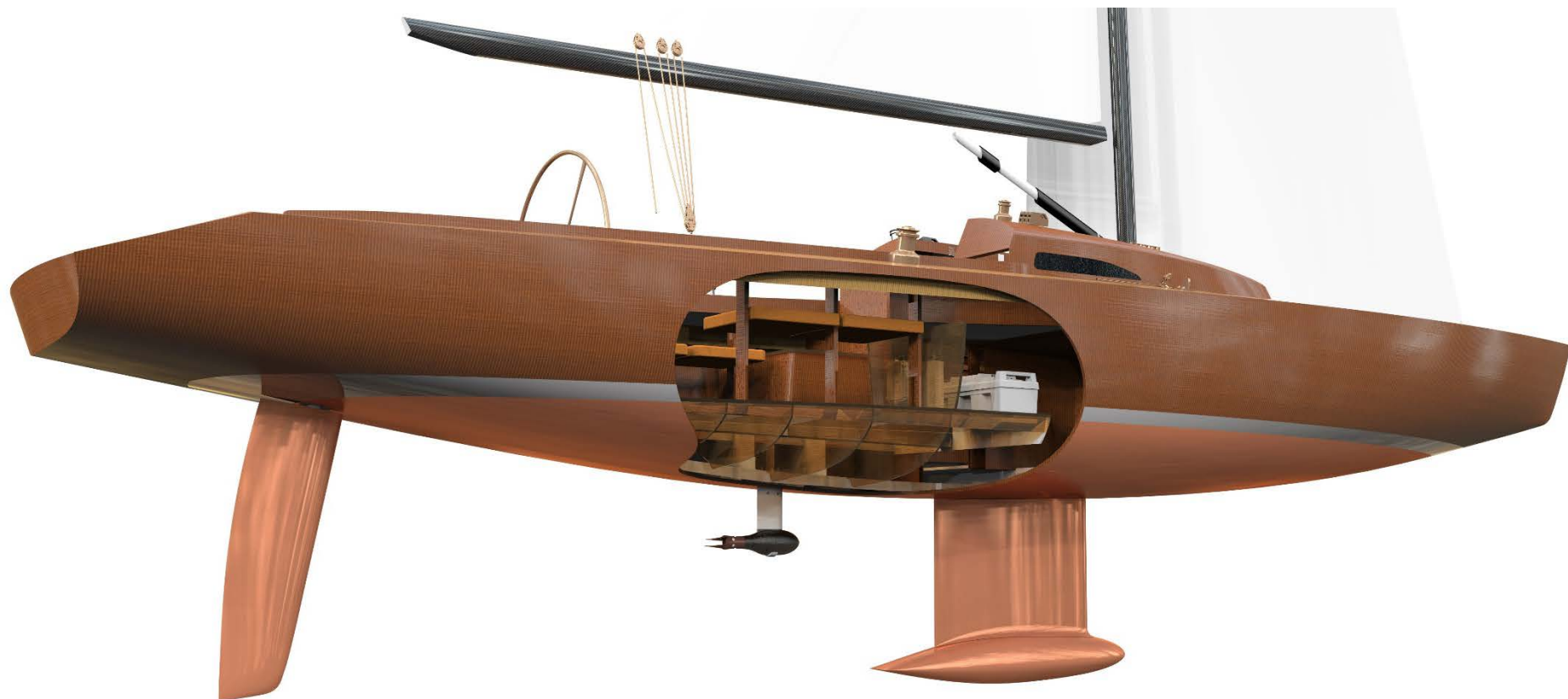


**TORQUEEDO**  
STARNBERG.GERMANY



Introducing Torqueedo Pod Drives

Cruise 2.0 FP | Cruise 4.0 FP | Cruise 10.0 FP

## 6 reasons for Torqeedo Pod drives

1

Pod drives can be mounted inconspicuously under the hull. They do not disturb the design of the boat

2

Pod drives are extremely compact. Their simple design makes them cost effective and robust.

3

Torqeedo pod drives are the lightest propulsion systems for sailboats on the planet

4

They offer highest efficiencies for more power and longer range

5

They integrate into a complete integrated system with batteries, throttle, on-board computer and MFD as well as smartphone app

6

Combine them with a genset and you have a hybrid

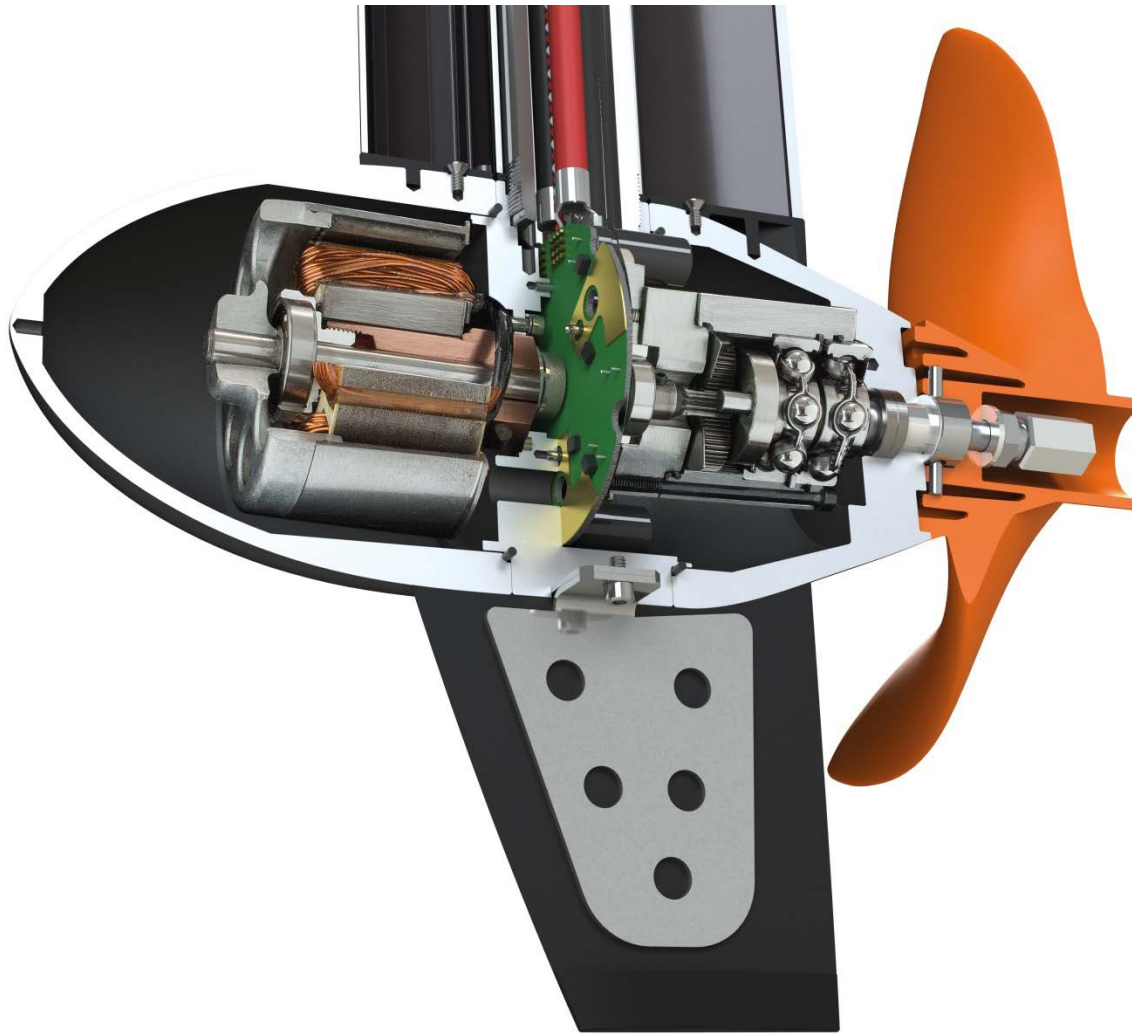
**Perfect  
propulsion for  
sailboats from 24-  
40 ft.**

**Available in  
propulsive power  
equivalents  
ranging from 5 to  
20 HP**

# 1. Inconspicuous mounting



## 2. Compact, cost effective and robust: pod-design



### **Design advantages over saildrives or shaft drives**

1. Extremely compact, almost no space required inside the hull
2. No angular gear with lower efficiency and need for gear oil change. Planetary gear with >95% efficiency never requiring maintenance.
3. No need for extra cooling. All components requiring power are under water, convection cooling sufficient
4. Easy installation: only non-moving parts go through the hull (cabling)

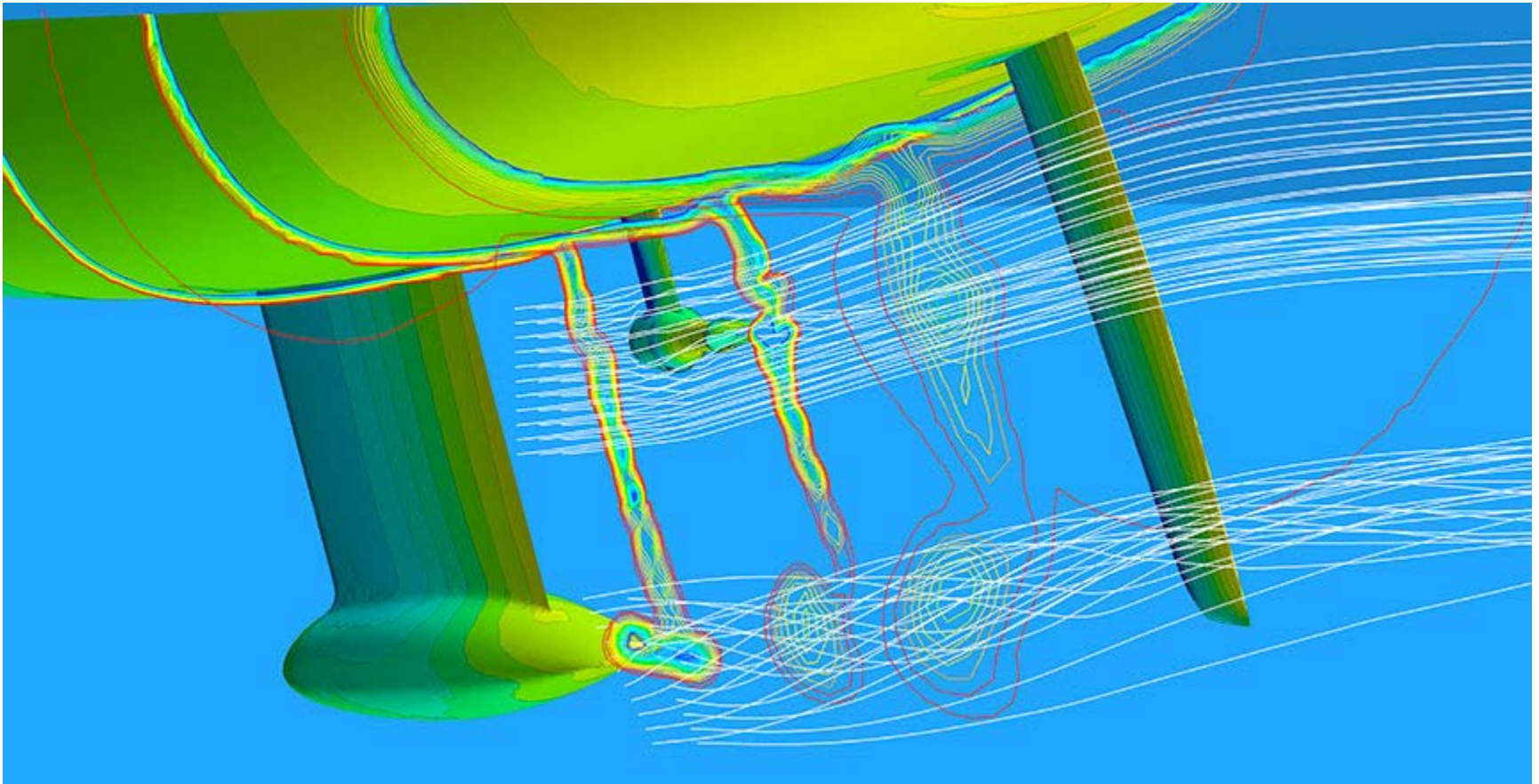


### 3. Low drag coefficient study

#### How does a pod motor impact flow resistance while sailing?

That leads us to a frequent topic of discussion among sailors and experts in the field: what is the impact of a pod motor on the efficiency and speed of a vessel while under sail? To get the answer, we have calculated the flow resistance of a 10 meter (30') Dehler yacht, both without and with pod motor.

The results: A hull-mounted Torqeedo pod motor decreases performance by less than 0.1 knot.



## 4. Lightweight and clean propulsion

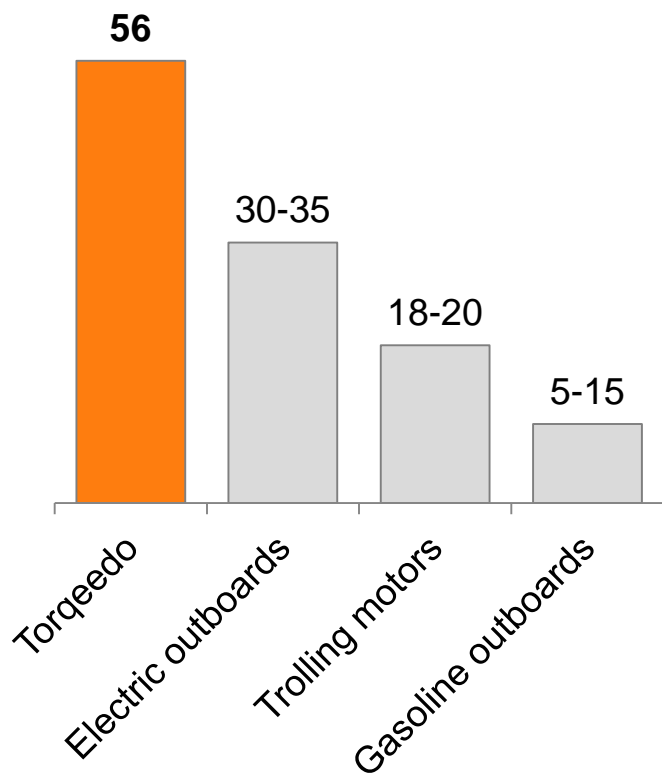
	Cruise 2.0 FP	Cruise 4.0 FP	Cruise 10.0 FP
Propulsive power equivalent	5 HP	8 HP	20 HP
Weight [kg]	9	9	19
Weight of min. battery supply [kg]	24	48	96
Weight of charger* [kg]	3.3 kg	6.6 kg	13.2 kg
Total system weight [kg]	36.3	63.6	128.2
Combustion engine weight example [kg]	9 HP motor only: 71 kg With shaft drive 81 kg With saildrive 101 kg	9 HP motor only: 71 kg With shaft drive 81 kg With saildrive 101 kg	21 HP motor only: 120 kg With shaft drive 130 kg With saildrive 150 kg
Full tank weight 22 l example [kg]	18	18	18
Total system weight (shaft drive) [kg]	99	99	148
<b>Weight savings [kg   %]</b>	<b>63 kg (-63%)</b>	<b>35 kg (-35%)</b>	<b>20 kg (-14%)</b>

\* 350 watts charger, alternative high power chargers with 1700 watts also available (6.2 kg)

## 5. Highest efficiencies for superior power and range

### Torqueedo motors with best overall efficiency (outboard data)

Overall efficiency in percent



### Examples for pure electric range (without generator as range extender)

#### Example #1

Boat: LOA: 7.55 m, Displacement (empty): 1,400 kg

Propulsion: Cruise 2.0 FP with 1 Power 26-104

Speed [kn]	Input power [W]	Electric range [nm]
3,5	400	25
5,0	1,200	14

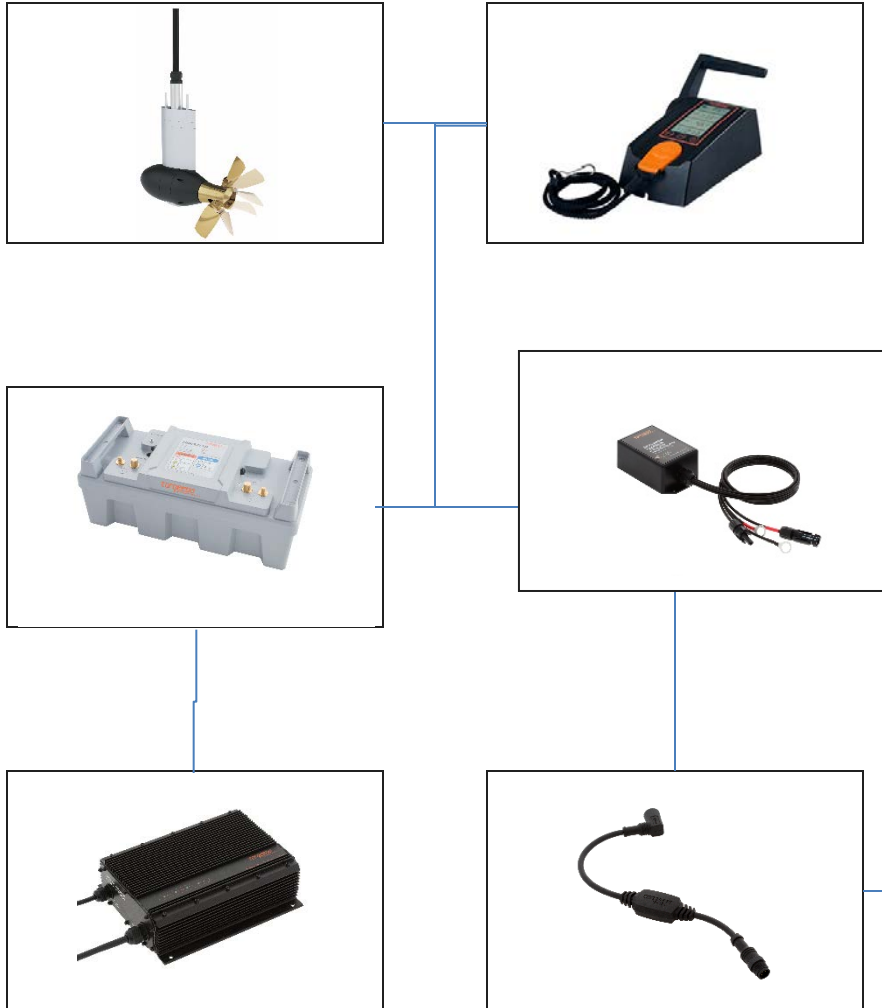
#### Example #2

LOA: 11.40 m, Displacement (empty): 7,600 kg

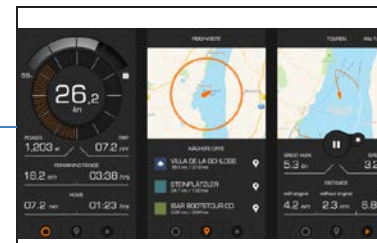
Propulsion: Cruise 10.0 FP with 4 Power 26-104

Speed [kn]	Input power [W]	Electric range [nm]
3,5	1,200	32
5,0	4,000	14

## 6. Fully integrated system



- All components connect via electronic handshake
- Battery charge status, motor power consumption, speed over ground: all information is available to the onboard computer
- Data can be transferred to smartphones and tablets via bluetooth

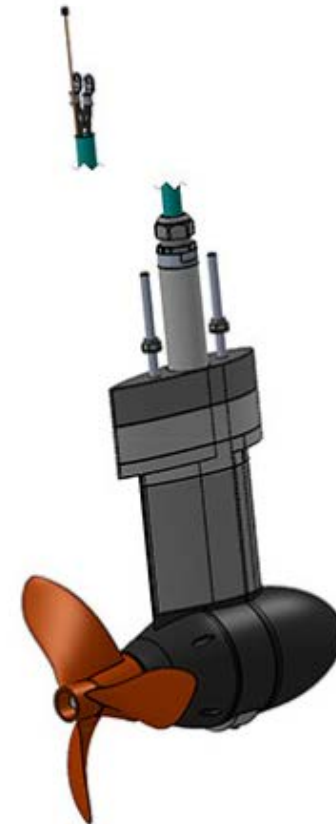
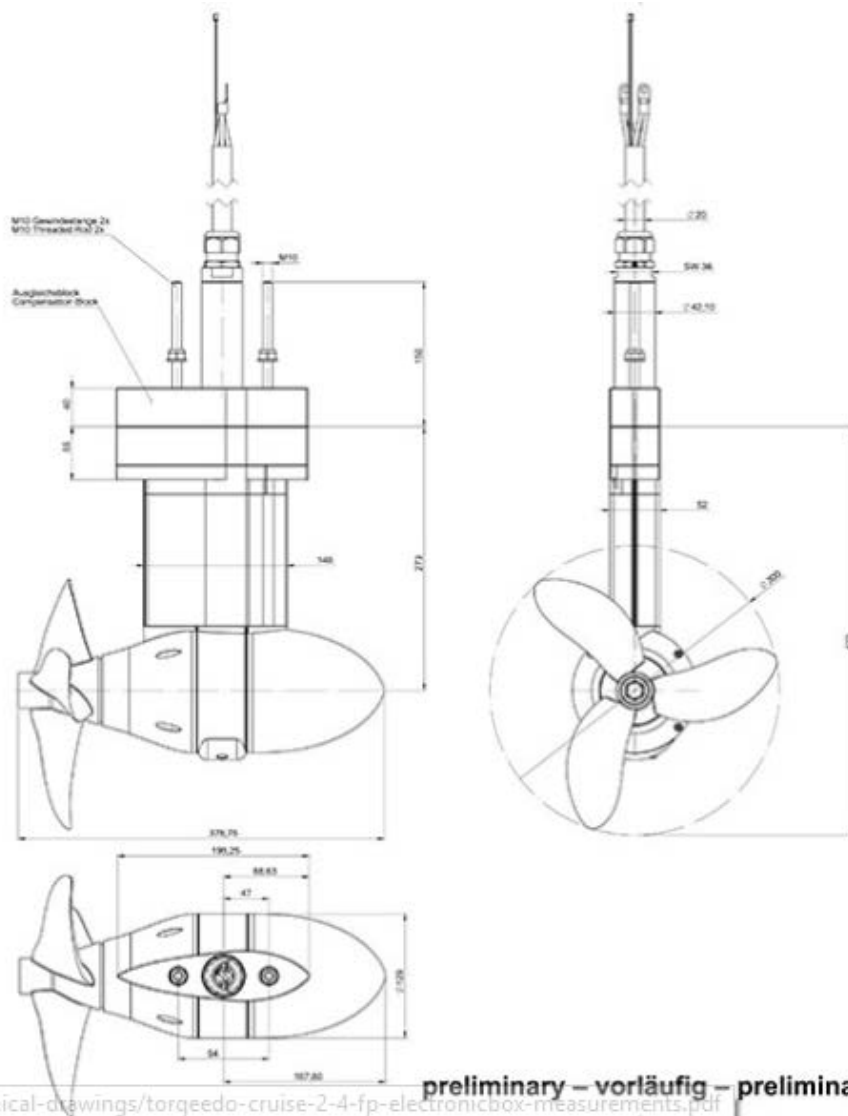




# Technical data

	Cruise 2.0 FP	Cruise 4.0 FP	Cruise 10.0 FP
Input power in watts	2,000	4,000	10,000
Propulsive power in watts	1,120	2,240	2,600
Comparable gas outboard (shaft power)	5 HP	8HP	20HP
Comparable gas outboard (thrust)	6 HP	9.9 HP	25 HP
Maximum overall efficiency in %	56	56	56
Static thrust in lbs*	115	189	315
Recommended battery	1x Power 26-104	2xPower 26-104	4x Power 26-104
Nominal voltage	24 V	48 V	48 V
Standard propeller (v = speed in km/h at p = power in watts)	V19/p4000	V19/p4000	-
Alternative propeller options	V13/p4000 (folding)	V13/p4000 (folding)	Folding
Maximum propeller speed in rpm at full load	1,300	1,300	1,400
Steering	Remote throttle	Remote throttle	Remote throttle
Stepless forward/ reverse drive	Yes	Yes	Yes
Integrated on-board computer with display	Yes	Yes	Yes

# Drawings Cruise 2.0 FP I 4.0 FP



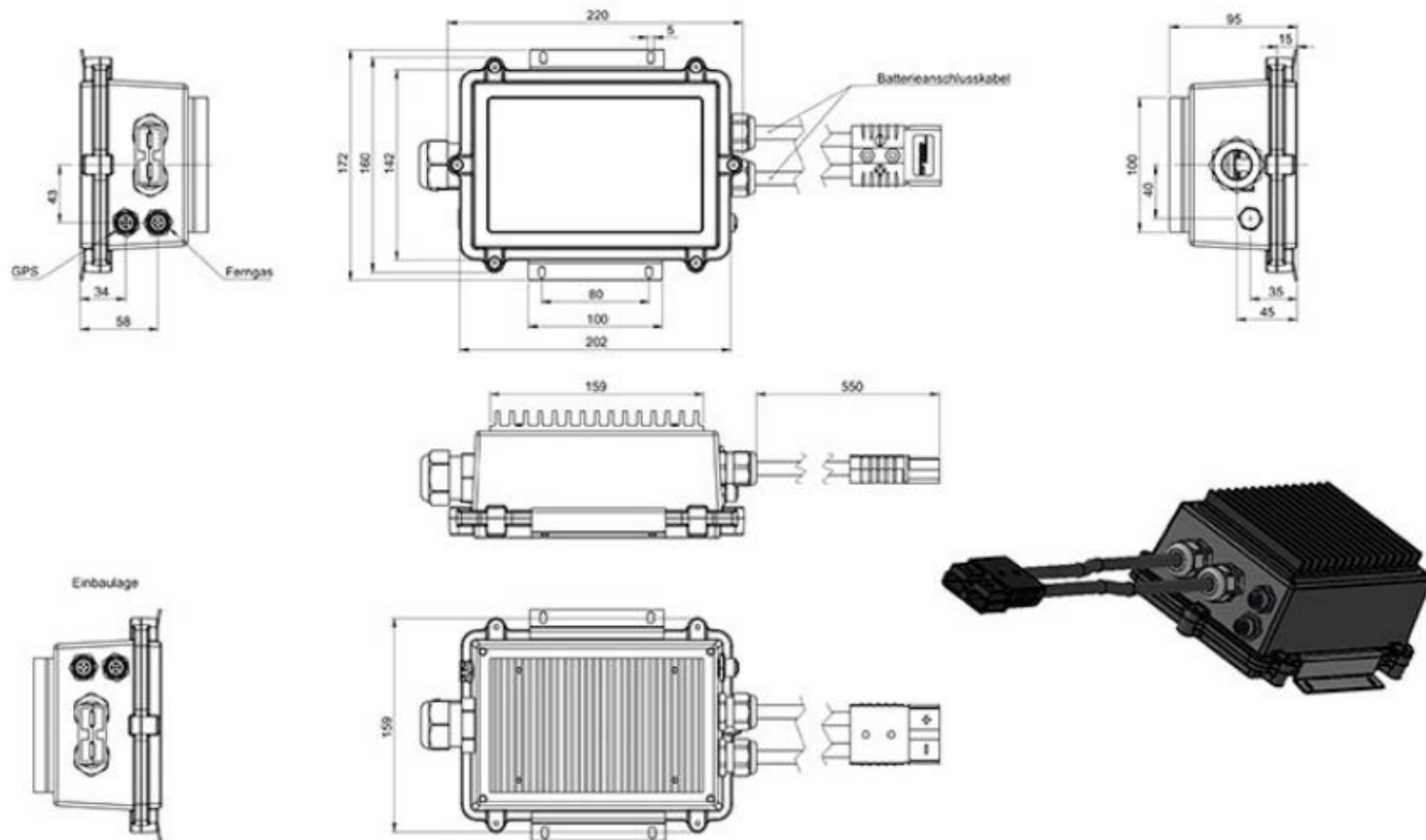
Torqeedo  
Cruise 2.0 / 4.0 FP

preliminary – vorläufig – preliminar – préliminaire

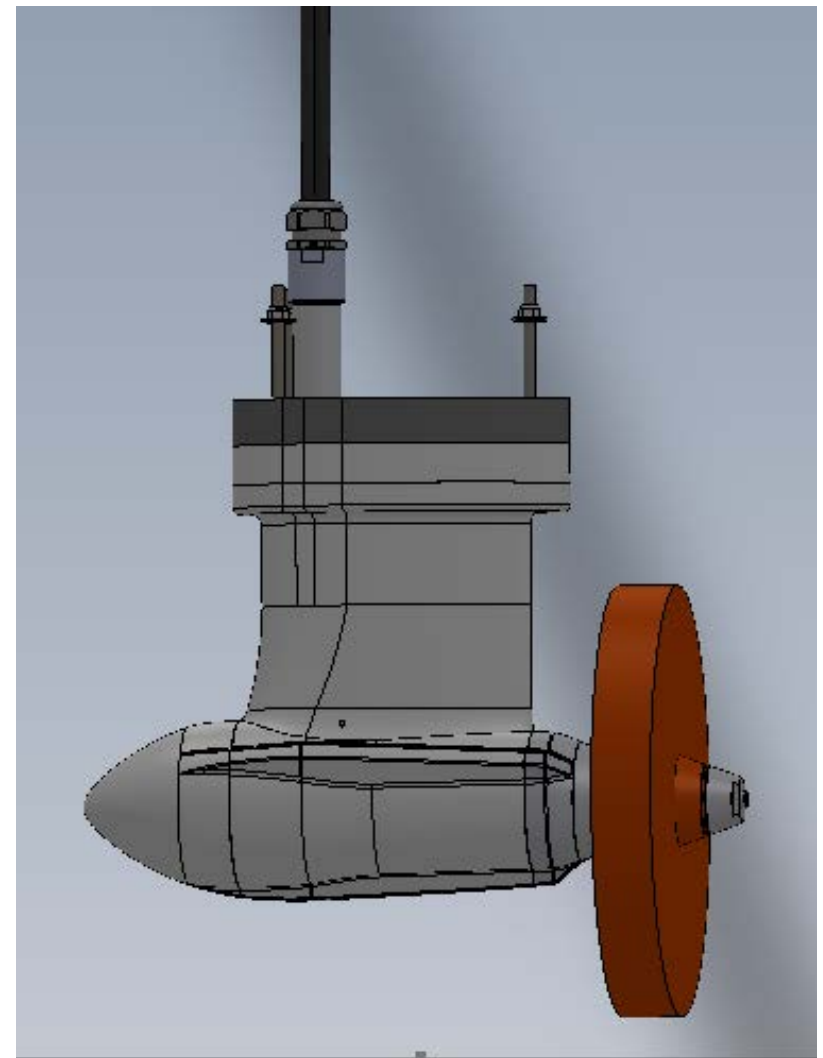
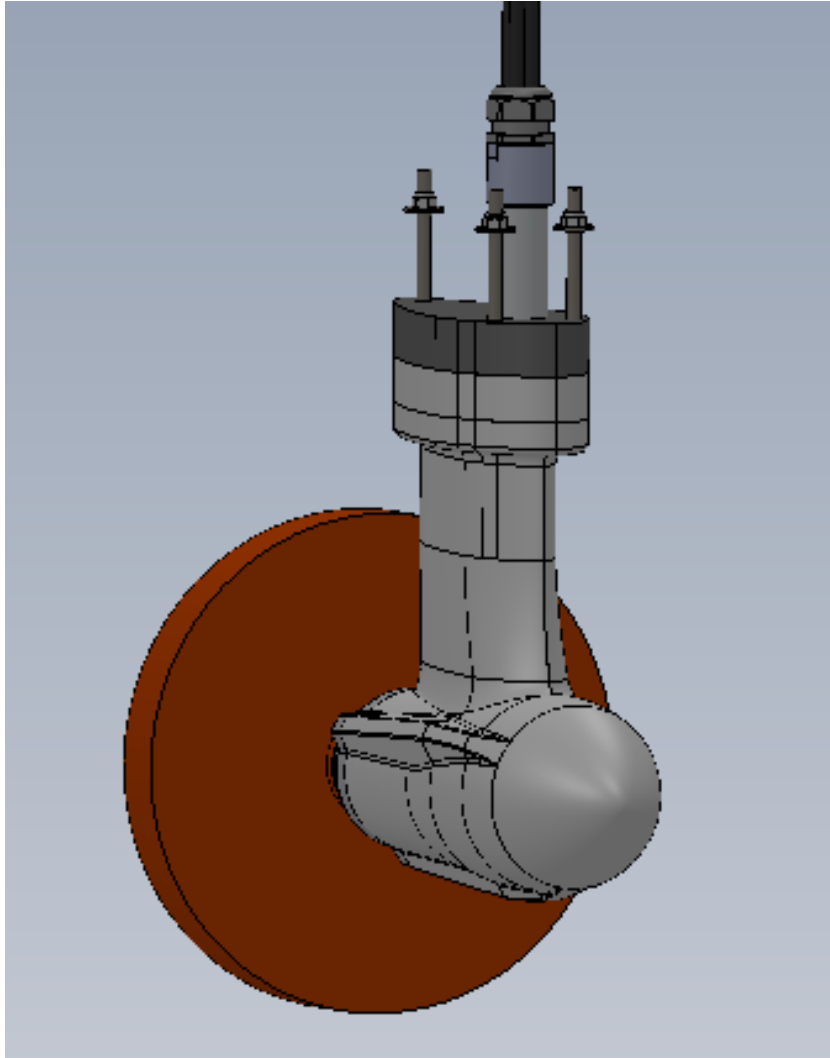
<https://www.torqeedo.com/technical-drawings/torqeedo-cruise-2-4-fp-electronicbox-measurements.pdf>

# Drawings Cruise 2.0 FP | 4.0 FP

PRELIMINARY



Torqeedo  
Cruise 2.0 / 4.0 FP



## Pod-Version of 10 kW Cruise

- Same concept as for Cruise 2.0/4.0 FP: pod unit with removable pylon + electronics box
- First prototypes built, testing to start soon (including folding prop etc.)
- Thrust of 1800N (400 lbs) in boost, 1650N (370 lbs) continuous with V15 propeller

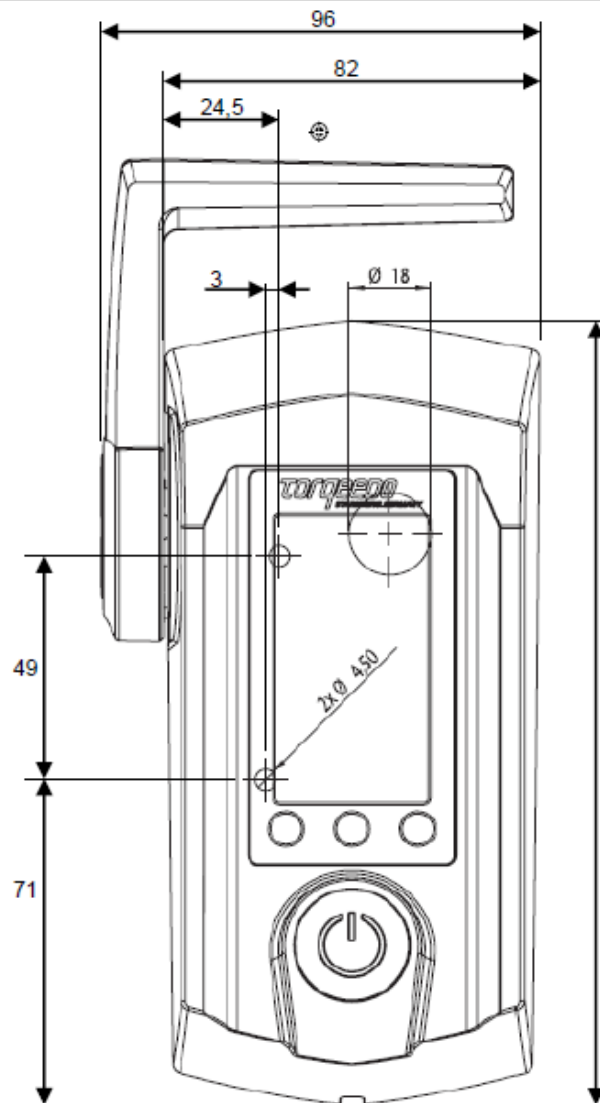


➔ Availability: December 2016



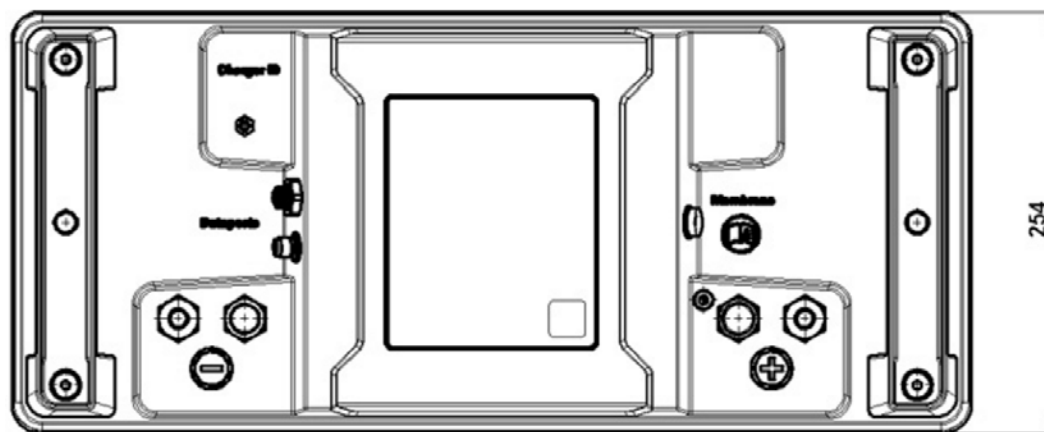
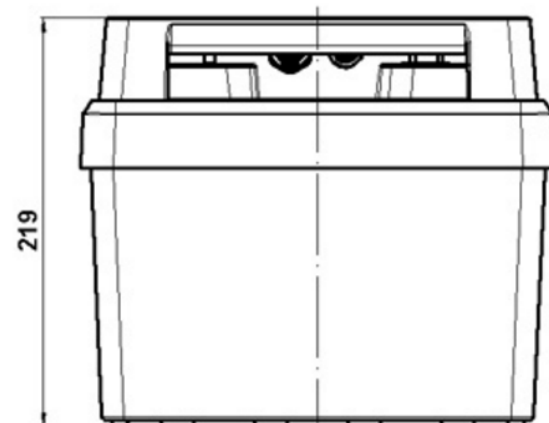
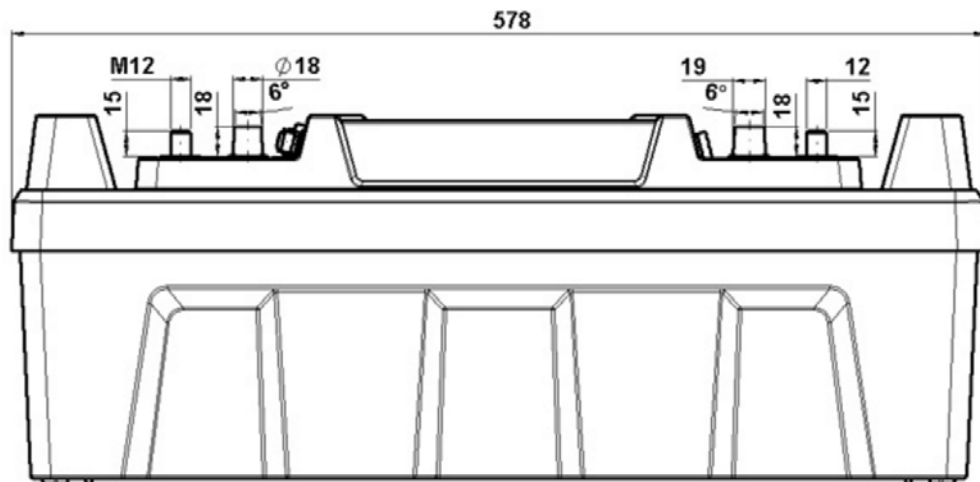


# Drawings Throttle



Max. height with raised throttle 119 mm

# Drawings Battery Power 26-104



## Dimensions Charger 350 W



Dimensions  
230 x 190 x 70 mm

## Dimensions Charger 1700 W

