

MINNICH

DUST COLLECTOR
OPERATOR/SERVICE MANUAL



MINNICH MANUFACTURING

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NOTICE

It is Minnich’s policy to constantly strive to improve our products. The information, specifications, and illustrations in this publication are based on the information in effect at the same time as approval for printing and publishing. Minnich therefore reserves the right to make changes in design and improvements whenever it is believed the efficiency of the machine which has been shipped or curring any obligation to incorporate such improvements in any machine which has been shipped or is in service. It is recommended that users contact Minnich or a Minnich Dealer for latest revisions.

NOTICE

See engine manual for information pertaining to the engine.

NOTICE

If there are any questions regarding the machine or its application which are not covered in this manual or in other literature accompanying this unit, please contact your Minnich Dealer or Minnich Manufacturing at 419-903-0010 or sales@minnich-mfg.com

⚠ WARNING

CALIFORNIA PROPOSITION 65

Engine exhaust and some of its constituents, and some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm. Some examples of these chemicals are:

Lead from lead-based paints.
Crystalline silica from bricks.
Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: ALWAYS work in a well ventilated area, and work with improved safety equipment, such as dust masks that are specifically designed to filter out microscopic particles.

⚠ WARNING



SILICOSIS WARNING

Grinding/cutting/drilling of masonry, concrete, metal and other materials with silica in their composition may give off dust or mist containing crystalline silica.

Silica is a basic components of sand, quarts, brick clay, granite and numerous other minerals and rocks. Repeated and/or substantial inhalation of airborne crystalline silica can cause serious or fatal respiratory disease, including silicosis. In addition, California and some authorities have listed repairable crystalline silica as a substance known to cause cancer. When cutting such materials, always follow the respiratory precautions mentioned above.

⚠ WARNING

RESPIRATORY HAZARDS



Grinding/cutting/drilling of masonry, concrete, metal and fumes containing chemicals known to cause serious or fatal injury or illness, such as respiratory disease, cancer, birth defects or other reproduction harm, if you are unfamiliar with the risks associated with the particular process and/or material being cut or the composition of the tool being used, review the material safety data sheet and/or consult your employer, the material manufacturer/supplier, governmental agencies such as OSHA and NIOSH and other sources on hazardous materials. California and some other authorities, for instance, have published lists of substances known to cause cancer, reproductive toxicity or other harmful effects.

Control dust, mist and fumes at the source where possible. In this regard use good work practices and follow the recommendations of the manufactures of suppliers, OSHA/NIOSH, and occupational and trade associations. Water should be used for dust suppression when wet cutting is feasible. When the hazards from inhalation of dust, mist and fumes cannot be eliminated, the operator and any bystanders should always wear a respirator approved by OSHA/NIOSH for the materials being used.

GENERAL SAFETY

Do not operate or service the equipment before reading the entire manual. Safety precautions should be followed at all times when operating this equipment. Failure to read and understand the safety messages and operating instructions could result in injury to yourself and others.

This operation manual has been developed to provide complete instruction for the safe and efficient operation. Refer to the engine manufactures instructions for data relative to its safe operation. Before using, ensure that the operating individual has read and understood all instructions in the manual. The surrounding environment and you, could be damaged if you do not follow instructions.

SAFETY MESSAGES

The four safety messages shown below will inform you about potential hazards that could injure you or others. The safety messages specifically address the level of exposure to the operator and are preceded by one of four words: DANGER, WARNING, CAUTION or NOTICE.

DANGER

Indicates a hazardous situation which, if not avoided, WILL result in DEATH or SERIOUS INJURY

WARNING

Indicates a hazardous situation which, if not avoided, COULD result in DEATH or SERIOUS INJURY

CAUTION




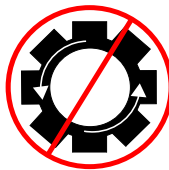
Indicates a hazardous situation which, if not avoided, COULD result in MINOR or MODERATE INJURY

NOTICE

Addresses practices not related to personal injury

SAFETY SYMBOLS

Potential hazards associated with the operation of this equipment will be referenced with hazards symbols which may appear throughout this manual in conjunction with safety messages.

SYMBOL	SAFETY HAZARD
	Respiratory Hazard
	Explosive fuel hazards
	Burn hazard
	Factory Settings

WARNING

DO NOT USE TOOL IF IT IS IN NEED OF SERVICE!

GENERAL SAFETY

⚠ CAUTION

Δ NEVER operate this equipment without proper protective clothing, shatter proof glasses, respirator protection, hearing protection, steel-toes boots and other protective devices required by the job or city and state regulations.



Δ Never operate this equipment when not feeling well due to fatigue, illness or when under medication.



Δ NEVER operate this equipment under the influence of drugs or alcohol.



Δ ALWAYS check the equipment for loosened threads or bolts before starting.

Δ NEVER operate around corrosive chemicals or water containing toxic substances. These fluids could create serious health and environmental hazards. Contact local authorities for assistance.

Δ DO NOT use the equipment for any purpose other than its intended purpose or applications.

NOTICE

Δ This equipment should only be operated by trained and qualified personnel 18 years of age and older.

Δ This equipment is for industrial use only. Whenever necessary, replace nameplate, operation and safety decals when they become difficult to read.

Δ Manufacturer does not assume responsibility for any accident due to equipment modifications. Unauthorized equipment modifications will void all warranties. Any modification which it could lead to change in the original characteristics of the machine should be made only by the manufacturer who shall confirm that the machine is in comfortability with appropriate

safety regulations.

Δ Never use accessories or attachments that are not recommended by Minnich for the equipment. Damage to the equipment and/or injury to user may result.

Δ Always know the location of the nearest fire extinguisher.



Δ ALWAYS know the location of the nearest first aid kit.



Δ ALWAYS know the location of the nearest phone or keep a phone on the job site. Also, know the phone numbers of the nearest ambulance, doctor and fire department. This information will be invaluable in the case of an emergency.



⚠ DANGER

Δ NEVER operate the equipment in an explosive atmosphere, near combustible materials, or near flammable or low flash point fluids. An explosion or fire could result causing severe bodily harm or even death.



⚠ WARNING

Δ NEVER disconnect any emergency or safety devices. These devices are intended for operator safety. Disconnection of these devices can cause severe injury, bodily harm or even death. Disconnection of any of these will void all warranties.

Δ NEVER operate equipment with the covers or guards removed. Keep fingers, hands, hair and clothing away from all moving parts to prevent injury. Wear clothing that will not likely become caught in the equipment or snag on any moving parts.

⚠ CAUTION

Δ ALWAYS be sure the operator is familiar with the proper safety precautions and operating techniques before using.

Δ NEVER leave the machine unattended. Turn off when unattended

GENERAL SAFETY

- △ DO NOT expose vibrator to rain.
- △ DO NOT use vibrator motor in damp or wet locations without proper electrical circuits.
- △ DO NOT immerse the motor part in concrete.
- △ ALWAYS keep clear of rotating or moving parts while operating.
- △ NEVER leave the machine unattended while running
- △ ALWAYS disconnect the motor from the power source when not in use, before servicing, and when changing flexible shafting and vibrator heads.

- △ Allow the machine to cool before servicing. Contact with hot components can cause serious burns.



- △ Before Each use, ALWAYS check the motor to make certain that there are no damaged parts and that all parts function properly. If any damage or malfunctioning parts are found, have them repaired or replaced by an authorized service facility.

NOTICE

- △ ALWAYS secure forms. Make sure the form work is well made and braced to withstand the stresses made by vibration.
- △ ALWAYS keep vibrator motor clean for better and safer operation.
- △ ALWAYS store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of reach of children and unauthorized personnel.
- △ Use only factory authorized replacement parts.
- △ Store idle vibrator motor. When not in use, motor should be stored in a dry, safe storage area.

ENVIRONMENTAL SAFETY

NOTICE

- △ DO NOT pour waste or oil directly into the ground, down a drain or into any water source.
- △ Contact you country department of Public Works or recycling agency in your area and arrange for proper disposal of any electrical components, waste or oil associated with this equipment.



- △ When the life cycle of this equipment is over, remove battery (if equip) and bring to appropriate facility for lead reclamation. Use safety precautions when handling batteries that contain sulfuric acid.
- △ When the life cycle of this equipment is over, it is recommended that the unit frame and all other metal parts be sent to a recycling center.

Metal recycling involves the collection of metal from discarded products and its transformation into raw materials to use in many Manufacturing a new product.

Recyclers and manufactures alike promote the process of recycling center promotes energy cost savings.

NOTICE

Decommissioning is a controlled process used to safely retire a piece of equipment that is no longer serviceable. If the equipment poses an unacceptable and unrepairable safety risk due to wear or damage or is no longer cost effective to maintain (beyond life-cycle reliability) and is to be decommissioned (demolition and dismantlement), be sure to follow rules below.

- △ ALWAYS observe all applicable compulsory regulations relevant to environmental protection, especially fuel storage, the handling of hazardous substances, and the wearing of protective clothing and equipment. Instruct the user as a necessary, or, as the user, request this information and training.

GENERAL SAFETY

- △ ALWAYS Dispose of hazardous waste properly. Examples of potentially hazardous waste include used motor oil, fuel, and fuel filters.
- △ DO NOT use food or plastic containers to dispose hazardous waste.
- △ DO NOT pour waste or oil directly onto the ground, down or drain or into any waste source.

NOTICE

- △ ALWAYS keep the machine in proper running condition.
- △ ALWAYS become familiar with the components of the machine before operation.
- △ Fix damage to machine and replace any broken parts immediately.
- △ ALWAYS store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children and unauthorized personnel.
- △ NEVER lubricate components or attempt service on a running machine

CAUTION

- △ NEVER tamper with the factory settings of the engine or engine governor. Damage to the engine or equipment can result in operation in speed ranges above the maximum allowability.



BEFORE CONNECTING THE AIR COMPRESSOR:

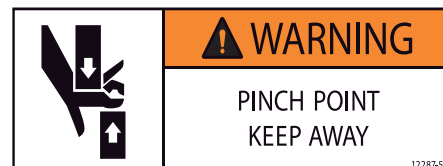
CAUTION

- △ Install the drill steel and bits into the drill motors and close the latch retainers and rod guides.
- △ Make sure that the air compressor is set at an operating pressure of not more than 120 PSIG (8Bar)
- △ Make sure air line is cleaned out and is of the proper size and pressure rating for the drill unit.
- △ Make sure the lubricator is filled with proper lubricant. See Minnich recommended lubricant below.

- △ Make sure all controls are in the "off" position and the lift lever (if so equipped) is in the "up" position.
- △ Make sure all lock pins are in their locked position.

WARNING

- △ NEVER attempt to loosen any compressed air hose that is pressurized.
- △ KEEP AWAY from all hot or spark generating objects, do not smoke when handling fuel.
- △ So as to facilitate shipment, new or repaired units are not lubricated before delivery to customers.
- △ DO NOT use hydrocarbons and especially do not use fuel oil for lubricating purposes.
- △ DO NOT OPERATE MACHINE WITHOUT GUARDS AND COVERS IN PLACE
- △ ALWAYS disconnect the air supply before changing steel or dismantling the tool for service or repair. For maximum safety we advise the installation of a shut-off valve at the end of the air line.
- △ NEVER operate the engine with heat shields or guards removed.
- △ DO NOT remove the engine oil drain plug while the engine is hot. Hot oil will gush out of the engine crankcase and severely scald any persons in the general area of the machine.



GENERAL SAFETY

PERSONAL SAFETY

NOTICE

- △ CLEAR AIR SUPPLY LINE: Before connecting vibrator, clear the compressed air supply line of possible impurities, contaminants and water.
- △ LUBRICATE: Every day or every four hours of continuous service, pour a ½ teaspoon of non-detergent oil into the quick release coupling. NOTE: An optional oiler/strainer is available.

NOTICE

If the suction intensity drops, check that the filters are not clogged or that hoses are not kinked/clogged.

NOTICE

To properly store unit after use, hang the vibrator with the head up and set the handle (variable control assembly) in the open position to permit the discharge of possible impurities, contaminants and water.

NOTICE

The force exerted by an internal concrete vibrator is controlled by the weight and the speed at which the eccentric rotates. The centrifugal force exerted can be arrived at by various combinations of weight (size of eccentric weight) and the speed at which the weight rotates. For years the most favorable working speed for a vibrator was considered to be around 10,200 RPM (VPM) and consequently this figure is used in many vibrator comparisons. More recently, the optimum speed for compaction has been accepted as being between 7500 and 9000 RPM.

- △ Stay alert, watch what you are doing, and use common sense when operating the machine.
- △ DO NOT use the tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury or death.
- △ Dress properly. DO NOT wear loose clothing or jewelry. Tie up long hair. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.
- △ DO NOT overreach. Keep proper footing and balance at all times. Proper footing and balance enables better control in unexpected situations.

SERVICE

- △ Tool service must be preformed only by qualified repair personnel. Service or maintained preformed by unqualified personnel could result in injury or death
- △ When servicing a tool, use only identical replacement parts. Use of unauthorized parts may create a risk of injury or death.

NOTICE

To find the latest revision of this publication, visit our website at: www.minnich-mfg.com

NOTICE

THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

NOTICE

Specifications and part numbers are subject to change without notice.

GENERAL SAFETY

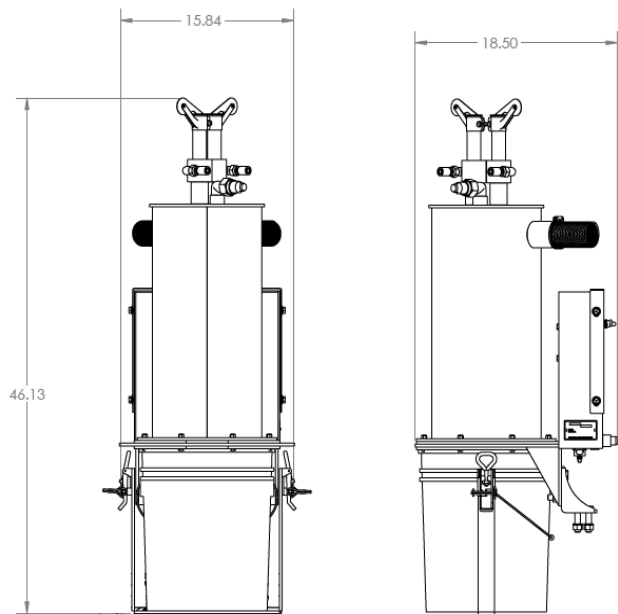
TOOL USE AND CARE

1. Only qualified persons should operate the machine. Make sure you operate and service your machine according to the instructions listed in this manual.
2. When positioning the machine for drilling, always face the drill. DO NOT operate with your back to the machine. Facing the machine during positioning allows the operator to have better control of the machine.
3. DO NOT force the machine. Use the correct machine for your application. The correct machine will do the job better and safer at the rate for which it is designed.
4. DO NOT use the machine if the switch does not turn it on or off. Any machine that cannot be controlled with the switch is dangerous and must be re-paired.
5. Disconnect the machine from the power source before making any adjustments, changing accessories or storing the machine. Such preventative safety measures reduce the risk of starting the machine accidentally.
6. Store machines out of reach of children and other untrained persons. Machines are dangerous in the hands of untrained users.
7. Maintain machines with care and keep them clean. Properly maintained machines are less likely to bind and are easier to control.
8. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the machines operation. If damaged, have the machine serviced before using. Many accidents are caused by poorly maintained tools.
9. Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one machine may become hazardous when used on another.

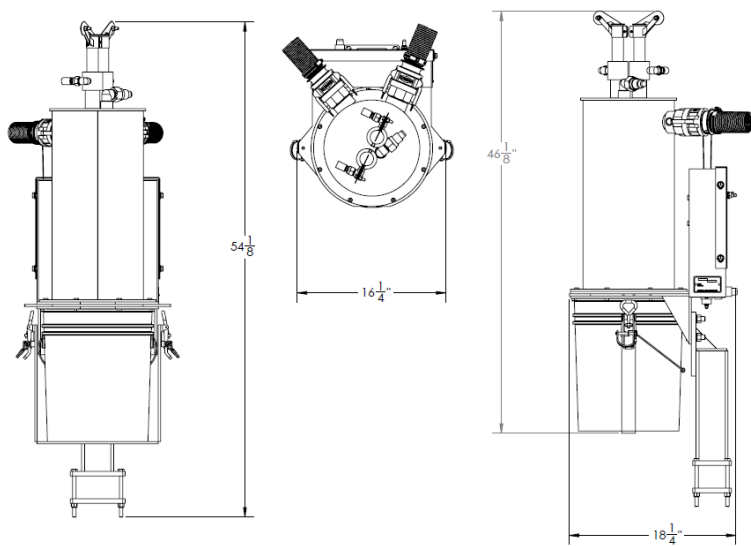
SERVICE

1. DO NOT run the drill unit while you make adjustments and repairs unless the procedure is approved.
2. Escaping fluid and air under pressure can have sufficient force to penetrate skin causing serious personal injury.
3. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, tubes and hoses are not damaged.
4. DO NOT use your hand to search for leaks. Instead, use a piece of card-board or wood.
5. Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in injury or death.
6. When servicing a tool, use only identical replacement parts. Use of unauthorized parts increase injury risk.

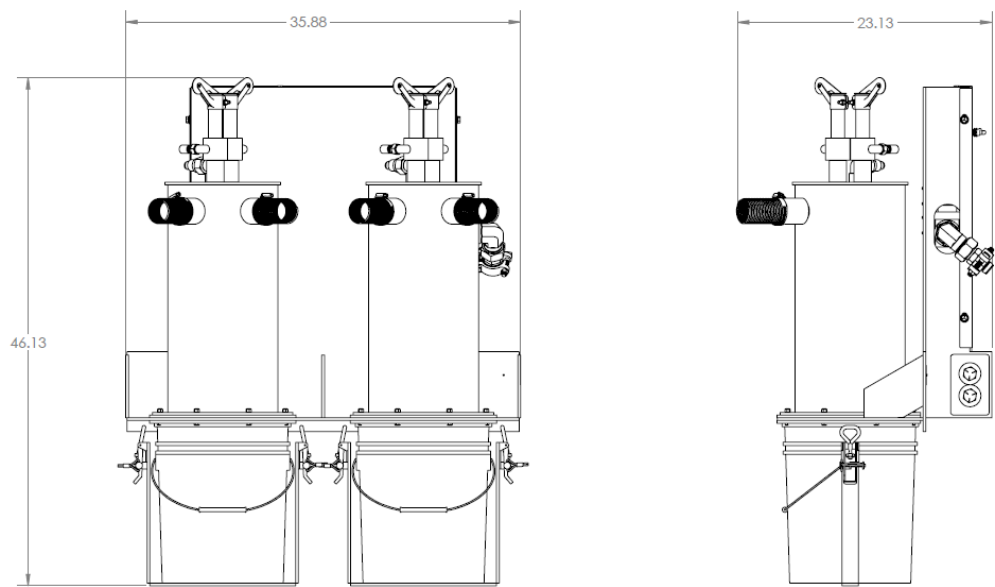
SINGLE CAN DUST



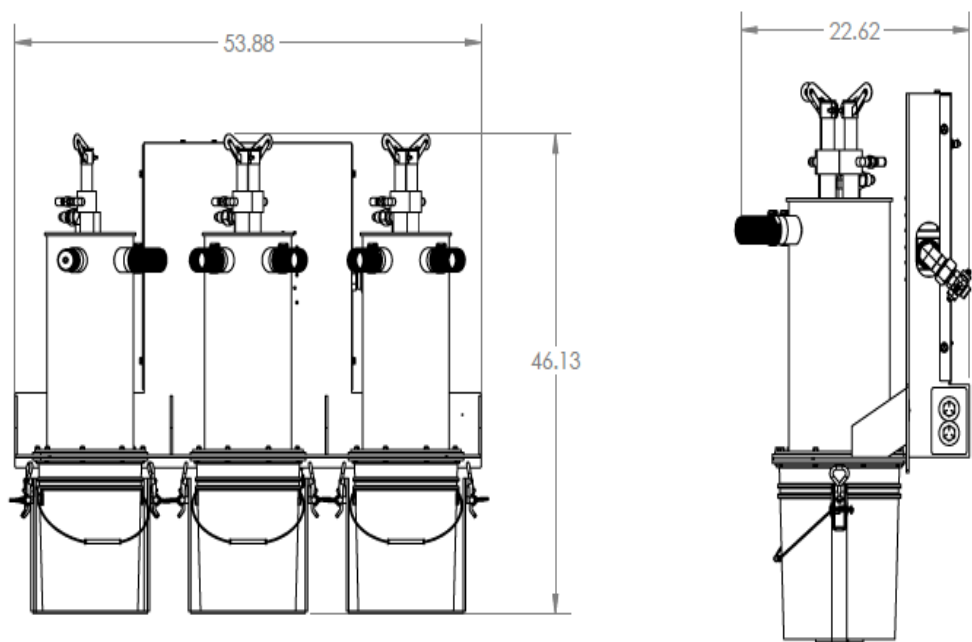
SINGLE CAN ON-GRADE



DOUBLE CAN DUST




TRIPLE CAN DUST



NOTICE

All safety labels on Minnich Manufacturing units have been carefully placed so they can be easily seen at all times. There are several different types of labels on the units. Always keep these warnings free of dirt, concrete, or anything else that restricts visibility. Never remove the labels for any reason. If the label on your machine become worn or in any way difficult to read, call our parts department for replacements.

A



WARNING
HIGH PRESSURE
BLEED AIR PRESSURE
BEFORE SERVICING

B



WARNING
BE SURE SUPPLY LINES ARE SECURE
DO NOT EXCEED 120 PSI (8.25 BARS)
OR DAMAGE TO MACHINE AND OR
BODILY HARM MAY RESULT
12287-1

C

NOTICE
EMPTY DUST BUCKET
EVERY 30 MINUTES &
BEFORE TRANSPORT

D

WARNING



NOISE MAY CAUSE HEARING
LOSS. WEAR PROPER
HEARING PROTECTION



FLYING PARTICLES MAY CAUSE
EYE INJURY.
WEAR PROPER EYE PROTECTION



DUST CAN CAUSE IRRITATION TO
YOUR HEALTH.
USE AN APPROVED RESPIRATOR



HIGH PRESSURE
KEEP AWAY FROM LINES
BLEED DOWN BEFORE SERVING





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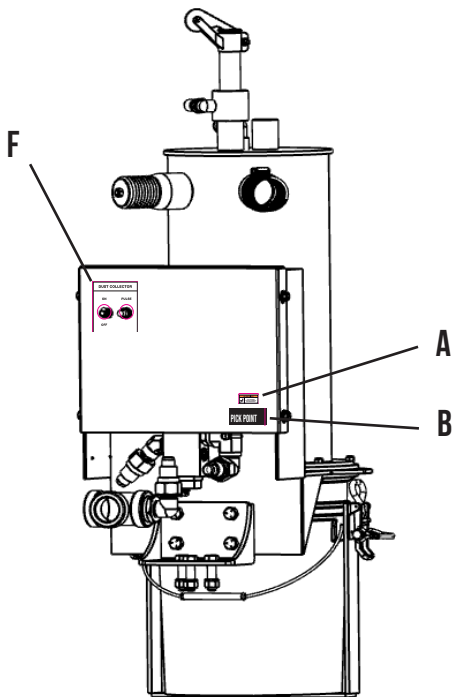
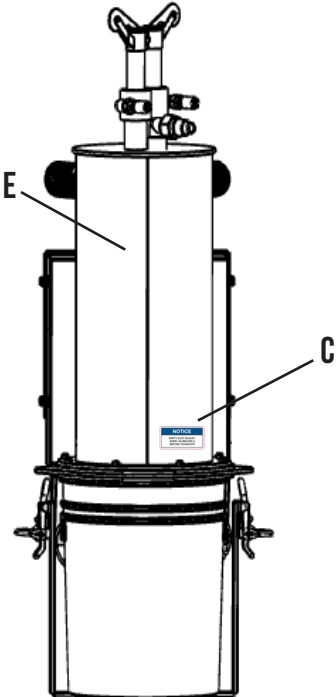
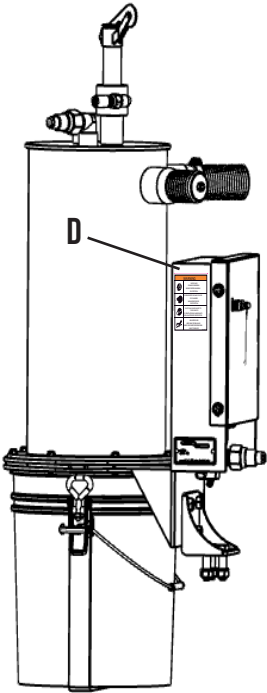
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DUST COLLECTOR

ON PULSE

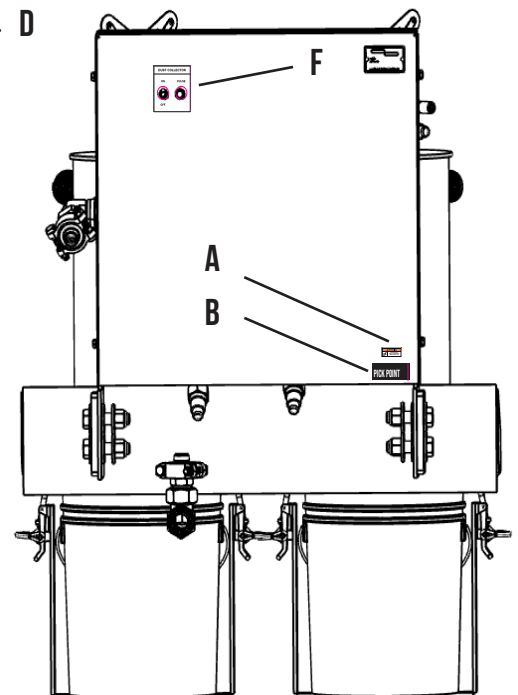
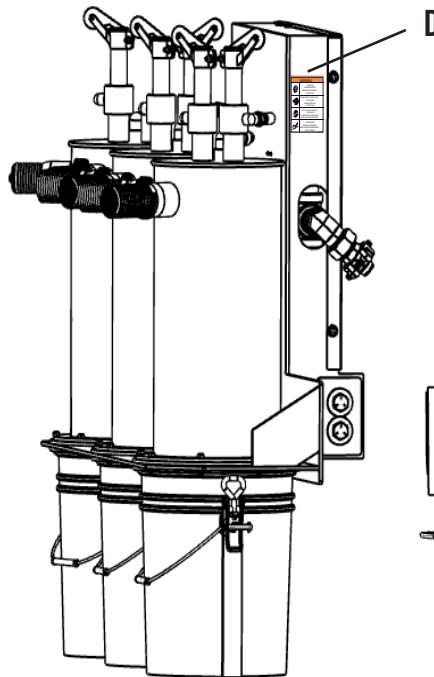
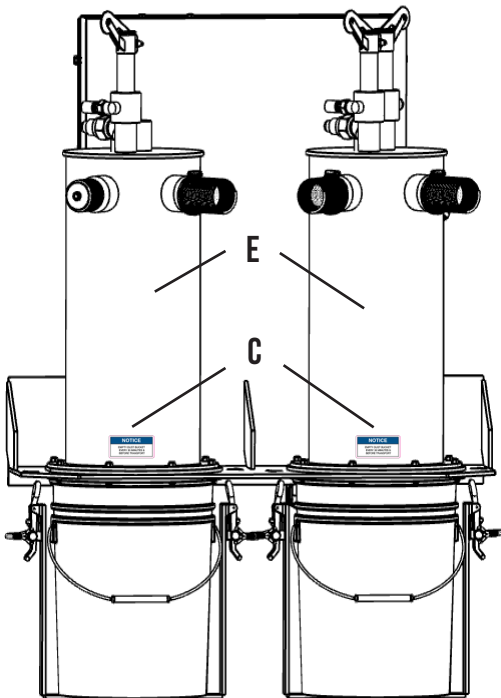
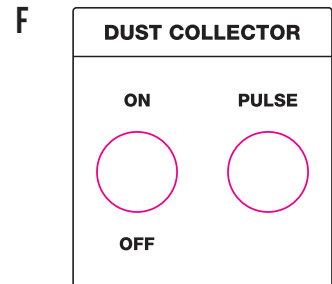
 

OFF



NOTICE

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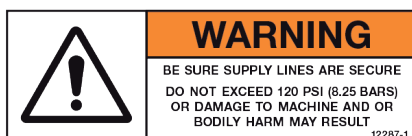
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A



B



C



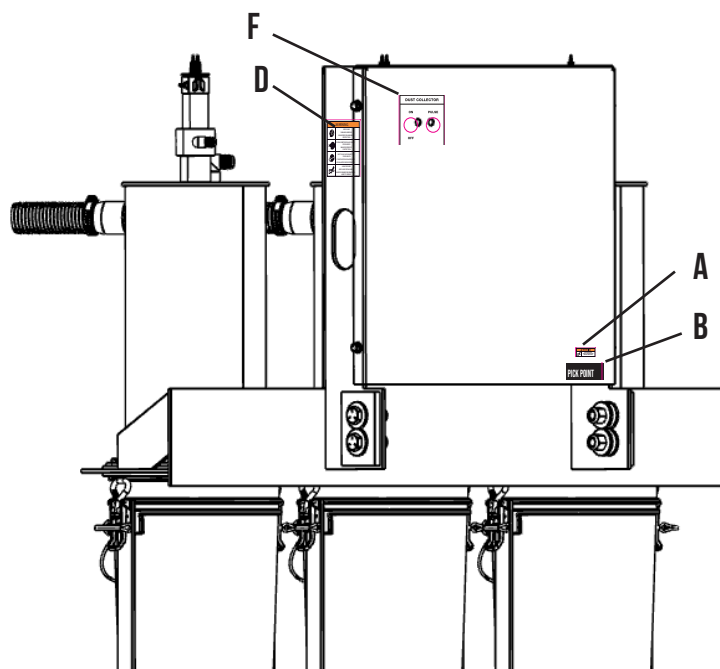
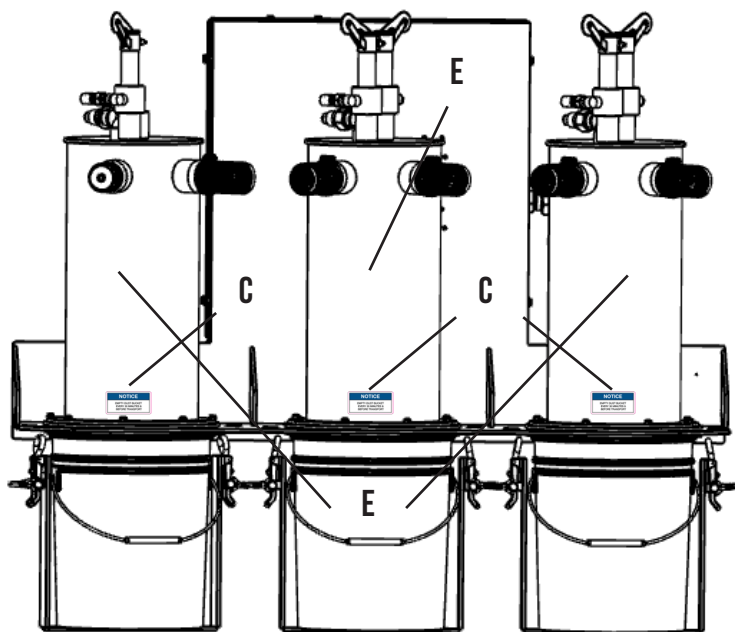
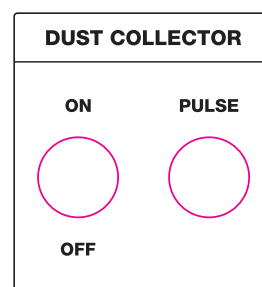
D



E



F



DUST COLLECTOR SET-UP/INSTALLATION PROCEDURE SET-UP/INSTALLATION

APPLICATION OF DUST COLLECTOR

1. If this dust collection system was purchased with a new drill unit, it was installed at the factory. Skip to section titled Adjustments. If this dust collection system was purchased for a separate drill unit, continue on to install.
2. Mount the main dust collector frame to your drill unit. Four different mounting configurations are typically used.
 - a. Minnich self propelled drill units manufactured after 2009 have mounting tabs welded to the rear of the drill frame to accept the dust collector.
 - b. Minnich models A-1CL, A-1C and A-2C require a piece of angle iron with two mounting holes drilled in it to be welded under the counterweight. Refer to drawing labeled Dust Collection System P/N A12200-1,2.
 - c. Minnich machine mounted models require two brackets to be bolted to the drill frame that have mounting holes for the dust collector.
 - d. All other units use a universal mounting adapter that will need to be welded to the rear of the drill unit.

Care must be taken in choosing this location so as to select one where the weight of the dust collector will not cause damage to the machine.
3. Refer to the appropriate plumbing diagram, either manifold group or control group, for connecting the pneumatic control lines and main dust collector supply line.
4. Remove the existing drill rod support guides and install new dust collector guides in their place.
5. Route suction hoses from guides to collector. Be sure to avoid any unnecessary bends or sharp turns in the hose. Also, make sure that the hoses will not be caught or kinked when raising or lowering the drill bed.

ADJUSTMENTS

1. With the drill bed in the lowered drilling position, slide the drill rod guides forward on the rail tube so that the rubber section of the dust collector boot just makes contact with the face of the slab. The rubber can be trimmed as necessary if the guide cannot be slide into the proper location. It may also be necessary to trim the boots in order to accommodate keys or key ways on the face of the slab.
2. Make sure that the proper drill guide bushing has been selected for the guide based on the hole diameter to be drilled. Refer to your drill manual.

OPERATION/ MAINTENANCE

DUST COLLECTOR OPERATION PROCEDURE

1. On most installations, the operation on the dust collector is automatic. When the drill turns on, the appropriate dust collection canister will automatically turn on and run a timed reverse pulse cycle and turn back off when the drill turns off. There is, however, a manual override switch that will run the reverse pulse whenever the switch is activated. This aids in the cleaning of the filters and should be done whenever the filters are suspected of becoming clogged.
2. The dust collection bucks should be checked frequently to make sure that they are emptied promptly when they become full. If the buckets become over filled, the dust will begin to accumulate around the filter cartridges, which will cause damage to the collector. NOTE: The time it takes to fill the buckets and the amount of dust collected is dependent upon the diameter and depth of the hole being drilled.
3. To empty buckets:
 - a. Make sure the dust collector is turned off.
 - b. Remove the lock pins from the pail re-tainer.
 - c. Unlatch the catches to lower the bucket and slide the bucket out from under the dust collector.
 - d. Dispose the dust according to federal, state, and local environmental regulations and replace the bucket.

WARNING

This procedure will result in employee exposure to collected contaminant.

DUST COLLECTOR MAINTENANCE

1. Make sure that the air supply is removed and trapped air is exhausted before performing any service or Maintenance.
2. Check rod guide boot clearance to face of slab and adjust to keep boots tight, replace as necessary.
3. Examine all suction hoses for wear or leaks. Also, make sure dust particles do not clog hoses, especially at bends or the base of inclines.
4. Periodically check filters to see that they are not clogged or the filter media has not become torn.
5. To ensure optimum collector performance, always use Minnich replacement parts.

WARNING

- Δ Improper operation of a dust control system may contribute to conditions in the work area or facility that could result in severe personal injury and product or property damage.
- Δ Special care must be exercised in the operation and use of all dust collection equipment where combustible

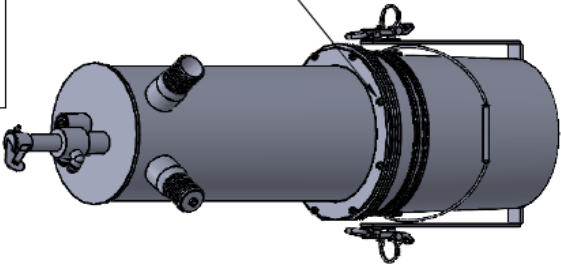
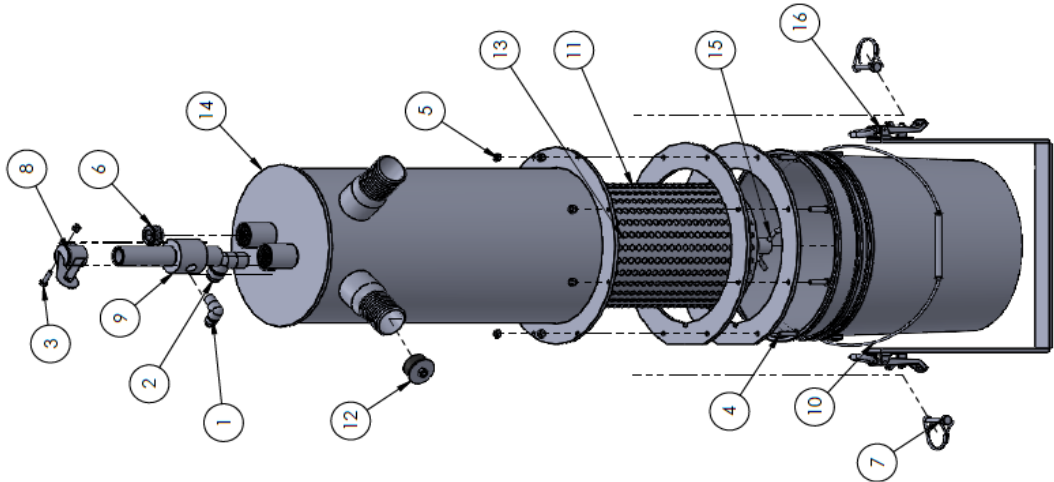
and/or explosive materials are present. These materials may present a fire and/or explosive hazard.

- Δ Minnich equipment does NOT contain fire or explosion prevention equipment. A prudent user of dust control equipment will consult with an expert in explosion and fire control equipment, familiar with their hazard and local codes for recommendations on fire/explosion control equipment.
- Δ Under no circumstances should anyone, including the operator, allow any burning objects or lit cigarettes to enter the hood or ducting of any dust control system

SERVICE

- Δ DO NOT run the dust collector while you make adjustments and repairs unless the procedure is approved.
- Δ Escaping fluid and air under pressure can have sufficient force to penetrate the skin causing serious personal injury. If injured by escaping fluid or air, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.
- Δ Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, tubes and hoses are not damaged.
- Δ DO NOT use your hand to search for leaks. Use a piece of cardboard or wood to search for suspected leaks.
- Δ Tool service must be performed only by qualified repair personnel.
- Δ Service or maintenance performed by unqualified personnel could result in a risk of injury.
- Δ When servicing a tool, use only identical replacement parts. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.
- Δ Care should be taken when manually or hand cleaning the filter pack to prevent the tearing or puncturing of the filter media.
- Δ If collected material sticks to the filter packs, it may require manual and hand cleaning.
- Δ Manual or hand cleaning of the filter pack or collector buckets will result in employee exposure to collected contaminant.
- Δ Proper employee procedures should be exercised during this and other maintenance of the collector.
- Δ For environmental compliance, it is highly recommended to consult federal, state, and local environmental protection agencies to determine proper disposal of filters and collected materials.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	6019-12	90 DEG. ELBOW W/ FLARED END	1
2	6019-24	90 DEG. ELBOW W/ 37 DEG. FLARE	1
3	6036-1.00	HHCS 1/4-20 X 1"	1
4	6036-1.25	1/4-20 X 1.25 HHCS GR 5	8
5	6402	1/4-20" LOCKNUT	9
6	6471-6	HEX SOCKET PLUG	1
7	8479-1	PIN, TAB LOCK	2
8	12177	RAIN CAP	1
9	12178-1	TREADED TRANSFER PUMP	1
10	12179	5 GALLON PAIL	1
11	12180	FILTER	1
12	12325	PLUG, RUBBER EXPANSION	1
13	12469	GASKET, CANISTER	2
14	A12242	CANISTER WELDMENT DUST COLLECTOR	1
15	A12246	NUT, FILTER - DUST COLL.	1
16	A12245	DUST COLLECTOR PAIL RETAINER WELDMENT	1
17	EXP400-D0024	CATCH CAN LINER	1



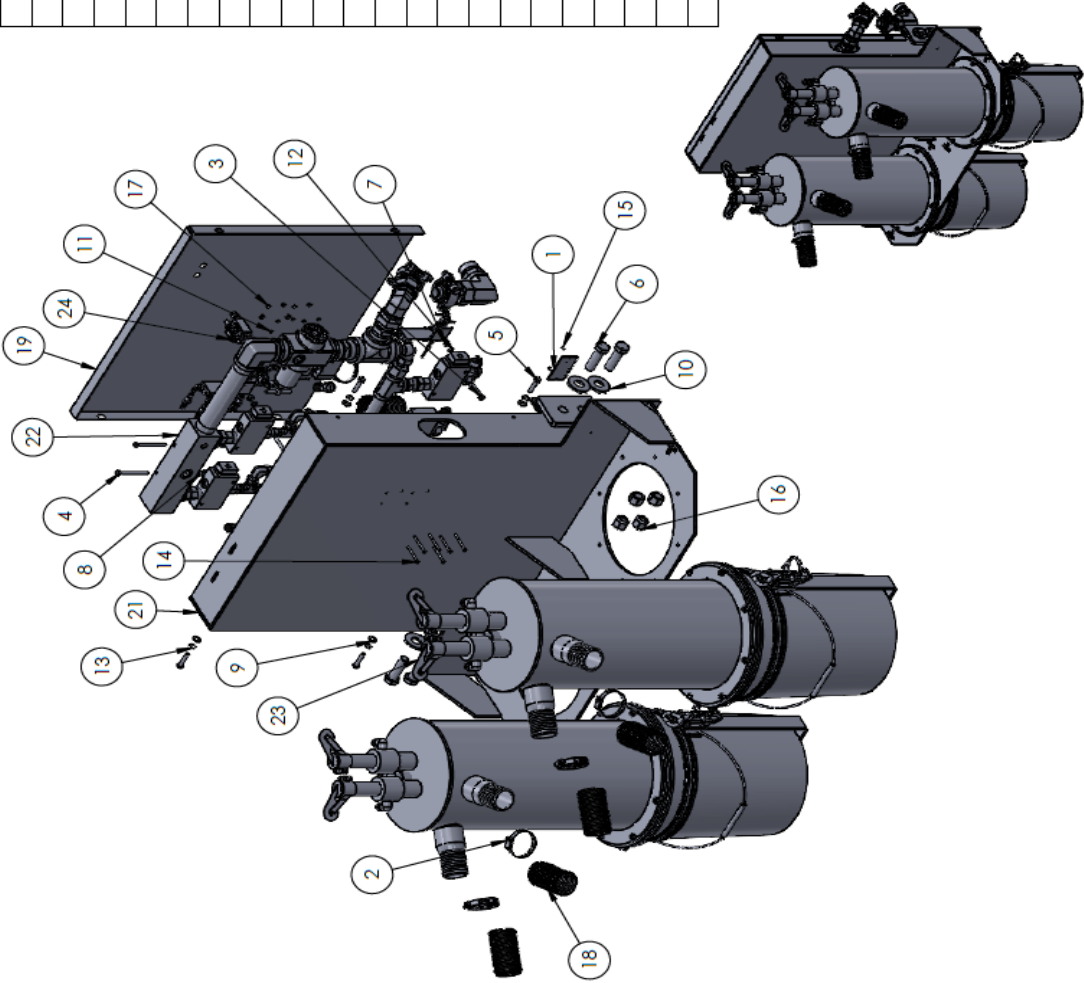
ORIENTATION CRITICAL
LOCKNUT NEEDS TO BE ON TOP, OTHERWISE
THERE WILL BE INTERFERENCE WITH THE PAIL.

#

REVISIONS		DATE	BY
1.000		11/13/2018	BJ
MENSCHKE MFG. CO., INC.		DRAWN BY:	
THIS DRAWING IS THE PROPERTY OF MENSCHKE MFG. CO., INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM MENSCHKE MFG. CO., INC.		CHECKED BY:	
DO NOT SCALE DRAWING		APPROVED BY:	
TITLE:		ORG. DATE:	
CANISTER ASSEMBLY		11/13/2018	
ROUTING NO.:		REV. LEVEL	
A12854		-	

TOLERANCES	Dimension in accordance with ANSI Y14.5
UNLESS OTHERWISE SPECIFIED	
FRACTIONS	XX ± .000
DECIMALS	XXX ± .000
MIXED	XX ± 1/16"
ANGLES	± .1°

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	708-4	SERIAL TAG	1
2	1219	HOSE CLAMP	8
3	6036-1.75	HHCS, 1/4-20 X 1.75 GR.5	2
4	6036-3.00	HHCS, 1/4-20 X 3.00 GR.5	2
5	6037-1.00	BOLT 5/16"18	4
6	6043-2.50	HHCS, 3/4-10 x 2.50 GR.5	4
7	6070	1/4-20 HEX NUT	4
8	6104	1/4 USS FLAT WASHER	2
9	6106	WASHER 5/16"	4
10	6118	3/4 USS FLAT WASHER	12
11	6143	#6 LOCK WASHER	6
12	6147	LOCKWASHER 1/4	4
13	6148	LOCKWASHER 5/16	4
14	6255-2.00	RHMS, #6-32 X 2.00 SLOTTED	6
15	6262-1	SCREW, DRIVE HD RD. #4 X 1/4"	2
16	6409	LOCKNUT, 3/4-10 NYLOCK	4
17	6652	NUT, HEX #6-32 NC THREAD	6
18	10591	HOSE, FLEX TUBE PVC 960"	1
19	12182	COVER PANEL DUST COLL.	1
20	A12284-1	DECAL KIT FOR DUST COLLECTION SYSTEM	1
21	A12615-1	FRAME WELDMENT, DUST COLLECTOR	1
22	A12853-4	MANIFOLD GROUP 4 GANG	1
23	A12854-1	CANISTER ASSEMBLY	2
24	A12858-4	AIR CONTROL 4 GANG W/DUST	1

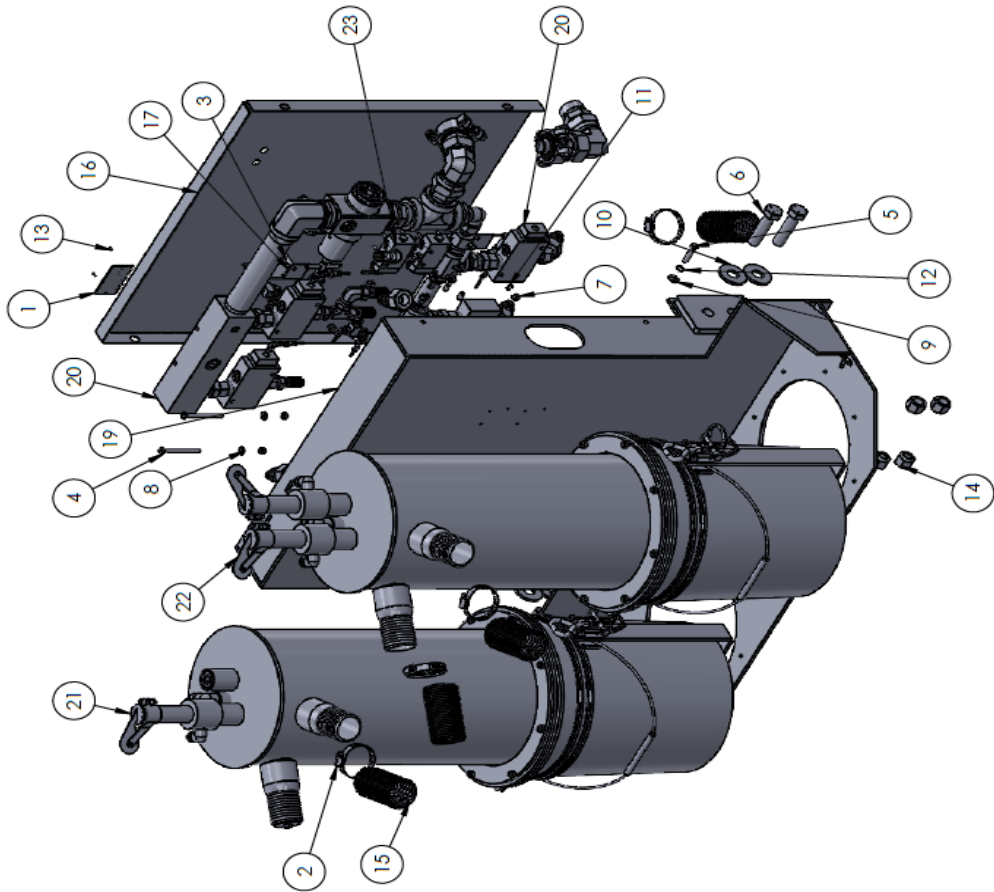


NOT SHOWN:
A12284-1 DECAL KIT FOR DUST COLLECTION SYSTEM

SUBMITTAL MATERIAL		LOCUSURE
MANUFACTURE DATE: 06/25/2020		DRAWN BY: DJ
THIS INFORMATION MAY BE USED FOR REPAIR OR MAINTENANCE PURPOSES ONLY. IT IS NOT TO BE USED FOR REPRODUCTION OR DISTRIBUTION OF ANY KIND.		CHECKED BY:
DO NOT SCALE DRAWING		APPROVED BY:
TITLE: DUST COLL. FOR 4 GANG INSTALLED		ORIG DATE: 06/25/2020
ROUTING NO. A12200-4D		KEY LEVEL

TOLERANCES	Dimension in accordance with ANSI Y14	LOCATION	ROUTING NO.	1/16"
X ± .000				
XX ± .005				
XXX ± .010				
X/X ± .015				
<				

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	708-4	SERIAL TAG	1
2	1219	HOSE CLAMP	6
3	6036-1.75	HHCS, 1/4-20 X 1.75 GR.5	2
4	6036-3.00	HHCS, 1/4-20 X 3.00 GR.5	2
5	6037-1.00	BOLT 5/16"18	4
6	6043-3.00	HHCS, 3/4-10 X 3.00 GR.5	4
7	6070	1/4-20 HEX NUT	4
8	6104	1/4 USS FLAT WASHER	2
9	6106	WASHER 5/16"	4
10	6118	3/4 USS FLAT WASHER	12
11	6147	LOCKWASHER 1/4	4
12	6148	LOCKWASHER 5/16	4
13	6262-1	SCREW, DRIVE HD RD. #4 X 1/4"	2
14	6409	LOCKNUT, 3/4-10 NYLOCK	4
15	10591	HOSE, FLEX TUBE PVC	720"
16	12182	COVER PANEL DUST COLL.	1
17	12261-2	ANGLE: DUST COLLECTOR	2
18	A12284-1	DECAL KIT FOR DUST COLLECTION SYSTEM	1
19	A12615-1	FRAME WELDMENT, DUST COLLECTOR	1
20	A12853-3	MANIFOLD GROUP 3 GANG	1
21	A12854	CANISTER ASSEMBLY	1
22	A12854-1	CANISTER ASSEMBLY	1
23	A12858-3	AIR CONTROL 3 GANG W/DUST	1

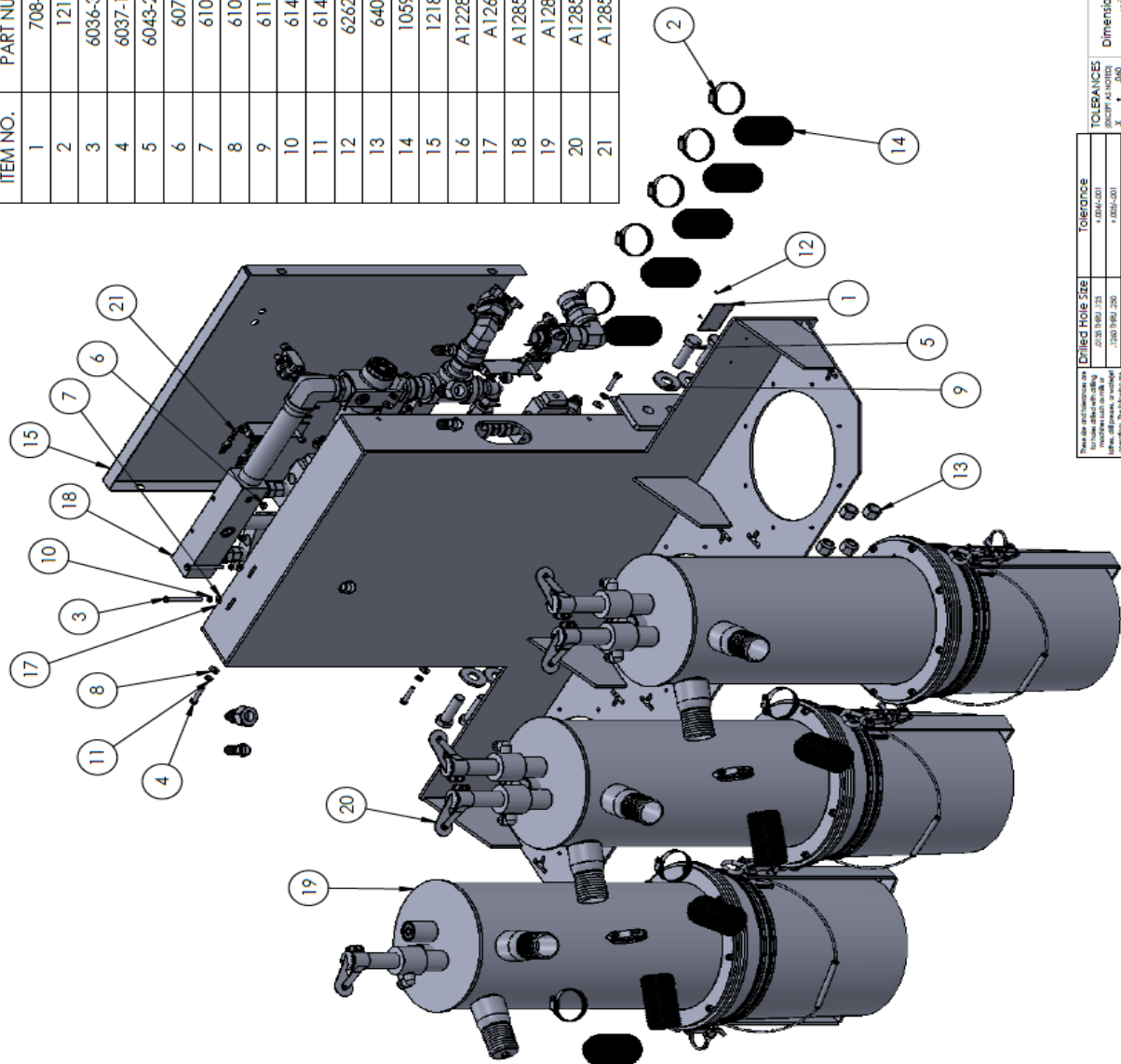


NOT SHOWN:
A12284-1 DECAL KIT FOR DUST COLLECTION SYSTEM

#	EXTERNAL MATERIAL	LOCATION
	MANUFACTURED BY: MANSCO MFG. CO. INC.	
	DESIGNED BY: R.J.	
	CHECKED BY:	
	APPROVED BY:	
	DATE: 05/17/2020	
	REV. LEVEL:	

TOLERANCES (EXCEPT AS NOTED)	Dimension in accordance with ANSI Y14
XXX ± .005	LOCATION:
XX ± .010	ROUTING NO:
X ± .015	

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	708-4	SERIAL TAG	1
2	1219	HOSE CLAMP	10
3	6036-3.00	HHCS, 1/4-20 X 3.00 GR.5	2
4	6037-1.00	BOLT 5/16"18	4
5	6043-2.50	HHCS, 3/4-10 x 2.50 GR.5	4
6	6070	1/4-20 HEX NUT	2
7	6104	1/4 USS FLAT WASHER	2
8	6106	WASHER 5/16"	4
9	6118	3/4 USS FLAT WASHER	12
10	6147	LOCKWASHER 1/4	2
11	6148	LOCKWASHER 5/16	4
12	6262-1	SCREW, DRIVE HD RD. #4 X 1/4"	2
13	6409	LOCKNUT, 3/4-10 NYLOCK	4
14	10591	HOSE, FLEX TUBE PVC	1,200"
15	12182	COVER PANEL DUST COLL.	1
16	A12284-2	DECAL KIT FOR DUST COLLECTION SYSTEM	1
17	A12615	FRAME WELDMENT, DUST COLLECTOR	1
18	A12853-5	MANIFOLD GROUP 5 GANG	1
19	A12854	CANISTER ASSEMBLY	1
20	A12854-1	CANISTER ASSEMBLY	2
21	A12858-5	AIR CONTROL 5 GANG W/DUST	1



NOT SHOWN:
A12284-2 DECAL KIT FOR DUST COLLECTION SYSTEM

Drilled Hole Size	Tolerance
.0750 1.905 7.12	+ .0004 - .001
.1250 1.915 2.50	+ .0004 - .001
.2500 1.965 2.50	+ .0004 - .001
.3750 1.965 2.50	+ .0004 - .001
.5000 1.965 2.50	+ .0004 - .001
.6250 1.965 2.50	+ .0004 - .001
.7500 1.965 2.50	+ .0004 - .001
.8750 1.965 2.50	+ .0004 - .001
1.000 1.965 2.50	+ .0004 - .001

Dimension in accordance with ANSI Y14	LOCATION
FUTURE NO.	ROUTING NO.

TOLERANCES: DECIMALS AS NOTED X ± .005 XX ± .003 XXX ± .005 X/XX ± 1/16" < ± 1"	TITLE: DUST COLLECTION FOR 5 GANG
	ROUTING NO. A12200-5D

#	DATE: 05/27/2020	BY: R.J.
REVISIONS:	DO NOT SCALE DRAWING	CHECKED BY:
REVISIONS:	DO NOT SCALE DRAWING	APPROVED BY:
REVISIONS:	DO NOT SCALE DRAWING	DATE: 05/27/2020
REVISIONS:	DO NOT SCALE DRAWING	REV. LEVEL

ORIENTATION CRITICAL
LOCKNUT NEEDS TO BE ON TOP, OTHERWISE
THERE WILL BE INTERFERENCE WITH THE PAIL.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	6019-12	90 DEG. ELBOW W/ FLARED END	2
2	6019-24	90 DEG. ELBOW W/ 37 DEG. FLARE	1
3	6036-1.00	HHCS 1/4-20 X 1"	2
4	6036-1.25	1/4-20 X 1.25 HHCS GR 5	8
5	6402	1/4-20" LOCKNUT	10
6	8479-1	PIN, TAB LOCK	2
7	12177	RAIN CAP	2
8	12178-1	TREADED TRANSFER PUMP	2
9	12179	5 GALLON PAIL	1
10	12180	FILTER	1
11	12469	GASKET, CANISTER	2
12	A12242	CANISTER WELDMET DUST COLLECTOR	1
13	A12246	NUT, FILTER - DUST COLL.	1
14	A12265	DUST COLLECTOR PAIL RETAINER WELDMET	1
15	EXP400-D0024	CATCH CAN LINER	1

TO FINISHES:
X 1 260
XX 1 260
XXX 1 260

Dimension in accordance
with ANSI Y14

FIGURE NO. LOCATION ROUTING NO. DRAWING NUMBER:
A12854-1

TITLE:
CANISTER ASSEMBLY

DO NOT SCALE DRAWING

APPROVED BY:
11/13/2018
KEY, LEVEL

CHECKED BY:
BJ

DRAWN BY:
BJ

MINSTER MFG. CO., INC.
1000 INDUSTRIAL BLVD. ST. LOUIS, MO 63103
CONTACT: 314-291-1234 FAX: 314-291-1235
WWW.MINSTERMFG.COM

#

NOTE: EXP400-D0024 CATCH CAN LINER NOT SHOWN

DETAIL A
SCALE 1:4

2.68
.66
1.38
2 X Ø.094

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	708-4	SERIAL TAG	1
2	1219	HOSE CLAMP	2
3	1811	COUPLING - HOSE 2 PRONG/MALE PIPE	1
4	1811-4	CAM & GROOVE HOSE SHANK	2
5	3997	HOSE, 3/4 ID. 250 PSI	36"
6	6032-6	END HOSE 37 DEG. SWIV/BARDED 12	2
7	6037-1.00	BOLT 5/16"18	4
8	6040-1.75	HHCS, 12-13 X 1.75 GR.5	4
9	6074	1/2"-13 HEX NUT	4
10	6106	WASHER 5/16"	4
11	6148	LOCKWASHER 5/16	4
12	6151	1/2" LOCK WASHER	4
13	6262-1	SCREW, DRIVE HD RD. #4 X 1/4"	2
14	6473-17	CONNECTOR - FEMALE PIPE/37 DEG MALE	1
15	10591	HOSE, FLEX TUBE PVC	480"
16	10793-1	CAGE NUT, 5/16-18	4
17	12182-1	PANEL COVER	1
18	302-00-01-00000	A1-SERIES SNORKEL	1
19	A12262	A1C, A2C FRAME WELDMENT DUST COLLECTOR	1
20	A12284	DECAL KIT FOR DUST COLLECTION SYSTEM	1
21	A12713-1	ASSY DUST COLLECTOR MOUNT	1
22	A12853-1GRD	MANIFOLD GROUP A-1 ON GRADE	1
23	A12854-3	SINGLE ON GRADE CANISTER ASSEMBLY	1
24	A12858-1GRD	AIR CONTROL W/DUST	1

NOT SHOWN:
A12284 DECAL KIT FOR DUST COLLECTION

TOLERANCES	
EXCEPT AS NOTED	
XX	± .005
XX	± .000
XX	± .005
XX	± .005
XX	± .005
XX	± .005
XX	± .005

Drilled Hole Size	
For holes drilled with drill	
1/8" to 1/4"	1/8" to 1/4"
1/2" to 3/4"	1/2" to 3/4"
1" to 2"	1" to 2"
2" to 4"	2" to 4"
4" to 6"	4" to 6"
6" to 8"	6" to 8"
8" to 10"	8" to 10"
10" to 12"	10" to 12"
12" to 14"	12" to 14"
14" to 16"	14" to 16"
16" to 18"	16" to 18"
18" to 20"	18" to 20"
20" to 22"	20" to 22"
22" to 24"	22" to 24"
24" to 26"	24" to 26"
26" to 28"	26" to 28"
28" to 30"	28" to 30"
30" to 32"	30" to 32"
32" to 34"	32" to 34"
34" to 36"	34" to 36"
36" to 38"	36" to 38"
38" to 40"	38" to 40"
40" to 42"	40" to 42"
42" to 44"	42" to 44"
44" to 46"	44" to 46"
46" to 48"	46" to 48"
48" to 50"	48" to 50"

MANUFACTURED BY: MESSERS MFG. CO., INC.
THIS INFORMATION IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT A CONTRACT. A CONTRACT IS A SMALL, BUT NOT
SUBSTITUTED BY THIS INFORMATION. THE INFORMATION IS NOT A CONTRACT.

DO NOT SCALE DRAWING

TITLE:
DUST COLLECTION SYSTEM FOR A-136 ON GRADE

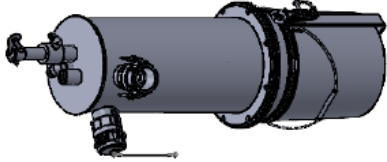
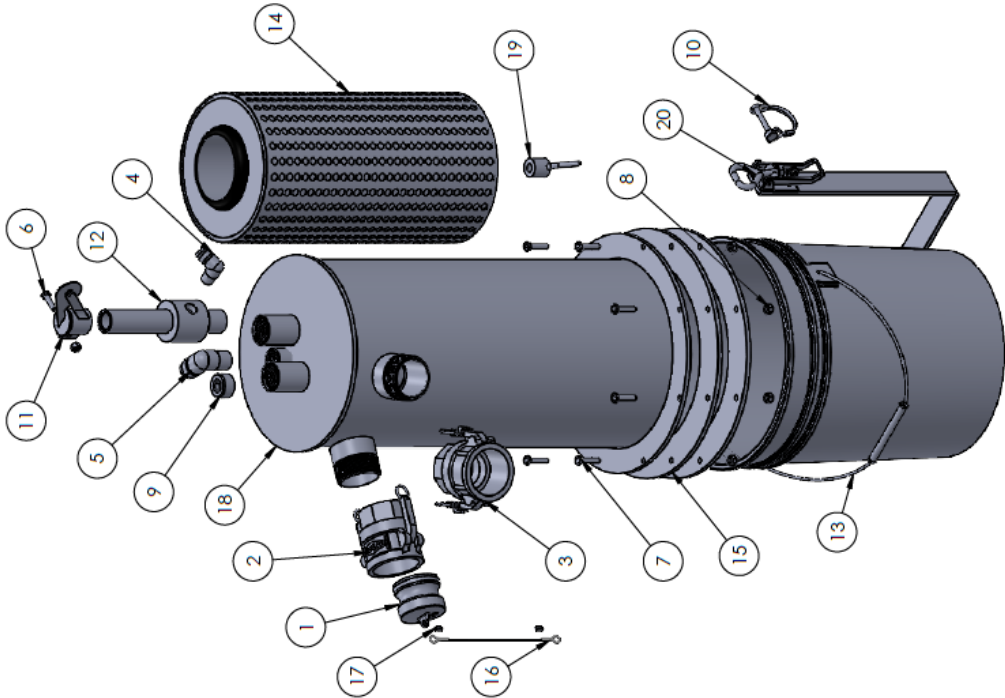
ROUTING NO. DRAWING NUMBER:
A12200-36GRD

APPROVED BY:
CHECKED BY:
DRAWN BY:
REV. LEVEL

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	708-4	SERIAL TAG	1
2	1219	HOSE CLAMP	2
3	1811	COUPLING - HOSE 2 PRONG/MALE PIPE	1
4	1811-4	CAM & GROOVE HOSE SHANK	2
5	3997	HOSE, 3/4 ID, 250 PSI	36"
6	6032-6	END HOSE 37 DEG. SWIV/BARDED 12	2
7	6037-1.00	BOLT 5/16" 18	4
8	6040-1.75	HHCS, 12-13 X 1.75 GR.5	4
9	6074	1/2-13 HEX NUT	4
10	6106	WASHER 5/16"	4
11	6148	LOCKWASHER 5/16	4
12	6151	1/2" LOCK WASHER	4
13	6262-1	SCREW, DRIVE HD RD. #4 X 1/4"	2
14	6473-17	CONNECTOR - FEMALE PIPE/37 DEG MALE	1
15	10591	HOSE, FLEX TUBE PVC	480"
16	10793-1	CAGE NUT, 5/16-18	4
17	12182-1	PANEL COVER	1
18	302-00-01-00000	A1-SERIES SNORKEL	1
19	A12262	A1C, A2C FRAME WELDMENT DUST COLLECTOR	1
20	A12284	DECAL KIT FOR DUST COLLECTION SYSTEM	1
21	A12713-1	ASSY DUST COLLECTOR MOUNT	1
22	A12853-1GRD	MANIFOLD GROUP A-1 ON GRADE	1
23	A12854-3	SINGLE ON GRADE CANISTER ASSEMBLY	1
24	A12858-1GRD	AIR CONTROL W/DUST	1

NOT SHOWN:
A12284 DECAL KIT FOR DUST COLLECTION SYSTEM

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1811-3	ADAPTER	1
2	1811-5	COUPLER	1
3	1811-6	PIPE, CAP 2"	1
4	6019-12	90 DEG. ELBOW W/ FLARED END	1
5	6019-24	90 DEG. ELBOW W/ 37 DEG. FLARE	1
6	6036-1.00	HHCS 1/4-20 X 1"	1
7	6036-1.25	1/4-20 X 1.25 HHCS GR 5	8
8	6402	1/4-20" LOCKNUT	9
9	6471-6	HEX SOCKET PLUG	1
10	8479-1	PIN, TAB LOCK	2
11	12177	RAIN CAP	1
12	12178-1	TREADED TRANSFER PUMP	1
13	12179	5 GALLON PAIL	1
14	12180	FILTER	1
15	12469	GASKET, CANISTER	2
16	13263	WIRE ROPE	18"
17	13264	COMPRESSION SLEEVE	2
18	A12242-3	CANISTER WELDMT DUST COLLECTOR	1
19	A12246	NUT, FILTER - DUST COLL.	1
20	A12265	DUST COLLECTOR PAIL RETAINER WELDMNT	1
21	EXP400-D0024	CATCH CAN LINER	1



Drilled Hole Size	Tolerance
1/8" (3.175)	+0.004/-0.001
1/4" (6.350)	+0.004/-0.001
3/8" (9.525)	+0.004/-0.001
1/2" (12.700)	+0.004/-0.001
5/8" (15.875)	+0.004/-0.001
3/4" (19.050)	+0.004/-0.001
7/8" (22.225)	+0.004/-0.001
1" (25.400)	+0.004/-0.001

#

REVISIONS

DATE

DESCRIPTION

APPROVED BY:

DO NOT SCALE DRAWING

TITLE:

SINGLE ON GRADE CANISTER ASSEMBLY

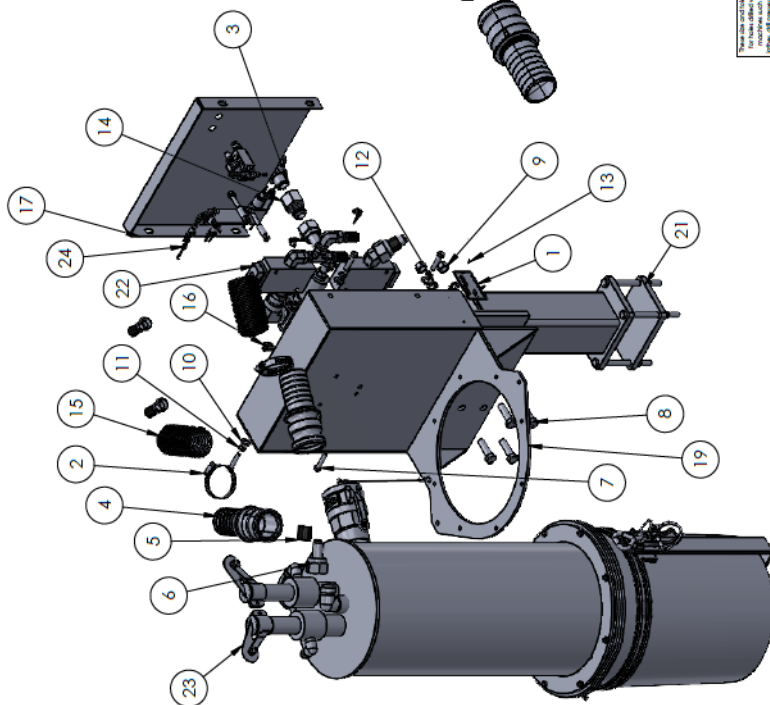
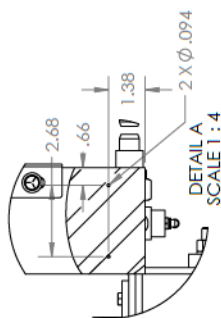
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LOCATION

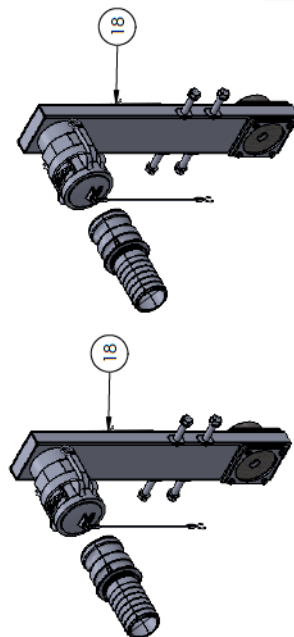
REV. LEVEL

A12854-3

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	708-4	SERIAL TAG	1
2	1219	HOSE CLAMP	4
3	1811	COUPLING - HOSE 2 PRONG/MALE PIPE	1
4	1811-4	CAM & GROOVE HOSE SHANK	4
5	3997	HOSE, 3/4 ID. 250 PSI	36"
6	6032-6	END HOSE 37 DEG. SWIV/BARDED 12	2
7	6037-1.00	BOLT 5/16"-18	4
8	6040-1.75	HHCS, 12-13 X 1.75 GR.5	4
9	6074	1/2"-13 HEX NUT	4
10	6106	WASHER 5/16"	4
11	6148	LOCKWASHER 5/16	4
12	6151	1/2" LOCK WASHER	4
13	6262-1	SCREW, DRIVE HD RD. #4 X 1/4"	2
14	6473-17	CONNECTOR - FEMALE PIPE/37 DEG MALE	1
15	10591	HOSE, FLEX TUBE PVC	960"
16	10793-1	CAGE NUT, 5/16-18	4
17	12182-1	PANEL COVER	1
18	302-00-01-000000	A1-SERIES SNORKEL	2
19	A12262	A1C, A2C FRAME WELDMENT DUST COLLECTOR	1
20	A12284	DECAL KIT FOR DUST COLLECTION SYSTEM	1
21	A12713-1	ASSY DUST COLLECTOR MOUNT	1
22	A12853-2GRD	MANIFOLD GROUP A-2C ON GRADE	1
23	A12854-4	CANISTER ON 2 GANG ON GRADE ASSEMBLY	1
24	A12858-2GRD	AIR CONTROL GROUP DUST COL, A-2C ON GRADE/RETRO FIT	1



NOT SHOWN:
A12284 DECAL KIT FOR DUST COLLECTION SYSTEM



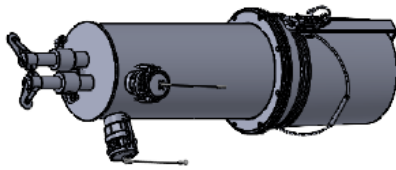
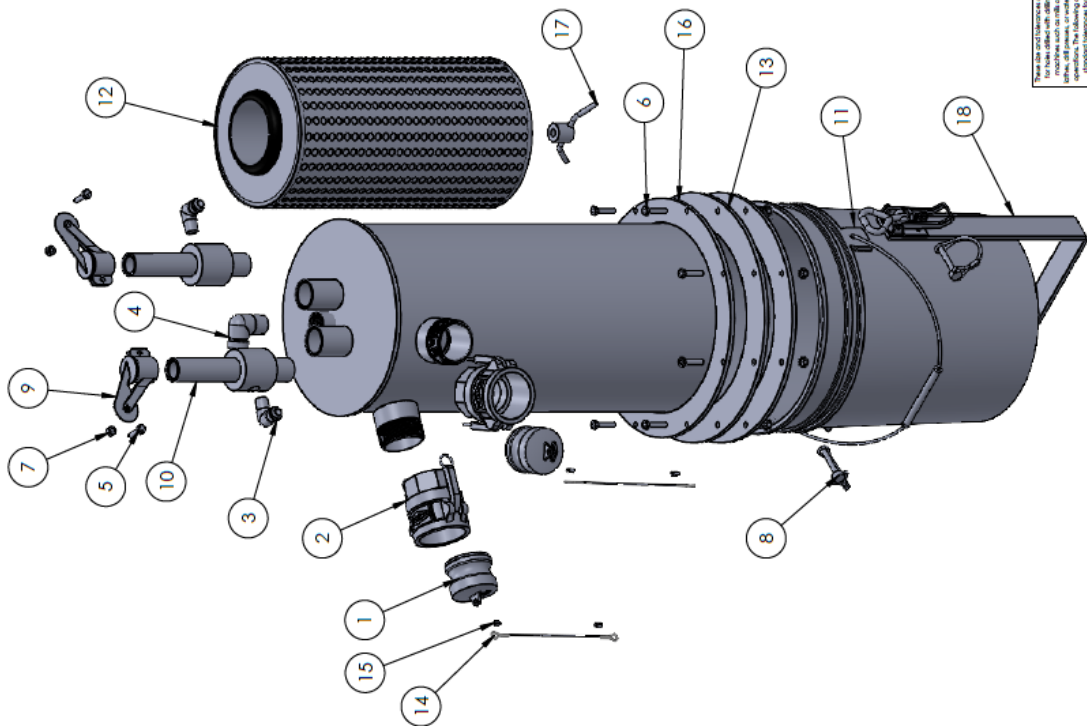
These size and tolerances are for holes drilled with reamers such as drilling machines such as mills or lathes, all passes, or multiple operations. The following are standard tolerances for general machine work and apply in all cases except where greater or lesser	Dried Hole Size	Tolerance
	0.131 to 0.175	± 0.004 (-0.01)
	0.180 to 0.250	± 0.005 (-0.01)
	0.251 to 0.375	± 0.006 (-0.01)
	0.376 to 0.750	± 0.008 (-0.01)
	0.751 to 1.125	± 0.010 (-0.01)

TOLERANCES (EXCEPT AS NOTED)	
XX	$\pm .060$
XX	$\pm .030$
XXX	$\pm .005$
XXX	$\pm 1/16"$

FIGURE NO.	LOCATION
Dimension in accordance with ANSI Y14	

ROUTING NO.	ROUTING NO. DRAWING NUMBER	DATE	DATE
1	A12900-0000	12/20/2000	12/20/2000
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1811-3	ADAPTER	2
2	1811-5	COUPLER	2
3	6019-12	90 DEG. ELBOW W/ FLARED END	2
4	6019-24	90 DEG. ELBOW W/ 37 DEG. FLARE	1
5	6036-1.00	HHCS 1/4-20 X 1"	2
6	6036-1.25	1/4-20 X 1.25 HHCS GR 5	8
7	6402	1/4-20" LOCKNUT	10
8	8479-1	PIN, TAB LOCK	2
9	12177	RAIN CAP	2
10	12178-1	TREADED TRANSFER PUMP	2
11	12179	5 GALLON PAIL	1
12	12180	FILTER	1
13	12469	GASKET, CANISTER	2
14	13263	WIRE ROPE	36"
15	13264	COMPRESSION SLEEVE	4
16	A12242-3	CANISTER WELDMT DUST COLLECTOR	1
17	A12246	NUT, FILTER - DUST COLL.	1
18	A12265	DUST COLLECTOR PAIL RETAINER WELDMENT	1
19	EXP400-D0024	CATCH CAN LINER	1

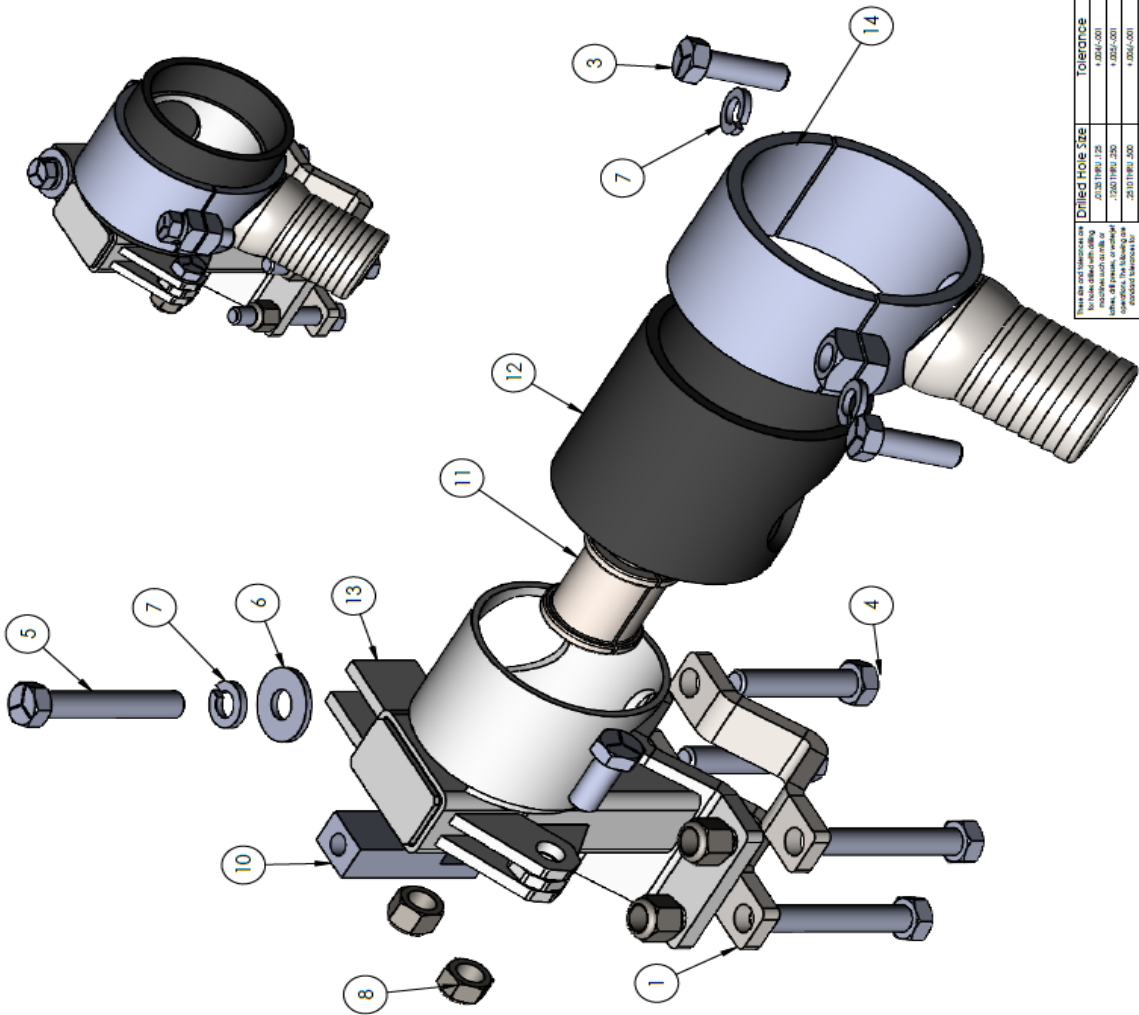


Drilled Hole Size	Tolerance
Ø1.315 (1/8")	+0.004/-0.001
Ø1.500 (1/2")	+0.004/-0.001
Ø1.625 (5/8")	+0.004/-0.001
Ø1.750 (3/4")	+0.004/-0.001
Ø1.875 (3/4")	+0.004/-0.001
Ø2.000 (1")	+0.004/-0.001
Ø2.125 (1 1/8")	+0.004/-0.001
Ø2.250 (1 1/2")	+0.004/-0.001
Ø2.375 (1 5/8")	+0.004/-0.001
Ø2.500 (2")	+0.004/-0.001

REVISIONS	DATE	BY	DESCRIPTION
1	07/20/2020	RJ	DO NOT SCALE DRAWING
TITLE: CANISTER ON 2 GANG ON GRADE ASSEMBLY			
ROUTING NO: DRAWING NUMBER: A12854-4			
CHECKED BY: AEB			
APPROVED BY: 07/20/2020			
REV. LEVEL: -			

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	REMOVED (1) 6040-1.50 AND (1) 6406; ADDED (1) 6040-1.25 AND (1) 6392	09/30/2021	AEB

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	002844-00000	HEIGHT ADJUSTMENT CLAMP	2
2	006040-1.250	HHCS, 1/2-13 x 1-1/4 GR.5	1
3	006040-1.500	HHCS, 1/2-13 x 1-1/2 GR.5	3
4	006040-2.250	HHCS, 1/2-13 x 2-1/4 GR.5	2
5	006040-2.750	HHCS, 1/2-13 x 2-3/4 GR.5	3
6	006112-00000	FLAT WASHER, 1/2 USS	1
7	006151-00000	LOCKWASHER, 1/2	3
8	006392-00000	LOCKNUT, 1/2-13 NYLOK NIE	1
9	006406-00000	LOCKNUT, 1/2-13 NYLOCK	5
10	008412-00001	RETAINER	1
11	008433-00000	1.085" DRILL SUPPORT BEARING	1
12	012316-00000	RUBBER OUTER TUBE, DUST COLLECTOR	1
13	A12243-00001	SUPPORT WELDMENT - DUST COLLECTOR	1
14	A12320-00000	TUBE CLAMPING WELDMENT	1



Drilled Hole Size	Tolerance
1/8" (3.175 mm)	+0.004/-0.003
3/16" (4.75 mm)	+0.004/-0.003
1/4" (6.35 mm)	+0.004/-0.003
5/16" (7.94 mm)	+0.004/-0.003
3/8" (9.52 mm)	+0.004/-0.003
1/2" (12.7 mm)	+0.004/-0.003
5/8" (15.875 mm)	+0.004/-0.003
3/4" (19.05 mm)	+0.004/-0.003
1" (25.4 mm)	+0.004/-0.003

TOLERANCES
(EXCEPT AS NOTED)
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MINNICH

LIMITED WARRANTY, DISCLAIMER AND REMEDIES

Supplier warrants to Customer that the Services shall be provided in a workmanlike manner and that the Goods shall be free from defects in material and workmanship at the date of shipment from Supplier's facility. This warranty shall not run to any person other than Customer.

All claims under this warranty must be made in writing and delivered to Supplier prior to the expiration of one (1) year after the Goods have been delivered (or, if applicable, within one (1) year after the Services have been performed) or be forever barred. Supplier will repair or replace Goods or parts recognized and acknowledged by Supplier as being defective at the time of delivery without charge. However, Supplier will bill Customer for Goods and/or Services not covered by the warranty, including travel expenses incurred while performing warranty service calls. EQUIPMENT, COMPONENTS OR OTHER GOODS FURNISHED THAT ARE NOT MANUFACTURED BY SUPPLIER ARE ONLY COVERED TO THE EXTENT OF THE ORIGINAL MANUFACTURER'S WARRANTY, WHICH MAY VARY FROM THE ABOVE. Further, the above warranty shall not apply to any hardware or software that has been repaired or altered without Supplier's written permission by anyone other than Supplier's personnel. The foregoing states the sole and exclusive remedy for any breach of warranty or for any other claim based on any defect in, or nonperformance of, the Goods or Services, whether based upon contract, warranty, negligence, tort (including strict liability) or otherwise.

NO EXPRESS WARRANTIES AND NO IMPLIED WARRANTIES, WHETHER OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR WEAR CAPACITY, OR OTHERWISE, SHALL APPLY TO THE GOODS AND SERVICES. SUPPLIER SPECIFICALLY DISCLAIMS AND EXCLUDES ALL OTHER EXPRESS AND IMPLIED WARRANTIES. NO WAIVER, ALTERATION, ADDITION OR MODIFICATION OF THE FOREGOING SHALL BE VALID UNLESS MADE IN WRITING AND SIGNED BY AN EXECUTIVE OFFICER OF SUPPLIER. IN NO EVENT WILL SUPPLIER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

WHAT IS NOT COVERED

This Limited Warranty does not cover any damage, deterioration or malfunction resulting from normal wear or tear, or any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This Limited Warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Minnich to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product.

WHAT IS COVERED

This limited warranty ("Limited Warranty") covers manufacturing defects in materials and workmanship of a product.

WHO IS COVERED:

Only the original purchaser of this product is covered under this Limited Warranty. This Limited Warranty is not transferable to subsequent purchasers or owners of this product. The product must have been purchased directly from Minnich or from an authorized Minnich reseller.

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NOTICE

All orders are treated as Standard Orders and will ship the same day if received prior to 3PM EST