

A STATISTICAL ANALYSIS OF AN IONIC AIR MOVING DEVICE FOR THE  
OPTIMIZATION OF GEOMETRY

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## DEDICATION

This thesis is dedicated to my entire family for the love and support that they have given me through then entire process of my education.

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## ABSTRACT

### A STATISTICAL ANALYSIS OF AN IONIC AIR MOVING DEVICE FOR OPTIMIZATION OF GEOMETRY

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Ionic air moving devices are similar to fans and blowers but move ionized air molecules between electrodes with a high electric field. Steady air flow is generated from the transfer of momentum when charged molecules collide with uncharged molecules. Ionic air moving devices are seen as less efficient as fans and blowers. The optimization of the device's geometry can increase its output efficiency. In optimizing the geometry of an ionic air moving device the literature suggests that varying the parameters of the number of ionization sites, the distance between the ionization sites and the collector, the height of the collector, and the voltage influences the air flow of the device [1-5]. In the current study, an analysis of the parameters through the use of design of experiments statistically showed which factors significantly influences the air flow. The ionic air moving devices parameters were statistically evaluated with the use of Minitab®. The distance between the electrodes, and the voltage were shown to be significant and to have the most effect on the ionic device in terms of air flow.



## CHAPTER 1: STATEMENT OF THE PROBLEM

### 1.1 Introduction

Ionic air moving devices move air similarly to a common fan or blower but without moving parts. Air molecules are ionized in a high electric field given a specific electrode geometry and moved in the field according to their charge. As the charged molecules move, they bump into neutral air molecules and steady air flow results from a transfer of momentum between those molecules. These devices are used today mainly as filtration devices and are of interest in the field of electronics and cooling of LED lighting due to the lack of moving parts and silent operation. Ionic air moving devices are typically seen to be much lower in efficiency than fans and blowers, which have limited their commercial appeal. Previous research [1-5] has shown that optimization of the geometry can improve efficiency to the point where these devices are, at least, as efficient as conventional air moving devices. The literature suggests that there are an ideal range of settings for geometric and electrical parameters of the ionic device that influence airflow, pressure and efficiency [1-5]. The purpose of this study is to determine potential improvement of efficiency by characterizing the level of contribution for the major independent variables such as the number of ionization sites, the distance between the ionization sites and the collector, the collector height, and the voltage as they relate to the variation in the critical response variables of air flow and efficiency. In order to improve the static efficiency of ionic air flow a design of experiments are performed on the device to determine if these parameters do or do not have a significant influence. The analysis demonstrates how statistically significant and practically important the settings of these parameters are to the efficiency of ionic air flow.

Given that a formal Design of Experiments (DOE) has not been reported in the literature, this methodology was performed to determine if the variables stated in the literature have a significant impact on the performance and efficiency. Dr. June's research [1,2] along with others such as Rickard et al, [3,4] showed that these factors can improve performance and efficiency through optimization of these variables to a level comparable with fans and blowers. Each factor has a high and low value that was used in the DOE. The run order was then randomized such that uncontrolled variation will minimize the impact of the response variable air flow. After the data was collected, statistical analysis was performed using Minitab® to conclude if the factors were significant. Once a determination of the most significant variables was made, further studies can be conducted to optimize those variables to determine the optimum settings for the device, and yield improved efficiency. Improved static efficiency of ionic air flow devices will allow for a better comparison between the device, and fans and blowers.

## 1.2 Statement of Hypotheses

Null Hypothesis: The major independent variables ( $\mu_i$ ), such as the number of ionization sites, the distance between the ionization sites and the collector, the collector height (height of the ring), and the voltage being tested have no significant influence on the air flow of the ionic device. The independent variables (factors) are all equal relative to the influence of air flow.

$$H_0: \mu_i = \mu_i \text{ for all } i$$

Alternate Hypothesis: The major independent variables such as the number of ionization sites, the distance between the ionization sites and the collector, the collector height (height of the ring), and the voltage being tested significantly influence the air flow of the ionic device. At least one or more factors ( $\mu_i$ ) are not equal relative to the influence of air flow.

Ha:  $\mu_i \neq \mu_i$  for one or more independent variables (i)

### 1.3 Objectives and Need

The purpose of this study was to investigate the effects that the following factors have on air flow rates: the number of ionization sites (the number of needles), the distance between the ionization sites (the emitter and the collector) and the collector, the collector height (height of the ring), and the voltage. A statistical analysis of major independent variables of ionic air moving devices proposes that optimization of the geometry influences the air flow of the device. Ionic air moving devices have the potential to influence significant changes in the commercial fields of engineering technologies due to the immense diversity of their application. However, there is insufficient knowledge and experimentation regarding the parameters that would have an impact on the efficiency of ionic air moving devices. This insufficient knowledge prevents the device's geometry from being at its optimal setting to improve functionality of the ionic air moving devices, thus enhancing the efficiency. Through investigations and analytical reviews, attempts are made to ensure thorough comprehension of past engineering accomplishments concerning ionic airflow design and developing a better understanding of the functioning parameters. These practices will aid in allowing optimal settings be determined for the ionic device, thus improving its commercial appeal for many applications.

The investigation of this study are presented with the following structure. First, a brief look into the history and background of ionic airflow. Next, the current work on the optimization of the geometry for the device are presented in order to show the steps that have been taken in improving the efficiency. Following the review of literature are an explanation for the methodology that is used in this study, covering the procedure and the analysis for

experimentation followed by the results and analysis are provided. Lastly, a conclusion of the outcomes and an outline for future work with steps that can be taken in order to further the research and experimentation of ionic air moving devices is provided.

#### 1.4 Key Terms

Ion-Driven Air Flow: a breakdown of a working fluid into ions in the presence of a high electric field and an electrode with a high curvature.

Emitter: a sharp high curvature electrode.

Collector: the blunt electrode.

Electric Field: a high voltage field that occurs due to the electrode geometry.

Ionization: a process by which air molecules are given a positive or negative charge.

Momentum Transfer: lower energy ions hitting neutral molecules causing airflow.

Flow Bench: a device that determines the air flow generated by an input as the back pressure is varied from none to its maximum.

DOE: Design of Experiments.

Design of Experiments: a structured experimental strategy where factors have discrete levels that allow for simultaneous evaluation of processing variables related to their ability to influence a product or process characteristic.

Factors: process variables being investigated (X value).

Level: values or settings at which the factors are evaluated.

Response: process characteristic that is measurable (Y value).

LabVIEW®: Laboratory virtual instrument engineering workbench.

Laboratory Virtual Instrument Engineering Workbench: a graphical programming environment that creates programs in order to read measurements and data, analyze data, and present results.

SubVI: a sub-program of LabVIEW®.

Main VI: the primary program of LabVIEW®.

Front panel: the user input window for monitoring and control.

Block Diagram: the wiring configuration to perform the graphical method of programming.

Minitab®: A statistical analysis program.

ANOVA: Analysis of Variance.

Analysis of Variance: Statistical methods used to test the difference of means for three or more groups.

## CHAPTER 2: LITERATURE REVIEW

### 2.1 History

Ionic airflow was first demonstrated in 1709 by Francis Hauksbee [6]. During various experiments with the airflow phenomena, Hauksbee had one particular experiment involving steel and flint in which he felt air flow through a cylinder. A steel ring was attached to a spindle between two pieces of wood with one end of the cylinder protruding out past the fixture. The flint was fixed such that the sharp edge was facing the ring. When performing the experiment Hauksbee noticed that as he turned the spindle, the rapidness of the motion caused sparks when the flint scrapped the steel ring and airflow was produced through the cylinder [6].

In 1839 [7], Michael Faraday made more observations with regards to ionic airflow when performing experimental research with electricity. He perceived that when the air became electrically charged by a flame or wire, a glow is produced and followed by airflow. The air was not only charged when the glow appeared, but also before the glow appeared. More experiments exhibited that, when a charge was applied and the air was electrified that not all of the particles became electrified. In fact, the air was comprised of both charged and uncharged particles. The uncharged particles were carried by the motion of the electrified particles creating the airflow [7].

Arthur Chattock's work in 1899 [8] on the velocity and mass of ions in electrified air was the first well documented work concerning ionic airflow. His work looked at the relationship between electrified air and plane-parallel electrodes. When a charge was applied to a sharp point, with the air becoming electrified between it and a smooth plate, the electrified particles in the air

were broken into positive and negative ions. He discovered the velocity of negative ions was higher than that of positive ions [8].

G.W. Trichel implemented some of the first detailed work on corona in 1938 and 1939 [9,10]. His oscillographic experiments consisted of both negative and positive point to plane corona. Where he discovered that ions are important to formation of the corona's glow. He was able to determine that bursts (pulses) were the cause of the current of corona. With sufficient field strengths the bursts are dispersed across the surface point. A strong positive space charge was found close the point, while a strong negative space charge was found away from the point [9,10].

Otmar Stuetzer gives a thorough description of the ionic drag occurrences from his studies in 1958 and 1959 [11,12]. He was able to demonstrate a theory for unipolar conduction for both gas and insulating liquids. By experimenting with the efficiency of ionic drag pumps his theories showed the dynamic behavior of the pumping arrangement for both conditions. The results showed that for a linear model the maximum power output efficiency was dependent on the properties of the fluid [11,12].

Robinson's work in 1961 derived boundary conditions that are assumed to be identical for the electrical and aerodynamic quantities in order to demonstrate the relationship between them [13]. His theories introduced important parameters that would later be experimented upon by others [4]. It would be the spark for work that began optimizing the geometry of the device.

Sarma and Janischewskyj developed a theoretical analysis for positive and negative charged conductors. They looked at corona under steady state conditions and the distribution of the electric field in the ionization. Their experiments established that with negative corona the

conductor surface gradient increased with the current, but with positive corona it decreased with the current [14].

From 1984 through 1997, Morrow expanded upon the work of Trichel with corona [15,16]. Early on, his work consisted of an integrated quantitative theory and a numerical study of spatiotemporal development of electrons and ions space charged electric fields. His later work gives detailed explanations of onset streamers coming before the glow of the corona, and the fundamental mechanisms of positive glow. He suggests corona glow calculations came from the use of electrodes being concentric spheres “Rather, a convenient geometry has been chosen for which experiments could easily be performed to verify the results.” [15,16].

## 2.2 Current Techniques Used for Ionic Air Flow

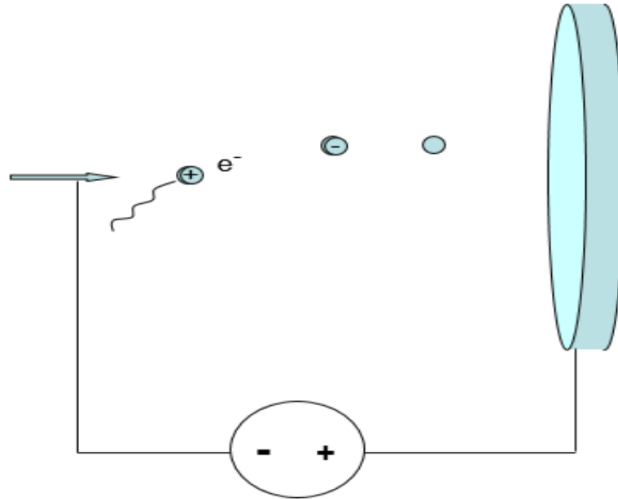
Ionic airflow occurs when a charge is applied to an electrode with high curvature and it creates an electrical field that breaks down working fluid into ions. Airflow is then produced by the potential gradient and momentum that transfers between the ions and air molecules. There are two types of electrodes. One that is a sharp called “the emitter”, and another that is blunt called “the collector”. The emitter is either a wire type or needle type when dealing with corona generated ions. Figure 1 shows a needle type emitter and a ring type collector.



**Figure 1: Emitter (Left) and Collector (Right) Electrodes**



When a charge is applied and the surface voltage gradient rises to a high enough value, a self-sustained discharge is created which can be steady or pulsating. This discharge is known as corona and it can be observed by the glow that forms around the emitter. Corona consists of the electrical field created by the curvature of the pointed needle [9,14,17-20]. Both positive and negative corona can be generated depending upon the charge that is being applied. The plasma region that the corona generates is the major difference between being positive or negative. Negative corona has a greater plasma region, a greater number of electrons in the region, and corona changing to a spark discharge occurs at a higher voltage. For this reason, negative corona has more appeal for industrial and commercial applications. However, due to the ozone generation and electrical interference, performance has been less than desirable in consumer applications [15,16,21]. Ions are produced by corona or by flame. For example, when using a burner there is no corona, the flame is the emitter [1,2,5,22]. The wire type emitter is paired with a flat plate style collector, and the needle fixture type emitter is paired with a cylinder or ring style collector. When the charge is applied and the corona forms. The primary ionization occurs naturally due to background radiation or photons. Then an electric field that is produced by the electrode geometry prevents the ions from recombining. The secondary ionization from the high energy causes the ions to collide with uncharged air molecules in the electric field. The repeated collisions between lower energy ionized molecules and neutral molecules produces momentum transfer that creates airflow toward the collector [1,2,4,5,13,20,23-26]. Figure 2 shows a schematic representation of the process.



**Figure 2: Ionic Air Flow**

Industrial applications are developing relative to applying electrostatic and corona generated air flow. Applications such as polarization micropumps for electronic cooling, are designed for electrohydrodynamic (EHD) pumping thin film evaporation that cool due to integration of EHD electrodes applied right on the cooling surface. Loudspeakers can use corona discharge as the driver to generate sound much like the cone of a conventional speaker. Electrostatic motors and generators use the electric discharge to produce mechanical motion and electrostatic energy. Electrostatic precipitation uses corona discharge to separate particles from the gas to remove them. Electrostatic coating is a coating process that uses the electrically produced forces to deposit material on to a surface. These applications provide great promise for ionized air flow in industry [23,25,27-29]. However, there are several areas in which replacing fans and blowers with ionic devices could have numerous advantages. These advantages include no moving parts, quiet operation, and flexible design, being lightweight and having a self-contained apparatus. The advantages of ionic air-moving devices give them an undeniable commercial appeal for diverse applications, but they are viewed as less efficient than traditional fans and blowers [1-

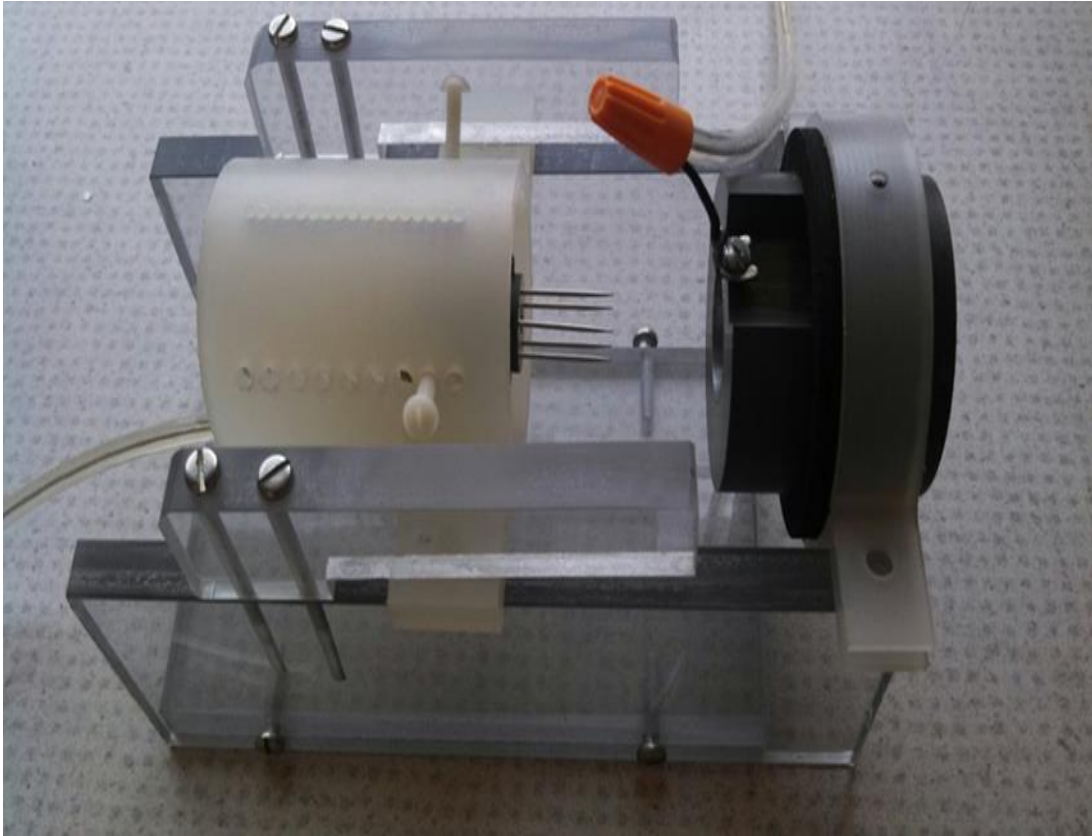
4,24,30]. Current work with ionic airflow strives to investigate more into the corona discharge, the improvement of the device itself, ionic filtration, flame control, and flame enhancement.

Recent studies on corona by Adamiak & Atten [17], Chen & Davidson [21], Moreau & Touchard [19], and Zhao [20] use numerical algorithms in order to determine the air flow generated by the corona. These experiments have studied how geometry configuration effects corona, the enhancing of mechanical efficiency through optimizing corona discharge, and compared positive and negative corona. Corona discharge can occur at lower voltages with sharper points than with smooth surfaces and that corona discharge in pin to plate geometry has recirculating flow. When comparing positive corona against negative corona, the largest difference is the plasma region size. The plasma region for negative corona reaches outside the ionization region. On the other hand, the plasma region for positive corona coincides with the ionization region. When the gas temperature rises the number of electron for positive corona decrease and the number of electrons for negative corona increases. This demonstrates that negative corona can produce a stronger current than positive [17,19-21].

Numerous experiments have been conducted in order to improve the efficiency of the ionic device so that they can compete with fans and blowers. The most effective way to improve the efficiency is through the optimization of the geometry for the device [1,3-5,25]. The first thing that one should do in trying to improve the geometry of the device is to have a good understanding of the physics behind ionic air flow [1,2,5-7,13,31]. Dunn-Rankin, Rickard and Weinberg's collaborative work expands on Robinson's research of the parameters of the device. When looking into optimizing the geometry their experiments tested the pin and ring arrangement. By varying the distance between the two electrodes and the ring thickness, they reported air velocity of more than double of that which had been previously achieved [3,4]. The

principal equations for the geometry that they used were solved by the computer program FEMLAB. Dunn-Rankin, Rickard and Weinberg's other work dealt with flame control. They looked into using a flame to generate ions instead of having a corona form and the dispersion of charged particle droplets in the high electric field in order to extinguish flames [5,22,30,31]. These experiments took place in microgravity.

The most recent work on ionic air moving devices to improve the efficiency has been completed by Michael June [1,2]. He continued experimentation with varying the pin to ring distance along with looking at the width of the ring, the number of ionization sites, the voltage, and both positive and negative ionic flow. The distance between the two electrodes was tested in increments from 13mm to 19mm. June used three different ring sizes of 4mm, 6mm, and 10mm. Even though the number of ionization sites only varied from 2 to 5, he proposed that 5 pins did not seem to be the limiting number. The voltage was gradually increased during experimentation at each increment distance. The result of June's experimental studies suggests that these factors influence the devices efficiency. The pressure-air flow and efficiency curves show that by varying the number of ionization sites and the ring width improved efficiencies could be reached, and that there was sensitivity to the amount of voltage being applied. Although the results show that higher efficiency can be reached there should be further research on looking at these factors and the optimization of the geometry of the ionic device [1,2]. Figure 3 is an example of the ionic air moving devices used during experimentation.



**Figure 3: Ionic Air Moving Device**

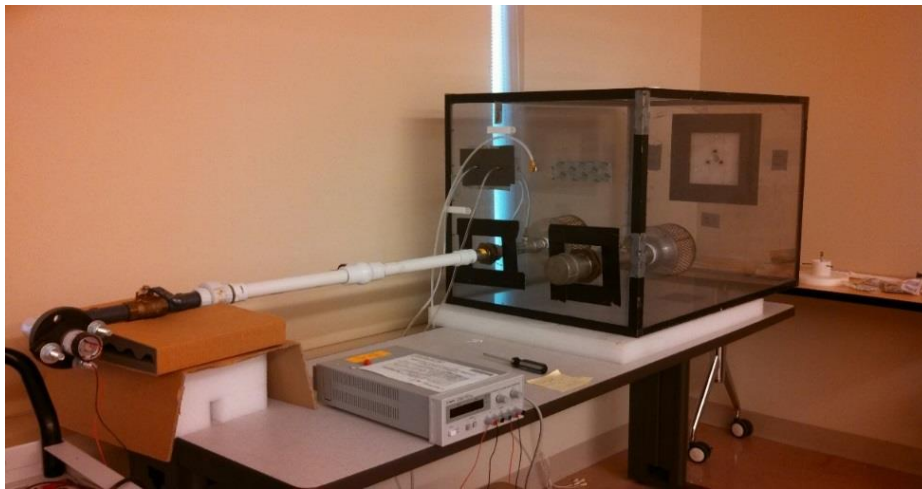
## CHAPTER 3: METHODOLOGY

### 3.1 Chosen Techniques

A Design of Experiments (DOE) is a statistical analysis tool that is used to evaluate variables simultaneously to determine the influence that variables have on a process characteristic. A DOE is a series of statistical procedures making it the most influential method for improving a process. A DOE can optimize a design by mathematical modeling simulation. A DOE tests parameters by changing levels of independent factors during experimentation and then statistically determines if those changes impacted the outcome [32-35]. Factors are the variables or parameters that are intended to be tested. Levels are the values to which the factors are set to in order to be tested. The response is the independent variable that is the outcome from the experiment. A four factor, two level factorial experiment DOE is the approach that was taken in this study. The factorial design studies the data from the experiment to determine the effects that multiple factors being used have on the response variables. The DOE looks at all possible combinations and interactions between all of the factors and the levels. The standard run order was replicated such that there are multiple runs. The run order was also to be randomized in order to prevent any uncontrolled variables from affecting the performance of the device. The most common uncontrolled variables that affect the response values are the surroundings (environmental conditions). Randomizing the run order separates the effects of the uncontrolled variables from the effects of the factors. This allows the experiment to test the factors that are the most influential [34-39]. The four factors of the ionic air moving device that were to be studied are the number of ionization sites, the distance between the ionization sites and the collector, the height of the collector, and the voltage. In the case of this experiment, needles are to be used as the ionization site or emitter and an aluminum cylinder/ring are to be used for the collector. The

levels to be used for the factors are 2 and 5 needles for the number of ionization sites, 18mm and 25mm are to be used for the distance between the electrodes,  $10,000 \pm 200\text{v}$  and  $15,000 \pm 200\text{v}$  are to be used for the voltage, 25.97mm and 7.85mm are to be used for the height of the collector. Once data has been collected from the factors settings being varied it can be entered into the statistical analysis program Minitab® to run the DOE.

### 3.2 Development Plan and Experimental Design Process



**Figure 4: Flow Bench**

A flow bench as shown in Figure 4 was constructed to test the ionic device. An air flow bench is a device that determines the air flow generated by an air moving device when a constant voltage is applied as the back pressure is varied from none to its maximum. A ball valve was used regulate the air flow allowing a blower to empty the air out of a chamber. The valve was located between the chamber and the blower along with a calibrated opening measured the airflow coming out of the chamber. A pressure sensor was used to identify the difference between the pressure in the chamber and outside. The ionic device was positioned to blow air into the chamber. The flow of the device was determined when the air coming out of the chamber reads zero pressure. This occurs when the air flowing out was equal to the air flowing in [2]. The ionic

device was adjusted to the high and low settings determined for the factors that are to be tested. The experimental testing was to run multiple times in order to collect data. The data was recorded by using LabVIEW® was entered into Minitab® in order to perform the DOE.

An Acopian® NO20HA1.5M high voltage power supply single phase output 0-20,000 volts was used to apply the charge to the electrodes of the Ionic device. An Agilent® E3620A dual output DC power supply was used to supply power to the manometers, while a Motorola® HPNI007A A.C. power supply was used to power the blower. A Meriam® 50MW20-1F laminar flow element measured the volumetric air when the ionic device was generating air flow into the flow bench. A Dwyer® HADP-BV-08-A1 high accuracy differential pressure transmitter and a Dwyer® 616-3 differential pressure transmitter (manometers) are connected to the laminar flow element by tubing in order to measure static pressure and volumetric flow rate. A National Instruments® NI USB-6008 DAQ read voltages and currents coming from the manometers. The DAQ sent these readings in to LabVIEW® in order to record the data.

Laboratory virtual instrument engineering workbench (LabVIEW®) is a graphical programming environment that creates programs in order to read measurements and data, analyze data, and present results. LabVIEW® uses virtual instruments to wire up connecting functional nodes to allow data to flow instead of programming with text. Data flow prevents the functions from performing until the data has been received. Virtual instruments are designed to perform as a physical instruments is intended through controls and displays [40,41].

The LabVIEW® program that was created to record the data for static pressure, current, pressure, volumetric flow rate, the power supply voltage, and the power supply current consists of a sub-program referred to as a SubVI and the primary program or MainVI as shown in Figures



5, 6 and 7. Both the SubVI and main VI have a block diagram consisting on the graphical icons and wiring configuration to perform the graphical method of programming and a front panel used as the user input for monitoring and control.

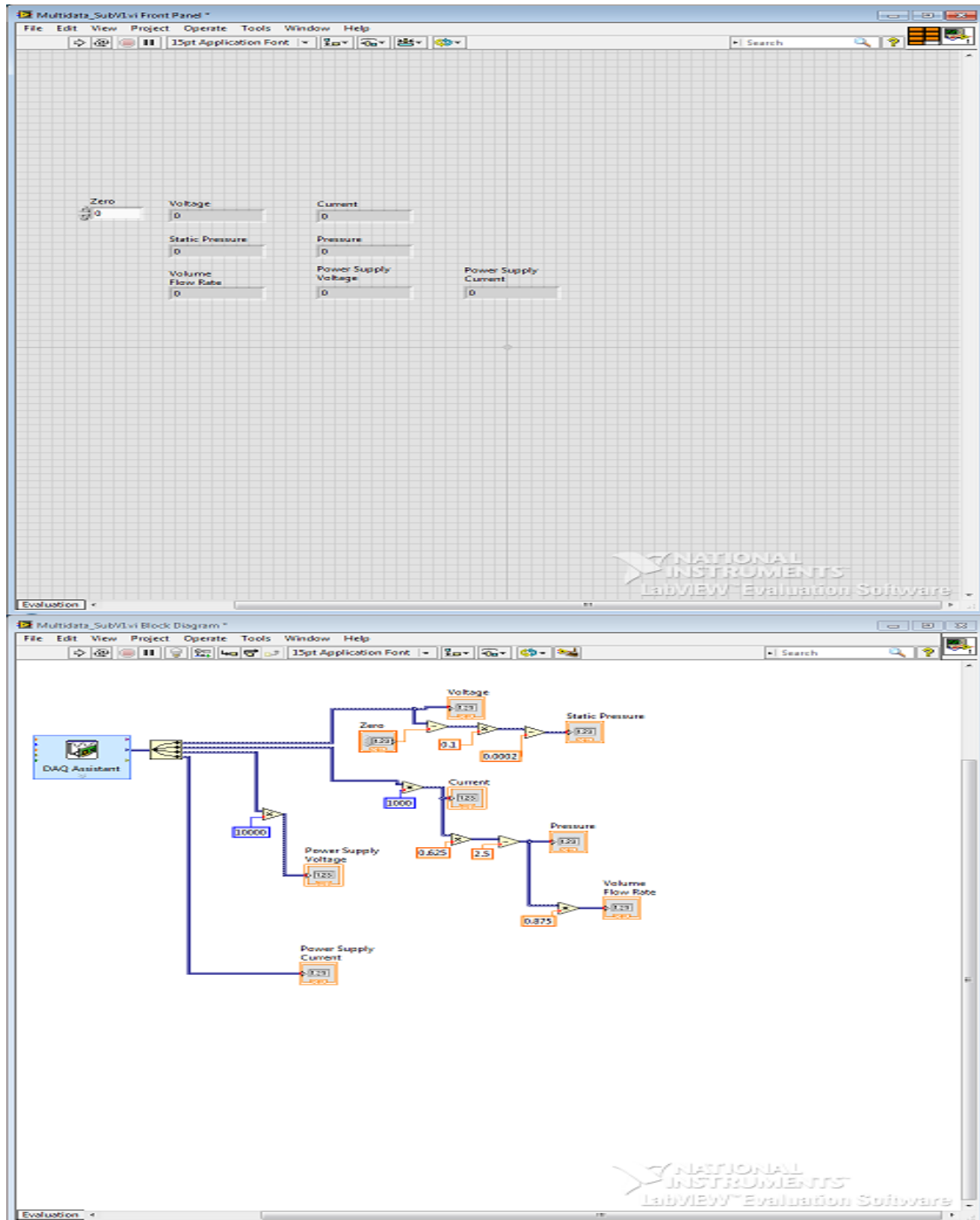
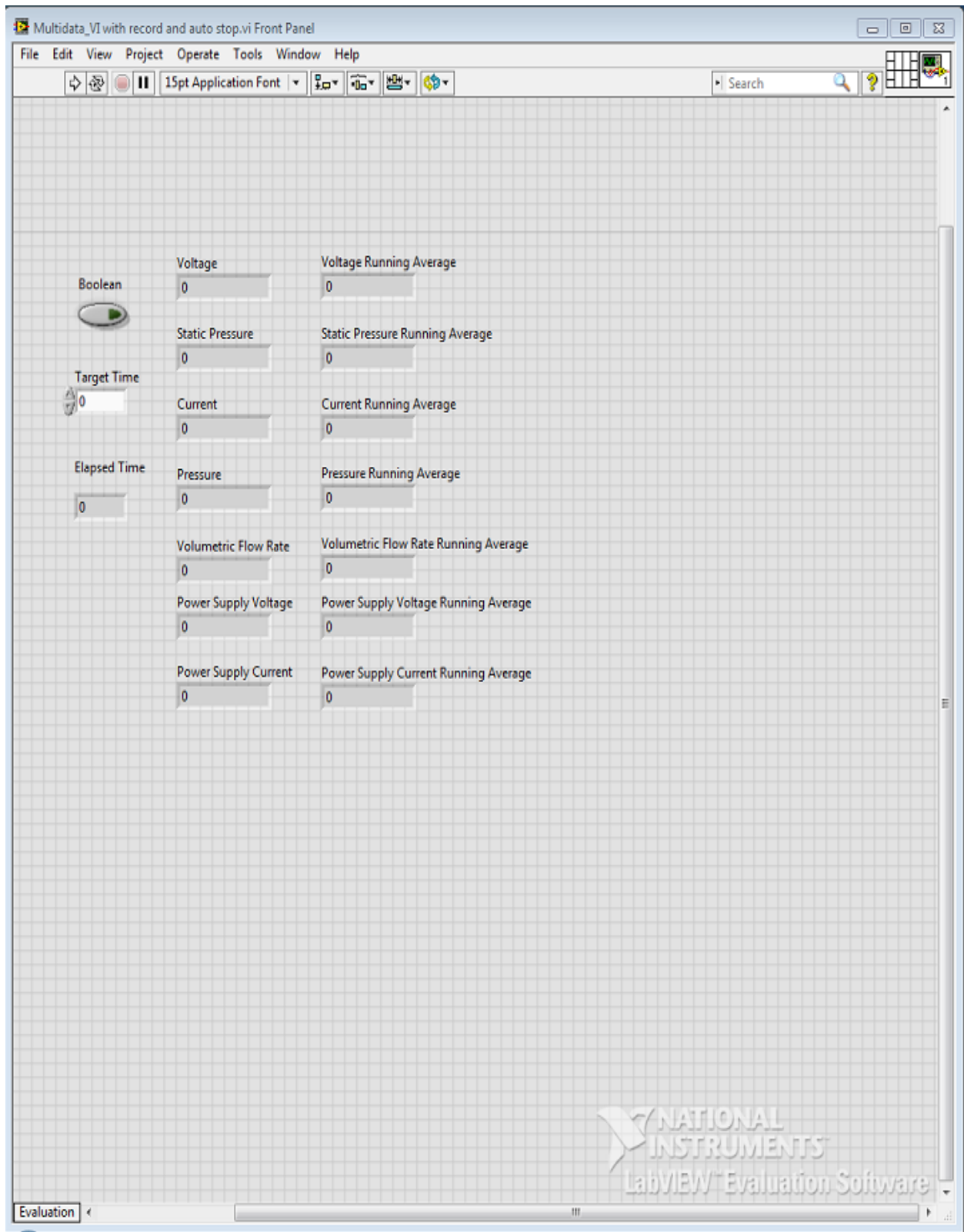


Figure 5: SubVi Front Panel and Block Diagram



**Figure 6: MainVi Front Panel**

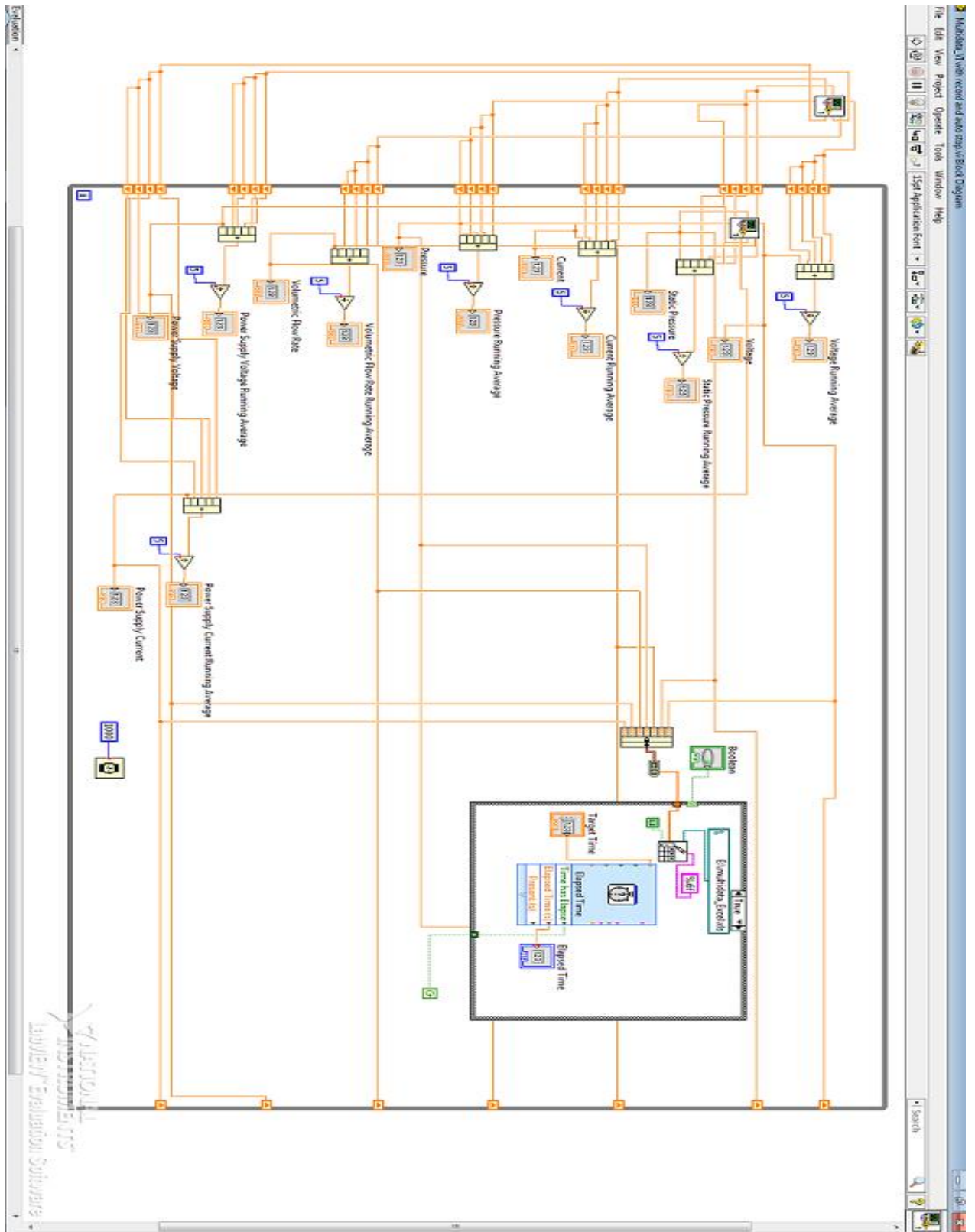


Figure 7: MainVi Block Diagram

A USB 6808 Data Acquisition (DAQ) module was used to acquire analog voltage and current signals that were scaled for pressure and flow levels along with power supply current. The DAQ assistant function in the SubVi, creates and runs tasks for the data read from the NI USB-6008 DAQ. The data then runs to the split signals function that separates the data into four channels. The first channel reads the voltage coming from the HADP-BV-08-A1 high accuracy manometer to be converted to calculate the static pressure. The second channel reads the current coming from 616-3 manometer to be converted to calculate regular pressure and volume flow rate. The third and fourth channels just read the voltage and current coming from the power supply. The calibration data for the manometers was used in order to determine the conversions for the calculated scaled data. The main channels and separate wires then run to indicators that read the data. The SubVI was then imported into the main Vi twice. The first one was wired to multiple shift registers, for voltage, static pressure, current, pressure, volumetric flow rate, power supply voltage, and power supply current. These shift registers and the second SubVi are wired to a compound arithmetic functions in order to calculate a running average of the data for each value. Indicators are used for the data and the running average of the data so terminals can display values for both. In order to acquire the data that was being recorded, a write to spreadsheet function was used via a one dimensional array. A bundle function along with a cluster to array function was used to acquire all of the data prior to writing into a spreadsheet. The write to spreadsheet function was placed inside of a case structure with a Boolean push button. This allows the LabVIEW® program to run with the recorded values able to be seen without writing everything to the spreadsheet. Once the Boolean push button has been pressed, data from that moment on will be written in to the spreadsheet. The elapsed time express function inside the case structure indicates how much time has passed since a specified start

time. 60 seconds was the elapsed time set in order to collect 60 data points worth of data for each run [40-42].

Minitab® is the statistical analysis program that that was used in order to perform a Design of Experiments on the factors of the ionic device. Data was to be entered into the program so that the DOE could be performed. There are four types of DOEs to choose from, but in the case of this study a full factorial design was implemented. It was a four factor two level DOE. Minitab® generates results that are analyzed by examining the relationships between the factors. Minitab® also randomizes the order to prevent any uncontrolled variables from affecting the experiment. Analysis of variance charts and graphs are produced to interpret and identify the factors that significantly influence the ionic device [43].

Minitab® produces an analysis of variance charts (ANOVA summary table) to interpret, an example is shown in Table 1. An analysis of the results from the DOE shows which of the factors do or do not influence the ionic air moving device. An ANOVA tests hypothesis through mathematical procedures. In order to interpret the data, the p-values from the ANOVA table are to be compared to the alpha value. The alpha value being used is .05, because this study was looking for the significant effects at a 95% confidence level [36,37]. If the p-values are smaller than the alpha value then the factor can be assumed to significantly influence the device, however if the p-values are larger than the alpha value then it can be assumed that the factor does not significantly influence the device.

SUMMARY SHOWING CALCULATIONS FOR F							
SOURCE	SS	df	MS			F	
A	$SS_A$	$a-1$	$SS_A$	/	$a-1$	$MS_A$	/ $MS_{ERROR}$
B	$SS_B$	$b-1$	$SS_B$	/	$b-1$	$MS_B$	/ $MS_{ERROR}$
C	$SS_C$	$c-1$	$SS_C$	/	$c-1$	$MS_C$	/ $MS_{ERROR}$
AB	$SS_{AB}$	$(a-1)(b-1)$	$SS_{AB}$	/	$(a-1)(b-1)$	$MS_{AB}$	/ $MS_{ERROR}$
AC	$SS_{AC}$	$(a-1)(c-1)$	$SS_{AC}$	/	$(a-1)(c-1)$	$MS_{AC}$	/ $MS_{ERROR}$
BC	$SS_{BC}$	$(b-1)(c-1)$	$SS_{BC}$	/	$(b-1)(c-1)$	$MS_{BC}$	/ $MS_{ERROR}$
ABC	$SS_{ABC}$	$(a-1)(b-1)(c-1)$	$SS_{ABC}$	/	$(a-1)(b-1)(c-1)$	$MS_{ABC}$	/ $MS_{ERROR}$
ERROR	$SS_{ERROR}$	$abc(n-1)$	$SS_{ERROR}$	/	$abc(n-1)$		
TOTAL	SSTO	$abcn-1$					

**Table 1: Example of a Summary Table for 3 Factor, 2 Level DOE**

## CHAPTER 4: RESULTS

### 4.1 Calibrated Data

The equations used in LabVIEW® to record data during experimentation are:

Voltage = the voltage coming from the manometer into the DAQ

Static Pressure = (Voltage \* .01) - .0002

Current = the current coming from the manometer into the DAQ

Pressure = (Current \* .625) - 2.5

Volume Flow Rate = (Pressure \* .875)

Power Supply Voltage = Voltage coming from the power supply \* 10000

Power Supply Current = Current coming from the power supply

These equations were determined from Calibration data sheets for the manometer.

### 4.2 Minitab® DOE Set Up

The DOE was set up in Minitab® by selecting Stat at the top of the page in the tool bar. This was followed by selecting DOE, Factorial, and Create Factorial Design. In the popup window that opens up, 2-level factorial (default generators) was left selected and the number of factors was changed from two to four. In the Select Designs tab, the full factorial with 16 runs option was chosen, and the number of replicates was changed to three. In the Select Factors tab, the name of the factors (number of ionization sites, height of the collector, distance between electrodes, and voltage) was entered, along with the high and low values as levels for the appropriate factors. In the Options tab, the randomize runs was selected to randomize the order in which the runs would be performed to collect and record data during experimentation. In the Results tab, the method in which the results would be displayed was selected. In this case,

summary table, alias table, design table was chosen. This sets up the Design of Experiments as shown in table 2.

60 data points were collected for each of the 48 runs in a randomized order. The flow rate of the closest static pressure data point to absolute zero for each of the run represents the max air flow of the ionic device. Since the closest static pressure data point to absolute zero was recorded multiple times and has a different recorded flow rate for a run, those recorded flow rates were averaged together as shown in tables 3. An average maximum flow rate was found for all 48 runs. The Average max air flow data points are then entered into the proper order of their run and entered into Minitab® as the response in the Air flow column shown in table 2.

+	C1	C2	C3	C4	C5	C6	C7	C8	C9
	StdOrder	RunOrder	CenterPt	Blocks	Number of Ionization Sites	Height of Collector	Distance between Electrodes	Voltage	Air Flow
1	32	1	1	1	5	25.97	25	15000	1.13940
2	24	2	1	1	5	25.97	25	10000	0.61104
3	8	3	1	1	5	25.97	25	10000	0.58484
4	36	4	1	1	5	25.97	18	10000	0.80281
5	29	5	1	1	2	7.85	25	15000	1.33593
6	12	6	1	1	5	25.97	18	15000	1.84501
7	16	7	1	1	5	25.97	25	15000	1.39309
8	9	8	1	1	2	7.85	18	15000	1.62590
9	45	9	1	1	2	7.85	25	15000	1.28227
10	48	10	1	1	5	25.97	25	15000	1.35119
11	39	11	1	1	2	25.97	25	10000	0.77390
12	19	12	1	1	2	25.97	18	10000	0.97584
13	41	13	1	1	2	7.85	18	15000	1.66668
14	44	14	1	1	5	25.97	18	15000	1.86211
15	7	15	1	1	2	25.97	25	10000	0.75932
16	10	16	1	1	5	7.85	18	15000	1.72211
17	43	17	1	1	2	25.97	18	15000	1.90291
18	15	18	1	1	2	25.97	25	15000	1.58427
19	11	19	1	1	2	25.97	18	15000	1.91361
20	26	20	1	1	5	7.85	18	15000	1.86020
21	34	21	1	1	5	7.85	18	10000	1.23669
22	5	22	1	1	2	7.85	25	10000	1.09142
23	38	23	1	1	5	7.85	25	10000	1.03805
24	30	24	1	1	5	7.85	25	15000	1.53579
25	27	25	1	1	2	25.97	18	15000	1.73065
26	46	26	1	1	5	7.85	25	15000	1.32424
27	4	27	1	1	5	25.97	18	10000	0.94351
28	3	28	1	1	2	25.97	18	10000	1.01336
29	18	29	1	1	5	7.85	18	10000	1.08056
30	31	30	1	1	2	25.97	25	15000	1.43550
31	25	31	1	1	2	7.85	18	15000	1.68667
32	6	32	1	1	5	7.85	25	10000	0.83673
33	23	33	1	1	2	25.97	25	10000	0.75242
34	13	34	1	1	2	7.85	25	15000	1.33065
35	21	35	1	1	2	7.85	25	10000	0.83067
36	22	36	1	1	5	7.85	25	10000	0.66635
37	14	37	1	1	5	7.85	25	15000	1.30811
38	1	38	1	1	2	7.85	18	10000	0.82266
39	20	39	1	1	5	25.97	18	10000	0.83284
40	47	40	1	1	2	25.97	25	15000	1.23883
41	28	41	1	1	5	25.97	18	15000	1.78015
42	42	42	1	1	5	7.85	18	15000	1.69069
43	33	43	1	1	2	7.85	18	10000	0.89865
44	40	44	1	1	5	25.97	25	10000	0.61434
45	37	45	1	1	2	7.85	25	10000	0.71610
46	35	46	1	1	2	25.97	18	10000	0.93325
47	17	47	1	1	2	7.85	18	10000	0.92939
48	2	48	1	1	5	7.85	18	10000	0.90496

**Table 2: DOE Table in Minitab®**



Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current	Static Pressure	Flow Rate
-0.00239	-0.000439	6.099593	1.312246	1.148215	15182.39834	0.060001		
0.007802	0.00058	6.063781	1.289863	1.12863	15080.50566	0.080393		
-0.00239	-0.000439	6.084245	1.302653	1.139821	15029.55932	0.141568		
0.007802	0.00058	6.104709	1.315443	1.151013	15182.39834	0.039609	0.000071	1.145417
0.007802	0.00058	6.053549	1.283468	1.123035	15335.23735	0.28431		
0.002707	0.000071	6.094477	1.309048	1.145417	15080.50566	0.049805	0.000071	1.142619
0.007802	0.00058	6.043318	1.277073	1.117439	15029.55932	0.039609		
0.002707	0.000071	6.089361	1.305851	1.142619	14978.61298	0.060001		
0.007802	0.00058	6.125172	1.328233	1.162204	15182.39834	0.080393	0.000071	1.12863
0.002707	0.000071	6.063781	1.289863	1.12863	15131.452	0.090589		
0.002707	0.000071	6.038202	1.273876	1.114642	15029.55932	0.029413		
-0.00239	-0.000439	6.145636	1.341023	1.173395	15131.452	-0.021566	0.000071	1.114642
0.002707	0.000071	6.104709	1.315443	1.151013	15029.55932	0.019217		
0.007802	0.00058	6.109825	1.31864	1.15381	15080.50566	-0.052154		
0.002707	0.000071	6.068897	1.293061	1.131428	15080.50566	0.049805	0.000071	1.151013
0.007802	0.00058	6.048433	1.280271	1.120237	15029.55932	0.049805		
0.002707	0.000071	6.099593	1.312246	1.148215	15182.39834	-0.276463	0.000071	1.131428
0.007802	0.00058	6.094477	1.309048	1.145417	14978.61298	0.060001		
-0.00239	-0.000439	6.074013	1.296258	1.134226	15029.55932	0.029413		
0.002707	0.000071	6.068897	1.293061	1.131428	15029.55932	0.060001	0.000071	1.148215
0.007802	0.00058	6.135404	1.334628	1.167799	15029.55932	0.080393		
-0.00239	-0.000439	6.053549	1.283468	1.123035	15080.50566	0.060001		
0.002707	0.000071	6.104709	1.315443	1.151013	15029.55932	0.049805	0.000071	1.131428
0.002707	0.000071	6.068897	1.293061	1.131428	15131.452	-0.123525		
-0.00239	-0.000439	6.053549	1.283468	1.123035	15131.452	0.070197		
0.007802	0.00058	6.063781	1.289863	1.12863	15029.55932	-0.103133	0.000071	1.151013
-0.00239	-0.000439	6.094477	1.309048	1.145417	15029.55932	0.060001		
0.002707	0.000071	6.109825	1.31864	1.15381	15029.55932	-0.01137	0.000071	1.131428
0.007802	0.00058	6.058665	1.286666	1.125833	15029.55932	0.11098		
-0.00239	-0.000439	6.053549	1.283468	1.123035	15182.39834	0.049805		
0.002707	0.000071	6.084245	1.302653	1.139821	15131.452	0.049805	0.000071	1.15381
0.012897	0.00109	6.068897	1.293061	1.131428	15080.50566	0.019217		
0.002707	0.000071	6.068897	1.293061	1.131428	15029.55932	-0.01137		
0.002707	0.000071	6.084245	1.302653	1.139821	15080.50566	0.049805	0.000071	1.139821
0.007802	0.00058	6.053549	1.283468	1.123035	15029.55932	0.039609		
-0.00239	-0.000439	6.104709	1.315443	1.151013	15131.452	0.141568		
-0.00239	-0.000439	6.053549	1.283468	1.123035	14978.61298	0.060001	0.000071	1.131428
0.007802	0.00058	6.068897	1.293061	1.131428	15182.39834	0.049805		
0.002707	0.000071	6.109825	1.31864	1.15381	15131.452	0.314898	0.000071	1.139821
-0.00239	-0.000439	6.068897	1.293061	1.131428	14978.61298	0.039609		
0.002707	0.000071	6.089361	1.305851	1.142619	15080.50566	-0.001174		
0.002707	0.000071	6.063781	1.289863	1.12863	15182.39834	-0.113329	0.000071	1.15381
-0.00239	-0.000439	6.094477	1.309048	1.145417	15080.50566	0.049805		
0.007802	0.00058	6.089361	1.305851	1.142619	15080.50566	0.049805		
0.002707	0.000071	6.053549	1.283468	1.123035	14978.61298	0.060001	0.000071	1.142619
0.002707	0.000071	6.125172	1.328233	1.162204	15131.452	0.039609		
0.007802	0.00058	6.043318	1.277073	1.117439	15029.55932	0.11098		
0.007802	0.00058	6.099593	1.312246	1.148215	15080.50566	0.019217	0.000071	1.12863
-0.00239	-0.000439	6.084245	1.302653	1.139821	15029.55932	0.039609		
-0.00239	-0.000439	6.160984	1.350615	1.181788	15080.50566	-0.133721		
-0.00239	-0.000439	6.074013	1.296258	1.134226	15029.55932	0.049805	0.000071	1.123035
0.007802	0.00058	6.104709	1.315443	1.151013	15131.452	0.039609		
0.007802	0.00058	6.063781	1.289863	1.12863	15131.452	0.060001		
0.007802	0.00058	6.058665	1.286666	1.125833	15182.39834	-0.133721	0.000071	1.162204
-0.00748	-0.000948	6.079129	1.299456	1.137024	15233.34468	-0.041958		
-0.00239	-0.000439	6.094477	1.309048	1.145417	15182.39834	-0.072545		
0.012897	0.00109	6.074013	1.296258	1.134226	15029.55932	0.039609	0.000071	1.137024
0.002707	0.000071	6.079129	1.299456	1.137024	15080.50566	-0.072545		
0.007802	0.00058	6.145636	1.341023	1.173395	15182.39834	-0.052154		
-0.00239	-0.000439	6.084245	1.302653	1.139821	15029.55932	-0.06235	Average	1.139402

**Table 3: Average Max Air Flow for Run 1**

To perform the analysis of the DOE in Minitab, at the top of the page in the tool bar Stat was selected followed by DOE, Factorial, and Analyze Factorial Design. In the popup window that opens up, the air flow was selected as the responses. In the Terms tab, include terms in the model up through order was set to four and the selected terms was where all the main effects and all interactions were entered. The Prediction tab is where the factors go (number of ionization sites, height of the collector, distance between electrodes, and voltage). The confidence level was also set at 95. In the Graphs tab, the alpha value is .05, residuals for plot were left regular, and Individual plots was selected with histogram, normal plot, residuals versus fits and residuals versus order were checked. The other tabs were left the same without making any other changes. Once options were selected, the DOE in Minitab® was analyzed producing the results described in the following section.

#### 4.3 Minitab® Results

Minitab® produces an analysis of variance table for air flow that was used to interpret the results of the analysis that was performed. This table is also referred to as an ANOVA summary table, and it uses mathematical procedures that test the hypothesis to show which factors tested in the DOE significantly influences the air flow of the ionic device and do not. The ANOVA table that was generated displays multiple columns of data: The degrees of freedom (DF), sequence sum of squares (Seq SS), adjusted sum of squares (Adj SS), adjusted mean of squares (Adj MS), f- value (F), and p-value (P). The ANOVA summary table produced in Minitab is shown in table 4. Minitab® also creates an estimated effects and coefficients table for air flow. The effect table that was generated displays columns of data for: the effect, coefficients (Coef), standard error of the coefficients (SE Coef), t-value (T), p-value (P). The

estimated effects and coefficients table produced in Minitab is shown in table 5. The P-Values for both tables matched for the factors and interactions between factors being analyzed.

Analysis of Variance for Air Flow (coded units)

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Main Effects	4	7.01590	7.01590	1.75398	142.67	0.000
Number of Ionization Sites	1	0.00147	0.00147	0.00147	0.12	0.731
Height of Collector	1	0.00873	0.00873	0.00873	0.71	0.406
Distance between Electrodes	1	1.05813	1.05813	1.05813	86.07	0.000
Voltage	1	5.94757	5.94757	5.94757	483.79	0.000
2-Way Interactions	6	0.46805	0.46805	0.07801	6.35	0.000
Number of Ionization Sites*Height of Collector	1	0.10463	0.10463	0.10463	8.51	0.006
Number of Ionization Sites*Distance between Electrodes	1	0.02951	0.02951	0.02951	2.40	0.131
Number of Ionization Sites*Voltage	1	0.00372	0.00372	0.00372	0.30	0.586
Height of Collector*Distance between Electrodes	1	0.04496	0.04496	0.04496	3.66	0.065
Height of Collector*Voltage	1	0.10662	0.10662	0.10662	8.67	0.006
Distance between Electrodes*Voltage	1	0.17861	0.17861	0.17861	14.53	0.001
3-Way Interactions	4	0.00787	0.00787	0.00197	0.16	0.957
Number of Ionization Sites*Height of Collector*Distance between Electrodes	1	0.00182	0.00182	0.00182	0.15	0.703
Number of Ionization Sites*Height of Collector*Voltage	1	0.00248	0.00248	0.00248	0.20	0.656
Number of Ionization Sites*Distance between Electrodes*Voltage	1	0.00352	0.00352	0.00352	0.29	0.596
Height of Collector*Distance between Electrodes*Voltage	1	0.00004	0.00004	0.00004	0.00	0.954
4-Way Interactions	1	0.01258	0.01258	0.01258	1.02	0.319
Number of Ionization Sites*Height of Collector*Distance between Electrodes*Voltage	1	0.01258	0.01258	0.01258	1.02	0.319
Residual Error	32	0.39340	0.39340	0.01229		
Pure Error	32	0.39340	0.39340	0.01229		
Total	47	7.89780				

**Table 4: ANOVA Summary Table for Air Flow**

**Factorial Fit: Air Flow versus Number of Ioniza, Height of Collec, ...**

Estimated Effects and Coefficients for Air Flow (coded units)

Term	Effect	Coef	SE Coef	T	P
Constant		1.2124	0.01600	75.76	0.000
Number of Ionization Sites	-0.0111	-0.0055	0.01600	-0.35	0.731
Height of Collector	-0.0270	-0.0135	0.01600	-0.84	0.406
Distance between Electrodes	-0.2969	-0.1485	0.01600	-9.28	0.000
Voltage	0.7040	0.3520	0.01600	22.00	0.000
Number of Ionization Sites* Height of Collector	-0.0934	-0.0467	0.01600	-2.92	0.006
Number of Ionization Sites* Distance between Electrodes	-0.0496	-0.0248	0.01600	-1.55	0.131
Number of Ionization Sites* Voltage	0.0176	0.0088	0.01600	0.55	0.586
Height of Collector* Distance between Electrodes	-0.0612	-0.0306	0.01600	-1.91	0.065
Height of Collector* Voltage	0.0943	0.0471	0.01600	2.94	0.006
Distance between Electrodes* Voltage	-0.1220	-0.0610	0.01600	-3.81	0.001
Number of Ionization Sites* Height of Collector* Distance between Electrodes	0.0123	0.0062	0.01600	0.39	0.703
Number of Ionization Sites* Height of Collector* Voltage	0.0144	0.0072	0.01600	0.45	0.656
Number of Ionization Sites* Distance between Electrodes* Voltage	0.0171	0.0086	0.01600	0.54	0.596
Height of Collector* Distance between Electrodes* Voltage	-0.0019	-0.0009	0.01600	-0.06	0.954
Number of Ionization Sites* Height of Collector* Distance between Electrodes* Voltage	-0.0324	-0.0162	0.01600	-1.01	0.319

**Table 5: Estimated Effects and Coefficients Table for Air Flow**

A second analysis was performed in Minitab® on the data with the insignificant factors and interactions being reduced into the error term. At the top of the page in the tool bar Stat was selected followed by ANOVA and General Linear Model. Once again in the popup window the air flow was selected as the response. Then the four factors and only the significant interactions were put in for the model. In the Graphs tab, the residuals for plot was selected along with checking the four graphs, Individual, histogram, normal plot, residuals versus fits and residuals versus order. In the Factor Plots tab, the distance between electrodes and the voltage were put in for the factors main effects plots, and only the significant interactions (the number of ionization sites and the height of the collector, the interactions between height of the collector and the voltage, and the interactions between the distance between electrodes and the voltage) were entered for the factors interactions plots. All other tabs were left unchanged. The analysis was then performed and results generated an ANOVA summary table for just the factors and significant interactions as shown in table 6.

Analysis of Variance for Air Flow, using Adjusted SS for Tests

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Number of Ionization Sites	1	0.0015	0.0015	0.0015	0.12	0.731
Height of Collector	1	0.0087	0.0087	0.0087	0.71	0.405
Distance between Electrodes	1	1.0581	1.0581	1.0581	86.02	0.000
Voltage	1	5.9476	5.9476	5.9476	483.51	0.000
Number of Ionization Sites* Height of Collector	1	0.1046	0.1046	0.1046	8.51	0.006
Height of Collector*Voltage	1	0.1066	0.1066	0.1066	8.67	0.005
Distance between Electrodes*Voltage	1	0.1786	0.1786	0.1786	14.52	0.000
Error	40	0.4920	0.4920	0.0123		
Total	47	7.8978				

**Table 6: ANOVA Summary Table of Air Flow for Factors and Significant Interactions**

Another DOE was then performed on the two insignificant factors number of ionization sites, height of the collector. The distance between the electrodes was fixed at 18mm and the voltage was fixed 15,000  $\pm$ 200 volts. The new DOE was set up using these two factors with two levels and three replicates in a randomized order. The high and low values for the number of ionization sites were 5 needles and 12 needles, and for the height of the collector they were the same as before (7.85mm and 25.97mm). New data was collected and recorded for the 12 runs. An air flow was calculated for the response using the same method as before. Everything was then entered into Minitab® and analyzed in the same process. The results for the two factor DOE are shown in table 7.

Analysis of Variance for Air Flow (coded units)

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Main Effects	2	0.057819	0.057819	0.028910	10.36	0.006
Number of Ionization Sites	1	0.003480	0.003480	0.003480	1.25	0.297
Height of the Collector	1	0.054339	0.054339	0.054339	19.47	0.002
2-Way Interactions	1	0.001136	0.001136	0.001136	0.41	0.541
Number of Ionization Sites*Height of the Collector	1	0.001136	0.001136	0.001136	0.41	0.541
Residual Error	8	0.022322	0.022322	0.002790		
Pure Error	8	0.022322	0.022322	0.002790		
Total	11	0.081277				

Estimated Effects and Coefficients for Air Flow (coded units)

Term	Effect	Coef	SE Coef	T	P
Constant		1.65813	0.01525	108.74	0.000
Number of Ionization Sites	-0.03406	-0.01703	0.01525	-1.12	0.297
Height of the Collector	0.13458	0.06729	0.01525	4.41	0.002
Number of Ionization Sites* Height of the Collector	-0.01946	-0.00973	0.01525	-0.64	0.541

s = 0.0528225    PRESS = 0.0502238  
R-Sq = 72.54%    R-Sq(pred) = 38.21%    R-Sq(adj) = 62.24%

**Table 7: Two Factor DOE Results**

The results of the four factor two level DOE were then used to create a regression equation. This is accomplished by using the constant and the coefficients of the significant factors and interactions from the estimated effects and coefficients for air flow table. They are multiplied by the factor or interaction in which they are the coefficient of. The regression equation for this design of experiments is  $Y = 1.2124 - .1485*C + .3520*D - .0467*AB + .0471*BD - .0610*CD$ . The regression equation was used to calculate predicted values of max air flow for the standard order of [1], a, b, ab, c, ac, bc, abc, d, ad, bd, abd, cd, acd, bcd, abcd. 1 and -1 are used as the high and low values for the factors when substituting the levels into the regression equation. 1 was used for the high value and -1 was used for the low value. The actual maximum air flows recorded for the three replicates are arranged in standard order and then averaged to get a grand average value. Table 8 shows the calculated predicted values from the regression equation and the averaged values. The predicted and averaged values were then graphed, this is shown in figure 10 of chapter 5.

<b>Factor A:</b>	Number of Ionization Sites			<b>Factor C:</b>	Distance between Electrodes		
<b>Factor B:</b>	Height of Collector			<b>Factor D:</b>	Voltage		
	A	B	C	D	Average	Predicted	error
[1]	-1	-1	-1	-1	<b>0.883566</b>	<b>0.9483</b>	<b>-0.06473</b>
a	1	-1	-1	-1	<b>1.07407</b>	<b>1.0417</b>	<b>0.03237</b>
b	-1	1	-1	-1	<b>0.974152</b>	<b>0.9475</b>	<b>0.026652</b>
ab	1	1	-1	-1	<b>0.85972</b>	<b>0.8541</b>	<b>0.00562</b>
c	-1	-1	1	-1	<b>0.879395</b>	<b>0.7733</b>	<b>0.106095</b>
ac	1	-1	1	-1	<b>0.847045</b>	<b>0.8667</b>	<b>-0.01966</b>
bc	-1	1	1	-1	<b>0.761881</b>	<b>0.7725</b>	<b>-0.01062</b>
abc	1	1	1	-1	<b>0.603409</b>	<b>0.6791</b>	<b>-0.07569</b>
d	-1	-1	-1	1	<b>1.659749</b>	<b>1.6801</b>	<b>-0.02035</b>
ad	1	-1	-1	1	<b>1.757665</b>	<b>1.7735</b>	<b>-0.01584</b>
bd	-1	1	-1	1	<b>1.849056</b>	<b>1.8677</b>	<b>-0.01864</b>
abd	1	1	-1	1	<b>1.82909</b>	<b>1.7743</b>	<b>0.05479</b>
cd	-1	-1	1	1	<b>1.316287</b>	<b>1.2611</b>	<b>0.055187</b>
acd	1	-1	1	1	<b>1.389379</b>	<b>1.3545</b>	<b>0.034879</b>
bcd	-1	1	1	1	<b>1.419534</b>	<b>1.4487</b>	<b>-0.02917</b>
abcd	1	1	1	1	<b>1.294563</b>	<b>1.3553</b>	<b>-0.06074</b>

**Table 8: Calculated Predicted and Averaged Values**

## CHAPTER 5: DISCUSSION

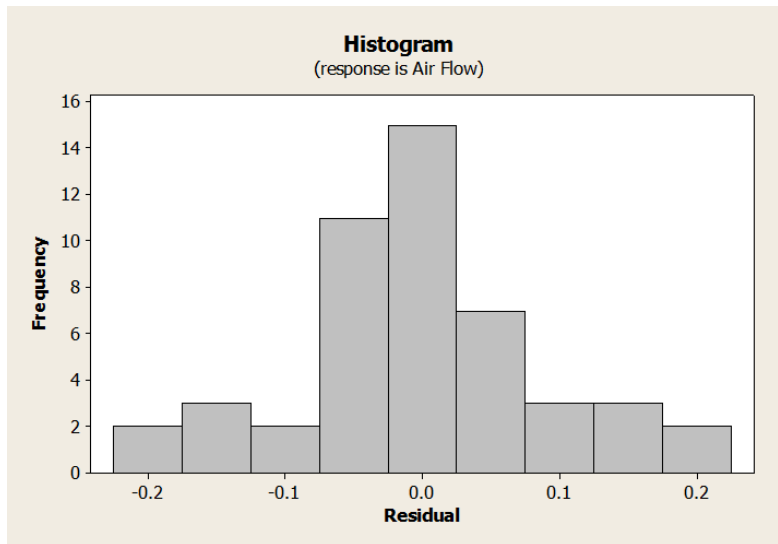
### 5.1 Restatement of Problem

This study is a statistical analysis of the major independent variables of an ionic air moving device, proposing that the optimization of the geometry influences the air flow of the device. The study on past engineering accomplishments through investigations and analytical reviews of ionic air moving devices to determine the effects that the following parameters of the device have on air flow rates: the number of ionization sites (the number of needles), the distance between the ionization sites (the emitter and the collector), the collector height (height of the ring), and the voltage. Insufficient knowledge of these parameters prevents the device's geometry from being optimized to improve its functionality and enhance its efficiency. A better understanding of these functioning parameters will help in allowing optimal settings to be determined, and improvements to the design and development of ionic devices to be made. Thus these advancements for the ionic device improve its' commercial appeal. Due to immense diversity of application for the device, improved efficiency potentially can significantly influence changes in commercial fields of engineering technologies.

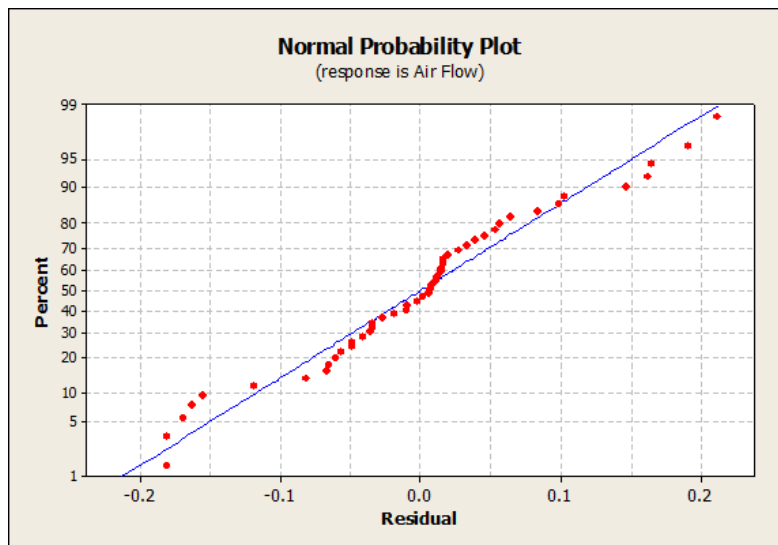
### 5.2 Distribution of the Data

Minitab® generates a histogram and a normal probability plot as part of the results for a DOE. These graphs shown in figures 8 and 9 are used to determine whether or not the data came from a population that is normally distributed. All 48 runs are taken and plotted into the histogram chart as individual value points. If the data fits a bell shaped curve then the data is assumed to be sampled from a normally distributed population. Visually the data recorded for the DOE shown in the histogram has an approximate bell shape, thus, the assumption was made that the data came from a population being normally distributed. The normal probability plot is a tool

that can confirm the assumption of normality. By using the probability properties of the normal distribution the normal probability plot can conclude if the data fits a normal distribution. In a normal probability plot, the closer the data falls on the straight line the more it fits a normal distribution. The graph visually shows that the data is linear and falls close to the line. The collected data for the DOE came from a normally distributed population.



**Figure 8: Histogram**



**Figure 9: Normal Probability Plot**



### 5.3 Analysis of Findings for Design of Experiments

The response variable (Air Flow) was tested pertaining to the parameters of an ionic air moving device for the number of ionization sites, the height of the collector, the distance between the electrodes, and the voltage. The experimentation was carried out by recording the air flow of the device through the use of a flow bench. The LabVIEW® program recorded the data for the 48 runs in to a spreadsheet. The air flow data that was used for the response in the DOE was entered into Minitab®. Minitab®'s results were then analyzed against the stated hypotheses:

Null Hypothesis: The major independent variables ( $i$ ), such as the number of ionization sites, the distance between the ionization sites and the collector, the collector height (height of the ring), and the voltage being tested have no significant influence on the air flow of the ionic device. The independent variables (factors) are all equal relative to the influence of air flow.

$$H_0: \mu_i = \mu_i \text{ for all } i$$

Alternate Hypothesis: The major independent variables such as the number of ionization sites, the distance between the ionization sites and the collector, the collector height (height of the ring), and the voltage being tested significantly influence the air flow of the ionic device. At least one or more factors ( $\mu_i$ ) are not equal relative to the influence of air flow.

$$H_a: \mu_i \neq \mu_i \text{ for one or more independent variables } (i)$$

To determine if the hypothesis can be rejected or not, it is important analyze the results and understand what the outcome of these findings conclude. The first step to evaluate is the Analysis of variance table produced by Minitab®. In order to interpret the data presented in the ANOVA summary table results, the importance is to understand the critical indicators of

significance. The p-value column (P) will determine which of the four factors and interactions between factors is significant. Since this study set alpha at .05 for the significance level, a 95% confidence level can correspondingly be established. To determine if there is a significant difference the p-value is compared to that of the alpha value. It can be concluded that if the p-value is smaller than the alpha value then there is a significant difference, however, if the p-value happens to be larger than the alpha value then there is no significant difference.

The main effects are interpreted first. The p-values in the ANOVA summary table results conclude that the distance between the ionization sites and the collector (Electrodes), the voltage have a significant influence on the air flow of the ionic device, while the number of ionization sites and the height of the collector do not. The p-values for the number of ionization are .731 and for the height of the collector are .406. Compared to the alpha value of .05, both .731 and .406 are greater, thus these factors are not significant. The p-values for the distance between electrodes and the voltage are both .000. Both of these factors have a p-value less than the alpha value, thus they are significant. The Two way interactions show that the interactions between the number of ionization sites and the height of the collector, the interactions between height of the collector and the voltage, and the interactions between the distance between electrodes and the voltage are all significant having p-values (.006, .006, and .001) less than the alpha value. The ANOVA table shows that nothing else has any significance since the p-values for all three way interactions and the four way interaction are greater than the alpha value.

To determine the significance that those factors and interactions have on the air flow of the ionic device, the estimated effects and coefficients table are used. The Results show that of the significant factors, the voltage has a positive effect (.7040) and the distance between electrodes has a negative effect (-.2969) on the device. The voltage had a positive effect due to

the fact that increasing the voltage increased the amount of air flow. The distance between electrodes had a negative effect due to the fact that increasing the distance decreased the amount of air flow. It also shows that the voltage had the greatest effect on the air flow. For the significant interactions, both the interaction between number of ionization sites and the height of the collector, and the interaction between the distance between electrodes and the voltage had a negative effect, while the interaction of the height of the collector and the voltage had a positive effect. The interaction between the distance between electrodes and the voltage had the greatest effect (-.1220) of the interactions, due to both factors being significant in the interaction.

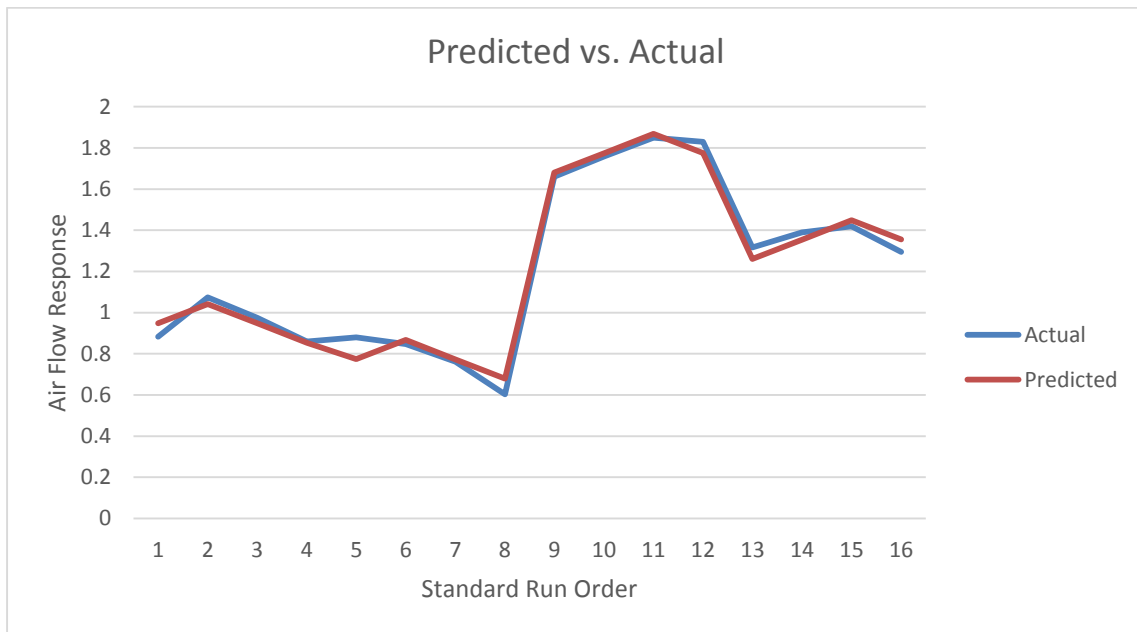
After determining which factors and interactions are significant a second analysis was performed by reducing all insignificant interactions into the error term. Even though the Number of Ionization sites and height of the collector are insignificant they were kept since the interaction between the two was significant and the results could not be analyzed right without them in Minitab®. The ANOVA summary table of factors and only significant interactions shows that the distance between the ionization sites and the collector (Electrodes), the voltage, the interactions between the number of ionization sites and the height of the collector, the interactions between height of the collector and the voltage, and the interactions between the distance between electrodes and the voltage are still significant after reducing all insignificant interactions into the error term. The results of this analysis confirm the results of the first analysis. The null hypothesis was rejected since the DOE shows that these four factors are not statistically equal to each other.

The previous literature suggested that the parameters studied in the four factor two level Design of Experiments influenced the air flow of the ionic device. The results of the DOE agreed with the literature for the distance between the electrodes, and the voltage. However, the DOE

showed the number of ionization sites and height of the collector to be insignificant. This may differ from the literature due to the fact that the high and low level values for those factors are not far enough apart. The difference between 2 needles and 5 needles might not have been large enough to show significance. A two factor two level Design of Experiments was performed just on the number of ionization sites and height of the collector. Next, a larger difference in the high and low values was used to see if this would make the number of needles a significant factor. The difference in number of needles was more than double from the first experiment. 5 and 12 needles were tested. The results of this DOE showed that even when using more needles and increasing the difference between the high and low values that the number of ionization sites were still insignificant. The p-value for the number of ionization sites is .297 which is far greater than the alpha value of .05. This means that just changing the number of needles does not influence the ionic device. The results also showed that the height of the collector was significant, its p-value (.002) was lower than the alpha value. This means that when the distance between the electrodes and the voltage are fixed that changing the height of the collector will have a small influence on the air flow.

The regression equation for a DOE predicts values that are within the limits set by the high and low level settings. The regression equation was incapable of predicting values outside of those limits. In this case, the regression equation was used as a verification tool to reinforce that the data came from a good sample, and the population tested was normally distributed. This was achieved by comparing the predicted values from the regression equation to the averaged values for the standard order. As shown in figure 10, the predicted values calculated from the regression equation mirror the averaged values of the standard order for the collected data. The correlation of data further reinforces the statistical analysis of the DOE on the ionic air moving device. The

graph also demonstrates how the significant factors affect the air flow. The greatest spike in air flow comes at runs 8 to 9 and 12 to 13 in the standard order. The increase in air flow that occurs between runs 8 and 9 was due to the fact that the voltage was increased from 10,000 to 15,000 volts and the distance between electrodes was at its shortest. The decrease in air flow that occurs between runs 12 and 13 was due to the distance between electrodes being increased. This confirms that the voltage and Distance between electrodes have the greatest effect on the air flow of the ionic device, with the voltage having the most impact.



**Figure 10: Predicted vs. Actual Values**

## CHAPTER 6: CONCLUSIONS

### 6.1 Conclusion of Study

Experimentation that has taken place in previous literature suggests that the parameters number of ionization sites, distance between the electrodes, and the voltage are significant in the influence of the ionic device. The factors were studied and the results of a four factor two level Design of Experiments determined that the distance between the ionization electrodes, the voltage and the two way interactions between the number of ionization sites and the height of the collector, the interactions between height of the collector and the voltage, and the interactions between the distance between electrodes and the voltage are all significant in influencing the air flow of the ionic device. These result suggest that when changing all of the parameters for the ionic device to increase the air flow that the distance between the electrodes and the voltage along with certain interactions between the parameters have the most impact and should be adjusted first.

The results of a two factor two level Design of Experiments determined that when the distance between the electrodes and the voltage have become fixed then the height of the collector becomes significant. However, even though more needles were used in the experimentation and there was a greater difference between the high and low values for the factor of the number of ionization sites it was still insignificant. This finding suggests that once the distance between the electrodes and the voltage are adjusted accordingly and set to proper values then the height of the collector should be the next parameter to adjust out of the remaining factors in order to influence the air flow of the ionic device.

## 6.2 Future Work

Now that parameters have been established that have an effect on the performance of air flow for the device, the proper settings can be identified. The next steps for optimizing the geometry are to continue experimentations with these parameters (number of ionization sites, height of the collector, distance between electrodes, and voltage) by changing the high and low values and increasing the difference between them. Continued studies of the factors, their interactions and the high and low values will help determine the optimal settings for the ionic devices. Ideal settings of the parameters will optimize its geometry and allow the ionic device to perform at its max in terms of air flow and efficiency. After optimizing the geometry of the ionic air moving device and being able to produce its highest efficiency can the device truly be compared to the efficiencies of fans and blowers. If by itself ionic devices are not as efficient, then due to its advantages the next steps would be looking into component cooling in industry that involves heat sinks. Heat sinks utilize system level air flow. Here they would have the advantage due to the fact that fans and blowers would be cooling more than one component resulting in a case where losses dominate the overall efficiency. The losses occur between the larger fans and the heated components. Ionic devices can be incorporated right into the heat sink allowing for no losses to dominate the efficiency. Without losses ionic devices are capable of providing sufficient localized air flow.

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APPENDIX A: Collected Data for 4 Factor DOE

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00239	-0.000439	6.099593	1.312246	1.148215	15182.39834	0.060001
0.007802	0.00058	6.063781	1.289863	1.12863	15080.50566	0.080393
-0.00239	-0.000439	6.084245	1.302653	1.139821	15029.55932	0.141568
0.007802	0.00058	6.104709	1.315443	1.151013	15182.39834	0.039609
0.007802	0.00058	6.053549	1.283468	1.123035	15335.23735	0.28431
0.002707	0.000071	6.094477	1.309048	1.145417	15080.50566	0.049805
0.007802	0.00058	6.043318	1.277073	1.117439	15029.55932	0.039609
0.002707	0.000071	6.089361	1.305851	1.142619	14978.61298	0.060001
0.007802	0.00058	6.125172	1.328233	1.162204	15182.39834	0.080393
0.002707	0.000071	6.063781	1.289863	1.12863	15131.452	0.090589
0.002707	0.000071	6.038202	1.273876	1.114642	15029.55932	0.029413
-0.00239	-0.000439	6.145636	1.341023	1.173395	15131.452	-0.021566
0.002707	0.000071	6.104709	1.315443	1.151013	15029.55932	0.019217
0.007802	0.00058	6.109825	1.31864	1.15381	15080.50566	-0.052154
0.002707	0.000071	6.068897	1.293061	1.131428	15080.50566	0.049805
0.007802	0.00058	6.048433	1.280271	1.120237	15029.55932	0.049805
0.002707	0.000071	6.099593	1.312246	1.148215	15182.39834	-0.276463
0.007802	0.00058	6.094477	1.309048	1.145417	14978.61298	0.060001
-0.00239	-0.000439	6.074013	1.296258	1.134226	15029.55932	0.029413
0.002707	0.000071	6.068897	1.293061	1.131428	15029.55932	0.060001
0.007802	0.00058	6.135404	1.334628	1.167799	15029.55932	0.080393
-0.00239	-0.000439	6.053549	1.283468	1.123035	15080.50566	0.060001
0.002707	0.000071	6.104709	1.315443	1.151013	15029.55932	0.049805
0.002707	0.000071	6.068897	1.293061	1.131428	15131.452	-0.123525
-0.00239	-0.000439	6.053549	1.283468	1.123035	15131.452	0.070197
0.007802	0.00058	6.063781	1.289863	1.12863	15029.55932	-0.103133
-0.00239	-0.000439	6.094477	1.309048	1.145417	15029.55932	0.060001
0.002707	0.000071	6.109825	1.31864	1.15381	15029.55932	-0.01137
0.007802	0.00058	6.058665	1.286666	1.125833	15029.55932	0.11098
-0.00239	-0.000439	6.053549	1.283468	1.123035	15182.39834	0.049805
0.002707	0.000071	6.084245	1.302653	1.139821	15131.452	0.049805
0.012897	0.00109	6.068897	1.293061	1.131428	15080.50566	0.019217
0.002707	0.000071	6.068897	1.293061	1.131428	15029.55932	-0.01137
0.002707	0.000071	6.084245	1.302653	1.139821	15080.50566	0.049805
0.007802	0.00058	6.053549	1.283468	1.123035	15029.55932	0.039609
-0.00239	-0.000439	6.104709	1.315443	1.151013	15131.452	0.141568
-0.00239	-0.000439	6.053549	1.283468	1.123035	14978.61298	0.060001
0.007802	0.00058	6.068897	1.293061	1.131428	15182.39834	0.049805
0.002707	0.000071	6.109825	1.31864	1.15381	15131.452	0.314898
-0.00239	-0.000439	6.068897	1.293061	1.131428	14978.61298	0.039609
0.002707	0.000071	6.089361	1.305851	1.142619	15080.50566	-0.001174
0.002707	0.000071	6.063781	1.289863	1.12863	15182.39834	-0.113329
-0.00239	-0.000439	6.094477	1.309048	1.145417	15080.50566	0.049805
0.007802	0.00058	6.089361	1.305851	1.142619	15080.50566	0.049805
0.002707	0.000071	6.053549	1.283468	1.123035	14978.61298	0.060001
0.002707	0.000071	6.125172	1.328233	1.162204	15131.452	0.039609
0.007802	0.00058	6.043318	1.277073	1.117439	15029.55932	0.11098
0.007802	0.00058	6.099593	1.312246	1.148215	15080.50566	0.019217
-0.00239	-0.000439	6.084245	1.302653	1.139821	15029.55932	0.039609
-0.00239	-0.000439	6.160984	1.350615	1.181788	15080.50566	-0.133721
-0.00239	-0.000439	6.074013	1.296258	1.134226	15029.55932	0.049805
0.007802	0.00058	6.104709	1.315443	1.151013	15131.452	0.039609
0.007802	0.00058	6.063781	1.289863	1.12863	15131.452	0.060001
0.007802	0.00058	6.058665	1.286666	1.125833	15182.39834	-0.133721
-0.00748	-0.000948	6.079129	1.299456	1.137024	15233.34468	-0.041958
-0.00239	-0.000439	6.094477	1.309048	1.145417	15182.39834	-0.072545
0.012897	0.00109	6.074013	1.296258	1.134226	15029.55932	0.039609
0.002707	0.000071	6.079129	1.299456	1.137024	15080.50566	-0.072545
0.007802	0.00058	6.145636	1.341023	1.173395	15182.39834	-0.052154
-0.00239	-0.000439	6.084245	1.302653	1.139821	15029.55932	-0.06235

Run 1

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00239	-0.000439	5.112218	0.695136	0.608244	10087.76446	0.090589
0.002707	0.000071	5.112218	0.695136	0.608244	9985.871783	0.049805
-0.00748	-0.000948	5.12245	0.701531	0.61384	10087.76446	0.11098
-0.00239	-0.000439	5.137798	0.711123	0.622233	9985.871783	0.039609
0.002707	0.000071	5.117334	0.698334	0.611042	10138.7108	0.049805
0.007802	0.00058	5.127566	0.704729	0.616638	10087.76446	0.060001
-0.00748	-0.000948	5.117334	0.698334	0.611042	10087.76446	-0.143917
-0.00748	-0.000948	5.101986	0.688741	0.602649	10495.33517	0.998022
-0.00239	-0.000439	5.158261	0.723913	0.633424	10036.81812	-0.082741
0.002707	0.000071	5.112218	0.695136	0.608244	10087.76446	-0.01137
-0.00748	-0.000948	5.086638	0.679149	0.594255	10036.81812	0.039609
-0.00748	-0.000948	5.091754	0.682346	0.597053	10036.81812	0.080393
0.002707	0.000071	5.081522	0.675951	0.591458	10138.7108	0.131372
0.002707	0.000071	5.107102	0.691939	0.605446	10138.7108	0.060001
-0.00748	-0.000948	5.101986	0.688741	0.602649	10036.81812	0.070197
0.002707	0.000071	5.12245	0.701531	0.61384	10087.76446	0.070197
-0.00239	-0.000439	5.112218	0.695136	0.608244	10087.76446	0.060001
-0.00239	-0.000439	5.127566	0.704729	0.616638	10138.7108	0.100785
-0.00748	-0.000948	5.101986	0.688741	0.602649	9985.871783	0.060001
-0.00748	-0.000948	5.112218	0.695136	0.608244	9985.871783	0.151764
-0.00239	-0.000439	5.137798	0.711123	0.622233	10036.81812	0.049805
-0.00239	-0.000439	5.12245	0.701531	0.61384	10036.81812	0.060001
0.002707	0.000071	5.107102	0.691939	0.605446	10087.76446	0.060001
-0.00239	-0.000439	5.148029	0.717518	0.627829	10138.7108	-0.06235
-0.00748	-0.000948	5.101986	0.688741	0.602649	10087.76446	0.192547
-0.00748	-0.000948	5.132682	0.707926	0.619435	10036.81812	0.131372
-0.00748	-0.000948	5.163377	0.727111	0.636222	10036.81812	0.080393
0.002707	0.000071	5.153145	0.720716	0.630626	10087.76446	0.029413
0.002707	0.000071	5.142914	0.714321	0.625031	10036.81812	0.131372
-0.00748	-0.000948	5.142914	0.714321	0.625031	10138.7108	0.100785
-0.00239	-0.000439	5.101986	0.688741	0.602649	10138.7108	0.100785
-0.01258	-0.001458	5.091754	0.682346	0.597053	10087.76446	0.039609
-0.01258	-0.001458	5.091754	0.682346	0.597053	10036.81812	0.019217
0.002707	0.000071	5.127566	0.704729	0.616638	10087.76446	0.060001
0.002707	0.000071	5.12245	0.701531	0.61384	10087.76446	0.080393
-0.00239	-0.000439	5.101986	0.688741	0.602649	9985.871783	0.243527
-0.00748	-0.000948	5.101986	0.688741	0.602649	10087.76446	0.223135
0.002707	0.000071	5.153145	0.720716	0.630626	10036.81812	-0.001174
0.002707	0.000071	5.148029	0.717518	0.627829	10036.81812	0.019217
-0.00748	-0.000948	5.127566	0.704729	0.616638	10087.76446	0.049805
-0.00239	-0.000439	5.117334	0.698334	0.611042	9985.871783	0.049805
0.002707	0.000071	5.117334	0.698334	0.611042	10036.81812	0.039609
0.002707	0.000071	5.091754	0.682346	0.597053	9985.871783	0.100785
-0.00239	-0.000439	5.086638	0.679149	0.594255	9985.871783	0.100785
0.002707	0.000071	5.091754	0.682346	0.597053	10087.76446	0.11098
0.007802	0.00058	5.12245	0.701531	0.61384	10138.7108	0.060001
-0.00239	-0.000439	5.112218	0.695136	0.608244	9985.871783	0.080393
0.007802	0.00058	5.132682	0.707926	0.619435	9985.871783	0.049805
-0.00239	-0.000439	5.117334	0.698334	0.611042	9985.871783	0.090589
-0.00748	-0.000948	5.12245	0.701531	0.61384	9934.925445	0.080393
-0.01258	-0.001458	5.086638	0.679149	0.594255	10087.76446	0.172156
0.002707	0.000071	5.12245	0.701531	0.61384	10036.81812	1.32429
0.007802	0.00058	5.101986	0.688741	0.602649	10087.76446	0.090589
-0.00239	-0.000439	5.101986	0.688741	0.602649	9985.871783	0.070197
-0.00239	-0.000439	5.12245	0.701531	0.61384	10138.7108	0.060001
0.002707	0.000071	5.117334	0.698334	0.611042	10138.7108	-0.113329
-0.00239	-0.000439	5.107102	0.691939	0.605446	10087.76446	0.060001
-0.00239	-0.000439	5.132682	0.707926	0.619435	10138.7108	0.049805
0.002707	0.000071	5.081522	0.675951	0.591458	9985.871783	0.243527
-0.00748	-0.000948	5.132682	0.707926	0.619435	10036.81812	0.151764

Run 2

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00239	-0.000439	5.112218	0.695136	0.608244	10189.65714	0.121176
0.007802	0.00058	5.081522	0.675951	0.591458	10138.7108	-0.001174
-0.00239	-0.000439	5.045711	0.653569	0.571873	10036.81812	0.009022
0.007802	0.00058	5.081522	0.675951	0.591458	10087.76446	0.060001
-0.00239	-0.000439	5.066175	0.666359	0.583064	10087.76446	0.080393
-0.01258	-0.001458	5.076406	0.672754	0.58866	10138.7108	0.233331
0.007802	0.00058	5.081522	0.675951	0.591458	10189.65714	-0.103133
-0.00239	-0.000439	5.045711	0.653569	0.571873	10036.81812	0.182352
-0.00748	-0.000948	5.101986	0.688741	0.602649	10138.7108	0.009022
-0.00239	-0.000439	5.061059	0.663162	0.580266	10138.7108	-0.041958
0.002707	0.000071	5.030363	0.643977	0.56348	10036.81812	0.049805
-0.00239	-0.000439	5.061059	0.663162	0.580266	10138.7108	0.121176
-0.01258	-0.001458	5.081522	0.675951	0.591458	10087.76446	0.100785
0.002707	0.000071	5.061059	0.663162	0.580266	10138.7108	0.049805
-0.00239	-0.000439	5.101986	0.688741	0.602649	10189.65714	0.080393
0.002707	0.000071	5.061059	0.663162	0.580266	10087.76446	0.080393
0.002707	0.000071	5.07129	0.669557	0.585862	10087.76446	0.049805
-0.00748	-0.000948	5.061059	0.663162	0.580266	10087.76446	0.060001
-0.00239	-0.000439	5.076406	0.672754	0.58866	10189.65714	-0.072545
-0.00239	-0.000439	5.091754	0.682346	0.597053	10036.81812	-0.113329
0.002707	0.000071	5.081522	0.675951	0.591458	10087.76446	0.080393
-0.00239	-0.000439	5.066175	0.666359	0.583064	10036.81812	0.182352
0.007802	0.00058	5.07129	0.669557	0.585862	10087.76446	0.121176
0.007802	0.00058	5.081522	0.675951	0.591458	10087.76446	0.202743
-0.00239	-0.000439	5.107102	0.691939	0.605446	10087.76446	0.131372
-0.00748	-0.000948	5.081522	0.675951	0.591458	10138.7108	0.049805
0.007802	0.00058	5.081522	0.675951	0.591458	10087.76446	0.070197
0.002707	0.000071	5.081522	0.675951	0.591458	10087.76446	0.100785
0.007802	0.00058	5.076406	0.672754	0.58866	10036.81812	0.100785
-0.00748	-0.000948	5.076406	0.672754	0.58866	10036.81812	0.060001
0.007802	0.00058	5.061059	0.663162	0.580266	10087.76446	0.376073
-0.00748	-0.000948	5.066175	0.666359	0.583064	10087.76446	0.141568
0.007802	0.00058	5.055943	0.659964	0.577469	10036.81812	0.294506
0.002707	0.000071	5.061059	0.663162	0.580266	10036.81812	0.182352
-0.00239	-0.000439	5.081522	0.675951	0.591458	10138.7108	0.151764
-0.00239	-0.000439	5.055943	0.659964	0.577469	9985.871783	0.172156
-0.00239	-0.000439	5.040595	0.650372	0.569075	10087.76446	0.212939
-0.00239	-0.000439	5.076406	0.672754	0.58866	10036.81812	0.202743
0.002707	0.000071	5.040595	0.650372	0.569075	10087.76446	0.182352
-0.00748	-0.000948	5.050827	0.656767	0.574671	10036.81812	0.16196
-0.00239	-0.000439	5.07129	0.669557	0.585862	10036.81812	0.16196
-0.00239	-0.000439	5.081522	0.675951	0.591458	10138.7108	0.131372
-0.00239	-0.000439	5.081522	0.675951	0.591458	10087.76446	0.049805
-0.00239	-0.000439	5.081522	0.675951	0.591458	10087.76446	-0.06235
-0.00239	-0.000439	5.066175	0.666359	0.583064	10138.7108	0.049805
-0.00239	-0.000439	5.076406	0.672754	0.58866	10138.7108	0.070197
0.002707	0.000071	5.076406	0.672754	0.58866	10036.81812	0.080393
0.007802	0.00058	5.07129	0.669557	0.585862	10189.65714	0.060001
-0.00239	-0.000439	5.061059	0.663162	0.580266	10087.76446	0.090589
-0.00239	-0.000439	5.055943	0.659964	0.577469	10189.65714	0.049805
-0.00748	-0.000948	5.09687	0.685544	0.599851	10138.7108	0.100785
0.012897	0.00109	5.09687	0.685544	0.599851	10087.76446	0.16196
0.002707	0.000071	5.09687	0.685544	0.599851	10138.7108	0.100785
0.002707	0.000071	5.101986	0.688741	0.602649	10138.7108	0.080393
-0.00239	-0.000439	5.107102	0.691939	0.605446	10087.76446	0.049805
-0.00748	-0.000948	5.07129	0.669557	0.585862	10087.76446	0.049805
-0.00239	-0.000439	5.081522	0.675951	0.591458	10036.81812	0.060001
0.007802	0.00058	5.081522	0.675951	0.591458	10189.65714	0.090589
-0.00239	-0.000439	5.081522	0.675951	0.591458	10189.65714	0.049805

Run 3

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.007802	0.00058	5.465217	0.915761	0.801291	10087.76446	0.049805
0.002707	0.000071	5.480565	0.925353	0.809684	10087.76446	0.070197
0.007802	0.00058	5.460101	0.912563	0.798493	10138.7108	0.192547
-0.00239	-0.000439	5.495913	0.934946	0.818077	10036.81812	0.202743
0.007802	0.00058	5.465217	0.915761	0.801291	10189.65714	-0.072545
0.002707	0.000071	5.490797	0.931748	0.81528	10087.76446	0.049805
-0.00748	-0.000948	5.460101	0.912563	0.798493	10138.7108	0.131372
-0.00748	-0.000948	5.460101	0.912563	0.798493	9985.871783	0.182352
0.002707	0.000071	5.490797	0.931748	0.81528	10087.76446	0.029413
0.002707	0.000071	5.460101	0.912563	0.798493	10036.81812	-0.031762
0.002707	0.000071	5.465217	0.915761	0.801291	10138.7108	0.009022
-0.00748	-0.000948	5.465217	0.915761	0.801291	10138.7108	-0.021566
0.007802	0.00058	5.460101	0.912563	0.798493	10087.76446	0.049805
0.002707	0.000071	5.460101	0.912563	0.798493	10087.76446	0.080393
0.002707	0.000071	5.470333	0.918958	0.804088	10138.7108	0.131372
-0.00748	-0.000948	5.485681	0.928551	0.812482	10138.7108	0.151764
0.007802	0.00058	5.480565	0.925353	0.809684	10036.81812	0.090589
-0.00239	-0.000439	5.470333	0.918958	0.804088	10087.76446	0.070197
0.007802	0.00058	5.460101	0.912563	0.798493	10138.7108	0.009022
0.012897	0.00109	5.439638	0.899773	0.787302	10189.65714	0.121176
0.002707	0.000071	5.434522	0.896576	0.784504	10189.65714	0.121176
0.007802	0.00058	5.444754	0.902971	0.7901	10087.76446	0.060001
-0.00239	-0.000439	5.470333	0.918958	0.804088	10087.76446	0.100785
0.007802	0.00058	5.480565	0.925353	0.809684	10036.81812	0.060001
0.007802	0.00058	5.454985	0.909366	0.795695	10036.81812	0.080393
-0.00239	-0.000439	5.480565	0.925353	0.809684	10189.65714	0.192547
0.012897	0.00109	5.490797	0.931748	0.81528	10036.81812	-0.082741
-0.00239	-0.000439	5.460101	0.912563	0.798493	10087.76446	0.131372
0.002707	0.000071	5.444754	0.902971	0.7901	10087.76446	0.049805
0.002707	0.000071	5.449869	0.906168	0.792897	10189.65714	0.100785
0.002707	0.000071	5.475449	0.922156	0.806886	10189.65714	0.16196
0.007802	0.00058	5.454985	0.909366	0.795695	10138.7108	0.182352
0.002707	0.000071	5.490797	0.931748	0.81528	10036.81812	0.141568
-0.00748	-0.000948	5.449869	0.906168	0.792897	10189.65714	0.080393
-0.00239	-0.000439	5.480565	0.925353	0.809684	10087.76446	0.080393
0.007802	0.00058	5.490797	0.931748	0.81528	10189.65714	0.080393
0.002707	0.000071	5.449869	0.906168	0.792897	10036.81812	0.253723
0.007802	0.00058	5.485681	0.928551	0.812482	9883.979106	0.019217
0.002707	0.000071	5.480565	0.925353	0.809684	10138.7108	0.151764
-0.00239	-0.000439	5.449869	0.906168	0.792897	10087.76446	0.172156
0.002707	0.000071	5.465217	0.915761	0.801291	10138.7108	-0.052154
0.002707	0.000071	5.465217	0.915761	0.801291	10138.7108	-0.103133
0.002707	0.000071	5.506145	0.94134	0.823673	10087.76446	-0.031762
-0.00239	-0.000439	5.439638	0.899773	0.787302	10138.7108	-0.01137
0.002707	0.000071	5.465217	0.915761	0.801291	10087.76446	0.060001
0.002707	0.000071	5.465217	0.915761	0.801291	10036.81812	0.060001
0.007802	0.00058	5.465217	0.915761	0.801291	10087.76446	0.172156
0.007802	0.00058	5.444754	0.902971	0.7901	10138.7108	0.080393
-0.00239	-0.000439	5.429406	0.893379	0.781706	10138.7108	0.121176
-0.00748	-0.000948	5.490797	0.931748	0.81528	10087.76446	0.131372
0.002707	0.000071	5.470333	0.918958	0.804088	10138.7108	0.070197
0.002707	0.000071	5.480565	0.925353	0.809684	10138.7108	0.049805
0.002707	0.000071	5.454985	0.909366	0.795695	10189.65714	0.060001
-0.00748	-0.000948	5.490797	0.931748	0.81528	10189.65714	-0.06235
0.007802	0.00058	5.485681	0.928551	0.812482	10189.65714	-0.143917
0.002707	0.000071	5.470333	0.918958	0.804088	10138.7108	-0.031762
0.002707	0.000071	5.444754	0.902971	0.7901	10036.81812	-0.001174
-0.00239	-0.000439	5.42429	0.890181	0.778908	10138.7108	0.11098
0.007802	0.00058	5.470333	0.918958	0.804088	10138.7108	0.070197
-0.00239	-0.000439	5.485681	0.928551	0.812482	10087.76446	0.080393

Run 4

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00748	-0.000948	6.421897	1.513685	1.324475	15131.452	0.070197
-0.00748	-0.000948	6.427012	1.516883	1.327272	15182.39834	0.070197
-0.00239	-0.000439	6.478172	1.548857	1.35525	15029.55932	0.070197
-0.00748	-0.000948	6.401433	1.500896	1.313284	15182.39834	0.029413
0.002707	0.000071	6.44236	1.526475	1.335666	14927.66664	0.121176
-0.00239	-0.000439	6.447476	1.529673	1.338464	14978.61298	0.151764
-0.00748	-0.000948	6.478172	1.548857	1.35525	15182.39834	0.029413
-0.00748	-0.000948	6.462824	1.539265	1.346857	15080.50566	0.029413
0.002707	0.000071	6.44236	1.526475	1.335666	15131.452	-0.06235
0.012897	0.00109	6.421897	1.513685	1.324475	15131.452	-0.001174
0.002707	0.000071	6.49352	1.55845	1.363644	15233.34468	-0.052154
0.002707	0.000071	6.416781	1.510488	1.321677	15029.55932	0.009022
0.007802	0.00058	6.462824	1.539265	1.346857	15080.50566	0.039609
0.002707	0.000071	6.406549	1.504093	1.316081	14978.61298	0.029413
0.002707	0.000071	6.447476	1.529673	1.338464	15131.452	0.049805
0.002707	0.000071	6.488404	1.555252	1.360846	15029.55932	0.172156
0.002707	0.000071	6.437244	1.523278	1.332868	15131.452	0.049805
-0.00239	-0.000439	6.411665	1.50729	1.318879	15080.50566	0.049805
-0.00748	-0.000948	6.391201	1.494501	1.307688	14978.61298	0.029413
-0.00748	-0.000948	6.488404	1.555252	1.360846	15080.50566	0.049805
0.002707	0.000071	6.457708	1.536068	1.344059	15131.452	0.263919
-0.00239	-0.000439	6.421897	1.513685	1.324475	14927.66664	0.100785
0.002707	0.000071	6.483288	1.552055	1.358048	15080.50566	0.233331
-0.00748	-0.000948	6.437244	1.523278	1.332868	15131.452	0.121176
0.002707	0.000071	6.457708	1.536068	1.344059	15029.55932	0.202743
0.007802	0.00058	6.411665	1.50729	1.318879	15131.452	0.192547
0.002707	0.000071	6.437244	1.523278	1.332868	15029.55932	0.019217
-0.00239	-0.000439	6.432128	1.52008	1.33007	15182.39834	0.029413
-0.00239	-0.000439	6.375853	1.484908	1.299295	15182.39834	0.049805
-0.00239	-0.000439	6.421897	1.513685	1.324475	15080.50566	0.039609
0.002707	0.000071	6.427012	1.516883	1.327272	15080.50566	0.131372
0.002707	0.000071	6.49352	1.55845	1.363644	15029.55932	-0.06235
0.002707	0.000071	6.421897	1.513685	1.324475	15080.50566	0.049805
-0.00239	-0.000439	6.427012	1.516883	1.327272	15131.452	0.080393
-0.00239	-0.000439	6.462824	1.539265	1.346857	15131.452	0.070197
0.007802	0.00058	6.519099	1.574437	1.377632	15131.452	-0.113329
0.002707	0.000071	6.391201	1.494501	1.307688	15080.50566	0.049805
-0.01258	-0.001458	6.44236	1.526475	1.335666	15029.55932	0.080393
-0.00239	-0.000439	6.437244	1.523278	1.332868	15131.452	0.080393
-0.00239	-0.000439	6.411665	1.50729	1.318879	15182.39834	-0.021566
0.007802	0.00058	6.437244	1.523278	1.332868	15029.55932	0.100785
0.007802	0.00058	6.478172	1.548857	1.35525	14978.61298	0.172156
-0.00239	-0.000439	6.483288	1.552055	1.358048	14978.61298	0.121176
-0.00748	-0.000948	6.524215	1.577634	1.38043	15131.452	0.009022
-0.00239	-0.000439	6.447476	1.529673	1.338464	14978.61298	0.029413
0.002707	0.000071	6.432128	1.52008	1.33007	15080.50566	0.019217
0.002707	0.000071	6.427012	1.516883	1.327272	15029.55932	0.039609
-0.00748	-0.000948	6.46794	1.542462	1.349655	15080.50566	0.029413
-0.00748	-0.000948	6.498636	1.561647	1.366441	15131.452	-0.06235
-0.00239	-0.000439	6.421897	1.513685	1.324475	15080.50566	0.121176
0.002707	0.000071	6.411665	1.50729	1.318879	15080.50566	0.080393
-0.00748	-0.000948	6.421897	1.513685	1.324475	15080.50566	0.070197
-0.01258	-0.001458	6.411665	1.50729	1.318879	15131.452	0.049805
-0.00239	-0.000439	6.411665	1.50729	1.318879	15131.452	0.060001
-0.00239	-0.000439	6.437244	1.523278	1.332868	15131.452	0.192547
0.002707	0.000071	6.452592	1.53287	1.341261	14978.61298	0.233331
-0.00239	-0.000439	6.46794	1.542462	1.349655	15284.29101	0.661558
0.002707	0.000071	6.432128	1.52008	1.33007	14876.7203	-0.143917
-0.00239	-0.000439	6.447476	1.529673	1.338464	15080.50566	0.060001
-0.00748	-0.000948	6.44236	1.526475	1.335666	15131.452	0.049805

Run 5

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00239	-0.000439	7.332532	2.082833	1.822479	15182.39834	-0.01137
0.002707	0.000071	7.34788	2.092425	1.830872	14978.61298	-0.001174
0.007802	0.00058	7.439967	2.149979	1.881232	15131.452	-0.001174
0.002707	0.000071	7.281373	2.050858	1.794501	14927.66664	-0.103133
0.007802	0.00058	7.506474	2.191546	1.917603	15131.452	-0.143917
-0.00748	-0.000948	7.552518	2.220323	1.942783	14978.61298	-0.133721
-0.00239	-0.000439	7.34788	2.092425	1.830872	15182.39834	-0.01137
0.002707	0.000071	7.332532	2.082833	1.822479	14978.61298	-0.001174
0.007802	0.00058	7.404155	2.127597	1.861648	15029.55932	-0.01137
-0.00239	-0.000439	7.404155	2.127597	1.861648	15131.452	-0.327442
-0.00239	-0.000439	7.419503	2.13719	1.870041	15131.452	0.029413
0.002707	0.000071	7.51159	2.194744	1.920401	15029.55932	-0.021566
-0.00239	-0.000439	7.496242	2.185151	1.912007	15131.452	-0.06235
0.002707	0.000071	7.470663	2.169164	1.898019	15080.50566	-0.01137
0.002707	0.000071	7.516706	2.197941	1.923199	14978.61298	-0.103133
-0.00748	-0.000948	7.450199	2.156374	1.886828	15131.452	0.090589
-0.00748	-0.000948	7.496242	2.185151	1.912007	14927.66664	0.121176
-0.01258	-0.001458	7.460431	2.162769	1.892423	15131.452	0.070197
0.002707	0.000071	7.358112	2.09882	1.836468	14978.61298	-0.052154
-0.00748	-0.000948	7.424619	2.140387	1.872839	15029.55932	-0.031762
-0.00239	-0.000439	7.460431	2.162769	1.892423	15080.50566	-0.092937
0.007802	0.00058	7.37346	2.108412	1.844861	14978.61298	0.019217
0.002707	0.000071	7.281373	2.050858	1.794501	14978.61298	0.019217
-0.00239	-0.000439	7.414387	2.133992	1.867243	15080.50566	-0.01137
-0.00239	-0.000439	7.378576	2.11161	1.847659	15029.55932	-0.041958
-0.00239	-0.000439	7.480894	2.175559	1.903614	15080.50566	-0.021566
-0.00748	-0.000948	7.363228	2.102018	1.839265	15131.452	0.019217
-0.01258	-0.001458	7.470663	2.169164	1.898019	15080.50566	0.009022
-0.00239	-0.000439	7.393924	2.121202	1.856052	15029.55932	-0.021566
-0.00239	-0.000439	7.434851	2.146782	1.878434	14927.66664	-0.06235
0.007802	0.00058	7.368344	2.105215	1.842063	14978.61298	0.019217
-0.00239	-0.000439	7.439967	2.149979	1.881232	15182.39834	-0.031762
-0.00748	-0.000948	7.419503	2.13719	1.870041	15029.55932	-0.052154
-0.00748	-0.000948	7.358112	2.09882	1.836468	15131.452	-0.041958
-0.00239	-0.000439	7.388808	2.118005	1.853254	14927.66664	0.019217
0.002707	0.000071	7.337648	2.08603	1.825276	15029.55932	-0.01137
0.002707	0.000071	7.342764	2.089228	1.828074	15080.50566	0.019217
0.002707	0.000071	7.34788	2.092425	1.830872	15029.55932	0.019217
-0.00748	-0.000948	7.665068	2.290668	2.004334	14978.61298	0.070197
-0.00239	-0.000439	7.358112	2.09882	1.836468	15131.452	0.049805
0.007802	0.00058	7.424619	2.140387	1.872839	15080.50566	0.009022
0.007802	0.00058	7.526938	2.204336	1.928794	15029.55932	-0.01137
-0.00239	-0.000439	7.363228	2.102018	1.839265	15029.55932	0.009022
0.002707	0.000071	7.445083	2.153177	1.88403	15029.55932	-0.072545
0.002707	0.000071	7.230214	2.018884	1.766523	14876.7203	0.11098
0.002707	0.000071	7.337648	2.08603	1.825276	14978.61298	0.172156
0.002707	0.000071	7.439967	2.149979	1.881232	14978.61298	0.16196
0.007802	0.00058	7.383692	2.114807	1.850456	15131.452	0.141568
-0.00239	-0.000439	7.53717	2.210731	1.93439	15131.452	0.019217
0.002707	0.000071	7.393924	2.121202	1.856052	15080.50566	0.029413
-0.00239	-0.000439	7.429735	2.143584	1.875636	15080.50566	0.009022
0.007802	0.00058	7.429735	2.143584	1.875636	14978.61298	-0.021566
0.007802	0.00058	7.424619	2.140387	1.872839	15131.452	-0.082741
0.002707	0.000071	7.460431	2.162769	1.892423	15131.452	-0.103133
-0.00239	-0.000439	7.465547	2.165967	1.895221	14978.61298	-0.133721
-0.00748	-0.000948	7.393924	2.121202	1.856052	15131.452	-0.1847
0.002707	0.000071	7.296721	2.060451	1.802894	15131.452	-0.021566
-0.00748	-0.000948	7.276257	2.047661	1.791703	15080.50566	-0.01137
0.002707	0.000071	7.368344	2.105215	1.842063	15029.55932	-0.021566
0.007802	0.00058	7.465547	2.165967	1.895221	15131.452	0.009022

Run 6



Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	6.554911	1.596819	1.397217	15182.39834	0.029413
0.002707	0.000071	6.554911	1.596819	1.397217	15131.452	0.090589
0.007802	0.00058	6.560027	1.600017	1.400015	15182.39834	0.070197
0.007802	0.00058	6.539563	1.587227	1.388823	15131.452	0.039609
-0.00239	-0.000439	6.539563	1.587227	1.388823	15080.50566	0.029413
-0.00239	-0.000439	6.560027	1.600017	1.400015	15131.452	0.049805
0.002707	0.000071	6.585606	1.616004	1.414003	15131.452	0.049805
0.007802	0.00058	6.513983	1.57124	1.374835	15131.452	0.070197
-0.00239	-0.000439	6.549795	1.593622	1.394419	15080.50566	0.019217
-0.00239	-0.000439	6.585606	1.616004	1.414003	15080.50566	0.049805
0.002707	0.000071	6.488404	1.555252	1.360846	15182.39834	0.131372
-0.00748	-0.000948	6.554911	1.596819	1.397217	15233.34468	0.16196
0.007802	0.00058	6.616302	1.635189	1.43079	15080.50566	0.11098
0.012897	0.00109	6.600954	1.625596	1.422397	15080.50566	0.080393
0.007802	0.00058	6.60607	1.628794	1.425195	15233.34468	0.090589
0.012897	0.00109	6.575374	1.609609	1.408408	15182.39834	0.100785
-0.00239	-0.000439	6.621418	1.638386	1.433588	15131.452	0.039609
0.002707	0.000071	6.616302	1.635189	1.43079	15029.55932	-0.001174
-0.00748	-0.000948	6.590722	1.619201	1.416801	15233.34468	0.080393
-0.00239	-0.000439	6.539563	1.587227	1.388823	15335.23735	0.151764
0.012897	0.00109	6.544679	1.590424	1.391621	15233.34468	0.039609
-0.00239	-0.000439	6.549795	1.593622	1.394419	15080.50566	0.039609
0.007802	0.00058	6.539563	1.587227	1.388823	15182.39834	0.039609
-0.00239	-0.000439	6.575374	1.609609	1.408408	15080.50566	-0.021566
-0.00239	-0.000439	6.570259	1.606412	1.40561	15284.29101	-0.143917
-0.00239	-0.000439	6.498636	1.561647	1.366441	15131.452	-0.06235
0.002707	0.000071	6.534447	1.584029	1.386026	15182.39834	0.060001
-0.00239	-0.000439	6.636766	1.647979	1.441981	15029.55932	0.029413
0.002707	0.000071	6.554911	1.596819	1.397217	15080.50566	0.100785
0.002707	0.000071	6.457708	1.536068	1.344059	15131.452	0.080393
0.002707	0.000071	6.529331	1.580832	1.383228	15029.55932	0.070197
0.007802	0.00058	6.636766	1.647979	1.441981	15182.39834	0.100785
0.007802	0.00058	6.575374	1.609609	1.408408	15182.39834	0.100785
-0.00239	-0.000439	6.590722	1.619201	1.416801	15029.55932	-0.001174
-0.00239	-0.000439	6.590722	1.619201	1.416801	15131.452	0.100785
0.007802	0.00058	6.575374	1.609609	1.408408	15029.55932	0.080393
0.002707	0.000071	6.549795	1.593622	1.394419	15182.39834	0.039609
0.002707	0.000071	6.519099	1.574437	1.377632	15080.50566	-0.031762
0.007802	0.00058	6.544679	1.590424	1.391621	15080.50566	0.029413
-0.00239	-0.000439	6.513983	1.57124	1.374835	15131.452	0.019217
-0.00239	-0.000439	6.549795	1.593622	1.394419	15080.50566	0.039609
0.007802	0.00058	6.544679	1.590424	1.391621	15080.50566	0.049805
0.007802	0.00058	6.595838	1.622399	1.419599	15233.34468	0.16196
0.002707	0.000071	6.554911	1.596819	1.397217	15080.50566	0.172156
0.002707	0.000071	6.539563	1.587227	1.388823	15233.34468	0.16196
-0.00239	-0.000439	6.534447	1.584029	1.386026	15182.39834	0.049805
-0.00239	-0.000439	6.585606	1.616004	1.414003	15233.34468	0.029413
0.007802	0.00058	6.529331	1.580832	1.383228	15080.50566	0.029413
0.007802	0.00058	6.58049	1.612807	1.411206	15080.50566	-0.031762
0.002707	0.000071	6.58049	1.612807	1.411206	15182.39834	-0.041958
0.002707	0.000071	6.575374	1.609609	1.408408	15080.50566	-0.01137
0.002707	0.000071	6.554911	1.596819	1.397217	15182.39834	-0.052154
0.012897	0.00109	6.60607	1.628794	1.425195	15029.55932	-0.001174
0.002707	0.000071	6.503751	1.564845	1.369239	15182.39834	-0.041958
0.007802	0.00058	6.554911	1.596819	1.397217	15029.55932	0.100785
0.002707	0.000071	6.611186	1.631991	1.427992	15080.50566	0.16196
0.002707	0.000071	6.534447	1.584029	1.386026	15233.34468	0.060001
-0.00239	-0.000439	6.539563	1.587227	1.388823	15029.55932	0.049805
0.007802	0.00058	6.575374	1.609609	1.408408	15131.452	0.019217
0.012897	0.00109	6.595838	1.622399	1.419599	15182.39834	-0.143917

Run 7

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.007802	0.00058	6.93349	1.833431	1.604252	15131.452	-0.072545
0.007802	0.00058	7.04604	1.903775	1.665803	15029.55932	0.009022
-0.01258	-0.001458	6.923258	1.827036	1.598657	14927.66664	0.16196
0.002707	0.000071	6.974417	1.859011	1.626634	15080.50566	0.151764
-0.01258	-0.001458	6.938606	1.836629	1.60705	14978.61298	0.131372
-0.00239	-0.000439	6.989765	1.868603	1.635028	15080.50566	0.131372
-0.00239	-0.000439	6.953953	1.846221	1.615443	15080.50566	0.049805
-0.01258	-0.001458	6.93349	1.833431	1.604252	15080.50566	0.029413
0.002707	0.000071	6.923258	1.827036	1.598657	15182.39834	0.009022
-0.00239	-0.000439	6.943722	1.839826	1.609848	15029.55932	-0.001174
0.002707	0.000071	7.025577	1.890985	1.654612	15029.55932	0.029413
-0.00748	-0.000948	7.148359	1.967724	1.721759	15080.50566	-0.001174
-0.00239	-0.000439	7.051156	1.906973	1.668601	15182.39834	0.019217
0.002707	0.000071	7.158591	1.974119	1.727354	15029.55932	-0.001174
-0.00748	-0.000948	6.989765	1.868603	1.635028	15131.452	-0.06235
0.007802	0.00058	6.841403	1.775877	1.553892	14978.61298	0.16196
0.002707	0.000071	6.999997	1.874998	1.640623	15080.50566	0.100785
-0.00748	-0.000948	6.994881	1.871801	1.637826	15080.50566	0.019217
-0.00748	-0.000948	6.959069	1.849418	1.618241	14978.61298	-0.001174
-0.00748	-0.000948	6.93349	1.833431	1.604252	15131.452	0.039609
0.002707	0.000071	6.943722	1.839826	1.609848	14978.61298	0.009022
0.002707	0.000071	7.066504	1.916565	1.676994	15182.39834	0.039609
0.002707	0.000071	6.918142	1.823839	1.595859	15131.452	-0.01137
-0.00748	-0.000948	7.015345	1.88459	1.649017	15029.55932	0.029413
-0.01258	-0.001458	7.086968	1.929355	1.688185	14978.61298	0.029413
-0.00239	-0.000439	6.979533	1.862208	1.629432	15182.39834	0.019217
0.002707	0.000071	6.994881	1.871801	1.637826	15029.55932	0.039609
0.007802	0.00058	6.841403	1.775877	1.553892	15029.55932	0.009022
-0.00748	-0.000948	6.93349	1.833431	1.604252	15029.55932	-0.103133
0.002707	0.000071	6.866983	1.791864	1.567881	15182.39834	-0.031762
-0.00748	-0.000948	6.928374	1.830234	1.601454	15029.55932	-0.072545
-0.00748	-0.000948	6.928374	1.830234	1.601454	15131.452	0.019217
-0.01258	-0.001458	6.979533	1.862208	1.629432	14978.61298	0.049805
-0.00748	-0.000948	6.974417	1.859011	1.626634	15080.50566	0.039609
0.007802	0.00058	7.035808	1.89738	1.660208	15488.07637	0.182352
0.002707	0.000071	6.994881	1.871801	1.637826	15029.55932	0.090589
-0.00748	-0.000948	6.93349	1.833431	1.604252	15080.50566	0.151764
-0.00748	-0.000948	6.969301	1.855813	1.623837	15029.55932	0.16196
-0.00239	-0.000439	7.035808	1.89738	1.660208	14978.61298	-0.001174
-0.01258	-0.001458	6.979533	1.862208	1.629432	15029.55932	0.009022
-0.00239	-0.000439	7.025577	1.890985	1.654612	15029.55932	-0.001174
0.002707	0.000071	7.025577	1.890985	1.654612	15182.39834	0.049805
0.007802	0.00058	7.035808	1.89738	1.660208	15182.39834	0.019217
-0.00239	-0.000439	6.943722	1.839826	1.609848	15182.39834	0.009022
-0.01258	-0.001458	7.056272	1.91017	1.671399	15080.50566	0.019217
0.002707	0.000071	6.959069	1.849418	1.618241	15131.452	0.019217
-0.00239	-0.000439	7.010229	1.881393	1.646219	15080.50566	0.019217
0.007802	0.00058	7.020461	1.887788	1.651814	14978.61298	0.009022
0.002707	0.000071	6.897678	1.811049	1.584668	15080.50566	0.009022
-0.01258	-0.001458	6.902794	1.814246	1.587466	15080.50566	-0.01137
0.002707	0.000071	6.93349	1.833431	1.604252	15029.55932	0.029413
-0.00239	-0.000439	6.938606	1.836629	1.60705	15080.50566	0.049805
-0.00239	-0.000439	6.943722	1.839826	1.609848	15131.452	0.009022
0.002707	0.000071	7.020461	1.887788	1.651814	15131.452	0.019217
0.002707	0.000071	6.851635	1.782272	1.559488	15080.50566	0.11098
-0.00239	-0.000439	6.90791	1.817444	1.590263	15080.50566	0.16196
0.002707	0.000071	6.93349	1.833431	1.604252	15131.452	0.060001
-0.00748	-0.000948	7.066504	1.916565	1.676994	14978.61298	0.060001
-0.00239	-0.000439	6.913026	1.820641	1.593061	15029.55932	0.029413
-0.00239	-0.000439	6.897678	1.811049	1.584668	15182.39834	0.019217
0.002707	0.000071	6.999997	1.874998	1.640623	15131.452	-0.001174

Run 8

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00748	-0.000948	6.340042	1.462526	1.27971	15080.50566	0.141568
0.007802	0.00058	6.30423	1.440144	1.260126	15080.50566	0.039609
-0.00239	-0.000439	6.411665	1.50729	1.318879	14927.66664	-0.052154
-0.00239	-0.000439	6.375853	1.484908	1.299295	14927.66664	-0.154112
0.007802	0.00058	6.309346	1.443341	1.262924	15182.39834	-0.06235
-0.00239	-0.000439	6.406549	1.504093	1.316081	15029.55932	-0.021566
-0.01258	-0.001458	6.401433	1.500896	1.313284	15029.55932	-0.01137
0.002707	0.000071	6.380969	1.488106	1.302092	15182.39834	0.009022
0.007802	0.00058	6.365621	1.478513	1.293699	15182.39834	-0.001174
0.007802	0.00058	6.360505	1.475316	1.290901	15182.39834	-0.01137
-0.00748	-0.000948	6.345158	1.465723	1.282508	15080.50566	-0.082741
-0.00239	-0.000439	6.345158	1.465723	1.282508	15080.50566	-0.072545
-0.00748	-0.000948	6.27865	1.424157	1.246137	14978.61298	0.060001
0.002707	0.000071	6.334926	1.459329	1.276912	14978.61298	0.100785
-0.00239	-0.000439	6.32981	1.456131	1.274115	15131.452	0.060001
-0.00239	-0.000439	6.380969	1.488106	1.302092	14978.61298	0.080393
-0.00748	-0.000948	6.32981	1.456131	1.274115	14978.61298	0.060001
-0.00239	-0.000439	6.386085	1.491303	1.30489	15029.55932	0.060001
0.007802	0.00058	6.360505	1.475316	1.290901	15182.39834	0.039609
-0.00239	-0.000439	6.350273	1.468921	1.285306	14978.61298	0.060001
0.002707	0.000071	6.334926	1.459329	1.276912	15029.55932	0.070197
0.002707	0.000071	6.360505	1.475316	1.290901	14978.61298	0.039609
0.002707	0.000071	6.355389	1.472118	1.288104	15080.50566	0.060001
0.007802	0.00058	6.32981	1.456131	1.274115	14978.61298	0.029413
-0.00239	-0.000439	6.355389	1.472118	1.288104	15029.55932	0.039609
-0.00239	-0.000439	6.340042	1.462526	1.27971	15029.55932	0.039609
0.012897	0.00109	6.345158	1.465723	1.282508	15029.55932	0.060001
0.002707	0.000071	6.32981	1.456131	1.274115	14978.61298	0.029413
0.002707	0.000071	6.391201	1.494501	1.307688	15029.55932	0.029413
-0.00239	-0.000439	6.370737	1.481711	1.296497	15131.452	-0.205092
-0.00239	-0.000439	6.365621	1.478513	1.293699	15131.452	-0.021566
-0.00239	-0.000439	6.319578	1.449736	1.268519	15029.55932	0.009022
0.002707	0.000071	6.288882	1.430551	1.251733	15080.50566	-0.031762
0.007802	0.00058	6.299114	1.436946	1.257328	15029.55932	-0.001174
-0.00239	-0.000439	6.360505	1.475316	1.290901	14978.61298	0.039609
-0.00748	-0.000948	6.386085	1.491303	1.30489	15182.39834	0.049805
-0.00239	-0.000439	6.391201	1.494501	1.307688	15029.55932	0.060001
-0.00239	-0.000439	6.370737	1.481711	1.296497	15131.452	0.039609
-0.00239	-0.000439	6.375853	1.484908	1.299295	15080.50566	0.049805
-0.00748	-0.000948	6.340042	1.462526	1.27971	15080.50566	0.212939
0.007802	0.00058	6.386085	1.491303	1.30489	15080.50566	0.039609
-0.00239	-0.000439	6.355389	1.472118	1.288104	15029.55932	0.131372
-0.00748	-0.000948	6.32981	1.456131	1.274115	15080.50566	0.16196
0.002707	0.000071	6.324694	1.452934	1.271317	15080.50566	0.029413
0.002707	0.000071	6.309346	1.443341	1.262924	15182.39834	-0.001174
-0.00239	-0.000439	6.340042	1.462526	1.27971	15029.55932	0.070197
-0.00748	-0.000948	6.324694	1.452934	1.271317	15029.55932	0.192547
-0.00239	-0.000439	6.355389	1.472118	1.288104	15029.55932	0.212939
-0.00748	-0.000948	6.32981	1.456131	1.274115	15080.50566	0.212939
0.002707	0.000071	6.355389	1.472118	1.288104	14978.61298	0.121176
-0.00239	-0.000439	6.334926	1.459329	1.276912	15080.50566	0.182352
-0.00239	-0.000439	6.360505	1.475316	1.290901	14927.66664	-0.174504
-0.01258	-0.001458	6.360505	1.475316	1.290901	15131.452	0.029413
0.002707	0.000071	6.370737	1.481711	1.296497	14927.66664	0.049805
-0.00748	-0.000948	6.273535	1.420959	1.243339	14978.61298	0.172156
-0.00239	-0.000439	6.340042	1.462526	1.27971	15029.55932	0.039609
-0.00239	-0.000439	6.345158	1.465723	1.282508	14927.66664	0.141568
-0.00239	-0.000439	6.350273	1.468921	1.285306	15131.452	0.060001

Run 9

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00239	-0.000439	6.513983	1.57124	1.374835	15029.55932	0.019217
0.007802	0.00058	6.49352	1.55845	1.363644	15080.50566	-0.021566
0.007802	0.00058	6.49352	1.55845	1.363644	15131.452	0.151764
0.002707	0.000071	6.462824	1.539265	1.346857	14978.61298	0.019217
0.002707	0.000071	6.44236	1.526475	1.335666	15182.39834	0.172156
0.002707	0.000071	6.488404	1.555252	1.360846	14978.61298	0.131372
0.002707	0.000071	6.483288	1.552055	1.358048	15182.39834	0.080393
0.007802	0.00058	6.478172	1.548857	1.35525	15131.452	0.039609
0.002707	0.000071	6.457708	1.536068	1.344059	15080.50566	0.070197
0.012897	0.00109	6.478172	1.548857	1.35525	15029.55932	0.019217
-0.00239	-0.000439	6.421897	1.513685	1.324475	15080.50566	0.039609
0.002707	0.000071	6.437244	1.523278	1.332868	15131.452	0.039609
0.007802	0.00058	6.416781	1.510488	1.321677	14978.61298	0.182352
0.007802	0.00058	6.437244	1.523278	1.332868	14978.61298	0.080393
0.007802	0.00058	6.508867	1.568042	1.372037	15131.452	0.029413
-0.00239	-0.000439	6.462824	1.539265	1.346857	15080.50566	-0.031762
-0.00239	-0.000439	6.46794	1.542462	1.349655	15080.50566	-0.021566
0.007802	0.00058	6.452592	1.53287	1.341261	15080.50566	-0.23568
0.012897	0.00109	6.49352	1.55845	1.363644	15029.55932	0.070197
0.007802	0.00058	6.478172	1.548857	1.35525	15182.39834	-0.06235
0.002707	0.000071	6.437244	1.523278	1.332868	15131.452	0.060001
0.007802	0.00058	6.437244	1.523278	1.332868	15131.452	0.212939
0.007802	0.00058	6.539563	1.587227	1.388823	15029.55932	0.100785
0.007802	0.00058	6.473056	1.54566	1.352452	15029.55932	0.039609
0.002707	0.000071	6.513983	1.57124	1.374835	15131.452	0.141568
0.002707	0.000071	6.473056	1.54566	1.352452	15029.55932	0.16196
0.007802	0.00058	6.49352	1.55845	1.363644	15182.39834	0.11098
0.012897	0.00109	6.483288	1.552055	1.358048	15029.55932	0.049805
0.002707	0.000071	6.483288	1.552055	1.358048	15029.55932	0.049805
0.002707	0.000071	6.473056	1.54566	1.352452	15182.39834	0.060001
0.002707	0.000071	6.462824	1.539265	1.346857	15080.50566	0.009022
-0.00239	-0.000439	6.488404	1.555252	1.360846	15182.39834	0.039609
-0.00239	-0.000439	6.478172	1.548857	1.35525	15131.452	-0.031762
0.007802	0.00058	6.513983	1.57124	1.374835	15131.452	-0.113329
0.007802	0.00058	6.539563	1.587227	1.388823	15182.39834	0.049805
0.007802	0.00058	6.457708	1.536068	1.344059	15080.50566	0.019217
0.007802	0.00058	6.508867	1.568042	1.372037	15182.39834	0.029413
0.012897	0.00109	6.483288	1.552055	1.358048	15080.50566	0.039609
0.007802	0.00058	6.488404	1.555252	1.360846	15080.50566	-0.021566
0.002707	0.000071	6.534447	1.584029	1.386026	15029.55932	0.019217
0.007802	0.00058	6.549795	1.593622	1.394419	15182.39834	0.070197
0.007802	0.00058	6.49352	1.55845	1.363644	15029.55932	0.019217
0.012897	0.00109	6.46794	1.542462	1.349655	15029.55932	0.039609
0.002707	0.000071	6.473056	1.54566	1.352452	15131.452	0.009022
0.007802	0.00058	6.447476	1.529673	1.338464	15131.452	0.029413
-0.00239	-0.000439	6.452592	1.53287	1.341261	15080.50566	0.090589
0.007802	0.00058	6.457708	1.536068	1.344059	15131.452	0.039609
0.007802	0.00058	6.508867	1.568042	1.372037	15029.55932	0.151764
0.012897	0.00109	6.457708	1.536068	1.344059	15029.55932	0.039609
0.002707	0.000071	6.488404	1.555252	1.360846	15029.55932	0.16196
0.002707	0.000071	6.524215	1.577634	1.38043	15080.50566	-0.031762
0.007802	0.00058	6.462824	1.539265	1.346857	15131.452	0.009022
0.007802	0.00058	6.508867	1.568042	1.372037	15029.55932	-0.082741
-0.00239	-0.000439	6.427012	1.516883	1.327272	15080.50566	0.212939
0.002707	0.000071	6.437244	1.523278	1.332868	14978.61298	0.080393
0.002707	0.000071	6.483288	1.552055	1.358048	15182.39834	0.070197
0.002707	0.000071	6.416781	1.510488	1.321677	14978.61298	0.141568
0.007802	0.00058	6.452592	1.53287	1.341261	15131.452	0.182352
0.002707	0.000071	6.44236	1.526475	1.335666	15029.55932	0.019217
-0.00748	-0.000948	6.49352	1.55845	1.363644	15080.50566	0.151764

Run 10

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	5.419174	0.886984	0.776111	10138.7108	0.060001
0.002707	0.000071	5.414058	0.883786	0.773313	10087.76446	0.060001
0.012897	0.00109	5.403826	0.877391	0.767717	10036.81812	0.070197
0.007802	0.00058	5.434522	0.896576	0.784504	10087.76446	-0.143917
0.007802	0.00058	5.39871	0.874194	0.76492	10036.81812	0.009022
0.012897	0.00109	5.408942	0.880589	0.770515	10036.81812	0.070197
0.002707	0.000071	5.429406	0.893379	0.781706	10138.7108	0.202743
-0.00239	-0.000439	5.388478	0.867799	0.759324	10036.81812	0.049805
0.002707	0.000071	5.403826	0.877391	0.767717	10036.81812	-0.103133
0.007802	0.00058	5.439638	0.899773	0.787302	10036.81812	-0.06235
0.007802	0.00058	5.449869	0.906168	0.792897	9985.871783	-0.021566
0.002707	0.000071	5.419174	0.886984	0.776111	10087.76446	-0.01137
-0.00239	-0.000439	5.419174	0.886984	0.776111	10087.76446	0.060001
-0.00239	-0.000439	5.429406	0.893379	0.781706	9985.871783	0.060001
0.007802	0.00058	5.408942	0.880589	0.770515	10087.76446	0.172156
0.002707	0.000071	5.393594	0.870996	0.762122	10087.76446	0.202743
0.002707	0.000071	5.39871	0.874194	0.76492	9985.871783	0.212939
0.007802	0.00058	5.465217	0.915761	0.801291	10036.81812	0.16196
-0.00239	-0.000439	5.42429	0.890181	0.778908	9985.871783	0.039609
0.007802	0.00058	5.39871	0.874194	0.76492	10087.76446	0.090589
0.002707	0.000071	5.39871	0.874194	0.76492	10036.81812	0.080393
0.007802	0.00058	5.414058	0.883786	0.773313	10036.81812	0.060001
0.007802	0.00058	5.414058	0.883786	0.773313	9985.871783	0.151764
0.002707	0.000071	5.408942	0.880589	0.770515	10036.81812	0.182352
0.012897	0.00109	5.42429	0.890181	0.778908	10036.81812	0.100785
0.007802	0.00058	5.408942	0.880589	0.770515	10087.76446	0.131372
0.007802	0.00058	5.408942	0.880589	0.770515	9985.871783	0.121176
0.002707	0.000071	5.42429	0.890181	0.778908	10087.76446	0.253723
0.002707	0.000071	5.408942	0.880589	0.770515	10138.7108	0.049805
0.012897	0.00109	5.42429	0.890181	0.778908	10036.81812	0.100785
0.007802	0.00058	5.414058	0.883786	0.773313	10036.81812	0.060001
0.007802	0.00058	5.419174	0.886984	0.776111	10138.7108	0.049805
-0.00239	-0.000439	5.465217	0.915761	0.801291	10036.81812	-0.113329
0.002707	0.000071	5.429406	0.893379	0.781706	10036.81812	-0.103133
0.002707	0.000071	5.449869	0.906168	0.792897	9985.871783	-0.041958
0.007802	0.00058	5.408942	0.880589	0.770515	10087.76446	0.070197
0.012897	0.00109	5.419174	0.886984	0.776111	10087.76446	0.131372
0.002707	0.000071	5.449869	0.906168	0.792897	10036.81812	0.049805
0.002707	0.000071	5.408942	0.880589	0.770515	10087.76446	0.100785
0.002707	0.000071	5.408942	0.880589	0.770515	10036.81812	0.070197
0.002707	0.000071	5.42429	0.890181	0.778908	10036.81812	0.172156
0.002707	0.000071	5.42429	0.890181	0.778908	10138.7108	0.182352
0.017993	0.001599	5.42429	0.890181	0.778908	10087.76446	0.039609
0.007802	0.00058	5.439638	0.899773	0.787302	10138.7108	0.060001
0.002707	0.000071	5.408942	0.880589	0.770515	10036.81812	-0.092937
0.002707	0.000071	5.403826	0.877391	0.767717	10087.76446	0.060001
0.002707	0.000071	5.408942	0.880589	0.770515	10189.65714	-0.052154
0.007802	0.00058	5.439638	0.899773	0.787302	10189.65714	0.029413
0.002707	0.000071	5.403826	0.877391	0.767717	10087.76446	0.070197
0.002707	0.000071	5.408942	0.880589	0.770515	10036.81812	0.080393
-0.00239	-0.000439	5.383362	0.864601	0.756526	9985.871783	0.172156
-0.00239	-0.000439	5.42429	0.890181	0.778908	10138.7108	0.090589
-0.00239	-0.000439	5.444754	0.902971	0.7901	10036.81812	0.070197
0.012897	0.00109	5.42429	0.890181	0.778908	10087.76446	0.049805
0.002707	0.000071	5.414058	0.883786	0.773313	10036.81812	0.060001
-0.00239	-0.000439	5.42429	0.890181	0.778908	10087.76446	-0.052154
-0.00239	-0.000439	5.408942	0.880589	0.770515	10036.81812	0.569795
0.012897	0.00109	5.383362	0.864601	0.756526	9985.871783	0.019217
0.012897	0.00109	5.419174	0.886984	0.776111	10087.76446	0.100785
0.007802	0.00058	5.454985	0.909366	0.795695	10087.76446	0.029413

Run 11

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	5.736362	1.085226	0.949573	10036.81812	0.070197
0.007802	0.00058	5.797753	1.123596	0.983146	9985.871783	0.202743
0.017993	0.001599	5.787521	1.117201	0.977551	9985.871783	0.080393
0.007802	0.00058	5.772173	1.107608	0.969157	10036.81812	0.100785
0.002707	0.000071	5.772173	1.107608	0.969157	10036.81812	0.060001
0.012897	0.00109	5.736362	1.085226	0.949573	10036.81812	0.151764
0.002707	0.000071	5.792637	1.120398	0.980348	10036.81812	0.141568
0.002707	0.000071	5.792637	1.120398	0.980348	10087.76446	0.060001
-0.00239	-0.000439	5.802869	1.126793	0.985944	10138.7108	0.060001
0.002707	0.000071	5.792637	1.120398	0.980348	10138.7108	0.049805
-0.00239	-0.000439	5.792637	1.120398	0.980348	10189.65714	0.049805
0.002707	0.000071	5.782405	1.114003	0.974753	10036.81812	-0.154112
0.002707	0.000071	5.807985	1.12999	0.988742	10138.7108	-0.041958
0.007802	0.00058	5.782405	1.114003	0.974753	10138.7108	-0.031762
0.012897	0.00109	5.761941	1.101213	0.963562	10189.65714	0.100785
0.007802	0.00058	5.746593	1.091621	0.955168	10036.81812	0.060001
0.007802	0.00058	5.761941	1.101213	0.963562	10138.7108	0.049805
-0.00748	-0.000948	5.787521	1.117201	0.977551	10087.76446	0.090589
0.007802	0.00058	5.777289	1.110806	0.971955	10087.76446	-0.001174
0.002707	0.000071	5.797753	1.123596	0.983146	10036.81812	-0.021566
0.012897	0.00109	5.797753	1.123596	0.983146	10036.81812	-0.041958
-0.00239	-0.000439	5.833564	1.145978	1.002731	10087.76446	0.009022
0.002707	0.000071	5.756825	1.098016	0.960764	10189.65714	0.212939
0.007802	0.00058	5.782405	1.114003	0.974753	10189.65714	0.212939
0.007802	0.00058	5.818217	1.136385	0.994337	10036.81812	0.141568
0.007802	0.00058	5.828448	1.14278	0.999933	10087.76446	0.121176
0.007802	0.00058	5.818217	1.136385	0.994337	10036.81812	0.090589
0.007802	0.00058	5.777289	1.110806	0.971955	10036.81812	0.049805
-0.00239	-0.000439	5.802869	1.126793	0.985944	10138.7108	0.070197
0.012897	0.00109	5.787521	1.117201	0.977551	10036.81812	-0.143917
0.007802	0.00058	5.777289	1.110806	0.971955	10189.65714	-0.001174
0.007802	0.00058	5.767057	1.104411	0.966359	10036.81812	0.080393
0.007802	0.00058	5.767057	1.104411	0.966359	10138.7108	0.049805
-0.00239	-0.000439	5.813101	1.133188	0.991539	10138.7108	0.060001
-0.00239	-0.000439	5.782405	1.114003	0.974753	10036.81812	0.151764
0.012897	0.00109	5.787521	1.117201	0.977551	10036.81812	0.049805
0.002707	0.000071	5.782405	1.114003	0.974753	9985.871783	0.243527
0.012897	0.00109	5.767057	1.104411	0.966359	10036.81812	0.223135
0.002707	0.000071	5.797753	1.123596	0.983146	10036.81812	0.121176
0.002707	0.000071	5.807985	1.12999	0.988742	10036.81812	0.080393
0.007802	0.00058	5.823332	1.139583	0.997135	10189.65714	-0.052154
0.012897	0.00109	5.782405	1.114003	0.974753	10036.81812	-0.06235
0.002707	0.000071	5.772173	1.107608	0.969157	10087.76446	0.070197
0.007802	0.00058	5.746593	1.091621	0.955168	10087.76446	0.11098
0.007802	0.00058	5.772173	1.107608	0.969157	10036.81812	0.070197
0.012897	0.00109	5.767057	1.104411	0.966359	10036.81812	0.049805
0.007802	0.00058	5.797753	1.123596	0.983146	10138.7108	0.11098
0.002707	0.000071	5.772173	1.107608	0.969157	10036.81812	0.049805
0.002707	0.000071	5.787521	1.117201	0.977551	10087.76446	0.029413
0.007802	0.00058	5.797753	1.123596	0.983146	10138.7108	0.049805
0.007802	0.00058	5.797753	1.123596	0.983146	10138.7108	0.16196
0.007802	0.00058	5.828448	1.14278	0.999933	10138.7108	-0.01137
0.007802	0.00058	5.854028	1.158768	1.013922	10036.81812	-0.154112
0.007802	0.00058	5.823332	1.139583	0.997135	10189.65714	0.090589
0.002707	0.000071	5.782405	1.114003	0.974753	10087.76446	0.019217
0.002707	0.000071	5.818217	1.136385	0.994337	10036.81812	0.009022
0.007802	0.00058	5.772173	1.107608	0.969157	10138.7108	-0.082741
-0.00239	-0.000439	5.705666	1.066041	0.932786	10036.81812	0.11098
0.007802	0.00058	5.797753	1.123596	0.983146	10036.81812	0.070197
0.002707	0.000071	5.767057	1.104411	0.966359	10138.7108	0.060001

Run 12

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	7.035808	1.89738	1.660208	15131.452	0.11098
-0.00748	-0.000948	7.102315	1.938947	1.696579	15080.50566	0.019217
-0.00239	-0.000439	6.953953	1.846221	1.615443	15233.34468	-0.164308
-0.01258	-0.001458	7.102315	1.938947	1.696579	15284.29101	-0.123525
0.007802	0.00058	7.086968	1.929355	1.688185	15029.55932	-0.092937
-0.00239	-0.000439	7.066504	1.916565	1.676994	15182.39834	-0.113329
-0.00748	-0.000948	7.107431	1.942145	1.699377	15029.55932	-0.215288
-0.00748	-0.000948	7.066504	1.916565	1.676994	15182.39834	-0.143917
-0.00239	-0.000439	7.04604	1.903775	1.665803	15233.34468	0.019217
0.007802	0.00058	7.061388	1.913368	1.674197	15335.23735	0.009022
0.002707	0.000071	7.117663	1.94854	1.704972	15182.39834	-0.021566
-0.00239	-0.000439	7.143243	1.964527	1.718961	15182.39834	0.386269
0.002707	0.000071	7.005113	1.878195	1.643421	15233.34468	0.009022
0.012897	0.00109	6.989765	1.868603	1.635028	15029.55932	0.029413
0.007802	0.00058	6.88233	1.801457	1.576274	15284.29101	0.009022
-0.00748	-0.000948	7.056272	1.91017	1.671399	15080.50566	0.009022
-0.00748	-0.000948	7.04604	1.903775	1.665803	15284.29101	0.009022
-0.00239	-0.000439	7.035808	1.89738	1.660208	15029.55932	-0.001174
-0.00239	-0.000439	7.040924	1.900578	1.663005	15131.452	-0.01137
0.002707	0.000071	7.179054	1.986909	1.738545	15131.452	0.019217
0.007802	0.00058	7.143243	1.964527	1.718961	15080.50566	-0.103133
-0.00239	-0.000439	7.076736	1.92296	1.68259	15284.29101	-0.072545
-0.00239	-0.000439	7.051156	1.906973	1.668601	15233.34468	-0.06235
0.002707	0.000071	6.964185	1.852616	1.621039	15131.452	0.039609
-0.00239	-0.000439	7.061388	1.913368	1.674197	15284.29101	0.060001
-0.00239	-0.000439	7.0972	1.93575	1.693781	15029.55932	-0.052154
0.002707	0.000071	6.994881	1.871801	1.637826	15131.452	0.029413
0.002707	0.000071	7.081852	1.926157	1.685388	15131.452	0.049805
0.002707	0.000071	7.189286	1.993304	1.744141	15182.39834	0.141568
0.002707	0.000071	7.076736	1.92296	1.68259	15029.55932	0.100785
-0.00748	-0.000948	7.04604	1.903775	1.665803	15029.55932	0.151764
-0.00748	-0.000948	6.999997	1.874998	1.640623	15131.452	0.121176
-0.00239	-0.000439	7.122779	1.951737	1.70777	15029.55932	0.131372
-0.00239	-0.000439	7.168823	1.980514	1.73295	15284.29101	-0.01137
0.002707	0.000071	7.04604	1.903775	1.665803	15080.50566	-0.154112
0.002707	0.000071	6.989765	1.868603	1.635028	15029.55932	-0.123525
-0.00239	-0.000439	7.076736	1.92296	1.68259	15131.452	-0.072545
0.002707	0.000071	6.994881	1.871801	1.637826	15233.34468	-0.041958
0.002707	0.000071	6.979533	1.862208	1.629432	15182.39834	-0.001174
0.007802	0.00058	6.974417	1.859011	1.626634	15029.55932	0.121176
-0.00239	-0.000439	7.025577	1.890985	1.654612	15029.55932	0.11098
-0.00239	-0.000439	7.020461	1.887788	1.651814	15233.34468	0.131372
-0.00239	-0.000439	6.989765	1.868603	1.635028	15080.50566	0.080393
0.002707	0.000071	6.943722	1.839826	1.609848	15029.55932	0.039609
0.007802	0.00058	6.994881	1.871801	1.637826	15131.452	0.141568
-0.00239	-0.000439	7.020461	1.887788	1.651814	15131.452	0.070197
0.002707	0.000071	7.127895	1.954934	1.710568	15182.39834	-0.01137
-0.00239	-0.000439	7.04604	1.903775	1.665803	15131.452	0.019217
0.002707	0.000071	7.035808	1.89738	1.660208	15080.50566	-0.01137
-0.00239	-0.000439	7.040924	1.900578	1.663005	15029.55932	0.029413
-0.00748	-0.000948	7.0972	1.93575	1.693781	15182.39834	0.019217
0.007802	0.00058	7.030692	1.894183	1.65741	15182.39834	-0.01137
-0.00748	-0.000948	7.092084	1.932552	1.690983	15182.39834	-0.001174
-0.00239	-0.000439	7.086968	1.929355	1.688185	15080.50566	-0.001174
-0.00239	-0.000439	7.107431	1.942145	1.699377	15284.29101	-0.133721
-0.00239	-0.000439	7.035808	1.89738	1.660208	15131.452	-0.052154
0.007802	0.00058	6.969301	1.855813	1.623837	15182.39834	-0.072545
-0.00748	-0.000948	6.974417	1.859011	1.626634	15233.34468	-0.174504
-0.00239	-0.000439	6.999997	1.874998	1.640623	15131.452	0.019217

Run 13

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.007802	0.00058	7.434851	2.146782	1.878434	15080.50566	0.019217
0.012897	0.00109	7.424619	2.140387	1.872839	15029.55932	-0.021566
0.002707	0.000071	7.34788	2.092425	1.830872	15182.39834	0.11098
0.002707	0.000071	7.414387	2.133992	1.867243	14978.61298	0.039609
0.017993	0.001599	7.552518	2.220323	1.942783	15233.34468	0.060001
0.002707	0.000071	7.393924	2.121202	1.856052	15131.452	-0.01137
0.012897	0.00109	7.368344	2.105215	1.842063	15029.55932	-0.01137
0.007802	0.00058	7.608793	2.255495	1.973559	15080.50566	-0.143917
0.012897	0.00109	7.414387	2.133992	1.867243	15029.55932	-0.021566
0.007802	0.00058	7.342764	2.089228	1.828074	15182.39834	-0.041958
0.002707	0.000071	7.393924	2.121202	1.856052	15080.50566	0.009022
0.002707	0.000071	7.439967	2.149979	1.881232	15182.39834	-0.01137
0.007802	0.00058	7.419503	2.13719	1.870041	15029.55932	0.090589
0.002707	0.000071	7.363228	2.102018	1.839265	15080.50566	0.060001
-0.00239	-0.000439	7.445083	2.153177	1.88403	15029.55932	-0.021566
-0.00239	-0.000439	7.286489	2.054056	1.797299	15131.452	-0.001174
0.002707	0.000071	7.562749	2.226718	1.948379	15182.39834	-0.092937
0.002707	0.000071	7.276257	2.047661	1.791703	15131.452	-0.021566
0.007802	0.00058	7.445083	2.153177	1.88403	15131.452	-0.021566
0.007802	0.00058	7.501358	2.188349	1.914805	15182.39834	0.019217
0.002707	0.000071	7.526938	2.204336	1.928794	15233.34468	0.009022
0.007802	0.00058	7.557633	2.223521	1.945581	15131.452	-0.01137
0.002707	0.000071	7.378576	2.11161	1.847659	15284.29101	-0.021566
0.007802	0.00058	7.491126	2.181954	1.90921	15284.29101	-0.052154
0.012897	0.00109	7.250678	2.031673	1.777714	15182.39834	-0.041958
0.007802	0.00058	7.358112	2.09882	1.836468	15131.452	-0.001174
-0.00239	-0.000439	7.552518	2.220323	1.942783	15029.55932	0.182352
0.002707	0.000071	7.445083	2.153177	1.88403	15080.50566	0.100785
0.012897	0.00109	7.383692	2.114807	1.850456	15131.452	0.009022
0.007802	0.00058	7.470663	2.169164	1.898019	15284.29101	0.049805
0.012897	0.00109	7.419503	2.13719	1.870041	15182.39834	-0.01137
0.002707	0.000071	7.460431	2.162769	1.892423	15284.29101	-0.103133
0.002707	0.000071	7.460431	2.162769	1.892423	15233.34468	0.019217
0.007802	0.00058	7.322301	2.076438	1.816883	15182.39834	0.070197
0.007802	0.00058	7.358112	2.09882	1.836468	15233.34468	0.060001
0.002707	0.000071	7.383692	2.114807	1.850456	15131.452	-0.001174
0.002707	0.000071	7.455315	2.159572	1.889625	15233.34468	-0.021566
0.007802	0.00058	7.465547	2.165967	1.895221	15029.55932	-0.021566
0.002707	0.000071	7.455315	2.159572	1.889625	15284.29101	-0.164308
0.002707	0.000071	7.39904	2.1244	1.85885	15029.55932	-0.154112
0.002707	0.000071	7.342764	2.089228	1.828074	15233.34468	-0.06235
0.007802	0.00058	7.363228	2.102018	1.839265	15182.39834	-0.041958
0.002707	0.000071	7.388808	2.118005	1.853254	15182.39834	0.009022
0.007802	0.00058	7.434851	2.146782	1.878434	15131.452	0.009022
0.007802	0.00058	7.363228	2.102018	1.839265	15386.18369	0.559599
0.007802	0.00058	7.434851	2.146782	1.878434	15182.39834	-0.001174
0.002707	0.000071	7.388808	2.118005	1.853254	15233.34468	-0.1847
0.012897	0.00109	7.317185	2.07324	1.814085	15131.452	0.029413
0.007802	0.00058	7.383692	2.114807	1.850456	15029.55932	-0.01137
-0.00239	-0.000439	7.327417	2.079635	1.819681	15233.34468	-0.092937
0.007802	0.00058	7.445083	2.153177	1.88403	15080.50566	-0.001174
0.002707	0.000071	7.342764	2.089228	1.828074	15080.50566	0.019217
0.007802	0.00058	7.53717	2.210731	1.93439	14978.61298	0.049805
0.002707	0.000071	7.434851	2.146782	1.878434	14978.61298	0.090589
0.012897	0.00109	7.414387	2.133992	1.867243	15080.50566	0.019217
0.002707	0.000071	7.445083	2.153177	1.88403	15080.50566	0.019217
-0.00239	-0.000439	7.342764	2.089228	1.828074	15131.452	-0.001174
0.002707	0.000071	7.219982	2.012489	1.760928	15131.452	-0.01137
0.007802	0.00058	7.475779	2.172362	1.900816	15284.29101	-0.113329
0.007802	0.00058	7.475779	2.172362	1.900816	15080.50566	-0.06235

Run 14



Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00239	-0.000439	5.383362	0.864601	0.756526	10138.7108	0.049805
0.012897	0.00109	5.37313	0.858207	0.750931	10138.7108	0.16196
0.012897	0.00109	5.388478	0.867799	0.759324	10138.7108	0.202743
0.012897	0.00109	5.393594	0.870996	0.762122	10087.76446	0.223135
0.002707	0.000071	5.347551	0.842219	0.736942	10138.7108	0.202743
0.007802	0.00058	5.383362	0.864601	0.756526	10087.76446	0.202743
0.012897	0.00109	5.388478	0.867799	0.759324	10087.76446	0.172156
0.007802	0.00058	5.368015	0.855009	0.748133	10087.76446	0.243527
0.007802	0.00058	5.39871	0.874194	0.76492	10138.7108	0.172156
0.012897	0.00109	5.403826	0.877391	0.767717	10189.65714	-0.01137
0.002707	0.000071	5.362899	0.851812	0.745335	10138.7108	0.039609
0.002707	0.000071	5.342435	0.839022	0.734144	10138.7108	0.060001
0.002707	0.000071	5.347551	0.842219	0.736942	10240.60348	0.100785
0.007802	0.00058	5.37313	0.858207	0.750931	10036.81812	0.141568
0.012897	0.00109	5.39871	0.874194	0.76492	10189.65714	-0.021566
0.002707	0.000071	5.388478	0.867799	0.759324	10189.65714	0.009022
0.012897	0.00109	5.403826	0.877391	0.767717	10291.54982	-0.001174
-0.00239	-0.000439	5.408942	0.880589	0.770515	10189.65714	-0.001174
0.007802	0.00058	5.403826	0.877391	0.767717	10087.76446	-0.092937
0.012897	0.00109	5.383362	0.864601	0.756526	10189.65714	0.070197
0.012897	0.00109	5.393594	0.870996	0.762122	10189.65714	0.060001
0.012897	0.00109	5.388478	0.867799	0.759324	10138.7108	0.060001
0.002707	0.000071	5.39871	0.874194	0.76492	10087.76446	0.0800393
0.002707	0.000071	5.403826	0.877391	0.767717	10189.65714	0.080393
0.007802	0.00058	5.378246	0.861404	0.753728	10087.76446	0.049805
0.007802	0.00058	5.393594	0.870996	0.762122	10189.65714	0.049805
0.007802	0.00058	5.419174	0.886984	0.776111	10189.65714	-0.082741
0.007802	0.00058	5.408942	0.880589	0.770515	10495.33517	0.039609
0.007802	0.00058	5.403826	0.877391	0.767717	10240.60348	-0.052154
0.007802	0.00058	5.368015	0.855009	0.748133	10189.65714	-0.143917
0.002707	0.000071	5.39871	0.874194	0.76492	10087.76446	0.039609
0.002707	0.000071	5.408942	0.880589	0.770515	10087.76446	0.060001
0.007802	0.00058	5.388478	0.867799	0.759324	10087.76446	0.080393
0.007802	0.00058	5.362899	0.851812	0.745335	10189.65714	0.080393
0.007802	0.00058	5.37313	0.858207	0.750931	10138.7108	0.090589
0.002707	0.000071	5.388478	0.867799	0.759324	10138.7108	0.131372
0.012897	0.00109	5.388478	0.867799	0.759324	10189.65714	0.060001
0.007802	0.00058	5.393594	0.870996	0.762122	10087.76446	0.080393
0.007802	0.00058	5.39871	0.874194	0.76492	10138.7108	0.090589
0.007802	0.00058	5.37313	0.858207	0.750931	10189.65714	0.049805
-0.00239	-0.000439	5.403826	0.877391	0.767717	10138.7108	-0.113329
0.007802	0.00058	5.414058	0.883786	0.773313	10240.60348	0.060001
0.002707	0.000071	5.39871	0.874194	0.76492	10240.60348	0.060001
0.007802	0.00058	5.342435	0.839022	0.734144	10240.60348	0.029413
0.007802	0.00058	5.393594	0.870996	0.762122	10138.7108	0.060001
0.012897	0.00109	5.368015	0.855009	0.748133	10138.7108	0.080393
0.007802	0.00058	5.39871	0.874194	0.76492	10087.76446	0.080393
0.007802	0.00058	5.37313	0.858207	0.750931	10240.60348	0.223135
-0.00239	-0.000439	5.357783	0.848614	0.742537	10138.7108	0.172156
0.007802	0.00058	5.383362	0.864601	0.756526	10087.76446	0.172156
0.007802	0.00058	5.419174	0.886984	0.776111	10240.60348	0.070197
0.012897	0.00109	5.39871	0.874194	0.76492	10189.65714	0.090589
0.007802	0.00058	5.393594	0.870996	0.762122	10138.7108	0.060001
0.007802	0.00058	5.408942	0.880589	0.770515	10189.65714	0.090589
0.012897	0.00109	5.449869	0.906168	0.792897	10138.7108	0.100785
0.002707	0.000071	5.429406	0.893379	0.781706	10138.7108	0.039609
0.002707	0.000071	5.419174	0.886984	0.776111	10189.65714	0.090589
0.002707	0.000071	5.403826	0.877391	0.767717	10138.7108	0.060001
0.007802	0.00058	5.388478	0.867799	0.759324	10189.65714	0.060001
0.007802	0.00058	5.383362	0.864601	0.756526	10138.7108	0.080393

Run 15

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00239	-0.000439	7.0972	1.93575	1.693781	15233.34468	0.029413
0.017993	0.001599	7.122779	1.951737	1.70777	15080.50566	0.060001
0.017993	0.001599	7.148359	1.967724	1.721759	15029.55932	0.141568
0.007802	0.00058	7.138127	1.961329	1.716163	15182.39834	0.090589
0.002707	0.000071	7.158591	1.974119	1.727354	15029.55932	0.090589
0.007802	0.00058	7.081852	1.926157	1.685388	15029.55932	-0.01137
0.017993	0.001599	7.010229	1.881393	1.646219	15131.452	-0.01137
0.012897	0.00109	7.148359	1.967724	1.721759	15080.50566	-0.01137
0.007802	0.00058	7.158591	1.974119	1.727354	15182.39834	-0.164308
0.007802	0.00058	7.312069	2.070043	1.811288	15131.452	-0.143917
0.007802	0.00058	6.964185	1.852616	1.621039	15080.50566	0.049805
0.007802	0.00058	7.020461	1.887788	1.651814	15131.452	0.009022
0.017993	0.001599	7.276257	2.047661	1.791703	15131.452	-0.001174
0.017993	0.001599	7.010229	1.881393	1.646219	15080.50566	-0.001174
0.017993	0.001599	7.092084	1.932552	1.690983	15131.452	0.080393
0.002707	0.000071	7.107431	1.942145	1.699377	15131.452	0.019217
0.012897	0.00109	7.076736	1.92296	1.68259	15182.39834	0.049805
0.007802	0.00058	7.051156	1.906973	1.668601	14978.61298	0.121176
0.007802	0.00058	7.030692	1.894183	1.65741	15080.50566	0.131372
0.012897	0.00109	7.163707	1.977317	1.730152	15182.39834	-0.164308
0.007802	0.00058	7.153475	1.970922	1.724557	15182.39834	0.039609
0.012897	0.00109	7.199518	1.999699	1.749737	14978.61298	-0.001174
0.017993	0.001599	7.07162	1.919762	1.679792	14978.61298	-0.001174
0.017993	0.001599	7.158591	1.974119	1.727354	15131.452	-0.347834
0.017993	0.001599	7.117663	1.94854	1.704972	15080.50566	0.070197
0.002707	0.000071	7.07162	1.919762	1.679792	14978.61298	0.090589
0.012897	0.00109	7.18417	1.990107	1.741343	15029.55932	-0.001174
0.007802	0.00058	7.179054	1.986909	1.738545	15182.39834	-0.072545
0.007802	0.00058	7.102315	1.938947	1.696579	15131.452	-0.123525
0.017993	0.001599	7.18417	1.990107	1.741343	14978.61298	-0.123525
0.023088	0.002109	6.999997	1.874998	1.640623	15131.452	-0.031762
0.017993	0.001599	7.173939	1.983712	1.735748	15131.452	-0.041958
0.007802	0.00058	7.081852	1.926157	1.685388	15029.55932	-0.021566
0.007802	0.00058	7.168823	1.980514	1.73295	14978.61298	-0.01137
0.012897	0.00109	7.117663	1.94854	1.704972	14774.82763	-0.052154
0.023088	0.002109	7.107431	1.942145	1.699377	15080.50566	0.019217
0.007802	0.00058	7.086968	1.929355	1.688185	15131.452	-0.041958
0.012897	0.00109	7.122779	1.951737	1.70777	15131.452	-0.01137
0.002707	0.000071	7.133011	1.958132	1.713365	15029.55932	-0.031762
0.007802	0.00058	7.107431	1.942145	1.699377	15131.452	0.131372
0.007802	0.00058	7.168823	1.980514	1.73295	15131.452	-0.021566
0.012897	0.00109	7.18417	1.990107	1.741343	15131.452	-0.021566
0.012897	0.00109	7.199518	1.999699	1.749737	15029.55932	-0.021566
0.007802	0.00058	7.179054	1.986909	1.738545	15029.55932	0.121176
0.012897	0.00109	7.061388	1.913368	1.674197	15131.452	0.070197
0.017993	0.001599	7.107431	1.942145	1.699377	15131.452	-0.031762
0.007802	0.00058	7.005113	1.878195	1.643421	14978.61298	0.039609
0.007802	0.00058	7.04604	1.903775	1.665803	15080.50566	-0.021566
0.007802	0.00058	7.133011	1.958132	1.713365	15182.39834	0.019217
0.023088	0.002109	7.117663	1.94854	1.704972	14978.61298	-0.01137
0.002707	0.000071	7.102315	1.938947	1.696579	15131.452	-0.001174
0.002707	0.000071	7.127895	1.954934	1.710568	15131.452	-0.041958
0.002707	0.000071	7.260909	2.038068	1.78331	15080.50566	-0.103133
0.007802	0.00058	7.199518	1.999699	1.749737	15080.50566	-0.113329
0.012897	0.00109	7.179054	1.986909	1.738545	15182.39834	-0.06235
0.012897	0.00109	7.051156	1.906973	1.668601	15131.452	-0.021566
0.002707	0.000071	7.230214	2.018884	1.766523	15029.55932	-0.01137
0.012897	0.00109	7.066504	1.916565	1.676994	14978.61298	0.060001
0.012897	0.00109	7.081852	1.926157	1.685388	15131.452	0.090589
0.023088	0.002109	7.07162	1.919762	1.679792	15029.55932	-0.082741

Run 16

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.04315	-0.000215	7.516706	2.197941	1.923199	15131.452	0.019217
-0.04315	-0.000215	7.434851	2.146782	1.878434	14978.61298	0.009022
-0.04825	-0.000725	7.496242	2.185151	1.912007	15131.452	0.019217
-0.04825	-0.000725	7.429735	2.143584	1.875636	15080.50566	0.009022
-0.04315	-0.000215	7.501358	2.188349	1.914805	15080.50566	0.029413
-0.02277	0.001823	7.439967	2.149979	1.881232	15029.55932	0.029413
-0.04315	-0.000215	7.501358	2.188349	1.914805	15029.55932	0.029413
-0.04315	-0.000215	7.240446	2.025279	1.772119	15029.55932	0.039609
-0.02787	0.001313	7.271141	2.044463	1.788905	15182.39834	0.009022
-0.04315	-0.000215	7.491126	2.181954	1.90921	15080.50566	0.049805
-0.04825	-0.000725	7.48601	2.178757	1.906412	15131.452	-0.092937
-0.04315	-0.000215	7.598561	2.249101	1.967963	15080.50566	-0.143917
-0.03806	0.000294	7.393924	2.121202	1.856052	15182.39834	0.009022
-0.04315	-0.000215	7.475779	2.172362	1.900816	15131.452	0.039609
-0.05334	-0.001234	7.455315	2.159572	1.889625	15080.50566	0.019217
-0.04315	-0.000215	7.475779	2.172362	1.900816	15233.34468	0.039609
-0.03806	0.000294	7.429735	2.143584	1.875636	15233.34468	-0.001174
-0.03296	0.000804	7.383692	2.114807	1.850456	15080.50566	0.049805
-0.04315	-0.000215	7.552518	2.220323	1.942783	15131.452	0.009022
-0.04315	-0.000215	7.445083	2.153177	1.88403	15029.55932	0.029413
-0.03806	0.000294	7.404155	2.127597	1.861648	15029.55932	0.141568
-0.04825	-0.000725	7.491126	2.181954	1.90921	15080.50566	-0.021566
-0.03806	0.000294	7.475779	2.172362	1.900816	15080.50566	0.039609
-0.04825	-0.000725	7.34788	2.092425	1.830872	15029.55932	-0.001174
-0.04315	-0.000215	7.414387	2.133992	1.867243	14978.61298	0.009022
-0.03806	0.000294	7.475779	2.172362	1.900816	14978.61298	0.009022
-0.03296	0.000804	7.419503	2.13719	1.870041	15131.452	0.009022
-0.03296	0.000804	7.532054	2.207534	1.931592	15131.452	-0.001174
-0.03806	0.000294	7.480894	2.175559	1.903614	15080.50566	-0.01137
-0.03296	0.000804	7.450199	2.156374	1.886828	15080.50566	-0.113329
-0.03296	0.000804	7.409271	2.130795	1.864445	15131.452	-0.021566
-0.03296	0.000804	7.465547	2.165967	1.895221	14978.61298	-0.174504
-0.03806	0.000294	7.526938	2.204336	1.928794	15131.452	0.009022
-0.04315	-0.000215	7.465547	2.165967	1.895221	15182.39834	0.009022
-0.03806	0.000294	7.383692	2.114807	1.850456	14978.61298	-0.001174
-0.03296	0.000804	7.48601	2.178757	1.906412	15182.39834	0.009022
-0.03806	0.000294	7.547402	2.217126	1.939985	15080.50566	0.009022
-0.03296	0.000804	7.608793	2.255495	1.973559	15131.452	0.029413
-0.04315	-0.000215	7.670184	2.293865	2.007132	15029.55932	-0.021566
-0.04825	-0.000725	7.557633	2.223521	1.945581	15131.452	-0.031762
-0.03296	0.000804	7.378576	2.11161	1.847659	15029.55932	-0.041958
-0.03806	0.000294	7.39904	2.1244	1.85885	15080.50566	-0.01137
-0.04315	-0.000215	7.496242	2.185151	1.912007	14978.61298	0.039609
-0.03806	0.000294	7.450199	2.156374	1.886828	15131.452	-0.041958
-0.03806	0.000294	7.470663	2.169164	1.898019	15131.452	0.019217
-0.02787	0.001313	7.439967	2.149979	1.881232	15131.452	-0.113329
-0.04315	-0.000215	7.409271	2.130795	1.864445	15080.50566	-0.082741
-0.03296	0.000804	7.491126	2.181954	1.90921	15233.34468	-0.072545
-0.04825	-0.000725	7.491126	2.181954	1.90921	15182.39834	-0.052154
-0.03806	0.000294	7.506474	2.191546	1.917603	14978.61298	0.039609
-0.02277	0.001823	7.547402	2.217126	1.939985	14978.61298	0.009022
-0.04315	-0.000215	7.501358	2.188349	1.914805	15182.39834	-0.01137
-0.03296	0.000804	7.608793	2.255495	1.973559	15029.55932	0.029413
-0.03296	0.000804	7.475779	2.172362	1.900816	15131.452	-0.001174
-0.03806	0.000294	7.593445	2.245903	1.965165	15233.34468	0.019217
-0.03806	0.000294	7.572981	2.233113	1.953974	15080.50566	0.039609
-0.03806	0.000294	7.562749	2.226718	1.948379	15029.55932	-0.001174
-0.02787	0.001313	7.51159	2.194744	1.920401	15131.452	0.029413
-0.04315	-0.000215	7.429735	2.143584	1.875636	15131.452	0.009022
-0.04315	-0.000215	7.470663	2.169164	1.898019	15029.55932	-0.001174

Run 17

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.03296	0.000804	6.923258	1.827036	1.598657	14927.66664	0.009022
-0.03296	0.000804	6.974417	1.859011	1.626634	14978.61298	0.029413
-0.02787	0.001313	6.943722	1.839826	1.609848	15029.55932	-0.06235
-0.03806	0.000294	6.897678	1.811049	1.584668	15131.452	-0.06235
-0.05334	-0.001234	6.851635	1.782272	1.559488	14927.66664	0.070197
-0.05334	-0.001234	6.918142	1.823839	1.595859	15131.452	0.060001
-0.04315	-0.000215	7.030692	1.894183	1.65741	14927.66664	0.100785
-0.04315	-0.000215	6.836287	1.772679	1.551094	15029.55932	0.060001
-0.03296	0.000804	6.913026	1.820641	1.593061	14927.66664	0.039609
-0.03806	0.000294	6.923258	1.827036	1.598657	14927.66664	0.070197
-0.03806	0.000294	6.88233	1.801457	1.576274	15029.55932	0.019217
-0.03806	0.000294	6.780012	1.737507	1.520319	14876.7203	0.233331
-0.03806	0.000294	6.826055	1.766284	1.545499	14927.66664	0.019217
-0.03296	0.000804	6.959069	1.849418	1.618241	15029.55932	0.039609
-0.03296	0.000804	6.943722	1.839826	1.609848	15029.55932	0.039609
-0.02787	0.001313	6.948838	1.843023	1.612646	15029.55932	0.060001
-0.03806	0.000294	6.948838	1.843023	1.612646	15131.452	-0.082741
-0.03806	0.000294	6.974417	1.859011	1.626634	15029.55932	-0.082741
-0.04315	-0.000215	6.918142	1.823839	1.595859	15080.50566	-0.001174
-0.03806	0.000294	6.892562	1.807851	1.58187	15080.50566	0.212939
-0.04315	-0.000215	6.887446	1.804654	1.579072	15029.55932	0.060001
-0.04315	-0.000215	6.861867	1.788667	1.565083	15080.50566	0.049805
-0.03296	0.000804	6.984649	1.865406	1.63223	15080.50566	0.060001
-0.03296	0.000804	6.88233	1.801457	1.576274	14927.66664	0.039609
-0.04315	-0.000215	6.841403	1.775877	1.553892	14927.66664	0.141568
-0.04825	-0.000725	6.923258	1.827036	1.598657	15080.50566	0.100785
-0.04315	-0.000215	6.943722	1.839826	1.609848	14978.61298	0.090589
-0.04315	-0.000215	6.938606	1.836629	1.60705	15080.50566	0.141568
-0.04315	-0.000215	6.913026	1.820641	1.593061	14927.66664	0.039609
-0.02787	0.001313	6.928374	1.830234	1.601454	14927.66664	0.049805
-0.04825	-0.000725	6.969301	1.855813	1.623837	14927.66664	0.039609
-0.04315	-0.000215	6.897678	1.811049	1.584668	14978.61298	0.049805
-0.04315	-0.000215	6.831171	1.769482	1.548297	15131.452	0.029413
-0.03296	0.000804	6.989765	1.868603	1.635028	14927.66664	0.019217
-0.03296	0.000804	6.861867	1.788667	1.565083	14927.66664	0.070197
-0.03806	0.000294	6.887446	1.804654	1.579072	15029.55932	-0.092937
-0.03806	0.000294	6.872099	1.795062	1.570679	15029.55932	-0.052154
-0.04825	-0.000725	6.815823	1.75989	1.539903	14927.66664	0.080393
-0.04315	-0.000215	6.88233	1.801457	1.576274	15029.55932	0.049805
-0.04315	-0.000215	6.851635	1.782272	1.559488	15131.452	0.039609
-0.03806	0.000294	6.989765	1.868603	1.635028	14927.66664	0.049805
-0.04825	-0.000725	6.815823	1.75989	1.539903	15080.50566	0.192547
-0.03806	0.000294	6.866983	1.791864	1.567881	15029.55932	0.060001
-0.03296	0.000804	7.010229	1.881393	1.646219	14978.61298	0.090589
-0.04315	-0.000215	6.984649	1.865406	1.63223	15080.50566	0.070197
-0.04825	-0.000725	6.948838	1.843023	1.612646	14927.66664	0.202743
-0.03806	0.000294	6.897678	1.811049	1.584668	15080.50566	0.131372
-0.03806	0.000294	6.994881	1.871801	1.637826	14927.66664	0.100785
-0.05334	-0.001234	6.861867	1.788667	1.565083	14876.7203	0.121176
-0.04315	-0.000215	6.918142	1.823839	1.595859	15029.55932	0.131372
-0.03806	0.000294	6.88233	1.801457	1.576274	15080.50566	-0.745474
-0.03296	0.000804	6.866983	1.791864	1.567881	15029.55932	0.070197
-0.04315	-0.000215	7.015345	1.88459	1.649017	14927.66664	0.039609
-0.03296	0.000804	6.959069	1.849418	1.618241	14927.66664	-0.041958
-0.03806	0.000294	6.902794	1.814246	1.587466	14978.61298	-0.082741
-0.03806	0.000294	6.897678	1.811049	1.584668	15080.50566	0.060001
-0.03806	0.000294	6.851635	1.782272	1.559488	14876.7203	0.060001
-0.03806	0.000294	6.892562	1.807851	1.58187	15080.50566	0.009022
-0.03806	0.000294	6.88233	1.801457	1.576274	14927.66664	-0.001174
-0.03806	0.000294	6.892562	1.807851	1.58187	15080.50566	0.049805

Run 18

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.04315	-0.000215	7.404155	2.127597	1.861648	15131.452	0.019217
-0.03806	0.000294	7.496242	2.185151	1.912007	15029.55932	0.029413
-0.05334	-0.001234	7.593445	2.245903	1.965165	15182.39834	0.049805
-0.05334	-0.001234	7.608793	2.255495	1.973559	15029.55932	0.019217
-0.03296	0.000804	7.434851	2.146782	1.878434	15182.39834	0.039609
-0.03806	0.000294	7.64972	2.281075	1.995941	15029.55932	0.009022
-0.03806	0.000294	7.552518	2.220323	1.942783	15131.452	0.029413
-0.03296	0.000804	7.439967	2.149979	1.881232	15029.55932	0.049805
-0.04315	-0.000215	7.352996	2.095623	1.83367	15029.55932	-0.01137
-0.05334	-0.001234	7.542286	2.213929	1.937187	15233.34468	0.049805
-0.04315	-0.000215	7.434851	2.146782	1.878434	15182.39834	0.039609
-0.04315	-0.000215	7.572981	2.233113	1.953974	15029.55932	0.019217
-0.03806	0.000294	7.547402	2.217126	1.939985	15233.34468	0.070197
-0.04315	-0.000215	7.542286	2.213929	1.937187	15182.39834	0.049805
-0.04315	-0.000215	7.572981	2.233113	1.953974	15182.39834	0.019217
-0.03806	0.000294	7.588329	2.242706	1.962367	15029.55932	0.049805
-0.03806	0.000294	7.639488	2.27468	1.990345	15182.39834	0.039609
-0.04825	-0.000725	7.434851	2.146782	1.878434	15029.55932	-0.06235
-0.03806	0.000294	7.378576	2.11161	1.847659	15029.55932	0.151764
-0.04825	-0.000725	7.644604	2.277878	1.993143	15080.50566	-0.01137
-0.04315	-0.000215	7.588329	2.242706	1.962367	15029.55932	0.019217
-0.03806	0.000294	7.434851	2.146782	1.878434	15182.39834	0.090589
-0.04315	-0.000215	7.572981	2.233113	1.953974	15080.50566	-0.01137
-0.05334	-0.001234	7.491126	2.181954	1.90921	15131.452	0.11098
-0.04825	-0.000725	7.48601	2.178757	1.906412	15182.39834	-0.06235
-0.04315	-0.000215	7.578097	2.236311	1.956772	15029.55932	0.029413
-0.04315	-0.000215	7.547402	2.217126	1.939985	15284.29101	0.080393
-0.03806	0.000294	7.393924	2.121202	1.856052	15080.50566	0.019217
-0.04315	-0.000215	7.608793	2.255495	1.973559	15080.50566	0.039609
-0.04315	-0.000215	7.598561	2.249101	1.967963	15182.39834	0.019217
-0.03806	0.000294	7.53717	2.210731	1.93439	15233.34468	-0.174504
-0.04825	-0.000725	7.337648	2.08603	1.825276	15029.55932	0.019217
-0.04315	-0.000215	7.526938	2.204336	1.928794	15233.34468	0.019217
-0.03806	0.000294	7.34788	2.092425	1.830872	15029.55932	0.039609
-0.04315	-0.000215	7.39904	2.1244	1.85885	15233.34468	0.009022
-0.04315	-0.000215	7.644604	2.277878	1.993143	15029.55932	-0.01137
-0.04315	-0.000215	7.583213	2.239508	1.95957	15182.39834	0.019217
-0.04315	-0.000215	7.572981	2.233113	1.953974	14978.61298	0.100785
-0.04315	-0.000215	7.455315	2.159572	1.889625	14978.61298	0.019217
-0.03806	0.000294	7.439967	2.149979	1.881232	15029.55932	0.049805
-0.03296	0.000804	7.465547	2.165967	1.895221	15182.39834	0.080393
-0.03806	0.000294	7.455315	2.159572	1.889625	15131.452	0.049805
-0.04315	-0.000215	7.578097	2.236311	1.956772	15080.50566	-0.021566
-0.04825	-0.000725	7.557633	2.223521	1.945581	15029.55932	-0.123525
-0.04315	-0.000215	7.53717	2.210731	1.93439	15182.39834	-0.06235
-0.04315	-0.000215	7.429735	2.143584	1.875636	15131.452	0.009022
-0.04315	-0.000215	7.48601	2.178757	1.906412	15182.39834	0.019217
-0.03806	0.000294	7.532054	2.207534	1.931592	15131.452	0.019217
-0.03296	0.000804	7.542286	2.213929	1.937187	15182.39834	0.090589
-0.03806	0.000294	7.567865	2.229916	1.951176	14978.61298	-0.092937
-0.04825	-0.000725	7.516706	2.197941	1.923199	15029.55932	0.019217
-0.03806	0.000294	7.516706	2.197941	1.923199	14978.61298	0.141568
-0.04825	-0.000725	7.465547	2.165967	1.895221	15080.50566	0.090589
-0.03806	0.000294	7.516706	2.197941	1.923199	15029.55932	-0.113329
-0.04315	-0.000215	7.450199	2.156374	1.886828	15029.55932	0.009022
-0.03806	0.000294	7.532054	2.207534	1.931592	15182.39834	0.019217
-0.03806	0.000294	7.358112	2.09882	1.836468	15080.50566	0.049805
-0.03806	0.000294	7.460431	2.162769	1.892423	15131.452	0.009022
-0.03806	0.000294	7.53717	2.210731	1.93439	15029.55932	0.049805
-0.03296	0.000804	7.53717	2.210731	1.93439	15182.39834	0.009022

Run 19

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.03296	0.000804	7.37346	2.108412	1.844861	14927.66664	0.029413
-0.03806	0.000294	7.429735	2.143584	1.875636	15029.55932	0.029413
-0.04315	-0.000215	7.532054	2.207534	1.931592	14978.61298	0.100785
-0.03806	0.000294	7.342764	2.089228	1.828074	14978.61298	0.141568
-0.03296	0.000804	7.53717	2.210731	1.93439	15080.50566	0.121176
-0.03806	0.000294	7.34788	2.092425	1.830872	15029.55932	0.009022
-0.03806	0.000294	7.434851	2.146782	1.878434	14927.66664	0.090589
-0.03806	0.000294	7.388808	2.118005	1.853254	15029.55932	0.009022
-0.03296	0.000804	7.521822	2.201139	1.925996	15080.50566	0.019217
-0.03806	0.000294	7.547402	2.217126	1.939985	14978.61298	0.060001
-0.02787	0.001313	7.419503	2.13719	1.870041	14927.66664	0.029413
-0.02277	0.001823	7.393924	2.121202	1.856052	15029.55932	0.039609
-0.04315	-0.000215	7.409271	2.130795	1.864445	14876.7203	0.039609
-0.03806	0.000294	7.51159	2.194744	1.920401	14978.61298	0.019217
-0.03806	0.000294	7.363228	2.102018	1.839265	15080.50566	0.029413
-0.03806	0.000294	7.414387	2.133992	1.867243	14825.77397	0.202743
-0.03806	0.000294	7.393924	2.121202	1.856052	15131.452	0.029413
-0.05334	-0.001234	7.424619	2.140387	1.872839	15029.55932	0.019217
-0.03296	0.000804	7.419503	2.13719	1.870041	15080.50566	0.019217
-0.03806	0.000294	7.317185	2.07324	1.814085	14978.61298	0.11098
-0.03296	0.000804	7.352996	2.095623	1.83367	14927.66664	0.090589
-0.03806	0.000294	7.567865	2.229916	1.951176	15131.452	0.049805
-0.04825	-0.000725	7.496242	2.185151	1.912007	15029.55932	0.039609
-0.04315	-0.000215	7.424619	2.140387	1.872839	14876.7203	0.019217
-0.04315	-0.000215	7.393924	2.121202	1.856052	14927.66664	-0.154112
-0.04315	-0.000215	7.429735	2.143584	1.875636	15131.452	-0.031762
-0.04315	-0.000215	7.393924	2.121202	1.856052	15182.39834	-0.06235
-0.03806	0.000294	7.434851	2.146782	1.878434	15080.50566	-0.113329
-0.03296	0.000804	7.496242	2.185151	1.912007	14927.66664	-0.052154
-0.04315	-0.000215	7.332532	2.082833	1.822479	15029.55932	-0.113329
-0.03806	0.000294	7.419503	2.13719	1.870041	15080.50566	-0.001174
-0.03296	0.000804	7.352996	2.095623	1.83367	14927.66664	-0.092937
-0.04315	-0.000215	7.363228	2.102018	1.839265	15029.55932	0.121176
-0.03806	0.000294	7.450199	2.156374	1.886828	14876.7203	0.172156
-0.03806	0.000294	7.317185	2.07324	1.814085	14927.66664	0.141568
-0.04315	-0.000215	7.409271	2.130795	1.864445	15080.50566	0.100785
-0.03296	0.000804	7.337648	2.08603	1.825276	15080.50566	0.28431
-0.02787	0.001313	7.34788	2.092425	1.830872	14978.61298	0.049805
-0.03806	0.000294	7.312069	2.070043	1.811288	15029.55932	0.009022
-0.03806	0.000294	7.255793	2.034871	1.780512	15080.50566	-0.052154
-0.03806	0.000294	7.393924	2.121202	1.856052	14978.61298	-0.154112
-0.03296	0.000804	7.332532	2.082833	1.822479	15080.50566	0.070197
-0.03806	0.000294	7.383692	2.114807	1.850456	14927.66664	0.019217
-0.04315	-0.000215	7.388808	2.118005	1.853254	14927.66664	0.060001
-0.03806	0.000294	7.37346	2.108412	1.844861	14927.66664	0.019217
-0.02277	0.001823	7.51159	2.194744	1.920401	14927.66664	0.11098
-0.03296	0.000804	7.419503	2.13719	1.870041	14927.66664	0.009022
-0.04315	-0.000215	7.306953	2.066845	1.80849	14978.61298	0.172156
-0.03806	0.000294	7.322301	2.076438	1.816883	15080.50566	0.16196
-0.03806	0.000294	7.414387	2.133992	1.867243	14978.61298	0.090589
-0.03806	0.000294	7.450199	2.156374	1.886828	15029.55932	-0.113329
-0.04825	-0.000725	7.475779	2.172362	1.900816	15029.55932	-0.133721
-0.03296	0.000804	7.378576	2.11161	1.847659	15080.50566	-0.021566
-0.04315	-0.000215	7.173939	1.983712	1.735748	15080.50566	0.049805
-0.02787	0.001313	7.409271	2.130795	1.864445	15182.39834	-0.06235
-0.03806	0.000294	7.383692	2.114807	1.850456	15080.50566	-0.06235
-0.04315	-0.000215	7.429735	2.143584	1.875636	15080.50566	0.019217
-0.04315	-0.000215	7.383692	2.114807	1.850456	14876.7203	0.029413
-0.03806	0.000294	7.496242	2.185151	1.912007	14927.66664	0.049805
-0.03806	0.000294	7.37346	2.108412	1.844861	14876.7203	0.009022

Run 20

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.03296	0.000804	6.283766	1.427354	1.248935	10036.81812	0.039609
-0.04315	-0.000215	6.309346	1.443341	1.262924	10138.7108	0.080393
-0.04315	-0.000215	6.242839	1.401774	1.226553	10036.81812	0.049805
-0.04315	-0.000215	6.288882	1.430551	1.251733	10036.81812	0.212939
-0.03806	0.000294	6.242839	1.401774	1.226553	10138.7108	0.243527
-0.03296	0.000804	6.258187	1.411367	1.234946	10087.76446	0.100785
-0.03296	0.000804	6.217259	1.385787	1.212564	10036.81812	0.060001
-0.04315	-0.000215	6.27865	1.424157	1.246137	10036.81812	0.060001
-0.04315	-0.000215	6.293998	1.433749	1.25453	10138.7108	0.070197
-0.03296	0.000804	6.288882	1.430551	1.251733	10087.76446	0.060001
-0.02277	0.001823	6.237723	1.398577	1.223755	10036.81812	0.049805
-0.04315	-0.000215	6.263303	1.414564	1.237744	10087.76446	0.060001
-0.03296	0.000804	6.293998	1.433749	1.25453	10189.65714	0.090589
-0.03296	0.000804	6.242839	1.401774	1.226553	10036.81812	0.060001
-0.02277	0.001823	6.268419	1.417762	1.240541	10138.7108	0.049805
-0.03296	0.000804	6.299114	1.436946	1.257328	10138.7108	0.060001
-0.03806	0.000294	6.258187	1.411367	1.234946	10189.65714	-0.021566
-0.03806	0.000294	6.232607	1.395379	1.220957	10087.76446	0.070197
-0.03806	0.000294	6.222375	1.388984	1.215361	10138.7108	0.090589
-0.03296	0.000804	6.273535	1.420959	1.243339	10087.76446	0.060001
-0.03296	0.000804	6.186564	1.366602	1.195777	10087.76446	0.100785
-0.03296	0.000804	6.27865	1.424157	1.246137	10087.76446	0.060001
-0.03806	0.000294	6.258187	1.411367	1.234946	10138.7108	-0.052154
-0.04315	-0.000215	6.242839	1.401774	1.226553	10138.7108	0.131372
-0.03806	0.000294	6.247955	1.404972	1.22935	10036.81812	0.049805
-0.04825	-0.000725	6.283766	1.427354	1.248935	10138.7108	0.060001
-0.04825	-0.000725	6.222375	1.388984	1.215361	10036.81812	0.060001
-0.04315	-0.000215	6.258187	1.411367	1.234946	10087.76446	0.049805
-0.03296	0.000804	6.258187	1.411367	1.234946	10087.76446	0.039609
-0.03806	0.000294	6.247955	1.404972	1.22935	10036.81812	0.029413
-0.02787	0.001313	6.314462	1.446539	1.265721	10138.7108	0.049805
-0.03296	0.000804	6.247955	1.404972	1.22935	10138.7108	0.049805
-0.03296	0.000804	6.288882	1.430551	1.251733	10036.81812	0.090589
-0.03806	0.000294	6.273535	1.420959	1.243339	10036.81812	0.049805
-0.03296	0.000804	6.253071	1.408169	1.232148	10087.76446	0.060001
-0.03296	0.000804	6.222375	1.388984	1.215361	10138.7108	0.192547
-0.04825	-0.000725	6.27865	1.424157	1.246137	10138.7108	0.131372
-0.04825	-0.000725	6.309346	1.443341	1.262924	10036.81812	0.121176
-0.03806	0.000294	6.263303	1.414564	1.237744	10087.76446	0.060001
-0.03296	0.000804	6.258187	1.411367	1.234946	10036.81812	0.11098
-0.03296	0.000804	6.258187	1.411367	1.234946	10189.65714	0.090589
-0.03806	0.000294	6.273535	1.420959	1.243339	10087.76446	0.080393
-0.03806	0.000294	6.27865	1.424157	1.246137	10138.7108	0.049805
-0.03296	0.000804	6.273535	1.420959	1.243339	10036.81812	0.16196
-0.03296	0.000804	6.258187	1.411367	1.234946	10087.76446	0.202743
-0.03806	0.000294	6.273535	1.420959	1.243339	10036.81812	0.16196
-0.03296	0.000804	6.273535	1.420959	1.243339	10036.81812	0.11098
-0.02787	0.001313	6.309346	1.443341	1.262924	10189.65714	0.182352
-0.03806	0.000294	6.263303	1.414564	1.237744	10087.76446	0.080393
-0.04825	-0.000725	6.232607	1.395379	1.220957	10036.81812	0.049805
-0.03806	0.000294	6.273535	1.420959	1.243339	10189.65714	0.060001
-0.02787	0.001313	6.253071	1.408169	1.232148	10138.7108	0.060001
-0.03806	0.000294	6.309346	1.443341	1.262924	10189.65714	0.049805
-0.04315	-0.000215	6.32981	1.456131	1.274115	10087.76446	0.070197
-0.02787	0.001313	6.309346	1.443341	1.262924	10138.7108	0.070197
-0.03296	0.000804	6.268419	1.417762	1.240541	10138.7108	0.060001
-0.03806	0.000294	6.263303	1.414564	1.237744	10138.7108	-0.001174
-0.03296	0.000804	6.237723	1.398577	1.223755	10138.7108	0.049805
-0.03296	0.000804	6.253071	1.408169	1.232148	10138.7108	0.060001
-0.03296	0.000804	6.309346	1.443341	1.262924	10087.76446	0.070197

Run 21

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.03296	0.000804	6.022854	1.264284	1.106248	10138.7108	-0.052154
-0.03296	0.000804	6.022854	1.264284	1.106248	10087.76446	0.16196
-0.03806	0.000294	5.971695	1.232309	1.07827	10087.76446	0.049805
-0.03806	0.000294	6.017738	1.261086	1.10345	10189.65714	0.070197
-0.02787	0.001313	5.97681	1.235507	1.081068	10189.65714	-0.01137
-0.02787	0.001313	6.043318	1.277073	1.117439	10189.65714	-0.154112
-0.04315	-0.000215	6.007506	1.254691	1.097855	10138.7108	0.192547
-0.04825	-0.000725	6.00239	1.251494	1.095057	10087.76446	0.080393
-0.03806	0.000294	6.033086	1.270679	1.111844	10189.65714	-0.194896
-0.02787	0.001313	6.017738	1.261086	1.10345	10138.7108	-0.01137
-0.04315	-0.000215	6.022854	1.264284	1.106248	10036.81812	-0.143917
-0.03806	0.000294	5.997274	1.248296	1.092259	10138.7108	0.019217
-0.04315	-0.000215	5.97681	1.235507	1.081068	10138.7108	0.039609
-0.03806	0.000294	5.971695	1.232309	1.07827	10138.7108	0.131372
-0.03806	0.000294	5.987042	1.241901	1.086664	10087.76446	0.11098
-0.05334	-0.001234	6.022854	1.264284	1.106248	10087.76446	0.049805
-0.04315	-0.000215	5.961463	1.225914	1.072675	10189.65714	-0.174504
-0.02787	0.001313	6.007506	1.254691	1.097855	10189.65714	-0.06235
-0.03806	0.000294	5.992158	1.245099	1.089462	10036.81812	0.080393
-0.03806	0.000294	5.987042	1.241901	1.086664	10138.7108	0.049805
-0.03806	0.000294	6.017738	1.261086	1.10345	10138.7108	0.202743
-0.03806	0.000294	5.987042	1.241901	1.086664	10036.81812	0.16196
-0.03296	0.000804	6.058665	1.286666	1.125833	10138.7108	0.100785
-0.04315	-0.000215	5.97681	1.235507	1.081068	10138.7108	0.070197
-0.04315	-0.000215	5.992158	1.245099	1.089462	10138.7108	0.080393
-0.03296	0.000804	6.033086	1.270679	1.111844	10087.76446	-0.031762
-0.03296	0.000804	5.956347	1.222717	1.069877	10189.65714	0.11098
-0.04315	-0.000215	6.038202	1.273876	1.114642	10087.76446	0.049805
-0.03806	0.000294	6.012622	1.257889	1.100653	10189.65714	0.060001
-0.02787	0.001313	6.012622	1.257889	1.100653	10189.65714	0.223135
-0.03296	0.000804	5.981926	1.238704	1.083866	10087.76446	0.202743
-0.03296	0.000804	5.992158	1.245099	1.089462	10087.76446	0.182352
-0.04825	-0.000725	5.981926	1.238704	1.083866	10189.65714	-0.01137
-0.04315	-0.000215	5.987042	1.241901	1.086664	10240.60348	-0.001174
-0.03806	0.000294	5.992158	1.245099	1.089462	10189.65714	0.060001
-0.02787	0.001313	6.033086	1.270679	1.111844	10138.7108	0.090589
-0.03296	0.000804	6.00239	1.251494	1.095057	10087.76446	0.100785
-0.03296	0.000804	5.971695	1.232309	1.07827	10036.81812	0.172156
-0.04315	-0.000215	6.053549	1.283468	1.123035	10138.7108	0.121176
-0.03806	0.000294	5.956347	1.222717	1.069877	10189.65714	0.060001
-0.03806	0.000294	5.987042	1.241901	1.086664	10189.65714	0.070197
-0.03296	0.000804	5.987042	1.241901	1.086664	10240.60348	0.060001
-0.04315	-0.000215	6.02797	1.267481	1.109046	10189.65714	-0.052154
-0.03806	0.000294	6.017738	1.261086	1.10345	10240.60348	-0.021566
-0.03296	0.000804	5.981926	1.238704	1.083866	10036.81812	0.070197
-0.03296	0.000804	5.987042	1.241901	1.086664	10240.60348	0.060001
-0.03806	0.000294	6.007506	1.254691	1.097855	10189.65714	0.070197
-0.03806	0.000294	5.981926	1.238704	1.083866	10240.60348	0.049805
-0.03296	0.000804	6.017738	1.261086	1.10345	10189.65714	0.060001
-0.03806	0.000294	6.022854	1.264284	1.097855	10087.76446	0.070197
-0.03296	0.000804	5.992158	1.245099	1.083866	10036.81812	0.243527
-0.03806	0.000294	5.97681	1.235507	1.081068	10189.65714	0.182352
-0.02787	0.001313	6.089361	1.305851	1.142619	10138.7108	0.060001
-0.04315	-0.000215	6.02797	1.267481	1.109046	10189.65714	0.070197
-0.04315	-0.000215	6.058665	1.286666	1.125833	10138.7108	0.070197
-0.04315	-0.000215	6.00239	1.251494	1.095057	10087.76446	0.131372
-0.03806	0.000294	6.012622	1.257889	1.100653	10138.7108	0.253723
-0.03296	0.000804	6.038202	1.273876	1.114642	10138.7108	0.11098
-0.03296	0.000804	6.074013	1.296258	1.134226	10138.7108	0.060001
-0.03296	0.000804	6.007506	1.254691	1.097855	10138.7108	0.049805

Run 22



Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.03296	0.000804	5.910303	1.19394	1.044697	10138.7108	0.070197
-0.03296	0.000804	5.920535	1.200334	1.050293	10138.7108	0.090589
-0.03296	0.000804	5.900071	1.187545	1.039102	10189.65714	0.049805
-0.02787	0.001313	5.920535	1.200334	1.050293	10138.7108	0.100785
-0.02277	0.001823	5.88984	1.18115	1.033506	10036.81812	0.070197
-0.03296	0.000804	5.894956	1.184347	1.036304	10138.7108	0.080393
-0.03806	0.000294	5.910303	1.19394	1.044697	10189.65714	0.039609
-0.03806	0.000294	5.905187	1.190742	1.041899	10138.7108	-0.072545
-0.03806	0.000294	5.920535	1.200334	1.050293	9934.925445	-0.154112
-0.03296	0.000804	5.879608	1.174755	1.02791	10036.81812	0.049805
-0.03806	0.000294	5.869376	1.16836	1.022315	10087.76446	0.070197
-0.02787	0.001313	5.894956	1.184347	1.036304	10138.7108	0.070197
-0.03296	0.000804	5.900071	1.187545	1.039102	10036.81812	0.060001
-0.03806	0.000294	5.915419	1.197137	1.047495	10189.65714	0.060001
-0.03806	0.000294	5.884724	1.177952	1.030708	9985.871783	0.16196
-0.02787	0.001313	5.88984	1.18115	1.033506	10036.81812	0.223135
-0.03806	0.000294	5.935883	1.209927	1.058686	10087.76446	0.141568
-0.03296	0.000804	5.915419	1.197137	1.047495	10036.81812	0.090589
-0.03296	0.000804	5.859144	1.161965	1.016719	10138.7108	0.060001
-0.02787	0.001313	5.920535	1.200334	1.050293	10036.81812	-0.113329
-0.03806	0.000294	5.879608	1.174755	1.02791	10087.76446	0.182352
-0.03296	0.000804	5.86426	1.165162	1.019517	10036.81812	0.100785
-0.03806	0.000294	5.910303	1.19394	1.044697	10138.7108	-0.031762
-0.02787	0.001313	5.910303	1.19394	1.044697	10138.7108	0.009022
-0.02277	0.001823	5.884724	1.177952	1.030708	10036.81812	0.172156
-0.03806	0.000294	5.86426	1.165162	1.019517	10138.7108	0.060001
-0.03296	0.000804	5.935883	1.209927	1.058686	10036.81812	0.131372
-0.03806	0.000294	5.900071	1.187545	1.039102	10138.7108	0.070197
-0.01768	0.002332	5.900071	1.187545	1.039102	10036.81812	0.070197
-0.02277	0.001823	5.869376	1.16836	1.022315	10036.81812	0.090589
-0.04315	-0.000215	5.915419	1.197137	1.047495	10087.76446	-0.225484
-0.03806	0.000294	5.920535	1.200334	1.050293	10189.65714	-0.001174
-0.03296	0.000804	5.894956	1.184347	1.036304	10087.76446	0.080393
-0.03296	0.000804	5.910303	1.19394	1.044697	10138.7108	0.070197
-0.03806	0.000294	5.88984	1.18115	1.033506	10138.7108	0.090589
-0.03806	0.000294	5.879608	1.174755	1.02791	10138.7108	0.182352
-0.03296	0.000804	5.884724	1.177952	1.030708	10087.76446	0.100785
-0.03296	0.000804	5.894956	1.184347	1.036304	10138.7108	0.212939
-0.03296	0.000804	5.86426	1.165162	1.019517	10087.76446	0.121176
-0.03296	0.000804	5.894956	1.184347	1.036304	10087.76446	0.182352
-0.03806	0.000294	5.869376	1.16836	1.022315	10036.81812	0.060001
-0.03296	0.000804	5.956347	1.222717	1.069877	10138.7108	0.090589
-0.04315	-0.000215	5.894956	1.184347	1.036304	10189.65714	0.090589
-0.02787	0.001313	5.894956	1.184347	1.036304	10138.7108	-0.021566
-0.02787	0.001313	5.879608	1.174755	1.02791	10138.7108	0.049805
-0.03296	0.000804	5.884724	1.177952	1.030708	10036.81812	0.090589
-0.03296	0.000804	5.88984	1.18115	1.033506	10087.76446	0.090589
-0.04315	-0.000215	5.874492	1.171557	1.025113	10036.81812	0.080393
-0.03296	0.000804	5.869376	1.16836	1.022315	10087.76446	0.172156
-0.03296	0.000804	5.848912	1.15557	1.011124	9985.871783	0.151764
-0.03296	0.000804	5.946115	1.216322	1.064282	10036.81812	0.049805
-0.02787	0.001313	5.879608	1.174755	1.02791	10087.76446	0.090589
-0.03296	0.000804	5.940999	1.213124	1.061484	10036.81812	0.080393
-0.02787	0.001313	5.848912	1.15557	1.011124	10189.65714	-0.072545
-0.02787	0.001313	5.930767	1.206729	1.055888	10189.65714	0.049805
-0.03806	0.000294	5.915419	1.197137	1.047495	10087.76446	-0.06235
-0.03296	0.000804	5.88984	1.18115	1.033506	10036.81812	-0.072545
-0.03296	0.000804	5.874492	1.171557	1.025113	10087.76446	0.060001
-0.04315	-0.000215	5.925651	1.203532	1.05309	10138.7108	0.090589
-0.03296	0.000804	5.900071	1.187545	1.039102	10138.7108	0.243527

Run 23

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.04315	-0.000215	6.728852	1.705533	1.492341	15029.55932	0.060001
-0.03806	0.000294	6.856751	1.785469	1.562286	15131.452	0.070197
-0.03296	0.000804	6.851635	1.782272	1.559488	15080.50566	0.049805
-0.04315	-0.000215	6.820939	1.763087	1.542701	15029.55932	0.192547
-0.04315	-0.000215	6.790244	1.743902	1.525914	15080.50566	0.223135
-0.04315	-0.000215	6.785128	1.740705	1.523117	15080.50566	0.11098
-0.04315	-0.000215	6.815823	1.75989	1.539903	15080.50566	0.11098
-0.03296	0.000804	6.846519	1.779074	1.55669	15131.452	0.070197
-0.04315	-0.000215	6.805591	1.753495	1.534308	14978.61298	-0.001174
-0.04825	-0.000725	6.774896	1.73431	1.517521	15131.452	0.029413
-0.04315	-0.000215	6.815823	1.75989	1.539903	15080.50566	0.039609
-0.04825	-0.000725	6.861867	1.788667	1.565083	15131.452	0.039609
-0.03806	0.000294	6.938606	1.836629	1.60705	15080.50566	0.029413
-0.04825	-0.000725	6.913026	1.820641	1.593061	15029.55932	0.009022
-0.05334	-0.001234	6.790244	1.743902	1.525914	15131.452	-0.01137
-0.04825	-0.000725	6.800476	1.750297	1.53151	15080.50566	-0.031762
-0.03806	0.000294	6.759548	1.724718	1.509128	15131.452	0.019217
-0.03806	0.000294	6.754432	1.72152	1.50633	14978.61298	0.049805
-0.04315	-0.000215	6.800476	1.750297	1.53151	14978.61298	0.080393
-0.03806	0.000294	6.861867	1.788667	1.565083	14978.61298	0.049805
-0.03806	0.000294	6.739084	1.711928	1.497937	15029.55932	0.039609
-0.05334	-0.001234	6.872099	1.795062	1.570679	15131.452	0.049805
-0.04315	-0.000215	6.913026	1.820641	1.593061	14978.61298	0.11098
-0.03806	0.000294	6.7442	1.715125	1.500735	14978.61298	0.192547
-0.04315	-0.000215	6.836287	1.772679	1.551094	15080.50566	0.121176
-0.04315	-0.000215	6.759548	1.724718	1.509128	15029.55932	0.049805
-0.04315	-0.000215	6.76978	1.731112	1.514723	15029.55932	0.049805
-0.05334	-0.001234	6.780012	1.737507	1.520319	15080.50566	0.039609
-0.03806	0.000294	6.88233	1.801457	1.576274	15080.50566	0.039609
-0.04825	-0.000725	6.861867	1.788667	1.565083	15131.452	0.039609
-0.04315	-0.000215	6.856751	1.785469	1.562286	15080.50566	0.039609
-0.03296	0.000804	6.826055	1.766284	1.545499	14978.61298	0.172156
-0.03806	0.000294	6.728852	1.705533	1.492341	14978.61298	0.212939
-0.04825	-0.000725	6.856751	1.785469	1.562286	15131.452	0.212939
-0.03806	0.000294	6.76978	1.731112	1.514723	14927.66664	0.172156
-0.04315	-0.000215	6.810707	1.756692	1.537106	15131.452	0.182352
-0.04315	-0.000215	6.877214	1.798259	1.573477	14927.66664	0.223135
-0.03806	0.000294	6.703273	1.689545	1.478352	15080.50566	-0.225484
-0.04315	-0.000215	6.728852	1.705533	1.492341	15029.55932	-0.031762
-0.02787	0.001313	6.918142	1.823839	1.595859	15131.452	0.029413
-0.04315	-0.000215	6.846519	1.779074	1.55669	14978.61298	0.070197
-0.03296	0.000804	6.913026	1.820641	1.593061	15029.55932	0.070197
-0.04825	-0.000725	6.877214	1.798259	1.573477	15182.39834	0.304702
-0.04315	-0.000215	6.774896	1.73431	1.517521	15182.39834	0.060001
-0.03806	0.000294	6.820939	1.763087	1.542701	15182.39834	0.325094
-0.04315	-0.000215	6.800476	1.750297	1.53151	14927.66664	0.131372
-0.04315	-0.000215	6.861867	1.788667	1.565083	15080.50566	0.121176
-0.04315	-0.000215	6.785128	1.740705	1.523117	15029.55932	0.080393
-0.04315	-0.000215	6.846519	1.779074	1.55669	15182.39834	0.080393
-0.03806	0.000294	6.774896	1.73431	1.517521	15080.50566	0.039609
-0.04315	-0.000215	6.831171	1.769482	1.548297	15029.55932	0.172156
-0.04825	-0.000725	6.790244	1.743902	1.525914	14978.61298	0.182352
-0.04315	-0.000215	6.79536	1.7471	1.528712	15131.452	0.243527
-0.03806	0.000294	6.872099	1.795062	1.570679	15080.50566	0.100785
-0.04315	-0.000215	6.831171	1.769482	1.548297	14978.61298	-0.01137
-0.04825	-0.000725	6.831171	1.769482	1.548297	15029.55932	0.141568
-0.03806	0.000294	6.866983	1.791864	1.567881	14774.82763	-0.643515
-0.03806	0.000294	6.826055	1.766284	1.545499	14978.61298	-0.021566
-0.03806	0.000294	6.841403	1.775877	1.553892	15182.39834	-0.001174

Run 24







Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	5.859144	1.161965	1.016719	10036.81812	0.080393
0.007802	0.00058	5.843796	1.152373	1.008326	10138.7108	0.009022
0.007802	0.00058	5.900071	1.187545	1.039102	10036.81812	-0.001174
-0.00239	-0.000439	5.86426	1.165162	1.019517	10036.81812	0.049805
-0.00239	-0.000439	5.807985	1.12999	0.988742	10036.81812	0.090589
-0.00239	-0.000439	5.83868	1.149175	1.005528	10189.65714	0.121176
0.007802	0.00058	5.833564	1.145978	1.002731	9985.871783	0.131372
0.007802	0.00058	5.894956	1.184347	1.036304	10036.81812	0.11098
0.007802	0.00058	5.848912	1.15557	1.011124	10036.81812	0.039609
0.012897	0.00109	5.843796	1.152373	1.008326	10087.76446	0.090589
0.002707	0.000071	5.88984	1.18115	1.033506	10036.81812	0.049805
0.007802	0.00058	5.823332	1.139583	0.997135	10087.76446	0.060001
0.012897	0.00109	5.833564	1.145978	1.002731	10036.81812	0.049805
0.002707	0.000071	5.823332	1.139583	0.997135	10036.81812	-0.031762
0.012897	0.00109	5.83868	1.149175	1.005528	10087.76446	0.223135
-0.00748	-0.000948	5.823332	1.139583	0.997135	10036.81812	0.060001
0.002707	0.000071	5.833564	1.145978	1.002731	9985.871783	0.049805
0.002707	0.000071	5.859144	1.161965	1.016719	10036.81812	0.049805
0.007802	0.00058	5.833564	1.145978	1.002731	10087.76446	0.090589
0.012897	0.00109	5.843796	1.152373	1.008326	10036.81812	0.039609
-0.00748	-0.000948	5.86426	1.165162	1.019517	10036.81812	0.070197
0.012897	0.00109	5.879608	1.174755	1.02791	10036.81812	0.141568
0.012897	0.00109	5.818217	1.136385	0.994337	9985.871783	0.223135
0.002707	0.000071	5.83868	1.149175	1.005528	10036.81812	0.182352
-0.00239	-0.000439	5.818217	1.136385	0.994337	9985.871783	0.16196
0.007802	0.00058	5.828448	1.14278	0.999933	10138.7108	0.16196
0.007802	0.00058	5.843796	1.152373	1.008326	9985.871783	0.080393
0.007802	0.00058	5.859144	1.161965	1.016719	10036.81812	0.11098
0.012897	0.00109	5.86426	1.165162	1.019517	10036.81812	0.080393
0.002707	0.000071	5.83868	1.149175	1.005528	10138.7108	0.049805
0.012897	0.00109	5.879608	1.174755	1.02791	10138.7108	0.131372
0.012897	0.00109	5.879608	1.174755	1.02791	10138.7108	0.049805
0.017993	0.001599	5.833564	1.145978	1.002731	10036.81812	0.060001
0.002707	0.000071	5.879608	1.174755	1.02791	10138.7108	0.060001
0.007802	0.00058	5.843796	1.152373	1.008326	10036.81812	-0.052154
0.012897	0.00109	5.86426	1.165162	1.019517	10138.7108	-0.031762
0.007802	0.00058	5.879608	1.174755	1.02791	10189.65714	-0.041958
0.007802	0.00058	5.869376	1.16836	1.022315	10036.81812	-0.092937
0.007802	0.00058	5.884724	1.177952	1.030708	10138.7108	-0.021566
0.012897	0.00109	5.894956	1.184347	1.036304	10036.81812	-0.103133
-0.00239	-0.000439	5.884724	1.177952	1.030708	10189.65714	-0.031762
0.007802	0.00058	5.894956	1.184347	1.036304	10087.76446	-0.041958
0.007802	0.00058	5.792637	1.120398	0.980348	10138.7108	0.090589
0.002707	0.000071	5.833564	1.145978	1.002731	10087.76446	0.049805
0.002707	0.000071	5.874492	1.171557	1.025113	10087.76446	0.090589
0.012897	0.00109	5.848912	1.15557	1.011124	10036.81812	0.070197
0.012897	0.00109	5.83868	1.149175	1.005528	10087.76446	0.304702
0.012897	0.00109	5.828448	1.14278	0.999933	10036.81812	0.16196
0.007802	0.00058	5.833564	1.145978	1.002731	10138.7108	0.151764
0.007802	0.00058	5.879608	1.174755	1.02791	9985.871783	0.16196
0.012897	0.00109	5.86426	1.165162	1.019517	10036.81812	0.070197
0.002707	0.000071	5.879608	1.174755	1.02791	10138.7108	0.049805
-0.01258	-0.001458	5.83868	1.149175	1.005528	10087.76446	0.049805
0.012897	0.00109	5.848912	1.15557	1.011124	10138.7108	0.070197
0.017993	0.001599	5.823332	1.139583	0.997135	10087.76446	0.080393
0.007802	0.00058	5.869376	1.16836	1.022315	10036.81812	0.070197
0.012897	0.00109	5.854028	1.158768	1.013922	10036.81812	0.070197
-0.00239	-0.000439	5.869376	1.16836	1.022315	10087.76446	0.039609
-0.00239	-0.000439	5.833564	1.145978	1.002731	10138.7108	0.049805
0.017993	0.001599	5.86426	1.165162	1.019517	10036.81812	0.070197

Run 28

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00239	-0.000439	6.007506	1.254691	1.097855	9985.871783	0.039609
-0.01258	-0.001458	5.992158	1.245099	1.089462	10087.76446	0.090589
-0.00239	-0.000439	5.992158	1.245099	1.089462	9934.925445	0.039609
-0.00239	-0.000439	5.961463	1.225914	1.072675	10036.81812	0.039609
-0.00239	-0.000439	5.971695	1.232309	1.07827	10036.81812	0.049805
-0.00748	-0.000948	6.02797	1.267481	1.109046	10036.81812	0.049805
-0.00239	-0.000439	6.022854	1.264284	1.106248	10087.76446	-0.06235
-0.00239	-0.000439	6.033086	1.270679	1.111844	10036.81812	-0.072545
0.002707	0.000071	5.951231	1.219519	1.067079	10036.81812	-0.001174
-0.01258	-0.001458	5.997274	1.248296	1.092259	9934.925445	0.060001
0.002707	0.000071	5.987042	1.241901	1.086664	9985.871783	0.060001
-0.00748	-0.000948	5.981926	1.238704	1.083866	10036.81812	0.049805
-0.00748	-0.000948	5.987042	1.241901	1.086664	10036.81812	0.212939
-0.00239	-0.000439	5.997274	1.248296	1.092259	9934.925445	0.121176
-0.00748	-0.000948	6.00239	1.251494	1.095057	9934.925445	0.049805
-0.00748	-0.000948	5.981926	1.238704	1.083866	10087.76446	-0.06235
-0.00748	-0.000948	5.951231	1.219519	1.067079	9985.871783	-0.052154
-0.01258	-0.001458	5.987042	1.241901	1.086664	10036.81812	-0.409009
-0.00239	-0.000439	6.007506	1.254691	1.097855	10036.81812	0.060001
0.002707	0.000071	5.951231	1.219519	1.067079	9934.925445	0.060001
-0.01258	-0.001458	5.956347	1.222717	1.069877	10087.76446	0.039609
0.002707	0.000071	5.97681	1.235507	1.081068	10036.81812	0.070197
-0.00239	-0.000439	5.981926	1.238704	1.083866	10036.81812	-0.01137
-0.00239	-0.000439	5.961463	1.225914	1.072675	9985.871783	0.070197
-0.01258	-0.001458	5.905187	1.190742	1.041899	9985.871783	0.253723
-0.01258	-0.001458	5.981926	1.238704	1.083866	9985.871783	0.090589
0.002707	0.000071	5.981926	1.238704	1.083866	9985.871783	0.070197
-0.00239	-0.000439	5.987042	1.241901	1.086664	9934.925445	0.345486
0.002707	0.000071	5.956347	1.222717	1.069877	9934.925445	0.090589
-0.00748	-0.000948	5.997274	1.248296	1.092259	10036.81812	0.151764
-0.00239	-0.000439	6.022854	1.264284	1.106248	9985.871783	0.11098
0.012897	0.00109	6.012622	1.257889	1.100653	10036.81812	0.049805
-0.00748	-0.000948	5.97681	1.235507	1.081068	9883.979106	0.100785
0.002707	0.000071	5.946115	1.216322	1.064282	9985.871783	0.182352
-0.00239	-0.000439	6.012622	1.257889	1.100653	9985.871783	0.131372
-0.00239	-0.000439	6.00239	1.251494	1.095057	10087.76446	0.080393
-0.00748	-0.000948	5.971695	1.232309	1.07827	9985.871783	0.060001
-0.00748	-0.000948	5.961463	1.225914	1.072675	10036.81812	0.060001
-0.00239	-0.000439	6.033086	1.270679	1.111844	9985.871783	0.090589
-0.01258	-0.001458	6.00239	1.251494	1.095057	9985.871783	0.049805
0.002707	0.000071	6.012622	1.257889	1.100653	9934.925445	0.060001
-0.00239	-0.000439	5.981926	1.238704	1.083866	10138.7108	-0.031762
-0.01258	-0.001458	5.971695	1.232309	1.07827	10036.81812	0.202743
-0.00239	-0.000439	5.992158	1.245099	1.089462	10036.81812	0.039609
0.002707	0.000071	5.971695	1.232309	1.07827	10036.81812	0.060001
0.002707	0.000071	5.997274	1.248296	1.092259	10036.81812	0.070197
-0.00239	-0.000439	6.022854	1.264284	1.106248	10036.81812	-0.123525
-0.00748	-0.000948	5.956347	1.222717	1.069877	10036.81812	0.060001
-0.00239	-0.000439	5.951231	1.219519	1.067079	9985.871783	0.060001
-0.00748	-0.000948	5.966579	1.229112	1.075473	10087.76446	0.039609
-0.00239	-0.000439	6.00239	1.251494	1.095057	10036.81812	0.019217
-0.00239	-0.000439	5.987042	1.241901	1.086664	10087.76446	0.080393
0.007802	0.00058	5.97681	1.235507	1.081068	10138.7108	0.182352
0.002707	0.000071	6.00239	1.251494	1.095057	10036.81812	0.049805
-0.00239	-0.000439	5.971695	1.232309	1.07827	9934.925445	0.090589
-0.00748	-0.000948	5.971695	1.232309	1.07827	9985.871783	0.049805
-0.01258	-0.001458	5.971695	1.232309	1.07827	9985.871783	0.253723
-0.00239	-0.000439	5.966579	1.229112	1.075473	9985.871783	0.172156
-0.00239	-0.000439	5.992158	1.245099	1.089462	9934.925445	0.141568
0.007802	0.00058	6.02797	1.267481	1.109046	10036.81812	0.16196

Run 29





Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	7.07162	1.919762	1.679792	14978.61298	-0.01137
0.007802	0.00058	7.117663	1.94854	1.704972	15029.55932	0.049805
0.007802	0.00058	6.984649	1.865406	1.63223	14978.61298	-0.082741
0.002707	0.000071	7.219982	2.012489	1.760928	15080.50566	0.834888
0.002707	0.000071	6.979533	1.862208	1.629432	15131.452	0.090589
-0.00239	-0.000439	7.051156	1.906973	1.668601	15080.50566	-0.01137
-0.00239	-0.000439	7.163707	1.977317	1.730152	15080.50566	0.16196
0.002707	0.000071	7.051156	1.906973	1.668601	14978.61298	0.019217
0.012897	0.00109	7.066504	1.916565	1.676994	15080.50566	0.009022
0.002707	0.000071	7.020461	1.887788	1.651814	14978.61298	-0.072545
0.012897	0.00109	7.086968	1.929355	1.688185	15131.452	0.039609
-0.00239	-0.000439	7.163707	1.977317	1.730152	15131.452	0.212939
-0.00239	-0.000439	7.127895	1.954934	1.710568	15131.452	0.100785
-0.00239	-0.000439	7.04604	1.903775	1.665803	14978.61298	0.009022
0.002707	0.000071	6.999997	1.874998	1.640623	15182.39834	-0.052154
0.002707	0.000071	6.979533	1.862208	1.629432	14978.61298	-0.01137
-0.00239	-0.000439	7.092084	1.932552	1.690983	15080.50566	0.151764
-0.00239	-0.000439	7.163707	1.977317	1.730152	15182.39834	0.029413
0.002707	0.000071	6.979533	1.862208	1.629432	15029.55932	0.009022
0.007802	0.00058	7.102315	1.938947	1.696579	15131.452	0.202743
0.002707	0.000071	7.163707	1.977317	1.730152	15080.50566	0.009022
0.002707	0.000071	7.158591	1.974119	1.727354	15131.452	0.11098
-0.00748	-0.000948	7.194402	1.996501	1.746939	14927.66664	-0.001174
0.002707	0.000071	7.173939	1.983712	1.735748	14978.61298	0.019217
0.002707	0.000071	7.179054	1.986909	1.738545	15080.50566	-0.082741
0.007802	0.00058	7.153475	1.970922	1.724557	15080.50566	0.029413
0.002707	0.000071	7.066504	1.916565	1.676994	15080.50566	0.11098
0.002707	0.000071	7.148359	1.967724	1.721759	14927.66664	-0.01137
-0.00748	-0.000948	6.969301	1.855813	1.623837	14978.61298	0.039609
-0.00748	-0.000948	6.974417	1.859011	1.626634	15080.50566	-0.001174
0.002707	0.000071	7.158591	1.974119	1.727354	15080.50566	0.009022
0.002707	0.000071	7.061388	1.913368	1.674197	15029.55932	0.060001
0.002707	0.000071	7.051156	1.906973	1.668601	15131.452	0.080393
-0.00748	-0.000948	7.189286	1.993304	1.744141	15080.50566	-0.001174
-0.00239	-0.000439	6.984649	1.865406	1.63223	15131.452	-0.143917
-0.00748	-0.000948	7.030692	1.894183	1.65741	15080.50566	0.070197
-0.00239	-0.000439	7.086968	1.929355	1.688185	15029.55932	0.019217
0.012897	0.00109	7.081852	1.926157	1.685388	15080.50566	0.080393
0.007802	0.00058	7.153475	1.970922	1.724557	15029.55932	0.029413
-0.00239	-0.000439	7.061388	1.913368	1.674197	15080.50566	-0.154112
-0.01768	-0.001968	6.974417	1.859011	1.626634	15029.55932	-0.092937
-0.00748	-0.000948	6.984649	1.865406	1.63223	15029.55932	0.039609
-0.00239	-0.000439	6.994881	1.871801	1.637826	14927.66664	0.172156
0.002707	0.000071	7.030692	1.894183	1.65741	15080.50566	0.009022
0.007802	0.00058	7.035808	1.89738	1.660208	15080.50566	-0.021566
-0.00239	-0.000439	7.025577	1.890985	1.654612	15080.50566	0.029413
0.002707	0.000071	7.143243	1.964527	1.718961	14927.66664	0.100785
0.007802	0.00058	7.04604	1.903775	1.665803	15131.452	-0.001174
-0.00748	-0.000948	7.086968	1.929355	1.688185	15029.55932	-0.001174
0.007802	0.00058	7.107431	1.942145	1.699377	15029.55932	-0.082741
0.002707	0.000071	6.93349	1.833431	1.604252	15080.50566	0.009022
-0.00239	-0.000439	7.020461	1.887788	1.651814	14978.61298	0.009022
-0.00239	-0.000439	7.04604	1.903775	1.665803	14927.66664	0.060001
-0.00748	-0.000948	7.138127	1.961329	1.716163	14927.66664	0.009022
0.002707	0.000071	6.989765	1.868603	1.635028	15182.39834	-0.041958
0.002707	0.000071	7.179054	1.986909	1.738545	15029.55932	0.202743
0.002707	0.000071	7.153475	1.970922	1.724557	14978.61298	0.019217
0.002707	0.000071	7.127895	1.954934	1.710568	15131.452	0.029413
0.007802	0.00058	6.974417	1.859011	1.626634	14978.61298	0.009022
-0.00239	-0.000439	7.04604	1.903775	1.665803	14978.61298	0.009022
0.007802	0.00058	7.107431	1.942145	1.699377	15080.50566	-0.001174

Run 31

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00748	-0.000948	5.531724	0.957328	0.837662	10087.76446	0.070197
-0.00748	-0.000948	5.521492	0.950933	0.832066	10036.81812	0.090589
-0.00239	-0.000439	5.511261	0.944538	0.826471	10087.76446	0.080393
0.002707	0.000071	5.552188	0.970118	0.848853	10138.7108	0.060001
-0.00239	-0.000439	5.521492	0.950933	0.832066	10189.65714	-0.021566
-0.00239	-0.000439	5.480565	0.925353	0.809684	10189.65714	0.049805
-0.00239	-0.000439	5.526608	0.95413	0.834864	10036.81812	0.070197
0.002707	0.000071	5.53684	0.960525	0.84046	10036.81812	0.049805
0.002707	0.000071	5.53684	0.960525	0.84046	10189.65714	-0.205092
0.002707	0.000071	5.547072	0.96692	0.846055	10189.65714	0.009022
0.002707	0.000071	5.506145	0.94134	0.823673	10036.81812	0.029413
-0.00239	-0.000439	5.531724	0.957328	0.837662	10087.76446	0.080393
-0.00239	-0.000439	5.475449	0.922156	0.806886	10138.7108	0.100785
0.002707	0.000071	5.501029	0.938143	0.820875	10240.60348	0.131372
-0.00239	-0.000439	5.506145	0.94134	0.823673	10138.7108	0.090589
0.002707	0.000071	5.531724	0.957328	0.837662	10036.81812	0.202743
-0.00239	-0.000439	5.511261	0.944538	0.826471	10036.81812	0.151764
-0.00239	-0.000439	5.541956	0.963723	0.843257	10087.76446	0.049805
0.002707	0.000071	5.526608	0.95413	0.834864	10138.7108	0.039609
-0.00239	-0.000439	5.490797	0.931748	0.81528	10189.65714	0.100785
-0.00239	-0.000439	5.547072	0.96692	0.846055	10087.76446	0.100785
-0.00748	-0.000948	5.526608	0.95413	0.834864	10138.7108	0.090589
-0.00239	-0.000439	5.516377	0.947735	0.829268	10036.81812	0.182352
-0.00239	-0.000439	5.521492	0.950933	0.832066	10036.81812	0.131372
0.002707	0.000071	5.547072	0.96692	0.846055	10087.76446	0.090589
-0.00239	-0.000439	5.521492	0.950933	0.832066	10138.7108	0.304702
-0.00239	-0.000439	5.56242	0.976512	0.854448	10189.65714	0.11098
0.002707	0.000071	5.531724	0.957328	0.837662	10138.7108	0.100785
-0.00239	-0.000439	5.521492	0.950933	0.832066	10036.81812	0.060001
0.002707	0.000071	5.526608	0.95413	0.834864	10138.7108	0.060001
-0.00239	-0.000439	5.526608	0.95413	0.834864	10138.7108	0.141568
-0.00239	-0.000439	5.531724	0.957328	0.837662	10189.65714	0.100785
-0.00748	-0.000948	5.547072	0.96692	0.846055	10240.60348	-0.001174
-0.00239	-0.000439	5.56242	0.976512	0.854448	10138.7108	-0.092937
0.002707	0.000071	5.53684	0.960525	0.84046	10087.76446	0.060001
-0.00239	-0.000439	5.547072	0.96692	0.846055	10036.81812	0.233331
-0.00239	-0.000439	5.521492	0.950933	0.832066	10036.81812	0.243527
-0.00748	-0.000948	5.541956	0.963723	0.843257	10138.7108	0.182352
-0.01258	-0.001458	5.506145	0.94134	0.823673	10036.81812	0.11098
0.002707	0.000071	5.531724	0.957328	0.837662	10138.7108	0.080393
0.002707	0.000071	5.547072	0.96692	0.846055	10036.81812	0.141568
-0.00239	-0.000439	5.572652	0.982907	0.860044	10138.7108	0.029413
0.002707	0.000071	5.526608	0.95413	0.834864	10138.7108	0.060001
-0.00239	-0.000439	5.547072	0.96692	0.846055	10036.81812	0.060001
0.002707	0.000071	5.531724	0.957328	0.837662	10138.7108	0.060001
-0.00748	-0.000948	5.506145	0.94134	0.823673	10189.65714	0.060001
-0.01258	-0.001458	5.521492	0.950933	0.832066	10189.65714	0.263919
-0.00239	-0.000439	5.485681	0.928551	0.812482	10036.81812	0.151764
-0.00239	-0.000439	5.552188	0.970118	0.848853	10138.7108	0.070197
0.002707	0.000071	5.511261	0.944538	0.826471	10036.81812	0.090589
-0.00748	-0.000948	5.511261	0.944538	0.826471	10138.7108	0.060001
-0.00748	-0.000948	5.547072	0.96692	0.846055	10189.65714	0.019217
-0.00748	-0.000948	5.501029	0.938143	0.820875	10087.76446	0.090589
-0.00239	-0.000439	5.521492	0.950933	0.832066	10138.7108	0.090589
0.002707	0.000071	5.511261	0.944538	0.826471	10138.7108	0.070197
0.007802	0.00058	5.53684	0.960525	0.84046	9985.871783	0.090589
-0.00748	-0.000948	5.526608	0.95413	0.834864	10138.7108	0.070197
-0.01258	-0.001458	5.541956	0.963723	0.843257	10189.65714	0.049805
-0.00239	-0.000439	5.557304	0.973315	0.851651	10138.7108	-0.001174
-0.00239	-0.000439	5.521492	0.950933	0.832066	10138.7108	0.019217

Run 32

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00748	-0.000948	5.388478	0.867799	0.759324	10036.81812	-0.072545
-0.00239	-0.000439	5.378246	0.861404	0.753728	9985.871783	0.172156
0.002707	0.000071	5.362899	0.851812	0.745335	10036.81812	0.202743
0.007802	0.00058	5.414058	0.883786	0.773313	10036.81812	0.16196
0.017993	0.001599	5.347551	0.842219	0.736942	10087.76446	-0.021566
0.007802	0.00058	5.342435	0.839022	0.734144	10138.7108	0.080393
0.002707	0.000071	5.368015	0.855009	0.748133	10087.76446	0.100785
0.012897	0.00109	5.368015	0.855009	0.748133	10138.7108	0.049805
0.007802	0.00058	5.408942	0.880589	0.770515	10036.81812	0.060001
0.002707	0.000071	5.352667	0.845417	0.73974	10138.7108	0.070197
0.007802	0.00058	5.368015	0.855009	0.748133	10036.81812	0.060001
0.007802	0.00058	5.352667	0.845417	0.73974	10036.81812	0.16196
0.007802	0.00058	5.368015	0.855009	0.748133	10138.7108	0.243527
0.007802	0.00058	5.39871	0.874194	0.76492	10036.81812	0.11098
0.012897	0.00109	5.403826	0.877391	0.767717	10087.76446	0.090589
0.002707	0.000071	5.378246	0.861404	0.753728	10036.81812	0.060001
0.007802	0.00058	5.37313	0.858207	0.750931	10087.76446	-0.041958
0.002707	0.000071	5.403826	0.877391	0.767717	9985.871783	-0.031762
0.007802	0.00058	5.347551	0.842219	0.736942	10240.60348	0.263919
0.002707	0.000071	5.357783	0.848614	0.742537	10138.7108	0.060001
0.007802	0.00058	5.357783	0.848614	0.742537	10087.76446	0.131372
0.007802	0.00058	5.347551	0.842219	0.736942	10087.76446	0.100785
0.007802	0.00058	5.388478	0.867799	0.759324	10138.7108	0.10785
0.007802	0.00058	5.383362	0.864601	0.756526	10087.76446	0.090589
0.012897	0.00109	5.378246	0.861404	0.753728	10087.76446	0.070197
0.002707	0.000071	5.383362	0.864601	0.756526	10036.81812	0.202743
0.002707	0.000071	5.357783	0.848614	0.742537	10087.76446	0.060001
0.007802	0.00058	5.357783	0.848614	0.742537	10087.76446	0.019217
0.007802	0.00058	5.383362	0.864601	0.756526	10138.7108	0.060001
0.007802	0.00058	5.388478	0.867799	0.759324	10036.81812	0.090589
0.007802	0.00058	5.368015	0.855009	0.748133	10087.76446	0.070197
0.002707	0.000071	5.383362	0.864601	0.756526	10036.81812	-0.113329
0.007802	0.00058	5.37313	0.858207	0.750931	10087.76446	-0.072545
0.002707	0.000071	5.37313	0.858207	0.750931	9985.871783	0.141568
0.017993	0.001599	5.357783	0.848614	0.742537	10036.81812	0.060001
0.007802	0.00058	5.39871	0.874194	0.76492	10138.7108	0.192547
0.012897	0.00109	5.347551	0.842219	0.736942	10036.81812	0.141568
0.012897	0.00109	5.347551	0.842219	0.736942	9985.871783	0.141568
-0.00239	-0.000439	5.39871	0.874194	0.76492	10087.76446	-0.031762
-0.00239	-0.000439	5.378246	0.861404	0.753728	10138.7108	0.009022
0.007802	0.00058	5.347551	0.842219	0.736942	9985.871783	0.060001
0.007802	0.00058	5.388478	0.867799	0.759324	10036.81812	0.049805
0.002707	0.000071	5.383362	0.864601	0.756526	10087.76446	0.192547
0.007802	0.00058	5.357783	0.848614	0.742537	10036.81812	0.141568
0.007802	0.00058	5.39871	0.874194	0.76492	10138.7108	0.121176
0.007802	0.00058	5.368015	0.855009	0.748133	10087.76446	0.090589
0.007802	0.00058	5.378246	0.861404	0.753728	10087.76446	0.080393
0.012897	0.00109	5.378246	0.861404	0.753728	10036.81812	-0.031762
0.012897	0.00109	5.337319	0.835824	0.731346	9985.871783	0.090589
0.007802	0.00058	5.362899	0.851812	0.745335	10138.7108	0.070197
0.002707	0.000071	5.37313	0.858207	0.750931	10036.81812	0.080393
0.002707	0.000071	5.368015	0.855009	0.748133	10036.81812	0.182352
0.002707	0.000071	5.408942	0.880589	0.770515	9985.871783	0.060001
-0.00239	-0.000439	5.388478	0.867799	0.759324	10036.81812	0.070197
-0.00239	-0.000439	5.357783	0.848614	0.742537	10138.7108	0.049805
0.012897	0.00109	5.388478	0.867799	0.759324	10036.81812	-0.052154
-0.00239	-0.000439	5.378246	0.861404	0.753728	10189.65714	-0.01137
0.007802	0.00058	5.37313	0.858207	0.750931	10036.81812	0.009022
0.002707	0.000071	5.383362	0.864601	0.756526	10189.65714	-0.01137
-0.00239	-0.000439	5.408942	0.880589	0.770515	10138.7108	-0.092937

Run 33

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	6.462824	1.539265	1.346857	14876.7203	0.039609
-0.00748	-0.000948	6.421897	1.513685	1.324475	14978.61298	-0.001174
-0.00239	-0.000439	6.447476	1.529673	1.338464	14876.7203	0.029413
-0.00748	-0.000948	6.411665	1.50729	1.318879	15131.452	0.202743
0.002707	0.000071	6.452592	1.53287	1.341261	14927.66664	0.202743
0.002707	0.000071	6.44236	1.526475	1.335666	15029.55932	0.172156
0.002707	0.000071	6.437244	1.523278	1.332868	14978.61298	0.060001
0.002707	0.000071	6.427012	1.516883	1.327272	15029.55932	0.141568
-0.00239	-0.000439	6.447476	1.529673	1.338464	15131.452	0.039609
0.002707	0.000071	6.452592	1.53287	1.341261	15029.55932	0.070197
-0.00748	-0.000948	6.416781	1.510488	1.321677	15080.50566	0.019217
0.002707	0.000071	6.401433	1.500896	1.313284	15029.55932	0.080393
0.002707	0.000071	6.452592	1.53287	1.341261	14978.61298	0.11098
0.002707	0.000071	6.396317	1.497698	1.310486	14927.66664	0.182352
-0.00239	-0.000439	6.447476	1.529673	1.338464	14978.61298	0.131372
-0.00239	-0.000439	6.46794	1.542462	1.349655	15029.55932	0.090589
0.007802	0.00058	6.427012	1.516883	1.327272	15080.50566	0.100785
-0.00239	-0.000439	6.427012	1.516883	1.327272	14978.61298	0.019217
0.002707	0.000071	6.406549	1.504093	1.316081	15131.452	0.45764
0.002707	0.000071	6.437244	1.523278	1.332868	14927.66664	0.131372
0.002707	0.000071	6.427012	1.516883	1.327272	15029.55932	0.049805
0.007802	0.00058	6.406549	1.504093	1.316081	14927.66664	0.049805
0.012897	0.00109	6.416781	1.510488	1.321677	14876.7203	0.080393
0.002707	0.000071	6.411665	1.50729	1.318879	14978.61298	0.131372
-0.00239	-0.000439	6.452592	1.53287	1.341261	15029.55932	0.131372
0.002707	0.000071	6.411665	1.50729	1.318879	14927.66664	0.141568
0.002707	0.000071	6.452592	1.53287	1.341261	14927.66664	0.049805
-0.00748	-0.000948	6.396317	1.497698	1.310486	14876.7203	0.019217
-0.00748	-0.000948	6.401433	1.500896	1.313284	14876.7203	0.060001
-0.01258	-0.001458	6.452592	1.53287	1.341261	15080.50566	0.039609
-0.00748	-0.000948	6.391201	1.494501	1.307688	14927.66664	0.029413
-0.00239	-0.000439	6.437244	1.523278	1.332868	15131.452	-0.052154
-0.00748	-0.000948	6.44236	1.526475	1.335666	15131.452	-0.06235
-0.01258	-0.001458	6.370737	1.481711	1.296497	14723.88129	-0.337638
-0.01258	-0.001458	6.401433	1.500896	1.313284	15080.50566	0.049805
-0.01258	-0.001458	6.406549	1.504093	1.316081	15080.50566	0.212939
-0.00748	-0.000948	6.370737	1.481711	1.296497	15080.50566	0.253723
-0.00748	-0.000948	6.427012	1.516883	1.327272	14927.66664	0.182352
-0.00748	-0.000948	6.380969	1.488106	1.302092	15029.55932	0.151764
-0.00239	-0.000439	6.421897	1.513685	1.324475	14825.77397	-0.174504
-0.00748	-0.000948	6.44236	1.526475	1.335666	15131.452	0.039609
0.002707	0.000071	6.401433	1.500896	1.313284	15080.50566	0.049805
0.002707	0.000071	6.483288	1.552055	1.358048	14978.61298	-0.041958
-0.00748	-0.000948	6.473056	1.54566	1.352452	14927.66664	-0.113329
-0.00239	-0.000439	6.406549	1.504093	1.316081	14876.7203	0.070197
0.007802	0.00058	6.411665	1.50729	1.318879	14927.66664	0.039609
-0.00239	-0.000439	6.457708	1.536068	1.344059	15080.50566	0.039609
-0.00239	-0.000439	6.427012	1.516883	1.327272	15080.50566	0.090589
0.002707	0.000071	6.432128	1.52008	1.33007	14927.66664	0.060001
0.002707	0.000071	6.411665	1.50729	1.318879	15029.55932	0.11098
0.002707	0.000071	6.44236	1.526475	1.335666	14876.7203	-0.06235
0.002707	0.000071	6.46794	1.542462	1.349655	15029.55932	0.049805
-0.00239	-0.000439	6.437244	1.523278	1.332868	14927.66664	0.080393
-0.00239	-0.000439	6.447476	1.529673	1.338464	14927.66664	0.080393
0.002707	0.000071	6.411665	1.50729	1.318879	15029.55932	0.029413
0.007802	0.00058	6.427012	1.516883	1.327272	15029.55932	0.039609
0.002707	0.000071	6.447476	1.529673	1.338464	15080.50566	0.039609
0.002707	0.000071	6.427012	1.516883	1.327272	14927.66664	0.080393
-0.00239	-0.000439	6.411665	1.50729	1.318879	14927.66664	-0.072545
-0.00239	-0.000439	6.406549	1.504093	1.316081	15080.50566	0.029413

Run 34

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00239	-0.000439	5.526608	0.95413	0.834864	10087.76446	0.090589
-0.00239	-0.000439	5.541956	0.963723	0.843257	9985.871783	0.121176
-0.00748	-0.000948	5.506145	0.94134	0.823673	10036.81812	0.080393
-0.00239	-0.000439	5.511261	0.944538	0.826471	9985.871783	0.060001
-0.00239	-0.000439	5.53684	0.960525	0.84046	10036.81812	-0.123525
0.002707	0.000071	5.526608	0.95413	0.834864	10087.76446	0.019217
-0.00239	-0.000439	5.572652	0.982907	0.860044	10036.81812	0.11098
-0.00748	-0.000948	5.572652	0.982907	0.860044	9985.871783	0.080393
-0.00239	-0.000439	5.485681	0.928551	0.812482	9934.925445	0.060001
-0.00748	-0.000948	5.567536	0.97971	0.857246	10087.76446	0.019217
-0.00239	-0.000439	5.521492	0.950933	0.832066	10036.81812	0.070197
0.007802	0.00058	5.531724	0.957328	0.837662	10036.81812	0.070197
-0.00239	-0.000439	5.53684	0.960525	0.84046	10087.76446	0.060001
0.002707	0.000071	5.516377	0.947735	0.829268	10036.81812	0.090589
-0.00239	-0.000439	5.53684	0.960525	0.84046	10138.7108	0.080393
-0.00239	-0.000439	5.53684	0.960525	0.84046	10138.7108	0.029413
0.007802	0.00058	5.521492	0.950933	0.832066	10087.76446	0.029413
-0.00239	-0.000439	5.521492	0.950933	0.832066	10087.76446	0.080393
-0.00748	-0.000948	5.516377	0.947735	0.829268	9934.925445	0.45764
0.002707	0.000071	5.495913	0.934946	0.818077	10036.81812	0.16196
-0.00239	-0.000439	5.531724	0.957328	0.837662	9934.925445	0.121176
-0.00748	-0.000948	5.511261	0.944538	0.826471	9985.871783	0.080393
0.002707	0.000071	5.547072	0.96692	0.846055	10138.7108	0.019217
-0.00748	-0.000948	5.547072	0.96692	0.846055	10138.7108	0.029413
0.002707	0.000071	5.506145	0.94134	0.823673	10087.76446	0.141568
-0.00239	-0.000439	5.480565	0.925353	0.809684	10036.81812	0.100785
-0.00748	-0.000948	5.511261	0.944538	0.826471	10036.81812	0.080393
0.007802	0.00058	5.506145	0.94134	0.823673	10087.76446	0.060001
-0.00239	-0.000439	5.531724	0.957328	0.837662	9985.871783	0.192547
0.007802	0.00058	5.526608	0.95413	0.834864	10036.81812	0.182352
0.002707	0.000071	5.541956	0.963723	0.843257	9985.871783	0.121176
-0.00748	-0.000948	5.547072	0.96692	0.846055	10036.81812	0.019217
-0.00239	-0.000439	5.516377	0.947735	0.829268	9985.871783	0.060001
0.002707	0.000071	5.531724	0.957328	0.837662	10036.81812	0.060001
-0.00239	-0.000439	5.506145	0.94134	0.823673	10036.81812	0.060001
-0.00748	-0.000948	5.547072	0.96692	0.846055	10138.7108	-0.052154
0.002707	0.000071	5.485681	0.928551	0.812482	9985.871783	0.182352
-0.00239	-0.000439	5.501029	0.938143	0.820875	10036.81812	0.100785
-0.00748	-0.000948	5.531724	0.957328	0.837662	10036.81812	0.049805
0.002707	0.000071	5.511261	0.944538	0.826471	10036.81812	0.274114
-0.01258	-0.001458	5.541956	0.963723	0.843257	10087.76446	0.141568
-0.00748	-0.000948	5.506145	0.94134	0.823673	9985.871783	0.11098
-0.00239	-0.000439	5.53684	0.960525	0.84046	9985.871783	0.100785
-0.00239	-0.000439	5.501029	0.938143	0.820875	9985.871783	0.029413
-0.01258	-0.001458	5.531724	0.957328	0.837662	9985.871783	0.060001
-0.00748	-0.000948	5.521492	0.950933	0.832066	10087.76446	0.060001
-0.00748	-0.000948	5.53684	0.960525	0.84046	10036.81812	-0.143917
-0.00239	-0.000439	5.531724	0.957328	0.837662	9985.871783	-0.082741
0.002707	0.000071	5.506145	0.94134	0.823673	9985.871783	0.172156
0.002707	0.000071	5.531724	0.957328	0.837662	9934.925445	0.16196
0.002707	0.000071	5.516377	0.947735	0.829268	9985.871783	0.049805
-0.00239	-0.000439	5.53684	0.960525	0.84046	9985.871783	0.060001
0.002707	0.000071	5.511261	0.944538	0.826471	10036.81812	0.070197
-0.00239	-0.000439	5.526608	0.95413	0.834864	9985.871783	0.070197
-0.00239	-0.000439	5.552188	0.970118	0.848853	10036.81812	0.080393
0.002707	0.000071	5.53684	0.960525	0.84046	10087.76446	0.100785
-0.00748	-0.000948	5.490797	0.931748	0.81528	9985.871783	0.100785
-0.00748	-0.000948	5.501029	0.938143	0.820875	9934.925445	0.141568
-0.00748	-0.000948	5.53684	0.960525	0.84046	10138.7108	0.029413

Run 35

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.007802	0.00058	5.194073	0.746296	0.653009	10036.81812	0.141568
-0.01258	-0.001458	5.188957	0.743098	0.650211	10087.76446	0.060001
0.002707	0.000071	5.219652	0.762283	0.666997	10036.81812	0.049805
0.002707	0.000071	5.214537	0.759085	0.6642	10087.76446	0.070197
-0.00239	-0.000439	5.245232	0.77827	0.680986	9985.871783	0.039609
-0.00239	-0.000439	5.245232	0.77827	0.680986	10087.76446	0.029413
-0.00748	-0.000948	5.240116	0.775073	0.678189	10138.7108	0.060001
-0.00239	-0.000439	5.219652	0.762283	0.666997	10087.76446	0.070197
-0.00239	-0.000439	5.204305	0.75269	0.658604	10138.7108	-0.113329
0.002707	0.000071	5.224768	0.76548	0.669795	10189.65714	-0.01137
-0.00239	-0.000439	5.188957	0.743098	0.650211	10087.76446	0.019217
-0.00748	-0.000948	5.194073	0.746296	0.653009	10036.81812	0.049805
0.002707	0.000071	5.188957	0.743098	0.650211	10138.7108	0.060001
-0.00748	-0.000948	5.199189	0.749493	0.655806	10036.81812	0.070197
-0.00748	-0.000948	5.194073	0.746296	0.653009	10087.76446	0.131372
-0.00239	-0.000439	5.194073	0.746296	0.653009	10138.7108	0.080393
0.002707	0.000071	5.235	0.771875	0.675391	10189.65714	0.070197
-0.00748	-0.000948	5.229884	0.768678	0.672593	10189.65714	0.060001
0.002707	0.000071	5.209421	0.755888	0.661402	10138.7108	0.049805
-0.00239	-0.000439	5.209421	0.755888	0.661402	10138.7108	0.049805
-0.01258	-0.001458	5.229884	0.768678	0.672593	10189.65714	0.080393
-0.00239	-0.000439	5.214537	0.759085	0.6642	10087.76446	0.039609
0.002707	0.000071	5.199189	0.749493	0.655806	10087.76446	0.131372
-0.00239	-0.000439	5.204305	0.75269	0.658604	10036.81812	0.070197
-0.01258	-0.001458	5.224768	0.76548	0.669795	10036.81812	0.070197
-0.00239	-0.000439	5.214537	0.759085	0.6642	10189.65714	0.274114
-0.01258	-0.001458	5.199189	0.749493	0.655806	10189.65714	0.070197
0.002707	0.000071	5.235	0.771875	0.675391	10087.76446	0.080393
-0.00748	-0.000948	5.204305	0.75269	0.658604	10036.81812	0.070197
-0.00239	-0.000439	5.214537	0.759085	0.6642	10138.7108	0.09022
0.002707	0.000071	5.240116	0.775073	0.678189	9985.871783	-0.143917
-0.00748	-0.000948	5.204305	0.75269	0.658604	10036.81812	0.060001
-0.00748	-0.000948	5.214537	0.759085	0.6642	10138.7108	0.131372
-0.00239	-0.000439	5.204305	0.75269	0.658604	10036.81812	0.182352
0.002707	0.000071	5.219652	0.762283	0.666997	10138.7108	0.090589
0.002707	0.000071	5.209421	0.755888	0.661402	10138.7108	0.100785
-0.00239	-0.000439	5.224768	0.76548	0.669795	10036.81812	0.049805
-0.00748	-0.000948	5.224768	0.76548	0.669795	10189.65714	0.049805
-0.00239	-0.000439	5.214537	0.759085	0.6642	10189.65714	0.090589
-0.00239	-0.000439	5.235	0.771875	0.675391	10087.76446	-0.021566
0.007802	0.00058	5.214537	0.759085	0.6642	10240.60348	-0.06235
-0.00239	-0.000439	5.235	0.771875	0.675391	10087.76446	-0.123525
-0.00239	-0.000439	5.229884	0.768678	0.672593	10138.7108	-0.123525
-0.00239	-0.000439	5.224768	0.76548	0.669795	10138.7108	-0.092937
-0.00748	-0.000948	5.240116	0.775073	0.678189	10189.65714	-0.001174
-0.00239	-0.000439	5.204305	0.75269	0.658604	10138.7108	-0.103133
0.002707	0.000071	5.214537	0.759085	0.6642	10087.76446	0.28431
0.007802	0.00058	5.199189	0.749493	0.655806	10087.76446	0.212939
-0.00239	-0.000439	5.209421	0.755888	0.661402	10138.7108	0.070197
-0.00239	-0.000439	5.255464	0.784665	0.686582	10138.7108	0.121176
-0.00239	-0.000439	5.235	0.771875	0.675391	10087.76446	0.049805
-0.00748	-0.000948	5.219652	0.762283	0.666997	10087.76446	0.100785
-0.00239	-0.000439	5.224768	0.76548	0.669795	10087.76446	0.090589
-0.00239	-0.000439	5.219652	0.762283	0.666997	10138.7108	0.080393
-0.00239	-0.000439	5.214537	0.759085	0.6642	10138.7108	0.060001
-0.00239	-0.000439	5.199189	0.749493	0.655806	10138.7108	0.029413
0.007802	0.00058	5.183841	0.739901	0.647413	10036.81812	0.09022
-0.01258	-0.001458	5.214537	0.759085	0.6642	10189.65714	0.060001
-0.00239	-0.000439	5.245232	0.77827	0.680986	10138.7108	-0.103133
0.002707	0.000071	5.229884	0.768678	0.672593	10036.81812	-0.133721

Run 36

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00748	-0.000948	6.380969	1.488106	1.302092	14978.61298	0.070197
-0.00748	-0.000948	6.365621	1.478513	1.293699	14927.66664	0.172156
-0.00748	-0.000948	6.432128	1.52008	1.33007	15080.50566	1.283507
-0.00239	-0.000439	6.411665	1.50729	1.318879	14978.61298	0.141568
0.007802	0.00058	6.391201	1.494501	1.307688	15080.50566	0.039609
0.002707	0.000071	6.355389	1.472118	1.288104	15029.55932	0.049805
0.012897	0.00109	6.345158	1.465723	1.282508	14927.66664	0.080393
0.002707	0.000071	6.319578	1.449736	1.268519	15080.50566	0.080393
-0.00748	-0.000948	6.370737	1.481711	1.296497	14978.61298	0.039609
-0.00239	-0.000439	6.396317	1.497698	1.310486	14927.66664	0.019217
-0.00239	-0.000439	6.432128	1.52008	1.33007	15131.452	0.060001
0.002707	0.000071	6.421897	1.513685	1.324475	15029.55932	0.049805
0.002707	0.000071	6.462824	1.539265	1.346857	14978.61298	0.049805
0.002707	0.000071	6.365621	1.478513	1.293699	14978.61298	-0.01137
0.002707	0.000071	6.370737	1.481711	1.296497	14927.66664	0.172156
0.002707	0.000071	6.44236	1.526475	1.335666	15080.50566	0.100785
0.007802	0.00058	6.391201	1.494501	1.307688	14927.66664	0.049805
-0.00239	-0.000439	6.386085	1.491303	1.30489	14927.66664	0.121176
-0.00239	-0.000439	6.416781	1.510488	1.321677	14927.66664	0.11098
-0.00239	-0.000439	6.421897	1.513685	1.324475	15029.55932	0.131372
0.002707	0.000071	6.391201	1.494501	1.307688	14978.61298	0.16196
0.002707	0.000071	6.350273	1.468921	1.285306	14927.66664	0.151764
-0.00239	-0.000439	6.411665	1.50729	1.318879	15131.452	0.182352
0.007802	0.00058	6.447476	1.529673	1.338464	14927.66664	0.049805
-0.00239	-0.000439	6.345158	1.465723	1.282508	14978.61298	0.192547
0.002707	0.000071	6.396317	1.497698	1.310486	15080.50566	0.16196
-0.00239	-0.000439	6.411665	1.50729	1.318879	15080.50566	0.070197
-0.00239	-0.000439	6.411665	1.50729	1.318879	15029.55932	0.019217
-0.00748	-0.000948	6.411665	1.50729	1.318879	15080.50566	0.039609
-0.00239	-0.000439	6.391201	1.494501	1.307688	14927.66664	0.070197
0.002707	0.000071	6.391201	1.494501	1.307688	14927.66664	-0.103133
0.007802	0.00058	6.360505	1.475316	1.290901	14978.61298	0.039609
-0.00748	-0.000948	6.309346	1.443341	1.262924	14978.61298	0.070197
-0.00239	-0.000439	6.427012	1.516883	1.327272	15131.452	0.080393
-0.01258	-0.001458	6.391201	1.494501	1.307688	14927.66664	0.070197
0.002707	0.000071	6.416781	1.510488	1.321677	14876.7203	0.16196
-0.00239	-0.000439	6.370737	1.481711	1.296497	14927.66664	0.202743
-0.00239	-0.000439	6.360505	1.475316	1.290901	14978.61298	0.16196
0.002707	0.000071	6.345158	1.465723	1.282508	15029.55932	0.182352
-0.00748	-0.000948	6.380969	1.488106	1.302092	14927.66664	0.212939
-0.00748	-0.000948	6.345158	1.465723	1.282508	15131.452	0.049805
0.002707	0.000071	6.391201	1.494501	1.307688	15080.50566	0.233331
0.002707	0.000071	6.365621	1.478513	1.293699	15029.55932	0.16196
0.007802	0.00058	6.411665	1.50729	1.318879	15080.50566	0.11098
-0.00239	-0.000439	6.386085	1.491303	1.30489	15029.55932	0.080393
-0.00239	-0.000439	6.411665	1.50729	1.318879	15080.50566	0.060001
0.002707	0.000071	6.421897	1.513685	1.324475	15080.50566	0.060001
-0.00239	-0.000439	6.432128	1.52008	1.33007	15182.39834	-0.123525
-0.00748	-0.000948	6.416781	1.510488	1.321677	14927.66664	0.141568
-0.00239	-0.000439	6.44236	1.526475	1.335666	14876.7203	0.029413
0.012897	0.00109	6.401433	1.500896	1.313284	15029.55932	0.029413
-0.00239	-0.000439	6.355389	1.472118	1.288104	15029.55932	0.049805
-0.00239	-0.000439	6.401433	1.500896	1.313284	15080.50566	0.060001
0.002707	0.000071	6.427012	1.516883	1.327272	15131.452	0.080393
0.002707	0.000071	6.396317	1.497698	1.310486	15131.452	0.060001
0.017993	0.001599	6.437244	1.523278	1.332868	15131.452	0.28431
-0.00239	-0.000439	6.406549	1.504093	1.316081	15131.452	0.039609
0.002707	0.000071	6.370737	1.481711	1.296497	15080.50566	0.049805
0.002707	0.000071	6.437244	1.523278	1.332868	15029.55932	0.039609
0.007802	0.00058	6.350273	1.468921	1.285306	15080.50566	-0.113329

Run 37

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	5.495913	0.934946	0.818077	10036.81812	0.131372
0.002707	0.000071	5.516377	0.947735	0.829268	10138.7108	-0.082741
0.002707	0.000071	5.511261	0.944538	0.826471	10087.76446	-0.041958
0.002707	0.000071	5.490797	0.931748	0.81528	10036.81812	0.100785
0.002707	0.000071	5.490797	0.931748	0.81528	9985.871783	0.080393
0.012897	0.00109	5.511261	0.944538	0.826471	9985.871783	0.090589
0.002707	0.000071	5.501029	0.938143	0.820875	9985.871783	0.049805
-0.00239	-0.000439	5.521492	0.950933	0.832066	10087.76446	0.049805
0.007802	0.00058	5.511261	0.944538	0.826471	10138.7108	0.049805
0.007802	0.00058	5.501029	0.938143	0.820875	9985.871783	0.263919
-0.00239	-0.000439	5.53684	0.960525	0.84046	10138.7108	0.141568
0.002707	0.000071	5.511261	0.944538	0.826471	10036.81812	0.060001
0.007802	0.00058	5.511261	0.944538	0.826471	10138.7108	0.060001
0.007802	0.00058	5.495913	0.934946	0.818077	10036.81812	-0.092937
0.012897	0.00109	5.485681	0.928551	0.812482	9985.871783	-0.01137
0.002707	0.000071	5.490797	0.931748	0.81528	10036.81812	0.100785
-0.00239	-0.000439	5.516377	0.947735	0.829268	10087.76446	0.049805
0.017993	0.001599	5.506145	0.94134	0.823673	10087.76446	0.182352
0.002707	0.000071	5.521492	0.950933	0.832066	10087.76446	0.151764
0.007802	0.00058	5.531724	0.957328	0.837662	10087.76446	0.060001
0.002707	0.000071	5.490797	0.931748	0.81528	10138.7108	0.070197
0.007802	0.00058	5.495913	0.934946	0.818077	10138.7108	0.070197
0.007802	0.00058	5.490797	0.931748	0.81528	10036.81812	0.16196
0.002707	0.000071	5.490797	0.931748	0.81528	9985.871783	0.151764
0.012897	0.00109	5.541956	0.963723	0.843257	9985.871783	0.11098
0.002707	0.000071	5.495913	0.934946	0.818077	10087.76446	0.049805
0.002707	0.000071	5.516377	0.947735	0.829268	10036.81812	0.080393
0.007802	0.00058	5.506145	0.94134	0.823673	10087.76446	0.090589
0.002707	0.000071	5.506145	0.94134	0.823673	10087.76446	0.080393
0.002707	0.000071	5.521492	0.950933	0.832066	10138.7108	0.121176
0.007802	0.00058	5.475449	0.922156	0.806886	9985.871783	0.11098
0.007802	0.00058	5.53684	0.960525	0.84046	9985.871783	0.11098
0.007802	0.00058	5.495913	0.934946	0.818077	9985.871783	0.070197
0.002707	0.000071	5.485681	0.928551	0.812482	9985.871783	0.060001
0.002707	0.000071	5.526608	0.95413	0.834864	10036.81812	-0.041958
-0.00239	-0.000439	5.480565	0.925353	0.809684	10087.76446	0.049805
0.012897	0.00109	5.511261	0.944538	0.826471	10087.76446	0.060001
0.007802	0.00058	5.485681	0.928551	0.812482	10138.7108	0.172156
-0.00239	-0.000439	5.531724	0.957328	0.837662	10036.81812	0.039609
0.012897	0.00109	5.521492	0.950933	0.832066	10189.65714	0.029413
0.007802	0.00058	5.501029	0.938143	0.820875	10138.7108	0.060001
-0.00239	-0.000439	5.511261	0.944538	0.826471	10087.76446	0.080393
0.007802	0.00058	5.475449	0.922156	0.806886	9985.871783	0.029413
0.007802	0.00058	5.511261	0.944538	0.826471	9985.871783	-0.143917
0.007802	0.00058	5.501029	0.938143	0.820875	10036.81812	-0.001174
0.002707	0.000071	5.531724	0.957328	0.837662	9985.871783	-0.103133
0.002707	0.000071	5.490797	0.931748	0.81528	10087.76446	-0.031762
0.012897	0.00109	5.490797	0.931748	0.81528	10138.7108	0.080393
0.007802	0.00058	5.506145	0.94134	0.823673	9985.871783	0.060001
0.002707	0.000071	5.506145	0.94134	0.823673	9985.871783	0.060001
0.007802	0.00058	5.490797	0.931748	0.81528	10189.65714	-0.021566
0.007802	0.00058	5.511261	0.944538	0.826471	10036.81812	0.019217
0.007802	0.00058	5.506145	0.94134	0.823673	10036.81812	0.080393
0.007802	0.00058	5.506145	0.94134	0.823673	10087.76446	0.070197
0.007802	0.00058	5.526608	0.95413	0.834864	10036.81812	0.049805
0.002707	0.000071	5.485681	0.928551	0.812482	10036.81812	0.192547
0.007802	0.00058	5.521492	0.950933	0.832066	10036.81812	0.141568
0.012897	0.00109	5.454985	0.909366	0.795695	10036.81812	0.060001
0.012897	0.00109	5.501029	0.938143	0.820875	10036.81812	0.049805
0.002707	0.000071	5.516377	0.947735	0.829268	10087.76446	0.080393

Run 38



Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00239	-0.000439	5.521492	0.950933	0.832066	10036.81812	0.172156
-0.00748	-0.000948	5.526608	0.95413	0.834864	10138.7108	-0.092937
0.002707	0.000071	5.531724	0.957328	0.837662	10138.7108	-0.021566
0.012897	0.00109	5.516377	0.947735	0.829268	10087.76446	0.100785
-0.00239	-0.000439	5.541956	0.963723	0.843257	10087.76446	0.070197
-0.00239	-0.000439	5.541956	0.963723	0.843257	10138.7108	0.182352
0.002707	0.000071	5.526608	0.95413	0.834864	10189.65714	-0.001174
0.007802	0.00058	5.511261	0.944538	0.826471	10087.76446	0.080393
0.002707	0.000071	5.53684	0.960525	0.84046	10036.81812	0.070197
0.007802	0.00058	5.531724	0.957328	0.837662	10087.76446	0.049805
0.002707	0.000071	5.495913	0.934946	0.818077	10138.7108	0.019217
-0.00239	-0.000439	5.490797	0.931748	0.81528	10036.81812	0.019217
0.002707	0.000071	5.490797	0.931748	0.81528	10036.81812	0.11098
-0.00239	-0.000439	5.511261	0.944538	0.826471	10189.65714	-0.072545
-0.00239	-0.000439	5.526608	0.95413	0.834864	10138.7108	0.019217
-0.00239	-0.000439	5.547072	0.96692	0.846055	10189.65714	0.049805
0.007802	0.00058	5.552188	0.970118	0.848853	10189.65714	-0.021566
0.007802	0.00058	5.531724	0.957328	0.837662	10138.7108	-0.01137
0.012897	0.00109	5.516377	0.947735	0.829268	10087.76446	0.019217
0.007802	0.00058	5.501029	0.938143	0.820875	10138.7108	0.060001
-0.00239	-0.000439	5.521492	0.950933	0.832066	10189.65714	0.131372
0.007802	0.00058	5.475449	0.922156	0.806886	10036.81812	0.049805
0.002707	0.000071	5.511261	0.944538	0.826471	10036.81812	-0.021566
-0.00239	-0.000439	5.541956	0.963723	0.843257	10036.81812	-0.052154
0.002707	0.000071	5.506145	0.94134	0.823673	10138.7108	0.029413
-0.00239	-0.000439	5.526608	0.95413	0.834864	10036.81812	0.080393
0.002707	0.000071	5.485681	0.928551	0.812482	10189.65714	0.11098
0.007802	0.00058	5.495913	0.934946	0.818077	10036.81812	0.080393
0.007802	0.00058	5.516377	0.947735	0.829268	10138.7108	0.060001
0.007802	0.00058	5.547072	0.96692	0.846055	10087.76446	-0.001174
0.002707	0.000071	5.547072	0.96692	0.846055	10036.81812	0.009022
0.002707	0.000071	5.521492	0.950933	0.832066	10138.7108	-0.021566
0.007802	0.00058	5.506145	0.94134	0.823673	10138.7108	0.029413
0.002707	0.000071	5.490797	0.931748	0.81528	10036.81812	0.019217
0.002707	0.000071	5.526608	0.95413	0.834864	10036.81812	0.019217
-0.00748	-0.000948	5.501029	0.938143	0.820875	10138.7108	0.060001
0.002707	0.000071	5.511261	0.944538	0.826471	10138.7108	0.141568
0.007802	0.00058	5.572652	0.982907	0.860044	10087.76446	0.070197
-0.00748	-0.000948	5.526608	0.95413	0.834864	10189.65714	0.060001
0.007802	0.00058	5.541956	0.963723	0.843257	10036.81812	0.049805
0.002707	0.000071	5.547072	0.96692	0.846055	10087.76446	0.060001
-0.00239	-0.000439	5.552188	0.970118	0.848853	10189.65714	0.049805
0.007802	0.00058	5.521492	0.950933	0.832066	10138.7108	0.060001
-0.00239	-0.000439	5.531724	0.957328	0.837662	10036.81812	0.070197
-0.00239	-0.000439	5.541956	0.963723	0.843257	10189.65714	0.049805
0.007802	0.00058	5.526608	0.95413	0.834864	10138.7108	0.090589
0.007802	0.00058	5.53684	0.960525	0.84046	10138.7108	0.049805
0.002707	0.000071	5.56242	0.976512	0.854448	10138.7108	0.661558
-0.00239	-0.000439	5.521492	0.950933	0.832066	10138.7108	0.223135
-0.00239	-0.000439	5.547072	0.96692	0.846055	10138.7108	0.202743
-0.01258	-0.001458	5.511261	0.944538	0.826471	10036.81812	0.141568
0.002707	0.000071	5.552188	0.970118	0.848853	10138.7108	0.253723
-0.00239	-0.000439	5.531724	0.957328	0.837662	10087.76446	0.100785
-0.00239	-0.000439	5.511261	0.944538	0.826471	10036.81812	0.182352
0.007802	0.00058	5.531724	0.957328	0.837662	10087.76446	0.049805
0.002707	0.000071	5.516377	0.947735	0.829268	10036.81812	-0.041958
0.002707	0.000071	5.552188	0.970118	0.848853	10138.7108	-0.001174
-0.00748	-0.000948	5.541956	0.963723	0.843257	10189.65714	-0.072545
-0.00239	-0.000439	5.56242	0.976512	0.854448	10036.81812	-0.082741
-0.00239	-0.000439	5.531724	0.957328	0.837662	10138.7108	0.029413

Run 39

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.007802	0.00058	6.263303	1.414564	1.237744	15131.452	0.070197
0.002707	0.000071	6.263303	1.414564	1.237744	15029.55932	-0.052154
0.017993	0.001599	6.258187	1.411367	1.234946	15182.39834	0.009022
0.002707	0.000071	6.263303	1.414564	1.237744	15080.50566	-0.06235
0.002707	0.000071	6.273535	1.420959	1.243339	15029.55932	-0.103133
0.007802	0.00058	6.283766	1.427354	1.248935	15131.452	-0.041958
0.002707	0.000071	6.288882	1.430551	1.251733	14978.61298	-0.041958
0.002707	0.000071	6.273535	1.420959	1.243339	14978.61298	-0.103133
0.002707	0.000071	6.222375	1.388984	1.215361	15029.55932	0.172156
0.012897	0.00109	6.237723	1.398577	1.223755	14978.61298	0.16196
0.007802	0.00058	6.263303	1.414564	1.237744	15131.452	0.080393
-0.00239	-0.000439	6.258187	1.411367	1.234946	15182.39834	0.060001
0.002707	0.000071	6.242839	1.401774	1.226553	15131.452	0.060001
0.007802	0.00058	6.268419	1.417762	1.240541	14978.61298	0.060001
0.002707	0.000071	6.299114	1.436946	1.257328	15131.452	-0.113329
0.007802	0.00058	6.299114	1.436946	1.257328	15182.39834	-0.021566
0.012897	0.00109	6.293998	1.433749	1.25453	14927.66664	0.212939
0.007802	0.00058	6.19168	1.3698	1.198575	14978.61298	0.141568
-0.00239	-0.000439	6.232607	1.395379	1.220957	14978.61298	0.121176
0.002707	0.000071	6.263303	1.414564	1.237744	15029.55932	0.029413
0.002707	0.000071	6.288882	1.430551	1.251733	15029.55932	0.11098
0.007802	0.00058	6.237723	1.398577	1.223755	14978.61298	0.049805
0.007802	0.00058	6.268419	1.417762	1.240541	14978.61298	0.060001
0.007802	0.00058	6.283766	1.427354	1.248935	14978.61298	0.039609
0.007802	0.00058	6.27865	1.424157	1.246137	15182.39834	0.049805
0.007802	0.00058	6.217259	1.385787	1.212564	15029.55932	0.039609
0.007802	0.00058	6.283766	1.427354	1.248935	15029.55932	0.029413
0.002707	0.000071	6.27865	1.424157	1.246137	15029.55932	0.019217
0.007802	0.00058	6.196796	1.372997	1.201373	14927.66664	-0.01137
-0.00239	-0.000439	6.242839	1.401774	1.226553	14927.66664	0.172156
0.007802	0.00058	6.232607	1.395379	1.220957	14978.61298	0.090589
0.012897	0.00109	6.247955	1.404972	1.22935	15131.452	0.151764
0.002707	0.000071	6.30423	1.440144	1.260126	15131.452	0.11098
0.012897	0.00109	6.273535	1.420959	1.243339	15131.452	0.100785
0.002707	0.000071	6.258187	1.411367	1.234946	15131.452	0.070197
0.012897	0.00109	6.237723	1.398577	1.223755	15080.50566	0.070197
0.007802	0.00058	6.273535	1.420959	1.243339	15029.55932	0.049805
0.007802	0.00058	6.268419	1.417762	1.240541	15131.452	0.080393
-0.00239	-0.000439	6.293998	1.433749	1.25453	15080.50566	0.060001
0.007802	0.00058	6.258187	1.411367	1.234946	15131.452	0.090589
-0.00239	-0.000439	6.293998	1.433749	1.25453	15029.55932	0.080393
0.002707	0.000071	6.27865	1.424157	1.246137	15131.452	0.049805
0.007802	0.00058	6.242839	1.401774	1.226553	14978.61298	0.029413
0.012897	0.00109	6.247955	1.404972	1.22935	15182.39834	0.070197
0.002707	0.000071	6.268419	1.417762	1.240541	15131.452	0.080393
-0.00239	-0.000439	6.247955	1.404972	1.22935	15182.39834	0.080393
0.002707	0.000071	6.242839	1.401774	1.226553	14978.61298	0.070197
0.007802	0.00058	6.268419	1.417762	1.240541	15131.452	0.253723
0.002707	0.000071	6.258187	1.411367	1.234946	15131.452	0.090589
-0.00239	-0.000439	6.268419	1.417762	1.240541	15080.50566	0.060001
-0.00239	-0.000439	6.309346	1.443341	1.262924	15029.55932	0.029413
0.007802	0.00058	6.314462	1.446539	1.265721	15131.452	0.060001
0.007802	0.00058	6.217259	1.385787	1.212564	15080.50566	0.029413
0.007802	0.00058	6.227491	1.392182	1.218159	15029.55932	0.029413
0.007802	0.00058	6.319578	1.449736	1.268519	15080.50566	-0.266267
0.012897	0.00109	6.232607	1.395379	1.220957	15080.50566	-0.031762
0.012897	0.00109	6.253071	1.408169	1.232148	15029.55932	-0.01137
-0.00239	-0.000439	6.207027	1.379392	1.206968	15080.50566	0.090589
0.002707	0.000071	6.207027	1.379392	1.206968	15029.55932	0.039609
0.007802	0.00058	6.237723	1.398577	1.223755	15080.50566	0.039609

Run 40

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	7.34788	2.092425	1.830872	15080.50566	0.049805
0.002707	0.000071	7.281373	2.050858	1.794501	15182.39834	-0.011137
0.002707	0.000071	7.291605	2.057253	1.800096	14927.66664	0.039609
0.002707	0.000071	7.204634	2.002896	1.752534	15182.39834	-0.001174
-0.00748	-0.000948	7.204634	2.002896	1.752534	15182.39834	-0.001174
0.002707	0.000071	7.317185	2.07324	1.814085	15080.50566	0.009022
0.002707	0.000071	7.163707	1.977317	1.730152	15131.452	-0.001174
-0.01768	-0.001968	7.255793	2.034871	1.780512	15080.50566	0.039609
0.002707	0.000071	7.199518	1.999699	1.749737	15080.50566	-0.06235
0.002707	0.000071	7.199518	1.999699	1.749737	15080.50566	-0.052154
0.007802	0.00058	7.37346	2.108412	1.844861	15080.50566	0.029413
-0.00748	-0.000948	7.240446	2.025279	1.772119	15131.452	-0.001174
-0.00239	-0.000439	7.18417	1.990107	1.741343	14978.61298	0.009022
-0.01258	-0.001458	7.439967	2.149979	1.881232	15182.39834	0.121176
-0.00239	-0.000439	7.20975	2.006094	1.755332	15080.50566	0.019217
-0.01258	-0.001458	7.240446	2.025279	1.772119	14978.61298	0.029413
0.002707	0.000071	7.39904	2.1244	1.85885	15182.39834	0.141568
-0.00239	-0.000439	7.37346	2.108412	1.844861	15080.50566	0.16196
-0.00239	-0.000439	7.306953	2.066845	1.80849	14978.61298	-0.001174
0.002707	0.000071	7.127895	1.954934	1.710568	15080.50566	0.009022
-0.01258	-0.001458	7.332532	2.082833	1.822479	15080.50566	0.029413
-0.00748	-0.000948	7.291605	2.057253	1.800096	15080.50566	0.039609
-0.01768	-0.001968	7.306953	2.066845	1.80849	15131.452	0.039609
-0.01258	-0.001458	7.271141	2.044463	1.788905	15080.50566	0.039609
0.002707	0.000071	7.291605	2.057253	1.800096	15029.55932	0.009022
0.002707	0.000071	7.281373	2.050858	1.794501	15182.39834	0.009022
0.002707	0.000071	7.383692	2.114807	1.850456	14927.66664	0.039609
0.002707	0.000071	7.414387	2.133992	1.867243	14978.61298	-0.001174
-0.00239	-0.000439	7.255793	2.034871	1.780512	15131.452	0.009022
0.002707	0.000071	7.219982	2.012489	1.760928	15029.55932	-0.001174
0.002707	0.000071	7.225098	2.015686	1.763725	15182.39834	0.009022
0.012897	0.00109	7.37346	2.108412	1.844861	14978.61298	-0.133721
-0.00239	-0.000439	7.306953	2.066845	1.80849	14978.61298	0.009022
-0.00748	-0.000948	7.393924	2.121202	1.856052	14978.61298	0.049805
0.007802	0.00058	7.240446	2.025279	1.772119	15029.55932	0.039609
-0.00239	-0.000439	7.286489	2.054056	1.797299	15131.452	0.029413
-0.00748	-0.000948	7.148359	1.967724	1.721759	15182.39834	0.019217
-0.00748	-0.000948	7.271141	2.044463	1.788905	15029.55932	0.009022
-0.00239	-0.000439	7.173939	1.983712	1.735748	15182.39834	0.009022
-0.00239	-0.000439	7.179054	1.986909	1.738545	15080.50566	0.009022
0.007802	0.00058	7.286489	2.054056	1.797299	15080.50566	-0.041958
0.002707	0.000071	7.148359	1.967724	1.721759	15131.452	-0.001174
0.002707	0.000071	7.18417	1.990107	1.741343	14978.61298	0.019217
0.002707	0.000071	7.230214	2.018884	1.766523	14978.61298	0.039609
0.002707	0.000071	7.276257	2.047661	1.791703	15080.50566	0.131372
0.002707	0.000071	7.199518	1.999699	1.749737	15080.50566	0.121176
0.007802	0.00058	7.143243	1.964527	1.718961	15182.39834	-0.001174
-0.00239	-0.000439	7.225098	2.015686	1.763725	15080.50566	0.009022
-0.00239	-0.000439	7.286489	2.054056	1.797299	15080.50566	0.019217
-0.00748	-0.000948	7.23533	2.022081	1.769321	15182.39834	0.029413
0.007802	0.00058	7.312069	2.070043	1.811288	15029.55932	0.029413
0.002707	0.000071	7.327417	2.079635	1.819681	15080.50566	0.131372
0.007802	0.00058	7.158591	1.974119	1.727354	15131.452	0.019217
-0.00239	-0.000439	7.34788	2.092425	1.830872	15131.452	-0.031762
-0.01258	-0.001458	7.414387	2.133992	1.867243	14978.61298	0.029413
-0.00239	-0.000439	7.143243	1.964527	1.718961	15080.50566	0.090589
0.002707	0.000071	7.153475	1.970922	1.724557	14978.61298	0.151764
-0.01258	-0.001458	7.363228	2.102018	1.839265	14978.61298	0.090589
-0.00239	-0.000439	7.266025	2.041266	1.786108	14978.61298	0.16196
0.007802	0.00058	7.173939	1.983712	1.735748	15080.50566	0.080393

Run 41

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.007802	0.00058	7.179054	1.986909	1.738545	14927.66664	-0.06235
0.002707	0.000071	6.948838	1.843023	1.612646	15029.55932	0.009022
-0.00239	-0.000439	7.112547	1.945342	1.702174	15182.39834	-0.021566
0.002707	0.000071	7.117663	1.94854	1.704972	14978.61298	-0.021137
0.007802	0.00058	7.102315	1.938947	1.696579	15080.50566	0.080393
-0.00239	-0.000439	7.168823	1.980514	1.73295	15131.452	0.009022
-0.00239	-0.000439	7.133011	1.958132	1.713365	15131.452	-0.01137
0.007802	0.00058	7.122779	1.951737	1.70777	15182.39834	-0.001174
0.002707	0.000071	7.056272	1.91017	1.671399	15080.50566	0.029413
0.002707	0.000071	7.020461	1.887788	1.651814	15029.55932	-0.01137
0.002707	0.000071	7.076736	1.92296	1.68259	15182.39834	0.029413
-0.00239	-0.000439	7.0972	1.93575	1.693781	15029.55932	0.009022
0.002707	0.000071	7.163707	1.977317	1.730152	15131.452	0.009022
0.002707	0.000071	7.168823	1.980514	1.73295	15080.50566	-0.01137
-0.00748	-0.000948	6.969301	1.855813	1.623837	15080.50566	-0.01137
-0.00239	-0.000439	7.102315	1.938947	1.696579	14978.61298	-0.001174
0.007802	0.00058	7.005113	1.878195	1.643421	15029.55932	0.029413
0.002707	0.000071	7.179054	1.986909	1.738545	15029.55932	-0.001174
-0.00239	-0.000439	7.07162	1.919762	1.679792	15080.50566	-0.01137
0.002707	0.000071	7.112547	1.945342	1.702174	15182.39834	0.019217
-0.00239	-0.000439	7.153475	1.970922	1.724557	14978.61298	0.182352
-0.00748	-0.000948	7.051156	1.906973	1.668601	15029.55932	0.090589
-0.00239	-0.000439	7.112547	1.945342	1.702174	14978.61298	0.070197
-0.00239	-0.000439	7.117663	1.94854	1.704972	15029.55932	0.100785
0.007802	0.00058	7.133011	1.958132	1.713365	15080.50566	0.090589
0.007802	0.00058	7.18417	1.990107	1.741343	15080.50566	0.049805
0.002707	0.000071	6.953953	1.846221	1.615443	15029.55932	-0.001174
-0.00239	-0.000439	7.117663	1.94854	1.704972	15182.39834	0.009022
0.007802	0.00058	7.204634	2.002896	1.752534	15080.50566	0.019217
-0.01258	-0.001458	7.107431	1.942145	1.699377	15029.55932	-0.072545
0.002707	0.000071	7.18417	1.990107	1.741343	14927.66664	-0.001174
0.002707	0.000071	7.056272	1.91017	1.671399	14978.61298	0.009022
0.007802	0.00058	6.999997	1.874998	1.640623	15182.39834	0.029413
-0.00239	-0.000439	7.138127	1.961329	1.716163	15131.452	-0.01137
-0.00748	-0.000948	7.051156	1.906973	1.668601	15182.39834	-0.001174
0.002707	0.000071	7.010229	1.881393	1.646219	15182.39834	0.009022
0.002707	0.000071	7.122779	1.951737	1.70777	15080.50566	0.009022
-0.00748	-0.000948	7.092084	1.932552	1.690983	15131.452	0.090589
0.007802	0.00058	7.030692	1.894183	1.65741	15131.452	0.151764
0.012897	0.00109	7.127895	1.954934	1.710568	15080.50566	0.080393
0.007802	0.00058	7.015345	1.88459	1.649017	14978.61298	0.029413
0.002707	0.000071	7.168823	1.980514	1.73295	15080.50566	0.060001
0.007802	0.00058	7.107431	1.942145	1.699377	14978.61298	-0.021566
0.007802	0.00058	7.010229	1.881393	1.646219	15131.452	-0.021566
-0.00239	-0.000439	7.061388	1.913368	1.674197	14978.61298	0.019217
0.002707	0.000071	7.076736	1.92296	1.68259	15131.452	-0.01137
0.007802	0.00058	7.199518	1.999699	1.749737	15080.50566	-0.113329
-0.00239	-0.000439	7.015345	1.88459	1.649017	15080.50566	-0.154112
0.012897	0.00109	6.999997	1.874998	1.640623	15029.55932	0.16196
0.002707	0.000071	7.148359	1.967724	1.721759	15029.55932	-0.123525
0.002707	0.000071	7.127895	1.954934	1.710568	15080.50566	-0.164308
0.002707	0.000071	7.04604	1.903775	1.665803	15182.39834	-0.164308
0.007802	0.00058	6.994881	1.871801	1.637826	15131.452	-0.103133
-0.00239	-0.000439	6.999997	1.874998	1.640623	15029.55932	-0.133721
0.012897	0.00109	7.225098	2.015686	1.763725	15080.50566	-0.001174
0.012897	0.00109	7.025577	1.890985	1.654612	15029.55932	-0.001174
0.007802	0.00058	7.168823	1.980514	1.73295	15029.55932	0.11098
0.012897	0.00109	7.015345	1.88459	1.649017	14927.66664	0.070197
0.007802	0.00058	7.163707	1.977317	1.730152	15080.50566	0.121176
-0.00239	-0.000439	7.0972	1.93575	1.693781	15080.50566	0.121176

Run 42

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.007802	0.00058	5.644275	1.027672	0.899213	10036.81812	0.049805
0.017993	0.001599	5.669855	1.043659	0.913202	10138.7108	0.060001
0.002707	0.000071	5.654507	1.034067	0.904808	10036.81812	0.090589
0.002707	0.000071	5.669855	1.043659	0.913202	10138.7108	0.080393
0.002707	0.000071	5.634043	1.021277	0.893617	10087.76446	-0.143917
-0.00239	-0.000439	5.613579	1.008487	0.882426	10189.65714	0.049805
0.012897	0.00109	5.685202	1.053251	0.921595	10087.76446	0.080393
0.012897	0.00109	5.664739	1.040462	0.910404	10138.7108	0.11098
-0.00239	-0.000439	5.644275	1.027672	0.899213	10087.76446	0.060001
-0.00239	-0.000439	5.654507	1.034067	0.904808	10189.65714	0.039609
-0.00239	-0.000439	5.659623	1.037264	0.907606	10036.81812	0.060001
0.007802	0.00058	5.659623	1.037264	0.907606	10036.81812	0.060001
0.007802	0.00058	5.649391	1.030869	0.902011	10138.7108	0.060001
0.002707	0.000071	5.608463	1.00529	0.879628	10087.76446	0.080393
0.002707	0.000071	5.623811	1.014882	0.888022	10036.81812	0.090589
0.012897	0.00109	5.654507	1.034067	0.904808	10036.81812	0.039609
0.007802	0.00058	5.664739	1.040462	0.910404	10036.81812	0.049805
0.002707	0.000071	5.669855	1.043659	0.913202	10189.65714	0.049805
-0.00239	-0.000439	5.634043	1.021277	0.893617	10036.81812	0.16196
0.007802	0.00058	5.67497	1.046857	0.915999	10189.65714	-0.021566
0.007802	0.00058	5.664739	1.040462	0.910404	10138.7108	-0.052154
0.002707	0.000071	5.593116	0.995697	0.871235	10087.76446	0.080393
0.002707	0.000071	5.644275	1.027672	0.899213	9985.871783	0.080393
0.002707	0.000071	5.649391	1.030869	0.902011	10138.7108	0.090589
-0.00239	-0.000439	5.644275	1.027672	0.899213	10087.76446	0.070197
-0.00748	-0.000948	5.654507	1.034067	0.904808	10138.7108	0.192547
0.002707	0.000071	5.613579	1.008487	0.882426	10036.81812	0.131372
0.002707	0.000071	5.669855	1.043659	0.913202	10138.7108	-0.113329
-0.00239	-0.000439	5.67497	1.046857	0.915999	10036.81812	0.060001
0.002707	0.000071	5.639159	1.024474	0.896415	10036.81812	0.060001
0.002707	0.000071	5.644275	1.027672	0.899213	10138.7108	0.029413
0.007802	0.00058	5.628927	1.018079	0.890819	10087.76446	0.080393
0.007802	0.00058	5.618695	1.011684	0.885224	10189.65714	0.090589
0.002707	0.000071	5.644275	1.027672	0.899213	10189.65714	0.049805
0.007802	0.00058	5.649391	1.030869	0.902011	10189.65714	0.090589
-0.00239	-0.000439	5.623811	1.014882	0.888022	10138.7108	0.060001
0.007802	0.00058	5.659623	1.037264	0.907606	10036.81812	0.192547
-0.00239	-0.000439	5.639159	1.024474	0.896415	10138.7108	0.151764
-0.00239	-0.000439	5.623811	1.014882	0.888022	10138.7108	0.11098
0.002707	0.000071	5.644275	1.027672	0.899213	10138.7108	0.070197
0.007802	0.00058	5.644275	1.027672	0.899213	10036.81812	0.060001
-0.00239	-0.000439	5.634043	1.021277	0.893617	10036.81812	0.16196
0.002707	0.000071	5.649391	1.030869	0.902011	10036.81812	0.100785
-0.00748	-0.000948	5.644275	1.027672	0.899213	10036.81812	0.070197
0.002707	0.000071	5.654507	1.034067	0.904808	10036.81812	-0.01137
0.007802	0.00058	5.654507	1.034067	0.904808	10036.81812	0.070197
0.002707	0.000071	5.654507	1.034067	0.904808	10189.65714	0.100785
-0.00239	-0.000439	5.628927	1.018079	0.890819	10138.7108	0.060001
0.002707	0.000071	5.644275	1.027672	0.899213	10087.76446	0.009022
-0.00239	-0.000439	5.639159	1.024474	0.896415	10189.65714	0.080393
-0.00748	-0.000948	5.603347	1.002092	0.876831	10087.76446	0.029413
0.002707	0.000071	5.618695	1.011684	0.885224	10138.7108	0.080393
0.002707	0.000071	5.659623	1.037264	0.907606	10138.7108	0.049805
0.002707	0.000071	5.634043	1.021277	0.893617	10189.65714	0.090589
0.002707	0.000071	5.680086	1.050054	0.918797	10240.60348	-0.001174
0.002707	0.000071	5.634043	1.021277	0.893617	10036.81812	-0.123525
-0.00239	-0.000439	5.628927	1.018079	0.890819	10087.76446	0.019217
0.007802	0.00058	5.618695	1.011684	0.885224	10138.7108	0.11098
0.002707	0.000071	5.649391	1.030869	0.902011	10189.65714	0.080393
-0.00748	-0.000948	5.659623	1.037264	0.907606	10138.7108	0.049805

Run 43

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	5.12245	0.701531	0.61384	10138.7108	0.070197
0.002707	0.000071	5.158261	0.723913	0.633424	10189.65714	0.141568
-0.00239	-0.000439	5.127566	0.704729	0.616638	10138.7108	0.070197
0.017993	0.001599	5.112218	0.695136	0.608244	10036.81812	0.060001
0.002707	0.000071	5.112218	0.695136	0.608244	10138.7108	0.080393
0.002707	0.000071	5.107102	0.691939	0.605446	10138.7108	0.080393
0.007802	0.00058	5.112218	0.695136	0.608244	10138.7108	0.049805
-0.00239	-0.000439	5.117334	0.698334	0.611042	10087.76446	0.080393
0.007802	0.00058	5.12245	0.701531	0.61384	10087.76446	0.080393
0.002707	0.000071	5.137798	0.711123	0.622233	10189.65714	0.090589
0.002707	0.000071	5.158261	0.723913	0.633424	10138.7108	0.070197
0.002707	0.000071	5.127566	0.704729	0.616638	10189.65714	0.090589
0.007802	0.00058	5.117334	0.698334	0.611042	10189.65714	0.060001
0.002707	0.000071	5.112218	0.695136	0.608244	10138.7108	0.182352
-0.00239	-0.000439	5.112218	0.695136	0.608244	10036.81812	0.121176
0.002707	0.000071	5.148029	0.717518	0.627829	10138.7108	0.100785
0.007802	0.00058	5.137798	0.711123	0.622233	10087.76446	0.141568
0.002707	0.000071	5.112218	0.695136	0.608244	10087.76446	0.060001
0.002707	0.000071	5.127566	0.704729	0.616638	10189.65714	0.060001
0.002707	0.000071	5.127566	0.704729	0.616638	10189.65714	-0.041958
0.002707	0.000071	5.12245	0.701531	0.61384	10189.65714	0.070197
-0.00239	-0.000439	5.09687	0.685544	0.599851	10189.65714	0.090589
-0.00748	-0.000948	5.127566	0.704729	0.616638	10036.81812	0.080393
-0.00239	-0.000439	5.137798	0.711123	0.622233	10138.7108	0.060001
-0.00239	-0.000439	5.132682	0.707926	0.619435	10138.7108	0.029413
0.007802	0.00058	5.101986	0.688741	0.602649	10036.81812	-0.133721
0.012897	0.00109	5.137798	0.711123	0.622233	10087.76446	-0.021566
0.002707	0.000071	5.132682	0.707926	0.619435	10138.7108	-0.123525
0.002707	0.000071	5.101986	0.688741	0.602649	10087.76446	0.182352
0.002707	0.000071	5.12245	0.701531	0.61384	10036.81812	0.202743
0.002707	0.000071	5.148029	0.717518	0.627829	10087.76446	0.11098
0.002707	0.000071	5.101986	0.688741	0.602649	10087.76446	0.080393
0.012897	0.00109	5.12245	0.701531	0.61384	10138.7108	0.080393
0.007802	0.00058	5.12245	0.701531	0.61384	10087.76446	0.070197
-0.00239	-0.000439	5.127566	0.704729	0.616638	10036.81812	0.060001
-0.00748	-0.000948	5.153145	0.720716	0.630626	10087.76446	0.090589
0.007802	0.00058	5.107102	0.691939	0.605446	10036.81812	0.049805
0.002707	0.000071	5.117334	0.698334	0.611042	10087.76446	0.743125
0.002707	0.000071	5.086638	0.679149	0.594255	10036.81812	0.039609
-0.00239	-0.000439	5.117334	0.698334	0.611042	10138.7108	0.080393
0.007802	0.00058	5.127566	0.704729	0.616638	10087.76446	0.060001
0.002707	0.000071	5.137798	0.711123	0.622233	10036.81812	0.100785
0.007802	0.00058	5.127566	0.704729	0.616638	10189.65714	0.080393
0.002707	0.000071	5.112218	0.695136	0.608244	10036.81812	0.090589
0.002707	0.000071	5.142914	0.714321	0.625031	10087.76446	0.060001
0.002707	0.000071	5.127566	0.704729	0.616638	10087.76446	0.16196
-0.00239	-0.000439	5.117334	0.698334	0.611042	10087.76446	0.223135
0.002707	0.000071	5.112218	0.695136	0.608244	9985.871783	0.131372
0.007802	0.00058	5.132682	0.707926	0.619435	10036.81812	0.182352
0.007802	0.00058	5.148029	0.717518	0.627829	10087.76446	0.080393
-0.00239	-0.000439	5.117334	0.698334	0.611042	10138.7108	0.202743
-0.00239	-0.000439	5.107102	0.691939	0.605446	10138.7108	0.202743
0.007802	0.00058	5.137798	0.711123	0.622233	10138.7108	0.070197
0.007802	0.00058	5.137798	0.711123	0.622233	10138.7108	0.121176
0.007802	0.00058	5.12245	0.701531	0.61384	10138.7108	0.060001
0.002707	0.000071	5.117334	0.698334	0.611042	10138.7108	0.090589
0.002707	0.000071	5.107102	0.691939	0.605446	10138.7108	0.060001
-0.00239	-0.000439	5.127566	0.704729	0.616638	10189.65714	0.060001
0.002707	0.000071	5.112218	0.695136	0.608244	10087.76446	0.060001
0.007802	0.00058	5.117334	0.698334	0.611042	10138.7108	0.039609

Run 44

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.012897	0.00109	5.275928	0.797455	0.697773	10036.81812	0.090589
0.007802	0.00058	5.311739	0.819837	0.717357	10189.65714	0.16196
-0.01258	-0.001458	5.296391	0.810245	0.708964	9985.871783	0.151764
0.002707	0.000071	5.291276	0.807047	0.706166	9985.871783	0.233331
-0.00239	-0.000439	5.28616	0.80385	0.703369	10087.76446	0.070197
-0.01258	-0.001458	5.28616	0.80385	0.703369	9985.871783	0.090589
-0.00239	-0.000439	5.316855	0.823035	0.720155	10036.81812	0.080393
-0.00748	-0.000948	5.250348	0.781468	0.683784	10036.81812	0.070197
0.002707	0.000071	5.332203	0.832627	0.728549	10087.76446	0.060001
0.002707	0.000071	5.327087	0.829429	0.725751	10036.81812	0.182352
0.007802	0.00058	5.306623	0.81664	0.71456	10138.7108	0.172156
0.002707	0.000071	5.265696	0.79106	0.692177	10138.7108	0.090589
-0.00239	-0.000439	5.342435	0.839022	0.734144	10087.76446	0.11098
-0.00239	-0.000439	5.332203	0.832627	0.728549	10087.76446	0.100785
0.007802	0.00058	5.306623	0.81664	0.71456	10036.81812	-0.072545
0.007802	0.00058	5.311739	0.819837	0.717357	10036.81812	0.192547
0.002707	0.000071	5.291276	0.807047	0.706166	10138.7108	0.192547
0.007802	0.00058	5.296391	0.810245	0.708964	10087.76446	0.182352
0.012897	0.00109	5.281044	0.800652	0.700571	10036.81812	0.212939
0.007802	0.00058	5.301507	0.813442	0.711762	10138.7108	0.172156
0.002707	0.000071	5.321971	0.826232	0.722953	10087.76446	0.131372
0.002707	0.000071	5.311739	0.819837	0.717357	10036.81812	0.151764
0.007802	0.00058	5.275928	0.797455	0.697773	10087.76446	0.141568
0.007802	0.00058	5.296391	0.810245	0.708964	10087.76446	0.253723
0.002707	0.000071	5.301507	0.813442	0.711762	10087.76446	0.080393
-0.00239	-0.000439	5.296391	0.810245	0.708964	10036.81812	0.151764
0.002707	0.000071	5.275928	0.797455	0.697773	10087.76446	0.080393
0.002707	0.000071	5.316855	0.823035	0.720155	10138.7108	-0.001174
-0.00239	-0.000439	5.327087	0.829429	0.725751	10138.7108	0.060001
0.007802	0.00058	5.327087	0.829429	0.725751	10087.76446	0.029413
0.012897	0.00109	5.301507	0.813442	0.711762	10087.76446	-0.082741
0.007802	0.00058	5.291276	0.807047	0.706166	10036.81812	-0.092937
0.007802	0.00058	5.332203	0.832627	0.728549	10138.7108	0.009022
0.002707	0.000071	5.342435	0.839022	0.734144	10036.81812	-0.052154
0.002707	0.000071	5.311739	0.819837	0.717357	10189.65714	-0.052154
0.002707	0.000071	5.28616	0.80385	0.703369	10087.76446	-0.1847
-0.00239	-0.000439	5.281044	0.800652	0.700571	10138.7108	0.080393
0.002707	0.000071	5.316855	0.823035	0.720155	10036.81812	0.070197
0.002707	0.000071	5.327087	0.829429	0.725751	10036.81812	0.039609
0.002707	0.000071	5.347551	0.842219	0.736942	10036.81812	0.192547
0.007802	0.00058	5.321971	0.826232	0.722953	10036.81812	0.212939
-0.00748	-0.000948	5.296391	0.810245	0.708964	10036.81812	0.182352
0.002707	0.000071	5.306623	0.81664	0.71456	10138.7108	0.090589
0.002707	0.000071	5.316855	0.823035	0.720155	10189.65714	0.070197
0.007802	0.00058	5.291276	0.807047	0.706166	10189.65714	0.070197
-0.00239	-0.000439	5.28616	0.80385	0.703369	10138.7108	0.080393
0.012897	0.00109	5.291276	0.807047	0.706166	10189.65714	0.100785
0.007802	0.00058	5.306623	0.81664	0.71456	10189.65714	0.090589
0.002707	0.000071	5.316855	0.823035	0.720155	10087.76446	0.060001
0.007802	0.00058	5.281044	0.800652	0.700571	10138.7108	0.100785
-0.00239	-0.000439	5.296391	0.810245	0.708964	10138.7108	0.080393
0.007802	0.00058	5.296391	0.810245	0.708964	10036.81812	0.039609
0.007802	0.00058	5.281044	0.800652	0.700571	10036.81812	-0.021566
0.007802	0.00058	5.281044	0.800652	0.700571	9985.871783	0.080393
0.017993	0.001599	5.321971	0.826232	0.722953	10189.65714	0.039609
0.007802	0.00058	5.301507	0.813442	0.711762	10036.81812	0.202743
0.002707	0.000071	5.281044	0.800652	0.700571	10189.65714	0.182352
0.007802	0.00058	5.306623	0.81664	0.71456	9985.871783	0.131372
-0.00239	-0.000439	5.301507	0.813442	0.711762	10189.65714	0.060001

Run 45

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.007802	0.00058	5.70055	1.062844	0.929988	10087.76446	0.070197
0.007802	0.00058	5.644275	1.027672	0.899213	10138.7108	0.121176
0.002707	0.000071	5.659623	1.037264	0.907606	10138.7108	0.039609
0.007802	0.00058	5.649391	1.030869	0.902011	10138.7108	0.070197
0.012897	0.00109	5.70055	1.062844	0.929988	10036.81812	0.049805
0.007802	0.00058	5.695434	1.059646	0.927191	10138.7108	0.049805
0.012897	0.00109	5.705666	1.066041	0.932786	10138.7108	0.070197
0.007802	0.00058	5.695434	1.059646	0.927191	10036.81812	0.070197
0.012897	0.00109	5.685202	1.053251	0.921595	10087.76446	0.212939
-0.00239	-0.000439	5.695434	1.059646	0.927191	10036.81812	0.100785
-0.00239	-0.000439	5.695434	1.059646	0.927191	10138.7108	0.080393
0.007802	0.00058	5.715898	1.072436	0.938382	10138.7108	0.141568
0.002707	0.000071	5.715898	1.072436	0.938382	10036.81812	0.060001
0.007802	0.00058	5.669855	1.043659	0.913202	10036.81812	0.100785
0.002707	0.000071	5.67497	1.046857	0.915999	10087.76446	0.049805
0.007802	0.00058	5.680086	1.050054	0.918797	10087.76446	0.060001
0.007802	0.00058	5.710782	1.069239	0.935584	10087.76446	0.060001
0.002707	0.000071	5.705666	1.066041	0.932786	10087.76446	0.070197
0.012897	0.00109	5.70055	1.062844	0.929988	10036.81812	0.060001
0.007802	0.00058	5.690318	1.056449	0.924393	10036.81812	0.060001
0.002707	0.000071	5.72613	1.078831	0.943977	10138.7108	0.049805
0.002707	0.000071	5.690318	1.056449	0.924393	9985.871783	0.070197
0.007802	0.00058	5.680086	1.050054	0.918797	9985.871783	0.029413
0.002707	0.000071	5.705666	1.066041	0.932786	10087.76446	0.049805
0.002707	0.000071	5.741478	1.088423	0.952371	10138.7108	0.090589
0.002707	0.000071	5.710782	1.069239	0.935584	10036.81812	0.049805
-0.00239	-0.000439	5.690318	1.056449	0.924393	9985.871783	0.060001
0.002707	0.000071	5.72613	1.078831	0.943977	10087.76446	0.080393
0.007802	0.00058	5.695434	1.059646	0.927191	9985.871783	-0.041958
0.007802	0.00058	5.751709	1.094818	0.957966	10138.7108	-0.082741
0.017993	0.001599	5.72613	1.078831	0.943977	10138.7108	-0.052154
0.007802	0.00058	5.710782	1.069239	0.935584	10036.81812	-0.06235
0.002707	0.000071	5.685202	1.053251	0.921595	10087.76446	-0.01137
0.002707	0.000071	5.710782	1.069239	0.935584	10189.65714	0.019217
-0.00239	-0.000439	5.705666	1.066041	0.932786	10189.65714	0.060001
0.007802	0.00058	5.710782	1.069239	0.935584	10138.7108	-0.082741
-0.00239	-0.000439	5.710782	1.069239	0.935584	10036.81812	0.060001
0.002707	0.000071	5.70055	1.062844	0.929988	10036.81812	0.060001
0.007802	0.00058	5.695434	1.059646	0.927191	9985.871783	0.202743
0.007802	0.00058	5.721014	1.075634	0.941179	9985.871783	0.253723
0.007802	0.00058	5.664739	1.040462	0.910404	10036.81812	0.141568
0.007802	0.00058	5.680086	1.050054	0.918797	9985.871783	0.100785
0.012897	0.00109	5.710782	1.069239	0.935584	9985.871783	0.029413
-0.00239	-0.000439	5.721014	1.075634	0.941179	10036.81812	0.060001
-0.00239	-0.000439	5.705666	1.066041	0.932786	10138.7108	0.039609
0.007802	0.00058	5.72613	1.078831	0.943977	10036.81812	0.049805
-0.00239	-0.000439	5.669855	1.043659	0.913202	10036.81812	0.233331
0.007802	0.00058	5.67497	1.046857	0.915999	10087.76446	0.141568
0.002707	0.000071	5.72613	1.078831	0.943977	9985.871783	-0.01137
-0.00748	-0.000948	5.731246	1.082029	0.946775	9985.871783	0.090589
0.002707	0.000071	5.72613	1.078831	0.943977	10138.7108	0.039609
0.012897	0.00109	5.72613	1.078831	0.943977	10138.7108	0.039609
0.002707	0.000071	5.685202	1.053251	0.921595	10087.76446	0.049805
0.017993	0.001599	5.70055	1.062844	0.929988	10138.7108	0.090589
0.002707	0.000071	5.710782	1.069239	0.935584	10036.81812	0.060001
0.017993	0.001599	5.664739	1.040462	0.910404	10138.7108	0.080393
0.002707	0.000071	5.715898	1.072436	0.938382	10138.7108	0.049805
0.007802	0.00058	5.70055	1.062844	0.929988	10138.7108	0.039609
-0.00239	-0.000439	5.695434	1.059646	0.927191	10189.65714	-0.103133
0.007802	0.00058	5.731246	1.082029	0.946775	10138.7108	-0.001174

Run 46



Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	5.715898	1.072436	0.938382	9985.871783	-0.021566
0.012897	0.00109	5.680086	1.050054	0.918797	10138.7108	0.202743
0.007802	0.00058	5.715898	1.072436	0.938382	10036.81812	0.070197
0.007802	0.00058	5.685202	1.053251	0.921595	10036.81812	0.090589
0.002707	0.000071	5.72613	1.078831	0.943977	10036.81812	0.141568
0.002707	0.000071	5.680086	1.050054	0.918797	10087.76446	0.060001
0.012897	0.00109	5.70055	1.062844	0.929988	10138.7108	0.039609
-0.00239	-0.000439	5.67497	1.046857	0.915999	10087.76446	0.060001
0.007802	0.00058	5.664739	1.040462	0.910404	10138.7108	0.060001
0.012897	0.00109	5.705666	1.066041	0.932786	10087.76446	0.049805
0.012897	0.00109	5.695434	1.059646	0.927191	10138.7108	0.049805
0.002707	0.000071	5.695434	1.059646	0.927191	10036.81812	-0.092937
0.007802	0.00058	5.741478	1.088423	0.952371	10138.7108	-0.031762
0.007802	0.00058	5.695434	1.059646	0.927191	10036.81812	0.019217
-0.00748	-0.000948	5.690318	1.056449	0.924393	10138.7108	0.060001
0.007802	0.00058	5.685202	1.053251	0.921595	10138.7108	-0.082741
0.007802	0.00058	5.659623	1.037264	0.907606	10087.76446	0.029413
0.007802	0.00058	5.669855	1.043659	0.913202	9985.871783	0.039609
0.007802	0.00058	5.685202	1.053251	0.921595	10036.81812	0.080393
-0.00239	-0.000439	5.695434	1.059646	0.927191	9985.871783	0.060001
0.017993	0.001599	5.680086	1.050054	0.918797	10087.76446	0.039609
-0.00239	-0.000439	5.695434	1.059646	0.927191	10036.81812	0.080393
0.012897	0.00109	5.690318	1.056449	0.924393	10036.81812	0.049805
0.007802	0.00058	5.715898	1.072436	0.938382	10087.76446	0.100785
0.007802	0.00058	5.685202	1.053251	0.921595	10036.81812	0.151764
0.002707	0.000071	5.659623	1.037264	0.907606	10087.76446	0.16196
0.002707	0.000071	5.721014	1.075634	0.941179	10087.76446	-0.725082
0.012897	0.00109	5.67497	1.046857	0.915999	10138.7108	0.090589
0.012897	0.00109	5.70055	1.062844	0.929988	10189.65714	-0.01137
0.002707	0.000071	5.72613	1.078831	0.943977	10138.7108	-0.052154
0.002707	0.000071	5.741478	1.088423	0.952371	10138.7108	-0.082741
0.007802	0.00058	5.710782	1.069239	0.935584	10138.7108	0.029413
0.007802	0.00058	5.690318	1.056449	0.924393	10138.7108	-0.041958
0.023088	0.002109	5.67497	1.046857	0.915999	10087.76446	0.049805
0.002707	0.000071	5.70055	1.062844	0.929988	10138.7108	0.090589
0.007802	0.00058	5.634043	1.021277	0.893617	9985.871783	0.009022
0.012897	0.00109	5.685202	1.053251	0.921595	10087.76446	0.060001
0.002707	0.000071	5.710782	1.069239	0.935584	10036.81812	0.039609
0.007802	0.00058	5.680086	1.050054	0.918797	10036.81812	0.049805
0.012897	0.00109	5.690318	1.056449	0.924393	10087.76446	0.060001
0.002707	0.000071	5.669855	1.043659	0.913202	10138.7108	0.060001
0.017993	0.001599	5.70055	1.062844	0.929988	9985.871783	0.070197
0.007802	0.00058	5.690318	1.056449	0.924393	10036.81812	0.039609
0.007802	0.00058	5.70055	1.062844	0.929988	10138.7108	0.049805
0.007802	0.00058	5.67497	1.046857	0.915999	10036.81812	0.070197
0.007802	0.00058	5.710782	1.069239	0.935584	10138.7108	-0.072545
0.007802	0.00058	5.695434	1.059646	0.927191	10036.81812	0.049805
0.002707	0.000071	5.664739	1.040462	0.910404	10087.76446	-0.06235
0.007802	0.00058	5.695434	1.059646	0.927191	10138.7108	0.080393
0.012897	0.00109	5.751709	1.094818	0.957966	10138.7108	0.070197
0.007802	0.00058	5.685202	1.053251	0.921595	10138.7108	0.070197
0.002707	0.000071	5.705666	1.066041	0.932786	10138.7108	0.070197
0.007802	0.00058	5.669855	1.043659	0.913202	10138.7108	0.060001
0.007802	0.00058	5.695434	1.059646	0.927191	10036.81812	0.049805
0.007802	0.00058	5.659623	1.037264	0.907606	10036.81812	0.131372
0.007802	0.00058	5.659623	1.037264	0.907606	10036.81812	-0.001174
0.007802	0.00058	5.669855	1.043659	0.913202	10036.81812	0.060001
0.002707	0.000071	5.67497	1.046857	0.915999	9985.871783	0.019217
0.012897	0.00109	5.70055	1.062844	0.929988	10036.81812	0.039609
0.012897	0.00109	5.690318	1.056449	0.924393	10138.7108	-0.021566

Run 47

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.007802	0.00058	5.644275	1.027672	0.899213	10036.81812	0.029413
0.002707	0.000071	5.639159	1.024474	0.896415	9985.871783	0.151764
0.002707	0.000071	5.644275	1.027672	0.899213	9985.871783	0.172156
0.002707	0.000071	5.659623	1.037264	0.907606	10087.76446	0.16196
0.007802	0.00058	5.628927	1.018079	0.890819	10087.76446	0.202743
-0.00239	-0.000439	5.644275	1.027672	0.899213	10036.81812	0.212939
0.012897	0.00109	5.628927	1.018079	0.890819	10087.76446	0.16196
0.002707	0.000071	5.634043	1.021277	0.893617	10087.76446	0.060001
-0.00239	-0.000439	5.669855	1.043659	0.913202	10138.7108	0.223135
0.017993	0.001599	5.669855	1.043659	0.913202	10036.81812	0.243527
0.007802	0.00058	5.644275	1.027672	0.899213	9985.871783	0.182352
0.007802	0.00058	5.628927	1.018079	0.890819	10138.7108	0.202743
0.007802	0.00058	5.659623	1.037264	0.907606	10087.76446	-0.001174
0.002707	0.000071	5.613579	1.008487	0.882426	9985.871783	0.090589
-0.00239	-0.000439	5.685202	1.053251	0.921595	10087.76446	0.16196
0.002707	0.000071	5.70055	1.062844	0.929988	9985.871783	0.080393
0.002707	0.000071	5.669855	1.043659	0.913202	10138.7108	0.039609
0.007802	0.00058	5.654507	1.034067	0.904808	10138.7108	0.080393
-0.00239	-0.000439	5.690318	1.056449	0.924393	10138.7108	0.029413
0.007802	0.00058	5.715898	1.072436	0.938382	10138.7108	0.11098
0.007802	0.00058	5.690318	1.056449	0.924393	10087.76446	0.070197
0.007802	0.00058	5.67497	1.046857	0.915999	10138.7108	0.131372
0.012897	0.00109	5.669855	1.043659	0.913202	10138.7108	0.182352
0.007802	0.00058	5.644275	1.027672	0.899213	10087.76446	0.131372
0.002707	0.000071	5.654507	1.034067	0.904808	10036.81812	0.131372
-0.00239	-0.000439	5.67497	1.046857	0.915999	10138.7108	0.090589
-0.00239	-0.000439	5.644275	1.027672	0.899213	9985.871783	0.151764
0.002707	0.000071	5.67497	1.046857	0.915999	10036.81812	0.182352
0.007802	0.00058	5.639159	1.024474	0.896415	10138.7108	0.121176
0.002707	0.000071	5.67497	1.046857	0.915999	10138.7108	0.090589
0.012897	0.00109	5.690318	1.056449	0.924393	10036.81812	0.080393
0.012897	0.00109	5.664739	1.040462	0.910404	10087.76446	0.090589
0.007802	0.00058	5.649391	1.030869	0.902011	10087.76446	0.090589
-0.00239	-0.000439	5.639159	1.024474	0.896415	10036.81812	0.060001
0.002707	0.000071	5.634043	1.021277	0.893617	10138.7108	0.060001
0.002707	0.000071	5.659623	1.037264	0.907606	10036.81812	0.049805
0.007802	0.00058	5.669855	1.043659	0.913202	10036.81812	0.039609
0.012897	0.00109	5.644275	1.027672	0.899213	10087.76446	0.060001
0.012897	0.00109	5.654507	1.034067	0.904808	10189.65714	-0.001174
0.007802	0.00058	5.680086	1.050054	0.918797	10138.7108	0.019217
0.007802	0.00058	5.618695	1.011684	0.885224	10189.65714	0.080393
0.007802	0.00058	5.659623	1.037264	0.907606	10087.76446	-0.031762
0.007802	0.00058	5.628927	1.018079	0.890819	10087.76446	-0.113329
-0.00239	-0.000439	5.618695	1.011684	0.885224	10138.7108	0.049805
-0.01258	-0.001458	5.644275	1.027672	0.899213	10087.76446	0.090589
-0.00239	-0.000439	5.618695	1.011684	0.885224	10138.7108	0.060001
0.002707	0.000071	5.654507	1.034067	0.904808	10189.65714	0.090589
0.007802	0.00058	5.669855	1.043659	0.913202	10087.76446	0.070197
0.007802	0.00058	5.664739	1.040462	0.910404	10036.81812	0.070197
0.002707	0.000071	5.664739	1.040462	0.910404	10036.81812	0.060001
0.002707	0.000071	5.649391	1.030869	0.902011	10036.81812	0.212939
0.007802	0.00058	5.634043	1.021277	0.893617	10036.81812	0.16196
0.002707	0.000071	5.644275	1.027672	0.899213	10138.7108	0.141568
-0.00748	-0.000948	5.654507	1.034067	0.904808	10138.7108	0.16196
0.002707	0.000071	5.649391	1.030869	0.902011	10036.81812	0.141568
0.002707	0.000071	5.649391	1.030869	0.902011	10036.81812	0.080393
0.017993	0.001599	5.685202	1.053251	0.921595	10087.76446	0.060001
0.007802	0.00058	5.649391	1.030869	0.902011	10138.7108	0.060001
0.002707	0.000071	5.669855	1.043659	0.913202	10036.81812	0.070197
0.012897	0.00109	5.634043	1.021277	0.893617	10036.81812	0.090589

Run 48

Collected Data for 2 Factor DOE

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	7.07162	1.919762	1.679792	15182.39834	-0.001174
-0.00748	-0.000948	6.953953	1.846221	1.615443	15029.55932	0.090589
0.002707	0.000071	7.056272	1.91017	1.671399	14978.61298	0.100785
-0.00239	-0.000439	6.953953	1.846221	1.615443	14978.61298	0.11098
-0.00239	-0.000439	6.93349	1.833431	1.604252	14978.61298	0.100785
-0.00748	-0.000948	6.913026	1.820641	1.593061	15131.452	0.090589
-0.00239	-0.000439	6.810707	1.756692	1.537106	15029.55932	-0.082741
-0.00748	-0.000948	7.005113	1.878195	1.643421	15233.34468	-0.052154
0.002707	0.000071	6.897678	1.811049	1.584668	14978.61298	-0.113329
-0.00239	-0.000439	6.831171	1.769482	1.548297	15029.55932	0.141568
-0.00239	-0.000439	6.948838	1.843023	1.612646	15131.452	0.029413
-0.00748	-0.000948	6.979533	1.862208	1.629432	15131.452	0.029413
-0.00239	-0.000439	6.90791	1.817444	1.590263	15080.50566	0.039609
-0.00239	-0.000439	6.846519	1.779074	1.55669	15131.452	0.029413
-0.00748	-0.000948	6.820939	1.763087	1.542701	15029.55932	0.039609
-0.00239	-0.000439	6.918142	1.823839	1.595859	15182.39834	0.019217
-0.00748	-0.000948	6.999997	1.874998	1.640623	15029.55932	-0.001174
0.002707	0.000071	6.923258	1.827036	1.598657	15029.55932	0.009022
-0.00748	-0.000948	6.841403	1.775877	1.553892	15131.452	0.039609
-0.01258	-0.001458	6.913026	1.820641	1.593061	15131.452	-0.001174
0.002707	0.000071	6.892562	1.807851	1.58187	15029.55932	0.039609
-0.00239	-0.000439	6.815823	1.75989	1.539903	15080.50566	-0.031762
-0.00239	-0.000439	6.90791	1.817444	1.590263	15131.452	-0.123525
0.002707	0.000071	6.974417	1.859011	1.626634	15131.452	-0.041958
-0.00239	-0.000439	6.897678	1.811049	1.584668	15131.452	-0.194896
-0.00239	-0.000439	6.831171	1.769482	1.548297	15182.39834	-0.072545
0.002707	0.000071	6.90791	1.817444	1.590263	15182.39834	-0.082741
0.002707	0.000071	7.005113	1.878195	1.643421	15080.50566	0.029413
-0.00239	-0.000439	6.872099	1.795062	1.570679	15029.55932	-0.072545
0.002707	0.000071	6.938606	1.836629	1.60705	15131.452	0.019217
-0.00239	-0.000439	6.923258	1.827036	1.598657	15080.50566	0.019217
0.002707	0.000071	6.88233	1.801457	1.576274	15080.50566	-0.01137
-0.00239	-0.000439	6.984649	1.865406	1.63223	15131.452	0.121176
0.002707	0.000071	6.93349	1.833431	1.604252	15182.39834	0.019217
-0.00239	-0.000439	7.005113	1.878195	1.643421	15182.39834	0.060001
-0.00239	-0.000439	6.938606	1.836629	1.60705	15131.452	0.039609
-0.00748	-0.000948	6.790244	1.743902	1.525914	15080.50566	0.029413
-0.00239	-0.000439	6.846519	1.779074	1.55669	15080.50566	0.019217
-0.00748	-0.000948	6.897678	1.811049	1.584668	15029.55932	0.100785
-0.01258	-0.001458	6.7442	1.715125	1.500735	15080.50566	-0.041958
0.002707	0.000071	6.861867	1.788667	1.565083	15080.50566	0.009022
0.002707	0.000071	6.938606	1.836629	1.60705	15029.55932	-0.001174
-0.00239	-0.000439	6.979533	1.862208	1.629432	14978.61298	0.029413
0.002707	0.000071	6.928374	1.830234	1.601454	15182.39834	0.029413
0.002707	0.000071	6.892562	1.807851	1.58187	15029.55932	0.009022
0.002707	0.000071	6.979533	1.862208	1.629432	15131.452	0.009022
-0.00239	-0.000439	6.856751	1.785469	1.562286	15233.34468	0.019217
-0.00748	-0.000948	6.964185	1.852616	1.621039	15131.452	0.029413
0.002707	0.000071	6.841403	1.775877	1.553892	15080.50566	0.019217
-0.00748	-0.000948	6.872099	1.795062	1.570679	15080.50566	0.16196
-0.00239	-0.000439	6.892562	1.807851	1.58187	15131.452	0.182352
-0.01258	-0.001458	6.810707	1.756692	1.537106	15182.39834	0.131372
-0.00239	-0.000439	6.943722	1.839826	1.609848	15080.50566	0.172156
-0.00748	-0.000948	6.88233	1.801457	1.576274	15182.39834	0.192547
-0.00239	-0.000439	6.820939	1.763087	1.542701	15080.50566	0.121176
0.002707	0.000071	6.88233	1.801457	1.576274	15080.50566	0.039609
-0.00748	-0.000948	6.892562	1.807851	1.58187	15080.50566	0.039609
-0.00748	-0.000948	6.897678	1.811049	1.584668	15131.452	0.009022
-0.00239	-0.000439	7.005113	1.878195	1.643421	15182.39834	0.039609
0.002707	0.000071	6.913026	1.820641	1.593061	15131.452	0.009022
-0.01258	-0.001458	6.887446	1.804654	1.579072	15029.55932	-0.01137

Run 1

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00748	-0.000948	6.928374	1.830234	1.601454	15233.34468	-0.021566
-0.00239	-0.000439	7.010229	1.881393	1.646219	15437.13003	0.406661
-0.00239	-0.000439	6.974417	1.859011	1.626634	15131.452	-0.041958
-0.00239	-0.000439	6.892562	1.807851	1.58187	15080.50566	-0.072545
0.002707	0.000071	6.953953	1.846221	1.615443	15233.34468	-0.1847
0.002707	0.000071	6.984649	1.865406	1.63223	15029.55932	-0.123525
-0.01258	-0.001458	6.928374	1.830234	1.601454	15029.55932	-0.082741
-0.00239	-0.000439	6.836287	1.772679	1.551094	15131.452	-0.021566
0.002707	0.000071	6.974417	1.859011	1.626634	15029.55932	-0.031762
0.002707	0.000071	6.964185	1.852616	1.621039	15080.50566	-0.103133
0.002707	0.000071	6.928374	1.830234	1.601454	15182.39834	-0.021566
-0.00239	-0.000439	6.959069	1.849418	1.618241	15233.34468	-0.031762
-0.00239	-0.000439	6.938606	1.836629	1.60705	15131.452	0.131372
0.002707	0.000071	6.866983	1.791864	1.567881	15080.50566	0.060001
0.007802	0.00058	6.928374	1.830234	1.601454	15233.34468	-0.143917
0.002707	0.000071	6.866983	1.791864	1.567881	15080.50566	-0.001174
-0.00239	-0.000439	6.918142	1.823839	1.595859	15233.34468	-0.021566
-0.00239	-0.000439	6.984649	1.865406	1.63223	15233.34468	0.009022
0.002707	0.000071	6.93349	1.833431	1.604252	15029.55932	-0.021566
0.007802	0.00058	7.010229	1.881393	1.646219	15182.39834	0.009022
0.007802	0.00058	7.025577	1.890985	1.654612	15080.50566	-0.041958
0.002707	0.000071	6.964185	1.852616	1.621039	15080.50566	-0.154112
-0.00239	-0.000439	6.79536	1.7471	1.528712	15233.34468	0.100785
-0.00239	-0.000439	6.918142	1.823839	1.595859	15080.50566	-0.041958
-0.01258	-0.001458	6.938606	1.836629	1.60705	15182.39834	0.029413
0.007802	0.00058	6.841403	1.775877	1.553892	15131.452	0.039609
0.007802	0.00058	6.979533	1.862208	1.629432	15080.50566	0.100785
0.007802	0.00058	6.938606	1.836629	1.60705	15080.50566	-0.031762
-0.00748	-0.000948	6.969301	1.855813	1.623837	15080.50566	0.009022
-0.00239	-0.000439	6.841403	1.775877	1.553892	15182.39834	0.009022
-0.01258	-0.001458	6.897678	1.811049	1.584668	15080.50566	0.172156
-0.00239	-0.000439	7.005113	1.878195	1.643421	15029.55932	-0.021566
-0.01258	-0.001458	6.959069	1.849418	1.618241	15233.34468	-0.041958
-0.00748	-0.000948	6.913026	1.820641	1.593061	15029.55932	-0.031762
-0.00748	-0.000948	6.959069	1.849418	1.618241	15080.50566	-0.041958
0.012897	0.00109	6.887446	1.804654	1.579072	15029.55932	-0.082741
-0.00748	-0.000948	6.923258	1.827036	1.598657	15029.55932	-0.021566
-0.00239	-0.000439	6.969301	1.855813	1.623837	15131.452	-0.072545
-0.00239	-0.000439	6.93349	1.833431	1.604252	15131.452	0.009022
-0.00239	-0.000439	6.887446	1.804654	1.579072	15233.34468	-0.164308
-0.00748	-0.000948	6.959069	1.849418	1.618241	15029.55932	-0.164308
-0.00239	-0.000439	6.959069	1.849418	1.618241	15182.39834	-0.031762
-0.01258	-0.001458	6.953953	1.846221	1.615443	15233.34468	-0.001174
-0.00239	-0.000439	6.93349	1.833431	1.604252	15233.34468	0.11098
0.002707	0.000071	6.831171	1.769482	1.548297	15080.50566	0.039609
-0.01258	-0.001458	6.861867	1.788667	1.565083	15233.34468	0.049805
-0.00239	-0.000439	6.974417	1.859011	1.626634	15131.452	0.009022
0.002707	0.000071	6.800476	1.750297	1.53151	15131.452	0.009022
-0.00748	-0.000948	6.897678	1.811049	1.584668	15080.50566	0.009022
-0.00239	-0.000439	6.820939	1.763087	1.542701	15131.452	-0.072545
-0.00239	-0.000439	7.015345	1.88459	1.649017	15131.452	0.009022
-0.01258	-0.001458	6.892562	1.807851	1.58187	15080.50566	0.070197
-0.00239	-0.000439	6.887446	1.804654	1.579072	15131.452	-0.123525
-0.01258	-0.001458	7.035808	1.89738	1.660208	15182.39834	-0.072545
-0.00748	-0.000948	6.815823	1.75989	1.539903	15029.55932	0.060001
-0.00239	-0.000439	6.810707	1.756692	1.537106	15182.39834	-0.031762
0.017993	0.001599	6.928374	1.830234	1.601454	15080.50566	-0.01137
-0.00239	-0.000439	6.892562	1.807851	1.58187	15131.452	0.090589
-0.00239	-0.000439	6.841403	1.775877	1.553892	15233.34468	-0.031762
0.007802	0.00058	6.974417	1.859011	1.626634	15131.452	-0.01137

Run 2

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00748	-0.000948	7.189286	1.993304	1.744141	15182.39834	0.019217
0.002707	0.000071	7.18417	1.990107	1.741343	15029.55932	0.019217
0.007802	0.00058	7.117663	1.94854	1.704972	15131.452	-0.1847
-0.00239	-0.000439	7.276257	2.047661	1.791703	15182.39834	0.090589
0.007802	0.00058	7.133011	1.958132	1.713365	15131.452	-0.1847
0.002707	0.000071	7.255793	2.034871	1.780512	15182.39834	-0.021566
0.002707	0.000071	7.352996	2.095623	1.83367	15029.55932	-0.001174
0.002707	0.000071	7.194402	1.996501	1.746939	15131.452	0.070197
0.007802	0.00058	7.240446	2.025279	1.772119	14978.61298	-0.001174
-0.00239	-0.000439	7.306953	2.066845	1.80849	15029.55932	-0.001174
0.002707	0.000071	7.255793	2.034871	1.780512	15080.50566	-0.021566
-0.01258	-0.001458	7.168823	1.980514	1.73295	15080.50566	0.039609
0.007802	0.00058	7.266025	2.041266	1.786108	14978.61298	-0.021566
0.007802	0.00058	7.015345	1.88459	1.649017	14927.66664	0.009022
0.002707	0.000071	7.173939	1.983712	1.735748	14978.61298	0.019217
-0.00239	-0.000439	7.240446	2.025279	1.772119	14978.61298	-0.143917
0.002707	0.000071	7.189286	1.993304	1.744141	14978.61298	0.11098
-0.00748	-0.000948	7.291605	2.057253	1.800096	14927.66664	0.141568
-0.00748	-0.000948	7.260909	2.038068	1.78331	14978.61298	-0.113329
0.007802	0.00058	7.148359	1.967724	1.721759	15131.452	0.009022
0.002707	0.000071	7.204634	2.002896	1.752534	15080.50566	0.141568
0.002707	0.000071	7.010229	1.881393	1.646219	15029.55932	-0.052154
0.002707	0.000071	7.23533	2.022081	1.769321	15029.55932	0.009022
0.012897	0.00109	7.204634	2.002896	1.752534	15080.50566	0.009022
-0.00748	-0.000948	7.189286	1.993304	1.744141	15080.50566	0.019217
0.002707	0.000071	7.179054	1.986909	1.738545	15080.50566	-0.001174
-0.00239	-0.000439	7.219982	2.012489	1.760928	15131.452	0.060001
-0.00748	-0.000948	7.276257	2.047661	1.791703	15182.39834	0.009022
0.007802	0.00058	7.250678	2.031673	1.777714	14978.61298	0.019217
0.002707	0.000071	7.23533	2.022081	1.769321	14927.66664	-0.021566
-0.00239	-0.000439	7.245562	2.028476	1.774916	15029.55932	-0.113329
-0.00239	-0.000439	7.168823	1.980514	1.73295	14978.61298	0.100785
-0.00748	-0.000948	7.255793	2.034871	1.780512	15029.55932	0.009022
0.002707	0.000071	7.194402	1.996501	1.746939	15131.452	-0.001174
-0.00239	-0.000439	7.199518	1.999699	1.749737	15080.50566	0.009022
-0.00748	-0.000948	7.286489	2.054056	1.797299	14876.7203	0.192547
0.002707	0.000071	7.214866	2.009291	1.75813	15029.55932	0.172156
0.002707	0.000071	7.168823	1.980514	1.73295	15029.55932	0.192547
-0.00239	-0.000439	7.148359	1.967724	1.721759	15131.452	-0.01137
0.002707	0.000071	7.204634	2.002896	1.752534	14927.66664	0.039609
-0.00239	-0.000439	7.225098	2.015686	1.763725	14978.61298	-0.001174
-0.00239	-0.000439	7.312069	2.070043	1.811288	15131.452	-0.021566
0.002707	0.000071	7.163707	1.977317	1.730152	15080.50566	-0.001174
0.007802	0.00058	7.306953	2.066845	1.80849	14927.66664	-0.01137
-0.00239	-0.000439	7.250678	2.031673	1.777714	14978.61298	-0.021566
-0.00239	-0.000439	7.291605	2.057253	1.800096	14927.66664	-0.041958
-0.00239	-0.000439	7.291605	2.057253	1.800096	15029.55932	-0.001174
-0.00239	-0.000439	7.225098	2.015686	1.763725	15131.452	-0.001174
-0.00239	-0.000439	7.158591	1.974119	1.727354	15029.55932	-0.001174
0.002707	0.000071	7.332532	2.082833	1.822479	14978.61298	0.009022
0.002707	0.000071	7.37346	2.108412	1.844861	15131.452	-0.01137
0.002707	0.000071	7.199518	1.999699	1.749737	15182.39834	-0.01137
0.007802	0.00058	7.173939	1.983712	1.735748	15080.50566	-0.06235
0.002707	0.000071	7.306953	2.066845	1.80849	15080.50566	-0.256071
0.007802	0.00058	7.332532	2.082833	1.822479	14978.61298	-0.092937
0.002707	0.000071	7.18417	1.990107	1.741343	14978.61298	-0.113329
-0.00239	-0.000439	7.245562	2.028476	1.774916	15029.55932	-0.06235
0.002707	0.000071	7.148359	1.967724	1.721759	15131.452	-0.01137
0.002707	0.000071	7.138127	1.961329	1.716163	14978.61298	0.060001

Run 3

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.023088	0.002109	6.846519	1.779074	1.55669	15080.50566	0.090589
0.002707	0.000071	6.805591	1.753495	1.534308	15080.50566	0.141568
0.007802	0.00058	6.79536	1.7471	1.528712	15131.452	-0.113329
-0.002389	-0.000439	6.866983	1.791864	1.567881	15182.39834	-0.317247
0.017993	0.001599	6.831171	1.769482	1.548297	15080.50566	0.141568
-0.002389	-0.000439	6.902794	1.814246	1.587466	15182.39834	0.141568
0.017993	0.001599	6.892562	1.807851	1.58187	15029.55932	0.16196
0.012897	0.00109	6.856751	1.785469	1.562286	15131.452	0.427053
0.007802	0.00058	6.831171	1.769482	1.548297	15080.50566	-0.001174
0.007802	0.00058	6.964185	1.852616	1.621039	15131.452	0.009022
0.017993	0.001599	6.851635	1.782272	1.559488	15080.50566	-0.021566
0.002707	0.000071	6.897678	1.811049	1.584668	15080.50566	-0.01137
0.007802	0.00058	6.902794	1.814246	1.587466	15131.452	-0.01137
0.012897	0.00109	6.872099	1.795062	1.570679	15080.50566	-0.103133
0.007802	0.00058	6.76978	1.731112	1.514723	14978.61298	-0.01137
0.002707	0.000071	6.759548	1.724718	1.509128	15080.50566	-0.01137
-0.002389	-0.000439	6.831171	1.769482	1.548297	14978.61298	-0.021566
0.002707	0.000071	6.959069	1.849418	1.618241	15182.39834	0.029413
0.007802	0.00058	6.790244	1.743902	1.525914	15080.50566	-0.041958
0.012897	0.00109	6.913026	1.820641	1.593061	15284.29101	-0.327442
0.002707	0.000071	6.866983	1.791864	1.567881	14927.66664	0.253723
-0.002389	-0.000439	6.810707	1.756692	1.537106	15182.39834	0.049805
0.007802	0.00058	6.948838	1.843023	1.612646	15080.50566	0.212939
0.002707	0.000071	6.780012	1.737507	1.520319	15131.452	-0.021566
0.002707	0.000071	6.79536	1.7471	1.528712	15029.55932	0.049805
-0.007484	-0.000948	6.810707	1.756692	1.537106	15080.50566	-0.001174
0.017993	0.001599	6.774896	1.73431	1.517521	15131.452	0.009022
0.012897	0.00109	6.93349	1.833431	1.604252	15080.50566	0.009022
0.012897	0.00109	6.872099	1.795062	1.570679	15182.39834	-0.021566
0.007802	0.00058	6.928374	1.830234	1.601454	15131.452	-0.01137
-0.002389	-0.000439	6.851635	1.782272	1.559488	15029.55932	-0.001174
0.017993	0.001599	6.948838	1.843023	1.612646	14978.61298	-0.001174
0.017993	0.001599	6.856751	1.785469	1.562286	15131.452	-0.052154
0.007802	0.00058	6.815823	1.75989	1.539903	15080.50566	-0.031762
0.007802	0.00058	6.913026	1.820641	1.593061	15029.55932	-0.001174
0.012897	0.00109	6.831171	1.769482	1.548297	15182.39834	-0.01137
0.012897	0.00109	6.774896	1.73431	1.517521	14978.61298	0.009022
0.012897	0.00109	6.800476	1.750297	1.53151	15080.50566	-0.001174
0.012897	0.00109	6.846519	1.779074	1.55669	14978.61298	-0.01137
0.002707	0.000071	6.861867	1.788667	1.565083	15080.50566	-0.001174
0.007802	0.00058	6.856751	1.785469	1.562286	15029.55932	-0.001174
0.002707	0.000071	6.841403	1.775877	1.553892	14978.61298	-0.01137
0.012897	0.00109	6.88233	1.801457	1.576274	15131.452	0.070197
0.012897	0.00109	6.826055	1.766284	1.545499	15080.50566	0.121176
0.002707	0.000071	6.846519	1.779074	1.55669	15131.452	0.131372
0.017993	0.001599	6.861867	1.788667	1.565083	15080.50566	0.039609
-0.002389	-0.000439	6.820939	1.763087	1.542701	15080.50566	0.090589
-0.002389	-0.000439	6.780012	1.737507	1.520319	15080.50566	-0.031762
0.007802	0.00058	6.790244	1.743902	1.525914	15029.55932	0.16196
0.002707	0.000071	6.790244	1.743902	1.525914	15029.55932	0.16196
-0.002389	-0.000439	6.88233	1.801457	1.576274	14978.61298	0.182352
0.012897	0.00109	6.892562	1.807851	1.58187	15182.39834	-0.001174
0.002707	0.000071	6.841403	1.775877	1.553892	14876.7203	-0.001174
0.017993	0.001599	6.800476	1.750297	1.53151	14978.61298	-0.001174
0.017993	0.001599	6.887446	1.804654	1.579072	14978.61298	-0.021566
0.012897	0.00109	6.897678	1.811049	1.584668	15080.50566	0.009022
0.002707	0.000071	6.918142	1.823839	1.595859	14978.61298	0.304702
0.002707	0.000071	6.841403	1.775877	1.553892	15080.50566	0.345486
0.007802	0.00058	6.866983	1.791864	1.567881	15029.55932	0.060001
0.017993	0.001599	6.866983	1.791864	1.567881	15131.452	0.100785
0.007802	0.00058	6.76978	1.731112	1.514723	15182.39834	-0.072545

Run 4

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.007802	0.00058	7.138127	1.961329	1.716163	15029.55932	-0.001174
-0.00239	-0.000439	7.035808	1.89738	1.660208	15080.50566	-0.143917
0.002707	0.000071	7.102315	1.938947	1.696579	15131.452	-0.052154
0.007802	0.00058	7.214866	2.009291	1.75813	15131.452	0.039609
-0.00239	-0.000439	7.168823	1.980514	1.73295	15233.34468	-0.041958
-0.00239	-0.000439	7.153475	1.970922	1.724557	15080.50566	-0.113329
-0.00239	-0.000439	7.18417	1.990107	1.741343	15131.452	-0.143917
0.002707	0.000071	7.148359	1.967724	1.721759	15131.452	0.009022
-0.00748	-0.000948	7.281373	2.050858	1.794501	15131.452	-0.052154
0.002707	0.000071	7.040924	1.900578	1.663005	15131.452	0.019217
0.002707	0.000071	7.07162	1.919762	1.679792	14978.61298	-0.021566
0.002707	0.000071	7.148359	1.967724	1.721759	15131.452	-0.01137
0.007802	0.00058	7.199518	1.999699	1.749737	15029.55932	0.019217
-0.00239	-0.000439	7.199518	1.999699	1.749737	15182.39834	0.009022
0.007802	0.00058	7.271141	2.044463	1.788905	15131.452	-0.001174
0.002707	0.000071	7.0972	1.93575	1.693781	15233.34468	0.039609
-0.00239	-0.000439	7.240446	2.025279	1.772119	15182.39834	-0.001174
0.002707	0.000071	7.102315	1.938947	1.696579	15233.34468	0.029413
-0.00239	-0.000439	6.984649	1.865406	1.63223	15029.55932	0.16196
0.007802	0.00058	7.061388	1.913368	1.674197	15080.50566	0.223135
0.002707	0.000071	7.168823	1.980514	1.73295	14978.61298	0.131372
-0.00239	-0.000439	7.173939	1.983712	1.735748	15080.50566	0.172156
0.012897	0.00109	7.260909	2.038068	1.78331	15182.39834	0.141568
-0.00239	-0.000439	7.194402	1.996501	1.746939	15131.452	0.070197
-0.00239	-0.000439	6.979533	1.862208	1.629432	15131.452	0.080393
0.007802	0.00058	7.20975	2.006094	1.755332	15131.452	0.11098
0.002707	0.000071	7.230214	2.018884	1.766523	15182.39834	-0.01137
0.002707	0.000071	7.138127	1.961329	1.716163	15182.39834	0.019217
0.007802	0.00058	7.189286	1.993304	1.744141	15233.34468	0.019217
-0.00239	-0.000439	7.199518	1.999699	1.749737	15233.34468	-0.001174
0.007802	0.00058	7.214866	2.009291	1.75813	15233.34468	-0.092937
0.002707	0.000071	7.122779	1.951737	1.70777	15131.452	0.029413
0.012897	0.00109	7.260909	2.038068	1.78331	15080.50566	-0.06235
0.007802	0.00058	7.061388	1.913368	1.674197	14978.61298	0.16196
-0.00748	-0.000948	7.20975	2.006094	1.755332	14978.61298	0.070197
-0.00239	-0.000439	7.194402	1.996501	1.746939	15080.50566	0.080393
-0.00239	-0.000439	7.138127	1.961329	1.716163	15080.50566	0.090589
0.012897	0.00109	7.117663	1.94854	1.704972	15080.50566	0.11098
0.007802	0.00058	7.153475	1.970922	1.724557	15080.50566	0.009022
-0.00239	-0.000439	7.189286	1.993304	1.744141	15131.452	-0.031762
-0.00239	-0.000439	7.214866	2.009291	1.75813	15029.55932	0.019217
0.002707	0.000071	7.225098	2.015686	1.763725	15131.452	0.039609
0.002707	0.000071	7.163707	1.977317	1.730152	15182.39834	-0.001174
0.002707	0.000071	7.086968	1.929355	1.688185	15029.55932	-0.001174
0.002707	0.000071	7.189286	1.993304	1.744141	15029.55932	-0.154112
0.002707	0.000071	7.281373	2.050858	1.794501	15233.34468	-0.031762
0.002707	0.000071	7.102315	1.938947	1.696579	15080.50566	-0.01137
0.002707	0.000071	7.138127	1.961329	1.716163	15233.34468	0.009022
0.007802	0.00058	7.168823	1.980514	1.73295	15080.50566	0.039609
0.002707	0.000071	7.250678	2.031673	1.777714	15029.55932	0.121176
0.007802	0.00058	7.199518	1.999699	1.749737	15131.452	0.151764
0.002707	0.000071	7.306953	2.066845	1.80849	15080.50566	-0.01137
-0.00239	-0.000439	7.133011	1.958132	1.713365	15131.452	-0.001174
-0.00748	-0.000948	7.225098	2.015686	1.763725	15131.452	-0.001174
0.012897	0.00109	7.168823	1.980514	1.73295	15131.452	-0.021566
0.007802	0.00058	7.127895	1.954934	1.710568	15182.39834	0.029413
0.012897	0.00109	7.230214	2.018884	1.766523	15182.39834	-0.001174
0.007802	0.00058	7.230214	2.018884	1.766523	15131.452	-0.01137
0.007802	0.00058	7.163707	1.977317	1.730152	15131.452	-0.215288
0.002707	0.000071	7.051156	1.906973	1.668601	15080.50566	-0.031762
0.007802	0.00058	7.20975	2.006094	1.755332	15182.39834	0.192547

Run 5

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.002707	0.000071	7.230214	2.018884	1.766523	15335.23735	-0.052154
0.002707	0.000071	7.173939	1.983712	1.735748	15080.50566	-0.021566
0.007802	0.00058	7.0972	1.93575	1.693781	15131.452	0.019217
0.002707	0.000071	7.163707	1.977317	1.730152	15029.55932	-0.031762
0.002707	0.000071	7.225098	2.015686	1.763725	15029.55932	-0.021566
-0.00239	-0.000439	7.148359	1.967724	1.721759	14978.61298	-0.031762
-0.00239	-0.000439	7.189286	1.993304	1.744141	14927.66664	-0.031762
-0.00239	-0.000439	7.194402	1.996501	1.746939	15182.39834	-0.031762
0.007802	0.00058	7.133011	1.958132	1.713365	15182.39834	-0.082741
-0.00748	-0.000948	7.18417	1.990107	1.741343	15080.50566	-0.082741
0.007802	0.00058	7.153475	1.970922	1.724557	15029.55932	-0.113329
0.002707	0.000071	7.143243	1.964527	1.718961	15131.452	-0.082741
0.002707	0.000071	7.102315	1.938947	1.696579	15080.50566	-0.113329
0.007802	0.00058	7.143243	1.964527	1.718961	15182.39834	-0.133721
-0.00748	-0.000948	7.056272	1.91017	1.671399	14978.61298	-0.01137
-0.00239	-0.000439	7.378576	2.11161	1.847659	14978.61298	-0.001174
0.002707	0.000071	7.076736	1.92296	1.68259	15080.50566	0.009022
0.017993	0.001599	7.020461	1.887788	1.651814	15080.50566	-0.01137
0.002707	0.000071	7.081852	1.926157	1.685388	14927.66664	-0.01137
0.002707	0.000071	7.143243	1.964527	1.718961	15131.452	-0.001174
0.002707	0.000071	7.173939	1.983712	1.735748	15233.34468	-0.113329
0.002707	0.000071	7.214866	2.009291	1.75813	15182.39834	-0.01137
0.007802	0.00058	7.322301	2.076438	1.816883	15029.55932	-0.205092
0.002707	0.000071	7.214866	2.009291	1.75813	15233.34468	-0.06235
0.002707	0.000071	7.286489	2.054056	1.797299	15029.55932	-0.072545
0.007802	0.00058	7.107431	1.942145	1.699377	15284.29101	-0.072545
-0.00239	-0.000439	7.148359	1.967724	1.721759	15029.55932	0.049805
-0.00239	-0.000439	7.168823	1.980514	1.73295	15131.452	-1.122721
-0.00239	-0.000439	7.117663	1.94854	1.704972	15131.452	-0.103133
0.002707	0.000071	7.225098	2.015686	1.763725	14978.61298	-0.082741
0.002707	0.000071	7.107431	1.942145	1.699377	15029.55932	-0.021566
-0.00239	-0.000439	7.204634	2.002896	1.752534	15029.55932	-0.01137
0.007802	0.00058	7.199518	1.999699	1.749737	15029.55932	0.009022
-0.00239	-0.000439	7.143243	1.964527	1.718961	14978.61298	-0.041958
0.007802	0.00058	7.20975	2.006094	1.755332	15131.452	-0.01137
0.002707	0.000071	7.138127	1.961329	1.716163	15182.39834	-0.113329
0.002707	0.000071	7.276257	2.047661	1.791703	15131.452	-0.092937
0.002707	0.000071	7.107431	1.942145	1.699377	15029.55932	-0.041958
0.007802	0.00058	7.255793	2.034871	1.780512	15080.50566	-0.06235
-0.00239	-0.000439	7.086968	1.929355	1.688185	15029.55932	0.019217
0.002707	0.000071	7.179054	1.986909	1.738545	15029.55932	0.009022
-0.00239	-0.000439	7.005113	1.878195	1.643421	14978.61298	-0.001174
0.002707	0.000071	7.025577	1.890985	1.654612	15182.39834	-0.021566
-0.00239	-0.000439	7.189286	1.993304	1.744141	14927.66664	-0.01137
-0.01258	-0.001458	7.07162	1.919762	1.679792	14978.61298	0.121176
0.007802	0.00058	7.225098	2.015686	1.763725	15080.50566	-0.031762
0.002707	0.000071	7.025577	1.890985	1.654612	15131.452	0.029413
0.007802	0.00058	7.066504	1.916565	1.676994	15131.452	-0.021566
0.002707	0.000071	7.035808	1.89738	1.660208	15131.452	0.090589
0.012897	0.00109	7.148359	1.967724	1.721759	14978.61298	0.029413
0.002707	0.000071	7.153475	1.970922	1.724557	15080.50566	0.009022
0.012897	0.00109	7.219982	2.012489	1.760928	14876.7203	0.100785
0.002707	0.000071	7.173939	1.983712	1.735748	15182.39834	-0.113329
0.007802	0.00058	7.286489	2.054056	1.797299	15029.55932	-0.031762
0.002707	0.000071	7.112547	1.945342	1.702174	15080.50566	-0.143917
0.007802	0.00058	7.18417	1.990107	1.741343	15182.39834	-0.082741
-0.00748	-0.000948	7.158591	1.974119	1.727354	15182.39834	-0.143917
0.002707	0.000071	7.173939	1.983712	1.735748	15080.50566	0.11098
-0.00239	-0.000439	7.173939	1.983712	1.735748	15029.55932	-0.021566
0.007802	0.00058	7.138127	1.961329	1.716163	14978.61298	0.060001

Run 6



Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.017993	0.001599	6.93349	1.833431	1.604252	15131.452	-0.052154
-0.00239	-0.000439	6.918142	1.823839	1.595859	15080.50566	0.009022
-0.00239	-0.000439	6.764664	1.727915	1.511926	15029.55932	0.080393
-0.00239	-0.000439	6.892562	1.807851	1.58187	15029.55932	0.141568
-0.00239	-0.000439	6.938606	1.836629	1.60705	14927.66664	0.039609
0.002707	0.000071	6.928374	1.830234	1.601454	15131.452	0.131372
0.007802	0.00058	6.805591	1.753495	1.534308	15080.50566	0.141568
0.002707	0.000071	6.877214	1.798259	1.573477	14927.66664	0.141568
0.007802	0.00058	6.790244	1.743902	1.525914	15029.55932	-0.001174
0.002707	0.000071	6.93349	1.833431	1.604252	14927.66664	0.019217
-0.01258	-0.001458	6.959069	1.849418	1.618241	15131.452	0.029413
0.007802	0.00058	6.88233	1.801457	1.576274	15131.452	-0.021566
0.007802	0.00058	6.877214	1.798259	1.573477	15080.50566	-0.082741
0.002707	0.000071	6.892562	1.807851	1.58187	14927.66664	-0.143917
-0.00239	-0.000439	6.943722	1.839826	1.609848	15182.39834	-0.041958
0.002707	0.000071	7.010229	1.881393	1.646219	14927.66664	-0.031762
0.002707	0.000071	6.759548	1.724718	1.509128	14927.66664	0.019217
0.007802	0.00058	6.88233	1.801457	1.576274	15029.55932	0.019217
0.012897	0.00109	6.872099	1.795062	1.570679	15080.50566	0.019217
-0.00239	-0.000439	6.841403	1.775877	1.553892	15029.55932	0.019217
0.012897	0.00109	6.953953	1.846221	1.615443	15029.55932	0.029413
-0.00239	-0.000439	6.90791	1.817444	1.590263	15029.55932	0.039609
0.002707	0.000071	6.887446	1.804654	1.579072	14927.66664	0.009022
0.002707	0.000071	6.887446	1.804654	1.579072	15029.55932	-0.01137
-0.00239	-0.000439	6.718621	1.699138	1.486746	15131.452	0.009022
0.002707	0.000071	7.015345	1.88459	1.649017	14927.66664	0.019217
-0.00239	-0.000439	6.841403	1.775877	1.553892	15131.452	0.009022
0.002707	0.000071	6.866983	1.791864	1.567881	15080.50566	-0.021566
-0.00239	-0.000439	6.861867	1.788667	1.565083	14978.61298	-0.888216
0.002707	0.000071	6.892562	1.807851	1.58187	15029.55932	-0.052154
0.007802	0.00058	6.88233	1.801457	1.576274	15029.55932	0.009022
-0.00239	-0.000439	6.836287	1.772679	1.551094	14723.88129	0.060001
0.002707	0.000071	6.90791	1.817444	1.590263	14927.66664	0.019217
0.002707	0.000071	6.974417	1.859011	1.626634	14978.61298	0.039609
0.007802	0.00058	6.902794	1.814246	1.587466	15029.55932	-0.01137
0.002707	0.000071	6.805591	1.753495	1.534308	14978.61298	0.009022
-0.00239	-0.000439	6.805591	1.753495	1.534308	15029.55932	-0.031762
0.007802	0.00058	6.902794	1.814246	1.587466	15131.452	-0.021566
0.002707	0.000071	6.994881	1.871801	1.637826	15080.50566	-0.031762
0.007802	0.00058	6.923258	1.827036	1.598657	14978.61298	0.029413
0.002707	0.000071	6.846519	1.779074	1.55669	15080.50566	0.019217
0.007802	0.00058	6.943722	1.839826	1.609848	15029.55932	0.019217
0.007802	0.00058	6.800476	1.750297	1.53151	15080.50566	-0.031762
0.012897	0.00109	6.841403	1.775877	1.553892	15131.452	-0.021566
-0.00239	-0.000439	6.90791	1.817444	1.590263	14978.61298	-0.021566
-0.00239	-0.000439	6.826055	1.766284	1.545499	15029.55932	-0.072545
0.007802	0.00058	6.902794	1.814246	1.587466	15080.50566	-0.031762
0.007802	0.00058	6.918142	1.823839	1.595859	15080.50566	0.009022
0.007802	0.00058	6.810707	1.756692	1.537106	15080.50566	0.019217
0.002707	0.000071	6.90791	1.817444	1.590263	14927.66664	-0.021566
-0.00239	-0.000439	6.88233	1.801457	1.576274	15131.452	-0.001174
0.002707	0.000071	6.703273	1.689545	1.478352	15080.50566	-0.082741
0.002707	0.000071	6.836287	1.772679	1.551094	15131.452	0.029413
0.007802	0.00058	6.841403	1.775877	1.553892	14978.61298	0.029413
0.002707	0.000071	6.872099	1.795062	1.570679	15029.55932	0.212939
0.012897	0.00109	6.820939	1.763087	1.542701	15131.452	0.182352
0.007802	0.00058	6.887446	1.804654	1.579072	15029.55932	0.141568
0.023088	0.002109	6.943722	1.839826	1.609848	15029.55932	0.11098
0.007802	0.00058	6.959069	1.849418	1.618241	15080.50566	0.070197
0.012897	0.00109	6.764664	1.727915	1.511926	15029.55932	0.151764

Run 7

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00748	-0.000948	7.23533	2.022081	1.769321	14927.66664	-0.021566
0.002707	0.000071	7.266025	2.041266	1.786108	15080.50566	0.039609
0.002707	0.000071	7.312069	2.070043	1.811288	14927.66664	0.019217
-0.00239	-0.000439	7.291605	2.057253	1.800096	15131.452	0.172156
-0.00239	-0.000439	7.34788	2.092425	1.830872	15029.55932	0.100785
0.002707	0.000071	7.317185	2.07324	1.814085	14927.66664	0.039609
-0.00748	-0.000948	7.286489	2.054056	1.797299	14978.61298	-0.001174
-0.00239	-0.000439	7.332532	2.082833	1.822479	15131.452	-0.001174
0.002707	0.000071	7.286489	2.054056	1.797299	14927.66664	-0.021566
0.002707	0.000071	7.189286	1.993304	1.744141	15080.50566	-0.01137
-0.00748	-0.000948	7.404155	2.127597	1.861648	14927.66664	0.100785
0.002707	0.000071	7.266025	2.041266	1.786108	14876.7203	0.060001
-0.01258	-0.001458	7.271141	2.044463	1.788905	15029.55932	0.080393
0.002707	0.000071	7.322301	2.076438	1.816883	15080.50566	0.080393
0.002707	0.000071	7.266025	2.041266	1.786108	15029.55932	0.009022
0.007802	0.00058	7.404155	2.127597	1.861648	15131.452	0.029413
0.002707	0.000071	7.102315	1.938947	1.696579	14927.66664	-0.001174
0.007802	0.00058	7.250678	2.031673	1.777714	14978.61298	-0.092937
-0.00748	-0.000948	7.20975	2.006094	1.755332	15029.55932	0.090589
-0.00748	-0.000948	7.358112	2.09882	1.836468	14927.66664	0.049805
-0.00748	-0.000948	7.230214	2.018884	1.766523	14927.66664	0.009022
-0.00239	-0.000439	7.393924	2.121202	1.856052	15029.55932	-0.082741
-0.00748	-0.000948	7.117663	1.94854	1.704972	15080.50566	-0.052154
0.002707	0.000071	7.214866	2.009291	1.75813	15080.50566	-0.041958
0.012897	0.00109	7.112547	1.945342	1.702174	15029.55932	-0.001174
0.012897	0.00109	7.317185	2.07324	1.814085	14927.66664	0.019217
0.007802	0.00058	7.07162	1.919762	1.679792	15131.452	0.172156
0.002707	0.000071	7.081852	1.926157	1.685388	15029.55932	0.141568
0.002707	0.000071	7.352996	2.095623	1.83367	15080.50566	0.11098
-0.00239	-0.000439	7.337648	2.08603	1.825276	15080.50566	0.039609
-0.00239	-0.000439	7.286489	2.054056	1.797299	14978.61298	0.029413
-0.00239	-0.000439	7.250678	2.031673	1.777714	14927.66664	0.009022
0.002707	0.000071	7.271141	2.044463	1.788905	15080.50566	-0.123525
-0.00748	-0.000948	7.158591	1.974119	1.727354	15131.452	-0.041958
0.012897	0.00109	7.276257	2.047661	1.791703	15080.50566	0.039609
-0.00748	-0.000948	7.327417	2.079635	1.819681	15080.50566	0.029413
0.007802	0.00058	7.465547	2.165967	1.895221	14876.7203	0.090589
0.007802	0.00058	7.158591	1.974119	1.727354	14978.61298	0.019217
-0.01258	-0.001458	7.179054	1.986909	1.738545	15029.55932	-0.001174
-0.00239	-0.000439	7.260909	2.038068	1.78331	15131.452	0.019217
-0.00748	-0.000948	7.23533	2.022081	1.769321	14927.66664	-0.001174
-0.00239	-0.000439	7.306953	2.066845	1.80849	15131.452	-0.001174
-0.00748	-0.000948	7.34788	2.092425	1.830872	15131.452	-0.296855
0.002707	0.000071	7.127895	1.954934	1.710568	14927.66664	-0.001174
0.002707	0.000071	7.352996	2.095623	1.83367	15131.452	-0.154112
-0.00239	-0.000439	7.214866	2.009291	1.75813	15131.452	0.16196
-0.00748	-0.000948	7.260909	2.038068	1.78331	14927.66664	-0.215288
0.007802	0.00058	7.404155	2.127597	1.861648	15131.452	-0.052154
-0.00239	-0.000439	7.358112	2.09882	1.836468	14978.61298	0.019217
-0.01258	-0.001458	7.143243	1.964527	1.718961	14978.61298	0.029413
-0.00239	-0.000439	7.20975	2.006094	1.755332	15131.452	0.019217
-0.00239	-0.000439	7.358112	2.09882	1.836468	15080.50566	0.151764
0.007802	0.00058	7.358112	2.09882	1.836468	15080.50566	0.019217
-0.00239	-0.000439	7.230214	2.018884	1.766523	15029.55932	0.11098
-0.00239	-0.000439	7.271141	2.044463	1.788905	15029.55932	-0.021566
-0.00239	-0.000439	7.378576	2.11161	1.847659	14978.61298	-0.06235
-0.00748	-0.000948	7.219982	2.012489	1.760928	15029.55932	0.049805
-0.00239	-0.000439	7.266025	2.041266	1.786108	15080.50566	0.009022
-0.00239	-0.000439	7.168823	1.980514	1.73295	15029.55932	0.049805

Run 8

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00748	-0.000948	7.296721	2.060451	1.802894	15029.55932	-0.021566
-0.00748	-0.000948	7.112547	1.945342	1.702174	15131.452	-0.011137
0.007802	0.00058	7.276257	2.047661	1.791703	15182.39834	-0.113329
-0.00239	-0.000439	7.255793	2.034871	1.780512	15131.452	-0.113329
-0.00239	-0.000439	7.173939	1.983712	1.735748	14927.66664	0.060001
-0.01258	-0.001458	7.18417	1.990107	1.741343	15080.50566	-0.001174
-0.01258	-0.001458	7.312069	2.070043	1.811288	15029.55932	0.090589
-0.00748	-0.000948	7.225098	2.015686	1.763725	15029.55932	-0.011137
0.002707	0.000071	7.352996	2.095623	1.83367	14978.61298	0.039609
0.007802	0.00058	7.143243	1.964527	1.718961	15131.452	0.141568
-0.00239	-0.000439	7.214866	2.009291	1.75813	14978.61298	-0.011137
0.002707	0.000071	7.317185	2.07324	1.814085	14978.61298	0.029413
0.002707	0.000071	7.225098	2.015686	1.763725	15080.50566	-0.021566
-0.00239	-0.000439	7.240446	2.025279	1.772119	15131.452	0.009022
-0.00239	-0.000439	7.148359	1.967724	1.721759	15131.452	-0.001174
0.007802	0.00058	7.240446	2.025279	1.772119	14978.61298	-0.031762
-0.00748	-0.000948	7.102315	1.938947	1.696579	15029.55932	-0.041958
-0.00239	-0.000439	7.266025	2.041266	1.786108	14927.66664	-0.011137
0.007802	0.00058	7.204634	2.002896	1.752534	14927.66664	0.009022
0.002707	0.000071	7.107431	1.942145	1.699377	15080.50566	0.009022
-0.00239	-0.000439	7.081852	1.926157	1.685388	14978.61298	0.049805
0.002707	0.000071	7.266025	2.041266	1.786108	14978.61298	0.080393
-0.01768	-0.001968	7.076736	1.92296	1.68259	15131.452	-0.123525
-0.00748	-0.000948	7.163707	1.977317	1.730152	15080.50566	-0.164308
-0.00239	-0.000439	7.352996	2.095623	1.83367	15029.55932	-0.092937
-0.00239	-0.000439	7.076736	1.92296	1.68259	14978.61298	-0.194896
0.002707	0.000071	7.20975	2.006094	1.755332	15131.452	-0.133721
0.002707	0.000071	7.358112	2.09882	1.836468	15029.55932	-0.041958
0.002707	0.000071	7.179054	1.986909	1.738545	15080.50566	0.009022
-0.00239	-0.000439	7.133011	1.958132	1.713365	15080.50566	-0.021566
-0.00748	-0.000948	7.148359	1.967724	1.721759	15080.50566	0.009022
0.002707	0.000071	7.388808	2.118005	1.853254	15131.452	-0.245875
-0.00748	-0.000948	7.240446	2.025279	1.772119	14927.66664	-0.123525
0.002707	0.000071	7.260909	2.038068	1.78331	15131.452	-0.23568
-0.00748	-0.000948	7.260909	2.038068	1.78331	15131.452	-0.031762
-0.00239	-0.000439	7.20975	2.006094	1.755332	15029.55932	0.100785
-0.00748	-0.000948	7.086968	1.929355	1.688185	15182.39834	0.060001
-0.00748	-0.000948	7.317185	2.07324	1.814085	15029.55932	-0.001174
-0.00239	-0.000439	7.230214	2.018884	1.766523	15131.452	-0.123525
-0.00239	-0.000439	7.061388	1.913368	1.674197	15029.55932	-0.052154
-0.00239	-0.000439	7.138127	1.961329	1.716163	15080.50566	-0.072545
-0.00239	-0.000439	7.240446	2.025279	1.772119	15080.50566	0.009022
0.007802	0.00058	7.327417	2.079635	1.819681	15080.50566	-0.031762
-0.00239	-0.000439	7.250678	2.031673	1.777714	15080.50566	-0.031762
-0.00239	-0.000439	7.199518	1.999699	1.749737	14978.61298	-0.021566
0.002707	0.000071	7.189286	1.993304	1.744141	14978.61298	0.192547
0.002707	0.000071	7.18417	1.990107	1.741343	15029.55932	0.070197
-0.00239	-0.000439	7.127895	1.954934	1.710568	15029.55932	-0.001174
0.012897	0.00109	7.194402	1.996501	1.746939	14978.61298	0.019217
-0.00748	-0.000948	7.148359	1.967724	1.721759	14927.66664	-0.001174
-0.00239	-0.000439	7.117663	1.94854	1.704972	15080.50566	-0.164308
0.007802	0.00058	7.168823	1.980514	1.73295	14876.7203	-0.133721
-0.00239	-0.000439	7.117663	1.94854	1.704972	15131.452	-0.031762
-0.00239	-0.000439	7.260909	2.038068	1.78331	15182.39834	-0.001174
-0.00239	-0.000439	7.138127	1.961329	1.716163	15080.50566	0.100785
-0.00239	-0.000439	7.163707	1.977317	1.730152	15080.50566	0.009022
-0.00239	-0.000439	7.199518	1.999699	1.749737	14978.61298	-0.021566
-0.00239	-0.000439	7.179054	1.986909	1.738545	15080.50566	0.080393
-0.00748	-0.000948	7.102315	1.938947	1.696579	15182.39834	-0.001174
0.007802	0.00058	7.342764	2.089228	1.828074	14978.61298	-0.205092

Run 9

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
0.007802	0.00058	6.979533	1.862208	1.629432	14978.61298	-0.021566
0.007802	0.00058	6.943722	1.839826	1.609848	15131.452	0.080393
0.007802	0.00058	7.056272	1.91017	1.671399	15131.452	-0.031762
0.002707	0.000071	7.081852	1.926157	1.685388	15080.50566	-0.123525
-0.00239	-0.000439	7.102315	1.938947	1.696579	15080.50566	-0.123525
-0.00239	-0.000439	7.040924	1.900578	1.663005	15080.50566	-0.021566
0.007802	0.00058	6.856751	1.785469	1.562286	15080.50566	-0.041958
-0.00239	-0.000439	6.953953	1.846221	1.615443	14978.61298	-0.031762
0.007802	0.00058	6.979533	1.862208	1.629432	15131.452	-0.082741
0.002707	0.000071	7.061388	1.913368	1.674197	15029.55932	-0.082741
0.002707	0.000071	7.127895	1.954934	1.710568	15029.55932	-0.052154
-0.00239	-0.000439	6.984649	1.865406	1.63223	15182.39834	-0.06235
-0.00239	-0.000439	6.948838	1.843023	1.612646	15080.50566	0.100785
-0.00239	-0.000439	6.953953	1.846221	1.615443	15080.50566	0.121176
-0.00239	-0.000439	6.93349	1.833431	1.604252	14978.61298	0.11098
0.002707	0.000071	7.143243	1.964527	1.718961	15029.55932	-0.072545
-0.00239	-0.000439	6.964185	1.852616	1.621039	14927.66664	0.039609
0.002707	0.000071	7.056272	1.91017	1.671399	14927.66664	0.080393
-0.00239	-0.000439	6.923258	1.827036	1.598657	15080.50566	-0.021566
-0.00239	-0.000439	6.984649	1.865406	1.63223	15233.34468	-0.052154
0.002707	0.000071	6.831171	1.769482	1.548297	14927.66664	-0.143917
-0.00748	-0.000948	7.015345	1.88459	1.649017	15131.452	-0.031762
0.002707	0.000071	7.04604	1.903775	1.665803	15131.452	-0.06235
-0.00239	-0.000439	7.010229	1.881393	1.646219	14978.61298	-0.021566
0.002707	0.000071	6.994881	1.871801	1.637826	15080.50566	-0.01137
0.007802	0.00058	7.015345	1.88459	1.649017	15080.50566	0.172156
-0.00239	-0.000439	7.112547	1.945342	1.702174	15131.452	0.049805
0.007802	0.00058	7.179054	1.986909	1.738545	15182.39834	0.049805
-0.01258	-0.001458	7.122779	1.951737	1.70777	14978.61298	-0.031762
0.007802	0.00058	7.04604	1.903775	1.665803	14927.66664	-0.041958
-0.01258	-0.001458	7.081852	1.926157	1.685388	15029.55932	0.009022
-0.00239	-0.000439	6.989765	1.868603	1.635028	15131.452	-0.001174
-0.00239	-0.000439	6.918142	1.823839	1.595859	15182.39834	0.039609
-0.01258	-0.001458	6.892562	1.807851	1.58187	14927.66664	0.070197
-0.00748	-0.000948	7.030692	1.894183	1.65741	15131.452	0.080393
-0.00239	-0.000439	7.076736	1.92296	1.68259	15182.39834	0.019217
-0.00748	-0.000948	7.051156	1.906973	1.668601	15131.452	0.029413
-0.00239	-0.000439	7.0972	1.93575	1.693781	15080.50566	-0.072545
-0.00748	-0.000948	7.010229	1.881393	1.646219	15029.55932	-0.001174
0.007802	0.00058	7.076736	1.92296	1.68259	14978.61298	-0.021566
0.002707	0.000071	6.979533	1.862208	1.629432	15080.50566	-0.01137
-0.00239	-0.000439	7.015345	1.88459	1.649017	14978.61298	-0.01137
0.002707	0.000071	6.984649	1.865406	1.63223	14978.61298	0.141568
0.002707	0.000071	6.974417	1.859011	1.626634	14978.61298	-0.001174
-0.00748	-0.000948	7.061388	1.913368	1.674197	15080.50566	0.009022
0.007802	0.00058	6.994881	1.871801	1.637826	15080.50566	-0.01137
0.028184	0.002618	7.107431	1.942145	1.699377	15131.452	0.060001
-0.00748	-0.000948	7.122779	1.951737	1.70777	15131.452	-0.01137
0.012897	0.00109	7.107431	1.942145	1.699377	15131.452	0.009022
0.007802	0.00058	7.030692	1.894183	1.65741	15131.452	0.049805
-0.00239	-0.000439	7.173939	1.983712	1.735748	15029.55932	-0.031762
0.002707	0.000071	7.122779	1.951737	1.70777	15182.39834	-0.021566
-0.00239	-0.000439	7.086968	1.929355	1.688185	15029.55932	-0.164308
-0.00239	-0.000439	7.005113	1.878195	1.643421	15182.39834	-0.103133
-0.00239	-0.000439	6.989765	1.868603	1.635028	14927.66664	-0.082741
-0.00239	-0.000439	6.994881	1.871801	1.637826	15080.50566	-0.06235
-0.00239	-0.000439	6.969301	1.855813	1.623837	15182.39834	-0.001174
-0.00239	-0.000439	6.994881	1.871801	1.637826	15131.452	0.039609
0.017993	0.001599	7.07162	1.919762	1.679792	15131.452	0.019217

Run 10

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00748	-0.000948	6.872099	1.795062	1.570679	15080.50566	-0.021566
0.007802	0.00058	6.877214	1.798259	1.573477	15182.39834	-0.001174
0.007802	0.00058	6.79536	1.7471	1.528712	15182.39834	0.100785
0.007802	0.00058	6.841403	1.775877	1.553892	14927.66664	-0.327442
-0.00748	-0.000948	6.897678	1.811049	1.584668	14978.61298	0.009022
-0.00239	-0.000439	6.88233	1.801457	1.576274	15029.55932	-0.01137
-0.00239	-0.000439	6.861867	1.788667	1.565083	15080.50566	-0.031762
-0.00239	-0.000439	6.805591	1.753495	1.534308	15080.50566	-0.001174
-0.00239	-0.000439	6.979533	1.862208	1.629432	14978.61298	0.009022
0.002707	0.000071	6.831171	1.769482	1.548297	15131.452	-0.001174
0.002707	0.000071	6.887446	1.804654	1.579072	15182.39834	0.131372
0.002707	0.000071	6.872099	1.795062	1.570679	14978.61298	0.141568
0.002707	0.000071	6.938606	1.836629	1.60705	15131.452	-0.01137
-0.00239	-0.000439	6.897678	1.811049	1.584668	15029.55932	0.009022
-0.00748	-0.000948	6.902794	1.814246	1.587466	15131.452	-0.143917
-0.00239	-0.000439	6.913026	1.820641	1.593061	15080.50566	0.16196
-0.00239	-0.000439	6.88233	1.801457	1.576274	15182.39834	0.090589
-0.00239	-0.000439	6.897678	1.811049	1.584668	14978.61298	0.11098
0.002707	0.000071	6.846519	1.779074	1.55669	14978.61298	0.11098
-0.00239	-0.000439	6.918142	1.823839	1.595859	15080.50566	0.029413
-0.00239	-0.000439	7.020461	1.887788	1.651814	15029.55932	0.090589
-0.00748	-0.000948	6.861867	1.788667	1.565083	15182.39834	0.080393
0.007802	0.00058	6.887446	1.804654	1.579072	15182.39834	0.416857
0.002707	0.000071	6.79536	1.7471	1.528712	15080.50566	0.009022
-0.00239	-0.000439	6.861867	1.788667	1.565083	15233.34468	-0.082741
0.007802	0.00058	6.785128	1.740705	1.523117	15131.452	-0.01137
0.007802	0.00058	6.815823	1.75989	1.539903	15131.452	-0.021566
0.002707	0.000071	6.831171	1.769482	1.548297	15029.55932	0.009022
0.002707	0.000071	6.820939	1.763087	1.542701	14978.61298	-0.021566
0.002707	0.000071	6.877214	1.798259	1.573477	15437.13003	0.100785
0.017993	0.001599	6.887446	1.804654	1.579072	15080.50566	-0.052154
-0.00239	-0.000439	6.964185	1.852616	1.621039	15131.452	0.579991
0.012897	0.00109	6.93349	1.833431	1.604252	15182.39834	-0.041958
0.002707	0.000071	6.938606	1.836629	1.60705	15080.50566	0.009022
-0.00239	-0.000439	6.984649	1.865406	1.63223	15131.452	0.824692
0.002707	0.000071	6.785128	1.740705	1.523117	15182.39834	0.16196
-0.01258	-0.001458	6.989765	1.868603	1.635028	14978.61298	0.151764
-0.00239	-0.000439	6.790244	1.743902	1.525914	15080.50566	0.060001
-0.00239	-0.000439	6.953953	1.846221	1.615443	15131.452	0.121176
0.002707	0.000071	6.969301	1.855813	1.623837	15182.39834	-0.01137
0.002707	0.000071	6.90791	1.817444	1.590263	15080.50566	0.009022
-0.00239	-0.000439	6.953953	1.846221	1.615443	15233.34468	-0.01137
0.002707	0.000071	6.856751	1.785469	1.562286	15131.452	-0.205092
0.002707	0.000071	6.872099	1.795062	1.570679	15029.55932	-0.001174
-0.00239	-0.000439	6.918142	1.823839	1.595859	15233.34468	-0.001174
0.012897	0.00109	6.984649	1.865406	1.63223	15029.55932	-0.021566
0.002707	0.000071	6.88233	1.801457	1.576274	15029.55932	-0.021566
0.002707	0.000071	6.841403	1.775877	1.553892	15029.55932	0.151764
0.007802	0.00058	7.005113	1.878195	1.643421	14978.61298	0.11098
-0.00748	-0.000948	6.790244	1.743902	1.525914	15182.39834	-0.001174
-0.00239	-0.000439	6.913026	1.820641	1.593061	15131.452	-0.01137
0.002707	0.000071	6.774896	1.73431	1.517521	15131.452	-0.021566
-0.01258	-0.001458	6.913026	1.820641	1.593061	15233.34468	-0.082741
0.002707	0.000071	6.872099	1.795062	1.570679	15131.452	-0.174504
0.002707	0.000071	6.810707	1.756692	1.537106	15182.39834	-0.123525
0.007802	0.00058	6.790244	1.743902	1.525914	15080.50566	-0.041958
0.002707	0.000071	6.800476	1.750297	1.53151	15233.34468	-0.031762
0.002707	0.000071	6.93349	1.833431	1.604252	15182.39834	-0.052154
0.002707	0.000071	6.892562	1.807851	1.58187	15029.55932	-0.052154
0.007802	0.00058	6.93349	1.833431	1.604252	15182.39834	0.009022
-0.00239	-0.000439	6.826055	1.766284	1.545499	15131.452	0.009022

Run 11

Voltage	Static Pressure	Current	Pressure	Flow Rate	Power Supply Voltage	Power Supply Current
-0.00748	-0.000948	6.969301	1.855813	1.623837	15080.50566	0.039609
0.002707	0.000071	6.872099	1.795062	1.570679	15029.55932	-0.215288
0.002707	0.000071	6.887446	1.804654	1.579072	15131.452	0.009022
0.012897	0.00109	6.682809	1.676756	1.467161	15080.50566	0.009022
-0.00239	-0.000439	6.877214	1.798259	1.573477	15080.50566	-0.021566
-0.00239	-0.000439	6.923258	1.827036	1.598657	15029.55932	-0.143917
-0.00239	-0.000439	6.882233	1.801457	1.576274	14927.66664	0.019217
-0.00239	-0.000439	6.979533	1.862208	1.629432	15029.55932	-0.123525
0.002707	0.000071	6.979533	1.862208	1.629432	15131.452	-0.154112
0.002707	0.000071	6.913026	1.820641	1.593061	14927.66664	0.009022
0.007802	0.00058	6.872099	1.795062	1.570679	15131.452	-0.01137
-0.00239	-0.000439	6.846519	1.779074	1.55669	14978.61298	0.121176
-0.00239	-0.000439	6.774896	1.73431	1.517521	15029.55932	0.049805
0.002707	0.000071	6.979533	1.862208	1.629432	14978.61298	0.009022
-0.00239	-0.000439	6.872099	1.795062	1.570679	14927.66664	-0.01137
0.002707	0.000071	6.897678	1.811049	1.584668	15131.452	-0.001174
-0.00239	-0.000439	6.918142	1.823839	1.595859	15029.55932	0.029413
0.007802	0.00058	6.861867	1.788667	1.565083	14825.77397	-0.1847
0.007802	0.00058	6.841403	1.775877	1.553892	15029.55932	0.049805
0.002707	0.000071	6.913026	1.820641	1.593061	15029.55932	0.080393
0.007802	0.00058	6.892562	1.807851	1.58187	15029.55932	-0.001174
-0.00239	-0.000439	6.861867	1.788667	1.565083	14978.61298	-0.021566
0.002707	0.000071	6.928374	1.830234	1.601454	15029.55932	-0.06235
0.007802	0.00058	6.754432	1.72152	1.50633	15131.452	-0.031762
0.002707	0.000071	6.877214	1.798259	1.573477	15131.452	0.019217
0.002707	0.000071	6.938606	1.836629	1.60705	14927.66664	-0.021566
-0.01258	-0.001458	6.964185	1.852616	1.621039	15029.55932	-0.01137
-0.00239	-0.000439	6.93349	1.833431	1.604252	14927.66664	-0.225484
0.002707	0.000071	6.902794	1.814246	1.587466	14927.66664	-0.143917
0.007802	0.00058	6.897678	1.811049	1.584668	14927.66664	-0.021566
0.002707	0.000071	6.902794	1.814246	1.587466	15080.50566	0.019217
0.002707	0.000071	6.938606	1.836629	1.60705	15029.55932	-0.01137
0.012897	0.00109	6.861867	1.788667	1.565083	15080.50566	-0.021566
-0.01258	-0.001458	6.820939	1.763087	1.542701	14927.66664	-0.001174
0.002707	0.000071	6.892562	1.807851	1.58187	15080.50566	-0.113329
0.002707	0.000071	6.953953	1.846221	1.615443	15029.55932	-0.082741
-0.00748	-0.000948	6.93349	1.833431	1.604252	15029.55932	-0.174504
0.002707	0.000071	6.897678	1.811049	1.584668	14978.61298	-0.1847
0.002707	0.000071	6.948838	1.843023	1.612646	14978.61298	-0.072545
-0.00239	-0.000439	6.923258	1.827036	1.598657	14927.66664	-0.103133
-0.00239	-0.000439	6.979533	1.862208	1.629432	15182.39834	0.019217
-0.00239	-0.000439	6.913026	1.820641	1.593061	15131.452	-0.01137
0.007802	0.00058	6.810707	1.756692	1.537106	15131.452	-0.021566
-0.00239	-0.000439	6.872099	1.795062	1.570679	14978.61298	-0.01137
0.012897	0.00109	6.846519	1.779074	1.55669	15029.55932	-0.01137
0.007802	0.00058	6.979533	1.862208	1.629432	15029.55932	0.11098
0.007802	0.00058	6.851635	1.782272	1.559488	14927.66664	-0.021566
0.007802	0.00058	6.826055	1.766284	1.545499	14978.61298	-0.01137
-0.00239	-0.000439	6.856751	1.785469	1.562286	15131.452	-0.266267
-0.00239	-0.000439	6.999997	1.874998	1.640623	15080.50566	-0.113329
0.007802	0.00058	6.826055	1.766284	1.545499	14978.61298	-0.103133
-0.00239	-0.000439	6.943722	1.839826	1.609848	14927.66664	0.009022
-0.01258	-0.001458	6.79536	1.7471	1.528712	14978.61298	0.151764
0.007802	0.00058	7.025577	1.890985	1.654612	15029.55932	0.029413
-0.01768	-0.001968	6.887446	1.804654	1.579072	15131.452	0.019217
0.007802	0.00058	6.959069	1.849418	1.618241	15131.452	0.009022
0.002707	0.000071	6.790244	1.743902	1.525914	14927.66664	-0.031762
0.002707	0.000071	6.872099	1.795062	1.570679	15080.50566	0.009022
0.002707	0.000071	6.892562	1.807851	1.58187	14876.7203	0.212939
-0.01258	-0.001458	6.759548	1.724718	1.509128	14927.66664	0.11098
-0.00239	-0.000439	6.815823	1.75989	1.539903	14978.61298	0.009022

Run 12

APPENDIX B: Average Max Air Flow Calculated for Four Factor DOE Response

Static Pressure	Flow Rate
0.000071	1.145417
0.000071	1.142619
0.000071	1.12863
0.000071	1.114642
0.000071	1.151013
0.000071	1.131428
0.000071	1.148215
0.000071	1.131428
0.000071	1.151013
0.000071	1.131428
0.000071	1.15381
0.000071	1.139821
0.000071	1.131428
0.000071	1.139821
0.000071	1.15381
0.000071	1.142619
0.000071	1.12863
0.000071	1.123035
0.000071	1.162204
0.000071	1.137024
<b>Average</b>	<b>1.139402</b>

Run 1

Static Pressure	Flow Rate
0.000071	0.608244
0.000071	0.611042
0.000071	0.608244
0.000071	0.591458
0.000071	0.605446
0.000071	0.61384
0.000071	0.605446
0.000071	0.630626
0.000071	0.625031
0.000071	0.616638
0.000071	0.61384
0.000071	0.630626
0.000071	0.627829
0.000071	0.611042
0.000071	0.597053
0.000071	0.597053
0.000071	0.61384
0.000071	0.611042
0.000071	0.591458
<b>Average</b>	<b>0.611042</b>

Run 2

Static Pressure	Flow Rate
0.000071	0.56348
0.000071	0.580266
0.000071	0.580266
0.000071	0.585862
0.000071	0.591458
0.000071	0.591458
0.000071	0.580266
0.000071	0.569075
0.000071	0.58866
0.000071	0.599851
0.000071	0.602649
<b>Average</b>	<b>0.584845</b>

Run 3

Static Pressure	Flow Rate
0.000071	0.809684
0.000071	0.81528
0.000071	0.81528
0.000071	0.798493
0.000071	0.801291
0.000071	0.798493
0.000071	0.804088
0.000071	0.784504
0.000071	0.7901
0.000071	0.792897
0.000071	0.806886
0.000071	0.81528
0.000071	0.792897
0.000071	0.809684
0.000071	0.801291
0.000071	0.801291
0.000071	0.823673
0.000071	0.801291
0.000071	0.801291
0.000071	0.804088
0.000071	0.809684
0.000071	0.795695
0.000071	0.804088
0.000071	0.7901
<b>Average</b>	<b>0.802806</b>

Run 4

Static Pressure	Flow Rate
0.000071	1.335666
0.000071	1.335666
0.000071	1.363644
0.000071	1.321677
0.000071	1.316081
0.000071	1.338464
0.000071	1.360846
0.000071	1.332868
0.000071	1.344059
0.000071	1.358048
0.000071	1.344059
0.000071	1.332868
0.000071	1.327272
0.000071	1.363644
0.000071	1.324475
0.000071	1.307688
0.000071	1.33007
0.000071	1.327272
0.000071	1.318879
0.000071	1.341261
0.000071	1.33007
<b>Average</b>	<b>1.335932</b>

Run 5

Static Pressure	Flow Rate
0.000071	1.830872
0.000071	1.794501
0.000071	1.822479
0.000071	1.920401
0.000071	1.898019
0.000071	1.923199
0.000071	1.836468
0.000071	1.794501
0.000071	1.825276
0.000071	1.828074
0.000071	1.830872
0.000071	1.88403
0.000071	1.766523
0.000071	1.825276
0.000071	1.881232
0.000071	1.856052
0.000071	1.892423
0.000071	1.802894
0.000071	1.842063
<b>Average</b>	<b>1.845008</b>

Run 6

Static Pressure	Flow Rate
0.000071	1.397217
0.000071	1.397217
0.000071	1.414003
0.000071	1.360846
0.000071	1.43079
0.000071	1.386026
0.000071	1.397217
0.000071	1.344059
0.000071	1.383228
0.000071	1.394419
0.000071	1.377632
0.000071	1.397217
0.000071	1.388823
0.000071	1.411206
0.000071	1.408408
0.000071	1.397217
0.000071	1.369239
0.000071	1.427992
0.000071	1.386026
<b>Average</b>	<b>1.393094</b>

Run 7

Static Pressure	Flow Rate
0.000071	1.626634
0.000071	1.598657
0.000071	1.654612
0.000071	1.727354
0.000071	1.640623
0.000071	1.609848
0.000071	1.676994
0.000071	1.595859
0.000071	1.637826
0.000071	1.567881
0.000071	1.637826
0.000071	1.654612
0.000071	1.618241
0.000071	1.584668
0.000071	1.604252
0.000071	1.651814
0.000071	1.559488
0.000071	1.604252
0.000071	1.640623
<b>Average</b>	<b>1.625898</b>

Run 8

Static Pressure	Flow Rate
0.000071	1.302092
0.000071	1.276912
0.000071	1.276912
0.000071	1.290901
0.000071	1.288104
0.000071	1.274115
0.000071	1.307688
0.000071	1.251733
0.000071	1.271317
0.000071	1.262924
0.000071	1.288104
0.000071	1.296497
<b>Average</b>	<b>1.282275</b>

Run 9

Static Pressure	Flow Rate
0.000071	1.346857
0.000071	1.335666
0.000071	1.360846
0.000071	1.358048
0.000071	1.344059
0.000071	1.332868
0.000071	1.332868
0.000071	1.374835
0.000071	1.352452
0.000071	1.358048
0.000071	1.352452
0.000071	1.346857
0.000071	1.386026
0.000071	1.352452
0.000071	1.360846
0.000071	1.38043
0.000071	1.332868
0.000071	1.358048
0.000071	1.321677
0.000071	1.335666
<b>Average</b>	<b>1.351193</b>

Run 10

Static Pressure	Flow Rate
0.000071	0.776111
0.000071	0.773313
0.000071	0.781706
0.000071	0.767717
0.000071	0.776111
0.000071	0.762122
0.000071	0.76492
0.000071	0.76492
0.000071	0.770515
0.000071	0.778908
0.000071	0.770515
0.000071	0.781706
0.000071	0.792897
0.000071	0.792897
0.000071	0.770515
0.000071	0.770515
0.000071	0.778908
0.000071	0.778908
0.000071	0.770515
0.000071	0.767717
0.000071	0.770515
0.000071	0.767717
0.000071	0.770515
0.000071	0.773313
<b>Average</b>	<b>0.773896</b>

Run 11

Static Pressure	Flow Rate
0.000071	0.949573
0.000071	0.969157
0.000071	0.980348
0.000071	0.980348
0.000071	0.980348
0.000071	0.974753
0.000071	0.988742
0.000071	0.983146
0.000071	0.960764
0.000071	0.974753
0.000071	0.983146
0.000071	0.988742
0.000071	0.969157
0.000071	0.969157
0.000071	0.977551
0.000071	0.974753
0.000071	0.994337
0.000071	0.966359
<b>Average</b>	<b>0.975841</b>

Run 12



Static Pressure	Flow Rate
0.000071	1.660208
0.000071	1.704972
0.000071	1.643421
0.000071	1.738545
0.000071	1.621039
0.000071	1.637826
0.000071	1.685388
0.000071	1.744141
0.000071	1.68259
0.000071	1.665803
0.000071	1.635028
0.000071	1.637826
0.000071	1.629432
0.000071	1.609848
0.000071	1.710568
0.000071	1.660208
<b>Average</b>	<b>1.666678</b>

Run 13

Static Pressure	Flow Rate
0.000071	1.830872
0.000071	1.867243
0.000071	1.856052
0.000071	1.856052
0.000071	1.881232
0.000071	1.839265
0.000071	1.948379
0.000071	1.791703
0.000071	1.928794
0.000071	1.847659
0.000071	1.88403
0.000071	1.892423
0.000071	1.892423
0.000071	1.850456
0.000071	1.889625
0.000071	1.889625
0.000071	1.85885
0.000071	1.828074
0.000071	1.853254
0.000071	1.853254
0.000071	1.828074
0.000071	1.878434
0.000071	1.88403
0.000071	1.760928
<b>Average</b>	<b>1.862114</b>

Run 14

Static Pressure	Flow Rate
0.000071	0.736942
0.000071	0.745335
0.000071	0.734144
0.000071	0.736942
0.000071	0.759324
0.000071	0.76492
0.000071	0.767717
0.000071	0.76492
0.000071	0.770515
0.000071	0.759324
0.000071	0.76492
0.000071	0.781706
0.000071	0.776111
0.000071	0.767717
<b>Average</b>	<b>0.759324</b>

Run 15

Static Pressure	Flow Rate
0.000071	1.727354
0.000071	1.699377
0.000071	1.679792
0.000071	1.713365
0.000071	1.696579
0.000071	1.710568
0.000071	1.78331
0.000071	1.766523
<b>Average</b>	<b>1.722109</b>

Run 16

Static Pressure	Flow Rate
0.000294	1.856052
0.000294	1.875636
0.000294	1.861648
0.000294	1.900816
0.000294	1.900816
0.000294	1.903614
0.000294	1.928794
0.000294	1.850456
0.000294	1.939985
0.000294	1.85885
0.000294	1.886828
0.000294	1.898019
0.000294	1.917603
0.000294	1.965165
0.000294	1.953974
0.000294	1.948379
<b>Average</b>	<b>1.902915</b>

Run 17

Static Pressure	Flow Rate
0.000294	1.584668
0.000294	1.598657
0.000294	1.576274
0.000294	1.520319
0.000294	1.545499
0.000294	1.612646
0.000294	1.626634
0.000294	1.58187
0.000294	1.579072
0.000294	1.570679
0.000294	1.635028
0.000294	1.567881
0.000294	1.584668
0.000294	1.637826
0.000294	1.576274
0.000294	1.587466
0.000294	1.584668
0.000294	1.559488
0.000294	1.58187
0.000294	1.576274
0.000294	1.58187
<b>Average</b>	<b>1.584268</b>

Run 18

Static Pressure	Flow Rate
0.000294	1.912007
0.000294	1.995941
0.000294	1.942783
0.000294	1.939985
0.000294	1.962367
0.000294	1.990345
0.000294	1.847659
0.000294	1.878434
0.000294	1.856052
0.000294	1.93439
0.000294	1.830872
0.000294	1.881232
0.000294	1.889625
0.000294	1.931592
0.000294	1.951176
0.000294	1.923199
0.000294	1.923199
0.000294	1.931592
0.000294	1.836468
0.000294	1.892423
0.000294	1.93439
<b>Average</b>	<b>1.913606</b>

Run 19

Static Pressure	Flow Rate
0.000294	1.875636
0.000294	1.828074
0.000294	1.830872
0.000294	1.878434
0.000294	1.853254
0.000294	1.939985
0.000294	1.920401
0.000294	1.839265
0.000294	1.867243
0.000294	1.856052
0.000294	1.814085
0.000294	1.951176
0.000294	1.878434
0.000294	1.870041
0.000294	1.886828
0.000294	1.814085
0.000294	1.811288
0.000294	1.780512
0.000294	1.856052
0.000294	1.850456
0.000294	1.844861
0.000294	1.816883
0.000294	1.867243
0.000294	1.886828
0.000294	1.850456
0.000294	1.912007
0.000294	1.844861
<b>Average</b>	<b>1.860197</b>

Run 20

Static Pressure	Flow Rate
0.000294	1.226553
0.000294	1.234946
0.000294	1.220957
0.000294	1.215361
0.000294	1.234946
0.000294	1.22935
0.000294	1.22935
0.000294	1.243339
0.000294	1.237744
0.000294	1.243339
0.000294	1.246137
0.000294	1.243339
0.000294	1.237744
0.000294	1.243339
0.000294	1.262924
0.000294	1.237744
<b>Average</b>	<b>1.236695</b>

Run 21

Static Pressure	Flow Rate
0.000294	1.07827
0.000294	1.10345
0.000294	1.111844
0.000294	1.092259
0.000294	1.07827
0.000294	1.086664
0.000294	1.089462
0.000294	1.086664
0.000294	1.10345
0.000294	1.086664
0.000294	1.100653
0.000294	1.089462
0.000294	1.069877
0.000294	1.086664
0.000294	1.10345
0.000294	1.097855
0.000294	1.083866
0.000294	1.097855
0.000294	1.081068
0.000294	1.100653
<b>Average</b>	<b>1.09142</b>

Run 22

Static Pressure	Flow Rate
0.000294	1.044697
0.000294	1.041899
0.000294	1.050293
0.000294	1.022315
0.000294	1.047495
0.000294	1.030708
0.000294	1.058686
0.000294	1.02791
0.000294	1.044697
0.000294	1.019517
0.000294	1.039102
0.000294	1.050293
0.000294	1.033506
0.000294	1.02791
0.000294	1.022315
0.000294	1.047495
<b>Average</b>	<b>1.038052</b>

Run 23

Static Pressure	Flow Rate
0.000294	1.562286
0.000294	1.60705
0.000294	1.509128
0.000294	1.50633
0.000294	1.565083
0.000294	1.497937
0.000294	1.500735
0.000294	1.576274
0.000294	1.492341
0.000294	1.514723
0.000294	1.478352
0.000294	1.542701
0.000294	1.517521
0.000294	1.570679
0.000294	1.567881
0.000294	1.545499
0.000294	1.553892
<b>Average</b>	<b>1.535789</b>

Run 24

Static Pressure	Flow Rate
0.000071	1.822479
0.000071	1.718961
0.000071	1.724557
0.000071	1.744141
0.000071	1.699377
0.000071	1.772119
0.000071	1.713365
0.000071	1.727354
0.000071	1.755332
0.000071	1.794501
0.000071	1.721759
0.000071	1.755332
0.000071	1.730152
0.000071	1.730152
0.000071	1.665803
0.000071	1.713365
0.000071	1.63223
<b>Average</b>	<b>1.730646</b>

Run 25

Static Pressure	Flow Rate
0.000071	1.358048
0.000071	1.33007
0.000071	1.338464
0.000071	1.327272
0.000071	1.307688
0.000071	1.321677
0.000071	1.335666
0.000071	1.327272
0.000071	1.324475
0.000071	1.316081
0.000071	1.296497
0.000071	1.307688
<b>Average</b>	<b>1.324242</b>

Run 26

Static Pressure	Flow Rate
0.000071	0.960764
0.000071	0.938382
0.000071	0.921595
0.000071	0.938382
0.000071	0.932786
0.000071	0.949573
0.000071	0.938382
0.000071	0.938382
0.000071	0.952371
0.000071	0.943977
0.000071	0.955168
0.000071	0.963562
0.000071	0.952371
0.000071	0.955168
0.000071	0.927191
0.000071	0.946775
0.000071	0.927191
0.000071	0.941179
<b>Average</b>	<b>0.943511</b>

Run 27

Static Pressure	Flow Rate
0.000071	1.016719
0.000071	1.033506
0.000071	0.997135
0.000071	1.002731
0.000071	1.016719
0.000071	1.005528
0.000071	1.005528
0.000071	1.02791
0.000071	1.002731
0.000071	1.025113
<b>Average</b>	<b>1.013362</b>

Run 28

Static Pressure	Flow Rate
0.000071	1.067079
0.000071	1.086664
0.000071	1.067079
0.000071	1.081068
0.000071	1.083866
0.000071	1.069877
0.000071	1.064282
0.000071	1.100653
0.000071	1.07827
0.000071	1.092259
0.000071	1.095057
<b>Average</b>	<b>1.080559</b>

Run 29

Static Pressure	Flow Rate
0.000071	1.447577
0.000071	1.444779
0.000071	1.416801
0.000071	1.427992
0.000071	1.402812
0.000071	1.492341
0.000071	1.444779
0.000071	1.43079
0.000071	1.436386
0.000071	1.464363
0.000071	1.425195
0.000071	1.422397
0.000071	1.45597
0.000071	1.419599
0.000071	1.43079
0.000071	1.464363
0.000071	1.416801
0.000071	1.416801
0.000071	1.414003
<b>Average</b>	<b>1.435502</b>

Run 30

Static Pressure	Flow Rate
0.000071	1.679792
0.000071	1.760928
0.000071	1.629432
0.000071	1.668601
0.000071	1.651814
0.000071	1.640623
0.000071	1.629432
0.000071	1.629432
0.000071	1.730152
0.000071	1.727354
0.000071	1.735748
0.000071	1.738545
0.000071	1.676994
0.000071	1.721759
0.000071	1.727354
0.000071	1.674197
0.000071	1.668601
0.000071	1.65741
0.000071	1.718961
0.000071	1.604252
0.000071	1.635028
0.000071	1.738545
0.000071	1.724557
0.000071	1.710568
<b>Average</b>	<b>1.68667</b>

Run 31

Static Pressure	Flow Rate
0.000071	0.848853
0.000071	0.84046
0.000071	0.84046
0.000071	0.846055
0.000071	0.823673
0.000071	0.820875
0.000071	0.837662
0.000071	0.834864
0.000071	0.846055
0.000071	0.837662
0.000071	0.834864
0.000071	0.84046
0.000071	0.837662
0.000071	0.846055
0.000071	0.834864
0.000071	0.837662
0.000071	0.834864
0.000071	0.826471
0.000071	0.826471
<b>Average</b>	<b>0.836729</b>

Run 32

Static Pressure	Flow Rate
0.000071	0.745335
0.000071	0.748133
0.000071	0.73974
0.000071	0.753728
0.000071	0.767717
0.000071	0.742537
0.000071	0.756526
0.000071	0.742537
0.000071	0.756526
0.000071	0.750931
0.000071	0.756526
0.000071	0.750931
0.000071	0.748133
0.000071	0.770515
0.000071	0.756526
<b>Average</b>	<b>0.752423</b>

Run 33

Static Pressure	Flow Rate
0.000071	1.346857
0.000071	1.341261
0.000071	1.335666
0.000071	1.332868
0.000071	1.327272
0.000071	1.341261
0.000071	1.313284
0.000071	1.341261
0.000071	1.310486
0.000071	1.316081
0.000071	1.332868
0.000071	1.327272
0.000071	1.318879
0.000071	1.318879
0.000071	1.341261
0.000071	1.313284
0.000071	1.358048
0.000071	1.33007
0.000071	1.318879
0.000071	1.335666
0.000071	1.349655
0.000071	1.318879
0.000071	1.338464
0.000071	1.327272
<b>Average</b>	<b>1.330653</b>

Run 34

Static Pressure	Flow Rate
0.000071	0.834864
0.000071	0.829268
0.000071	0.818077
0.000071	0.846055
0.000071	0.823673
0.000071	0.843257
0.000071	0.837662
0.000071	0.812482
0.000071	0.826471
0.000071	0.823673
0.000071	0.837662
0.000071	0.829268
0.000071	0.826471
0.000071	0.84046
<b>Average</b>	<b>0.830667</b>

Run 35

Static Pressure	Flow Rate
0.000071	0.666997
0.000071	0.6642
0.000071	0.669795
0.000071	0.650211
0.000071	0.675391
0.000071	0.661402
0.000071	0.655806
0.000071	0.675391
0.000071	0.678189
0.000071	0.666997
0.000071	0.661402
0.000071	0.6642
0.000071	0.672593
<b>Average</b>	<b>0.666352</b>

Run 36

Static Pressure	Flow Rate
0.000071	1.288104
0.000071	1.268519
0.000071	1.324475
0.000071	1.346857
0.000071	1.293699
0.000071	1.296497
0.000071	1.335666
0.000071	1.307688
0.000071	1.285306
0.000071	1.310486
0.000071	1.307688
0.000071	1.321677
0.000071	1.282508
0.000071	1.307688
0.000071	1.293699
0.000071	1.324475
0.000071	1.327272
0.000071	1.310486
0.000071	1.296497
0.000071	1.332868
<b>Average</b>	<b>1.308108</b>

Run 37

Static Pressure	Flow Rate
0.000071	0.818077
0.000071	0.829268
0.000071	0.826471
0.000071	0.81528
0.000071	0.81528
0.000071	0.820875
0.000071	0.826471
0.000071	0.81528
0.000071	0.832066
0.000071	0.81528
0.000071	0.81528
0.000071	0.818077
0.000071	0.829268
0.000071	0.823673
0.000071	0.832066
0.000071	0.812482
0.000071	0.834864
0.000071	0.832066
0.000071	0.81528
0.000071	0.823673
0.000071	0.823673
0.000071	0.812482
0.000071	0.823673
0.000071	0.812482
0.000071	0.829268
0.000071	0.829268
<b>Average</b>	<b>0.822656</b>

Run 38

Static Pressure	Flow Rate
0.000071	0.837662
0.000071	0.834864
0.000071	0.84046
0.000071	0.818077
0.000071	0.81528
0.000071	0.826471
0.000071	0.826471
0.000071	0.823673
0.000071	0.812482
0.000071	0.846055
0.000071	0.832066
0.000071	0.81528
0.000071	0.834864
0.000071	0.826471
0.000071	0.846055
0.000071	0.854448
0.000071	0.848853
0.000071	0.829268
0.000071	0.848853
<b>Average</b>	<b>0.832843</b>

Run 39

Static Pressure	Flow Rate
0.000071	1.237744
0.000071	1.237744
0.000071	1.243339
0.000071	1.251733
0.000071	1.243339
0.000071	1.215361
0.000071	1.226553
0.000071	1.257328
0.000071	1.237744
0.000071	1.251733
0.000071	1.246137
0.000071	1.260126
0.000071	1.234946
0.000071	1.246137
0.000071	1.240541
0.000071	1.226553
0.000071	1.234946
0.000071	1.206968
<b>Average</b>	<b>1.238832</b>

Run 40

Static Pressure	Flow Rate
0.000071	1.830872
0.000071	1.794501
0.000071	1.800096
0.000071	1.752534
0.000071	1.814085
0.000071	1.730152
0.000071	1.749737
0.000071	1.749737
0.000071	1.85885
0.000071	1.710568
0.000071	1.800096
0.000071	1.794501
0.000071	1.850456
0.000071	1.867243
0.000071	1.760928
0.000071	1.763725
0.000071	1.721759
0.000071	1.741343
0.000071	1.766523
0.000071	1.791703
0.000071	1.749737
0.000071	1.819681
0.000071	1.724557
<b>Average</b>	<b>1.780147</b>

Run 41

Static Pressure	Flow Rate
0.000071	1.612646
0.000071	1.704972
0.000071	1.671399
0.000071	1.651814
0.000071	1.68259
0.000071	1.730152
0.000071	1.73295
0.000071	1.738545
0.000071	1.702174
0.000071	1.615443
0.000071	1.741343
0.000071	1.671399
0.000071	1.646219
0.000071	1.70777
0.000071	1.73295
0.000071	1.68259
0.000071	1.721759
0.000071	1.710568
0.000071	1.665803
<b>Average</b>	<b>1.690689</b>

Run 42

Static Pressure	Flow Rate
0.000071	0.904808
0.000071	0.913202
0.000071	0.893617
0.000071	0.879628
0.000071	0.888022
0.000071	0.913202
0.000071	0.871235
0.000071	0.899213
0.000071	0.902011
0.000071	0.882426
0.000071	0.913202
0.000071	0.896415
0.000071	0.899213
0.000071	0.899213
0.000071	0.899213
0.000071	0.902011
0.000071	0.904808
0.000071	0.904808
0.000071	0.899213
0.000071	0.885224
0.000071	0.907606
0.000071	0.893617
0.000071	0.918797
0.000071	0.893617
0.000071	0.902011
<b>Average</b>	<b>0.898653</b>

Static Pressure	Flow Rate
0.000071	0.61384
0.000071	0.633424
0.000071	0.608244
0.000071	0.605446
0.000071	0.622233
0.000071	0.633424
0.000071	0.616638
0.000071	0.608244
0.000071	0.627829
0.000071	0.608244
0.000071	0.616638
0.000071	0.616638
0.000071	0.61384
0.000071	0.619435
0.000071	0.602649
0.000071	0.61384
0.000071	0.627829
0.000071	0.602649
0.000071	0.611042
0.000071	0.594255
0.000071	0.622233
0.000071	0.608244
0.000071	0.625031
0.000071	0.616638
0.000071	0.608244
0.000071	0.611042
0.000071	0.605446
0.000071	0.608244
<b>Average</b>	<b>0.614339</b>

Static Pressure	Flow Rate
0.000071	0.706166
0.000071	0.728549
0.000071	0.725751
0.000071	0.692177
0.000071	0.706166
0.000071	0.722953
0.000071	0.717357
0.000071	0.711762
0.000071	0.697773
0.000071	0.720155
0.000071	0.734144
0.000071	0.717357
0.000071	0.703369
0.000071	0.720155
0.000071	0.725751
0.000071	0.736942
0.000071	0.71456
0.000071	0.720155
0.000071	0.720155
0.000071	0.700571
<b>Average</b>	<b>0.716098</b>

Run 43

Run 44

Run 45

Static Pressure	Flow Rate
0.000071	0.907606
0.000071	0.938382
0.000071	0.915999
0.000071	0.932786
0.000071	0.943977
0.000071	0.924393
0.000071	0.932786
0.000071	0.952371
0.000071	0.935584
0.000071	0.943977
0.000071	0.921595
0.000071	0.935584
0.000071	0.929988
0.000071	0.943977
0.000071	0.943977
0.000071	0.921595
0.000071	0.935584
0.000071	0.938382
<b>Average</b>	<b>0.933252</b>

Static Pressure	Flow Rate
0.000071	0.938382
0.000071	0.943977
0.000071	0.918797
0.000071	0.927191
0.000071	0.907606
0.000071	0.941179
0.000071	0.943977
0.000071	0.952371
0.000071	0.929988
0.000071	0.935584
0.000071	0.913202
0.000071	0.910404
0.000071	0.932786
0.000071	0.915999
<b>Average</b>	<b>0.929389</b>

Static Pressure	Flow Rate
0.000071	0.896415
0.000071	0.899213
0.000071	0.907606
0.000071	0.893617
0.000071	0.882426
0.000071	0.929988
0.000071	0.913202
0.000071	0.904808
0.000071	0.915999
0.000071	0.915999
0.000071	0.893617
0.000071	0.907606
0.000071	0.904808
0.000071	0.910404
0.000071	0.902011
0.000071	0.899213
0.000071	0.902011
0.000071	0.902011
0.000071	0.913202
<b>Average</b>	<b>0.904956</b>

Run 46

Run 47

Run 48

Average Max Air Flow Calculated for Two Factor DOE Response

Static Pressure	Flow Rate
0.000071	1.679792
0.000071	1.671399
0.000071	1.584668
0.000071	1.598657
0.000071	1.58187
0.000071	1.626634
0.000071	1.590263
0.000071	1.643421
0.000071	1.60705
0.000071	1.576274
0.000071	1.604252
0.000071	1.565083
0.000071	1.60705
0.000071	1.601454
0.000071	1.58187
0.000071	1.629432
0.000071	1.553892
0.000071	1.576274
0.000071	1.593061
<b>Average</b>	<b>1.60381</b>

Run 1

Static Pressure	Flow Rate
0.000071	1.615443
0.000071	1.63223
0.000071	1.626634
0.000071	1.621039
0.000071	1.601454
0.000071	1.567881
0.000071	1.567881
0.000071	1.604252
0.000071	1.621039
0.000071	1.548297
0.000071	1.53151
<b>Average</b>	<b>1.594333</b>

Run 2

Static Pressure	Flow Rate
0.000071	1.741343
0.000071	1.780512
0.000071	1.83367
0.000071	1.746939
0.000071	1.780512
0.000071	1.735748
0.000071	1.744141
0.000071	1.752534
0.000071	1.646219
0.000071	1.769321
0.000071	1.738545
0.000071	1.769321
0.000071	1.746939
0.000071	1.75813
0.000071	1.73295
0.000071	1.752534
0.000071	1.730152
0.000071	1.822479
0.000071	1.844861
0.000071	1.749737
0.000071	1.80849
0.000071	1.741343
0.000071	1.721759
0.000071	1.716163
<b>Average</b>	<b>1.756848</b>

Run 3

Static Pressure	Flow Rate
0.000071	1.534308
0.000071	1.584668
0.000071	1.509128
0.000071	1.618241
0.000071	1.567881
0.000071	1.520319
0.000071	1.528712
0.000071	1.565083
0.000071	1.553892
0.000071	1.55669
0.000071	1.525914
0.000071	1.553892
0.000071	1.595859
0.000071	1.553892
<b>Average</b>	<b>1.554891</b>

Run 4

Static Pressure	Flow Rate
0.000071	1.696579
0.000071	1.721759
0.000071	1.663005
0.000071	1.679792
0.000071	1.721759
0.000071	1.693781
0.000071	1.696579
0.000071	1.73295
0.000071	1.766523
0.000071	1.716163
0.000071	1.70777
0.000071	1.763725
0.000071	1.730152
0.000071	1.688185
0.000071	1.744141
0.000071	1.794501
0.000071	1.696579
0.000071	1.716163
0.000071	1.777714
0.000071	1.80849
0.000071	1.668601
<b>Average</b>	<b>1.723091</b>

Run 5

Static Pressure	Flow Rate
0.000071	1.766523
0.000071	1.735748
0.000071	1.730152
0.000071	1.763725
0.000071	1.718961
0.000071	1.696579
0.000071	1.68259
0.000071	1.685388
0.000071	1.718961
0.000071	1.735748
0.000071	1.75813
0.000071	1.75813
0.000071	1.797299
0.000071	1.763725
0.000071	1.699377
0.000071	1.716163
0.000071	1.791703
0.000071	1.699377
0.000071	1.738545
0.000071	1.654612
0.000071	1.654612
0.000071	1.660208
0.000071	1.724557
0.000071	1.735748
0.000071	1.702174
0.000071	1.735748
<b>Average</b>	<b>1.724019</b>

Run 6

Static Pressure	Flow Rate
0.000071	1.601454
0.000071	1.573477
0.000071	1.604252
0.000071	1.58187
0.000071	1.646219
0.000071	1.509128
0.000071	1.579072
0.000071	1.579072
0.000071	1.649017
0.000071	1.567881
0.000071	1.58187
0.000071	1.590263
0.000071	1.626634
0.000071	1.534308
0.000071	1.637826
0.000071	1.55669
0.000071	1.590263
0.000071	1.478352
0.000071	1.551094
0.000071	1.570679
<b>Average</b>	<b>1.580471</b>

Run 7

Static Pressure	Flow Rate
0.000071	1.786108
0.000071	1.811288
0.000071	1.814085
0.000071	1.797299
0.000071	1.744141
0.000071	1.786108
0.000071	1.816883
0.000071	1.786108
0.000071	1.696579
0.000071	1.75813
0.000071	1.685388
0.000071	1.83367
0.000071	1.788905
0.000071	1.710568
0.000071	1.83367
<b>Average</b>	<b>1.776595</b>

Run 8

Static Pressure	Flow Rate
0.000071	1.83367
0.000071	1.814085
0.000071	1.763725
0.000071	1.699377
0.000071	1.786108
0.000071	1.755332
0.000071	1.836468
0.000071	1.738545
0.000071	1.721759
0.000071	1.78331
0.000071	1.744141
0.000071	1.741343
<b>Average</b>	<b>1.768155</b>

Run 9

Static Pressure	Flow Rate
0.000071	1.685388
0.000071	1.674197
0.000071	1.710568
0.000071	1.718961
0.000071	1.671399
0.000071	1.548297
0.000071	1.665803
0.000071	1.637826
0.000071	1.629432
0.000071	1.63223
0.000071	1.626634
0.000071	1.70777
<b>Average</b>	<b>1.659042</b>

Run 10

Static Pressure	Flow Rate
0.000071	1.548297
0.000071	1.579072
0.000071	1.570679
0.000071	1.60705
0.000071	1.55669
0.000071	1.528712
0.000071	1.548297
0.000071	1.542701
0.000071	1.573477
0.000071	1.60705
0.000071	1.523117
0.000071	1.623837
0.000071	1.590263
0.000071	1.562286
0.000071	1.570679
0.000071	1.576274
0.000071	1.553892
0.000071	1.517521
0.000071	1.570679
0.000071	1.537106
0.000071	1.53151
0.000071	1.604252
0.000071	1.58187
<b>Average</b>	<b>1.565448</b>

Run 11

Static Pressure	Flow Rate
0.000071	1.570679
0.000071	1.579072
0.000071	1.629432
0.000071	1.593061
0.000071	1.629432
0.000071	1.584668
0.000071	1.593061
0.000071	1.601454
0.000071	1.573477
0.000071	1.60705
0.000071	1.587466
0.000071	1.587466
0.000071	1.60705
0.000071	1.58187
0.000071	1.615443
0.000071	1.584668
0.000071	1.612646
0.000071	1.525914
0.000071	1.570679
0.000071	1.58187
<b>Average</b>	<b>1.590823</b>

Run 12



## APPENDIX C: Minitab Four Factor DOE Results

### Full Factorial Design

Factors: 4 Base Design: 4, 16  
Runs: 48 Replicates: 3  
Blocks: 1 Center pts (total): 0

All terms are free from aliasing.

#### Design Table (randomized)

Run	A	B	C	D
1	+	+	+	+
2	+	+	+	-
3	+	+	+	-
4	+	+	-	-
5	-	-	+	+
6	+	+	-	+
7	+	+	+	+
8	-	-	-	+
9	-	-	+	+
10	+	+	+	+
11	-	+	+	-
12	-	+	-	-
13	-	-	-	+
14	+	+	-	+
15	-	+	+	-
16	+	-	-	+
17	-	+	-	+
18	-	+	+	+
19	-	+	-	+
20	+	-	-	+
21	+	-	-	-
22	-	-	+	-
23	+	-	+	-
24	+	-	+	+
25	-	+	-	+
26	+	-	+	+
27	+	+	-	-
28	-	+	-	-
29	+	-	-	-
30	-	+	+	+
31	-	-	-	+
32	+	-	+	-
33	-	+	+	-
34	-	-	+	+
35	-	-	+	-
36	+	-	+	-
37	+	-	+	+
38	-	-	-	-
39	+	+	-	-
40	-	+	+	+
41	+	+	-	+
42	+	-	-	+
43	-	-	-	-
44	+	+	+	-
45	-	-	+	-
46	-	+	-	-
47	-	-	-	-
48	+	-	-	-

### Factorial Fit: Air Flow versus Number of Ioniza, Height of Collec, ...

Estimated Effects and Coefficients for Air Flow (coded units)

Term	Effect	Coef	SE Coef	T	P
Constant		1.2124	0.01600	75.76	0.000
Number of Ionization Sites	-0.0111	-0.0055	0.01600	-0.35	0.731
Height of Collector	-0.0270	-0.0135	0.01600	-0.84	0.406
Distance between Electrodes	-0.2969	-0.1485	0.01600	-9.28	0.000
Voltage	0.7040	0.3520	0.01600	22.00	0.000
Number of Ionization Sites* Height of Collector	-0.0934	-0.0467	0.01600	-2.92	0.006
Number of Ionization Sites* Distance between Electrodes	-0.0496	-0.0248	0.01600	-1.55	0.131
Number of Ionization Sites*Voltage	0.0176	0.0088	0.01600	0.55	0.586
Height of Collector* Distance between Electrodes	-0.0612	-0.0306	0.01600	-1.91	0.065
Height of Collector*Voltage	0.0943	0.0471	0.01600	2.94	0.006
Distance between Electrodes*Voltage	-0.1220	-0.0610	0.01600	-3.81	0.001
Number of Ionization Sites* Height of Collector* Distance between Electrodes	0.0123	0.0062	0.01600	0.39	0.703
Number of Ionization Sites* Height of Collector*Voltage	0.0144	0.0072	0.01600	0.45	0.656
Number of Ionization Sites* Distance between Electrodes* Voltage	0.0171	0.0086	0.01600	0.54	0.596
Height of Collector* Distance between Electrodes* Voltage	-0.0019	-0.0009	0.01600	-0.06	0.954
Number of Ionization Sites* Height of Collector* Distance between Electrodes* Voltage	-0.0324	-0.0162	0.01600	-1.01	0.319

S = 0.110877      PRESS = 0.885144  
R-Sq = 95.02%      R-Sq(pred) = 88.79%      R-Sq(adj) = 92.68%

Analysis of Variance for Air Flow (coded units)

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Main Effects	4	7.01590	7.01590	1.75398	142.67	0.000
Number of Ionization Sites	1	0.00147	0.00147	0.00147	0.12	0.731
Height of Collector	1	0.00873	0.00873	0.00873	0.71	0.406
Distance between Electrodes	1	1.05813	1.05813	1.05813	86.07	0.000
Voltage	1	5.94757	5.94757	5.94757	483.79	0.000
2-Way Interactions	6	0.46805	0.46805	0.07801	6.35	0.000
Number of Ionization Sites*Height of Collector	1	0.10463	0.10463	0.10463	8.51	0.006
Number of Ionization Sites*Distance between Electrodes	1	0.02951	0.02951	0.02951	2.40	0.131
Number of Ionization Sites*Voltage	1	0.00372	0.00372	0.00372	0.30	0.586
Height of Collector*Distance between Electrodes	1	0.04496	0.04496	0.04496	3.66	0.065
Height of Collector*Voltage	1	0.10662	0.10662	0.10662	8.67	0.006
Distance between Electrodes*Voltage	1	0.17861	0.17861	0.17861	14.53	0.001
3-Way Interactions	4	0.00787	0.00787	0.00197	0.16	0.957
Number of Ionization Sites*Height of Collector*Distance between Electrodes	1	0.00182	0.00182	0.00182	0.15	0.703
Number of Ionization Sites*Height of Collector*Voltage	1	0.00248	0.00248	0.00248	0.20	0.656
Number of Ionization Sites*Distance between Electrodes*Voltage	1	0.00352	0.00352	0.00352	0.29	0.596
Height of Collector*Distance between Electrodes*Voltage	1	0.00004	0.00004	0.00004	0.00	0.954
4-Way Interactions	1	0.01258	0.01258	0.01258	1.02	0.319
Number of Ionization Sites*Height of Collector*Distance between Electrodes*Voltage	1	0.01258	0.01258	0.01258	1.02	0.319
Residual Error	32	0.39340	0.39340	0.01229		
Pure Error	32	0.39340	0.39340	0.01229		
Total	47	7.89780				

Unusual Observations for Air Flow

Obs	StdOrder	Air Flow	Fit	SE Fit	Residual	St Resid
22	5	1.09142	0.87940	0.06401	0.21202	2.34R
23	38	1.03805	0.84704	0.06401	0.19101	2.11R

R denotes an observation with a large standardized residual.

Estimated Coefficients for Air Flow using data in uncoded units

Term	Coef
Constant	-4.88551
Number of Ionization Sites	1.01253
Height of Collector	0.149178
Distance between Electrodes	0.212024
Voltage	0.000477882
Number of Ionization Sites* Height of Collector	-0.0454531
Number of Ionization Sites* Distance between Electrodes	-0.0438471
Number of Ionization Sites*Voltage	-6.47579E-05
Height of Collector* Distance between Electrodes	-0.00722736
Height of Collector*Voltage	-8.65113E-06
Distance between Electrodes*Voltage	-1.71139E-05
Number of Ionization Sites* Height of Collector*	0.00183119
Distance between Electrodes	
Number of Ionization Sites* Height of Collector*Voltage	3.13849E-06
Number of Ionization Sites* Distance between Electrodes*	2.95461E-06
Voltage	
Height of Collector* Distance between Electrodes*	4.64687E-07
Voltage	
Number of Ionization Sites* Height of Collector* Distance between Electrodes*	-1.36127E-07
Voltage	

Alias Structure

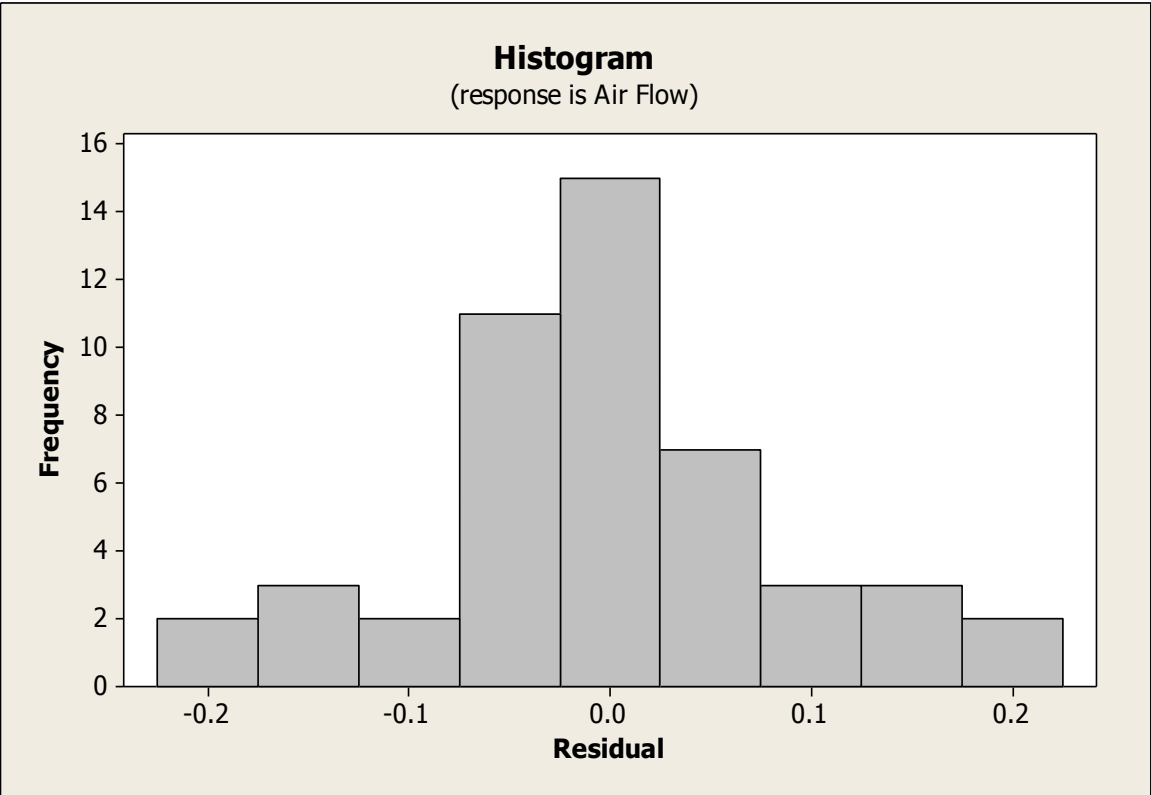
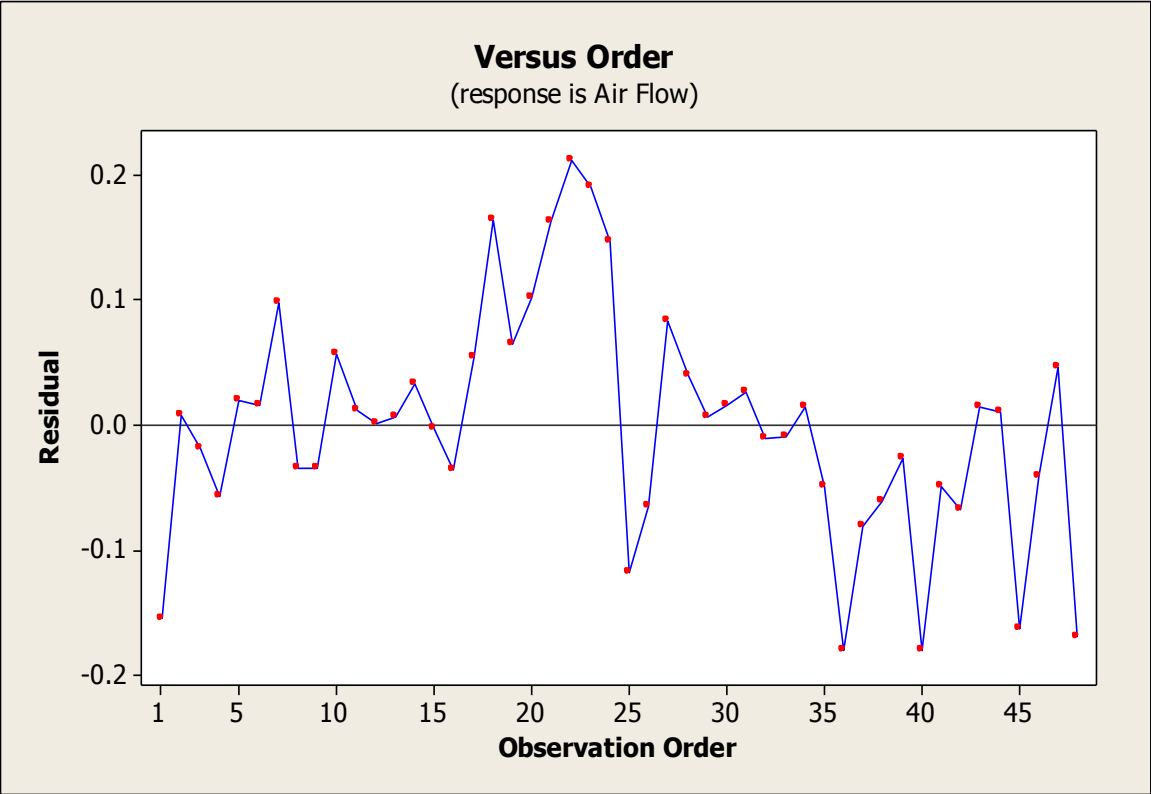
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 Number of Ionization Sites  
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 Electrodes\*Voltage

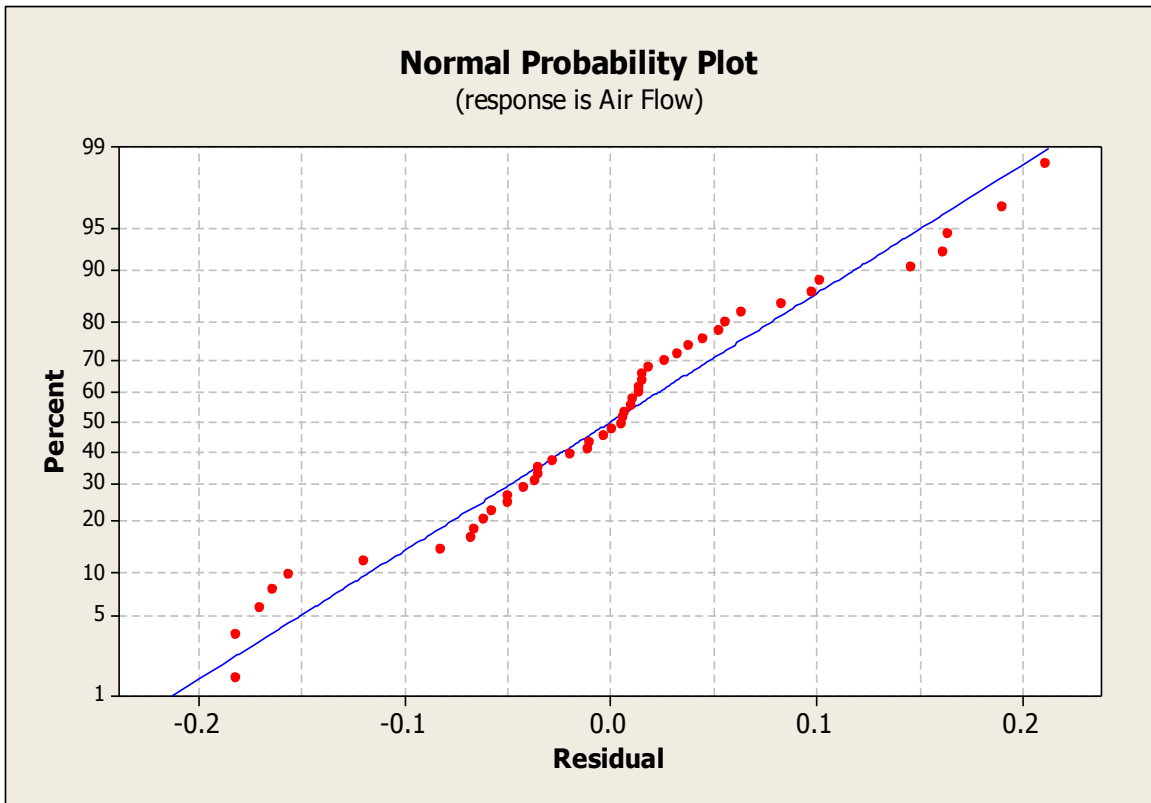
Predicted Response for New Design Points Using Model for Air Flow

Point	Fit	SE Fit	95% CI	95% PI
1	1.29456	0.06401	(1.16417, 1.42496)	(1.03378, 1.55535)
2	0.60341	0.06401	(0.47301, 0.73380)	(0.34262, 0.86420)
3	0.60341	0.06401	(0.47301, 0.73380)	(0.34262, 0.86420)
4	0.85972	0.06401	(0.72933, 0.99011)	(0.59893, 1.12051)
5	1.31629	0.06401	(1.18589, 1.44668)	(1.05550, 1.57707)
6	1.82909	0.06401	(1.69870, 1.95948)	(1.56830, 2.08988)
7	1.29456	0.06401	(1.16417, 1.42496)	(1.03378, 1.55535)
8	1.65975	0.06401	(1.52935, 1.79014)	(1.39896, 1.92054)
9	1.31629	0.06401	(1.18589, 1.44668)	(1.05550, 1.57707)
10	1.29456	0.06401	(1.16417, 1.42496)	(1.03378, 1.55535)
11	0.76188	0.06401	(0.63149, 0.89227)	(0.50109, 1.02267)
12	0.97415	0.06401	(0.84376, 1.10455)	(0.71336, 1.23494)
13	1.65975	0.06401	(1.52935, 1.79014)	(1.39896, 1.92054)
14	1.82909	0.06401	(1.69870, 1.95948)	(1.56830, 2.08988)
15	0.76188	0.06401	(0.63149, 0.89227)	(0.50109, 1.02267)
16	1.75766	0.06401	(1.62727, 1.88806)	(1.49688, 2.01845)
17	1.84906	0.06401	(1.71866, 1.97945)	(1.58827, 2.10984)
18	1.41953	0.06401	(1.28914, 1.54993)	(1.15875, 1.68032)
19	1.84906	0.06401	(1.71866, 1.97945)	(1.58827, 2.10984)
20	1.75766	0.06401	(1.62727, 1.88806)	(1.49688, 2.01845)
21	1.07407	0.06401	(0.94368, 1.20446)	(0.81328, 1.33486)
22	0.87940	0.06401	(0.74900, 1.00979)	(0.61861, 1.14018)
23	0.84704	0.06401	(0.71665, 0.97744)	(0.58626, 1.10783)
24	1.38938	0.06401	(1.25899, 1.51977)	(1.12859, 1.65017)
25	1.84906	0.06401	(1.71866, 1.97945)	(1.58827, 2.10984)
26	1.38938	0.06401	(1.25899, 1.51977)	(1.12859, 1.65017)
27	0.85972	0.06401	(0.72933, 0.99011)	(0.59893, 1.12051)
28	0.97415	0.06401	(0.84376, 1.10455)	(0.71336, 1.23494)
29	1.07407	0.06401	(0.94368, 1.20446)	(0.81328, 1.33486)
30	1.41953	0.06401	(1.28914, 1.54993)	(1.15875, 1.68032)
31	1.65975	0.06401	(1.52935, 1.79014)	(1.39896, 1.92054)
32	0.84704	0.06401	(0.71665, 0.97744)	(0.58626, 1.10783)
33	0.76188	0.06401	(0.63149, 0.89227)	(0.50109, 1.02267)
34	1.31629	0.06401	(1.18589, 1.44668)	(1.05550, 1.57707)
35	0.87940	0.06401	(0.74900, 1.00979)	(0.61861, 1.14018)
36	0.84704	0.06401	(0.71665, 0.97744)	(0.58626, 1.10783)
37	1.38938	0.06401	(1.25899, 1.51977)	(1.12859, 1.65017)
38	0.88357	0.06401	(0.75317, 1.01396)	(0.62278, 1.14435)
39	0.85972	0.06401	(0.72933, 0.99011)	(0.59893, 1.12051)
40	1.41953	0.06401	(1.28914, 1.54993)	(1.15875, 1.68032)
41	1.82909	0.06401	(1.69870, 1.95948)	(1.56830, 2.08988)
42	1.75766	0.06401	(1.62727, 1.88806)	(1.49688, 2.01845)
43	0.88357	0.06401	(0.75317, 1.01396)	(0.62278, 1.14435)
44	0.60341	0.06401	(0.47301, 0.73380)	(0.34262, 0.86420)
45	0.87940	0.06401	(0.74900, 1.00979)	(0.61861, 1.14018)
46	0.97415	0.06401	(0.84376, 1.10455)	(0.71336, 1.23494)
47	0.88357	0.06401	(0.75317, 1.01396)	(0.62278, 1.14435)
48	1.07407	0.06401	(0.94368, 1.20446)	(0.81328, 1.33486)

Values of Predictors for New Observations

New Obs	Number of Ionization Sites	Height of Collector	Distance between Electrodes	Voltage
1	5	25.97	25	15000
2	5	25.97	25	10000
3	5	25.97	25	10000
4	5	25.97	18	10000
5	2	7.85	25	15000
6	5	25.97	18	15000
7	5	25.97	25	15000
8	2	7.85	18	15000
9	2	7.85	25	15000
10	5	25.97	25	15000
11	2	25.97	25	10000
12	2	25.97	18	10000
13	2	7.85	18	15000
14	5	25.97	18	15000
15	2	25.97	25	10000
16	5	7.85	18	15000
17	2	25.97	18	15000
18	2	25.97	25	15000
19	2	25.97	18	15000
20	5	7.85	18	15000
21	5	7.85	18	10000
22	2	7.85	25	10000
23	5	7.85	25	10000
24	5	7.85	25	15000
25	2	25.97	18	15000
26	5	7.85	25	15000
27	5	25.97	18	10000
28	2	25.97	18	10000
29	5	7.85	18	10000
30	2	25.97	25	15000
31	2	7.85	18	15000
32	5	7.85	25	10000
33	2	25.97	25	10000
34	2	7.85	25	15000
35	2	7.85	25	10000
36	5	7.85	25	10000
37	5	7.85	25	15000
38	2	7.85	18	10000
39	5	25.97	18	10000
40	2	25.97	25	15000
41	5	25.97	18	15000
42	5	7.85	18	15000
43	2	7.85	18	10000
44	5	25.97	25	10000
45	2	7.85	25	10000
46	2	25.97	18	10000
47	2	7.85	18	10000
48	5	7.85	18	10000





Insignificant Interactions Reduced into the Error Term

**General Linear Model: Air Flow versus Number of Io, Height of Co, ...**

Factor	Type	Levels	Values
Number of Ionization Sites	fixed	2	2, 5
Height of Collector	fixed	2	7.85, 25.97
Distance between Electrodes	fixed	2	18, 25
Voltage	fixed	2	10000, 15000

Analysis of Variance for Air Flow, using Adjusted SS for Tests

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Number of Ionization Sites	1	0.0015	0.0015	0.0015	0.12	0.731
Height of Collector	1	0.0087	0.0087	0.0087	0.71	0.405
Distance between Electrodes	1	1.0581	1.0581	1.0581	86.02	0.000
Voltage	1	5.9476	5.9476	5.9476	483.51	0.000
Number of Ionization Sites* Height of Collector	1	0.1046	0.1046	0.1046	8.51	0.006
Height of Collector*Voltage	1	0.1066	0.1066	0.1066	8.67	0.005
Distance between Electrodes*Voltage	1	0.1786	0.1786	0.1786	14.52	0.000
Error	40	0.4920	0.4920	0.0123		
Total	47	7.8978				

s = 0.110910    R-Sq = 93.77%    R-Sq(adj) = 92.68%

Unusual Observations for Air Flow

Obs	Air Flow	Fit	SE Fit	Residual	St Resid
22	1.09142	0.79240	0.04528	0.29902	2.95 R
36	0.66635	0.87469	0.04528	-0.20834	-2.06 R

R denotes an observation with a large standardized residual.

## Minitab Two Factor DOE Results

### Full Factorial Design

```

Factors:   2   Base Design:      2, 4
Runs:     12  Replicates:       3
Blocks:   1   Center pts (total): 0
    
```

All terms are free from aliasing.

#### Design Table (randomized)

```

Run  A  B
  1  +  +
  2  +  -
  3  -  +
  4  -  -
  5  -  +
  6  +  +
  7  -  -
  8  -  +
  9  +  +
 10  -  -
 11  +  -
 12  +  -
    
```

### Factorial Fit: Air Flow versus Number of Ioniza, Height of the Co

Estimated Effects and Coefficients for Air Flow (coded units)

Term	Effect	Coef	SE Coef	T	P
Constant		1.65813	0.01525	108.74	0.000
Number of Ionization Sites	-0.03406	-0.01703	0.01525	-1.12	0.297
Height of the Collector	0.13458	0.06729	0.01525	4.41	0.002
Number of Ionization Sites* Height of the Collector	-0.01946	-0.00973	0.01525	-0.64	0.541

s = 0.0528225    PRESS = 0.0502238  
R-Sq = 72.54%    R-Sq(pred) = 38.21%    R-Sq(adj) = 62.24%

#### Analysis of Variance for Air Flow (coded units)

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Main Effects	2	0.057819	0.057819	0.028910	10.36	0.006
Number of Ionization Sites	1	0.003480	0.003480	0.003480	1.25	0.297
Height of the Collector	1	0.054339	0.054339	0.054339	19.47	0.002
2-Way Interactions	1	0.001136	0.001136	0.001136	0.41	0.541
Number of Ionization Sites*Height of the Collector	1	0.001136	0.001136	0.001136	0.41	0.541
Residual Error	8	0.022322	0.022322	0.002790		
Pure Error	8	0.022322	0.022322	0.002790		
Total	11	0.081277				



Obs	StdOrder	Air Flow	Fit	SE Fit	Residual	St Resid
1	12	1.60381	1.69866	0.03050	-0.09485	-2.20R
2	6	1.59433	1.58353	0.03050	0.01080	0.25
3	11	1.75685	1.75218	0.03050	0.00467	0.11
4	9	1.55489	1.59813	0.03050	-0.04324	-1.00
5	7	1.72309	1.75218	0.03050	-0.02909	-0.67
6	4	1.72402	1.69866	0.03050	0.02536	0.59
7	1	1.58047	1.59813	0.03050	-0.01766	-0.41
8	3	1.77660	1.75218	0.03050	0.02442	0.57
9	8	1.76816	1.69866	0.03050	0.06949	1.61
10	5	1.65904	1.59813	0.03050	0.06091	1.41
11	2	1.56545	1.58353	0.03050	-0.01809	-0.42
12	10	1.59082	1.58353	0.03050	0.00729	0.17

R denotes an observation with a large standardized residual.

Estimated Coefficients for Air Flow using data in uncoded units

Term	Coef
Constant	1.52979
Number of Ionization Sites	0.00032276
Height of the Collector	0.0100354
Number of Ionization Sites* Height of the Collector	-3.06815E-04

Predicted Response for New Design Points Using Model for Air Flow

Point	Fit	SE Fit	95% CI	95% PI
1	1.69866	0.03050	(1.62834, 1.76899)	(1.55801, 1.83931)
2	1.58353	0.03050	(1.51321, 1.65386)	(1.44288, 1.72419)
3	1.75218	0.03050	(1.68185, 1.82250)	(1.61153, 1.89283)
4	1.59813	0.03050	(1.52781, 1.66846)	(1.45748, 1.73879)
5	1.75218	0.03050	(1.68185, 1.82250)	(1.61153, 1.89283)
6	1.69866	0.03050	(1.62834, 1.76899)	(1.55801, 1.83931)
7	1.59813	0.03050	(1.52781, 1.66846)	(1.45748, 1.73879)
8	1.75218	0.03050	(1.68185, 1.82250)	(1.61153, 1.89283)
9	1.69866	0.03050	(1.62834, 1.76899)	(1.55801, 1.83931)
10	1.59813	0.03050	(1.52781, 1.66846)	(1.45748, 1.73879)
11	1.58353	0.03050	(1.51321, 1.65386)	(1.44288, 1.72419)
12	1.58353	0.03050	(1.51321, 1.65386)	(1.44288, 1.72419)

Values of Predictors for New Observations

New Obs	Number of Ionization Sites	Height of the Collector
1	12	25.97
2	12	7.85
3	5	25.97
4	5	7.85
5	5	25.97
6	12	25.97
7	5	7.85
8	5	25.97
9	12	25.97
10	5	7.85
11	12	7.85
12	12	7.85

Alias Structure

I  
Number of Ionization Sites  
Height of the Collector  
Number of Ionization Sites\*Height of the Collector

APPENDIX D: Excel Four Factor DOE Results

	Number of Ionization Sites	Height of Collector	Distance between Electrodes	Voltage	Air Flow
[1]	-1	-1	-1	-1	0.8227
a	1	-1	-1	-1	1.2367
b	-1	1	-1	-1	0.9758
ab	1	1	-1	-1	0.8028
c	-1	-1	1	-1	1.0914
ac	1	-1	1	-1	1.0381
bc	-1	1	1	-1	0.7739
abc	1	1	1	-1	0.611
d	-1	-1	-1	1	1.6259
ad	1	-1	-1	1	1.7221
bd	-1	1	-1	1	1.9029
abd	1	1	-1	1	1.845
cd	-1	-1	1	1	1.3359
acd	1	-1	1	1	1.5358
bcd	-1	1	1	1	1.5843
abcd	1	1	1	1	1.1394
[1]	-1	-1	-1	-1	0.8987
a	1	-1	-1	-1	1.0806
b	-1	1	-1	-1	1.0134
ab	1	1	-1	-1	0.9435
c	-1	-1	1	-1	0.8307
ac	1	-1	1	-1	0.8367
bc	-1	1	1	-1	0.7593
abc	1	1	1	-1	0.5848
d	-1	-1	-1	1	1.6667
ad	1	-1	-1	1	1.8602
bd	-1	1	-1	1	1.9136
abd	1	1	-1	1	1.8621
cd	-1	-1	1	1	1.2823
acd	1	-1	1	1	1.3242
bcd	-1	1	1	1	1.4355
abcd	1	1	1	1	1.3931
[1]	-1	-1	-1	-1	0.9294
a	1	-1	-1	-1	0.905
b	-1	1	-1	-1	0.9333
ab	1	1	-1	-1	0.8328
c	-1	-1	1	-1	0.7161
ac	1	-1	1	-1	0.6664
bc	-1	1	1	-1	0.7524
abc	1	1	1	-1	0.6143
d	-1	-1	-1	1	1.6867
ad	1	-1	-1	1	1.6907
bd	-1	1	-1	1	1.7306
abd	1	1	-1	1	1.7801
cd	-1	-1	1	1	1.3307
acd	1	-1	1	1	1.3081
bcd	-1	1	1	1	1.2388
abcd	1	1	1	1	1.3512

Factors:	Factor A:	Number of Ionization Sites	Factor B:	Height of Collector	Factor C:	Distance between Electrodes	Factor D:	Voltage							
<b>Step 1</b>															
Orthogonal Matrix of Runs and Settings															
	A	B	C	D	AB	AC	AD	BC	BD	CD	ABC	ABD	ACD	BCD	ABCD
[1]	-1	-1	-1	-1	1	1	1	1	1	1	-1	-1	-1	-1	1
a	1	-1	-1	-1	-1	-1	-1	1	1	1	1	1	1	-1	-1
b	-1	1	-1	-1	-1	1	1	-1	-1	1	1	1	-1	1	-1
ab	1	1	-1	-1	1	-1	-1	-1	-1	1	-1	-1	1	1	1
c	-1	-1	1	-1	1	-1	1	-1	1	-1	1	-1	1	1	-1
ac	1	-1	1	-1	-1	1	-1	-1	1	-1	-1	1	-1	1	1
bc	-1	1	1	-1	-1	-1	1	1	-1	-1	-1	1	1	-1	1
abc	1	1	1	-1	1	1	-1	1	-1	-1	1	-1	-1	-1	-1
d	-1	-1	-1	1	1	1	-1	1	-1	-1	-1	1	1	1	-1
ad	1	-1	-1	1	-1	-1	1	1	-1	-1	1	-1	-1	1	1
bd	-1	1	-1	1	-1	1	-1	-1	1	-1	1	-1	1	-1	1
abd	1	1	-1	1	1	-1	1	-1	1	-1	-1	1	-1	-1	-1
cd	-1	-1	1	1	1	-1	-1	-1	-1	1	1	1	-1	-1	1
acd	1	-1	1	1	-1	1	1	-1	-1	1	-1	-1	1	-1	-1
bcd	-1	1	1	1	-1	-1	-1	1	1	1	-1	-1	-1	1	-1
abcd	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

<b>Step 2</b>					<b>Step 3</b>
Data for Responses for Each Replicate					Caluated
RUN #	Std. Order	R1	R2	R3	X Bar
1	[1]	0.822656	0.898653	0.929389	0.883566
2	a	1.236695	1.080559	0.904956	1.07407
3	b	0.975841	1.013362	0.933252	0.974152
4	ab	0.802806	0.943511	0.832843	0.85972
5	c	1.09142	0.830667	0.716098	0.879395
6	ac	1.038052	0.836729	0.666352	0.847045
7	bc	0.773896	0.759324	0.752423	0.761881
8	abc	0.611042	0.584845	0.614339	0.603409
9	d	1.625898	1.666678	1.68667	1.659749
10	ad	1.722109	1.860197	1.690689	1.757665
11	bd	1.902915	1.913606	1.730646	1.849056
12	abd	1.845008	1.862114	1.780147	1.82909
13	cd	1.335932	1.282275	1.330653	1.316287
14	acd	1.535789	1.324242	1.308108	1.389379
15	bcd	1.584268	1.435502	1.238832	1.419534
16	abcd	1.139402	1.393094	1.351193	1.294563
Grand Average					1.21241

Step 4	A	B	C	D	AB	AC	AD	BC	BD	CD	ABC	ABD	ACD	BCD	ABCD	X Bar
[1]	-0.88357	-0.88357	-0.88357	-0.88357	0.883566	0.883566	0.883566	0.883566	0.883566	0.883566	-0.88357	-0.88357	-0.88357	-0.88357	0.883566	0.883566
a	1.07407	-1.07407	-1.07407	-1.07407	-1.07407	-1.07407	-1.07407	1.07407	1.07407	1.07407	1.07407	1.07407	1.07407	-1.07407	-1.07407	1.07407
b	-0.97415	0.974152	-0.97415	-0.97415	-0.97415	0.974152	0.974152	-0.97415	-0.97415	0.974152	0.974152	0.974152	-0.97415	0.974152	-0.97415	0.974152
ab	0.85972	0.85972	-0.85972	-0.85972	0.85972	-0.85972	-0.85972	-0.85972	-0.85972	0.85972	-0.85972	-0.85972	0.85972	0.85972	0.85972	0.85972
c	-0.8794	-0.8794	0.879395	-0.8794	0.879395	-0.879395	0.879395	-0.8794	0.879395	-0.8794	0.879395	-0.8794	0.879395	0.879395	-0.8794	0.879395
ac	0.847045	-0.84704	0.847045	-0.84704	-0.84704	0.847045	-0.84704	-0.84704	0.847045	-0.84704	-0.84704	0.847045	-0.84704	0.847045	0.847045	0.847045
bc	-0.76188	0.761881	0.761881	-0.76188	-0.76188	-0.761881	0.761881	0.761881	-0.76188	-0.76188	0.761881	0.761881	0.761881	-0.76188	0.761881	0.761881
abc	0.603409	0.603409	0.603409	-0.60341	0.603409	0.603409	-0.60341	0.603409	-0.60341	-0.60341	0.603409	-0.60341	-0.60341	-0.60341	-0.60341	0.603409
d	-1.65975	-1.65975	-1.65975	1.659749	1.659749	1.659749	-1.65975	1.659749	-1.65975	-1.65975	-1.65975	1.659749	1.659749	1.659749	-1.65975	1.659749
ad	1.757665	-1.75766	-1.75766	1.757665	-1.75766	-1.757665	1.757665	1.757665	-1.75766	-1.75766	1.757665	-1.75766	-1.75766	1.757665	1.757665	1.757665
bd	-1.84906	1.849056	-1.84906	1.849056	-1.84906	1.849056	-1.84906	-1.84906	1.849056	-1.84906	1.849056	-1.84906	1.849056	-1.84906	1.849056	1.849056
abd	1.82909	1.82909	-1.82909	1.82909	1.82909	-1.82909	1.82909	-1.82909	1.82909	-1.82909	-1.82909	1.82909	-1.82909	-1.82909	-1.82909	1.82909
cd	-1.31629	-1.31629	1.316287	1.316287	1.316287	-1.316287	-1.31629	-1.31629	-1.31629	1.316287	1.316287	1.316287	-1.31629	-1.31629	1.316287	1.316287
acd	1.389379	-1.38938	1.389379	1.389379	-1.38938	1.389379	1.389379	-1.38938	-1.38938	1.389379	-1.38938	-1.38938	1.389379	-1.38938	-1.38938	1.389379
bcd	-1.41953	1.419534	1.419534	1.419534	-1.41953	-1.419534	-1.41953	1.419534	1.419534	1.419534	-1.41953	-1.41953	-1.41953	1.419534	-1.41953	1.419534
abcd	1.294563	1.294563	1.294563	1.294563	1.294563	1.294563	1.294563	1.294563	1.294563	1.294563	1.294563	1.294563	1.294563	1.294563	1.294563	1.294563

Step 5	A	B	C	D	AB	AC	AD	BC	BD	CD	ABC	ABD	ACD	BCD	ABCD
Effect	-0.01108	-0.02697	-0.29695	0.704011	-0.09338	-0.04959	0.017603	-0.06121	0.09426	-0.122	0.012329	0.014389	0.017133	-0.00186	-0.03237
Step 6															
Contrast	-0.26604	-0.64725	-7.12672	16.89625	-2.24101	-1.190172	0.422467	-1.46906	2.262231	-2.92805	0.295897	0.345334	0.411201	-0.04474	-0.77699
Step 7															
SS	0.001474	0.008728	1.058128	5.947571	0.104627	0.029511	0.003718	0.044961	0.106619	0.178614	0.001824	0.002484	0.003523	4.17E-05	0.012577

Step 8	ANOVA SUMMARY CALCULATIONS FOR a 2 <sup>3</sup> DOE						Step 9
Source	SS	df	MS	F	P-value		
A	0.001474	1	0.001474	0.119938	0.731369		
B	0.008728	1	0.008728	0.709947	0.405715		
C	1.058128	1	1.058128	86.071	1.37E-10	Significant	
D	5.947571	1	5.947571	483.7914	6.95E-21	Significant	
AB	0.104627	1	0.104627	8.510673	0.006408	Significant	
AC	0.029511	1	0.029511	2.400471	0.131133		
AD	0.003718	1	0.003718	0.302456	0.586165		
BC	0.044961	1	0.044961	3.657279	0.064812		
BD	0.106619	1	0.106619	8.672636	0.005976	Significant	
CD	0.178614	1	0.178614	14.52896	0.000593	Significant	
ABC	0.001824	1	0.001824	0.148374	0.702642		
ABD	0.002484	1	0.002484	0.202095	0.656066		
ACD	0.003523	1	0.003523	0.28654	0.596147		
BCD	4.17E-05	1	4.17E-05	0.003393	0.953914		
ABCD	0.012577	1	0.012577	1.023069	0.319379		
Error	0.393397	32	0.012294				
Total	7.897799	47					

Insignificant Interactions Reduced into the Error Term

ANOVA SUMMARY CALCULATIONS FOR a 2 <sup>3</sup> DOE						
Source	SS	df	MS	F	P-value	
C	1.058128	1	1.058128	88.48634	6.74332E-12	Significant
D	5.947571	1	5.947571	497.3676	6.65514E-25	Significant
AB	0.104627	1	0.104627	8.7495	0.005067489	Significant
BD	0.106619	1	0.106619	8.916008	0.004700539	Significant
CD	0.178614	1	0.178614	14.93667	0.000379204	Significant
Error	0.50224	42	0.011958			
Total	7.897799	47				

Excel Two Factor DOE Results

<b>Factors:</b>	Factor A:	The Number of Ionization Sites	5	12	
	Factor B:	Height of the Collector	7.85	25.97	mm

Step 1				Step 2				Step 3
Orthogonal Matrix of Runs and Settings				Data for Responses for Each Replicate				Caluated
	A	B	AB	Rep. 1	Rep 2	Rep 3	X Bar	
[1]	-1	-1	1	1.60381	1.723091	1.768155	1.698352	
a	1	-1	-1	1.594333	1.724019	1.659042	1.659131	
b	-1	1	-1	1.756848	1.580471	1.565448	1.634256	
ab	1	1	1	1.554891	1.776595	1.590823	1.64077	
				Grand Average			1.658127	

Step 4a	A	B	AB	X Bar	Total Sum of Squares		
[1]	-1.69835	-1.69835	1.698352	1.698352	0.00295	0.00422	0.012106
a	1.659131	-1.65913	-1.65913	1.659131	0.00407	0.004342	8.37E-07
b	-1.63426	1.634256	-1.63426	1.634256	0.009746	0.00603	0.008589
ab	1.64077	1.64077	1.64077	1.64077	0.010658	0.014035	0.00453
					Total		0.081277

		A	B	AB
<b>Step 5</b>	<b>Effect</b>	-0.03406	0.13458	-0.01946
<b>Step 6</b>	<b>Contrast</b>	-0.20436	0.80748	-0.11676
<b>Step 7</b>	<b>SS</b>	0.00348	0.054335	0.001136

<b>Step 8</b>	<b>ANOVA SUMMARY CALCULATIONS FOR a 2<sup>3</sup> DOE</b>					
Source	SS	df	MS	F	<i>P-value</i>	<b>Step 9</b>
A	0.00348	1	0.00348	1.247114	0.287904	
B	0.054335	1	0.054335	19.47053	0.001041	<b>Significant</b>
AB	0.001136	1	0.001136	0.407101	0.536501	
Error	0.022325	8	0.002791			
Total	0.081277	11				