



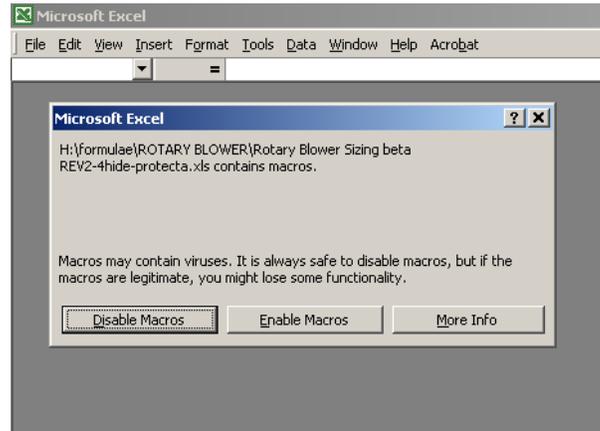
# **INSTRUCTIONS FOR SILENCER SELECTION FOR ROTARY POSITIVE DISPLACEMENT BLOWERS**

**REPORT BY: Juan J Banuelos**

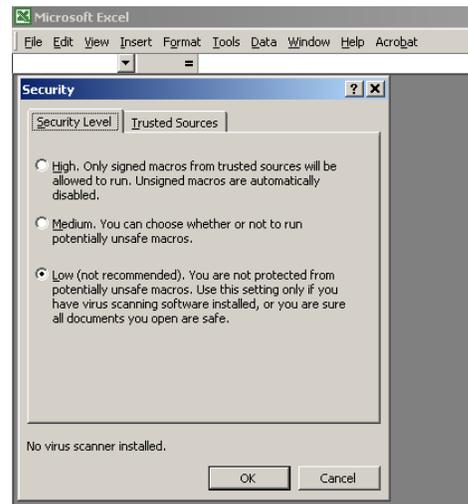
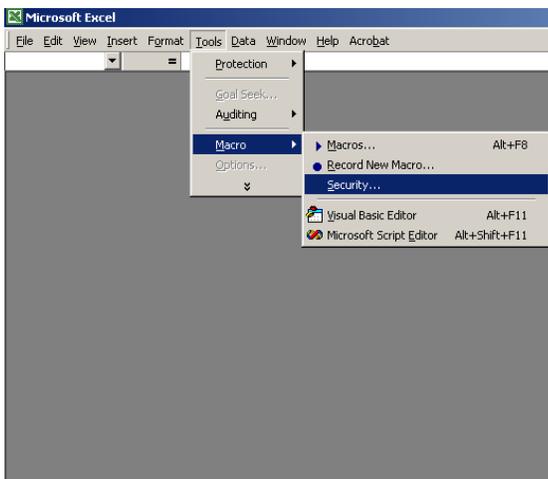
**DATE: 02/ 17 /2009**

## Program explanation:

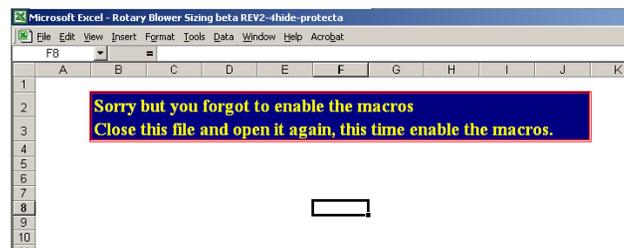
Every time a file is opened in Excel a window will pop up to advise the user to disable the macros only if the user knows that the macros are not legitimate. Enable the macros to operate the program.



If the previous window doesn't show, go to tools/ Macros/ Security and make sure the Medium button is selected.



The next screen shows, the note that will appear, if the macros were *disabled* and the program will not work. To fix it, just close the file and open it again, but this time enable the macros.



The program will work once the macros have been enabled.

The first screen, below to the left, allows the user to enter customer data that will show in the printed summary. The user must select the type of system, which is either, pressure or vacuum. Click the choice to continue to the next page.

The second screen will confirm the type of system that was selected in the first page. The user fills in the necessary cells that provide the required blower operating conditions. The user can indicate in this window if the blower information, such as manufacture, series, and model, is either known or unknown.

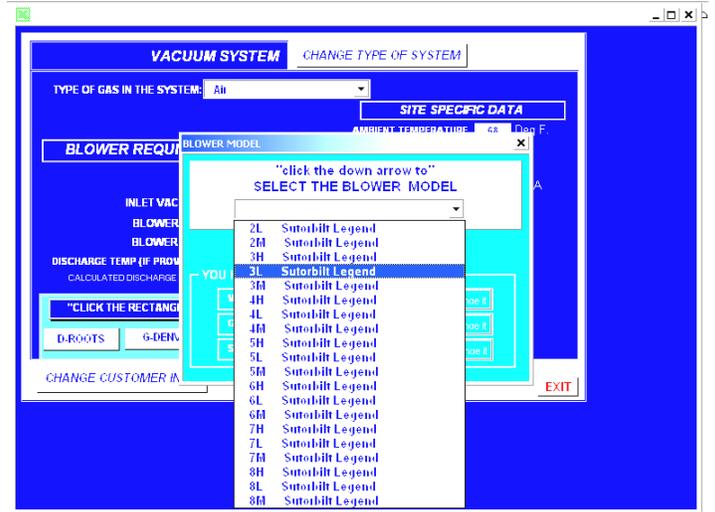
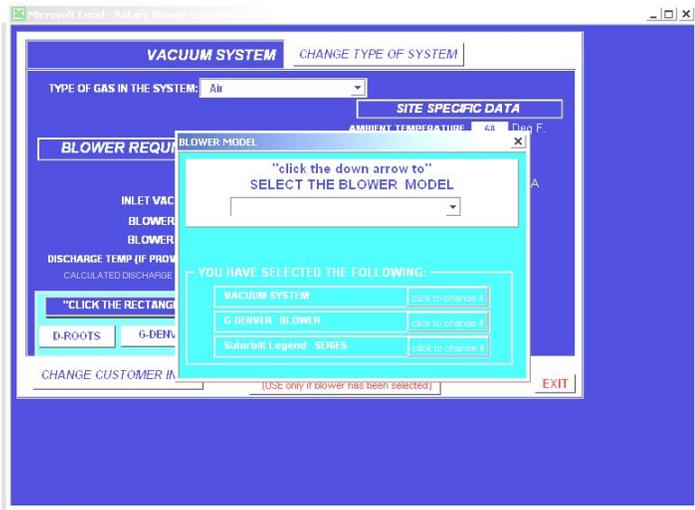
If the blower information is known, the user has to select the manufacturer from the buttons listed at the bottom of the screen shown below to the right. Clicking any of this buttons will show the windows that are use to select the series, and model of the blower. If the blower information is unknown click the button with "click here to enter unknown blower Data", then the silencer configuration selection screen will show.

This program is used to select the proper intake and discharge silencer for a Rotary Positive Displacement Blower, also known as a roots type blower. The program is designed for 2 or 3 lobe Blowers. The program will also address the twisted lobe "Cycloblower" configuration.

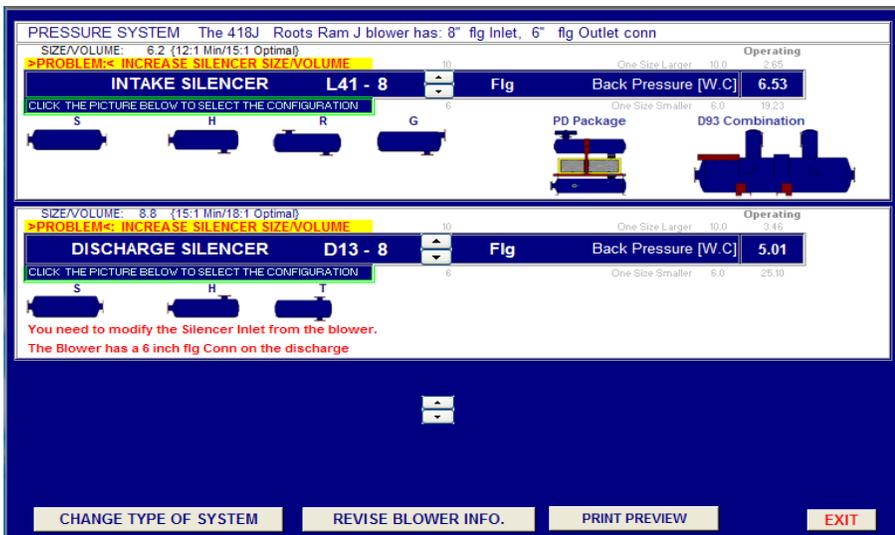
Copyright © 2006 Stoddard silencers inc. All rights reserved.

This program is provided solely for Stoddard Silencers' customers to properly select and size rotary blower silencers. Stoddard Silencers, Inc. does not warrant the accuracy of the data obtained from the blower manufacture catalogs. To the best of our knowledge, the results of this program are accurate; however, Stoddard Silencers, Inc. is not liable for inaccuracies caused by typos, errors and omissions.

At the same time, the user forms windows shown below display what the user has selected so far and gives the option to go back and change any information previously entered.



When the blower model is selected from the drop down list, the silencer configuration selection screen will appear. In this screen, the user verifies all the blower information previously entered and selects the silencers size and configuration. During size selection the user sees, not just the backpressure generated by the size selected, but also the backpressure for the next smaller or bigger size.



The silencer's model and size are selected according to the operation conditions. The silencer's configuration is entered by clicking the picture that corresponds to: S, H, R, G, and T. according to the silencer model. Not all configurations will apply.

The program follows the same selection criteria revealed in the price lists for Rotary Blower Intake and discharge silencers. This is done to reduce the prices of the selected silencers by using

stock units. For example: if the calculated pitch line velocity (PLV) is below 3300 fpm, the assigned silencer would be a L41 model, but if the size is smaller than 8", a D13 Model will be use.

Once the size had been selected for the intake and discharge silencers, certain configurations will allow the user to select, if necessary, a **PD package** or **D93 combination** silencer. This configuration only applies when the blower does not have a jet port. The button used to change the jet port side cannot be hidden when is not used.

The jet port can also be sized by providing the jet port icfm. If icfm is not provided, then the icfm will be equal to 50% of the total icfm entering the blower.

PRESSURE SYSTEM The 406DPJ Roots Ram DPJ blower has: 4" npt Inlet, 5" npt Outlet conn , and 4" npt jet port conn

SIZE/VOLUME: 6.2 (12:1 Min/15:1 Optimal) Operating

>PROBLEM:< INCREASE SILENCER SIZE/VOLUME

INTAKE SILENCER L41 - 8 Flg Back Pressure [W.C] 7.49

CLICK THE PICTURE BELOW TO SELECT THE CONFIGURATION

S H R G

You need to modify the Silencer outlet to the blower.  
The Blower has a 4 inch npt Conn on the inlet

---

SIZE/VOLUME: 8.8 (15:1 Min/18:1 Optimal) Operating

>PROBLEM:< INCREASE SILENCER SIZE/VOLUME

DISCHARGE SILENCER D13 - 8 Flg Back Pressure [W.C] 5.98

CLICK THE PICTURE BELOW TO SELECT THE CONFIGURATION

S H T

You need to modify the Silencer Inlet from the blower.  
The Blower has a 5 inch npt Conn on the discharge

---

SIZE/VOLUME: 9.1 (12:1 Min/15:1 Optimal) Operating

>PROBLEM:< INCREASE SILENCER SIZE/VOLUME

JET PORT SILENCER D13- 6 MPT or Flg Back Pressure [W.C] 5.51

CLICK THE PICTURE BELOW TO SELECT THE CONFIGURATION

S H R

You need to modify the jet port Silencer outlet to the blower.  
The Blower has a 4 inch npt Jet Conn on the inlet

JET PORT ICFM:

50% OF TOTAL ICFM 1034

CHANGE TYPE OF SYSTEM REVISE BLOWER INFO. PRINT PREVIEW EXIT

At the bottom of each screen, the user can use the provided buttons to maneuver between screens to change any information that the customer must change. The print preview button is used to view or print the summary of the final configuration selected by the user.



1017 Progress Drive, Graylake, Illinois 60030  
 Phone: 847-223-9636 FAX: 847-223-3638  
 e-mail: info@stoddardsilencersinc.com

**ROTARY BLOWER SILENCERS SUMMARY FOR A PRESSURE SYSTEM**

Customer: Customer Date: February 17, 2009  
 Phone No.: (123) 456-7890 Ref. ref  
 Fax No.: (123) 456-7890  
 E-MAIL:

**Blower Data:**

Type of Gas in the system:	Air	
Discharge pressure:	6	PSIG
Blower RPM:	1000	RPM
Intake [ICFM]:	2067	CFM
Discharge temperature of blower:	134	°F
Pitch Line Velocity:	1179	FSU

<b>Site conditions</b>	
Ambient Temperature:	68 °F
Relative humidity:	36 %
Site Elevation:	PS

**BLOWER :** The 406DPJ Roots Ram DPJ blower connections are: Inlet : 4" npt  
 Discharge : 5" npt  
 Jet port : 4" npt

**Silencers Observations:** Connection to blower: Silencer Size/volume:  
 Intake Silencer (outlet): >Contact factory< Insufficient Intake S. Volume  
 Discharge Silencer (Inlet): >Contact factory< Insufficient discharge S. Volume  
 Jet port Silencer (outlet): >Contact factory< Insufficient jetport S. Volume

Recommended Silencer Selection:	Silencers Connection to blower	Pressure Drop in W.C.	
		Operating	
Intake silencer: L41 - 8.0	4" Flg Outlet >Contact factory<	7.49	
Discharge Silencer: D13 - 8.0	5" Flg Inlet >Contact factory<	5.98	
Jet port Silencer: D13- 6.0	4" MPT or Flg Outlet >Contact factory<	5.51	

Anticipated noise level @ 3 ft. 84 ± 2 dBA

Maximum distance from face of blower discharge flange to discharge silencer shell: 36 inches

\*\*\*\*\* CAUTION \*\*\*\*\*

Failure to stay within the parameters shown could result in damage to the discharge piping and/or silencer

8/23/07 JJ