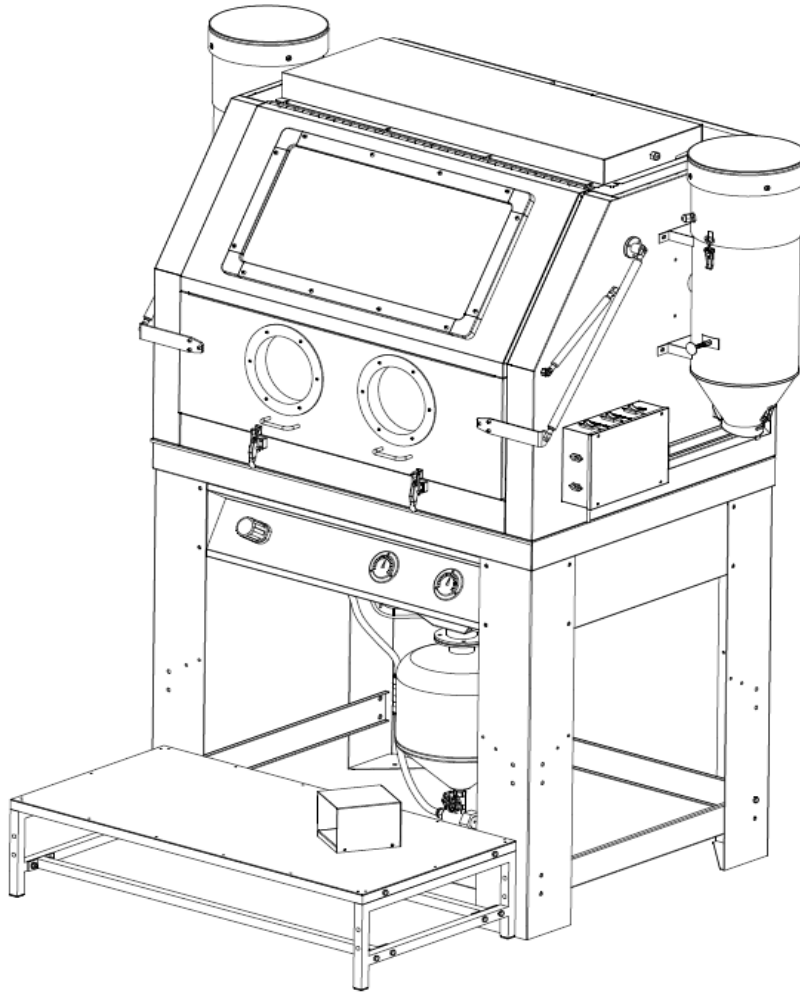


Operating Instructions and Parts Manual

Please read and save these instructions. Read through this owner's manual carefully before using product. Protect yourself and others 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.

High Pressure Abrasive Blast Cabinet 42000



John M. Ellsworth Co., Inc.

P.O. Box 240072
8700 West Bradley Road
Milwaukee, WI 53224

800-333-3331 PHONE

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High Pressure Abrasive Blast Cabinet

Description

- ✧ A Perfectly combined traditional abrasive blast cabinet with pressure blaster tank
- ✧ Provides deeper penetration of abrasive and higher strip rates
- ✧ Large front opening and work space, accommodates various kinds of work pieces
- ✧ Foot pedal valve control allows flexible operation and reduces hand fatigue
- ✧ Large viewing window, L.E.D. lighting and two dust collector provide greater visibility

Specifications and Dimensions

Nozzle Size: 4MM

Nozzle Material: Boron carbide

Maximum Air pressure: 110PSI

CFM: 25 @ 80 PSI with 4MM nozzle

Overall Dimensions: 70"W x 79.5"H x 57.8"D (95"H with door open)

Working Pressure: 60~110PSI

Abrasive hose: 1"OD – 1/2" ID

Abrasive grit size: 40-120 with 4MM nozzle

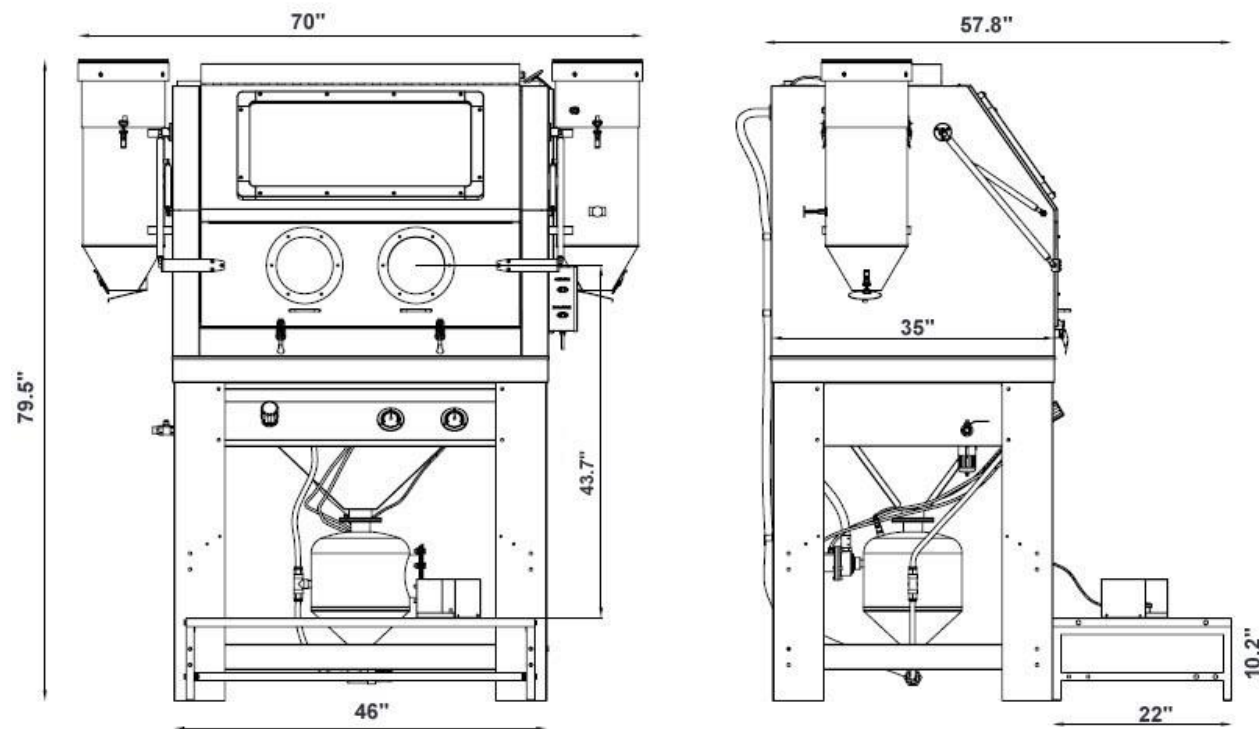
Tank Capacity: 5.4 Gallon

Tank Dimensions: 12.1" x 14.5"

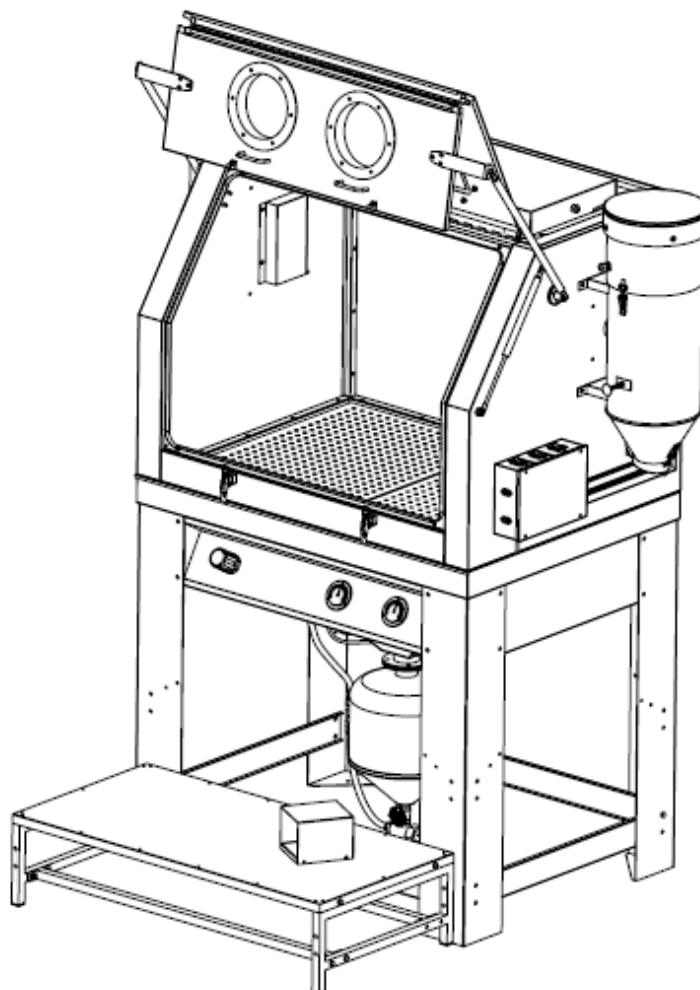
Motor Rating: 110~120V, 60 Hz, 1100W (Each SINGLE MOTOR)

Work Light: LED light 3 Bulbs, 20W EACH

Air supply: 1/2" ID air line minimum



High Pressure Abrasive Blast Cabinet



General Safety Information

Any blast cabinet will produce a powerful flow of abrasive particles. To 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 nozzle 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.*

High Pressure Abrasive Blast Cabinet

⚠ DANGER *Chemicals, including lead are contained in this product or its power cord. Wash hands after handling*



⚠ DANGER *Dust can be created when you sweep, blast, cut, abrasive, 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.*



⚠ DANGER *Fire or Explosion Hazard! DO NOT USE a abrasive 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 surfaces. Abrasives similar to aluminum oxide may generate static electric sparks which will cause fires or explosions in an unsafe environment.*



⚠ DANGER *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 nozzle retainer will safely remove the static electricity.*



Operation Method

Connect air and power supply, open operation door, load abrasive, place work piece on grate, lock the door, turn dust collectors on then the air intake valve, adjust working pressure and step on the foot pedal to start.

Operating Principle

Depressing the foot pedal allows air flow to the pressure tank, closing the sealing head and allowing abrasive to flow through the hose. Opening the gate valve on the tank controls the flow of abrasive. Open gate valve slowly until desired abrasive flow is obtained. Note: opening the gate valve too much will cause pulsing and can also cause the nozzle to clog. To depressurize the tank, close the air inlet valve and depress the foot pedal until pressure gauge reads zero pressure. When the foot pedal is in the rest position air flow to the sealing head is

shut off allowing the abrasive to recycle back into the tank.

Maintenance

NOTE: Disconnect power and air before the maintenance.

Cleaning: Please clean the machine or parts with a soft cloth. DO NOT use solvents to clean.

Operation Notice

1. Before operation, check the sealing of the valve, connecting fitting and hoses and replace when necessary to ensure safe and reliable performance.
2. Abrasive should be filtered through a screen to prevent debris from getting into the tank, gate valve or nozzle.
3. Do not add too much abrasive. Adding too much abrasive may cause the sealing head not to seal properly.
4. If abrasive stops flowing, disengage from foot pedal to allow abrasive to flow back into the pressure pot.
5. Use good quality, dry abrasives that are designed to be recycled. Keep abrasives dry. Moisture will cause clogging and flow problems. Replace abrasive when abrasive breaks down. Worn abrasive will cause decreased strip rates. **DO NOT USE SAND!**
6. To change abrasive, place nozzle end of the hose in a woven bag and depress the foot pedal until all abrasive is removed from the unit.
7. Discharge water separator as needed. Minimum 1-2 times daily.
8. Clean dust collector filters as needed. Under certain dusty conditions the filters may need to be cleaned multiple times during a 6 hour cycle. Failure to clean will cause dust collector motors to overheat and this condition is not covered under warranty.
9. Do periodical inspection for the sealing head for any possible damage, aging, deformation; sealing leaking will affect abrasive blast pressure and results to air loss.
10. When you finish, clean all abrasive out in order to prevent breakdown for next operation. Store abrasives in a dry location.
11. **Avoiding clog:** Keep media dry! **Nozzle size needs to be 3-4 times larger than the size of the abrasive being used.**

High Pressure Abrasive Blast Cabinet

SILICOSIS AND OTHER DUST WARNINGS:

DO NOT USE SAND!

Breathing dust from silica sand may cause silicosis, a fatal lung disease.

Breathing dust during blasting operations may also cause asbestosis and/or other serious or fatal diseases.

A NIOSH-approved, well maintained abrasive blasting respirator must be used by anyone blasting, anyone handling or using media containing toxic substances or media with free crystalline silica and anyone in the area of the dust. Harmful dust can remain suspended in the air for long periods of time after blasting has ceased, causing serious injury or death.

Before removing respirator, use an air monitoring instrument to determine if atmosphere is safe to breathe. Contact local OSHA or NIOSH office to determine the proper respirator for your particular application.

Air supplied respirators do not remove or protect against carbon monoxide (CO) or any other toxic gas. Use a carbon monoxide removal device and monitoring device with the respirator to ensure grade D quality air. Follow all applicable OSHA standards and OSHA regulation 1910.134 (d).

CABINET BLASTER SAFETY PROCEDURES

CAUTION: READ THESE SAFETY PROCEDURES IN THEIR ENTIRETY -

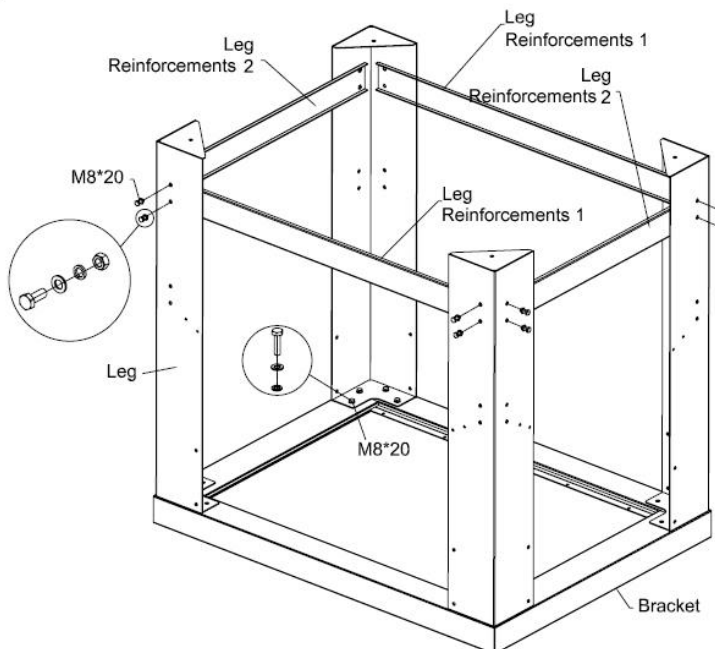
PARTS OF THE OPERATING INSTRUCTIONS ARE WITHIN THESE WARNINGS.

These procedures are not intended to be exhaustive due to the many variables in the abrasive blasting field. Therefore, we INSIST that the hands, ears, mouth, nose and eyes be covered with appropriate safety protection at all times.

High Pressure Abrasive Blast Cabinet

Assembly

1

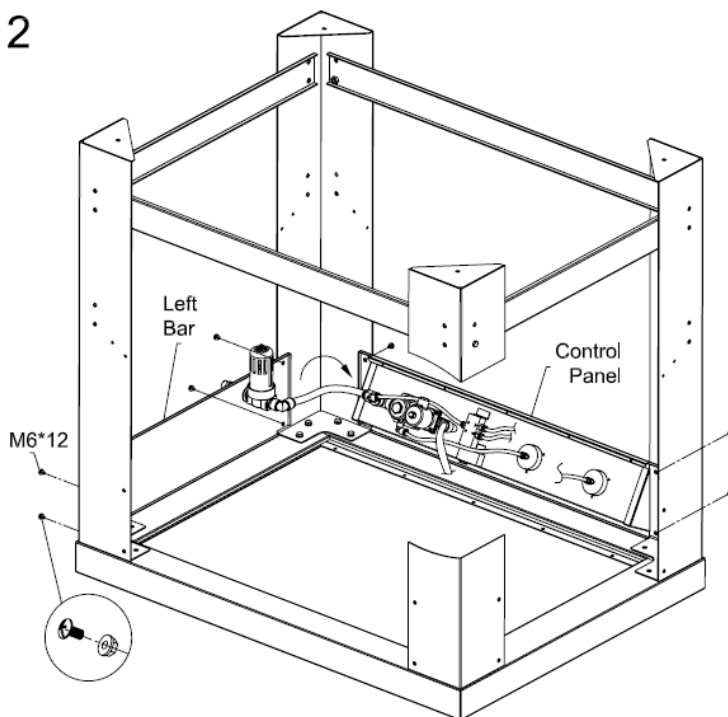


1. Fasten the four legs and the Leg Reinforcements to the Bracket by using M8*20mm bolt, Flat Washer, lock Washer and M8 Nut, tighten.

Hardware

M8x20mm Bolt	32	
M8 Nut	16	
8 Flat Washer	48	
8 Lock Washer	32	

2



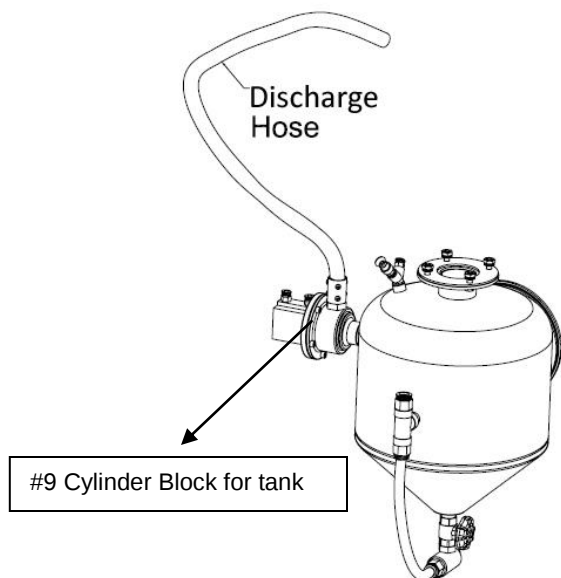
2. Assemble the Left Bar, Right Bar, Control Panel and Rear Bar by using M6*12mm bolt, Flat Washer, and M6 Nut in sequence.

Hardware

M6x12mm Bolt	8	
M6 Nut	8	

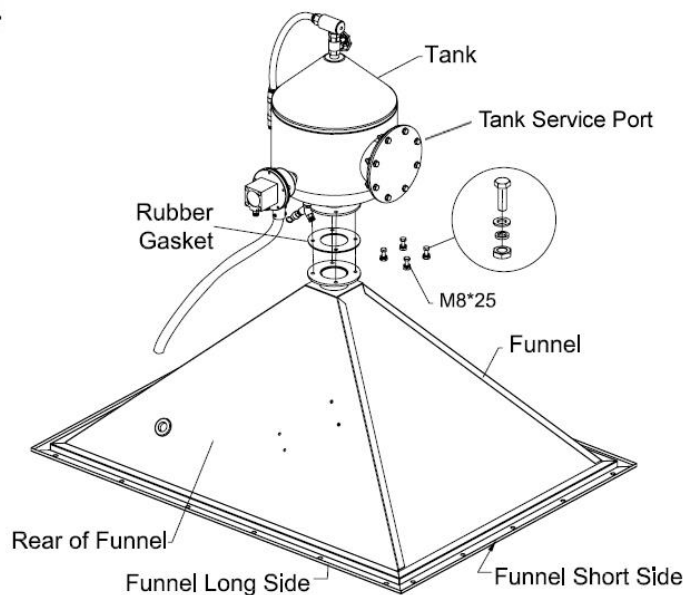
High Pressure Abrasive Blast Cabinet

3



3: Assemble discharge hose with #9 Cylinder Block for tank

4



3. Place the funnel as shown in the diagram. **Attach the tank assembly (including bolt, flat washer, lock washer, nut) and rubber seal** onto the funnel.

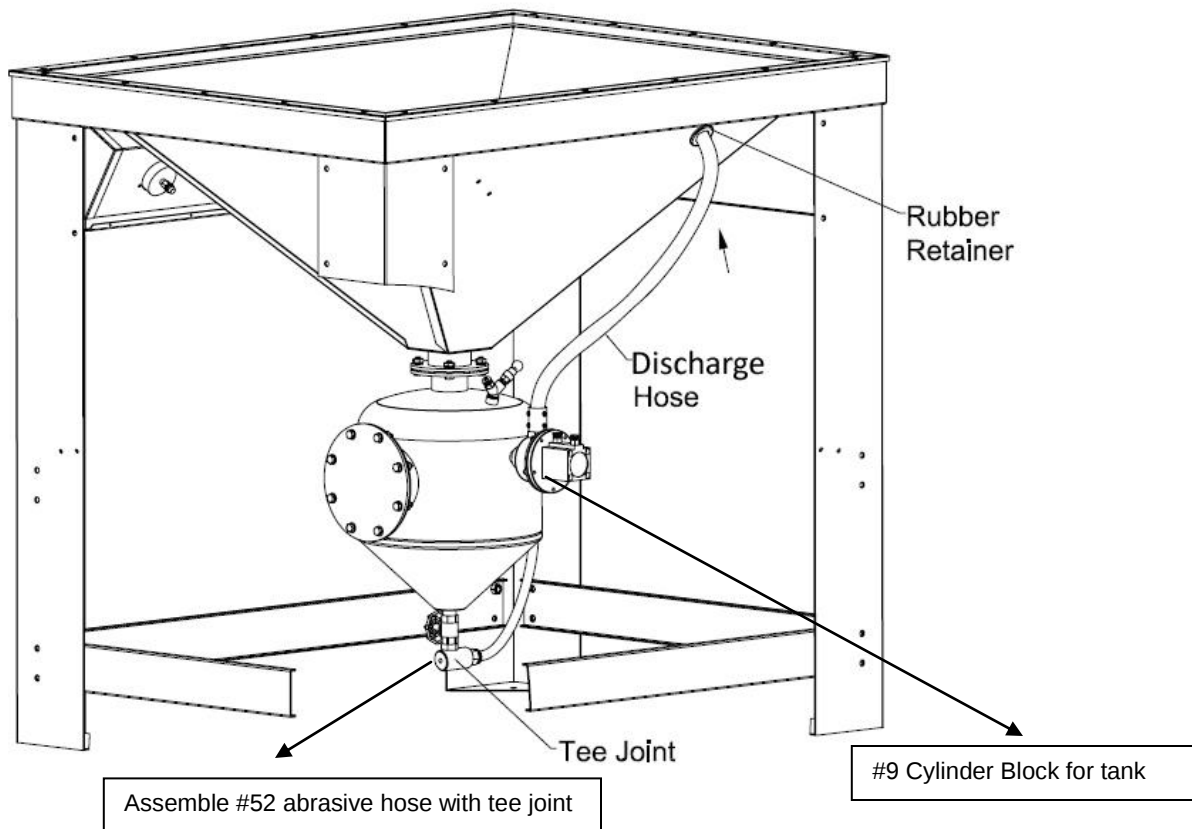
Note: Locate tank service port with right side funnel on same direction.

Hardware

M8x25mm Bolt	4	
M8 Nut	4	
8 Flat Washer	4	
8 Lock Washer	4	
Rubber Gasket	1	

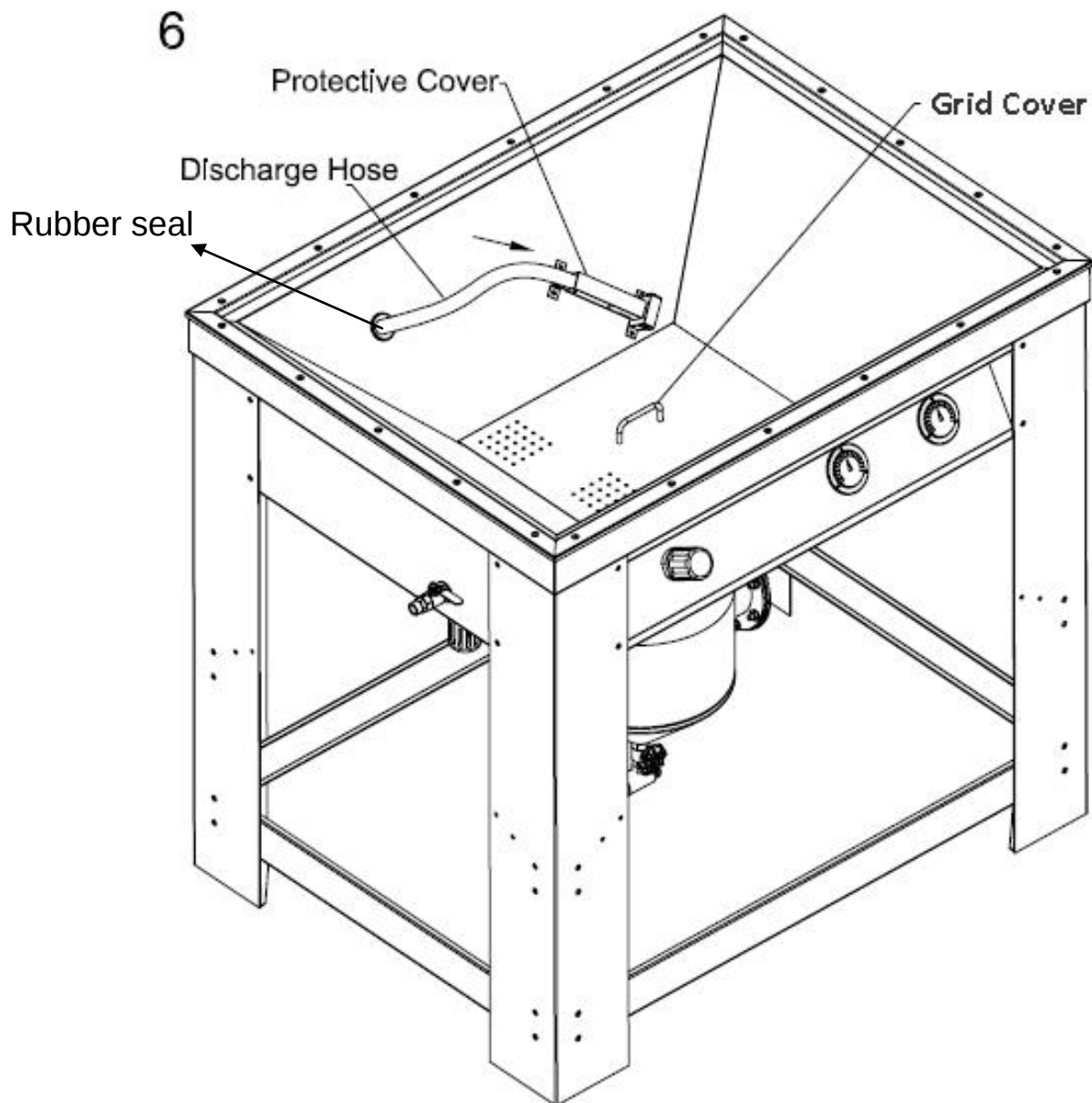
High Pressure Abrasive Blast Cabinet

5



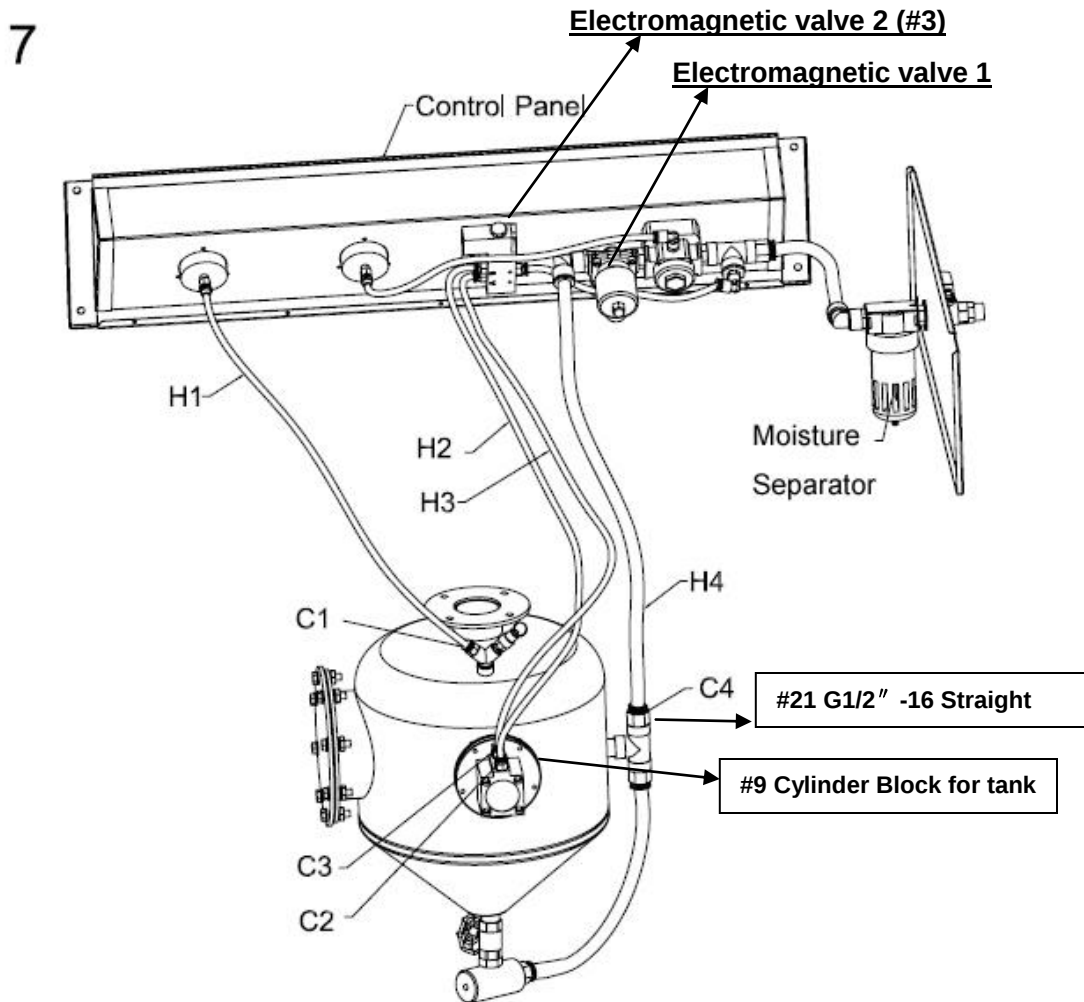
Stand the lower assembly upright as shown, locate #9 Cylinder Block for tank in the rear, and then assemble #52 abrasive hose with tee joint and install the discharge hose through the rubber retainer as shown.

High Pressure Abrasive Blast Cabinet

6

Place #6 grid cover, insert discharge hose into the protective cover.

High Pressure Abrasive Blast Cabinet

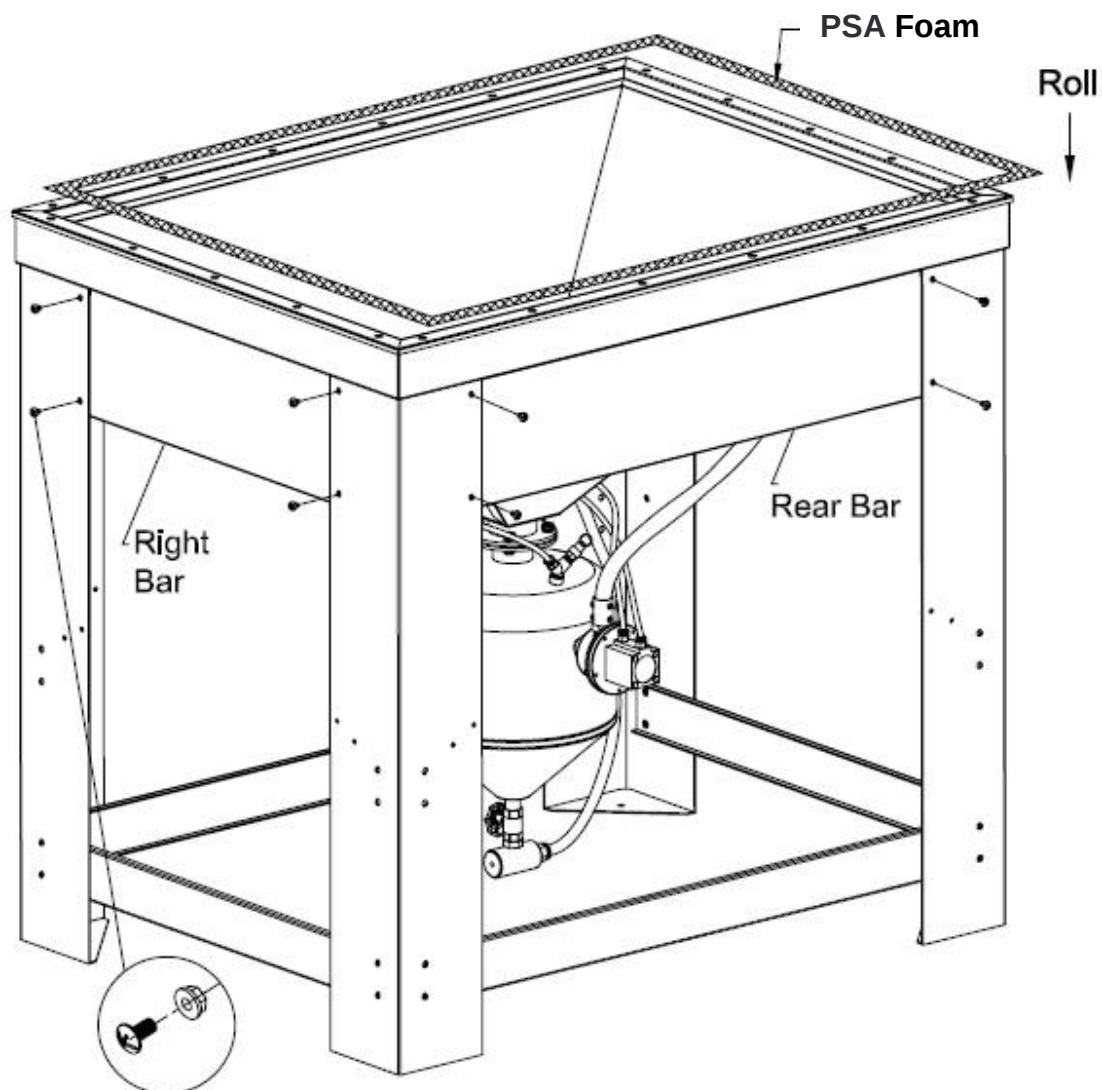


1: There are two 8mm hoses (color orange and blue) from **Electromagnetic valve 2 (#3)** on control panel, connect with the two adaptors for **#9 Cylinder Block for tank**, as shown in diagram H2-C2; H3-C3

2: There is a orange hose (16mm) from **Electromagnetic valve 1(#2)** on control panel, connect with **#21 G1/2"-16 Straight** for tank, like the picture H4-C4 Note: The hose must be securely inserted in to the fitting. To release hose push plastic ring inward. Failure to connect hoses to the proper fittings will cause the blaster to not to operate properly.

High Pressure Abrasive Blast Cabinet

8



HARDWARE

M6x12mm Bolt 8 

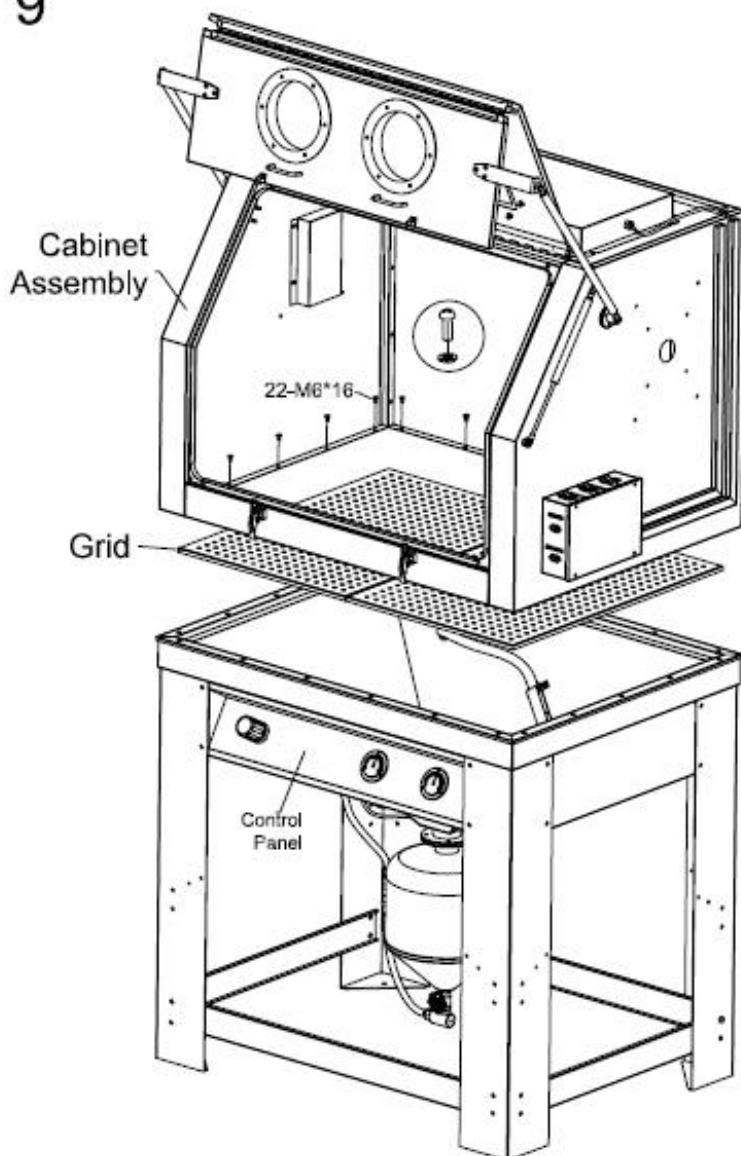
M6 Nut 8 

PSA Foam Roll 

Assemble right bar and rear bar and legs with M6X12MM bolt and M6 nut, and then install the PSA foam to the funnel as shown.

High Pressure Abrasive Blast Cabinet

9



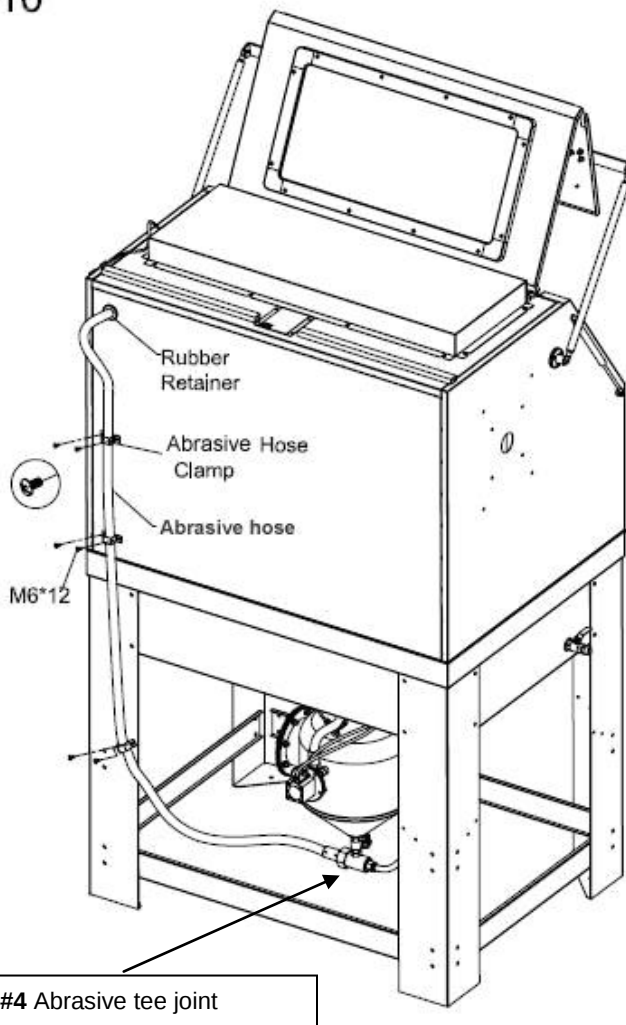
TIGHTEN BOLTS HARDWARE USED

M6x16mm Bolt	22	
6 Flat Washer	22	

Place the grid on the funnel, with assistance place cabinet assembly on the lower assembly, while lining up the holes, open the door, assemble cabinet assembly and funnel with M6X16MM bolts and 6 flat washers

High Pressure Abrasive Blast Cabinet

10



TIGHTEN BOLTS HARDWARE USED

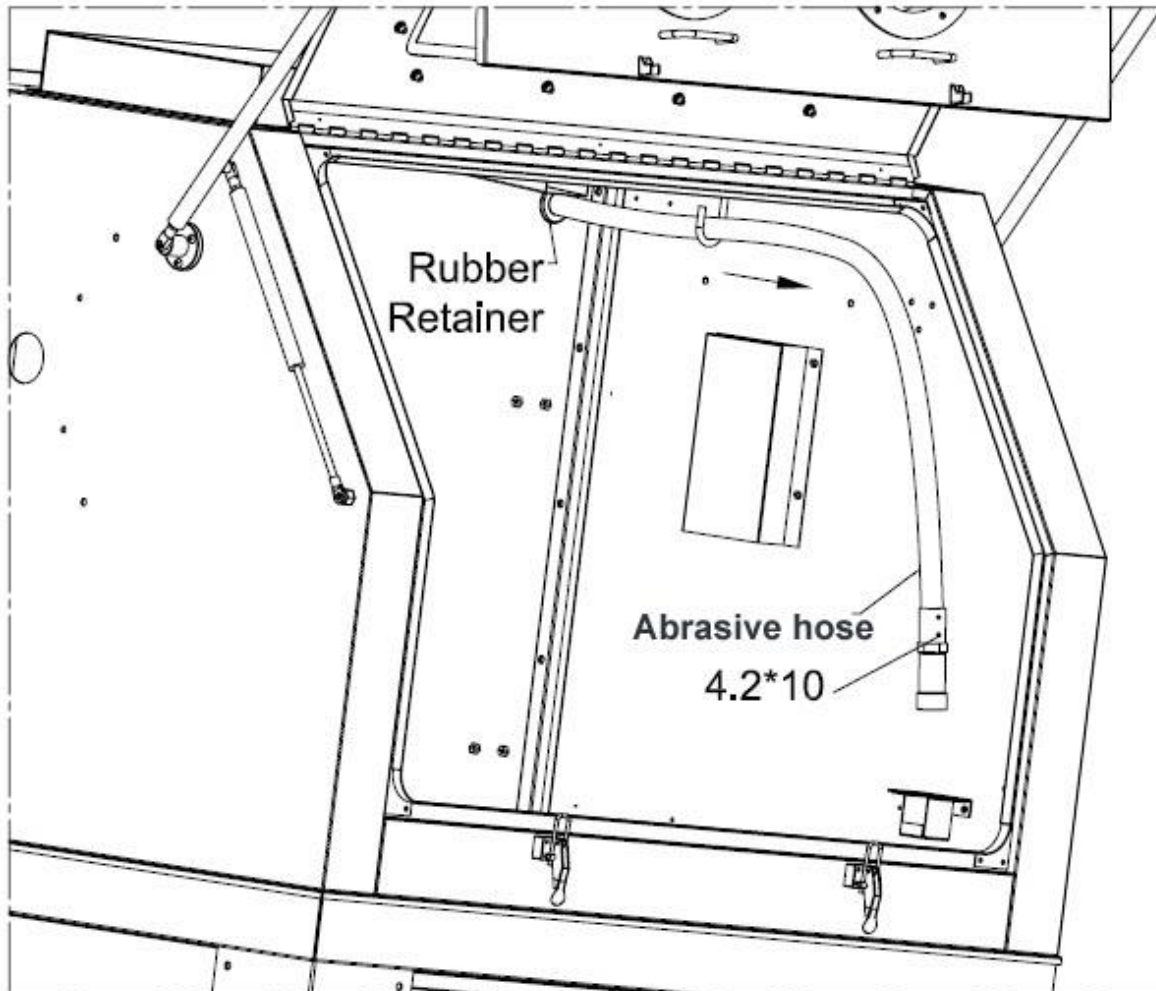
M6x12mm Bolt	6	
M6 Nut	2	

1: Open the door, Insert abrasive hose through rubber retainer , adjust the abrasive hose ,avoid sharp bends to help prevent excessive wearing of the abrasive hose , next secure the abrasive hose with hose clamp(use M6X12mm bolts and M6 nut)

2: Assemble abrasive hose and #4 abrasive tee joint, seal thread with Teflon tape.

High Pressure Abrasive Blast Cabinet

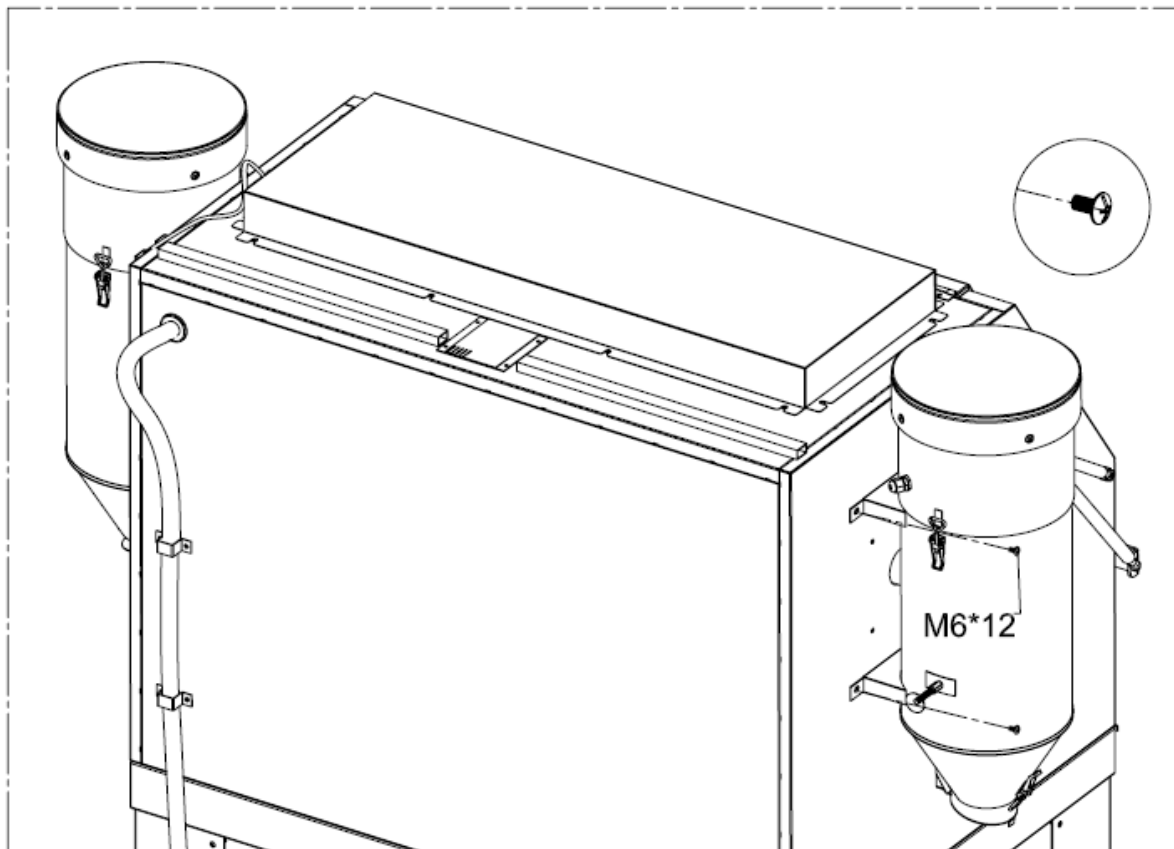
11



Install nozzle retainer to end of the abrasive hose, fasten the abrasive hose with 4.2 * 10MM self tapping screws

High Pressure Abrasive Blast Cabinet

12



TIGHTEN BOLTS

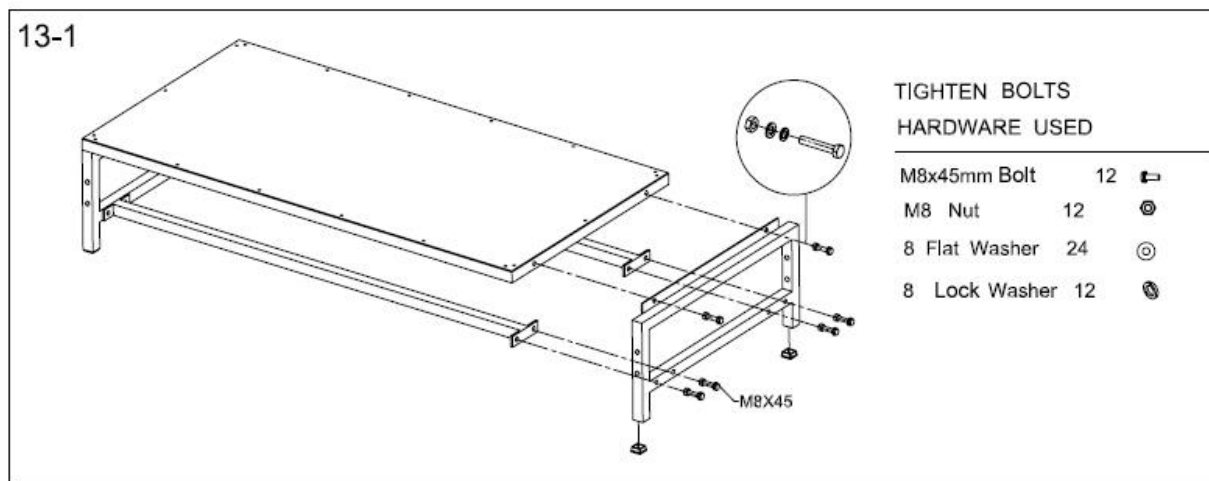
HARDWARE USED

M6x12mm Bolt	8	
M6 Nut	8	

Attach the two dust collectors #20 on both sides of the cabinet assembly #1 with M6*12 bolts (8PCS). Note: The longer electrical cord on left side dust collector allowing cord to reach power box.

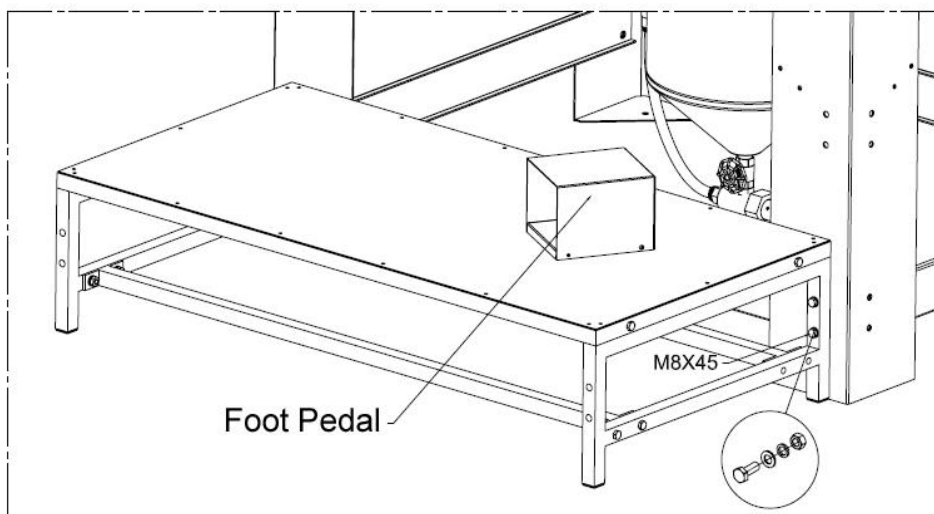
High Pressure Abrasive Blast Cabinet

Stand & Cabinet Base



13-1: Assemble stand with M8*45mm bolt ,M8 Nut ,8 flat washer, 8 lock washer, see above diagram

13-2



TIGHTEN BOLTS

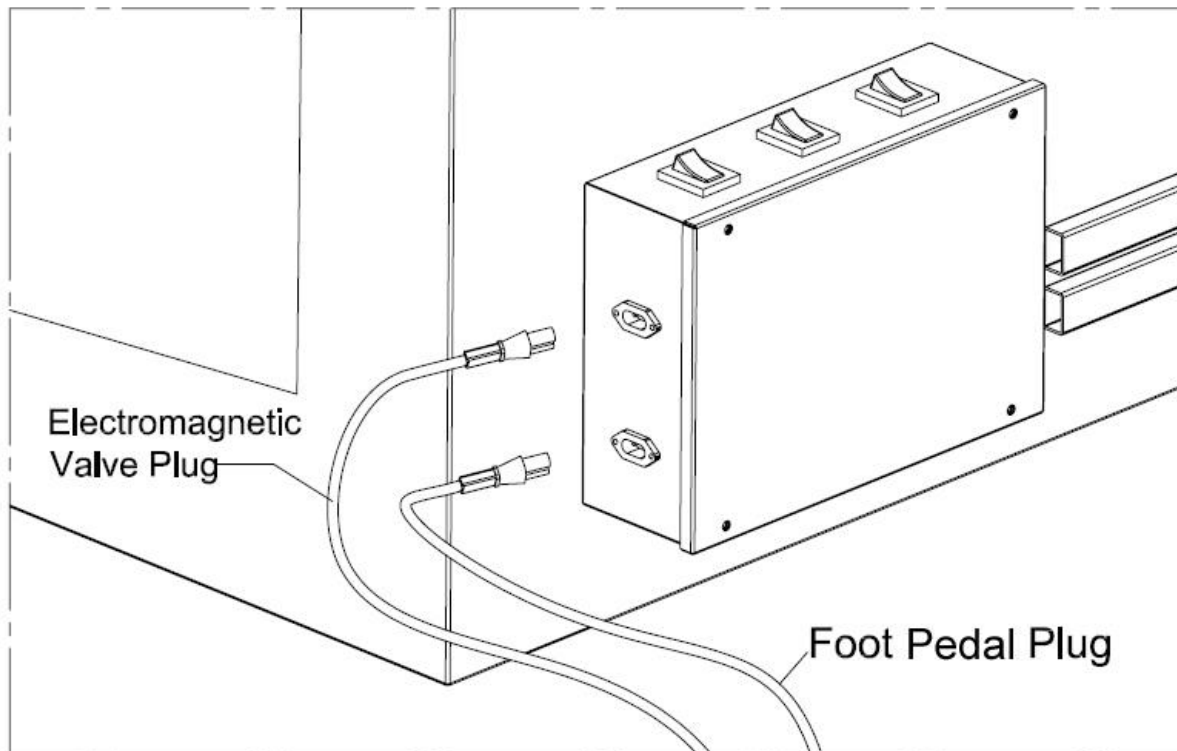
HARDWARE USED

M8x45mm Bolt	4	
M8 Nut	4	
8 Flat Washer	8	
8 Lock Washer	4	

13-2: Install stand to front legs of cabinet as shown in the diagram with M8*45mm bolt, M8 Nut ,8 flat washer,8 lock washer.

High Pressure Abrasive Blast Cabinet

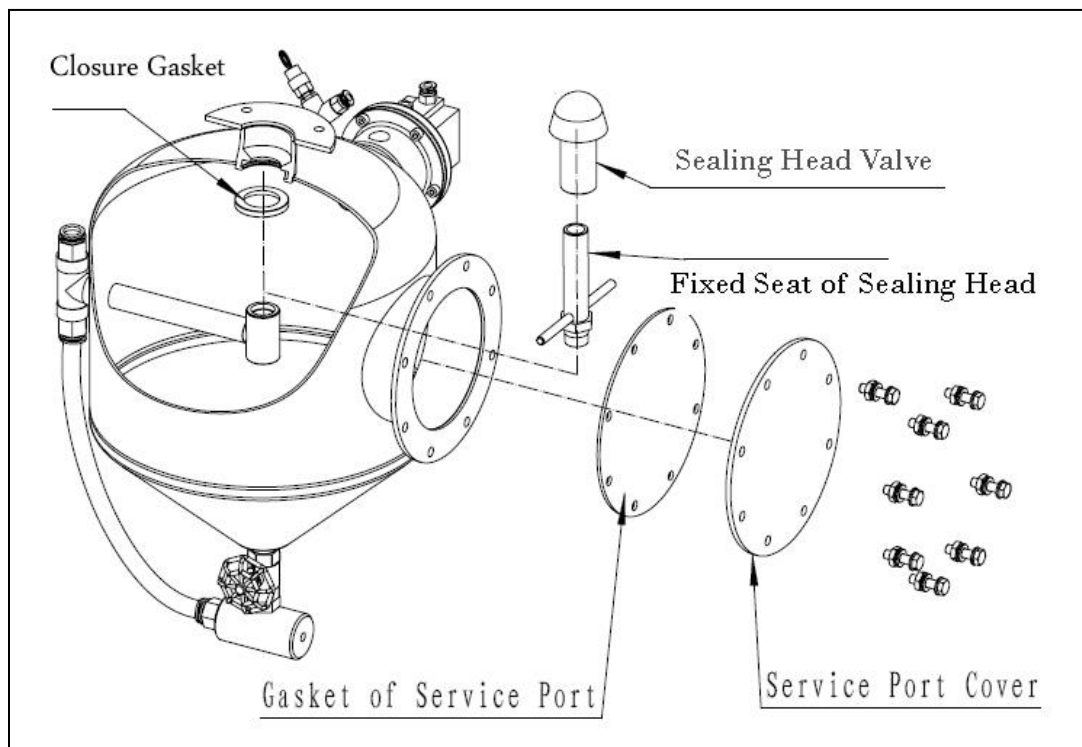
14



- 14. Plug the Electromagnetic Valve Plug and Foot Pedal Plug into the Power Supply. (Note the label on the power supply)**

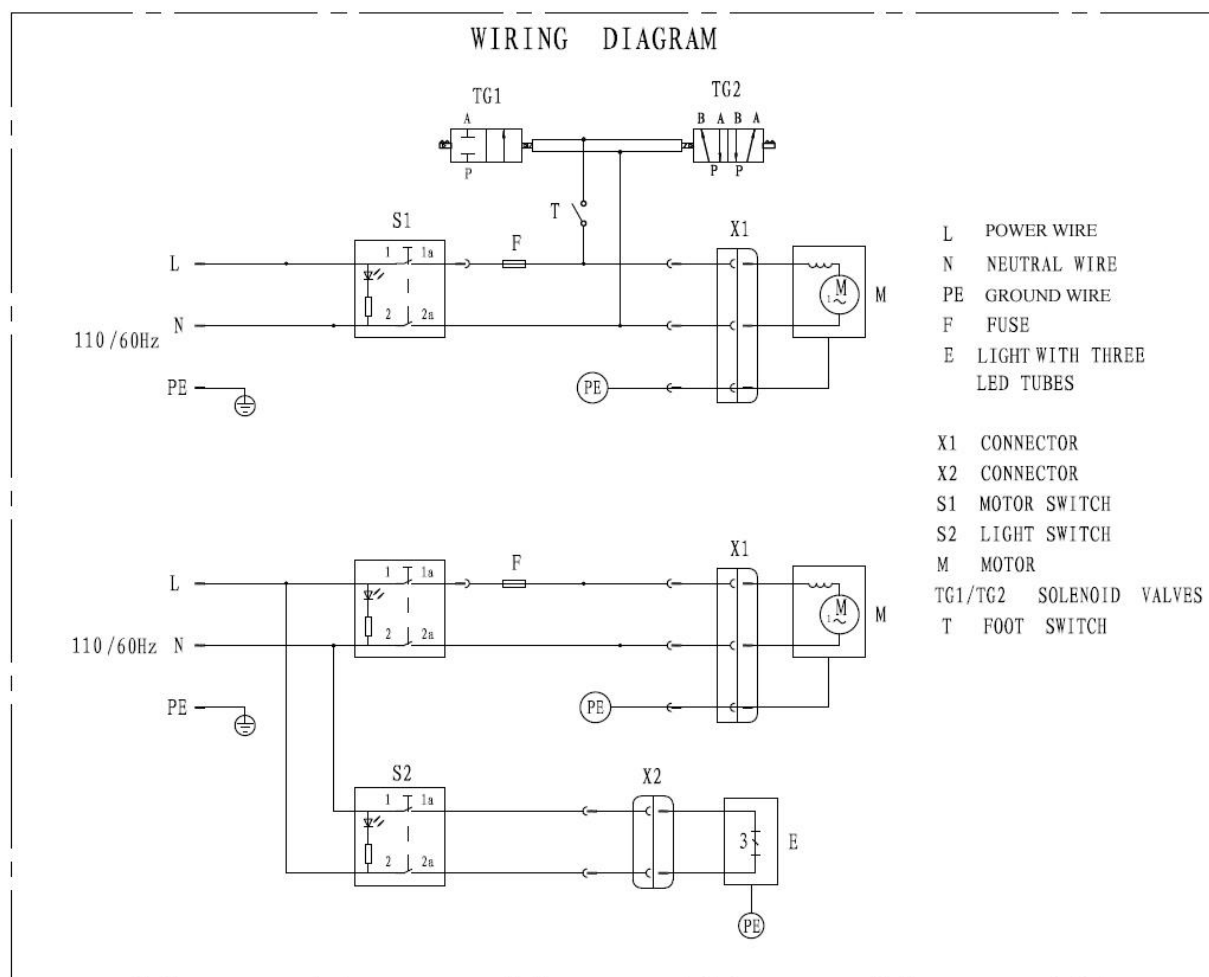
High Pressure Abrasive Blast Cabinet

Sealing Head Replacement Graphics:



High Pressure Abrasive Blast Cabinet

Wiring Diagram



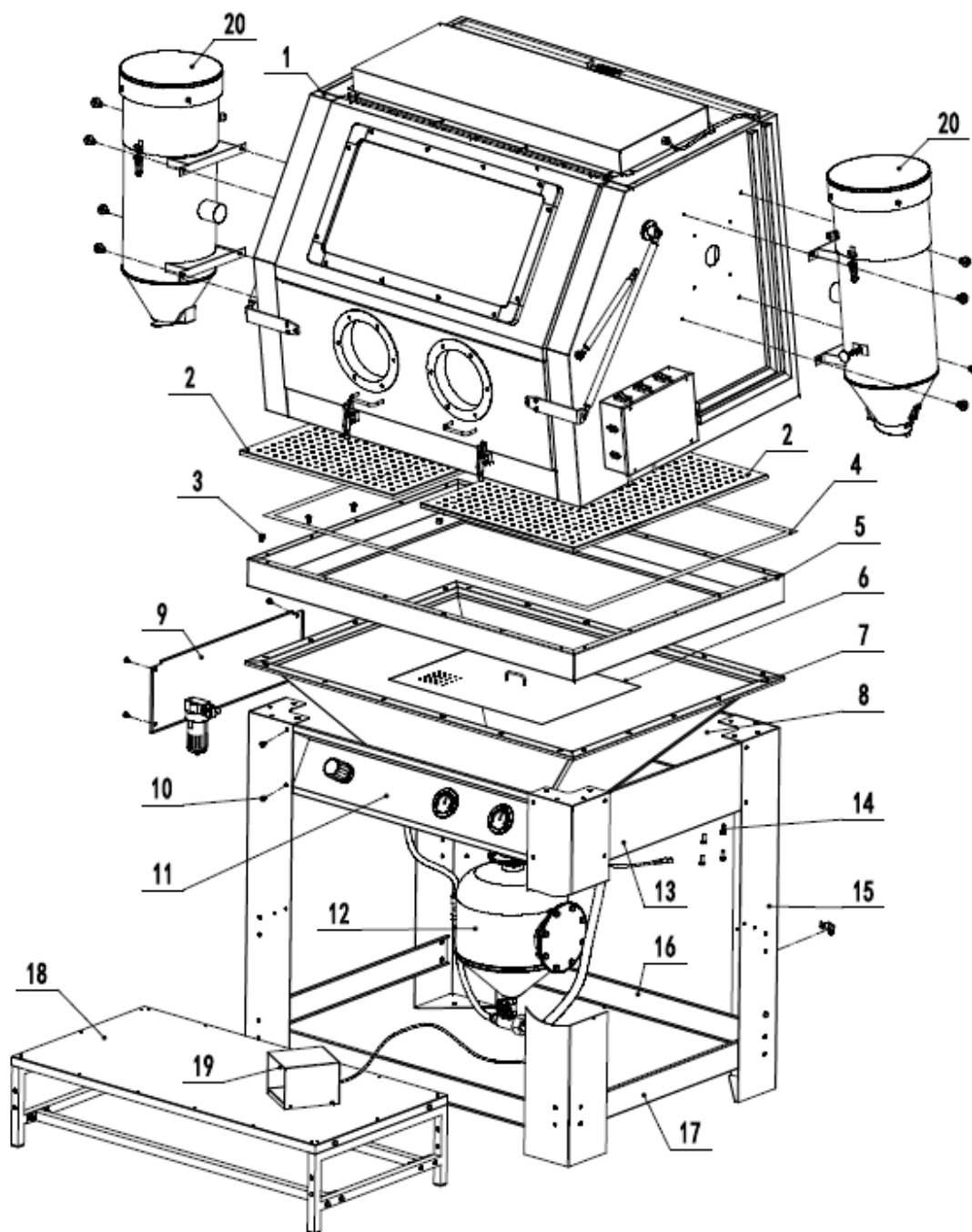
High Pressure Abrasive Blast Cabinet

Troubleshooting

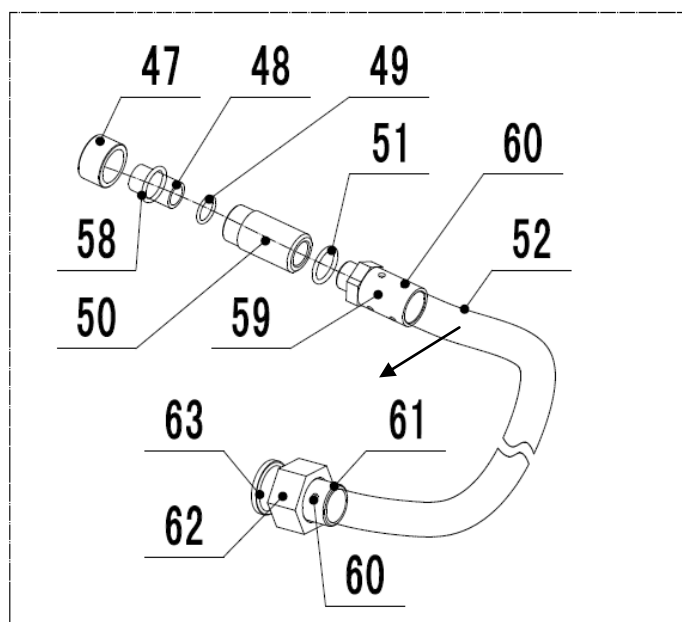
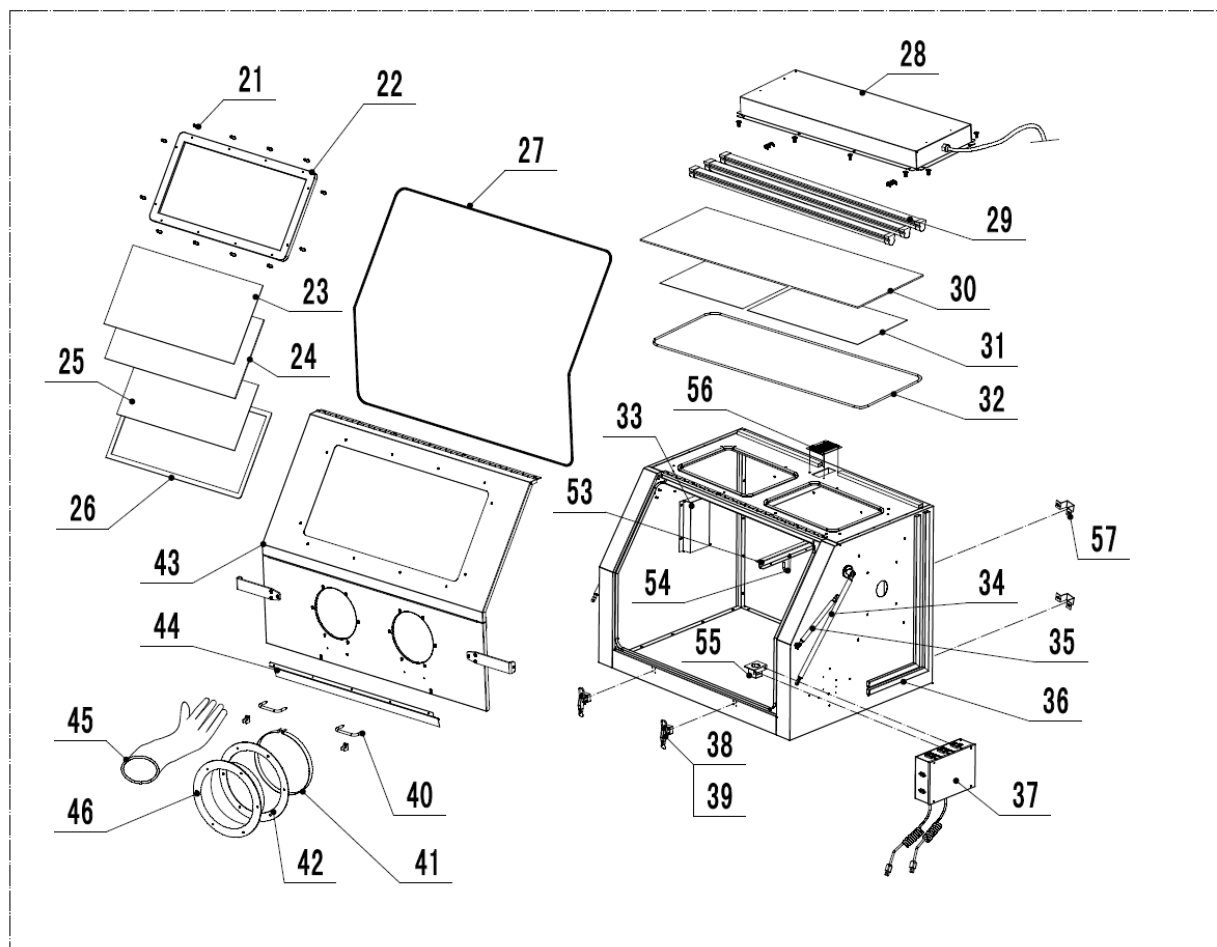
Symptom(s)	Possible Causes(s)	Possible Solution(s)
<i>Intermittent, clogging, or no media spray at the nozzle</i>	✓ No more media in the pressure tank.	1. Release foot pedal to let media flow back from funnel to pressure tank.
	✓ Nozzle has been clogged by a contaminant.	1. Close air source, remove the nozzle, and remove contaminant. Repeat the same procedure at the bottom of the pressure tank by removing the valve and fitting to clear contaminant. 2. Make sure that the media is not worn-out, saturated with debris, or contaminated with moisture causing it to cake. Screen or replace media as required.
	✓ Too much or too less media	1. Rotating the gate valve under the pressure tank. If too much media, rotate clockwise; otherwise, counterclockwise. 2. Check nozzle for wear, replace as needed.
<i>Sealing head air-leaking</i>	✓ Closure Gasket or sealing head worn out	1. Open maintenance cover to change closure gasket or sealing head inside.
<i>Sealing head cannot move up and down</i>	✓ Too much media	1. Discharge part of abrasive from the tank. 2. Tap on sealing head to release

High Pressure Abrasive Blast Cabinet

Parts



High Pressure Abrasive Blast Cabinet



High Pressure Abrasive Blast Cabinet

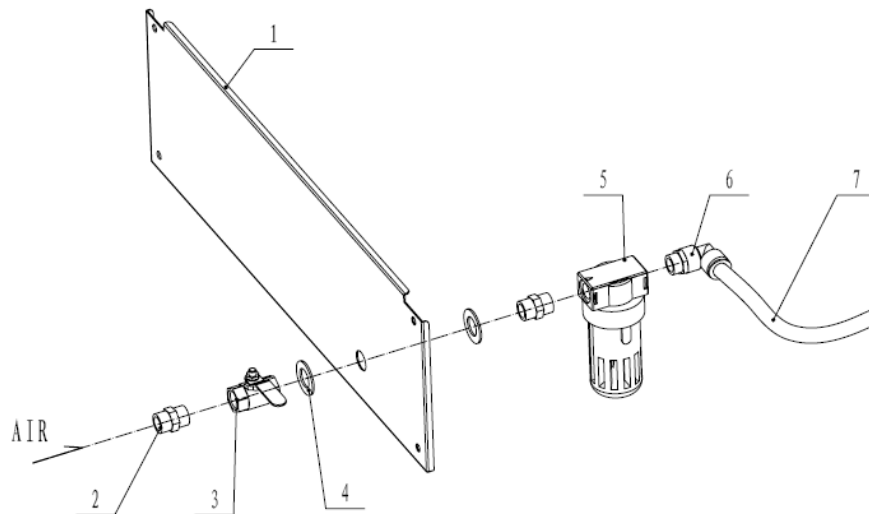
Item No.	Part No.	Description	Qty.
1		Cabinet Assembly	1
2		Grid	2
3		Bolt M6x16 (matched with $\phi 6 \times 16$ washers)	22
4	41825	PSA foam	1
5		Bracket	1
6		Cover grid	1
7		Funnel	1
8		Rear Bar	1
9		Left Bar	1
10		Bolt M6*12	24
11	42011	Control Panel	1
12	42012	Tank Assembly	1
13		Right Bar	1
14		Bolt M8*20	32
15	42015	Leg	4
16		Leg Reinforcements	2
17		Leg Reinforcements	2
18		Stand	1
19	42019	Foot Pedal	1
20	4150063	Dust Collector	2
21		Bolt M6*32	12
22	41821	Window Frame	1
23	41822	Window lens outer	1
24	41823	Window lens inner	1
25	41824 or 41915(5pk)	Window Underlay	1
26	41825	PSA foam of Viewing Window	1
27	41826	Rubber Door Seal	1
28	42028	Lamp Housing	1
29	42029	LED Light	3
30	42030	Light lens	1
31	42031	Light lens underlay	2
32	42032	Rubber seal of light lens	1
33		Cover plate	2
34	41834	Main Support Pole	2
35	41835	Air Spring Support Rod	2
36	42036	Plastic Slot	1
37	42037	Switch Box	1
38	41837	Front Door Latch	2
39	41838	Latch Seat	2

High Pressure Abrasive Blast Cabinet

40	41840	Handle	2
41	41514	Glove Clamp	2
42		Seal Ring of Glove	2
43		Front Door	1
44		Front Bar	1
45	4150015 or 40238	Glove 24"	1
46	4150020	Glove Seat	2
47	4150042	Nozzle Nut	1
48	4204804 – 4mm 4204805 – 5mm 4204806 – 6mm 4204807 – 7mm (5,6 and 7mm nozzles are optional)	Nozzle – Boron Carbide	1
49	4150048	O-Ring	1
50	42050	Nozzle retainer	1
51	4201215	O-Ring	1
52	40118	Abrasive hose	1
53		Hook fixed plate	1
54		Hook	1
55		Nozzle seat	1
56		Dust baffle	1
57		Pressure hose clamp	3
58	4150048	O-Ring	1
59	42059	Nozzle retainer adapter	1
60		4.2*12 screw	12
61	42061	Tee joint adapter	1
62	42062	Tee joint nut	1
63		O-Ring	1

High Pressure Abrasive Blast Cabinet

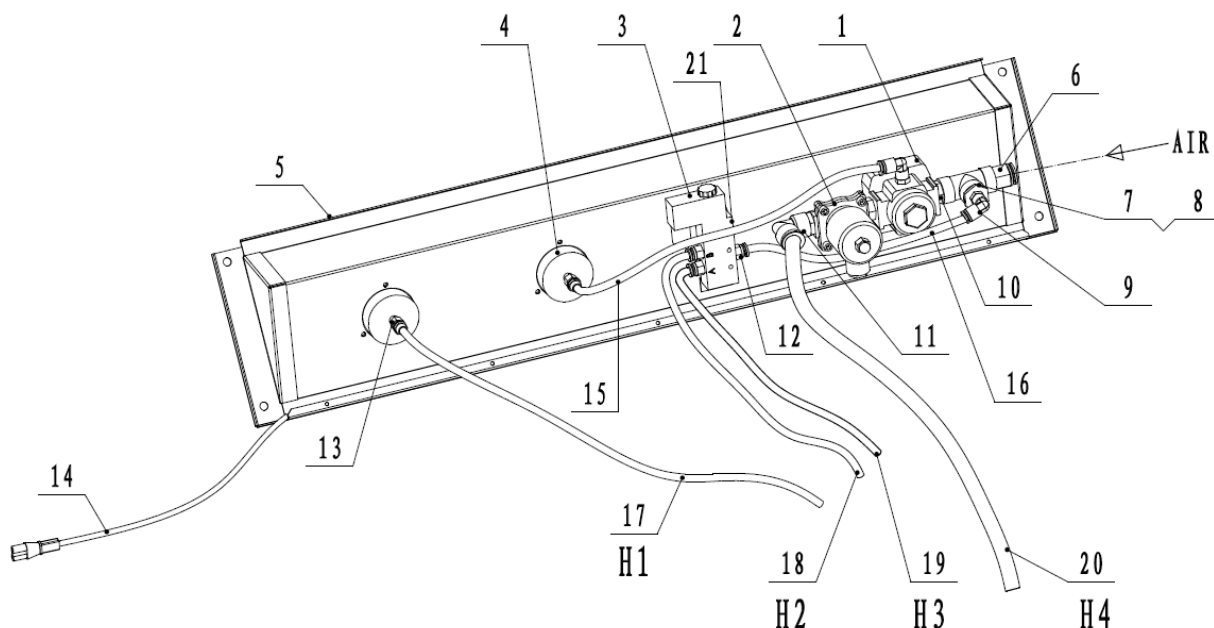
Exploded View of Left Bar



Item No.	Part No.	Description	Qty.
9-1		Left Bar	1
9-2	40213	Straight Coupling	2
9-3	40198	Ball Valve	1
9-4		Washer	2
9-5	4200905	Moisture separator	1
9-6	4200906	Right-angle Quick Coupling	1
9-7	42075	Air Hose	1

High Pressure Abrasive Blast Cabinet

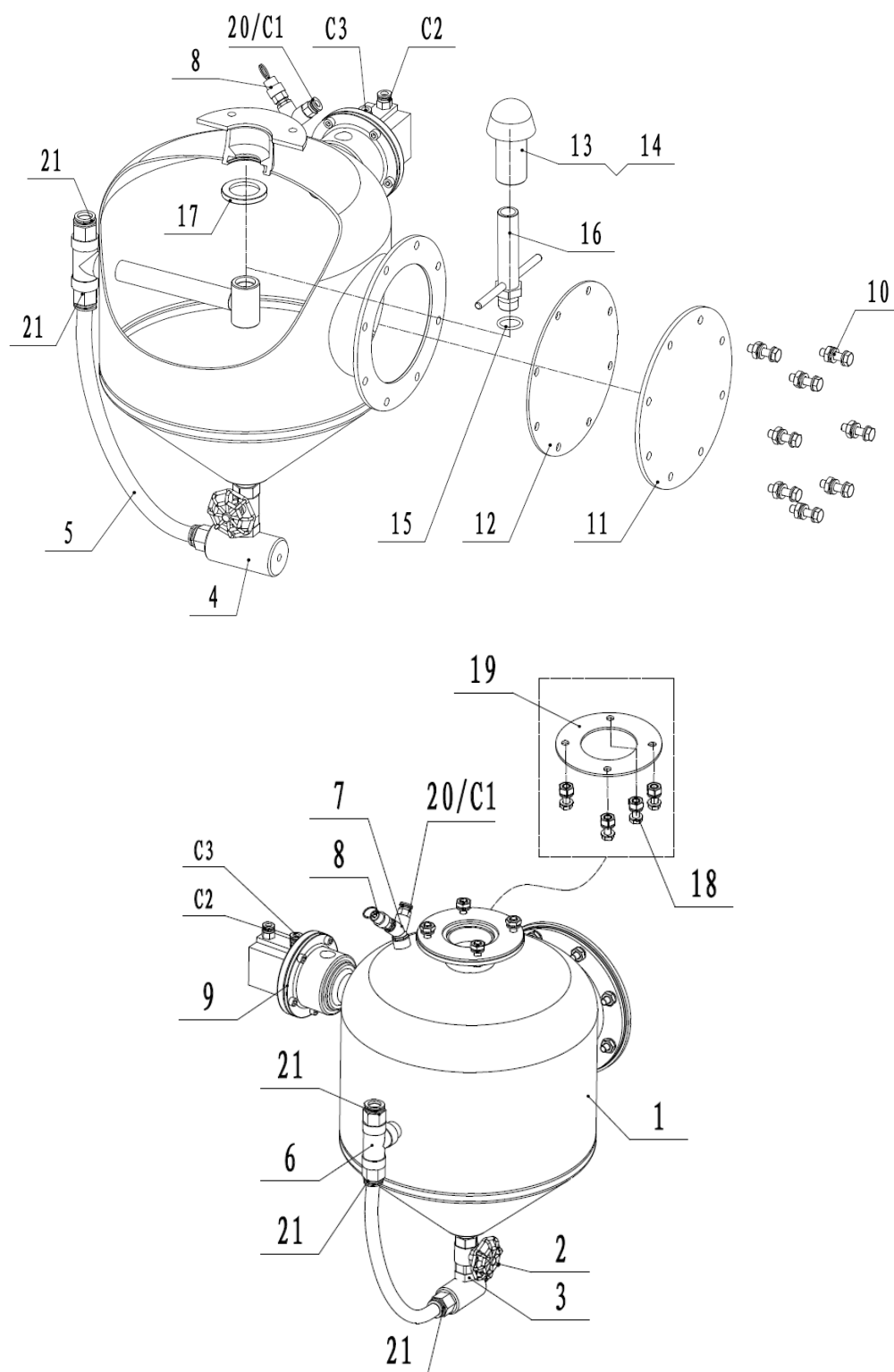
Exploded View of Control Panel



Item No.	Part No.	Description	Qty.
11-1	4201101	Pressure Regulating Valve	1
11-2	4201102	Electromagnetic Valve 1	1
11-3	4201103	Electromagnetic Valve 2	1
11-4	4201104	Pressure Gauge	2
11-5	4201105	Control Panel	1
11-6	4201106	G1/2"-16 Straight Coupling	1
11-7	4201107	Tee Joint	1
11-8	4201108	G1/2"-G1/4" Bushing	1
11-9	4201109	G1/4"-8 Straight Coupling	2
11-10	4201110	G1/2" Straight Coupling	2
11-11	4201111	G1/2"-16 Straight Coupling	1
11-12	4201112	G1/4"-8 Straight Coupling	3
11-13	4201113	M10*11-8 Pressure Gauge Coupling	2
11-14	4201114	Electromagnetic Valve Wire	1
11-15	42074	φ8 Air Pipe	1
11-16	42074	φ8 Air Pipe	1
11-17/H1	42074	φ8 Air Hose	1
11-18/H2	42074	φ8 Air Hose	1
11-19/H3	42074	φ8 Air Hose	1
11-20/H4	42075	φ16 Air Hose	1
11-21	4201121	G1/8" muffler	2

High Pressure Abrasive Blast Cabinet

Exploded View of Tank Assembly

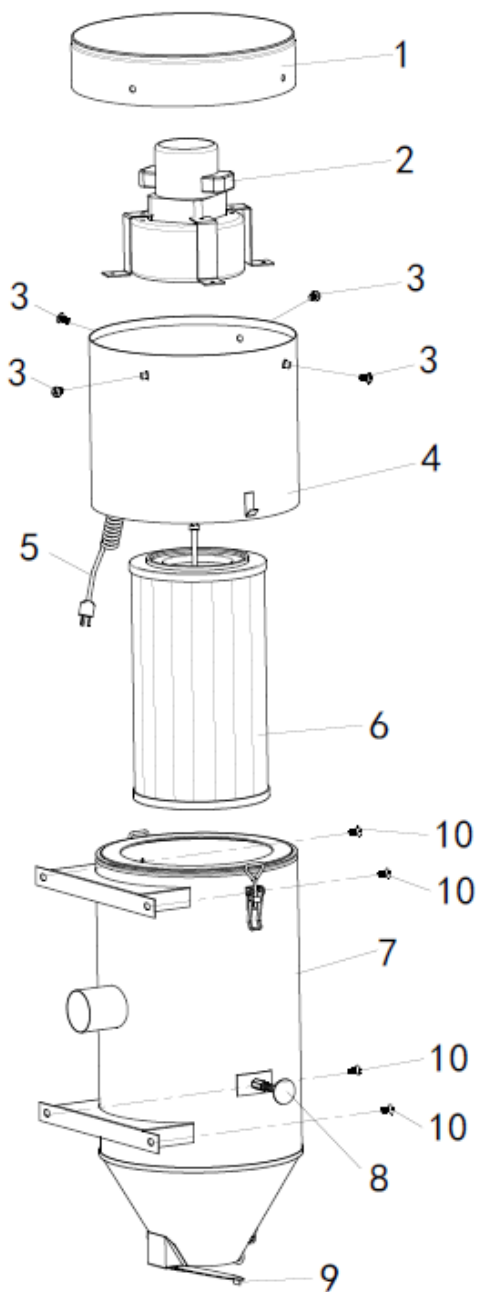


High Pressure Abrasive Blast Cabinet

Item No.	Part No.	Description	Qty.
12-1	4201201	Tank	1
12-2	4201202	Gate Valve	1
12-3	40213	G1/2" Straight Coupling	1
12-4	4201204	Abrasive Tee Joint	1
12-5	42075	16mm Air Hose	1
12-6	4201206	G1/2" Tee Joint	1
12-7	4201207	G1/4" Y Joint	1
12-8	4201208	Safety Valve	1
12-9	4201209	Cylinder Block	1
12-10		Bolt M8*30	8
12-11		Service Port Cover	1
12-12	4201212	Service Port Gasket	1
12-13	4201213	Sealing Head	1
12-14	Included with 4201213	Fixed-tube	1
12-15	4201215	O-Ring	1
12-16		Inlet Welding Assembly	1
12-17	4201217	Closure Gasket	1
12-18		Bolt M8*25	4
12-19	4201219	Rubber Gasket	1
12-20/C1	4201109	G1/4" Straight Coupling	1
12-21	4201106	G1/2"-16 Straight Coupling	3
12-C2	420122	G1/8" Straight Coupling	1
12-C3	420122	G1/8" Straight Coupling	1

High Pressure Abrasive Blast Cabinet

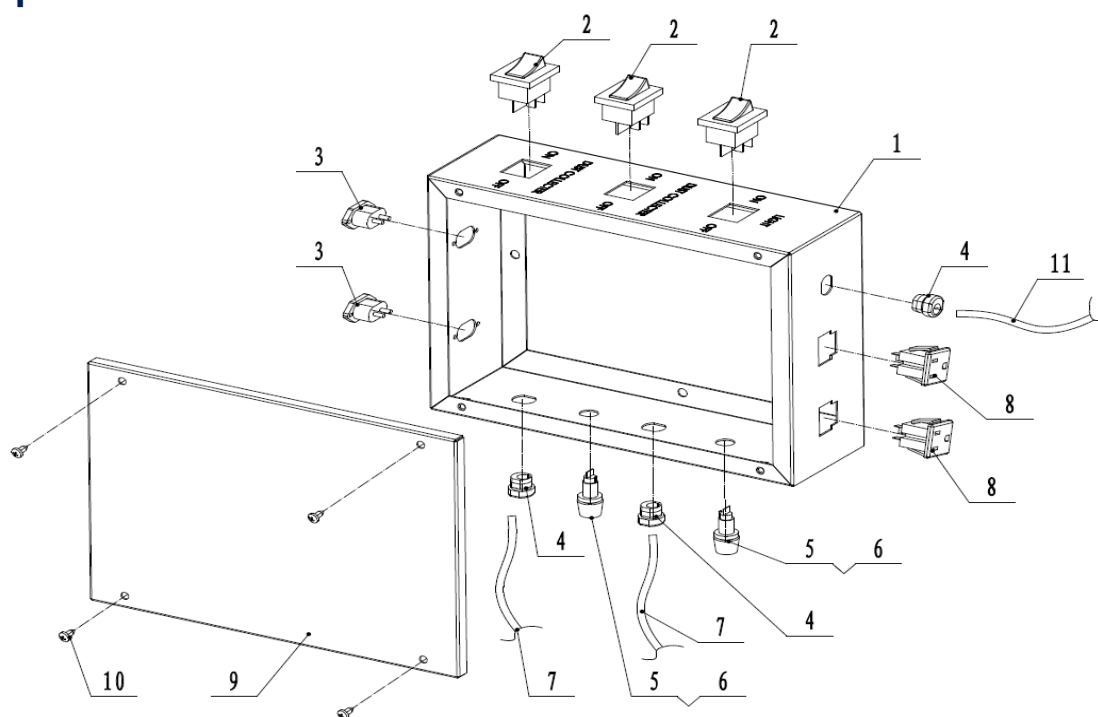
Exploded View of Dust Collector



Item No.	Part No.	Description	Qty.
20-1		Top of D.C.	1
20-2	40287	Vacuum Motor	1
20-3		Bolt	4
20-4		Cover motor	1
20-5		Power Cord	1
20-6	4150029	Dust Filter	1
20-7		Round Dust Collector	1
20-8	4150033	Push Rod	
20-9		Cap, Round Dust Collector	1
20-10		Bolt	4

High Pressure Abrasive Blast Cabinet

Exploded View of Switch Box



Item No.	Part No.	Description	Qty.
37-1		Switch Box Body	1
37-2	41860	Switch	3
37-3		Two Holes Socket	2
37-4		Buckle	3
37-5	41866	Fuse Case	2
37-6	4203706	Fuse	2
37-7		Power Cord	2
37-8		Three Holes Socket	2
37-9		Switch Box Cover	1
37-10		4.2*10 Screws	4
37-11		Power Cord Of Lamp	1