

TORQUEEDO
STARNBERG.GERMANY

THE LEADER IN CLEAN OUTBOARDS

2013



CONTINUING OUR HISTORY OF BEING FIRST, HERE'S A NEW CHAPTER:

ONCE AGAIN, TORQEEDO IS PUSHING MARINE ELECTRIC MOBILITY'S BOUNDARIES.

DISCOVER DEEP BLUE. IT'S NOTHING LESS THAN THE DAWN OF A NEW ERA.

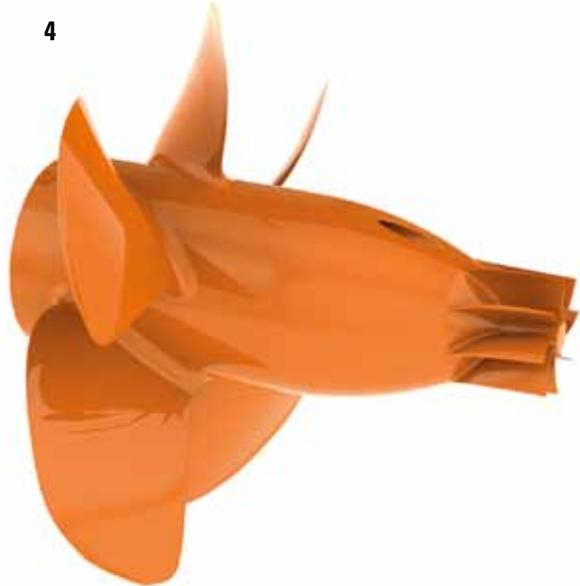


Just launched and already a winner:
Distinguished as the international boat industry's
most important innovation with the DAME Award.

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How to experience us even better:
Download a QR scanner to your smartphone and see more than just the catalogue.



SUPERIOR PROPULSIVE POWER AND OVERALL EFFICIENCY

ONE HP IS ONE HP. ISN'T IT?

Standardisation of power is nothing new. It goes back to James Watt who defined horsepower in the 18th Century to demonstrate the performance of his steam engine. Since then, it's been measured uniformly in HP or, in honour of its inventor, in Watts. And with that, everything should be clear, shouldn't it? Not completely! It depends where and what is being measured.

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

For petrol outboards and conventional electrical outboard motors the propulsive power is not normally quoted. Instead, other, less meaningful indicators are used, such as the shaft power, input power or even the static thrust.

That wouldn't be so bad if the differences between the various power ratings were minimal. But they aren't; they're very high. The propulsive power of a petrol outboard with 4 HP shaft power, for example, is just 1 HP. The differences between outboards related to their efficiency are enormous. We'll throw some light on them.

Input power: A drive's power consumption. Often used as a performance indicator for electric outboards (current x voltage) and can be expressed in Watts or HP. It can also be equally calculated for a petrol outboard (petrol flow rate x petrol energy content).

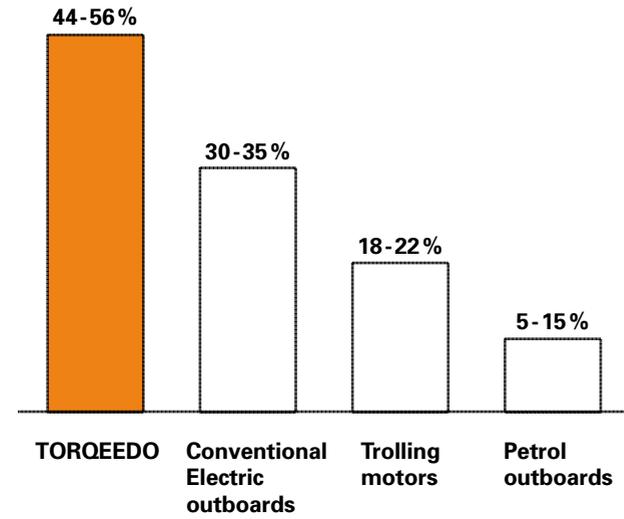
Shaft power: Power rating of petrol outboards, comparable with cars (torque x angular velocity). Is expressed in HP or kW. Doesn't take propeller losses into account, which can vary between 30% and 80%.



ADVANTAGE TORQEEDO

Our focus on optimising the input power and use of the newest technologies means Torqeedo has the highest overall efficiency on the market. That is, every Torqeedo drive converts the limited battery power to propulsive power better than every other outboard. Which is very important for electric drives because it means more power and range with limited battery capacity.

Overall efficiencies of various outboards



Propulsive power: Performance indicator used by commercial shipping and Torqeedo (thrust x speed). Is expressed in HP or kW. Takes all losses into account, including propeller losses and expresses the actual performance.



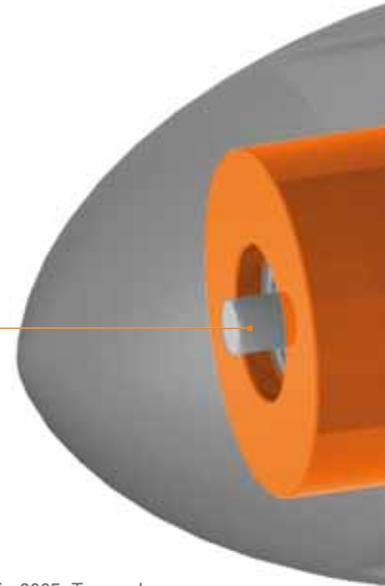
SUPERIOR DRIVE TRAIN ENGINEERING

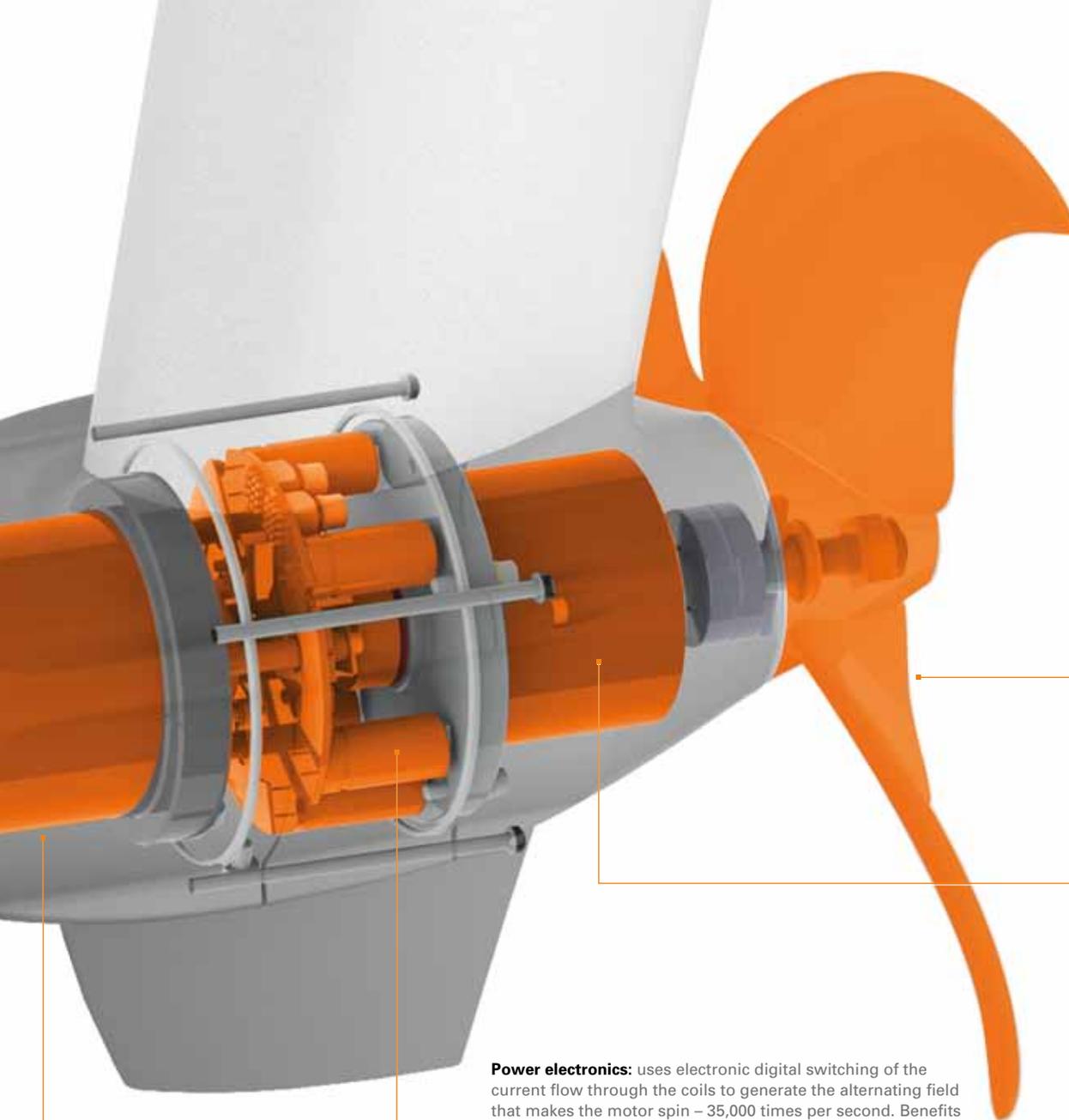
Superior propulsive power and overall efficiency don't just fall out of the sky. They come from in-house development that works uncompromisingly towards optimising propulsive power and overall efficiency. And using the newest technology for every component, carefully matching them with each other.

Brushless outrunner motor with rare earth magnets: since its founding in 2005, Torqeedo has only used brushless, electronically commutated motors. In conventional designs, the rotor is on the inside of the motor, surrounded by the stator; the magnets are on the inside and the coils that generate the alternating field are on the outside. Consequently, the magnetic field, where the torque is generated lies relatively far inside, so that this classic design typically produces low torque.

Torqeedo uses so-called outrunners, in which the stator with the coils lies on the inside. The magnets are mounted on the rotor, which is a bell rotating on the outside around the stator. Thanks to this design, the magnetic field that generates the torque can be moved further out, which means more torque – up to twice that of a conventional motor design. Because there is more area on the outside, twice as many magnets can be used. This doubles the torque again. Plus, by using rare-earth magnets, which have about 5 to 6 times the strength of regular hexaferrites, even more torque is generated.

Putting all these features together gives you motors with more than 20 times the torque of a conventional motor – something the propeller takes great advantage of.





Propeller design: according to conventional wisdom, there are three main characteristics of efficient propellers:

1. Large diameter
2. High pitch
3. Low rotational speed

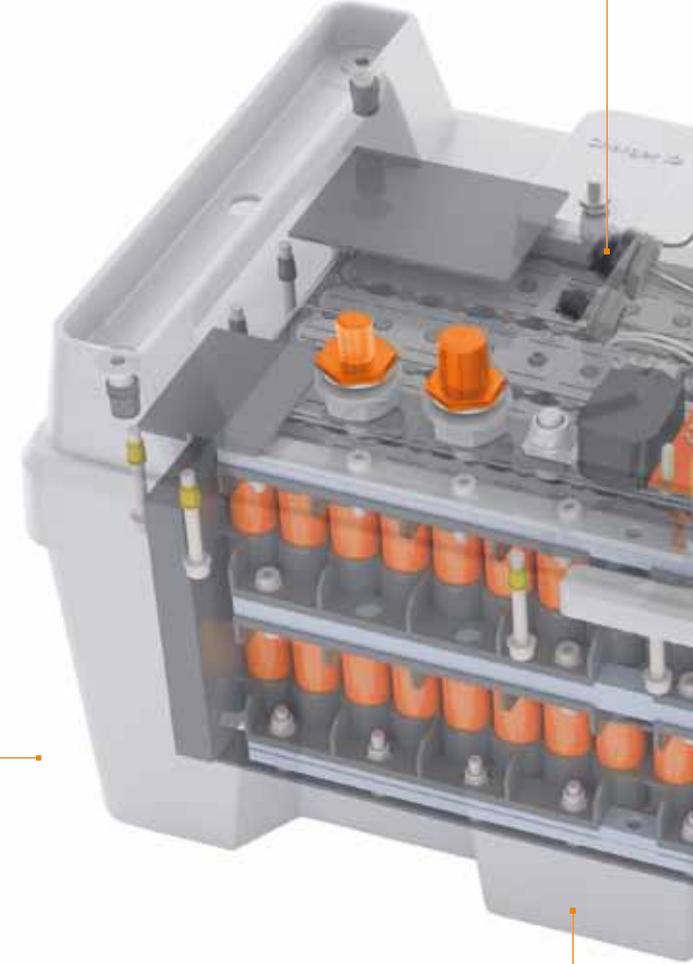
In other words, motors with high torque can turn efficient propellers; motors with low torque can't. This is why we place so much emphasis on superior torque.

But conventional propeller optimisation isn't everything. Many outboard propellers, especially in the low horsepower classes, have more or less a standard shape, because they are built according to general design principles that were developed based on test series from the 1940s to 1960s. Torqeedo propellers look different. Because they are calculated with the same methods (and by the same people) that are used to calculate propellers for the most advanced commercial ships and submarines. All propeller parameters – diameter, chord length, pitch, skew, rake, thickness and camber – are calculated in a multidimensional optimisation along all segments of the propeller, over many thousands of iteration steps.

Planetary gear: high quality, provides an additional increase in torque.

Power electronics: uses electronic digital switching of the current flow through the coils to generate the alternating field that makes the motor spin – 35,000 times per second. Benefits of this method: the leading angle of the alternating field is always matched ideally to the load and the speed, which makes it more efficient. And because there are no brushes, the typical efficiency losses they cause are avoided. Plus, while brushes need servicing, brushless motors are maintenance-free.

Waterproof connections: all connectors are waterproofed to IP 67 whether connected or not.



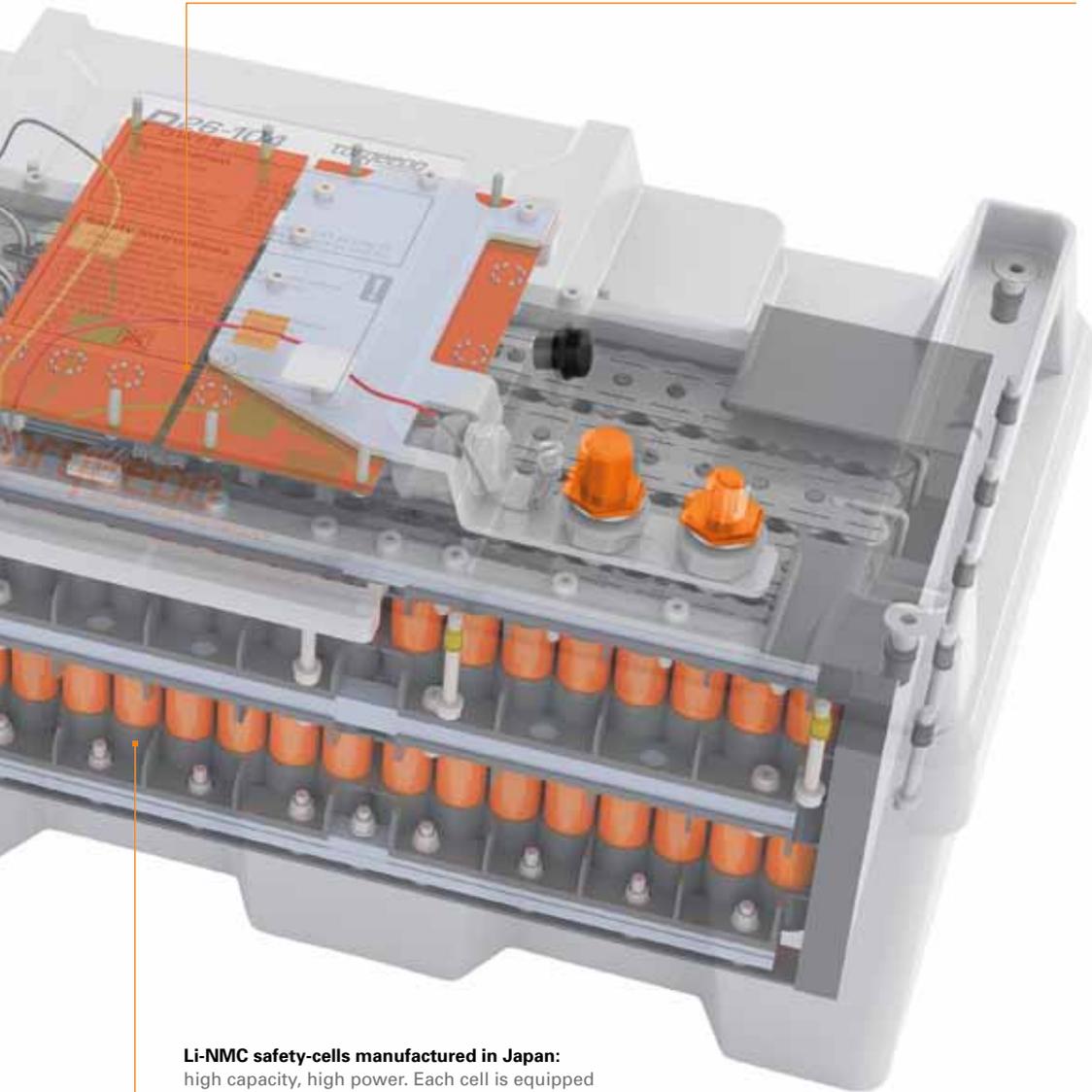
SUPERIOR BATTERY TECHNOLOGY

Lithium-based batteries are the technology of choice for electric mobility applications: they store significantly more energy than other batteries, they deliver their capacity even under high loads – a very important benefit for electric propulsion; they don't lose their charge, work in the cold and have no memory effect. Plus, they deliver more cycles.

For 7 years, Torqeedo has continually led the way in marine lithium battery development. Improving our batteries every year, we have created the most comprehensive protection and safety concept for marine lithium batteries on the market – bringing together performance, safety and comfort.

Waterproof housing to IP 67: even though submersing the battery should be avoided, all Torqeedo batteries are designed to withstand a submersion up to 1 m (3 ft) for at least 30 minutes without damage. Waterproofness of each battery is individually tested prior to delivery.

Battery management system (BMS) with redundant safety: all Torqeedo batteries are protected against overcharge, over-current (short-circuit current) and over-temperature. They are constructed according to a redundant safety principle: any component with a safety-critical function is backed up by a redundant component that duplicates the safety function. In addition, Torqeedo BMSs provide detailed information about the battery state. Featuring balancing, deep-discharge protection and deep-sleep modes, the batteries can be switched on or off for safe transport and installation and to prevent it being unintentionally discharged.



Li-NMC safety-cells manufactured in Japan: high capacity, high power. Each cell is equipped with 3 integrated hardware safety mechanisms.

LITHIUM BATTERY SAFETY

Along with performance, safety is a key requirement for lithium batteries. From our point of view, there are 4 requirements that a safe lithium battery must fulfill:

1. **Safe battery chemistry**, e.g. LiFePo or LiNMC. These are now commonplace.
2. **Safe packaging of individual cells:** Torqeedo uses only so-called safety cells, i.e. welded steel cylinders equipped with multiple safety mechanisms. Alternative packaging – foil-welded cells – offers a reduced safety standard because they don't provide effective protection against internal short circuits of the cells (exceptions are foil-welded cells with ceramic separators, which provide safe packaging but are very rare).
3. **Precise and clean production processes at the cell manufacturer level.** Torqeedo only uses cells produced by renowned manufacturers in Japan and USA.
4. **Battery-Management-System (BMS) with redundant safety:** unlike lead-based batteries, lithium batteries generally need a BMS to perform balancing and safety functions. If electronic components in the BMS fail, the BMS can itself become a safety problem. Which is why, with Torqeedo, all safety-relevant components are duplicated, the same way it is done in the automotive industry, air transport and medical technology.



On-off switch: allows the outboard to be switched on and off. After long periods without use, the battery will automatically go into deep-sleep mode to minimize power consumption.

Waterproof kill-switch: Stops the motor immediately if pulled. As it works magnetically it does not compromise watertightness.

Waterproof connections: power-control data from the tiller is transmitted into the control box via a magnet and a sensor. No holes are necessary in the control box: waterproof design made simple.



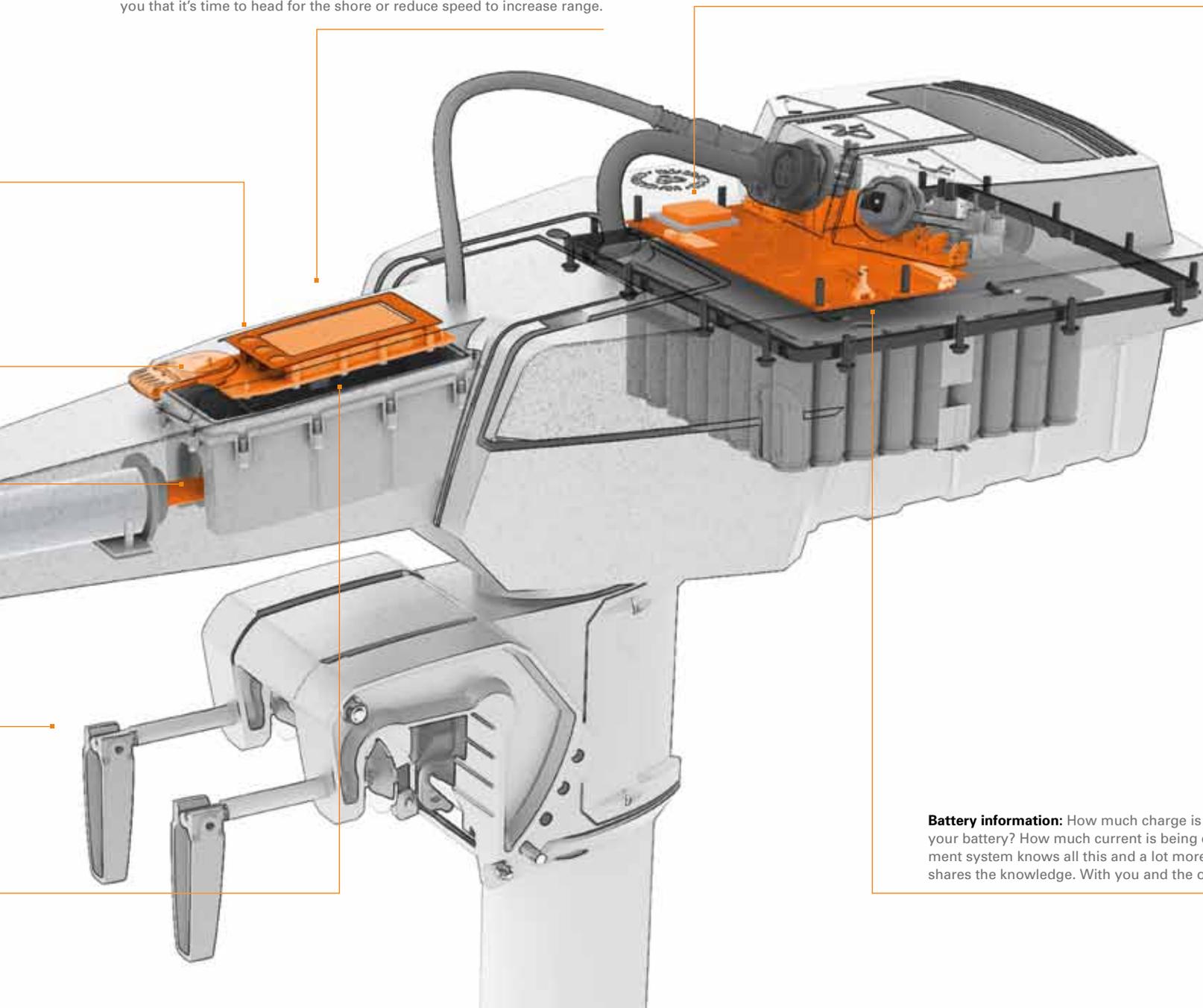
SUPERIOR CONVENIENCE

Performance is best enjoyed when it's combined with convenience. Making electric mobility products convenient is gratifying because all the system information is available digitally and can be made easily available for the user. Motors and batteries can be switched on and off simply at the push of a button. Products and components can be designed to be fully waterproof, and products can be simply and cleanly handled and transported.

Info display: provides information on battery charge status, speed over ground, power consumption and remaining range. The units displayed can be selected according to your preference (nautical, metric, imperial).

Audible alarm: as it should be. The battery management system warns you when the battery charge is getting low with an audible alarm. Reminding you that it's time to head for the shore or reduce speed to increase range.

Integrated GPS: part of the battery electronics. GPS data is fed into the outboard's information system for the calculation of remaining range.



Battery information: How much charge is left in the battery? How warm is your battery? How much current is being delivered? Your battery management system knows all this and a lot more besides. And the best thing is, it shares the knowledge. With you and the other components in the system.



DEEP BLUE

**FOR COMMERCIAL OPERATORS
AND GREEN BOATERS**

NEW

“ ... an exceptional example of groundbreaking research and development – one which will bring great benefits to both the users and builders of marine craft [...] a revolutionary integrated propulsion system that is striking in its styling and highly notable for its innovation [...] It also promises to provide a cleaner, quieter and more economical boating experience for many people in the years to come.”

DAME Award Jury Report

“Torqeedo’s new high powered electric outboard could easily become a ‘game changer’ in the recreational marine industry. Hats off to Torqeedo for bringing us such an exciting new option.”

Soundings Trade Only (USA)

It’s time for a new chapter in the history of boat drives. With Deep Blue, this chapter has been started.

Powerful electric drives, using only high-tech components, industrially developed and manufactured, independent from the world’s oil resources and the market price of petrol. Clean for the water and the air. Driven with regenerative energy and therefore operable in the most remote places of the world.

And the best part? We’re not talking about a vision that might be interesting at some time in

the future. We’re talking about now; a product that makes sense today. Because it’s economically viable for frequent users. For boat owners on green lakes on which the use of petrol engines is restricted or banned, it means a leap into a new class of performance without costing a fortune.

The fact that the drives set new standards in terms of convenience, efficiency and safety is more or less a given. It wouldn’t be a Torqeedo otherwise.



DEEP BLUE *NEW*

Being first.

What do you do when you build the first product in its class, for which there are no standards? You set them! And with the first industrially developed and manufactured electric outboard for higher performance classes, that's exactly what we've done.

12 V Battery (not shown): provides the power needed to switch the high-voltage battery back on after it's been powered down. Supplies 12 V for the on-board network and is automatically charged from the high voltage battery.

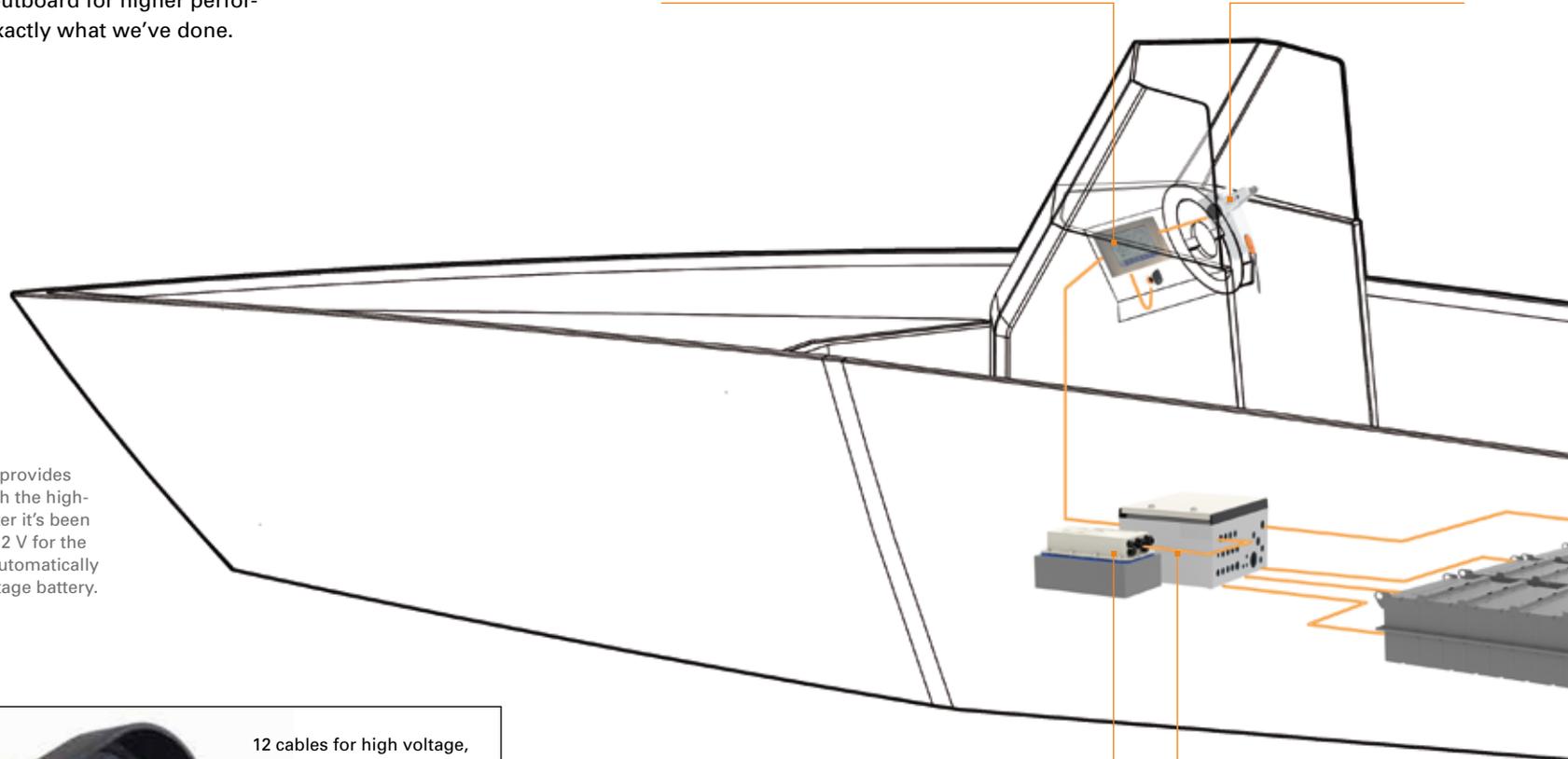


On-board computer and touchscreen Display:

5.7" with 14 different screens. As with all Torqeedo drives, information about GPS-based range, speed over ground, battery charge status, etc. is available. In addition, Deep Blue's on-board computer can include different destinations and provide range, distance and arrival time information for them. The direction of the destination is even shown in the built-in compass.

Electronic remote throttle:

With Power-Trim-and-Tilt (PTT) function, including neutral lock, and "kill switch".



Charger: From the automotive industry. As with all components, waterproof to IP 67. Charging capacity can be controlled via the display.

Connection Box: Deep Blue's nerve centre. All electrical and signal cables are brought together here. Provides connection for 2-4 batteries. Contains hardware-based safety system. Waterproof to IP 67 with water sensor.

High-voltage battery: With its roots coming from the automotive industry, the battery has been adapted to operate in the rigorous marine environment and is waterproof rated to IP 67. It's completely integrated into the Deep Blue information and safety system. Implemented as a floating earth with integrated isolation monitor and shielded cables. This combination ensures proper protection against electric shock and is also found in advanced electric cars. Cells implemented as safety cells, each with several hardware safety mechanisms. Battery management system with additional protection and balancing functions for safeguarding the service life.

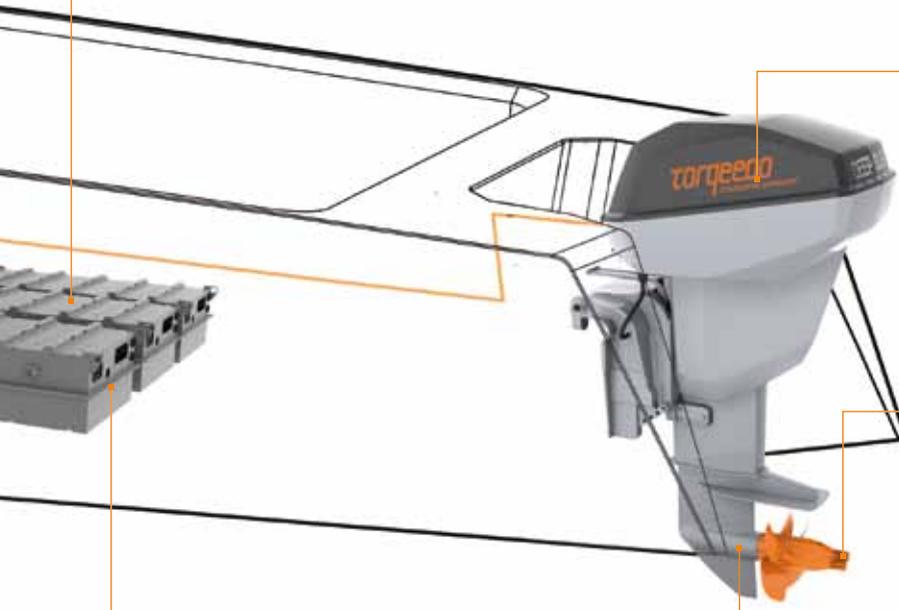
Pilot Line (not shown): All Deep Blue components are attached to a Pilot Line. If a safety-related problem occurs in one component, all other components are immediately switched off.

Motor and motor electronics: Specially developed for the requirements of the Deep Blue vector-controlled brushless motor. Highest efficiency (98%). Suitable for salt water cooling. Waterproof to IP 67. With CAN interface NMEA2000 / J1939.

Propeller with Hub-Vortex-Vane (HVV): First of all, there's the propeller; as with all Torqeedo drives, specially calculated using methods from commercial ships. But this time, we've taken it a step further: Hub-Vortex-Vanes are also derived from commercial ship technology used by only some of the most modern ships. Amongst others, submarines in the German navy. With Deep Blue, Torqeedo is the first company in the boat industry to introduce this technology. The HVV geometry ensures that the propeller hub doesn't primarily create turbulence and losses but additional thrust. Here, the propeller geometry and hub cover are tuned to each other and a mini propeller is added at the end of the hub. Actually quite simple. When you come to think of it.

Gearbox: Perfectly matched to fit Deep Blue's requirements. Low maintenance.

Venting-breathing-seal-combination (VBSC): Combined ventilation and breathing seal – waterproof, of course. One component permits slow exchange of air through a membrane to compensate for changes in temperature and prevent the formation of moisture internally within the battery. The second component permits rapid removal of gases in the unlikely event that the hardware protection trips and a cell discharges. In this case, the gases produced are led out of the boat via a tube into the air so that there is no danger for the occupants.



FLAT FEE BOATING – ECONOMICAL ELECTRIC MOBILITY FOR COMMERCIAL AND FREQUENT USERS

The most significant cost item with the Deep Blue drive system is the battery bank. Thanks to the cooperation between Torqeedo and Johnson Controls, the capacity is warranted for 9 years. You can be sure that, after 9 years of use, the battery will still retain 80% of the original capacity. Even if you use it every day.

Are your petrol costs higher than 4,642 Euros per year? If they are, it's worth checking whether switching to electric motors would meet your speed and range requirements. It might be worth making the change to electric mobility today. In doing so, you're protecting yourself from the increases in petrol price that can be expected for many years. Plus, you're setting an example for ecological sensibility, for consideration of nature and for the future of clean mobility.



Zodiac SRMN 600
with Deep Blue

DEEP BLUE PRICING

OUTBOARD SYSTEM PRICE IN EUR (without batteries)	17,999
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BATTERY AND OPERATING COST

BATTERY COST			
Number of batteries	2	3	4
Capacity in kWh	26	39	52
Total battery bank cost EUR	29,800	44,700	59,600
Total cost per year in EUR*	3,840	5,760	7,680

ELECTRICITY COST

Cost per kWh in EUR**	0.257	0.257	0.257
Single charge (80%) in EUR	5.76	8.64	11.51
150 charges per year (80%) in EUR	802	1,203	1,604
200 charges per year (80%) in EUR	1,069	1,604	2,138
Total battery and operating cost per year of 150 days usage in EUR	4,642	6,963	9,284
Total battery and operating cost per year of 200 days usage in EUR	4,909	7,364	9,818

* Assuming a financing with annual percentage rate of 5%

** German cost-level. Most other countries with significantly lower electricity cost:
e.g. France -50%, UK -40%, USA -65%

FINALLY, AN INDUSTRIALLY DEVELOPED HIGH-PERFORMANCE DRIVE FOR GREEN LAKES

There are many waters around the world where the use of petrol engines is limited or forbidden, for example because they supply drinking water, for noise abatement reasons or because the water has to be protected for other reasons.

Creating an industrially developed and manufactured high-performance drive even for these waters was one of the goals of Deep Blue's development.

Many years of development work at the highest level, substantial investment in tooling, tests and manufacturing as well as integrating hand-picked partners from a global network clearly set Deep Blue apart from the available solutions in this market.

In terms of engineering, cost-effectiveness, convenience and safety, Deep Blue is simply a class apart.



Watch the video



TECHNICAL INFORMATION

OUTBOARD	
Input power	55 kW / 75 HP
Propulsive power	29.7 kW / 40.5 HP
Comparable petrol outboard	58 kW / 80 HP
Overall efficiency	54%
Weight	125 kg
Shaft length	20" (510 mm)
BATTERY	
Capacity	13 kWh
Charge	40 Ah
Nominal voltage	345 V
Weight	149 kg (328 lbs)
TOTAL SYSTEM WEIGHT	
With 2 batteries	463 kg (1,021 lbs)
With 3 batteries	608 kg (1,340 lbs)
With 4 batteries	753 kg (1,660 lbs)

DEEP BLUE with 3 batteries

on a Rivers and Tides, model Palena 6.2, 500 kg

	Speed in km/h	Range in km	Running time in hours
Slow speed	9	117.0	13:00
Half speed	20	41.1	2:03
Full power	50	35.5	0:42

NOT ONLY A CAR BATTERY ANY MORE: COOPERATION BETWEEN TORQEEDO & JOHNSON CONTROLS

The development and production of batteries for electric mobility in the automotive industry requires immense investments. Johnson Controls is one of the market leaders in the field and has been first in the world to produce Lithium-Ion batteries for hybrid vehicles in mass production. As a result of cooperation between Torqeedo and Johnson Controls, the batteries from serial automotive production can, for

the first time, be used in the boat industry. On behalf of Torqeedo, and to our specification, Johnson Controls has further developed the automotive batteries for use in boats. The result is a battery that raises lithium battery performance in the boat industry to a new level. Automotive industry battery technology and safety standards, together with a 9-year 80% capacity guarantee.



GROUNDBREAKING CONVENIENCE: THE DEEP BLUE TOUCHSCREEN ON-BOARD COMPUTER

Touchscreen-Display



Main screen: Providing information on speed, power consumption, battery charge status, trip logging, remaining range and distance from home, i.e. a set start/destination point.



Navigation screen: Distributing information about position, course and range. Inclusion and display of direction, distance from, and arrival time at different destinations. In addition to home, three destinations can be entered.

Other screens: Conveying information about battery life and detailed technical information with regard to the motor, battery and charger, indicators for system status, error messages in plain English as well as setting options for various languages and units.

WHICH BOATS CAN BE USED WITH DEEP BLUE?

As a high-voltage drive, Deep Blue can only be installed by trained specialists. Therefore, sales at the beginning will be exclusively via boat manufacturers. A list of boat manufacturers who offer Deep Blue can be found at www.torqueedo.com. Types of boat planned include RIBs, centre console boats, leisure boats for central European lakes, pontoon and transport boats. The number of boat manufacturers will initially be low because of the intensive technical cooperation necessary.

TRAVEL 503 / 1003

FOR TENDERS, DINGHIES AND DAYSAILERS UP TO 1.5 TONS



“A class of its own in speed and thrust ...!”

Yachtrevue (Austria)

As a 3 HP equivalent with integrated lithium battery, the Travel 1003 is ahead of all in its class. And not just because it's more efficient and has a higher maximum range than petrol outboards in its performance class, but because it's quieter, lighter, easier to use and environmentally friendlier.

Without its lithium battery, the short-shaft version of this easily-managed electric drive weighs just 9 kg. Which, as far as handling goes, is well under the comparable petrol outboards that can easily tip the scales at 17 kg, even with an empty tank. Add the battery in a couple of simple steps and, with a total weight of 14 kg, the Travel is still a lightweight.

No tugging to start it, no loud engine roar, no exhaust gases – Travel starts simply at the touch of a button and you're off. Infinitely variable forward and reverse drive means it can be simply manoeuvred and ensures pure relaxation on board when casting off or berthing. Unlike all other petrol engines, it's completely waterproof to IP 67.

And even at full power, you can talk completely normally on board. When you're storing or transporting it, you don't need to worry about greasy marks or the smell of petrol in the car.

The Travel 1003 drives tenders, dinghies and daysailers up to 1.5 tons effortlessly and – when it counts – really far. The tiller display, with its integrated GPS receiver provides a constant overview of how fast you're travelling and remaining range. If you've drained the lithium battery, simply recharge it with shore power or the 12V on-board system. And to do so, you don't need to dismount the entire motor; it's enough to unplug the battery and carry it to the power source. Or not even that: with our solar charger you can even charge the battery while you are underway. All in all, the Travel is an all round clean machine. And, by the way, that's not the only reason it was awarded “Green Product of the Year” for the second time in 2012.

A very distinguished outboard indeed.



TRAVEL 503/1003

key features:

- does everything that a 1.5/3 HP petrol outboard can, plus it's environmentally friendlier, quieter, lighter and more convenient
- can be easily dismantled for transport and space-saving storage. Handling weight of motor alone is just 9 kg!
- completely waterproof (IP 67)
- on-board computer with GPS-based calculation of remaining range
- solar rechargeable – including during the voyage
- a clean affair: no matter how or where you store your Travel, there's no risk that anything will leak out and no smell of petrol
- instead of a tiller, a remote throttle can optionally be connected

TRAVEL 503 with integrated battery (29.6 V / 11 Ah)

Tenders, dinghies, yachts up to 750 kg

	Speed in knots	Range in nm	Run time in hours
Slow speed	1.5 - 2.0	9.6 - 12.8	6:20
Half throttle	2.5 - 3.0	5.3 - 6.4	2:08
Full throttle	3.6 - 4.0	2.6 - 2.8	0:42

TRAVEL 1003 with integrated battery (29.6 V / 18 Ah)

Tenders, dinghies, daysailers up to 1.5 tons

	Speed in knots	Range in nm	Run time in hours
Slow speed	1.5 - 2.0	15.0 - 20.0	10:30
Half throttle	2.5 - 3.0	8.5 - 10.5	3:30
Full throttle	4.5 - 5.0	2.5 - 2.8	0:35

Tiller display – provides information about:

85	Battery charge status
113	Remaining range
45	Speed over ground
273	Input power

Audible alarm countdown: as soon as the remaining battery charge reaches 30%, 20% and 10% a warning signal is given

High performance lithium battery with integrated GPS

Solar charging possible – even when underway on the water

Motor with highest efficiency for superior performance and range



Which Travel for which boat?

Both models are suitable for inflatables and other small boats. For sailboats, we recommend the Travel 503 for boats up to 750 kg. The Travel 1003 easily propels up to 1.5 tons. Both models consume comparable levels of energy at the same speed. The Travel 1003 has a higher maximum power and offers over 60% more battery capacity, providing longer range. Both models are available in long and short shaft versions.

Battery charging:

From fully discharged, charging with the charger provided takes approximately 9 hours (Travel 503) and 15 hours (Travel 1003).

Lithium battery life expectancy:

The life of a lithium battery is barely affected by charging cycles. It has no memory effect. Therefore, the battery can be fully recharged after every trip, regardless of the charge status shown on the display. Generally, a loss of capacity of 4% per year can be expected. Ageing is accelerated if the battery is exposed to high temperatures for long periods while fully charged.

Our recommendation: the battery can be used in very hot conditions, but should be stored in a cool place away from the sun when not in use. 8 years after date of production, your battery needs to be inspected by a service center.

Integrated battery specifications:

The Travel 503 battery has a capacity of 320 Wh and the Travel 1003 provides 520 Wh. For the Travel 503, this gives a rating of 11 Ah at 29.6 V and the Travel 1003, 18 Ah at 29.6 V

Solar charging:

The batteries of the Travel 503 and 1003 models can be charged by a solar charger, even when the motor is in use on the water. The battery is compatible with solar chargers with voltages between 24 and 60 V and a maximum charging current of up to 4 A. The simplest solution is to charge via our 45 W Solar panel – pages 28/29.

Charging from the on-board power supply:

To charge the battery from an on-board power supply, an inverter is required to convert the voltage to between 100 and 240 V (standard power outlet voltages that can vary from country to country). High-efficiency inverters are available commercially at low cost.

Safety:

The motor only runs when the magnetic key is placed in position on the throttle and stops immediately when removed. For safety reasons, the magnetic key should be attached to the wrist or the life vest.

Temperature protection:

In warmer climates, you may experience a reduction in power after 15-30 minutes running at full throttle. This is not a defect, but the integrated temperature protection mode that ensures that the battery does not reach extreme temperatures. Temperature protection mode is indicated by a thermometer in the display.

Limited warranty: 2 years

Watch the video

Accessories



Spare battery,
Travel 503 (320 Wh)



Spare battery,
Travel 1003/503 (520 Wh)



Solar panel 45 W



Remote throttle (incl.
1.5 m and 5 m connect-
ing cable)



Throttle cable extension,
Travel, Ultralight and
Cruise, 1.5 m/5 m



Motor cable extension,
Travel and Ultralight



Charger for spare
battery, Travel and
Ultralight



Long tiller arm



Spare propeller v8/p350
(for Travel 503)



Spare propeller v9/p790
(for Travel 1003)



CRUISE 2.0/4.0

FOR MOTORBOATS ON "GREEN LAKES"
AND SAILBOATS UP TO 4 TONS



“ Though Torqeedo has been recognized here before for it’s achievements in the realm of electric propulsion, the company has never been content to rest on it’s laurels. The latest Generation of Torqeedo Cruise 2.0 and 4.0 motors takes portable electric propulsion to a whole new level.”

Sail Magazine, USA

These powerhouses pack unmatched efficiency that takes you further, further and even further over water – further than any other electric outboard. That’s just as valid for a single Cruise as for twin motors. What the Twin Cruise manages even faster, however, is getting on the plane. And the best thing? Literally flying across the water with our Cruise outboards; even with the motors at full throttle, it remains so comfortably quiet on board that you can talk completely normally.

As a high-end outboard, the Cruise models offer not just high speed, tremendous range and superior efficiency, but also every other feature that makes Torqeedo drives so unique. For example, the on-board computer with integrated GPS that continuously informs you about the battery status, remaining range, speed over ground and input power. It’s simply a great feeling, always knowing how far you can travel at the current speed – and how much further if you reduce the speed.

Cruise motors are completely waterproofed to IP 67. That’s also true, by the way, for our batteries, Power 26-104, high performance lithium batteries that we strongly recommend as the energy provider on board. Especially as Cruise Outboards and Power batteries connect with an electronic handshake allowing communication between the high-tech components, showing you on the remote throttle display when the battery has something to report. That doesn’t function with any other battery.

Like all other Torqeedos, the Cruise outboards are the lightest in their performance class. 16 kg for a Cruise 2.0 R up to 19.2 kg for a Cruise 4.0 T – which makes it very easy for you when it comes to transport and assembly on board. And it’s even more relaxed thanks to the included plug and go cable: just connect it to the battery. Finished. Go!

Enjoy a relaxing time on the water – come on, let’s Cruise!



CRUISE 2.0/4.0

key features:

- more power per watt: superior overall efficiency, more range from a limited battery supply than any other outboard
- minimum weight, maximum power
- the Twin Cruise combines higher speed and greater range for electric planing boats and gets larger boats moving efficiently
- integrated display with information about battery status, GPS-based speed and remaining range
- completely waterproof (IP 67)

CRUISE 2.0 with 2 x 12 V / 200 Ah AGM batteries (Battery weight approx. 120 kg, can also be powered by a Power 26-104)

Dinghies and yachts up to 3 tons

	Speed in km/h	Range in km	Run time in hours
Slow speed	approx. 2.5	approx. 275	110:00
Half throttle	approx. 5.0	approx. 80	16:00
Full throttle	9.2 - 12	18.5 - 24.1	2:00

CRUISE 4.0 with 2 x Power 26-104 (battery weight 50 kg; can also be powered by 4 AGM batteries)

Motor boats and sailboats up to 4 tons

	Speed in knots	Range in nm	Run time in hours
Slow speed	approx. 3.0	approx. 24.0	8:00
Half throttle	approx. 4.5	approx. 13.5	3:00
Full throttle	6.0 - 12.0*	7.0 - 13.0*	1:10

* Top speeds are planing speeds for light boats



Which Cruise for which boat?

Both models are suitable for inflatables and other small boats. For dinghies and sailboats up to 3 tons, we recommend the Cruise 2.0; the Cruise 4.0 easily propels up to 4 tons.

Battery supply:

The **Cruise 2.0 R/T** requires a battery voltage of 24 V. It can be powered by a Power 26-104. In this case, the battery bank weighs only 25 kg. Alternatively, it can be powered by at least 2 lead-gel or AGM batteries. In this case, we recommend a battery capacity of at least 180 Ah. Because lead-gel and AGM batteries can't supply higher currents very well, the battery bank capacity should have several reserves ready.

The **Cruise 4.0 R/T** requires a battery voltage of 48 V. It can be powered by two Power 26-104. In this case, the battery bank weighs only 50 kg. Alternatively, it can be powered by at least 4 lead-gel or AGM batteries. In this case, we recommend a battery capacity of at least 180 Ah for the reasons given above.

The **Twin Cruise 2.0R** requires a battery voltage of 2 x 24 V (24 V for each motor), i.e. two Power 26-104 (one battery per outboard). In this case, the battery bank weighs approx. 50 kg. Alternatively, it can be powered by at least 4 lead-gel or AGM batteries. In this case, we recommend a battery capacity of at least 180 Ah (for each motor).

The **Twin Cruise 4.0R** requires a battery voltage of 2 x 48 V (48 V for each motor). It can be powered by four Power 26-104 (2 for each outboard). In this case, the battery bank weighs approx. 100 kg. Alternatively, it can be powered by at least 8 lead-gel or AGM batteries – which weigh, however, 480 kg.

On-board computer:

The on-board computer integrated in the throttle/tiller analyses and combines information from the motor, batteries and the GPS. The motor consumption and GPS speed data are always precise. The battery information is equally precise when the Cruise is powered by the Power 26-104 because both products communicate with each other. If the Cruise is powered by other batteries, the battery charge and remaining range indicators rely on estimates derived from the battery information entered in the system's set-up menu during initial installation.

Twin Cruise – Usage of two Cruise R models:

A Twin Cruise outboard system consists of two Standard Cruise models (2.0R or 4.0R) as well as the Twin Cruise Control Set, which consists of a dual throttle and a connection bar for linking two Cruise outboards to the same standard steering system.

Standard installation with the Twin Cruise Control Set requires minimum transom width of 76 cm (the length of the tie bar for connecting two motors is 56 cm and included in delivery).

Limited warranty: 2 years

CRUISE 0.8

When long running times are more important than power. For special applications – rental, training, etc. – the Cruise is available in a reduced-power variant. Please contact info@torqeedo.com for more information.



Watch the video

Accessories



Power 26-104



Charger 350 W for Power 26-104



Throttle cable extension, Travel, Ultralight, Cruise T and Cruise R, 1.5 m/5 m



Motor cable extension Cruise models



Replacement propeller v19/p4000 (fast, efficient, weedless)



Replacement propeller v35/p4000 (for high speed applications)



Replacement propeller v8/p350 (not as fast or efficient, but more thrust)



Twin Cruise Extension Set (requires 2 Cruise R)



Tiller extension for Cruise T



Cruise T for tiller steering and control



POWER 26-104

HIGH-END POWER SUPPLY
FOR CRUISE OUTBOARDS AND
MANY OTHER USES

“Lithium batteries are the technology of choice when it comes to providing more energy from smaller, lighter battery banks. Now the leader in electric outboards, Torqeedo, sets new standards with its innovative Power 26-104 lithium manganese battery.”

navagear.com (USA)

A handy high-tech package of superlatives: the Power 26-104. First, like all lithium batteries, it naturally saves space and weight. Depending on the application, between 60 and 80%. What sets the Power 26-104 apart from all the other lithium batteries on the market is its comprehensive, integrated protection and safety concept: it's characterised by its breadth, protecting effectively against water, against deep discharge, against overloading, against short circuit, against submersion, etc. At the same time, it's characterised by its depth: because the Battery Management System's electronic components can, themselves, be a safety problem in the event of a failure, all the Power 26-104's safety-related components are duplicated – in the way they are in the automotive industry, air transport and medical technology.

Given the large amount of information processed by the Battery Management System, it's clear that this information can be communicated over a data bus. That's particularly easy with the interplay with the Cruise outboards. Following an automatic “electronic handshake” between outboard and battery, all Torqeedo components know what they are connected to, and information about charge and operational condition can be simply read without any significant configuration effort.

Measured by everything the Power 26-104 can do, you can only wonder about the price: 0.93 Euro per Watt hour. The way we understand it, that's unique for a branded lithium battery – anywhere in the world.



POWER 26-104

key features:

- Plenty of power for low weight and volume
- Superior safety, amongst others, thanks to a redundant safety management system
- High convenience thanks to outstanding intelligence
- Very good price-performance ratio

Communication dataports: e.g. for communication with the Cruise outboard's on-board computer. Torqeedo components recognise each other through an "electronic handshake".

Water sensor: knows when the battery is submerged and, in such circumstances, automatically switches the voltage off at the poles. It might sound theoretical, but it prohibits the formation of explosive gas in serious situations and thereby averts the potential of real danger.



Voltage can be switched on and off: Isolatable poles for safe transport and installation. And also for convenience: switching off prevents the battery from being unintentionally discharged.

Battery management system (BMS) with redundant safety and numerous protection functions: protects against short circuits, overloading, deep discharging, reverse polarity, cell and electronic overheating, etc. In addition, it also protects the battery from itself. Because, if a safety-related component fails, a BMS can, itself, become a potential hazard for the battery. Therefore, with the Power 26-104 all safety-related functions are doubled. We go so far that a pyro fuse can physically separate the battery's power lines in dangerous situations. A method we borrowed from airbag technology. That the BMS has a balancing functionality, an information system and electronic identification is a given.

Lithium battery cells: Selected battery cells, exclusively from fully-automated Japanese production. Safety cells are used exclusively, i.e. individual battery cells have welded steel cylinders equipped with multiple hardware safety mechanisms.

Accessories



Charger 350 W for Power 26-104



On/off switch, Power 26-104 (necessary when Power runs without Cruise models)

Technical Data		
General characteristics		
Capacity	2,685 Wh	
Nominal voltage	25.9 V	
Final charging voltage	29.05 V	
Final discharging voltage	21.0 V	
Nominal charge	104 Ah	
Maximum discharge rate (A)	180 A	Safety function, not a starter battery
Maximum discharge rate (W)	4,500 W	
Weight	24.3 kg	
Dimensions	577.5 x 218.5 x 253.5 mm	
Volume	32 l	
Battery chemistry	Li NMC	
Benchmark information		
Energy density (Weight)	110 Wh/kg	
Energy density (Volume)	84 Wh/l	
Price-performance ratio	0.93 EUR/Wh	
Power density (Weight)	185 W/kg	
Power density (Volume)	141 W/l	
Lifetime data		
Cycle lifetime	800 cycles at 100% deep discharge at 25 °C	results in ca. 25% capacity loss
Average capacity loss per year	Ca. 4% at 25 °C ambient temperature	
Usage information		
Cell operating temperature	-20° to +60 °C	Battery protects itself
Cell charging temperature	0° to +55 °C	Battery protects itself
Storage temperature	-30° to +55 °C	
Typical storage time at 50% SOC	1 year	
Max. Connections	2S8P or 1S16P	for larger battery banks refer to Torqeedo
Max. quick charge	100 A	Charging time < 1.2 hours
Protection class	IP 67	Waterproof, can be submerged up to 1 meter for 30 minutes without damage

Battery composition		
Number of cells	336	
Cell housing	Steel cylinder safety cell	
Capacity per cell	2.25 Ah	
Nominal voltage per cell	3.7 V	
Cell connection	7s48p	
Battery management system and safety		
On-Off switch	Yes	
Cell-Balancing	Yes	Increases the lifetime of the battery
High current and short circuit protection	Yes	4 level safety cut-off mechanism to protect against short circuit and overcurrent
Deep discharge protection	Yes, Cutoff at < 2.7 V per cell, Charge protection at < 2 V per cell	
Protection against incorrect charging	Yes	3 protection levels against overcharging
Protection against wrong polarity connection	Yes	
Individual cell voltage monitoring	Yes	
Current Interruption Device for each cell	Yes	
Safety vent for each cell	Yes	
Poly switch for each cell	Yes	
Cell temperature monitoring	Yes	
PCB temperature monitoring	Yes	
Automatic shutdown in case of submersion	Yes	
Information system		
Interface	RS485	
Electronic battery identification	Yes	Important for connection of multiple batteries into battery banks
Data logging	Yes	Important for warranty information

ULTRALIGHT 403

FOR KAYAKS AND VERY LIGHT BOATS



“ The Torqeedo Ultralight 403 is a marvelous kayak fishing tool. I have been using the unit for a couple years on a variety of kayaks. My favorite part is the light weight battery. I also love the onboard control display. With a conventional electric kayak system I was always guessing how much reserve I had. With the Torqeedo I know exactly what’s left in the tank. I’ve used the motor on local lakes and rivers as well as the open ocean. Fishing bridges and jetties has been so much more effective with it. I’m thrilled with the unit.”

The Kayak Fishing Magazine

The small Ultralight is easy to handle, easy to take with you, easy to mount. And makes paddling really easy when, for example, it’s against the current. Or against the wind. Or the arms are tired. Or the day is too long.

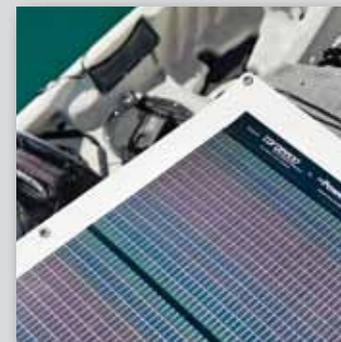
And it is light. Ultralight! At just over seven kilos including battery, weight is of little consequence for the smallest and lightest of our drives. When you don’t need it, simply pull it out of the water and paddle as usual. Until you don’t want to any more. Or can’t. Then it will be only too happy to show what it’s got in it: 320 Wh battery capacity, for example, that delivers up to 42 km range – thanks to the drives superior efficiency. And you can reach 10 km/h if you open the throttle. The integrated on-board computer with GPS lets you know what you need to know via the remote throttle display: remaining range, speed over ground, battery charge status.

And the Ultralight is quiet. Ultra-quiet! So you can enjoy the stillness of nature undisturbed – which naturally counts for the other nature lovers around you, too.

And it’s completely waterproof , IP 67 – like all Torqeedo outboards. Even if you should capsize it’s no problem. Because the Ultralight offers capsize protection as a safety measure that stops the motor automatically in such cases.

You can even charge it from the sun, completely easily: plug & load, even when you’re underway on the water. The solar charger is optional.

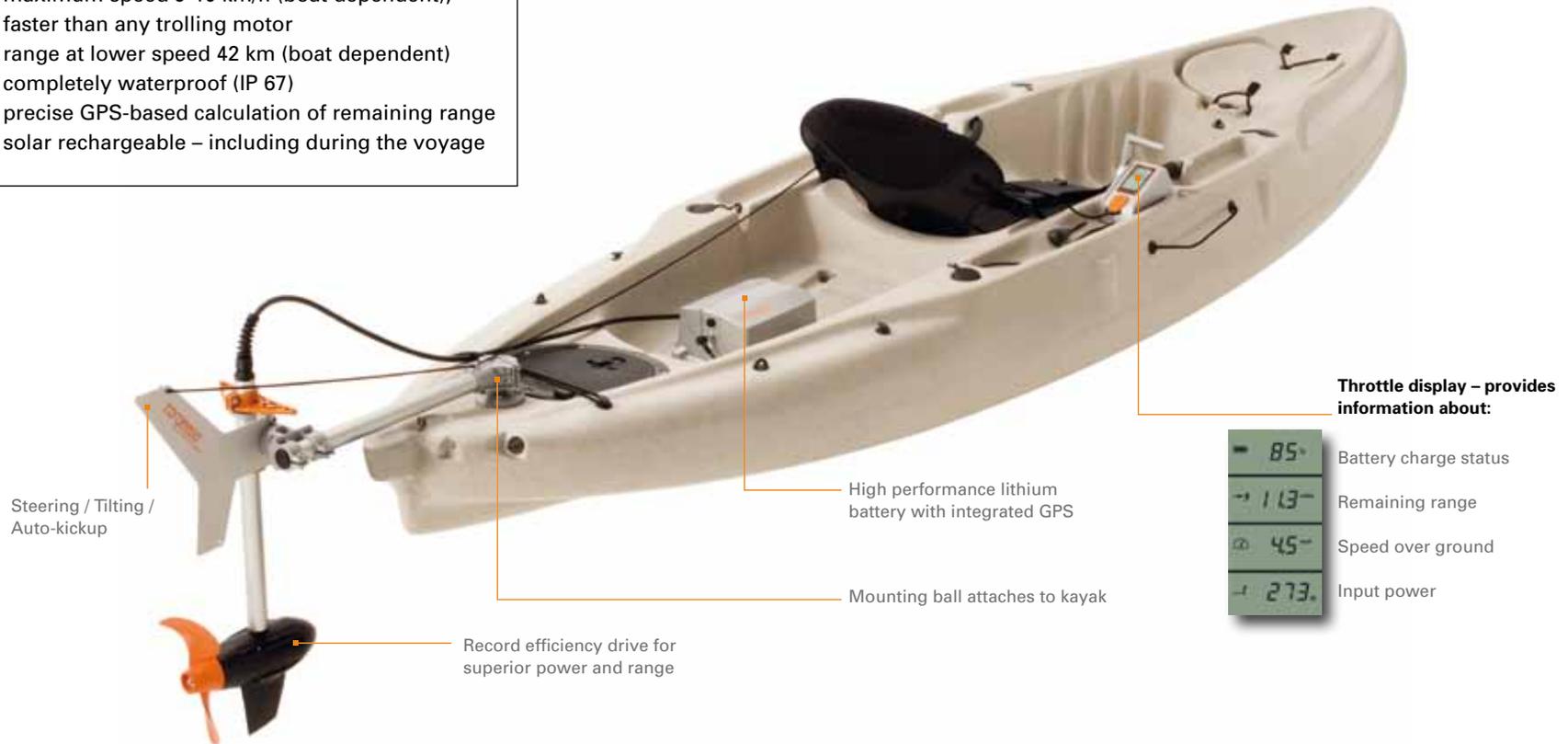
Is there any other option but to think about a new, simple method of kayak travel, or fishing?



ULTRALIGHT 403

key features:

- total weight 7.3 kg including battery
- maximum speed 9-10 km/h (boat dependent), faster than any trolling motor
- range at lower speed 42 km (boat dependent)
- completely waterproof (IP 67)
- precise GPS-based calculation of remaining range
- solar rechargeable – including during the voyage



ULTRALIGHT 403 with integrated battery (29.6 V / 11 Ah)

Fishing kayak (Hobie Mirage Revolution), 4.1 m, 26.3 kg

	Speed in km/h	Range in km	Running time in hours
Slow speed	4.2	35.2	8:20
Half power	6.0	25.0	4:10
Full power	9.3	7.4	0:48

ULTRALIGHT 403 with integrated battery (29.6 V / 11 Ah)

Touring kayak (Prijon Prilite T470), 4.7 m, 23 kg

	Speed in km/h	Range in km	Running time in hours
Slow speed	4.2	42.0	10:00
Half power	6.2	26.0	4:10
Full power	9.8	7.8	0:48

Mounting:

Four mounting options are available.

1. For use with Hobie kayaks, we recommend the Hobie "eVolve" available through Hobie dealers.
2. For use with Grabner kayaks, please use Grabner mounting kits.
3. For use with Prijon kayaks, please use the Prijon rudder mount.
4. All others, use the mounting ball provided. The Ultralight 403 can be easily mounted on almost any kayak.

Steering:

The Ultralight 403 can be attached to the kayak's steering system/rudder.

Safety:

The motor shuts off when the magnetic key is removed from the remote throttle control. The motor only runs when the magnetic key is placed in position on the throttle and stops immediately when removed. For safety reasons, the magnetic key should be attached to your wrist or life vest. If the kayak capsizes, the motor shuts off automatically to avoid possible injury.

Battery charging:

When fully discharged, the charge time with the charger supplied is approx. 12 hours.

Solar charging:

A 45 W solar panel is available as an accessory.

Lithium battery life expectancy:

The life of a lithium battery is barely affected by charging cycles. It has no memory effect. Therefore, the battery can be fully recharged after every trip, regardless of the charge status shown on the display. Generally, a loss of capacity of 4% per year can be expected. Ageing is accelerated if the battery is exposed to high temperatures for long periods while fully charged.

Our recommendation: the battery can be used in very hot conditions but should be stored in a cool place away from the sun when not in use. 8 years after date of production, your battery needs to be inspected by a service center.

Specifications integrated battery:

The integrated battery has a capacity of 320 Wh, i.e. 11 Ah at 29.6 V.

Limited warranty: 2 years

Watch the video

For Hobie Kajaks

Ask your Hobie dealer for the Hobie eVolve kayak motor.

For Grabner Kajaks

Ask your Grabner dealer for the Ultralight 403 and its mounting kit.

For Prijon Kajaks

Ask your Prijon dealer for the Ultralight 403 and its mounting kit.

Accessories

Spare battery
Ultralight (320 Wh)



Charger for Travel and
Ultralight battery



Solar panel 45 W



Motor cable extension
Travel and Ultralight



Throttle cable extension
Travel, Ultralight and
Cruise, 1.5 m/5 m



Spare propeller
v10/p350

A close-up photograph of a solar panel mounted on the deck of a boat. The panel is a dark, rectangular array of solar cells, secured with a white strap. In the background, a fishing net is draped over the side of the boat, and another boat is visible on the water. The scene is set on a bright day with clear blue water.

SOLAR CHARGER 45 W

FOR ULTRALIGHT AND TRAVEL – ALTERNATIVE CHARGING
OPTION, EVEN FOR WHEN UNDERWAY ON THE WATER

SOLAR CHARGER 45 W –

key features:

The sun's out, time to get out on the water! The ideal companion for increasing the range of your outboard on tour: our solar charger. It constantly tops up the Ultralight as well as the Travel models with 45 W – even at full speed when you want. You just need to plug in the connector cable and it runs. You can't charge in a less complicated or more environmentally friendly way. And that, of course, is even more valid when you want to travel with your Torqeedo outboard well away from sockets.

- simple plug & play charging for Travel and Ultralight models – no separate inverter or external charger necessary
- can be rolled up with protective casing for really easy transport and storage
- extremely weatherproof: for all weather conditions – successfully tested in full salt water immersion
- extremely durable – even under extreme conditions
- extremely light – weighs only 1.27 kg
- high efficiency performance even in cloudy or partially shaded conditions
- functions continuously even in the most remote areas of the world
- environmentally friendly materials

Output power: Under typical sun conditions in North America and Europe, 40-45 W output can be expected.

Cell type: Amorphous Silicium

Efficiency: Cell Efficiency 7.0%, module efficiency 5.5%.

Voltage: Open circuit voltage 44 Volts.

Charging time: The 320 Wh battery of the Ultralight 403 and Travel 503 will be charged from 0 to 100% in approx. 8 hours; the 520 Wh battery of the Travel 1003 models will be charged from 0 to 100%. in approx. 13 hours.

Waterproof charging: The connections between the Solar panel and Ultralight and Travel batteries are completely waterproof for charging on the water without any risk of electrolytic corrosion.

The panel has undergone complete immersion tests, however immersion should be avoided.

Limited warranty: 80% of specified performance after 2 years

PF PowerFilm
SOLAR

To offer this modern alternative, Torqeedo joined forces with PowerFilm – a renowned manufacturer of thin film solar cells. PowerFilm modules have proven themselves in rigorous tests and are, in our opinion, well-suited for use on water.



Technical Data and Ordering Information

OUTBOARD TECHNICAL DATA

	ULTRALIGHT 403	TRAVEL 503 S/L	TRAVEL 1003 S/L	CRUISE 2.0 TS/TL	CRUISE 4.0 TS/TL	CRUISE 2.0 RS/RL	CRUISE 4.0 RS/RL	TWIN CRUISE 4.0 R
Input power in watts	400	500	1,000	2,000	4,000	2,000	4,000	8,000
Propulsion power in watts	180	220	480	1,120	2,240	1,120	2,240	4,480
Comparable petrol outboards (propulsive power)	1 HP	1.5 HP	3 HP	5 HP	8 HP	5 HP	8 HP	15 HP
Comparable petrol outboards (thrust)	2 HP	2 HP	4 HP	6 HP	9.9 HP	6 HP	9.9 HP	20 HP
Maximum overall efficiency in %	45	44	48	56	56	56	56	56
Static thrust in lbs*	33	40	68	115	189	115	189	378
Integrated battery	320 Wh Li-Ion	320 Wh Li-Ion	520 Wh Li-Ion	-	-	-	-	-
Nominal voltage	29.6	29.6	29.6	24	48	24	48	48
Final charging voltage	33.6	33.6	33.6	-	-	-	-	-
Total weight in kg	7.4	12.9 (S) / 13.5 (L)	13.4 (S) / 14.0 (L)	17.5 (S) / 18.4 (L)	18.3 (S) / 19.2 (L)	16.0 (S) / 16.9 (L)	16.8 (S) / 17.7 (L)	33.6 (S) / 35.4 (L)
Motor weight without battery in kg	4.5	8.9 (S) / 9.5 (L)	8.9 (S) / 9.5 (L)	-	-	-	-	-
Weight of integrated battery in kg	2.9	4.0	4.5	-	-	-	-	-
Shaft length in cm	45	62.5 (S) / 75 (L)	62.5 (S) / 75 (L)	62.5 (S) / 75.5 (L)	62.5 (S) / 75.5 (L)	62.5 (S) / 75.5 (L)	62.5 (S) / 75.5 (L)	62.5 (S) / 75.5 (L)
Standard propeller (v = speed in km/h at p = power in watts)	v10/p350	v8/p350	v9/p790	v19/p4000	v19/p4000	v19/p4000	v19/p4000	v19/p4000
Alternative propeller options	-	-	-	v8/p350 v30/p4000	v8/p350 v30/p4000	v8/p350 v30/p4000	v8/p350 v30/p4000	v8/p350 v30/p4000
Maximum propeller speed in rpm	1,200	700	1,200	1,300	1,300	1,300	1,300	1,300
Control	Remote throttle	Tiller	Tiller	Tiller	Tiller	Remote throttle	Remote throttle	Remote throttle
Steering	Provision for connecting to kayak rudder, lockable	360°; lockable	360°; lockable	360°; lockable	360°; lockable	Provision for connecting to standard remote steering, lockable	Provision for connecting to standard remote steering, lockable	Provision for connecting to standard remote steering, lockable
Tilting device	Manual with grounding protection	Manual with grounding protection	Manual with grounding protection	Manual with grounding protection	Manual with grounding protection	Manual with grounding protection	Manual with grounding protection	Manual with grounding protection
Trim device	-	Manual, 4-step	Manual, 4-step	Manual, 4-step				
Stepless forward/reverse drive	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Integrated on-board computer with display	Yes	Yes	Yes	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.

ORDERING INFORMATION

	Part no.	Product	Description
ULTRALIGHT	1403-00	Ultralight 403	Ultralight outboard, 1 HP equivalent, with integrated 320 Wh high performance lithium battery, including charger, remote throttle, GPS-based range calculation, multifunction display, on/off magnetic key and drybag
	1413-00	Spare battery Ultralight 403	High performance lithium battery with integrated GPS receiver, 320 Wh, 29.6 V, 11 Ah
TRAVEL	1140-00	Travel 503 S	High efficiency outboard with integrated 320 Wh high performance lithium battery, 1.5 HP equivalent, including GPS-based range calculation, integrated information display, charger, short shaft version
	1141-00	Travel 503 L	As part no. 1140-00, but with long shaft
	1142-00	Travel 1003 S	High efficiency outboard with integrated 520 Wh high performance lithium battery, 3 HP equivalent, including GPS-based range calculation, with integrated information display and charger, short shaft version
	1143-00	Travel 1003 L	As part no. 1142-00, but with long shaft
	1144-00	Spare battery Travel 503	High performance lithium battery with integrated GPS receiver, 320 Wh, 29.6 V, 11 Ah
	1145-00	Spare battery Travel 1003/503	High performance lithium battery with integrated GPS receiver, 520 Wh, 29.6 V, 18 Ah
CRUISE	1220-00	Cruise 2.0 TS	High efficiency outboard, 5-6 HP equivalent. With tiller control, integrated on-board computer with GPS-based range calculation, 25 mm ² cable set (3 m) including fuse and main switch, short shaft version
	1221-00	Cruise 2.0 TL	As part no. 1220-00, but with long shaft
	1222-00	Cruise 4.0 TS	High efficiency outboard, 8-9.9 HP equivalent. with tiller control, integrated on-board computer with GPS-based range calculation, 25 mm ² cable set (3 m) including fuse and main switch, short shaft version
	1223-00	Cruise 4.0 TL	As part no. 1222-00, but with long shaft
	1209-00	Cruise 2.0 RS	High efficiency outboard, 5-6 HP equivalent. Includes remote steering connector, remote throttle, integrated on-board computer with GPS-based range calculation, 25 mm ² cable set (3 m) including fuse and main switch, short shaft version
	1210-00	Cruise 2.0 RL	As part no. 1209-00, but with long shaft
	1211-00	Cruise 4.0 RS	High efficiency outboard, 8 – 9.9 HP equivalent. Includes remote steering connector, remote throttle, integrated on-board computer with GPS-based range calculation, 25 mm ² cable set (3 m) including fuse and main switch, short shaft version
	1212-00	Cruise 4.0 RL	As part no. 1211-00, but with long shaft
	1217-00	Twin-Cruise Control Set	For twin applications with Cruise 2.0 R and 4.0 R models, consists of aluminium twin throttle lever with dual info display and 56 cm tie bar for connecting the two motors

	Part no.	Product	Description
OUTBOARD ACCESSORIES	1130-00	Solar panel 45 W	Solar module, can be rolled up, extremely weatherproof, built especially for use on water, plug-n-play connections for watertight charging of the Ultralight and Travel 503/1003 models, including protective case for simple transport and storage
	1912-00	Spare propeller v10/p350	For the Ultralight 402 and 403. (Ø 200 mm)
	1917-00	Spare propeller v9/p790	For the Travel 1003. (Ø 292 mm)
	1915-00	Spare propeller v8/p350	For Cruise models with production year 2009 onwards (serial numbers >5000), slower speed, lower efficiency but higher thrust. (Ø 300 mm)
	1916-00	Spare propeller v19/p4000	For Cruise models with production year 2009 onwards (serial numbers >5000), fast, efficient, weedless. (Ø 300 mm)
	1923-00	Spare propeller v30/p4000	For Cruise models with production year 2009 onwards (serial numbers >5000), for planing applications with lighter boats. (Ø 320 mm)
	1901-00	Spare propeller v8/p350	For the models Travel 401, 801, 503, BaseTravel models, and Cruise models of production years 2006-2008 (serial numbers <5000). (Ø 300 mm)
	1918-00	Remote throttle for Travel 503/1003	Allows installation of Travel 503/1003 models with remote throttle instead of tiller, including integrated display with information about battery status, GPS-based speed and remaining range calculation, including 1.5 m and 5 m connection cable between motor and throttle
	1919-00	Long throttle arm	Longer tiller handle, 60 cm long, for Travel and Cruise T models
	1920-00	Motor cable extension Travel and Ultralight models	Extension for cable connection between battery and motor for Ultralight 403 and Travel 503/1003 models. Allows for longer distance (2 m) between battery and motor, with waterproof plug/connectors
	1204-00	Motor cable extension Cruise models	Extension for Cruise cable set, 2 m long, with high current plugs
	1921-00	Remote throttle cable extension, 1.5 m	Extension cable connection for Travel 503/1003, Ultralight and Cruise T as well as Cruise R models. Allows for longer distance between the throttle/tiller and motor
	1922-00	Remote throttle cable extension, 5 m	Extension cable connection for Travel 503/1003, Ultralight and Cruise T as well as Cruise R models. Allows for longer distance between tiller or throttle and motor/battery
	1127-00	Charger for Travel 503, 1003 and Ultralight 403 spare batteries	40 watt charger (12 V, 3.3 A), for power outlets between 100-240 V and 50-60 Hz
	POWER	2103-00	Power 26-104
2206-20		Charger 350 W for Power 26-104	Charge current 10 A, charges Torqeedo Power 26-104 from 0-100% in max. 11 hours, waterproof to IP 65
2304-00		On/off switch for Power 26-104	Switch to activate and deactivate Power 26-104, IP 65, with LED indicator displaying on/off status, required if Power 26-104 is used without Cruise outboards

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