



Metafix[®] Inc.

pH Control rev.2



Operation & Service Manual

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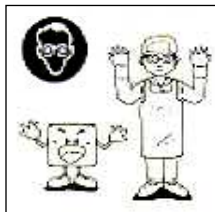
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1 Health and Safety

1



Always wear gloves, protective glasses, and a lab coat while performing any maintenance or installation procedures.



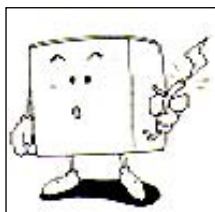
Do not open the pH Control when it is plugged in.



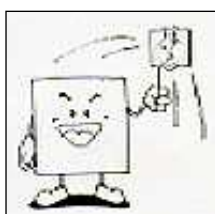
Do not stack heavy objects on the pH Control.



Do not attempt to service the unit, or tighten the sensors.



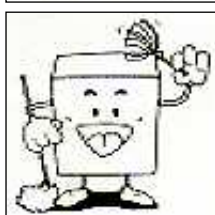
Make sure that the power source is within the unit's allowable range.



Do not place the pH Control in an area where it will be exposed to extreme temperatures.



Keep the pH Control in a dry and well ventilated area.



Clean the pH Control using a soft cloth or sponge. Avoid using abrasive materials or cleansers on the unit's surface.

2 Introduction

Your pH Control

How to best treat Computer to Plate (CTP) waste? Until now, the only viable option has been hauling, which is expensive, requires storage, handling and ultimately only transfers the problem elsewhere. Today, Metafix offers the first real alternative: The Metafix CTP-pH-Control System R2. This is not just a machine, it's a waste management/tracking system that manages and monitors CTP effluent allowing generators to discharge all types of CTP effluent including negative and positive, thermal, photo-polymer and violet plate effluent ON SITE.

2

The Metafix CTP-pH-Control system collects, measures and neutralizes the pH levels of all CTP waste effluent using a specially formulated neutralizing agent, Meta-Aid. After neutralization the effluent is safely discharged on site. It's fully automatic so there's no handling, no storage, and no hauling of waste chemicals.

Each CTP-pH-Control installation is tracked in our MetaTrax (Environmental Management System) database. Quarterly we issue Volume reports, Incident Reports and Sample Discharge results, all soon to be available online. As part of our integrated MetaTrax Service Plan, Metafix will monitor your system, keeping track of consumables and maintenance making sure the Metafix CTP-pH-Control system is working as hard as you are. Don't pay for promises, pay for results.

- A. Water tank
- B. pH Control
- C. Neutralizer
- D. Developer tank



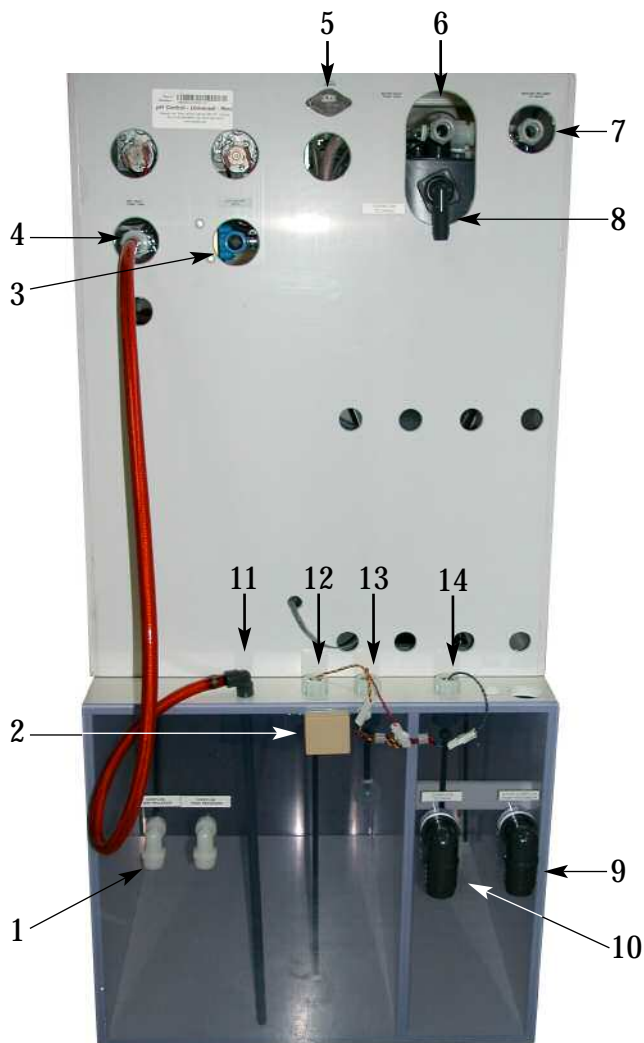
Features and Benefits

- Controls and tracks the flow of all solutions via a programmable monitoring and metering system - Simple and accountable effluent management.
- Small footprint - only 4.0 sq. ft.
- Eliminates costly haul-away costs.
- Eliminates storage and manifesting of hazardous chemicals — all effluent is managed and discharged on-site.
- Toll-free hotline delivers instant access to manufacturer direct service/support team.
- Stylish and Innovative industrial design – Looks as good as it works
- Fast treatment cycle – Keeps up with large processing volumes
- Large holding tanks – Holds all processor maintenance dumps – No jugs
- Sample ports – Easy to take samples
- Modular components – Easy to service and maintain
- Peristaltic Pumps – Reliable “clog-free” operation
- Quick release connectors – Easy Maintenance and Service
- Key operation alarms – Alert operators to any errors
- Operation log – Software retains Date/ Time log of all operation
- Easy to understand interactive display and keyboard
- Robust Industrial Grade pH Probe – Accurate pH readings
- Network communication port – RS-232 or IP Enabled Monitoring

3 pH Control Components

1 Rear View: Parts Identification

Diagram 3.1

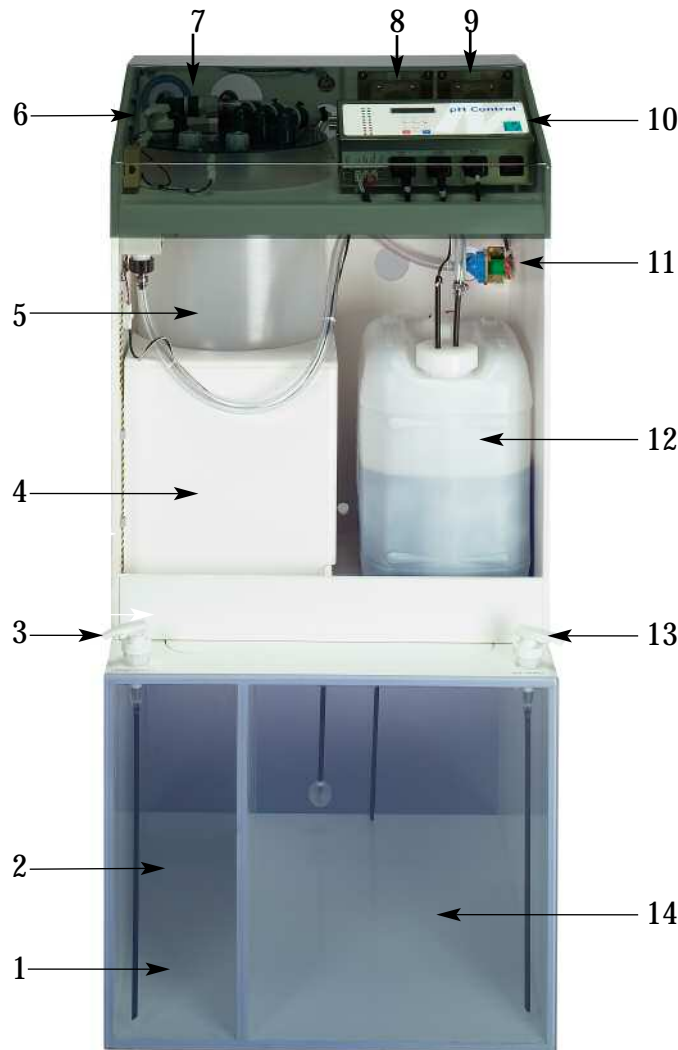


	Item	Function
1	Developer overflows from processor	Receives waste developer from processor.
2	External input jack	Connects Dev & Water tank level sensors to the power supply.
3	City Water Inlet	The city water line inlet.
4	Developer Inlet from Tank	Receives developer from Developer Tank.
5	Spill sensor	Place spill sensor near drain to alarm any leaks.
6	Water Inlet from Tank	Receives water from Water Tank.
7	Treated effluent to drain	Carries treated effluent to drain (closed drain).
8	Safety overflow	Discharges to safety jug in case of a reaction tank overflow.
9	Water overflow from processor	Receives water from processor.
10	Overflow to drain	Discharge water to drain in case Water Tank overflows.
11	Developer Tank outlet & External Wand	Carries developer to reaction tank.
12	LS1	Activates pH Control to begin a batch.
13	LS2	Indicates a developer tank overflow.
14	LS3	Indicates a water tank overflow.

3 pH Control Components

2 Front View: Parts Identification

Diagram 3.2



3

	Item	Function
1	Water Tank	Collects water overflow from processor.
2	Water pump	Pumps water from the Water Tank to reaction tank (not shown).
3	Sample pump	Allow user to take water samples from Water Tank.
4	Mixing Pump	Mixes the Developer, Wash water and Neutralizer together (not shown).
5	Reaction Tank	Developer, Wash water and Neutralizer are mixed together.
6	Sample Pump	Allow user to take samples from reaction tank.
7	pH Probe	Measures pH of chemistry.
8	Developer pump	Pumps developer from the developer tank to reaction tank.
9	Neutralizer pump	Pumps neutralizer to reaction tank.
10	Power Supply	Provides the unit with electrical power and controls all functions.
11	Solenoid valve	Provides city water to rinse pH Probe.
12	Neutralizer	Neutralizes chemistry.
13	Sample pump	Allows user to take samples from developer tank.
14	Developer tank	Collects developer overflow from processor.

3 pH Control Components

3 Power Supply View: Parts Identification

Diagram 3.3

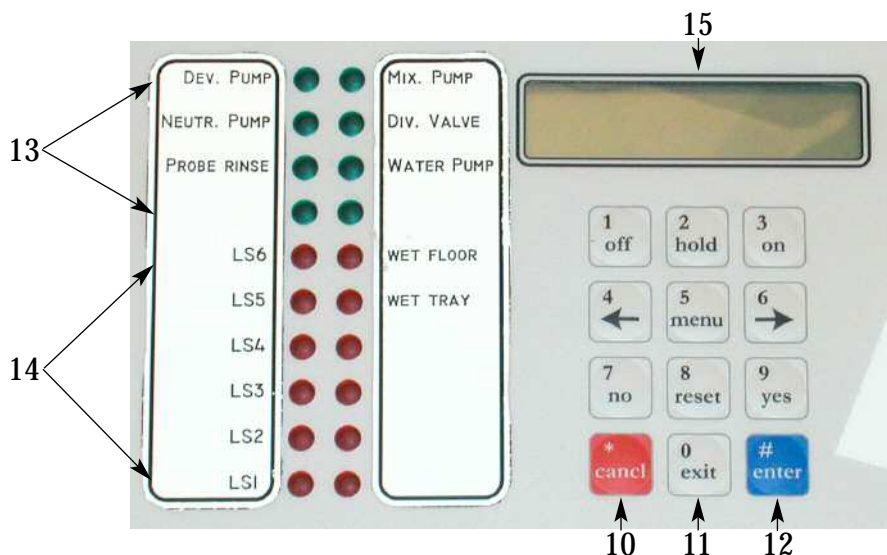


Diagram 3.4



	Item	Function
1	Off	Turns power supply Off.
2	Hold	Pauses the pH Control during normal operation.
3	On	Turn power supply On.
4	Left arrow	Allows user to scroll backwards thru menu.
5	Menu	Allows user to access the scripting level.
6	Right arrow	Allows user to scroll forward thru menu.
7	No	Indicating No to commands in Scripting mode.
8	Reset	Allows user to stop the current process, reset alarms and reinitialize unit.
9	Yes	Indicating Yes to commands in Scripting mode.
10	Cancel	When entering setting, press cancel to exit.
11	Exit	Exit the Scripting mode.
12	Enter	When entering a value, press enter to accept.
13	Green LED's	Indicates output status
14	Red LED's	Indicates input status
15	LCD Display	Displays information on the unit's status and functions.
16	pH Probe	pH probe connection to power supply.
17	RS 232	Connect computer to download history of pH Control or upgrade software.

4 Preparing for Installation

1 Essential Steps

Instructions

- A Power outlet within 4 feet of pH Control.
- B Install a city water line equipped with a shut-off valve, and a MGHT spout. The water line must be installed one meter above the floor, and within one meter of the pH Control to ensure a consistent flow of water to the unit. The allowable water pressure range is 25 to 80 PSI. A backflow preventer may be required by local plumbing codes (part No. 101-404).
- C The "Outlet to Drain" to be preferably hard plumbed to the drain by installing a dishwasher "Y" above the P-Trap on the drain pipe, minimum hose size 5/8" i.d. (16mm). Make sure the pH Control is within 10 feet of the drain.
- D It is strongly recommended that you connect the "Safety Overflow to Drain" to a suitable sized container.

4

Note: All installations must be performed in accordance with local plumbing codes.

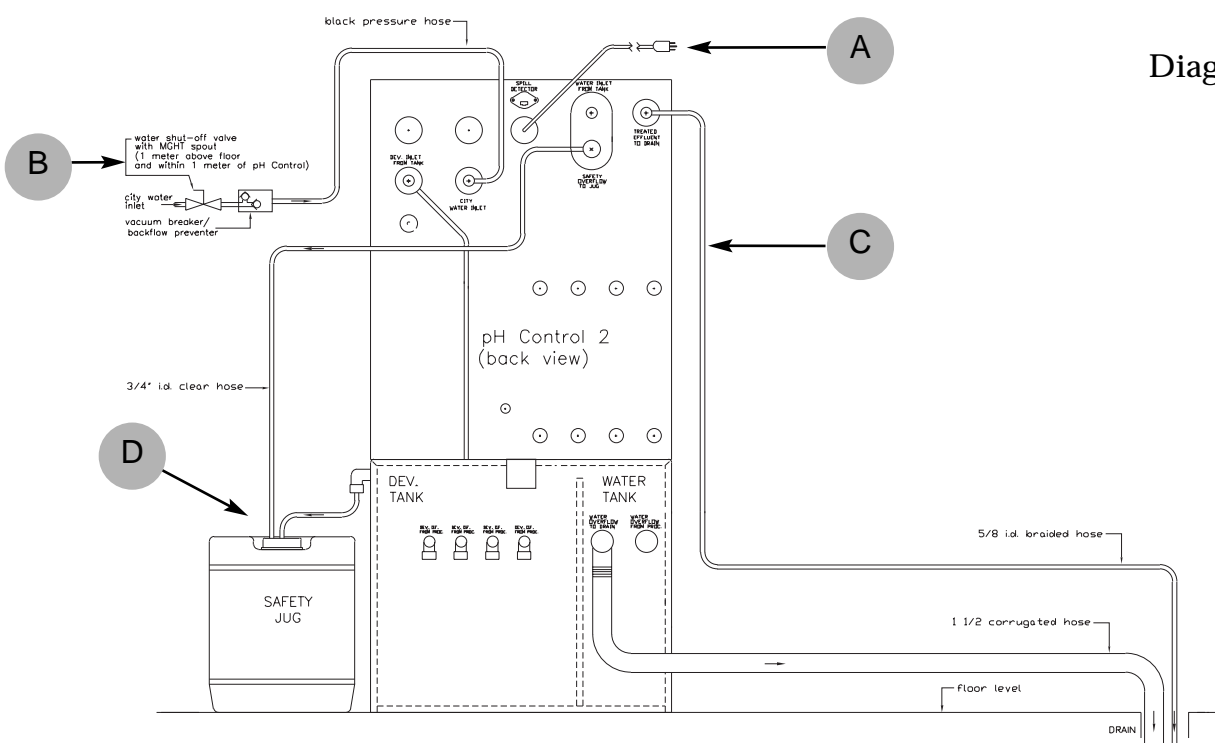
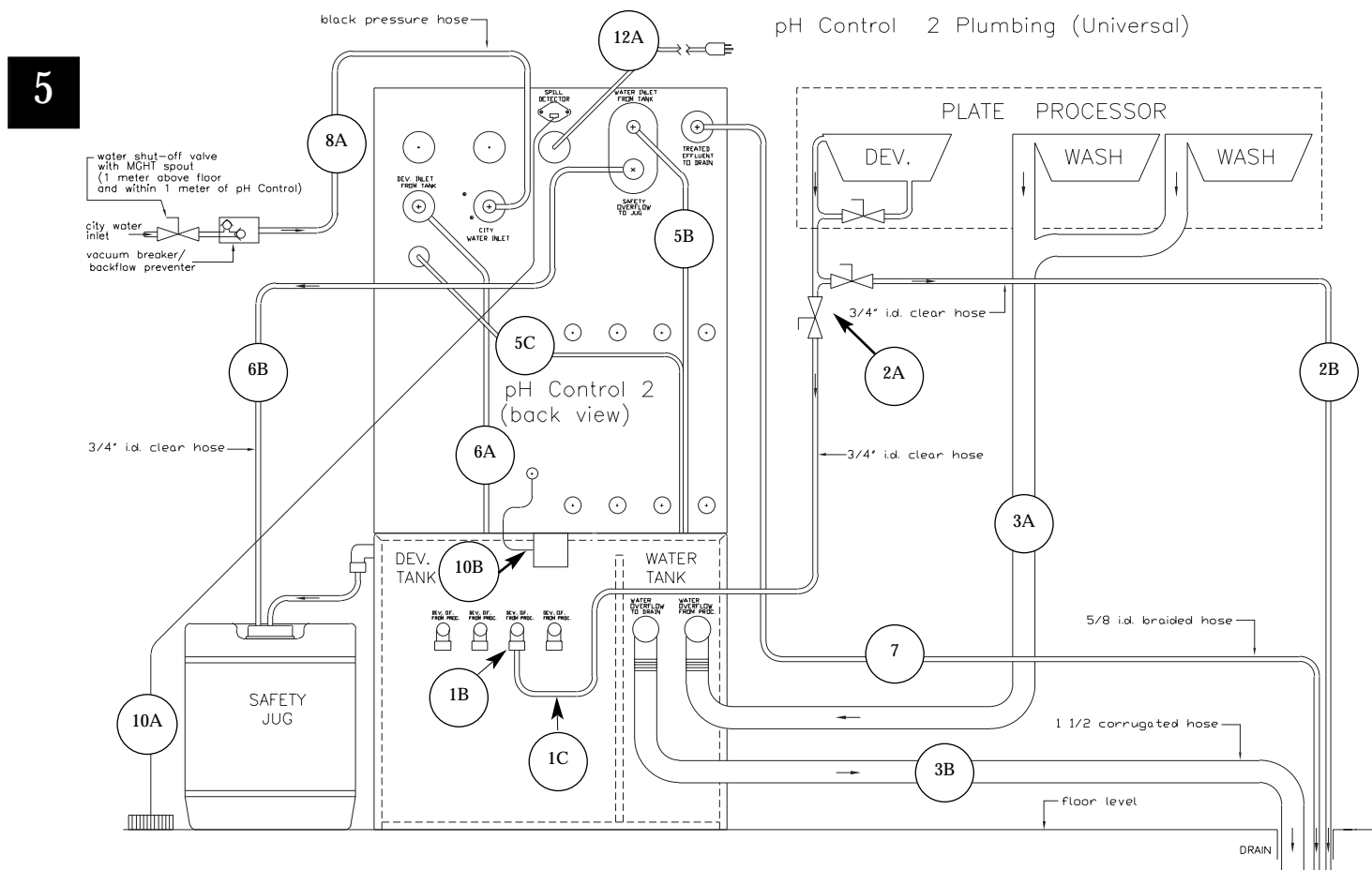


Diagram 4.1

5 Installing your pH Control

1 Typical Plumbing Installation

Diagram 5.1



5 Installing your pH Control

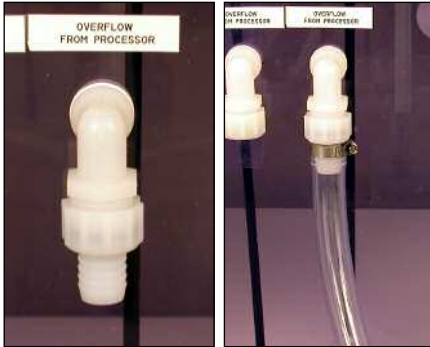
2 Installation Procedures

The following instructions will guide you through installing your pH Control.

Note: All connections involve using plastic tubing, must be secured with firmly tightened clamps. Remember to keep tubing runs as short as possible.

Instructions

1



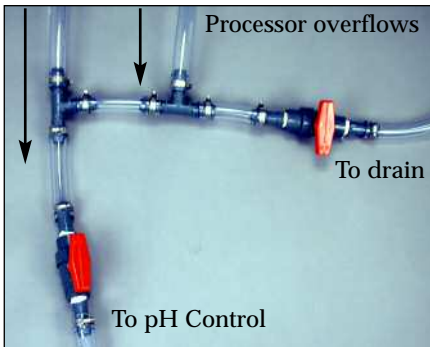
A. Position the pH Control Dev/Waste water tank as close as possible to the drain and water line.

B. Install 3/4" swivel fitting to "Dev Overflow from processor" of Developer Tank.

5

C. Using 3/4" I.D. tubing, connect the plate processor developer tank to pH Control dev. tank.

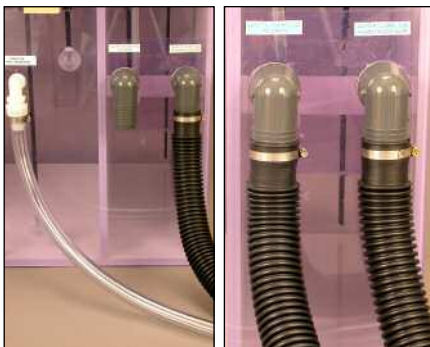
2



A. Assemble developer bypass and install inline.

B. Using 3/4" I.D. tubing, connect the bypass to drain.

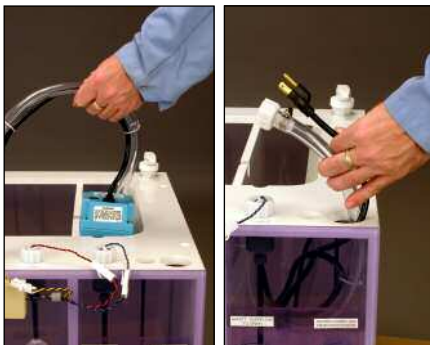
3



A. Connect the plate processor water tank to pH Control water tank labeled "Water Overflow from Processor".

B. Install tubing to pH Control's water tank labeled "Water Overflow to drain". Connect the other end to drain.

4



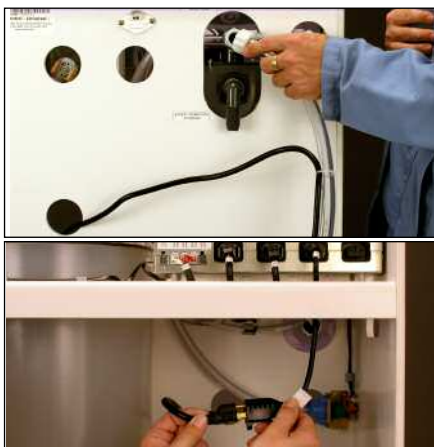
A. Lift tank cover and place water pump in water tank.

B. Put water pump tubing and wiring through top of tank. Keep tubing and wiring on opposite side of level sensor protection bar. Place cover back on tank.

5 Installing your pH Control

2 Installation Procedures

5



- A. Place pH Control on Developer tank.
- B. Connect Water pump tubing to "Water Inlet from Tank" of pH Control.
- C. Connect Water pump power cord to power supply (plug located under power supply).

5

6



- A. Connect the red 3/8" I.D. wand on Developer Tank to "Developer Inlet from tank" of pH Control.
- B. Connect "Safety Overflow to Drain" of pH Control to drain, or to safety jug (not included) next to dev tank.

7



Connect the braided 5/8" female swivel tubing to pH Control "Treated effluent to drain". Connect the other end of the braided tubing to the drain. If you installed a dishwasher "Y" to the drain, make sure the tubing is clamped.

8



- A. Connect the "Washing Machine Hose" to "City water Inlet" of pH Control. Then, connect other end of "Washing Machine Hose" to city water line.
- B. Place the yellow "Do not turn water valve off" tag on the city water line shut-off valve.

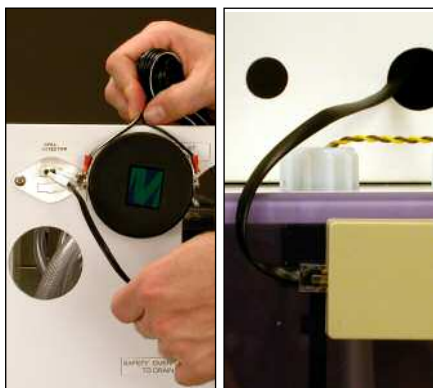
5 Installing your pH Control

2 Installation Procedures

9

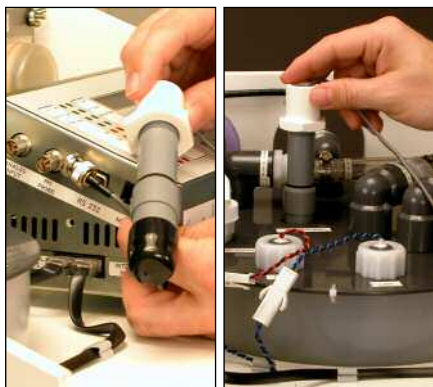


- A. Place Neutralizer wand in Neutralizer jug. Place the Neutralizer jug in pH Control.
- B. Connect wand tubing to “Neutralizer inlet from tank”.
- C. Connect wand wiring to LS4 connector.



- A. Connect the puck assembly to “Spill Detector”. Place puck next to drain.
- B. Place “phone” jack through back of pH Control and connect to “External input box”.

5



Connect pH probe to side of power supply labeled “pH Probe”. Then carefully remove the black cap on the probe. Place the probe in Reaction tank. Retain black cap for possible future use.

Note: The pH probe must always be submerged in liquid. If the pH control must be turned Off for more than two days, use the Force Rinse feature (refer to the software overview section) to rinse the pH probe. Pour storage solution for pH electrodes in black cap and then place on pH probe.

12



- A. Plug power cord to power supply, then into a stable power source.
- B. Turn ON the city water valve.
- C. If the LCD is OFF, press the ON key.

5 Installing your pH Control

3 Set Up Procedures



Verify level sensors:

Lift each of the six level sensors individually. The corresponding power supply LED turns On.

LS1: Dev Tank

LS2: Dev Tank

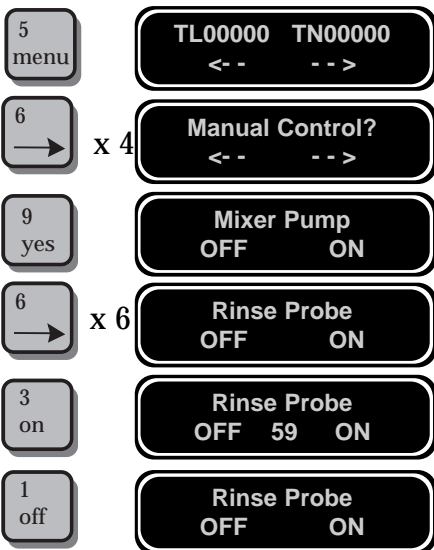
LS3: Dev Tank

LS4: Neutralizer Wand assembly

LS5: Reaction Tank

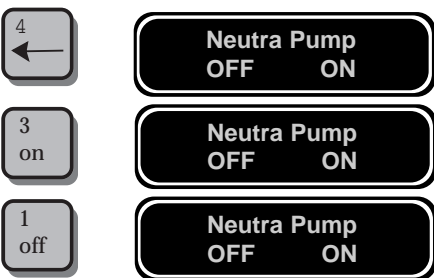
LS6: Reaction Tank

5



Rinse pH Probe:

- Press key to enter scripting level. The total liters (TL) and total neutralizer (TN) will appear.
- Press key four times. Manual Mode screen will appear.
- Press key to enter the Manual mode.
- Press key 6 times. Rinse probe screen will appear.
- Press key to Rinse Probe for 10 seconds.
- Press key to turn Off Rinse Probe.



Prime Neutralizer pump:

- Press key, Neutra Pump will appear.
- Press key to turn On Neutralizer pump until you start to see Neutralizer in reaction tank.
- Press key to turn Off Neutralizer pump.

16



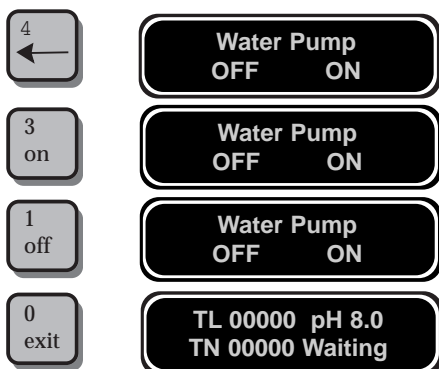
Prime Developer pump:

- Press key, Dev Pump will appear.
- Press key to turn On Developer pump until you start to see Developer in reaction tank.
- Press key to turn Off Developer pump.

5 Installing your pH Control

3 Set Up Procedures

17



Prime Water pump:

- Press key, Water Pump will appear.
- Press key to turn On Water pump until you start to see Water in reaction tank.
- Press key to turn Off Water pump.
- Press key to return to main menu.

5

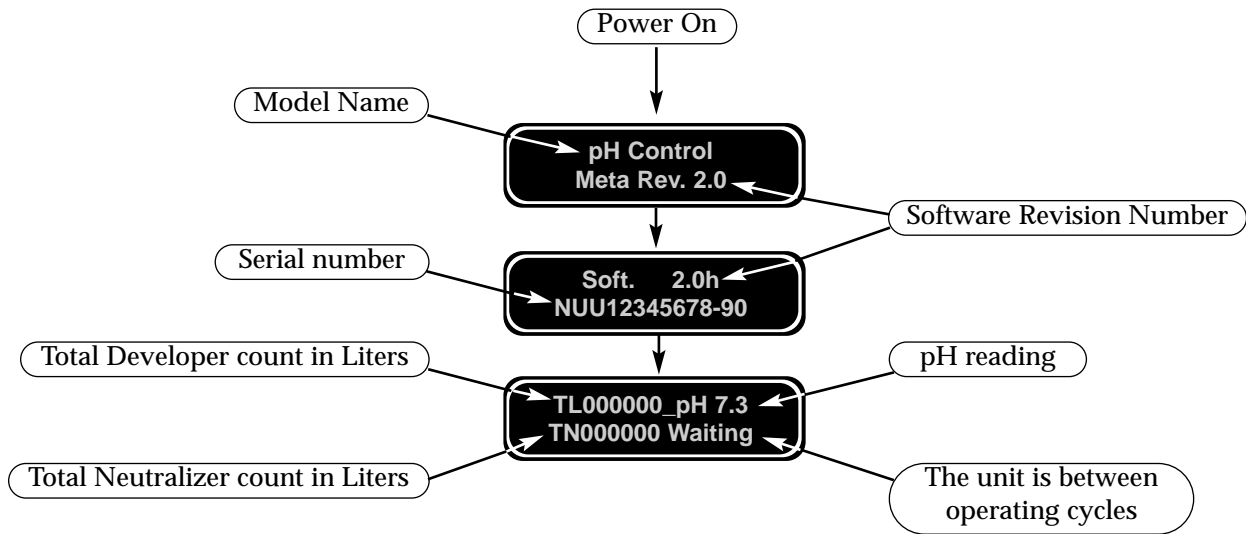
18



First batch:

- A. Fill water tank until it activates level sensor 3 (LS3).
- B. Fill dev tank with about 1/2" of water.
- C. Lift LS1 to start a batch. Wait until batch is completed. The unit will display "Waiting Dev Water".

6 Operating Cycle



1

TL000000_pH 7.3
TN000000 Waiting

The pH Control begins its operating cycle by collecting spent developer, and wash water from the photo processor. The spent developer and wash water are drawn into the pH Control's developer and water tanks via the "Developer Overflow from Processor", and the "Water Overflow from processor".

6

2

FILLING
REACTION TANK

When the level of effluent in the developer tank reaches LS1 (Level Sensor 1) and water reached LS3, the pH Control begins pumping developer and wash water into its reaction tank until operating level is reached (LS5). The combined developer and water is 12.5 liters (1 liter developer, 11.5 liters water).

3

READING PH
PH 8.6

The mixer pump will turn On and pH is read.

4

ADDING
NEUTRALIZER

If pH is not at pre set target, Neutralizer will be pumped to reaction tank in small doses until the target pH is reached without exceeding "Maximum Neutralizer" setting. Once correct pH is reached, the pH Control begins emptying Reaction tank.

5

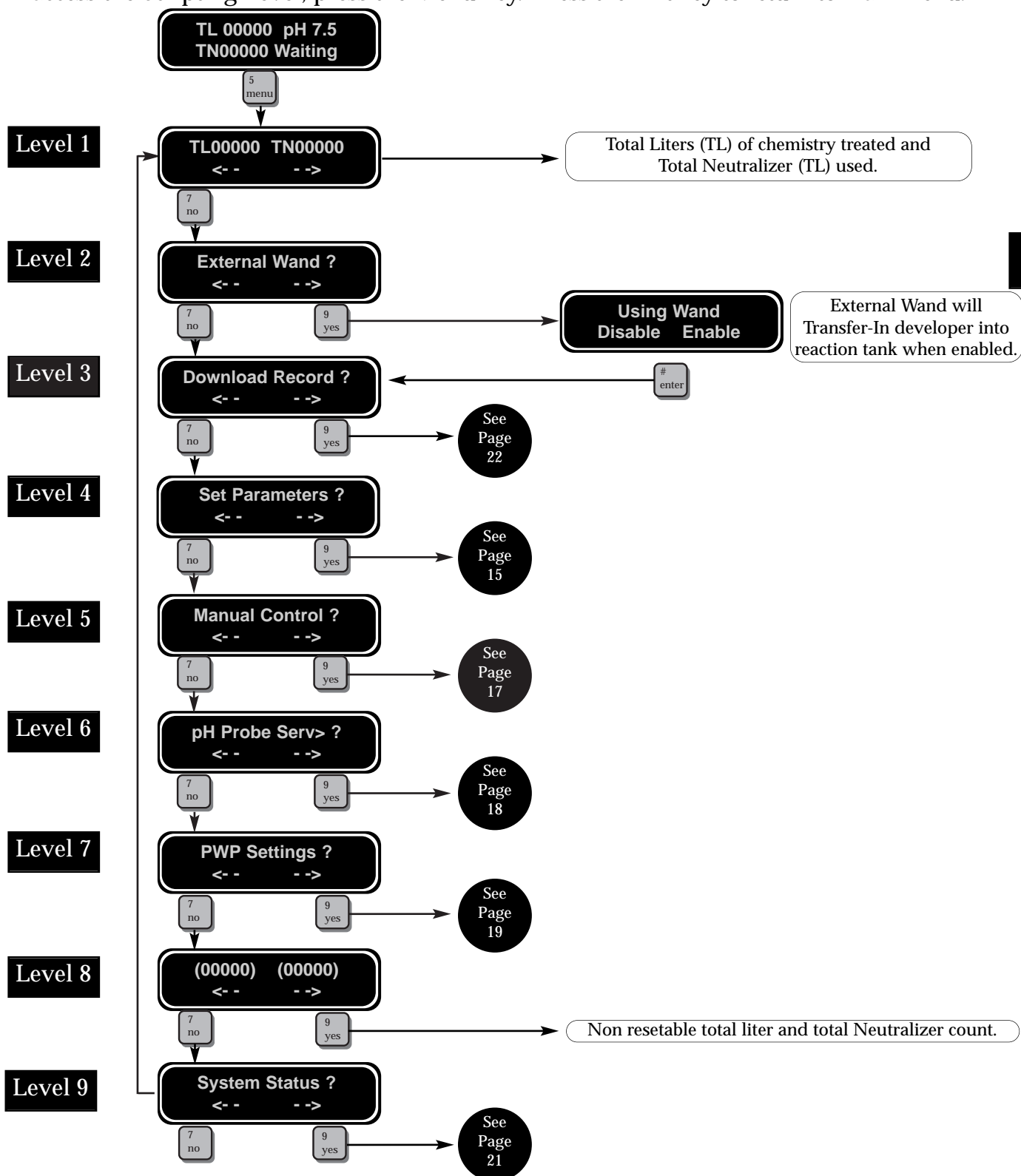
RINSING PROBE

At the end of each batch the probe is rinsed for 5 seconds.

7 Software Overview

Scripting Levels

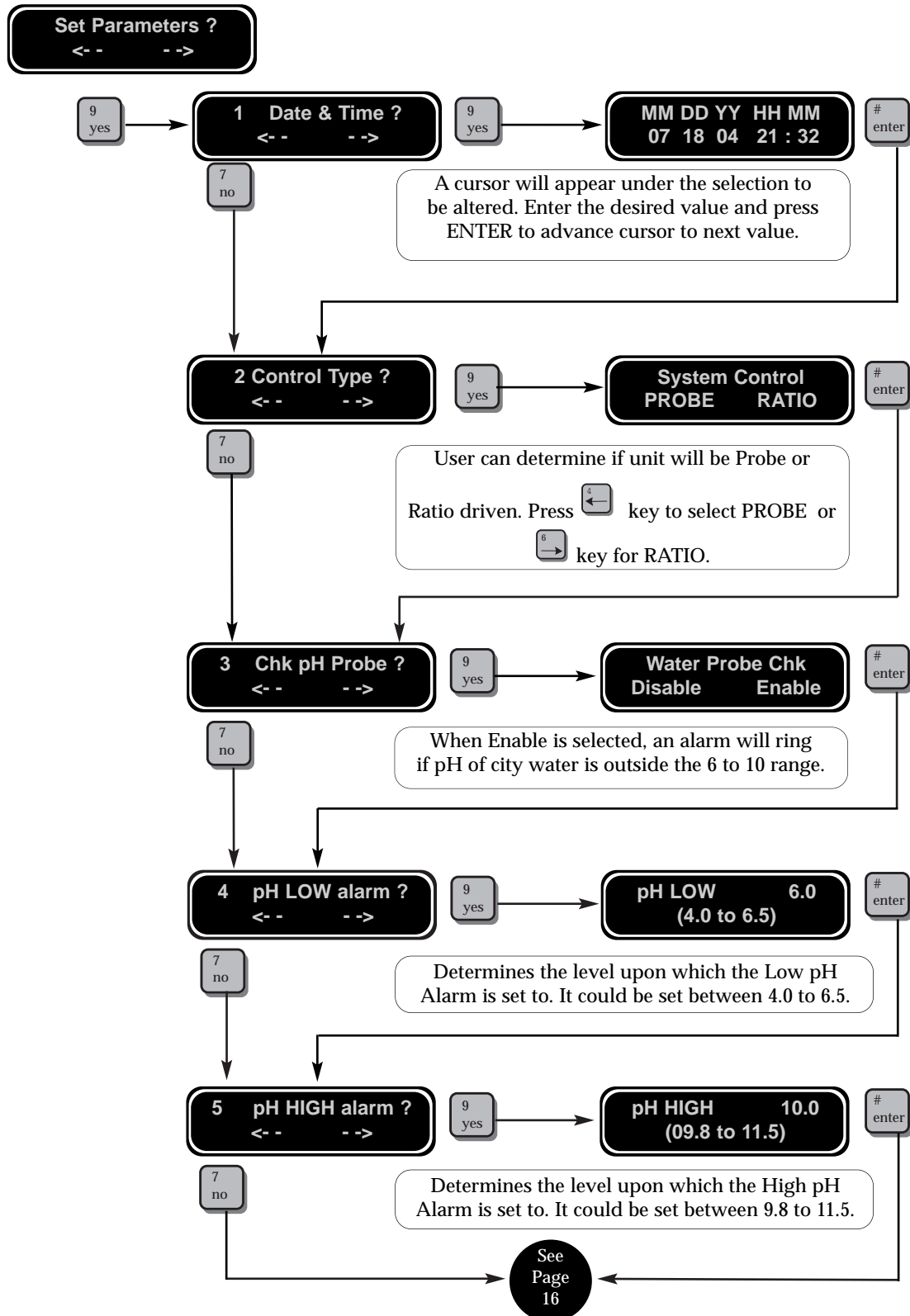
The pH Control scripting levels provides a means of adjusting the unit's internal settings. To access the Scripting Level, press the Menu key. Press the Exit key to return to main menu.



7 Software Overview

Scripting Levels

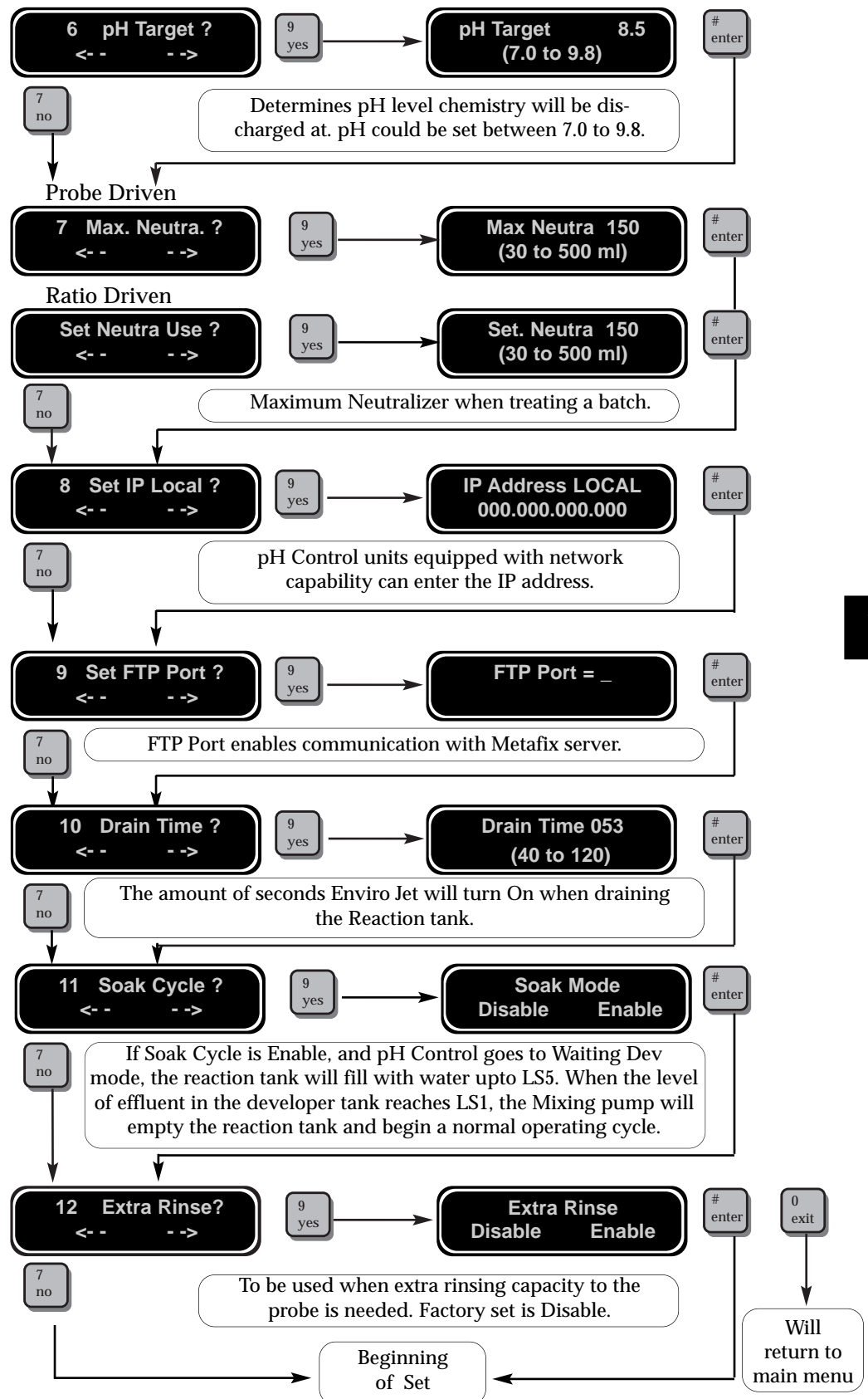
Level 4



7 Software Overview

Scripting Levels

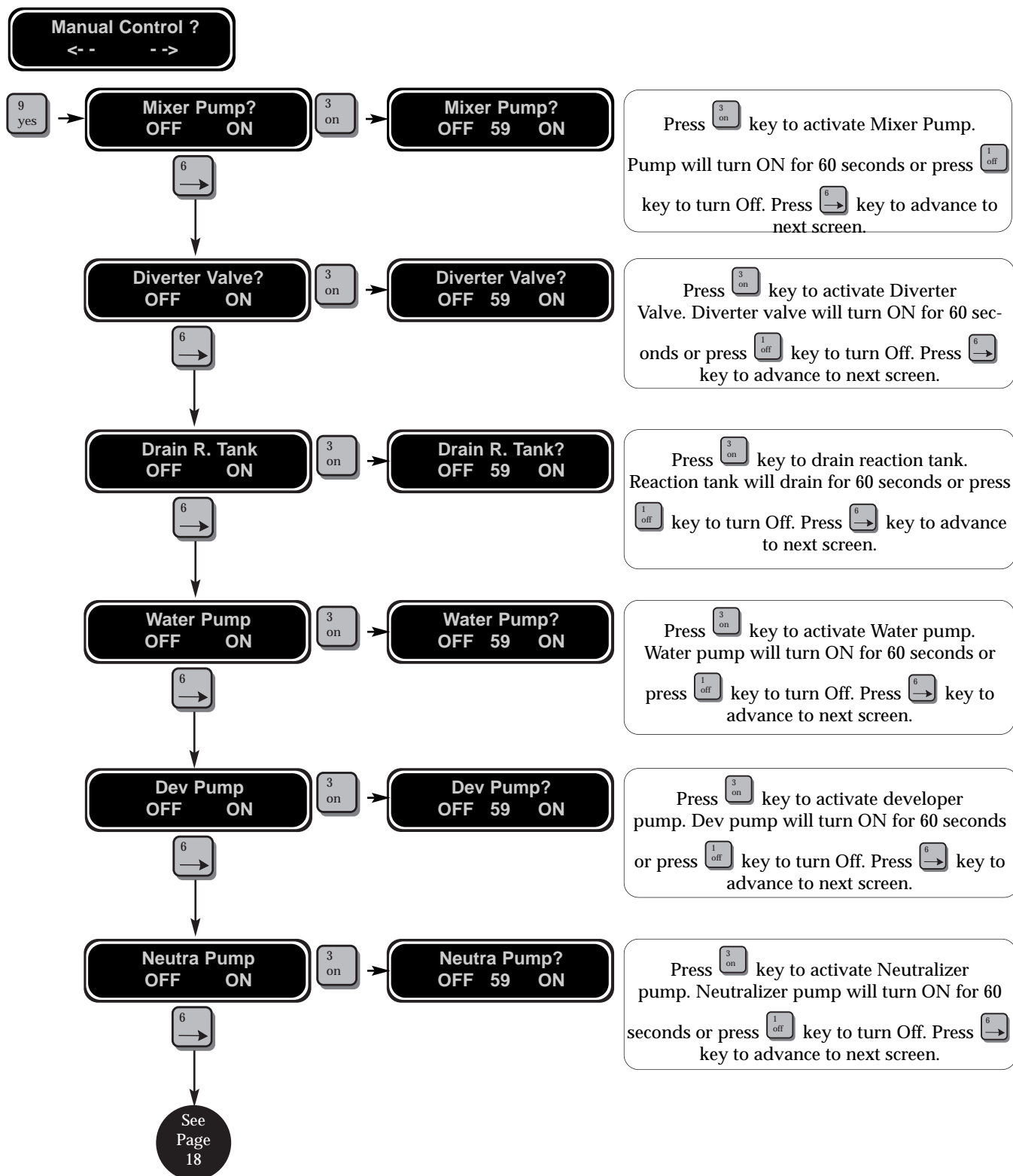
Level 4 Cont'd



7 Software Overview

Scripting Levels

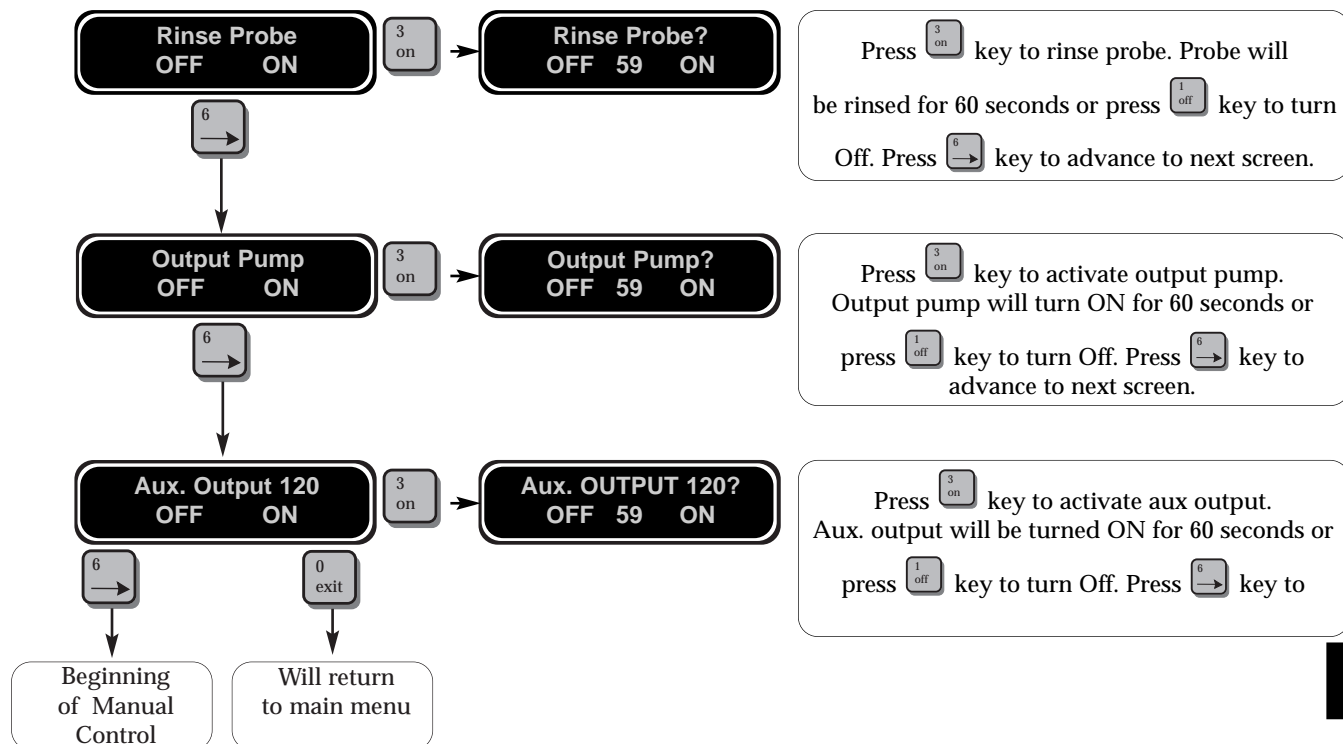
Level 5



7 Software Overview

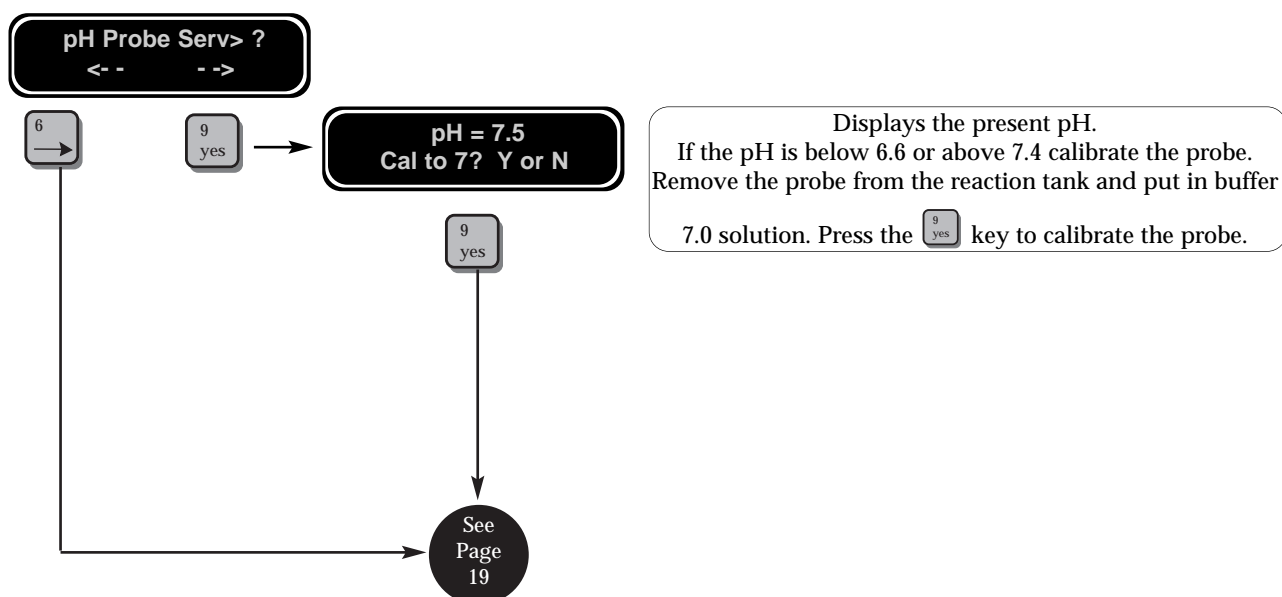
Scripting Levels

Level 5 Cont'd



7

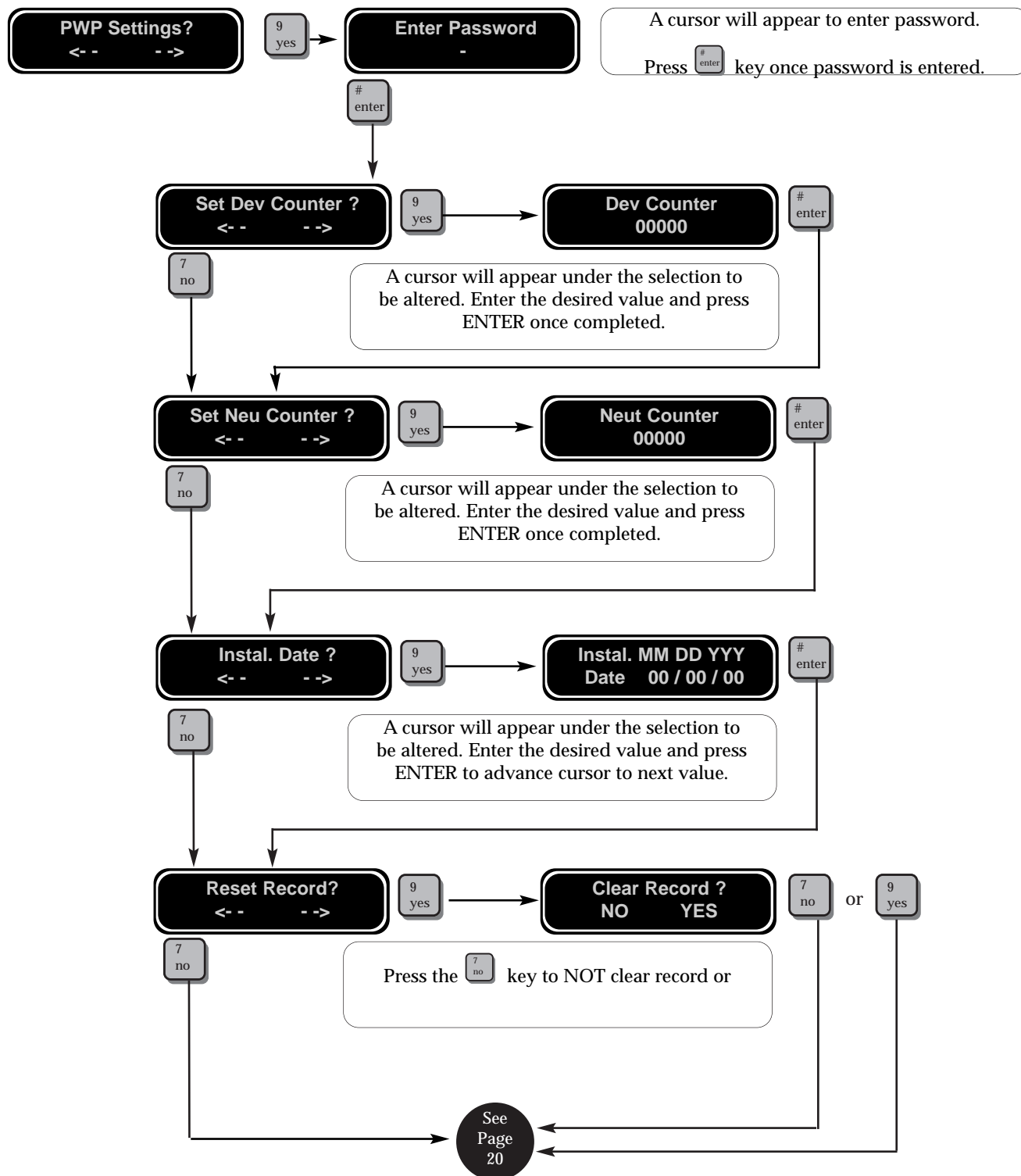
Level 6



7 Software Overview

Scripting Level

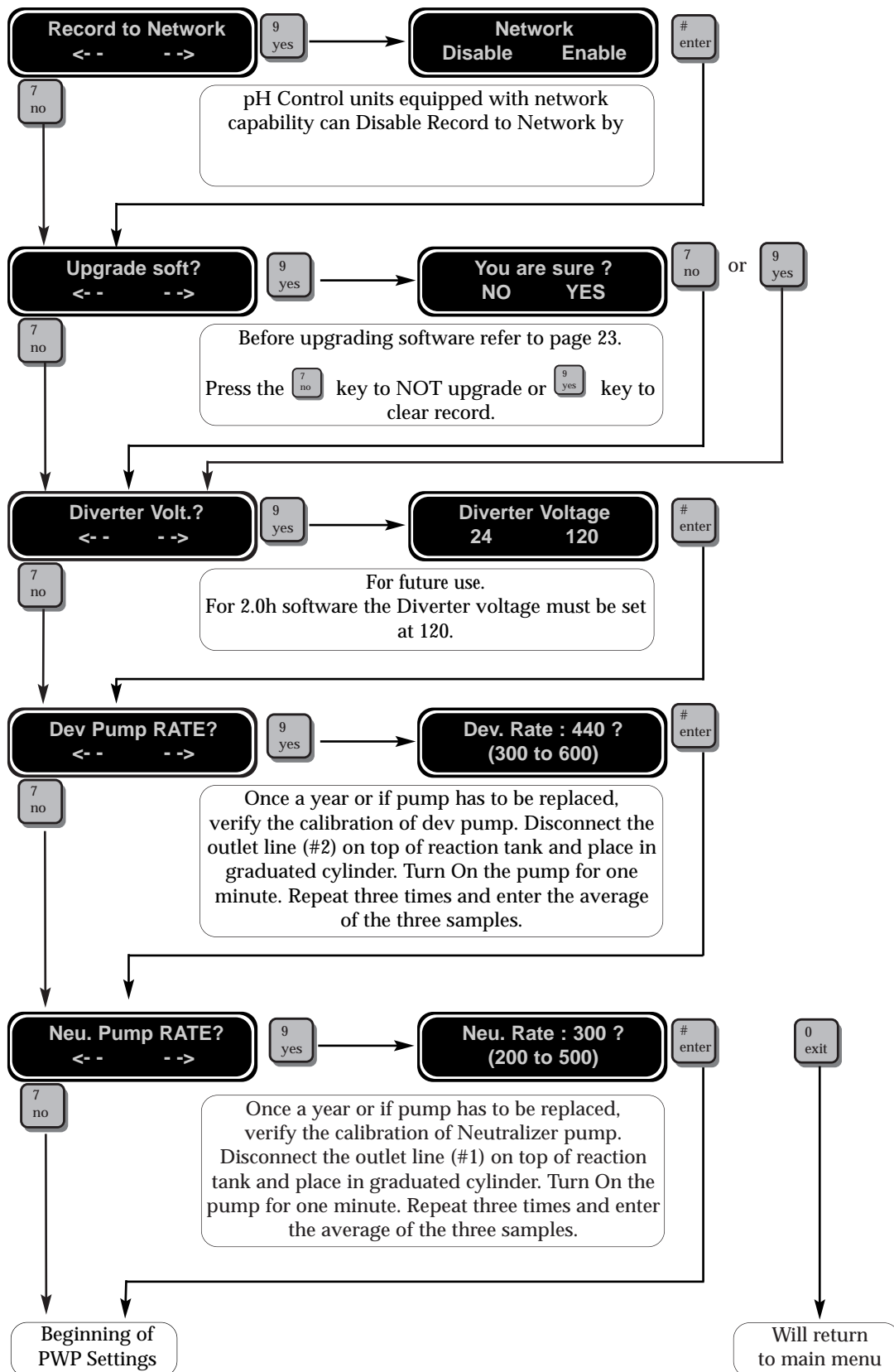
Level 7



7 Software Overview

Scripting Level

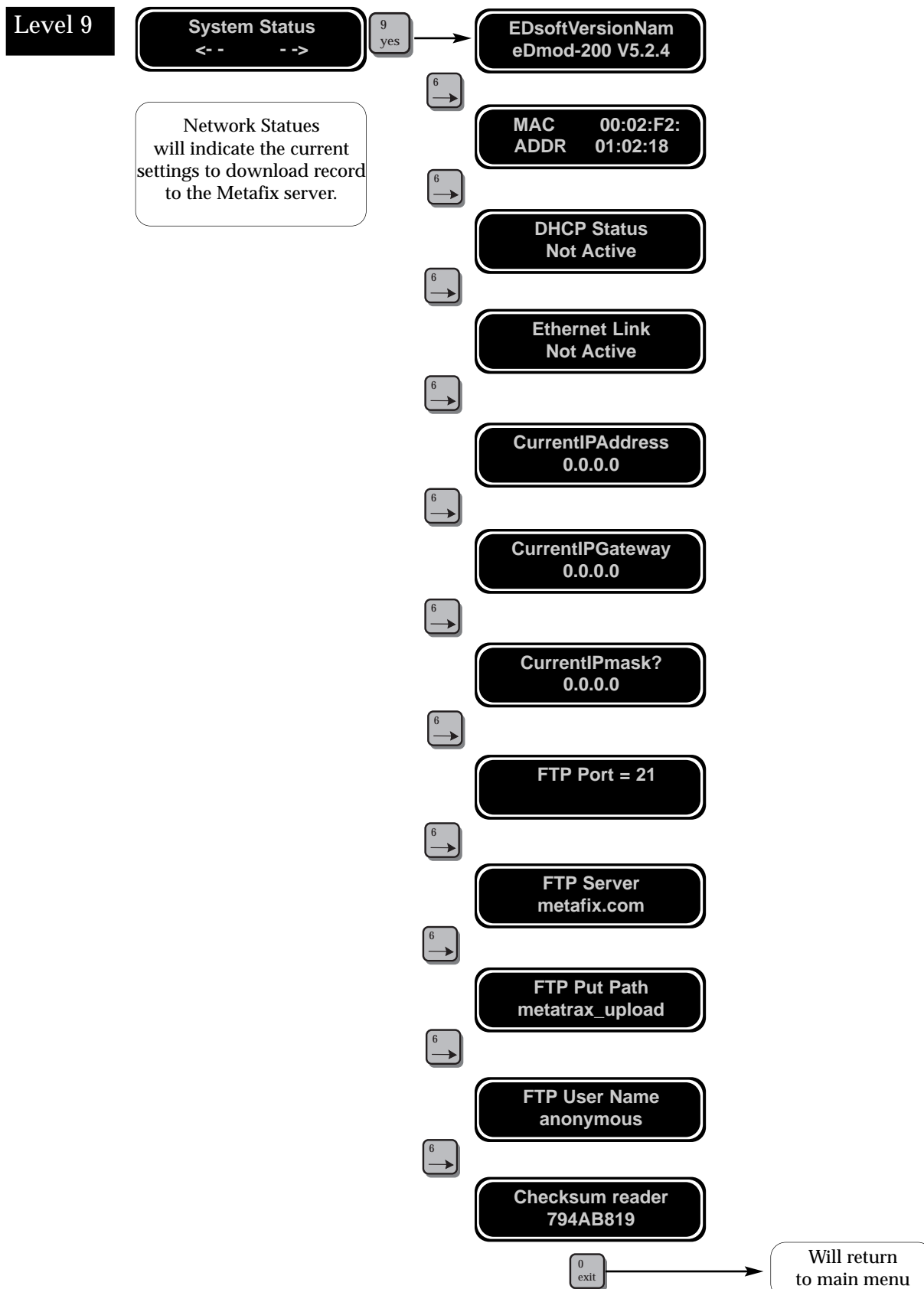
Level 7
Cont'd



7

7 Software Overview

Scripting Level



7

8 Download Capability

pH Control units include the capacity to download recorded data directly into a computer. This allows for an immediate record of the system's functioning as well as a brief history of the unit. This ability to retrieve data from the unit's memory allows for rapid analysis of the units function and quick turn-around for any adjustment that may be required for the system.

Items required:

- Computer
- 9-pin standard serial cable (the connector port on the pH Control is female).

step 1

Turn on computer. Load up a terminal type program (such as Windows Hyper Terminal) with the following settings (which may be saved to avoid this every time a download is performed):

- Bits per second = 9600
- data bits = 8
- stop bits = 1
- Parity = none
- Flow control = X on/X off

step 2

Connect the serial cable from the output of the pH Control to the computer.

step 3

To download the data, press the  key to access the Scripting level. The following message will appear:

External Wand ?

< -- -- >

step 4

Press the  key to advance to the following screen:

Download Record ?

< -- -- >

step 5

Press the  key to download.

RECORD DOWNLOAD SAMPLE

Metafix pH Control II
Software Version:2.0h
Serial Number:NUA12345678-90
Current Date (MM/DD/YY):12-27-04
Total Developer:00000 Liter
Total Neutralizer:00000 Liter
Installation Date:00/00/00
Control:Probe Driven
Soak:Disabled
Developer Pump Rate:440 ml/min
Neutralizer Pump Rate:300 ml/min
Diverter Voltage:120Vac
Drain Time:053 sec
Water Probe Check:ON
Extra Probe Rinse:OFF
Last Probe Calibration:00/00 0.0-0.0
pH LOW Alarm:6.0
pH HIGH alarm:10.0
pH Target:8.9
Maximum Neutralizer:150 ml
Network Connection:Disabled
(00000) (00000)



Ctrl	Date	Time	pH (in)	pH (out)	Neu (ml)	Status
Probe	12/26	12:37	12.2	8.6	127	Power On
Probe	12/26	13:16	11.7	8.3	133	Power On

9 Upgrade software Procedure (Windows)

Hardware and Software Requirements:

- Laptop (or desktop) computer with a serial port and a communication program such as Hyperterminal.
- Standard communication cable with 9 pin male/ 9 pin female connectors.
- Metafix pH Control 2 software revision 2.0 or higher.

Preparing pH Control to receive a new software:

1. Press the MENU key.
2. Scroll with the  key and answer YES when the PWP settings? question appears.
3. Enter password, then press ENTER.
4. Scroll with the  key and answer YES when the Upgrade soft? question appears.
5. If you are really sure you want to upgrade the software, then answer YES to the question Are you sure!

WARNING: Answering YES to (Are you sure?), will totally and irreversibly erase the program.

Four red LEDs will light confirming that the pH Control is waiting for the new software to be transferred from the computer.

9

6. Disconnect the power cord.

The pH Control is now ready to receive its new software.

Preparing Computer to transfer new software to pH Control:

1. Open Hyperterminal.
2. Choose a name and icon for the new connection.
3. In the "Connect to" box, choose an unused serial port such as COM1, or COM2.
4. In port settings, set Bits per second at 9600, Data bits at 8, Parity to none, Stop bit to 1, Flow control to X on/X off.
5. Connect the communication cable between the pH Control and to appropriate port on the computer.

The computer is now ready to transfer the software to the pH Control.

9 Upgrade software Procedure (Windows)

Transferring new program to pH Control:

1. Connect the power cord. The following menu should appear in the Hyperterminal window.

Metafix BootLoader
a) Erase Flash
b) Program Flash
c) Start Program
?

2. Press “a”. The same menu will be duplicated after a few seconds, indicating that the flash is erased.
3. Press “b”. The following menu will appear:

Metafix BootkLoader






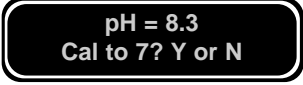
a) Erase Flash
b) Program Flash
c) Start Program
? b
Select file .s19

4. From the transfer menu of Hyperterminal, click on Send text file...
5. Choose the proper text file having a .S19 extension, and click Open. The download progress is indicated by a progression of stars. The download is complete when no new stars appear. The process require a few minutes to complete.
6. Close Hyperterminal, remove the communication cable.
7. Disconnect the pH Control power cord for 5 seconds and reconnect.


10 Maintaining your pH Control

1 Probe Calibration

Your pH Control is equipped with a probe which reads the pH of the effluent in the reaction tank. To test the efficiency of the probe, you must occasionally perform a probe calibration.

- Press and hold the  key to enter the Scripting Level.
The message on the display will be: 
- Press the  key 4 times.
The message on the display will be: 
- Press  key. The message will be: 
- Dip the probe in buffer 7.01 solution.
- This will provide a current pH reading of the solution. If the pH is below 6.6 or above 7.4

10

remove probe from Neutralizer tank and put in buffer solution. Press  key to

Note: The pH probe must always be submerged in liquid. If the pH Control must be turned Off for more than two days, use the Rinse Probe feature (refer to the Software Overview section) to rinse the pH probe. Pour storage solution for pH electrodes in black cap and then place on pH probe. If the probe has been sitting idle for a long period of time, place the probe in hot water (about 50° C) for 5-10 minutes. Then place the probe in a saturated KCl (potassium chloride) solution and allow it to cool to room temperature. This procedure should dissolve and KCl crystallization or blockage that may have formed at the end of the reference junction inside the probe body.

2 Cleaning the Spill Sensors

To keep the spill sensors working effectively, you must keep the surface of the sensors clean at all times.

- Wash under warm soapy water.
- Use a clean dry cloth to wipe away any dust or residue that has accumulated on the surface of the spill sensor connected to the containment tray and the puck near the drain. You should also take this opportunity to wipe away any other dust or residue that has accumulated on the pH Control.

3 Cleaning Developer tank

11 Troubleshooting

1 Service Messages, Causes and Solutions

The pH Control service messages are intended to alert users of a potential problem. In the event of a potential problem the pH Control LCD will display one of the following service messages:

<u>Service Messages</u>	<u>Causes</u>	<u>Solutions</u>
<div>WARNING ! Check Water Pump</div> <p>If the Wash pump takes more than 60 seconds to reach LS5 (Level Sensor 5) during the normal operational cycle, the alarm will alert user of a potential problem with the pumps.</p>	<ul style="list-style-type: none">• Water pump power cord not plugged to power supply.• The pumps grill could have sediment buildup.	<ul style="list-style-type: none">• Connect Water pump to power supply.• Disconnect Water pump from power supply. Remove pump from water tank. Remove and clean the pump grill.
<div>WARNING ! Reac. Tank Over.</div> <p>Alerts users of a potential overflow from the reaction tank. This will occur if the effluent level reaches LS 6 (Level Sensor 6).</p>	<ul style="list-style-type: none">• Level sensor 5 is dirty or defective.• Dirty reaction tank.• Leaking solenoid valve.	<ul style="list-style-type: none">• Remove reaction tank cover and clean level sensor 5 with a damp cloth. If problem continues replace level sensor.• Remove reaction tank cover and clean tank with damp cloth.• Replace solenoid valve.
<div>WARNING ! WET FLOOR</div> <p>If effluent comes in contact with puck sensor near the drain, the alarm will alert users of a spill.</p>	<ul style="list-style-type: none">• Spill on the floor near drain.	<ul style="list-style-type: none">• Clean spill and dry puck sensor.
<div>WARNING ! Dev Tank Over</div> <p>Alerts users of a potential overflow from the Developer Tank. This will occur if the effluent level reached the LS 2 (Level Sensor 2).</p>	<ul style="list-style-type: none">• The pH Control has been turned OFF for a long period of time.• The Dev pump not working.• Processor maintenance caused a tank overflow.	<ul style="list-style-type: none">• Turn pH Control ON.• Peristaltic tube is worn out. Replace pump.• Drain processor developer into pH Control. Drain water used to clean processor tank to drain.

Contact Metafix if the pH Control continues to display the service message after troubleshooting the unit.

Failing to contact Metafix may result in additional complications.

11 Troubleshooting

1 Service Messages, Causes and Solutions

Service Messages	Causes	Solutions
<div>WARNING ! Neutralizer Low</div> <p>Alerts users if the Neutralizer tank is empty.</p>	<ul style="list-style-type: none">• Neutralizer level is below the level sensor.	<ul style="list-style-type: none">• Neutralizer solution has to be added to the tank.
<div>WARNING ! pH to Low</div> <p>If the pH is below the pH Low setting, the alarm will alert users.</p>	<ul style="list-style-type: none">• Developer pump is not working properly.• Probe defective.• Preventive maintenance on CTP processor and water not bypassed from pH-Control dev tank.• Wrong Neutralizer.	<ul style="list-style-type: none">• Verify the Developer pump is working. perform Dev Pump test.• Remove the probe from the Reaction Tank and put in buffer solution to verify the calibration.• Contact Metafix for assistance.• Contact your service representative to confirm correct Neutralizer.
<div>WARNING ! pH to High</div> <p>If the pH is above the pH High setting, the alarm will alert users.</p>	<ul style="list-style-type: none">• No solution in Neutralizer tank.• Neutralizer pump is defective.• Neutralizer inlet filter could be clogged.• Probe defective.• "Maximum Neutralizer" setting is to low.• Wrong Neutralizer.	<ul style="list-style-type: none">• Neutralizer solution has to be added to the tank.• Verify the Neutralizer pump is working. Perform Neutralizer pump test.• Disconnect the tubing connected to "Neutralizer Inlet from Tank". Clean or replace the yellow inlet filter.• Remove the probe from the Reaction Tank and put in buffer solution to verify the calibration.• Increase "Maximum Neutralizer".• Contact your service representative to confirm correct Neutralizer.
<div>WARNING ! check pH Probe</div> <p>When the Probe Check feature is turned On the probe will be rinsed with city water for 3 seconds before starting an operation cycle. If the pH is below 6 or above 10 the alarm will alert users.</p>	<ul style="list-style-type: none">• The pH probe is out of calibration.• The pH probe is damaged.• Probe wiring is unplugged or defective.	<ul style="list-style-type: none">• Enter the pH Probe Serv Level. The present pH is displayed. If pH is below 6.6 or above 7.4, submerge probe in 7.0 solution and press the YES key to calibrate probe. Clean the probe with a tissue (do not touch the probe with your fingers). Verify calibration again. If the pH is still out of range, replace the probe.• Replug wiring. Replace wiring if necessary.

Contact Metafix if the pH Control continues to display the service message after troubleshooting the unit.

Failing to contact Metafix may result in additional complications.

11 Troubleshooting

1 Service Messages, Causes and Solutions

<u>Service Messages</u>	<u>Causes</u>	<u>Solutions</u>
<div><div><div>WARNING ! Chk Divert. Valve</div></div><p>Once batch is completed Level Sensor 5 is still active after 45 seconds.</p></div>	<ul style="list-style-type: none">• Diverter is not connected to power supply.• Tubing going to the drain is kinked.• Level sensor 5 is stuck.• Bad diverter valve.	<ul style="list-style-type: none">• Connect diverter to power supply.• Replace kinked tubing.• Remove reaction tank cover and clean Level Sensor 5 with a damp cloth.• Replace the Mixing pump.
<div><div><div>WARNING ! Wet Tray</div></div><p>If effluent comes in contact with the containment tray spill sensor in the pH control, the alarm will alert users of a spill.</p></div>	<ul style="list-style-type: none">• Tubing or internal parts leaking.	<ul style="list-style-type: none">• Verify all connections and firmly tighten clamps.

12 Parts List, Technical Specifications & Dimensions

1 Parts List:

Description:	Item No.
Buffer solution (7.0 pH).....	C30971
Circulation Pump	C30945
Developer pump	C30963
Dip tube assembly.....	C30966
Dispenser pump assembly.....	M90589
Ethernet Card.....	C30972
Level Sensor 1 (LS1).....	C30939
Level Sensor 2 (LS2).....	C30940
Level Sensor 3 (LS3).....	C30941
Level Sensor 5 (LS5).....	C30942
Level Sensor 6 (LS6).....	C30943
Liquid detector (Puck assembly)	C30908
MetaAid - Neutralization Solution - CA50	A10846
MetaAid - Neutralization Solution - CA20	A10847
MetaAid - Neutralization Solution - CA04	A10856
MetaAid - Neutralization Solution & Service Contract - CA50 - 2000 liters	SC10052
MetaAid - Neutralization Solution & Service Contract - CA50 - 3000 liters	SC10053
MetaAid - Neutralization Solution & Service Contract -CA50 - 5000 liters	SC10054
MetaAid - Neutralization Solution & Service Contract -CA50 - 10000 liters	SC10055
MetaAid - Neutralization Solution & Service Contract -CA50 - 15000 liters	SC10056
MetaAid - Neutralization Solution & Service Contract -CA50 - 20000 liters	SC10057
MetaAid - Neutralization Solution & Service Contract -CA20 - 2000 liters	SC10058
MetaAid - Neutralization Solution & Service Contract -CA20 - 3000 liters	SC10059
MetaAid - Neutralization Solution & Service Contract -CA20 - 4000 liters	SC10060
MetaAid - Neutralization Solution & Service Contract -CA20 - 5000 liters	SC10061
MetaAid - Neutralization Solution & Service Contract -CA20 - 10000 liters	SC10062
MetaAid - Neutralization Solution & Service Contract -CA20 - 15000 liters	SC10063
MetaAid - Neutralization Solution & Service Contract -CA04 - 2000 liters	SC10068
MetaAid - Neutralization Solution & Service Contract -CA04 - 3000 liters	SC10069
MetaAid - Neutralization Solution & Service Contract -CA04 - 4000 liters	SC10070
MetaAid - Neutralization Solution & Service Contract - CA04 - 5000 liters	SC10071
MetaAid - Neutralization Solution & Service Contract -CA04 - 10000 liters	SC10072
MetaAid - Neutralization Solution & Service Contract -CA04 - 15000 liters	SC10073
MetaAid Wand Assembly	C30919
Neutralizer pump	C30962
pH Probe CTPR2	C30964
pH Probe replacement element.....	C30899
Power Head	C30936
Probe Basket.....	C30946
Service Kit, Universal	C30968
Solenoid	C30965
Water / Dev Tank.....	M90730
Water/Dev tank.....	C30967
Water Pump	C30944

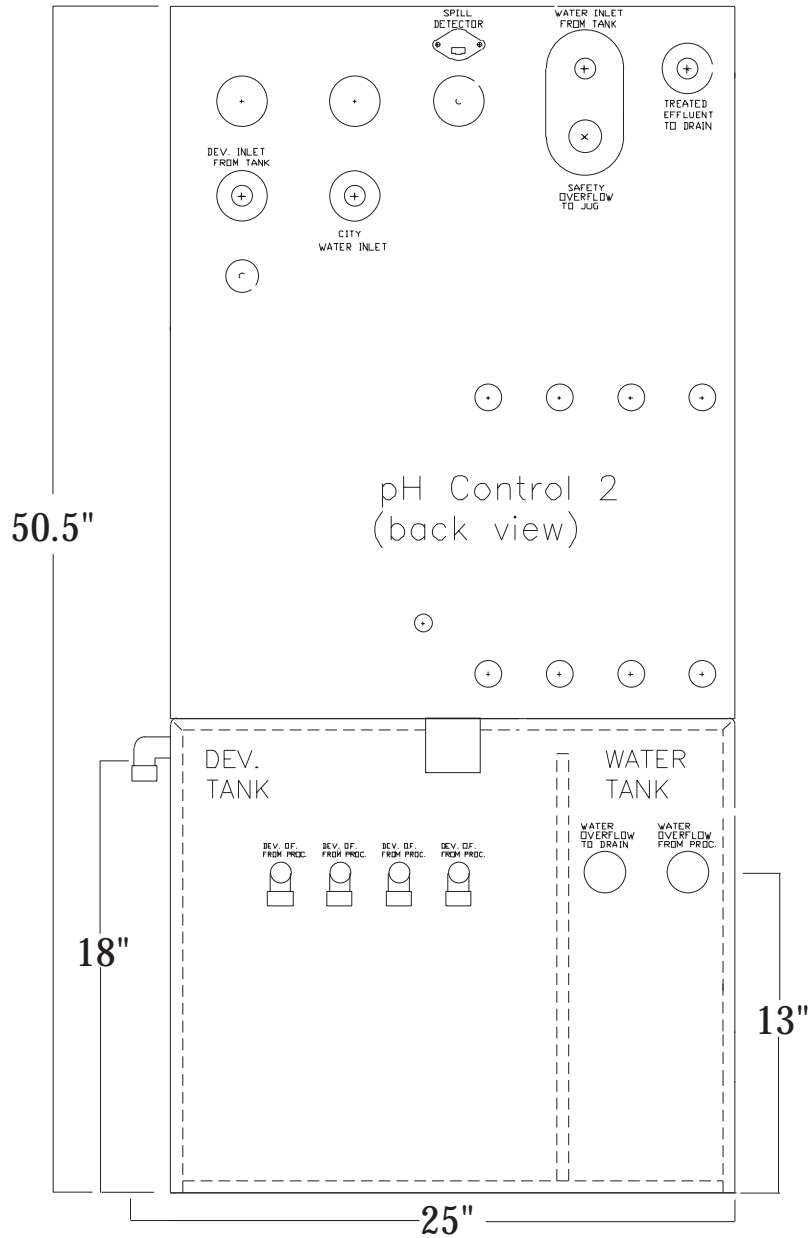
12 Parts List, Technical Specifications & Dimensions

2 Technical Specifications:

Voltage.....	120 volts, 60 Hz
Amps.....	2A (120 v)
Water	25 to 85 PSI, 10 lpm
Waste water tank capacity.....	25 liter
Developer tank capacity	90 liter
Neutralizer jug capacity.....	20 liter
Overall dimensions:.....	25.0 in. wide, 26.0 in deep, 50.5 in. high.
Shipping weight.....	130 lbs
Developer manage capacity.....	180 - 205 liter per day

12 Parts List, Technical Specifications & Dimensions

3 Dimensions



12

Dev and water Tank	20"H x 25"W x 26"D
Neutralizer Tank	15"H x 10"W x 11.5"D
pH Control	30.5"H x 24"W x 16.5"D

13 Glossary of Terms

Control Panel:The display on front panel of your unit, which consists of an LCD screen keypad and status LED's.

Hard-Plumbed:Connecting your unit to a closed drain pipe.

MGHT Spout:The valve connected to your city water line which controls the flow of water.

Neutralizer (metaAid): Neutralizes chemistry.

Pumping:The process your unit uses to discharge effluent.

pH:Refers to acidity or alkaline levels (acidic < 7, neutral = 7, alkaline >7)

pH Probe:.....Measures pH of chemistry.

Level sensor 1 (LS1): .When effluent reaches Level sensor in developer tank it activates pH Control to begin a batch.

Level sensor 2 (LS2): .Indicates a developer tank overflow.

Level sensor 3 (LS3): .Sufficient water in water tank to start a batch.

Level sensor 4 (LS4): .Neutralizer tank is empty.

Level sensor 5 (LS5): Reaction tank operational level.

Level sensor 6 (LS6): .Indicates a reaction tank overflow.

Spill Sensor

/Detector:Are used to detect spills inside the pH Control.

Vacuum Breaker

Backflow Preventor: A device which prevents liquid from flowing into the city water line from your unit.

14 Sales, Service, and Support



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