



# VETUS E-DRIVE CONFIGURATION

## STEP 1 LENGTH AT THE WATERLINE (LWL) AND DISPLACEMENT

Every boat is different. In this step-by-step plan, calculations are made using a basic vessel displacement model. What is the Length at the Waterline? What is the displacement including equipment and passengers?

\_\_\_\_\_ feet / \_\_\_\_\_ meters      \_\_\_\_\_ lbs / \_\_\_\_\_ kg

## STEP 2 DESIRED BOATING TIME OR DISTANCE

All day on the water! That won't mean all-day continuous use of the motor. Going for a swim, a drink, fishing, a bit of reading or sitting on a terrace will, of course, be part of it. Below is an indicative guide to determine the boating time using the motor for a full day on the water.

|                   |  |             |                   |
|-------------------|--|-------------|-------------------|
| <b>Locally</b>    | On a canal, lake or in a city. Short day trip. | up to 30 km | approx. 4 hours   |
| <b>Regionally</b> | Longer day trips.                              | up to 60 km | approx. 5-6 hours |
| <b>Nationally</b> | Long boating days to cover greater distances.  | up to 80 km | approx. 7-8 hours |

Desired boating time = \_\_\_\_\_ hours

## STEP 3 BOATING SPEED AND REQUIRED BATTERY CAPACITY

The preferred boating speed depends on the type of trip; to get from a to b as quickly as possible, or enjoy the surroundings at a more leisurely pace. In some boating areas, speed limits apply. The higher the desired speed, the greater the boat's energy consumption. This is true for a car, and it's certainly also true for a waterborne vessel.

The consumption or required power of the boat will have to be supplied from the batteries during the desired boating time. Boat consumption (kW) x desired boating time (hours) = net battery capacity required (kWh).

The data below are indicative for a basic vessel displacement model of \_\_\_\_\_ feet and \_\_\_\_\_ lbs.

|                       |                   |         |      |                     |                 |
|-----------------------|-------------------|---------|------|---------------------|-----------------|
| <b>Recreation</b>     | Leisurely boating | knots / | km/h | kW consumption boat | kWh net battery |
| <b>Cruising speed</b> | 70% hull speed    | knots / | km/h | kW consumption boat | kWh net battery |
| <b>Hull speed</b>     | Max. speed        | knots / | km/h | kW consumption boat | kWh net battery |

## E-DRIVE CHOICE

The data below are indicative for a basic vessel displacement model of            feet and            lbs.

|                       |           |   |                |              |
|-----------------------|-----------|---|----------------|--------------|
| <b>Recreation</b>     | knots and | hours continuous boating; engine power required | kW and battery | kWh net cap. |
| <b>Cruising speed</b> | knots and | hours continuous boating; engine power required | kW and battery | kWh net cap. |
| <b>Hull speed</b>     | knots and | hours continuous boating; engine power required | kW and battery | kWh net cap. |

| E-DRIVE model      | Product code | Input power (kW) maximum | Peak input (kW) maximum | Motor suitable for this boat* |
|--------------------|--------------|--------------------------|-------------------------|-------------------------------|
| E-POD 100 48V      | EPOD100      | 9.1                      | 11.3                    |                               |
| E-LINE AIR 050 24V | EAIR05024    | 4.9                      | 6.7                     |                               |
| E-LINE AIR 050 48V | EAIR050      | 5.0                      | 7.9                     |                               |
| E-LINE AIR 070 48V | EAIR070      | 7.1                      | 8.6                     |                               |
| E-LINE 060 48V     | ELINE060     | 5.6                      | 7.3                     |                               |
| E-LINE 080 48V     | ELINE080     | 8.4                      | 10.2                    |                               |
| E-LINE 110 48V     | ELINE110     | 11.3                     | 13.3                    |                               |

\* Results serve as an indication. Calculated based on assumed basic vessel model and conditions.

\*\* Hull speed based on temporarily available Peak input power. Continuous input power is lower.

## BATTERY SELECTION

### AGM BATTERIES

| Net capacity (kWh) | Battery type   | Dimensions l x w x h (mm) (1 battery) | Total weight (kg) | Estimated boating time on one charge |         |     |
|--------------------|----------------|---------------------------------------|-------------------|--------------------------------------|---------|-----|
| 4.7                | 1 x 4 VEAGM170 | 513 x 223 x 223                       | 164               | hours @ 3.3 knt /                    | hours @ | knt |
| 7.4                | 1 x 4 VEAGM220 | 514 x 274 x 242                       | 244               | hours @ 3.3 knt /                    | hours @ | knt |
| 9.4                | 2 x 4 VEAGM140 | 513 x 189 x 223                       | 164               | hours @ 3.3 knt /                    | hours @ | knt |
| 11.4               | 2 x 4 VEAGM170 | 513 x 223 x 223                       | 374               | hours @ 3.3 knt /                    | hours @ | knt |
| 14.8               | 2 x 4 VEAGM220 | 514 x 274 x 242                       | 487               | hours @ 3.3 knt /                    | hours @ | knt |
| 17.1               | 3 x 4 VEAGM170 | 513 x 223 x 223                       | 560               | hours @ 3.3 knt /                    | hours @ | knt |
| 18.6               | 3 x 4 VEAGM185 | 514 x 274 x 242                       | 675               | hours @ 3.3 knt /                    | hours @ | knt |
| 22.2               | 3 x 4 VEAGM220 | 514 x 274 x 242                       | 729               | hours @ 3.3 knt /                    | hours @ | knt |
| 29.6               | 4 x 4 VEAGM220 | 514 x 274 x 242                       | 972               | hours @ 3.3 knt /                    | hours @ | knt |

### DEEP CYCLE BATTERIES

| Net capacity (kWh) | Battery type    | Dimensions l x w x h (mm) (1 battery) | Total weight (kg) | Estimated boating time on one charge |         |     |
|--------------------|-----------------|---------------------------------------|-------------------|--------------------------------------|---------|-----|
| 4.0                | 1 x 4 VEDC110TC | 330 x 175 x 235                       | 102               | hours @ 3.3 knt /                    | hours @ | knt |
| 7.9                | 2 x 4 VEDC110TC | 330 x 175 x 235                       | 203               | hours @ 3.3 knt /                    | hours @ | knt |
| 11.9               | 3 x 4 VEDC110TC | 330 x 175 x 235                       | 305               | hours @ 3.3 knt /                    | hours @ | knt |
| 15.8               | 4 x 4 VEDC110TC | 330 x 175 x 235                       | 406               | hours @ 3.3 knt /                    | hours @ | knt |
| 23.8               | 6 x 4 VEDC110TC | 330 x 175 x 235                       | 608               | hours @ 3.3 knt /                    | hours @ | knt |
| 31.7               | 8 x 4 VEDC110TC | 330 x 175 x 235                       | 811               | hours @ 3.3 knt /                    | hours @ | knt |

### LITHIUM LFP BATTERIES

| Net capacity (kWh) | Battery type    | Motor power up to (kW) | Total weight (kg) | Estimated boating time on one charge |         |     |
|--------------------|-----------------|------------------------|-------------------|--------------------------------------|---------|-----|
| 9.6                | 1 set VELFP210A | 10                     | 81                | hours @ 3.3 knt /                    | hours @ | knt |
| 19.2               | 1 set VELFP420A | 20                     | 185               | hours @ 3.3 knt /                    | hours @ | knt |