LOCTITE®

EQUIPMENT
Operation Manual

Loctite® Spray Valve Controller

Part Number 1406023

Table of Contents

1 Please Observe The Following

1.1 Emphasized Sections

⚠ **Warning!**
Refers to safety regulations and requires safety measures that protect the operator or other persons from injury or danger to life.

! Caution!
Emphasizes what must be done or avoided so that the unit or other property is not damaged.

☞ **Notice:**
Gives recommendations for better handling of the unit during operation or adjustment as well as for service activities.

1.2 For Your Safety

⚠ For safe and successful operation of the unit, read these instructions completely. If the instructions are not observed, the manufacturer can assume no responsibility.

⚠Do not expose the connecting cable to heat, oil, or sharp edges.

⚠Make sure the Unit stands stable and secure.

⚠Use only original equipment replacement parts.

⚠Always disconnect the power supply before servicing the unit.

⚠ Observe general safety regulations for the handling of chemicals such as Loctite® adhesives and sealants. Observe the manufacturer's instructions as stated in the Material Safety Data Sheet (MSDS).

☞ ***While under warranty, the unit must be repaired by an authorized Loctite® brand service representative.***

1.3 Unpacking and Inspection

Carefully unpack the Loctite® Spray Valve Controller and examine the items contained in the carton. Inspect the unit for any damage that might have occurred in transit. If such damage has occurred, notify the carrier immediately. Claims for damage must be made by the consignee to the carrier and should be reported to the manufacturer.

1.4 Items supplied

- Controller Unit
- Universal Power Cord
- Foot Pedal – Item #98461
- Air Supply Line, 5 micron Filter & Fittings

2 Description

The Loctite® Digital Spray Valve Controller 1406023 is a microprocessor based control unit that provides a 3-segment time sequenced spray cycle for the Loctite® Spray Valve 98520. The unit allows individual programming for each time segment

- Pre-spray atomizing
- Valve on time
- Post spray atomizing

These individually controlled time ranges provide for complete atomization of a wide variety of fluid and ensure “no-drip” positive valve shut-off.

When the spray cycle is activated by depressing the Foot Switch, a pulse of air through Port A is transmitted to the valve’ air cylinder to open the valve and a second pulse of air through Port B is transmitted to the valve’s spray cap to spray the fluid.

The amount of fluid sprayed is controlled by the spray cycle on time, fluid pressure and stroke setting on the Loctite® Spray Valve.

3 Technical Data – Feature Descriptions

3.1 Technical Data

Output Voltage Range	0-24 VDC
Rated Power	15W
Air Input	100 psi (6.9 bar) Max.
Air Output	0-100 Psi (6.9 bar)
Pollution Degree	II
Installation Category	I
Indoor Use	Altitude up to 2,000m (6,562ft)
Operating Temperature	0˚C to 50˚C (32˚F to 122˚F)
Storage Temperature	-10˚C to 60˚C (14˚F to 140˚F)
Max. Relative Humidity	80% for temperature up to 31˚C (87.8˚F) Decreasing linearly to 50% relative humidity at 40˚C (104˚F)
Timer	0.008-60.000 seconds
Cycle Mode	Timed, Interrupt, Purge
Timing Repeat Tolerance	+/- 0.001%
Cycle Rate	900 cycles/min
LCD	20 X 4 display segments

3.2 Features Descriptions

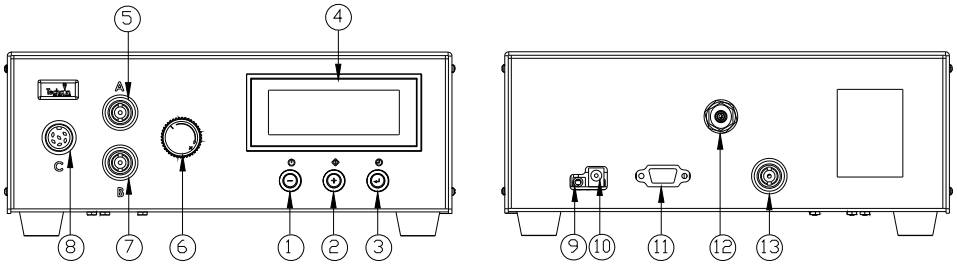


Fig 1

Items	Description	Items	Description
1	Power Button	8	Not Used
2	Mode Button	9	Foot Switch Receptacle
3	Set up/Save Button	10	Power Receptacle
4	Display	11	I/O Connection
5	Air Outlet (Unregulated)	12	Air Inlet
6	Air Pressure Regulator	13	Accessory Air Outlet
7	Air Outlet (Regulated)		

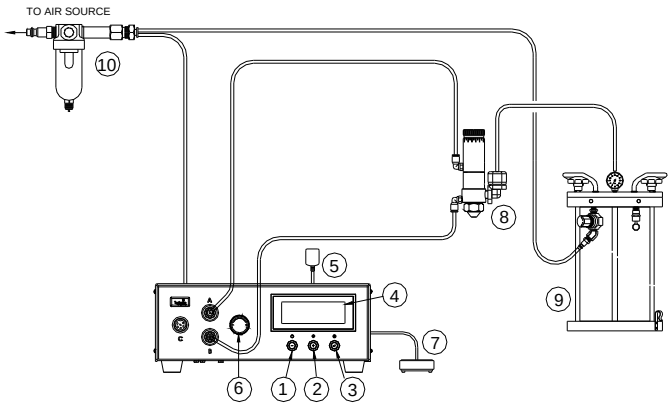
4 Installation

4.1 Space/Support requirements

Size	254mm x 191mm x 102mm (10” X 7.5” X 4.0”)
Weight	2.6 kg (5.8 lbs)

Symbol	Definition
	Power On/Off
	Cycle Mode

4.2 Connecting the Controller to Spray Valve



CAUTION: The 5-micron filter must be installed with the unit to ensure proper air filtration

Fig 2

Items	Description	Items	Description
1	Power Button	6	Air pressure regulator knob
2	Mode Button	7	Foot Switch
3	Set Button	8	Pneumatic Valve (not included)
4	LCD Display	9	Fluid Reservoir (not included)
5	Power Adapter	10	Air Filter

4.2.1 Connect the power cord, foot switch and air hose to the back of the unit. Make sure the air inlet pressure is 70 psi (4.8 bar) or higher.

4.2.2 Press the Power button (1) to turn on the unit.

4.2.3 Connect Valve air hose to Port A and Atomize air hose to Port B.

4.2.4 Press the Mode (2) and Set up button (3) simultaneously until “SPRAY” appears on the top right hand corner of the display.

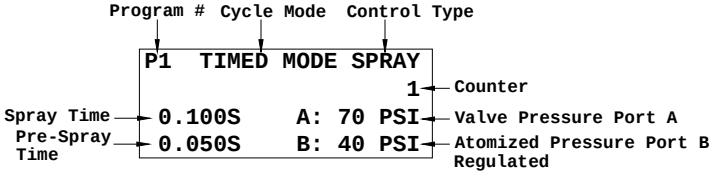


Fig 3

4.3. **Program selection – UP to 10 individual programs can be saved**
(Use P1 for the first time use)

1. Press the Set button (3) to highlight the program number selection.
2. Press the (+) or (-) buttons to select desired program.
3. Press the Set button (3) to exit.

5 Operation

5.1 **Manual/Purge Dispense Cycle Setting**:

Note: A complete spray cycle consists of: Pre-Spray, Spray and Post-Spray

1. Press the Mode button (2) until "PURGE" appears on the Display.
2. Press and hold the Set button (3) for two seconds to enter set up screen. The last digit of the Pre-Spray time (PRE) will be highlighted.
3. Press the (+) or (-) button to set the time.
4. Press and hold the Set button (3) for two seconds to move the cursor to the Post-Spray time (POST).
5. Press the Set button (3) to move the cursor to the next position.
6. Press the (+) or (-) button to set the time.
7. Press and hold the Set button (3) for two seconds to save the data.
8. Turn up the Atomized air pressure by rotating the Air pressure regulator knob (6) until the desired pressure is indicated on the Display.

Note: Pressure in Port A can be monitored by the low pressure setting but is not regulated by the air regulator in the unit. It delivers the same pressure as the inlet pressure. On the other hand, pressure in Port B is regulated but it is not linked to the low pressure setting.

9. Press and hold the Foot Switch to activate spray cycle.

5.2 **Automatic Dispense Cycle Setting**:

1. Push the Mode button (2) to select "TIMED MODE" or "INTERRUPT" mode.
2. Press and hold the Set button (3) for two seconds to enter set up screen. The last digit of the Spray time/Dispense time (DISP) will be highlighted.
3. Press the (+) or (-) button to set the time
4. Press and hold the Set button (3) for two seconds to move the cursor to the Pre-Spray time (PRE) and repeat this step to go to Post-Spray time (POST).
5. Press the Set button (3) to move the cursor to the next position.
6. Press the (+) or (-) button to set the time
7. Press and hold the Set button (3) for two seconds to save the data.
8. If the unit is in "TIMED MODE" mode, press and release the Foot Switch to activate the timed spray cycle.
9. If the unit is in "INTERRUPT" mode, press and hold the Foot Switch until the dispense cycle is completed. The dispense cycle can be disrupted if the Foot Switch is released and resumed when the Foot Switch is depressed again.

5.3 Multiple Shot Programming

Up to ten individual or sequential shots can be stored. Sequential mode is activated in numerical order.

1. Press and hold the Mode button (#2) for 2 seconds to turn on sequential mode
2. Press and release the Set button (#3) to enter the sequential program setup mode
3. Press the (+) or (-) button to set the number of programs to be dispensed
4. Press and release the Set button (#3) to save selected sequential shot program
5. Depress Foot switch to activate sequential dispensed cycle
6. Press the Mode button (#2) for 2 seconds to exit sequential mode

5.4 Cycle Counter Reset:

The cycle counter records the numbers of automatic dispense cycle being activated. Up to 60,000 cycles can be recorded. To reset the counter, follow steps below:

1. Press and hold Set button (3) for two seconds to enter setup screen.
2. Press and hold both Set button (3) and Mode button (2) simultaneously to clear the counter.
3. Press and hold Set button (3) for two seconds to exit setup screen.

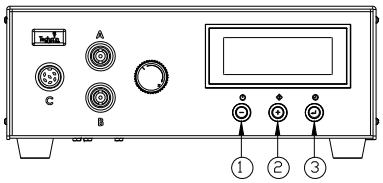


Figure 4.0

5.5 PSI or Bar Setting Cycle Counter Reset: (Refer to Figure 4.0)

The default pressure unit display is “psi”. To change pressure unit display to “bar” follow steps below:

1. Press and hold Set button (3) for two seconds to enter setup screen.
2. Press both (+) and (-) button simultaneously two times. The unit “psi” will be flashing.
3. Press both Set button (3) and (+) button simultaneously to change unit display to “bar”. Repeat this step to change unit display back to “psi”
4. Press and hold Set button (3) for two seconds to exit setup screen.

5.6 Low Pressure Alarm Set Point Change (Refer to Figure 5.0)

1. The low-pressure setting is pre-set at the factory to 70 Psi (4.8 bar). When the supplied pressure drops below 70 Psi (4.8 bar) the unit will not function. To change the low pressure set point, follow steps below:
2. Set the dispense cycle in "TIMED MODE" mode.
3. Press and hold the Set button (3) for two seconds to enter the setup screen.
4. Press (+) and (-) button simultaneously, the low pressure set point will appear on display as shown on figure 6.0.
5. Press the Set button (3) and (+) button simultaneously to increase the set point.
6. Press the Set button (3) and (-) button simultaneously to decrease the set point.
7. Press and hold the Set button (3) for two seconds to save the data.

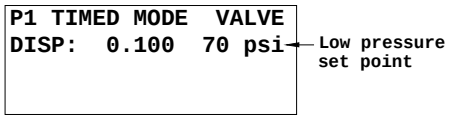


Figure 5.0

6 Troubleshooting

PROBLEM	POSSIBLE CAUSE	CORRECTION
LCD does not light	• No power input	• Check power cord connections • Turn on power
System will not actuate	• Supplied pressure dropped below set pressure	• Increase supplied pressure
	• Foot switch not plugged in or improperly plugged in	• Check foot switch connection
	• Defective foot switch	• Foot switch needs to be repaired or replaced
	• Broken wire or loose connection inside unit	• Call 1-800 -Loctite
	• Defective solenoid	• Call 1-800 -Loctite
	• Defective PC board	• Call 1-800 -Loctite
System will not pressurize	• Insufficient air pressure	• Increase air supply pressure
	• Air hoses not plugged in	• Check connection
	• Regulator defective	• Call 1-800 - Loctite • Call 1-800 -Loctite
Inconsistent dispensing	• Air bubbles in adhesive	• De-air material
	• Dispense time is too low	• Increase dispensing time
	• Dispense needle started to clog	• Replace needle

7 Care and Maintenance

The dispenser is designed and built to be relatively maintenance free. To assure trouble free operation, please follow below steps:

1. Make certain air supply is clean and dry.
2. Avoid connecting the unit to excessive moisture or solvent saturation.
3. Avoid connecting air supply exceeding 100 psi (6.9 bar).
4. Use mild detergent to clean outside surface of the main housing.
5. Use only soft cloth to clean the LCD.

8 Accessories and Spare Parts

- Foot Pedal – 902521
- Power Cord Adapter -902520

9 Appendix

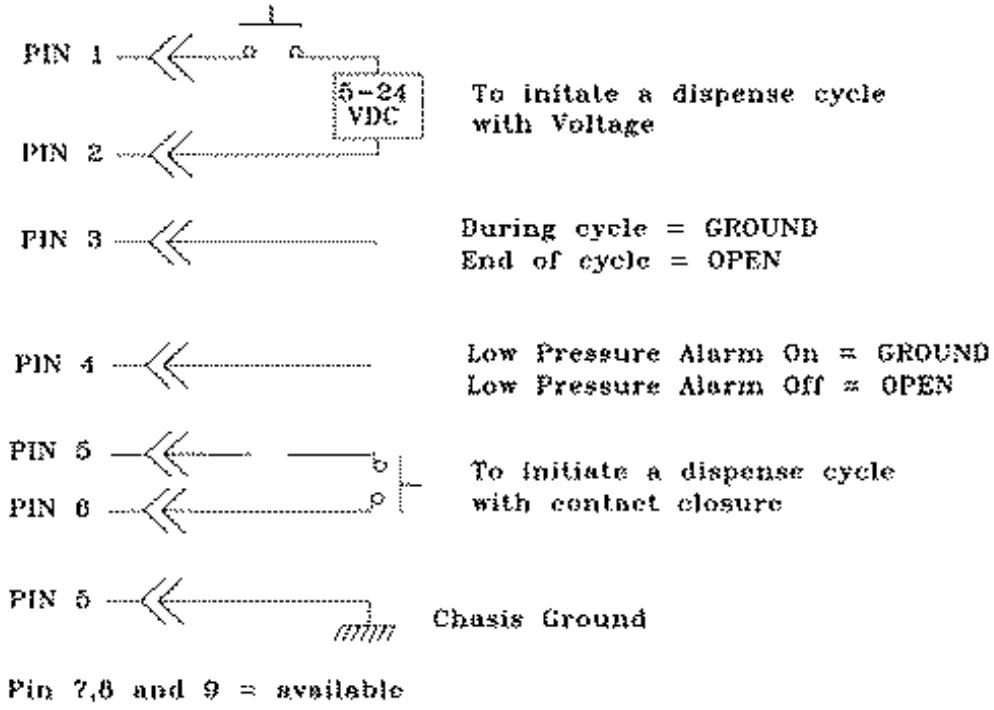
9.1 Electrical Diagram

I/O Configuration and End of Cycle Switch

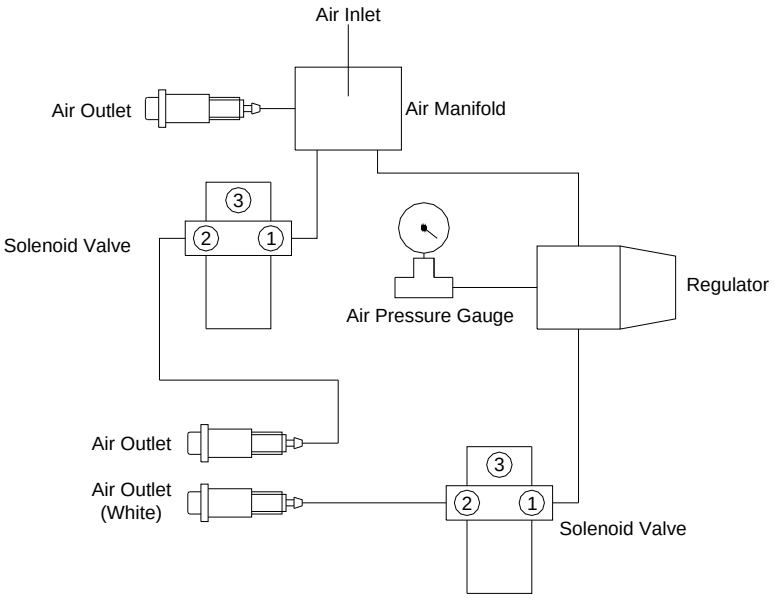
Upon completion of a dispense cycle, an open collector circuit closes and remains closed until the next dispense cycle. This circuit can be used to signal back to a host computer, start another device in sequence, or drive any other operations that need to be tied to the completion of the dispense cycle. Upon closure, (end of dispense cycle), power from an external source is allowed to pass through the circuit to operate a 5 to 24 VDC load. Power consumption must not exceed 250 mA. The load could be a relay, solenoid, counter, LED, or any device that will operate within a 5 to 24 VDC range and a maximum of 250 mA.

Note:

At the end of each cycle, pin 3 will be grounded. Please make sure the external device (your machine that controls the dispenser/controller) has the same ground.



9.2 Pneumatic Diagram



10 Warranty

Henkel expressly warrants that all products referred to in this Instruction Manual for (Loctite® 1406023 Spray Valve Digital Controller) (hereafter called "Products") shall be free from defects in materials and workmanship. Liability for Henkel shall be limited, as its option, to replacing those Products which are shown to be defective in either materials or workmanship or to credit the purchaser the amount of the purchase price thereof (plus freight and insurance charges paid therefor by the user). The purchaser's sole and exclusive remedy for breach of warranty shall be such replacement or credit.

A claim of defect in materials or workmanship in any Products shall be allowed only when it is submitted in writing within one month after discovery of the defect or after the time the defect should reasonably have been discovered and in any event, within (12) months after the delivery of the Products to the purchaser. This warranty does not apply to perishable items, such as, but not limited to: (o-rings, seals, gaskets, washers, filters, tubing, fittings, lights, etc.). No such claim shall be allowed in respect of products which have been neglected or improperly stored, transported, handled, installed, connected, operated, used or maintained. In the event of unauthorized modification of the Products including, where products, parts or attachments for use in connection with the Products are available from Henkel, the use of products, parts or attachments which are not manufactured by Henkel, no claim shall be allowed.

No Products shall be returned to Henkel for any reason without prior written approval from Henkel. Products shall be returned freight prepaid, in accordance with instructions from Henkel.

NO WARRANTY IS EXTENDED TO ANY EQUIPMENT WHICH HAS BEEN ALTERED, MISUSED, NEGLECTED, OR DAMAGED BY ACCIDENT, OR IF THE SYSTEM WAS USED TO DISPENSE ANY LIQUID MATERIAL OTHER THAN LOCTITE® PRODUCTS.

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