IntelliDose

Installation and User Guide

安装及用户指南

- Can be added up to 9 nutrients, additives and pH
  剂量可高达 9 份营养素，添加剂和酸碱度
- Measures conductivity, pH, temperature
  测量电导率，酸碱度，温度
- Displays EC, CF, TDS, ºC, ºF, pH
  显示 EC (电导率), CF, TDS (总溶解固体),摄氏度 ,华氏度 , 酸碱度
- Connect via Internet Cloud Environment (subscription required)
  通过互联网云端环境连接（需要订阅）
- Variable ratios for nutrient part (from vegetative to generative state)
  营养成分的可变比例 (从生长性至生殖性状态)

- Auto schedule of nutrient ratios and EC's
  自动制定营养素比例和 EC 的时间表
- Proportional Dosing (for rapid dosing between irrigations)
  成比例的配料（用于灌溉之间的快速配料）
- Direct drive dosing pumps (keeps costs down)
  直接驱动配料泵（可降低成本）
- Irrigation with day/night control – precision timer
  配有昼夜控制来进行灌溉 – 精确计时器
- Day/Night EC levels
  白天/夜间的电导率水平
- Water level control – to lower EC
  水平控制 – 可降低电导率

Contents
内容

Important notice:
重要提醒：

When using automatic dosing equipment, all chemicals must be in a form diluted state, especially acids and alkalis.

当使用自动配料设备时，所有的化学物必须处于稀释状态，尤其是酸和碱。

Acids and alkalis should be diluted to a maximum strength of 2% or less.

酸和碱应稀释至最高 2％ 或以下的强度。

<div style="border:1px solid black;color:red;">

We recommend you dilute the nutrients into <u>1-part nutrient with 4 parts water</u> while using the doser.

我们建议您在操作定量配料器时把营养素稀释成 <u>1 份营养素比 4 份水</u>。

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Quick start
快速入门

This is not a substitute to reading the relevant sections of the manual but is included to emphasise some important and useful points.

本快速入门手册主要着重于一些基本和重要的操作概念，有关更多详细信息，请参阅和本文相关的章节。

The controller shall be installed to one side of the mixing tank to protect it from exposure to splashes and vapours. Note that the sensor leads must be able to reach the sample pot, which should be mounted just above the mixing tank. **See section G for detailed installation instructions.**

将控制器安装于混合槽的一侧 以避免其暴露于溅水和蒸汽之中。须确保传感器的导线可连接至样品罐，而样品罐须装置在混合槽的正上方。有关详细的安装说明，**请参阅第 G 章节**。

Typical installation using peristaltic pumps
使用蠕动泵的典型安装
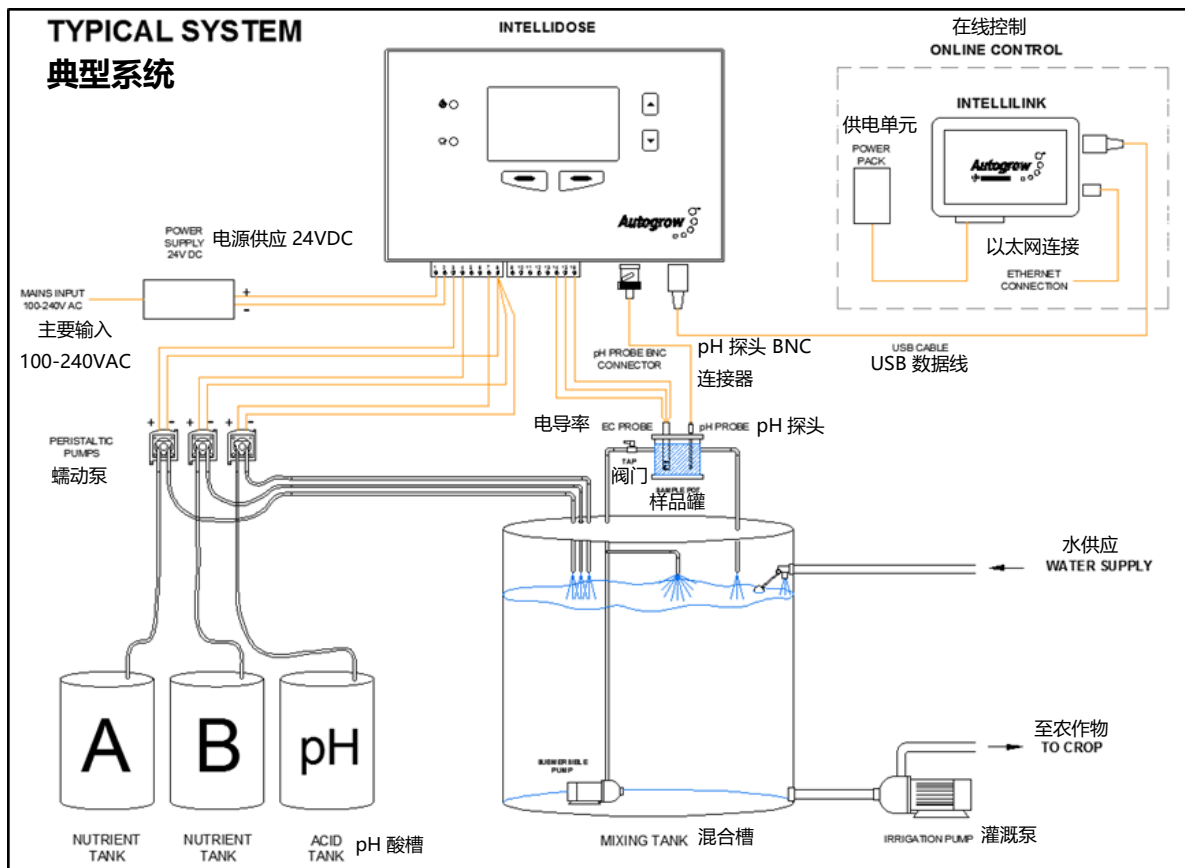
HINTS:

- Install the sample pot above the tank as many small pumps have the capability of low head pressure
将样品罐装置于槽的正上方，因为许多小型泵都具有低扬程压力的能力

- Keep IntelliDose equipments away from the spray and humidity from tank and nutrient stock solution, preferably just install it outside the growing room
将 IntelliDose 智能施肥器 的装置远离于喷雾以及槽和营养液的湿度， 最好是安装在种植室外

- Adjust the tap on the inlet pipe for a steady flow rate, avoiding excessive turbulence or air bubbles in the sample pot
调整输入管上的阀门，使其流动量稳定，以避免样品罐里产生过量的湍流或气泡

Clean the EC sensor and calibrate all sensors before use – **See section C for details**
须在使用之前清理 EC 传感器和校准所有传感器–有关详细信息 – **请参阅 C 章节**

Fill stock tanks and mix tank with plain water and run for a day to check for leaks and observe operation is correct.
将储罐和混合槽注满清水，并运行一天以检查渗漏问题和观察操作是否正确。

IMPORTANT:
重要质询:

When using an automatic doser, the stock solutions and acid/alkali must be diluted. This is particularly important if a small mixing tank (e.g. under 1,000L/250gal) is used.

当使用自动定量给料器时，原液和酸/ 碱必须被稀释。倘若使用小型混合槽 (例如，1000 升/ 250 加仑以下)，这一点极其重要。

The acid or alkali for pH adjustment must be diluted to no more than 2%
用以调节酸碱度的酸或碱应稀释至不多于 2％ 的浓度。

You may need to experiment with the dilution rate of the nutrients so that a 3 to 8 second dose results in a TDS change of 50ppm (0.1EC or 1CF) and also a pH change of about 0.1pH. In any event, the acid should be diluted to below 2% strength to ensure that it does not adversely react with the nutrient thus increasing the life of the peristaltic tubing.

您可能需要对营养素的稀释率进行试验，以便 3 秒到 8 秒的剂量可让 TDS 的变化达到 50ppm（0.1EC 或 1CF）和酸碱度的变化可达 0.1 酸碱度。在任何情况下，酸应稀释至低于 2％ 的强度以确保它不会与营养素产生不良的反应，从而延长蠕动管的寿命。

It is also important that the tank is continually stirred while dosing for a continuous gentle flow through the sample pot. If the sample pot is mounted too high there is a danger of the flow ceasing if the pump loses pressure (head) for any reason such as wear or partially clogged input filter.

同样重要的是，在配料的时候不断的搅拌混合槽，让营养素持续并缓慢地流过样品罐。如果样品罐安装得太高，泵有可能会在任何情况之下 （例如磨损或部分输入滤波器堵塞）因而失去压力，然后恐导致流动停止。

IntelliGrow

With IntelliGrow, your Intelli devices are accessible via your web browser so you can control your growing operation remotely from your phone, tablet, or computer. IntelliGrow gives you complete visibility 24 hours a day and enables you to manage multiple locations from the comfort of your office, using a single sign on.

有了 IntelliGrow 智能施肥器，您的 Intelli 设备可以通过您的网络浏览器控制，所以您可以从您的手机、平板电脑或台式电脑远程控制您的种植操作。IntelliGrow 让您每天 24 小时都有完整的可视性，并使你能够从您的办公室舒适地管理多个地点，但只使用单一登录。

Automatically manage your nutrient and pH levels, set remote alarms and data log your progress with this one simple machine.

这台简单的机器可以帮您自动管理营养素和酸碱水平，设定远程警报和记录进度数据。

Please visit https://autogrow.com/our-products-solutions/intelligrow for more information.
欲知详情，请浏览 https://autogrow.com/our-products-solutions/intelligrow

Section A - IntelliDose® Hydroponic Doser
A 章节 - IntelliDose® 水培定量配料器

The **IntelliDose** hydroponic doser is the most advanced and user friendly doser in the market. It has a wide range of possible applications which we discuss briefly in this section. To keep the user interface as simple as possible, only the readings and settings relevant to the selected features are displayed on the controller's LCD. For more advanced options, log in to https://intelligrow.autogrow.com/

IntelliDos 智能施肥器水培定量配料器是目前市场上最先进和最具人性化的定量配料机。本章节将简要地讨论此机器广泛的潜在应用。为了让用户界面尽可能简单，控制器的 LCD 上仅显示与所选功能相关的读数和设置。有关更多高级选项，请登录 https://intelligrow.autogrow.com/

Selection of units
单位选择

You may select either EC, CF or TDS (ppm) units for the nutrient intensity and either degrees C or degrees F for temperature. The acidity or alkalinity is measured in pH. In this manual, we use EC (electrical conductivity) to denote either EC, CF or TDS. The date format is selectable between mm/dd/yy and dd/mm/yy formats.

您可选择 EC, CF 或 TDS (ppm) 单位作为营养素强度的代表，并选择摄氏度 (°C) 或华氏度(°F)作为温度的代表。pH 用于测量酸度或碱度。此手册将会使用 EC (Electrical Conductivity, 电导率) 表示 EC，CF，或 TDS。日期的格式可选择 mm/ dd/ yy (月/ 日/ 年) 或 dd/ mm/ yy (日/ 月/ 年) 。

(The TDS standard used for this controller is EC x 500 but it is also possible to select EC x 640 and EC x 700)

(用于此控制器的 TDS 标准为 EC x 500，但也可选择 EC x 640 和 EC x 700 ）

Mixing nutrients -   IMPORTANT - PLEASE READ THIS CAREFULLY!
配制营养素 - 重要提示-请仔细阅读此内容！

When using any automatic doser, it is important that the nutrients and acid/alkali are diluted to 2%. The instructions on many dry powdered nutrients, tell you to prepare the stock solutions to a concentrated level (100:1 or more). Liquid nutrient is also very concentrated. For a small mixing tank, this will be too strong and even if very short doses are given the system will be overshot. If powdered nutrient is used, mix them with water so that for each 1Kg/2.24lbs of powder you able to obtain at least 20L/5gal of solution. Liquid nutrient should be diluted with water to produce at least 5 times their original volume. Acids and alkalis should be diluted to be less than 2% concentration. If strong acids were used, ensure to wear goggles and gloves when adding the acid to the water and stir it properly.

当使用任何相关的自动配料器时，营养素和酸或碱须稀释至 2% 是非常重要的。许多粉状营养素在说明书上指示您需要准备原液至相当浓缩的水平（100:1 或更高）。液状的营养素也是相当浓缩的。所以这对于小型混合槽来说这太强烈了，即便是提供了非常少的剂量，对于系统来说也太过量。如果是使用粉状的营养素，请将它们混合到水中，以让每 1Kg (公斤)/ 2.24lbs (磅) 的粉末可以获得至少 20L (公升)/ 5gal (加仑) 的溶液。液状的营养素应用水稀释至其原始量的至少五倍。酸和碱应稀释至少于 2% 的强度。若使用强酸，请在添加酸于水中并充分搅拌时，保持戴着护目镜和手套。

When the dilution has been done properly, you should obtain a 0.1 mS/cm change in EC with a 5 second dose time of A and B solutions. In a similar way, the pH should change by about 0.1 pH with a 5 second dose time of pH adjuster solution. If the changes are insignificant, that is fine. However, if the changes are significant, it is required to dilute the solution further.

如果稀释得当，在 5 秒钟的剂量时间内，A 和 B 溶液的电导率应该有 0.1 mS/cm 的变化。同样地，在 5 秒钟的 pH 调节剂溶液中，pH 值应该有 0.1 左右的变化。如果这些变化不明显，那就没问题。但是，如果变化显著，则需要进一步稀释溶液。。

One part or two-part dosing
一部份或两部份的定量配料

For 1-part dosing, only one dosing pump is used to add nutrient to the mixing tank. When 2-part dosing is selected, two dosing pumps will be used to add part A and part B stock solutions. In such situation, occasionally the part A and part B do not dose at exactly the same rate (one tank empties quicker than the other). There are number of reasons why this may occur including different pipe arrangements, filters partly blocked, tanks or dosing valves mounted at different heights and even the difference in specific densities of the stock solutions. To compensate this, you may adjust the two dosing rates electronically by reducing either A or B dose rates below 100%. For example, if you set A at 100% and B at 95% then B will dose a little less than A each time that a dose is added to the tank. This is set by trial -and-error starting with both A and B at 100%. (Always leave one at 100% and reduce the other)

对于一部份的定量配料，仅需要一个定量配料泵将营养素加入混合槽。当选择两部份的定量配料时，则将会使用两个定量配料泵添加 A 部分和 B 部分原液。在这种情况下，有时 A 部分和 B 部分的剂量不完全相同（其中一个槽的排空比另一个槽快）。导致这种情况的原因有很多，可能是不同的管道布置，过滤器部分堵塞，安装在不同高度的槽或定量配料阀，甚至是原液的密度不同。为了弥补这一点，可通过电子方式调整两种剂量率，把 A 或 B 的剂量率降低到 100% 以下。例如，倘若 A 的设定是 100%和 B 的设定是 95%，则每次向槽中添加剂量时，B 的剂量都将比 A 少。这设定是通过反复的试验，即从 A 和 B 的 100％ 开始。（始终将其中一个保留为100％，并减少另外一个）

Multi-part dosing
多部份的定量给料

With 3 to 9-part dosing, the ratios may be varied to suit a feeding schedule as recommended by the nutrient supplier. In this case, the ratios between all the nutrient parts can be individually varied. A schedule may be added with IntelliGrow which will automatically adjust the nutrient ratios and EC as required. This can be used to gradually and automatically adjust the mix from vegetative to generative whilst at the same time gradually changing the EC. **Note:** On each date specified, the settings change to the new values and then stay at these settings until the next date schedule is reached. Once the last entry is reached the settings just stay at those values permanently. It is important to note, that when using variable ratios for various nutrient parts, the dose time must be set to be long enough that the part with smallest ratio still gets a dose of one second.

相对 3 到 9 分的定量配料，营养素的比率可根据有关供应商的建议来做更改以配合进食时间表。在这种情况下，所有营养素成分之间的比例可个别调度。IntelliGrow 智能施肥器 可添加时间表并根据其所需自动更改营养素的比例和 EC。这可用于逐步自动地调整营养素的配制，从生长性变为生殖性，与此同时逐步的改变 EC。**注意：**在指定的每个日期里，该设置将更改至新值且保持这些设置，一直到下一个日期计划。当最后一个条目到达后，设置将永久的保持这些值。需要注意的是，当对各种营养素成分使用可变比率时，剂量时间必须设定得足够长，以确保比率最小的部分仍能获得一秒钟的剂量。

Sequential dosing (default ON)
顺序配料 (预设开启)

This causes the dosing pumps or valves to activate in sequence, one after the other and allows high current valves or pumps to be connected to the unit without fear of overloading the controller

or its power adapter. If in doubt about the current required to drive the pumps, always select sequential dosing. If 3 or more nutrient parts are selected, sequential dosing is enforced to avoid damage to the controller.

这会导致定量给料泵或阀门依次启动，并允许将大电流阀门或泵连接到设备上，而不必担心控制器或其电源适配器过载。如果对驱动泵所需的电流有疑问，请选择顺序配料。如果选择了三个或更多的营养素成分，则需要强制顺序配料，以避免损坏控制器。

Proportional dosing (default OFF)
比例配料 (预设关闭)

This causes the dose volume to automatically vary in proportion to the error, it is useful when you want the tank to dose up quickly. If this is selected, then the dose volume is specified as both the maximum and minimum dose time. The controller then looks at the impact of the error. If the impact of error is high, it will provide large doses. As the EC or pH setpoint is approached, the controller will provide smaller doses. This is useful in irrigating (drip) systems that do not re-circulate as it allows rapid dosing after each irrigation occurs. This feature is not available for mixtures exceeding two fractions.

这会导致剂量的大小自动随误差成比例变化，当您需要快速配料时这是很有用的。如果选择此选项，则将剂量大小指定为最大和最小的剂量时间。控制器将查看误差的大小，如果误差很大，将提供大的剂量。随着接近 EC 或酸碱的设定点，控制器将提供较小的剂量。这对于不进行再循环的灌溉（滴灌）系统中很有用，因为它允许在每次灌溉后快速配料。此功能不适用于超过两份的混合料。

Different EC for day and night
白天和夜间不同的 EC

This feature is useful for crops that require a weaker solution during the heat from the day and a stronger mixture when it cools during night time (e.g. to help prevent tip burn in lettuce). You can define when "day" starts and ends and this does not require to align with actual day time i.e. you can set day to start at 11am and end at 3:30pm if you wish. **Note**: The controller has the capability to concentrate the mixture by dosing and diluting the mixture by adding water.

此功能对于一些农作物是非常有用的：在炎热的白天时是需要较弱的溶液，而冷的夜间时则需要较强的混合料（例如，帮助防止生菜烧心）。用户可以规定 "天 (day)" 的开始和 时间，且不必与实际的时间（天）保持一致。例如，您可将 "天 (day)" 的设定为上午 11 点开始，下午 3:30 结束。**注意**：控制器具有通过配料来增强混合料和加水来减弱混合料的能力。

Automatic addition of water
自动加水

By installing a mixing tank with two water level ball valves, one at a low level and the other one at a high level. It is possible for the controller to dilute the nutrient tank by adding water. This is done by operating a solenoid valve in line with the high-level valve. **See diagram on page 19.** This function is mainly for the interest of lettuce growers.

通过安装带有两个水位球阀的混合槽，一个在低位，另一个在高位，这有可能让控制器可以通过添加水来稀释营养素槽。这是通过与高位阀配合操作的电磁阀来完成的。请参照第 **19** 页

的图表。生菜种植者主要需要此功能。

Irrigation
灌溉

This allows a pump to switch on periodically for a set time to irrigate plants in pot or bag. The irrigation can be specified to operate in "day only" mode or it can have a different interval set for day and night. For example, you could set it to irrigate for 4 minutes every 1 hour 35 minutes during the day and for 4 minutes every 5 hours at night (or not at all during the night). Alternatively, it can be set to come on once every day at the same time, this could be used to operate lighting (instead of irrigation) for indoor crops. For more advanced irrigation settings, See section K.

这允许泵在设定的时间内周期性地打开，以灌溉盆栽或袋中的植物。可以指定灌溉在"仅白天"模式下运行，也可以为白天和夜晚设置不同的间隔。例如，您可以将其设置为白天每 1 小时 35 分钟灌溉 4 分钟，夜间每 5 小时灌溉 4 分钟（或夜间完全不灌溉）。或者，它可以设置为每天同时打开一次，这可以用于操作室内作物的照明（而不是灌溉）。有关更高级的灌溉设置，请参见第 K 节。

The IntelliDose will send a 24VDC signal to activate the irrigation pump. If you are in North America and have a 120V irrigation pump, you can utilize an Autogrow Twin Relay Box to run your pump from the IntelliDose. For other regions, you can purchase an Autogrow Twin Relay Box to run your irrigation pump, kindly consult your local distributor.

IntelliDose 智能施肥器 会发送 24VDC 信号以激活灌溉泵。 如果是位于北美并且拥有 120V 灌溉泵，则可从 IntelliDose 运用 Autogrow Twin Relay Box 运行泵。 对于其他地区，只需购买一个 Autogrow Twin Relay Box 即可运行灌溉泵。请咨询当地的经销商。

If your pump is powered by 220V main power supply, you need to use an interface relay to connect to the IntelliDose (kindly contact your distributor for more information).

如果泵是由 220V 主电源供电，则需要使用接口继电器连接到 IntelliDose 智能施肥器（请致电分销商以获取更多信息）。

Fail-safe dosing
定量配料的自动防故障功能

Dosing may be inhibited if any of the following conditions are detected.
如果检测到以下任何一种情况，则可能禁止配料。

- EC measured is lesser than 0.1 or greater than 6
  EC 小于 0.1 或大于 6

- pH measured is lesser than 4.5 or greater than 8
  酸碱测量值小于 4.5 或大于 8

Alarms
警报

The alarms can be enabled on the controller buzzer or to text/email you when using IntelliGrow. Each of these can be silenced or enabled. Any enabled alarm will sound when a relevant reading deviates outside set limits.

当使用 IntelliGrow 智能施肥器 时，可以在控制器的蜂鸣器上启用警报，或通过短信/电子邮件向您发送警报。 每个选项都可以是被消音或启用。 当相关读数超出设定限制时，任何启用的警报都会响起。

Outputs
输出设置

The output voltage for dosing and irrigation control are all dependent on the power supply adapter used. The IntelliDose is supplied with a 24VDC power supply.

定量配料和控制灌溉的输出电压均取决于所使用的电源适配器。 IntelliDose 智能施肥器 配有 24VDC 电源。

> We recommend using a 24VDC solenoid for irrigation.
> 我们建议使用 24VDC 的螺线管讲行灌溉。

Power supply
电源供应

The controller requires a power supply of 24VDC. **Note:** The outputs are limited to a current of 1.2A inductive load and 3A resistive load. The power supply should be sized according to the maximum load that can be applied at any one time. The maximum total draw at any one time should not exceed 4A.

控制器需要 24VDC 的电源。 **注意：** 输出限制为 1.2A 感应负载和 3A 电阻负载的电流。 电源的度应根据一次施加的最大负载来确定。最大总消耗不应超过 4A。

Getting Started
入门指南

Follow the installation instructions in section G when everything is installed and connected to the following.

请遵循 G 章节中的安装说明，并在安装和连接所有组件后执行以下操作。

Switch on the power. Ensure the power light on the front panel is on and the LCD display has information on it.

接通电源。 检查板上的电源指示灯是否点亮，并且 LCD 显示屏上有一些信息。

> We recommend you use the Autogrow IntelliLink gateway device to connect your controller directly to your network.
>
> 我们建议您使用 Autogrow IntelliLink 网关设备将控制器直接连接到网络。

For more information on the IntelliLink: https://autogrow.com/products/intellilink
欲知 IntelliLink 更多的相关信息：https://autogrow.com/products/intellilink

Alternatively, if you want to use a dedicated computer as a gateway at the grow site, you can connect the IntelliDose directly via a USB cable.

另外，如果要在种植地将专用的电脑用作网关，则可以直接通过 USB 电缆连接 IntelliDose 智能施肥器。

Windows:
微软

Windows 32-bit
微软 32 位
Download il-finder 32-bit

Windows 64-bit
*微软 64 位*
Download il-finder 64-bit

Here are the instructions to activate your IntelliGrow Subscription
激活 IntelliGrow 订阅的说明

- You will need to first register for a new account here: https://intelligrow.autogrow.com/

  您需要先在这里 https://intelligrow.autogrow.com/ 注册一个新帐户

- Login using your account details and connect your devices as per the picture below

  使用您的帐户详细信息登录并按照下图连接设备
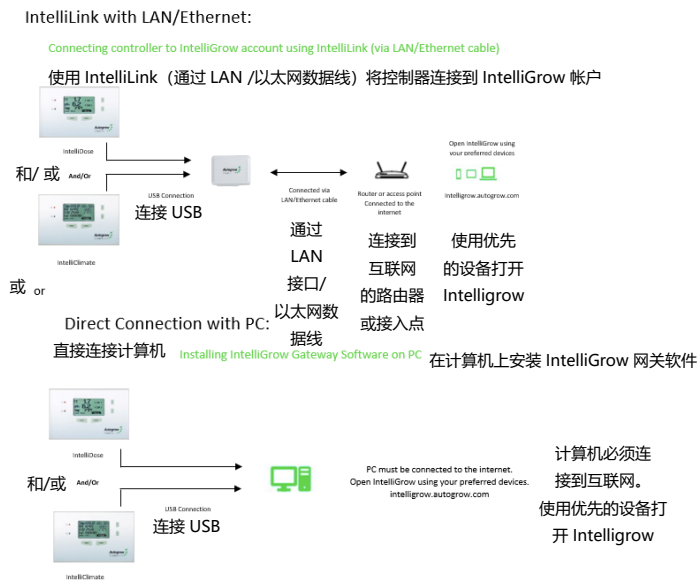
- Click your profile in the top right of the page and select "Payments" from the menu.

  点击页面右上角的个人资料 (profile), 然后从菜单中选择 "付款(Payments)"。

- Click on IG Starter/Standard Manual "Buy Now" button.

  点击 IG 入门/标准手册"立即购买 (Buy Now)"按钮。

- Fill in your details in the Order Summary and click subscribe.

  在订单摘要中填写您的详细信息，然后单击订阅。

用户电子邮件

User Email Address

Account Settings 帐号设定
Language 语言
Payment 付款 ←
Choose devices 选择设备
Notification 通知
Help 帮助
Logout 退出

两个以上的设备　实时更新　在线设备状态　在线设备控制　在线支持　历史数据追踪　设备电子邮件警报　设备短信警报　立即购买 年度预付款

or
或

两个以上的设备　实时更新　在线设备状态　在线设备控制　在线支持　历史数据追踪　设备电子邮件警报　设备短信警报　向移动应用发送通知　立即购买 年度预付款

订单摘要

Order Summary

优惠码

帐户信息
电子邮件　**Account Information**

账单信息　**Billing Information**
名字　　　　　　　　　　　　　　　　　　　　姓
公司　　　　　　　　　　　　　　　　　　　　地址 1
地址 2　　　　　　　　　　　　　　　　　　　市
邮政编码　　　　　　　　　　　　　　　　　国家
州/省份

付款方式信息　**Payment Method Information**
名字　　　　　　　　　　　　　　　　　　　　姓
卡号
失效日期
卡地址国家

订阅　取消　　　安全付款

Section B – **Settings using IntelliGrow website**
B 章节 - 使用 **IntelliGrow** 网站进行设置

ORDER OF SETTING UP A NEW CONTROLLER
设置新控制器的顺序

1) Visit **https://intelligrow.autogrow.com/** to create account
   请浏览 **https://intelligrow.autogrow.com/** 以创建帐户

2) Connect your IntelliDose to your gateway (computer or IntelliLink)
   将您的 **IntelliDose** 智能施肥器 连接到网关（电脑或 **IntelliLink**）

3) Ensure your IntelliDose shows as connected to your IntelliGrow account
   确保您的 **IntelliDose** 显示为已连接到您的 **IntelliGrow** 帐户

4) Set the configuration of the controller to match the physical equipment. Print the wiring diagram and connect the dosing pumps accordingly.
   设定控制器的配置以匹配相关设备。 打印接线图，并相应地连接定量配料泵。

5) At the controller, connect both the EC (TDS) and pH probes
   在控制器上，同时连接 **E**（TDS）和 **pH** 探头

6) Calibrate both EC (TDS) and pH probes
   校准电导率(TDS)和酸碱度探头

7) Enable all functions that you wish to use
   启用所需要使用的所有功能

8) Check the time/date on the controller
   检查控制器上的时间/日期

Configuration
配置

First, under the General tab, select your temperature units, date format, EC preference and name your device.

首先，在"General(常规)"选项下，选择温度的单位,日期的格式，电导率的首选项，然后为设备命名。

Next, under the Functions tab, select the number of nutrient parts you wish to automatically dose. You have a total of 9 outputs, the more you use for nutrients, the less will be available for pH dosing and irrigation. Having selected the number of nutrients to be dosed, continue by selecting the pH dosing required, then whether irrigation output is required.

接下来，在"Functions(功能)"选项下，选择要自动配制营养素的份数。您总共有 9 个输出，用于营养素的输出越多，用于电导率的配料和灌溉的可用输出就越少。选择了要配制的营养素数量后，继续选择所需的酸碱度配料，然后选择是否需要灌溉。

GENERAL 概括

营养素剂量时间 | pH 剂量时间 | 剂量间隔

Nutrient dose time	pH dose time	Dose interval
‹ 4 sec 秒 ›	‹ 3 sec 秒 ›	‹ 1 mins ›

FUNCTIONS 功能	GENERAL 概括	ADVANCED 高级

✖

输出功能
OUTPUT FUNCTIONS [Wiring Diagram] 接线图

4 (out of 9) outputs are available   4(总共 9 个) 输出可用

pH Dosing pH 配料
无   升高 pH   降低 pH   两者
○ None ○ pH raise ● pH lower ○ Both

Nutrient parts 营养素成分   ‹ 4 ›

灌溉方式
Irrigation mode
单输出   顺序的   独立
● Single Output ○ Sequential ○ Independent ⓘ

Number of Irrigation stations 灌溉站数   ‹ 0 ›

单独抽出   用水减少 EC   外部警报
☐ Separate pump output ☐ Use water to reduce EC ☐ External Alarm

白天和夜间使用不同的 EC   静音蜂鸣器   使用预定的设置
☐ Different EC for day and night ☑ Mute buzzer ☐ Use scheduled settings

The wiring diagram is dynamic and will change according to your output configuration. Every time an output designation changes, you must check your wiring diagram to confirm your wiring is correct. This is available via IntelliGrow, under Functions.

接线图是动态的，将根据您的输出配置而变化。 每次输出名称更改时，必须检查接线图以确认接线是正确的。 可通过 IntelliGrow 的"Functions(功能)"获得此功能。

Functions 功能

OUTPUT FUNCTIONS   [Wiring Diagram]
输出功能   接线图

IntelliDose 的底视图: 定量给料器 rm 3

[PRINT 🔒] 打印   Bottom View of IntelliDose: Doser rm 3   ✕

LIVE | COMMON | NUT PART 1 | NUT PART 2 | NUT PART 3 | NUT PART 4 | NUT PART 5 | COMMON | NUT PART 6 | NUT PART 7 | COMMON | PH RAISE | PH LOWER | RED | WHITE | BLACK

24V Power In
24V 电源

TDS Probe
TDS 探头

火   常   营   营   营   营   常   营   营   常   升   降
线   规   养   养   养   养   规   养   养   规   高   低
         素   素   素   素   素   素   p   p
         成   成   成   成   成   成   H   H
         分   分   分   分   分   分
         1   2   3   4   5   6   7

If you wish to have a different EC (TDS) for day and night, this can also be selected. If selected, you can also choose to add water automatically to reduce EC.

如果您希望在白天和夜间使用不同的电导率（TDS），也可以选择此项。如果选择了此项，还可以选择自动添加水以降低电导率。

As soon as you have used all the 9 available outputs, the options will appear greyed out and will be un-selectable. The only way to select them is to go back and deselect some previous choices.

使用完所有 9 个可用输出后，这些选项将显示为灰色，并且将无法选择。选择它们的唯一方法是返回并取消选择一些先前的选择。

You can select "Use Scheduled Settings" if desired, **see page 12**. This gives you the opportunity to set up a complete growing schedule by specifying the nutrient ratios and EC for each stage of growth. This schedule is easy to modify if the plant growth is slower or faster than expected, you can make alterations at any time. It is possible to save the schedule to disk so that it can be used for future crop cycles.

如果需要，您可以选择"使用预定的设置 (Use Scheduled Settings)"，**请参阅第 12 页**。这样，您可以通过指定每个生长阶段的营养素比例和电导率来设定完整的生长时间表。 如果植物生长慢于或快于预期，则可以轻松地更改此计划，也可以随时的进行更改。 时间表是可以保存到磁盘里，以便可以将其用于将来的农作物周期。

In the Advanced section, you can select proportional dosing if required. This will only work satisfactorily on systems that irrigate large amounts of water from the tank and therefore need very rapid dosing to get the EC and pH back to correct levels. If this is not the case, then deselect this option. It should only be used with 1- or 2-part mixture, and where you intend setting the dose interval to zero to achieve continuous dosing. This is sometimes used on very large irrigation systems so that continuous dosing occurs while irrigation takes place and fresh make-up water is entering on a continuous basis.

如果需要，您可以在"高级(Advanced)"部分中选择定量配料的比例。 这功能只会在从水槽中灌溉大量水的系统上达到最佳的效果，因此需要非常快速的定量配料才能使电导率和酸碱度恢复到正确的水平。 如果不是这种情况，请取消选择此选项。 它仅适合于 1 或 2 份混合料一起使用，并且打算将剂量间隔设置为零以实现连续定量配料。 这有时侯会使用在非常大型的灌溉系统上，因此在进行灌溉和连续补充新水的同时会进行连续定量配料。

Sequential dosing should always be selected unless there is a good reason not to. This will allow you to dose different nutrients and additives at different rates.

除非有充分的理由，否则应选择顺序配料。这将使您可以以不同的速率分配不同的营养素和添加剂。

The fail-safe disable for dosing should always be enabled for safety. These prevent dosing if the controller suspects that a probe has become faulty or if the EC/pH are too far from your set points.

为了安全起见，应启用定量配料的自动防故障功能。如果控制器怀疑探头出现故障或电导率/酸碱度与设定点相距太远，这些功能将阻止定量配料。

The "Save current settings to disk" and "Restore settings from disk" do exactly that. They fetch all settings from the controller and store them in a file on your computer's hard drive. This allows you to quickly reset the controller to a previously saved setup that was known to work well, for a particular season.
"将当前设置保存到磁盘 (Save current settings to disk)"和"从磁盘还原设置 (Restore settings from disk)" 完全可以做到这一点。它们从控制器获取所有的设置，并将它们存储在计算机硬盘里的文件中。这样，您就可以将控制器快速的重置到之前保存的设置。这在特定的季节里是很好使的功能。

导入/ 导出设置

IMPORT/EXPORT SETTINGS

| Read settings from disk | 📂 从磁盘读取设置 |
| Save current settings to disk | 💾 将当前设置保存到磁盘 |

Dose Times & Intervals
剂量时间和间隔

Dose times and interval are set by trial and error. The smaller the reservoir, the shorter the dose time need to be. The strength or concentration of your stock solutions will also affect the dose time setting. The stronger the stock solution, the shorter time the pump runs. If you are using a small reservoir tank you must ensure that your stock solutions are very dilute.

剂量时间和间隔是由反复试验设定的。 储水槽越小，所需的剂量时间就越短。 原液的强度或浓度也会影响剂量时间的设置。 原液越强，泵运行的时间越短。 如果您使用的是小型的储水槽，则必须确保原液是非常稀。

Ideally, you are trying to achieve a dose time such that the EC(TDS) goes up by about 0.1EC (50 ppm) for each dose. If you need to set the dose time to a very small number to achieve this, then you need to dilute the stock solution. The minimum time that any pump should run for is 1 second. If at any stage you have a ratio for one of the nutrient parts set for 20%, then the minimum dose time has got to be at least 100/20 = 5 seconds. This is because 5 seconds corresponds to a 100% dose and 20% is only 1/5th of this so the pump for this nutrient part will only run for 1 second. The process is similar for pH dosing where you are trying to achieve a change of 0.1pH for each dose.

理想情况下，您要设法的在某个剂量时间里使每个剂量的电导率（TDS）上升约 0.1 电导率 1（50 ppm）。如果您需要将剂量时间设定为非常小的数值(来达到此目的)，则需要稀释原液。任何泵运行的最短时间为 1 秒。 如果在任何阶段，营养素比例设定为 20％，则最小剂量时间必须至少为 100/20 = 5 秒。 这是因为 5 秒对应于 100％的剂量，而 20％仅是此剂量的 1/5，因此用于营养素成分的泵仅须运行 1 秒。对于酸碱配料，此过程与之类似，您需尝试使每个剂量的 pH 值均发生 0.1 的变化。

The dose interval is set to allow time for a dose to fully mix in before the controller makes the decision as to whether another dose is required. Normally set to 1 minute for a small tank and up to 10 minutes for very large systems.

剂量间隔的设置为在控制器做出是否需要其他剂量的决定之前，有足够的时间充分混合一个剂量。对于小型的槽，通常设置为 1 分钟，而对于大型系统，则通常设置为 10 分钟。

Every system is unique and will have its own requirements. If you would like help to determine the best dose times and intervals, please contact support@autogrow.com.
每个系统都是独特的，并且会有自己的要求。如果您需要帮助来确定最佳剂量时间和间隔，请联系 support@autogrow.com。

pH Raise or Lower
升高或降低酸碱度

For most growers, lower pH is the most common requirement. Depending on water source, nutrients and plant growth, you may find you need to use pH Raise at certain growth stages. The IntelliDose can be configured to run no pH adjuster, pH raise, pH lower or both. If you choose to run both, you will be able to wire up a peristaltic pump to each raise and lower, **but the system will only be able to dose in one direction at a time**. When you need to change direction, you simply login to your IntelliGrow account and switch pH from raise to lower or vice versa. On the controller keypad navigate to Menu > Configure > Advanced > pH Output Setup.

对于大多数种植者而言，降低酸碱度是最常见的要求。 根据水源，营养素和植物的生长情况，可能会发现需要在某些生长阶段升高酸碱度。IntelliDose 智能施肥器 可设定为不运行酸碱调节剂，升高酸碱度，降低酸碱度或同时运行。 如果您选择同时运行，则可以将蠕动泵连接到每个上升和下降位置，**但是系统一次只能按一个方向进行剂量分配**。 当需要改变方向时，只需登录到 IntelliGrow 帐户，然后将酸碱度从升高更改为降低，反之亦然。 在控制器键盘上，导航至菜单(Menu) > 配置(Configure) > 高级(Advanced) > 酸碱度输出设置(pH Output Setup)。
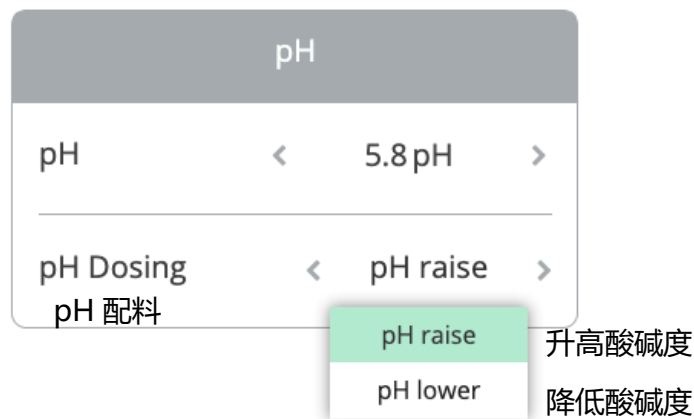
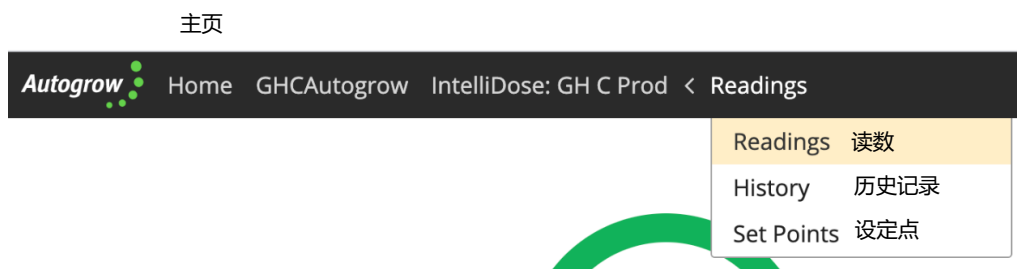| pH		
pH	< 5.8 pH >	
pH Dosing pH 配料	< pH raise >	

pH raise　升高酸碱度
pH lower　降低酸碱度

Scheduling
排程

To set up the scheduling function, scroll down the page to Functions and tick the "Use scheduled settings".

如要设定排程功能，请向下滚动页面至"功能(Functions)"，然后勾选"使用计划的设置(Use scheduled settings)"

After saving the settings, you will use the drop-down menu to access your Set Points. Please note, if scheduling has been selected, then settings like the nutrient set points and nutrient dose ratios will appear "greyed out" on the home page as they are derived from the entries on the schedule tab and cannot be altered here.

保存设置后，您将使用下拉式菜单 (drop-down menu) 控制设定点。 请注意，如果选择了排程，则营养素设定点和营养素剂量比率之类的设置将在首页上显示为"灰色"，因为它们是从"排程(Scheduling)"选项卡上的条目派生的，因此无法在此处更改。

开始日期

Start Date   07/01/19 🗓

加+

(ADD +)   (▷)   (🖫)

	日 Day	日期 Date	第 1 部分 Pt. 1	第 2 部分 Pt. 2	第 3 部分 Pt. 3	第 4 部分 Pt. 4	营养素 Nutrient
			%	%	%	%	mS/cm²
✖	1	07/01/19 🗓	100	100	100	100	0.8
✖	7	07/07/19 🗓	100	100	100	100	0.9
✖	14	07/14/19 🗓	100	100	60	80	1.1
✖	21	07/21/19 🗓	100	100	75	90	1.3
✖	28	07/28/19 🗓	100	100	100	100	1.4
			✚				

If you need any help with setting Schedules, please contact Autogrow at support@autogrow.com and one of our experts will help you to build your perfect feed schedule.

如果您在设置时间表方面需要任何帮助，请通过 support@autogrow.com 与 Autogrow 联系，我们会派出一位专家帮您制定完善的时间表。

History
历史记录

This history screen allows you to graphically view all data logged from the controller.

此历史记录屏幕允许您以图形方式查看从控制器记录的所有数据。

This is very useful for diagnosing problems.

这对于诊断问题非常有用。
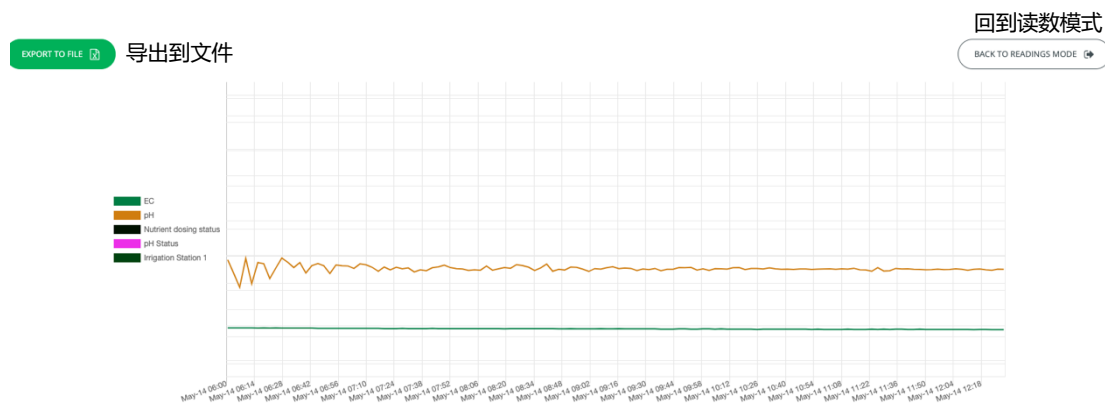
The pop-up calendar allows you to easily view records from previous days, months or years. The Options tab allows you to customize your history screen to show only attributes and functions required for your system. Once you have customized your history screen, you can save the settings to disk to be able to pull it up quickly in the future.

弹出的日历可让您轻松的查看前几天，前几个月或前几年的记录。"选项 (Option)"选项卡可以自定义历史记录屏幕，以仅显示系统所需的属性和功能。 自定义历史记录屏幕后，可将此设置保存到磁盘里，以便将来可快速的将其调出使用。

Export the data

资料输出

You have the option to export the data as a .csv file if desired.
如果需要，可以选择将数据导出为 .csv 文件。

Section B2 – **Settings using IntelliDose Keypad**
B2 章节 – 使用 IntelliDose 键盘进行设置

Though you can set almost everything on the controller itself via the keypad, the Scheduling, Wiring Diagram and History features are only available on IntelliGrow. The calibration of probes can only be completed via the keypad.

尽管您可以通过键盘在控制器上设置大多数的功能，但"排程 (Scheduling)"，"接线图(Wiring Diagram)"及"历史（History)"的功能只能在 IntelliGrow 上使用。探头的校准装置只能通过键盘完成。

The two keys at the bottom of the display are "soft keys". This means their function at any time, is shown on the screen above them. After switching on, you will see the right-hand key has the label "menu" on the LCD above it and the left-hand key is unused at this point. To the right of the LCD screen are two arrow keys. Used for moving up or down through the menus, and when in a screen which allows you to edit a numeric value, they are used for increasing or decreasing the values. They are also used to select between different options.

显示器下方有两个"软键"。它们的操作功能都会在屏幕中所显示，可以随时使用。打开电源过后，您会看到右手边按键上方的液晶显示器 (LCD) 的屏幕中显示着"菜单 (menu)"的标签指示，而左手边的按键尚未使用。在液晶显示器 (LCD)的屏幕右侧则是两个箭头（上下箭头）键。用于向上或者向下浏览菜单，并且允许您在屏幕中编辑数值，然后用于它们来增加或减少最右侧的选定数字。除此之外，它们还用于在不同选项之间进行选择。

First of all, pressing the "menu" button will lead you to the main menu. Use the down arrow to move down and you see the following items

首先按屏幕右下方的"菜单 (menu)"按键，您就会看到"主菜单 (main menu)"显示在屏幕中。然后通过下箭头键往下移动，您会看到以下项目：

DOSING	定量配料
CALIBRATION	校准
OVERRIDES	覆盖系统
IRRIGATION	灌溉
ALARMS	警报
CLOCK	时钟
CONFIGURE	配置

If you wish to make a change to, e.g. irrigation timings, move down to irrigation and then press "enter" to enter the Irrigation sub-menu. Now by pressing the down and/or up arrows move through this sub-menu to see the item that you wish to change, press enter to access this item. After making any changes, the soft keys will allow you to either save the new setting or to cancel and exit out of that screen.

如果您想更改，例如灌溉时间的话，往下移动到"灌溉（Irrigation)"选项，然后按 "输入(Enter)"进入"灌溉 (Irrigation)" 的下一级子菜单。子菜单打开之后，使用下箭头键 及/ 或 上箭头键在选择列表上移动到您想更改的项目，通过按"输入（Enter)"访问此项目。进行任何更改后，软键将允许您保存新设置或者取消并退出该屏幕。

The setting order is the same as when using IntelliGrow and the settings that you will access are also the same, we suggest you use the previous pages on IntelliGrow settings, to guide you through the setting procedure.

设置的顺序是与使用 IntelliGrow 智能施肥器 时相同，并且您将控制的设置也是相同的，我们建议您参考 IntelliGrow 智能施肥器 设置的用户指南，以指导您完成设置的过程。

Section C – **Calibration Instructions**
C 章节 – 校准说明

Calibrate EC sensor
校准 **EC** 传感器

- Clean the surface of the probe. Remove the shroud from the end of the probe and use a kitchen liquid scouring cleaner such as "Jif" or "SoftScrub" on a **clean** "Scotchbrite" nylon scouring pad. Alternatively, use 600 grit wet-and-dry paper with the cleanser. Use a circular motion to scour the surface of the probe and then rinse well in running water. Do not touch the surface of the probe with your fingers, shake off any residual water.

  清洗探头的表面。把探头末端的护罩去掉后，在**干净**的"百利"(Scotchbrite) 尼龙白洁布上使用一些强力去污厨房清洁剂，例如"JIF"或"SoftScrub"的品牌进行清洗。或者，将干湿两用的 600 粒度砂纸与清洁剂一起使用。用圆周运动擦洗探头的表面，然后用流水冲洗干净。不要用手指触摸探头的表面，要甩掉残留的水。

- Replace the shroud and then place in the calibrating solution. The solution supplied has an EC of 2.77mS/cm. To ensure the IntelliDose calibrates properly, you will need to use 2.77mS/cm solution to calibrate. Allow about 5 minutes for the temperature compensation to fully stabilize, press the menu button to reach the Calibration screen, press **"Enter"** to get to the Calibrate sub-menu, press **menu** to step through this sub menu until you reach the "Calibrate EC" screen. Press **"Enter"** to get into the "Calibrate EC screen".

  把护罩更换，然后放入校准溶液。提供的溶液的电导率为 2.77 mS/cm。为了确保 IntelliDose 可以正确校准，您需要使用 2.77 mS/cm 的溶液进行校准。等待约 5 分钟，便温度补偿完全稳定，选择 "菜单（Menu)"按键后，您就会看到 "校准 (Calibration)" 显示在屏幕中, 通过按 "**输入 (Enter)**" 进入"校准 (Calibration)"的子菜单，再按"**菜单（Menu)**"可以逐步浏览此子菜单，直到到达"Calibrate EC" 的屏幕。通过按 "**输入 (Enter)**"进入 "Calibrate EC screen"。

- Press either the Up or Down arrow keys to get the calibrated reading to correspond with the Standard calibrating solution (2.77mS/cm,). When this is achieved, press the save button.

  按向上或向下箭头键以获取与标准校准溶液相对应的校准读数（2.77mS/ cm）。完成此操作后，按"保存"按键进行保存。

Calibrate pH sensor
校准酸碱度传感器

- The glass bulb at the end of the pH electrode should be shiny and clear. If necessary, clean the glass bulb at the tip of the sensor with a very soft child toothbrush or a special cleaning tool with a little liquid dish washing soap. The bulb is very delicate – **TAKE CARE.**

  酸碱电极末端的玻璃玻璃球应发亮且透明。如有必要，请使用非常柔软的儿童牙刷把在传感器尖端的玻璃玻璃球清洗或在特殊清洁工具滴少量的洗碗液使用。此玻璃球是很脆弱的 – **得格外谨慎**。

- Rinse thoroughly in water and then place in the pH 7 buffer solution. **NOTE: YOU MUST ALWAYS CALIBRATE AT pH 7 BEFORE pH 4.0**

  用水彻底冲洗，然后放入酸碱度 7 的缓冲溶液中。**注意：您必须在 pH4.0 之前对 pH7 进行校准。**

- Allow a few minutes for the reading to be stabled, press the menu button to reach the Calibration screen. Press Enter to get into the Calibration sub-menu, "Enter" the Calibrate pH 7 screen. Press the up and down arrows until the reading matches the calibration solution (within +/-0.1). Press "Save" to store the calibration.

  等待几分钟，以获得稳定的读数，选择 "菜单（Menu)" 按键后，您就会看到 "校准(Calibration)" 显示在屏幕中, 通过按 "输入(Enter)" 进入 "校准(Calibration)" 的子菜单，再按 "输入(Enter)" 进入 "Calibrate pH 7" 的屏幕。按向上及向下箭头，直到读数与校准溶液匹配为止（+/- 0.1 以内）。按 "保存（Save)" 按键进行存储校准常数。

- Rinse the probe and place in pH 4 buffer solution. Allow to stand for at least 5 minutes until there is no further change in the pH reading. Use the Menu and Enter keys to navigate to the Calibrate pH 4 screen. Press the up and down arrows to get the calibrated reading to match the calibration solution (within +/-0.1) and then press "Save" to save the calibration and exit from that screen.

  冲洗探头并将其置于酸碱度 4 的缓冲溶液中。静置至少 5 分钟，直到酸碱度读数不再变化为止。使用 "菜单（Menu)" 及 "输入（Enter)" 键导航到 "Calibrate pH 4" 的屏幕。按向上及向下箭头，直到读数与校准溶液匹配为止（+/- 0.1 以内），然后按 "保存 (Save)" 按键进行存储校准常数并退出该屏幕。

The EC probe should be cleaned regularly and calibrated every week. The pH probe should be calibrated weekly as well. In addition, it is advisable to use a hand-held meter to check the EC and pH every day. If ever the hand-held instrument and controller readings differ, then all probes should be cleaned, checked and recalibrated.

电导率探头应定期清洗并每两周校准一次. 酸碱度探头应每周校准. 另外，也建议每天使用手持式仪表检查电导率和酸碱度。 如果手持式仪表和控制器的读数有所不同，则应进行清洗，检查及重新校准所有的探测器。

Section D – **Dosing Settings**
D 章节 – 定量配料的设置操作

Best dosing accuracy is achieved with longer dose times. If any ratios of a multi-part mix are set to a short dose time, then it is important to ensure dose time is still above 1 second.

用更长的剂量时间可获得最佳的定量配料准确性。如果将多部分的混合料的任何比率设置为较短的剂量时间，那么确保剂量时间仍在 1 秒钟以上是很重要的。

For example, a dose time is set to 5 seconds, and one part is set to a ratio of 10%. This means that a ratio of 100% = 5 seconds, a ratio of 10% will equal only ½ second, an insufficient time for a pump to run. The solution is to increase the dose time to 10 or 20 seconds. At 10 seconds the 10% component will dose for 1 second (just long enough but still not as accurate). At 20 seconds a 10% component will dose for 2 seconds (which will be more accurate).

例如，将剂量时间设置为 5 秒，并将一部分的设置为 10%的比率。这意味着比率为 100%=5 秒钟，比率为 10%仅等于为 1/2 秒而已，那么一来，泵的运行时间是不足的。解决的方案是将剂量时间增加到 10 或 20 秒。在第 10 秒的时候，10%的成分将剂量长达 1 秒（足够长的时间，但仍然不够准确）。在第 20 秒的时候，10%的成分将剂量长达 2 秒（这将会更准确）。

However, you may see each of these higher nutrient doses increase the EC by more than the desired 0.1 EC (50ppm). The only solution to this is either dilute the stock solutions or use a larger reservoir tank or a combination of both. If diluting stock solutions, it is important to dilute all to the same ratio. E.g. 1-part nutrient to 3-parts water (makes a 25% solution). This would result in each dose causing the EC to rise by ¼ of its previous value.

然而，您可能会看到，这些较高的每一种营养素剂量都会使电导率增加超过所需的 0.1 电导率（50ppm）。唯一的解决方案是稀释原液或使用更大的储水槽或两者结合使用。如果选择稀释原液，那么原液及溶剂的比率一定要相同。例如，1 份营养素，3 份的水（一共制造了 25%的溶液）。这将导致每次的剂量引起电导率升高至其先前值的 1/4。

Another approach is to dilute only the nutrient parts that require the lower ratios. For example, a recipe recommends 100:50:10. If the dose time is set to 5 seconds then part A would dose for 5 seconds, part B for 2.5 and part C for only 1/2 second. By diluting part C in water with 1-part C to 4-parts water, it would reduce its intensity to 1/5th of the original. Then you would schedule 100:50:50 which will be more accurate.

另一种的方法是仅稀释需要较低比率的营养素成分。例如，食谱的建议 100：50：10。如果将剂量时间设置为 5 秒钟，则 A 部分将剂量为 5 秒钟，B 部分仅需 2.5 秒钟，C 部分仅需½秒钟。通过用 1 份 C 的水将 C 份稀释为 4 份水，强度会降低到原本的 1/5。 然后，您可以选择 100：50：50，这会更加标准。

In "Configure" on the controller or "Functions" on IntelliGrow, select how many nutrient parts you will be using. Then, choose whether you will be using pH raise, pH lower or both. Most frequently, pH lower (acid dosing) is used. If you see the pH continually drifts down below 5.5pH, change this to pH raise, ensure you have a dosing pump connected to the pH raise output and to a stock tank containing pH raise (alkali).

在控制器上的"配置（Configure)"或 IntelliGrow 上的"功能（Functions)"，您可以选择要使用的营养素成分数量。然后，您可以选择要使用 升高酸碱度，降低酸碱度还是两者都使用。最常见的

是使用较低的酸碱度（加酸）。如果您看到酸碱度持续下降到酸碱度 5.5 以下，将其更改为升高酸碱度，确保您的定量给料泵连接到升高酸碱度的输出和装有升高酸碱度的储罐（碱）。

Set desired EC & pH Set Points - **On IntelliDose Keypad**
设定所需要的电导率和酸碱度设定点- 在 **IntelliDose** 键盘上

- **Navigate Menu > Dosing > EC > EC Set Point**
  This should be set so that each dose raises the EC by 0.1mS/cm (1CF or 50ppm)

  导航"菜单（Menu)">"定量配料 (Dosing)" > EC > "EC 设定点 (EC Set Point)"
  应当对此进行设置以使每次剂量都能使电导率升高 0.1mS/cm (1CF 或 50 ppm)

- **Navigate Menu > Dosing > EC > EC Dose Time**
  The amount of time the pumps will run when a dose is activated.

  导航"菜单（Menu)">"定量配料(Dosing)" > 电导率> "EC 剂量时间（EC Dose Time)"
  激活剂量后，泵将运行的时间。

- **Navigate Menu > Dosing > EC > EC Dosing Interval**
  Time taken for each dose to mix in and for the EC and pH readings to stabilise. For a small system, 2 or 3 minutes is typical. Larger systems may require 10 minutes or more. Note that dosing will not occur unless the reading has been below the set point continuously for this amount of time

  导航"菜单（Menu)">"定量配料(Dosing)" > 电导率 > "电导率定量给料间隔 (EC Dosing Interval)"
  每种剂量混合所需要的时间以及 EC 和酸碱度读数稳定所需要的时间。对于小型的系统，通常需要 2 分钟到 3 分钟。较大的系统可能需要 10 分钟或更长的时间。要注意的是，除非在这段时间内读数连续低于设定点，否则不会进行配料。

- **Navigate Menu > Dosing > pH > pH Set Point**
  The pH dose time so that each dose alters the pH by about 0.1pH

  导航"菜单（Menu）" > "定量配料(Dosing)" > pH > "酸碱度设定点（pH Set Point)"
  酸碱度剂量时间，以便每次剂量可将酸碱度改变约 0.1 酸碱度。

- **Navigate Menu > Dosing > pH > pH Dose Time**
  The amount of time the pumps will run when a dose is activated.

  导航"菜单（Menu)">"定量配料(Dosing)" > 酸碱度 > "酸碱度剂量时间（pH Dose Time)"
  激活剂量后，泵将运行的时间。

- **Navigate Menu > Dosing > pH > pH Dosing Interval**
  Time taken for each dose to mix in and for the EC and pH readings to be stabled. A small system usually requires 2 or 3 minutes. Larger systems may require 10 minutes or more. Note that dosing will not occur unless the reading has been below the setpoint continuously for this amount of time.

  导航"菜单（Menu)">"定量配料 (Dosing)" > 酸碱度 > "酸碱度剂量间隔 (pH Dosing Interval)"
  每种剂量混合所需要的时间以及电导率和酸碱度读数稳定所需要的时间。对于小型的系统，通常需要 2 到 3 分钟。较大的系统可能需要 10 分钟或更长的时间。要注意的是，除非在这段时间内读数连续低于设定点，否则不会进行定量配料。

Set desired EC & pH Set Points – **On IntelliGrow**
设定所想要的电导率和酸碱度设定点 – **在 IntelliGrow**

- Set the desired EC and pH set points on the home screen.
  在主屏幕上设置所想要的电导率和酸碱度的设定点

Section E – **Proportional Dosing (default OFF)**
E 章节–比例配料（预设关闭）

Proportional dosing allows rapid dosing toward the set point. A maximum and minimum dose time must be entered. The maximum time should be set so that a dose of this size would raise the EC from its raw water value to 80% of the setpoint value in a single dose. The minimum dose time should be set to achieve a rise in EC of 0.1mS/cm (CF=1, ppm=50). The controller will then select the most appropriate dose time within this range, depending on the measured EC. This means that when starting with a tank of pure water, the controller will make one very large dose followed by smaller dose as the setpoint is approached. Note that proportional dosing is not available for use with 3 (or more) part mix.

比例配料可快速达到设定点。必须输入最大和最小剂量时间。应当设置最长的时间，以使这个剂量的大小即影响电导率从其原水提高到单剂量的设定值的 80%。最小剂量的时间应设置为使电导率升高 0.1mS/cm (CF = 1, ppm = 50) 。然后，控制器将根据测得的电导率来选择在该范围内最适合的剂量时间。这意味着，从装有纯净的水的槽开始，控制器将产生一个非常大的剂量，然后随着接近设定值，再以较小的剂量使用。要注意的是，比例配料是不适合用于在 3 （或更多）份混合料。

Section F – **Sequential Dosing (default ON)**
F 章节–顺序配料（预设开启）

By selecting sequential dosing, the dosing outputs will operate in sequence, one after another. This allows a low power supply to be used with dosing devices that draw a heavy current. For example, small peristaltic pumps usually draw 1.2 Amps at 24V DC. If three-part dosing is used, and three pumps allowed to on at the same time, the power supply would need to be rated at about 4 or 5 Amps. If selecting sequential dosing, a 2 Amp supply could be used.

通过选择顺序配料，定量配料输出将一个接一个地按顺序运行。这让汲取高电流的定量配料装置只需使用低电源。例如，小型蠕动泵通常会在 24VDC（直流）时汲取 1.2A 电流。如果使用三部分的定量给料，而和三个泵可以同时启动，那么电源需要额定在 4 或 5 安培。 若选择顺序配料，则只需使用 2 安培的电源。

## Section G – **Installation**
G 章节 – 安装

The IntelliDose controller should be installed in a cool and dry place which avoid direct sunlight.
Remove the screws at the back, fit the mounting feet, then screw to the wall. If using the dry wall (plaster board) anchors, should use the longer screws. If fixing to a plywood board, should use the shorter screws.
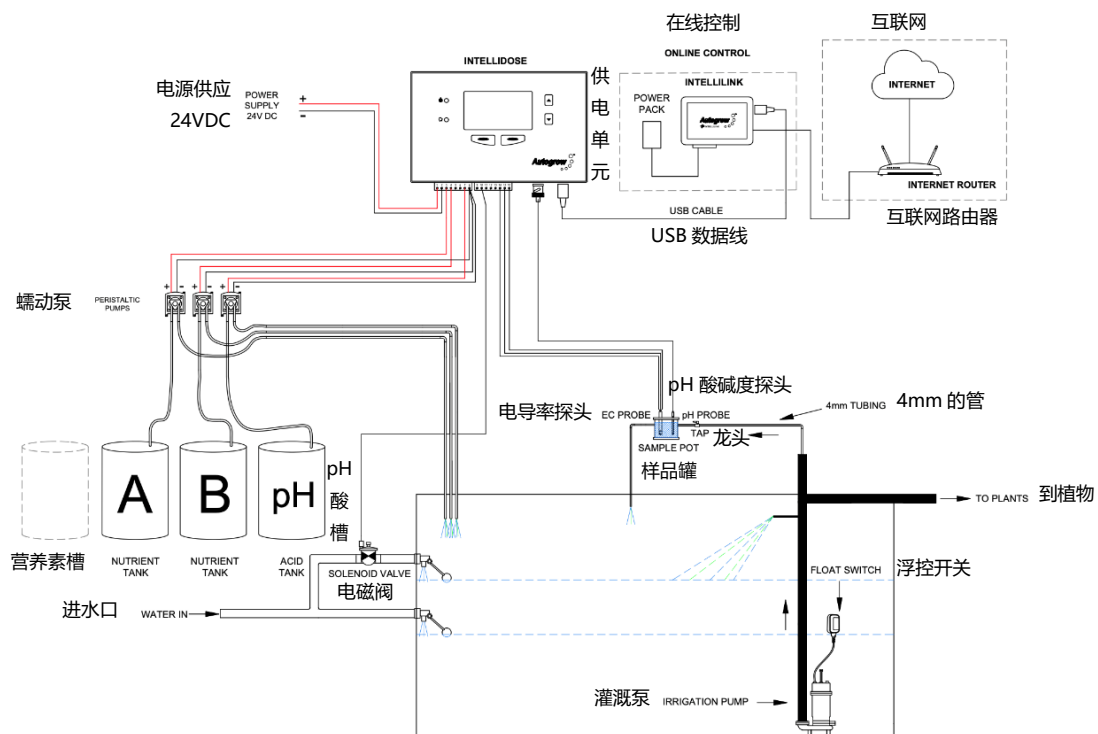
IntelliDose 智能施肥器 应安装在阴凉干燥的地方，避免阳光直射。
需要将背面所有的固定螺丝全部拧下，安装固定脚，然后将其安装在墙上。 如果使用干墙锚（干壁），得使用较长的螺丝。如果固定到胶合板上，请使用较短的螺丝。
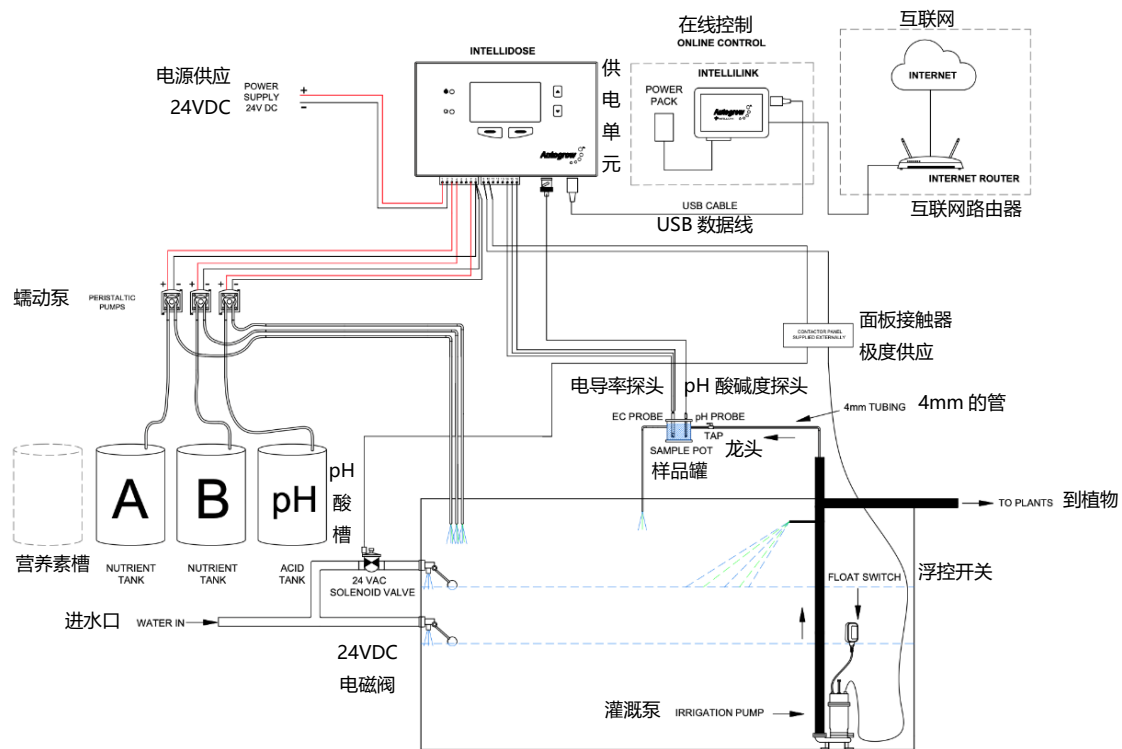**Typical Installation for NFT**
NFT 的典型安装
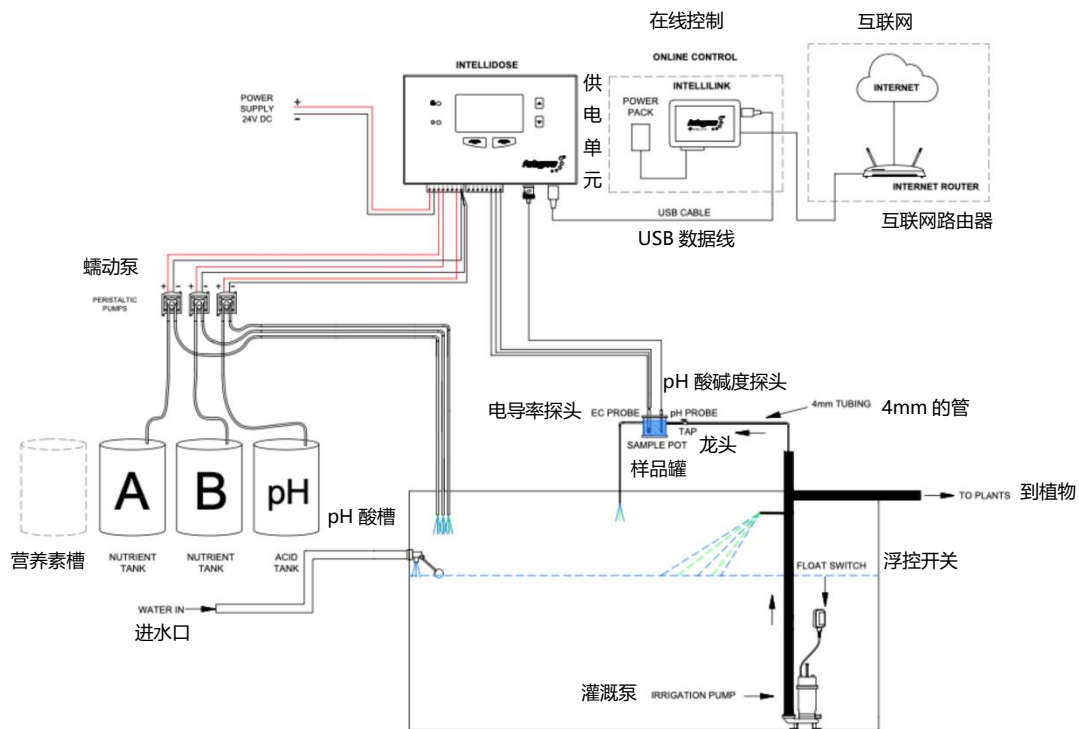
Installation for NFT with solenoid valve in order to automatically add water to dilute EC
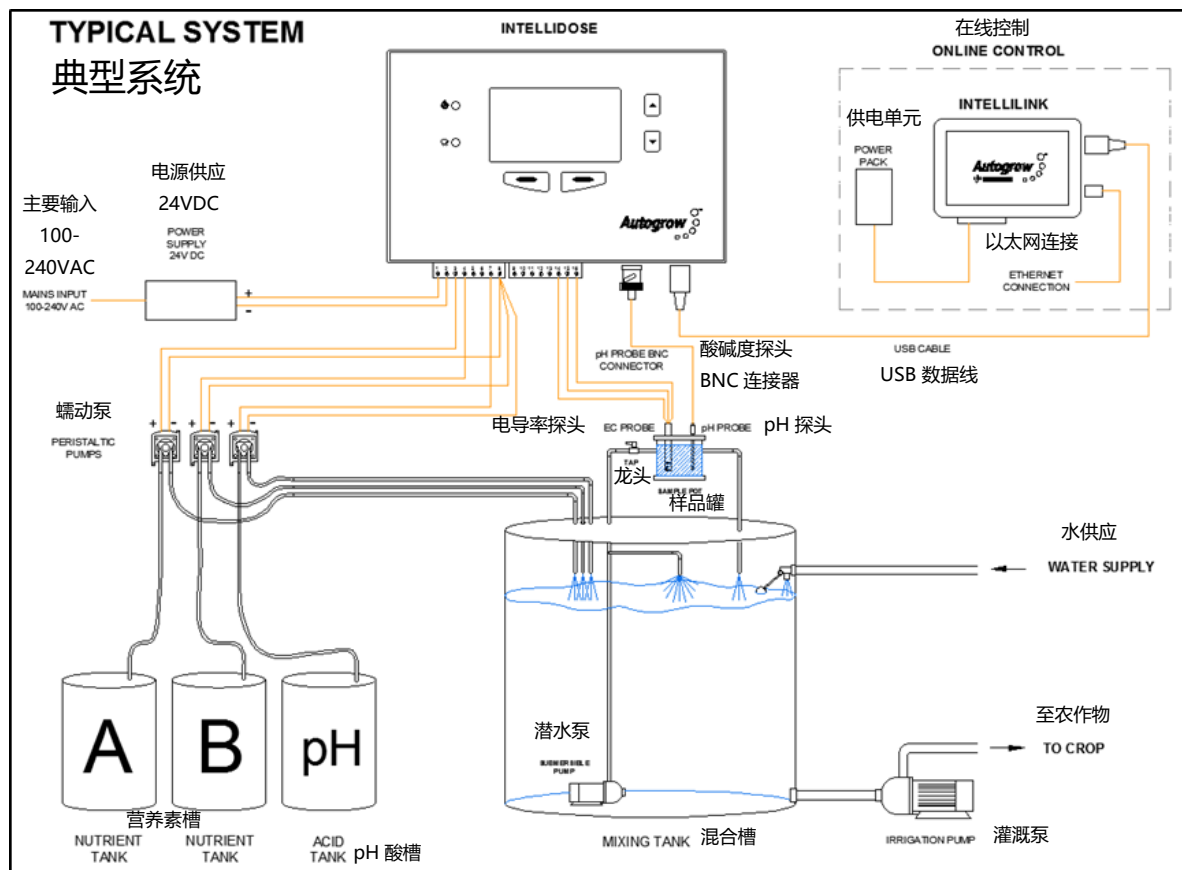安装电磁阀于 **NFT** 以便自动添加水以稀释 **EC**

Installation for NFT with solenoid valve to automatically control water and Irrigation pump via contactor panel

安装电磁阀于 **NFT** 以便通过接触器面板自动控制水和灌溉泵

Typical installation using peristaltic pumps
使用蠕动泵的典型安装

NOTES:
注意：

- If an irrigation pump is used, another small pump should be used to continuously circulate the solution through the sample pot and keep the tank stirred. The irrigation pump would then need a "pump start relay" with a 24V DC coil to switch on, only when an irrigation is called for.
  如果使用灌溉泵，应使用另一个小型的泵让溶液持续循环地通过样品罐，并保持搅拌的状态。只有在需要进行灌溉时，灌溉泵才需要带有 24VDC（直流）线圈的 "泵启动继电器"(pump start relay）来接通。

- If the irrigation water is returned to the reservoir tank, must allow the water level to rise above the float valve level.
  如果灌溉水返回到储水槽, 则必须允许水位上升至略高于浮阀水位。

Connection diagram for 1-, 2- or 3-part nutrient dosing
第 1，2 或 3 部分营养素配料的
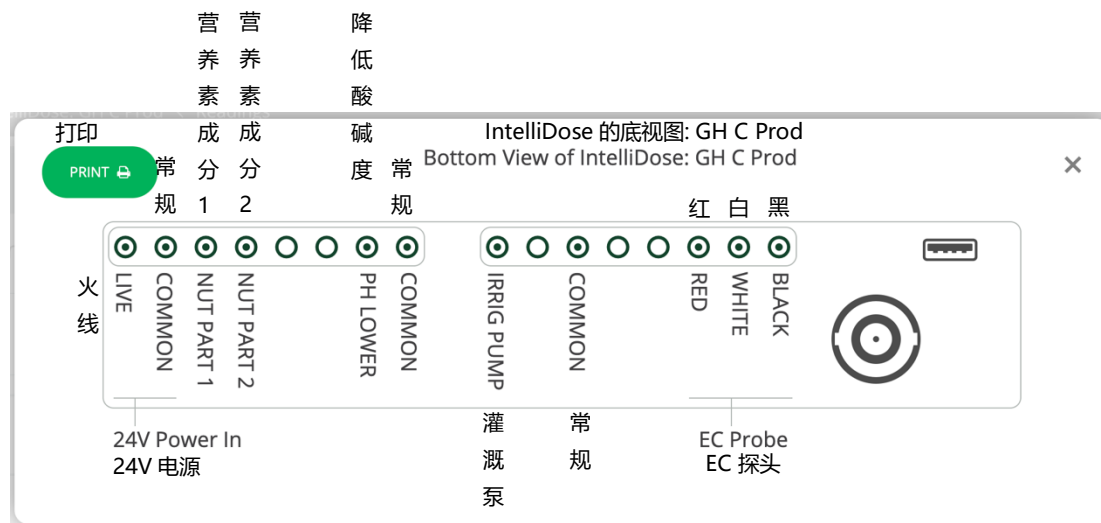
The low voltage power from the adapter is connected to the two connection terminals on the left-hand connector. With many power supplies, the cable is a screened "co-axial" type. In this case the screen should be connected to the "Common" and the centre wire should be connected to the 24V line connection on the controller.

把适配器的低压电源连接到左侧连接器上的两个连接终端。连接许多电源的电缆屏蔽为"同轴"类型。在这种情况下，屏幕应该连接到 "COMMON"，而中心电线应该连接到控制器上的 24V 线路连接。

A 24V DC power supply adapter is supplied together with 24V DC peristaltic pumps.

提供 24VDC（直流） 蠕动泵和 24VDC（直流）电源适配器。

The connection diagram for more than 3-part nutrients must be mapped by IntelliGrow software, AFTER configuration has been complete. If you are not intending to use IntelliGrow, please ask your supplier if they are able to pre-configure and print out the wiring diagram for you.

三份以上的营养素成分的连接图必须在配置完成后通过 IntelliGrow 软件绘制。如果您不打算使用 IntelliGrow, 请询问您的供应商是否能够预先配置并为您打印出接线图。

Peristaltic pumps
蠕动泵

Supplied peristaltic pumps are rated for 24V DC. You can run up to 9 peristaltic pumps, based on your system configuration. Peristaltic pumps should be installed above the stock tanks and the reservoir. The stock tanks should be on the ground, next to the reservoir.

随附的蠕动泵的额定电压为 24VDC（直流）。根据您的系统配置，您最多可以运行 9 个蠕动泵。蠕动泵应安装在储罐及储水槽的上方。储罐应放在地面上，并且在储水槽的旁边。

Important: Peri Pump mounting height should not exceed maximum 2.1 metres/7 feet measured from the bottom of the stock tank.

重要质询: 从储罐底部开始测量，蠕动泵的安装高度不应超过最高值的 2.1 米/ 7 英尺。

Section H – Maintenance
H 章节 – 维修

Clean EC probe
清洗电导率探头

Remove shroud from the end of the probe. Clean the surface of the probe, use a kitchen liquid scouring cleaner such as "Jif" or "SoftScrub" on a **clean** "Scotchbrite" nylon scouring pad. Alternatively, use 600 grit wet-and-dry paper with the cleanser. Use a circular motion to scour the surface of the probe then rinse in running water to clean the surface. Do not touch the surface of the probe with your fingers, shake off residual water. Replace the shroud and check calibration.

把探头末端的护罩去掉。清洗探头的表面，在干净的"百利" (Scotchbrite)尼龙白洁布上使用一些强力去污厨房清洁剂，例如 "JIF" 或"SoftScrub" 的品牌进行清洗。或者，将干湿两用的 600 粒度砂纸与清洁剂一起使用。用圆周运动擦洗探头的表面，然后用水冲洗干净。不要用手指触摸探头的表面，要甩掉残留的水。把护罩更换及检查校准。

Cleaning the pH electrode
清洗酸碱电极

The pH electrode is supplied with a protective cap or cover over its active end. The purpose is to keep the glass bulb moist during storage and transit. This cover must be removed before use.

酸碱电极的有源端配有一个保护帽或保护盖。其目的是在存放和运输的过程中使玻璃球保持湿润。使用前必须将其取下。

The glass bulb at the end of the pH electrode should be shiny and clear. If necessary, clean the glass bulb at the tip of the sensor with a very soft "child's" toothbrush or a special cleaning tool with a little liquid dish washing soap. The bulb is very delicate – TAKE CARE.

酸碱电极末端的玻璃玻璃球应发亮且透明。如有必要，请使用非常柔软的儿童牙刷把在传感器尖端的玻璃玻璃球清洗或在特殊清洁工具滴少量的洗碗液使用。此玻璃球是很脆弱的 – 要得格外谨慎。

Note, the glass bulb on the end of the pH probe cannot go dry, it will affect the probe. If the probe is not being used, please store in calibration solution or distilled water.

注意，酸碱度探头末端的玻璃玻璃球不能变干, 干了会破坏探头。如果当前没有使用探头的话，请保存在校准溶液或蒸馏水中。

Peristaltic pump maintenance
蠕动泵维护工作

These require very minimum maintenance. It is important to lubricate the inner peristaltic tubing every 3-4 months. Simply pinch the sides of the pump head to remove it from the motor. Put 2-3 drops of lubricant on the tube at each roller point. This lubricant can be purchased via your distributor.

这个只需要很少的维护工作。每 3 – 4 个月一定要润滑蠕动管的内部。只需捏住泵头的侧面即可将其从电机卸下。在管的每个滚子点上滴 2 – 3 滴的润滑剂。您可以通过分销商购买该润滑剂。

管润滑油
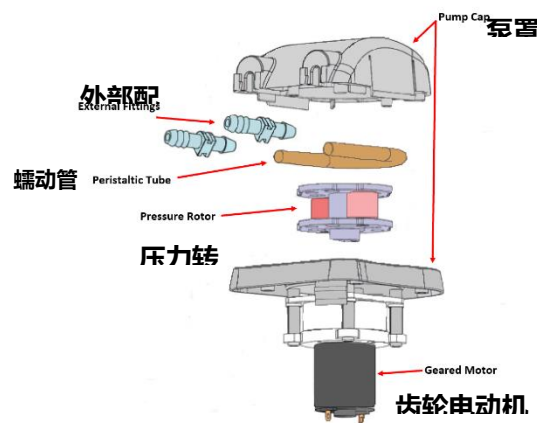
General maintenance
一般维修工作

Frequently inspect your system for leaks and repair as soon as possible. Water dripping onto power supplies or pumps could cause them failure in operation. Ensure the controller, pump unit and power supply are kept clean and shielded from all water splashes and vapours.

经常检查系统是否泄漏，如果出现问题得尽快修复。水滴到电源或泵上都可能会导致它们故障。确保控制器，泵单元及电源保持清洁，并遮挡所有水溅和蒸汽。

Section I - **Fault finding**
I 章节 – 故障排除

- **Unit is completely dead** – i.e. no display, no power light and no outputs. Check the power pack is functioning, (by measuring with a voltmeter if possible), is plugged in, switched on and properly connected to the controller. If a unit still unable to function, there might be a chance that the internal 4A fuse (20mm x 5mm miniature glass fuse) was blown. Most likely because of the wires connecting to the pumps have touched together and shorted out. To fix this, it is important to clear the fault first. Inspect all wiring and ensure all wires are well insulated right to the point where they enter the terminal block. Next, replace the fuse with a genuine 4A fuse. DO NOT ATTACH WIRE OR ALUMINIUM FOIL ACROSS IT.

  装置完全没电了 – 例如，既无显示，无电源指示灯并无输出。检查电源盒是否运作，（可以通过电压表进行测量），以插入，开启并正确连接到控制器。如果装置仍然无法运作，可能是内部 4A 保险丝（20 毫米 x 5 毫米微型玻璃管保险丝）已经熔断了。最有可能的原因是连接到泵的电线接触在一起导致短路。要解决此问题，首先清除故障是很重要的。检查所有接线并确保所有电线绝缘良好直到进入接线端子为止。接着，更换原装的 4A 保险丝。请勿在其上连接电线或铝箔。

- **Cannot calibrate pH**. Ensure your calibration solution is new and has been stored at room temperature. NEVER reuse calibration solution. If the calibration solution is fine, you will need to replace the pH probe. Any pH probe with a standard BNC connector will do.

  酸碱度无法校准。确保您的校准溶液是新的并且已经保存在温室下。永远不要重复使用校准溶液。如果校准溶液没问题，则需要更换酸碱度探头。任何带有标准 BNC 连接器的酸碱度探头都可以。

- **EC calibration is out or EC reading varies**. Ensure there is a small, non-turbulent flow of solution past the surface of the EC probe. Also, ensure the probe has been properly cleaned and is free from any grease or oil (water should wet the surface and should not be beaded).

  EC 校准错误或 EC 读数不同。确保有少量，非湍流的溶液流过电导率探头的表面。确保探头已清洁干净，并且没有任何油脂或油污（水应该弄湿表面，不应该形成水珠）。

- **pH fails to dose**. Ensure that the controller is set for increase or decrease the pH value to match the solution used. i.e. if you are using acid (decrease pH), set the controller to lower pH and ensure the pump is connected to the lower pH output.

  酸碱度不足。确保将控制器设置为升高或降低酸碱度以匹配使用的溶液。例如，如果您使用的是酸（降低酸碱度），则将控制器设置为酸碱度较低，并确保将泵连接到酸碱度较低的输出端。

- **pH overdoses**. Check that the controller is set for increase or decrease pH as described in 4 points above. Also, check that the dose time is not excessive. Each dose should change the pH by about 0.1 pH

  酸碱度过量。检查控制器是否按照上述 4 项说明设置,将酸碱度升高或降低。另外，检查剂量时间是否过长。每剂量应将酸碱度改变约 0.1 酸碱度。

- **EC overdoses**. Check is there adequate flow through the sample pot and the EC dose time is not excessive. Each dose should change the EC by 0.1 (1CF or 50ppm)

  EC 过量。检查是否有足够的流量通过样品罐，EC 剂量时间不宜过长。每剂应将 EC 改变 0.1（1CF 或 50ppm）。

- **Erratic EC Readings**. A possible air bubble in the shroud on your EC Probe. Remove the shroud and use a zip tie or rubber band to hang the probe from the top of the sample pot (see pic), just ensure the bottom of the EC probe does not sit on the bottom of the sample pot.

  不稳定的 EC 读数。电导率探头的导流罩中可能存有气泡。拆下导流罩，并用一条扎带或橡皮筋将探头从样品罐的顶部悬挂下来（看图片），需确保电导率探头的底部不该放在样品罐的底部。

橡皮筋/束线带 Rubber Band/Zip Tie

EC PROBE 电导率探头

pH PROBE 酸碱度探头

SAMPLE POT 样品罐
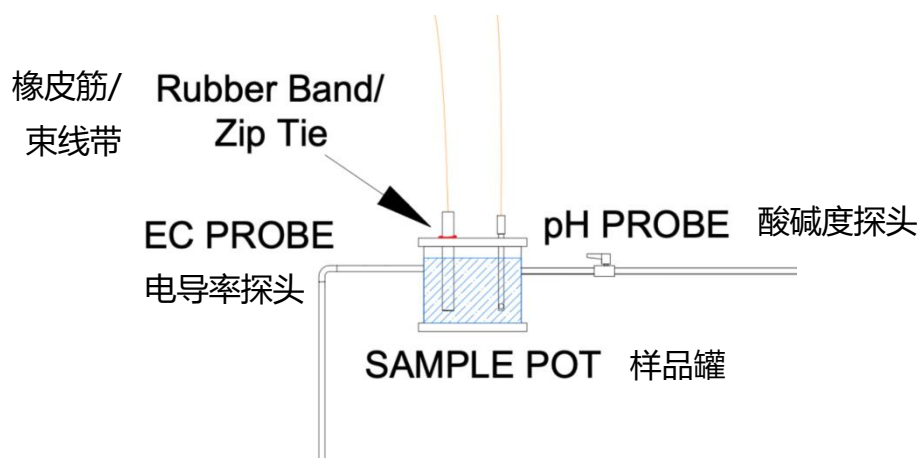
Section J – **Specification**
J 章节 – 产品规范

9 outputs which can be flexibly configured to operate 1 to 9-part variable ratio nutrient dosing, increase pH, decrease pH, irrigation, addition of water or alarming.
9 个输出，可以灵活配置以进行 1 至 9 份可变比率的营养素配料，升高酸碱度，降低酸碱度，灌溉，加水或警报

Output voltage same as supplied voltage 12V to 24V AC or DC, normally 24V DC is supplied (Please contact Autogrow before using an AC power supply)
输出电压与提供的 12V 至 24V AC（交流）或 DC（直流）电压相同，通常提供 24VDC（直流）(使用 AC（交流）电源之前，请联系 Autogrow）

Nutrient measurement units EC, CF or ppm (EC x 500/640/700)
营养素测量单位 EC，CF 或 ppm（EC x 500/640/700）

Measured range 0.00 to 9.99EC, 0.1 to 99.9CF, 0 to 4999 ppm
测量范围 0.00 至 9.99 EC，0.1 至 99.9 CF，0 至 4999 ppm

Nutrient resolution 0.01 mS/cm, 0.1 CF, 50 ppm
营养素成分分辨率 0.01 mS/cm，0.1 CF，50 ppm

Nutrient measurement accuracy +/- 0.1 EC, 1.0 CF or 50ppm - temperature compensated
营养素成分测量精度 +/- 0.1 EC，1.0 CF 或 50 ppm - 温度补偿

Nutrient dosing range 0.10EC to 5.99EC, 0.1 to 59.9CF, 50ppm to 2999 ppm
营养素剂量范围：0.01EC 至 5.99EC，0.1 至 59.9CF，50ppm 至 2999 ppm

pH resolution and accuracy – 0.1 pH
酸碱度分辨率和精度 – 0.1 pH

pH measurement range 2pH to 12pH
酸碱度测量范围 2pH 至 12pH

Temperature resolution and accuracy 1°C, 2°F
温度分辨率和精度 1°C, 2°F

Temperature measuring range 0-50°C, 32-125°F
温度测量范围 0-50°C，32-125°F

Operating temperature range 0-45°C, 32-110°F (and not in direct sunlight)
工作温度范围 0-45°C，32-110°F（避免阳光直射）

Large graphics display using simple four key interface
大的图形显示只需用简单的四键界面

Nutrient sensor uses DiPulse^{TM} technique to resist fouling
营养素传感器采用 DiPulse™ 技术防止结垢

Dosing fail safe shut-off (can be disabled)
定量配料自动防故障性关闭（可以禁用）

- if nutrient is below 0.1EC, 1CF, 50ppm or greater than 6.0EC, 60CF, 3000ppm
  如果营养素成分低于 0.1EC，1CF，50ppm 或大于 6.0EC，60CF，3000ppm

- if pH below 4.5pH or above 8.0pH
  如果酸碱度低于 4.5 或高于 8.0

USB connection and software supports multiple controllers.
USB 连接和软件可连接多个控制器。

Section K – **Advanced Irrigation Features**
K 章节 – **高级灌溉功能**

IntelliDose provides the ability to control up to 4 irrigation stations with an optional master pump.
IntelliDose 可通过具选择性的主泵控制多达 4 个灌溉站。

Each station is assigned by its own duration, and controlling is either by:
每个站由它自己的持续时间分配，控制方法为：

- **Sequential** - where each station is run in order (one after the other), all being triggered by a single trigger (day/night interval or time of day) or
  顺序 – 每个站依次运行 （一个接一个地），全部都由一个触发器触发（白天/ 夜晚间隔或白天的时间）或，

- **Independent** – where each station is completely independent, each having its own trigger (day/night interval or time of day).
  独立 – 每个站都是完全独立的，都有自己的触发器（白天/ 夜间隔或白天的时间）。

If a master pump is selected, this output will run each time when any of the station output is set to run, to accommodate having a single irrigation pump with each station being watered by opening a solenoid valve.
如果选择了一个主泵，当任何一个灌溉站的输出被设置为运行时，此输出就会运行，以适应一个单独的灌溉泵可让每个站通过打开电磁阀进行灌溉。

Irrigation outputs are configured on the IntelliDose by navigating through the following menus:
灌溉输出可通过 IntelliDose 智能施肥器 浏览以下的菜单（menu）来配置：

Menu > Configure > Advanced > Output
菜单 **>** 配置 **>** 高级 **>** 输出

- **Irrigation** – to enable all irrigation functionality
  灌溉 – 启动所有灌溉功能

- **Station Outputs Use Station Outputs** –Yes, enables up to 4 outputs to be assigned to irrigation stations
  灌溉站的输出使用灌溉站的输出 – 是，可以将多达 4 个输出分配给灌溉站

- **Station Outputs No. Station Outputs** – select from 1 to 4 stations
  灌溉站的输出编号灌溉站的输出 – 从 1 至 4 个站中选择

- **Pump Output** – Select Yes/No for a separate pump output which is activated each time when any of the stations is activated
  泵输出 – 选择是否为一个单独的泵输出，并在每次任何灌溉站被激活时激活该输出

- **Station Mode** – chose between **Independent** and **Sequential**
  灌溉站的模式 – 在独立和顺序之间选择

Irrigation settings for each station in **Independent Mode** are accessed by navigating through the following menus:
独立模式下的灌溉设置可通过以下菜单导航进入：

Menu > Irrigation >
菜单 **>** 灌溉 **>**

- **Irrig Stn 1** – access irrigation settings for station 1
  Irrig 站 1 – 控制工作站 1 的灌溉设置

- **Irrig Run Time** – specify how many hours/minutes/seconds the station will run
  Irrig 的灌溉运行时间 – 指定工作站将运行多少小时/ 分钟/ 秒

- **Irrigate every** – specify the day time irrigation interval days/hours/minutes (if **Irrigate at same time each day** is No)
  灌溉在每个 – 指定白天的灌溉间隔天/ 小时/ 分钟 （如果**"每天同一时间灌溉"**为否）

- **Irrigate every** – specify the night time irrigation interval days/hours/minutes (if **Irrigate at same time each day** is No)
  灌溉在每个 – 指定夜间的灌溉间隔天/ 小时/ 分钟 （如果**"每天同一时间灌溉"**设置为否）

- **Irrigate at**: - specify the time of day to start irrigation (if **Irrigate at same time each day** is Yes)
  灌溉于 – 指定一天中开始灌溉的时间 （如果**"每天同一时间灌溉"**设置为是）

- **Irrigation Enabled/Disabled** – temporarily enable or disable the station (note the output remains assigned to this station even if disabled)
  灌溉启用/ 禁用 – 暂时启用或禁用灌溉站（注意，即使禁用灌溉站，输出仍会分配给该站）

- **Irrigate during** – specify if irrigation will occur during both Day & Night or Day Only
  灌溉期间 – 指定白天和晚上或仅白天进行灌溉

- **Irrigate at same time each day** – specify if the irrigation for this station is triggered at a single time of day only (or triggered using day time/night time interval)
  每天同一时间灌溉 – 指定是否仅在一天的单个时间触发该站的灌溉（或使用白天/ 夜晚时间间隔触发）

Each station's settings can be accessed in a similar manner.
可使用类似的方式控制每个站的设置。

Irrigation Overrides are accessed by navigating through the following menus:
灌溉超控可通过浏览以下菜单导航进行控制：

Menu > Overrides > Force Irrig. 1 – immediately start irrigating station 1
菜单 > 超控 > 强制 Irrig. 1 – 立即启动灌溉站 1

Menu > Overrides > Force Irrig. 2 – immediately start irrigating station 2
菜单 > 超控 > 强制 Irrig. 2 – 立即启动灌溉站 2

Menu > Overrides > Force Irrig. 3 – immediately start irrigating station 3
菜单 > 超控 > 强制 Irrig. 3 – 立即启动灌溉站 3

Menu > Overrides > Force Irrig. 4 – immediately start irrigating station 4
菜单 > 超控 > 强制 Irrig. 4 – 立即启动灌溉站 4

Irrigation settings **in Sequential Mode** are accessed by navigating through the following menus:
顺序模式下的灌溉设置可通过以下菜单导航进入：

Menu > Irrigation >
菜单 > 灌溉 >

- **Irrig 1 Run Time** – specify how many hours/minutes/seconds the station will run
  Irrig 1 的灌溉运行时间 – 指定工作站将运行多少小时/ 分钟/ 秒

- **Irrig 2 Run Time** – specify how many hours/minutes/seconds the station will run
  Irrig 2 的灌溉运行时间 – 指定工作站将运行多少小时/ 分钟/ 秒

- **Irrig 3 Run Time** – specify how many hours/minutes/seconds the station will run
  Irrig 3 的灌溉运行时间 – 指定工作站将运行多少小时/ 分钟/ 秒

- **Irrig 4 Run Time** – specify how many hours/minutes/seconds the station will run
  Irrig 4 的灌溉运行时间 – 指定工作站将运行多少小时/ 分钟/ 秒

- **Irrigate every** – specify the day time irrigation interval days/hours/minutes (if **Irrigate at same time each day** is No)
  灌溉在每个 – 指定白天的灌溉间隔天/ 小时/ 分钟 （如果**"每天同一时间灌溉"**设置为否）

- **Irrigate every** – specify the night time irrigation interval days/hours/minutes (if **Irrigate at same time each day** is No)
  灌溉在每个 – 指定夜间的灌溉间隔天/ 小时/ 分钟 （如果**"每天同一时间灌溉"**设置为否）

- **Irrigate at**: - specify the time of day to start irrigation (if **Irrigate at same time each day** is Yes)
  灌溉于 – 指定一天中开始灌溉的时间 （如果**"每天同一时间灌溉"**设置为是）

- **Irrigation Enabled/Disabled** – temporarily enable or disable irrigation (note the outputs remains assigned to stations/pump even if disabled)
  灌溉启用/ 禁用 – 暂时启用或禁用灌溉（注意，即使禁用灌溉站/泵，输出仍会分配给该站/泵）

- **Irrigate during** – specify if irrigation will occur during both Day & Night or Day Only
  灌溉期间 – 指定白天和晚上或仅白天进行灌溉

- **Irrigate at same time each day** – specify if irrigation is triggered at a single time of day only (or triggered using day time/night time interval)
  每天同一时间灌溉 – 指定是否仅在一天的单个时间触发灌溉（或使用白天/ 夜晚时间间隔触发）

In Sequential mode the whole irrigation cycle can be forced on by navigating to the menu:
Menu > Overrides > Force Irrig. 1 – immediately start irrigating all stations, one at a time
在顺序模式下，可通过导航菜单来强制执行整个灌溉周期：
菜单 > 超控 > 强制 Irrig. 1 - 立即启动所有灌溉站，一次一个

IMPORTANT
重要质询

The irrigation cycle is taken from the **start** of the cycle. This means that if you set an irrigation interval of 1 hour then the irrigation will start exactly one hour apart.
灌溉周期从周期的**开始**。这意味着，如果将灌溉间隔设置为 1 小时，则灌溉将间隔一小时后开始。

For example, if the interval is 1 hour, the duration is 20 minutes and irrigation begins at 6am of the day, then irrigations schedule will be as follows:
0600-0620
0700-0720

例如，若间隔时间为 1 小时，持续时间为 20 分钟，每天早上 6 点开始灌溉，那么灌溉的时间表如下：
0600-0620
0700-0720

Using the advanced Irrigation Features in IntelliGrow software
使用 **IntelliGrow** 软件中的高级灌溉功能

Configure Tab
配置标签

Irrigation Mode - choose between:
灌溉模式 – 可以选择以下的项目:

- **Single Output** - only one output is used for irrigation
  单路输出 – 仅一个输出用于灌溉
- **Sequential** - for single trigger, each irrigation station runs in turn
  顺序 – 单触发，每个灌溉站依次运行
- **Independent irrigation** - up to 4 irrigation stations with own triggers and durations
  独立灌溉 – 多达 4 个具有自己的触发条件和持续时间的灌溉站

Number of irrigation stations - 0 to 4, where 0 means no irrigation is configured
灌溉站数量 – 0 至 4，其中 0 表示未配置灌溉

Separate pump output – indicate if a main pump output should be activated along with each station
单独的泵输出 – 指示主泵的输出是否应与每个站一起激活

For **Single output** or **Sequential** irrigation, you can specify whether the trigger is 'Irrigate at same time each day' OR 'Irrigate during day only'.
对于"**单路输出**"或"**顺序**"灌溉，您可以指定触发条件为"每天同时灌溉"或"仅白天灌溉"。

For **Independent** irrigation, these settings can be set for each station
对于**独立**灌溉，可以为每个站设置以下的设定

Irrigation mode 灌溉方式

○ Single Output ○ Sequential ● Independent ❶ Number of Irrigation stations < 2 >
单输出   顺序的   独立   灌溉站数

☐ Separate pump output ☐ Use water to reduce EC ☐ External Alarm
单独抽出   用水减少 EC   外部警报

☐ Different EC for day and night ☑ Mute buzzer ☐ Use scheduled settings
白天和夜间使用不同的 EC   静音蜂鸣器   使用预定的设置

Irrigation station 1   < Irrigate during Day only >   Irrigation station 2   < Irrigate during Day only >
灌溉 1 站   仅白天灌溉   灌溉 2 站   仅白天灌溉

The wiring diagram has been updated to accommodate the new irrigation scheme:
接线图已更新，以容纳新的灌溉方案：

Bottom View of IntelliDose: ID demo
IntelliDose 的底视图: ID 示范

IMPORTANT
重要质询

When using **sequential** or **independent** irrigation stations and a **separate pump output** there will be one additional output allocated to the irrigation pump. This is to accommodate the scenario where a single pump drives the irrigation while individual solenoid valves are operated for watering each station. This additional output is labelled as '**Irrig pump**' on the wiring diagram and only needs to be used if using a single irrigation pump.

当使用连续或**独立**的灌溉站和**单独**的泵输出时，将会有一个**额外的输出**分配给灌溉泵。这是为了容纳单个泵驱动灌溉，而单独的电磁阀操作每个站浇水的情况。这额外的输出在接线图上标记为**"灌溉泵"**（**Irrig pump**），仅在使用单个灌溉泵时才需要使用。

If individual irrigation pumps are used for watering each station, then it is not necessary to use the Separate pump output.

如果使用单独的灌溉泵为每个站浇水，则无需使用单独的泵输出。

Status Tab
状态标签

Each **independent** irrigation station can be disabled or forced on:
每个**独立**的灌溉站都可以停止或强制使用：

Each **independent** irrigation station can be set to use a different duration and trigger:
每个**独立**的灌溉站可以设置在不同的时段使用和触发：

GENERAL　概括

营养素剂量时间	酸碱度剂量时间	剂量间隔
Nutrient dose time	pH dose time	Dose interval
＜　4 sec 秒　＞	＜　3 sec 秒　＞	＜　1 mins 分　＞

灌溉 1 站 　　　灌溉 2 站 　　　灌溉 3 站

Irrigation station 1	Irrigation station 2	Irrigation station 3
持续时间 Duration ＜00h＞ ＜03m＞ ＜00s＞	持续时间 Duration ＜00h＞ ＜03m＞ ＜00s＞	持续时间 Duration ＜00h＞ ＜03m＞ ＜00s＞
日子间隔 Day interval ＜00d＞ ＜02h＞ ＜00m＞	每天灌溉于 Irrigate every day at ＜14h＞ ＜00m＞	日子间隔 Day interval ＜00d＞ ＜02h＞ ＜00m＞

FUNCTIONS　功能 　　　　　　　　　GENERAL　概括

When using single output or sequential irrigation, only one irrigation trigger can be specified.
当使用单次灌溉或顺序灌溉时，只能指定一个灌溉触发器。

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最新的 IntelliGrow 快速入门指南

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Thank you for your purchase.

感谢您的购买。

Get the most out of your IntelliDose or IntelliClimate control systems with IntelliGrow. IntelliGrow is a cloud-based solution allowing you to access, set, monitor and manage your growing operation - anywhere, anytime.

IntelliGrow Apps are available for download from both [Google Play App Store](#) and [Apple App Store](#)

充分使用 IntelliGrow 的 IntelliDose 或 IntelliClimate 控制系统以发挥最大的作用。
IntelliGrow 是个基于云的应用程序解决方案，可随时随地访问，设置，监视和管理其操作

可以从[谷歌 Play](#)应用商店和[苹果应用商店](#)下载 IntelliGrow 应用程序。

In the box: 盒内装有：

HCTR-ID-001-01

1 x IntelliDose controller	1 x IntelliDose 控制器
1 x Mounting hardware	1 x 安装硬件
1 x Instruction manual	1 x 使用说明书

HKIT-ID-001-01

1 x IntelliDose controller	1 x IntelliDose 控制器
1 x 24V DC 2.5A power supply with universal plug	1 x 24V DC（直流）2.5A 电源通用插头
1 x EC Probe	1 x 电导率探头
1 x pH Probe	1 x pH 探头
3 x Starter Sized Calibration solutions	3 x 入门级校准溶液
1 x 3m USB cable	1 x 3m USB 电缆
1 x Mounting hardware	1 x 安装硬件
1 x Instruction manual	1 x 使用说明书

To obtain our warranty service, please do either one of the following:
· Register online at www.autogrow.com/warranty-registration
· Contact the distributor you bought the product from.

欲获得我们的保修服务，请采取以下任何一种方式：
· 登入 www.autogrow.com/warranty-registration 在线注册
· 请联系您购买产品的分销商。

autogrow.com
sales@autogrow.com

North America (+1) 707 206 2220 (北美)
Global (+64) 9 415 2380 （国际）

Section J – **Compliance Declaration**
J 章节 – 合规声明

Compliance Declaration - International regulations and codes
合规声明 – 国际法规和守则

This equipment is designed for commercial use and complies with the following regulatory codes.
本设备为商业用途而设计，并符合以下法规。

USA 美国

Compliance with FCC Part 15 Class A
符合 FCC 第 15 部分 A 类型的标准

This equipment has been tested and complies with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, if don't install and use in accordance with the instruction manual, may cause harmful interference to radio communications. Operating this equipment in a residential area is likely to cause harmful interference, which the user will be required to correct the interference at his own expense. The end user of this product should be aware that any changes or modifications made to this equipment without the express approval of Autogrow Systems Ltd, could result in the product not meeting the Class A limits, in which the FCC could void the user's authority to operate the equipment.

此设备经测试证实符合 FCC 规则第 15 部分中 A 类型电子设备的限制。这些限制让设备在商业环境中操作时提供合理的保护，以防危害性干扰。本设备会产生，使用并辐射射频能量，如果不按照说明手册进行安装和使用，将可能对无线电通信造成有害干扰。在居民区操作该设备也可能造成有害干扰，用户需自费消除干扰。本产品的最终用户应注意，未经 Autogrow Systems Ltd 的明确批准，对此设备进行的任何更改或修改都可能会导致产品不符合 A 类型限制，FCC 将取消用户操作设备的权限。

Europe 欧洲
This product has been tested and found to comply with EC requirements for commercial equipment and carries the CE mark
本产品经测试证实符合商用设备的电导率要求，并带有 CE 标志

Radiated Emissions	EN55022 Class A
Conducted Emissions	EN55022 Class A
ESD	EN61000-4-2 (IEC 801-2)

Radiated Immunity	EN61000-4-3
	ENV50204
	(IEC 801-3)
	EN55024

辐射发射	EN55022 Class A
传导排放	EN55022 Class A
静电放电	EN61000-4-2
	(IEC 801-2)
辐射抗扰度	EN61000-4-3
	ENV50204
	(IEC 801-3)
	EN55024

Australasia 澳大拉西亚

This product has been tested and complies with C-tick requirements for commercial equipment EN55022 (CISPR 22) Class A

本产品经测试证实符合商用设备 **EN55022 (CISPR 22)** A 类型的 **C-tick** 要求。

RoHS 危害性物质限制指令（RoHS 指令）

This product is free from lead and other heavy metals

Although this product is exempt from the RoHS regulations as it is classified as Category 9 Monitoring and control Instrument, it is nevertheless made with RoHS compliant components and assembled using lead free solder. It should be recycled at the end of its life. It may be returned to the distributors in your region for recycling or safe disposal.

本产品不含铅和其他重金属

尽管本产品被归类为第 9 类监视和控制仪器，不受 RoHS 指令的限制，但仍由符合 RoHS 指令的组件所制成，且使用无铅焊料组装。本产品应该在使用寿命结束时被回收，可退还给您所在地区的分销商以进行回收或安全处置。