019, paving the way for all sorts of new Deep Blue applications.

Deep Blue battery (i8-type)

A single 10.0 kWh Deep Blue battery can power a 25 kW Deep Blue motor, bringing system weight to under 250 kg – perfect for smaller vessels or those with narrow hulls. Thanks to special cell technology, many applications don't require active cooling.

Technical data

	i3-type	i8-type
Nominal voltage	360 V	355 V
Max. continuous performance	55 kW	25 kW
Capacity	40.0 kWh	10.0 kWh
Weight	278 kg	97 kg
Dimensions	1660 x 964 x 174 mm	1460 x 305 (240) x 330 mm

Choose the right genset

Economical auxiliary power

Torqeedo's HVDC converter generators supply DC power directly to the Deep Blue system without the inefficiencies that limit standard generators, providing long-range motoring and efficient backup power for serial hybrid systems. The converter generators eliminate the fixed ratio between rotational speed, power and voltage output.

Integrated into the information, safety and energy management system of the Deep Blue Hybrid, the generators produce any combination of power and voltage as required, adopted to individual setttings.

25 kW Range Extender

20 kW Range Extender

Technical data

	Deep Blue generator 25 kW	Deep Blue generator 20 kW
Continuous power	25 kW	20 kW
Max. rpm of diesel engine	2,200	3,600
Weight	480 kg	270 kg
Dimensions	1107 x 748 x 704 mm	1000 x 600 x 619 mm
Benefits	Low noise High efficiency Less vibration	Compact size Light weight

Accessories

From bag sets to batteries, enhance your boating experience with Torqeedo accessories

- Add a spare battery for additional range
- Charge via solar, 12 V onboard supply or plug in to shore power
- Upgrade to a practical, ergonomic and Bluetooth-equipped throttle
- Efficient propellers for high speed or more thrust

The full range of Torqeedo accessories is available at www.torqeedo.com

Controls

Premium throttles

Our premium throttles offer the right solution for every application, whether for sailboats or on motorboats – ergonomic, strong and functional. All premium throttles come with Bluetooth built in for simple integration of Torqeedo's TorqTrac smartphone app.

Side-mount sail

Side-mount motor

Top-mount single

Top-mount twin

Remote throttle

Instead of using the tiller, you can control your Travel or Cruise motor with the throttle located 1.5 or 5 metres away. It comes with an onboard computer display, fully variable forward and reverse and two different lengths of data cable.

Power supply

Chartplotter gateway

Link external devices to Torqeedo drive systems. Small gateway plugs in quickly and easily, and allows NMEA-2000 devices to access and display key motor and battery information.

Spare Ultralight batteries

Extend your range with a second battery on board. Available in 320 Wh or 915 Wh capacity.

Spare Travel batteries

Extend your range with a second battery on board. Available in 530 Wh or 915 Wh capacity.

Charging

Sunfold 50

This lightweight solar panel delivers lots of clean solar energy and can be easily folded for storage. Suitable for all Travel models from 2015.

Solar charge controller for Power 24-3500

Integrated MPPT controls solar charging, maximising energy yield and overall efficiency.

New for 2019

Fast Charger 2900 W for Power 48-5000

Specifically developed for fast charging the Power 48-5000, this 2,900 W charger can fully charge a single battery in just under two hours.

Propellers

Spare propeller

Choose a spare standard prop or a version with higher top-end speed or more thrust at low RPM.

Folding propellers for Cruise 2.0/4.0/10.0 FP

Low drag when under sail, powerful propulsion while motoring.

You can find more information about all our accessories and a detailed propeller guide on our website

www.torqeedo.com

Outboards and pods ≤ 20 HP equivalent

	ULTRALIGHT 403 A/AC	TRAVEL 503	TRAVEL 1003 (C)	TRAVEL 1103 C	CRUISE 2.0 T/R
Input power in W	400	500	1,000	1,100	2,000
Propulsive power in W	180	240	480	540	1,120
Comparable petrol outboard (shaft power)	1 HP	1.5 HP	3 HP	3 HP	5 HP
Comparable petrol outboard (thrust)	2 HP	2 HP	4 HP	4 HP	6 HP
Comparable diesel inboard (shaft power)	-	-	-	-	-
Comparable diesel inboard (thrust)	-	-	-	-	-
Maximum overall efficiency in %	45	48	48	49	56
Static thrust in lbs*	33	40	68	70	115
Integrated battery	320 (A) / 915 (AC) Wh Li-Ion	320 Wh Li-Ion	530 / 915 (C) Wh Li-Ion	915 Wh Li-Ion	-
Nominal voltage in V	29.6	29.6	29.6	29.6	24
Final charging voltage in V	33.6	33.6	33.6	33.6	-
Total weight in kg	8.8 (A) / 11.0 (AC)	13.1(S) / 13.7 (L)	Travel 1003: 14.2(S) / 14.8(L) Travel 1003 C: 14.9 (S) / 15.5 (L)	17.3 (S) / 17.7 (L)	T: 17.5 (S) / 18.6 (L) R: 15.3 (S) / 16.2 (L)
Motor weight without battery, in kg	5.0	8.9 (S) / 9.5 (L)	8.9 (S) / 9.5 (L)	11.3 (S) / 11.7 (L)	-
Weight of integrated battery, in kg	3.8 (A) / 6.0 (AC)	4.2	5.3 / 6.0 (C)	6.0	-
Shaft length in cm	48	62.5 (S) / 75 (L)	62.5 (S) / 75 (L)	62.5 (S) / 75 (L)	62.4 (S) / 74.6 (L)
Standard propeller (v = speed in km/h at p = power in W)	v10/p350	v9/p790	v9/p790	v10/p1100	v13/p4000
Alternative propeller options	-	v8/p350	-	v10/p1100 weedless	v19/p4000 v20/p4000 v30/p4000
Maximum propeller speed in rpm at full load	1,200	875	1,125	1,450	1,300
Control	Throttle	Tiller	Tiller	Tiller	Tiller/throttle
Steering	Connects to kayak steering, lockable	360° lockable	360° lockable	+/-60° lockable	360° lockable
Tilting device	Manual, with impact protection	Manual, with impact protection	Manual, with impact protection	Manual, with impact protection	Manual, with impact protection
Trim device	Manual, 4-step	Manual, 4-step	Manual, 4-step	Manual, 4-step	Manual, 4-step
Stepless forward/reverse drive	yes	yes	yes	yes	yes
Integrated onboard computer with display	yes	yes	yes	yes	yes

*Torqeedo static thrust measurement is based on internationally accepted ISO standards. Static thrust figures for conventional trolling motors are typically measured differently, which results in higher values. To compare Torqeedo static thrust data with conventional trolling motors, add approximately 50% to the Torqeedo static thrust values.

	CRUISE 4.0 T/R	CRUISE 10.0 T/R	TWIN CRUISE 2.0 R	TWIN CRUISE 4.0 R	CRUISE 2.0 FP	CRUISE 4.0 FP	CRUISE 10.0 FP
	4,000	10,000	4,000	8,000	2,000	4,000	10,000
	2,240	5,600	2,240	4,480	1,120	2,240	5,600
	8 HP	20 HP	8 HP	15 HP	-	-	-
	9.9 HP	25 HP	12 HP	20 HP	-	-	-
	-	-	-	-	5 HP	8 HP	20 HP
	-	-	-	-	6 HP	9.9 HP	25 HP
	56	56	56	56	56	56	56
	189	up to 405	230	378	115	189	up to 435
	-	-	-	-	-	-	-
	48	48	24	48	24	48	48
	-	-	-	-	-	-	-
	T: 18.3 (S) / 19.4 (L) R: 16.1 (S) / 17.0 (L)	T: 60.3 (S)/61.8 (L)/63.0 (XL) R: 59.8 (S)/61.3 (L)/62.5 (XL)	31.0 (S) / 33.1 (L)	32.5 (S) / 34.5 (L)	15.4	15.8	33.5
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	62.4 (S) / 74.6 (L)	38.5 (S)/51.2 (L)/63.9 (XL)	62.4 (S) / 74.6 (L)	62.4 (S) / 74.6 (L)	-	-	-
	v20/p4000	v22/p10k	v13/p4000	v20/p4000	v13/p4000	v13/p4000	v15/p10k
	v13/p4000 v19/p4000 v30/p4000	v32/p10k v15/p10k	v19/p4000 v20/p4000 v30/p4000	v13/p4000 v19/p4000 v30/p4000	v13/p4000 (folding propeller)	v13/p4000 (folding propeller)	v15/p10k (fold. prop.) v22/p10k v32/p10k
	1,300	1,400	1,300	1,300	1,300	1,300	1,400
	Tiller/throttle	Tiller/throttle	Throttle	Throttle	Throttle	Throttle	Throttle
	360° lockable	+/-45°	Provision to connect to standard remote steering; lockable	Provision to connect to standard remote steering; lockable	-	-	-
	Manual, with impact protection	Power tilt	Manual, with impact protection	Manual, with impact protection	-	-	-
	Manual, 4-step	Manual, 4-step	Manual, 4-step	Manual, 4-step	-	-	-
	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes

(S) short version
(L) long version
(XL) extra-long version

Drives and batteries

Ultralight

Part No.	Product	Description
1405-00	Ultralight 403 A **NEW**	Ultralight outboard, 1 HP equivalent, with 320 Wh high-performance lithium battery, including charger, throttle, onboard computer, GPS-based range calculation and emergency magnetic kill switch
1407-00	Ultralight 403 AC **NEW**	Ultralight outboard, 1 HP equivalent, with 915 Wh high-performance lithium battery, including charger, throttle, onboard computer, GPS-based range calculation and emergency magnetic kill switch
1416-00	Spare battery Ultralight 403 (A), 320 Wh	High-performance lithium battery with integrated GPS receiver, 320 Wh, 29.6 V, 11 Ah. For all Ultralight models (1404-00, 1405-00, 1406-00, 1407-00)
1417-00	Spare battery Ultralight 403 (A/AC), 915 Wh	High-performance lithium battery with integrated GPS receiver, 915 Wh, 29.6 V, 31 Ah. For all Ultralight models (1404-00, 1405-00, 1406-00, 1407-00)

Travel

Part No.	Product	Description
1140-00	Travel 503 S	High-efficiency outboard with integrated 320 Wh high-performance lithium, 1.5 HP equivalent, including onboard computer with GPS-based range calculation, charger, emergency magnetic kill switch, short shaft
1141-00	Travel 503 L	As part No. 1140-00, but with long shaft
1142-00	Travel 1003 S	High-efficiency outboard with integrated 530 Wh high-performance lithium, 3 HP equivalent, including onboard computer with GPS-based range calculation and charger, emergency magnetic kill switch, short shaft
1143-00	Travel 1003 L	As part No. 1142-00, but with long shaft
1149-00	Travel 1003 CS	High-efficiency outboard with integrated 915 Wh high-performance lithium battery, 3 HP equivalent, including onboard computer with GPS-based range calculation and charger, emergency magnetic kill switch, short shaft
1150-00	Travel 1003 CL	As part No. 1149-00, but with long shaft
1151-00	Travel 1103 CS **NEW**	High-efficiency outboard with integrated 915 Wh high-performance lithium battery, 3 HP equivalent, including onboard computer with GPS-based range calculation and charger, emergency magnetic kill switch, short shaft
1152-00	Travel 1103 CL **NEW**	As part No. 1151-00, but with long shaft
1147-00	Spare battery Travel 1003/503, 530 Wh	High-performance lithium battery with integrated GPS receiver, 530 Wh, 29.6 V, 18 Ah. For all 503/1003 models
1148-00	Spare battery Travel 1103/1003/503, 915 Wh	High-performance lithium battery with integrated GPS receiver, 915 Wh, 29.6 V, 31 Ah. For all 503/1003/1103 models

Cruise

Part No.	Product	Description
1234-00	Cruise 2.0 TS	High-efficiency outboard, 5-6 HP equivalent. With tiller steering, integrated onboard computer with GPS-based range calculation, 25 mm² cable set (3 m) including fuse and main switch, short shaft version
1235-00	Cruise 2.0 TL	As part No. 1234-00, but with long shaft
1236-00	Cruise 4.0 TS	High-efficiency outboard, 8-9.9 HP equivalent. With tiller steering, integrated onboard computer with GPS-based range calculation, 25 mm² cable set (3 m) including fuse and main switch, short shaft version
1237-00	Cruise 4.0 TL	As part No. 1236-00, but with long shaft
1230-00	Cruise 2.0 RS	High-efficiency outboard, 5-6 HP equivalent. Includes connection to remote steering, throttle, integrated onboard computer with GPS-based range calculation, 25 mm² cable set (3 m) including fuse and main switch, short shaft version
1231-00	Cruise 2.0 RL	As part No. 1230-00, but with long shaft
1232-00	Cruise 4.0 RS	High-efficiency outboard, 8-9.9 HP equivalent. Includes connection to remote steering, throttle, integrated onboard computer with GPS-based range calculation, 25 mm² cable set (3 m) including fuse and main switch, short shaft version
1233-00	Cruise 4.0 RL	As part No. 1232-00, but with long shaft
1240-00	Cruise 10.0 RS	High-efficiency outboard, 20 HP equivalent. Includes connection to remote steering, throttle, integrated onboard computer with GPS-based range calculation, 70 mm² cable set (4.5 m) including fuse and main switch, plug connector, short shaft version
1241-00	Cruise 10.0 RL	As part No. 1240-00, but with long shaft
1242-00	Cruise 10.0 RXL	As part No. 1240-00, but with extra-long shaft
1243-00	Cruise 10.0 TS **NEW**	High-efficiency outboard, 20 HP equivalent. With tiller steering, integrated onboard computer with GPS-based range calculation, 70 mm² cable set (4.5 m) including fuse and main switch, plug connector, short shaft version
1244-00	Cruise 10.0 TL **NEW**	As part No. 1243-00, but with long shaft
1245-00	Cruise 10.0 TXL **NEW**	As part No. 1243-00, but with extra-long shaft
1250-00	Cruise 2.0 FP	High-efficiency pod motor (fixed position), 5-6 HP equivalent. Includes throttle, integrated onboard computer with GPS-based range calculation, 25 mm² cable set (3 m) including fuse, main switch and propeller
1251-00	Cruise 4.0 FP	High-efficiency pod motor, fixed position, 8-9.9 HP equivalent. Includes throttle, integrated onboard computer with GPS-based range calculation, 25 mm² cable set (3 m) including fuse, main switch and propeller

Part No.	*Product*	*Description*
1252-00	Cruise 10.0 FP	High-efficiency pod motor (fixed position), 20 HP equivalent. Includes throttle, integrated onboard computer with GPS-based range calculation, 70 mm² cable set (4.5 m) including fuse and main switch, plug connector and propeller
1253-00	Cruise 10.0 FP SD-Mount	As part No. 1252-00, specially for the mounting on a saildrive foundation
1217-00	Twin-Cruise control set	For twin motors based on Cruise 2.0 R, 4.0 R or 10.0 R models, consisting of aluminium dual throttle with dual information display and 56 cm tie bar
1905-00	Anode set Al Cruise 2.0/4.0 R/T/FP	Anode for operating 2.0/4.0 models with standard propeller (with part No. 1915-00, 1916-00, 1923-00, 1933-00, 1953-00). Attachment to motor shaft, made from aluminium, for use in fresh water
1939-00	Anode set Zn Cruise 2.0/4.0 R/T/FP	Anode for operating 2.0/4.0 models with standard propeller (with part No. 1915-00, 1916-00, 1923-00, 1933-00, 1953-00). Attachment to motor shaft, made from zinc, for use in salt water
1964-00	Anode set Al Cruise 2.0/4.0 FP	Anode set for Cruise 2.0/4.0 FP models with folding propeller (part No. 1932-00). Consists of 2 ring anodes for attachment to the propeller and 1 anode for attachment to the pylon, made from aluminium, for use in fresh water
1965-00	Anode set Zn Cruise 2.0/4.0 FP	As part No. 1964-00, but made from zinc, for use in salt water
1935-00	Anode set Al Cruise 10.0 R	Anode set made from aluminium for use with Cruise 10.0 R in fresh water, consists of 1 shaft anode, 2 half-ring anodes, 2 ring anodes
1936-00	Anode set Zn Cruise 10.0 R	As part No. 1935-00, but made from zinc, for use in salt water
1947-00	Anode set Al Cruise 10.0 FP	Anode set for Cruise 10.0 FP models with folding propeller (with part No. 1945-00). Consists of 2 anodes for attachment to the propeller, 2 ring anodes and 1 anode for attachment to the pylon, made from aluminium, for use in fresh water
1948-00	Anode set Zn Cruise 10.0 FP	As part No. 1947-00, but made from zinc, for use in salt water

Part No.	*Product*	*Description*
Power		
2106-00	Power 24-3500 ***NEW***	High-performance lithium battery, 3,475 Wh, rated voltage 25.2 V, weight 25.3 kg, with innovative battery management system including numerous protective functions, waterproof to IP67; includes: cable for communication with Cruise system
2104-00	Power 48-5000	High-performance lithium battery, 5,000 Wh, rated voltage 44.4 V, weight 37 kg, with innovative battery management system incl. safety functions; waterproof to IP67; includes: cable for communication with TQ- CAN
2213-00	Charger 750 W for Power 48-5000	Charge current 13 A, charges the Power 48-5000 from 0% to 100% in a maximum of 10 hours, waterproof IP65
2206-20	Charger 350 W for Power 24-3500 (Power 26-104)	Charge current 10 A, charges the Power 24-3500 (Power 26-104) from 0 to 100% in a maximum of 11 hours, waterproof to IP65
2210-00	Fast charger 1,700 W for Power 24-3500 (Power 26-104)	Charge current 60 A, charges the Power 24-3500 (Power 26-104) from 0 to 100% in < 2 hours, waterproof to IP65
2212-00	Fast charger 2900 W for Power 48-5000 ***NEW***	Charge current 50 A, charges the Power 48-5000 from 0 to 100% in < 2 hours, waterproof to IP65
2304-00	On/off switch for Power 24-3500 (Power 26-104)	Switch for activating/deactivating the Power 24-3500, IP65, with LED on/off status display; the on/off switch is required when the Power 24-3500 (Power 26-104) is used without a Cruise system
2215-00	On/off switch for Power 48-5000	Switch for activating/deactivating the Power 48-5000 in usage without a Torqeedo motor
1934-00	Spare cable bridges Cruise models	Cable set for connecting 2 additional Power 24-3500 (Power 26-104) to a battery bank; includes 1 series bridge cable, 40 cm, 35 mm² with post terminal connector, 4 parallel bridge cables, 40 cm, 35 mm² with ring terminal connectors and M12 nuts, 2 data cables, 1.5 m with waterproof data plug connectors
2207-00	Solar charge controller for Power 24-3500 (Power 26-104)	Enables the Power 24-3500 (Power 26-104) to be charged with solar energy. (Solar modules not included.) Integrated MPPT maximises the energy yield of the solar modules during charging, very high level of efficiency. Maximum output power 232 W (8 A, 29.05 V)
2211-00	Fast solar charge controller for Power 24-3500 (Power 26-104)	Enables the Power 24-3500 (Power 26-104) to be charged with solar energy. Solar modules not included. Integrated MPPT maximises the energy yield of the solar modules during charging, very high level of efficiency

Accessories

Extras

Part No.	Product	Description
1925-00	Travel bags (2-piece)	For transporting / storing Travel 503/1003/1103 models. Includes 2 bags – one bag for the motor (including tiller and accessories) and one bag for the battery.
1926-00	Travel battery bag	For transporting and storing Travel 503/1003/1103 batteries.
1931-00	Protective cover Travel	For Travel 503/1003/1103 Protects the motor cable from UV fading and the shaft head from dirt. Water-resistant and breathable
1924-00	TorqTrac	Smartphone app for Travel 503/1003/1103, Cruise T/R as well as Ultralight models. Allows larger display of the onboard computer showing range on map and with many other benefits. Requires a Bluetooth Low Energy®-capable smartphone

Charging equipment

1132-00	Sunfold 50	Foldable 50 W solar panel, convenient size, highly efficient, plug & play connections for waterproof charging of the Travel 503/1003 models and Ultralight 403 and 403 A/AC, only compatible with battery part No. 1146-00, 1147-00, 1148-00, 1416-00 and 1417-00
1133-00	Charger 90 W for Travel and Ultralight batteries	90 watt charger for electric sockets rated 100- 240 V and 50-60 Hz. For use only with batteries part No. 1146-00, 1147-00, 1148-00, 1416-00 and 1417-00
1127-00	Charger 40 W for Travel and Ultralight batteries	40 watt charger for electric sockets rated 100-240 V and 50-60 Hz. For use only with Travel 503/1003 and Ultralight 403 batteries
1128-00	12/24 V charger cable for Travel 503/1003/1103 and Ultralight 403	Allows the Travel 503/1003/1103 models and the Ultralight 403, 403 A/AC to be charged from a 12/24 V power source

Propellers and fins

1912-00	Spare propeller v10/p350	For Ultralight models 40, 403 and 403 A/AC (Ø 200 mm)
1972-00	Spare propeller v10/p1100	For Travel 1103 C, weedless
1973-00	Spare propeller v10/p1100	Standard propeller for Travel 1103 C
1917-00	Spare propeller v9/p790	For models Travel 1003 (C) and Travel 503 from 2014 (Ø 292 mm)
1915-00	Spare propeller v8/p350	For Cruise 2.0/4.0 models manufactured from 2009 onwards, slower speed, lower effectiveness, greater thrust (Ø 300 mm).
1916-00	Spare propeller v19/p4000	For Cruise 2.0/4.0 models manufactured from 2009 to 2016, faster, more effective, weedless (Ø 300 mm)
1923-00	Spare propeller v30/p4000	High-speed propeller for Cruise 2.0/4.0 R/T models manufactured from 2009 to 2016, for planing with light boats (Ø 320 mm)
1953-00	Spare propeller v30/p4000	High-speed propeller for Cruise 2.0/4.0 models manufactured from 2017 onwards, for planing with light boats (Ø 320 mm)
1954-00	Spare propeller v13/p4000	For Cruise 2.0/4.0 models manufactured from 2017 onwards, slower speed, greater thrust (Ø 300 mm)
1955-00	Spare propeller v20/p4000	For Cruise 2.0/4.0 models manufactured from 2017 onwards, faster, more efficient, weedless (Ø 300 mm)
1961-00	Spare propeller v22/p10k	For all Cruise 10.0 models, medium speed for planing and displacement
1962-00	Folding propeller v13/p4000	For use with Cruise 2.0/4.0 FP models on sailboats
1937-00	Spare propeller v15/p10k	For all Cruise 10.0 models, optimised for high thrust, weedless
1938-00	Spare propeller v32/p10k	Speed propeller for all Cruise 10.0 models, optimised for planing
1945-00	Folding propeller v15/p10k	For use with Cruise 10.0 FP model on sailboats
9145-00	Fin for Travel 503/1003 (C)	Protects the outboard when running aground
9234-00	Fin for Cruise R/T	Protects the outboard when running aground, for Cruise models with part No. 1209-00 to 1223-00
9258-00	Fin for Cruise R/T	Aluminium fin coated in polyurethane (PU) foam for Cruise models with part No. 1230-00 to 1237-00. Better protection when running aground
9259-00	Fin for Cruise 10.0 R	Protects the outboard when running aground

Cable, control, steering

1970-00	Ultralight Kayak bracket	Optimised kayak mount for Ultralight models 403. For part No. 1404-00 to 1407-00
1971-00	Ultralight mounting ball	Mounting ball for Ultralight models 403 A/AC. For part No. 1404-00 to 1407-00
1918-00	Throttle for Travel 503/1003/1103 (C) (Spare part for Cruise models, Ultralight 403)	Enables operation with throttle instead of tillers for models Travel 503/1003/1103, including integrated display with information on battery status, GPS-based speed and remaining range calculation, including 1.5 m and 5 m connecting cables between motor and throttle. Can also be used as a spare part for Cruise and Ultralight models

Part No.	*Product*	*Description*
1921-00	Cable extension for throttle, 1.5 m	Extension cable for Travel 503/1003/1103, Ultralight and Cruise models, allows a greater distance between throttle / tiller and motor
1922-00	Cable extension for throttle, 5 m	As part No. 1921-00, 5 m length
1949-00	Throttle Sail side mounting	Electronic throttle for sailboats, with on/off switch, emergency magnetic kill switch and 1.28" display
1950-00	Throttle side mounting	Electronic throttle for motorboats, with power trim and tilt, key switch, magnetic kill switch and 1.28" display
1951-00	Throttle top mounting	Electronic throttle, with power trim and tilt, key switch, magnetic kill switch and 1.28" display
1952-00	Dual throttle top mounting	Electronic throttle, with power trim and tilt, key switch, magnetic kill switch and 1.28" display
1956-00	Cable extension for throttle, 3 m	Extension cable for a longer distance between the components. Only for part No. 1949-00, 1950-00, 1951-00 and 1952-00. 3 m length
1957-00	Cable extension for throttle, 5 m	As part No.1956-00, 5 m length
1958-00	Cable extension for throttle, 0,5 m, angled-end	90° angled-end extension cable for rigging in tight spaces. Only for part No. 1949-00, 1950-00, 1951-00 and 1952-00. 0.5 m length
1919-00	Long tiller arm	60 cm tiller tube extension, for all Travel and Cruise T models
1920-00	Motor cable extension for Travel and Ultralight	Cable connection extension between battery and motor for the models Ultralight 403, 403 A/AC and Travel 503/1003/1103, allows a greater distance (2 m) between battery and motor, with waterproof plug connections
1204-00	Motor cable extension Cruise	Extension for Cruise cable set (between motor and battery), 2 m long, with plug connector
1914-00	Emergency magnetic kill switch	Emergency stop key and immobiliser for Travel, Cruise and Ultralight models
1927-00	Spare parts set Travel	Set for Travel consisting of emergency kill switch, battery attachment pin and steering fixing pin
1940-00	Cable bridges for AGM/gel batteries	Cable bridges for running Cruise 10.0 with AGM/gel batteries. Consists of: 4 cables, 40 cm, 35 mm² with post terminal connector
2217-00	Gateway-Set	Gateway from TQ-Can to TQ-Bus, On /Off switch for Power 48-5000, Extension cable TQ-Bus, 5m

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