Slide Freedom Automatic Spray Unit

- Just plug and spray
- Easy to use, no hard wiring required
- Save money and save time
- Operate more productively
- Works with Slide aerosol cylinders (purchased separately)
- Works with Slide bulk/liquid products & the optional pressure pot (item #43200JP)

The new Freedom automatic spray unit is easy to program and works autonomously from all your equipment. You just plug it in and spray.

A proximity sensor placed near the mold cavity detects when the mold opens and signals the unit to deliver release. Nozzles can be attached with brackets (included) or optional magnetic mounting blocks (item #43200M). You are free to position them anywhere to spray release to any point, such as trouble spots in the cavity, the entire face of the mold, both mold cavities, or even to create a ""cloud"" of release between the cavities.

The extremely compact control unit has protective rubber feet so it can sit on any flat surface, or it mount directly to the machine. And it can be plugged directly into any 110V, 15 amp circuit.

The Freedom unit comes complete with: easy-to-program control unit, two 10-ft spray hoses and with a spray nozzle affixed to each hose, 6-ft cord and proximity sensor, 10-ft hose to connect to the aerosol cylinder or pressure pot, and 10-ft power cord. The aerosol spray cylinder, liquid/bulk formula, or pressure pot are additional purchases.

****When utilizing the Freedom Spray Unit, it will also be necessary to purchase the Slide product of your choosing in the giant aerosol cylinder or bulk/liquid format. The Freedom Spray Unit is engineered to be chemically compatible with Slide's formulations. If you choose to use this spray system with a non-Slide product, we cannot guarantee that your product will work with and be compatible with the Freedom Spray Unit.**

System Set-Up Procedure

Mounting of Spray Unit:
The spray unit should be mounted or placed near the machine, in close enough proximity that will allow the spray hoses and sensor cable to be mounted on the machine easily. The spray nozzles are to be customer mounted using the existing threaded taps or using the optional magnetic bases (item #43200M).

Mounting of the Proximity Sensor:
The proximity sensor may be mounted at the customer's discretion. A recommended mounting configuration would entail placing the sensor on the machine such that when the mold platen was in the fully open position, the platen is within ¼ inch of the face of the sensor.

Set-Up Sequence:

1) Position control box on the machine in close proximity to the area where the spray nozzles are to be placed.
2) Position or mount the spray nozzles on the machine or mold using the existing threaded taps or with optional magnetic bases.
3) Position or mount the proximity sensor to detect mold open position (or to sense periodic movement in a non-molding application).
4) Connect supply hose to giant aerosol cylinder. Alternatively, fill the pressure pot and connect with the supply hose. If using pressure pot, connect the pot to the compressed air source. Do not exceed 50 psi of air pressure.
5) Open the cylinder valve (if using a cylinder).
6) Plug unit into power receptacle.
7) Turn PLC unit on and input desired timer and counter values by following the operation and programming steps below.

Operation and Programming Steps

The Freedom Spray Unit will allow the operator to do any of the following:

1) Manual spraying is done by hitting ESC from the Password, Stop/Run, or Parameter screens. Left Arrow will manually activate spray head #1. The Top Arrow will manually activate spray head #2, and the Right Arrow will manually activate spray

head # 3 (if spray unit is configured with the optional 3rd spray head). The Bottom Arrow will trigger all spray heads to activate and spray.

2) Initiate programmed mode for timed "hands off" spray cycles.
3) Change spray unit parameters to alter the amount of spray to be released, to change the number of cycles between sprays, and to set a delay that allow for parts to be removed from the mold cavity before the product is sprayed.

The Freedom Spray unit is tested before it leaves the Slide Products with 3 presets established already for you to work from. Each spray head is programmed individually:

Spray Head #1

T1 = (Spray Delay Timer) is preset at 0.0300 seconds to allow parts to be ejected from the mold before the spray is released.

T2 = (Spray on Timer) is preset at 0.0030 seconds. This is the length of time that the solenoid is open, and spray will be released.

C1 = (Number of Cycles) is preset to every 3 cycles in between sprays as monitored by the proximity sensor.

Spray Head #2

T3 = (Spray Delay Timer) is preset at 0.0300 seconds to allow parts to be ejected from the mold before the spray is released.

T4 = (Spray on Timer) is preset at 0.0030 seconds. This is the length of time that the solenoid is open, and spray will be released.

C2 = (Number of Cycles) is preset to every 3 cycles in between sprays as monitored by the proximity sensor.

T5, T6, and C3 values are to be programmed only on special-order 3 spray head units

Modification of Timer or Counter Values

1) If not already done, turn on the unit.
2) Press the button labeled "OK", screen display should show the following:
   a. PASSWORD
   b. STOP/RUN (If run is selected with a check mark, use the up and down arrows to scroll to the STOP/RUN option and press the OK button to put into Stop mode until the parameters are set)
   c. PARAMETER

3) Use the up and down arrow on the gray round button on the front panel to scroll until Parameter if flashing. Then press the OK button.
4) The left side of the display will show T1-T6 and C1-C3 (will need to use the up and down arrows to scroll through this list).
5) Scroll to the setting you wish to adjust (T1 – T6 for example) and press the OK button twice to enter that set up.
6) Use the left and right-side arrow options on the gray round button to scroll between value positions. Then use the up and down arrow options to select the numerical value that is desired for that setting. Press OK twice after the desired setting is input.
7) Press the ESC button once to return to the Parameter screen.
8) Repeat this process for each setting needing an adjustment.
9) Once all settings are finalized, press the ESC button again to return to the Main Screen.
10) Use the Up and Down arrows to select STOP/RUN, hit OK button once to move the check mark to the Run position and the unit is now ready to operate.
11) We suggest hitting the ESC button one final time to close out the setting change option.

The Red Indicator Light on the top of the spray unit serves one function. When the pressure in the supply cylinder becomes low, the red light will illuminate steadily. This indicates that the cylinder is nearing empty and needs to be replaced. Depending on the spray on time that is set, there will be approx. 15-20 sprays remaining when light turns to a steady red. The light will also blink when the spray heads are releasing spray. The light will turn on solid when the pressure pot is empty (if using the pressure pot option).

Proper Automatic Sequence of Operation

1. The proximity sensor detects machine cycles as they occur (mold open).
2. The control box PLC tracks the number of cycles (C1, C2 or C3) between applications of material through the spray nozzles.
3. When the number of cycles selected is reached (and sensor detects the mold open), the delay timer (T1, T3 or T5) begins timing before the spray nozzles actuate and release the spray.
4. Upon reaching the delay set by T1, T3 or T5, the spray head valves will open and release the spray for the duration of time called for by T2, T4 or T6.

Spray Head Selection

The Freedom Spray Unit comes with 1 solenoid and spray nozzle head affixed to the end of each 10-foot hose. There is a total of two spray heads supplied with the standard Freedom Spray Unit.

The spray nozzle size that has been included with the unit is:

1/8 MEG - 15035

The spray nozzle characteristics are explained as follows:

1/8 is the inlet connection size
MEG is the spray nozzle type (high impact)
15 is the degree angle of the flat spray pattern
035 is the capacity which at 50 psi is approximately 5.6 liters of flow per minute

If your process requires different or alternative spray tip angles or flow rates, please visit www.spray.com to buy them directly from this supplier.

Solenoid Function

For maintenance or repair suggestions for the solenoid units, please visit the manufacturers website for their recommendation:

https://ph.parker.com/us/en/parker-2-way-normally-closed-1-8-npt-general-purpose-solenoid-valves/7121kbn1nf00n0d100p3

The full part # for the Parker Solenoid valve we use is:

Parker 2-Way Normally Closed, 1/8" NPT General Purpose Solenoid Valves | #7121KBN1NF00N0D100P3

If you prefer to find a local Parker office to work with, you can find their local locations by visiting the Parker site:

https://www.parker.com/portal/site/PARKER/menuitem.98bf0856fd643a238c23b35b8320d1ca/?vgnextoid=894fb34395d2b210VgnVCM10000032a71dacRCRD&vgnextchannel=894fb34395d2b210VgnVCM10000032a71dacRCRD&vgnextfmt=EN&from=parkerstore&citype=ParkerStore

If you would like to investigate alternative spray nozzles/tips for the Freedom unit, you can visit the website for Spraying System Company, and they have many different tip options available:

https://www.spray.com/

Optional Magnetic Mounting Bases

Magnetic mounting bases (item #43200M) are not included with the standard Freedom Spray Unit but are available for purchase. If interested, please inquire for current pricing and styles available.