

PEARL[®]

V-MAX[™]
PAV 36

**MODEL PAV-36
INDUSTRIAL HEPA VACUUM CLEANER
OWNER'S/OPERATOR'S MANUAL**



SERIAL NUMBER -

You should record the Serial Number of your vacuum on this Owner's/Operator's Manual.

Caution! *Read Safety and General Instructions carefully before using for the first time.*

REV. 2

VACUUM

V-MAX[™]
PAV 36

PEARL ABRASIVE CO.

TABLE OF CONTENTS

	PAGE
I. SAFETY PRECAUTIONS	3
II. PRODUCT INFORMATION	4
III. WORKING PRINCIPLE	4
IV. PRODUCT STRUCTURE AND CHARACTERISTICS	5
V. OPERATIONS	7
VI. CIRCUIT DIAGRAM.....	10
VII. ROUTINE MAINTENANCE AND INSPECTION.....	10
VIII. MAIN PARTS LIST.....	12
IX. TECHNICAL PARAMETER	14

i. SAFETY PRECAUTIONS



WARNING! *Read all instructions. As with all machinery there are certain hazards involved with operation and use of the machine. The following basic safety precautions should be followed at all times to reduce the risk of fire, electric shock and serious personal injury to you or others. Keep these important operating instructions with this product.*



1. Must read this operating manual carefully before usage. Operator must read the designated operating steps before usage.
2. People who do wiring and inspecting must have the professional experience and expertise.
3. The power lines must not be placed at the place where workers can easily step on; once some damages found on the power lines, they must be replaced with new ones. .
4. Must use the power cord originally installed in the machine; please contact the manufacturer in case of extending the power line.
5. Do not do wiring in a humid environment or with wet hands.
6. Be sure the power plug has ground wire and the power socket has circuit breaker
7. Please plug out if don't use the machine for a long time. Otherwise, it will reduce the insulating property and lead to electric shock, electric leakage or fire accident.
8. Do not climb, stand or place stuffs on the machine during its running
9. Do not try to repair or refit the machine personally if something wrong goes with it; please contact the manufacturer for discussing and choosing the best maintenance solution
10. Suggest using the original filter cartridge or bag if needed.
11. This operating manual should be placed with an unbroken condition near to the machine for the convenience of reading by the operator.
12. Please cut off the powder before the overhauling.
13. The casters must be in the state of being stopped before the machine runs.
14. This vacuum must not be plugged in the socket that other electric equipments are using, just in case of fire accident or electric shock due to the overloaded current.
15. The machine cannot suck up the kind of oily or flammable and combustible smoke dust.
16. Never leave tool running unattended. Turn power "off". Do not leave tool until it comes to a complete stop.

ii. PRODUCT INFORMATION

PAV-36 Vacuum cleaner is special designed for the floor grinding and polishing industry. With the characteristic as below: Strong suction, two-stage filter unit, stable and reliable, space saving, flexible mobility and easy operation.

Apply to the single phase condition, which requires 24 hours continuous working, and superfine dust collection. It can works with the diamond surface grinders, and other floor grinding and polishing machines very well.

iii. WORKING PRINCIPLE

3.1 FILTERING PROCESS

The filter unit consists of one unit of conical shape pre-filter and three units of HEPA filter cartridges, under the action of the turbine blower, the dusty air will enter the pre-filter first. At the moment, the bigger particle will drop down to the bottom directly; the superfine dust will go through the pre-filters and come into the HEPA filter cartridge unit. The clean air will discharge from the air outlet at last, and the superfine dust will attach on the HEPA filter.

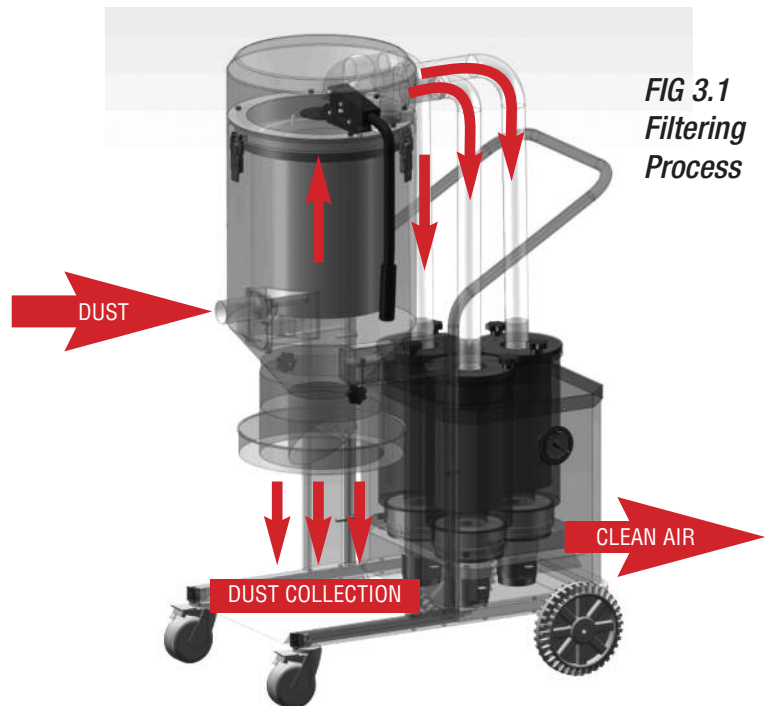


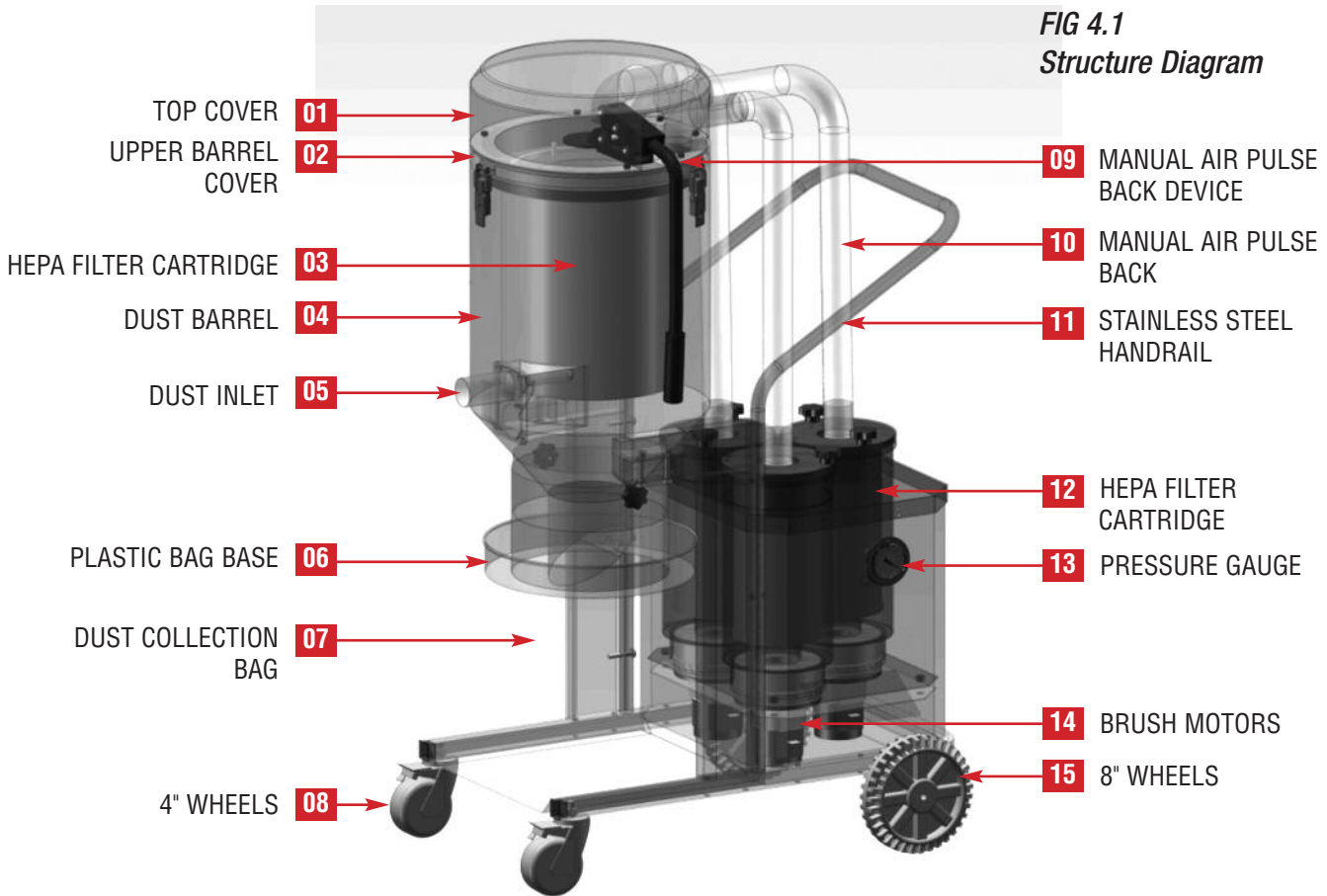
FIG 3.1
Filtering
Process

3.2 CLEANING PROCESS OF FILTER

The pre-filters can be cleaned from outside of the barrel by the air pulse negative pressure. And before the cleaning process, the air inlet should be closed first, and then pull the rod over and over again. Regards to the HEPA filter cartridge, it should be cleaned every 3 days, to guarantee the vacuum cleaning effect and the sustained usage of the machine.

iv. PRODUCT STRUCTURE AND CHARACTERISTIC

MAIN PARTS



4.1 EXTERIOR STRUCTURE

PAV-36 industrial vacuum cleaner features in the compact and simplified design that gives excellent heat dissipation to the turbine. The prominent advantage of this model is the structure that uses a kind of special designed continuous packing bag to collect the dust, which, taken as a whole, largely decrease the volume and weight, so that it could be easy for using. The main body adopts the SPCC metal plate with thickness of 2 mm. This ensures good endurance and heat resistance for the whole machine and thereby guarantees the structural strength; besides, the metal plates are cut by laser cutting machine that greatly improve its size accuracy. For the surface preparation, it adopts the process of spraying and high temperature baking that provides a shining surface and a beautiful appearance with durability.

4.2 MANUAL FILTER CLEANING STRUCTURE

PAV-26 is installed with a mechanical airflow reversing structure that conforms to the ergonomic design. Such unique manual filter cleaning system can effectively clean the dust accumulated on the surface of the filter cartridge over time. User could flexibly clean up the filter cartridge according to the job requirements. It is a very cost-effective and handy design.



FIG 4.2
*Air Pulse
Back Device*

4.3 FILTRATION SYSTEM

The Pearl V-Max™ PAV vacuums adopt two-stage filtering units. The first stage will be the filter cartridge which can filter the dust particle size of 3.0 microns with filter efficiency up to 99%. The secondary stage is the cartridge filter with polyester fiber material which is imported from Japan “TORAY” company. This cartridge filter coated with PTFE film can ensure the filter efficiency up to 99% for dust particle size of 0.3 microns. This kind of cartridge filter can effectively clean the PM2.5.

FIG 4.3
1st Stage Filter Cartridge



FIG 4.4
2nd Stage Filter Cartridge



4.4 DUST COLLECTION BAG

PAV-36 uses the continuous packing bag that could be hooked and buckled up on a tube base that fixed on the dust outlet easily. The continuous packing bag is kind of foldable long tube plastic bag that can pull out continuously.



FIG 4.5
Dust Collection Bag

4.5 CONTROL BOARD



FIG 4.6
Control Box

4.6 CARBON BRUSH MOTOR

PAV-36 vacuum is equipped with 2-pc parallel type carbon brush motors each motor is 1.2 kilowatt. User can control the airflow by using the motors according to the actual working requirements.



FIG 4.7
Motor

4.7 TIMER

The timer will start or stop automatically when the machine is on or off; When you turn on the machine next time, the timer will accumulate the time based on the data of the last time. And User can shake the vibration lever to clean the filter according to the actual situation and working hours. Since Pearl V-Max™ Vacuum series are equipped with carbon brush motors, suggested continuous working hours do not exceed 3.5 hours one time.



Performance parameter of the timer:

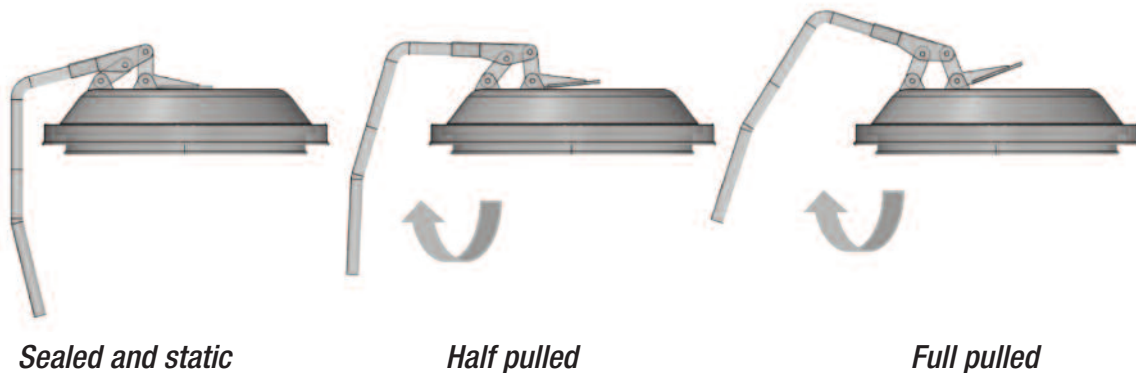
Model	ZYL03
Voltage	Self contained power supply
Accumulation Scope	①99999.9h ①9999d23h ②99h59m59s ②9999h59m59s ③9999h59m ③999999h59m
Display Mode	6/8 digits LED display
Accumulation Error	≤0.1‰
Reset Mode	Terminal short-circuited reset, panel button reset
Power Failure Memory	5 years
Environment Temperature	-5°C~45°C
Installation Way	Panel
Dimension	24×48×50mm
Hose size	22.5×45mm

v. OPERATIONS

5.1 MANUAL AIR-PULSE BACK OPERATION

Close the inlet using the block plate on air inlet, let the machine build up vacuum for a few seconds and then pull the rod repeatedly. The filter will be pulsed sequentially by a sudden burst of air from the flow-back air inlet. This mechanical filter cleaning process ejects all the dust from the surface of the filter, allowing for a very effective dust cleaning result.

FIG 5.1 Operation



5.2 OPERATION OF THE CONTROL BOARD

Just simply connect the plug in the socket, then it can come to use.

CONNECTING THE POWER SUPPLY (T-PIN PLUG)

Connect the plug at the end of wire to the power supply.

START BUTTON

When the power is On, the indicator ①/②/③ will illuminate. Just simply press the button one by one, each motor will start working.

STOP BUTTON

Press the button to the Off side, the motor will stop; Unplug the vacuum the light will turn off.



FIG 5.6
Control Board

5.3 OPERATION OF DUST CLEANING

Two areas need to be clean: the first area is to clean up the 1st filter cartridge and collection bag; the second area is to clean up the cartridge filters.

5.3.1 OPERATION OF THE COLLECTION BAG

Regarding to clean up of the 1st filter cartridge, please refer to Fig. 4.1. As for the foldable long tube plastic bag, it could be continuously pulled out. When it collects a certain amount of dust, it could be sealed by the nylon cable tie and then cut it off with a scissor. See the photos below:



STEP 1



STEP 2



STEP 3

FIG 5.3.1
Collection Bag

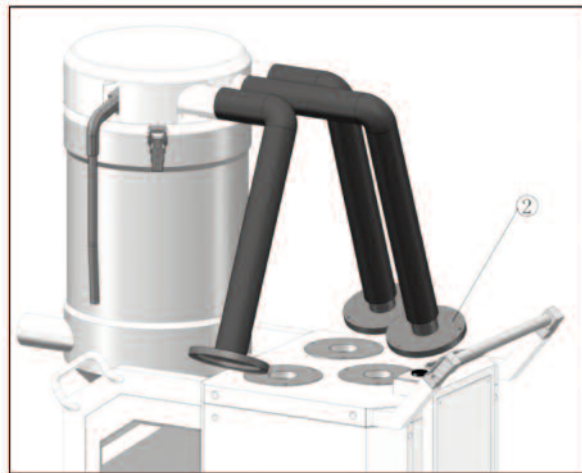
5.3.2 CLEANING THE 2ND STAGE FILTER (CARTRIDGE FILTER)

Take the cartridges out from the container, and use gas gun or brush to clean the cartridge filter. Steps please refer to the following diagram:

FIG 5.3.2



STEP 1
Loose the screws on the lid

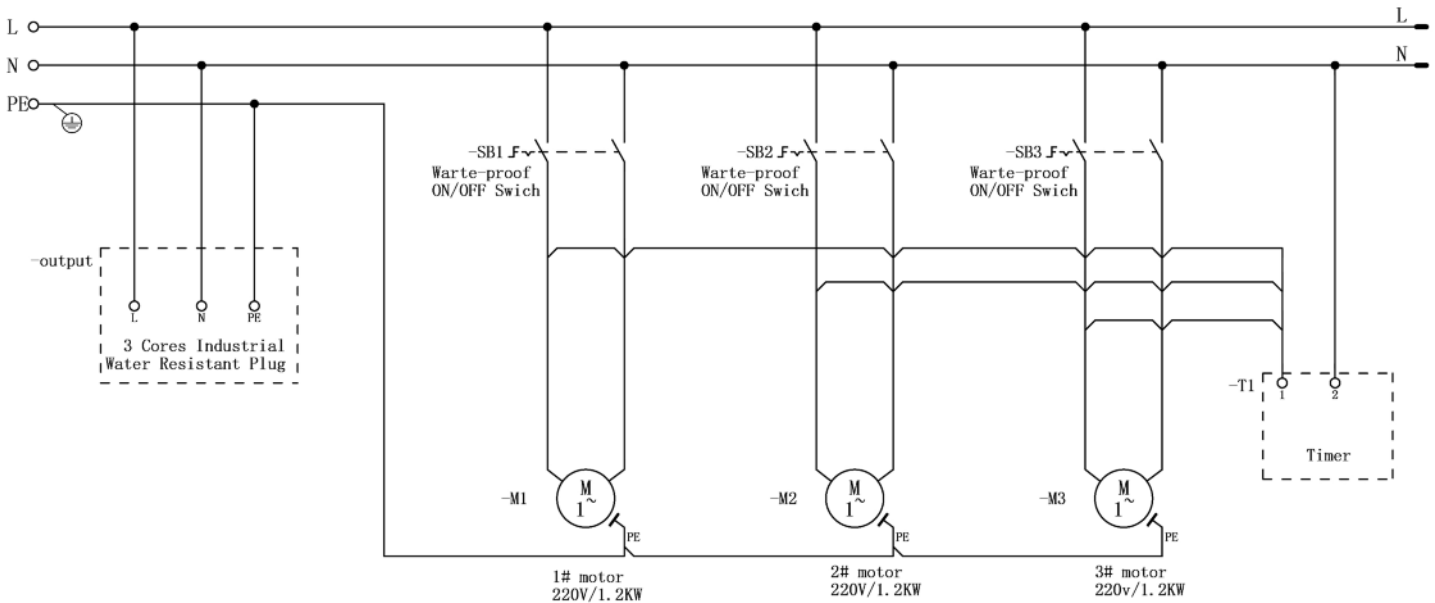


STEP 2
Loose the cartridge lid from the top lid



STEP 3
Take the cartridges out, and use air gun or brush to clean the filter cartridge

vi. PAV-36 CIRCUIT DIAGRAM



vii. ROUTINE MAINTENANCE AND INSPECTION

7.1 DAILY MAINTENANCE

Two areas need to be clean: the first area is to clean up the 1st filter cartridge and collection bag; the second area is to clean up the cartridge filters.

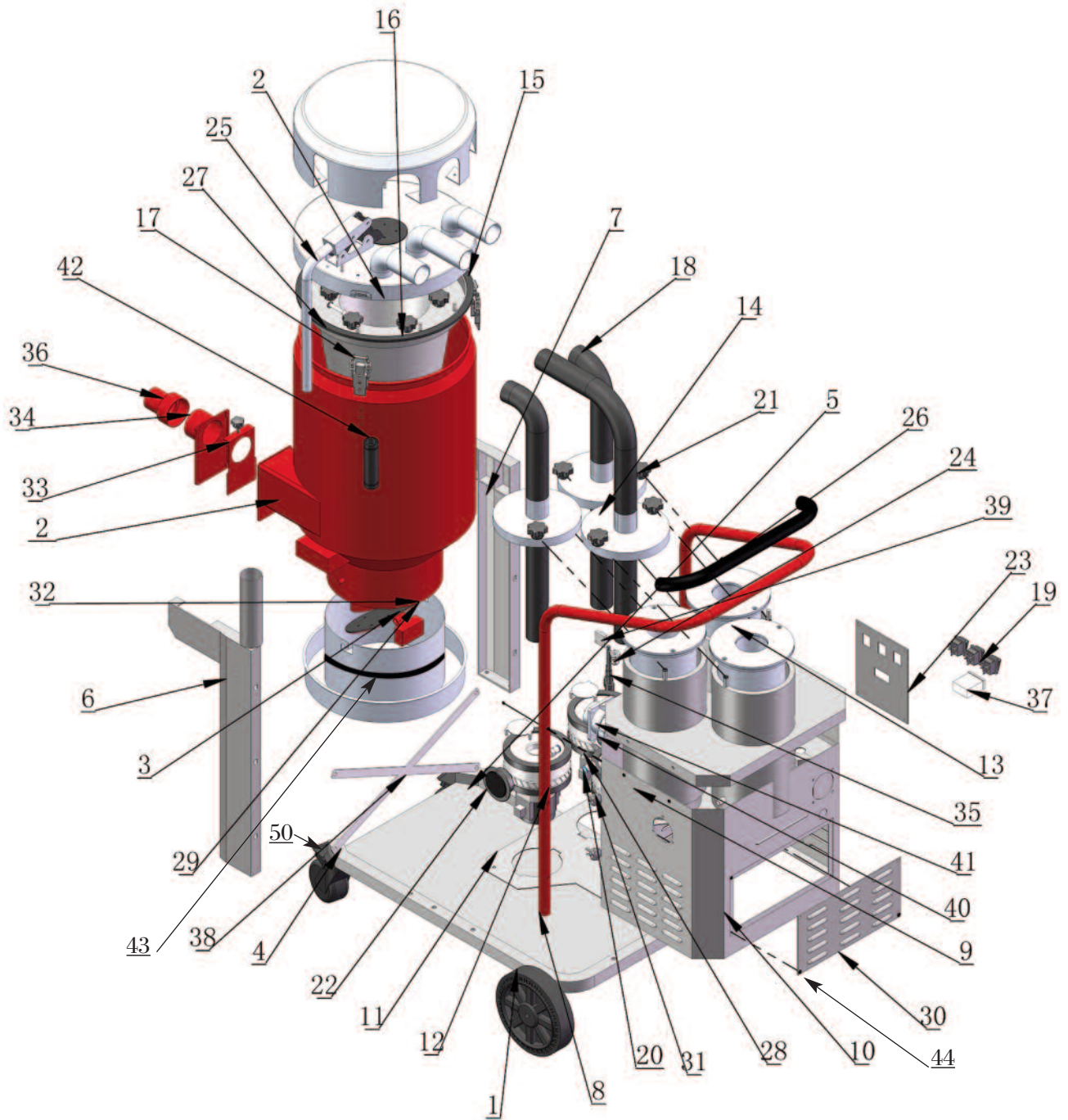
- (1) During the operation of the equipment is best to designate a person to clean and maintain all records. The user must be trained in handling the machine and the hazardous dust
- (2) The designated person must be familer on how to operate, service and check all electronic parts. They must have read the manual and how to deal with any issues of performance that may arise. All issues should be repaired or addressed in a timely manner.
- (3) Test the technical parameters, such as air flow, temperature, pressure and etc. on a regular basis. Any abnormal problems must be deal with timely.
- (4) Inspect the air system. The dust discharge system should be working properly and if any issues arise repair immediately.
- (5) When done using the machine for the day it is best to leave the vacuum running for a few minutes to get rid of any dust inside the machine hose. You must also clean the filter cartridge and empty any dust in the baging system. This will help keep the system properly maintained and avoiding any filter blockage.

7.2 TROUBLESHOOTING AND ELIMINATION METHOD

PROBLEM	POSSIBLE CAUSE	SOLUTION
VACUUM CLEANER DOESN'T WORK	- Phase sequence inversed	- Exchange power cord L1 and L2.
	- Factory voltage fluctuation is too big, cause undervoltage or overvoltage	- Factory provides solution themselves.
	- High electricity current cause thermal overload protector to disconnect.	- Inspect if the motor is still working, if yes, the thermal overload device may disconnect.
ABNORMAL RUNNING RESISTANCE	- Flue gas moisture condensation dust block the filter cartridge/bag	- Blocking air leakage, increase the temperature of the flue gas.
	- Process system doesn't work	- Recover to work
LACK OF SUCTION POWER	- Suction hose blocked or damaged	- Clean or replace
	- Filter cartridge blocked	- Clean or replace the filter
EMISSION CONCENTRATION IS TOO LARGE	- Filter cartridge/bag is with wrong installation	- Install and adjust the position of the filter units.
	- Filter cartridge/bag damaged	- Replace
	- The first time using after replacement of the filter	- Use the filter continuously for about 15 minutes.

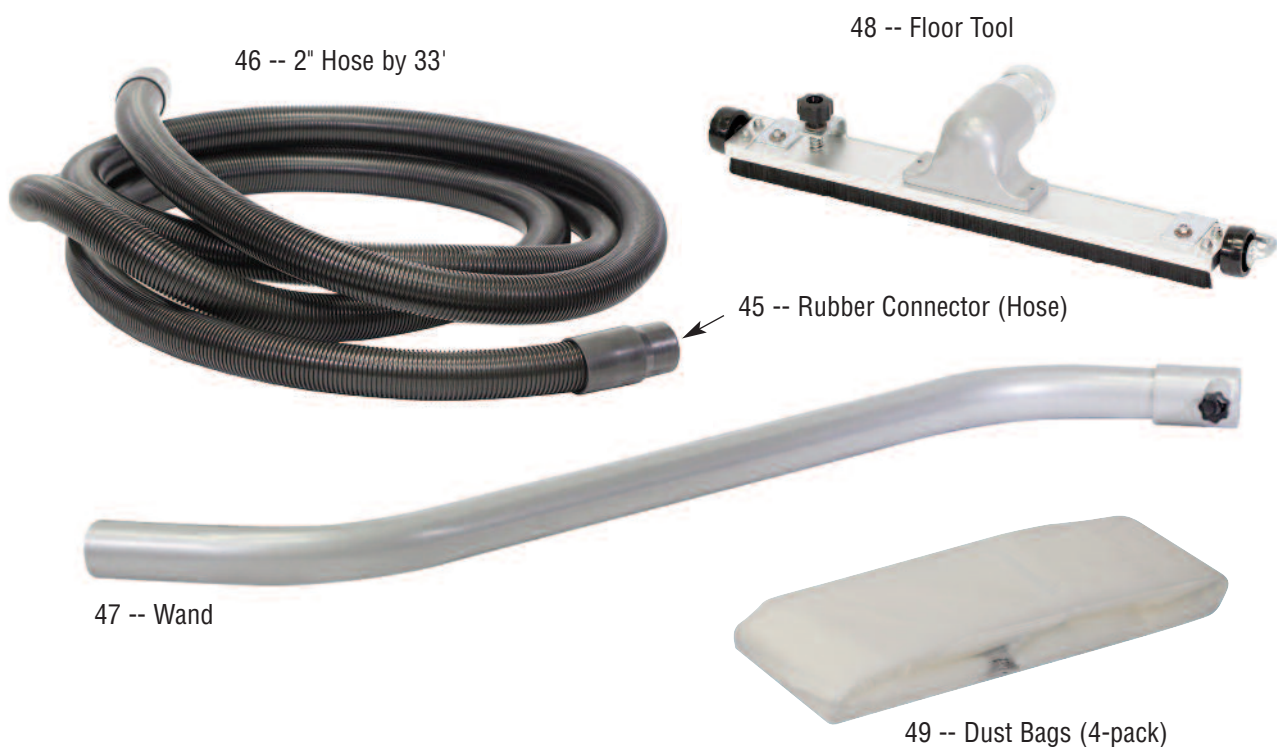
NOTE: If there is a special malfunction happen to the vacuum or the received vacuum has a big difference with original design, please contact us in time for solution.

viii. PAV-36 MAIN PARTS LIST



PART NAME	PART NUMBER
1 8 in. castor	PAV0001
2 Stainless steel barrel	PAV0052
3 Bagging foundation	PAV0053
4 Bottom foundation	PAV0054
5 4" M12 single screw universal wheel	PAV0005
6 Left column	PAV0055
7 Right post	PAV0056
8 Handrail	PAV0057
9 Filter box	PAV0058
10 Cabinet	PAV0059
11 Motor assembling plate	PAV0060
12 Ametek carbon brush motor 220V	PAV0061
13 150*300*60 HEPA Toray cartridge filter without screw	PAV0011
14 Filter cover	PAV0062
15 Filter plate	PAV0063
16 Anti-static filter cartridge	PAV0075
17 Buckle (stainless steel spring)	PAV0015
18 Anti-static hose (black)	PAV0016
19 V3 water proof switch 220V	PAV0064
20 2cm bend head	PAV0065
21 Through-hole M8 Star handle	PAV0026
22 Pressure gauge	PAV0047
23 Control panel	PAV0066
24 Pressure gauge	PAV0067
25 Barrel cover	PAV0068

PART NAME	PART NUMBER
26 Bend handrail drive pipe	PAV0036
27 VFG-S silicone sealing ring	PAV0025
28 CB motor ring	PAV0023
29 Block plate for barrel mouth	PAV0069
30 Heating dissipation panel (side)	PAV0070
31 Star handle —M5 thread rod	PAV0071
32 100 foaming board	PAV0028
33 VFG block plate for air inlet	PAV0072
34 VFG air inlet	PAV0073
35 Connector for inlet and outlet	PAV0074
36 Timer	PAV0032
37 Fixed mount	PAV0076
38 JDG Earth-terminal board	PAV0077
39 CB tripod cover	PAV0024
40 Three-pin socket	PAV0078
41 VFG series plastic handle cover	PAV0037
42 Dust vibration handle	PAV0079
43 Nylon Binding Strap	PAV0044
44 M5 thread rod motor cover	PAV0048
45 Rubber Connector (Hose)	PAV0045
46 2" Hose by 33'	PAV0046
47 Wand	PAV0049
48 Floor Tool	PAV0050
49 Dust Bags (4-packs)	PAV0043
50 Frame plug	PAV0051



**x. TECHNICAL
PARAMETER**

Model	PAV-36
Voltage/Hz	220V/60HZ
Power	5.1 HP
Airflow	353 CFM
Max air pressure	100 in. H2O
QTY of 1st stage filters (unit)	1
QTY of 2nd stage filters (unit)	3
Air inlet	2 in. (standard)
Noise	82±2dB
Filter efficiency	99%
Material of 1st filter	Anti-static material
Material of 2nd Filter	Imported TORAY
Filter fineness	0.3-3 microns
Main filtering method	Outer-filtering type for 1st stage filter Inner-filtering type for 2nd stage filter
Dimension	36 x 23 x 53 in.
Weight	216 lbs.

PEARL LIMITED WARRANTY PAV-26 and PAV-36 only

Pearl Abrasive Co. vacuums are thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship for a period of TWO YEAR from the date of original purchase. Pearl will repair or (at our opinion) replace a product, or part thereof, found by Pearl Abrasive Co. to be defective, provided the defective product is returned to Pearl Abrasive Co., freight pre-paid, with proof of purchase.

RGA NUMBER IS REQUIRED. Prior to return of any product or part, a Return Goods Authorization number must be obtained from Pearl Abrasive Co. by fax (562) 928-3857 or calling (800) 969-5561. The owner's name, address, phone number, as well as the serial number of the product, proof of purchase, and a brief statement detailing the nature of the claimed defect, are required for authorization.

This warranty does not apply where:

- Repairs have been made or attempted by others not approved by Pearl Abrasive Co.
- Repairs required because of normal wear and tear
- The tool has been abused, misused or improperly maintained
- Alterations have been made to the tool
- The product is used in a manner not recommended by the manufacturer

IN NO EVENT SHALL PEARL ABRASIVE CO. BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE EQUIPMENT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF WARRANTY.

Pearl Abrasive Co. disclaims liability for any implied warranties, including implied warranties of MERCHANTABILITY "AND FITNESS FOR A SPECIFIC PURPOSE", after the two-year term of this warranty.

This warranty gives you specific rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

All parts replaced under warranty will be considered as part of the original product and any warranty on these parts will expire coincidentally with the original product warranty.

This warranty supersedes all previous Pearl Abrasive product warranties.

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