

SRS800 Blower

The SRS line of blowers were designed over 15 years ago when the need was recognized for a high performance brake cooling blower to replace the small boat bilge blowers that were currently being used. The SRS was the first blower to arrive on the market specifically for racing with the performance needed for the job.

The SRS800 is the latest version and replaces all previous versions including the SRS400 and SRS500. The prior versions are no longer available. Like previous versions, the SRS800 is an evolution with better performance, is significantly smaller, lighter and draws less current than any previous model.

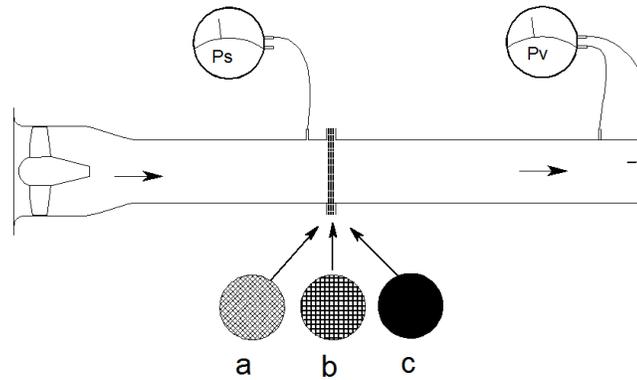
How is that accomplished? One need look no further than the blower's designer and manufacturer, Yoshi Suzuka, an acclaimed aerodynamicists specializing in aero design of prototype racing sports cars, GT cars and wind tunnel design and construction. The SRS blowers have been an on-going development product that has been updated 3 previous times. It is the only blower on the market with specific design and construction details to meet the demands of professional racing. This has been proven time after time in FIA Rally, Professional Sports Car in the US and Europe, NASCAR and other Oval Track and many non-racing applications including the Georgia Highway Department. It is rumored that a design colleague of Mr. Suzuka's even used one to propel his grandson underwater in their swimming pool, mimicking Lloyd Bridges in the TV series Sea Hunt from the '60's. The applications are many. Over 6000 blowers have been sold.

The SRS800 comes with a fully developed inlet funnel. The blower can also be used without the inlet funnel. If properly installed the inlet funnel flange can be used as a load bearing mounting flange. The flange is marked in the manufacturing process for precise hole locations for mounting.

It is our desire that the following pages answer any questions you may have about the blower including performance information, dimensions, weights, instructions and other information that will help get the most performance out of the blower. Please read over this information and follow directions carefully for the best results.

Thank you for purchasing the first and the best racing brake blower!

SRS800 Performance Tests



Blower performance can be measured as illustrated above.

Ps is the static pressure and Pv is the dynamic pressure minus static pressure which is the air speed at 14 volt DC.

Some types of blowers (pumps) create high static pressure (Ps) but low volume (Pv) – creating high pressure but low CFM.

Other blowers create low pressure but high volume such as a floor fan or a radiator fan.

Tests below were performed on SRS800 blower while blocking the exit with 3 kinds of restrictors.

Results of the SRS800 are shown as the dark blue line on the graph.

The (a) screen is a mosquito screen and the (b) is a more open metal mesh.

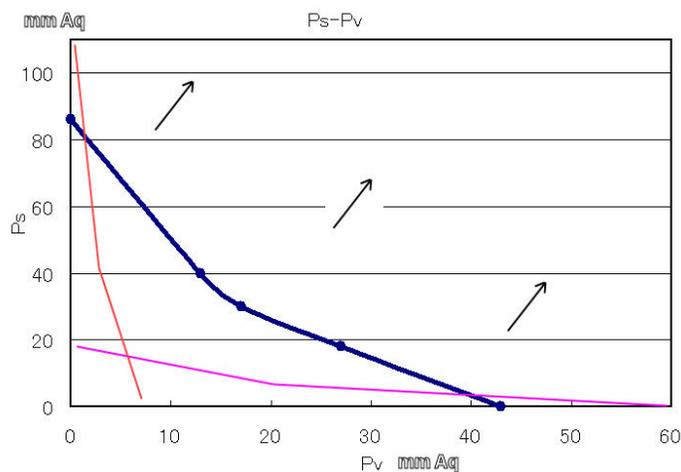
The Red line represents a hypothetical blower with higher maximum pressure but lower CFM output.

The Pink line represents a hypothetical blower with lower pressure but higher CFM output.

The more a blower's output graph line is right of and above (toward arrow direction) at a given power then the more efficient the blower.

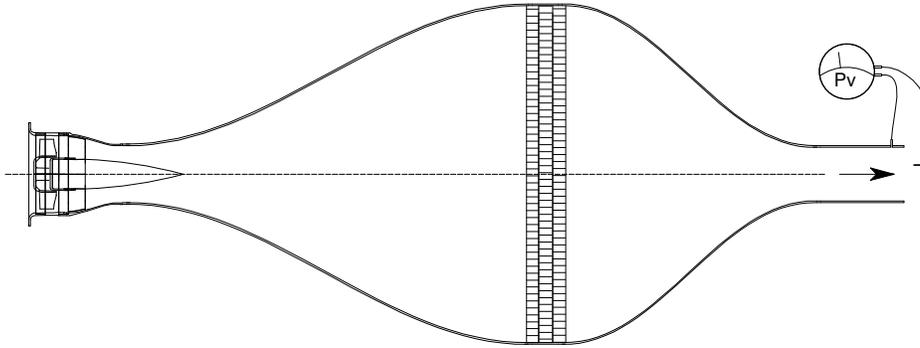
Brake blowers require high volume output while also needing some pressure to resist abrupt changes in ducting such as overcoming hose resistance and to effectively travel thru the cast iron passage of the rotors.

Test No.	Screen	Ps mmAq	PsPascal	Pv mmAq	Pv Pascal	V m/sec	FPS	CFM
1	Open	0	0	43	422	26.2	86.1	253
2	a x1	18	177	27	265	20.8	68.2	201
3	a x2	30	294	17	167	16.5	54.1	159
4	b+2a	40	392	13	128	14.4	47.3	139
5	c closed	86	844	0	0	0.0	0.0	0



Inlet Funnel Shape and Performance

The Blower Inlet Funnel has a big influence on the Blower's Performance.

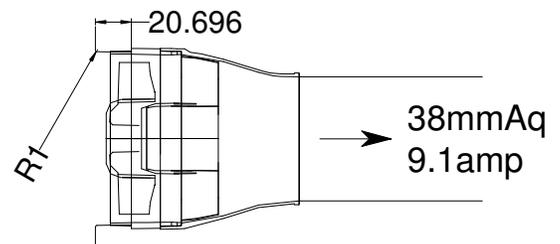
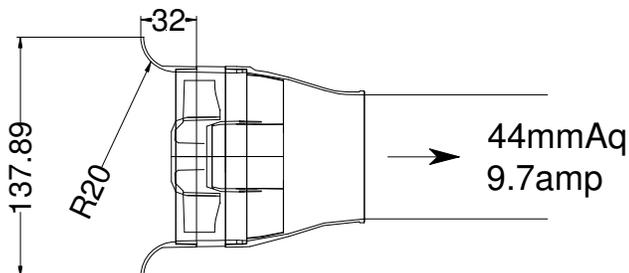
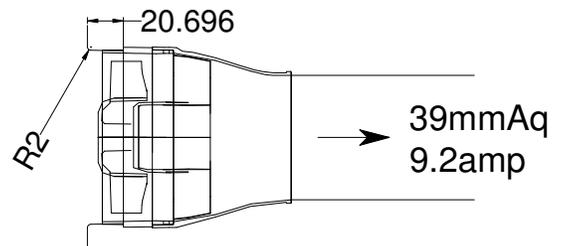
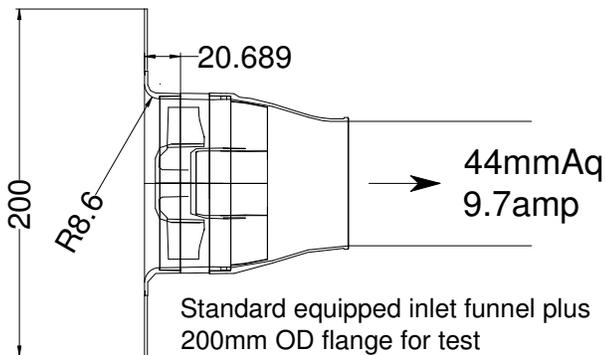
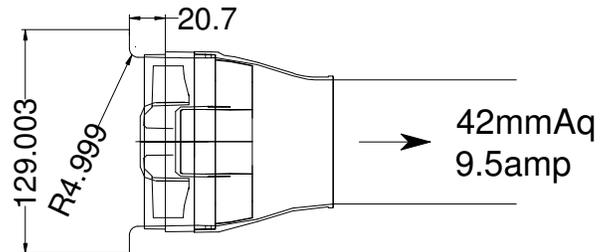
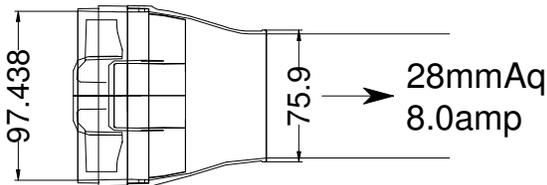
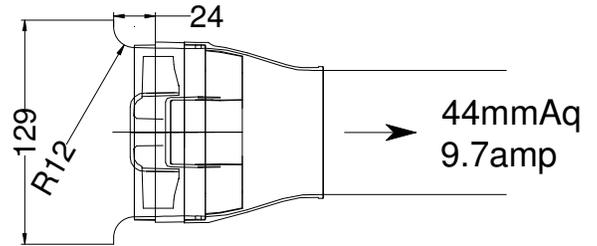
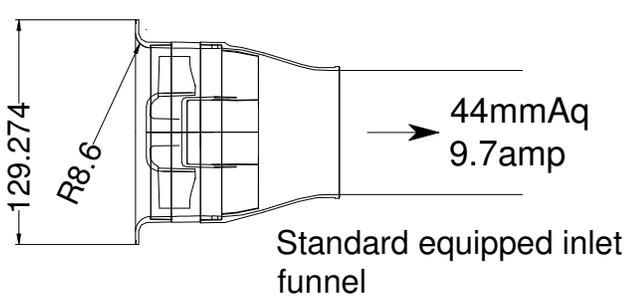


Inlet funnel tests are performed as illustrated above.

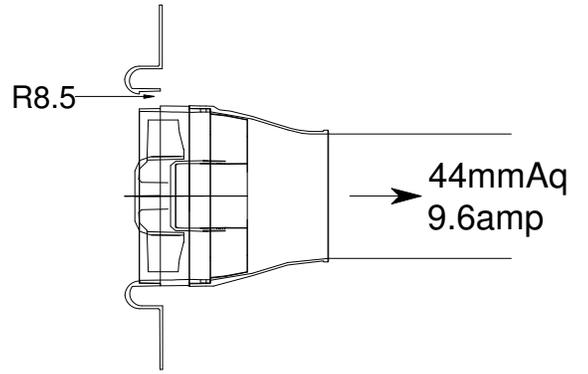
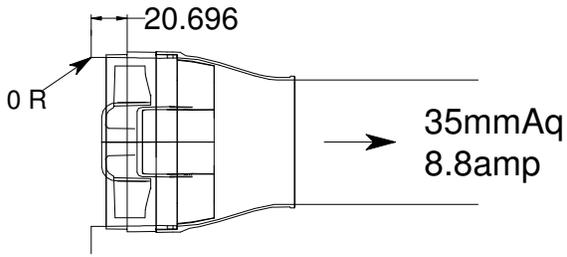
The purpose of the center bulge is to rearrange air to make equal speed and parallel for accurate test reading.

Previous restrictor tests were performed in the same manner.

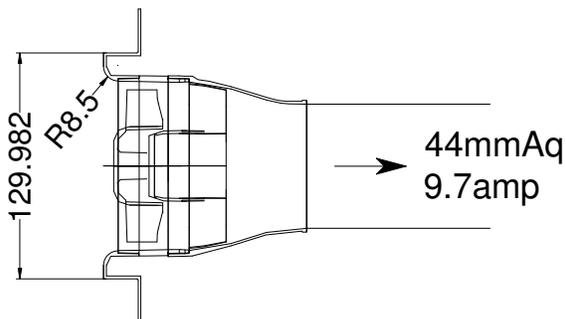
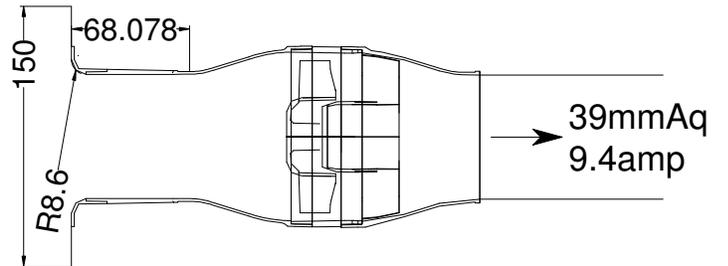
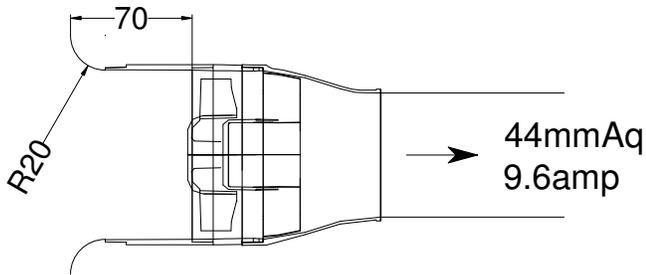
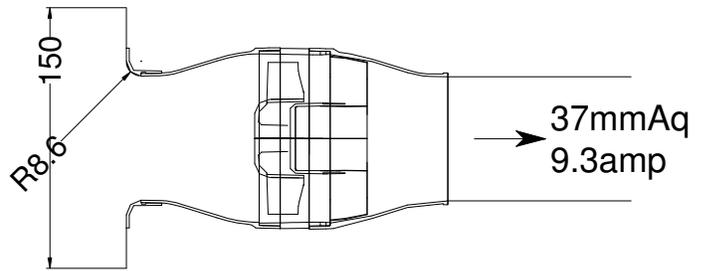
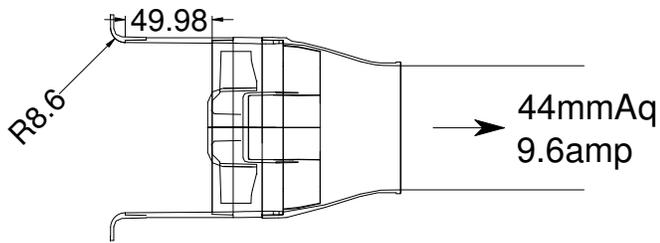
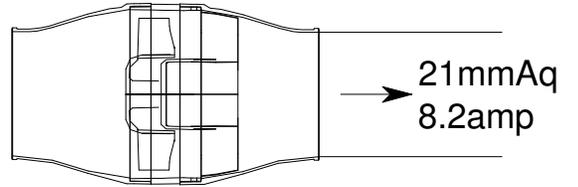
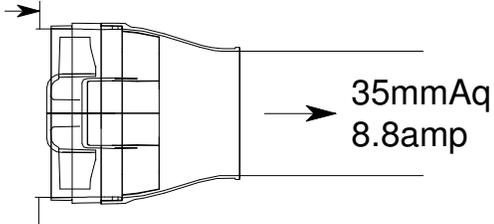
Exit Pv is in mmAq. $\times 9.81 = \text{Pascal}$. $V \text{ m/sec} \sim 4.0 \times (\text{Pv}^{0.5})$ at standard atmospheric condition. Unit is in mm. Test voltage - 14.0 DC.



Inlet Funnel Shape and Performance cont'd

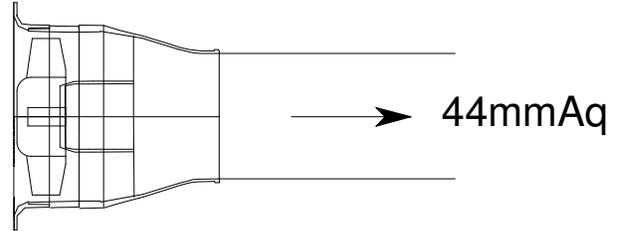
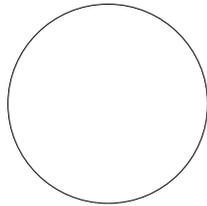


Recess 2mm

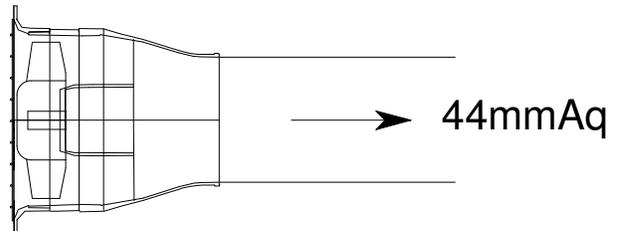
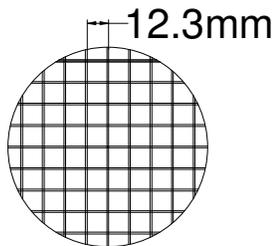


Stone Guard Screen Tests

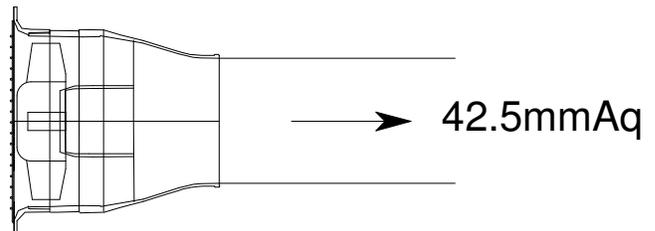
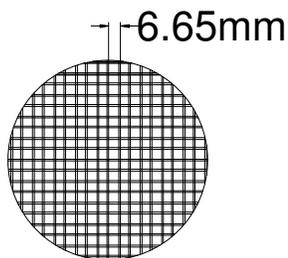
No Screen



Flat Screen
wire = 1mm dia=0.039"
12.3mm opening width

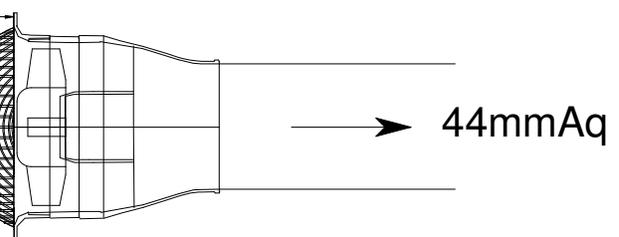
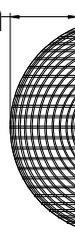


Flat Screen
wire = 1mm dia=0.039"
6.7mm opening width

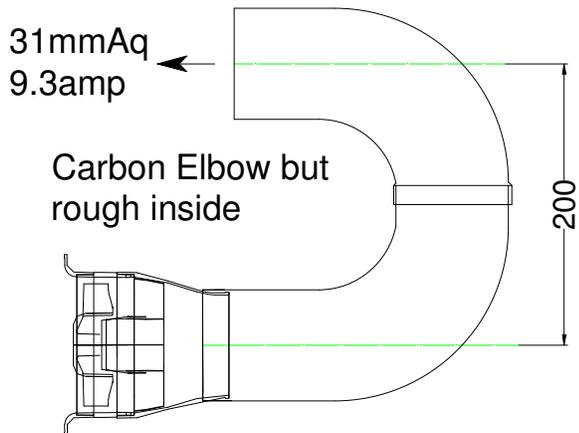
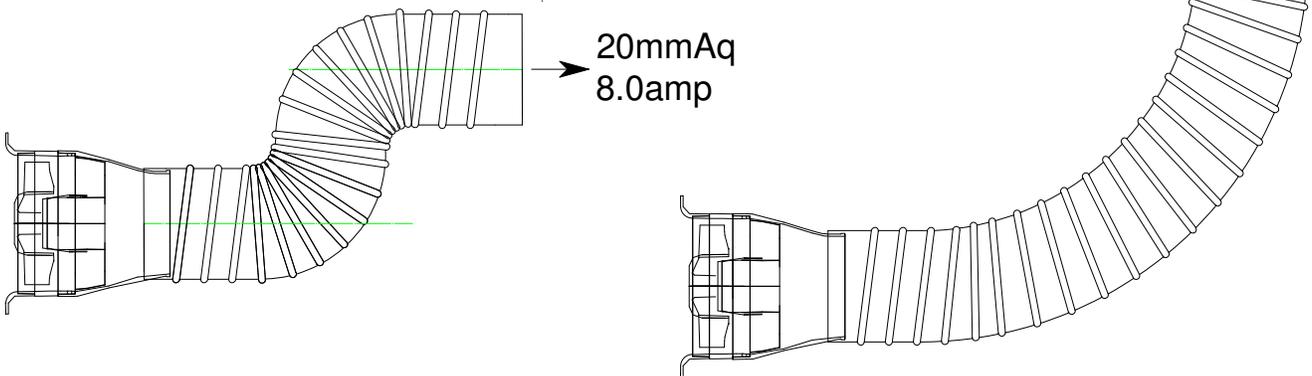
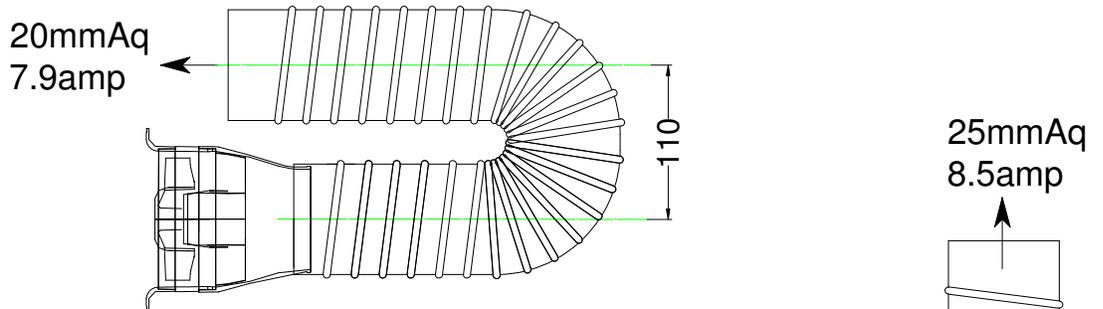
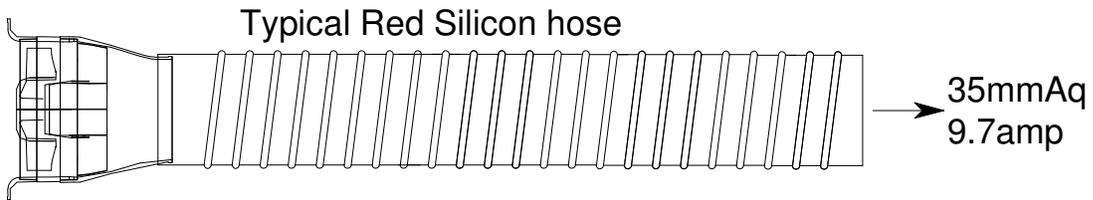
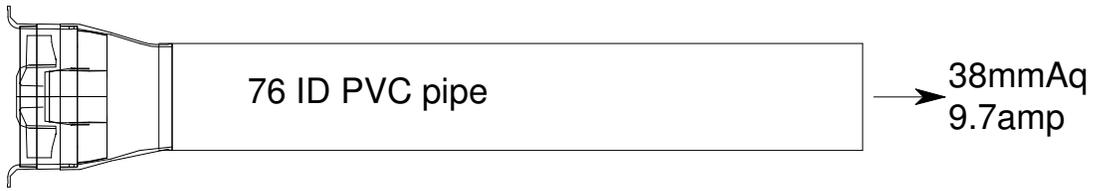


Convex Shaped Screen
wire = 1mm Ø (.039")
6.7mm opening width

38mm

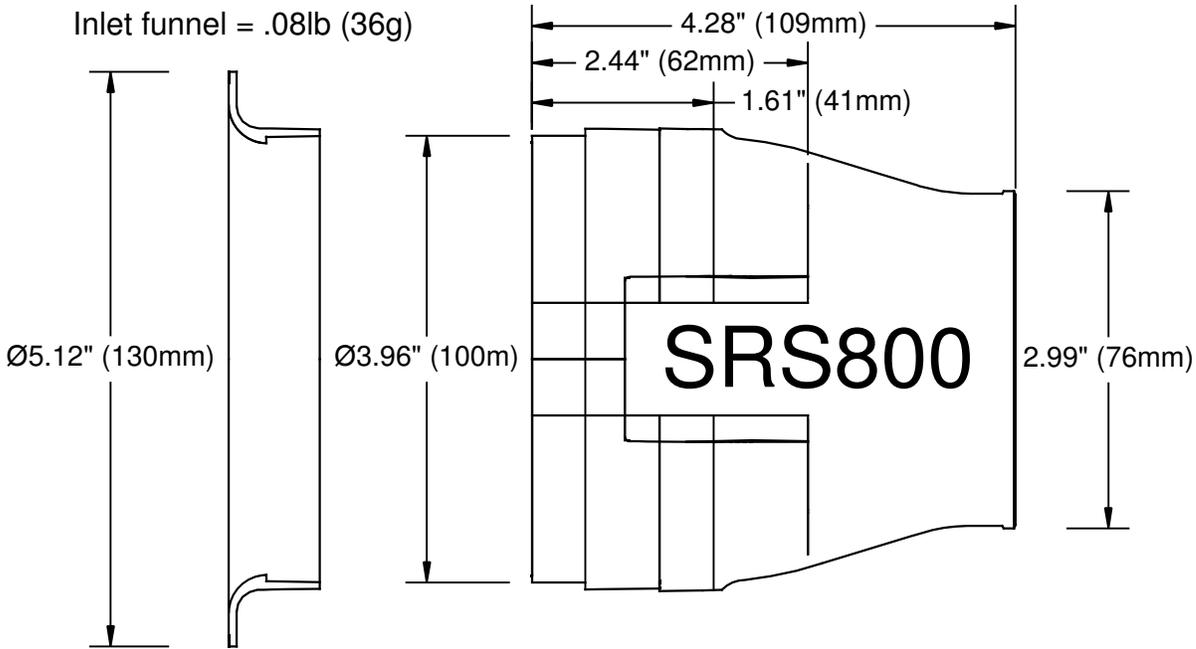


How Duct Configuration Affects Flow

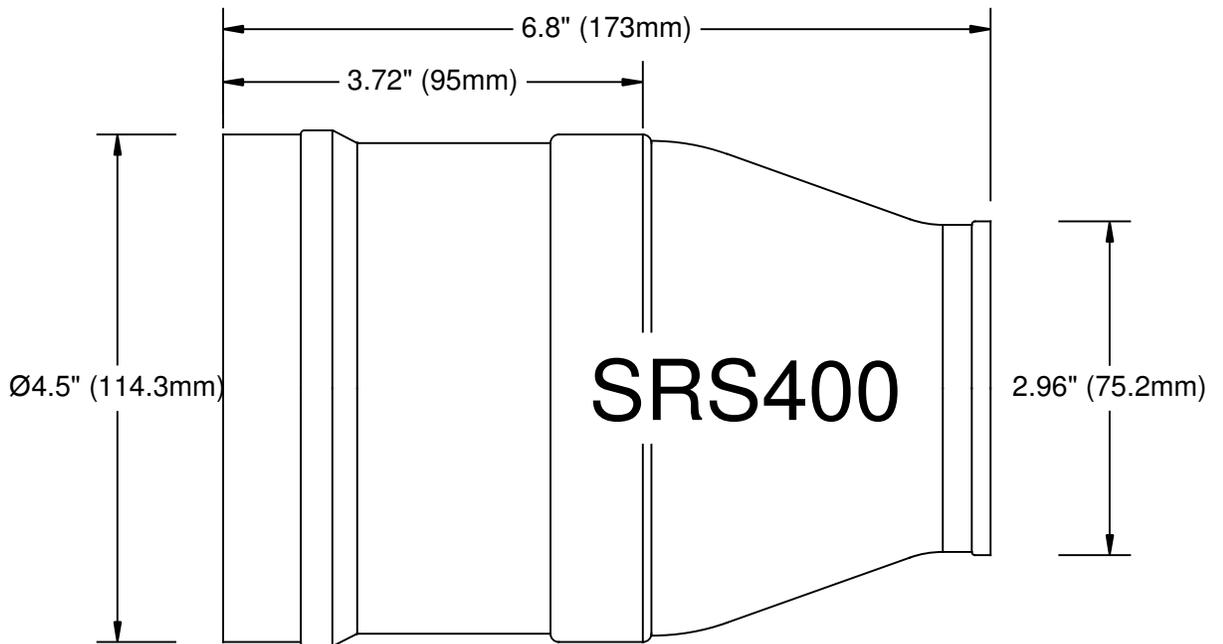


Dimensions and Weights

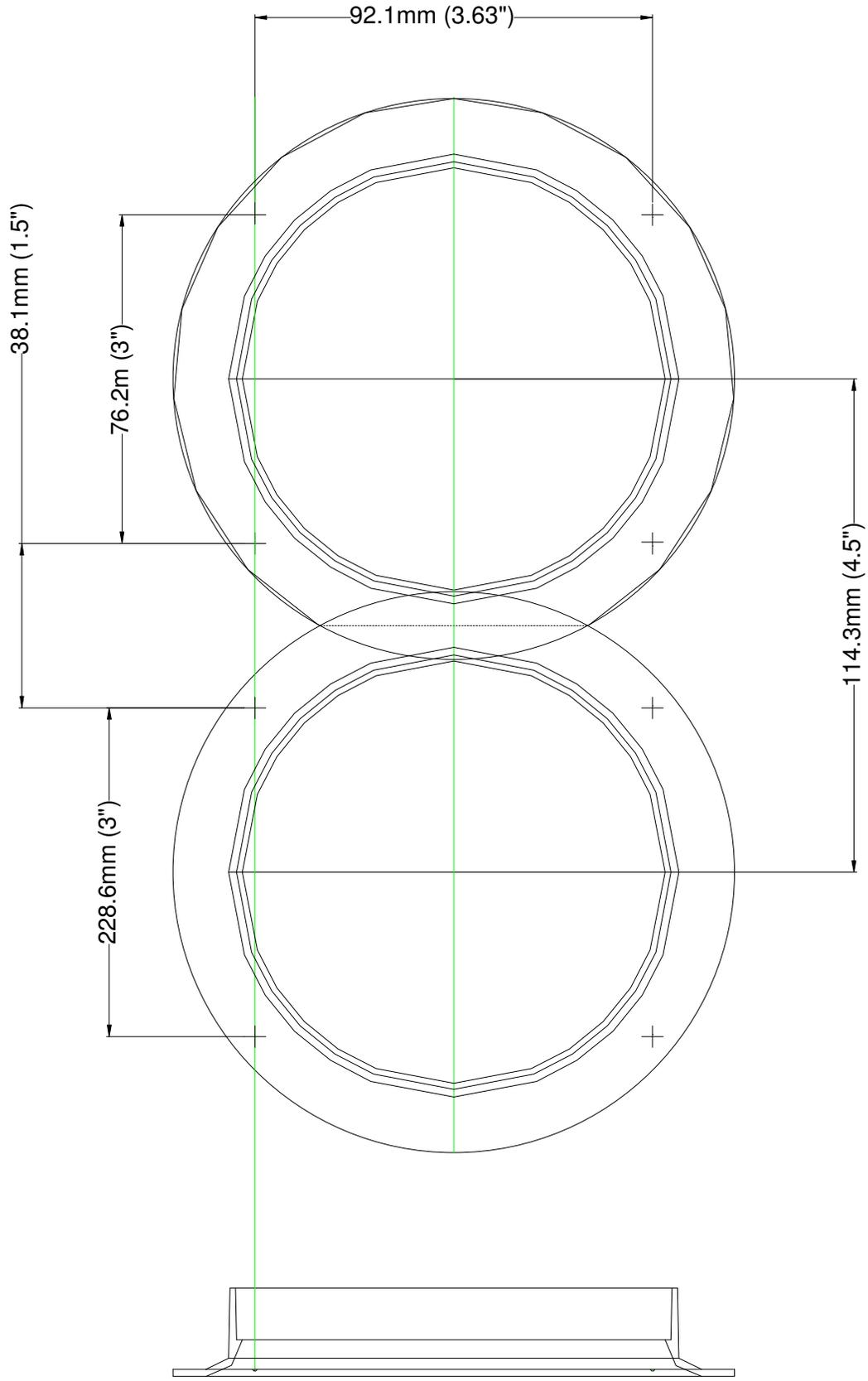
With inlet funnel = .96lb (435g)
W/O inlet funnel = .88lb (399g)



Without inlet funnel = 1.2lb (544g)



The Inlet Funnel is marked on back face of the flange for hole location if needed.



Bonding the Inlet Ring onto the SRS800 Blower

If you intend to use the inlet ring then this procedure must be followed. The body and inlet ring of SRS800 blower are made from **PPS plastic**. PPS (Poly Phenylene Sulfide) is a high temperature material which withstands over 400 degree F while keeping its rigidity.

Not many adhesives adhere PPS well up to the material's rated temperature.

Commonly available instant glues or Super Glues (Cyanoacrylates) deteriorate in strength rapidly from fairly low temperatures. These glues are not recommended for this application. To insure high strength bonding when using the **inlet ring as a load bearing mounting flange**, we suggest using Loctite 4210 adhesive & 770 Primer.

Before bonding, scuff surfaces well, clean and use Loctite SF770 primer.

Loctite 4210 does not cure as quickly as the other instant glues and takes 24 hours for full cure. Follow the directions for best results. This glue is not available at Lowe's or other typical consumer outlets. You can find it online or purchase from McMaster Carr.

Loctite 4210



Loctite SF770 Primer



Sources and Information:

McMaster Carr <http://www.mcmaster.com>

Loctite 4210 = McMaster part # 74795A24

Loctite 770 = McMaster part # 66205A24

Henkel North America

http://na.henkel-adhesives.com/product-search-1554.htm?nodeid=8797715136513&msdLanguage=EN_US&selectedTab=document

PPS Glass Reinforced –Loctite 401 Prism Bonding guide (Page 60-61 in the PDF)

Loctite4210 is similar to Loctite401

http://na.henkel-adhesives.com/us/content_data/391924_plastics_bonding_guide.pdf

NOTE: Bonding time will decrease when heat is used – follow directions of adhesive.

- * If, in addition to the adhesive, you want to add 4 - 1/8" pop rivets to the inlet ring, tests have shown that the affect of the pop rivets on performance is negligible.

