



With PLC, Dynamic Bleed Valve & Optional VFD
Installation & Operation Manual
5" & 6" Systems

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Table with 3 columns: DATE, REVISION, PAGE. Lists updates from 07/13/2023 and 09/21/2022, including warranty updates, VFD settings, and troubleshooting guidance.

Introduction & Table of Contents

Introduction

This product was carefully designed to give years of dependable service and was manufactured with the finest materials available. This manual includes information relating to safety, installation and operation, and should be read thoroughly prior to installation.

Receiving and Inspection

Carefully inspect shipment as soon as it is received for any damage. Verify that quantity of parts and/or packages received corresponds to quantity shown on packing slip. Report any damage or shortage to delivery carrier as soon as possible. Sukup Manufacturing Co.'s responsibility for damage to equipment ended with acceptance by delivery carrier. Refer to bill of lading. Save all paperwork and documentation furnished with the stir delay system.

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GRAIN HANDLING & MATERIAL HANDLING LIMITED WARRANTY

SUKUP MANUFACTURING CO. (Sukup) warrants to original retail purchaser that within time limits set forth, new equipment shall be free from defects in material and workmanship. A part will not be considered defective if it substantially fulfills performance specifications, including, but not limited to, parts with cosmetic (appearance) issues that will not affect life of product. Should any part prove defective within warranty period, part will be replaced or repaired without charge F.O.B. Sukup Manufacturing Co., Sheffield, Iowa USA or Distribution Centers - Arcola, Illinois; Aurora, Nebraska; Cameron, Missouri; Defiance, Ohio; Jonesboro, Arkansas; Watertown, South Dakota. To claim warranty, a copy of original invoice is required.

THE FOREGOING LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE AND OF ANY OTHER TYPE, WHETHER EXPRESS OR IMPLIED. Sukup neither assumes nor authorizes anyone to assume for it any other obligation or liability in connection with said part, and will not be liable for incidental or consequential damages. THE REMEDIES STATED HEREIN SHALL BE THE EXCLUSIVE REMEDIES AVAILABLE UNDER THIS LIMITED WARRANTY.

Sukup reserves the right to change specifications, add improvements or discontinue manufacture of any of its equipment without notice or obligation to purchasers of its equipment. This warranty gives you specific legal rights. You may also have other rights which vary according to state or province.

WARRANTY EXCLUSIONS - Labor, transportation, or any cost related to a service call is not provided by Sukup. This Limited Warranty does not apply to damage resulting from misuse, neglect, normal wear, accident or improper installation or maintenance. ITEMS NOT MANUFACTURED BY SUKUP (e.g. tires, belts, motors) ARE COVERED UNDER WARRANTIES OF THEIR RESPECTIVE MANUFACTURERS AND ARE EXCLUDED FROM COVERAGE UNDER THE SUKUP WARRANTY. Since the stirring down augers are so critical to the successful operation of the stirring machine, Sukup Manufacturing Co. will not warranty any machines unless they are equipped with Sukup down augers. SUKUP MANUFACTURING CO. MAKES NO WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO DOWN AUGERS LONGER THAN 20', INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Upon taking delivery of product, purchaser (dealer and/or end user) assumes responsibility for proper storage of all materials. Proper storage includes dry, temperature and humidity-controlled facilities, which eliminate the potential of moisture, including condensation, from causing white rust and/or corrosion of any sort. Warranty does not extend to defects, damage or cosmetic (appearance) issues caused by improper storage, handling or erection.

BASIC WARRANTY - All Sukup manufactured products are warranted for one year from date of purchase. Part(s) must be returned to Sukup within 30 days in event of failure.

EXTENDED STIRRING MACHINE WARRANTY - Sukup warrants stirring machines for two years from date of purchase.

EXTENDED STIRRING AUGER WARRANTY - Sukup warrants stirring down augers for two years from date of purchase. Must return top 18" of down auger to obtain credit.

EXTENDED FAN WARRANTY - Sukup warrants fans for two years from date of purchase.

EXTENDED HEATER CIRCUIT BOARD WARRANTY - Sukup warrants heater circuit boards for three years from date of purchase. Rebuilt circuit boards are warranted for one year from date of purchase.

EXTENDED MATERIAL HANDLING WARRANTY - Sukup warrants Material Handling equipment, excluding structural support systems, for two years from date of purchase.

REPLACEMENT PARTS WARRANTY PERIOD - Sukup warrants replacement parts (e.g. belts, sensors, rotating contacts, gearmotors, switches) purchased from Sukup for one (1) full drying season following purchase.

ELECTRIC MOTOR WARRANTY - Manufacturers of electric motors warranty them for at least 1 year from installation date or 2 years from motor manufacture date. Process for repairing or replacing motor depends on motor manufacturer and horsepower. Contact motor manufacturer for terms. If motor warranty is refused, use the following procedure: Have motor repair shop fill out the warranty report form as if they were providing warranty service. State on report reason for refusal. Send report, motor nameplate, and proof of purchase date (invoice from Sukup and invoice for your customer) to Sukup. Sukup will attempt to obtain warranty from motor manufacturer. Any credit obtained will be passed on. Warranty may also be obtained by returning motor to Sukup Manufacturing Co. or Distribution Center with prior authorization. **NOTE:** Sukup will not be responsible for unauthorized motor replacement or repair. Labor for removal of motor not included.

WARRANTY CERTIFICATION - Warranty must be registered within one month of product shipment from Sukup facility or customer pickup from the facility to certify warranty coverage. See QR code on back page of product manual for details.

UNAPPROVED PARTS OR MODIFICATION - All obligations of Sukup under this warranty are terminated if equipment is modified or altered in any way not approved by Sukup or if parts that do not conform to specifications of original parts are used.

Safety



Read manual before installing or using product. Failure to follow instructions and safety precautions in manual can result in death or serious injury. Keep manual in a safe location for future reference.



On safety decals, this symbol and the signal words Danger, Warning, Caution and Notice draw your attention to important instructions regarding safety.

They indicate potential hazards and levels of intensity.



RED - DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



ORANGE - WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



YELLOW - CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



BLUE - NOTICE alerts you to practices unrelated to personal injury, such as messages related to property damage.

IMPORTANT: To prevent serious injury or death to you or your family, it is essential that safety decals are clearly visible, in good condition, and applied to the appropriate equipment.

FOLLOW MANUAL & SAFETY DECAL MESSAGES

Carefully read this manual and all safety decals on your equipment.

Safety decals must be kept in good condition. Replace missing or damaged safety decals by contacting Sukup Manufacturing Co. via mail at PO Box 677, Sheffield, Iowa USA, 50475; by phone at 641-892-4222; or by e-mail at info@sukup.com.



It is the responsibility of the owner/operator to know what specific requirements, precautions, and work hazards exist. It is also the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of hazards and safety precautions that need to be taken to avoid personal injury or death. Always keep children away from bins and vehicles with flowing grain.

Make no unauthorized modifications to machine. Modifications may endanger function and/or safety of unit. Keep unit in good working condition. Keep shields in place. Replace worn or missing shields free of charge by contacting Sukup Manufacturing Co.

GRAIN BIN SAFETY

Owners/operators are responsible for developing site-specific confined space entry procedures. OSHA's confined space entry procedures (29CFR 1910.146) can be found at www.osha.gov.

If you must enter bin for repair or maintenance:

- Use a safety harness, safety line and respirator
- Station another person outside of bin
- Avoid the center of the bin
- Wear appropriate personal protective equipment
- Keep clear of all augers and moving parts



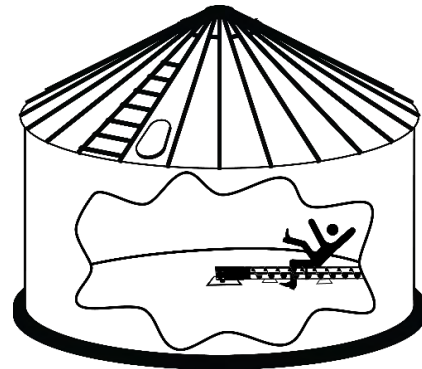
DANGER: Never enter bin unless all power is locked out and another person is present.



Unload equipment can kill or dismember!

NEVER enter bin when sweep is running!

When bin is nearly empty, sweep will travel at an increasingly fast speed. Keep away from sweep and sums to avoid entanglement.



Failure to follow precautions above will result in death or serious injury.



DANGER: Flowing grain will trap and suffocate. If you enter a bin of flowing grain you can be completely submerged in grain in about 8 seconds.



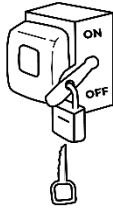
Failure to heed this warning will result in death or serious injury.

Safety

To avoid electric shock or electrocution, all equipment must be properly wired and grounded according to electrical codes. Have unit wired by qualified electrician.



Have an electrician install a main power disconnect switch capable of being locked only in OFF



position. Mark disconnect clearly as to equipment it operates.

Always lock out main power disconnect switch whenever equipment is not in use.

WARNING: When servicing equipment, never enter bin unless all power is locked out and another person is present. Automatic equipment can start at any time. Always LOCK OUT all power and always check with voltage meter before servicing. Frequently inspect all mechanical and electrical components. Repair and/or replace worn parts. Be sure all electrical wires are in good condition.

Failure to do so could result in death or serious injury.

NOTE: Refer to OSHA's typical minimal lockout procedures (29CFR 1910.147 App A) at www.osha.gov to establish a written plan for your work site.



WARNING: KEEP CLEAR OF ALL MOVING PARTS.

Keep people (ESPECIALLY YOUTH) away from equipment, particularly during operation.



Keep away from all moving parts. Keep all shields in place. **SHUT OFF AND LOCK OUT** all power before servicing.

Failure to follow precautions above could result in death or serious injury.

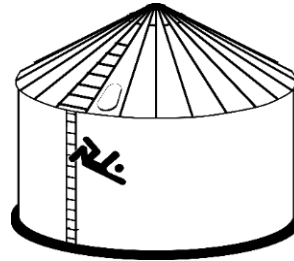


WARNING: Tubing or surface may be hot!

DO NOT TOUCH. Failure to heed this warning may cause serious burns.



WARNING: Metal is slippery when wet. To avoid falls, never carry items if climbing on bin. Maintain secure hand and foothold if climbing on bin. Failure to do so could result in death or serious injury.



CAUTION: Metal edges are sharp. To avoid injury, wear protective clothing and handle equipment and parts with care.

Failure to do so may result in minor or moderate injury.

PERSONAL PROTECTIVE EQUIPMENT



Refer to OSHA 1910.132 (Personal Prot. Equip.)

Owners/Operators are responsible for developing site-specific personal protective equipment standards. OSHA's personal protective equipment standards (29CFR 1910.132) can be found at www.osha.gov.

EMERGENCIES – KNOW WHAT TO DO

Have emergency numbers and written directions to work site readily available in case of emergency. An area for emergency phone numbers to be recorded is provided below and at end of this manual.

Ambulance • Fire • Police: 9-1-1

Bin rescue team: _____

Emergency medical squad: _____

Address of work site: _____

Directions to work site: _____

Cyclone Safety Decal Placement

Cyclone safety decals are mounted at the factory. Yearly and prior to equipment use, ensure that all decals and shields are in legible condition and in place according to these instructions. Replace missing or damaged safety decals or shields free of charge by contacting Sukup Manufacturing Co. by mail at Box 677, Sheffield, Iowa 50475; by phone at 641-892-4222; or by e-mail at info@sukup.com.

If decal replacement is necessary, follow steps below.

NOTE: If suggested placement areas are not clearly visible, place safety decals in a more suitable location. NEVER cover up any existing safety decals.

Ensure areas of placement for decals are free from grease, oil and dirt. Remove backing from decal and place in proper position.

- Decal L0281 – WARNING:** To avoid serious injury or death:
Decal is mounted on the shield.



- Decal L0271 – DANGER:** Shield Missing. Do not operate!
Decal is mounted under the shield.



- Decal L0284 – WARNING:** Keep Away From All Moving Parts.
Decal is mounted on the shield.



- Decal L0258A – DANGER:** Do not enter this bin!
Decal is mounted on main power box door.

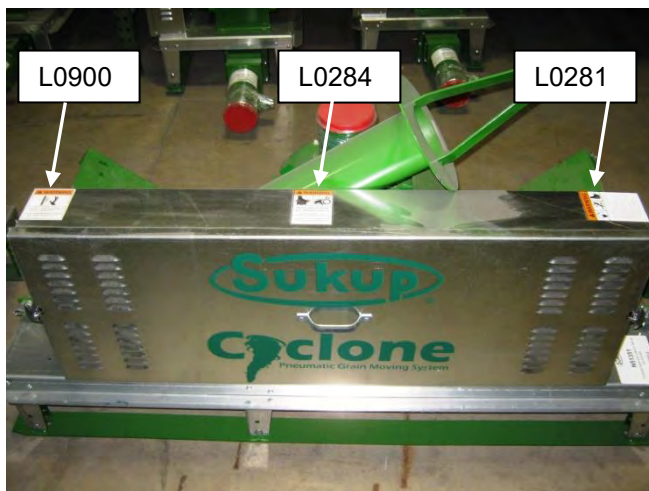
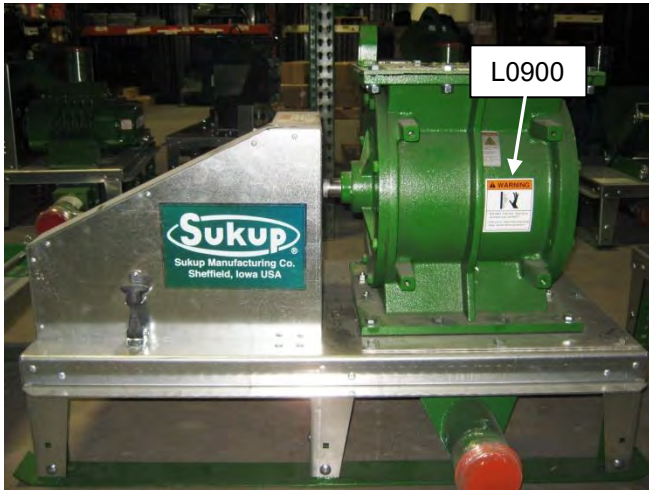


- Decal L0900 – WARNING:** Do not touch!
Decal is mounted where tubing or surface may be hot.



Safety

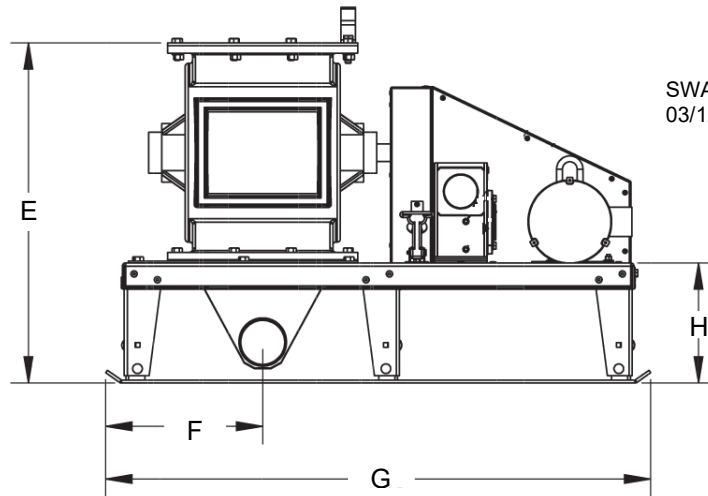
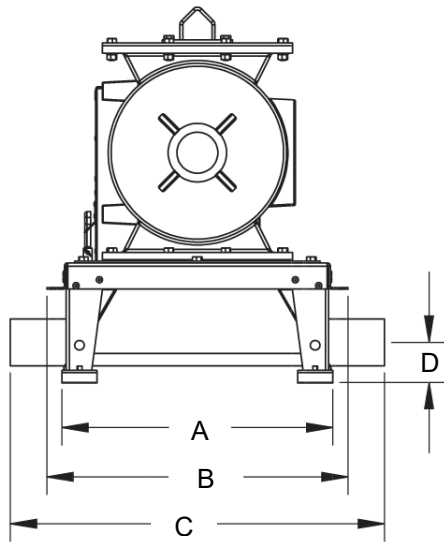
Locations and part numbers of Sukup safety decals listed on previous page are shown below. Replacements for damaged decals are available from Sukup. Decals not identified by part number are supplied by airlock manufacturer.



Dimensions

Dimensions

Fig. 1 & Table 1 show dimensions of airlock assy., in inches. Fig. 2 & Table 2 show blower.



SWAS0015
03/12/2003 JFJ

Fig. 1 & Table 1 – Airlock assy. dims.

	5" TUBE	6" TUBE
A	23.2	26.4
B	25.8	29
C	34.7	39.4
D	3	3.6
E	31.6	36.4
F	11.3	15.3
G	46.6	53.6
H	10.3	12

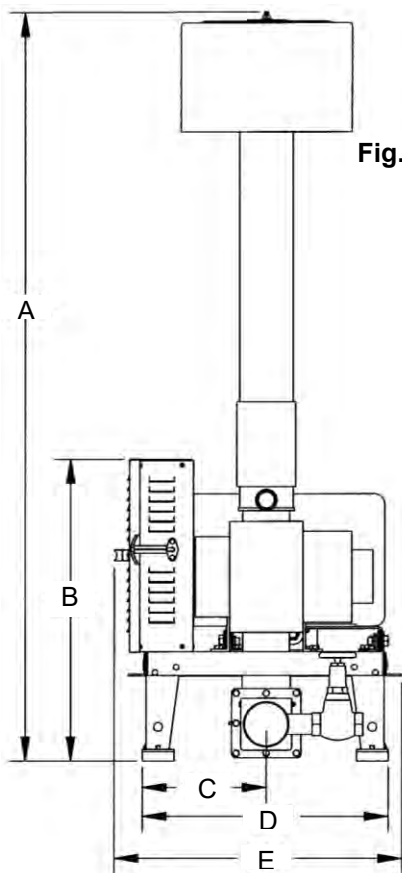
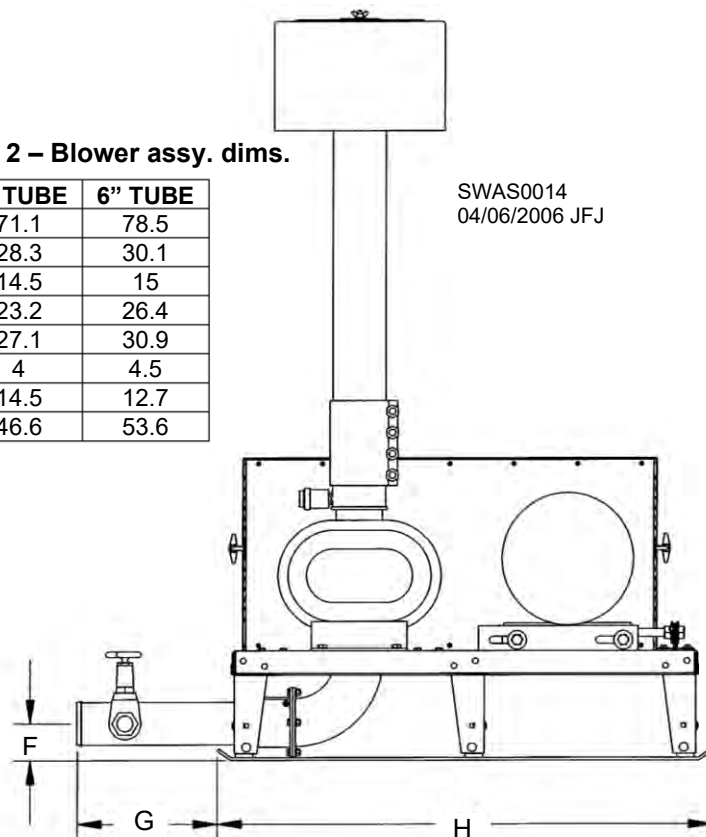


Fig. 2 & Table 2 – Blower assy. dims.

	5" TUBE	6" TUBE
A	71.1	78.5
B	28.3	30.1
C	14.5	15
D	23.2	26.4
E	27.1	30.9
F	4	4.5
G	14.5	12.7
H	46.6	53.6

SWAS0014
04/06/2006 JFJ



Dimensions

Fig. 3 shows dimensions, in inches of seven-valve distributor assy. (N56651B) for 5" dia. tube.

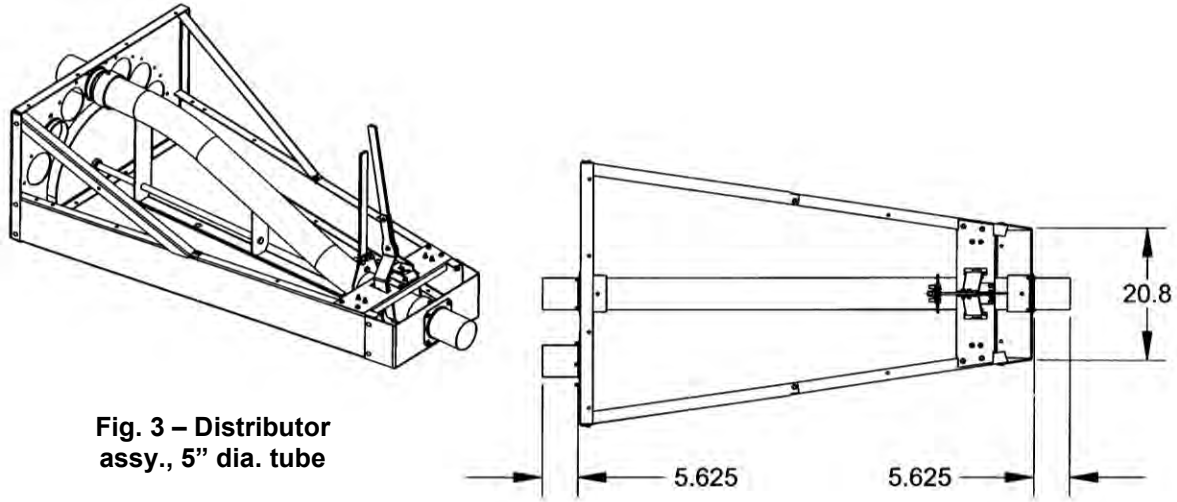
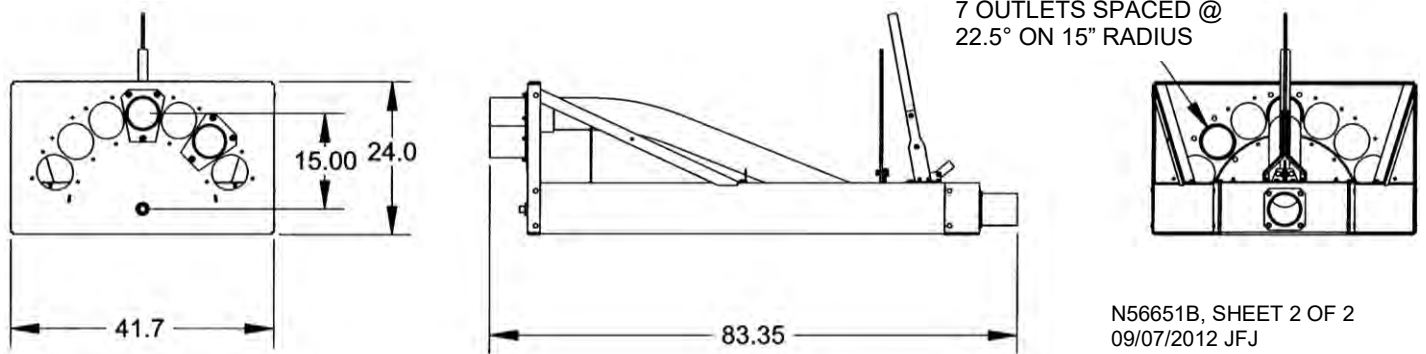


Fig. 3 – Distributor assy., 5" dia. tube



N56651B, SHEET 2 OF 2
09/07/2012 JFJ

Fig. 4 shows dimensions, in inches of seven-valve distributor assy. (N56661B) for 6" dia. tube.

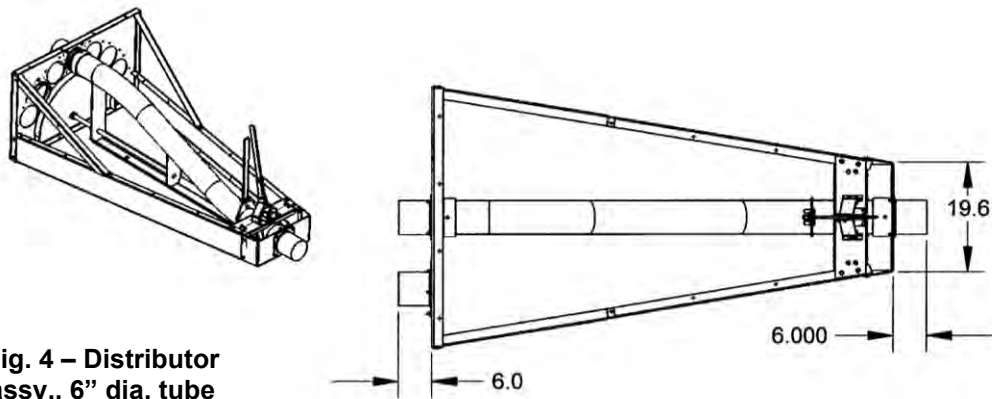
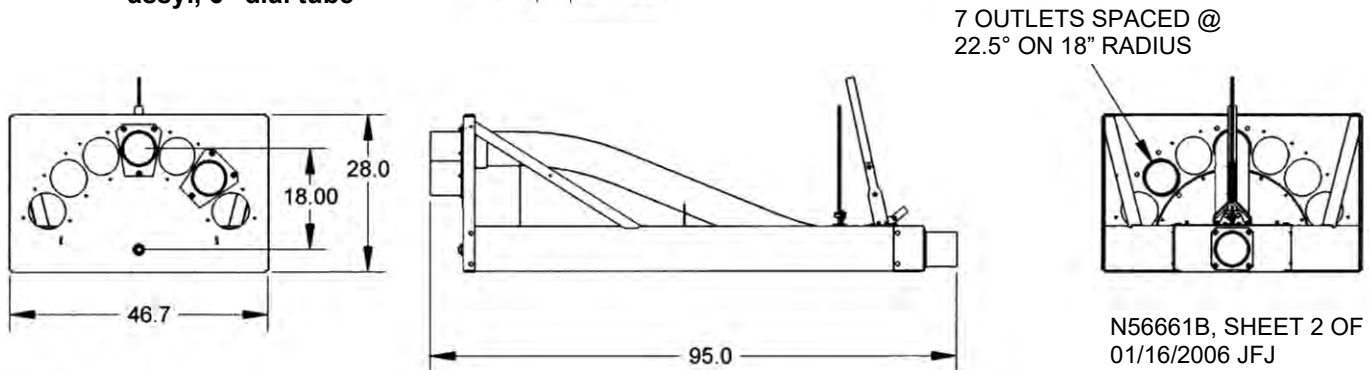


Fig. 4 – Distributor assy., 6" dia. tube



N56661B, SHEET 2 OF 3
01/16/2006 JFJ

Component Identification

Power Box Component Identification

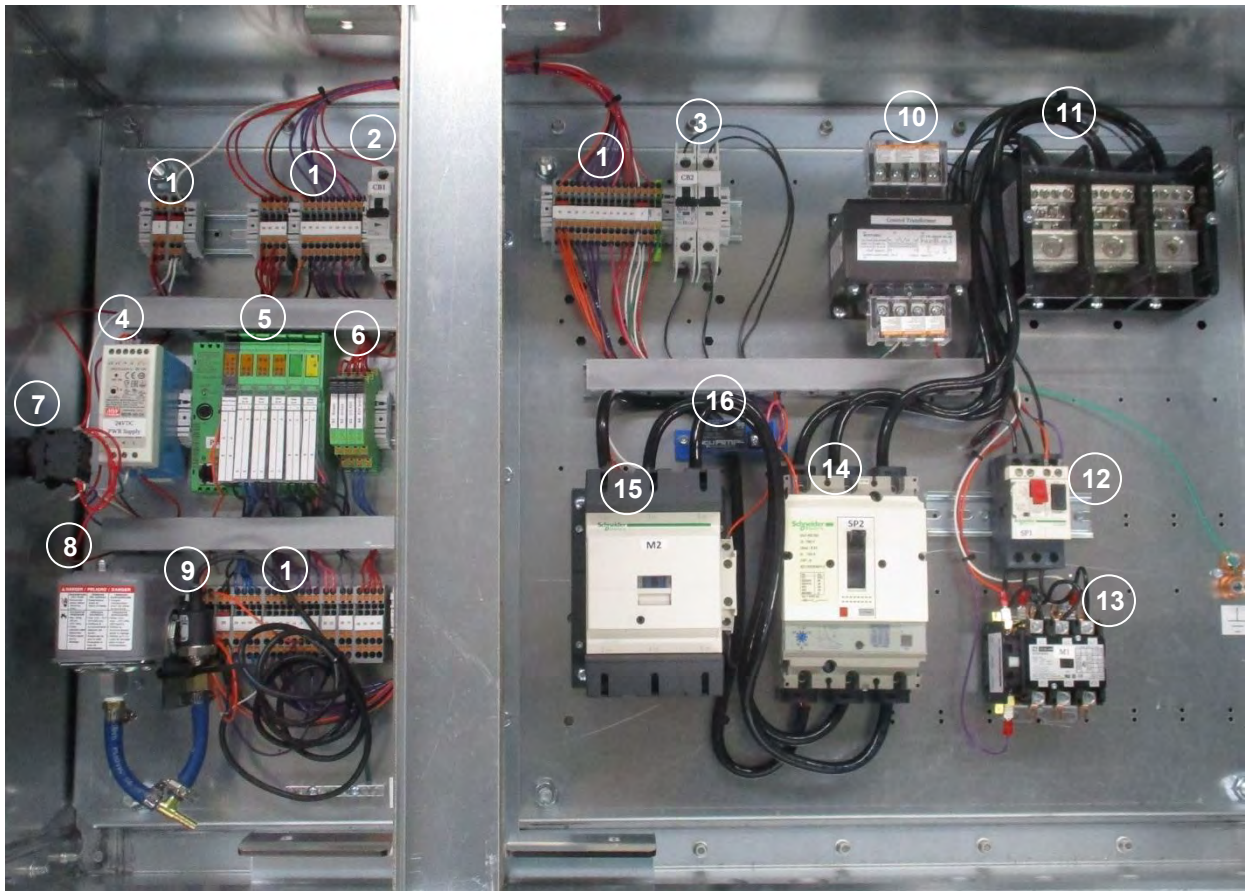


Image 1 – Power box components (prior to completion of wiring)

- | | |
|-------------------------------------|-------------------------------|
| 1. Terminals | 9. Air pressure transducer |
| 2. Secondary side circuit breaker | 10. Control transformer |
| 3. Primary side circuit breaker | 11. Power distribution block |
| 4. 24 VDC Power supply | 12. Airlock starter protector |
| 5. Programmable logic control (PLC) | 13. Airlock contactor |
| 6. Relays | 14. Blower starter protector |
| 7. Emergency Stop switch | 15. Blower contactor* |
| 8. High air pressure switch | 16. Current transducer** |

*Depending on air system, blower contactor could be line start (shown), soft start or variable-frequency drive.

**Used on line-start and soft-start systems.

IMPORTANT: During initial setup, ALL main power wiring connections should be inspected. Wires are tightened at factory; but connections should be checked after transport and retightened as needed.

NOTICE: Low-voltage components (left side) are separated from high-voltage (right side) in power box to minimize electromagnetic interference on left side. Always maintain high/low voltage and AC/DC separation and practice good wire maintenance.

Component Identification

Accessory Component Identification

Fig. 5 and Table 3 identify accessories commonly used on pneumatic grain moving systems.

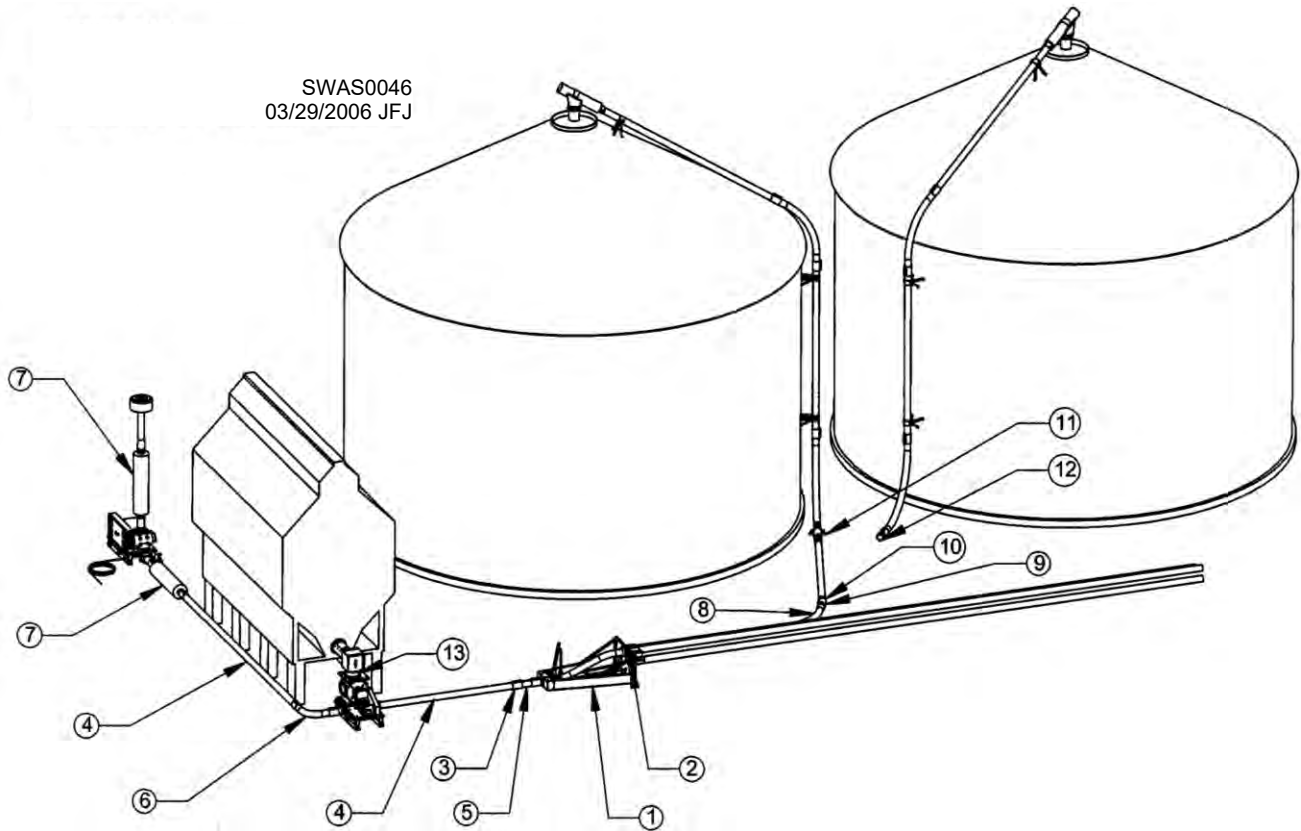


Fig. 5 & Table 3 – Air system accessories

REF. #	DESCRIPTION	5" PART #	6" PART #
1	Distribution valve, 7-way	N56651B	N56661B
2	Outlet adaptor	N56591B	N5679B
3	Compression coupler	J7522	J7560
4	Galvanized tubing, 20'	K2934	N5696
4	Galvanized tubing, 40'	K2933	N5698
5	Sight glass	N5548	N5648
6	11ga galvanized 90° elbow	J75201	J7576
7	Silencer (inlet or outlet)	N5512	N5612
8	11ga galvanized 60° elbow	J7521	J7577
9	Flexible hose	K5253	K5256
10	Hose clamp	J7544	J7545
11	Telescoping female camlock	N5590	N5690
12	Male camlock	J7540	J7563
13	Dryer adaptor kit	N5570	N5570

Pre-Installation Information

Air System Capacities

Air system capacities shown in Table 4 are **estimates** based on tube diameter, motor horsepower and effective length of system. Actual capacity may vary depending on condition of grain (test weight, moisture content, grain temperature, kernel shape, etc.), ambient temperature and humidity, as well as layout of system.

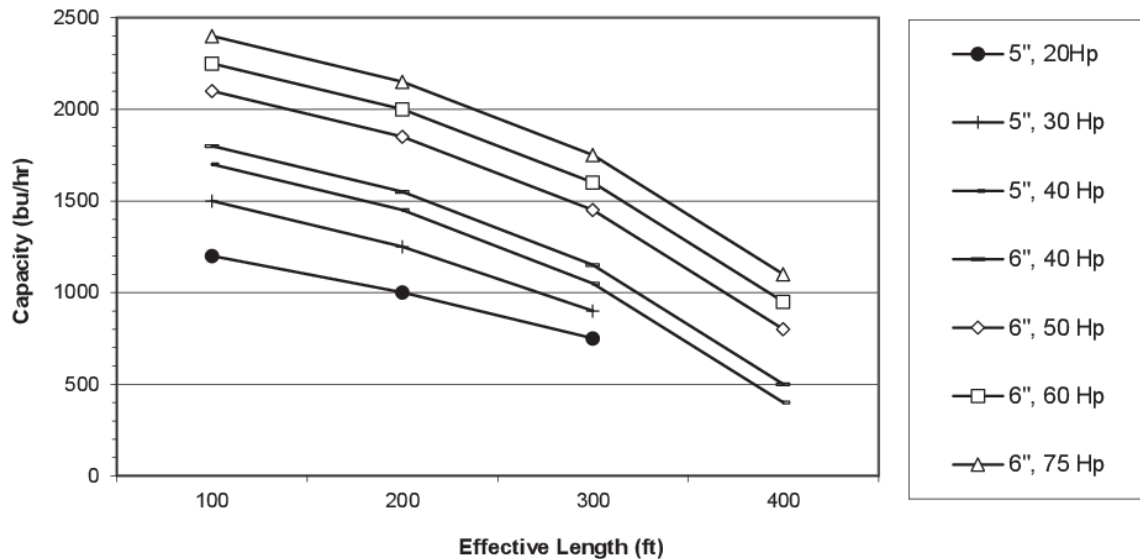
Effective length of a system is determined by adding horizontal length to twice the vertical rise, plus allowing 20 extra feet for each elbow.

SYSTEM	BU/HR 100 FT	BU/HR 200 FT	BU/HR 300 FT	BU/HR 400 FT
5", 20hp	1200	1000	750	---
5", 30hp	1500	1250	900	---
5", 40hp	1700	1450	1050	400
6", 40hp	1800	1550	1150	500
6", 50hp	2100	1850	1450	800
6", 60hp	2250	2000	1600	950
6", 75hp	2400	2150	1750	1100

Table 4 – Capacities by tube size, motor horsepower & effective length of air system

Chart below illustrates drop-off in capacity as length of air system increases.

Capacities for 5" & 6"



See Table 5 for airlock part number & specifications.

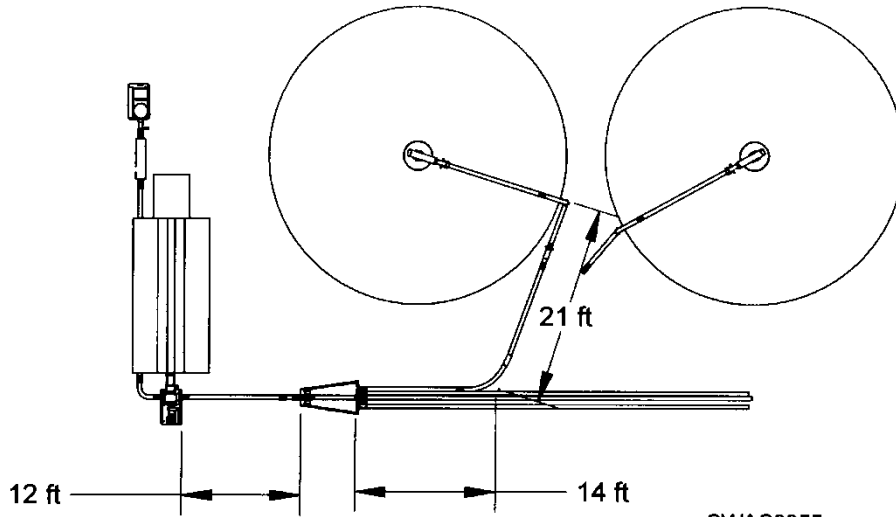
System	Airlock Part #	Size	Displacement Bu/rev	Speed Rpm	Capacity Bu/hr
5", 20hp & 30hp	J7512	14"	0.812	29.33	1429
5", 40hp	J7512	14"	0.812	41.56	2025
6", 40hp & 50hp	J7510	16"	1.246	29.33	2196
6", 60hp & 75hp	J7510	16"	1.246	41.56	3107

Table 5 – Specifications by tube size, motor horsepower & effective length of air system

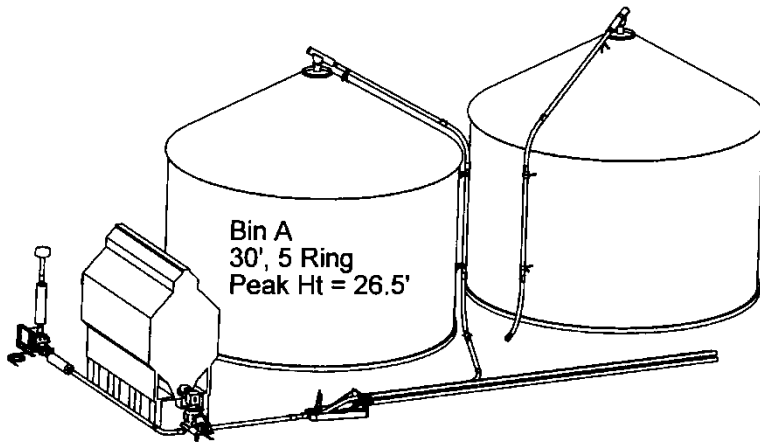
Pre-Installation Information

Calculating Effective Length of Air System

See Fig. 6 to calculate effective length of air system.



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06-03-29JFJ



EFFECTIVE LENGTH FACTORS:

- EACH 90 DEGREE ELBOW = 20 FT
- EACH 60 DEGREE ELBOW = 20 FT
- EACH 45 DEGREE ELBOW = 20 FT
- EACH 30 DEGREE ELBOW = 20 FT
- EACH DISTRIBUTION VALVE = 20 FT
- EACH HORIZONTAL FOOT = 1 FT
- EACH VERTICAL FOOT = 2 FT

EXAMPLE:

Effective Length for Bin A

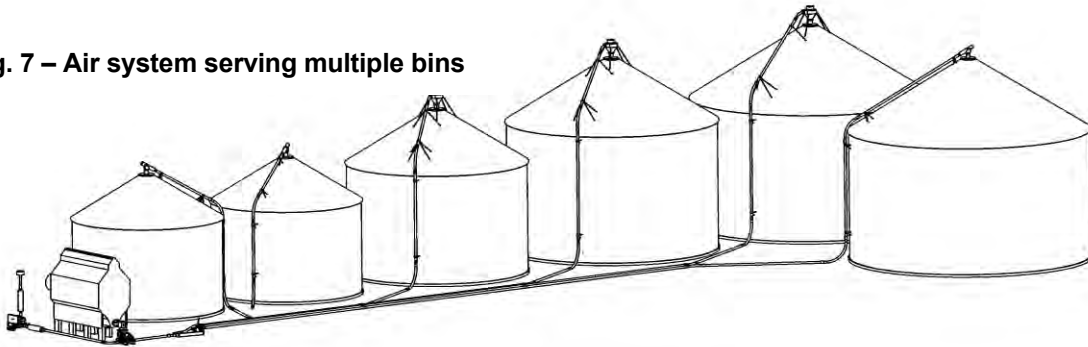
- 12 ft from airlock
- 20 ft for Distribution Valve
- 14 ft from Valve
- 20 ft for 60 degree elbow
- 21 ft for tube from elbow
- 20 ft for 90 degree elbow
- 53 ft (26.5 x 2) for bin height
- 20 ft for 60 degree elbow
- 15 ft for bin radius

Total effective length = 195 ft

Fig. 6 – Top and side views of bins and dryer

Air System Layout

Fig. 7 – Air system serving multiple bins



A fused disconnect or equivalent must be provided for incoming power supply to meet National Electric Code. Consult a qualified electrician for local code requirements.

Place airlock in position to receive grain. Grain can move in either direction through airlock transition to allow blower to be placed on either side in most convenient location.

Connect blower outlet with airlock transition inlet using a piece of galvanized tube and either compression couplers or short pieces of hose with hose clamps. **NOTE:** Blower can be placed up to 50 feet away from airlock to minimize noise and provide a clean air source. Blower inlet and filter can also be remotely located to provide clean air. Consult Sukup Manufacturing Co. for distances exceeding 50 feet.

Blower can be placed in an enclosure to minimize noise, but be sure to provide adequate cooling ventilation for both blower and motor.

To allow grain to reach conveying velocity, at least 10 feet of straight tube is required at airlock transition outlet before first elbow is installed. Keep at least 8 feet of straight length between elbows to maintain conveying velocity.

A sight glass can be installed just before first elbow to provide an indication of grain velocity.

Use galvanized tube and elbows wherever possible. Rubber hose slows grain movement, has high wear characteristics and tends to transmit more noise than a steel tube. (A good use for rubber hose is a short piece used to connect tubing that needs to be directed to several other tubes arranged in a manifold.)

Do not use plastic tubing for air systems. Static electricity can build up and become dangerous.

Use compression couplings to connect steel tubing. Ends must be cut square and butted tightly together to prevent exposed edges from causing grain damage.

Avoid routing tubing underground. If it is necessary to go under a driveway or other obstacle, then a 45-degree offset should be used for both entering and leaving the buried tubing. Condensation can make inside of buried tubing “sticky” and grain capacities may initially be less than expected until tubing has been polished and warmed up.

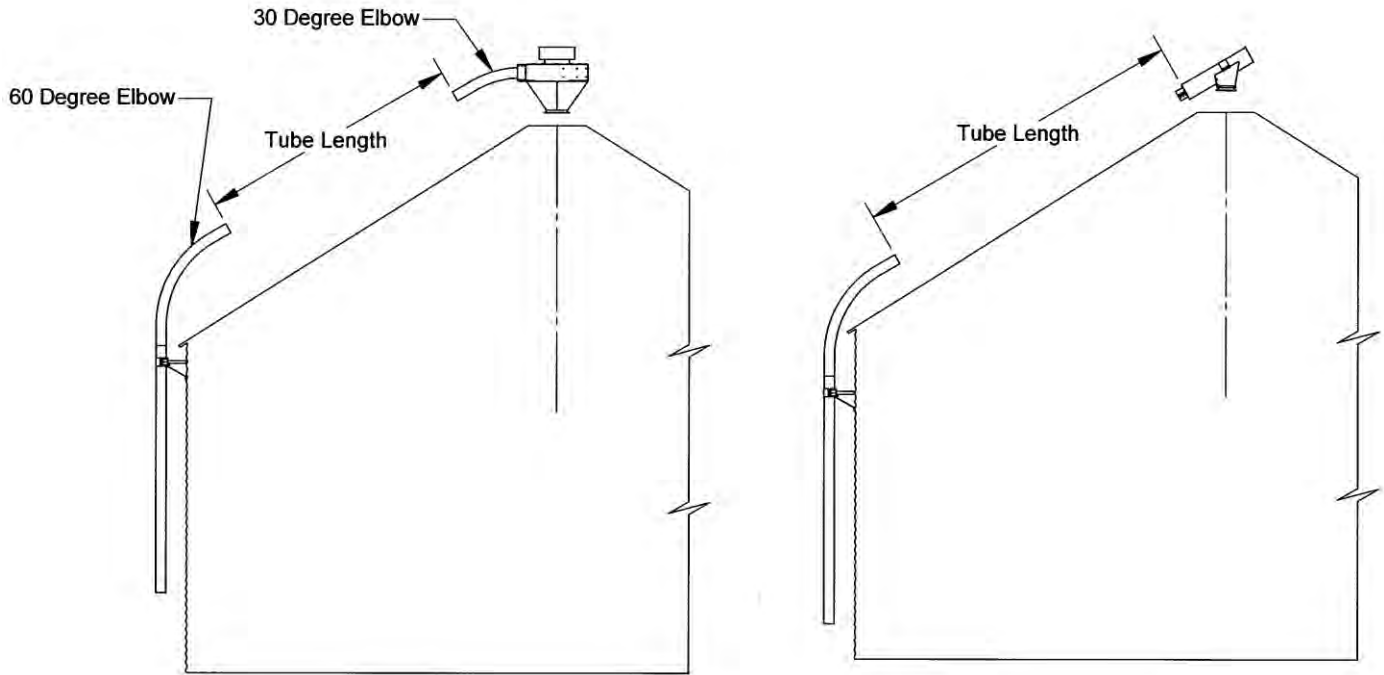
Use a truss kit to support tubing when distance exceeds 20 ft. and (2) kits for spans of over 40 ft. Use a solid length of tube for any span (40-ft lengths are available).

Avoid long inclines of tubing when possible. Air systems can move grain vertically more efficiently than up inclines.

Pre-Installation Information

Use either a deadhead or a cyclone at end of tubing to drop grain out of air stream. See Fig. 8 to determine roof tube lengths required for installing cyclone or deadhead on storage bin.

NOTE: When installing a Sukup cyclone it is important that tube not extend more than 1/2" on inside. A length in excess of 1/2" can cause higher-than-desired grain velocities upon impact and therefore result in premature wear of liners in cyclone. It is important to check liners at regular intervals and to replace them prior to wear-through.



SWAS0036
07/11/2003 JFJ

System Size	Tube Length
5 Inch Cyclone	(Bin Radius minus 76 Inches) X 1.155
5 Inch Deadhead	(Bin Radius minus 38 Inches) X 1.155
6 Inch Cyclone	(Bin Radius minus 76 Inches) X 1.155
6 Inch Deadhead	(Bin Radius minus 41 Inches) X 1.155

Example: 48 Ft dia bin with a 5 inch cyclone
 Bin Radius = 24 ft x 12 = 288 in
 Tube Length = (288 - 76) X 1.155 = 244.86 inches

Fig. 8 – Calculating cyclone & deadhead roof tube length

A silencer may be installed on either inlet or outlet of blower to reduce noise level. Attach silencer to blower with a compression coupler.

Installation

Airlock Set-Up

Remove shipping cover from top of airlock and ensure there is no foreign material in airlock body.

Attach adaptor to airlock as shown in Fig. 9 using hardware provided in Kit N5570. Trim 10" diameter tube as needed. Stitch-weld each flange ring to tube with three 1" welds spaced equidistantly.

Attach tube to bottom of discharge box using eight 5/16" screws, lock washers and nuts. See Figs. 9 & 10. **NOTE:** If dryer has a static sample box attached to bottom of discharge box, attach tube to bottom of static sample box.

Attach tube to airlock using eight 5/16" screws, lock washers and nuts. See Fig. 9.

ITEM #	DESCRIPTION	PART #	QTY.
1	Tube, 10" dia. x 29"	D3013	1
2	Flange ring, 10" ID	J6610	2
3	Pressure relief vent cover	T256702	1
4	Pressure relief vent air diverter	T256703	1
5	Screw, 1/4 – 14 x 1", self-drilling	J0501	10
6	Screw, 5/16 – 18 x 1"	J0527	16
7	Nut, 5/16" – 18	J1002	16
8	Split lock washer, 5/16"	J1200	16

Table 6 – Kit N5570 parts

Remove seal plate from discharge box on grain dryer. See Fig. 10. Save hardware.

Attach bottom of air diverter to discharge box. Use previously removed hardware in bottom three holes used to hold seal plate to box.

Attach top of vent cover to discharge box. Use previously removed hardware in top three holes used to hold seal plate to box.

NOTE: If attaching airlock to an older dryer that does not have a seal plate on discharge box, cut a 3-3/4 x 7-1/4" hole in box. Hole should be centered horizontally, with top of hole 2" from top of box (with lid open). Use self-drilling screws to attach vent pieces.

Mount airlock motor with carriage bolts provided in adjusting plate. Attach drive pulley on motor shaft and align it with pulley on gearbox. Place V-belt that is supplied with airlock over motor pulley and tighten belt by using threaded bolt on end of airlock stand. After belt is tensioned, tighten motor mounting hardware to secure motor.

Motor should be wired to turn clockwise (as viewed looking at end of shaft). This will turn airlock vanes into rubber wiper to prevent vanes from shearing kernels of grain. Check rotation of airlock to ensure it matches with rotation tag on airlock.

Bottom transition is factory-attach to airlock so that it is perpendicular with airlock stand as shown in Fig. 9. Transition can be removed and turned 90 degrees if needed. **NOTE:** Skids that are bolted to legs of galvanized stand will have to be removed before transition can be rotated.

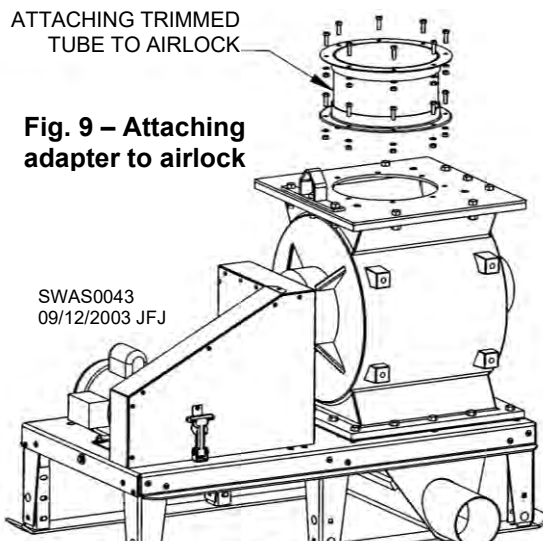


Fig. 9 – Attaching adaptor to airlock

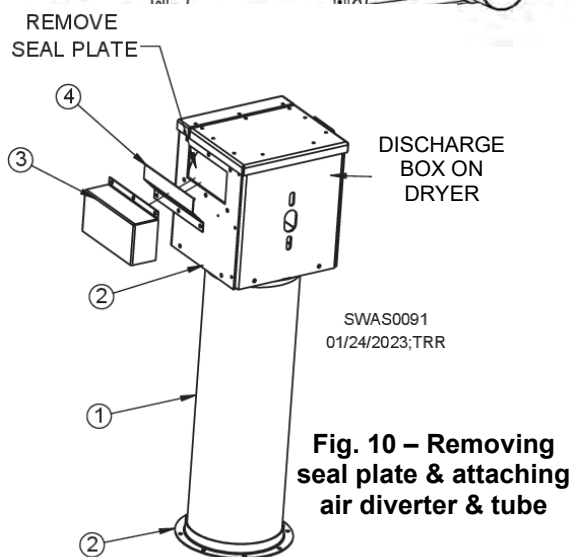


Fig. 10 – Removing seal plate & attaching air diverter & tube

Installation

Blower Set-Up

As viewed when looking at blower shaft, Duroflow blowers rotate counterclockwise.

Blower stands are assembled at factory with blower pulley and belts assembled to blowers. Two belts are used to drive blower on units with 10hp, 15hp or 20hp motor; 30hp units use three belts; 40hp units use four belts; 50hp and 60hp units use five belts; 75hp units use six belts.

Attach motor to mounting plate. See applicable drawing on next page.

Attach 8.95-inch diameter motor pulley to motor shaft using proper QD style bushing. Align motor pulley with blower pulley using a straight edge to ensure good belt alignment.

Loosen 5/8" bolts and slide motor forward until belts can be placed over motor pulley. Use 3/4" tightener bolt on end of stand to tension belts until they have 3/8" deflection under 10 pounds of pressure per belt. Tighten 5/8" bolts to secure motor.

Use a compression coupler to attach air filter stack to blower inlet. **NOTE:** Air filter can be located as far as 50 ft. away from blower to provide cleaner air.

Blower manufacturer's manual is placed inside belt shield. See manual for proper lubrication. Blowers are filled with oil at factory. Check oil level by using sight glass on end of blower. Add oil as needed (Sukup J3200 – 1 quart; J3201 – 5 gallon). Duroflow blower capacity is 1-3/4 qts.

Attach air restriction gauge into threaded hole in blower inlet.

Attach air filter and pre-filter to top of filter stack. Cover filter with filter can and secure with a sealing washer and wingnut.

Attach one end of 1/4" rubber hose (shipped in main power box) to barbed fitting on side of blower outlet; other end is already attached to pressure switch in main power box.

Tight-radius elbows are available to route air to airlock. Use short pieces of hose or compression couplers to attach tube from blower to airlock.

Silencers are available for both inlet and outlet of blower. These can be mounted directly to blower inlet and/or outlet if used.

Installation

5" Blower Motor Mounting Positions

SWAS0013
03/12/2003 JFJ

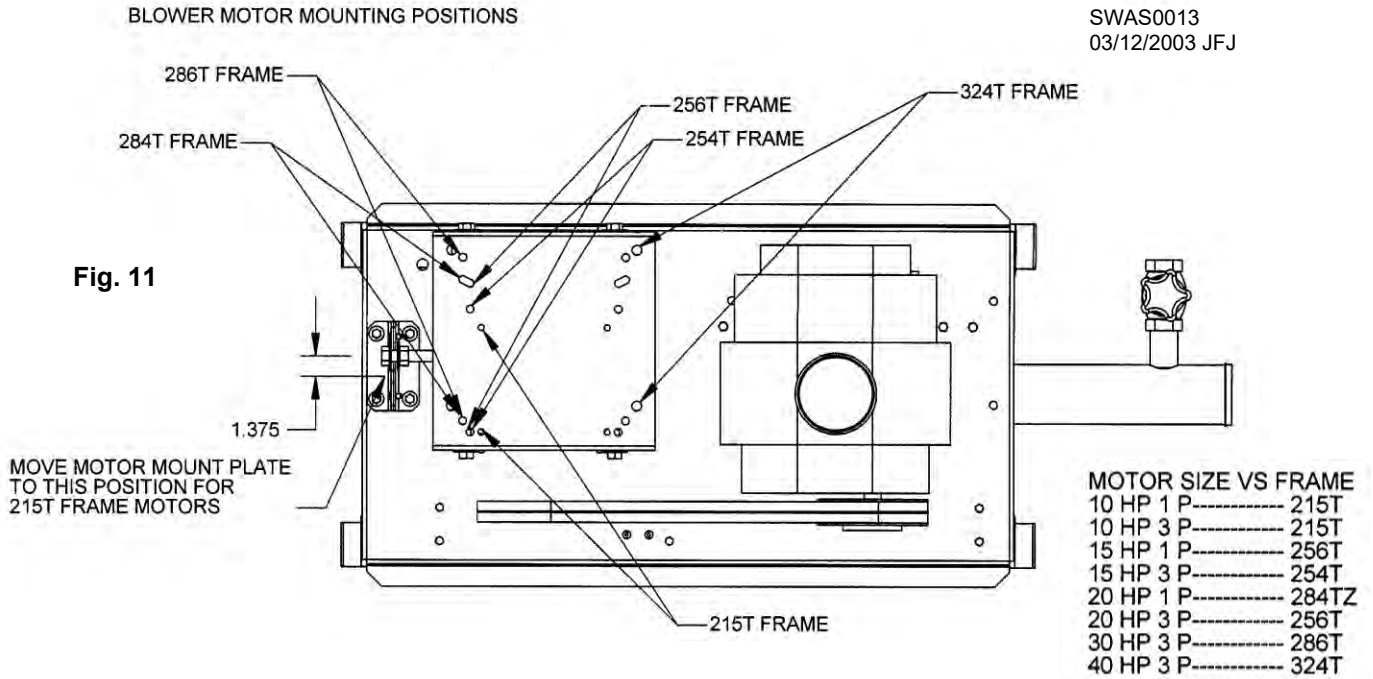
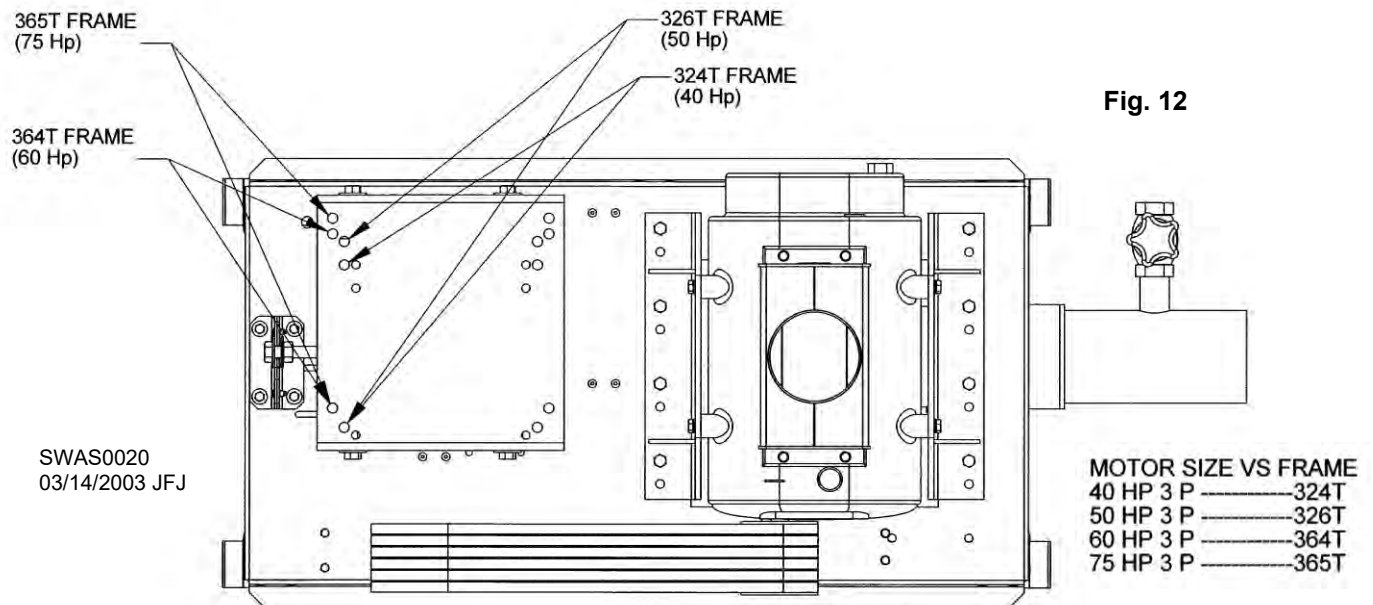


Fig. 11

6" Blower Motor Mounting Positions

Fig. 12



SWAS0020
03/14/2003 JFJ

Main Power Box Installation

Attach main power box to a sturdy stand. Use mounting studs on back of box and C-channels (not provided). Figs. 13-15 show dimensions of boxes. Table on Page 54 shows box used for each electrical panel. Approximate weight of main power box, including components, is 225 pounds for N60090 or N60290, 325 pounds for N60091, and 400 pounds for N6019.

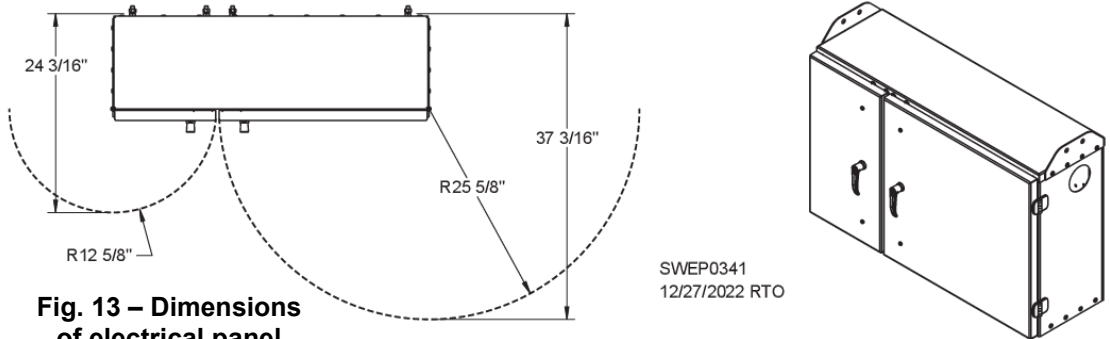


Fig. 13 – Dimensions of electrical panel enclosure boxes N60090 & N60290

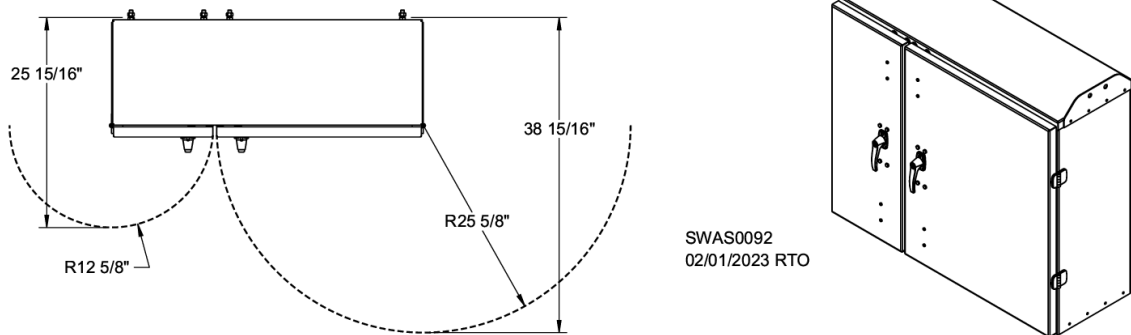
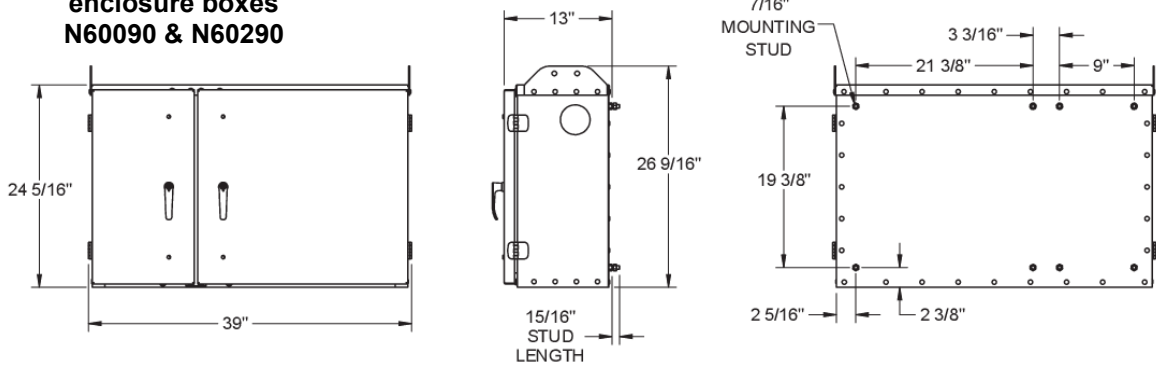
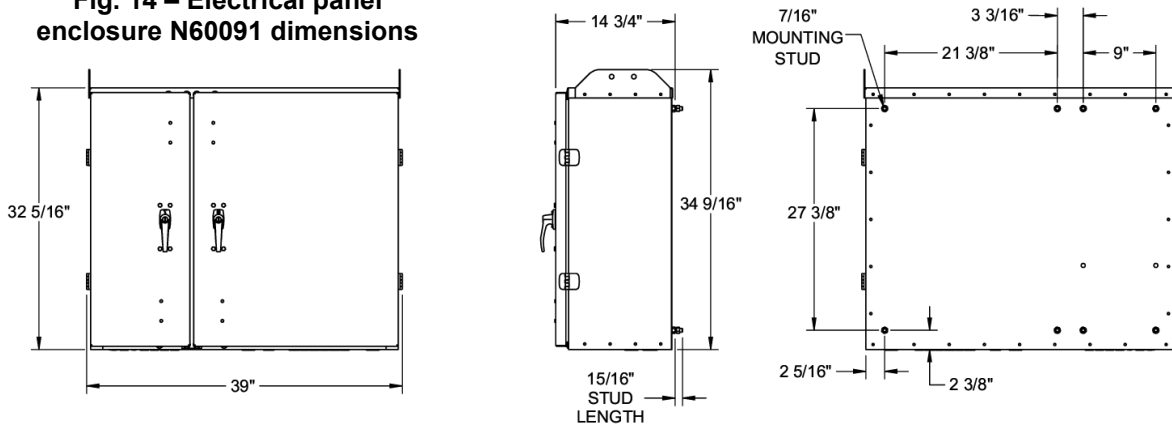
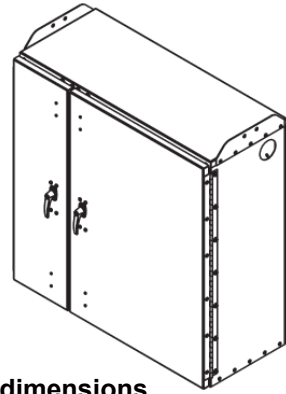
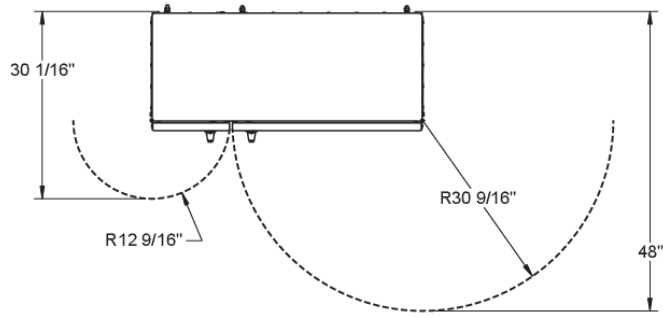


Fig. 14 – Electrical panel enclosure N60091 dimensions

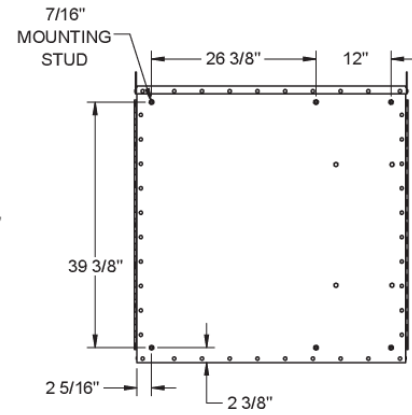
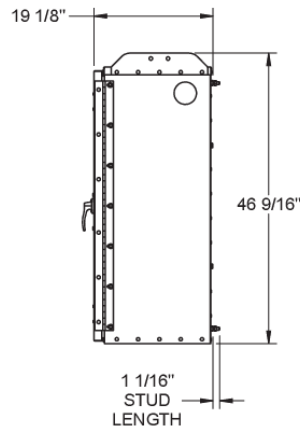
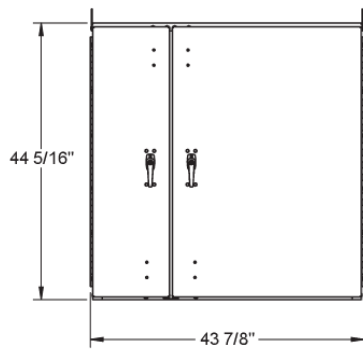


Installation



SWEP0340
12/27/2022 RTO

Fig. 15 – Electrical panel enclosure N6019 dimensions



Installation

Touch Screen Control Panel Installation

If air system will not be controlled by QuadraTouch Pro dryer console, a touch screen control panel must be installed. Image 2 shows touch screen. Fig. 16 shows dimensions of protective box for touch screen.

Use hardware provided to attach mounting bracket shown in Fig. 16 to touch screen box.

Mount touch screen box to a sturdy stand at a convenient location near air system. Mount box so it can be easily removed for storage when not in use.

NOTICE: Ambient air temperature range for operating touch screen is 32°F to 122°F, and storage temperature range is -13°F to 158°F. Store touch screen control panel in a temperature- and weather-controlled environment when not in use.



Image 2 – Touch screen panel (N23476)

Connect Ethernet cable from bottom of touch screen panel to bottom of main power box so it will link with cable shown in Image 4. If controlling air system via dryer with QuadraTouch Pro, connect Ethernet cable from air system power box to Ethernet switch in dryer's main power box. See wiring diagram on Page 46.

APPROXIMATE WEIGHT: 20 LB

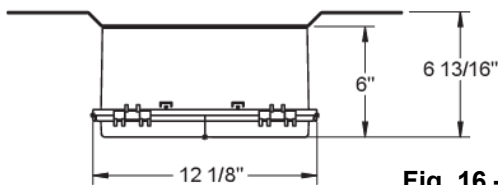
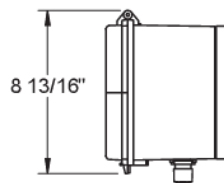
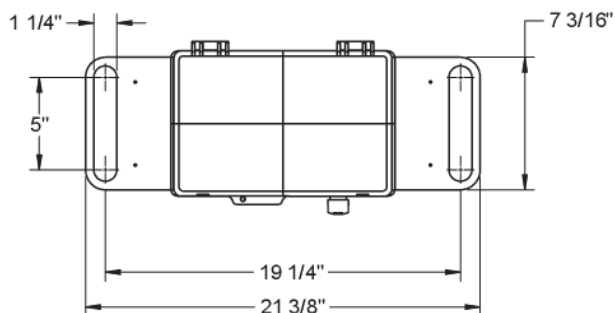
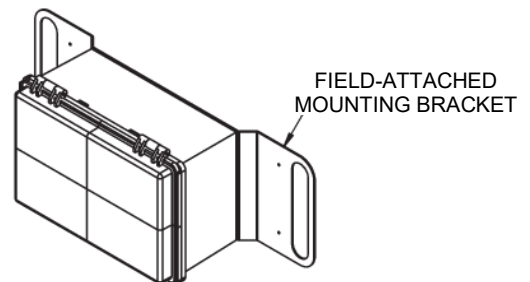
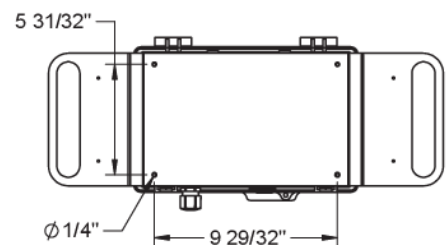


Fig. 16 – Touch screen box



SWEP0343
12/02/2022 RTO



Installation

Dynamic Bleed Valve Installation

Attach air pressure sensor hose to blower as shown in Image 3 using clamp provided. Insert other end through bottom of power box using watertight fitting. Clamp hose to nozzle shown in Image 4.

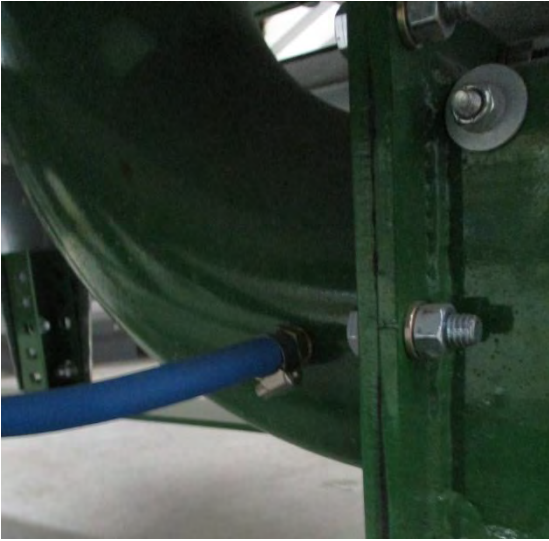


Image 3 – Air pressure sensor hose connected to blower outlet

If not done already, connect wires from dynamic bleed valve actuator to wires from conduit (See Image 5) according to wiring diagram on Page 46.

Ensure power box is wired according to applicable wiring decal(s) on inside of door(s). See decal(s) on Pages 47-49.

Plug power box into electrical service.

Plug in and turn on touch screen or QuadraTouch Pro console and navigate to Air System 1. Press Enter. See Software Manual beginning on Page 34.

In Settings:

- Enter amperage using Service Factor Amps (FLA x SF) found on motor nameplate.
- Enter desired air pressure. Start at 3 psi. Remember, higher pressure equals lower grain velocity. Set pressure to ensure system will not plug.
- Enter voltage of electrical service.



Image 4 – Air hose nozzle in power box



Image 5 – Dynamic bleed valve

Installation

To calibrate dynamic bleed valve, go to Manual Operation. Make sure DBV is set at 0%.

Loosen collar on butterfly valve stem so that stem can be rotated manually. See Image 6.

Use screwdriver to turn stem to 0%. See Images 7 and 8.

Retighten collar on butterfly valve stem.

IMPORTANT: PLC-based system eliminates need for velocity compensating valve and surge tank. Remove them from original air system if present.

NOTE: Valve and tee assembly (J7552) supplied with Sukup air systems can be installed and used with dynamic bleed valve.



Image 6– Loosening butterfly valve collar



Image 7 – Setting valve to 0% open

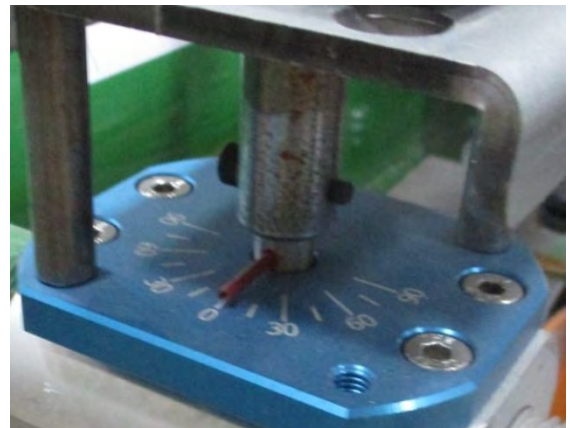


Image 8 –Dynamic bleed valve set at 0%

Installation

Wiring VFD for 3ph Power

Image 9 shows Schneider variable frequency drive wiring for air system using 3-phase power. Connect violet wire #10B to terminal R1A, violet #10 to R1C, violet #11 to R2A, orange #18 to R2C, pink #21 to AQ1, blue STF to DI1, gray #31 to AI1, and black #95 to COM. **NOTE:** Terminals may look different depending on size of VFD, but will be numbered the same as in Image 9.

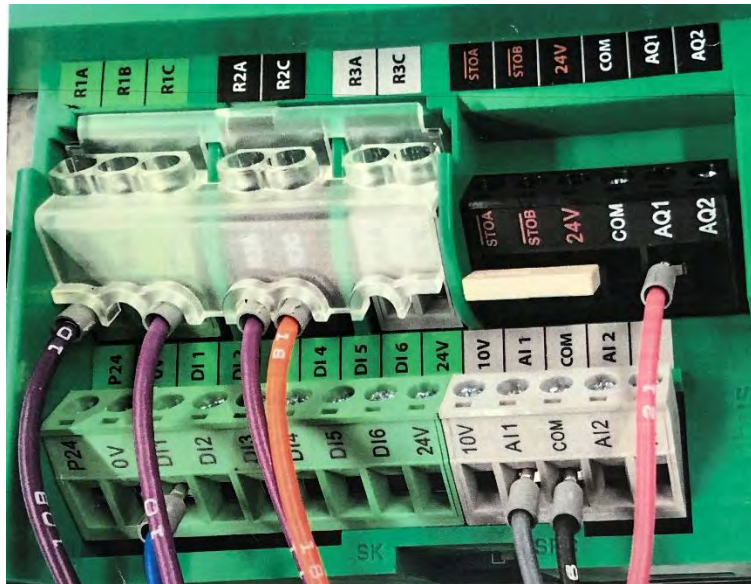


Image 9 – Wiring Schneider VFD for 3ph air system

Image 10 shows Mitsubishi variable frequency drive wiring for air system using 3-phase power. Connect pink #21 wire to AM terminal, gray #31 wire to terminal 1, violet #10 to A1, violet #10B to C1, orange #18 to A2, violet #11 to C2, black #95 to SD, and blue #3C to STF. Use black jumper from terminal 5 to terminal SD, and white jumpers as follows: from SD to SIC, from S1 to PC and from S2 to PC. Also install hard black jumper over Source pins as shown in circle.

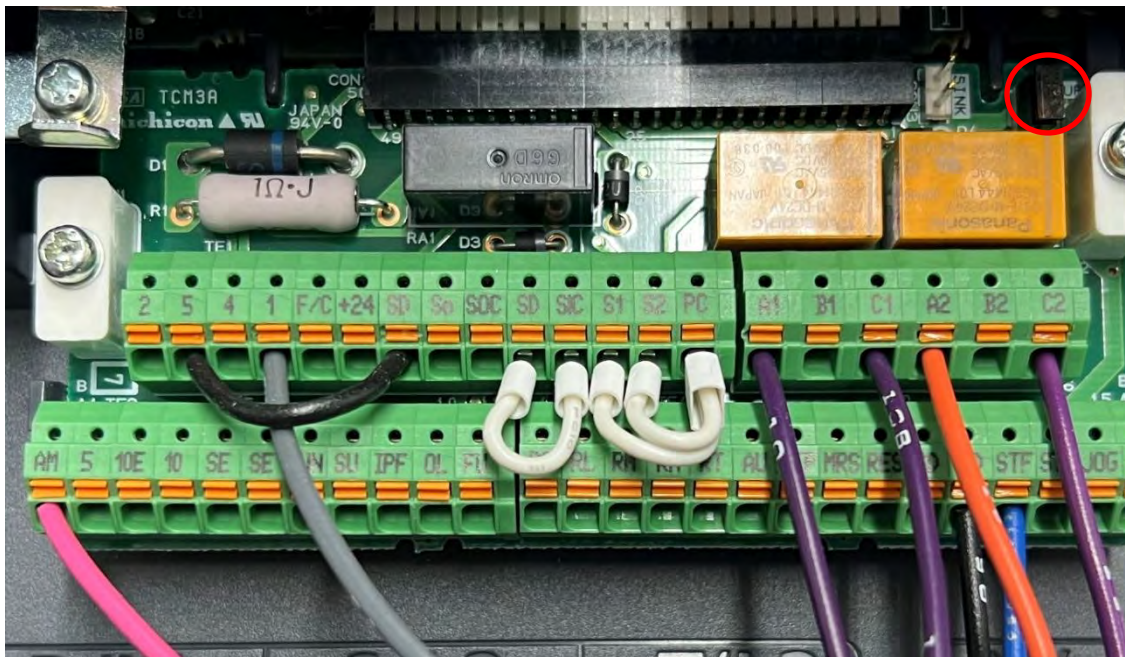


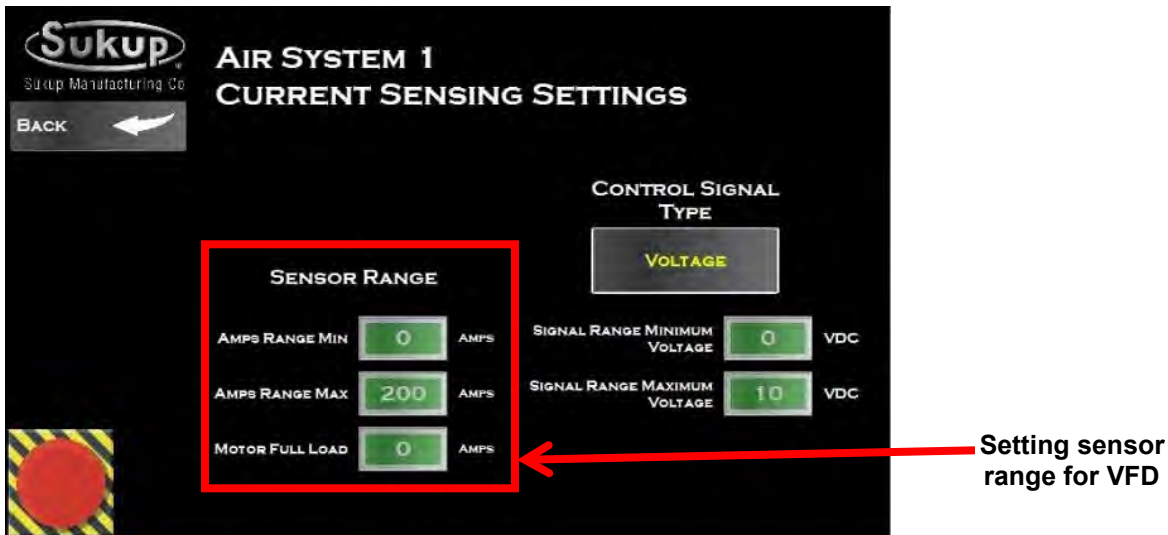
Image 10 – Wiring Mitsubishi VFD for 3ph air system

Adjusting Air System Current Sensing Settings

Before running air system for first time, adjust current sensing settings using Table 7. Settings depend on VFD number. Minimum current setting is 0 for all VFDs. Pathway to screen shown below is: Settings → Advanced Settings → Current Sensing Settings.

IMPORTANT: Sensor range settings affect how PLC scales VFD current signal. Proper adjustment will ensure PLC reads correct amp draw. Proper adjustment will also ensure touch screen displays correct current draw.

NOTE: Sensor range will not need to be re-adjusted after initial setting.



	POWER BOX #	MOTOR HP	SCHNEIDER VFD		MITSUBISHI VFD		MOTOR FULL LOAD AMPS SETTING
			PART #	AMPS RANGE MAX SETTING	PART #	AMPS RANGE MAX SETTING	
230V	N123120	20	---	---	FR-F820-00930-E3N6	200	*
	N123130	30	---	---	FR-F820-01540-E360	200	*
	N123140	40	---	---	FR-F820-01870-E360	200	*
	N123150	50	---	---	FR-F820-02330-E360	200	*
	N323120	20	ATV320D15M3C	132	FR-F820-00630-E3N6	200	*
	N323130	30	ATV630D22M3	186	FR-F820-00930-E3N6	200	*
	N323140	40	ATV630D30M3	246	FR-F820-01250-E3N6	200	*
	N323150	50	ATV630D37M3	298	FR-F820-01540-E360	200	*
	N323160	60	ATV630D45M3	352	FR-F820-01870-E360	200	*
N323175	75	ATV630D55M3	422	FR-F820-02330-E360	200	*	
460V	N343120	20	ATV320D15N4B	66	FR-F840-00310-E3N6	200	*
	N343130	30	ATV630D22N4	93	FR-F840-00470-E3N6	200	*
	N343140	40	ATV630D30N4	123	FR-F840-00620-E3N6	200	*
	N343150	50	ATV630D37N4	149	FR-F840-00770-E360	200	*
	N343160	60	ATV630D45N4	176	FR-F840-00930-E360	200	*
N343175	75	ATV630D55N4	212	FR-F840-01160-E360	200	*	
575V	N353120	20	ATV630D15Y6	36	FR-F840-00320-E3N6	200	*
	N353130	30	ATV630D22Y6	58	FR-F860-00450-E3N6	200	*
	N353140	40	ATV630D30Y6	68	FR-F860-00450-E3N6	200	*
	N353150	50	ATV630D37Y6	90	FR-F860-00680-E360	200	*
	N353160	60	ATV630D45Y6	110	FR-F860-00680-E360	200	*
	N353175	75	ATV630D55Y6	132	FR-A60-01080-E160	200	*

*See FLA rating on motor nameplate

Table 7 – VFD settings

Installation

Mounting Distributor to Bin Wall

If applicable, see Fig. 17 for mounting distributor to bin wall.

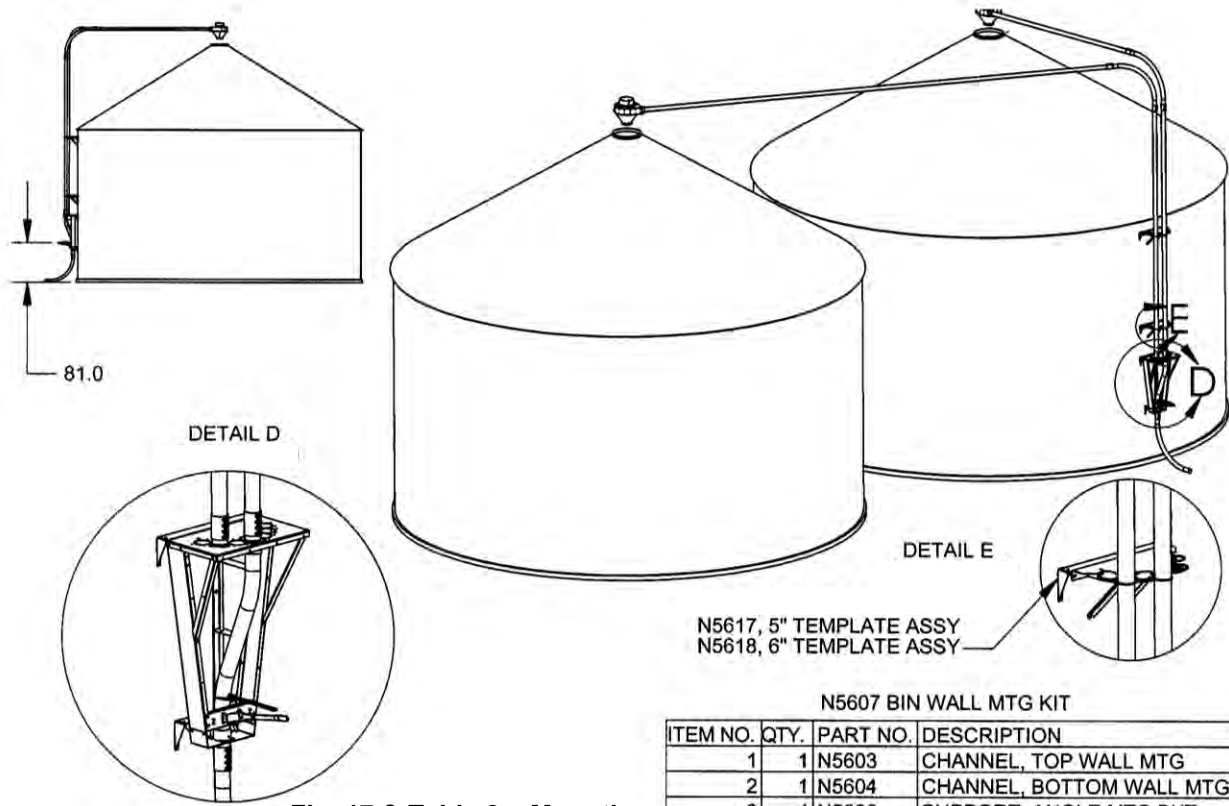
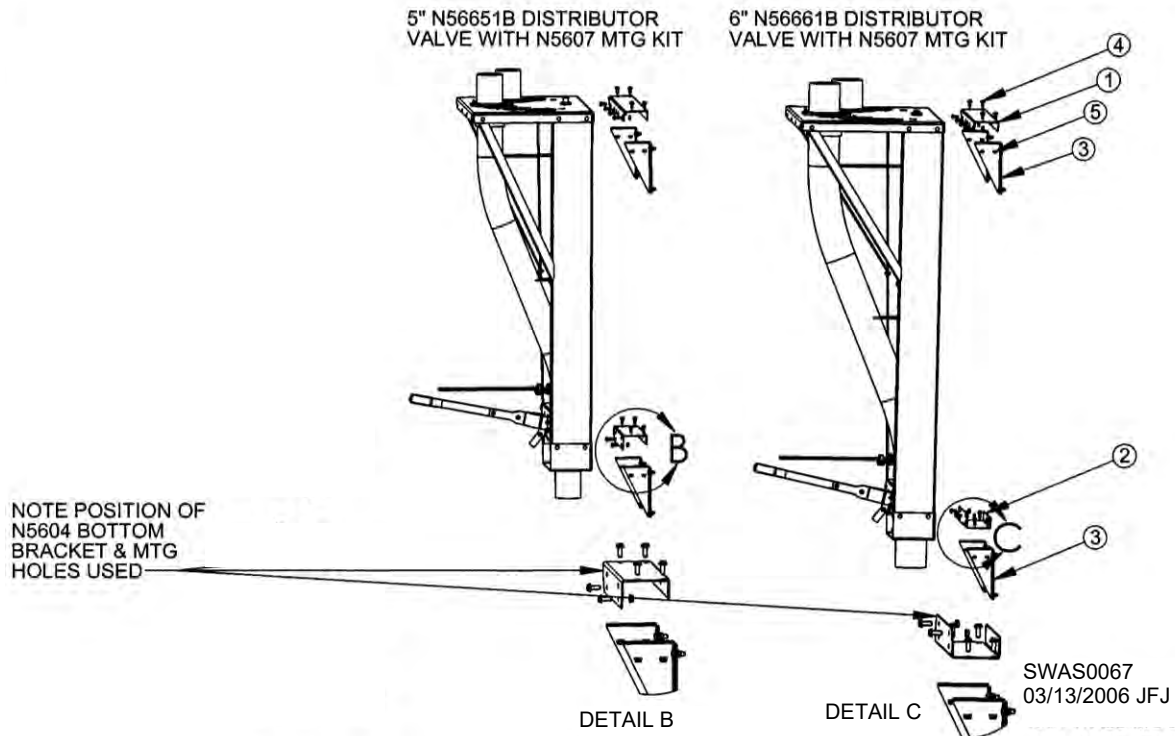


Fig. 17 & Table 8 – Mounting distributor to bin wall

N5607 BIN WALL MTG KIT

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	N5603	CHANNEL, TOP WALL MTG
2	1	N5604	CHANNEL, BOTTOM WALL MTG
3	4	N5606	SUPPORT, ANGLE MTG BKT
4	22	J0611	BOLT, BIN, 3/8-16X1", GR8, 2PLT
5	22	B5962	NUT, WHIZLOCK, 3/8-16



NOTE POSITION OF N5604 BOTTOM BRACKET & MTG HOLES USED

SWAS0067
03/13/2006 JFJ

Installation

Attaching Fill Auger

If applicable, see Fig. 18 and Table 9 to attach fill auger to air system. Attach swivel assembly to airlock, then attach flexible connecting belt to inside of angle ring, cutting as needed to fit.

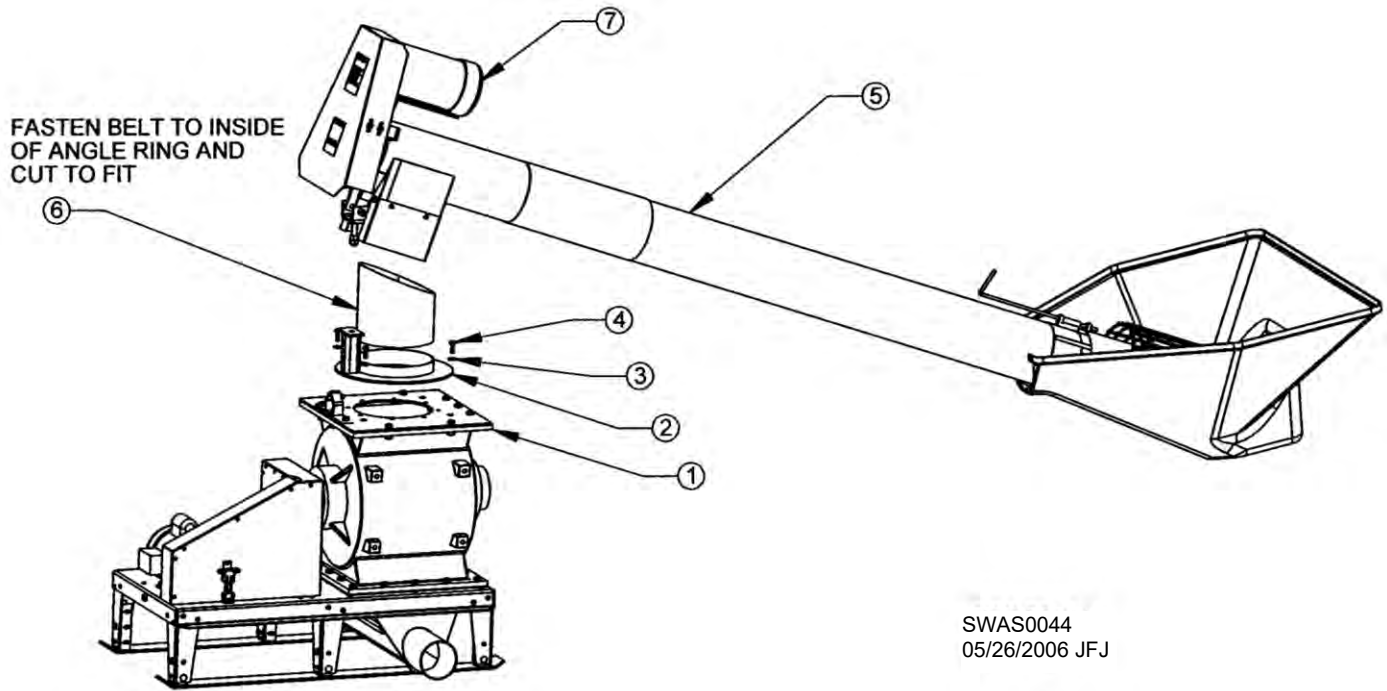


Fig. 18 & Table 9 – Fill auger attachment parts

REF. #	DESCRIPTION	QTY.	PART #
1	Airlock assy., 5"	1	N51051
	Airlock assy., 6"	1	N5605
2	Swivel weldment, 5" & 6"	1	N5557
3	Flat washer, 3/8"	4	J1117
4	Bolt, 5/16 – 18 x 1-1/4"	4	J0555
5	Fill Auger, 8" x 8'	1	G7108
	Fill Auger, 8" x 10'	1	G7109
6	Flexible connecting belt	1	K7500-36
7	Motor, 2hp, 1ph	1	H7125
	Motor, 2hp, 3ph	1	H2475
8	Pulley, 2-3/4" OD, 7/8" ID, A-groove	1	J0295

Connection kit number is N5565 for 5" & 6"

Installation

Mounting Deadhead

See Fig. 19 and Table 10 for deadhead mounting guidance. Detailed views of deadheads are on Pages 68-73. Deadhead mounts to tube using hardware shown on adapter weldment or hinge assembly shown in applicable detailed view on Pages 68-73.

Use N5594 or N5694 sidewall mounting brackets to mount tube to sidewall. On roof, use bipod or quadpod brackets as needed. Attach support brackets to tube using hardware provided. Attach feet of supports to roof sheet ribs. Adjust lengths of legs so each bears equal weight, then tighten setscrews on lock collars.

Use gasket J3007 for N55611 or N55612 hinged deadhead, or gasket J3008 for N56611 or N56612 hinged deadhead.

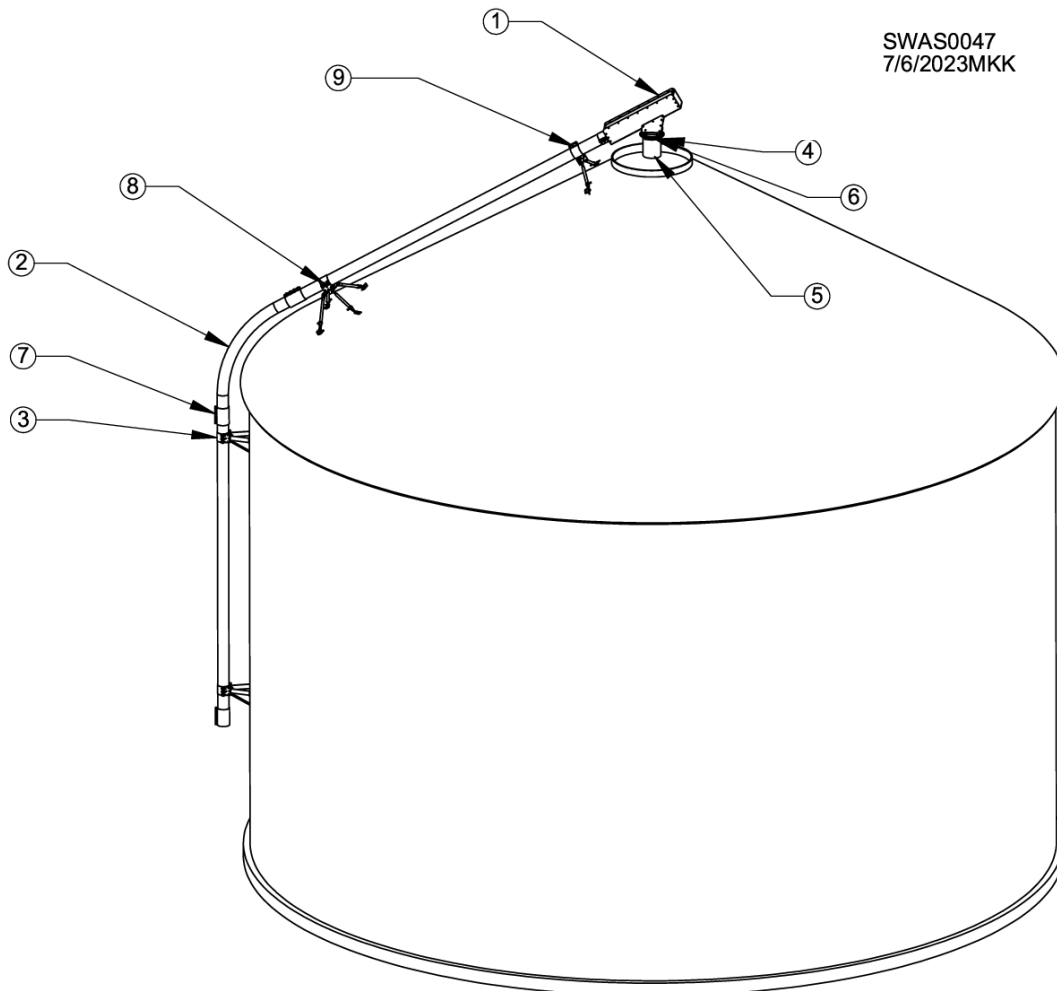


Fig. 19 & Table 10 – Mounting deadhead

REF. #	DESCRIPTION	5" PART #	6" PART #
1	Deadhead assy.	N55600	N56600
2	Elbow, 11ga, galvanized, 60°	J7521	J7577
3	Sidewall mounting bracket	N5594	N5694
4	Flange ring	J6605	J6610
5	Flex tubing	K3001	K3102
6	Clamp	J6586	J6587
7	Compression coupler	J7522	J7560
8	Quadpod support bracket, 15-25" legs	N5534	F4821
9	Bipod support bracket, 15-25" legs	N5525	F4807

Installation

Mounting Cyclone

See Fig. 20 and Table 11 for cyclone mounting guidance. Detailed view of cyclone is on Page 67. Cyclone mounts to tube using adapter weldment shown on Page 67. Attach support legs to cyclone using bolt holes provided, and to ribs of roof sheets. Adjust lengths of legs so each bears equal weight then tighten setscrews on lock collars.

Use N5594 or N5694 sidewall mounting brackets to mount tube to sidewall. On roof, use bipod or quad-pod brackets as needed. Attach support brackets to tube using hardware provided. Attach feet of supports to roof sheet ribs. Adjust lengths of legs so each bears equal weight, then tighten setscrews on lock collars.

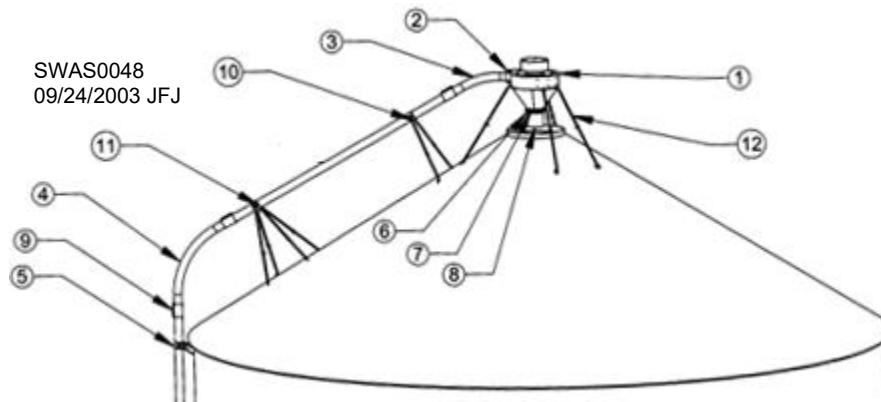


Fig. 20 & Table 11 – Mounting cyclone

REF. #	DESCRIPTION	5" PART #	6" PART #
1	Cyclone assy.	N5504	N5504
2	Tube adaptor	N5502	N5602
3	Elbow, 11ga, galvanized, 30°	J7523	J7578
4	Elbow, 11ga, galvanized, 60°	J7521	J7577
5	Sidewall mounting bracket	N5594	N5694
6	Flange ring	J6610	J6610
7	Flex tubing	K3102	K3102
8	Clamp	J6587	J6587
9	Compression coupler	J7522	J7560
10	Bipod support bracket, 30-45" legs	N5527	E5800
11	Quadpod support bracket, 30-45" legs	N5536	F4806
12	Cyclone mounting kit (4 legs)	N5530	N5530

Operation

Operation

IMPORTANT: Emergency Stop Button is located on left side of main power box. Red light on button will come on as soon as incoming power is supplied to power box. Motors will turn off immediately if button is pressed. Light will turn off when “E-Stop” button is pushed.

Prior to first run of blower and airlock motors, check rotation of shafts.

IMPORTANT: Read all steps before proceeding.



WARNING: Lock out power before performing any adjustment. Contact with moving parts could cause death or serious injury.

1. Go to Manual Control page on touch screen. See Software Manual.
2. Start blower motor by pressing “Start”, then immediately press E-Stop button on bottom left of screen to stop motor and prevent Off Delay timer from running.
3. Check rotation while shaft is slowing down.
 - a. See Image 11 for rotation sticker location. **NOTE:** Duroflow blowers rotate counterclockwise.
4. After checking/adjusting rotation, press E-Stop button on bottom left of screen, then press Reset E-Stop.
5. Start airlock motor by pressing “Start”.
 - a. Check shaft rotation while motor it is running. **NOTE:** Airlock has a grain sheer protection plate to prevent shearing of grain by airlock vanes. Motor should be wired to turn clockwise (as viewed looking at end of shaft). This will turn airlock vanes into rubber wiper. Check rotation of airlock to ensure it matches with rotation tag on airlock. See Image 12.
6. Click “Stop” on touch screen and fix rotation if required.



Image 11 – Blower rotation sticker location



Image 12 – Airlock rotation tag location

Operation

Air system can be operated manually or automatically using Dynamic Bleed Valve (DBV). System can also be operated manually or automatically using optional Variable Frequency Drive (VFD). No matter which method is used, be aware of quality of grain that is entering and leaving air system. **Any pneumatic system can cause damage unless care is taken to minimize velocity of grain as it travels through tubing to storage.** Excessive grain velocity causes grain damage. Grain velocity decreases as air pressure in system increases, so a system should be adjusted to run with as much line pressure as possible.

Manual Operation

1. Adjust feed rate until blower motor is running at full load (Match displayed amperage with amperage rating on motor nameplate).
2. If feed rate cannot be adjusted, then air pressure can be increased (and grain slowed) by opening Dynamic Bleed Valve or by reducing motor speed using VFD. Whichever method is used, it should be done very slowly:
 - a. Open DBV a small amount or lower VFD frequency a small amount. Wait for system to respond to the change before making another adjustment.
 - b. Monitor pressure readout on touch screen. Pressure should increase slightly after each adjustment.
 - c. Continue opening DBV or lowering VFD frequency until grain starts to “surge” through tubing. At this point, close DBV 5% or increase frequency on VFD by 3-5Hz (or 5%). This should be an optimum setting for this feed rate and tubing layout.
3. If an airlock is being fed by a continuous-flow dryer that is discharging grain at differing rates, then DBV or VFD should be set to provide enough air for the highest discharge rate to avoid plugging. **A rule of thumb is to always have at least 3 psi of line pressure when dryer is discharging at a low rate.**

IMPORTANT: After DBV or VFD has been adjusted, check quality of grain being discharged by air system.

4. Monitor air filter restriction indicator located at blower inlet. Clean out both outer pre-filter and element or replace them to ensure an unrestricted air supply to blower.
5. Monitor operating pressure. Pressure lower than 2 or 3 psi is an indication that grain velocity is too fast and that damage may be occurring. Check quality of grain in storage bins if low operating pressures are used.

NOTE: Decreasing amount of air in system by opening DBV or by slowing motor using VFD will slow grain down and cause system pressure to increase.

NOTE: Typical operating pressures should be from 3 to 8 psi depending on blower motor horsepower and size of system.

Automatic Operation using DBV or VFD

1. Set Pressure Setpoint on Auto Control Mode screen. This should be done very slowly.
 - a. To increase speed of grain, lower the pressure setpoint.
 - b. To decrease speed of grain, raise the pressure setpoint.

PLC will automatically control DBV or VFD in order to maintain set pressure.

IMPORTANT: After pressure setpoint has been adjusted, check quality of grain being discharged by air system and adjust as necessary.

See Steps 4 and 5 and subsequent notes above.

Maintenance

Maintenance



WARNING: Lock out power before performing any maintenance or service inspections. Contact with moving parts could cause death or serious injury.

Manufacturers' manuals for both airlock and gearbox are located inside of airlock belt shield. Use these manuals for proper maintenance and lubrication of gearbox and airlock.

Airlock and blower are machined with very high tolerances for the most efficient operation; therefore, clearance between moving parts is very small and susceptible to rust and corrosion. For this reason it is **extremely important** not to expose them to corrosive environments and to lubricate them when not in use.

In-Season Maintenance

Do not expose inside of airlock to moisture. Even a small amount of rust on inside of airlock can prevent it from turning. Airlock is shipped with a light coating of oil on vanes. Reapply another coat of oil and cover with a waterproof enclosure if unit will not be used in immediate future.

Oil level in blower should be checked at sight glass on side of blower housing. See Page 17 for blower oil capacity. Use Sukup Manufacturing Co. oil, J3200 (qt size) or J3201 (5 gallon size) if required.

Table 12 shows airlock gearbox lubricant based on ambient temperature of operation.

Ambient Temperature	15°F to 60°F	50°F to 125°F
SAE Gear Lubricant	#140	#250

Table 12 – Gearbox lubrication

Lubricate all inside machined surfaces on blower and airlock with a light oil such as WD-40, or an engine fogging oil if machine is used and shut down for a couple days. It is good preventive maintenance to do this every time air system is shut down. If using an aerosol can, simply spray in top of airlock while rotating. Remove filter cover and spray down intake tube of blower.

End of Season/Winterizing Procedures

Airlock and blower contain high-precision parts that require strict maintenance for off-season storage. Even moderate rust and corrosion can reduce lifespan and efficiency of equipment and may cause severe damage.

NOTICE: To protect against corrosion, airlock and blower should be removed immediately after final use and stored in dry building. Coat interior of blower and airlock with motor oil (or an aerosol rust inhibitor such as Evinrude-Johnson Storage Fogging Oil or CRC Storage & Lube). Rotate vanes by hand while coating to ensure coverage, then seal openings so that moist air cannot condense on metal components.

NOTE: Light spray lubricants such as WD-40 do not provide enough protection for long-term storage.

Tubing on ground should be disconnected and stored off of ground. Use seal caps (Part J7557 for 5", J7561 for 6").

Ensure adequate drainage to prevent ANY components of system from becoming submerged in water.

Operate airlock and blower BRIEFLY once a month when not in use to help keep parts lubricated. Re-apply fogging oil as required to maintain protection of internal surfaces.

Troubleshooting

Troubleshooting

Following are steps to check first if system is not operating properly.

- Ensure power box, touch screen and dynamic bleed valve are installed as shown on Pages 19-23.
- Check/adjust air system current sensing settings. See instructions on Page 25.
- Ensure main power box is wired properly. See applicable wiring diagrams, which begin on Page 46.
- If there is a variable frequency drive (VFD) in main power box, confirm that it is programmed correctly. See 3ph VFD wiring instructions on Page 24, and VFD settings on Pages 50-52.
- Links to VFD troubleshooting information can be found on Pages 50-51.
- Use this link to view a video on optimal settings for a Sukup Air System:
<https://www.youtube.com/watch?v=WVDEqT1fvHM>

Manual Tube Clean-out (Unplugging) Procedure

1. Clear applicable faults (Overloads if tripped)
2. Go to Manual Operation
3. Set DBV to 100% open.
4. Set VFD (if equipped) to Maximum Hertz or 100%
5. Start blower
6. Slowly close DBV.
 - a. Be mindful of Motor Full Load amps and try not to trip motor overload. It is OK to stay at full load amps to allow some grain to flow out of tube.



CAUTION: Stand clear of airstream at bleed valve until grain in tube begins to clear tube of grain. Contact with high-velocity air and/or debris may result in minor or moderate injury.

7. If this procedure does not unplug tube, tube will have to be taken apart and cleaned manually.

Blower Overload – This light will be on only when blower overload has tripped.

1. Reset Blower Overload.
2. Reset System.
3. Check Blower motor current.
4. Lower the feed rate to airlock if excessive current.

Airlock Overload – This light will be on only when airlock overload has tripped.

1. Reset Airlock Overload.
2. Reset System.
3. Check Airlock motor current.

High-Pressure Shut-off Switch

Located at bottom left of main power box (See Image 1), high-pressure shut-off switch is factory-set to shut system down when operating pressures exceed 12-13 psi. Switch can be adjusted by removing cover of switch and turning nut on adjustment screw. Turn nut counterclockwise to lower pressure limit and clockwise to increase limit. Do not set pressure limit above 15 psi.

Software Manual

Sukup Automation Solutions™

Cyclone™ Air System



Touching main page will bring up “Connected Air Systems” page. Each panel is capable of running five air systems from one display.

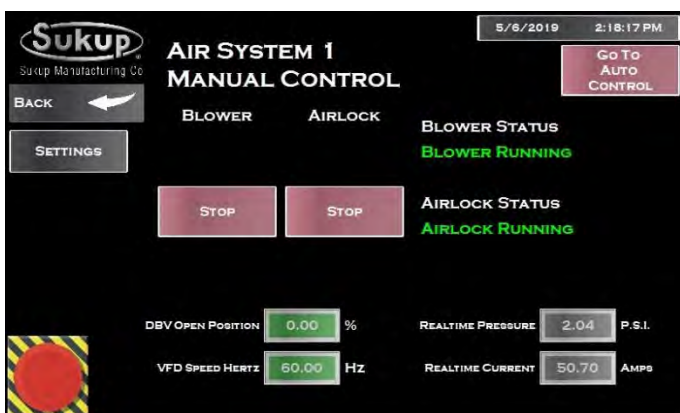
Select desired system. Manual Control page will appear.

Manual Mode



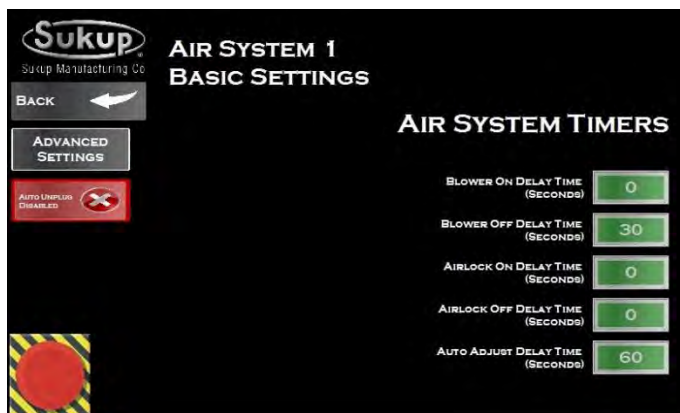
Manual Mode enables independent control of each part of the air system. VFD (if equipped) can run at whatever speed is desired. Dynamic Bleed Valve (DBV) controls how much air is blown through the tube. DBV automatically increases or decreases air pressure by oscillating its control valve.

At lower right of screen, real-time pressure and current usage of air system are displayed.



On left side of screen is a link to Settings page. On top right of page is a shortcut to Automatic Control.

Settings

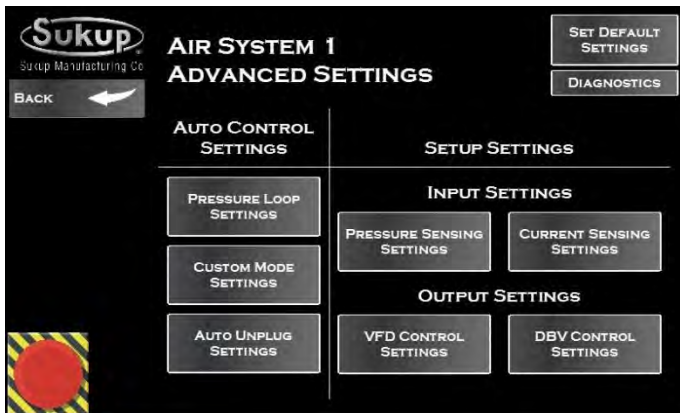


Settings menu shows basic timers that are typically used. Blower Off Delay has a factory-set 30-second delay to clear tube after grain discharge into air system has stopped.

There is also an Auto Adjust Delay Timer. It sets the amount of time that system will run at 100% capacity before trying to automatically use DBV or VFD to maintain a specified air pressure.

Auto Unplug can be enabled on this page as well.

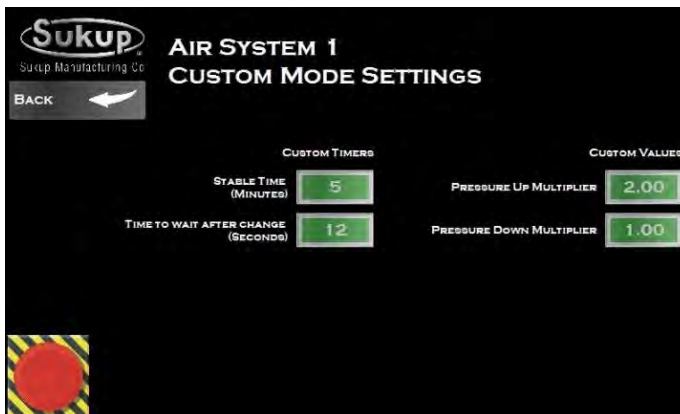
Advanced Settings



This page is accessed by touching Advanced Settings button (shown on previous screen). Loop settings are on left, and sensor settings on right.



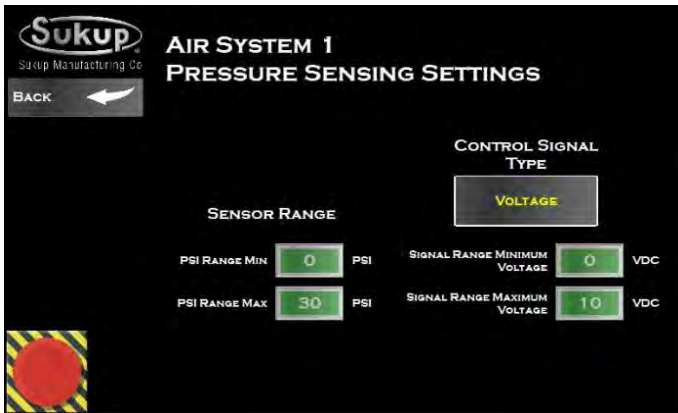
Loop Settings are shown on screen at left. Do not change any of these settings without help from a Sukup dealer or from Sukup Manufacturing Co. Basically, these settings change the way that the system reacts to controlling pressure in Automatic Mode.



Auto Unplug Settings

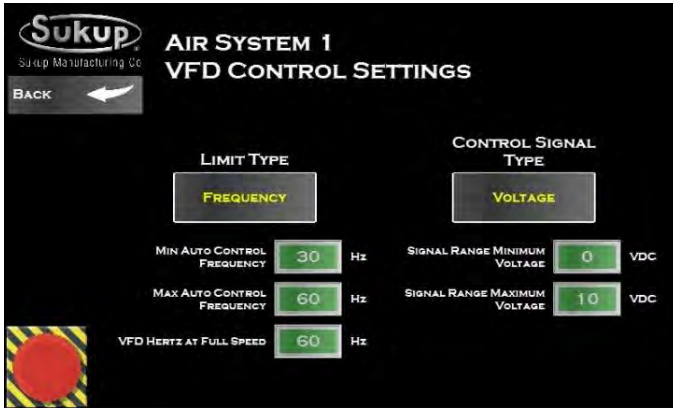


Auto Unplug feature allows air system to automatically clear a plug should one occur. Dynamic bleed valve forces more and more air into system, increasing pressure while making sure not to overload the motor. Settings can be changed to make unplug feature more or less aggressive.

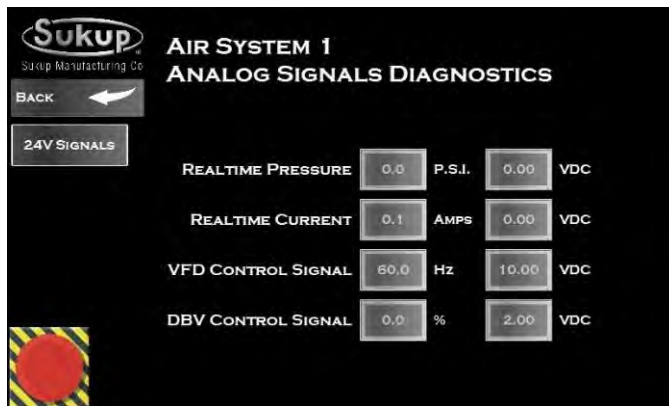
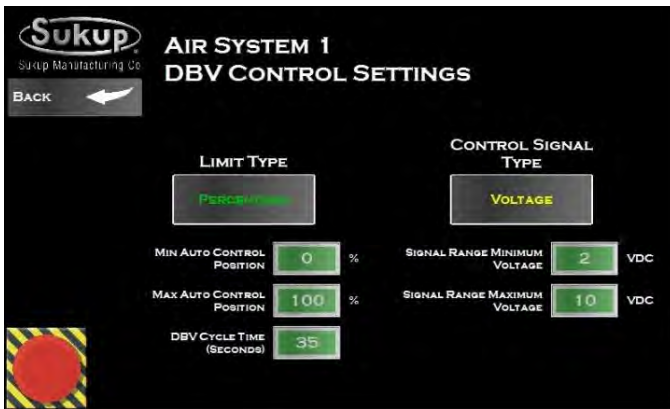


Pressure and Current Settings are shown in screens at left. Motor Full Load Amps settings must be entered for some of the automation features to work properly. Set this value using the FLA setting on blower motor.

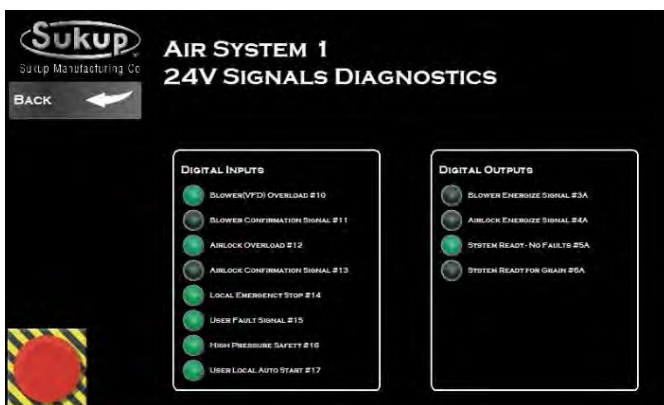




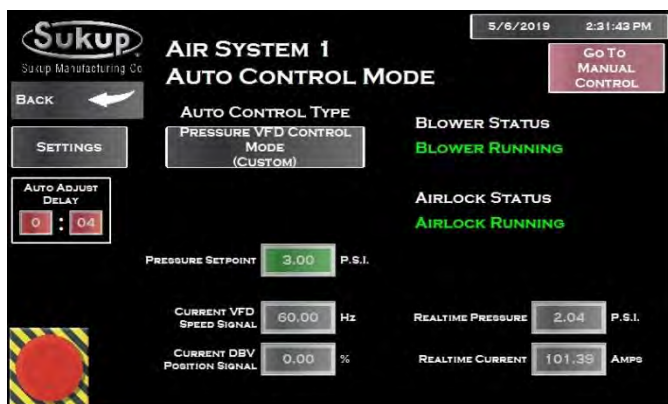
Control parameters for VFD (if so equipped) and DBV are shown at left. These are basic operating limits of these devices.



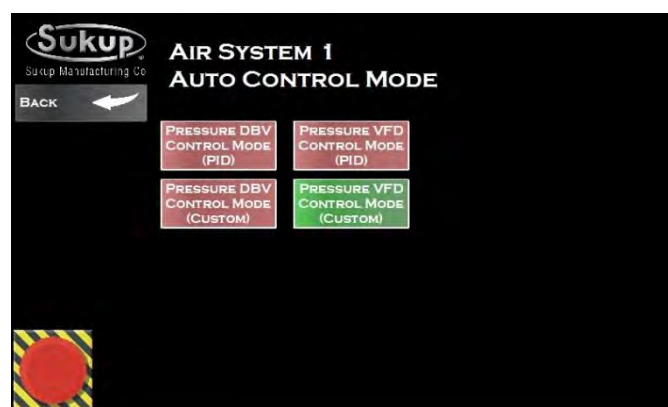
Touch Sukup Logo at upper left at any time to reach diagnostics pages. All system values such as real-time analog and digital statuses can be displayed.



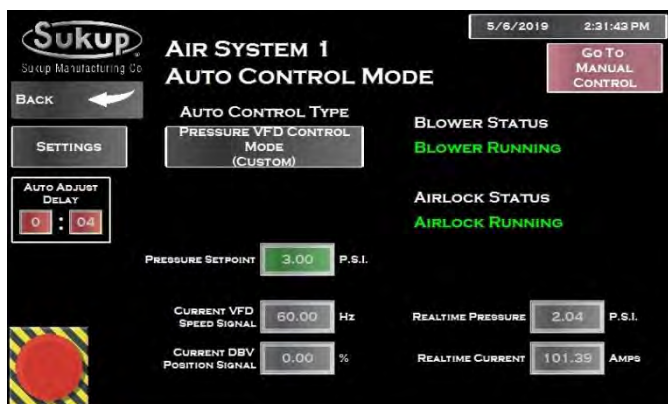
Automatic Control



Automatic Control mode will allow user to specify operating pressure. PLC will control pressure using either VFD (if equipped) or DBV. Auto control type needs to be specified by user. Pressure DBV is default control type (PID) on all systems.



Screen at left will appear after touching Auto Control Type button. User can select a loop control. **IMPORTANT:** If system is not equipped with a VFD, do not select VFD as an option or DBV will automatically close and air system will run at 100% without changing.



Each air system is equipped with a DBV, which can be used to control system pressure by bleeding off a precise amount of air from control valve. If system is also equipped with a VFD, then DBV will not be used to control system pressure except during auto unplugging. VFD will be used to control blower speed, thus system pressure.

During operation, PLC is monitoring real-time current consumption of blower motor. This allows system to manage its feasible pressure limits. If a system pressure is selected that seems to be unreachable because of motor load, the system won't try to overload itself, which would likely result in a plug. Upon selection of any new pressure setpoint, the system will ramp itself to 100% and then wait for the user-selected Auto Adjust Delay time before decreasing VFD speed or opening DBV to start bleeding air from system.

When used with a QuadraTouch Pro dryer, air system will automatically start and come up to speed before dryer unload is allowed to operate.

Emergency Stop



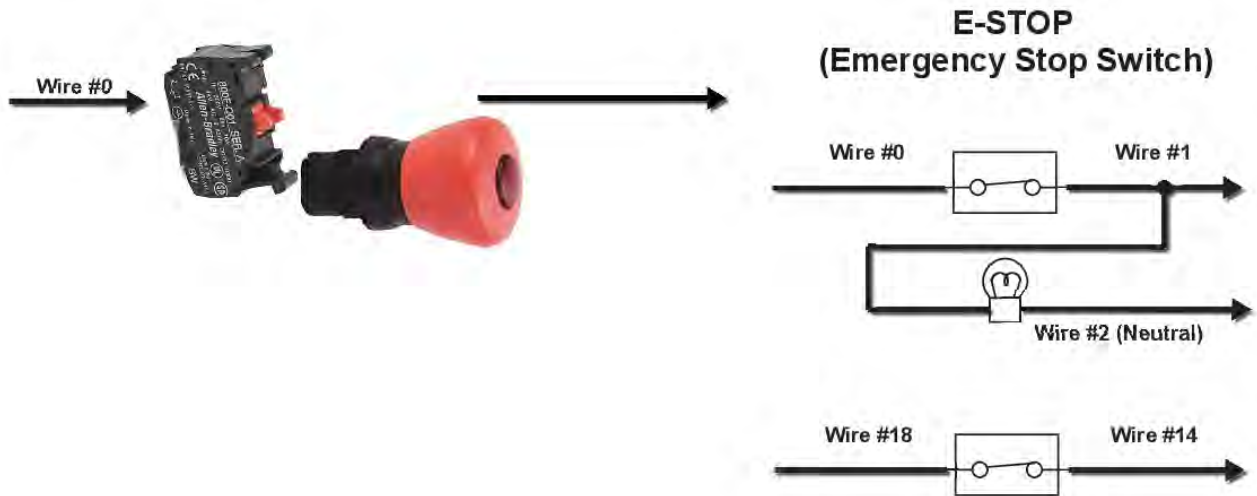
E-Stop button is located at bottom left of all screens. Touching it will shut down air system and send a signal to other Sukup Automation Solutions equipment to inform them of shutdown.

IMPORTANT: E-STOP button on side of control cabinet will interrupt all 120V control voltage, but will not interrupt DC control voltage, so PLC and touch panel will stay on.

Emergency Stop and System Control Switch Wiring



NOTE: 575VAC is Fused Instead of 2 Pole breaker shown



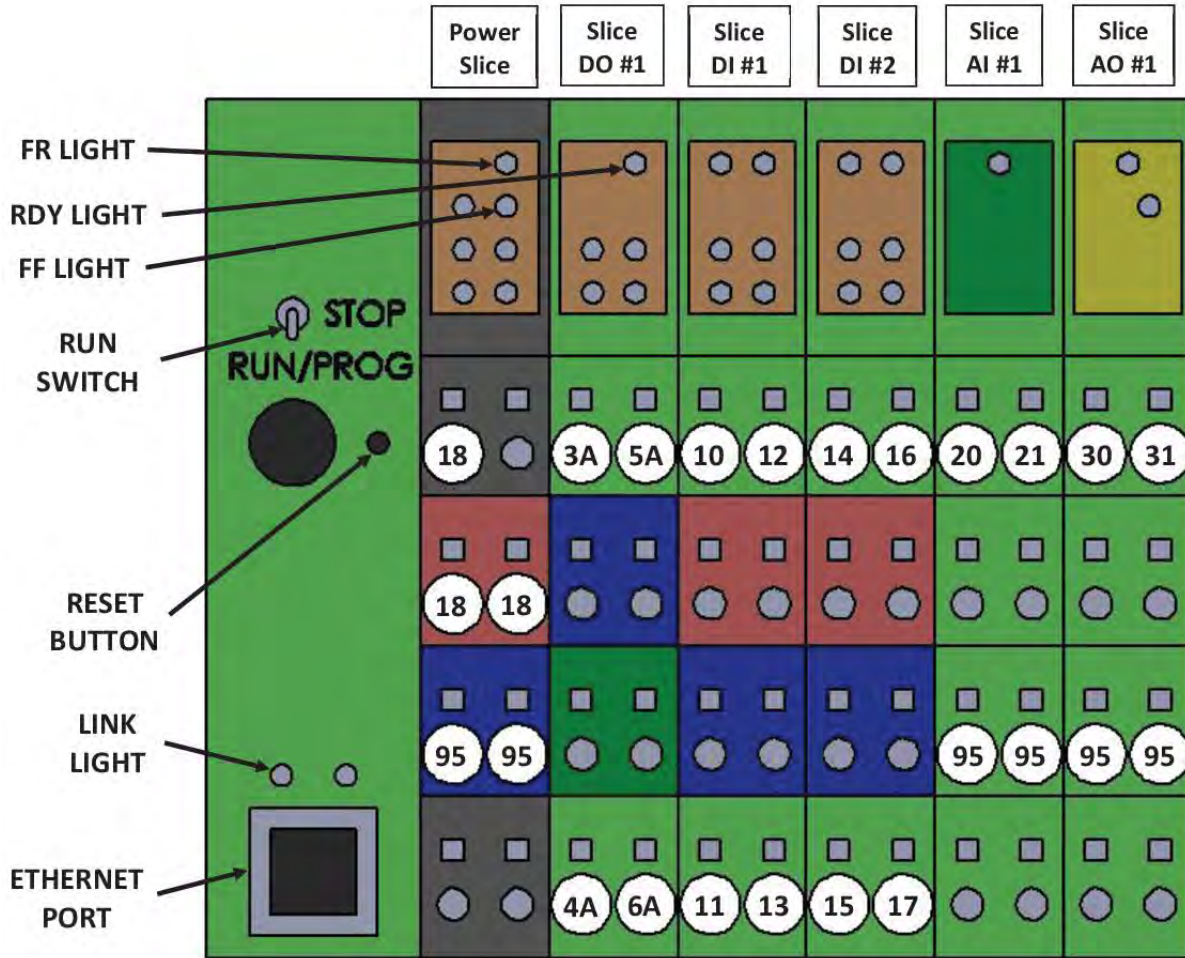
Note: Emergency Stop interrupts 120VAC from control circuitry. DC Power Supply is still active when E-STOP (Emergency Stop Switch) is engaged. PLC logic is active during shutdown.

Title: Air System: Emergency Stop Circuit	
Author: SUKUP MFG CO - MRK	
Date: 03/19	Sheet: 110.6
Revision:	

Wiring Diagrams

See diagram below for overview of Programmable Logic Controller (PLC) in main power box.

Cyclone Air system PLC Overview

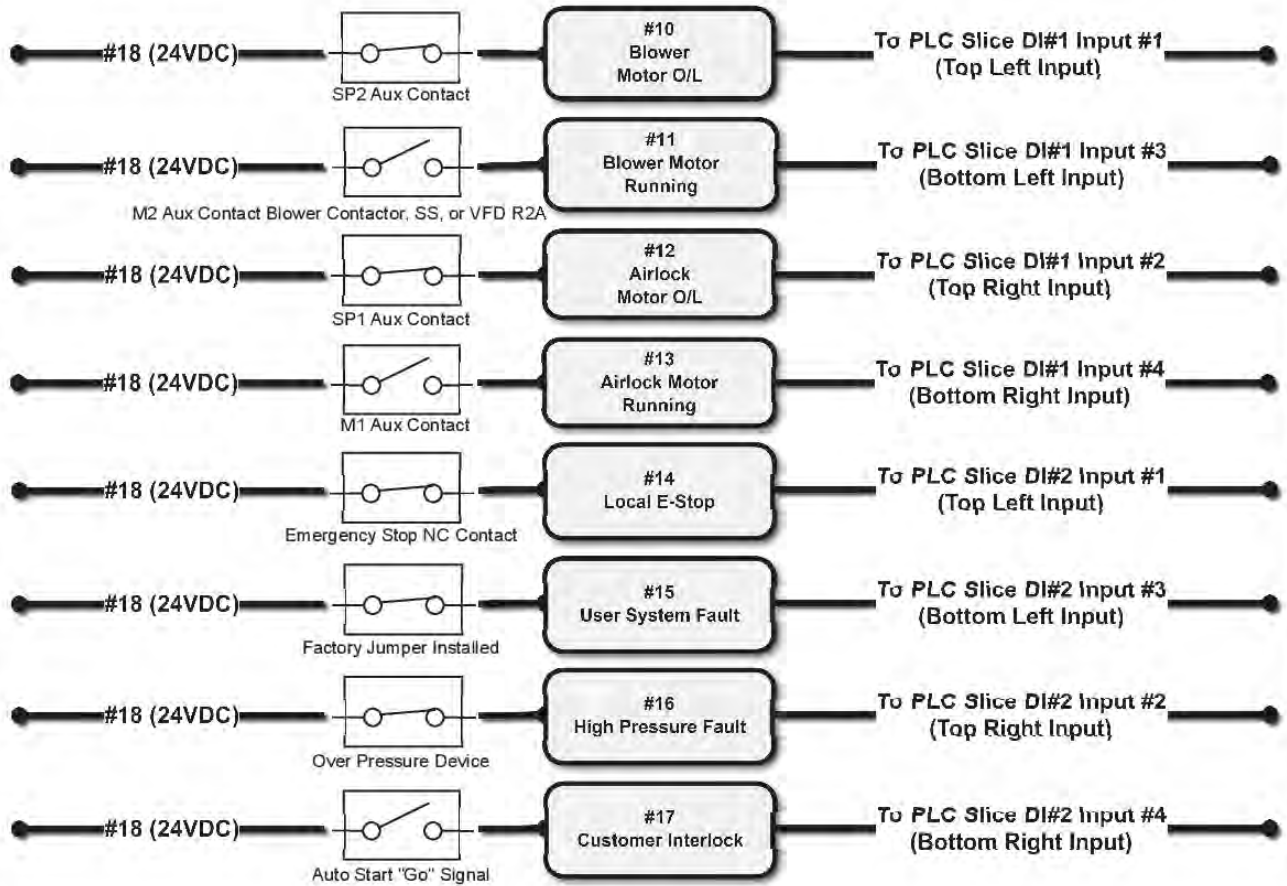


- POWER
- #18: 24V DC +
- #95: 24V DC -
- DIGIAL OUTPUTS
- #3A: BLOWER RUN SIGNAL
- #4A: AIRLOCK RUN SIGNAL
- #5A: SYSTEM READY SIGNAL
- #6A: GRAIN READY SIGNAL
- DIGITAL INPUTS
- #10: BLOWER O/L OR FAULT
- #11: BLOWER MOTOR RUNNING SIGNAL
- #12: AIRLOCK O/L OR FAULT
- #13: AIRLOCK MOTOR RUNNING SIGNAL
- #14: LOCAL E-STOP
- #15: USER FAULT INTERLOCK
- #16: HIGH PRESSURE FAULT
- #17: CUSTOMER INTERLOCK

- ANALOG INPUTS
- #20: PRESSURE TRANSDUCER REFERENCE
- #21: BLOWER CURRENT REFERENCE
- ANALOG OUTPUTS
- #30: DYNAMIC BLEED VALVE REFERENCE
- #31: BLOWER VFD SPEED REFERENCE

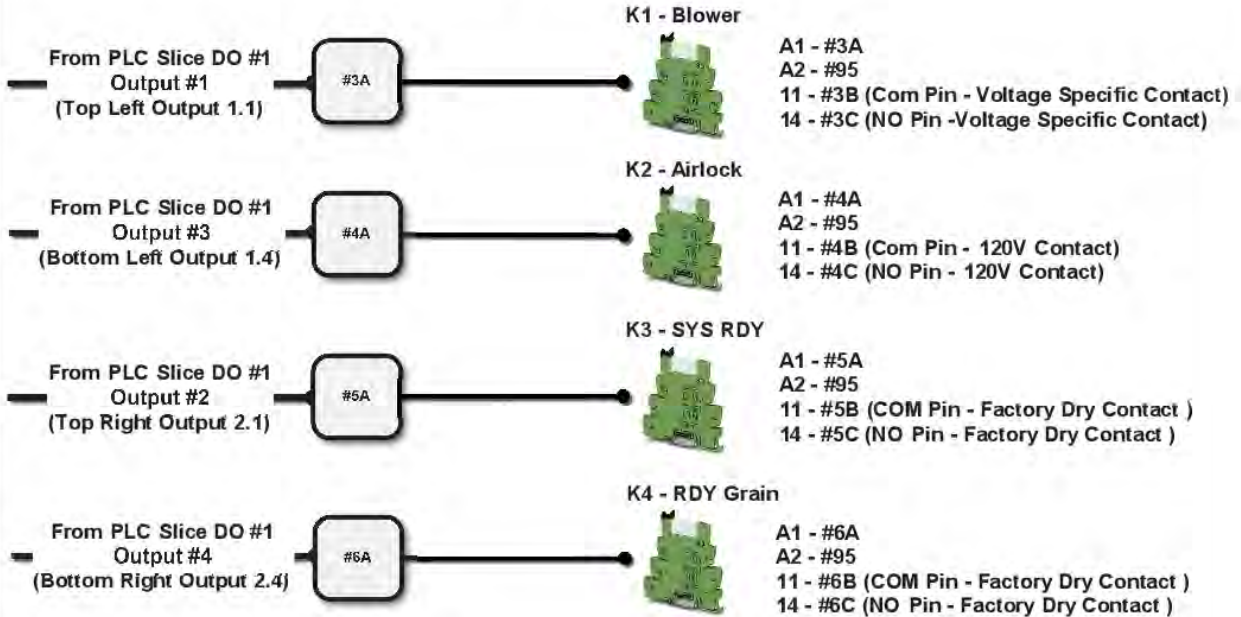
Title: Cyclone Air System PLC Overview	
Author: SUKUP MFG CO - RTO	
Date: 12/2022	Sheet: 110.7
Revision:	

Cyclone PLC Digital Inputs



Title: Cyclone Air System: Digital Inputs	
Author: SUKUP MFG CO - MRK	
Date: 03/19	Sheet: 110.2
Revision:	

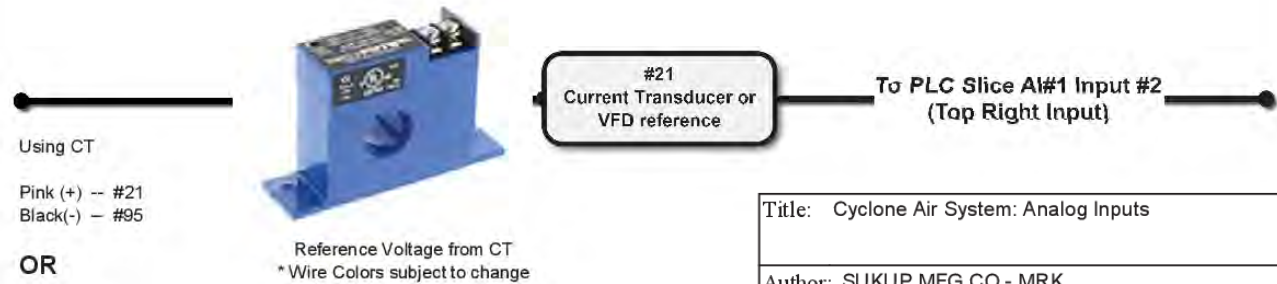
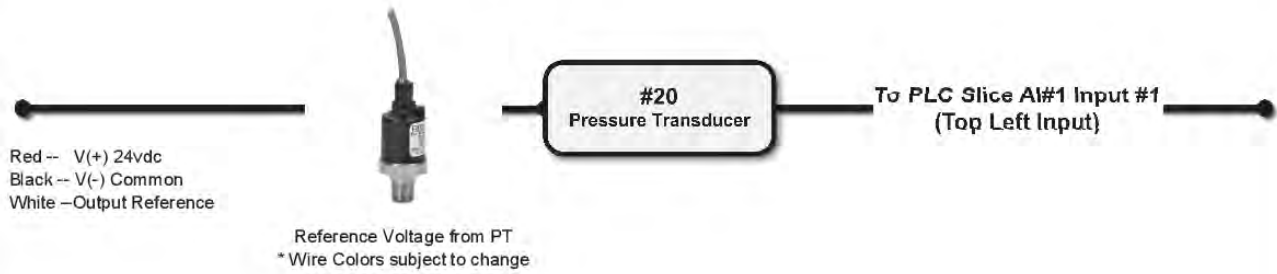
Cyclone PLC Relay Wiring Digital Outputs



The K1 relay is a part-specific voltage contact. If the blower uses a factory installed soft start or contactor for its starting method, the contact will utilize 120VAC for its voltage on #3B and #3C. However, if the blower is equipped with a VFD for its starting method, the contact will utilize 24vdc for its voltage on #3B and #3C.

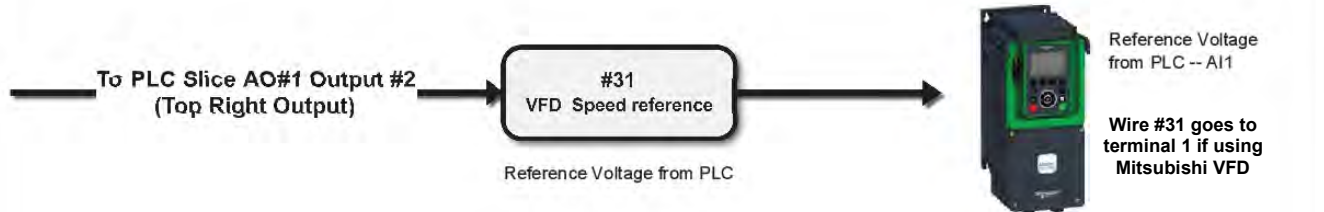
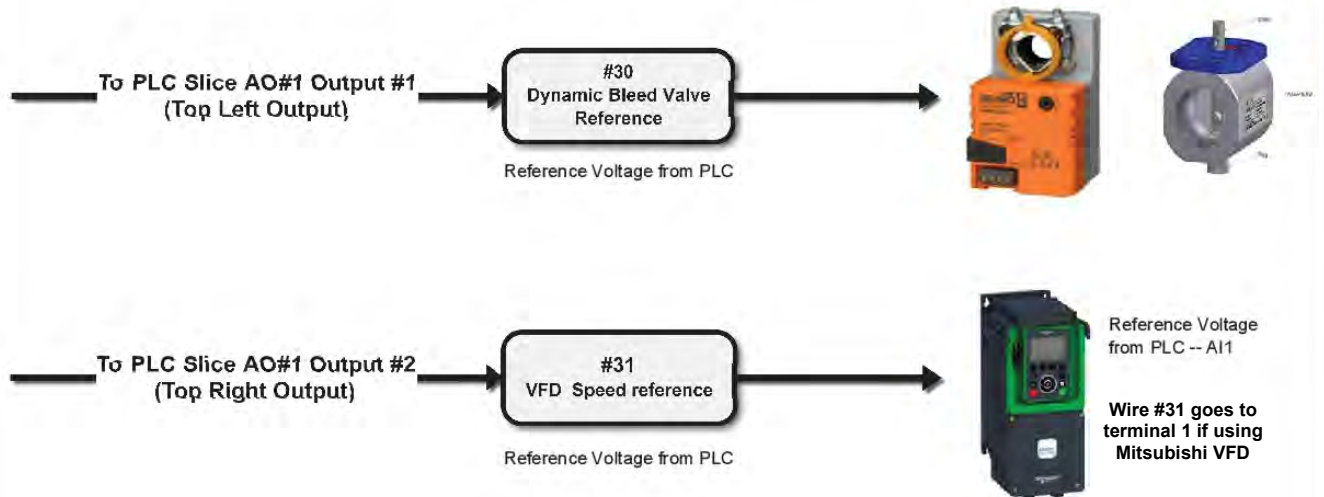
Title: Cyclone Air System: PLC Relay Wiring Digital Outputs	
Author: SUKUP MFG CO - MRK	
Date: 3/19	Sheet: 110.1
Revision:	

Cyclone PLC Analog Inputs



Title: Cyclone Air System: Analog Inputs	
Author: SUKUP MFG CO - MRK	
Date: 03/19	Sheet: 110.3
Revision:	

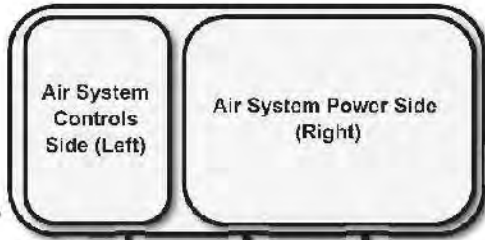
Cyclone PLC Analog Outputs



Title: Cyclone Air System: Analog Outputs	
Author: SUKUP MFG CO - MRK	
Date: 03/19	Sheet: 110.4
Revision:	

Cyclone Air System Wiring Overview

Air System Power Box



High-voltage AC power from customer-provided circuit breaker to distribution block in power box



Conduit for 1HP airlock motor (from output of M1 airlock contactor to airlock motor). Airlock pictured at right.



Conduit for blower motor (from output of M2 blower contactor, soft start or VFD to blower motor)*

Left to right
 Pin 1: #95
 Pin 2: #18
 Pin 3: #30
 Pin 4: Not used

18ga, four-conductor wire from terminal strip to bleed valve as pictured at right



Pneumatic hose plumbed from blower housing standoff to nozzle in power box pictured below



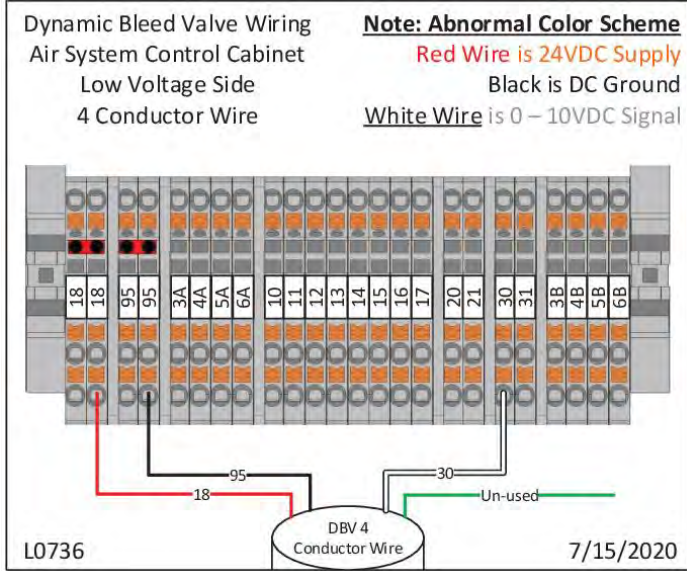
Ethernet cable from air system power box connected to:
 - QuadraTouch Pro power box Ethernet switch (connected system)
 - Optional N23476 control panel pictured at right (stand-alone system)



*In some single-phase 230VAC systems, two blower motors are used. There are two breakers, two contactors and two motors for these systems. Either motor can be wired to either contactor.

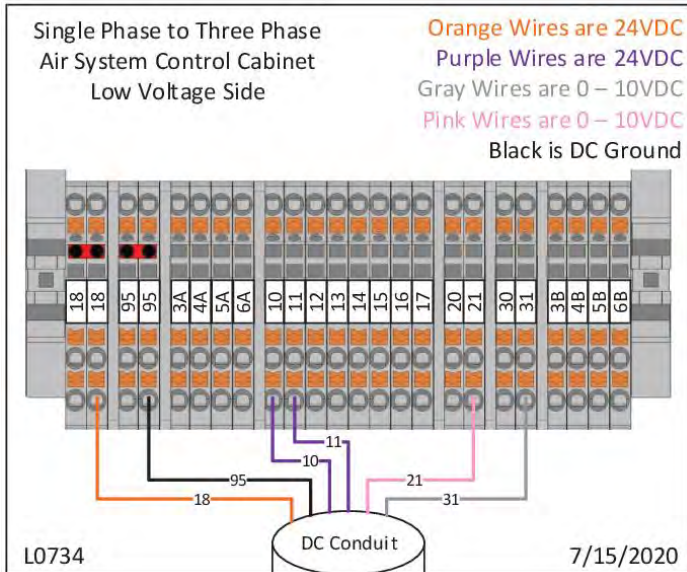
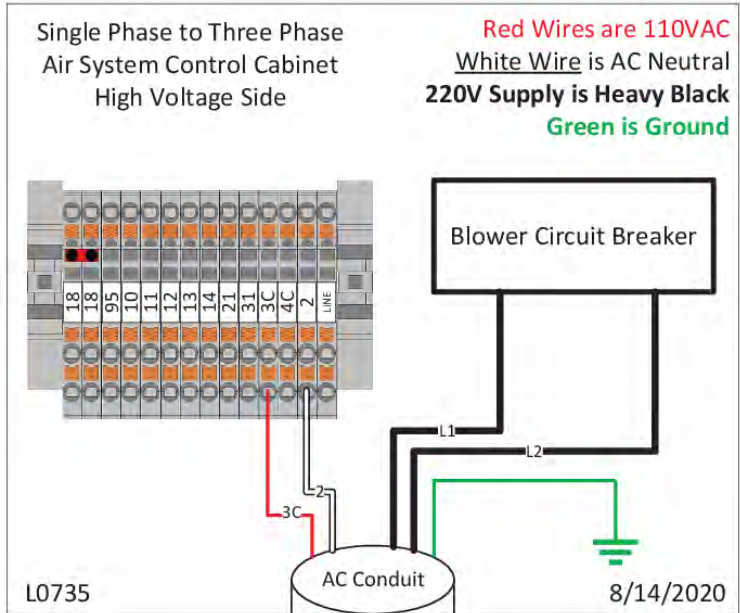
Title: Cyclone Air System Wiring Overview	
Author: SUKUP MFG CO - MRK	
Date: 08/19	Sheet: 110.6
Revision:	

Wiring Diagrams



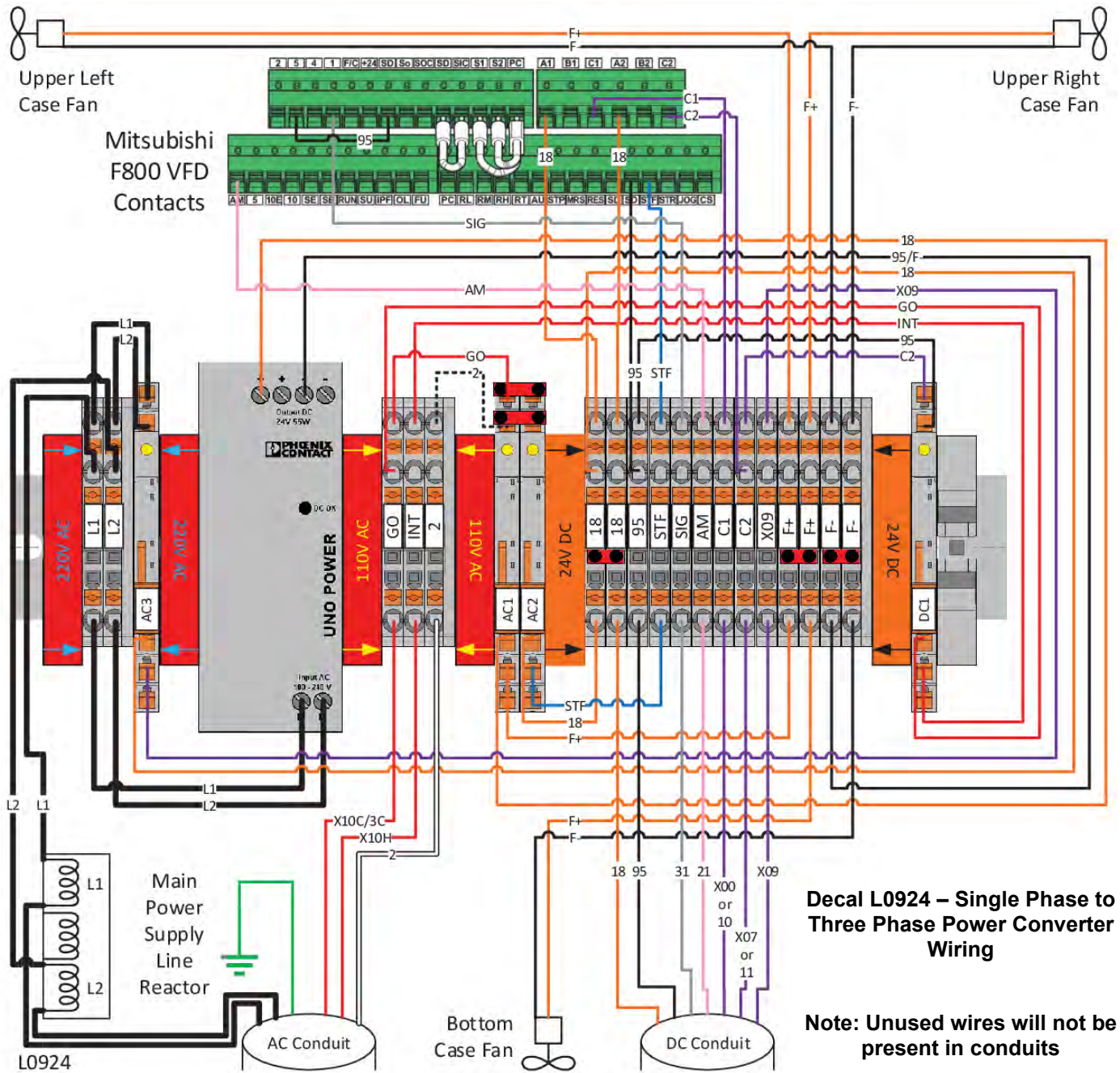
Decal L0736 – Dynamic Bleed Valve Wiring

Decal L0735 – Single- to three-phase power converter, High Voltage (AC)



Decal L0734 – Single Phase to Three Phase, Low Voltage (DC)

Wiring Diagrams



Red Wires are 110VAC
 White Wire is AC Neutral
 Orange Wires are 24VDC
 Blue Wires are 24VDC
 Purple Wires are 24VDC
 Gray Wires are 0 – 10VDC
 Pink Wires are 0 – 10VDC
 Black is DC Ground
220V Supply is Heavy Black

X Represents Fan Number on Dryer

Dryer #	Terminal
X10C	GO
X10H	INT
(White) 2	2 (White)
18	18
95	95
Unused	SIG
Unused	AM
X00	C1
X07	C2
X09	X09

Air System #	Terminal
3C	GO
Unused	INT
(White) 2	2 (White)
18	18
95	95
31	SIG
21	AM
10	C1
11	C2
Unused	X09

VFD Programming

See applicable instructions below or on following page to program Variable Frequency Drive depending on model used in power box.

Programming ATV 61 or ATV 71

1. Push gray dial to get into menu system.
2. Navigate to [1.1 Simply Start], [1.5 Inputs / Outputs CFG] or [1.7 Application Function] depending on parameter to be set.
3. Enter each setting by following applicable pathway shown below. Press dial after each entry.



PATHWAY	PARAMETER	SETTING
[1.1 SIMPLY START]	[Standard mot. freq]	60
[1.1 SIMPLY START]	[Rated motor volt.]	240 or 480*
[1.1 SIMPLY START]	[Acceleration]	10.0
[1.5 INPUTS / OUTPUTS CFG] [R1 configuration]	[R1 Assignment]	[No drive flt]
[1.5 INPUTS / OUTPUTS CFG] [R1 configuration]	[R2 Assignment]	[Drv running]
[1.5 INPUTS / OUTPUTS CFG] [AO1 configuration]	[AO1 Assignment]	[I motor]
[1.5 INPUTS / OUTPUTS CFG] [AO1 configuration]	[AO1 Type]	[Voltage]
[1.7 APPLICATION FUNCT.] [STOP CONFIGURATION]	[Type of Stop]	[Freewheel]

*Based on site & drive

Troubleshooting Altivar 61

A complete copy of Altivar 61 Variable Speed Drives Programming Manual, 1760649, dated 02/2014, can be found at www.schneider-electric.com

Troubleshooting Altivar 71

A complete copy of Altivar 71 Variable Speed Drives Programming Manual, 1755855, dated 02/2016, can be found at www.schneider-electric.com

Programming ATV 320

1. Push green dial to get into menu system.
2. Turn dial to ConF; push dial to enter menu.
3. Enter each setting by following applicable pathway shown below. Press dial after each entry, then ESC until get back to ConF.



PATHWAY	PARAMETER	SETTING
ConF FuLL SiN- bFr		60
ConF FuLL SiN- unS		240/480*
ConF FuLL SiN- ACC		10.0
ConF FuLL i_o- r1- r1		FLt
ConF FuLL i_o- r2- r2		run
ConF FuLL i_o- Ao1- Ao1		oCr
ConF FuLL i_o- Ao1- Ao1t		10v
ConF FuLL DrC- Ctt		Std
ConF FuLL Fun- Stt- Stt		nSt

*Based on site & drive

Troubleshooting Altivar 320

A complete copy of Altivar Machine ATV320 Variable Frequency Drives Programming Manual, NVE41295, dated 09/2021, can be found on Sukup website and at www.schneider-electric.com

VFD Programming

Programming ATV 630

1. Push OK button with directional arrows to get into menu system.
2. Navigate to [Simply Start] or [Complete settings] depending on parameter to be set.
3. Enter each setting by following applicable pathway shown below. Press OK after each entry.



PATHWAY	PARAMETER	SETTING
[Simply Start]	[Motor Standard]	60
[Simply Start]	[Nom Motor Voltage]	240 or 480*
[Simply Start]	[Acceleration]	10.0
[Complete settings] [Input/Output] [Relay] [R1 configuration]	[R1 Assignment]	[Operating State Fault]
[Complete settings] [Input/Output] [Relay] [R2 configuration]	[R2 Assignment]	[Drive Running]
[Complete settings] [Input/Output] [AI/AQ] [AQ1 configuration]	[AQ1 Assignment]	[Motor Current]
[Complete settings] [Input/Output] [AI/AQ] [AQ1 configuration]	[AQ1 Type]	[Voltage]
[Complete settings] [Motor parameters]	[Motor Control Type]	[U/F VC Standard]
[Complete settings] [Generic functions] [Stop configuration]	[Type of Stop]	[Freewheel]

*Based on site & drive

Troubleshooting Altivar 630

See Diagnostics and Troubleshooting section of Altivar Process ATV600 Variable Speed Drives Programming Manual, EAV64318, dated 06/2021, available at www.schneider-electric.com

Programming Mitsubishi F800:

Follow steps below to set parameters as shown on next page.

1. Press MODE button one time.
2. Turn dial to get to desired parameter.
3. Press SET button to enter parameter menu.
4. Turn dial to get to desired setting.
5. Press SET button to store desired setting.
6. Turn dial to get to next parameter.
7. Repeat Steps 4 through 6 until all parameters are set.
8. When done programming, return to main screen by pressing MODE button three times.



Troubleshooting Mitsubishi F800

A copy of Mitsubishi F800 Protective Functions chapter can be found on Sukup website at this location: https://www.sukup.com/assets/general-docs/Mitsubishi_F800_Protective_Functions_6.pdf

VFD Programming

Sukup Manufacturing Mitsubishi F800 Series Programming Settings

Customer: Sukup

Date: 1/5/2022

Job: Air System Blower / Sweep System

Contact:

PO: NA

Programmer: Dan

VFD: F800

Program Parameters in this order

Parameters	Name	Setting Range	Minimum Setting Increments	Initial Value	Customer Setting
P 77	Parameter write selection	0 to 2	1	0	2
This allows you to program in any mode and while it's running.					
P 1	Maximum frequency	0 to 120	0.01Hz	120	60
Drive will not exceed this speed.					
P 2	Minimum frequency	0 to 120	0.01Hz	0	0
Drive will not run below this speed except on start.					
P 7	Acceleration time	0 to 3600	0.1s	15	10
Time in seconds from 0 - 60 Hz.					
P 9	Electronic thermal O/L relay/Rated motor current	0 to 500	0.01A	Drive Specific	Motor OL Amps
Motor OL. Usually FLA x S.F.					
P 14	Load pattern selection	0,1,12 to 15	1	1	0
Variable Torque(1) vs. Constant Torque(0)					
P 56	Current monitoring reference	0 to 500	0.01A	Drive Specific	200
Current Scale 0 - 10 vdc, Max Current					
P 57	Restart coasting time	0,0.1 to 30,9999	0.1s	9999	2
Wait time for the inverter to perform a restart while rolling.					
P 158	AM terminal function selection	1 to 3,5 to 8,10 to 14,17,18,21,24,34,50,52 to 54,61,6	1	1	2
Select Output Current for Analog Output Terminal (AM)					
P 162	Automatic restart after instantaneous power failure	0 to 3,10 to 13	1	0	13
Frequency search at every start (reduced impact restart)					
P 195	ABC1 terminal function selection	0 to 5,8,10 to 19,25,26,35,39,40 to 42,45 to 54,57,64	1	99	199
Fault Condition or Power Loss breaks the connection between Terminals A1 and C1. When powered up and no Fault, A1 and C1 are connected.					
P 196	ABC2 terminal function selection	0 to 5,8,10 to 19,25,26,35,39,40 to 42,45 to 54,57,64	1	9999	1
When the Drive is at speed, Terminals A1 and C1 are connected. When drive is not at speed, Terminals A1 and C1 are disconnected					
P 250	Stop selection	0 to 100,1000 to 1100,8888,9999	0.1s	9999	0
This causes the drive to coast to stop. It disables the deceleration timer.					
P 882	Regeneration avoidance operation selection	0 to 2	1	0	1
Helps prevent Over Voltage Faults caused by Regen from motor.					

NOTE: Information below is from Mitsubishi Electric Inverter FR-F800 Instruction Manual.

Monitoring Inverter Status

Monitoring of Output Current & Output Voltage

NOTE: Pressing SET in Monitor mode switches monitored item to Output Frequency, Output Current and then to Output Voltage.

1. Press MODE during operation to monitor output frequency. [Hz] indicator turns ON.
2. Press SET to monitor output current. This operation is valid during running or stopping under any operation mode. [A] appears.
3. Press SET to monitor output voltage. [V] appears.

NOTE: Other monitored items, such as Output Voltage and Set Frequency, are also available. Use Pr.52 to change setting.

First Monitored Item

The first monitored item to be displayed in Monitor mode is selectable. To set a monitored item as the first monitored item, display a monitored item then press SET for a while.

Example: Set Output Current as first monitored item.

1. Select Monitor mode, then select Output Current.
2. Press SET for about one second. Output Current is set as first monitored item.
3. When Monitor mode is selected next time, Output Current is monitored first.

NOTE: Use Pr.774 Operation panel monitor selection 1 to change monitored item.

Electrical Requirements

See Table 13 for electrical requirements based on electrical panel number. Panel number is found on white sticker inside of power box. Far right column identifies panel enclosure box. See Pages 19-20 for box dimensions.

Electrical Panel #	Start Method	Panel Voltage	Phase	Blower Wire Ga	Blower HP	Blower Motor	Airlock Wire Ga	Airlock Motor #	Blower Amp Setting	Airlock Amp Setting	Total Panel Amps	Panel Enclosure Box #
N121115	LS	230	1	4	15	H6030	14	H1100	62.0	8.1	70.1	N60090
N123120	VFD	230	1	2	20	H6610T	14	H1100	99.6	8.1	107.6	N60090
N123130	VFD	230	1	2/0	30	H7126	14	H1100	145.4	8.1	153.5	N60090
N123140	VFD	230	1	4/0	40	H7200T	14	H1100	191.2	8.1	199.3	N60090
N123150	VFD	230	1	250*	50	H7210	14	H1100	233.0	8.1	241.1	N60090
N321115	LS	230	3	8	15	H6110T	14	H1150	43.7	4.0	47.7	N60090
N321120	LS	230	3	6	20	H6610T	14	H1150	57.5	4.0	61.5	N60090
N321130	LS	230	3	2	30	H7126	14	H1150	84.0	4.0	88.0	N60090
N321140	LS	230	3	1	40	H7200T	14	H1150	110.4	4.0	114.4	N60090
N321150	LS	230	3	1/0	50	H7210	14	H1150	134.6	4.0	138.6	N60090
N321160	LS	230	3	2/0	60	H7260	14	H1150	158.7	4.0	162.7	N60090
N322120	SS	230	3	6	20	H6610T	14	H1150	57.5	4.0	61.5	N60091
N322130	SS	230	3	2	30	H7126	14	H1150	84.0	4.0	88.0	N60091
N322140	SS	230	3	1	40	H7200T	14	H1150	110.4	4.0	114.4	N60091
N322150	SS	230	3	1/0	50	H7210	14	H1150	134.6	4.0	138.6	N60091
N322160	SS	230	3	2/0	60	H7260	14	H1150	158.7	4.0	162.7	N60091
N323120	VFD	230	3	6	20	H6610T	14	H1150	57.5	4.0	61.5	N6019
N323130	VFD	230	3	2	30	H7126	14	H1150	84.0	4.0	88.0	N6019
N323140	VFD	230	3	1	40	H7200T	14	H1150	110.4	4.0	114.4	N6019
N323150	VFD	230	3	1/0	50	H7210	14	H1150	134.6	4.0	138.6	N6019
N323160	VFD	230	3	2/0	60	H7260	14	H1150	158.7	4.0	162.7	N6019
N323175	VFD	230	3	4/0	75	H7275T	14	H1150	195.5	4.0	199.5	N6019
N341120	LS	460	3	8	20	H6610T	14	H1150	28.8	2.0	30.8	N60090
N341130	LS	460	3	8	30	H7126	14	H1150	42.0	2.0	44.0	N60090
N341140	LS	460	3	6	40	H7200T	14	H1150	55.2	2.0	57.2	N60090
N341150	LS	460	3	4	50	H7210	14	H1150	67.3	2.0	69.3	N60090
N341160	LS	460	3	2	60	H7260	14	H1150	79.4	2.0	81.4	N60090
N341175	LS	460	3	2	75	H7275T	14	H1150	97.8	2.0	99.8	N60090
N342120	SS	460	3	8	20	H6610T	14	H1150	28.8	2.0	30.8	N60091
N342130	SS	460	3	8	30	H7126	14	H1150	42.0	2.0	44.0	N60091
N342140	SS	460	3	6	40	H7200T	14	H1150	55.2	2.0	57.2	N60091
N342150	SS	460	3	4	50	H7210	14	H1150	67.3	2.0	69.3	N60091
N342160	SS	460	3	2	60	H7260	14	H1150	79.4	2.0	81.4	N60091
N342175	SS	460	3	2	75	H7275T	14	H1150	97.8	2.0	99.8	N60091
N343120	VFD	460	3	8	20	H6610T	14	H1150	28.8	2.0	30.8	N6019
N343130	VFD	460	3	8	30	H7126	14	H1150	42.0	2.0	44.0	N6019
N343140	VFD	460	3	6	40	H7200T	14	H1150	55.2	2.0	57.2	N6019
N343150	VFD	460	3	4	50	H7210	14	H1150	67.3	2.0	69.3	N6019
N343160	VFD	460	3	2	60	H7260	14	H1150	79.4	2.0	81.4	N6019
N343175	VFD	460	3	2	75	H7275T	14	H1150	97.8	2.0	99.8	N6019
N351120	LS	575	3	10	20	H7050	14	H1110	21.9	1.5	23.4	N60091
N351130	LS	575	3	8	30	H7127	14	H1110	32.2	1.5	33.7	N60091
N351140	LS	575	3	8	40	H7179	14	H1110	42.3	1.5	43.8	N60091
N351150	LS	575	3	6	50	H7230	14	H1110	52.9	1.5	54.4	N6019
N351160	LS	575	3	4	60	H7262	14	H1110	63.3	1.5	64.8	N6019
N351175	LS	575	3	2	75	H7503	14	H1110	79.0	1.5	80.5	N6019
N352120	SS	575	3	10	20	H7050	14	H1110	21.9	1.5	23.4	N60091
N352130	SS	575	3	8	30	H7127	14	H1110	32.2	1.5	33.7	N60091
N352140	SS	575	3	8	40	H7179	14	H1110	42.3	1.5	43.8	N60091
N352150	SS	575	3	6	50	H7230	14	H1110	52.9	1.5	54.4	N6019
N352160	SS	575	3	4	60	H7262	14	H1110	63.3	1.5	64.8	N6019
N352175	SS	575	3	2	75	H7503	14	H1110	79.0	1.5	80.5	N6019
N353120	VFD	575	3	10	20	H7050	14	H1110	21.9	1.5	23.4	N60091
N353130	VFD	575	3	8	30	H7127	14	H1110	32.2	1.5	33.7	N60091
N353140	VFD	575	3	8	40	H7179	14	H1110	42.3	1.5	43.8	N60091
N353150	VFD	575	3	6	50	H7230	14	H1110	52.9	1.5	54.4	N6019
N353160	VFD	575	3	4	60	H7262	14	H1110	63.3	1.5	64.8	N6019
N353175	VFD	575	3	2	75	H7503	14	H1110	79.0	1.5	80.5	N6019

*Measured in MCM vs. AWG

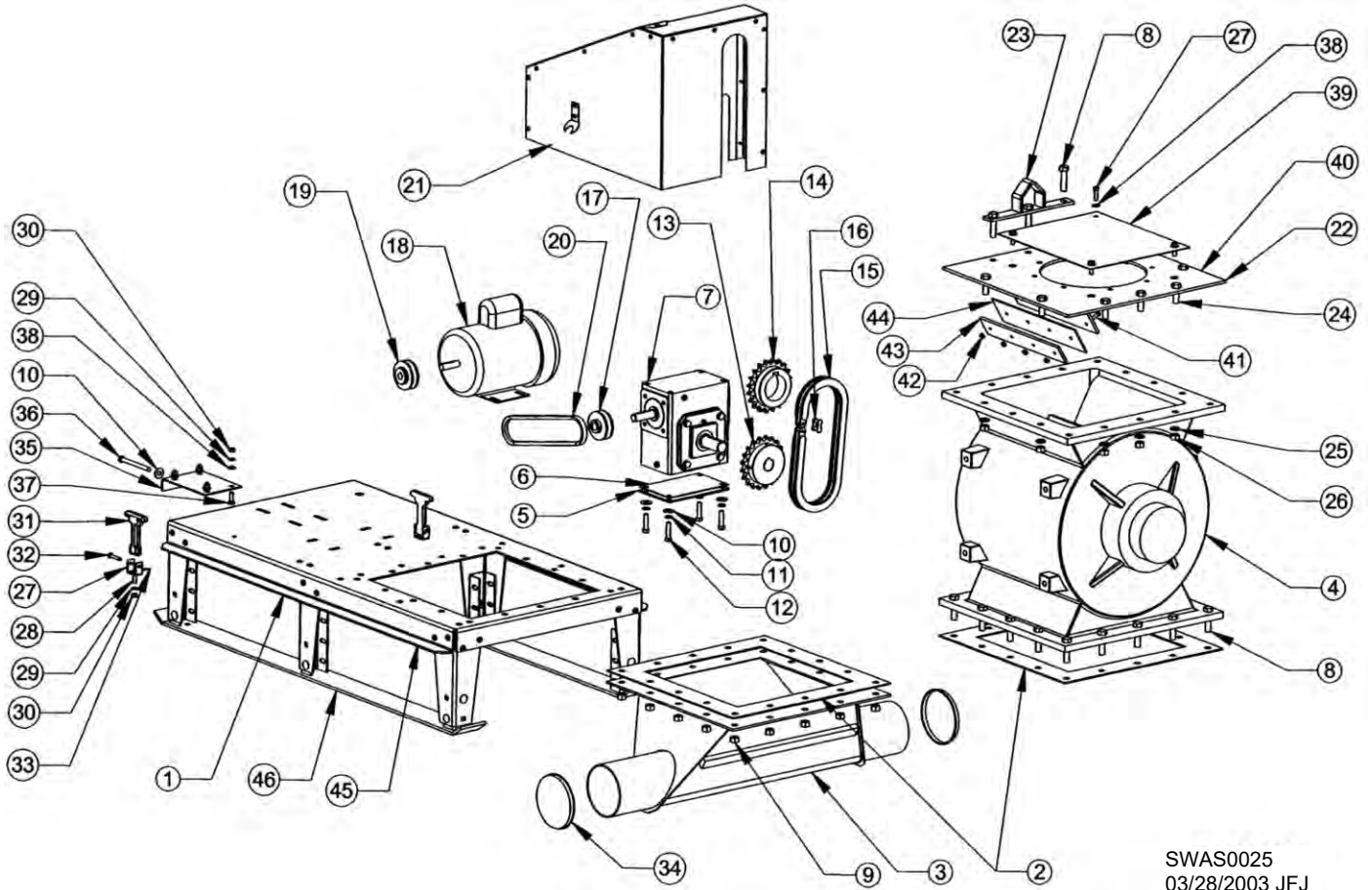
Table 13 – Electrical requirements by panel number

NOTES



PARTS/ASSEMBLIES

5" AIRLOCK ASSY. (N51051)

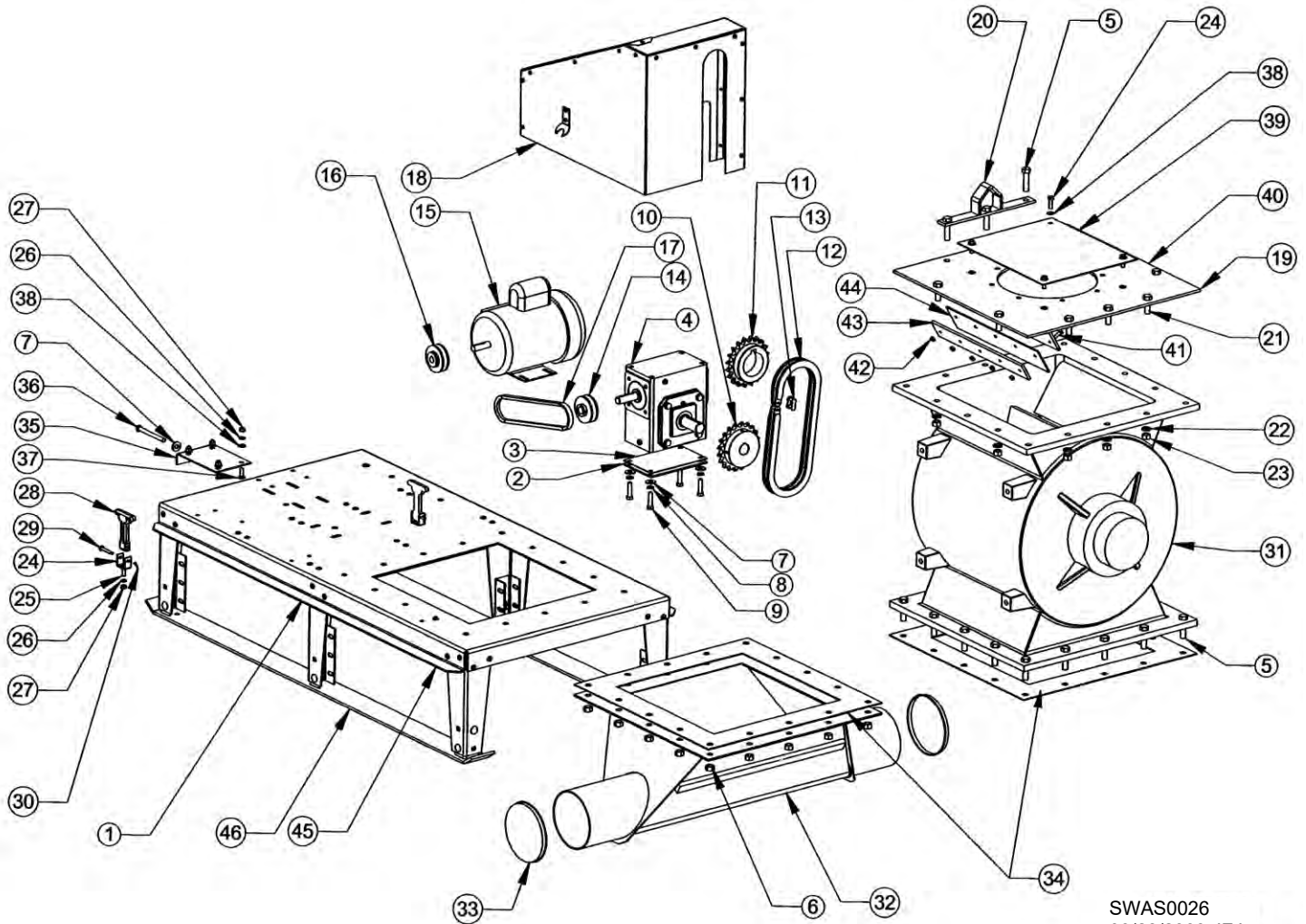


SWAS0025
03/28/2003 JFJ

5" AIRLOCK ASSY. (N51051)

REF. #	DESCRIPTION	QTY.	PART #
1	Stand assembly w/ skids	1	N5478
2	Meyer airlock gasket, 14"	2	J7513
3	Airlock transition weldment	1	N55401
4	Meyer airlock, 14", w/ gasket	1	J7512
5	Spacer, reducer – 7ga, galvanized	1	N5419
6	Shim, reducer	1	N54191
7	Gear, reducer, 60:1	1	J3679
8	Screw, 1/2 – 13 x 2"	19	J0737
9	Lock nut, 1/2" – 13	16	J1042
10	Flat washer, 3/8"	5	J1117
11	Lock washer, 3/8"	4	J1205
12	Screw, 3/8 – 16 x 1-1/2"	4	J0627
13	Sprocket, 60B20, 1-1/8" bore	1	J16952
14	Sprocket, 60BS20, 2-1/2" bore	1	J16951
15	Chain, #60, 30 links	1	N5430
16	Chain connector link, #60	1	J1775
17	Pulley, 2-3/4" OD x 3/4" ID, A-groove	1	J02931
18	Motor, 1hp, 1ph, 1750 RPM	1	H1100
19	Pulley, 2-3/4" OD, 5/8" bore (for 20HP)	1	J0293
19	Pulley, 3-3/4" OD, 5/8" bore (for 30 & 40 HP)	1	J0322
20	Belt, AX26	1	J01681
21	Airlock shield	1	N5569
22	Top plate assy.	1	N5598
23	Airlock lifting weldment	1	N5549
24	Screw, 1/2 – 13 x 1-3/4"	7	J0733
25	Lock washer, 1/2"	10	J1215
26	Hex nut, 1/2" – 13	10	J1040
27	Anchor bracket	2	J23074
28	Screw, 5/16 – 18 x 1"	2	J0527
29	Split lock washer, 5/16"	6	J1200
30	Hex nut, 5/16" – 18	6	J1002
31	Rubber latch strap	2	J23073
32	Picker pin, 1/4 x 1-1/2"	2	J15443
33	Cotter pin, 3/32 x 1/2"	2	J1423
34	Plastic cap	2	J7557
35	Motor adjustment plate weldment	1	N5453
36	Bolt, 3/8 - 16 x 4", full thread	1	J0682
37	Carriage bolt, 5/16 – 18 x 1"	4	J0535
38	Flat washer, 5/16"	4	J1111
39	Cover plate	1	N5588
40	Vane wiper weldment	1	N5568
41	Screw, 1/4 - 20 x 1"	4	J0508
42	Lock nut, 1/4" - 20	4	J0992
43	Airlock vane wiper support bar	1	N5586
44	Airlock vane wiper	1	N5587
45	Airlock stand assembly	1	N5479
46	Skid, leg weldment	1	N5477

6" AIRLOCK ASSY. (N5605)



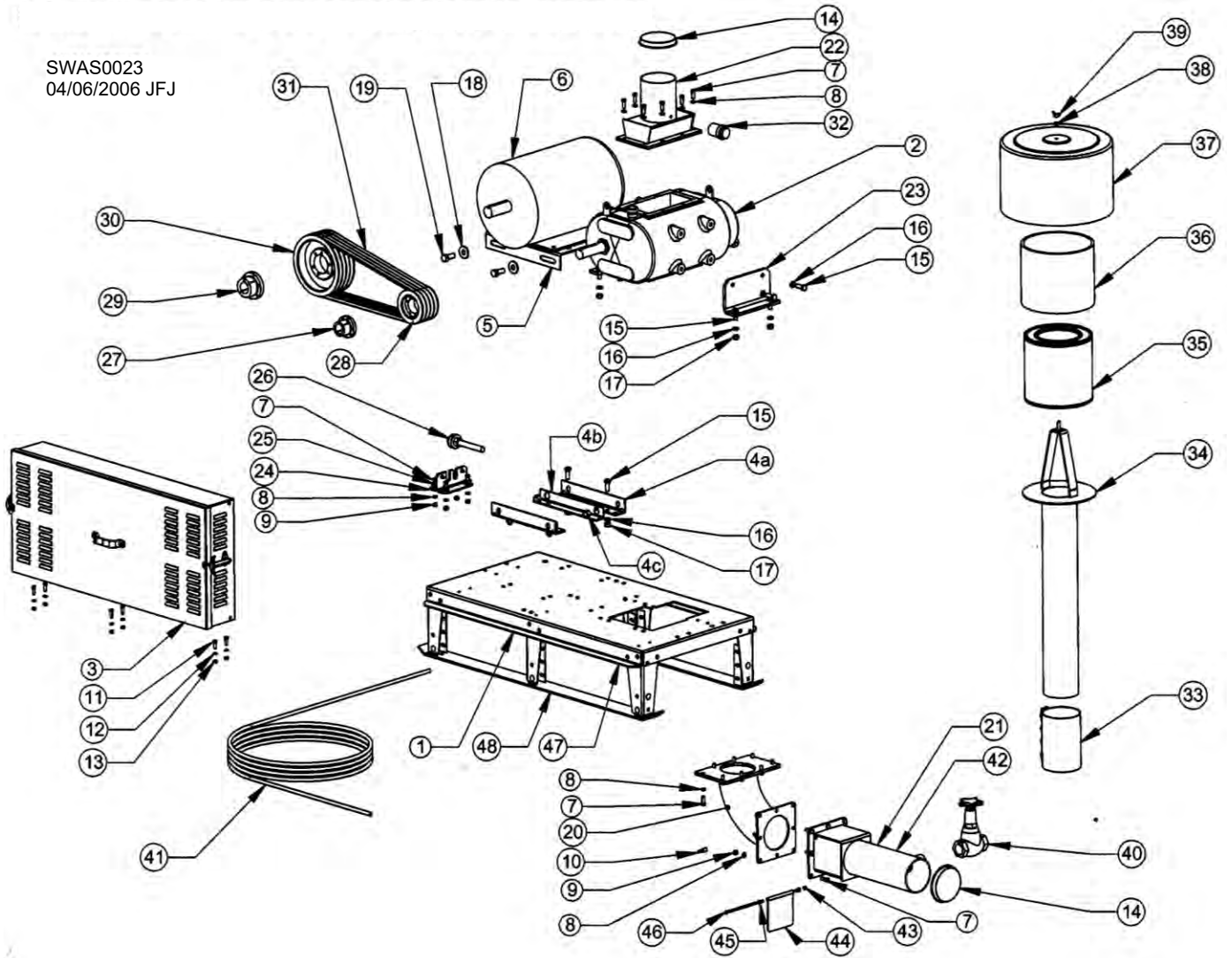
SWAS0026
03/28/2003 JFJ

6" AIRLOCK ASSY. (N5605)

REF. #	DESCRIPTION	QTY.	PART #
1	Stand assembly w/ skids	1	N5650
2	Spacer, reducer – 7ga, galvanized	1	N5419
3	Shim, reducer	1	N54191
4	Gear, reducer, 60:1	1	J3679
5	Screw, 1/2 – 13 x 2"	19	J0737
6	Lock nut, 1/2" – 13	16	J1042
7	Flat washer, 3/8"	5	J1117
8	Lock washer, 3/8"	4	J1205
9	Screw, 3/8 – 16 x 1-1/2"	4	J0627
10	Sprocket, 60B20, 1-1/8" bore	1	J16952
11	Sprocket, 60BS20, 2-1/2" bore	1	J16951
12	Chain, #60, 43 links	1	N5628
13	Spacer, reducer – 7ga, galvanized	1	J1775
14	Shim, reducer	1	J02931
15	Gear, reducer, 60:1	1	H1100
16	Screw, 1/2 – 13 x 2"	1	J0293
16	Lock nut, 1/2" – 13	1	J0322
17	Flat washer, 3/8"	1	J01681
18	Lock washer, 3/8"	1	N5569
19	Screw, 3/8 – 16 x 1-1/2"	1	N5670
20	Sprocket, 60B20, 1-1/8" bore	1	N5649
21	Sprocket, 60BS20, 2-1/2" bore	7	J0733
22	Spacer, reducer – 7ga, galvanized	10	J1215
23	Shim, reducer	10	J1040
24	Gear, reducer, 60:1	2	J23074
25	Screw, 1/2 – 13 x 2"	2	J0527
26	Lock nut, 1/2" – 13	6	J1200
27	Flat washer, 3/8"	6	J1002
28	Lock washer, 3/8"	2	J23073
29	Picker pin, 1/4 x 1-3/4"	2	J1450
30	Cotter pin, 3/32 x 1/2"	2	J1423
31	Meyer airlock, 16", w/ gasket	1	J7510
32	Airlock transition weldment	1	N5640
33	Plastic cap	2	J7561
34	Meyer airlock gasket, 16"	2	J7511
35	Motor adjustment plate weldment	1	N5453
36	Bolt, 3/8 - 16 x 4", full thread	1	J0682
37	Carriage bolt, 5/16 – 18 x 1"	4	J0535
38	Flat washer, 5/16"	4	J1111
39	Cover plate	1	N5588
40	Vane wiper weldment	1	N5668
41	Screw, 1/4 - 20 x 1"	5	J0508
42	Lock nut, 1/4" – 20	5	J0992
43	Airlock vane wiper support bar	1	N5658
44	Airlock vane wiper	1	N5687
45	Airlock stand assembly	1	N5651
46	Skid, leg weldment	2	N5452

5" DUROFLOW BLOWER ASSY.
(N51252, N51253 & N51254)

SWAS0023
04/06/2006 JFJ



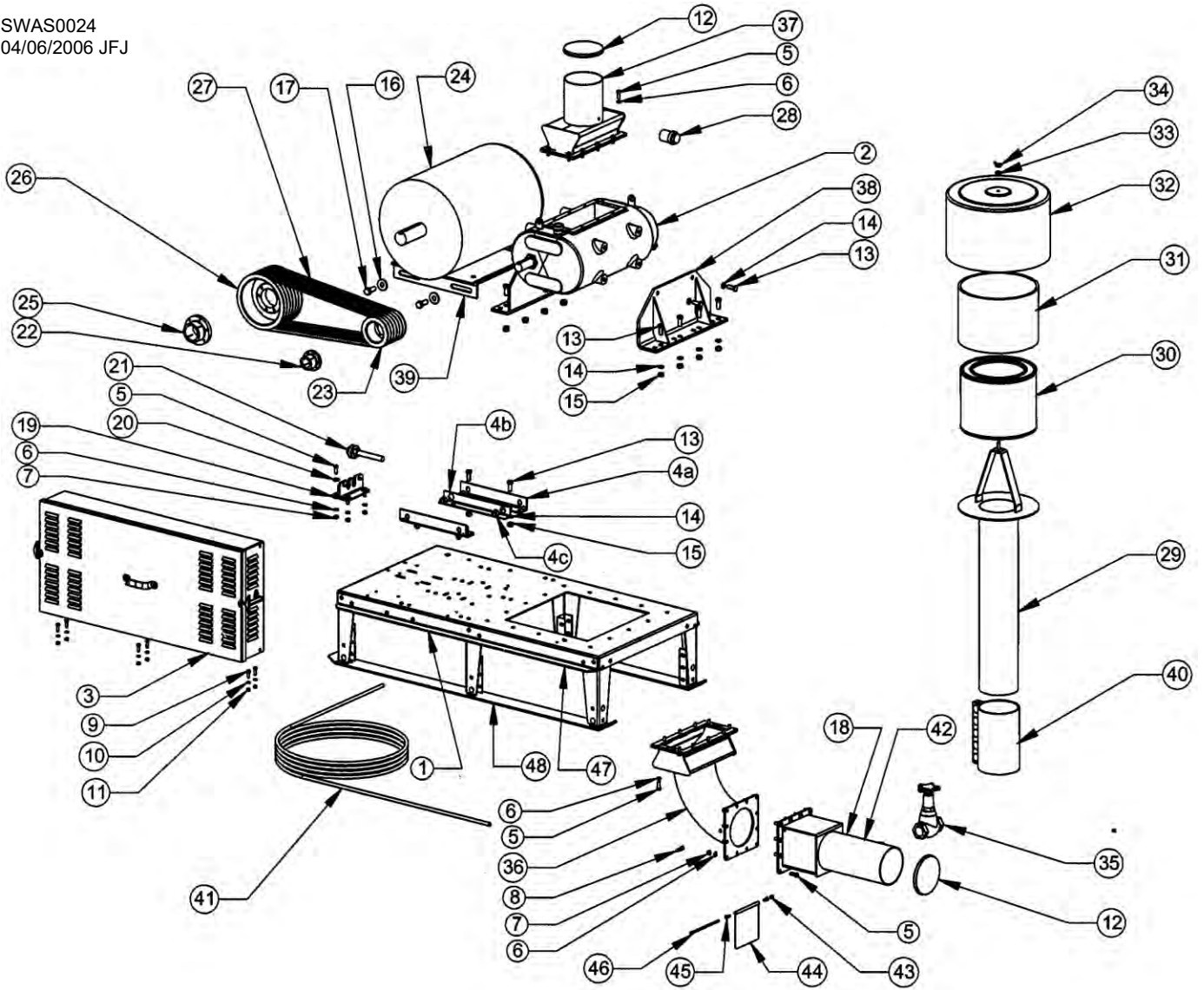
Parts/Assemblies

5" DUROFLOW BLOWER ASSY. – N51252, N51253 & N51254

REF. #	DESCRIPTION	20HP 1ph		20HP 3ph		30HP 3ph		40HP 3ph	
		QTY	PART #	QTY	PART #	QTY	PART #	QTY	PART #
1	Stand assembly w/ skids	1	N5475	1	N5475	1	N5475	1	N5475
2	Blower	1	J7500	1	J7500	1	J7500	1	J7500
3	Shield	1	N5467	1	N5467	1	N5467	1	N5467
4a	Motor mount angle	2	N5416	2	N5416	2	N5516	2	N5516
4b	Motor mount angle retainer nut	2	N5416-01	2	N5416-01	2	N5416-01	2	N5416-01
4c	Hex nut, 5/8" - 11	4	J1046	4	J1046	4	J1046	4	J1046
5	Motor mount weldment	1	N5415	1	N5415	1	N5415	1	N5415
6	Motor, 30hp	1	H6750	1	H6610	1	H7126	1	H7200
7	Screw, 3/8 – 16 x 1"	28	J0606	28	J0606	28	J0606	28	J0606
8	Lock washer, 3/8"	28	J1205	28	J1205	28	J1205	28	J1205
9	Hex nut, 3/8" - 16	12	J1020	12	J1020	12	J1020	12	J1020
10	Hose fitting, 1/4"	1	J7550	1	J7550	1	J7550	1	J7550
11	Screw, 5/16 – 18 x 1"	6	J0527	6	J0527	6	J0527	6	J0527
12	Split lock washer, 5/16"	6	J1200	6	J1200	6	J1200	6	J1200
13	Hex nut, 5/16" - 18	6	J1002	6	J1002	6	J1002	6	J1002
14	Plastic cap, 5"	2	J7557	2	J7557	2	J7557	2	J7557
15	Screw, 1/2 – 13 x 1-1/4"	12	J0728	12	J0728	12	J0728	12	J0728
16	Lock washer, 1/2"	12	J1215	12	J1215	12	J1215	12	J1215
17	Hex nut, 1/2" - 13	8	J1040	8	J1040	8	J1040	8	J1040
18	Flat washer, 5/8"	4	J1127	4	J1127	4	J1127	4	J1127
19	Screw, 5/8 - 11 x 1-1/2"	4	J0781	4	J0781	4	J0781	4	J0781
20	Elbow weldment	1	N55311	1	N55311	1	N55311	1	N55311
21	Blower outlet assy.	1	N55211	1	N55211	1	N55211	1	N55211
22	Intake transition	1	N5533	1	N5533	1	N5533	1	N5533
23	Blower support	2	N55081	2	N55081	2	N55081	2	N55081
24	Motor tightener bracket assy.	1	N5417	1	N5417	1	N5417	1	N5417
25	Flat washer, 3/8"	4	J1117	4	J1117	4	J1117	4	J1117
26	Motor tightener bolt weldment	1	N5418	1	N5418	1	N5418	1	N5418
27	Blower pulley bushing	1	J04265	1	J04265	1	J04265	1	J04265
28	Blower pulley	1	J03397	1	J03397	1	J03395	1	J03394
29	Motor pulley bushing	1	J04285	1	J04286	1	J04285	1	J0432
30	Motor pulley	1	J0358	1	J0358	1	J0356	1	J0357
31	Belt, BX57	2	J0236	2	J0236	3	J0236	4	J0236
32	Filter restriction gauge	1	J7533	1	J7533	1	J7533	1	J7533
33	Compression coupler, 5", 4-bolt	1	J7522	1	J7522	1	J7522	1	J7522
34	Air filter extension tube	1	N55295	1	N55295	1	N55295	1	N55295
35	Filter element, Solberg #244 (Order J7584)	1	J7582	1	J7582	1	J7582	1	J7582
36	Element w/ pre-filter, includes J7583 & J7582	1	J7584	1	J7584	1	J7584	1	J7584
37	Filter hood	1	N53501	1	N53501	1	N53501	1	N53501
38	Washer, Neoprene, 3/8"	1	J1116	1	J1116	1	J1116	1	J1116
39	Wing nut, 3/8" – 16	1	J1022	1	J1022	1	J1022	1	J1022
40	Gate valve, 1-1/2"	1	J7552	1	J7552	1	J7552	1	J7552
41	Air hose, 1/4" ID	1	J7548	1	J7548	1	J7548	1	J7548
42	Blower outlet weldment	1	N55211	1	N55211	1	N55211	1	N55211
43	Lock nut, 1/4" - 20	1	J0992	1	J0992	1	J0992	1	J0992
44	Check valve plate weldment	1	N55231	1	N55231	1	N55231	1	N55231
45	Shoulder washer, Nylon	2	J1230	2	J1230	2	J1230	2	J1230
46	Screw, 1/4 - 20 x 6"	1	J05142	1	J05142	1	J05142	1	J05142
47	Blower stand assy.	1	N5476	1	N5476	1	N5476	1	N5476
48	Skid, leg weldment	2	N5477	2	N5477	2	N5477	2	N5477

6" DUROFLOW BLOWER ASSY. (N5624, N5625 & N5626)

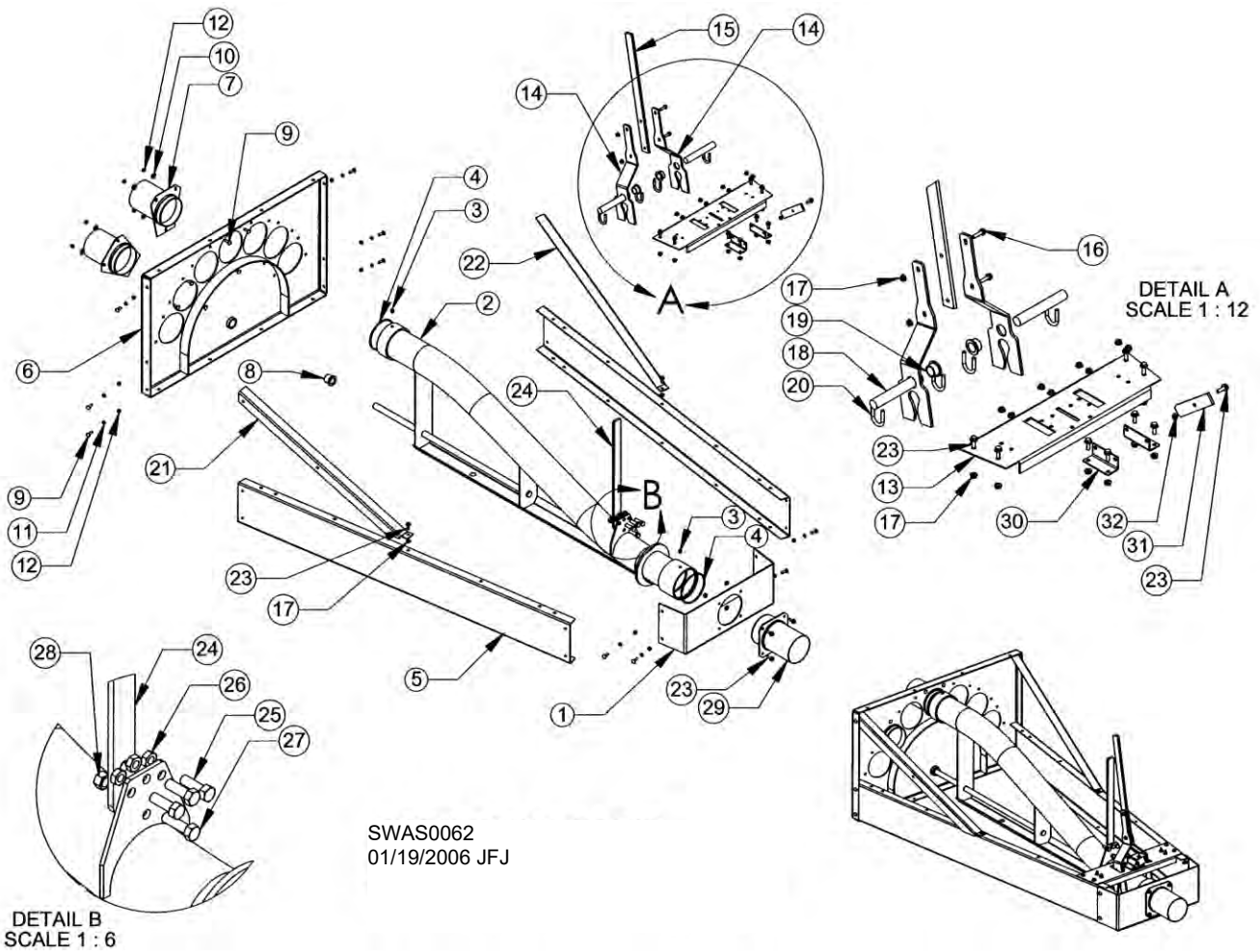
SWAS0024
04/06/2006 JFJ



**6" DUROFLOW BLOWER ASSY.
(N5624, N5625 & N5626)**

REF. #	DESCRIPTION	40HP 3ph		50HP 3ph		60HP 3ph		75HP 3ph	
		QTY	PART #	QTY	PART #	QTY	PART #	QTY	PART #
1	Stand assembly w/ skids	1	N5650	1	N5650	1	N5650	1	N5650
2	Blower	1	J7504	1	J7504	1	J7504	1	J7504
3	Shield	1	N5467	1	N5467	1	N5467	1	N5467
4a	Motor mount angle	2	N5416	2	N5416	2	N5416	2	N5416
4b	Motor mount angle retainer nut	2	N5416-01	2	N5416-01	2	N5416-01	2	N5416-01
4c	Hex nut, 5/8" - 11	4	J1046	4	J1046	4	J1046	4	J1046
5	Screw, 3/8 - 16 x 1"	36	J0606	36	J0606	36	J0606	36	J0606
6	Lock washer, 3/8"	36	J1205	36	J1205	36	J1205	36	J1205
7	Hex nut, 3/8" - 16	16	J1020	16	J1020	16	J1020	16	J1020
8	Hose fitting, 1/4"	1	J7550	1	J7550	1	J7550	1	J7550
9	Screw, 5/16 - 18 x 1"	6	J0527	6	J0527	6	J0527	6	J0527
10	Split lock washer, 5/16"	6	J1200	6	J1200	6	J1200	6	J1200
11	Hex nut, 5/16" - 18	6	J1002	6	J1002	6	J1002	6	J1002
12	Plastic cap, 6"	2	J7561	2	J7561	2	J7561	2	J7561
13	Screw, 1/2 - 13 x 1-1/4"	16	J0728	16	J0728	16	J0728	16	J0728
14	Lock washer, 1/2"	16	J1215	16	J1215	16	J1215	16	J1215
15	Hex nut, 1/2" - 13	12	J1040	12	J1040	12	J1040	12	J1040
16	Flat washer, 5/8"	4	J1127	4	J1127	4	J1127	4	J1127
17	Screw, 5/8 - 11 x 1-1/2"	4	J0781	4	J0781	4	J0781	4	J0781
18	Blower outlet assy.	1	N5621	1	N5621	1	N5621	1	N5621
19	Motor tightener bracket assy.	1	N5417	1	N5417	1	N5417	1	N5417
20	Flat washer, 3/8"	4	J1117	4	J1117	4	J1117	4	J1117
21	Motor tightener bolt weldment	1	N5418	1	N5418	1	N5418	1	N5418
22	Blower pulley bushing	1	J04265	1	J04265	1	J04265	1	J04265
23	Blower pulley	1	J03394	1	J03362	1	J03362	1	J03363
24	Motor	1	H7200	1	H7250	1	H7260	1	H7275
25	Motor pulley bushing	1	J0432	1	J0433	1	J04331	1	J04331
26	Motor pulley	1	J0357	1	J03561	1	J03561	1	J03562
27	Belt, BX63	4	J0239	5	J0239	5	J0239	6	J0239
28	Filter restriction gauge	1	J7533	1	J7533	1	J7533	1	J7533
29	Air filter extension tube	1	N56296	1	N56296	1	N56296	1	N56296
30	Filter element, Solberg #274 (Order J7587)	1	J7585	1	J7585	1	J7585	1	J7585
31	Element w/ pre-filter, includes J7585 & J7586	1	J7587	1	J7587	1	J7587	1	J7587
32	Filter hood	1	N53501	1	N53501	1	N53501	1	N53501
33	Washer, Neoprene, 3/8"	1	J1116	1	J1116	1	J1116	1	J1116
34	Wing nut, 3/8" - 16	1	J1022	1	J1022	1	J1022	1	J1022
35	Gate valve, 1-1/2"	1	J7552	1	J7552	1	J7552	1	J7552
36	Outlet elbow weldment	1	N5631	1	N5631	1	N5631	1	N5631
37	Blower inlet weldment	1	N5633	1	N5633	1	N5633	1	N5633
38	Blower support weldment	2	N5608	2	N5608	2	N5608	2	N5608
39	Motor mount weldment, 40-75hp	1	N5615	1	N5615	1	N5615	1	N5615
40	Compression coupler, 6", 5-bolt	1	J7560	1	J7560	1	J7560	1	J7560
41	Air hose, 1/4" ID	1	J7548	1	J7548	1	J7548	1	J7548
42	Blower outlet weldment	1	N5622	1	N5622	1	N5622	1	N5622
43	Lock nut, 1/4" - 20	1	J0992	1	J0992	1	J0992	1	J0992
44	Check valve plate weldment	1	N5623	1	N5623	1	N5623	1	N5623
45	Shoulder washer, Nylon	2	J1230	2	J1230	2	J1230	2	J1230
46	Screw, 1/4 - 20 x 7"	1	J05143	1	J05143	1	J05143	1	J05143
47	Blower stand assy.	1	N5651	1	N5651	1	N5651	1	N5651
48	Skid, leg weldment	2	N5452	2	N5452	2	N5452	2	N5452

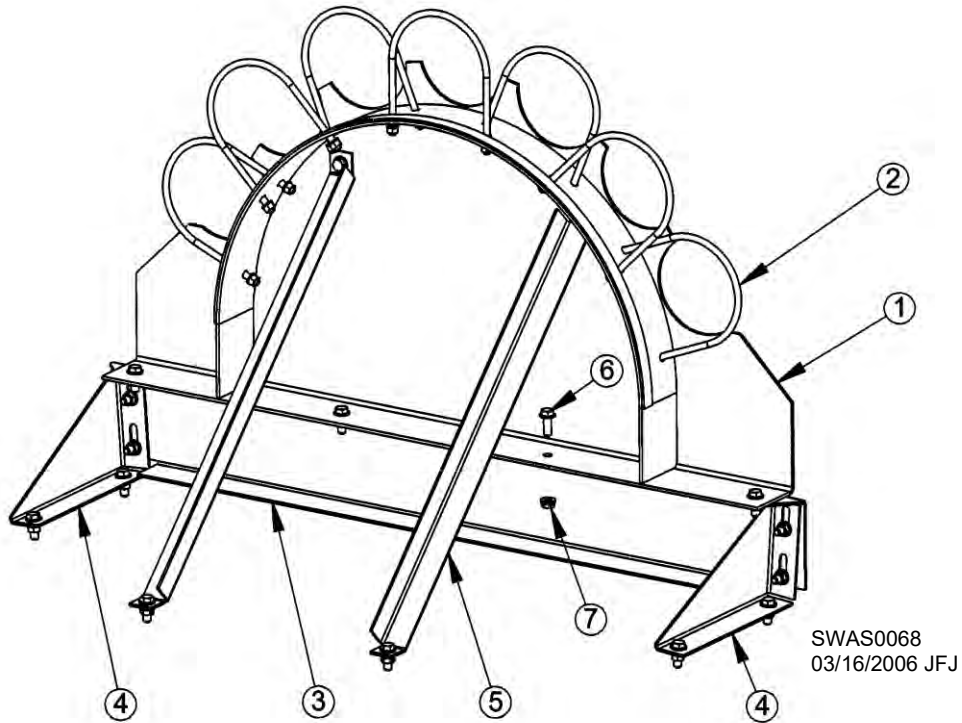
7-VALVE DISTRIBUTOR ASSY. FOR 5" & 6"



7-VALVE DISTRIBUTOR ASSY. FOR 5" & 6"

REF. #	DESCRIPTION	5"		6"	
		QTY.	N56651B	QTY.	N56661B
			PART #		PART #
1	Inlet plate	1	N56552-01B	1	N5675-03B
2	Offset tube weldment	1	N5656B	1	N5676B
3	Grease zerk, 1/8"	2	J36092	2	J36092
4	O-ring, 3/16", Neoprene	2	J3557	2	J3555
5	Side channel	2	N5652	2	N5672
6	Outlet plate weldment	2	N56581B	2	N56781B
7	Outlet weldment	2	N56591B	2	N5679B
8	Flange bushing, 1 x 1.378 x 1-1/4"	1	J00811	1	J00811
9	Carriage bolt, 5/16 – 18 x 1"	16	J0535	16	J0535
10	Flat washer, 5/16"	6	J1111	6	J1111
11	Split lock washer, 5/16"	16	J1200	16	J1200
12	Hex nut, 5/16" - 18	16	J1002	16	J1002
13	Pivot support plate	1	N5655-07B	1	N5675-04B
14	Lever bracket	2	N5655-08B	2	N5655-08B
15	Lever	1	N5652-05B	1	N5652-05B
16	Bolt, 5/16 – 18 x 1-1/4"	2	B5952	2	B5952
17	Nut, 5/16" - 18	24	J1110	24	J1110
18	Pivot shaft	2	N5655-09B	2	N5655-09B
19	Shaft bushing, #1	2	J3500	2	J3500
20	U-Bolt, 5/16 -18 x 1-1/16" ID, 1-3/4" deep	4	J0810	4	J0810
21	Front face support brace, LH	1	N5652-01B	1	N5672-01B
22	Front face support brace, RH	1	N5652-02B	1	N5672-02B
23	Bolt, 5/16 – 18 x 1"	15	J0537	15	J0537
24	Rotating lever	1	N5652-03B	1	N5652-03B
25	Bolt, 1/2 - 13 x 1"	3	J0725	3	J0725
26	Jam nut, 1/2" – 13	4	J10405	4	J10405
27	Screw, 1/2 - 13 x 1-3/4"	1	J0733	1	J0733
28	Lock nut, 1/2" - 13	1	J1042	1	J1042
29	Inlet adaptor	1	N56593	1	N5675B
30	Pivot locking angle	2	N5652-06B	2	N5652-06B
31	Stop arm	1	N5652-07B	1	N5652-07B
32	Lock nut, 5/16" – 18	1	J1010	1	J1010

DISTRIBUTION VALVE TEMPLATE ASSY.



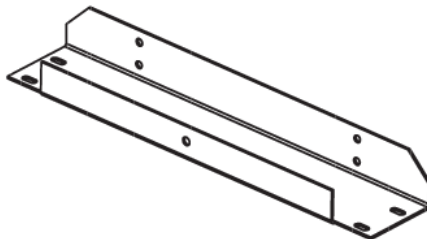
SWAS0068
03/16/2006 JFJ

REF. #	DESCRIPTION	QTY.	PART #
1	Plate weldment, 5"	1	N5610
	Plate weldment, 6"	1	N5611
2	U-bolt, 5/16 – 18 x 5.19" ID x 6-1/2"deep	7	J05205
	U-bolt, 5/16 – 18 x 6.19" ID x 6-1/2"deep	7	J05206
3	Wall mounting channel, top	1	N5603
4	Mounting bracket support angle	2	N5606
5	Brace angle	2	N5613
6	Bolt, 3/8 - 16 x 1"	16	J0611
7	Lock nut, 3/8" - 16	16	B5962

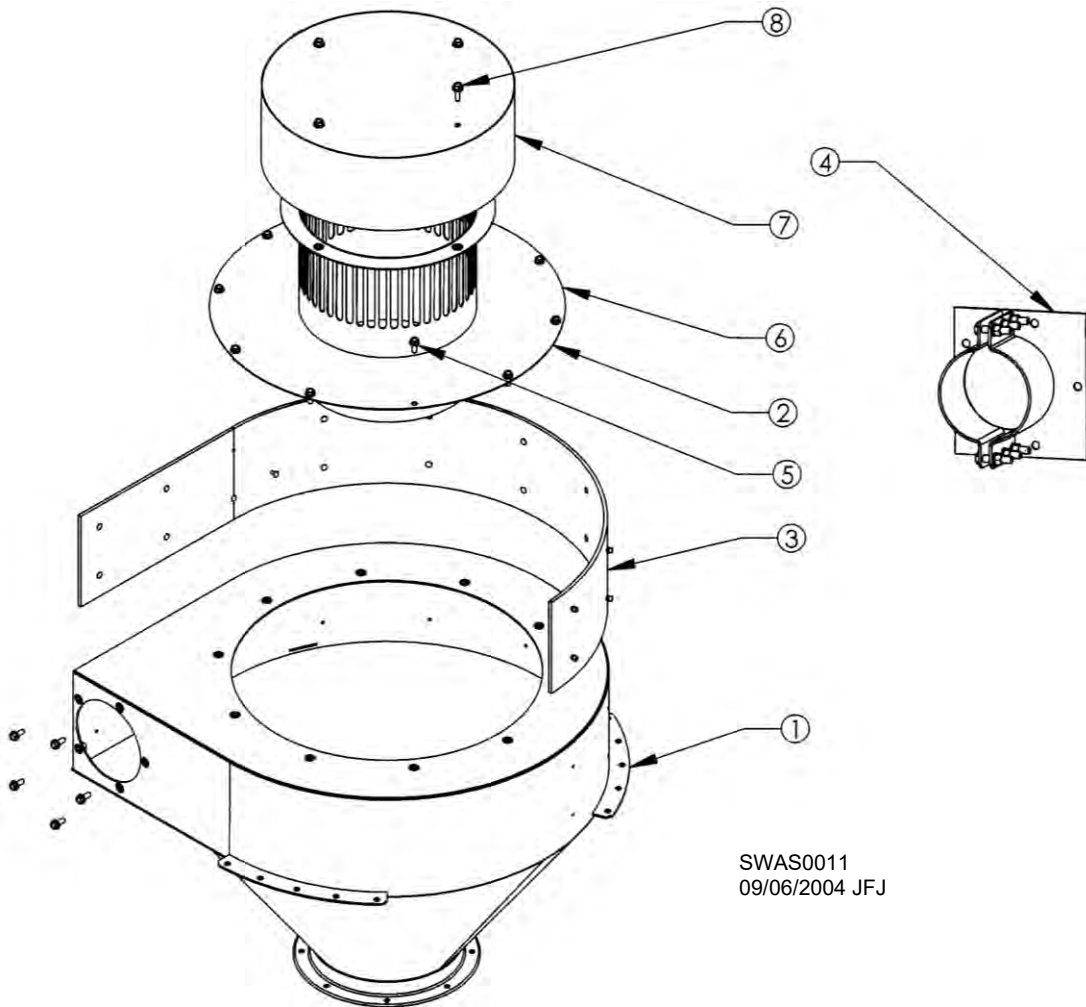
5" Assy. – N5617

6" Assy. – N5618

Wall mounting bottom channel, N5604



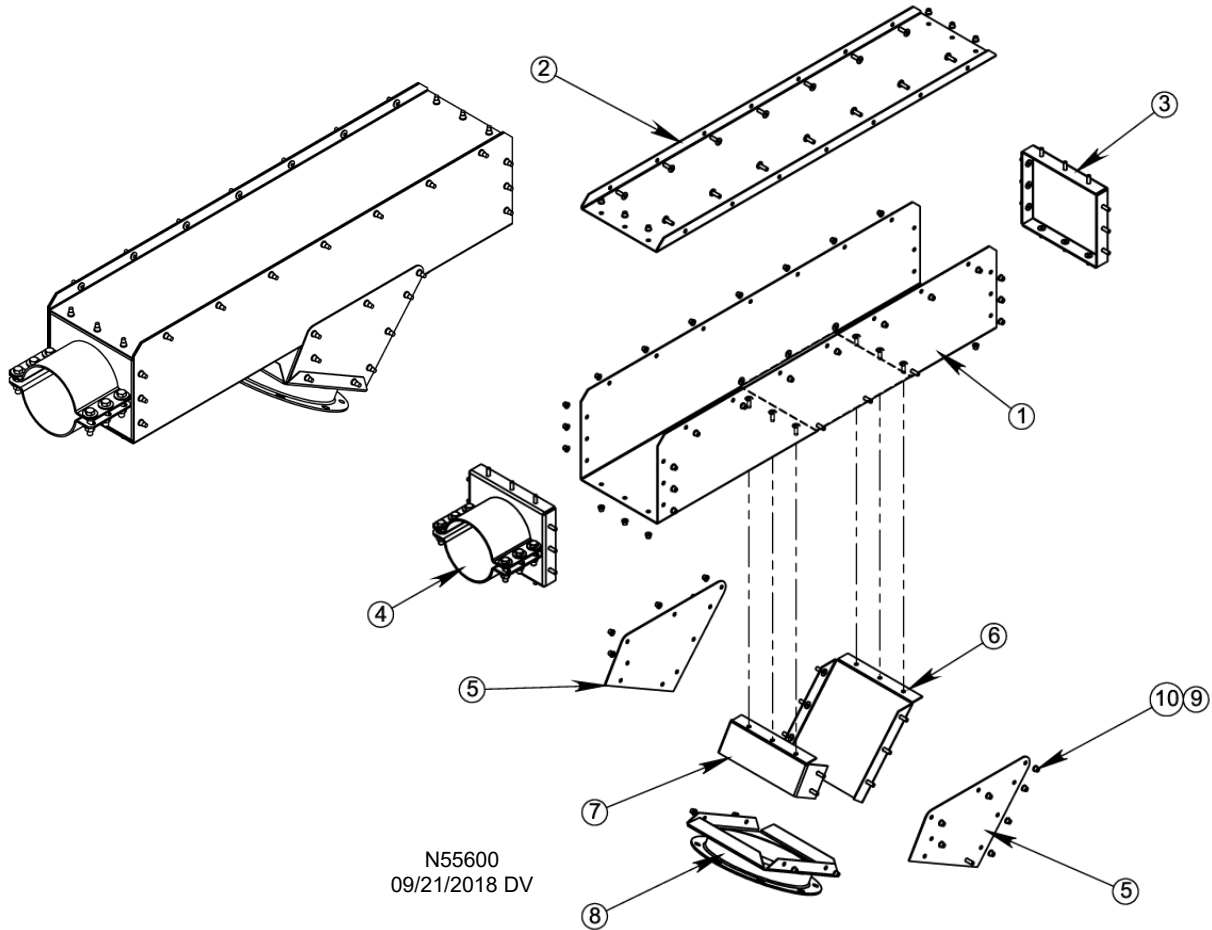
CYCLONE ASSEMBLY & ADAPTORS – N5504



SWAS0011
09/06/2004 JFJ

REF. #	DESCRIPTION	QTY.	PART #
1	Cyclone weldment	1	N55001
2	Air exhaust weldment cap	1	N55011
3	Cyclone liner, 1/4" thick	1	N5503A
4	Adapter weldment, 5" tube	1	N5502
	Adapter weldment, 6" tube	1	N5602
5	Bolt, 5/16 - 18 x 3/4"	15	J0536
6	Inlet weldment	1	N55012
7	Rain cap weldment	1	N55013
8	Bolt, 5/16 x 1", w/ Neoprene washer	4	B5902

5" DEADHEAD ASSEMBLY – N55600

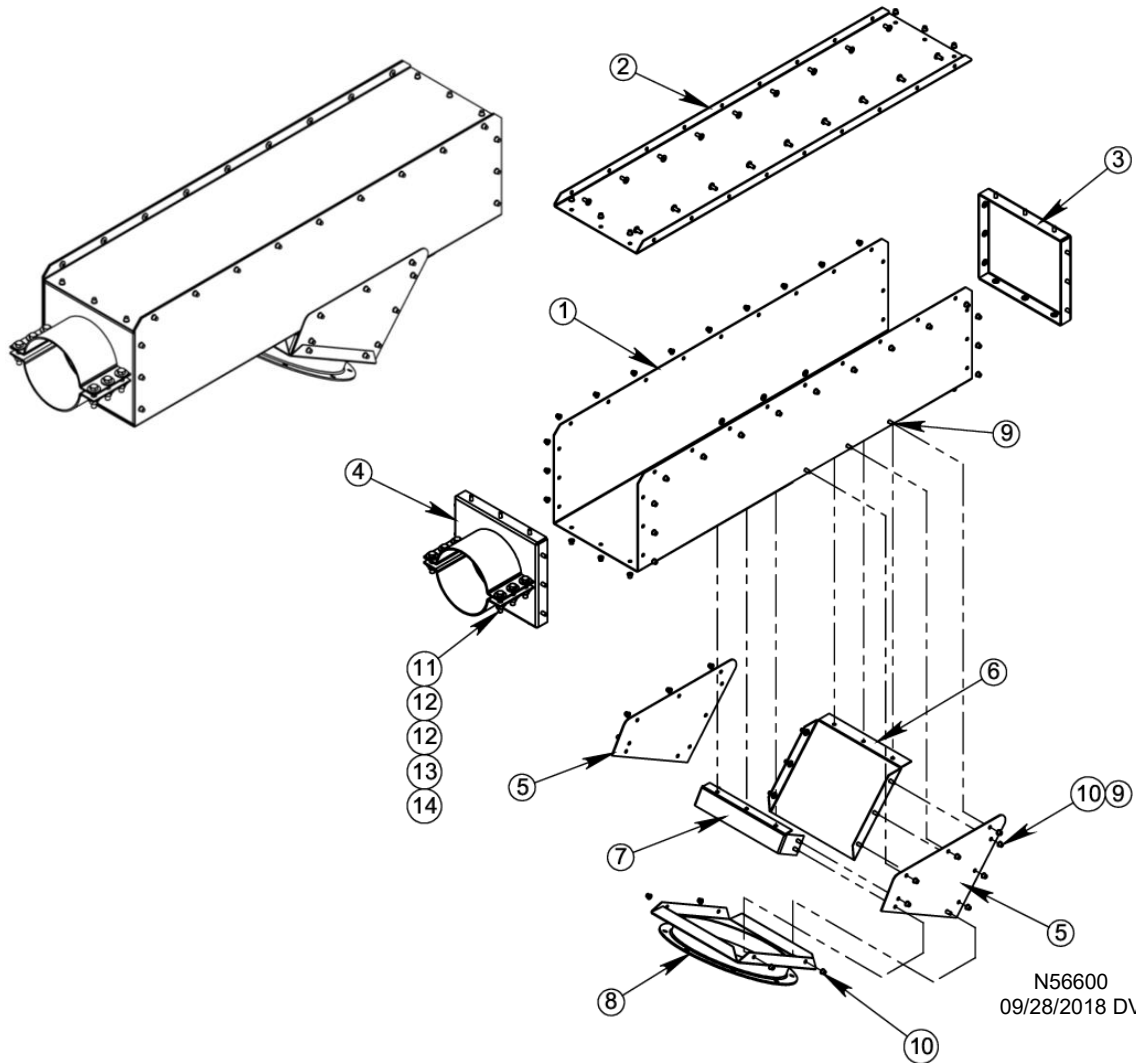


N55600
09/21/2018 DV

REF. #	DESCRIPTION	QTY.	PART #
1	Bottom	1	N55602
2	Top	1	N55603
3	End panel	1	N55604
4	Adapter weldment	1	N55605
5	Side panel	2	N55608
6	Back panel	1	N55609
7	Front panel	1	N55610
8	Spout, sq./round, 8"	1	F47981
9	Huckbolt, 1/4 x 5/8"	62	J0892
10	Huckbolt sleeve, 1/4"	62	J0893
11	Flat washer, 3/8"	12	J1117
12	Lock washer, 3/8" – 16	6	J1205
13	Hex nut, 3/8" - 16	6	J1020
14	Bolt, 3/8 – 16 x 1-3/4"	6	J0640

Parts 11-14 not shown

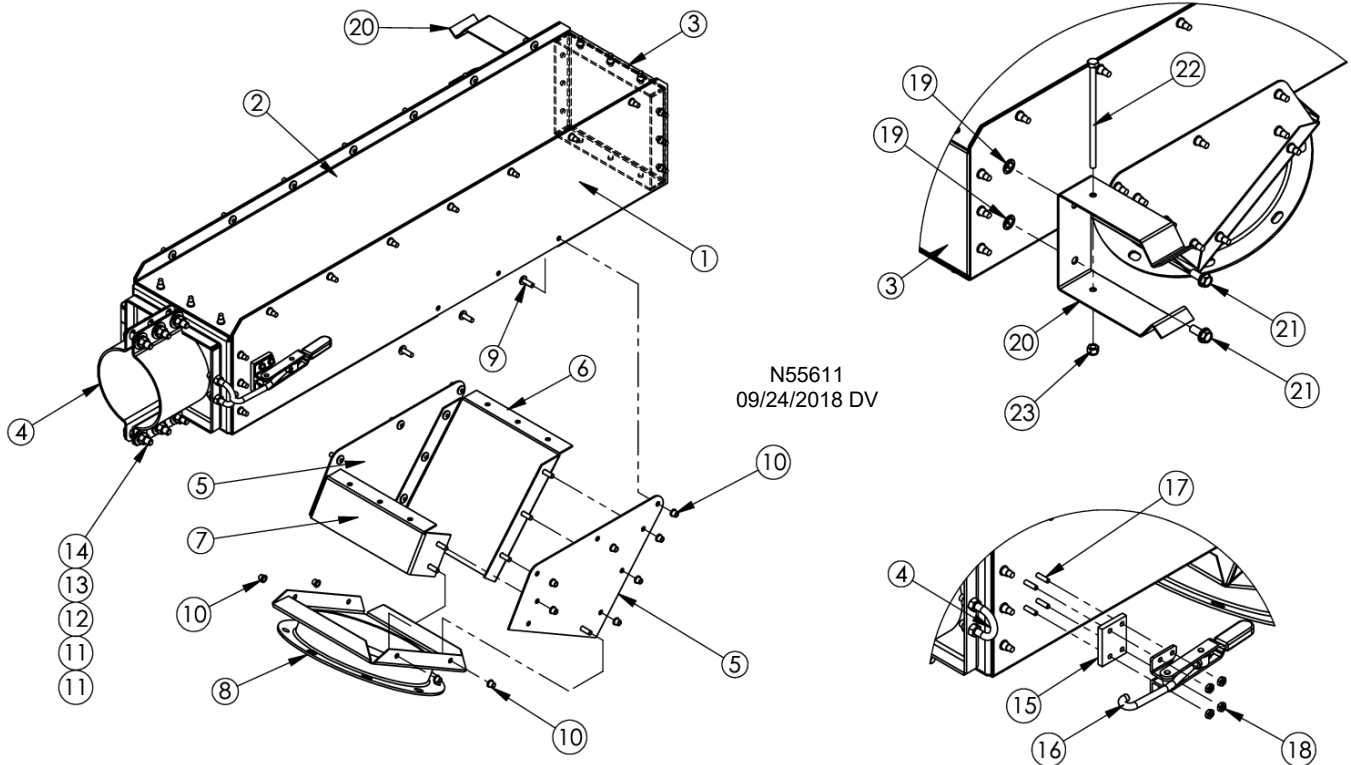
6" DEADHEAD ASSEMBLY – N56600



N56600
09/28/2018 DV

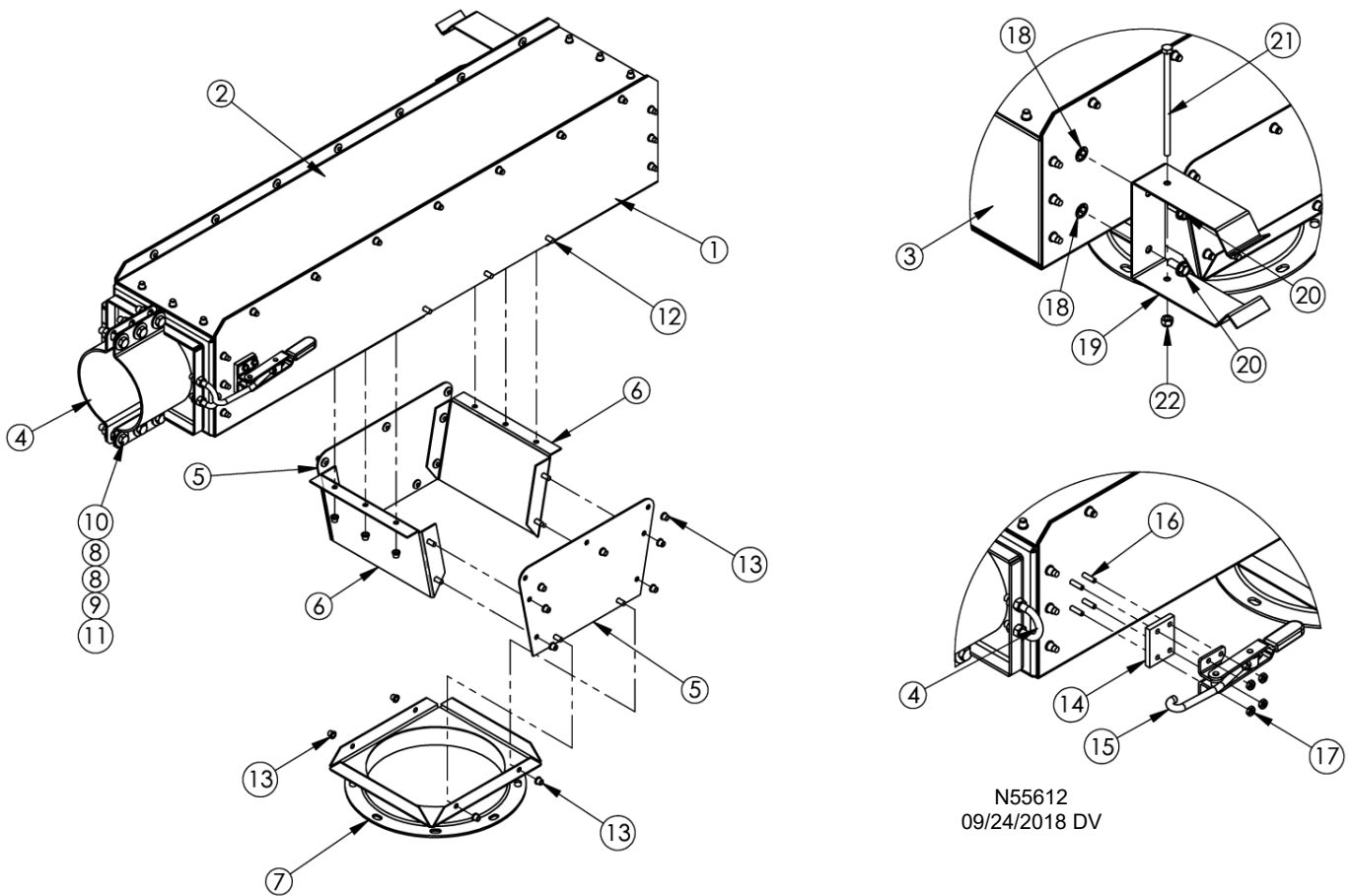
REF. #	DESCRIPTION	QTY.	PART #
1	Bottom	1	N56602
2	Top	1	N56603
3	End panel	1	N56604
4	Adapter weldment	1	N56605
5	Side panel	2	N56608
6	Back panel	1	N56609
7	Front panel	1	N56610
8	Spout, sq./rd., 10"	1	E56371
9	Huckbolt, 1/4 x 5/8"	66	J0892
10	Huckbolt sleeve, 1/4"	66	J0893
11	Bolt, 3/8 – 16 x 1-3/4"	6	J0640
12	Flat washer, 3/8"	12	J1117
13	Lock washer, 3/8" – 16	6	J1205
14	Hex nut, 3/8" - 16	6	J1020

5" HINGED DEADHEAD ASSEMBLY – N55611



REF. #	DESCRIPTION	QTY.	PART #
1	Bottom	1	N55607
2	Top	1	N55603
3	End panel	1	N55604
4	Hinge assy.	1	N55613
5	Side panel	2	N55608
6	Back panel	1	N55609
7	Front panel	1	N55610
8	Spout, sq./round, 8"	1	F47981
9	Huckbolt, 1/4 x 5/8"	62	J0892
10	Huckbolt sleeve, 1/4"	62	J0893
11	Flat washer, 3/8"	12	J1117
12	Lock washer, 3/8" – 16	6	J1205
13	Hex nut, 3/8" - 16	6	J1020
14	Bolt, 3/8 – 16 x 1-3/4"	6	J0640
15	Clamp spacer, UHMW	1	N54622
16	Tension clamp, J-hook	1	J6632
17	Screw, #10-24, 3/4"	4	J0516
18	Hex nut, #10-24	4	J0985
19	Rivet nut, 5/16" – 18	2	J1007
20	Catch	1	N55619
21	Screw, 5/16 – 18 x 3/4"	2	J0536
22	Screw, 1/4 – 20 x 5-1/2"	1	J05141
23	Lock nut, 1/4" - 20	1	J0992

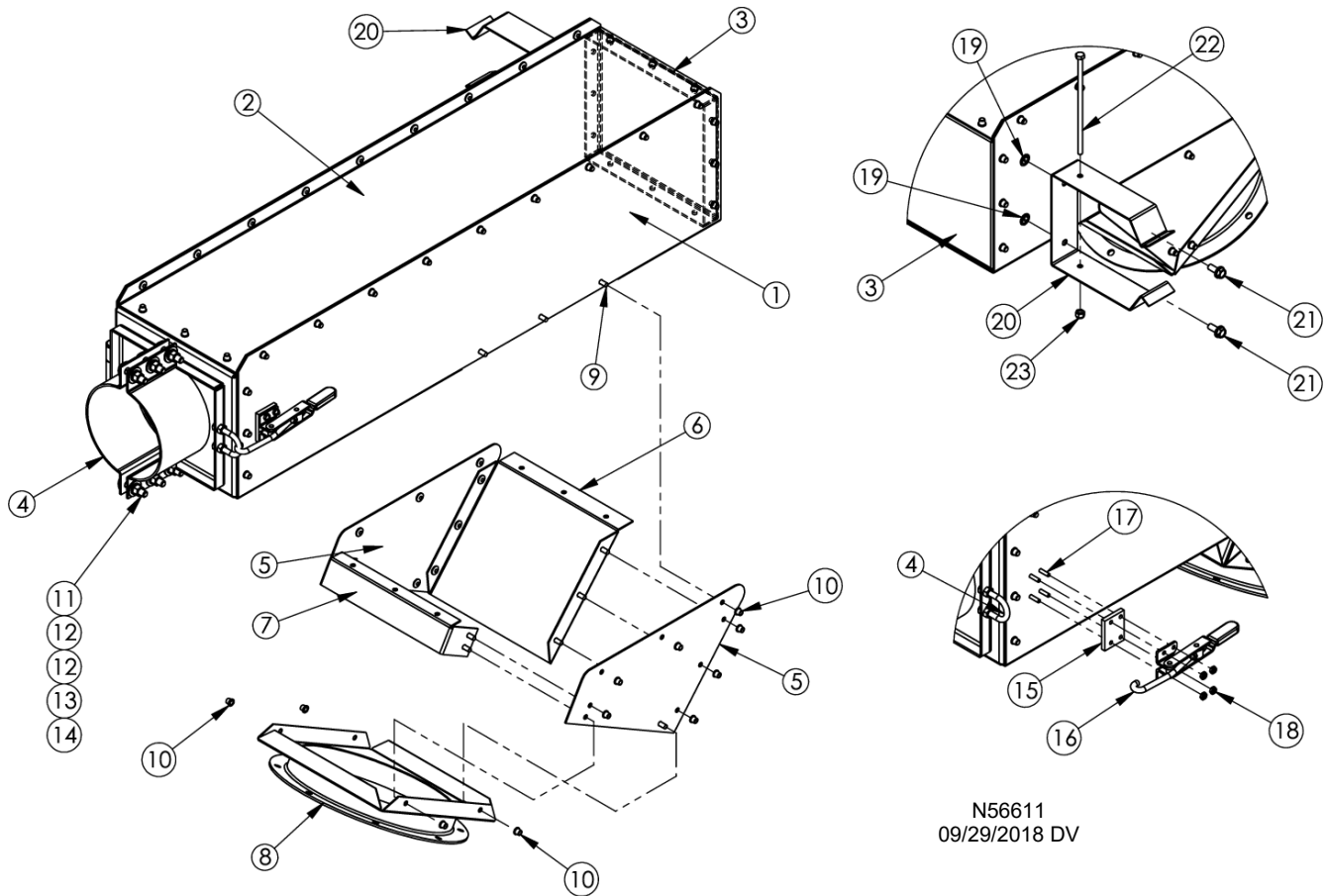
5" ,90° HINGED DEADHEAD ASSEMBLY – N55612



N55612
09/24/2018 DV

REF. #	DESCRIPTION	QTY.	PART #
1	Bottom	1	N55607
2	Top	1	N55603
3	End panel	1	N55604
4	Hinge assy.	1	N55613
5	Side panel	2	N55608A
6	Front/Back panel	2	N55609A
7	Spout, sq./round, 8"	1	F47981
8	Flat washer, 3/8"	12	J1117
9	Lock washer, 3/8" – 16	6	J1205
10	Bolt, 3/8 – 16 x 1-3/4"	6	J0640
11	Hex nut, 3/8" - 16	6	J1020
12	Huckbolt, 1/4 x 5/8"	62	J0892
13	Huckbolt sleeve, 1/4"	62	J0893
14	Clamp spacer, UHMW	1	N54622
15	Tension clamp, J-hook	1	J6632
16	Screw, #10-24, 3/4"	4	J0516
17	Hex nut, #10-24	4	J0985
18	Rivet nut, 5/16" – 18	2	J1007
19	Catch	1	N55619
20	Screw, 5/16 – 18 x 3/4"	2	J0536
21	Screw, 1/4 – 20 x 5-1/2"	1	J05141
22	Lock nut, 1/4" - 20	1	J0992

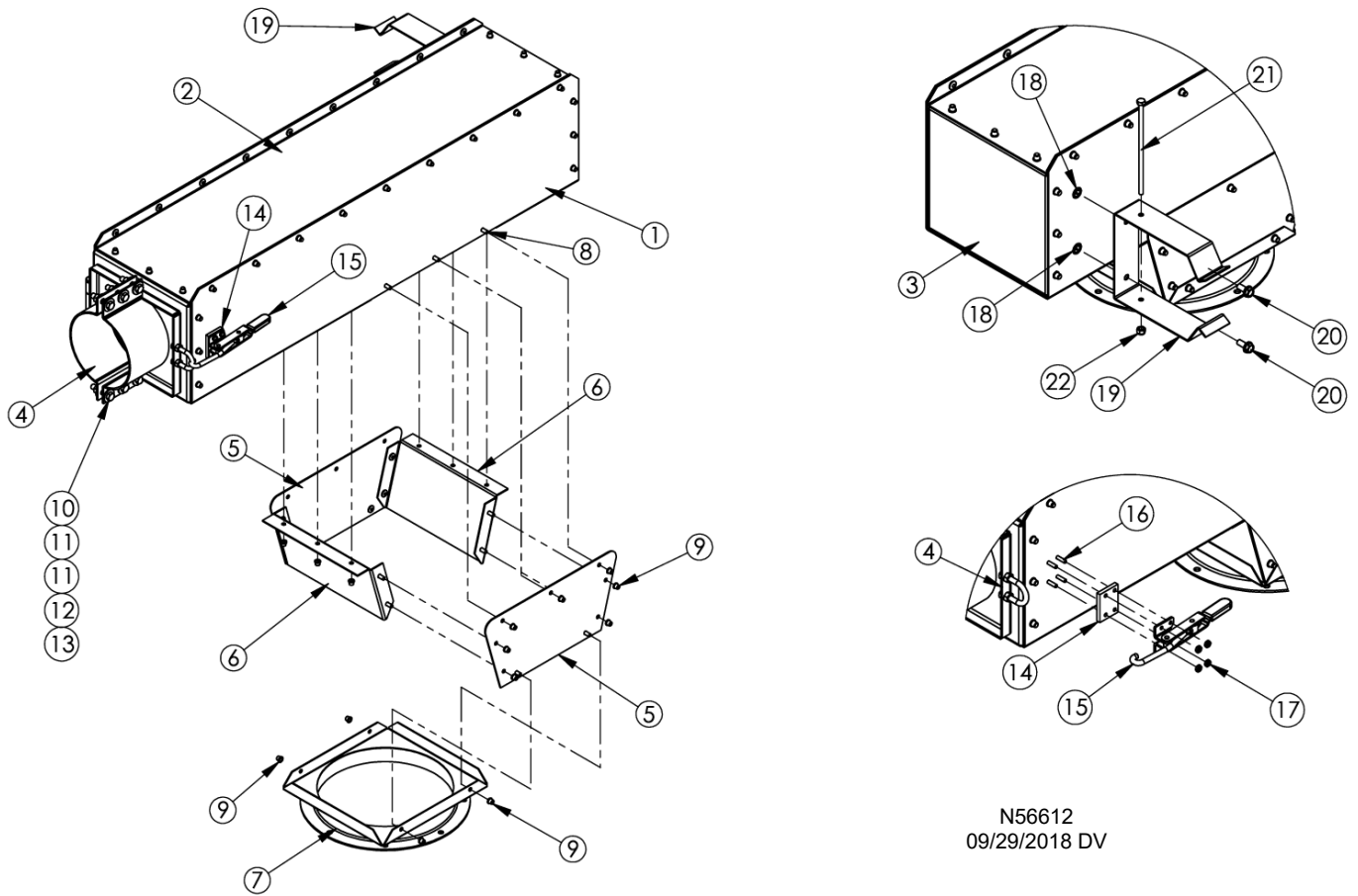
6" HINGED DEADHEAD ASSEMBLY – N56611



N56611
09/29/2018 DV

REF. #	DESCRIPTION	QTY.	PART #
1	Bottom	1	N56607
2	Top	1	N56603
3	End panel	1	N56604
4	Hinge assy.	1	N56613
5	Side panel	2	N56608
6	Back panel	1	N56609
7	Front panel	1	N56610
8	Spout, sq./round, 10"	1	E56371
9	Huckbolt, 1/4 x 5/8"	66	J0892
10	Huckbolt sleeve, 1/4"	66	J0893
11	Bolt, 3/8 – 16 x 1-3/4"	6	J0640
12	Flat washer, 3/8"	12	J1117
13	Lock washer, 3/8" – 16	6	J1205
14	Hex nut, 3/8" - 16	6	J1020
15	Clamp spacer, UHMW	1	N54622
16	Tension clamp, J-hook	1	J6632
17	Screw, #10-24, 3/4"	4	J0516
18	Hex nut, #10-24	4	J0985
19	Rivet nut, 5/16" – 18	2	J1007
20	Catch	1	N56619
21	Screw, 5/16 – 18 x 3/4"	2	J0536
22	Screw, 1/4 – 20 x 6-1/2"	1	J05142
23	Lock nut, 1/4" - 20	1	J0992

6" ,90° HINGED DEADHEAD ASSEMBLY – N56612

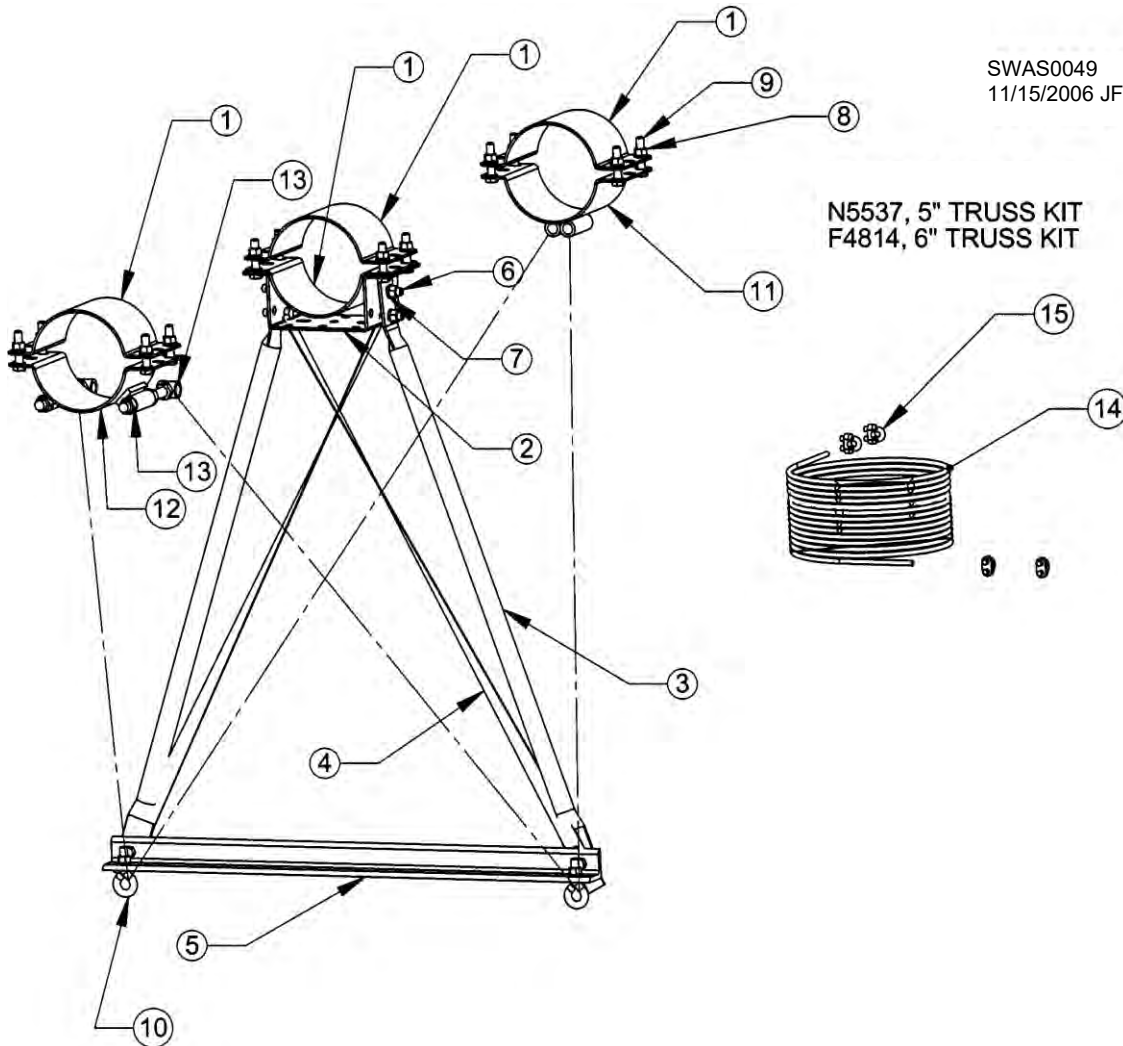


N56612
09/29/2018 DV

REF. #	DESCRIPTION	QTY.	PART #
1	Bottom	1	N56607
2	Top	1	N56603
3	End panel	1	N56604
4	Hinge assy.	1	N56613
5	Side panel	2	N56608A
6	Front/Back panel	2	N56609A
7	Spout, sq./round, 10"	1	E56371
8	Huckbolt, 1/4 x 5/8"	66	J0892
9	Huckbolt sleeve, 1/4"	66	J0893
10	Bolt, 3/8 – 16 x 1-3/4"	6	J0640
11	Flat washer, 3/8"	12	J1117
12	Lock washer, 3/8" – 16	6	J1205
13	Hex nut, 3/8" - 16	6	J1020
14	Clamp spacer, UHMW	1	N54622
15	Tension clamp, J-hook	1	J6632
16	Screw, #10-24, 3/4"	4	J0516
17	Hex nut, #10-24	4	J0985
18	Rivet nut, 5/16" – 18	2	J1007
19	Catch	1	N56619
20	Screw, 5/16 – 18 x 3/4"	2	J0536
21	Screw, 1/4 – 20 x 6-1/2"	1	J05142
22	Lock nut, 1/4" - 20	1	J0992

CYCLONE TRUSS KITS
5" TUBE – N5537; 6" TUBE – F4814

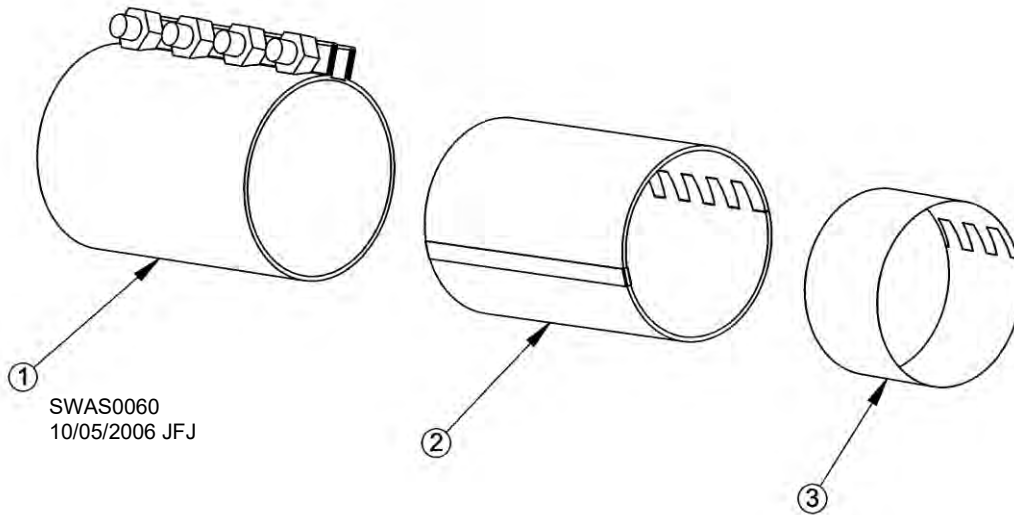
SWAS0049
 11/15/2006 JFJ



N5537, 5" TRUSS KIT
 F4814, 6" TRUSS KIT

REF. #	DESCRIPTION	5" TUBE		6" TUBE	
		QTY.	PART #	QTY.	PART #
1	Half band, galvanized	4	N5526	4	F48291
2	Truss bracket	1	N5545	1	F4997-02
3	Truss leg	2	F4995-03	2	F4995-03
4	Cross brace	2	F4999-03	2	F4999-03
5	Angle bracket	1	F4995-01	1	F4995-01
6	Screw, 3/8 – 16 x 1-1/4"	6	J0616	6	J0616
7	Lock washer, 3/8"	20	J1205	20	J1205
8	Hex nut, 3/8" – 16	22	J1020	22	J1020
9	Bolt, 3/8 – 16 x 1-3/4"	12	J0640	12	J0640
10	Eyebolt, 3/8 – 16 x 1-1/4", 5/8" eye	2	J0855	2	J0855
11	Cable band	1	N5538	1	F4998
12	Half band for adjustable bolts	1	N5539	1	F4992
13	Adjustable bolt	2	F4880	2	F4880
14	Cable, 1/4", galvanized, 83'	1	J3290	1	J3290
15	Cable clamp, 1/4"	4	J3260	4	J3260

COMPRESSION COUPLER



REF. #	DESCRIPTION	QTY.	PART #
1	5" Compression coupler	1	J7522
	6" Compression coupler	1	J7560
2	Compression coupler liner W/GRD strip, 5"	1	J7524
	Compression coupler liner W/GRD strip, 6"	1	J7519
3	Stainless steel gasket protector, 5"	1	J7594
	Stainless steel gasket protector, 6"	1	J7595

AIRLOCK REPLACEMENT PARTS

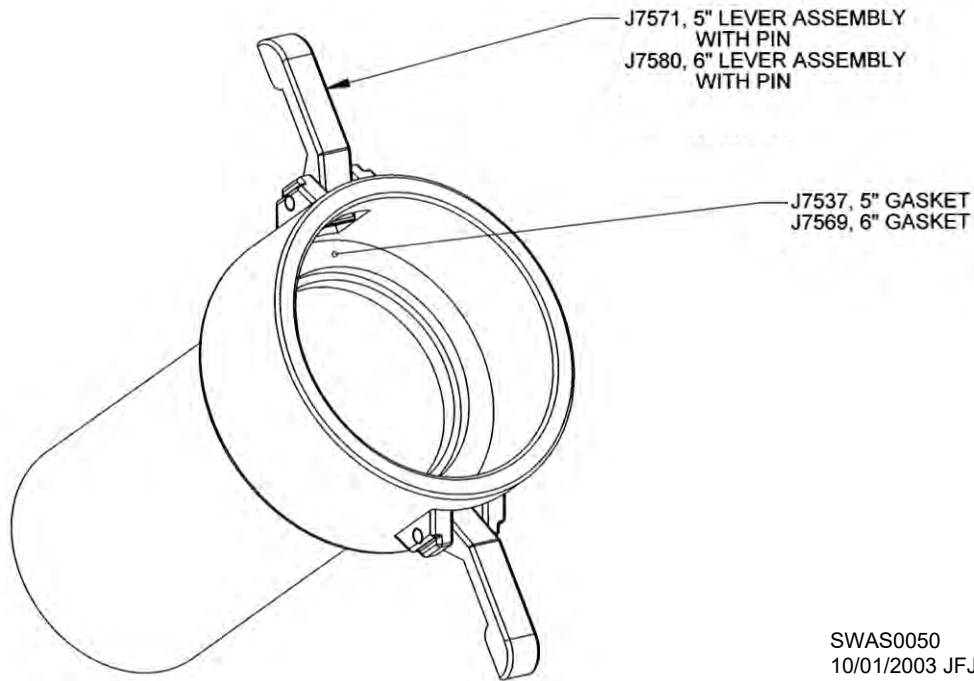
5" TUBE

DESCRIPTION	PART #
Airlock, Meyer, 14"	J7512
Airlock bearing, Meyer, 14-16"	J75122
Airlock shaft seal, 14-16"	J75123
Airlock bearing cap, blind end	J7516
Airlock bearing cap, drive end	J7517

6" TUBE

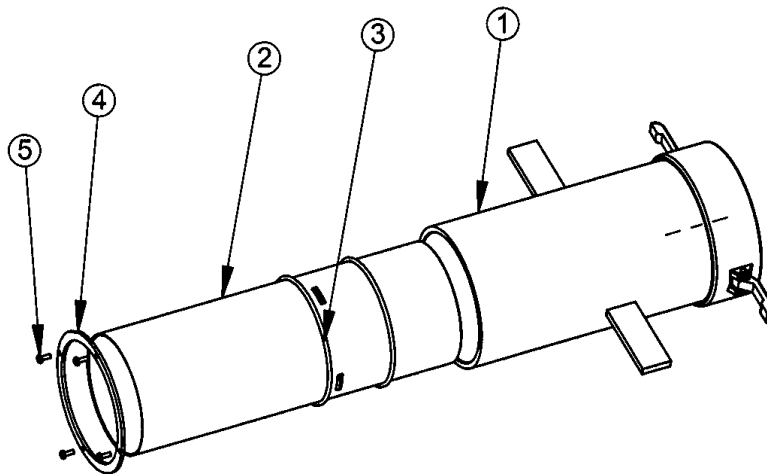
DESCRIPTION	PART #
Airlock, Meyer, 16"	J7510
Airlock bearing, Meyer, 14-16"	J75122
Airlock shaft seal, 14-16"	J75123
Airlock bearing cap, blind end	J7516
Airlock bearing cap, drive end	J7517

FEMALE CAMLOCK ASSEMBLY PARTS
J7541 (5" tube stub) & J7564 (6" tube stub)
 (See Page 11 for male camlock assy. part numbers)



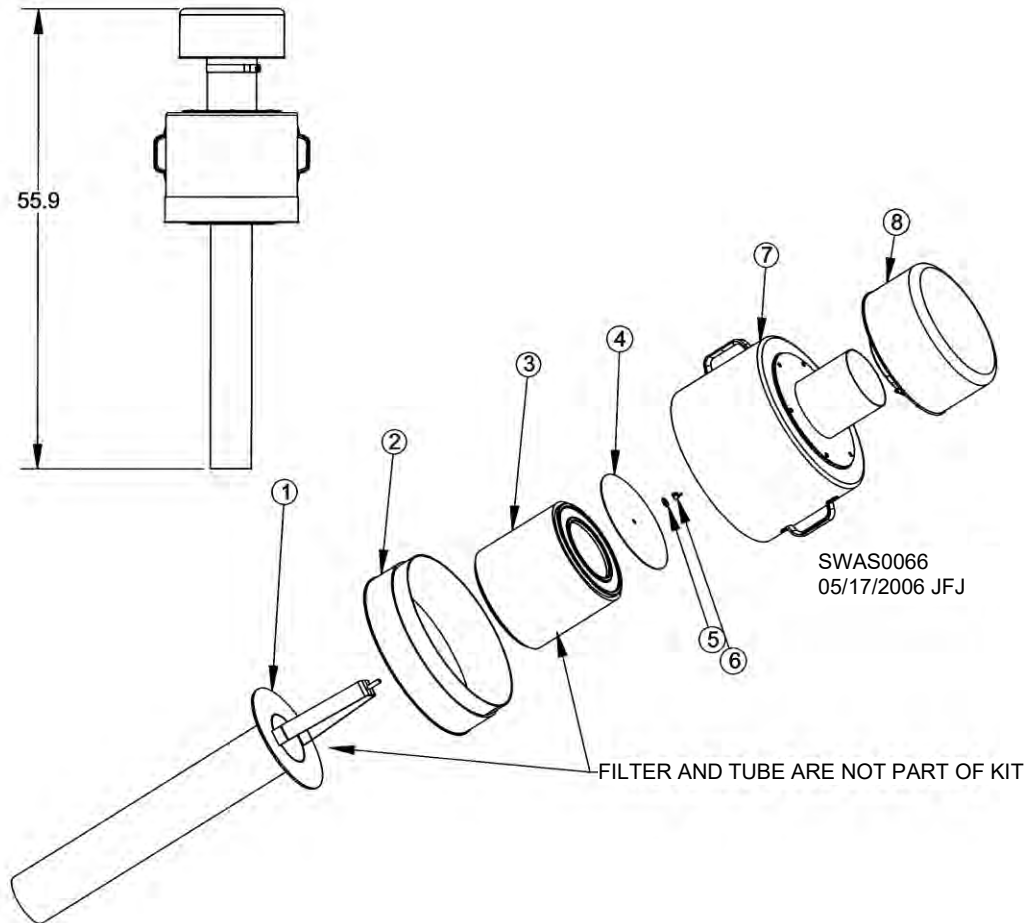
SWAS0050
 10/01/2003 JFJ

TELESCOPING FEMALE CAMLOCK ASSEMBLY
N5590 (5" tube) & N5690 (6" tube)



REF. #	DESCRIPTION	5" TUBE		6" TUBE	
		QTY.	PART #	QTY.	PART #
1	Camlock tube weldment,	1	N5591	1	N5691
2	Tube extension weldment	1	N5592	1	N5692
3	Cross section O-Ring, 3/16"	2	J3553	2	J3555
4	Retaining ring	1	N5593	1	N5693
5	Screw, #10 – 32 x 1/2"	4	J0476	4	J0476

PRE-CLEANER ASSEMBLY - N5351



REF. #	DESCRIPTION	QTY.	PART #
1	Tube weldment, Solberg filter extension	1	N55295
2	Pre-cleaner weldment base	1	N5354
3	Element w/ pre-filter, Solberg #244P	1	J7584
4	Filter top plate, 10" dia.	1	N5355
5	Neoprene washer, 3/8"	1	J1116
6	Wing nut, 3/8" - 16	1	J1022
7	Pre-cleaner inlet hood assy., w/ handles, 6"	1	N5352
8	Pre-cleaner, 6", Centri #EX-60	1	J7591

FILL AUGER PARTS

8" x 10' – G7109

8" x 8' – G7108

REF. #	DESCRIPTION	QTY.	PART #
1	Screw, 7/16 - 14 x 2-1/2"	4	J0720
2	Shaft, 1-1/4 x 9"	1	G73291
3	Lock washer, 7/16"	8	J1210
4	Nut, 7/16" - 14	8	J1035
5	Auger, w/ shafts, 8" x 10' fill auger	1	G7325
	Auger, w/ shafts, 8" x 8' fill auger	1	G7629
6	Tube, 8" dia. x 80" long, 8" x 10' fill auger	1	G7327
	Tube, 8" dia. x 56" long, 8" x 8' fill auger	1	G7628
7	Shaft, 1-1/4" x 12-1/8"	1	E9751
8	Key, 1/4" SQ x 1"	1	E5915
9	Hopper, plastic	1	J8030
10	Flange bearing, 1-1/4"	2	J0010
11	Screw, 7/16 - 14 x 2"	4	J0718
12	Hopper inlet guard, 8"	1	G7341
13	Hopper flow control, 8"	1	G8333
14	Flow control handle	1	G8336
15	Screw, 3/8 - 16 x 1-3/4"	6	J0640
16	Lock washer, 3/8"	6	J1205
17	Nut, 3/8" - 18	6	J1020
18	Connector sleeve, 8" x 18"	1	E5424
19	Powerhead, 8"	1	G7626
20	Motor mount	1	E9016
21	Motor, 2hp, 1ph	1	H2175
	Motor, 2hp, 3ph	1	H2475
22	Lock nut, 5/16" – 18	4	J1110
23	Flat washer, 5/16"	8	J1111
24	Screw, 5/16 - 16 x 1"	4	J0537
25	Pulley, 2-3/4" OD, 7/8" ID, A-groove	1	J0295
26	Pulley, 12" OD, 1-1/4" ID, A-groove	1	J0388
27	Belt, AX43	1	J0205
28	Shield	1	G7351
29	Flat washer, 1/4"	10	J1105
30	Self-drilling screw, 1/4" - 14 x 1"	10	J0501
31	Rubber outlet spout	1	G7344
32	Clevis	1	G7324
33	Nut, 5/8" - 11	2	J1046
34	Screw, 1/2 - 13 x 5"	1	J0760
35	Nut, 1/2" - 13	2	J1040

Contact Information

CONTACT INFORMATION

Sukup Dealer Information

Dealer name:	_____
Address:	_____
Cell phone:	_____
Office phone:	_____
Fax:	_____

In Case of Emergency

Have emergency numbers and written directions to your location near a phone.
Arrange and practice a safety plan.

Ambulance • Fire • Police: 9-1-1	
Bin rescue team:	_____
Local EMS team:	_____
911 Address of work site:	_____
Directions to work site:	_____

PRODUCT WARRANTY
REGISTRATION

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