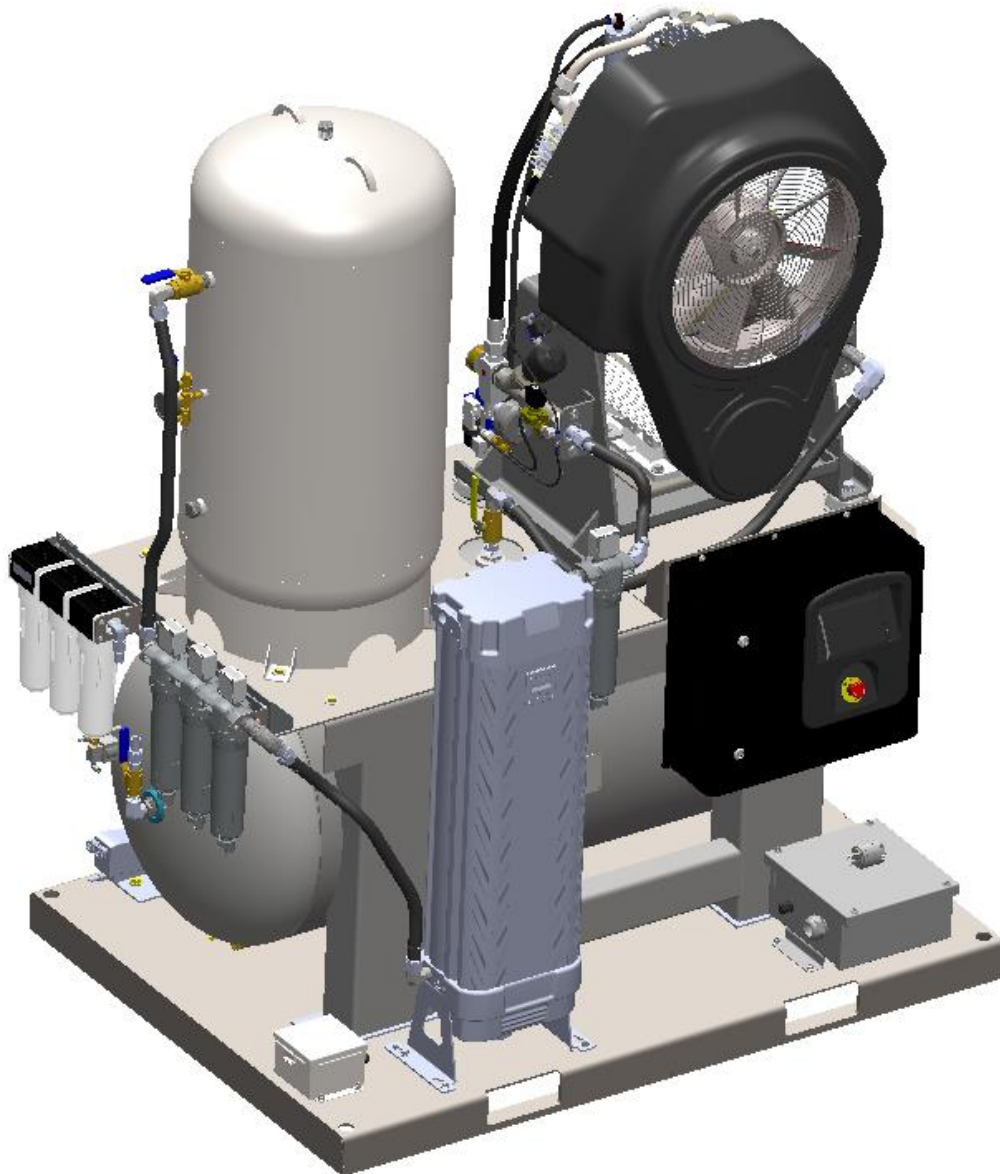


# Air Cutting Skid

Operation & Maintenance Manual (OM-IND-018)

Model – AS-75 (800230)

Revision 00; Jan 2024



## VERSION HISTORY

Rev.	Updated by	Approved by	Approval Date	Update Notes
00	SK	SDA	01/11/2024	Released

## CONTACT INFORMATION

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# 1 South-Tek Systems

Leading Designer and Manufacturer of Nitrogen Generators

At South-Tek Systems, we design, engineer, and manufacture on-demand Nitrogen generation equipment that delivers the exact purity and flowrate applications require. Our team is committed to providing innovative, highly engineered, quality, and cost-effective Nitrogen Generator systems to meet our customer’s requirements.

Along with superior service, our team takes the time to better understand each particular application, allowing us to provide perfectly tailored solutions that continually surpass our customer’s expectations.

With a commitment to ongoing research and development, South-Tek has created patented and patent-pending technology that maximizes the longevity and efficiency of Nitrogen Generation Systems. South-Tek not only provides the best customer support and user experience in the industry, we’re also the most innovative.

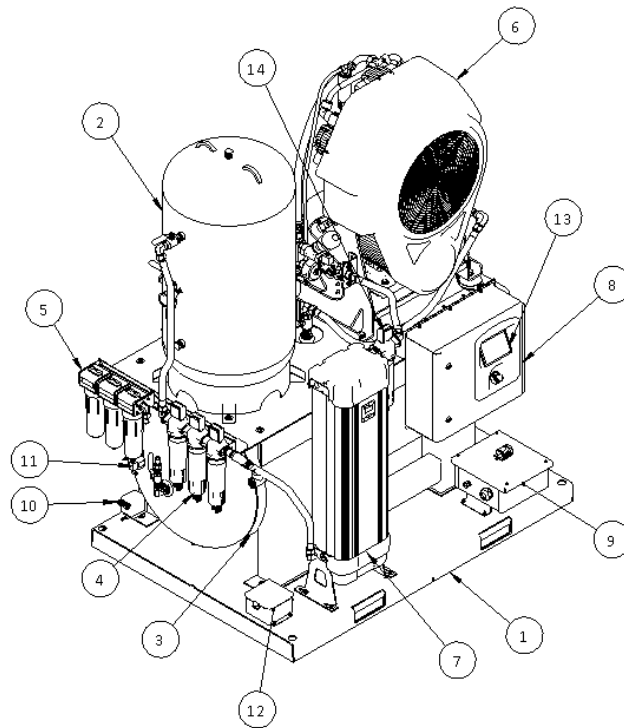


## 2 General Function and System Overview

The Air Skid is engineered to meet the demands of metal cutting laser systems by delivering high-pressure air, essential for the cutting process. It takes standard shop air, typically ranging between 100 and 150psi, and efficiently boosts it to the required pressure levels (363-580psi) for performance in laser cutting applications. The system is comprised of low-pressure filtration, regenerative air dryer, air-storage tanks, electric gas booster and high-pressure filtration with fully automatic Programmable Logic Controllers (PLC) for control and operation. The compact and mobile skid unit simplifies transportation and installation, offering a plug-and-play solution with just one electrical connection required for ease of setup and operation.

*The diagram below illustrates the primary components of the Air Cutting Skid.*

- |   |                               |    |                                |
|---|-------------------------------|----|--------------------------------|
| 1 | SKID                          | 8  | ELECTRICAL CONTROL CABINET     |
| 2 | LOW PRESSURE TANK             | 9  | MAIN ELECTRICAL POWER BOX      |
| 3 | HIGH PRESSURE TANK            | 10 | LOW PRESSURE CONDENSATE DRAIN  |
| 4 | LOW PRESSURE FILTER (INLET)   | 11 | HIGH PRESSURE CONDENSATE DRAIN |
| 5 | HIGH PRESSURE FILTER (OUTLET) | 12 | ELECTRICAL POWER JUNCTION BOX  |
| 6 | BOOSTER                       | 13 | CONTROLLER & SCREEN            |
| 7 | AIR DRYER                     | 14 | LOW PRESSURE FILTER            |



*Figure 1: Air Skid Components Layout*

## 3 Safety/warnings

### 3.1 General Safety Precautions

Before operating this product, it is imperative to be aware of and adhere to the following safety precautions:

**Qualified Personnel:** Only individuals who are trained and qualified to work with electrical equipment, compressed air systems, and machinery with oil-lubricated compressors should operate this product.

**Manual Familiarity:** It is essential to thoroughly read and understand this manual before utilizing the equipment. Ensure that all users have access to and are well-versed in the contents of this manual.

**Safety Gear:** Proper personal protective equipment (PPE) must be worn when operating or servicing the equipment. This may include safety glasses, hearing protection, gloves, and other necessary gear.

### 3.2 Compressed Air System Safety

**Pressure Rating:** Select materials that are compatible with compressed gas service. Unsuitable materials can lead to system failures and safety hazards. Exceeding pressure ratings can result in equipment failure and safety hazards.

**Leak Inspection:** Regularly inspect compressed air pipes, fittings, and connections for leaks, wear, or damage. Replace or repair any damaged components promptly.

**Pressure Regulation:** Utilize an appropriate pressure regulator to maintain the air pressure supplied to the equipment within safe operational limits.

### 3.3 Electrical Safety

**Qualified Electrical Personnel:** Equipment is typically connected to a 460V, 3-phase electrical supply. It must be installed by a qualified person in compliance with local electrical codes. Disconnect electrical power to service or maintain components of the system. Avoid contact with live electrical components.

### 3.4 Oil-Lubricated Compressor Safety

**Respiratory Protection:** When working with oil-lubricated compressors, be aware of potential exposure to oil vapors or aerosols. Use appropriate respiratory protection when necessary.

**Proper Maintenance:** Regularly inspect and maintain the oil-lubricated compressor in line with the manufacturer's recommendations. Follow correct disposal procedures for used oil.

**Fire Precautions:** Compressed air systems with oil-lubricated compressors can pose a fire hazard. Ensure that there are no open flames or potential ignition sources near the equipment.

## 4 Technical Specifications

Table 1: Equipment Specifications

Inlet Requirements		Outlet Performance	
Inlet Air Pressure	90-175 psig (1)	Final Air Pressure	363-580 PSIG
Inlet Air Flow	80-120 SCFM	Air Outlet flow	0-99 SCFM
General Specifications			
Dimensions	78" L x 52" W x 90" H	Noise	<85 dBA (3' distance)
Weight	4000 lbs	Design Duty Cycle	70%
Inlet Connection	1.0 NPT - female	Outlet connection	0.5 NPT - female
Electrical Specification			
Electrical Motor	11 kW (15 HP)	460V – 3PH – 60Hz	18.58 FLA
Connection	L16-30P – may remove for hardwire to disconnect	Circuit Protection	30-40 A (2)

Note:

- (1) Note expected pressure loss from Air Skid inlet to booster inlet is 10-15 psig based on needs of filtration and desiccant dryer. Corrections should take this into account for booster delivery flow rates
- (2) Use time 30A delay fuse or 30-40A breaker designed for use with inductive motors, high inrush current. Ensure all equipment complies with relevant local codes and ordinances. Consulting licensed electrical provider for your region is recommended.

### 4.1 Product Performance

Customer Supplied Pressure (PSIG)	Inlet flow - Compressor requirement (SCFM)	Outlet Flow (SCFM)
90	80	60
100	88	67.9
110*	100*	74.6
120*	110*	90.1
130*	120*	99
140*	120*	99

\* Indicates dryer purge must be adjusted. Without adjustment purge rates may be higher

\* Flow rates stated are 3 minute averages, during steady operation

### 4.2 Environmental Conditions

<b>Operating Temperature</b>	<b>32-115°F (0-46°C)</b>
<b>Humidity</b>	0-70 %
<b>Installation environment</b>	Indoor



## 5 Installation

### 5.1 Unpacking

This equipment will either be shipped via dedicated truck OR securely packaged within a wooden crate. If crated, follow these steps:

- For handling and unloading, use a forklift with a minimum capacity of 5000 pounds or similar equipment. If needed, dedicated truck services may be arranged for your convenience.
- Remove the door panel located at one end of the crate assembly.
- Carefully disengage the bolts securing each corner of the skid. Note this may require removing two bolts, reinstall the door. Remove the other door, then other bolts.

### 5.2 Inspect for Damage

At receiving, perform a thorough visual inspection for any signs of damage. If any issues are discovered, promptly report your findings to the carrier or our South-Tek Systems service department. Any damage to equipment or packing materials should be noted on the bill of lading before signing.

### 5.3 Safe Handling

The Air Skid is engineered for lifting and movement from three sides, with forklift pockets provided on each of these three sides. When preparing to lift the Skid, take extra care to confirm that the forks of the forklift are fully engaged beneath the base of the skid. Neglecting this essential step may result in unbalanced loading conditions, posing a risk of the Air Skid tipping over during transport.

### 5.4 Install

#### 5.4.1 Positioning and Installation

The Air Skid should be placed on a flat and level surface, with a permissible deviation of no more than 5 degrees off level. It is recommended that the floor's concrete strength is 4000 psi, and the skid must be securely anchored into the concrete.

Ensure that the installation site complies with the environmental specifications outlined in section 3b above. Maintain a recommended 3-foot clearance from the wall on all sides of the Air Skid for optimal operation, as shown in Figure 2. The overhead clearance requirement is 12.5 feet, with 5 feet of space above the unit dedicated to ventilation. If less than 12.5 feet of overhead space is available at the installation location, additional ventilation is necessary. In this case, please contact South-Tek Systems for guidance.

#### 5.4.2 Electrical Requirements

The system is supplied with a 20-foot long power cord featuring a twist lock L16-30 4-prong male plug. If applicable, site may also consider removal of plug end and hardwire to electrical service. Once the skid is in its designated location, please refer to the Table 1: Equipment Specifications and follow the Pre-Installation Checklist to complete the system installation. A licensed electrician should be consulted for any questions regarding electrical installation or local code. All practices should always ensure safety of individuals and equipment.

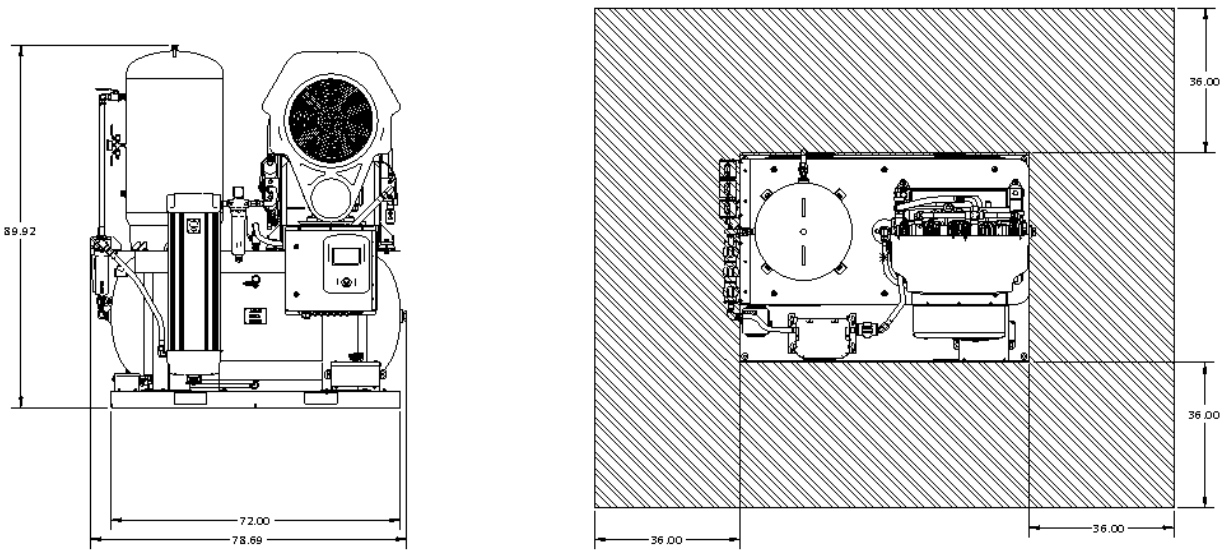


Figure 2: Front view and Top View

### 5.4.3 Laser connections

This product is primarily designed for laser cutting applications that support air assist gas inlet. To ensure swift commissioning and seamless installation, it's crucial to meet the laser preparation prerequisites for air cutting.

Typical laser requirements for alternate assist gas inlets include flexible hoses, supplementary filtration systems, potential pressure regulators, and verification of the machine's compressed air cutting settings. Use fittings, connectors, or piping that align with the specific gas inlet requirements for laser cutting.

By effectively integrating into the inlet, often referred to as the 'third port assist,' this enables the laser to effortlessly switch between cutting gases and modify cut parameters with minimal customer intervention. This integration facilitates smooth transitions, enhancing operational flexibility and efficiency during laser cutting operations.

## 6 Factory commissioning

This product is intended for either on-site start up and commissioning or virtual start-up and commissioning. Virtual commissioning is a complementary inclusion within the original purchase of this product. To schedule your commissioning service, please reach out to South-Tek Systems using one of the following methods:

Technical Support: (910) 415-1880

Email: [Support@southteksystems911.zendesk.com](mailto:Support@southteksystems911.zendesk.com)

<https://www.southteksystems.com/>

## 7 Operation

Make sure all plumbing is properly connected and secured. The Air skid will be shipped from the factory in the following configuration of “shipped valve position.” Before energizing the system, check to ensure all valves are in the normal operating position.

Table 2: Valve Position, shipping and operation

Item Number	Item Name	Shipped Valve Position	Normal Operating Position
1	Low Pressure Tank Air Inlet	Closed	Open
2	Low Pressure Tank Air Outlet*	Closed	Open*
3	Low Pressure Tank Vent Line	Closed	Open
4	Low Pressure Tank Drain	Open	Closed
5	High Pressure Tank Drain	Closed	Closed
6	High Pressure Tank Sample Port	Closed	Closed
7	High Pressure Tank Inlet	Closed	Open
8	High Pressure Tank Outlet	Closed	Open

\*Valve position change should be completed gradually to prevent seal or equipment damage

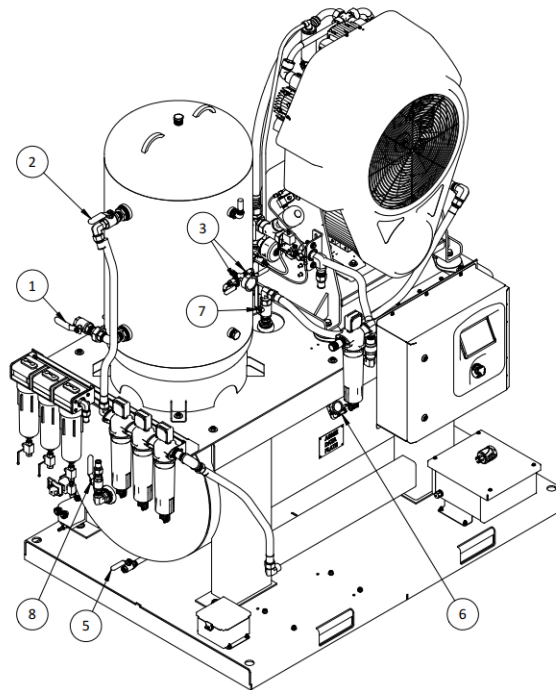


Figure 3: Inlet and outlet valves and locations

## 7.1 Compressed Air Connections

After verifying the position of the valves, air lines may be connected to the Air inlet Port, low pressure tank using 1" Male NPT connection. Confirm inlet line size is 1 inch or larger. If pipe length from compressor to air skid inlet is greater than 100 ft, upsize pipe accordingly.

Air Outlet, high pressure line should be connected at the outlet filters using 1/2" NPT Male connection. Similar to the inlet pipe, high pressure lines should consider pipe length and pressure drop.

Common practice for South-Tek applications will aim to have < 2 PSIG pressure drop over pipe.

Use of whip check is recommended for flexible inlet and outlet air hoses. Rigid pipe is acceptable but at least 18" of flexible hose should be used to isolate the machine from distribution piping systems. Piping material suitable for compressed air and laser systems should be used.

Open low pressure tank inlet valve slowly to mitigate any spikes in the system. Let the tank pressurize. Confirm inlet pressure and flow meets product performance specifications provided. See product performance table for details.

For additional support or if you're unsure how to complete plumbing connections, please consult South-Tek Systems, a qualified plumber or compressed air system expert.

## 7.2 Electrical connection

### 7.2.1 Warning

The following procedures should only be executed by trained professionals. Working with high voltage without the necessary expertise can result in severe injuries and damage to life and property.

### 7.2.2 Connection and Activation

1. Validate wire, circuit protection, time delay fuse or breaker ratings meet requirements. For more information see Section 4 Technical Specifications.
2. Engage the E-Stop button on the control panel.
3. Verify that the circuit breaker is in the off position.
4. Connect the locking cable to the designated 460V outlet or terminate cable ends to disconnect.
5. Turn on the electrical disconnect.
6. Confirm that the line-to-line voltage reads 460V, and the line-to-ground voltage reads 260V.
7. Verify that the booster screen powers on, indicating that power is supplied to the unit. Following these steps diligently ensures a safe and efficient electrical setup for your equipment.

### 7.2.3 Compressed Air Dryer



Begin by confirming that the air dryer is powered on. The dryer screen should have a display active. Upon pressurization of the low pressure tank, gently open the outlet valve of the low-pressure tank to gradually introduce compressed air into the dryer. *It's crucial to pressurize the dryer slowly, avoiding abrupt pressure spikes that could lead to irreversible damage.* Once the valve is fully open, allow the dryer to run for at least 10 minutes before proceeding to the next steps. This brief period of operation allows the dryer to purge and stabilize dewpoint, ensuring that the system performs optimally.



### 7.2.4 Energize booster

Begin by disengaging the E-Stop on the control panel. This can be accomplished by twisting the emergency stop button clockwise half a turn.


Next, switch the high-pressure tank inlet ball valve to the open position. See valve top of lower tank item 7, Figure 3: Inlet and outlet valves and locations.

Prior to running the booster, it's critical to verify the rotation. On the booster fan, you will find arrows indicating the intended direction of rotation. Extended operation of the booster in the incorrect direction may result in damage to the booster and its components.

Please proceed with the following steps to confirm the correct rotation of the booster.

1. Examine the rotation arrow on the fan of the booster or on the pump.
2. On the control panel, place one hand on the green button  and another on the e-stop
3. Press the green button for about half a second 
4. As soon as the booster starts running, press the e-stop button to end running.
5. Verify that the fan is rotating the same direction as the arrows indicate. If fan rotation is opposite of arrow indicator follow steps below for changing motor rotation.
6. If unsure, repeat above steps 1-6 to ensure booster is rotating in the correct direction.

Procedure for Changing Motor Direction:

1. Ensure that a certified electrical provider or service technician performs this procedure.
2. Disconnect the electrical power source and ensure a safe working condition before proceeding.
3. Swap the position of two wires (L1-L2-L3) within the electrical supply, either at the electrical disconnect or within the booster enclosure at the terminal blocks.
4. After changing the wires, retorquing the conductors securely.
5. Verify and confirm the correct rotation of the booster by repeating the process.
6. After rotation is verified, press the green button to start operation. 

Default values for Booster, set from the factory are as follows:

Cut in pressure: 440 psig

Cut out pressure: 500 psig

### 7.2.5 Process Drains

Condensate generation is a normal part of operation in compressed air systems. This system is supplied with several automatic condensate drains. It's essential to plumb away this condensate.

Tubing or collection devices may be used. Always treat condensate to prevent environmental or workplace hazard. An oil water separator or catch device may be used.

## 8 Programming

Refer to Pg. 12 of 'Ozen Maestro 22 Controller Manual' for Booster Programming

Controller password level 1: 22

Controller password level 2: 6936

*Adjustment of factory settings without prior written approval may have impacts of function and warranty. Be sure to consult with South-Tek Systems*

Refer to Pg. 24 of 'Dryer Manual' for desiccant dryer Programming.

For copies of each manual see the link or QR code below:

<https://southteksystems911.zendesk.com/hc/en-us/articles/1500001757982-Where-Can-I-Get-a-Copy-of-My-Manual->



## 9 Maintenance

Several components need periodic maintenance for smooth and efficient operation. The recommended schedule of maintenance based on run cycle and/or time is included with this manual. Proper maintenance will ensure maximum lifetime of the system.

If there are needs for on site support or questions regarding system maintenance, reach out to the South-Tek Systems service team.

*Table 3: Service Item Numbers*

### 1000 hr kit

Item	Description
300718	HP F3, Activated Carbon
111760	Booster 1000 hr kit

### 4000 hr kit

Item	Description
301222	F1, 1 Micron
301240	F2, 0.01 Micron
301222	F3, Booster inlet 1 Micron
300708	HP F1, 1 Micron
300713	HP F2, 0.01 Micron
300718	HP F3, Activated Carbon
111761	Booster 4000 hr kit (contains 1000 hr kit)

### 8000 hr kit

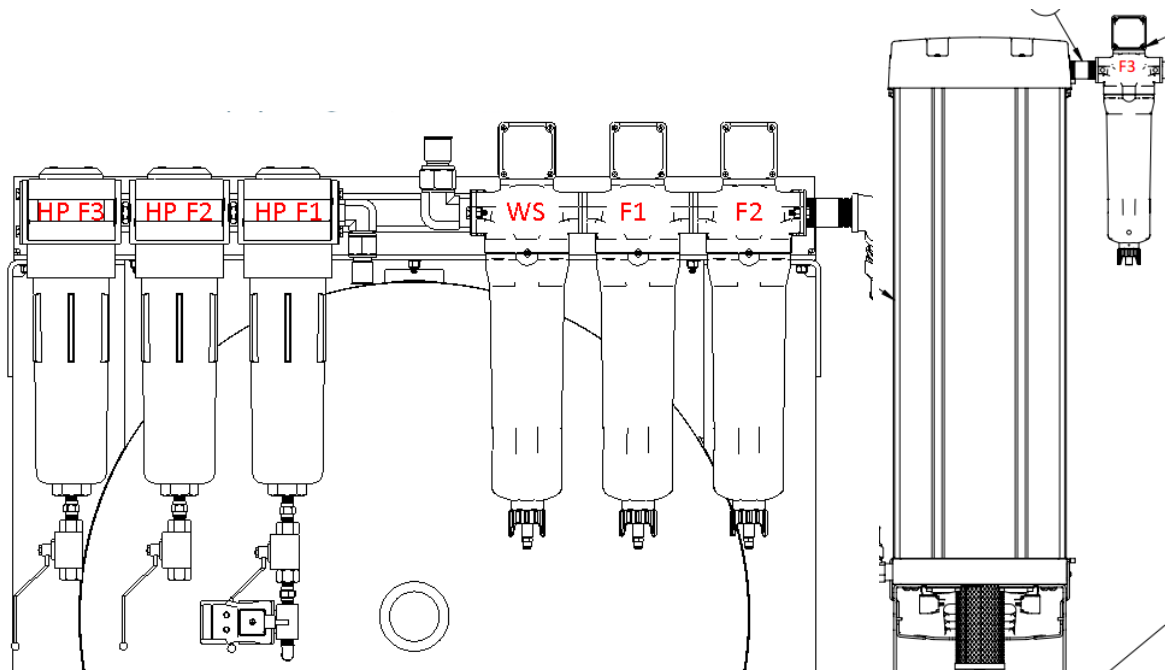
Item	Description
301454	Booster 8000 hr kit (incl 1000, 4000 hr)
400128	Filter Float drain
300635	Zero Loss Maintenance Kit
400383	Dryer EX silencer
301452	Desiccant cartridge, manifold seals
301453	Desiccant Control Valve Kit

## 9.1 Air Filters

The inlet air filters should be visually inspected for filter integrity every month. They should be replaced at 4000 hours or 1 year, whichever is earlier.

Depressurize line to filters. Verify pressure is 0 PSIG on desiccant dryer gauges. Twist drain on low pressure filters to release pressure if needed. For high pressure filters, open ball valve on the bottom of the bowl to relieve pressure. Once confirmed unscrew filter bowl on compressed air filter counterclockwise. Reinstall replacement element and bowl.

Outlet filters included in the system contain 1 micron, 0.01 micron and Activated Carbon elements. The elements should be replaced at intervals outlined in the maintenance table. All elements for high pressure follow a maintenance schedule of either 1000 hours or 4000 hours, depending on the filtration grade. See Table 4: Maintenance Schedule for the specific maintenance interval, by item.



## 9.2 Booster - Oil Check and Change

Oil level should be checked every day. Confirm oil level in the booster via sight glass, located on the back side of the pump. The visual indicator is OK to validate oil level in the running or standby mode of the booster. Oil level is also monitored via sensor level and reported alarm to the booster controller.

Oil should be changed every 1000 hours or 1 year. Before performing an oil change make sure *that the Air Skid is shut down and the emergency stop is pressed. Confirm E stop active via the HMI screen. Additionally, it is recommended to turn of Breakers to ensure all electrical lines are de-energized before working on the compressor.*

Detailed oil change instructions included in Section 10 "Accessory Manuals" portion of this document. A 6 point socket for the oil cap is recommended to prevent rounding the oil plug.



Table 4: Maintenance Schedule

All periods of hours equate to booster run hours. Load hours may be lower. Use the highest value.

		Daily	Weekly	Monthly	1k	2k	3k	4k	5k	6k	7k	8k
					9k	10k	11k	12k	13k	14k	15k	16k
service kit					1k	1k	1k	4k	1k	1k	1k	8k
Maintenance	Check oil (Booster)	<input type="checkbox"/>										
	Verify Auto Drain Valve (Booster)		<input type="checkbox"/>									
	Manually engage all condensate drain (tank and filters)		<input type="checkbox"/>									
	Inspect Booster Inlet Filter (F3)			<input type="checkbox"/>								
	Inspect final outlet filter (HP F3)			<input type="checkbox"/>								
	Activated Carbon Air Filter (HP F3)				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Oil Change, oil sponge (booster)				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1 micron element, (HP F1)							<input type="checkbox"/>				<input type="checkbox"/>
	0.01 Micron Element, (HP F2)							<input type="checkbox"/>				<input type="checkbox"/>
	1 micron element, (F1)							<input type="checkbox"/>				<input type="checkbox"/>
	0.01 Micron Element, (F2)							<input type="checkbox"/>				<input type="checkbox"/>
	Booster Inlet 1 micron element, (F3)							<input type="checkbox"/>				<input type="checkbox"/>
	Cylinder Rings (Booster)							<input type="checkbox"/>				<input type="checkbox"/>
	Stage Valves (Booster)							<input type="checkbox"/>				<input type="checkbox"/>
	Gasket (Booster)							<input type="checkbox"/>				<input type="checkbox"/>
	O-ring (Booster)							<input type="checkbox"/>				<input type="checkbox"/>
	Check connection rod bearing (Booster)							<input type="checkbox"/>				<input type="checkbox"/>
	Replace connection rod and bearing (booster)											<input type="checkbox"/>
	V-belt(s)(Booster)											<input type="checkbox"/>
	Check valve (Booster)											<input type="checkbox"/>
	Filter Float Drains											<input type="checkbox"/>
	Exhaust Muffler (Dryer)											<input type="checkbox"/>
	Desiccant Cartridge (Dryer)											<input type="checkbox"/>
	Desiccant Manifold Seals (Dryer)											<input type="checkbox"/>
	Desiccant Control Valves (Dryer)											<input type="checkbox"/>
	Zero Loss Drain Maint Kit (Tank)											<input type="checkbox"/>
Calibrate hydrometer (Dryer, optional)												
Operating Hours count												
Date												
Service performed by												

## 10 Problem Solving

Before scheduling a maintenance appointment review the following common problem solving sections.

- Has the unit been damaged externally or are any parts missing?
- Is power being supplied to the unit?
- Was start-up carried out in accordance with the instructions in this manual?
- Are all external valves correctly set for operation?

reference Table 2: Valve Position, shipping and operation

- Do the operational conditions meet those specified at time of ordering and used for product selection?

Table below lists some of the common issues frequently encountered.

<b>Problem</b>	<b>Possible Cause</b>	<b>Action</b>
<b>System doesn't Power on</b>	No power	Check incoming power
	Faulty controller	Replace controller
	Breakers Tripped	Check for tripped breakers in the electrical input and junction box
<b>Incorrect dryer operation, won't switch towers</b>	Jammed shuttle valves	Clean or replace shuttle valves
	Faulty electrical components	See dryer accessory manual for troubleshooting
	Restricted air intake	Check air source and pipelines
<b>Final Pressure Slowly Rising</b>	Worn or broken valves	Replace valves
	Air leaks in the system	Check for leaks in plumbing and tanks
	Loose belt on the booster	Adjust tension
	Low Booster Rpm	Check RPM, electrical frequency
	Air demand too high on the outlet	Check actual flow against maximum specified. Ref compressed air flow meter and laser cut charts
<b>Low-pressure on-air tank</b>	Restricted air intake	Check air source and pipeline
	Faulty valve	Check pressure relief valve on air tanks
	Air Filter damaged or dirty	Check inlet air filters and replace if necessary
<b>Low Discharge Pressure</b>	Faulty Booster	Refer to accessory manual for air booster for detailed troubleshooting procedure
	Faulty Outlet filters	Check Outlet filters for dirt and damage Replace if necessary
	Faulty valve	Check safety relief valve on nitrogen tank and replace if necessary

<b>Excessive Vibration</b>	Air Skid not level on the ground	Check Skid is resting in level ground and anchored to the floor.
	Loose Mounting bolts	Torque bolts for air tanks, Dryer mounts, filter mounts, controller mounts
	Booster Mounts are loose	Tighten Mounting bolts
	Booster motor belt and sheave misaligned	Perform proper alignment
	Faulty vibration mounts on Booster	Check condition of mounts and replace if necessary
	Faulty Booster	Check Booster Manual for proper
<b>Excessive Noise (Booster)</b>	Booster flywheel, belt, belt guard, intercooler, bolts or accessories loose	Tighten bolts to spec
	No Oil in Booster Crankcase	Check for damage to bearings, refill oil and check
	Excessive dirt or carbon in Booster crankshaft	Replace or clean piston
<b>Excessive Noise during dryer purge</b>	Jammed main control shuttle valve	Clean or replace main control shuttle valve
	Jammed purge exhaust shuttle	Clean or replace exhaust shuttle and
	Jammed solenoid valves	Clean or replace solenoid valves
	Blocked and/or damaged silencer	Replace silencer and check desiccant cartridges
	Damaged purge valves	Replace purge valve bodies
	Incorrect purge orifice size	Check and replace with correct size
	Blocked/damaged silencer	Replace silencer and check desiccant cartridge
<b>Poor dewpoint</b>	Liquid water at dryer inlet	Check pre-filtration and drains
	Excessive flow	Check actual flow against maximum specified
	Low inlet pressure	Check against specification
	High inlet temperature	Check against specification
	Incorrect purge orifice size	Check against specification and reconfigure
	Silencer blocked or damaged	Replace silencer
	Air leaks	Tighten joints or fit new seals
	Desiccant life exceeded	Replace desiccant cartridges
	Desiccant contaminated	Check inlet filter and drains, replace cartridges
EM (energy management, optional) is active when air is flowing	Check EM wiring	

	through dryer	
	Loss of power while air is flowing	Ensure that power is on whenever air is flowing through dryer
	Jammed shuttle valves	Clean or replace shuttles
<b>Excessive Discharge Air temperature</b>	Poor Ventilation and air circulation	Make sure at Skid is placed away from heat source and at least 3ft from the wall on all sides. Improve ventilation
	Faulty Booster	Check Booster troubleshooting guide

## 11 Accessory Manuals

Accessory Manuals for this unit

- Nitrogen Booster Manual
- Nitrogen Booster Controller Manual
- Desiccant Dryer Manual

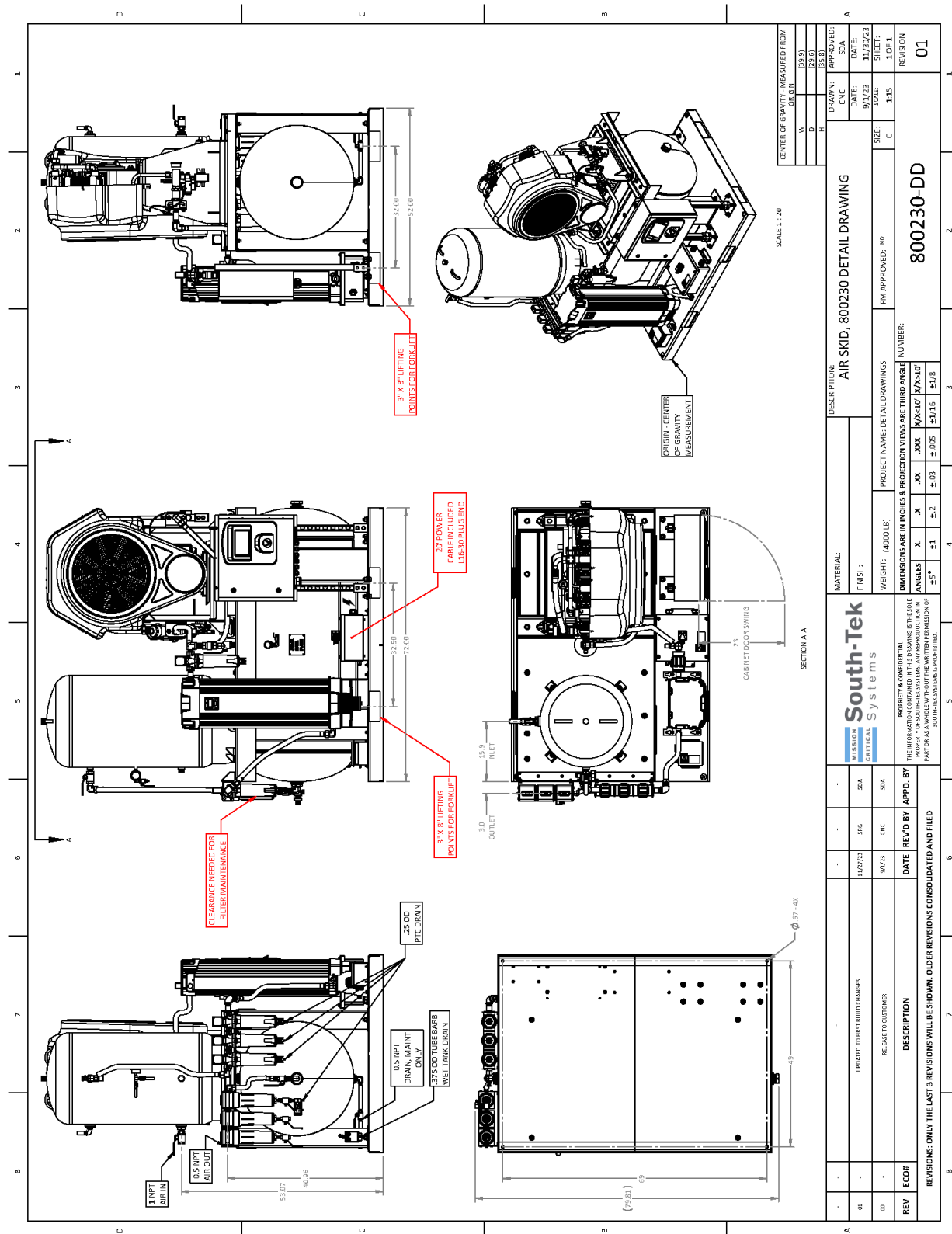
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<https://southteksystems911.zendesk.com/hc/en-us/articles/1500001757982-Where-Can-I-Get-a-Copy-of-My-Manual->

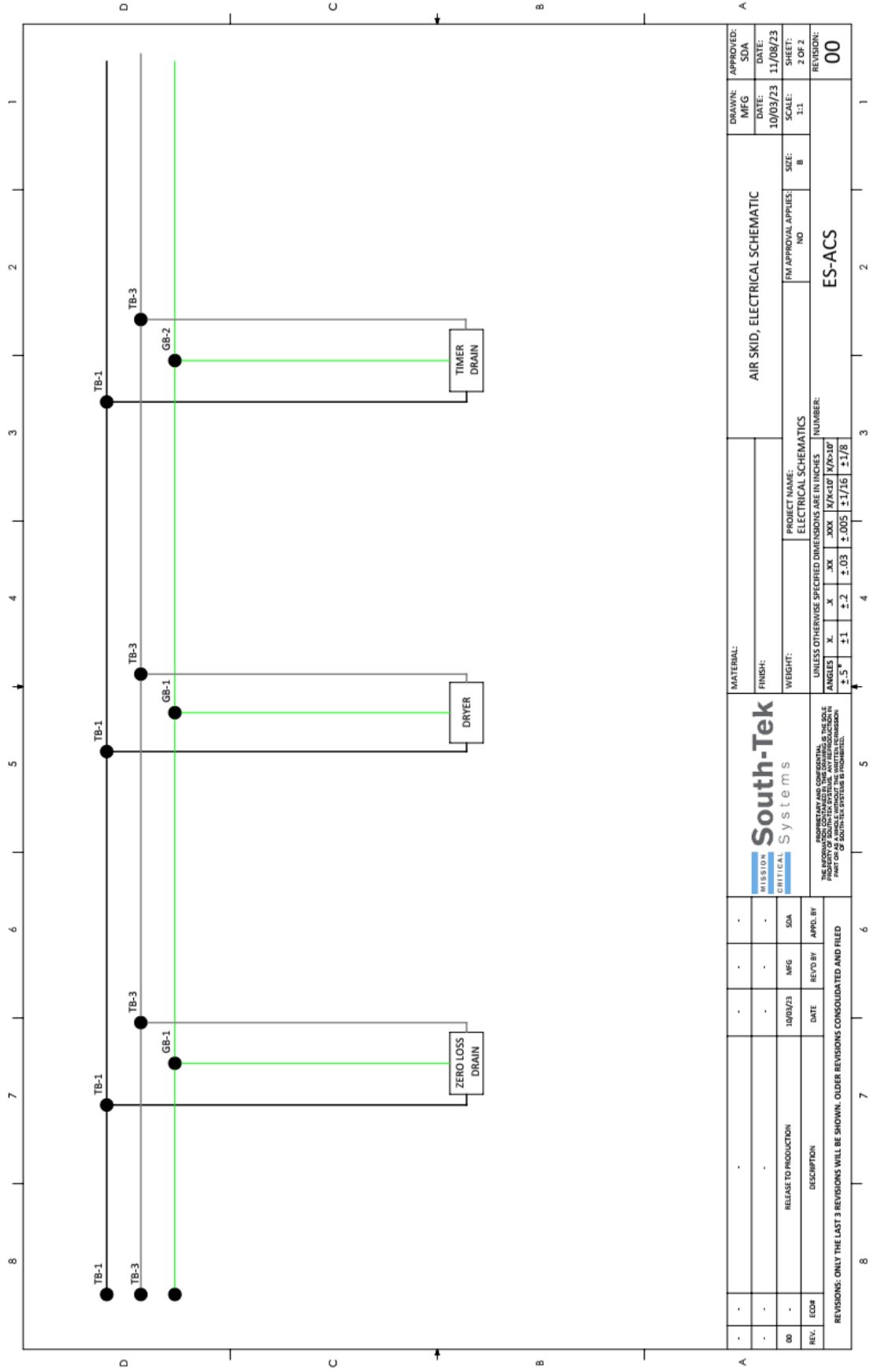


# 12 Appendix

## 12.1 Product detail drawing







APPROVED:	SOA	DATE:	11/08/23	SHEET:	2 OF 2	REVISION:	00
DRAWN:	MFG	DATE:	10/03/23	SCALE:	1:1		
PROJECT NAME:				AIR SKID, ELECTRICAL SCHEMATIC			
FINISH:				FM APPROVAL APPLIES:			
WEIGHT:				NO			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				ELECTRICAL SCHEMATICS			
NUMBER:				ES-ACS			
ANGLES				X .3X X/76-107 X/76-107			
±.5°				±.03 ±.005 ±.1/16 ±.1/8			
MISSION CRITICAL				SOUTH-TEK SYSTEMS			
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REV.	ECN#	DATE	REV'D BY	APPL'D BY	REVISIONS: ONLY THE LAST 3 REVISIONS WILL BE SHOWN. OLDER REVISIONS CONSOLIDATED AND FILED		
00		10/03/23	MFG	SOA			

### 12.3 Pre-Installation Checklist

#### Transportation:

- Need Forklift capable of 5000lb lift capacity
- May arrive in a crate. Basic tools plus forklift will be used to remove

#### Basic space needs:

- Recommend a 12.5 Ft height clearance at the location of install
- Device dims: 79L x 52W x 90H
- Recommended installation space requirements (overall space clearance for this):
  - 10 ft deep
  - 12.5 Width
  - 12.5 Ft Height recommended

#### Electrical:

- 460V L-L voltage minimum required
- 3 Phase
- 30A minimum
- Up to 40 Amp breaker or slow fuse OK
- L16-30 4 prong plug will be supplied
- \*recommended we have a breaker within 30 Ft or an electrical disconnect with receptacle within 30Ft.



#### Compressed Air - inlet:

- Compressor load pressure needs to be 115 PSIG or higher. 125+ preferred
- Can be OK for lower than 115 PSIG, but may come with associated performance trade-off.
- Compressor cutout pressure may be as high as 145 PSIG. Inlet pressure above 145 may need additional pressure regulator.
- Air flow: 90-120 CFM (confirm desired performance with chart from product manual)
- Air line inlet to STS unit: 1" NPT
- Recommend having a house air connection within 20 Ft of location

#### Compressed Air outlet:

- Outlet connection 0.5 NPT
- Outlet pipe/hose pressure rating of minimum 600 PSIG
- Recommend having a connection to the process with 20 ft

#### Laser inlet connection:

- Laser requirements for alternative cutting gas confirmed
- Validate laser has 'third port assist' filters, hoses

#### Anchoring to floor:

- Expected to need 1/2 or 5/8 concrete wedge anchors

## 13 Disclaimer and Copyright

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