

SVC100

SPRAY VALVE CONTROLLER

OPERATING MANUAL



Spray valve and stand must be ordered separately



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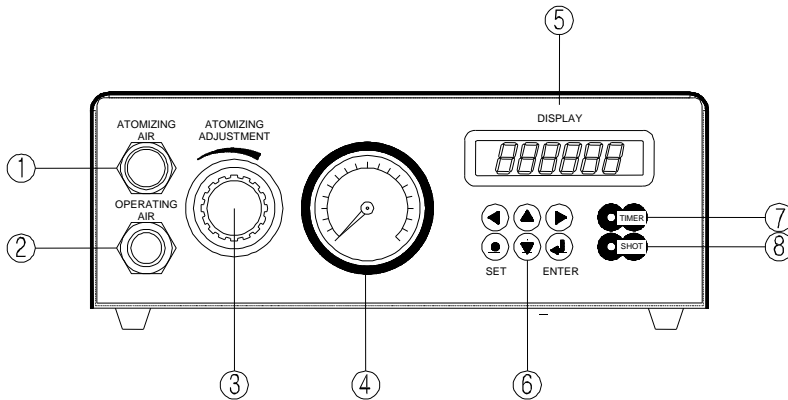
GENERAL DESCRIPTION

The SVC100 programmable spray valve controller is designed to provide precise control for spray valves. The SVC100 digital controller supplies both the operating air and the atomizing air to the spray valve.

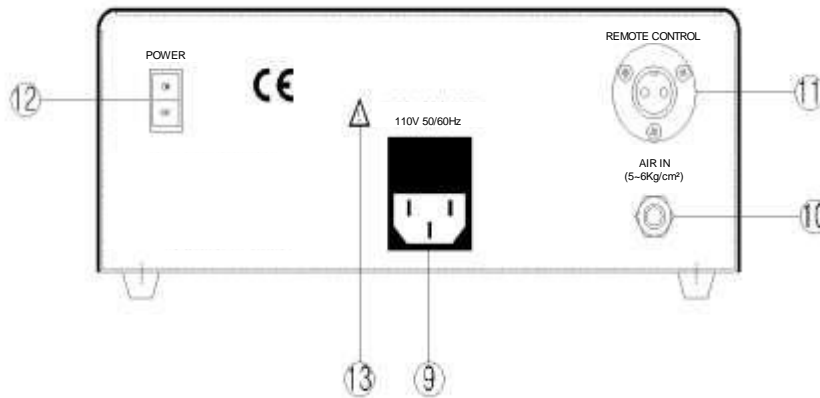
Transfer efficiency is maintained by a built-in operating air pressure regulator. The adjustable atomizing air creates pressure into the spray valve's air cap atomizing the material. Three separate time intervals can be set: pre-spray time, spray time and post-spray time. These features ensure that a consistent and repeatable area is covered and maintained throughout the coating operation.

TECHNICAL DATA

External Dimensions	9.05" x 7.32" x 3.54" (230mm x 186mm x 90mm)
Weight	6lbs (2.73kg)
Power Input	SVC100-110: 110V AC 50/60Hz SVC100-220: 220V AC 50/60Hz
Internal Voltage	24V DC
Dispensing Time	0.001 ~ 99.99 seconds
Air Input	70 ~ 85 psi (5 ~ 6 bar)
Air Output	Operating air: 70 psi (5 bar) Atomizing air: 1 ~ 50 psi (0.1 ~ 3.5 bar)
Dispensing Selection	LCD digital display

PARTS & DESCRIPTION

[FRONT]

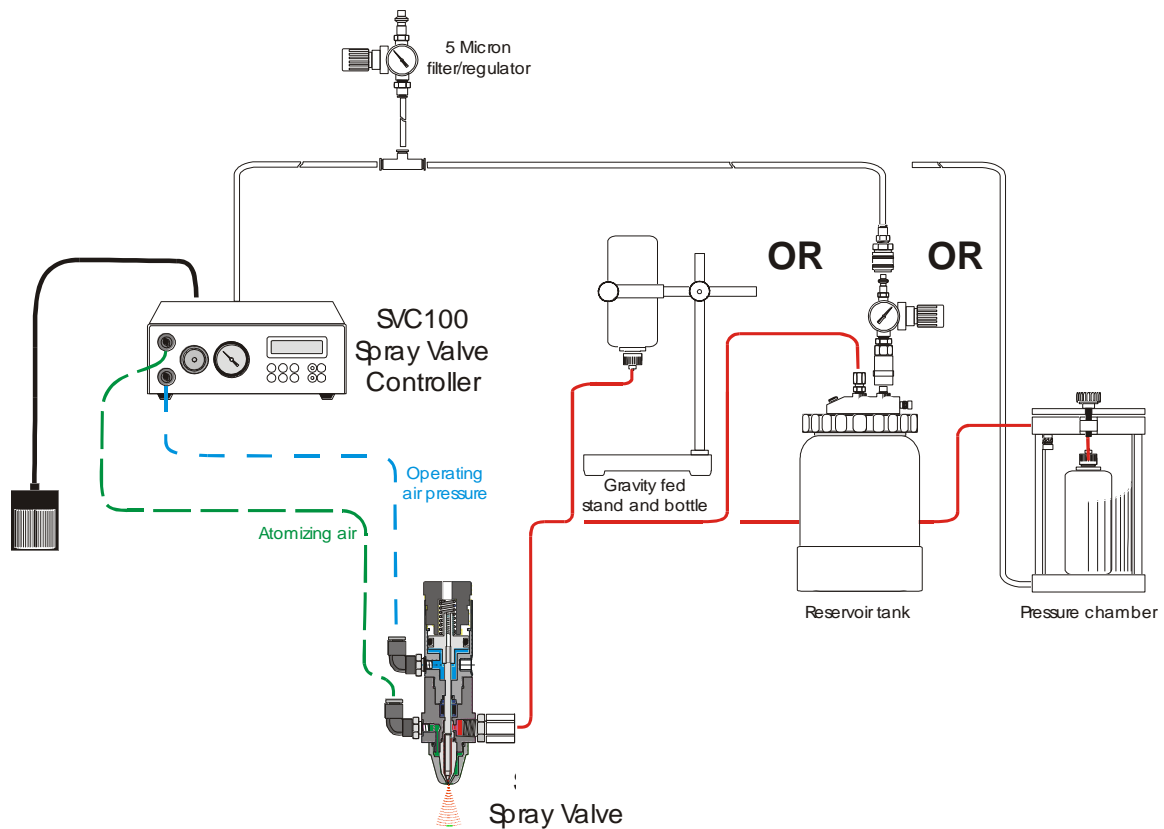


[REAR]

- 1 Atomizing air port
- 2 Operating air port
- 3 Atomizing air regulator
- 4 Pressure gauge
- 5 Digital display
- 6 Data editing buttons
- 7 Timer button
- 8 Shot button (input dispensing signal)
- 9 Power connector and fuse box
- 10 Air inlet (main air port)
- 11 Remote control connector (input dispensing signal)
- 12 Power switch
- 13 Warning mark

SETUP

- Check whether the voltage is AC 110V or 220V, 50/60 Hz before connecting the power cord.
- Connect the power cord to the power connector (No. 9) on the back of the unit.
- Connect the main air-hose from compressor to the air inlet port (No. 10) on the rear of the SVC100 unit.
- Connect the foot switch (optional – P/N 562032) to the remote control connector (No. 11) on the rear of the SVC100.
- Connect the operating air line from the spray valve controller to the operating air inlet of the valve. The operating air pressure is set to 70 psi (5 bar).
- Connect the atomizing air line from the spray valve controller to the atomizing air inlet of the valve. Set the atomizing air pressure according to the viscosity of the material being sprayed.
- Turn on the power switch.



OPERATION

- **Pressure Control**

Pull the air regulator knob to unlock, and turn it left or right to adjust the pressure.

- **Shot Mode**

Select Auto or Manual mode using the Timer button

- Auto mode: Timer LED ON
- Manual mode: Timer LED OFF

- **Key function**

- SET: edit the data or program, and check the input/output
- UP KEY: move the menu in the edit data (digit increases when inputting data)
- DOWN KEY: move the menu in the edit data (digit decreases when inputting data)
- LEFT KEY: move the digit position to the left when entering data.
- RIGHT KEY: move the digit position to the right when entering data
- ENTER KEY: save data

- **Check mode (Self-check function)**

You can check the status of the controller

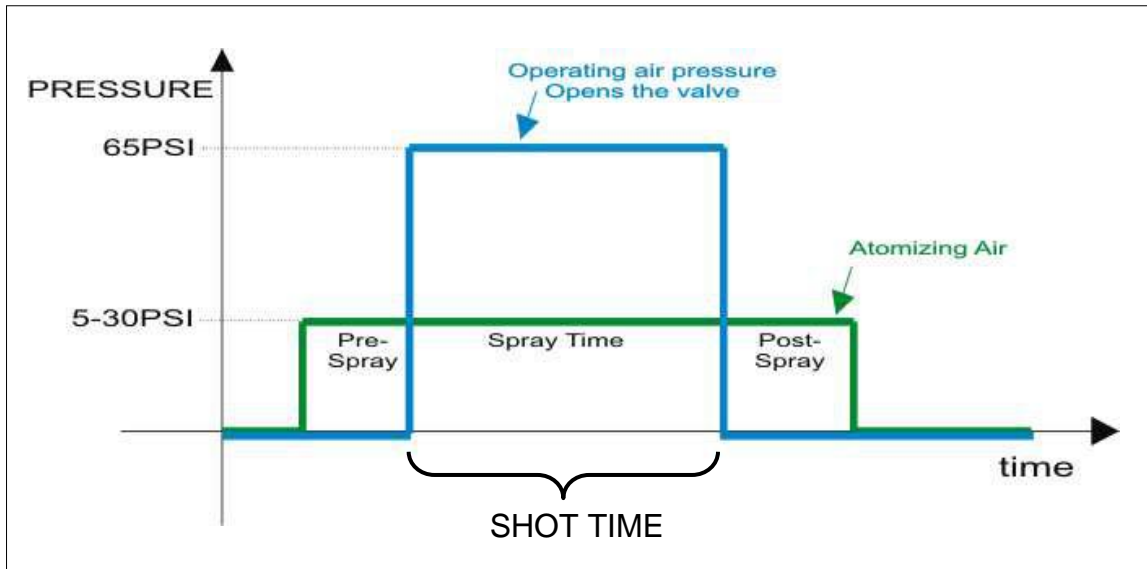
(SET KEY → select CHK → push ENTER KEY)

- RY: check the output of relay on SHOT end
- TR: check the output of open collector on SHOT end
- BL: check the BLOWER OUT (SOL 2)
- SL: check the SHOT switch from outside
- LT: check the TIMER LED
- LS: check the SHOT LED
- KY: check the panel KEY
- PRG: remove program saved
- DAT: remove data saved

- **DATA mode (Parameter setting)**

- A. Dispensing Time** 00-SHOTTIME

The SHOTTIME setting controls the length of time the fluid valve is open (see figure below).



Key	Perform the following steps to set the value for SHOTTIME
●	Press the SET key to open the main menu
↵	Press the ENTER key to select "data"
▲ or ▼	Scroll through the menu with the UP and DOWN arrows until the display reads 00-SHOTTIME
↵	and then press the ENTER key
◀ or ▶	Use the LEFT and RIGHT arrows to select a digit
▲ or ▼	Use the UP and DOWN arrows to change the value
↵	Press ENTER to save the number
(2) ●	To return to the main display, press the SET key twice

B. Time Units 01-TIMEUNIT

The unit of time applied to the controller is set by the parameter TIMEUNIT, by entering one of codes from the table below. This is the unit that all periods of time will be displayed in.

TIME UNITS	
<i>Number</i>	<i>Unit of Time</i>
0	0.1 second
1	0.01 second
2	0.001 second

<i>Key</i>	<i>Perform the following steps to set the value for TIMEUNIT</i>
●	Press the SET key to open the main menu
↵	Press the ENTER key to select "data"
▲ or ▼	Scroll through the menu with the UP and DOWN arrows until the display reads 01-TIMEUNIT
↵	and then press the ENTER key
▲ or ▼	Use the UP and DOWN arrows to change the value
↵	Press ENTER to save the number
(2) ●	To return to the main display, press the SET key twice

C. Automatic Time Compensation

02-INTVTIME
03-INTVCONT

The SVC100 unit has an automatic time-compensation feature available. The shot time (i.e. spray time) can be increased by a length of time INTVTIME every INTVCONT dispensing cycles.

02-INTVTIME: This is the length of time the shot time is increased by

03-INTVCONT: This setting controls the frequency at which the shot time is increased

EXAMPLE: If the shot time were to be increased by 0.4 seconds after every 3 dispensing cycles, the time-compensation parameters would be set to the following values:

INTVTIME = 0.4 seconds

INTVCONT = 3

Key	Perform the following steps to set the value for INTVTIME and INTVCONT
●	Press the SET key to open the main menu
↵	Press the ENTER key to select "data"
▲ or ▼	Scroll through the menu with the UP and DOWN arrows until the display reads 02-INTVTIME or 03-INTVCONT
↵	and then press the ENTER key
◀ or ▶	Use the LEFT and RIGHT arrows to select a digit
▲ or ▼	Use the UP and DOWN arrows to change the value
↵	Press ENTER to save the number
(2) ●	To return to the main display, press the SET key twice

D. Selecting the Mode of Operation 04-RUNPROG

The SVC100 spray valve controller has two modes of operation:

RUNPROG = 0: Manually activated by a foot pedal or shot button

RUNPROG = 1: Operate automatically by a program

E.

<i>Key</i>	<i>Perform the following steps to set the value for RUNPROG</i>
●	Press the SET key to open the main menu
↵	Press the ENTER key to select "data"
▲ or ▼	Scroll through the menu with the UP and DOWN arrows until the display reads 04-RUNPROG
↵	and then press the ENTER key
▲ or ▼	Use the UP and DOWN arrows to select either 0 or 1 (manual=0, program=1)
↵	Press ENTER to save the number
(2) ●	To return to the main display, press the SET key twice

Selecting the Program Number 05-RUNFILE

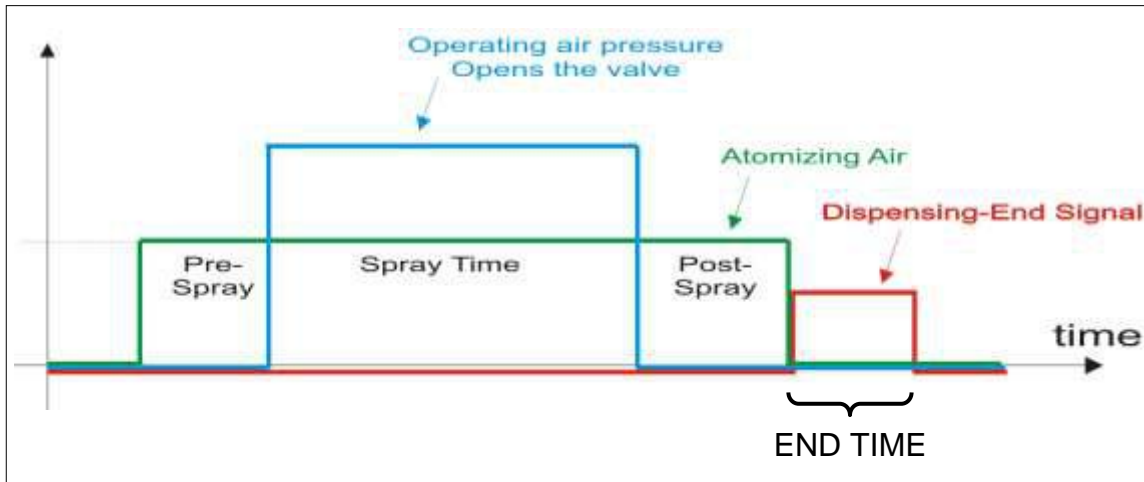
The SVC100 can have up to 10 different programs stored in memory (program number 0 – 9). The program number is selected by the RUNFILE value.

<i>Key</i>	<i>Perform the following steps to set the value for RUNFILE</i>
●	Press the SET key to open the main menu
↵	Press the ENTER key to select "data"
▲ or ▼	Scroll through the menu with the UP and DOWN arrows until the display reads 05-RUNFILE
↵	and then press the ENTER key
▲ or ▼	Use the UP and DOWN arrows to select a number from 0 to 9
↵	Press ENTER to save the number
(2) ●	To return to the main display, press the SET key twice

F. Dispensing-End Signal 06-ENDTIME
 07-RELAYOFF

The SVC100 unit has a feature available that allows a signal to be sent to the remote-control port after the atomizing air gets shut off. This signal indicates that the dispensing cycle has been completed.

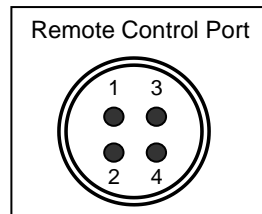
ENDTIME refers to the length of time the “dispensing-end” signal lasts (see figure below).



<i>Key</i>	<i>Perform the following steps to set the value for ENDTIME</i>
●	Press the SET key to open the main menu
↵	Press the ENTER key to select "data"
▲ or ▼	Scroll through the menu with the UP and DOWN arrows until the display reads 06-ENDTIME
↵	and then press the ENTER key
◀ or ▶	Use the LEFT and RIGHT arrows to select a digit
▲ or ▼	Use the UP and DOWN arrows to change the value
↵	Press ENTER to save the number
(2) ●	To return to the main display, press the SET key twice

RELAYOFF controls whether a relay or open-collector output is used to close the circuit between pin 3 and pin 4 for the “dispensing-end” signal.

RELAYOFF Value	Output Type
0	Relay
1	Solid State ("Open-Collector")



<i>Key</i>	<i>Perform the following steps to set the value for RELAYOFF</i>
●	Press the SET key to open the main menu
↵	Press the ENTER key to select "data"
▲ or ▼	Scroll through the menu with the UP and DOWN arrows until the display reads 07-RELAYOFF
↵	and then press the ENTER key
▲ or ▼	Use the UP and DOWN arrows to select either 0 or 1 (relay=0, open collector=1)
↵	Press ENTER to save the number
(2) ●	To return to the main display, press the SET key twice

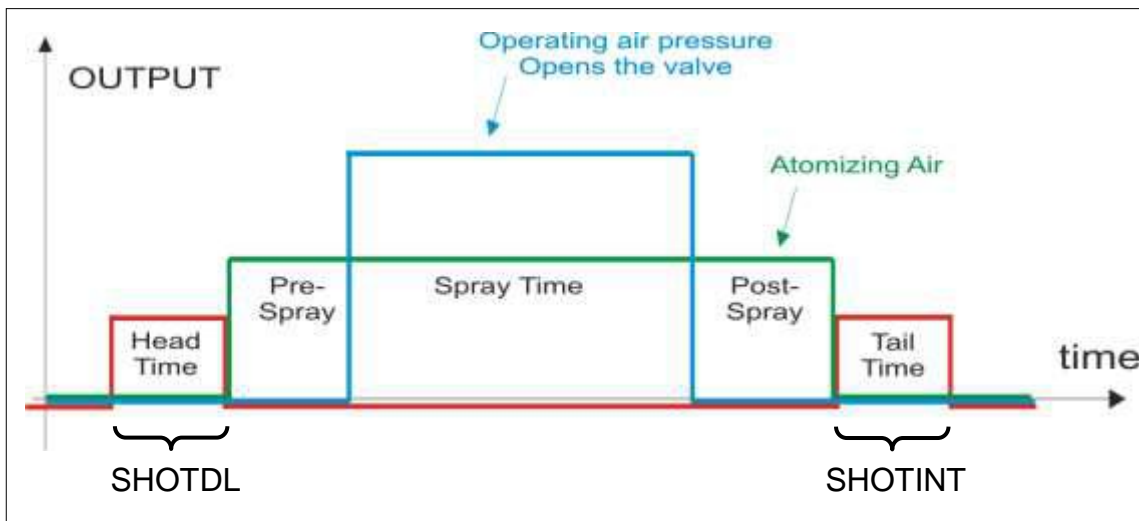
G. Head Time and Tail Time

08-SHOTINTV
09-SHOTDLY

The SHOTDLY and SHOTINTV settings allow a head time and tail time to be added to the dispensing cycle.

09-SHOTDLY: This is the amount of time to delay the start of the dispense cycle after the start signal has been sent.

08-SHOTINTV: This is the standby time after the dispense cycle has finished. During the standby time, the start signal cannot initiate another dispense cycle.



Key	Perform the following steps to set the value for SHOTDLY and SHOTINTV
●	Press the SET key to open the main menu
↵	Press the ENTER key to select "data"
▲ or ▼	Scroll through the menu with the UP and DOWN arrows until the display reads 09-SHOTDLY or 08-SHOTINTV
↵	and then press the ENTER key
◀ or ▶	Use the LEFT and RIGHT arrows to select a digit
▲ or ▼	Use the UP and DOWN arrows to change the value
↵	Press ENTER to save the number
(2) ●	To return to the main display, press the SET key twice

H. Start Signal Recognition 10-SHOTTYPE

The SVC100 unit can accept both edge and level sensed start signals:

- 0 – edge-triggered
- 1 – level-triggered

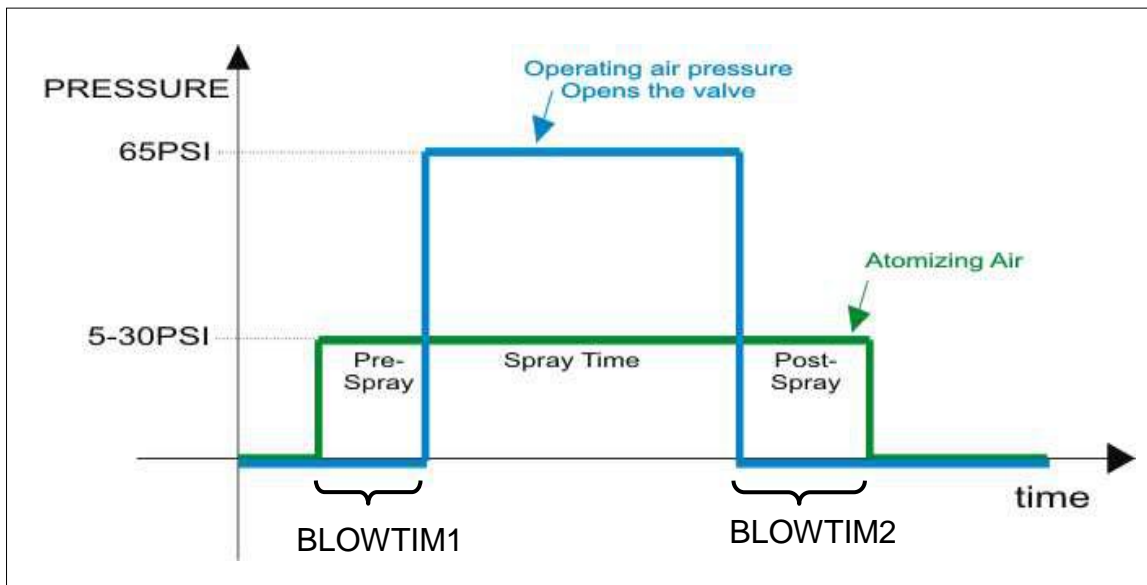
<i>Key</i>	<i>Perform the following steps to set the value for SHOTTYPE</i>
●	Press the SET key to open the main menu
↵	Press the ENTER key to select "data"
▲ or ▼	Scroll through the menu with the UP and DOWN arrows until the display reads 10-SHOTTYPE
↵	and then press the ENTER key
▲ or ▼	Use the UP and DOWN arrows to select either 0 or 1 (edge=0, level=1)
↵	Press ENTER to save the number
(2) ●	To return to the main display, press the SET key twice

I. Pre-Spray and Post-Spray Time

11-BLOWTIM1
12-BLOWTIM2

11-BLOWTIM1: This is the pre-spray time, in which the atomizing air has been turned on but the operating air remains off for a period of time set by BLOWTIM1.

12-BLOWTIM2: This is the post-spray time, in which the operating air has been turned off but the atomizing air remains on for a period of time set by BLOWTIM2.



Key	Perform the following steps to set the value for BLOWTIM1 and BLOWTIM2
●	Press the SET key to open the main menu
↵	Press the ENTER key to select "data"
▲ or ▼	Scroll through the menu with the UP and DOWN arrows until the display reads 11-BLOWTIM1 or 12-BLOWTIM2
↵	and then press the ENTER key
◀ or ▶	Use the LEFT and RIGHT arrows to select a digit
▲ or ▼	Use the UP and DOWN arrows to change the value
↵	Press ENTER to save the number
(2) ●	To return to the main display, press the SET key twice

OPERATING GUIDE

- **NORMAL MODE** : Use this mode when you only dispense the liquids without BLOW operation.

Operation:

- a. Turn off the Timer button (light on the LED is off)
- b. Dispense the material using the Shot button or foot switch (optional).

- **TIMER MODE** : Use this mode when you want to spray constant volume under consistent pressure.

Operation: – 1st Blow (pre-spray) – Spray (actual spray) – 2nd Blow (post spray)

- a. Turn on the Timer button (light on the LED is on)
- b. Set the dispensing time in Data mode
- c. Dispense the material using the Shot button or foot switch (optional).

- **AUTO RUN MODE** : Use this mode when you want to dispense different volume for each application.

Operation:

- a. Select the Data mode by pressing SET button
- b. Move to menu 04, and then set the RUNPROG to 1.
- c. Move to menu 05, and then choose RUNFILE and create the program.
- d. The program is performed when START signal is sent.

TROUBLESHOOTING

Problem	Cause	Solution
Power doesn't work	- Plug is disconnected. - Fuse blew	- Connect the Plug - Replace the fuse with new one AC 220V-250V 1A AC 110V-125V 1A
Valve is not opened	- Poor supply of air - Poor connection of operating air line	- Make sure the main air-hose from compressor is properly connected to the air inlet port on the back of the unit - Make sure the operating air line is properly connected
Valve is open, but material is not atomized	- Poor Blow Solenoid valve - Poor connection of atomizing air line - Atomizing air pressure is too low	- Replace Blow Solenoid valve - Make sure the atomizing air line is properly connected - Turn the atomizing air regulator clockwise to increase pressure

CAUTIONS AND REMINDERS

- a. Use the correct Voltage (AC 110V or 220V).
- b. Do not remove the body cover. It may cause 'electric shock'.
- c. Avoid using Shot button frequently. It is recommended to use the foot switch (optional).
- d. Don't allow water or material to run into the controller.

IN/OUT SIGNAL

IN/OUT signal is set by 'Open Collector'. (Out signal time – 20ms)

INPUT Signal

- a. Open collector or relay contact-point
- b. DC 24V

OUTPUT Signal

- a. Open collector
- b. DC 24V
- c. Relay contact-point
- d. Out signal – 20ms. 10ms.