

# DART-SVP Operation Requirements and Recommendations

**Power Requirements:** 100-240VAC, 2.3A, 50/60 Hz

**Size:** 12" x 9" x 4.5" (extra 0.5" with rubber feet)

Controller will in run horizontal or vertical orientations.

Largest Footprint = 12" x 9"

Smallest Footprint = 12" x 5"

Tabletop mounted bracket comes standard with SVP controller so user can hang controller from table, directly below source. Otherwise controller can be placed directly on table at user's discretion.

Bracket mounts to table either via hardware, or adhesive Velcro strips.

**Computer:** Optional. Any computer with an Ethernet port and a web browser. You must use a cross-over Ethernet cable; one is provided with the DART.

## **Gas:**

Helium: of at least 4.7 grade (99.997% pure.)

Nitrogen: of at least 4.8 grade (99.998% pure.)

Recommended size of tank is 300

## **Regulator:**

Our recommendation is a **single stage** regulator for each gas tank with the following specs:

Stainless steel diaphragm

Helium leak integrity of  $1 \times 10^{-9}$

Ultrasonically cleaned

1/4" NPT male or female outlet

DART-SVP inlet pressure is **80 PSI**. This is the optimum inlet pressure; different pressures may cause less than optimal performance.

NOTE: A dual stage regulator will work fine, two stages isn't required.

Part no: SGD3101-100-580 from Specialty Gas Equipment Inc. ([www.sgd.com](http://www.sgd.com))

**Filter:**

We recommend the use of a **particulate filter** on both N2 and He gas lines entering the DART Controller if you are connected to **house gas lines**. If you have dedicated gas tanks, a filter is not necessary. This helps to ensure no foreign objects contaminate or block gas flow through the DART. The filter should be placed after the regulator and before the DART Controller.

NOTE: The use of filter will require you to increase the PSI setting on your regulator to make up for the loss in pressure due to the filter. Since each filter may be different we recommend you hook up a flow meter (see below) and be sure your output gas flow is ~2.5 L/min.

Part no: SGD7510-10-P4MM from Specialty Gas Equipment Inc. ([www.sgd.com](http://www.sgd.com))

**Flow Meter:**

If customers wish to measure the flow rate of DART gas with an external meter, IonSense recommends the following:

Dwyer Instruments Gas Flow Meter ([www.dwyer-inst.com](http://www.dwyer-inst.com))

Part No: RMA-22

2-25 LPM Air

Omega Digital Mass Flow Meter ([www.omega.com](http://www.omega.com))

Part No: FMA1824

0-20 SLPM N2 w/ Digital Display

For Helium flow rate multiply flow value by He Gas K Factor equal to 1.454.

(you must purchase the AC Power adaptor separately: FMA178PW)