



EP Carry Ultralight Outboards

The Supply Chain is Back

- **Offer**
- **Letter** from the Founders
- **Overview:** Portable Electrics
- **Compare:** EP Carry and Torqeedo
- **Inflatable vs. Hard-Shell** Dinghies.

page-down to articles

Winter Production Starts for April Delivery

We expect to sell-out by end-November to mid-December.

Price: \$1,700 (MSRP \$1,800)*

That's \$548 less than the Torqeedo 603's list price.
(To see why, read the **Overview** article below)

If you are ready to upgrade to an EP Carry in the spring,

place your order

*Special pricing applies to limited production run quantity.

Notes:

All dinghies require a short shaft except for the Portland Pudgy which needs a long shaft.

Now available with two tiller length options: Inflatables under 10ft are best paired with a short tiller arm. All other boats should be mated with our long tiller arm version for optimal reach.

Letter from the Founders

Dear Boaters,

We've been able to rely on the boating community's support through the entire



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process of building this unique brand. From surveys, to open feedback, to sales. Our customers have always been helpful, generous, and engaged.

We've paid it forward by sponsoring worthy causes like Race to Alaska, and the Wooden Boat Foundation. But EP Carry has also been on the receiving end of great reviews, customer recommendation, innovation awards, and high growth rates.

Over the past 2 years, it's been difficult to satisfy demand, we've paused our advertising and we've struggled to ship on time, all due to materials shortages.

But our customers (you) stayed with us.

Now, the supply chain is vastly improved. Critical parts are available, and over the past two weeks, since we first publicized our winter production special offer, we've seen an energetic sales response. It looks like we'll fill all available slots soon.

We regularly get notes and pictures from customers telling us how EP Carry has transformed, extended, or improved their cruising lifestyle. But your generous engagement over these past 12 years proves that there's nothing as essential to EP Carry's mission as you. We keep that thought close at all times. Thanks!

Joe & Linda Grez, Founders of EP Carry



Comparing Electric Outboards

In Industry terms, mature electric outboard offerings are now available in sizes from 1.5 hpe and up.

For portable ship to shore applications, EP Carry and Torqeedo's 603 are rated around 1.5 hpe which is the sweet spot for portable dinghy applications (up to 13 ft and 800 lb). Avg. speeds range from 3 knots for short dinghies to 4 knots for longer dinghies (See dinghy comparison article below).

The more common 3hpe rated electrics add 0.5 to 1 knot of speed, but they are multiples higher in cost, weight and charge-impact to your house bank. According to our customers, motors in this size range don't add enough capability to justify the downsides. So either get a smaller 1.5 hpe unit or move up to a motor that makes your dinghy a sport-boat.

Elevated vs Pod

EP Carry houses its waterproof electronics/motor in the power head, well above the waterline. All other portable electric integrated packages are "pod" motors, where the motor and electronics are housed in a casing underwater with static and dynamic seals to keep water out.

Batteries

All integrated packages use some variant of lithium batteries to save on weight.

EP Carry uses standard off-the-shelf sealed batteries with proven LiFePO₄ cells. EP Carry also supports user-supplied batteries.

Torqeedo and ePropulsion batteries are proprietary and must be installed on the top of the motor head during use. The EP Carry battery is kept in the boat during use.

Range Anxiety

Most integrated electrics provide a LCD readout of battery charge state. EP Carry's 70 minute full-power runtime is sufficient for days of ship to shore trips, so daily top-ups assure excess range without the need for an expensive built-in battery readout that can be degraded by exposure to the elements.

Power ratings

Integrated electrics were initially rated by "input power" in Watts, but have increasingly switched to an "equivalent horsepower" rating.

EP Carry also provides a [speed calculator online](#), so you can preview your performance under different conditions before purchase.

Most boaters who need ship to shore propulsion are not hung up on speed or power. But electric propulsion is new, so here's how to understand the most common rating systems.

Input power

"Input power" is simply the power from the battery that goes into the outboard. This rating system is falling out of favor because it can be quite misleading. For example:

A Torqeedo 603 is rated at 500 Watts max input while EP Carry is rated at 220 Watts max input. From this information, one might naturally assume EP Carry is less powerful.

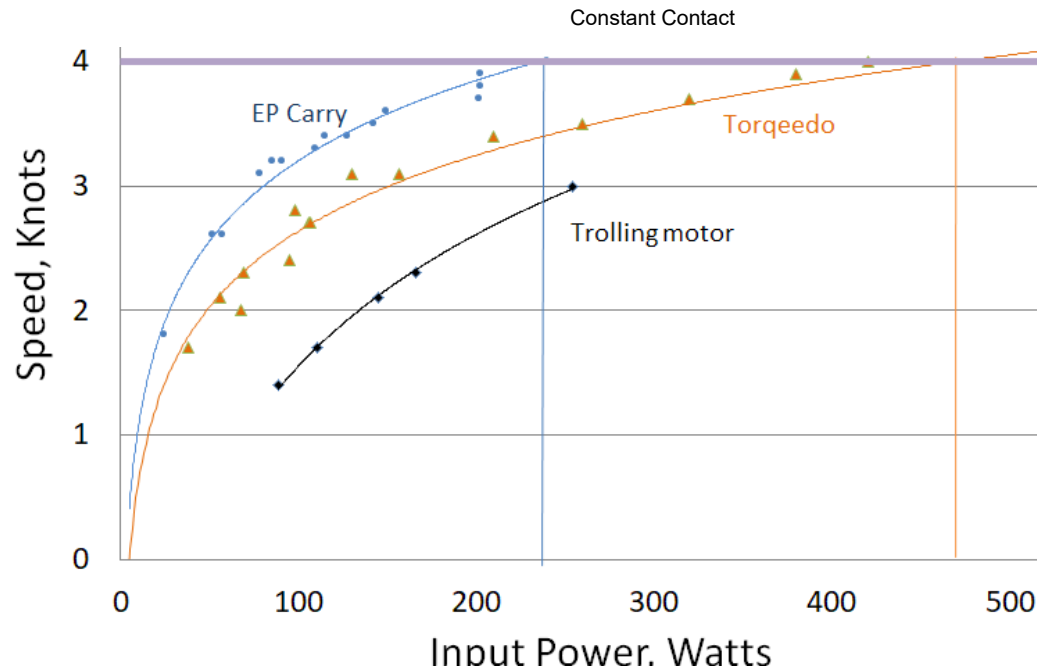
But in fact, both motors provide the same propulsive power, driving the same dinghy at the same speed. EP Carry's lower input power rating means lower cost, lighter weight, and longer runtime - all good things for you. In a nut-shell, EP Carry chose a design that is around 2x more efficient when used on a dinghy.

The reasons EP Carry uses so much less power (these are patented or pending):

- 1. EP Carry has no seal friction in the lower unit,*
- 2. EP Carry has the only high aspect ratio propeller,*
- 3. EP Carry uses a closed-loop control system to assure optimal efficiency at all power levels*

To propel a 9 ft hard shell dinghy at 4 knots...

- Torqeedo requires 470W input.
- EP Carry requires 220W input.



9 ft hard shell dinghy using an EP Carry, trolling motor, and a Torqeedo 1003. Weight and trim was equal for all tests. measurements were taken East and West directions, on a lake with no current and less than 1 knot of wind. A Garmin hand-held GPS measured speeds, A Watts-Up(R) meter was used for power measurements.

Conclusion: Input power is not a predictive measure of propulsive value

Horsepower-Equivalent Ratings

You may be surprised to hear that horsepower has many forms. Your gas outboard is rated by a "peak, shaft-horsepower" measurement. It could also be rated differently; for example, manufacturers could have chosen "propulsive-horsepower".

Propulsive power is precisely relevant to pushing a boat because it is 1:1 comparable to the the power absorbed by a hull pushed through the water. But because electric outboard manufacturers want to state their products' performance in more familiar terms, they go through an extra step; that is easier to explain by example:

When an electric outboard produces the same propulsive power as a 3-hp-rated gas outboard, that electric outboard is then rated at 3-hp-equivalent (hpe).

Such horsepower “equivalent” ratings are almost universal now, but because a gas motor's propulsive output is highly variable, true equivalent performance value depends on the particular boat's boat drag vs speed characteristic. So while this is the best comparison possible, it's still not perfect.

The gold standard is to compare actual speed and range performance on your boat. But so far, only EP Carry has an [online speed/range calculator](#).



In-Depth Comparison; EP Carry and Torqeedo

EP Carry drives dinghies at similar speeds to Torqeedo's model 603. But EP Carry is 14 lb lighter, provides 20 more minutes of full-power run time, and costs \$448 less, based on MSRP (Our current special adds another \$100 to that savings).

Here's what's included:

- 14 lb, Salt water ready EP Carry outboard in your choice of tiller arm and shaft length.
- 6.4 lb waterproof LiFePO4 battery provides 70 minutes full-power runtime.
- Padded buoyant battery case.
- AC fast charger that draws 4 amps from a 12V house bank through a tiny inverter. For ship to shore applications, most daily charging sessions take 1 hr-2 hrs. If the battery is completely depleted, it takes 5 hrs.
- Motor storage bag with adjustable carry strap.

- Transom lock that also secures the battery.
- 2-magnetic safety keys.
- 2-year warranty that covers battery, motor and charger.

Launched in 2017, and winner of several awards, EP Carry's standard package also features a proven reliability record, we manufacture and service in the USA, and EP Carry's marine-ready, LiFePO₄ battery from K2 Energy is inherently safer and requires no downtime for safety inspections like some others.

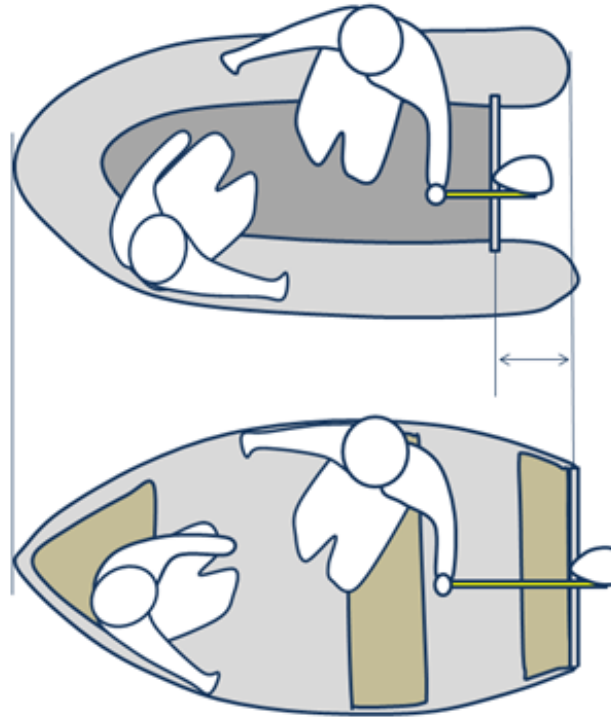
EP Carry's complete system price is not very far off the price of a smelly, heavy, dirty, and troublesome gas outboard.

Inflatables vs Hard Shells



Inflatables are known for being harder to propel than hard shell dinks. I used to think this was primarily due to hull shape differences. But, while hull shape can impact directional stability, speed differences turn out to be more about immersed hull length differences.

Let's compare how immersed-hull-length impacts speed for these two boats; a 9 ft inflatable and a 9 ft hard-shell.



A 9 ft inflatable has a transom about 1 ft forward of the pontoon ends, and the water greets the hull about 1 ft from the bow. So the immersed length of a typical 9 ft RIB or soft floor inflatable is around 7 ft. The "hull speed" of this boat is:

$$\begin{aligned}\text{knots} &= 1.34 \times (\text{immersed length})^{1/2} \\ &= 3.5 \text{ knots.}\end{aligned}$$

It takes 130W of propulsive power to produce this speed (corresponds to 220W input from an EP Carry, or 500W input from a Torqeedo).

In comparison, a 9 ft hard-shell dinghy has its transom at the stern, and bow immersion is about 6 inches from the bow. So its immersed length is longer at 8.5 ft. Using the same equation results in a hull speed of 3.9 knots which takes the same 130 W of propulsive power to achieve.

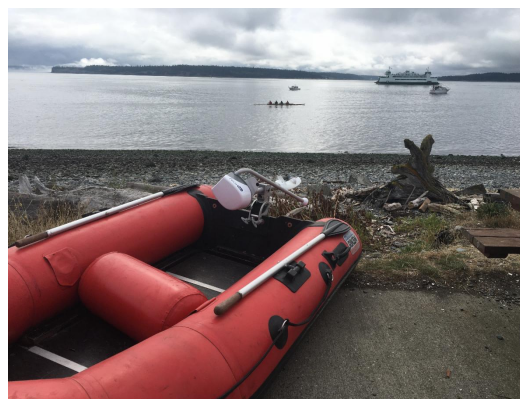
So two boats with the same overall length, and the same propulsive power, go different speeds, depending on their immersed lengths. This explains why hard shells are more easily driven than inflatables of equivalent overall length.

It's tempting to see a 1/2 knot difference as inconsequential. But if 1/2 knot is important, you have two ways to achieve it. You could get a longer boat, or you could double your

outboard's propulsive power. Doubling the outboard's power doubles your battery weight, motor power, recharge time, and battery cost.

If you are committed to getting an inflatable, go for the longest one you can, to optimize your range and speed.

If you are an inflatable manufacturer, your customers are increasingly using electric outboards of all brands. Move that transom back to its rightful location to give your customers better electric performance.



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PropEle Electric Boat Motors, Inc. | 10404 428th Ave SE, North Bend, WA 98045

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