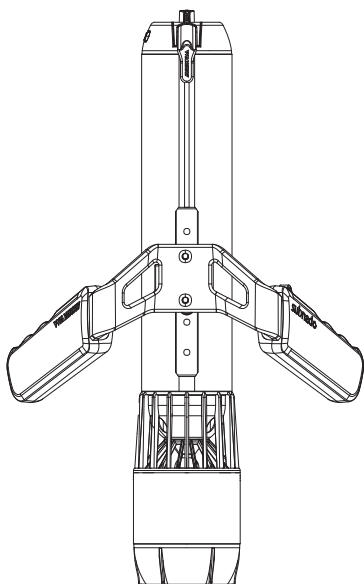


suinado

说明书

V2.0 2022.12



WAYDOO

目录

I.免责声明	02
II.基本信息	03
2.1 产品简介	03
2.2 安全指引(含用前须知)	03
III.关于产品	04
3.1 产品图示	04
3.2 功能特点	04
IV.充电	05
4.1 如何为 Subnado 充电	05
4.2 反向充电	05
V.安装步骤	06
VI.如何使用	15
VII. 产品参数	16
VIII. 故障指示灯与指示音	17
8.1故障指示灯与解决方案	17
8.2 指示音	19
IX. 维护保养	20
9.1 清洁事项	20
9.2 存放	20
保修服务	21

I 免责声明

请务必在使用前仔细阅读本使用手册以及相关警示，了解您的合法权益、责任和安全说明。本产品是一款水下运动助力推进器，不恰当使用本产品可能导致严重伤害甚至死亡的风险，用户须理解并接受使用本产品的固有风险，任何超出对本产品设计限制的滥用都可能导致产品损坏或人身伤害。请务必使用原厂配件或经过 Waydoo 认证的配件。一旦使用本产品，即视为您已理解、认可和接受本文档全部条款和内容。使用者承诺对自己的行为及因此而产生的所有后果负责。作为产品开发方，Waydoo 保留在不提前通知的情况下更改本产品的组件、规格或其他方面内容的权利。如需了解最新资料，请浏览 www.waydootech.cn

警告：本产品有使用年龄限制，16 岁以下的未成年人需在成年人监护指导下使用。安全指引仅包含部分的操作安全知识，请务必仔细阅读免责声明和安全操作指引的全部内容。通过阅读整个用户手册，熟悉产品的功能之后再进行操作。如果没有正确操作本产品可能会对自身或他人造成严重伤害，或者导致产品损坏和财产损失。本产品需要经过一段时间熟悉后才能安全使用，并且使用者需要具备一些基本常识后才能进行操作。切勿使用非 Waydoo 提供或建议的部件，且必须严格遵守 Waydoo 的指引安装和使用产品。本指引文档包含安全、操作和维护等说明。在进行组装、设置和使用之前务必仔细阅读用户手册中的所有说明和警告。

II 基本信息

2.1 产品简介

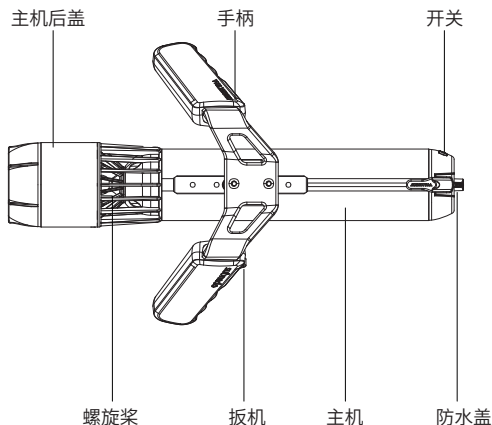
深圳市苇渡智能科技有限公司(Waydoo)成立于 2018 年,是一家集研发、生产及销售水上运动科技产品为一体的高科技企业。基于经验丰富的研发团队和稳定扎实的技术积累,苇渡通过多项技术创新,推出旗下第一款水下推进器--Waydoo Subnado。Subnado 采用了非常超前的内置电池设计,在直径仅 60mm 的铝合金筒身内集成了 98wh 的锂电池,无刷电机,电机驱动器,控制及充电电路,极大的缩小了产品的体积。Subnado 在同行业内首次使用 USB-C 充电系统,支持 PD 3.0 等快充协议,最大可以 100w 的充电功率进行快速充电,以及以最大 100w 的功率为其他 USB 设备充电。动力系统采用了小直径喷泵的形式,在兼顾推进效率的同时,更获得高达 6.5 公斤的推力。小巧便携,非常适合外出旅行。苇渡为用户提供了多种配件供选择,如板体配件,用于将 Subnado 安装在多种场景作为推进动力使用;手臂配件,使用者可以将 Subnado 固定在手臂上,不占用双手,在潜水时非常方便。快拆安装的设计,方便用户在多种场景中切换。Subnado,为您提供完美的水下体验。

2.2 安全指引

- 1) 16 岁以下的未成年人必须在监护人的陪同下使用本产品。
- 2) 请仔细参照用户手册和观看官方教学视频使用本产品。
- 3) 醉酒或身体状况不适合游泳、浮潜、潜水等运动的人士请勿使用本产品。
- 4) 本产品的任何零部件都不得接近火源,不可重压、跌落。
- 5) 本产品只能浸泡在水中使用,切勿在空气中长时间打开电机。
- 6) 本产品的使用环境温度条件为 0° C~40° C,本产品的任何零部件的存储环境温度条件为 -10° C~50° C。
- 7) 使用过程中请注意将手指、头发及衣物等远离螺旋桨部分,避免吸入主机导致人身、物品伤害或产品损坏。
- 8) 使用本产品前需留意将要进入的水域水质,确保所在水域适合进行游泳、潜水等活动,且允许使用本产品。避免在泥沙、杂物、带状漂浮物较多的水域使用,以免卷入螺旋桨损坏主机动力装置。
- 9) 使用本产品前,应检查好产品无明显破损,防水盖已安装到位,螺旋桨正常工作,并检查电量。
- 10) 使用本产品时,建议配戴泳帽,切忌穿着宽松的衣物,并与周围长头发或身着宽松衣物的人群保持安全距离,避免长发或衣物卷入螺旋桨。
- 11) 使用本产品时,请务必紧握手柄,不要将本产品的前部及尾部对准您或他人的脸部,尤其是眼睛。
- 12) 请勿使用受损或故障的产品。
- 13) 请勿在未充分了解产品的操作步骤和固有风险前使用本产品。
- 14) 本产品内含电池和密集电路,不允许客户私自拆卸或维修,以免造成短路引发火灾。

III 关于产品

3.1 产品图示



3.2 功能特点

两档推力: 高低两档推力设置, 使用者可通过快速按压扳机 2 次进行切换, 切换成功后可听到一或两声提示音, 一声代表已进入低档, 两声代表已进入高档。

Super 档: 快速按压扳机 3 次, 可听到 3 声提示音, 代表机器成功进入 Super 档; 在随后的 1 分钟内, 按动扳机启动螺旋桨, 螺旋桨将以最大的速度旋转, 提供极限推力。

注意: 一分钟之后自动退出 Super 档, 并切换至进入 Super 档之前的档位。若想重新进入 Super 档, 请再次快速按压扳机 3 次。

档位	电量 SOC 要求
高档	>25%
Super 档	>37.5%

注意: 当电量低于 25% 的时候, 自动退出高档进入低档。当电量低于 37.5% 时, 自动退出 Super 档进入高档。

USB-C 快充:使用 USB-C接口的充电器 (支持PD3.0、QC2.0、QC3.0、BC2.1等充电协议)即可为 Subnado 充电,最大充电功率可达100W。

注意:充电功率要达到100W需要充电器支持并使用e-Mark充电线。

反向充电:利用主机作为电源对其他设备进行充电的功能。反向充电支持PD3.0、PPS、QC3.0、QC2.0和BC1.2等常见协议。最大反向充电功率可达100W。

注意:充电功率要达到100W需被充电设备支持并使用e-Mark充电线。

经Waydoo实验室适配测试的充电器清单,见www.waydootech.cn“资料下载”页面。

定速巡航模式:在此模式下,用户可以在螺旋桨连续旋转 15 秒后松开扳机,进入巡航工作状态。再次扣动扳机,即可退出此状态。定速巡航模式自固件版本V1.0.73后,关机后默认退出定速巡航模式,重启后为正常模式;

空转保护状态:Subnado在空气中工作几秒钟后,会明显降速,以保护主轴;主机在水下工作时不会触发空转保护。

注意:若在空气中进入定速巡航状态,空转保护将继续生效。

IV 充电

4.1 如何为 Subnado 充电

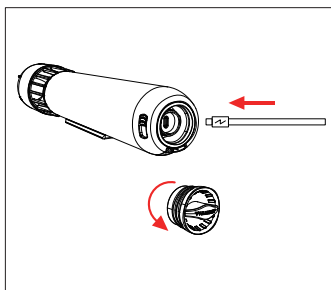
1. 选择支持 PD 协议的充电头,以加快充电速度。

2. 机头朝下 (防止防水盖内有水落入) 打开防水盖,检查USB-C周边及内部是否有水 (如果有水需先晾干;如果有海水必须先使用酒精彻底清洗干净并晾干),无异常后插入 USB-C 充电线开始充电。

3. 充电过程中,电量指示灯以跑马灯形式循环显示,灯的数量指示当前电量。

4. 跑马灯的速度指示充电速度;跑马灯速度越快表明充电速度越快。

注意:Waydoo在USB-C口增加湿敏检测贴纸,若贴纸由白变红则表明USB-C口处有水,请先用棉签或纸巾擦拭干净,将机头朝下放置;并及时联系Waydoo,为您提供技术服务。



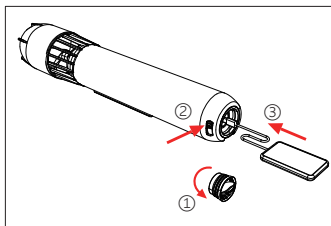
4.2 反向充电功能

1. 打开防水盖(如果机身有水,应避免进入USB-C插头周边或内部)。

2. 先打开主机电源,再插入 USB-C 线缆。连接需要充电的设备,开始充电。(注意主机需要在连接设备之前开机)

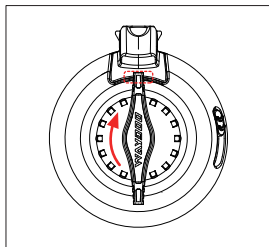
3. 充电完成后,拔除充电线并关闭主机电源。

4. 安装好防水盖。



4.3 防水盖安装到位

1.防水盖是防止水进入到USB-C口,若安装不到位或者缺少润滑脂,可能导致水进入USB-C口,引发USB-C口损坏。因此,确保USB-C口内没有水对于Subnado的使用非常关键。请在防水盖处涂抹好润滑脂,起到密封作用,请将防水盖安装到位,避免海水渗进USB-C口,导致机器损坏。

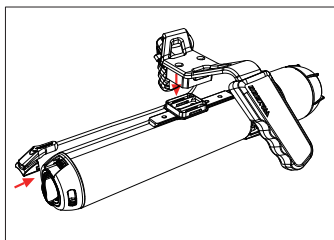
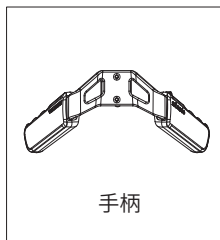


4.4.充电时间参考

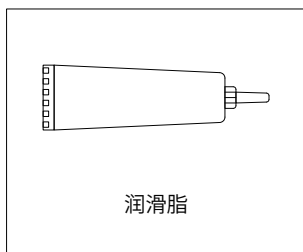
充电器10W	预计10小时	充电器18W-24W	预计7小时
充电器36W	预计3.5小时	充电器45W	预计3小时
充电器60W-66W	预计2小时	充电器100W	预计1.2小时

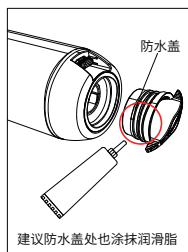
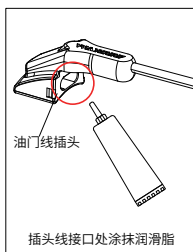
V 安装步骤

5.1 将手柄安装于主机, 遥控线接口安装于对应位置 (以手柄为例)。



5.2润滑脂使用说明





油门线插头为防水设计, 以防止水或海水进入到接口内部, 若有水进入到连接器内部, 则可能会导致以下情况: 1. Subnado开机后, 电机持续转动, 无法停止 2. 弹针或铜触点被腐蚀, 以致于连接器无法正常导通及工作, 甚至Subnado的永久损坏。因此, 确保连接器内没有水对于Subnado的使用非常关键。

为了能够让用户能够更好的使用Subnado这款产品, Waydoo官方推出了这份使用注意事项与保养方案, 请仔细阅读并遵从下列规则。

每次安装油门插头前

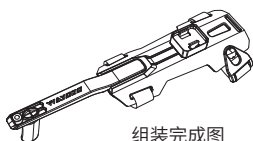
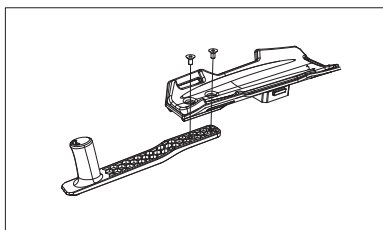
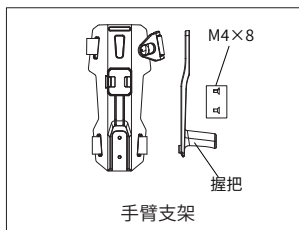
- ①检查插头内是否有水, 若有, 可用清水清洁后, 并用棉签或纸巾擦干, 并晾干使用;
- ②检查插头内部油脂的情况, 若油脂较少, 需加油脂, 建议加入2-3mm长度的油脂, 多次插拔后, 观察插头是否能安装到位, 若不到位, 可能是油脂过多所导致, 需清除部分油脂;
- ③检查机身侧插头位置O圈是否有破损, 若有破损, 请更换O圈, 若O圈处油脂较少, 可酌情补充油脂, 以增强防水性能以及保护O圈。

注意:

1. 若增加油脂后, Subnado无法转动, 可考虑几种情况:
 - ①铜触点腐蚀, 若有, 可尝试清洁;
 - ②油脂过多, 无法安装到位;
 - ③油门线插头的弹针腐蚀, 若有, 可能需要更换油门线;
2. 防水盖O圈处也需检查油脂情况, 及时补充, 以确保防水性能;
3. 每次使用后, 请取下油门线插头, 并检查是否有水在内部, 若有, 请清洁并晾干。

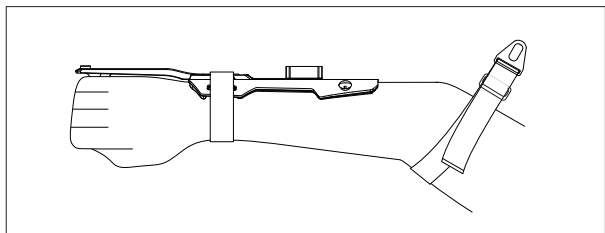
配件使用说明

使用M4×8螺丝连接握把与手臂支架 (如图)

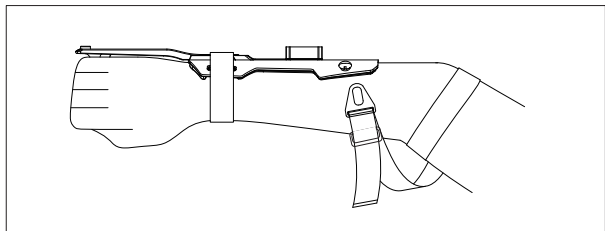


组装完成图

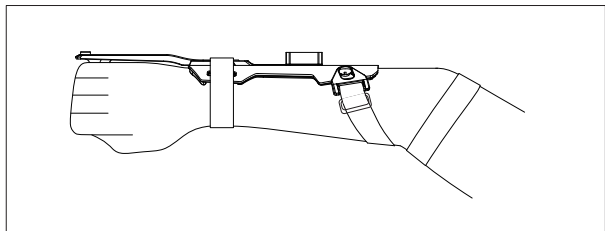
1. 握住握把，将手臂支架放置于手臂外侧。根据手臂粗细，将绑带缠绕手臂1-2圈。



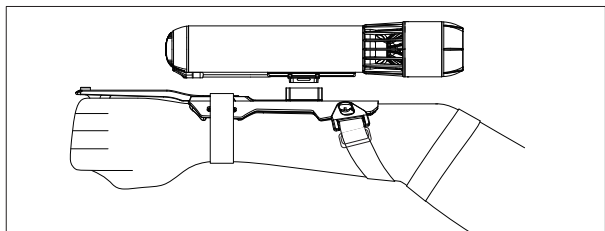
2. 绑带一端扣上葫芦扣。



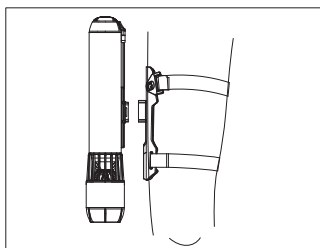
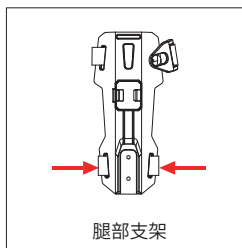
3. 根据手臂粗细缠绕2-3圈后与尼龙带粘贴固定。



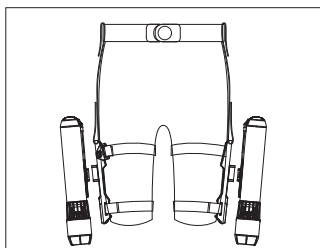
4. 手臂支架固定完成后，主机可通过快拆件与手臂支架连接。



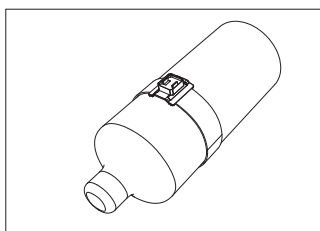
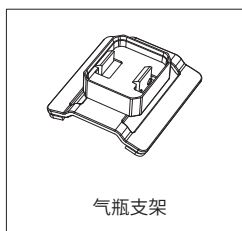
腿部支架固定至腿部外侧，主机可通过快拆件与腿部支架连接。
注意：腿部支架有专用绑带，使用前请更换。



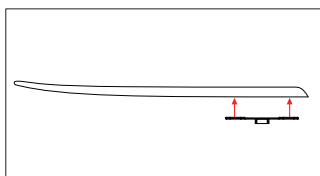
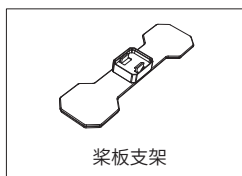
绑腿腰带固定至腰上，腰带两侧带子穿过腿部支架上方的孔后与尼龙带粘贴固定。

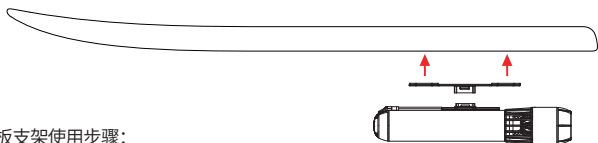


将气瓶支架安装于氧气瓶上，主机可通过快拆件与气瓶支架连接。



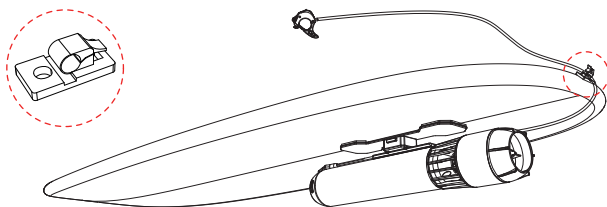
桨板支架





桨板支架使用步骤：

- 1.请先确认桨板支架粘合处是否干净、平整，如果有脏污、沙尘，请先清洁干净并保持干燥；
- 2.将桨板支架上的贴纸撕下粘合于板体(如：冲浪板)底部，再按压桨板支架以固定；
- 3.为保证桨板支架上的纳米胶效果达到最佳，请粘合于板体后静置半小时；
- 4.通过快拆件与主机连接，每次下水使用 Subnado 前请沿机身方向用七公斤左右力，检查支架是否稳固，以确保粘贴有效。



固定扣使用步骤：

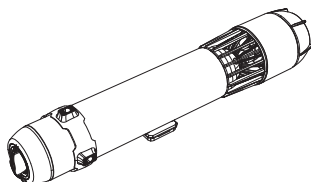
- 1.请先确认固定扣粘合处是否干净、平整，如果有脏污、沙尘，请先清洁干净并保持干燥；
- 2.将固定扣上的贴纸撕下粘合于板体上(如：冲浪板)或板体的侧面，再按压固定扣以固定；
- 3.为保证固定扣上的纳米胶效果达到最佳，请粘合于板体后静置半小时后，在下水使用前，请轻微晃动固定扣，检查确保粘贴有效。

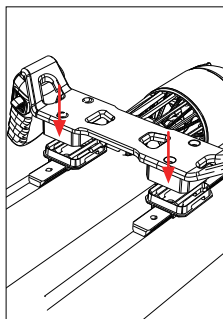
附件扩展支架安装于主机，锁紧螺丝以固定。



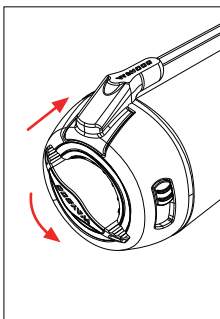
M2.5X10

附件扩展支架

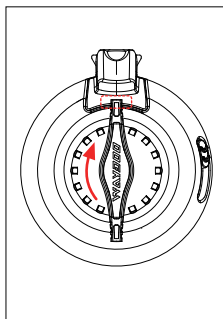




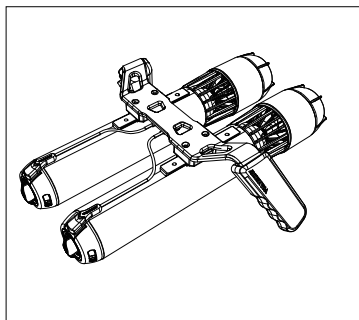
手柄安装于主机



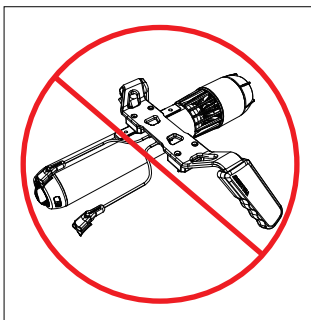
逆时针拧开防水盖到如图位置
油门线接口安装于对应位置



顺时针拧紧防水盖



完成安装



禁止单机使用

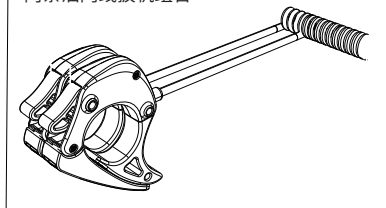
注意:需要在无水环境下安装,避免接口处有水,如果有水需要晾干,可用清水清洁后并用棉签或纸巾擦干,并晾干使用;

注意:建议充满电后使用,避免两台主机电量不同影响使用体验;

注意:在使用双机手柄前,请一定要装配两台主机,不能使插头线单独浸泡在海水中,这将会导致插头线的铜针被腐蚀,以至于连接器无法正常导通及工作;

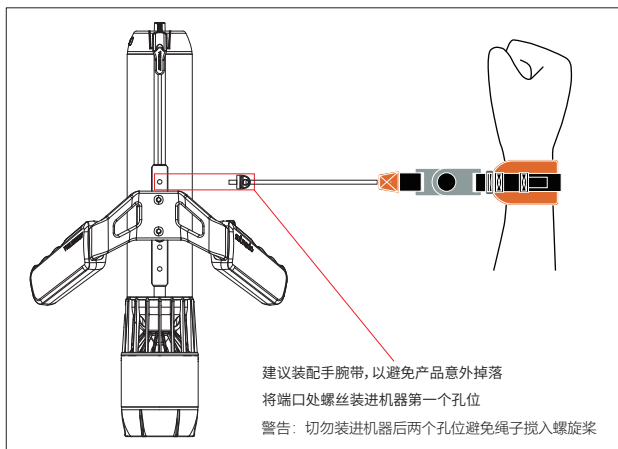
注意:在使用双机手柄前,请先确认两台主机的定速巡航模式是一致的,避免两台主机模式不同影响使用。

两条油门线扳机组

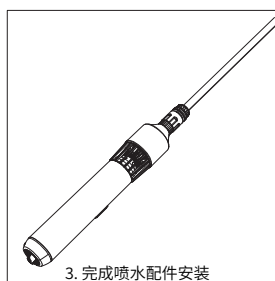
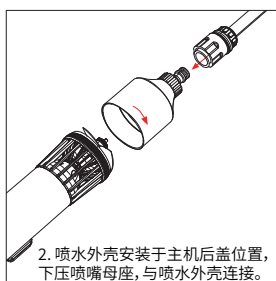
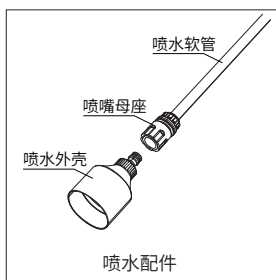


两条油门线扳机组组合使用:
将一扳机上两个立柱对齐另一个扳机的圆孔,水平合上即可;
注意:若扳机安装紧密,按动左边扳机也有可能控制两部主机工作。

手腕带使用说明



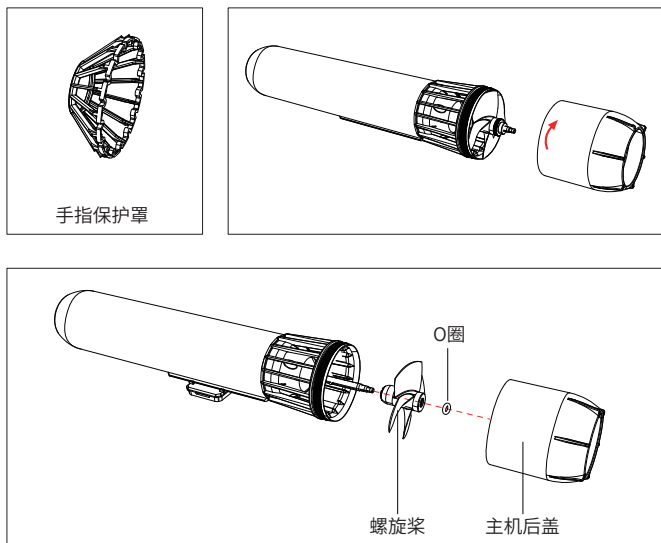
喷水配件安装步骤。



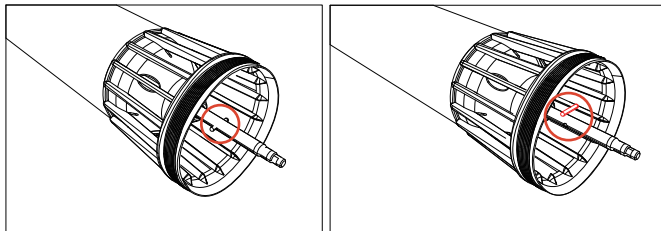
注意: 请先顺时针转向机身方向施力, 感受到明显的连续两次突跳后, 说明螺纹处于最佳安装位置, 此时沿电机轴向施加适当的力并逆时针旋转喷水外壳, 否则安装容易装不上, 或者装歪。

若使用者的手指比较纤细,担心使用中手指受伤,则可以安装随机标配的手指保护罩,以下是安装步骤:(注意:使用手指保护罩会增加水阻,导致功耗增加,影响效率,降低续航时间和推力)

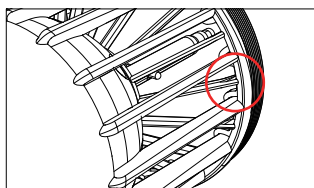
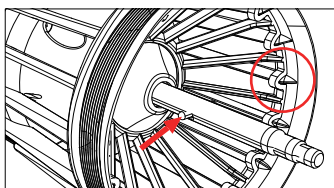
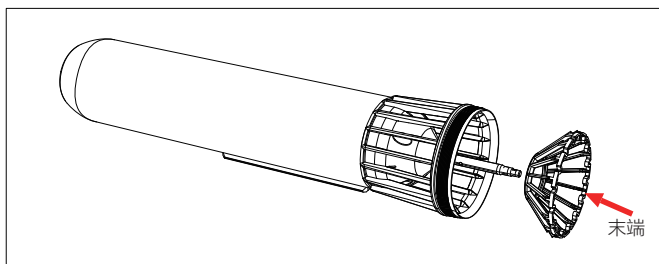
1. 顺时针拧开主机后盖,取下O圈,取下螺旋桨。



2. 拆下销钉。

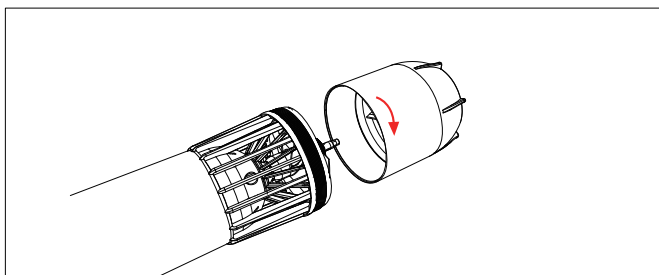


3. 将手指保护罩放入槽内, 将手指保护罩每个末端压入到位, 确保手指保护罩末端与槽内缺口扣合 (如图)



4. 检查润滑脂情况, 若润滑脂较少, 需酌情补充润滑脂, 再将销钉正确就位后, 组装好螺旋桨。

5. 装上O圈后, 检查润滑脂情况, 若润滑脂较少, 需酌情补充润滑脂; 将后盖中心对准轴安装, 逆时针拧紧主机后盖。



注意: 请先顺时针转并向机身方向施力, 感受到明显的连续两次突跳后, 说明螺纹处于最佳安装位置, 此时沿电机轴向施适当的力并逆时针旋转后盖。否则安装容易装不上, 或者装歪。

其他配件的安装与使用请参考官网相关文件。

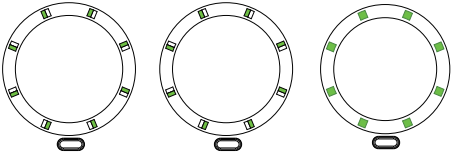
VI 如何使用Subnado

本产品需要经过一段时间熟悉后才能安全使用，并且使用者需要具备一些基本常识后才能进行操作。因此Waydoo在此强烈建议用户，在使用前需阅读并遵循以下步骤：

- 1.检查防水盖是否安装到位(参考IV 充电)；
 - 2.检查插头线是否有水，以及检查润滑脂情况(参考安装步骤)；
 - 3.按动扳机，确认是否正常运转，检查油门控制情况是否正常；
 - 4.打开主机电源，确认电量(参考 figure 1)，及检查主机自检提示音是否正常；
 - 5.快按遥控扳机 2 次，进行高低档位切换；快按遥控扳机 3 次，可启动 Super 模式。
- 提示音的数量表示切换进入的档位。进入低档时发出一声提示音，进入高速档时发出两声提示音，进入 Super 档时发出三声提示音。

注意:Super 档位只能保持 1 分钟，若要重新进入 Super 档位，需再次快按扳机 3 次。

Subnado 支持两种模式:定速巡航模式与正常模式。要开启定速巡航模式，请同时按住扳机并打开主机电源；要关闭定速巡航模式，请关机重启。

模式	正常模式
开机	
	开机时,8个LED灯闪两次,之后显示电池电量
如何工作	在正常模式下,按下扳机时螺旋桨旋转,松开后停止。

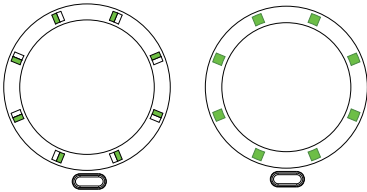
模式	定速巡航模式
开机	
	开机时,8个LED灯闪一次,之后显示电池电量
如何工作	在定速巡航模式下,按下扳机15 秒后,当有瞬时变速时机器进入巡航工作状态。此时用户可以松开扳机,螺旋桨将继续旋转。再次按下扳机并松开,螺旋桨将停止旋转并退出此状态。

Figure 1

LED 灯	电量
	<8%
	8%-18%
	18%-25%
	25%-37.5%
	37.5%-50%
	50%-62.5%
	62.5%-75%
	75%-87.5%
	87.5%-100%

注: 以上及以下半格LED灯均代表LED灯闪烁。

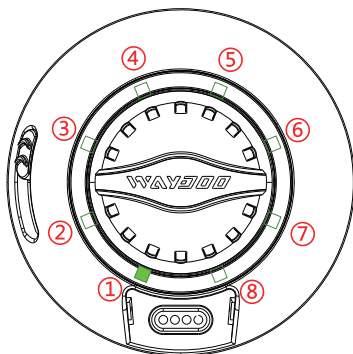
VII 产品参数

	项目	参数
主机	重量	约1.4kg
	尺寸	约377*60mm (螺旋桨罩 70mm)
	最大速度	1.4m/s
	最大深度	60m
	续航时间(最长)	56mins
	工作温度	0°C~40°C (32°F~104°F)
	最大推力	6.5kg (1min)
	外挂支持	附件扩展支架支持 3 个英制 1/4 螺纹孔
充电	充电电压	5V~20V
	接口类型	USB-C
	最大功率	100W (PD3.0)
	充电温度	0~40°C (32°F~104°F)
	充电时长	1.2H (100W)

固件升级功能:

可在Waydoo官方网站上“资料下载”页面中下载Subnado升级工具将您的Subnado升级为最新固件,以获得更好的产品体验。

VIII. 故障指示灯与指示音



LED 1 位于遥控线端口的左侧

LED 8 位于遥控线端口的右侧

8.1 故障指示灯与解决方案

故障指示灯	故障	解决方案
	电芯欠温	将主机放置于 10-30 摄氏度的环境内,等待主机温度上升 到合适的温度,充电将自行开始。
	电芯过温	1. 停止充电 2. 将主机放置于室温较低的环境内,等待主机温度降低到合适的温度,故障将会消失。

故障指示灯	故障	解决方案
	电池过放	请联系Waydoo。
	电调通信故障	更新固件
	PD通信故障	1.建议用户使用符合我们充电协议要求的充电器,例如支持PD/QC协议的充电器。 2.更换新充电器仍无法解决, 请联系Waydoo。
	主控过温	1.请尽快将主机关机,然后将主机放置于室温较低的环境内,等待主机温度降低到合适的温度,故障将会消失。
	充电过温	1.请尽快将主机关机 2.将主机放置于室温较低的环境内,等待主机温度降低到合适的温度,故障将会消失。

注: 以上及以下半格LED灯均代表LED灯闪烁。

8.2 指示音

指示音	含义
♪ 1 2 3 4	主机自检通过
🔊 / 🔊 🔊 / 🔊 🔊 🔊	档位切换： 一声指示音为切换到低档； 两声指示音为切换到高档； 三声指示音为切换到 Super 档
🔊- (1s)	无法进入设定档位
🔊-🔊-🔊-🔊-🔊	提醒用户关机，避免电量耗尽（15 分钟内没有按下遥控线扳机/ 没有正在充电或充电完成）

IX 维护保养

9.1 清洁事项

每次使用完本产品后，请务必按照指引冲洗本产品，延长产品的抗腐蚀性和使用寿命，以下是需要注意的要点：

- 1) 在海水中使用后，请务必及时用淡水冲洗主机机身并晾干，避免外壳腐蚀和机体变色。
- 2) 用淡水冲洗机身前，请务必确保防水盖拧紧。
- 3) 清洗某些部件如连接部位、螺旋桨等时，如果有发现盐分、沙子或其它碎屑，请务必清理干净。
- 4) 如果发现有异物缠绕于螺旋桨，可将主机后盖打开进行清理。
- 5) 主机机身清洁完毕之后，请将防水盖取下，用干净、干燥的棉签清洁接口，确保无水、沙粒及其他异物。
- 6) 准备充电前请擦干主机，以免在打开主机防水盖时海水流入 USB-C 接口，损坏 USB-C 接口。一旦有海水流入 USB-C 接口，请在关机状态下及时使用淡水或酒精冲洗连接器，并及时晾干后才能使用。
- 7) 如果有海水进入遥控线接口，需要及时使用少许淡水或酒精清洗干净并晾干，避免腐蚀导致接触不良，影响产品后续使用。
- 8) 如果不小心将外壳氧化层破坏，应及时修补，以免加速对外壳的腐蚀。

9.2 存放

请遵照以下存放原则：

- 1) 请确保电源开关是关闭状态并将产品远离强磁环境，强磁环境可能会导致主机开机及耗光电量。
- 2) 请确保存放温度在-10℃~50℃范围内。
- 3) 请勿将 Subnado 在潮湿、阳光直射等环境中存放，恶劣的环境会对电子设备造成损坏。
- 4) 请勿将 Subnado 放置在明火以及儿童易触达的地方。
- 5) 请在存放 Subnado 期间，防止电池因长时间不使用而过度放电。
- 6) 如果长期不使用，应确认主机电量在50%~62.5%之间后关机存放，以延长电池寿命。同时需每三个月对电池进行一次充电(充电到50~62.5%)。

保修服务

Waydoo Subnado售后服务政策/条款

服务范围：

Waydoo保证，在正常使用情况下，根据已发布的产品详情，您购买的Waydoo Subnado产品在保修期内不会出现材料和工艺上的缺陷。本产品的保修期从您收到货物后的当日算起，具体部件的保修期，请参照保修说明表。在本有效保修期内，维修或更换的部件并不会将保修期延长至超过其原本的有效期限。若您无法提供购买发票等有效购买证据，则保修期起始日期以机器所示的出厂日期为准或由Waydoo另行规定。

如何获得售后服务：

在有效保修期间内，若产品不能实现所保证的功能，请联系Waydoo以获取相应的售后服务。

Waydoo可能在某些地区不提供售后服务，且售后服务政策的内容也可能因地而异。常规服务范围外的服务可能要收费。如欲了解本地信息，请联系Waydoo或当地授权经销商。

申请保修服务

Waydoo为您提供以下保修服务。如需详细信息，请联系Waydoo或Waydoo授权经销商。您可能需填写产品保修卡，并在必要时将待修产品与保修卡一起寄回Waydoo或Waydoo授权售后服务中心。

获得售后服务前的准备工作

联系Waydoo后，请您详细说明产品存在的问题。Waydoo技术支持人员将尝试通过电子邮件、电话等或远程协助方式来诊断和解决您的问题。如果通过远程协助无法解决您的问题，必要时您可能需将产品寄回Waydoo或Waydoo授权服务中心进行进一步检测。Waydoo会按产品享有的保修服务安排维修或者更换。

在为您的产品获取售后服务之前，请阅读以下服务须知：

- √ 遵循Waydoo的服务流程；
- √ 对于退还的产品或接受保修处理的产品Waydoo不对其中丢失或泄露的任何数据负责，包括机密信息、专有信息、以及个人信息等；
- √ 保证Waydoo能够充分、自由和安全地接入您的设备来提供售后服务；
- √ 移除售后服务覆盖范围外的所有功能部件、零件、可选部件、改动部件和附件等；
- √ 确保产品或部件没有妨碍其更换的任何法律限制。

更换产品和部件

如果保修服务涉及更换产品或部件，那么被更换的产品或部件将成为Waydoo的财产，而更换的产品或部件将成为您的财产。只有未经改动的Waydoo产品和部件方可进行更换。Waydoo提供的更换产品或部件可能不是全新的，但它们处于良好的工作状态，并至少在性能上与被更换件等同。更换的产品或部件在原产品剩余的保修期内享有同等的保修服务，且更换产品或部件有可能将绑定新的序列号。

个人联系信息的使用

如果您根据本保修条款获取服务，即表示您授权Waydoo使用您的联系信息，包括姓名、电话号码、地址和电子邮件地址等。Waydoo可利用这些信息开展本政策下的服务。我们可能会联系您进行服务，并可能询问您对我们的保修服务是否满意，或就任何产品召回或安全问题向您发出通知。为实现上述目标，您授权Waydoo将您的信息转移到我们开展业务的任何国家或地区，并可以将其提供给代表我们的机构。如果法律要求，我们也可以披露这些信息。

非售后政策保障范围

- × 未在官方保修说明表内指明可享受有效保修的部件；
- × 发生物理上的正常磨损、色泽变化等造成的产品外观变化与损坏；
- × 发生非官方说明书指导的私自改装、拆解、开壳等行为而造成的损坏；
- × 未按说明书指导的不正确安装、使用及操作所造成的损坏或者烧毁；
- × 未按说明书指导的情况下对产品部件进行清洁保养而造成的损坏或者部件丢失；
- × 未按说明书指导的情况下操作的一切水上活动而造成的损坏；
- × 在无官方说明指导的情况下，用户自行维修装配件导致的损坏；
- × 发生人为的非产品本身质量问题导致的碰撞、烧毁事故；
- × 因非官方说明书指导的电路改造、或电池组、适配器的匹配使用不当导致的损坏；
- × 在恶劣的环境下使用及存放导致的产品故障或损坏，如大风、雨天、沙尘等；
- × 在电磁环境复杂或强干扰源环境下操控而导致的产品异常或损坏，如矿区、高压线、变电站、海底岩石、不适用的水域环境等；
- × 在零部件发生老化或损坏的情况下强制工作造成的损坏；
- × 与其他设备相互干扰的情况下操控而导致的损坏；
- × 与非Waydoo提供或建议的第三方部件同时使用时发生可靠性及兼容性问题导致的损坏；
- × 电池因过度放电而导致的电池损坏；
- × 提出或上报产品故障后，仍继续使用产品造成的进一步损坏；
- × 机器序列号、出厂标签及其他标示撕毁、涂改迹象；
- × 质保权益不得转让，仅属于原购买者；
- × 经Waydoo判定问题属于非出厂时材料或工艺的缺陷，且购买者无法提供有效证明以说明问题发生来源；
- × 联系 Waydoo 或 Waydoo 授权经销商确认保修服务后，没有在规定时间内寄出相应物件。

其他须知

- √ 在不同国家/地区购买Waydoo产品, 根据当地法律规定的差异性以及Waydoo在不同地区的服务方式, 有限保修期间内, 相关的费用和保修服务会有所不同。
- √ 用户如若需将故障产品寄回Waydoo或Waydoo授权服务中心, 收到故障产品后, Waydoo将对产品进行故障检测以确定问题责任。若在保修期内Waydoo会负责对故障产品进行维修或替换, 用户承担寄回Waydoo或Waydoo授权服务中心的运费。
- √ 若经过检测产品不符合免费维修条件, 用户可选择付费维修或原机寄回。在您同意Waydoo报出的维修费用之前, Waydoo不会进行维修。如果您不同意维修费用, Waydoo将会退回产品并由您承担退回运费。
- √ 若产品的问题不在保修范围内(如人为导致机器损坏), Waydoo会根据具体问题收取相应的检测费、更换零件费、测试费、人工费及快递费等费用。
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- √ 若用户提供的收件地址错误, 或存在收件人拒绝接收的情况, 由此产生的损失须由用户承担。
- √ 若用户将Waydoo产品用于非官方授权的商业用途, Waydoo保留另行规定质保权限的权利。
- √ 若用户所在区域/国家处于因不可抗力或客观因素所导致的服务限制, Waydoo保留向用户收取部分必要费用的权利。
- √ 若用户自身无法提供充分的证明材料, 导致Waydoo无法核实故障部件的保修权益合规性, Waydoo有权拒绝提供免费质保。
- √ 若您希望跨国寄回产品, 需提前征得Waydoo同意, 且由此产生的关税及清关等费用须由您自行承担。
- √ 如发生碰撞损坏严重, 会严重影响产品性能, 且不具备维修价值, 在此情况下Waydoo无法提供维修服务。
- √ 产品寄修前, 请您妥善处理原有产品上附着的个性化物品和装饰(包含但不限于产品装饰性贴纸、UAS贴纸、涂料喷漆等) Waydoo对个性化物品和装饰的破损与遗失概不负责。
- √ 为确保您的正常权益, 在签收商品时, 请您检查产品是否完好(是否存在因物流等原因造成的损坏)。如产品存在异常, 请于签收日起的3个自然日内反馈; 否则将视您默认产品无损坏且性能正常, 且产品或部件齐全。根据物流方理赔管理流程, 因物流运输导致的物品损坏, 需在24小时内联系Waydoo或Waydoo授权服务中心进行报备, 逾期将无法为您受理。

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(2) 当数据丢失或泄漏的原因，是用户自身行为，如：随意丢弃废旧产品的，则我方不需要就此承担责任。

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2) 您的数据丢失、损坏或泄露；

3) 特别的、附带的、间接的或继发的损害，包括但不限于利润、业务收入、商誉或预期可节省金额方面的损失。无论损害基于任何原因，Waydoo及其关联企业、供应商、经销商或服务供应商的全部责任仅限于您实际遭受的直接损失，并且不多于您购买产品付出的金额。

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(保修说明表)

部件	北美地区	欧洲	澳大利亚	新西兰	中国大陆及港澳台地区	其他地区
主机	1年	2年	1年	1年	1年	1年
主机后盖	6个月	6个月	6个月	6个月	6个月	6个月
双机手柄/手柄/油门线	6个月	6个月	6个月	6个月	6个月	6个月
适配器	6个月	6个月	6个月	6个月	6个月	6个月

*实际配件以购买产品的包装清单为准。

*主机仅包含主控系统、电机、电池部件。

*未在官方保修表格内指明可享受有效保修的部件,不享有本有效保修政策。





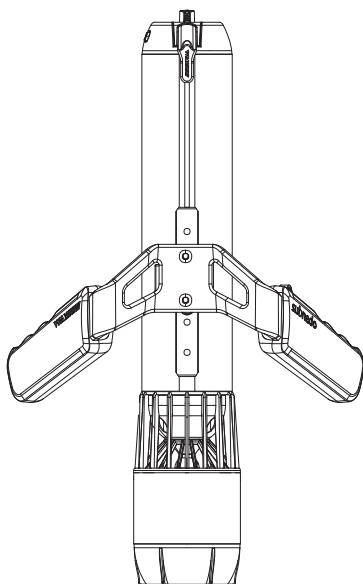
Waydoo技术支持

本指引如有更新,恕不另行通知
您可以在Waydoo官方网站查询最新版本
www.waydootech.cn

subnado

USER GUIDE|MANUAL|SAFETY

V2.0 2022.12



WAYDOO

Contents



Read and understand this user manual and all safety instructions before using this product.

I Disclaimer	02
II Overview	03
2.1 Brief Introduction	03
2.2 Safety Guidelines	03
III Waydoo Subnado	04
3.1 Product Diagram	04
3.2 Product Specifications	04
IV Charging	05
4.1 How to charge Subnado	05
4.2 Reverse charging function	05
V Assembly Steps	06
VI How to use	15
VII Product Specifications	16
VIII Error and Tone Indication	17
8.1 Error indication and solution	17
8.2 Tone Indication	19
XI Maintenance	20
9.1 Cleaning after use	20
9.2 Storage	20
Warranty Terms	21

I Disclaimer

Please fully read this product manual and related warnings and Safety Guidelines carefully before use. Please fully understand your legal rights, responsibilities, and safety instructions. This product is an underwater scooter. Improper use may cause the risk of severe injury or death. USE THIS PRODUCT AT YOUR OWN RISK. Users must understand and accept the inherent risks of using this product. Any misuse of this product may cause personal injury or property/product damage. When using this product, please be sure to use original accessories or Waydoo certified accessories. By using this product, you are deemed to have accepted the terms and content of this document in its entirety. Users are responsible for their actions and all consequences. As the developer of this product, Waydoo reserves the right to change components, specifications, or other information without prior notice. For the latest information, please visit www.waydootech.com

WARNING: Minors under 16 year of age must be good swimmers and accompanied by a competent guardian who is fully familiar with this product and this manual, including the Safety Guidelines. The Safety Guidelines contain only partial knowledge of operating safety and must be understood in connection with general safety knowledge and common sense. Please be sure to carefully read the Disclaimer's contents and the Safety Guidelines. Read the user manual carefully to familiarize yourself with the product's functions before use. Failure to operate this product properly may cause serious injury to yourself or others and damage the product and property. This product requires users to be fully familiar with it before use. Users need to learn about the product before operating. Never use any parts that are damaged, in need of maintenance or not supplied or recommended by Waydoo. Please strictly follow Waydoo instructions for installation and use. This document contains safety instructions, operation information, maintenance, etc. Please be sure to read all instructions and warnings carefully before assembling, setting up, and using.

FCC Cautions:

This device complies with part 15 of the FCC Rules .Operation is subject to the following three conditions:

- (1)This device may not cause harmful interference.
- (2)This device must accept any interference received,including interference that may cause undesired operation.

Shenzhen Waydoo Intelligence Technology Co.,Ltd.

MADE IN CHINA

- (3)Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user' s authority to operate the equipment.

II Overview

2.1 Brief Introduction

Established in 2018, Shenzhen Waydoo Intelligence Technology Co.,Ltd. is a high-tech enterprise integrating research and development, production, and sales of water sports high-tech products. With the experience of the R&D team and technological expertise, Waydoo launched the first underwater scooter, Waydoo Subnado, through several technical innovations. Subnado adopts an advanced built-in battery design, integrating a 98Wh lithium battery, brush-less motor, motor drive, control and charging circuit inside an aluminum cylinder with a diameter of only 60mm, which significantly reduces the volume of the product. Across the industry, Subnado is the first to use the USB-C charging system, which supports fast charging protocols such as PD 3.0 and charges up to 100W for fast charging and charging other USB devices. The power system adopts the form of a small diameter water jet that achieves propulsion efficiency while obtaining up to 6.5 kg thrust. The compact size and portability make it ideal for travel. Waydoo provides users with various accessories, such as board and arm accessories. With the board accessories, users can leverage the Subnado for propulsion power to suit a variety of scenarios. Users can fix the Subnado on the arm without occupying both hands with the arm accessories, which is convenient to use underwater. The quick-release & installation system design enables users to switch between multiple scenarios. The Subnado provides you with the perfect experience underwater.

2.2 Safety Guidelines

► Failure to follow these Safety Guidelines and warnings may result in serious injury or death.

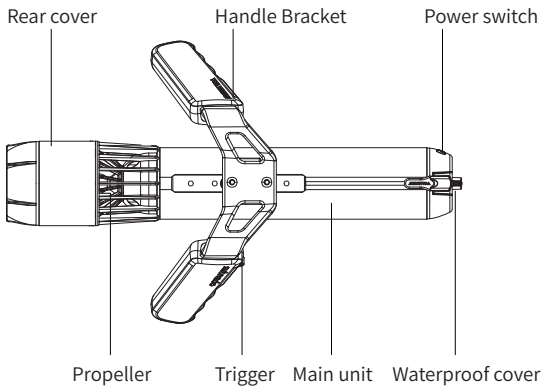
- 1) Minors under 16 year of age must be accompanied by a guardian when using this product.
- 2) Please refer to the user manual and watch the tutorial videos carefully before using this product.
- 3) Do not use this product if you are under the influence of alcohol/drugs, or not physically or mentally fit for swimming, snorkeling, diving, or other water sports.
- 4) Keep the product away from fire. Avoid heavy pressure, squeezing and dropping.
- 5) Only operate this product underwater. Do not let the motor run in the air for more than 10 secs.
- 6) The ambient temperature for using this product is 0°C ~ 40°C (32°F ~ 104°F). The ambient temperature condition of storage is -10°C ~ 50°C (14°F ~ 122°F). Keep this product in the shade when not actively using it.
- 7) Please be sure to keep your fingers, hair, clothes, swimwear, drawstrings, necklaces, jewelry, netting and loose or dangling items away from the propeller during use to avoid personal injury or product damage.
- 8) Do not use this product in waters with a lot of mud, sand, debris, seaweed and algae, and floating objects to prevent foreign objects from getting into the propeller and damaging the power unit.
- 9) Before use, please pay attention to the water conditions. Make sure that the water is suitable for water sports activities and for using this product.
- 10) Before using the product, check carefully whether the product is broken, the waterproof cover is in place, and that the propeller is working normally.
- 11) When using this product, it is recommended to wear a swimming cap or helmet, avoid wearing loose clothing, and keep a safe distance from others, especially those with long hair or wearing loose clothing.
- 12) When using this product, please hold the Handle Bracket tightly and not point the front or tail at face, especially the eyes.
- 13) Do not use a damaged or defective product.
- 14) Do not use this product until you fully understand the operating procedures and inherent risks.
- 15) This product contains batteries and intricate integrated circuitry, which means users are not allowed to disassemble or repair it personally to avoid short-circuiting, electric-shock and fire.
- 16) This product is not a substitute for, or aid in, basic swimming ability.

⚠WARNING This product contains an internal lithium-ion battery and therefore encompasses an inherent risk of fire, explosion and/or burns, including chemical burns. Inspect product housing for damage before charging. Never charge product if damaged, or placed near heat or attempt to open the housing/battery compartment. Never charge the battery while it is in, or near, water. Always ensure that the battery connections are dry. Avoid excessive vibration bumping or collision. Keep this product away from volatile substances, acidic materials, sharp objects, or placed under heavy objects. Disposal of products containing lithium-ion batteries require special handling that must be done in accordance with local laws and regulations. Never placed this product in a fire or furnace.

- This is not a lifesaving device or buoyancy aid. Use appropriate equipment such as a wetsuit, approved life vest vast or personal flotation device, and mask when using this product. Check the remaining battery life often so you can return to shallow water before losing battery power.
- Make sure you have a companion or spotter when using this product.
- When using this product, pay attention to the surrounding environment and maintain safe distance from watercraft, other people, animals, plants, obstacles, toys recreational equipment, or floating objects. Do not use this product in bad weather, strong offshore winds, or around hazardous waters, such as riptides, or undercurrents.
- ⚠ If the user lets go of this product during use underwater, it will sink.

III Waydoo Subnado

3.1 Product Diagram



3.2 Product Feature

◆Two-speed thrust: The high and low gear provides two-speed thrust options. Users can switch to the high or low gear by pressing the trigger twice quickly. Users will hear one beep if they successfully switch to low gear or two beeps if they switch to the high gear.

◆Super gear: Quickly press the trigger three times. When hearing three beeps, users successfully switch to super gear; Within 1 minute, press the trigger to start the propeller. The propeller will spin at the maximum speed and provide the ultimate thrust.

Note: After one minute, the unit will automatically exit Super gear and switch to the gear before Super gear. To re-enter Super gear, quickly press the trigger again three times.

Note: The battery SOC should satisfy a specific range to enter the setting gear. (refer to table 1)

Gear	Battery SOC requirement
High gear	>25%
Super gear	>37.5%

table 1

Note: When the battery SOC is below 25%, it will automatically switch from high gear to low gear. When the battery SOC is below 37.5%, it will automatically exit super gear and switch to high gear.

◆USB-C Fast Charging: Use a standard USB-C charger (PD3.0, QC2.0, QC3.0, BC2.1, and other charging protocols.) to charge Subnado. The maximum charging power input is 100W. (Note: It needs to be supported by the charger and use of an 100W capable charging cable to reach the maximum charging power).

◆Reverse charging: Subnado can be used as a power source to charge other devices. Reverse charging supports standard protocols such as PD3.0, PPS, QC3.0, QC2.0, and BC1.2. The maximum reverse charging power can reach 100W.

(Note: It needs to be supported by the charging device and use of the e-Mark charging cable to reach 100w charging power)

For a list of compatible chargers tested by Waydoo Lab., please refer to

<https://waydootech.com/pages/support>

◆Cruise Mode: In this mode, the unit will enter auto cruise after 15-seconds of the propeller's continuous rotation, and users can release the trigger. Pull the trigger again to exit auto cruise.

Note: Starting with firmware version V1.0.73, Subnado will exit the cruise mode by default after shutdown. Reboot for regular mode.

◆Idling protection status: Subnado will significantly slow down to protect the spindle, after a few seconds of operating in the air. Idling protection will not be triggered when the device is working underwater.

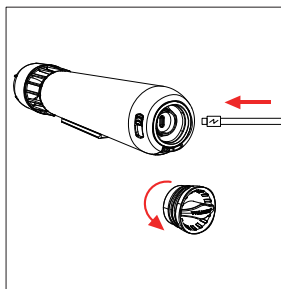
Note: Idling protection will continue to be in effect if Subnado is entering cruise mode in the air.

IV Charging

4.1 How to charge Subnado

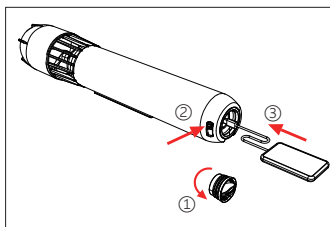
1. Select a charger that supports PD protocol to speed up charging.
2. Open the waterproof cover (facing down to prevent water from falling in). Check for moisture around and inside the USB-C port. If there is water, it needs to be dried first; if there is seawater, it must be thoroughly cleaned with alcohol. After confirming that there is no abnormality, insert the USB-C charging cable to start charging.
3. During the charging process, the power indicator is displayed circularly in the form of a marquee, and the number of lights indicates the current power.
4. The speed of the marquee indicates the charging speed; the faster the marquee speeds, the faster the charging is.

Note: A humidity-sensing sticker is attached to the USB-C port. The sticker turning from white to red indicates moisture exists in the USB-C port. Please dry the port with a cotton swab or tissue first before placing the device upside down on its front end. Please contact Waydoo After-sales Team for support if necessary.



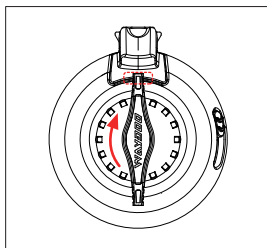
4.2 Reverse charging function

1. Open the waterproof cover (make sure that no water enters inside the USB-C plug or remains on the surface).
2. Power on the Subnado first, then plug in the USB-C cable. Connect the cable to the target device, charging begins. (Note that Subnado needs to be powered on before connecting the device)
3. After charging is completed, unplug the charging cable and turn off the Subnado.
4. Install the waterproof cover.



4.3 Waterproof cover installed securely in place.

1. The waterproof cover keeps water from entering the USB-C port. Improper installation or lack of grease may cause water to enter the USB-C port, and damage to the USB-C port. It is critical to ensure that the USB-C port is free of water. The grease acts as a seal for the waterproof cover. Be sure to install the waterproof cover securely in place to prevent seawater from leaking into the USB-C port and damaging the device.

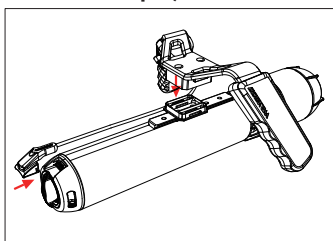
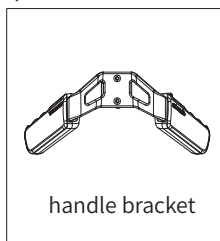


4.4. Reference Charging Time

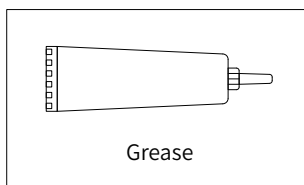
10W Charger – approx. 10 hours	18-24W Charger – approx. 7 hours
36W Charger – approx. 3.5 hours	45W Charger – approx. 3 hours
60-66W Charger – approx. 2 hours	100W Charger – approx. 1.2 hours

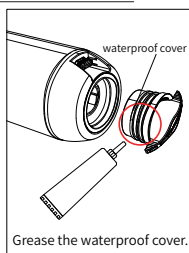
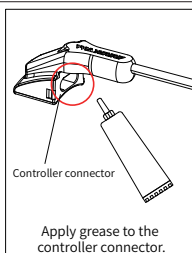
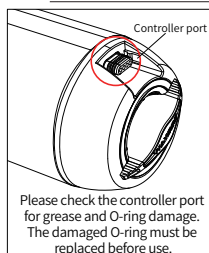
V Assembly Steps

5.1 Install the handle bracket on the main unit, and make sure the Wired Thumb Controller interface aligns with the correct position. (Take the handle bracket as an example)



5.2 Instructions for grease





The controller connector is designed to prevent water from entering the connector port. Moisture presenting in the connector port may cause: 1. The motor to run nonstop when the Subnado is switched on. 2. Nonconductive connector or even permanent damage to the Subnado due to corroded connector pins or contacts. Therefore, keeping the connector port dry is critical to using the Subnado.

Please carefully read and follow Waydoo's official checklist and maintenance notes to ensure optimal user experience and product longevity.

Before connecting the controller, please check:

- (1) If water is present in the connector. Please wash the connector with running fresh water, clean it with cotton swabs or paper tissue, and air dry before use.
- (2) The amount of grease applied to the connector. If insufficient, please add 2-3mm of grease to the connector, plug and unplug multiple times to spread the grease evenly, and ensure the connector securely plugs into the port. Please remove excess grease to prevent insecure connection.
- (3) Signs of wear and tear on the connector port O-ring. To maintain waterproofness, please replace the damaged O-ring and make sure it is sufficiently greased.

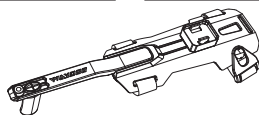
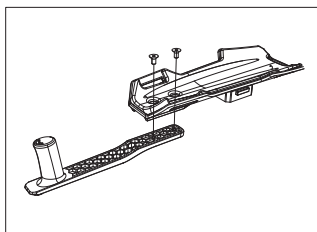
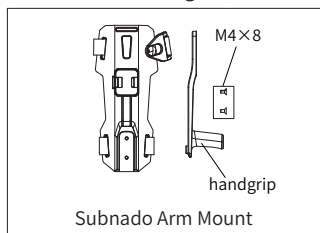
Notes:

1. If the Subnado is irresponsive after grease application, please consider the following causes and fixes:

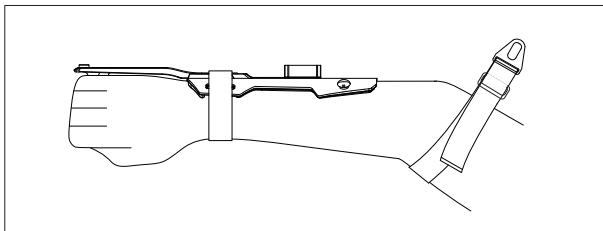
- (1) Cleaning the corroded copper contacts, if any.
 - (2) Too much grease to install in place.
 - (3) Replacing the wired controller if the connector pins are corroded.
2. Please check and apply grease to the O-rings around the waterproof cover to maintain waterproofness.
3. Please unplug and check the wired controller after each use. Please clean and dry the connector if moisture is present inside.

Accessories Use Instruction

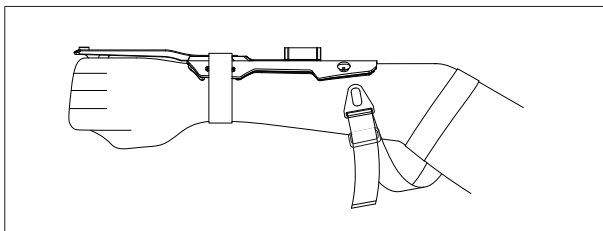
Use M4×8 screws to connect handgrip to Arm mount
(as shown in the figure)



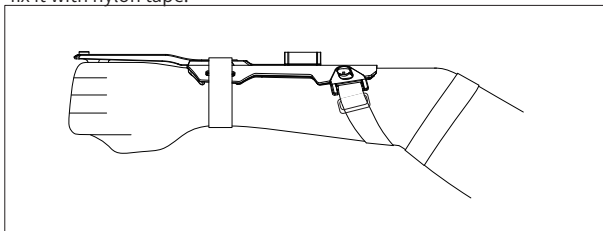
1. Hold the handgrip and place the Arm mount on the outside of the forearm. Wrap the strap around the forearm 1-2 times, depending on the arm circumference.



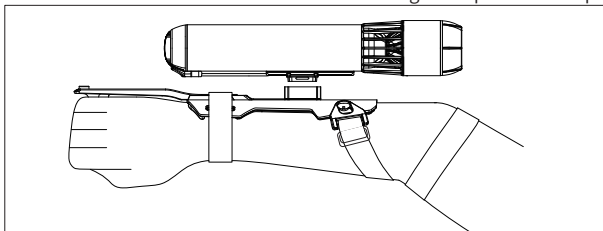
2. Fasten the gourd buckle on one end of the strap.



3. According to the forearm circumference, wrap it 2-3 times and finally fix it with nylon tape.

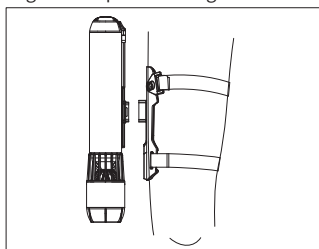
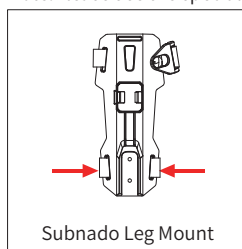


4. Install the main unit to the Arm mount through the quick release part.

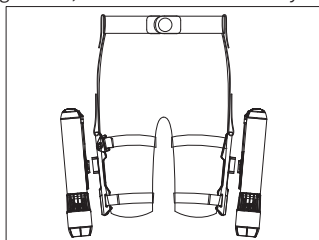
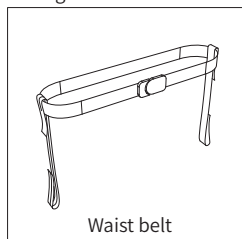


Fix the Subnado leg mount to the outside of the leg. Install the main unit to the leg mount through the quick release part.

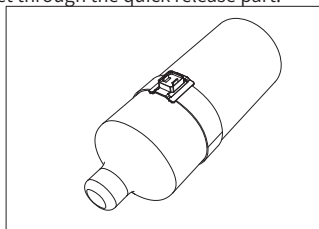
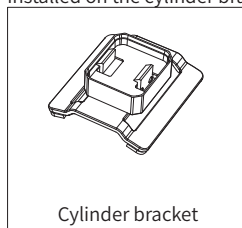
Note: Please use the specially designed straps for the leg mount.



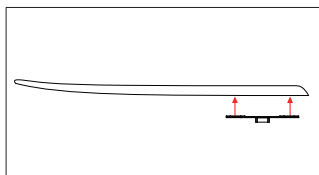
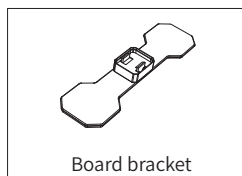
Fasten the belt around the waist. Pass the straps on both sides of the waist belt through the holes above the leg mount, and then fix them with nylon straps.

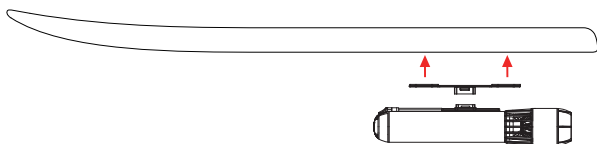


Install the cylinder bracket on the oxygen cylinder, and the main unit can be installed on the cylinder bracket through the quick release part.



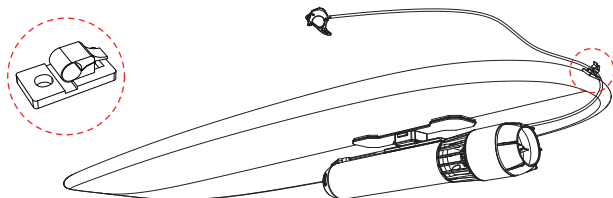
Board bracket





Board Mount Installation:

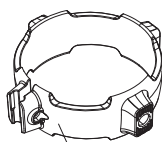
1. Please confirm that the board surface is clean and even before installation. Please wipe off any dirt or dust, and keep the surface dry.
2. Peel off the protective liner on the board mount's adhesive pads, attach the mount to the board and firmly press the pads to ensure a tight bond.
3. Let the adhesive cure for half an hour after installation to get a strong bond.
4. Install the Subnado to the board mount through the quick-release clamp. Apply a force of about 70N along the Subnado to check whether the board mount is secure before each use.



Controller Wire Clip Installation

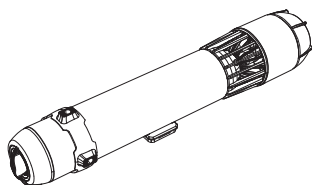
1. Please confirm that the surface is clean and even before installation. Please wipe off any dirt or dust, and keep the surface dry.
2. Peel off the protective liner on the controller wire clip's adhesive pad, attach the clip to the board and firmly press it to ensure a tight bond.
3. Let the adhesive cure for half an hour to get a stronger bond. Please gently rock the clip to check the adhesion security before entering the water.

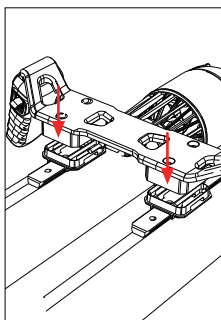
Install the accessories mount on the main unit and tighten the screws to secure.



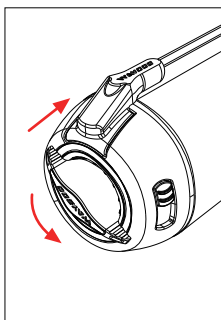
M2.5X10

Subnado
accessories mount

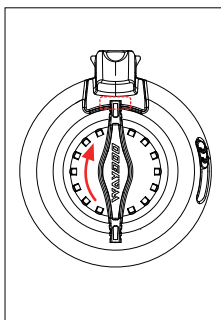




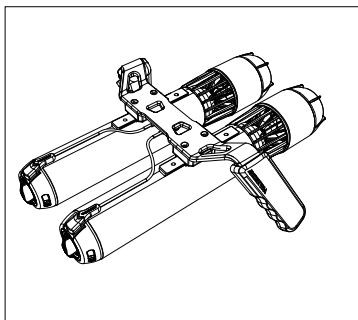
Install the handle bracket on the main unit.



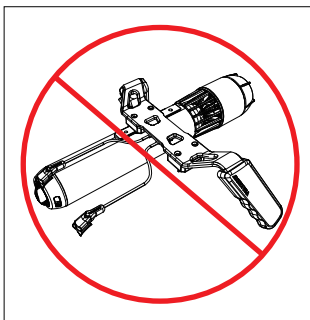
Turn the waterproof cover counterclockwise to the illustrated position. Install the wired thumb controller to the corresponding port.



Tighten the waterproof cover clockwise.



Installation complete.



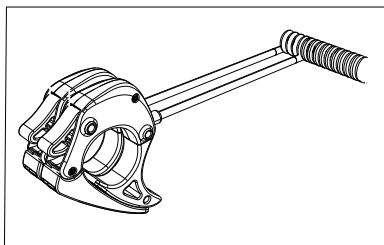
DO NOT use twin handle bracket with a single Subnado.

Note: Please install the wired thumb controller in a dry environment. Please dry the port before installation if it is wet. Please clean and dry the connector and port with cotton swabs or tissue paper before use.

Note: Please fully charge the Subnados before use to avoid imbalanced performance.

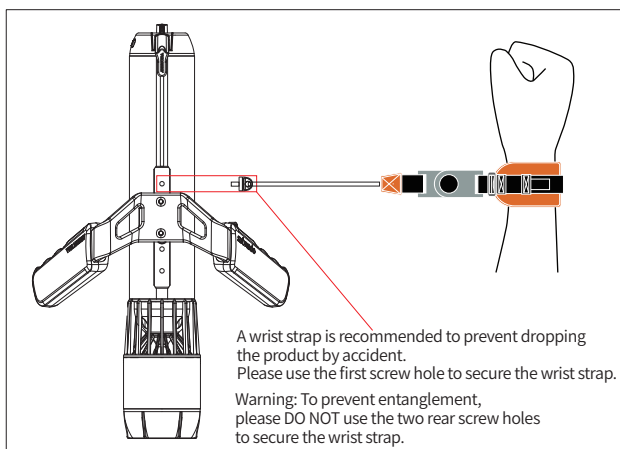
Note: Please connect the controllers before using the handle bracket. Please do not submerge the disconnected controller connector and port in sea water to prevent poor controller connection due to corroded pin connector.

Note: Please ensure the Subnados are on the same gear during operation to prevent imbalanced thrust output.

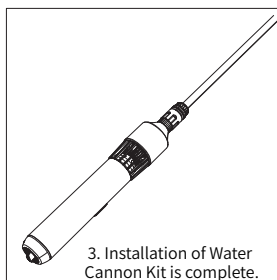
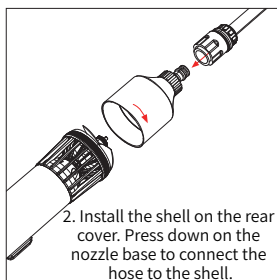
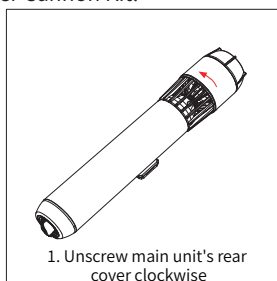
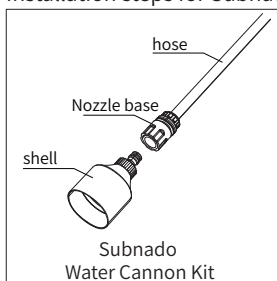


Align the two tiny prongs on a trigger with the round holes of the other trigger, and close them horizontally.

NOTE: If the two triggers are assembled tightly enough, two units can be controlled with the left trigger.



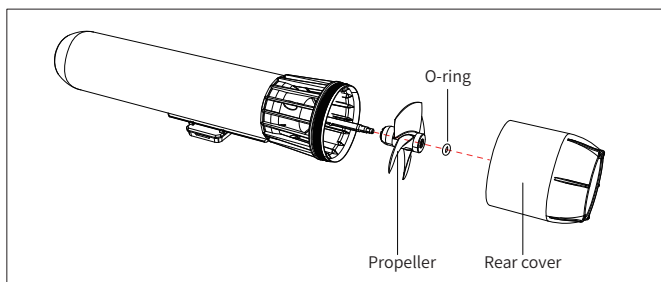
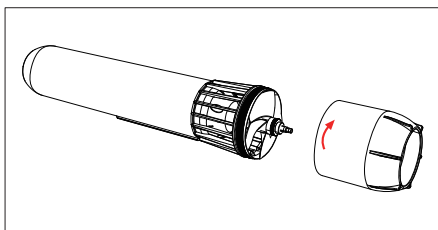
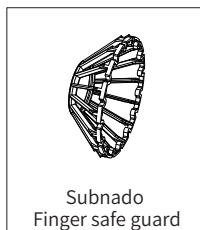
Installation steps for Subnado Water Cannon Kit.



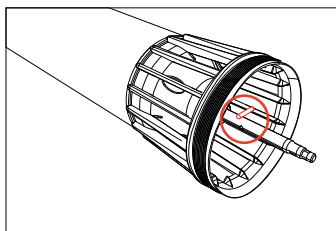
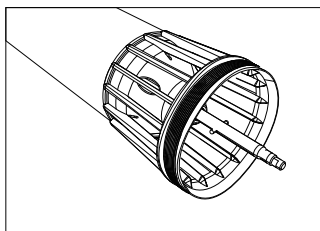
Note: Please turn clockwise and apply force to the unit first. After you feel the obvious two consecutive sudden jumps, it means that the thread is in the best installation position. At this time, apply appropriate force along the motor axis and rotate the shell counterclockwise. Otherwise, it is easy to fail to install or to install crookedly.

(6) If the users' fingers are relatively slender and are worried about injury during use, they can install the finger safe-guard. The following are the installation steps: (Note: Using a finger safe-guard will increase water resistance, resulting in increased power consumption which affects efficiency and reduces battery life and thrust)

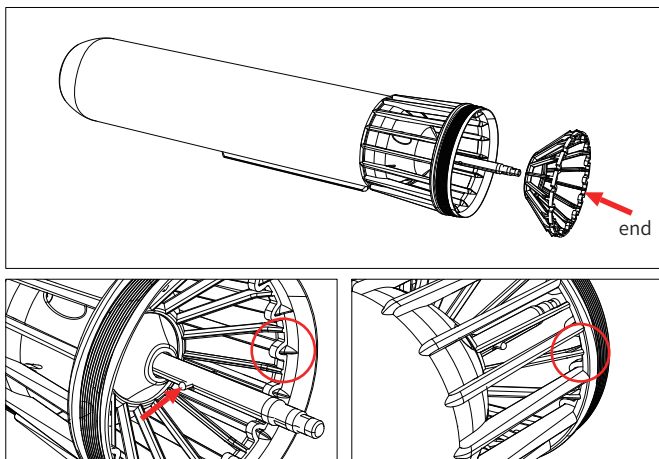
a. Please turn off the main unit first. Unscrew the rear cover of the main unit clockwise, remove the O-ring, and take off the propeller.



b. Remove the pin

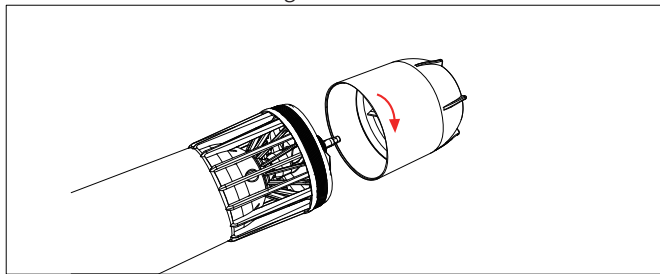


c. Put the finger safe-guard into the groove, press each end of the finger safe-guard into place, and make sure the end of the finger safe-guard is engaged with the notch in the groove (as shown in the figure)



d. Check the grease condition. In case the grease is insufficient, please add grease to the optimal amount. Then install the propeller with the pin is properly seated.

e. After installing the O-ring, check the grease condition. In case the grease is insufficient, please add grease to the optimal amount. Align the rear cover center with the shaft and tighten the rear cover counterclockwise.



For assembling and using other accessories, please refer to the relevant documents on the official website. www.waydootech.com

VI How to use

This product requires users to be fully familiar with it before use, and users need to have basic knowledge before operating. Waydoo hereby strongly recommends that users read and follow each of the steps before use.

1. Check if the waterproof cover is in place (refer to IV - Charging).
2. Check if there is water in the plug, as well as check the grease condition (refer to the installation steps).
3. Press the trigger to confirm normal function, and to check if the throttle control is good.
4. Power on the device, check the battery level (refer to figure 1), and confirm whether the main unit's self-check tone is normal or not.
5. High or low gear can be set with quickly pulling the trigger twice. Quickly pull the trigger three times to engage Super gear. The number of beeps indicates the gear selected. "One beep" prompts to enter the low gear, "Two beeps" to enter the high gear, and "Three beeps" to enter the Super gear.

(Note: The Super gear only maintains for 1 minute. To re-enter Super gear, you need to press the trigger 3 times quickly.)

The Subnado supports two modes. To turn on/off the cruise mode, simultaneously hold down the trigger and power on the machine.

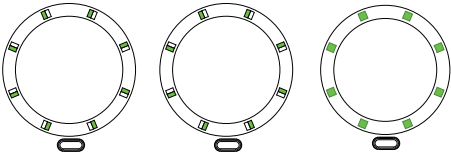
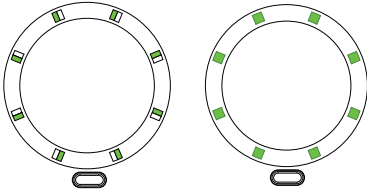
Mode	Regular Working mode
Power-on indication	
	8 LED lights flash twice and shows the battery power level
How it works	Under regular working mode, the propeller rotates when pressing the trigger and stops after releasing.
Mode	Cruise mode
Power-on indication	
	8 LED lights flash once and shows the battery power level
How it works	Under cruise mode, the propeller rotates when pressing the trigger. After 15 seconds, when there is a transient speed change, it enters auto cruise. Users can release the trigger, and the propeller will continue rotating. Press the trigger again, and the propeller will stop rotating and exit the auto cruise.

Figure 1

LED Light	Capacity
	<8%
	8%-18%
	18%-25%
	25%-37.5%
	37.5%-50%
	50%-62.5%
	62.5%-75%
	75%-87.5%
	87.5-100%

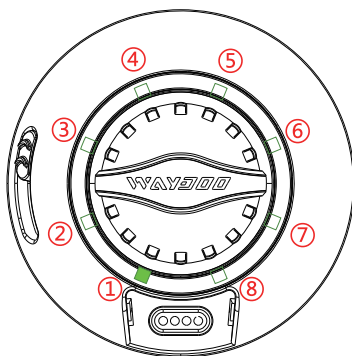
Note: All of the above and below half-segment LED lights represent the flashing LED lights.

VII Product specifications

	Product weight Product diameter Maximum speed Maximum depth Battery life (maximum) Operating temperature Maximum thrust Accessories Mount	About 1.4kg About 377*60mm (propeller cover:70mm) 1.4m/s 60m 56mins 0°C~40°C (32°F~104°F) 6.5kg (1min) support three 1/4 inch threaded mounting holes
	Charging voltage Plug type Maximum power Charging temperature Charging time	5V~20V USB-C 100W (PD3.0) 0~40°C (32°F~104°F) 1.2H (100W)

Firmware Upgrade:
By downloading the Subnado Upgrade Tool from Waydoo official website's "Download" page, users can upgrade Subnado to the latest firmware for better product experiences.

VIII Error and Tone Indication



LED 1 on the left of the charging port

LED 8 on the right of the charging port

8.1 Error indication and solution

Fault Indicator	Fault	Solution
	Cell under-temperature	Place the main unit in an environment of 10-30 degrees Celsius. Wait for the main unit temperature to rise to a suitable temperature, and the charging will start automatically.
	Cell over-temperature	1. Stop charging 2. Place the main unit in an environment with a lower room temperature, and wait for the main unit temperature to drop to a suitable temperature, and the fault will disappear.

Fault Indicator	Fault	Solution
	Battery Over-discharge	Please contact Waydoo support team.
	Motor Communication Failure	Update the firmware
	PD Communication Failure	1. Use recommended chargers that meet the published charging protocol requirements, such as a charger that supports PD/QC protocol. 2. If the problem cannot be solved with a new charger, please contact Waydoo support team.
	MCU Overheat	1. Please shut down the device immediately. 2. Place the device in a low temperature environment, and wait for the device to cool down, and the fault light disappears.
	Charging Overheat	1. Please shut down the device immediately. 2. Place the device in a low temperature environment, and wait for the device to cool down, the fault light disappears.

Note: All of the above and below half-segment LED lights represent the flashing LED lights.

8.2 Tone Indication

Tone	Indication
♪ 1 2 3 4	Main unit Self-checking passes
 /  / 	Gear switch: One beep indicates switching to low gear; Two beeps indicates switching to high gear; Three beeps indicates switching to super gear
 - (1s)	Unable to enter the setting gear
 -  -  -  - 	Remind users to power off the main unit to avoid running out of power (not pressing the trigger within 15 minutes / not charging or charging complete)

XI Maintenance

Improper maintenance, disassembling and repair may cause damage to this product, personal injury, including electric shock, and be deemed a waiver by the purchaser, owner and user of the product warranty as noted in the Warranty Terms and Limitation of Liability sections of this manual.

9.1 Cleaning after use

After each product use, please follow the guidelines to rinse the product to maintain the corrosion resistance and extend the product life. Please follow the principles below:

- 1) After using the product in seawater, please be sure to rinse the whole unit with fresh water and dry it in time to avoid corrosion of the exterior and discoloration of the body.
- 2) Before rinsing the body with fresh water, please ensure the waterproof cover is tightened.
- 3) Always check that no stones, salt, sand, or dirt get into the Subnado when cleaning parts such as connecting parts, propellers, etc. Please clean up those objects which are within easy reach regularly if necessary.
- 4) If you find any foreign objects wrapped around the propeller, carefully remove the main unit's rear cover and clean.
- 5) After finishing the cleaning of the main body, please remove the waterproof cover and clean the charging port with clean and dry cotton swabs to ensure that there is no water, sand, or other foreign objects.
- 6) Please dry the main unit before removing the waterproof cover to avoid seawater dripping inside and damaging the USB-C port. If some water gets into the charging port, dry it in time.
- 7) If seawater drops in the connector of the wired thumb, use a little fresh water or alcohol to clean it and dry it in time to avoid poor contact caused by corrosion which will affect the subsequent use of the product.
- 8) If the oxide layer of the shell is accidentally damaged, it should be repaired in time to avoid accelerating the corrosion of the shell.

9.2 Storage

Please follow these storage guidelines:

- 1) Please ensure the power switch is off and keep the product away from strong magnetic environments, which may power on the main unit and consume battery power.
- 2) Please ensure that the storage temperature is within the range of -10°C~50°C.
- 3) Do not store Subnado in humid, direct sunlight and other harsh environments that may cause damage to electronic devices.
- 4) Do not place Subnado in open flames, and please keep out of reach of minors under the age of 16.
- 5) Please prevent the battery from being over-discharged due to prolonged non-use before storing the Subnado.
- 6) If you do not use the product for a long time, you should make sure that the power level is between 50% and 62.5% . At the same time, the unit needs to be charged every three months (charged to 50~62.5%).

Warranty Terms

Limited Warranty

Under this limited warranty policy, Waydoo warrants the original buyer for the warranty period that the product will be free from material and workmanship defects under normal use in accordance with Waydoo Subnado's published product materials. The warranty period is ONE (1) YEAR for specific parts starting from the date you received products. The repair or replacement of parts, under this warranty, does not extend the life of this warranty beyond its original expiration date. Please refer to **Appendix I** for the specific coverage period on each part. If you cannot provide a receipt or other valid proof of purchase, the start date of the warranty period will refer to the dispatch date of the Waydoo products, unless otherwise stipulated by Waydoo.

How Do I Get After-Sales Service?

If a product does not function as guaranteed during the warranty period, you may obtain after-sales service by contacting your local authorized dealer or Waydoo After-Sales Support Team. The e-mail address for after-sales service is support@waydootech.com.

Waydoo may not provide after-sales service in some regions. The after-sales service policies may vary from region to region. Charges may apply for services not covered by this Limited Warranty. For information specific to your location, please contact Waydoo or your local authorized dealers.

Request For Warranty Service

Waydoo offers the following warranty services. For more information, please contact Waydoo or an authorized Waydoo dealer. Users may also need to fill out a product warranty card and return the product to be repaired to Waydoo Official or an authorized Waydoo service center with the warranty card, if necessary.

- 1) Fill out and submit a Warranty Claim Form. Please provide as many photos and videos as possible to help Waydoo AFS accurately assess your request.
- 2) Once your request is received, Waydoo AFS will contact you via e-mail to offer troubleshooting instructions or request further information.
- 3) Waydoo AFS will get back to you via e-mail with instructions on what to do next, depending on their findings.

What Should I Do Before Getting Warranty Service?

When reaching out to Waydoo, please provide a detailed description of the product problem. Waydoo technical support representative will attempt to diagnose and resolve the problem via e-mail or remote assistance. If the problem persists, you may need to send the product back to Waydoo or an authorized Waydoo service center for further testing. Waydoo will arrange for repair or replacement under the limited warranty.

Before obtaining warranty service for your product, please read the following terms and conditions.

- ✓ Follow Waydoo's service process;
- ✓ Agree that Waydoo shall not be held responsible for the loss or disclosure of any data, including confidential information, proprietary information, or personal information, contained in the returned product;
- ✓ Provide Waydoo with sufficient and safe access to your product, so Waydoo can provide service as needed;
- ✓ Remove all functional parts, additional parts, alterations, modified parts, and attachments not covered under this limited warranty;
- ✓ Ensure that the product or part is free of any legal restrictions that prevent its replacement;
- ✓ If you are not the owner of a product or part, obtain authorization from the owner for Waydoo to provide warranty service

Replacement Products and Parts

When after-sales service involves the replacement of a product or part, the replacement item becomes your property and the replaced item becomes Waydoo's property. Only unaltered Waydoo products and parts are eligible for replacement. Replacement products or parts may not be new, but they will be in good working order and at least functionally equivalent to the products or parts replaced. A replacement product or part shall be covered for the time remaining in the original product's warranty and bound to a new serial number.

Use of Personal Contact Information and Data

If you obtain service under this policy, you authorize Waydoo to store, use, and process your contact information, including name, phone number, address, and e-mail address. You agree and understand that it is necessary for Waydoo to collect, process and use your data to perform service under this policy. We may contact you for assistance, inquire about your satisfaction with our service, or to notify you about any product recalls or safety issues. To achieve these aims, you authorize Waydoo to transfer your information to any country where we do business and to provide it to entities acting on our behalf. We may also disclose your information where required by law.

What is NOT Covered by This After-Sales Policy?

This policy does not cover the following:

- × Parts not specified in the APPENDIX *.
- × Changes in appearance or damages caused by normal wear and tear, color change, etc.
- × Damage caused by crash, physical impact, or fire resulting from non-manufacturing factors, including but not limited to, user error.
- × Damage caused by unauthorized modification, or disassembly not in accordance with official instructions or manuals.
- × Damage caused by improper installation, incorrect use, or operation not in accordance with official instructions or manuals.
- × Damage caused by cleaning the products or parts not in accordance with official instructions or manuals.
- × Damage caused by an unauthorized service provider.
- × Damage caused by unauthorized modification of circuits and mismatch or misuse of the battery and charger.
- × Damage caused by activities not following official instructions or manuals.
- × Damage caused by operating in bad weather (i.e. strong winds, rain, sand/dust storms, direct sunlight, etc.)
- × Damage caused by operating in an unsafe or improper environment (i.e. water depth less than 1.2m, water with many gavels, seaweeds and wild animals, rocky water/shore, etc.)
- × Damage caused by a forced operation when components have deteriorated or been damaged.
- × Damage caused by reliability or compatibility issues when using unauthorized third-party parts.
- × Damage caused by operating the unit with a drained or defective battery.
- × Further damage caused by the continued use of the product after the warranty claim is submitted or the problem is reported.
- × Loss of, or damage to your data by an unauthorized product.
- × Waydoo Subnado warranties are non-transferable and are applicable to the original purchaser only.
- × Any problem that is determined not a manufacturing defect in material or workmanship after inspection by Waydoo. Or the purchaser is unable to provide valid proof of the issue source.
- × Failure of, or damage caused by, any third-party products, including those that Waydoo may provide or integrate into the Waydoo product at your request.
- × Products or parts with altered or missing serial number.

Disclaimer

✓ Limited Warranty policies and related costs may vary with respect to the local laws or the corresponding Waydoo service availability in different countries/regions where Waydoo product is purchased.

✓ You may need to send the faulty product(s) back to Waydoo or a Waydoo-authorized service center. Waydoo will examine the returned product(s) to identify the problem and the responsibility upon receipt of the product(s). If the problem qualifies for service under this Limited Warranty policy, Waydoo will bear the cost for repair or replacement. The customer is responsible for all shipping costs.

✓ If Waydoo determines that the issue in question is not covered by this Limited Warranty policy, you will have to apply for Customer Paid Repair Service or request Waydoo to return the product(s). Waydoo will not start repair until you agree to the cost for repair quoted by Waydoo. If you disagree with the repair cost, Waydoo may return the product(s) with you burdening the return shipping cost.

✓ Given the variability of Waydoo's after-sales service policies in different countries/regions, Waydoo does not provide a global warranty. Generally, customers can obtain warranty service only at a designated Waydoo authorized service center in the region where he/she purchases the product(s). However, depending on part availability and inventory status, customers may obtain cross-regional repair service at an additional charge in an authorized repair center. Waydoo will handle the customer's request at its discretion.

✓ The customer is responsible for losses incurred from providing an incorrect or invalid delivery address or refusing to sign for the delivery.

✓ If you want to send the product back to Waydoo by international transport, you will need to get the consent of Waydoo and bear customs duties, taxes, customs clearance, and other costs incurred in the process.

✓ If the product is extremely damaged due to non-manufacturing factors, including but not limited to, crash or physical impact, its performance may be severely affected beyond repair. In this case, Waydoo will not be able to provide the repair service.

✓ If the user is located in a region/country where the service is restricted due to force majeure or other objective factors, Waydoo reserves the right to charge a necessary fee.

✓ Waydoo reserves the right to refuse providing warranty service if the user is unable to provide sufficient proof with which Waydoo verifies the compliance with the malfunctioning product's limited warranty.

✓ Before sending your product for repair, please remove any attached customized decorations and items. Waydoo will not be responsible for any damage or loss that may occur to these customized decorations and attachments.

✓ To guarantee your legal rights, please check whether your product is intact (check whether any damage has occurred to your product during transportation) when signing for its delivery. If the product has a defect, please report it to Waydoo within twenty-four (24) hours upon receiving it, or it will be deemed that the product you signed for is intact and fully functional. (According to the Freight Claim Process, damage or defects caused by transport should be reported to Waydoo or related Waydoo authorized service center. An overdue claim will not be accepted.)

✓ Waydoo reserves the right to update this policy. Check the official Waydoo website for the latest version.

Limitation of Liability

WHEN RECEIVING SERVICE, WAYDOO IS RESPONSIBLE FOR LOSS OR DAMAGE TO YOUR PRODUCT ONLY WHILE IT IS IN WAYDOO'S POSSESSION OR TRANSIT, IF WAYDOO IS RESPONSIBLE FOR TRANSPORTATION.

WAYDOO IS NOT RESPONSIBLE FOR THE LOSS OR DISCLOSURE OF ANY DATA, INCLUDING CONFIDENTIAL INFORMATION, PROPRIETARY INFORMATION, OR PERSONAL INFORMATION, CONTAINED IN A PRODUCT.

UNDER NO CIRCUMSTANCES, AND NOTWITHSTANDING THE FAILURE OF THE ESSENTIAL PURPOSE OF ANY REMEDY SET FORTH HEREIN, SHALL WAYDOO, ITS AFFILIATES, SUPPLIERS, RESELLERS, OR SERVICE PROVIDERS BE LIABLE FOR ANY OF THE FOLLOWING EVEN IF INFORMED OF THEIR POSSIBILITY AND REGARDLESS OF WHETHER THE CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE, STRICT LIABILITY OR OTHER THEORY OF LIABILITY: 1) THIRD PARTY CLAIMS AGAINST YOU FOR DAMAGES; 2) LOSS, DAMAGE OR DISCLOSURE OF YOUR DATA; 3) SPECIAL, INCIDENTAL, PUNITIVE, INDIRECT OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS, BUSINESS REVENUE, GOODWILL OR ANTICIPATED SAVINGS. IN NO CASE SHALL THE TOTAL LIABILITY OF WAYDOO, ITS AFFILIATES, SUPPLIERS, RESELLERS, OR SERVICE PROVIDERS FOR DAMAGES FROM ANY CAUSE EXCEED THE AMOUNT OF ACTUAL DIRECT DAMAGES, NOT TO EXCEED THE AMOUNT PAID FOR THE PRODUCT.

THE FOREGOING LIMITATION DOES NOT APPLY TO DAMAGES FOR BODILY INJURY (INCLUDING DEATH), DAMAGE TO REAL PROPERTY OR DAMAGE TO TANGIBLE PERSONAL PROPERTY FOR WHICH WAYDOO IS LIABLE UNDER LAW.

AS SOME STATES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

Your Other Rights

This Limited Warranty provides you with extra and specific legal rights. You may have other rights according to the applicable laws of your state or jurisdiction. You may also have other rights under a written agreement with Waydoo. Nothing in this Limited Warranty affects your statutory rights, including rights of consumers under laws or regulations governing the sale of consumer products that cannot be waived or limited by agreement.

For other after-sales policy details, technical support, and other requests, please e-mail Waydoo at support@waydootech.com or contact your local authorized dealers.

Appendix I warranty period

Part	Northern America	Europe	Australia	New Zealand	Other countries or areas
Main unit	1 year	2 years	1 year	1 year	1 year
Rear cover	6 months	6 months	6 months	6 months	6 months
Charger	6 months	6 months	6 months	6 months	6 months
Twin Engine Handle Bracket/Handle Bracket/Wired Thumb Controller	6 months	6 months	6 months	6 months	6 months

*The accessories are subject to the packing list of your purchased product.

*The main unit contains only the main control system, motor, and battery.

*Any parts that are not specified in the official warranty key-parts list will not enjoy this limited warranty policy.





Waydoo Technical Support

This guide may be updated without notice.

Check the official Waydoo website for the latest version

www.waydootech.com