



# 2021 Product Manual

# WHAT SETS VARI-AIR APART?



## 1 – PSI/VFD Control

- Our Vari-Air system will increase or decrease speed according to air pressure.
- Air pressure goes up when there is more grain in the system and goes down when there is less grain in the system. **Our system auto-corrects.** As pressure goes up or goes down **our system makes the PSI/speed changes automatically.**
- **You do not have to adjust any settings once the system is fully operational.**

## 2 – Tri-Lobe Blower

- Our Tri-Lobe blower has **three lobes per shaft** rather than twin lobe.
- **Tri-lobe blower systems run at a lower RPM** than a twin-lobe system.
- Lower RPM means:
  - Less audible noise
  - Smoother air delivery
  - Increased lifetime on all the mechanical components inside of the blower unit
  - Increased lifetime on the piping system.

## 3 – Start-Up Support

- As a quality control measure, we assist you with the start-up of your unit. During this start-up, we will run the blower system to ensure performance. We will show the end-user how to operate the system.
- We take pictures and video of the system operating and post online for future reference.
- We complete a start up sheet on site that records all operating conditions.

# SYSTEM CAPACITY CHART



The following is a Bu/Hr chart is based on conveying dried #2 yellow corn.

- If you are running any other commodities through the Vair-Air system, please call to confirm what kind of capacities you should be seeing.

## 5" Vari-Air Bushel/Hour Ratings

Length	5"-20hp	5"-30hp	5"-40hp
50	1177	1712	1926
100	1150	1685	1899
150	1123	1658	1872
200	1070	1605	1819
250	989	1498	1712
300	882	1364	1551
350	749	1177	1364
400	588	963	1123
450	374	695	829
500			428

## 5" Electric Motor Power Requirements

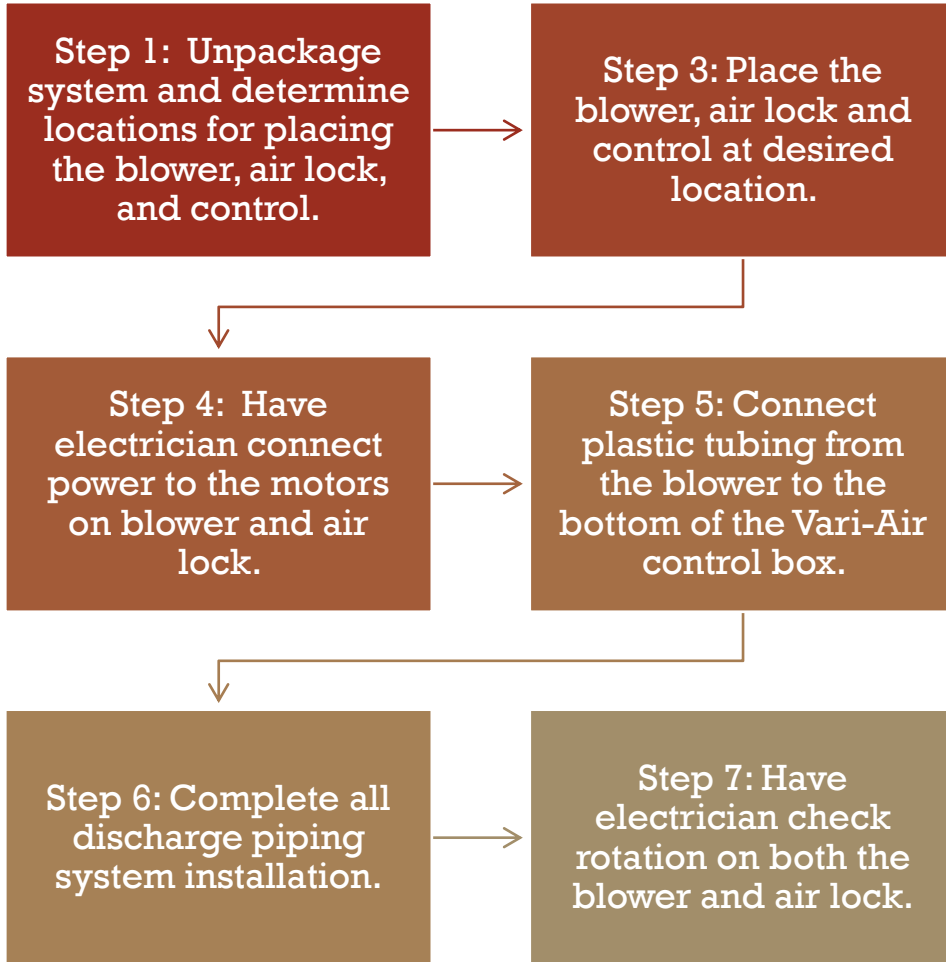
HP	Phase	Volts	Input Amps	Frame size
20	1	230	99	256T
30	1	230	143	286T
40	1	230	211	324T
20	3	230	48.2	256T
30	3	230	70.2	286T
40	3	230	94.2	324T
20	3	460	24.1	256T
30	3	460	35.1	286T
40	3	460	47.1	324T
50	3	460	59.2	326T
60	3	460	68.3	364T
75	3	460	84.1	365T

## 6" Vari-Air Bushel/Hour Ratings

Length	6"-50hp	6"-60hp	6"-75hp
50	2354	2514	2675
100	2327	2487	2648
150	2300	2461	2621
200	2247	2407	2568
250	2140	2300	2461
300	1979	2140	2300
350	1792	1952	2113
400	1551	1712	1872
450	1257	1417	1578
500	856	1016	1177



# VARI-AIR: QUICK AND EASY SETUP



Your system is programmed and tested before shipment.

It is ready to be hooked up and running with no programming or adjustments required.

# VARI-AIR SYSTEM COMPONENTS



## Blower

Air Lock

Control Box

### Blower Assembly External View

COMPLETE SET ROOTS BLOWER INSTALLATION : with standard accessories.

■ PRESSURE OPERATION (RLC - RWL)

NO	NAME
1	BLOWER BODY
2	MOTOR
3	BLOWER PULLEY
4	SUCTION SILENCER SET (WITH AIRFILTER & COVER)
5	V-BELT
6	BELT COVER
7	BASE PLATE
8	TYPY REDUCER
9	PRESSURE SAFETY VALVE
10	CHECK VALVE
11	BALL VALVE
12	PRESSURE GAUGE
13	GAUGE PIPE
20	DISCHARGE FLANGE(OPTIONAL)

Fig 1

■ VACUUM OPERATION (RLV - RWV)

NO	NAME
1	BLOWER BODY
2	MOTOR
3	BLOWER PULLEY
4	SUCTION SILENCER SET (WITH AIRFILTER & COVER)
5	V-BELT
6	BELT COVER
7	BASE PLATE
14	90° ELBOW
15	VACUUM SAFETY VALVE
16	SUCTION FILTER TANK (with VACUUM GAUGE)

Fig 2

Note :  
Suction silencer set (in Fig 1) and discharge silencer set (in Fig 2) are the same.

### Blower Assembly Internal View

RL STRUCTURAL DRAWING

PARTS LIST

NO.	NAME	MATERIAL	QTY	FITTING MODEL	NO.	NAME	MATERIAL	QTY	FITTING MODEL
1	CAISING	FC25	1		16-1	LOCK NUT	S45C	2	
2A	ROTOR - DRIVE SHAFT	FC25 + SCM440	1		16-2	LOCK NUT	S45C	2	
2B	ROTOR - DRIVEN SHAFT	FC25 + SCM440	1		17-1	SPRING WASHER	SS41	2	
5	SEAL COVER	FC25	1	RL-80 - 300	17-2	SPRING WASHER	SS41	2	
6	FRONT SIDE COVER	FC25	1		18	OIL SPLASH	SS41	2	
7	REAR SIDE COVER	FC25	1		19	O SEAL	VITON	2	
8	GEAR BOX	FC25	1		22-1	OIL SEAL	VITON	1	RL- 40 - 300
9	FRONT BEARING	SUJ2	2		22-2	OIL SEAL	VITON	1	RL-125 - 300
10	REAR BEARING	SUJ2	2		27	BEARING COVER	SS41	4	
11	TIMING GEAR	SNICM20	2		30	BEARING HOLDER	SCM440	2	RL-150,RL300
12	LUBRICATION PLUG	S45C	2		33	PRETON RING	FC25	2	(OPTIONAL)
13	OIL GAUGE	GLASS	2		34	FRONT COVER	FC25	1	
					65	WASHER	SS41	2	

### Blower Assembly Assembled View



# BLOWER INSTALLATION LOCATION

**Our systems are designed to be installed either inside or outside.**

- Whether you choose inside or outside - be aware of the intake air quality.
- When installing next to a grain dryer, the amount of debris in the air would limit filtration lifetime.
- When indoor try to install an intake air window or louver.
- Ensure you have enough room around the air system for system serviceability in the future.
- There will be a significant amount of vibration from the blower, so a sufficient base is required. It is recommended to anchor the blower down to prevent movement.



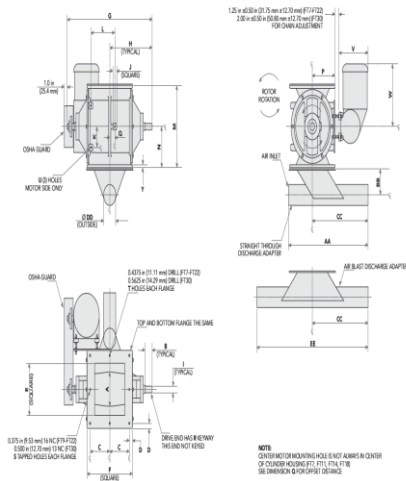
# VARI-AIR SYSTEM COMPONENTS

Blower

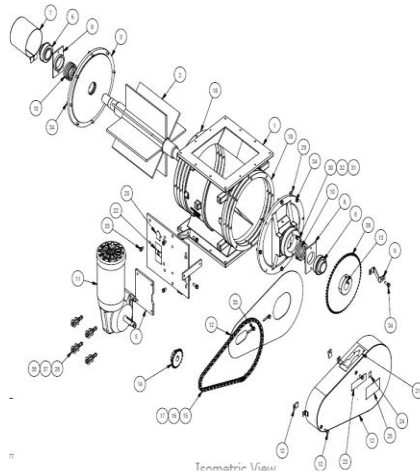
Air  
Lock

Control Box

Air Lock Assembly  
External View



Air Lock Assembly  
Internal View



2-Air Lock Assembly  
Assembled View

Air Lock Base Dimensions:

36" Long x 25" Wide x 8.5" Tall

5" Air pipe sticks out 6" on each side

5" Air Lock Total Height = 27"



# AIRLOCK INSTALLATION LOCATION

- The best location for air lock (27" Tall) installation is on the discharge of the dryer. Typical lifetime before remanufacturing: 1 million bushels
- When installing try to leave enough room for servicing in the future. All systems have been test ran, and videoed before shipment.
- There are torque adjustment screws that can be adjusted to center the rotating mechanism. If you need to adjust these please call for assistance. There are other options for controlling the air lock and other motors, please contact your salesman for more information.





# VARI-AIR SYSTEM COMPONENTS

Blower

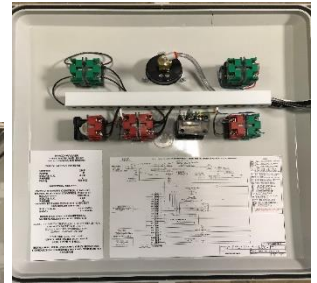
Air Lock

Control Panel

External View



Internal View



Assembled View



# CONTROL PANEL INSTALLATION LOCATIONS

- We are a UL508A panel shop, all systems meet NEC and local requirements.
- When installing insider or outside please be aware of the intake air quality. When installing next to a grain dryer, the amount of debris in the air would limit filtration lifetime. When indoor try to install an intake air window or louver. Try to have enough room around the air system for system serviceability in the future. There will be a significant amount of vibration from the blower, a sufficient base is required.
- It is recommended to anchor the blower to prevent movement. If you have questions on blower installation, please call.
- Our systems are designed to be installed either inside (Nema Type 1) or outside (Nema Type 3R).



# VARI-AIR SYSTEMS WARRANTY



JPS warrants products which it manufactures to be free of defects in materials and workmanship under normal usage and conditions for a period of 24 months (2-years) after sale to the original end-user, or 18 months (1.5 years) from system start-up, whichever is earlier.

The end-user's warranty applies to all material items in this product are defect in materials or workmanship.

## **Conditions and Limitations:**

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH ABOVE. SPECIFICALLY, JPS MAKES NO FURTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED.

JPS shall not be liable for any direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. The sole and exclusive remedy is set forth in the Limited Warranty, which shall not exceed the amount paid for the product purchased. This warranty is not transferable and applies only to the original end-user. JPS shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor.

JPS assumes no responsibility for claims resulting from construction defects or unauthorized modifications to products which it manufactured. Modifications to products not specifically delineated in the manual accompanying the equipment at initial sale will void the Limited Warranty.

This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained. This Limited Warranty extends solely to products manufactured by JPS.

Prior to installation, the end-user has the responsibility to comply with federal, state and local codes which apply to the location and installation of products manufactured or sold by JPS.