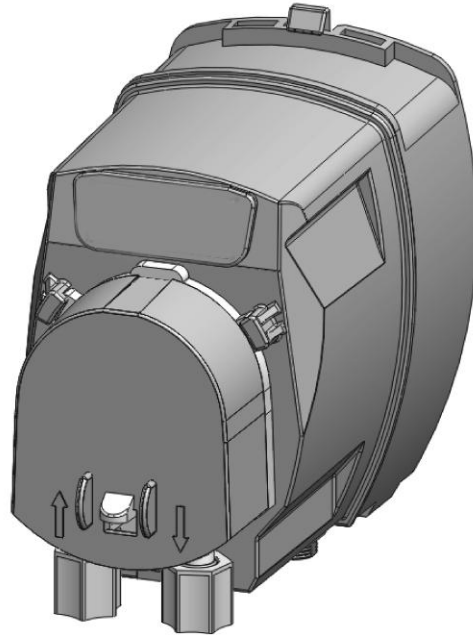


InVade
technology
Mini Doser™



Overview

The InVade Mini Doser is a liquid dispenser with a programmable timer designed primarily for dispensing InVade microbial products into drains and traps. The programmable timer can be set to dose of to 8 times per 24 hour period, and the 'pump on' time is adjustable as well.

Warnings

Installation of the InVade Mini Doser must meet all applicable electrical codes and regulations established by national, city, county, parish, provincial or other agencies. It is possible that electrical codes and regulations require that a certified electrical contractor or engineer perform the electrical installation. For questions, contact a certified electrician.

ALL ELECTRICAL POWER MUST BE TURNED OFF TO THE DISPENSER AND TO THE APPLIED MACHINE.

All installations must conform to local plumbing codes and use approved backflow prevention devices. A pressure indicating tee is to be installed with existing faucets according to local plumbing codes in the state of Wisconsin and any other state that requires the use of a pressure indicating tee.

Specifications

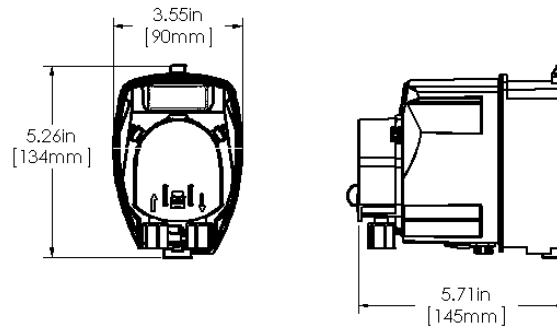
Packing List

	INVADE MINI DOSER	25.69.7 SWITCHING POWER SUPPLY (115-240 VAC)	25.68.20 20' ¼" OD LDPE TUBING	30.41 SCREW AND ANCHOR KIT	81.312.1 TUBE STIFFENER	INSTRUCTION SHEET
2500	1	1	1	1	1	1

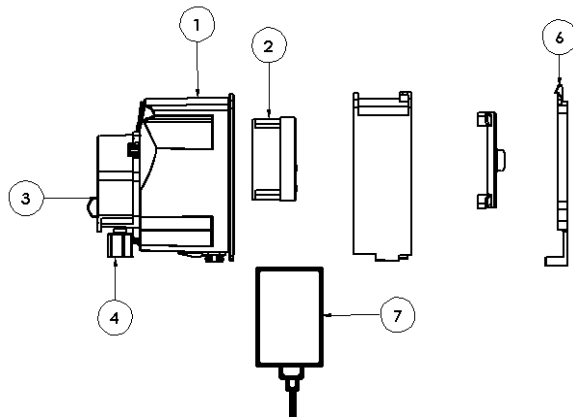
Operational Requirements

For indoor use only	
Main Power	120-240 VAC 50-60 HZ
Case Material	ABS
Product Weight	0.5 kg 1.15 LBS
The integrity and operational characteristics of this unit are not guaranteed outside the above mentioned parameters. Use of this unit outside of these parameters nullifies warranty.	

Overall Size & Weight



Parts List

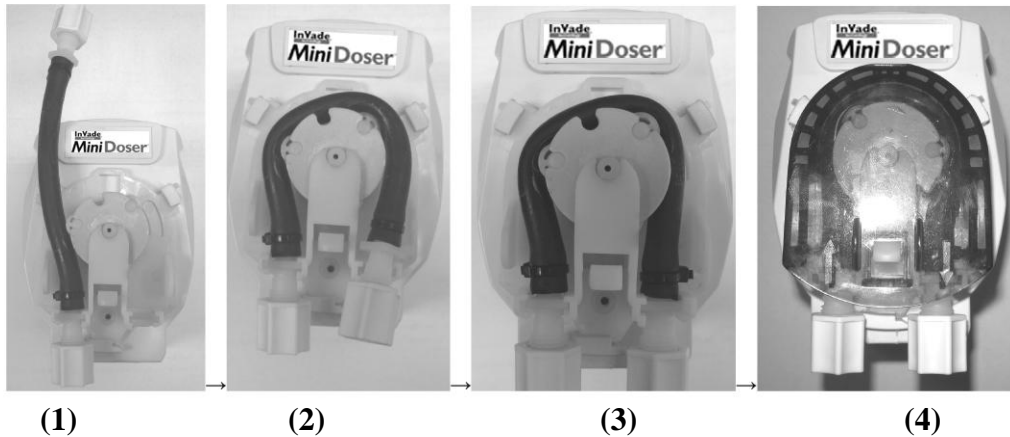


NO.	PART NO.	DESCRIPTION
1	25.21.1	PUMP, MOTOR, HOUSING REPLACEMENT KIT
2	25.21.2	TIMER AND BOOT REPLACEMENT KIT
3	25.21.3	PUMP REPLACEMENT KIT
4	25.21.4	SQUEEZE TUBE SINGLE REPLACEMENT KIT
	25.21.5	SQUEEZE TUBE REPLACEMENT BULK (5) KIT
6	25.21.6	BRACKET AND BOOT REPLACEMENT KIT
7	25.21.7.US	POWER SUPPLY KIT FOR US
	25.21.7.UK	POWER SUPPLY KIT FOR UK PLUG
	25.21.7.EU	POWER SUPPLY KIT FOR EUROPEAN PLUG
	25.21.7.AUS	POWER SUPPLY KIT FOR AUSTRALIAN PLUG

Installation

Mount the InVade Mini Doser no higher than 6 feet from the container of InVade liquid. Take into account the proximity to the InVade liquid, drain, and power for the unit. Use the included screw and anchor kit to secure the mounting bracket to the wall and then mount the unit on the wall. Then cut the tubing to the proper length to reach from the InVade container to the unit and the unit to the drain where the InVade is being dispensed.

Install the squeeze tube by removing the pump cover by depressing the tab on the front of the unit. (1) Place one end of the squeeze tube on the left side of the pump in the slot provided. (2) Wrap the squeeze tube around the rollers of the pump. (3) Then stretch the squeeze tube so that the end of the tube goes into the slot provided. (4) Replace the cover on the pump.



There is a clip on the bottom of the unit. (1) This is to help relieve strain on the power cord. (2) Place the power cord through this strain relief to help the power cord from coming unplugged from the unit.

(1)

(2)

Operation

Programming the Dispenser

Note: If a mistake is made during the programming, simply push the reset button and start over.

A. Set the Time and Day

When the unit arrives the display may be blank or may display a time. Plug the unit into an outlet before programming.

NOTE: Make sure that the bar in the bottom of the display is over the word **OFF** – if it isn't, press the **MANUAL** button until it is.

1. To set the time and day of the week, hold the **CLOCK** button in and press the day, hour, and minute buttons until the proper day, hour, and minute is achieved.

Note: The days will be across the top of the screen and will advance as the button is hit. The time must be set to **AM** and **PM** (top left corner of the display). By holding in the **Day**, **Hour**, or **Minute** button for three seconds the setting will continue to advance until the button is released.

B. Programming the Dispensing Events: Up to 8 independent dispensing events can be programmed in a 24 hour period

1. Press and release the **TIMER** button to enter the programming mode. The event number will be in the bottom left corner. **Note:** To program a full event, a pump start time and stop time will have to be programmed.

NOTE: THE PUMP WILL RUN FOR 23 HRS 59 MIN IF A START TIME IS SET BUT NOT A STOP TIME.

- a) Press the “DAY” button until all of the days are shown that the first event should be turned on.
 - b) Press the “HOUR” and “MINUTE” buttons until the time is reached when the pump should turn on.
Note: AM or PM in top left corner of screen.
2. Press and release the TIMER button again to move to programming the pump to turn off.
 - a) This program will be used to turn the pump off. Use the pump’s output to determine how long the pump must run to dispense the desired amount.

TIME	Replacement Interval for 1 gallon InVade	oz pumped
1 min	90 days	1.4 oz
2 min	45 days	2.8 oz
3 min	30 days	4.2 oz
6 min	15 days	8.4 oz

- b) It is most common to have the Mini Doser come on once per day during a low flow period, e.g. middle of the night. For maintenance of small traps or interceptors (up to 500 gallons), a 90 day replacement interval should be adequate. For larger traps or more extreme conditions, a shorter interval should be used.
 - c) Press the “DAY” button until the days match the days programmed in the pump on portion of the programming.
 - d) Press the “HOUR” and “MINUTE” buttons until the desired run time is reached.
3. To program another event, press TIMER button again for Programs 2-8 and follow Programming Steps 1 and 2 above. **Every ON function needs a corresponding OFF function in order to turn the pump off.**
 4. When finished programming, push the CLOCK button again to return to time of day (normal) display.

C. Priming the Pump

1. To prime the pump, press the MANUAL button – the bar at the bottom of the display will move from right to left from OFF to AUTO to ON. When it reaches ON, the pump will run until the MANUAL button is pressed again. Use this position to prime the pump as well as to calibrate the pump. To stop priming press the MANUAL button – the bar at the bottom of the display will move from left to right from ON to AUTO to OFF.

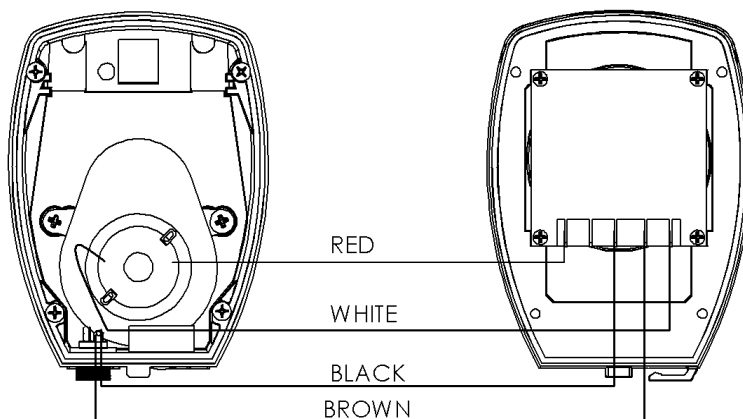
Note: The unit may continue to run in the AUTO position and the MANUAL button must be pressed until the bar at the bottom of the display is over the OFF position to stop the unit fully.

D. Setting into Programmed Position

1. Press the MANUAL button until the bar in the bottom of the display moves from the OFF to the AUTO position. If the unit is not in the AUTO position, the program will not be executed.

Specifications: When the unit is powered the first time, the rechargeable display back up battery begins charging. When fully charged it provides approximately 200 hours of reserve time before the display and program may be lost. If the unit loses power, it will not lose the program for 200 hours, but it will not run the pump from the rechargeable display back up battery and will not dispense product. If the unit becomes unplugged from the wall for a short amount of time, plugging the unit back in will not affect the programming of the unit.

Wiring Diagram



The wires are labeled with the colors and clearly connect to the timer for proper operation.

Troubleshooting

Symptom	Probable Cause	Remedy
Pump running when it is not programmed to.	<ol style="list-style-type: none"> 1. The program, date, and time are set wrong. 2. Did not program an off time. 	<ol style="list-style-type: none"> 1. Check the program, date, and time to make sure they are set properly. A common mistake could be where an AM is supposed to be a PM. 2. Check the programs for an off time for each program.
Pump is not priming like it should be or not holding a prime.	<ol style="list-style-type: none"> 1. Hole in the tubing from the chemical container to the pump head. 2. Hole in the squeeze tube in the pump head. 3. Pick up tubing is not sealed to the squeeze tube fitting. 	<ol style="list-style-type: none"> 1. Check the tubing from the chemical container to the pump head for leaks by feeling the tubing for chemical that has leaked out. Replace the tube if necessary. 2. Replace the squeeze tube after inspecting it for a possible hole or leak. 3. Tighten the nuts on the squeeze tube fitting.
Pump over feeding (using too much chemical). Pump under feeding (not enough chemical).	<ol style="list-style-type: none"> 1. The programs entered in the unit were set wrong. 	<ol style="list-style-type: none"> 1. Check the program(s) to make sure they are set properly. A common mistake could be where an AM is supposed to be a PM.
Pump runs constantly.	<ol style="list-style-type: none"> 1. Did not match the Event #, Days or AM/PM for the off time. 	<ol style="list-style-type: none"> 1. Check the programs for an off time for each program; make sure the events are matched up.

Warranty

Merchandise Returns

No Merchandise may be Returned for Credit Without Rockwell Labs' permission in advance.

Product Warranty

The InVade Mini Doser is warranted against defective material and workmanship under normal use and service for one year from the date of purchase by the end user. Rubber and synthetic rubber parts such as "o"-rings, diaphragms, PVC tubing, and gaskets are considered expendable and are not covered under warranty. If the InVade Mini Doser are altered or repaired without prior approval of Rockwell Labs, this warranty is void.

Defective units or parts should be returned to the factory with transportation prepaid. If inspection shows them to be defective, they will be repaired or replaced without charge. Rockwell Labs assumes no liability for damages.