


DRAIN PLUS

INSTRUCION MANUAL

1 GETTING STARTED

1.1 Welcome

Seko's state of the art **Drain Plus** is suitable for various applications requiring timed dosing. The simplicity of the programming process makes this system easy to use.

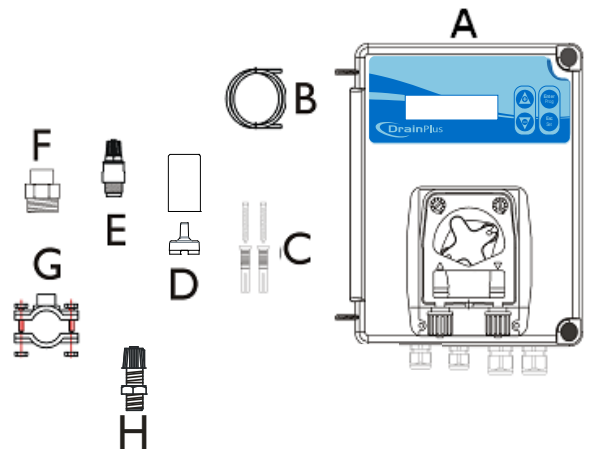
 Please review this manual carefully. Pay particular attention to warnings and precautions. Always follow good safety procedures, including the use of proper clothing, eye and face protection.

 Please be sure to read this manual and select operating mode before installation.

1.2 What's in the box?

Before you start, check that your box contains the following items:








- A. Drain Plus
- B. PVC 4x6 mm (1/4" OD) tube 4m (12 ft)
- C. Anchor plugs + screws
- D. Ceramic weight + suction filter
- E. FPM non-return valve (3/8" GAS)
- F. Adaptor for non-return valve
- G. Mounting bracket for PSS3 $\phi=50$ mm (2" inches)
- H. Injection fitting




1.3 Technical features

- Power supply available: 100-240 VAC
- Consumption: 8 W
- Flow rate: 12 l/h (6.8 oz)
- Max back pressure: 1,5 bar (22 PSI)
- Protection of the System: the sealed enclosure on the **Drain Plus** is highly water resistant and the electronics are further protected within the enclosure.
- Dimensions: H 234 x W 162 x L 108 mm (H 9,2" x W 6,4" x D 4,3")
- Weight: 1 Kg (2.2 lbs).

1.4 Warnings


-  Read this manual carefully before installation and before starting up the Drain Plus.
-  When using the installation and programming settings indicated in this manual.
-  For all connections refer to the topographical diagram for the control circuit given in this manual.
-  **WARNING:** Always follow the necessary safety procedures, including the use of adequate protection for the eyes, face, hands, and clothing.
-  **WARNING:** When installing or carrying out maintenance on this equipment, always disconnect it from the power supply.
-  We are constantly striving to improve all its products, and we therefore reserve the right to make changes at any time without notice.
-  Failure to abide by the indications given in this manual may result in injury to people or property damage, or compromise or damage the equipment itself.

1.5 Material required during installation

 An installation kit is available (see Maintenance & Accessories).

2 INSTALLATION AND SETTING

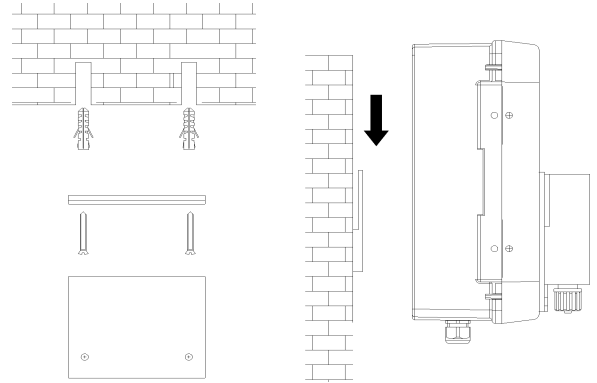
Check all applicable plumbing and electrical codes before proceeding with the installation. This will help to ensure that the system is installed in safe and suitable manner.

 **CAUTION: Do not mount the unit in the direct path of steam.**
This can short circuit and permanently damage the unit.

 **WARNING: Before installing the device and before intervening in any way on the metering unit, make sure that the power supply is disconnected.**

2.1 Mounting the system

- Apply the panel unit system with the brackets and screws supplied
- Determine a suitable location for the system
- Using the bracket as a template, mark and drill holes for bolting the system to the wall
- Insert the anchors in the holes
- Bolt the bracket in place (flat side against the wall with holes on bottom) with the hardware provided



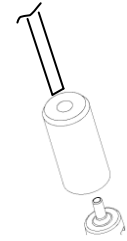
Picture 1

2.2 Plumbing

The following installation steps apply for the pump:

Suction Line - Assemble the foot filter to insert in the chemical tank (See picture 2). –

- Insert the 4x6 mm (1/4" OD) PVC tube through the ceramic weight.
- Connect the PVC tube on to the barbed fitting of the plastic filter.
- Slide on the ceramic weight in order to secure the connection.
- Slide the filter and the tube into the chemical container so that it reaches the bottom.
- Connect the other side of the tube into the pump suction fitting



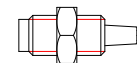
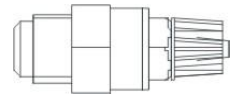
Picture 2

 **Periodically clean it from possible residues.**

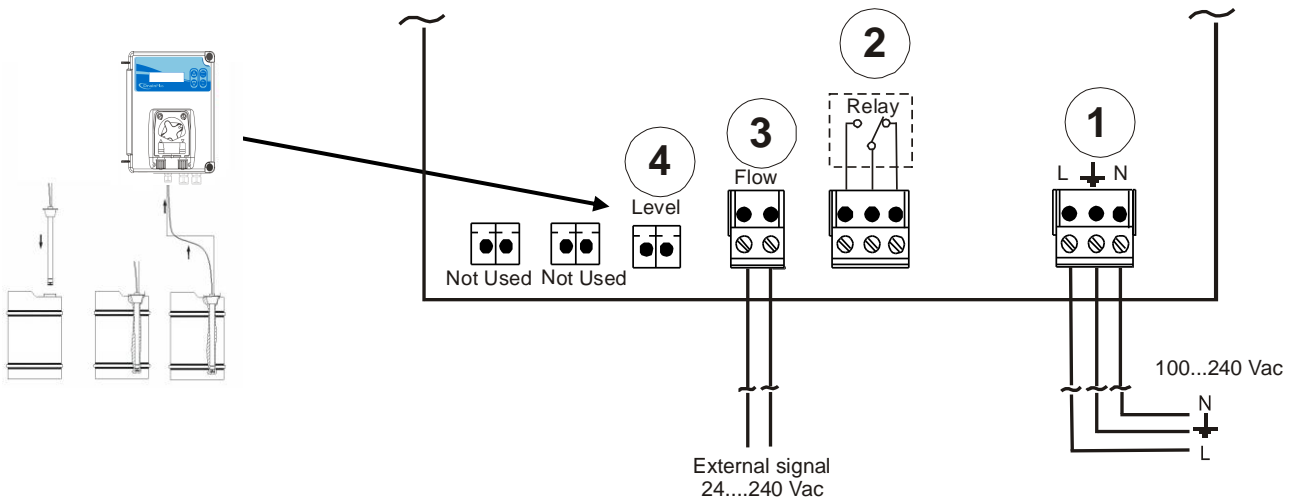
- Delivery Line – Connect PVC tube to delivery side of pump. Connect other end to duck check valve or injection fitting.

The following components are included:

- duck check valve in FPM:
Threads: 3/8" Standard
Drill bit size: 14 mm (9/16")
- Injection fitting:
Threads: 1/8" Standard
Drill bit size: 8,5 mm (5/16")
- Adaptor
Threads: 3/8" Standard Female -1/2"Standard Male



2.3 Electrical Connection



- 1) Connect the power supply cable to the power supply or receptacle (100.....240 Vac) using appropriate plug.
- 2) It is a dry contact, works after, before or with the dosage, it is used to control an external system.
- 3) You can connect the external signal (24....240 Vac) to the Flow connector, this inlet is connected to the Flow function, if enabled (ON) it allows the dosing to be activated when the external signal is present.
- 4) You can connect the level probe (optional) to the “Level” connector.

2.4 Switch ON system

When the system is switched ON, it will ask the following settings:

1. Language (you can choose EN, IT, FR, DE, ES).
2. Clock Setup
3. Unit (you can choose ml or oz).

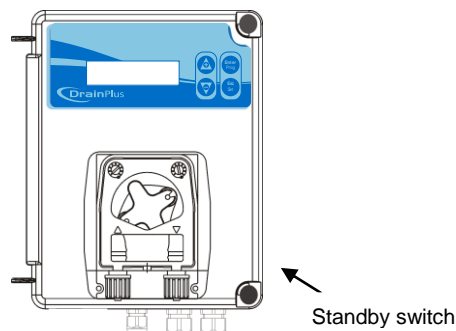
2.4 Priming

With the right-hand switch in the ON (I) position (system operating), press the **UP (+)** key for at least 2 seconds until the pump starts to run at the max speed, press again to stop the pump.

2.5 Standby position

With the right-hand switch in the OFF position (O position), the system is in standby mode and programs will not run. This function is needed for maintenance or alarm, without powering down the system.

The system must be ON (I position) for normal timed operating.



3.0 SETTINGS

Setting The System (the right-hand switch must be ON).

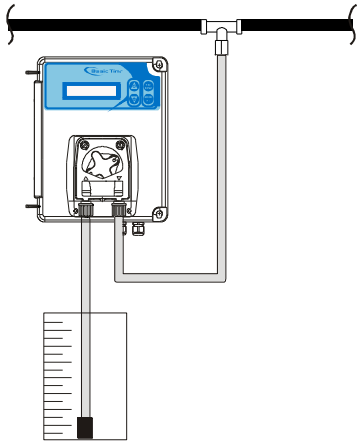
The Settings menu can be accessed by pressing the **Set** key for at least 3 seconds.

If a password other than 0 is set, the system will ask for the password to access the programming menu.

Upon release of the key the display will show:

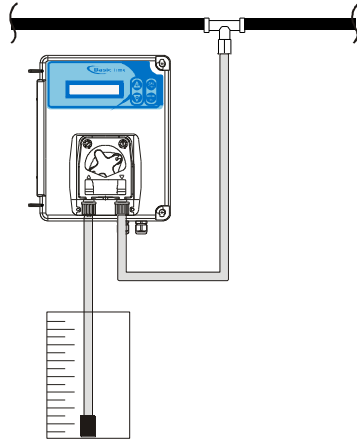
<i>Display</i>	<i>Description</i>
<div style="border: 1px solid black; padding: 5px; background-color: #e6f2ff;"> Language English </div>	You can set the language of the system (EN, DE, ES; FR, IT). Start to set by pressing the Enter key and select the language with UP and DOWN . To confirm press Enter .
<div style="border: 1px solid black; padding: 5px; background-color: #e6f2ff;"> Clock Setup Mon 10.26am </div>	With this window you can set the date and time. Start to set by pressing the Enter key and select the values using with UP and DOWN . To confirm press Enter .
<div style="border: 1px solid black; padding: 5px; background-color: #e6f2ff;"> Unit ml </div>	You can set the measure unit of the system: ml or oz . Start to set by pressing the Enter key and select the values using with UP and DOWN . To confirm press Enter .
<div style="border: 1px solid black; padding: 5px; background-color: #e6f2ff;"> Relay Alarm Function </div>	You can set the relay mode as such: <ul style="list-style-type: none"> • Alarm Function: the relay switch-on with the alarm. • Pump Before: the relay is activated before the motor (adjustable time 0-999sec.) and is deactivated simultaneously. • Pump After: the relay and the motor are activated simultaneously, but deactivation of the relay is delayed (adjustable time 0-999 sec.). • Off: relay disabled. *If time of After or Before is "0" the relay will work simultaneously to the pump.
<div style="border: 1px solid black; padding: 5px; background-color: #e6f2ff;"> Flow off </div>	You can activate (on) or deactivate (off) the Flow function. Start to set by pressing the Enter key and select the values using with UP and DOWN . To confirm press Enter .
<div style="border: 1px solid black; padding: 5px; background-color: #e6f2ff;"> Calibration ENTER to START </div>	This window allows more precise dosing, by doing the calibration. (see the paragraph 3.1 Calibration Function)
<div style="border: 1px solid black; padding: 5px; background-color: #e6f2ff;"> Change Password 0 </div>	The password can be modified by choosing an incremental value between 0 and 9999. Start to set by pressing the Enter key and select the values using with UP and DOWN . To confirm press Enter .

3.1 Calibration Function



Completely install the system with a graduated container at the inlet.

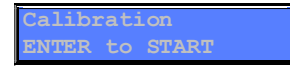
1



Prime the system

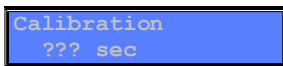
2

Keep the **Set** key pressed for at least 3 seconds to access to the Settings menu, press Down or Up until the Calibration window is reached.



3

Press the *Enter* key to start the motor at 100%. The display will show the dosing count in seconds:

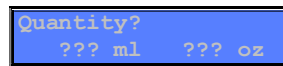


It's recommended to let the system run at least 30 seconds for a precise calibration.

Note: max time for calibration is 6 minutes.

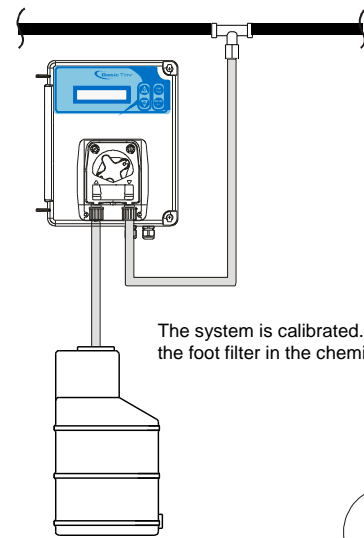
4

Press the *Enter* key again to stop the dosing and the display will show:



Press the UP and DOWN keys to enter the actual dosed value. Press the *Enter* key to confirm and set the pump calibration.

5



The system is calibrated. Position the foot filter in the chemical tank.

6



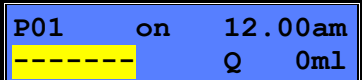


i The calibration function allows more precise dosing.

i The system is already calibrated for 15 l/h (8 oz/min) with water and no back pressure. For precise dosing to a specific application calibration is necessary.

4.0 PROGRAMMING

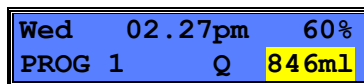
A program is a specific dosing event. To program the system the right-hand switch must be ON (I).
 The Programming menu can be accessed by pressing the **Prog** key for at least 3 seconds.
 If a password other than 0 is set, the system will ask for the password to access the programming menu.

Upon release of the keys the display will show:

<i>Display</i>	<i>Settings</i>
	1st Number of program - You can set 48 different programs. Select the program number, you want start to setup by pressing UP and DOWN keys. To confirm press Enter .
	2nd Set startup time - <i>The dosing start time can be set by using UP and DOWN keys, to confirm press Enter.</i>
	3rd Weekly days – Use UP and DOWN to choose which weekly day or group of days you want the program running as below: 1. _____ = OFF - all days 2. M_____ = ON - on Monday 3. _T_____ = ON - on Tuesday 4. __W_____ = ON - on Wednesday 5. ___T_____ = ON - on Thursday 6. ____F____ = ON - on Friday 7. _____S_ = ON - on Saturday 8. _____S = ON - on Sunday 9. MTWTF__ = ON - from Monday to Friday 10. _____SS = ON - Saturday & Sunday 11. MTWTFS_ = ON - from Monday to Saturday 12. MTWTFSS = ON - every days Press Enter to confirm.
	4th Quantity - Use UP and DOWN keys to set the desired quantity, to confirm press Enter The maximum quantity which can be set is 18 l or 600 oz. *remember to setup the measure unit of the system.
	5th Pump speed - Use UP and DOWN keys to choose the pump speed expressed as a percentage (from 1 to 100%) which automatically fixes the duration of the dosing itself. The bottom right part of the display shows the time necessary for dosing at that given speed. To confirm press Enter .


Standard view

During normal operation (the right-hand switch is on the “ I ”), the display will show the dosing quantity which will decrease slowly until it finishes the related program.



4.1 Menu exit

To exit from the setting or programming Menu, press the **Esc** key, and the system will display:

<i>Display</i>	<i>Settings</i>
	Use UP and DOWN to save or not. Press Enter to confirm. *You can exit anytime. If you set just one parameter it is not required to go through each submenu.

5.0 ALARM

Alarm Displayed	Description	Solutions
Level	Chemical Low level alarm	- Restore product
Flow	Waiting for external signal	- Restore Flow
Parameter Error	Parameter Errors	-Press Enter to restore the initial parameters
Clock Fail	Clock error	-Press Enter to restore operation

To restore the initial parameters (Default), perform the following steps:

- Unplug the system from the power supply.
- Keep pressed **UP** and **DOWN** keys.
- Plug the system to the power supply while **UP** and **DOWN** are kept pressed.
- The system will display

A blue rectangular LCD display showing the text "Init. Default" on the top line and "YES" on the bottom line.

- Press the **UP** or **DOWN** keys to avoid resetting the default parameters

A blue rectangular LCD display showing the text "Init. Default" on the top line and "NO" on the bottom line.

- Press **Enter** to confirm

Default Parameters:

Language: English
Time: Maintain the set time
Unit: ml
Relay: alarm
Flow: off
Password: 0 (Disabled)

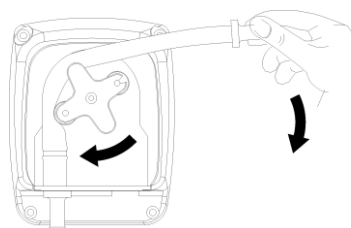
6 MAINTENANCE AND ACCESSORIES

6.1 Replacing the squeeze tube

Make sure that the right-hand switch is on the “ O ” position and proceed as follows:

- Remove the screws and cover protecting the peristaltic pump.
- Place the thumbscrew holder with the two thumbscrews in a vertical position.
- Remove the connector situated to the left of the pump from its seat and pull the tube fitting towards the front panel. While the tube is being withdrawn, follow its path by turning the roller in a clockwise direction by hand until the connector to the right of the pump can also be removed.
- To re-assemble, move the roller assembly so the two rollers are horizontal to each other.
- Push the connector to the left of the pump in as far as it will go, with the curved part towards the bottom;
- Press the tube fitting into its seat, following its path progressively by turning the roller assembly in a clockwise direction by hand, until the tube fitting situated to the right of the pump can also be seated properly.
- Replace the protecting cover into place and resecure with the screws.

It will now OK to position the right-hand switch on “ I ”.



7 TROUBLESHOOTING

7.1 Pump will not activate:

- Check pump output terminals for loose screws and disconnected wires.
- Check for proper voltage across motor windings.
- Check for obstruction in pump head.
- Check the program time and quantity and also clock time.

7.2 Pump runs too slowly:

- Check roller block for binding.
- Check for lubrication on squeeze tube.
- Pump was setup at the lower speed.

7.3 Loss of pump prime:

- Check pickup line for any holes or air leaks.
- Check squeeze tubing in pump for any cracks or pin holes.
- Check tubing for deterioration.

8 QUICK REFERENCE

Switch ON

At the first time the system is switched ON, it will ask the following settings:

1. Language (you can choose EN, IT, FR, DE, ES).
2. Clock Setup
3. Unit (you can choose ml or oz).

Priming






After the hydraulic installation, keep pressed **UP** key for at least 2 seconds until the pump start to run at the max speed, press again to stop the pump.

Calibration

The system is already calibrated for 15 l/h (8 oz/min) with water and no back pressure, because of that calibration is recommended in any case.

To do calibration keep pressed Set key for 3 sec than **UP** and **DOWN** until you reach "Pump Calibration" window.

Programming Menu

	<p>1st Number of program - You can set 48 different programs. Select the program number, you want start to setup by pressing UP and DOWN keys. To confirm press Enter.</p>
	<p>2nd Set startup time - The dosing start time can be set by using UP and DOWN keys, to confirm press Enter.</p>
	<p>3rd Weekly days – Use UP and DOWN to choose which weekly day or group of days you want the program running. Press Enter to confirm.</p>
	<p>4th Quantity - Use UP and DOWN keys to set the desired quantity, to confirm press Enter The maximum quantity which can be set is 18 l or 600 oz. *remember to setup the measure unit of the system.</p>
	<p>5th Pump speed - Use UP and DOWN keys to choose the pump speed expressed as a percentage (from 1 to 100%) which automatically fixes the duration of the dosing itself. The bottom right part of the display shows the time necessary for dosing at that given speed. To confirm press Enter.</p>