INSTALLATION & OPERATION MANUAL

Dynamo PSBC990

Extra Large, Pressurized Sandblast Cabinet

Dynamo Shop Equipment
www.dynamotools.com

Read this entire manual before operation begins.

Protect yourself and other by observing all safety information, warnings, and cautions. Failure to comply with instructions could result in personal injury and/or damage to product or property. Please retain instructions for future reference.

Record below the following information which is located on the serial number data plate.

Serial No. _____
Model No. _____
Date of Installation _____

Contents

Important Information

READ ALL INSTRUCTIONS BEFORE USING THIS EQUIPMENT.
SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

Due to continuing improvement, actual product may differ slightly from product described herein.

For the safety of distributors, purchasers and end users:

- The provided information described and illustrated in this material is intended for experienced, knowledgeable users of abrasive blasting equipment and supplies.
- The products described in this material may be combined as determined solely by the user in a variety of ways and purposes. However no representations are made as to be intended use, performance standards, engineering suitability, safe practices, or compliance with government regulation and laws that apply to these products, products of other, or a combination of various products of third parties, and a combination of various products chosen by the user or others. It is the responsibility of the users of these products, products of third parties, and a combination of various products, to exercise caution and familiarize themselves with all applicable laws, government regulations and safety requirements.
- Nor are representations made or intend to the useful life, maintenance cycles, efficiency, or performance of the referenced products or any combination of products.
- This material must not be used for estimating purpose. Production rates, labor performance, or surface finished are the sole responsibility of the user based on the users expertise, experience, and knowledge of industry variables.
- It is the responsibility of the user to insure that proper and comprehensive training of operators has been performed and all environmental and safety precautions observed.
- We provide a variety of excellent products to the surface preparation industry, and we confident that all proficient users, operators, and contractors in this industry will continue to use our products in a safe and knowledgeable manner.

1. Start Up Preparations:

   Air supply should be dry and clean from oil and other contaminants. (i.e. use air dryer, coalescent filter, or moisture separator as needed.)

   Blast machine must be ground to avoid shock.

   Electric extension cords should be three wire grounded (wire size can not be smaller than 3x1.5mm^2)

2. Operator's responsibilities before starting:

   Inspect fittings and hoses for damage and water.

   Check the seal on all doors. Only operate the blast cabinet with all doors securely closed and dust collection system running.

   Clean dust from dust collector and clean filter as needed.

3. Caution

   Watch for silicosis (dust created when using silica sand as a blast media) or toxic dust hazard. Do not use media containing free silica.

   Keep blast nozzle controlled and aimed at the work.

4. Maintenance

   Keep your machine in good repair. Use original parts and do not substitute or modify original supplied items.

General Safety Information

Any blast cabinet will produce a powerful flow of abrasive particles. Please avoid personal injury and property damage. Study this manual thoroughly before assembling, operating or servicing this blast cabinet.

Warning:

1. During operation, do not expose the hands or skin directly in the line of the blast nozzle.
2. Ensure all components seal properly after assembly.
3. Do not exceed the maximum operating pressure of the blasting equipment.
4. Disconnect the cabinet from the air supply before changing accessories or attempting to install, service, relocate or perform any maintenance.

5. Check hoses and air lines for weak or worn condition before each use. Make sure all the connections are secure before use.

6. Do not point the abrasive blaster gun at anyone or objects.

7. Before installing the machine, consider the availability and proximity of the required power supply circuit. If an existing circuit does not meet the requirements for this machine, a new circuit must be installed. To minimize the risk of electrocution, fire, or equipment damage, installation work and electrical wiring must be done by an electrician or qualified service personnel in accordance with all applicable codes and standards.

Danger:

1. Chemicals, including lead are in this product or its power cord. Wash hands after handling.

2. The dust can be created when you sweep, blast, cut, sand, drill, or grind materials such as wood, paint, metal, concrete, cement, or other masonry. This dust often contains chemicals known to cause cancer, birth defects, or other reproductive harm. Wear protective gear.

3. Fire or explosion hazard! DO NOT USE a sand blaster around combustible or flammable liquids, dusts, gases, oily rags, or other materials that can explode or burn quickly. Some abrasives create sparks when they hit metal. Abrasives similar to aluminum oxide may generate static electric sparks which will cause fires or explosions in an unsafe environment.

4. Static electric shocks can be painful. Please wear leather or rubber soled shoes or boots and stand on the ground to avoid static electricity. A grounded wire attached to the sand blast gun will safely remove the static electricity.

Technical Specifications

Nozzle Size: 5.0 / 5.0 / 6.0 / 6.0 mm

Nozzle Material: Ceramic

Maximum Sand Load Volume: 12 liters

Maximum Air Pressure: 8kg/cm^2 115PSI

Gas Flow Rate: 22-30m^3/h or 13-17.5CFM

Working Pressure: 2kg/cm^2~8kg/cm^2 (30~115PSI)

Sand Hose: 250mm*2500mm

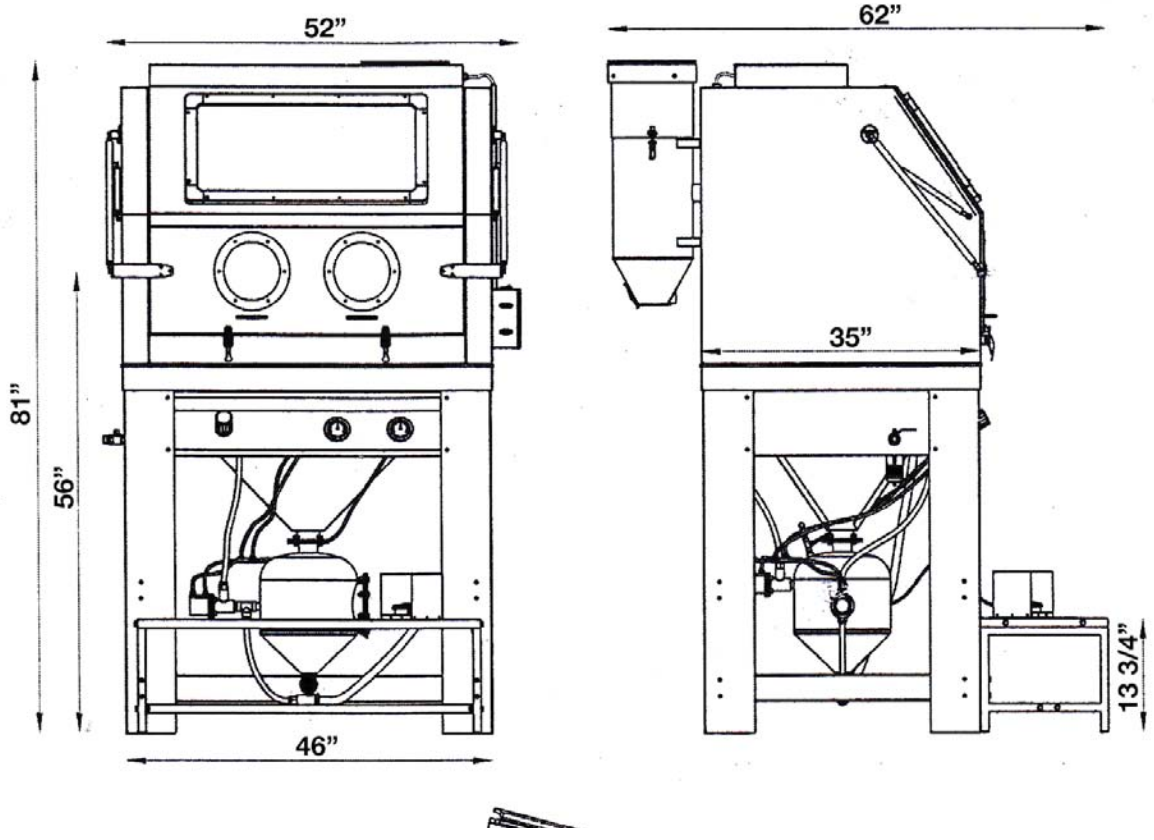
Sand Diameter: 25-80 Grit

Cleaning Efficiency: 400-500cm^2/min @4kg/cm^2 air pressure with 6.0mm nozzle

Tank Capacity: 5.4 Gallons (20.5 liters)

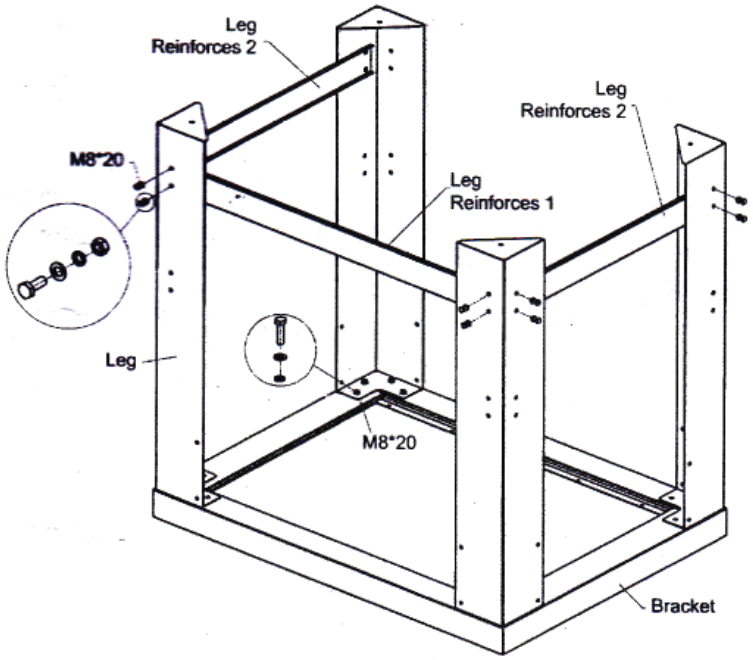
Tank Dimensions 309mm*370mm

N.W: 550 lbs



Assembly Instructions

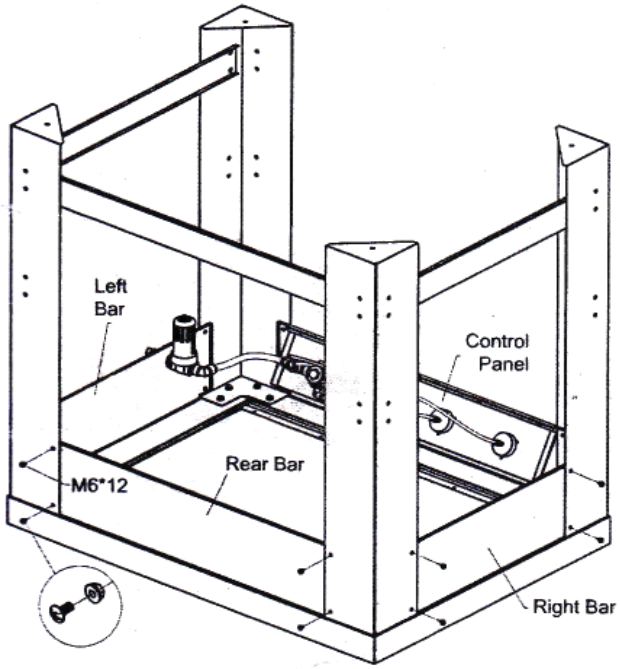
1. Fasten the four stand legs and the Leg Reinforcements to the Bracket by using M8*20mm Screw, Flat Washer, Spring Washer and M8 Nut in turn



Hardware

M8x20mm SCREW	28	
M8 Nut	12	
8 Flat Washer	28	
8 Spring Washer	28	

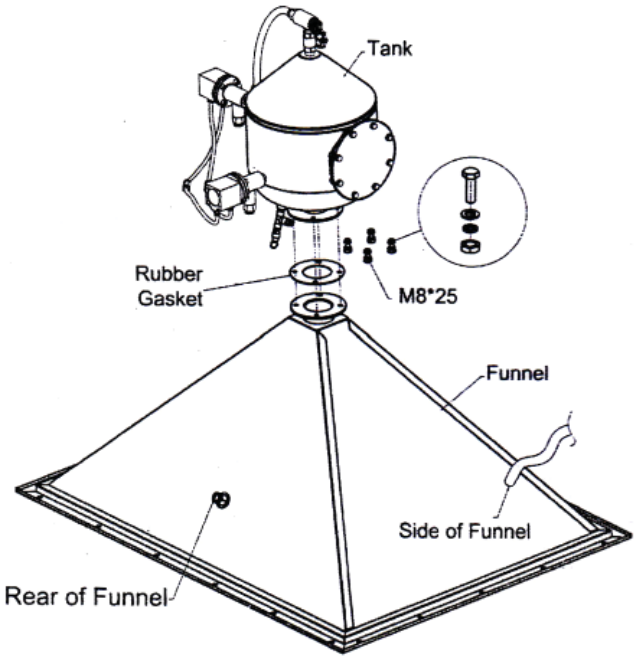
2. Assemble the Left Bar, Right Bar, Control Panel and Rear Bar by using M6*12mm Screw, Flat Washer, and M6 Nut in sequence.



Hardware

M6x12mm SCREW	16	
M6 Nut	16	
6 Flat Washer	16	
6 Spring Washer	16	

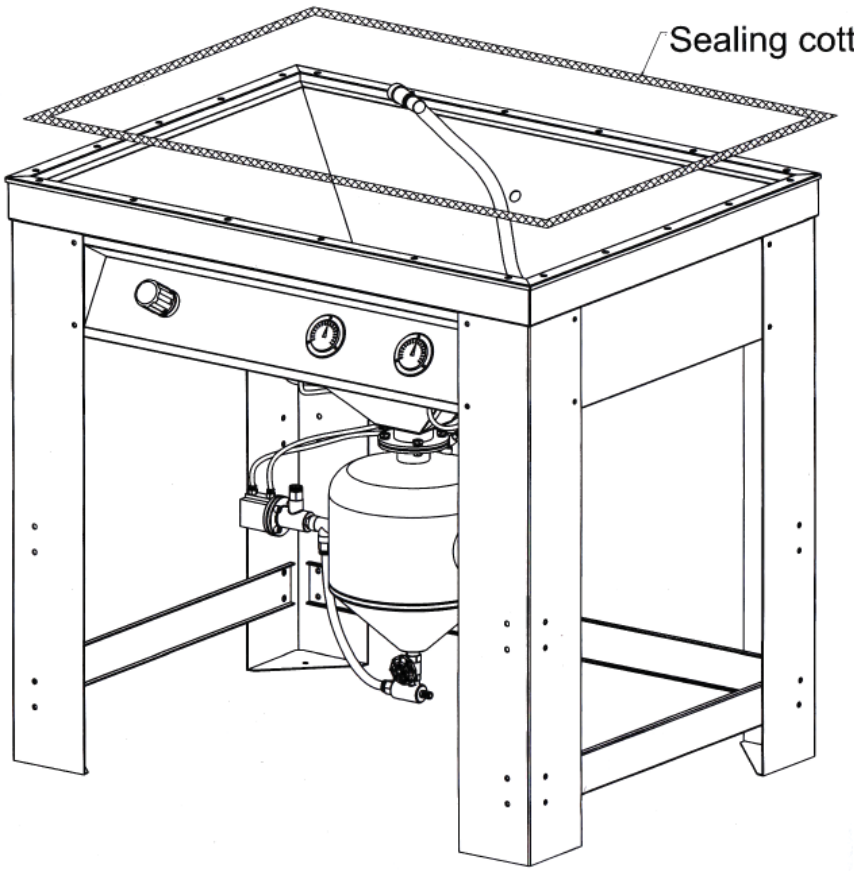
3. Place the funnel as shown in the image. Attach the tank assembly (including flat washer, spring washer, nut) and rubber seal onto the funnel. Ensure tank service port with right side funnel on same direction.



Hardware

M8x25mm SCREW	4	
M8 Nut	4	
8 Flat Washer	4	
8 Spring Washer	4	
Rubber Gasket	1	

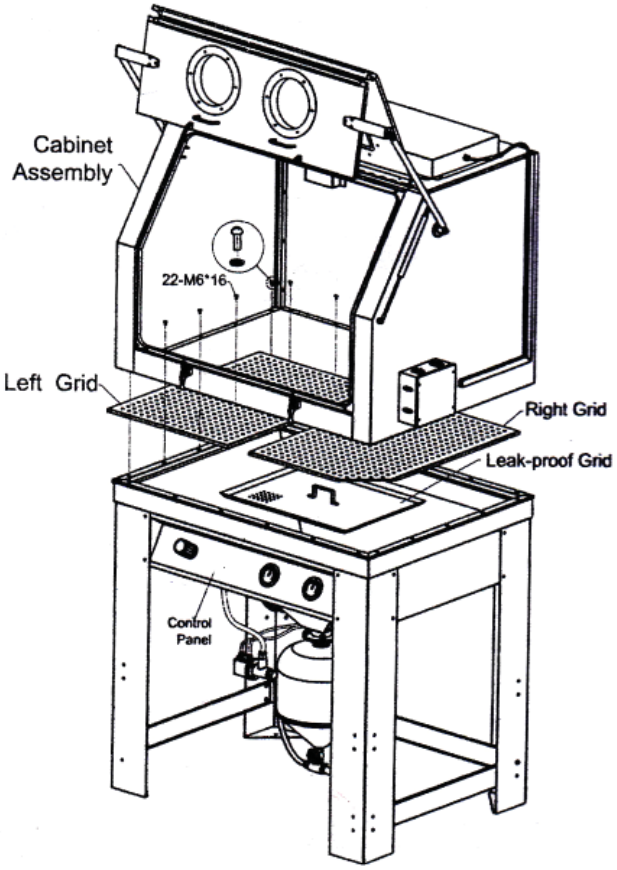
4. Stick sealing cotton on before assembling the cabinet.



HARDWARE USED

Sealing cotton δ 3	

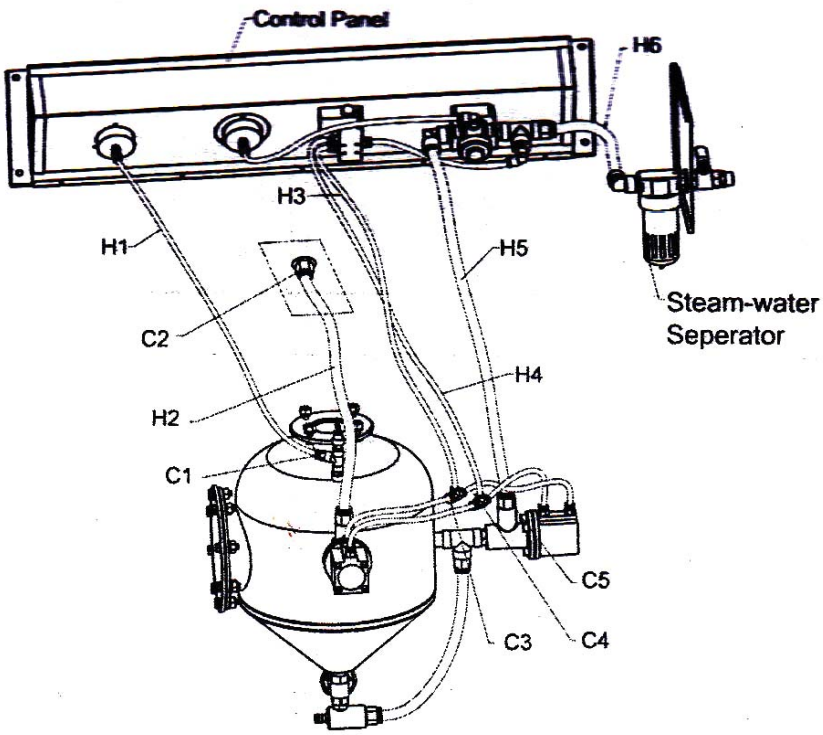
5. Upside down Step 2 parts, then place the funnel and pressure tank (step 3) on. Please note placement direction and then insert the hook plate component.



Hardware

M6x16mm SCREW	22	
6 Flat Washer	22	

6. Insert H4 & H3 into T-Joint (C3) on the tank (notice color respondence). [H3---C3]; [H4---C4]. Then insert 8mm Air Hose (H1) from pressure gauge into the top of tank quick connector [H1---C1].

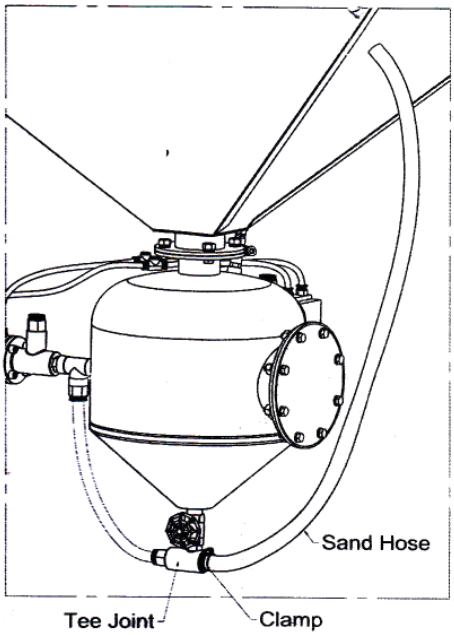


a. Insert 16mm Air Hose into Air Connector [H5---C5].

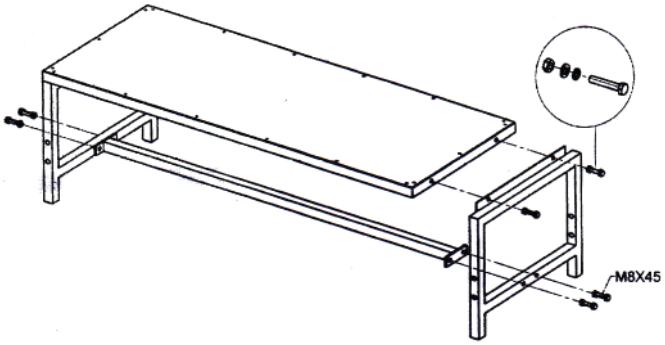
b. At the right panel, connect a 16mm Air Hose (H6) with the Steam-water separator.

c. Insert air hose (H2) into the connector on back of the funnel. [H2---C2].

7. Insert Sand Hose into T-Joint under the tank, and then use Hose Clamp to lock them as the image shows.

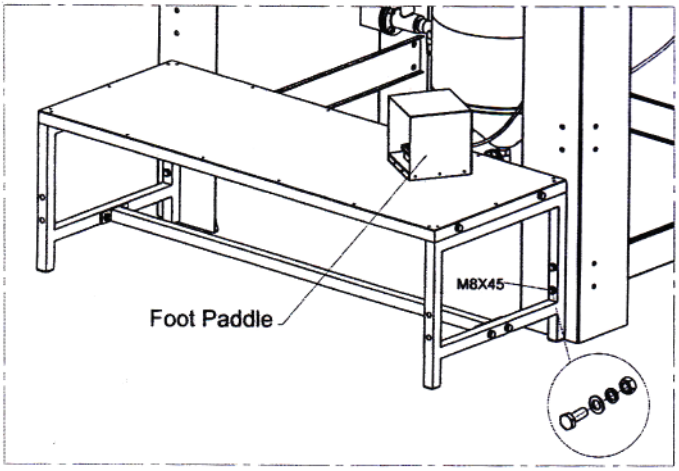


8. Using M8*45 Screw (with flat washer, nut) to assemble the Operation Bench.



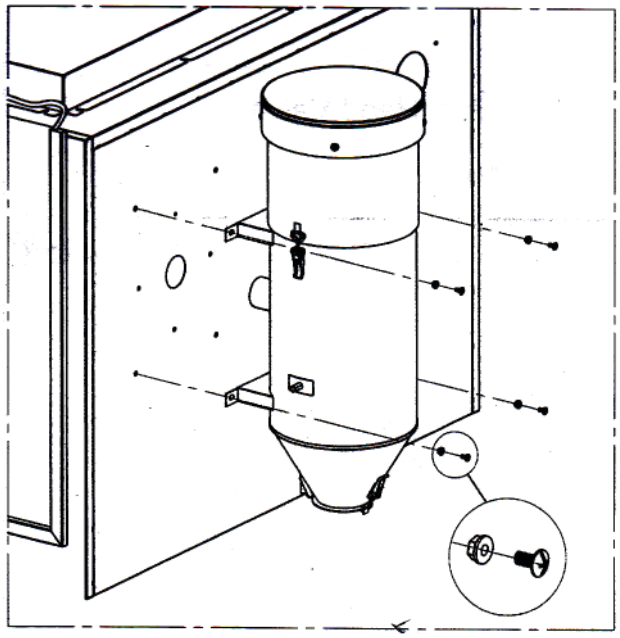
M8x45mm SCREW 8	
M8 Nut 8	
8 Flat Washer 8	
8 Spring Washer 8	

9. Combine Operation Bench with Cabinet Frame



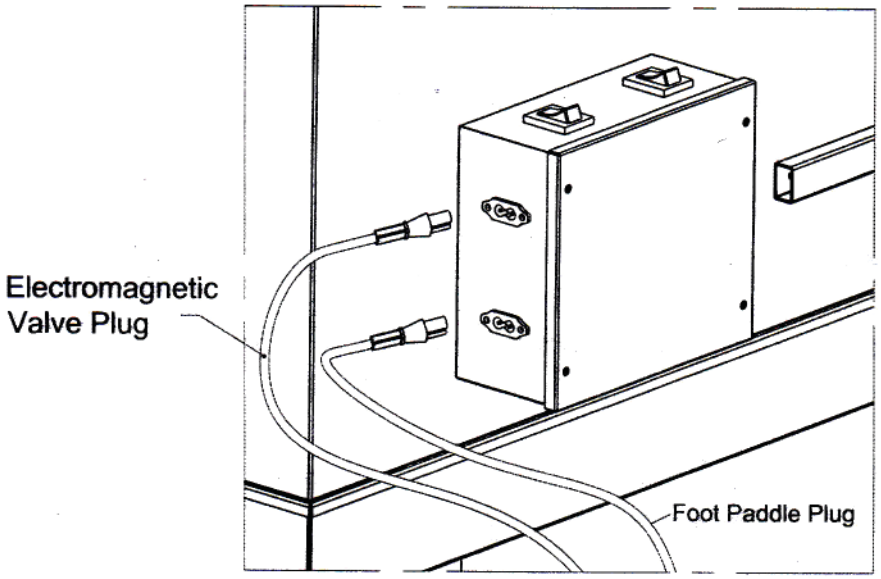
M8x45mm SCREW 4	
M8 Nut 4	
8 Flat Washer 4	
8 Spring Washer 4	

10. Using four M6*12 Screw to fit Dust Collector to the cabinet.

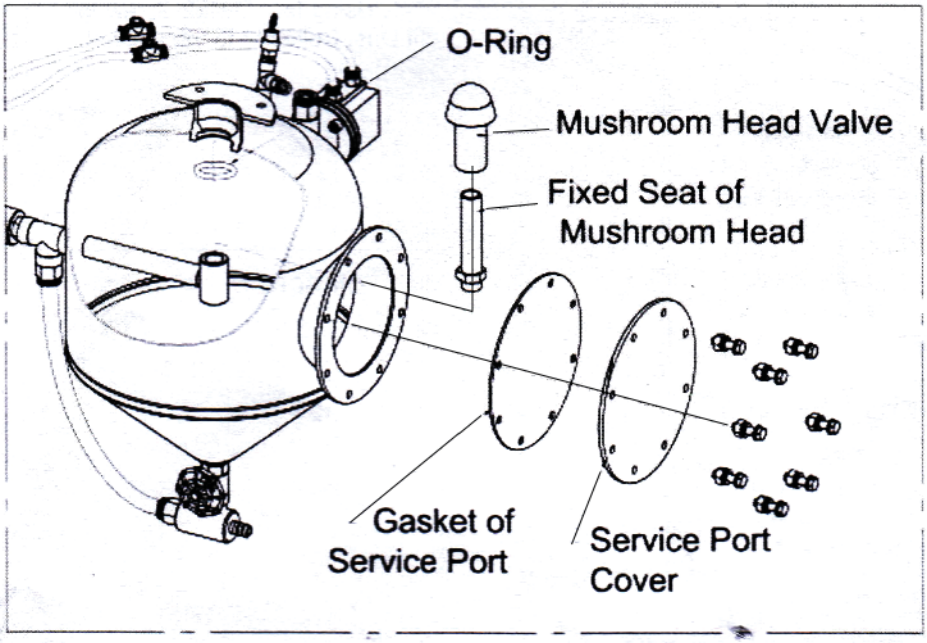


M6x12mm SCREW	4	
M6 Nut	4	

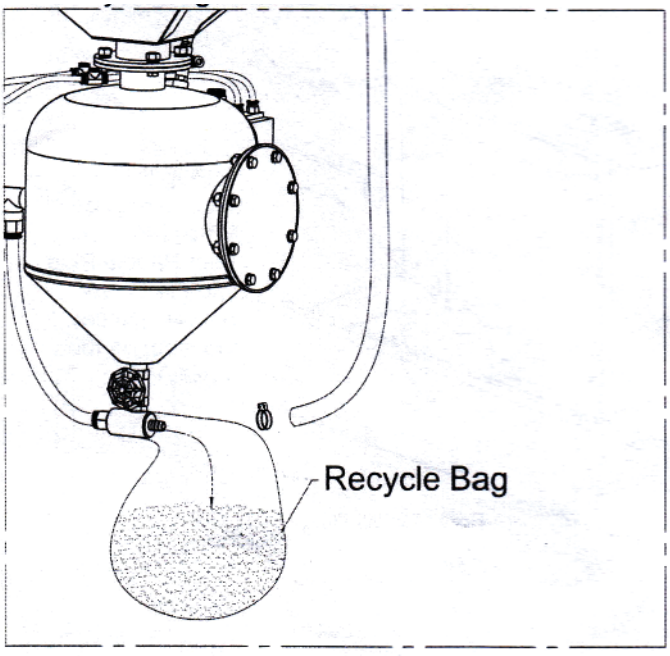
11. Plug the Electromagnetic Valve Plug and Foot Pedal Plug into the Power Supply. Note the label on the supply.



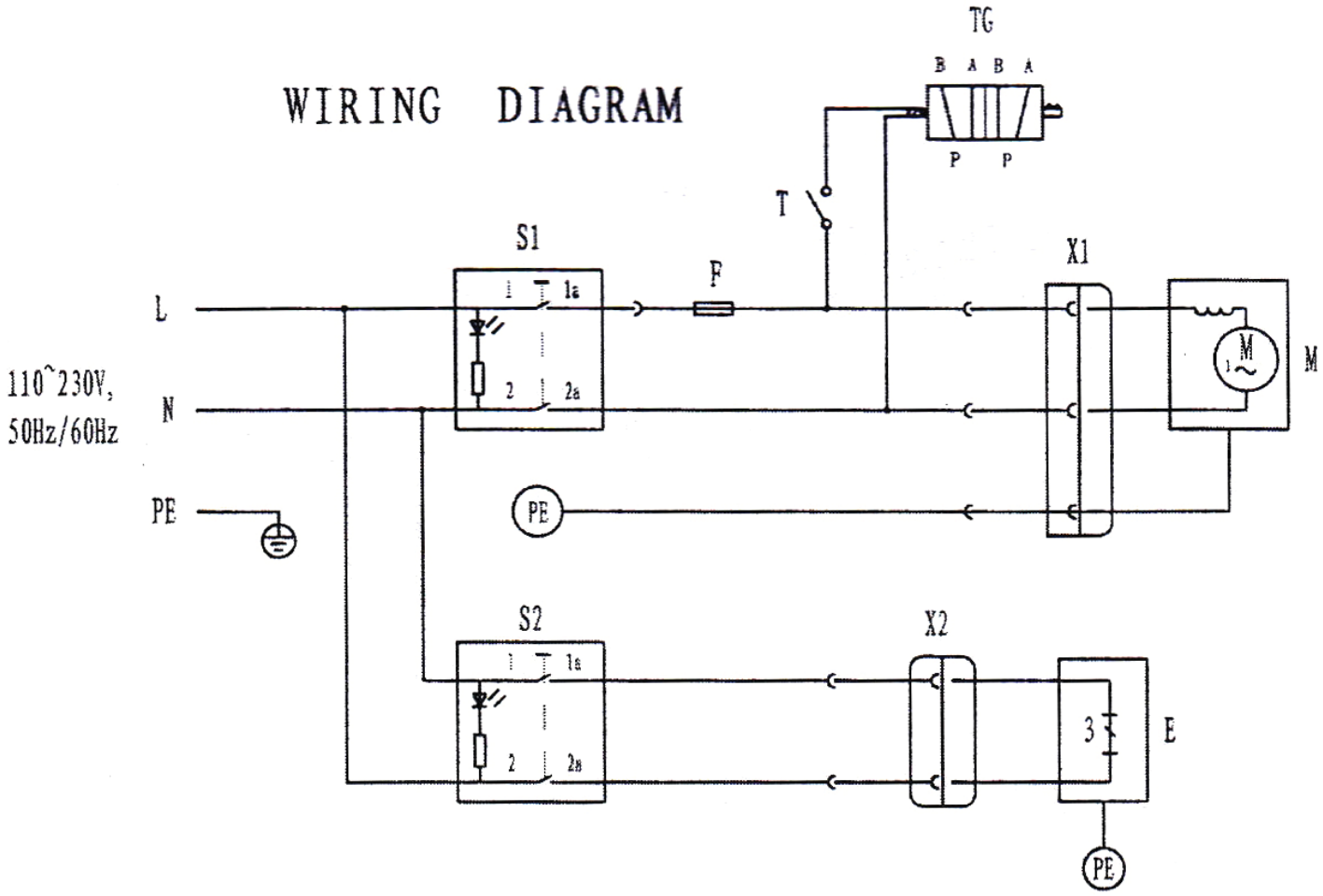
Mushroom Head Replacement Graphic



Use Recycle Bag to collect waste sand



Wiring Diagram



L - Phase Wire
N - Neutral Wire
PE - Earth Wire
F - Fuse
E - Luminaire With 3 LED Tubes
X1 - Connector
X2 - Connector
S1 - Motor Switch
S2 - Light Switch
M - Motor
TG - Solenoid Valves
T - Foot Switch

Operating Instructions

Operation Notice

- Before operation, check the sealing of the valve and connecting fitting and replace when necessary to ensure safe and reliable.
- Abrasive should be filtered to prevent bringing sand garbage into the nozzle or valve. The maximum sand load volume is 12 liters.
- Do not add too much abrasive. It might make the mushroom head in the pressure tank not be sealed, which results to no sand blasting. If mushroom head withstands sand entrance, using a small iron bar to knock mushroom head to let it down.
- If no sand is blasting, try to loosen foot pedal to let sand drop back to pressure tank for recycling.
- Method to clean wet or waste abrasive: take sand hose down; put a woven bag; turn on air inlet valve; adjust pressure regulating valve to 1-2kg by pressing foot paddle fitfully to make wet or waste abrasive into the Recycle Bag.
- Discharge steam-water separator 1-2 times daily.
- Do periodical inspection for the mushroom head sealing ring. Any possible damage, aging, or deformation that causes sealing leaking will affect sand blast pressure and leads to air waste.
- When you finish, clean all abrasive out to prevent breakdown for next operation.

1. Connect the air and power supply
2. Load abrasive
3. Lock the door
4. Turn on the lights and the vacuum
5. Adjust working air pressure to between 90 - 115 PSI
6. Step on foot pedal to start
7. Adjust Sand Flow Valve counter-clockwise to increase the flow of sand and vice-versa to decrease it if necessary (see Page 24)

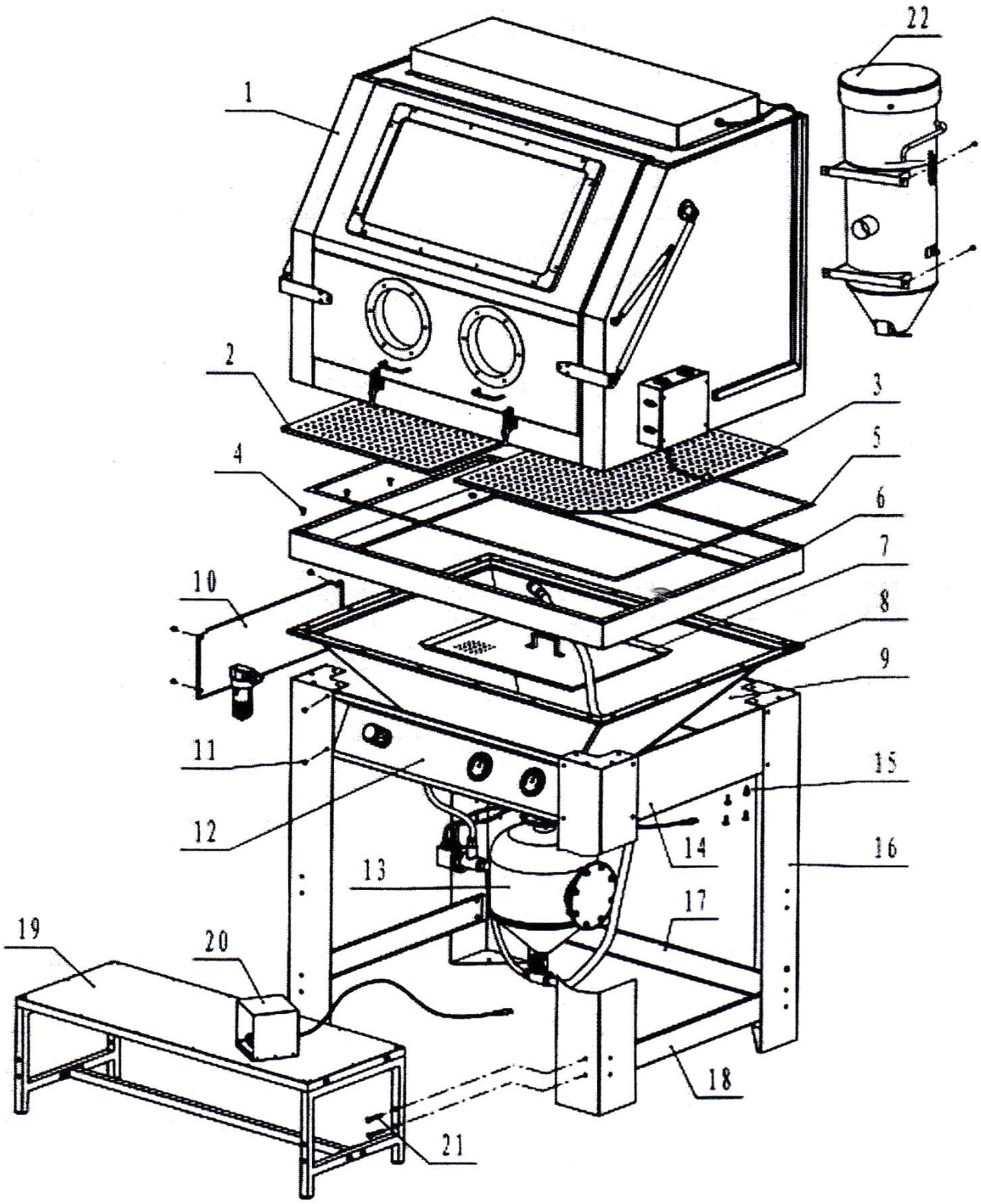
Maintenance Instructions

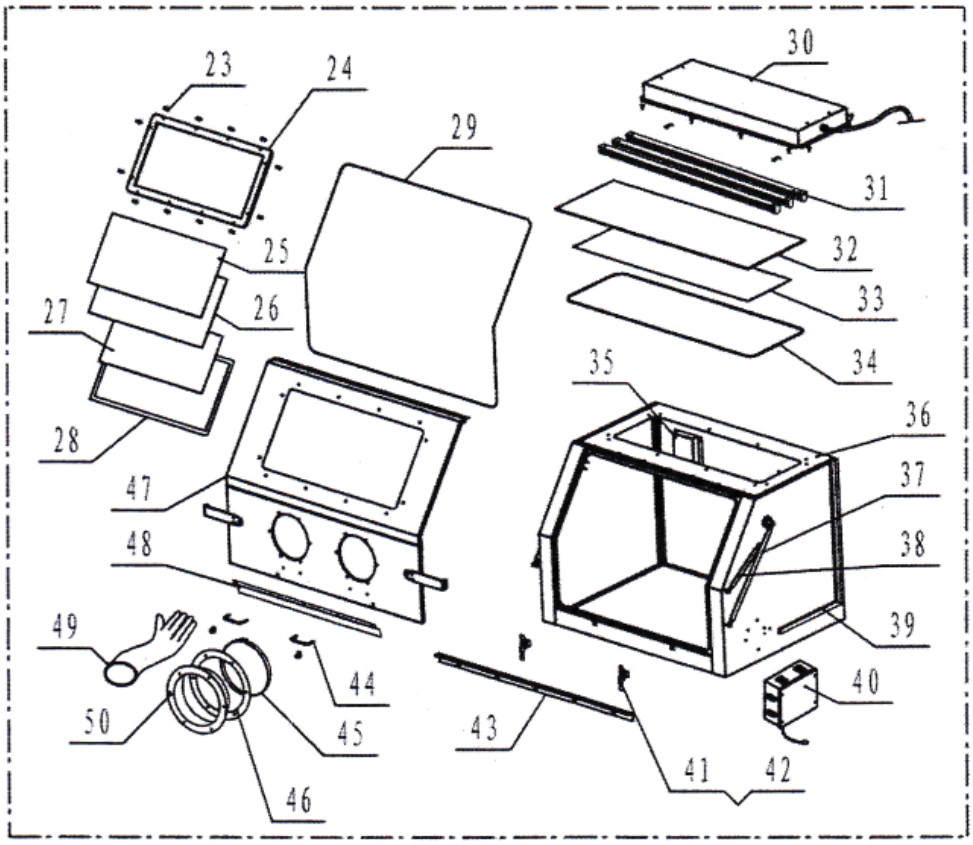
1. After 10-12 hours of blasting time, the nozzle should be checked. If it shows uneven wear it should be turned 1/4 turn every 10 hours of use.
2. Media caking is caused by moisture in the air supply of oily and greasy parts. If this is not corrected, the media will not flow evenly and will plug up in the metering valve and gun. Check air supply. If water is present, install a good moisture trap. If oily or greasy parts are being blasted, you should degrease and dry the parts first.
3. If media stops flowing occasionally, place thumb over nozzle (hold tight) and push foot pedal down for a couple of seconds this will cause the stem to back blast through the gun and up the media hose. This will help loosen any clogs.
4. If the gun air pressure drops, set the air pressure to 80PSI on the air gauge at the regulator. Push the foot pedal while holding gun and see if the gauge pressure drops significantly. If the pressure drops, this indicates that there is a restriction in the supply line. This could be that the hose is too small, a reducer of quick coupler, a plugged filter, or other piping that doesn't allow enough air through. Also if the cabinet is too far from the compressor, a pressure drop will occur. Air supply line should be 1/2 or larger.
5. For poor visibility/excessive dust:
    a. An air inlet at front left above regular should be free to allow air into the cabinet.
    b. Empty the dust container when it is full via the latch at the bottom of the dust collector, or remove the black cover on the vacuum.
    c. Remember to clean or replace filter in dust collector.
    d. Eventually the media becomes so small that it is essentially dust. Replace media and clean the dust collector.
6. Viewing windows come with a clear plastic protector on them. As these become pitted they can be easily replaced to extend the life of the window. The window can also be easily replaced.
7. For poor media flow:
    a. Check for moisture as indicated above. Install moisture trap as needed, replacing damp media and clean hoses.
    b. Holes in media hose will cause poor media delivery. Replace hose.
    c. Replace or screen media.

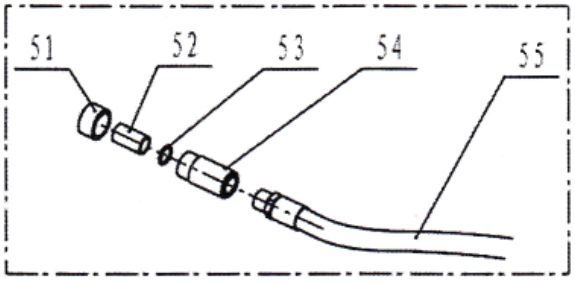
Troubleshooting

Symptom	Possible Cause	Possible Solution
Intermittent, clogging, or no media spray at the blast gun	No more media in the pressure tank	1. Release foot pedal to let media flow back from funnel to pressure tank
	Suction tube has been clogged from a contaminant	1. Close air source, open the nozzle of the blast gun for check, and take contaminant out if it has. The same as the intake-tube at the bottom of the pressure tank 2. Make sure that the media is not worn-out, saturated with debris, or contaminated with moisture causing it to cake inside of the lines. Screen or replace media as required
	Too much or too less media	1. Rotating valve under the pressure tank. If too much, rotate clockwise; otherwise, counter-clockwise 2. If nozzle has eroded, replace with a new nozzle
Mushroom head air-leaking	Rubber seal or mushroom head abrasion too much	1. Open maintenance cover to change rubber seal or mushroom head inside.
Mushroom head cannot move up and down	Load too much media	1. Discharge a part of abrasive from the tank 2. Using a small iron bar, knock mushroom head to let it down

Parts List





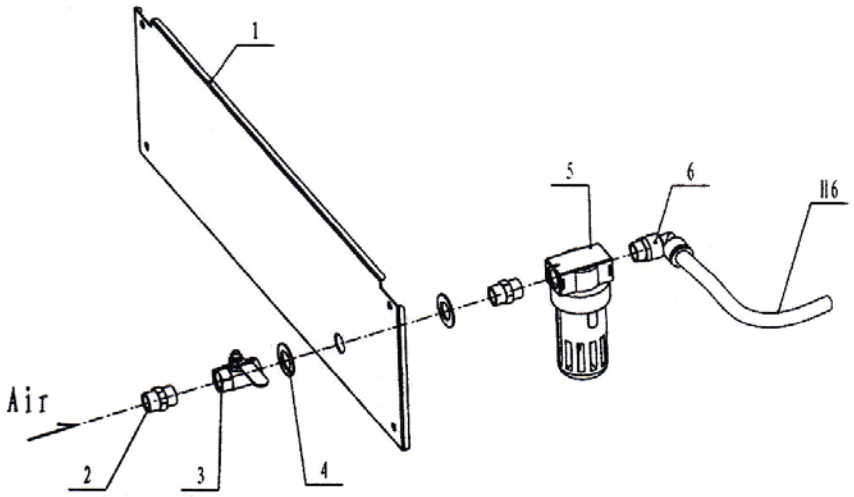


Part Num	Part Name	Quantity
1	Cabinet Assembly	1
2	Left Grid	1
3	Right Grid	1
4	Screw M6x16 (matched with 6mm*16 washers)	22
5	Foam Pad	1
6	Bracket	1
7	Leak-proof Grid	1
8	Funnel	1
9	Rear Bar	1
10	Left Bar	1

Part Num	Part Name	Quantity
11	Screw M6*12	16
12	Control Panel	1
13	Tank Assembly	1
14	Right Bar	1
15	Screw M8*20	28
16	Leg	4
17	Leg Reinforcement 1	1
18	Leg Reinforcement 2	2
19	Operation Bench	1
20	Foot Pedal	1
21	Screw M8*45	4
22	Dust Collector	1
23	Screw M6*32	12
24	Window Frame	1
25	Plastic Top	1
26	Glass	1
27	PE Film	1
28	Foam Pad of Viewing Window	1
29	Rubber Seal	1
30	Lamp Housing	1
31	LED Light	3
32	Glass of Light Window	1
33	PE Film of Light Window	1
34	Rubber Seal of Light Window	1
35	Rear Bar for Sand Blocking	2
36	Cabinet	1
37	Main Support Pole	2
38	Air Spring Support Rod	2
39	Plastic Slot Board of Wire	1
40	Switch Box	1
41	Front Door Latch	2
42	Latch Seat	2
43	Latch Board	1
44	Handle	2
45	Hoop Component	2

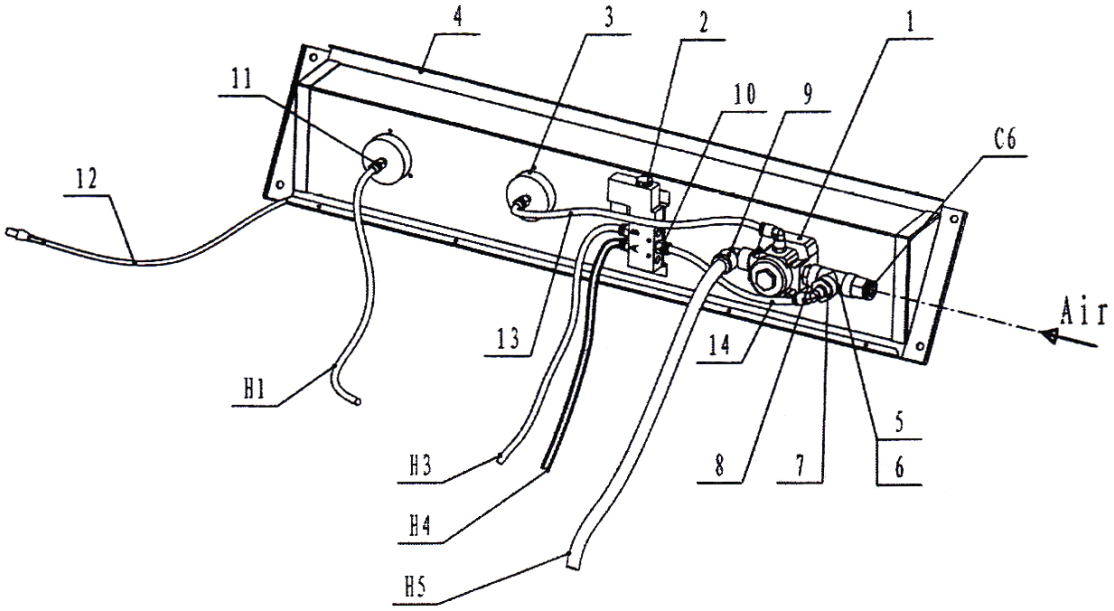
Part Num	Part Name	Quantity
46	Seal Ring of Glove	2
47	Front Door	1
48	Front Bar for Sand Blocking	1
49	Glove	1
50	Glove Seat	2
51	Nozzle Nut	1
52	Nozzle	1
53	O-Ring	1
54	Gun Body	1
55	Sand Hose	1

Tank Base



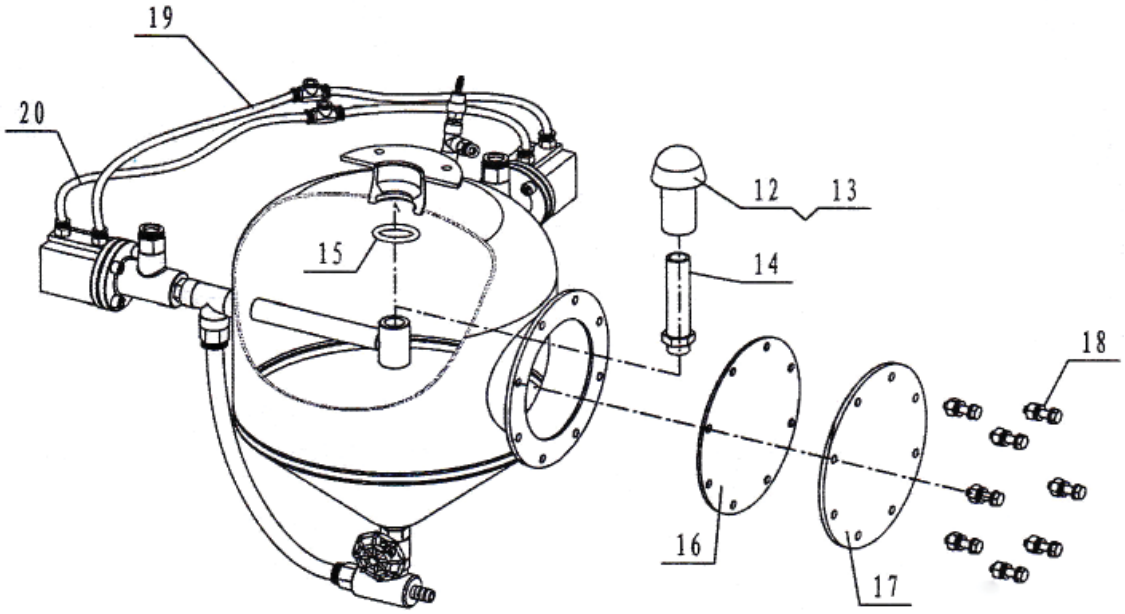
Exploded View Of Left Bar

Part Num	Part Name	Quantity
1	Left Bar	1
2	Straight Coupling	2
3	Ball Valve	1
4	Washer	2
5	Steam-water separator	1
6	Right-angle Quick Coupling	1
H6	16mm Air Hose	1



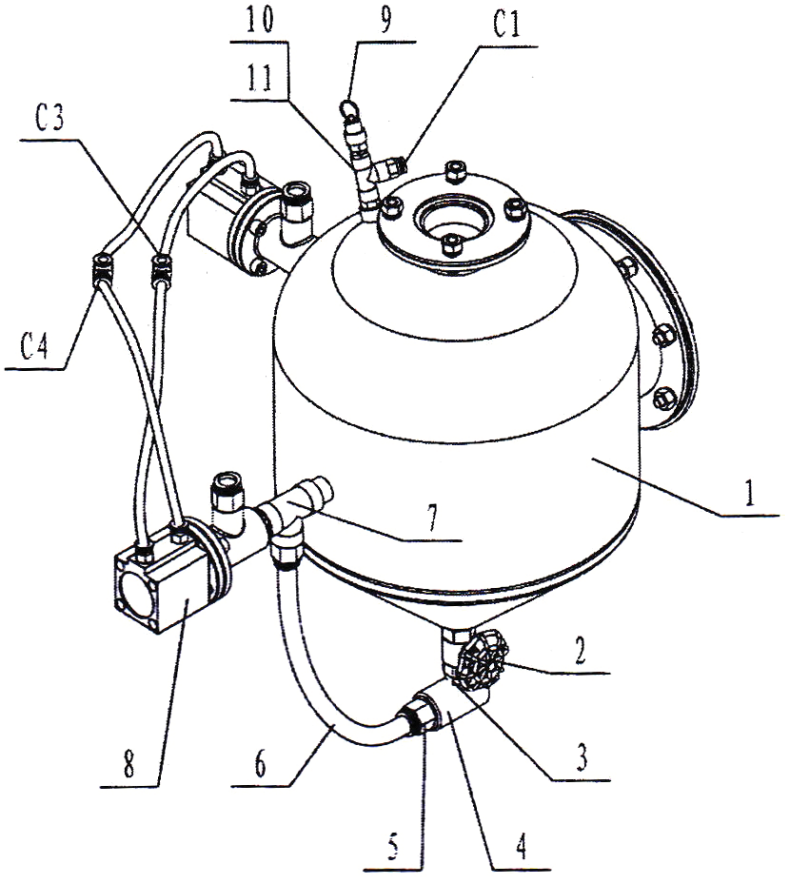
Exploded View of Control Panel

Part Num	Part Name	Quantity
1	Pressure Regulating Valve	1
2	Electromagnetic Valve	1
3	Pressure Gauge	2
4	Control Panel	1
5	T-Joint	1
6	G 1/2” Straight Coupling	1
7	G 1/2” - G 1/4” Bushing	1
8	G 1/4” - 8 Straight Coupling	2
9	G 1/2” - 16 Straight Coupling	1
10	G 1/4” - 8 Straight Coupling	3
11	M10*11 - 8 Pressure Gauge Coupling	2
12	Electromagnetic Valve Wire	1
13	8mm Air Pipe	1
14	8mm Electromagnetic Valve Air Pipe	1
H1	8mm Air Hose	1
H3	8mm Air Hose	1
H4	8mm Air Hose	1
H5	8mm Air Hose	1
C6	G 1/2” - 16 Straight Coupling	1



Exploded View of Tank Assembly

Part Num	Part Name	Quantity
12	Mushroom Head Fixed-tube	1
13	Mushroom Head	1
14	Inlet Welding Assembly	1
15	O-type Ring	1
16	Service Port Gasket	1
17	Service Port Cover	1
18	Screw M8*30	8
19	8mm Air Hose	2
20	8mm Air Hose	2



Exploded View of Tank Assembly

Part Num	Part Name	Quantity
1	Tank	1
2	Sand Flow Valve	1
3	G 1/2” Straight Coupling	1
4	Sand T-Joint	1
5	G 1/2” - 16 Straight Coupling	4
6	16mm* 12mm Air Hose	1
7	G 1/2” T-Joint	1
8	Cylinder Block	2
9	Safety Valve	1
10	G 1/4” T-Joint	1
11	G 1/4” Straight Coupling	1
C1	Straight Coupling	1
C3	T-Joint	1
C4	T-Joint	1