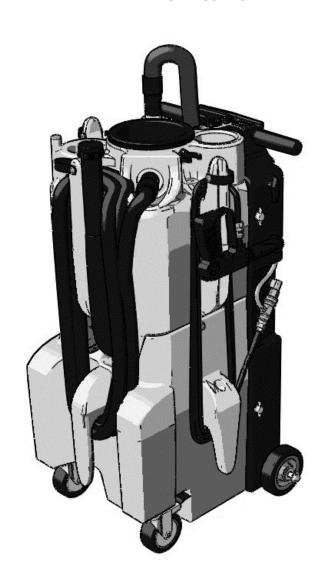


# Operator & Parts Manual

# KaiVac® 1200 Series

1215 Serial Number 415- 1250 Serial Number 3309-CE1250 215-



## **Revision Sheet**

Release No.	Date	Revision Description
101413	10/14/13	Operator & Parts Manual Released
121713	12/17/13	Modified Rotomold Warranty to 5 years.

NOTE: Specifications and parts are subject to change without notice

#### Kaivac, Inc.

401 S. Third Street

Hamilton, OH 45011

# **OPERATOR & PARTS MANUAL**

		Page #
1.0	GET	TING STARTED1-1
	1.1	Limited Warranty Protection Plan1-1
	1.2	Warranty Registration Form1-2
	1.3	Safety Precautions1-3
2.0	OPE	ERATION2-1
	2.1	Out-of-Box Setup Instructions
	2.2	Kaivac Tool Arrangement2-2
	2.3	Preparing Your Kaivac For Use2-3
	2.4	1200 Series Vac Tank Horn Operation2-4
	2.5	Operating your Kaivac using S-I-M-P-L-E Process2-5
3.0	MAI	NTENANCE3-1
	3.1	Maintenance3-1
	3.2	Squeegee Head Maintenance
	3.3	Black Box Removal Instructions
	3.4	Troubleshooting
	3.5	Machine Diagrams3-7
	3.6	Parts List 3-19

#### 1.0 GETTING STARTED

## 1.1 Limited Warranty Protection Plan

The Kaivac has been engineered and tested to provide long lasting performance. This warranty covers defects in workmanship or materials under normal use and service from the date of purchase.

Kaivac, Inc. warrants the following components to be free from defects in materials and workmanship for these time periods:

- 1.) Extended Warranty for end users who use only Kaivac chemicals for the life of the machine.
  - ♦ 5 years on rotationally molded parts
  - 3 years on other parts (excluding wear items)
  - ♦ 1 year on labor
- 2.) Standard Warranty (for approved non-Kaivac chemicals)
  - ♦ 1 year parts and labor
- 3.) Chemicals that have not been approved by Kaivac (If uncertain, please contact Kaivac to verify your chemical before using).
  - No warranty

All Kaivac replacement parts are guaranteed for 90 days from the date of installation. Normal wear items such as wheels, hoses, seals, gaskets, cords, casters, squeegees and GFCI are excluded from warranty coverage.

All warranty claims must be accompanied by a Return Authorization Number (RAN), which is available by calling the Kaivac, Inc. Customer Service Department. No returns will be accepted without a RAN.

This warranty does not apply to return freight costs, damage or defect caused by accident, negligence, misuse, fire or repair done by anyone other than a Kaivac authorized repair center. In no event shall Kaivac, Inc. be liable for incidental or consequential damages, or any damages to persons or property.

Please Note: Under no circumstances will the seller be liable for any loss, damage, expenses or consequential damages arising in connection with the use or inability to use seller's product. Kaivac, Inc. reserves the right to make changes or improvements to its equipment without notice. Some states do not allow the exclusion or limitation of incidental or consequential damages. This warranty is in lieu of any other warranty expressed or implied, including any warranty of merchantability or fitness for a particular purpose.

#### 1.2 WARRANTY REGISTRATION FORM

To be completed and mailed or faxed by the customer purchasing equipment. Return this warranty card within ten days of purchase.

Purchased By:			
Name:		Title:	
Company:			
Street Address:			
City:	State	e: Zip Code:	
□ KV1750	☐ KV1250	□ KV2150	☐ KV1715AC
☐ KV1715	☐ KV1215	☐ OMNIFLEX Pump Box	☐ OMNIFLEX Wet/Dry Vac
Serial Number:			
	Туре	of Business	
<ul><li>☐ School/University</li><li>☐ Hospital/Health Care</li></ul>	☐ Contra ☐ Indust	act Cleaner trial	☐ Office ☐ Other:
	Intended Uses	(check all that apply)	
<ul><li>☐ Restroom Cleaning</li><li>☐ Floor Stripping</li><li>☐ Kitchen Cleaning</li><li>☐ Carpet Extraction</li></ul>	☐ Cleaning Ar ☐ Stairwell Cle ☐ Lockers & S ☐ Hallway Cle	eaning Showers	☐ Classroom Cleaning ☐ Other:
	Thank you for register	ing for our warranty prograr	n.

, , , , , ,

Please return completed forms to:

Kaivac, Inc. 401 S. Third Street Hamilton, OH 45011 Or Fax to: (513) 887-4601



#### 1.3 SAFETY PRECAUTIONS

#### IMPORTANT SAFETY INSTRUCTIONS—SAVE THESE INSTRUCTIONS

CAUTION: To reduce the risk of injury, read operating instructions carefully before using. **WARNING:** Risk of injection or injury to persons – do not direct discharge stream at persons.



#### WARNING RISK OF ELECTROCUTION: 🛕

- Connect to a properly grounded outlet. Do not remove ground pin.
- Inspect cord before using do not use if cord is damaged.
- Keep all connections dry and off the ground.
- Do not touch plug with wet hands.
- This product is provided with a ground fault circuit interrupter built into the power cord. If replacement of the plug or cord is needed, use only identical replacement parts.
- Test the ground fault circuit interrupter (GFCI) before each use.
- Do not close a door on the cord or pull the cord around sharp edges or corners.
- Keep the cord away from heated surfaces.
- Do not spray liquid from the Kaivac onto electrical outlets or on any electrical devices.
- Turn off the unit before unplugging.
- ♦ Do not pull on the cord to unplug. Grasp the plug at the outlet and pull.

#### **Grounding Instructions:**

THE KAIVAC MUST BE GROUNDED. If it should malfunction or stop working, grounding provides a path of least resistance for the electrical current and reduces the risk of electrical shock. The Kaivac is equipped with a ground fault circuit interrupter (GFCI) to further reduce danger and risk of electric shock. It must be maintained and tested regularly. An equipment grounding cord and plug is included with the unit. Cutting off the ground wire or using a cord with an ungrounded plug will void the warranty on the Kaivac.

Improper connection of the equipment grounding cord can result in the risk of electrical shock. Ask a qualified electrician or service person to check the outlet grounding if you are unsure. Do not modify the plug provided with the Kaivac. If it will not fit into the outlet, have a properly grounded outlet installed by a qualified electrician.



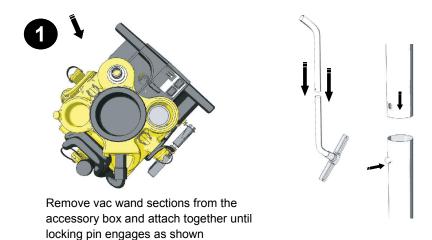
#### ▲ WARNING: When using this product, basic precautions should always be followed, including the following:

- Read all the instructions before using the product.
- To reduce the risk of injury, close supervision is necessary when a product is used near children.
- Know how to stop the product and bleed pressures quickly. Be thoroughly familiar with the controls.
- Stay alert watch what you are doing.
- Do not operate the product when fatigued or under the influence of alcohol or drugs.
- Keep operating area clear of all persons.
- Do not overreach or stand on unstable support. Keep good footing and balance at all times.
- Do not use to pick up flammable or combustible materials.
- Follow the maintenance instructions specified in the manual.

Personal Protective Equipment (PPE): It is recommended to wear proper personal protective equipment as required by the chemical product label instructions used in conjunction with the Kaivac.

FOR INDOOR USE ONLY

#### 2.1 OUT-OF-BOX SETUP INSTRUCTIONS





After removing machine from container, attach the plastic elbow to the vac tank as shown above



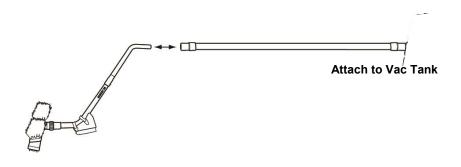
Attach vac motor hose to barb and vac motor inlet as shown above

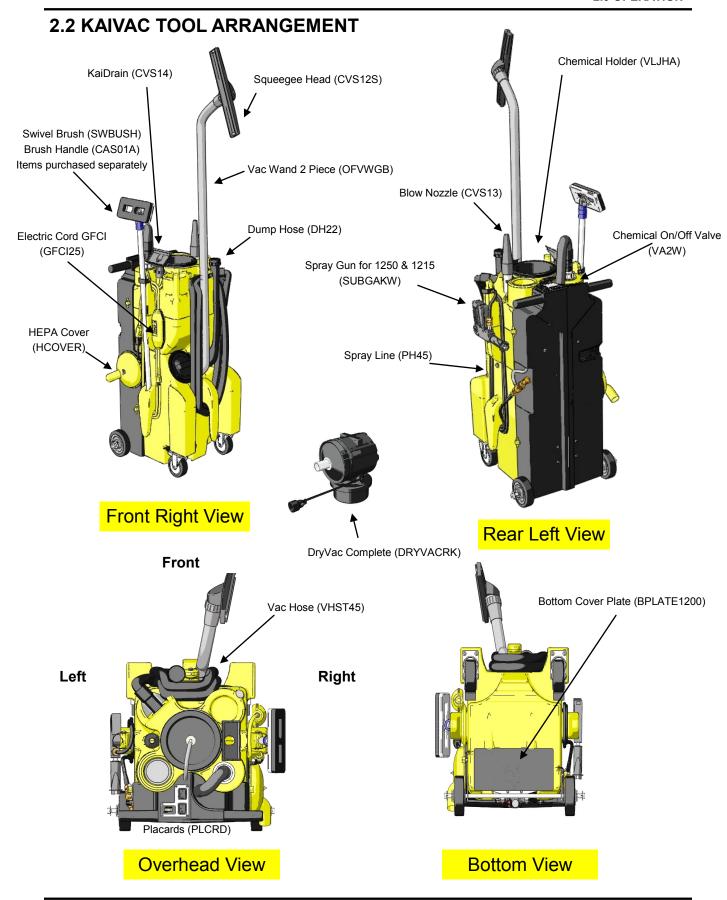


Remove the tools and hoses from the accessory box and place them in the appropriate locations as shown above. Place extra tools in tote bag and hang bag over nose of machine.

Phone: 1-800-287-1136

Remove the Vacuum Hoses from the Accessory Box. Assemble as shown.



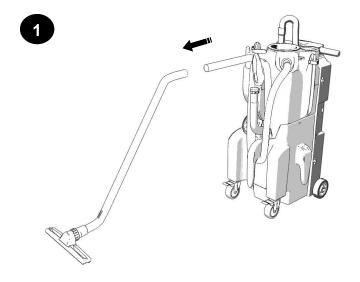


# 2.3 PREPARING YOUR KAIVAC FOR USE

\*Applicable to all units, but KV1700 Series shown for illustration

1.	Fill machine with clean, cool water.	
2.	Prepare the cleaning solution you will be using by attaching the chemical feed line and cap to the top of your chemical bottle and selecting the proper metering tip. (See placard for metering tip information)	
3.	Check machine for all tools and supplies needed to complete task. See "Tool Arrangement" in Section 2.2 of this manual.	
4.	If using a cleaning product that has high foaming use a foam inhibitor to cut down on foam. Pour 2 capfuls of inhibitor in the vac hose with vac running to coat inside of hose.	VAC SWITCH ON
5.	Check all hoses and spray lines for damage prior to use. If damage is found, do not continue until proper repairs are completed.	The I
6.	Plug in machine and test GFCI (Ground Fault Circuit Interrupter) to ensure it is working properly. You are now ready.	Reset

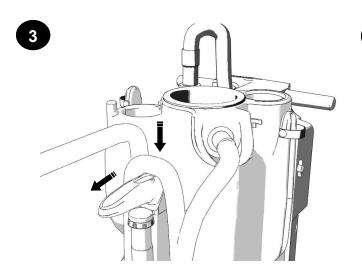
#### 2.4 1200 SERIES VAC TANK HORN OPERATION



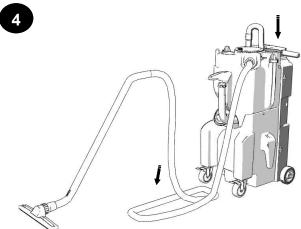
Connect the vacuum wand and slinky hose together



Rotate the horn assembly so that it is now pointing towards the front of the machine.



Place hand behind vac hose and slide forward off of horn onto floor.



Once hose is off and on floor turn on vac motor and proceed extracting.

#### 2.5 S.I.M.P.L.E PROCESS

#### \*Applicable to all units, KV1700 Series shown for illustration.

Fill with clean, cool water

 $S_{\text{et-up}}$ 



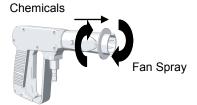
Add 1 cap of KaiDri (for spot-free rinsing)



Select metering tip and insert into cap barb



nject



Fan Spray



**LOW Pressure Mode** 

Manual

Brush

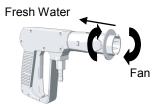


Manually brush heavily soiled areas





Pressure wash and rinse



**HIGH Pressure Mode** 





Loop





Extract







#### 3.1 **MACHINE MAINTENANCE**



**CAUTION** Always make sure machine is unplugged before lifting electric cover assembly

# Item

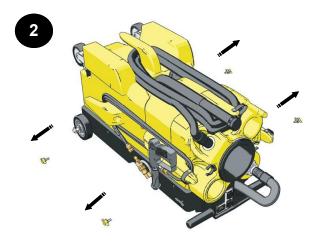
# **Procedure**

Floor	Check condition of squeegee blades and wheels on the floor tool.
Squeegee	Rough floor surfaces will cause the blades and wheels to wear out more quickly. Replace as necessary
Spray Gun	Check spray pattern. If spray pattern will not pinpoint, clean orifice by removing it with an Allen wrench and flushing. Replace if needed.
	<ul> <li>If nozzle becomes difficult to move from high to low pressure lubricate noz- zle with lithium grease.</li> </ul>
Pressure	Wipe clean after each use.
Hose	Check for cuts or frays in the hose jacket, particularly at the end of the fit- tings. Replace hose if cuts are found
Water	Check condition of filter in water tank. Clean as needed.
Tank	Empty the water tank to prevent mildew and bacteria growth. Empty tank by dipping the vacuum hose into the water tank and transferring the water to the vacuum tank.
Vacuum Tank	Empty and flush vacuum tank.
	Clean and disinfect.
	Check the float shutoff screen to be sure it is not plugged up. A plugged filter screen restricts airflow and results in reduced suction.
Leaks	Be alert for leaks around hoses, fittings, spray wand, tanks or elsewhere.
	Discontinue use until leaks are repaired
Electrical System	The ground fault circuit interrupter (GFCI) must be tested before each use.
	Electric cord must be inspected for tears or cuts in the insulation.
Vacuum Wand	<ul> <li>Use a wire brush or coarse brush with acid cleaner or other to remove residue from threads on the coupling and coupling nut. Apply grease when done.</li> </ul>
HEPA Filter	Replace every 3-6 months depending on use

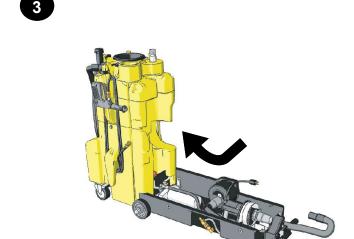
## 3.2 BLACK BOX REMOVAL INSTRUCTIONS



Remove all hoses, cords, and tools prior to black box removal.



Laying the machine on its back remove the four yellow wingbolts as shown above



Placing your foot on one of the two handles, tilt the yellow tanks upward until standing upright



Locate and disconnect the water line and return line behind the black box on the machine

## 3.3 TROUBLESHOOTING

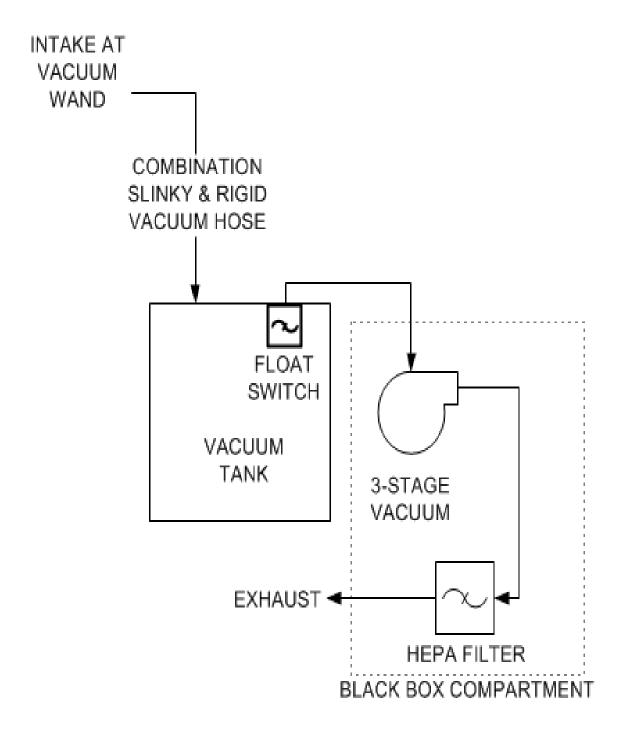
**CAUTION** Always make sure machine's unplugged before lifting electric cover assembly

Area	Problem	Possible Cause	Solution
		Machine not plugged in	Plug machine in
		Switch not "on'	Check switches for "on"
	No Power to pump or	GFCI tripped	Test and reset GFCI
	vac motor	Building circuit overloaded	Check and reset circuit
Electrical		Switch wires loose	Disconnect power and check for loose wire
		Connections loose	Disconnect Power and check for loose wire under panel
		Vac motor brushes worn	Remove vac motor and repair
	Electrical burning smell	Vac motor hung up	Release pressure on hose and jog vac switch, or replace
		Pump motor hung up	Release pressure on hose and jog pump switch, or replace
		Vac tank full	Empty vac tank
		Squeegee blades or wheels worn	Replace wheels or blades and check periodically
		Float shutoff screen dirty	Spray off float screen to clean
		Float ball stuck	Tap float and release/clean
		Damaged hose	Cut and repair/replace
	No / Weak vacuum	Dump hose plug missing	Contact dealer and replace
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Tio, Would Valuation	Access lid not tight	Tighten lid hand tight
Vacuum System		Vacuum hose plugged	Flush hose to remove debris
		Too much liquid in vac hose	Allow air in when vacuuming
		Vac hose still wrapped	Unwrap vac hose fully
		Exhaust plugged	Remove HEPA filter and clean
		Leak in vac tank	If repairable, clean and dry affected area and seal with silicone
		HEPA Filter clogged	Remove HEPA filter and clean
	Moisture from	Vac tank full	Dump vac tank
	exhaust	Float shutoff missing	Replace
		Excessive foam in vac tank	Use defoamer
	No air flow	Hose disconnected	Reconnect hose
Blow Dry System	Moisture from nozzle	Water in blow hose	Dry blow line
	Suction, not blow action	Vacuum hose connected to vac tank	Reconnect to vac motor exhaust hose

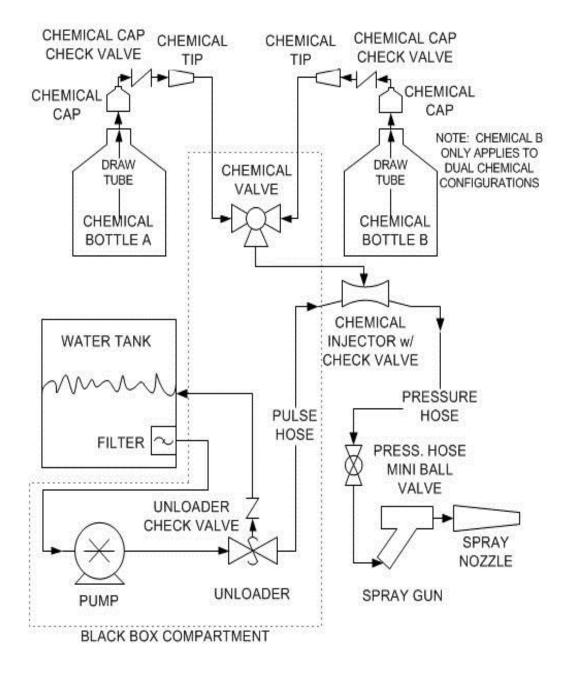
Dilow small amounts of compressed air into line	Area	Problem	<b>Possible Cause</b>	Solution
No water from pump or low pressure			Out of Water	Fill water tank
No water from pump or low pressure  High Pressure System  High Pressure  High Pressure  Are place or replace  Pressure hose damaged Repair or replace  Quick disconnect leaking Tighten or replace  Pulse hose damaged Repair or replace  Regular or replace  Remove safety cap from chemical and blow small amounts of compressed air into line  Pulse hose damaged Repair or replace  Regulator failed Replace  Hose kinked Unkink and check for damage  Seals in pump need replace  Seals in pump need replace  Out of chemical  Safety cap not secure Check safety cap / tighten or replace  Remove and replace seals  Out of chemical  Safety cap not secure Check safety cap / tighten  Chemical Injection System  No chemical flow  No chemical flow  Air entering system Check for air entering system around chemical lines or injector  Injector installed back-wards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector for is in backwards. Remove and reinstall			Gun nozzle plugged	
No water from pump or low pressure  High Pressure System  High Pressure  High Pressure  No water from pump or low pressure  High Pressure  High Pressure  No water from pump or low pressure  High Pressure  No water from pump or low pressure  High Pressure  Bowl filter lid loose  Pressure hose damaged Repair or replace  Quick disconnect leaking Tighten or replace  Injector plugged Remove safety cap from chemical and blow small amounts of compressed air into line  Pulse hose damaged Repair or replace  Regulator failed Replace  Hose kinked Unkink and check for damage  Seals in pump need replaced Remove and replace seals placed  Debris in nozzle Remove orifice with Allen wrench and clean  Orifice damaged Remove and replace  Out of chemical Refill chemical  Safety cap not secure Check safety cap / tighten  Chemical valve "off" Check on / off valve  Safety cap plugged Replace cap  Spray gun in wrong Make sure gun nozzle is pulled out away from gun chemical mode  Metering tip plugged Remove safety cap from chemical and blow small amounts of compressed air into line  Air entering system Check for air entering system around chemical lines or injector  Injector installed back-wards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall			Air in pump (vapor lock)	Use power prime technique
No water from pump or low pressure  High Pressure System  High Pressure Age and the pressure Pressure hose damaged Repair or replace  Quick disconnect leaking Tighten or replace  Remove safety cap from chemical and blow small amounts of compressed air into line  Pulse hose damaged Repair or replace  Regulator failed Replace  Hose kinked Unkink and check for damage  Seals in pump need replace seals  placed Remove and replace seals  Debris in nozzle Remove orifice with Allen wrench and clean  Orifice damaged Remove and replace  Out of chemical Refill chemical  Safety cap not secure Check safety cap / tighten  Chemical valve "off" Check on / off valve  Safety cap plugged Replace cap  Spray gun in wrong Make sure gun nozzle is pulled out away from gun chemical mode  Metering tip plugged Remove safety cap from chemical and blow small amounts of compressed air into line  Air entering system Check or air entering system around chemical lines or injector  Injector installed backwards Remove and rein-stall			Gun orifice missing	Replace orifice
High Pressure System  High Pressure System  Pressure hose damaged Quick disconnect leaking Injector plugged Remove safety cap from chemical and blow small amounts of compressed air into line Pulse hose damaged Repair or replace Regulator failed Replace Hose kinked Unkink and check for damage Seals in pump need replaced Remove and replace seals Person or office with Allen wrench and clean Orifice damaged Remove and replace with Allen wrench and clean Orifice damaged Remove and replace Refill chemical Safety cap not secure Check safety cap / tighten Chemical Injection System  No chemical flow  Pressure hose damaged Repair or replace Remove safety cap from chemical and blow small amounts of compressed air into line Air entering system Check for air entering system around chemical lines or injector Injector installed backwards Wards Remove and rein-stall			Water tank filter plugged	Clean tank and filter
High Pressure System    Bowl filter lid loose   Gently tighten bowl cover				Remove filter cover and clean
Quick disconnect leaking   Tighten or replace		р. сел. р. сел. с	Bowl filter lid loose	Gently tighten bowl cover
Injector plugged Injector plugged Injector plugged Remove safety cap from chemical and blow small amounts of compressed air into line Pulse hose damaged Repair or replace Regulator failed Replace Hose kinked Unkink and check for damage Seals in pump need replace seals placed  Bad fan pattern or pinpoint pattern on gun Orifice damaged Remove and replace seals Remove and replace Out of chemical Refill chemical Safety cap not secure Check safety cap / tighten Chemical valve "off" Check on / off valve Safety cap plugged Replace cap Spray gun in wrong mode Metering tip plugged Check metering tip for clog Injector plugged Remove safety cap from chemical and blow small amounts of compressed air into line Air entering system Check for air entering system around chemical lines or injector Injector installed backwards Wards Check merove and replace Remove safety cap / tighten Check metering tip for clog Remove safety cap from chemical and blow small amounts of compressed air into line Air entering system Check for air entering system around chemical lines or injector Injector installed backwards Remove and rein-stall	•		Pressure hose damaged	Repair or replace
blow small amounts of compressed air into line  Pulse hose damaged Repair or replace  Regulator failed Replace  Hose kinked Unkink and check for damage  Seals in pump need replace seals  Bad fan pattern or pinpoint pattern on gun  Orifice damaged Remove and replace seals  Debris in nozzle Remove and replace  Out of chemical Refill chemical  Safety cap not secure Check safety cap / tighten  Chemical valve "off" Check on / off valve  Safety cap plugged Replace cap  Spray gun in wrong Make sure gun nozzle is pulled out away from gun chemical mode  Metering tip plugged Check metering tip for clog  Injector plugged Remove safety cap from chemical and blow small amounts of compressed air into line  Air entering system Check for air entering system around chemical lines or injector  Injector installed backwards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall	System		Quick disconnect leaking	Tighten or replace
Regulator failed Replace Hose kinked Unkink and check for damage  Remove and replace seals  Remove and replace seals  Remove orifice with Allen wrench and clean  Orifice damaged Remove and replace  Out of chemical Refill chemical  Safety cap not secure Check safety cap / tighten  Chemical valve "off" Check on / off valve  Safety cap plugged Replace cap  Spray gun in wrong Make sure gun nozzle is pulled out away from gun chemical mode  Metering tip plugged Check metering tip for clog  Injector plugged Remove safety cap from chemical and blow small amounts of compressed air into line  Air entering system Check for air entering system around chemical lines or injector  Injector installed backwards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall			Injector plugged	Remove safety cap from chemical and blow small amounts of compressed air into line
Hose kinked Unkink and check for damage  Seals in pump need replaced  Bad fan pattern or pinpoint pattern on gun  Debris in nozzle Remove and replace seals  Personate Remove and replace seals  Debris in nozzle Remove orifice with Allen wrench and clean  Orifice damaged Remove and replace  Out of chemical Refill chemical  Safety cap not secure Check safety cap / tighten  Chemical valve "off" Check on / off valve  Safety cap plugged Replace cap  Spray gun in wrong Make sure gun nozzle is pulled out away from gun chemical mode  Metering tip plugged Check metering tip for clog  Injector plugged Remove safety cap from chemical and blow small amounts of compressed air into line  Air entering system Check for air entering system around chemical lines or injector  Injector installed backwards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall			Pulse hose damaged	Repair or replace
Seals in pump need replaced  Bad fan pattern or pinpoint pattern on gun  Debris in nozzle  Remove orifice with Allen wrench and clean  Orifice damaged  Remove and replace  Remove and replace  Remove and replace  Out of chemical  Refill chemical  Safety cap not secure  Check safety cap / tighten  Chemical valve "off"  Check on / off valve  Safety cap plugged  Replace cap  Spray gun in wrong make sure gun nozzle is pulled out away from gun chemical mode  Metering tip plugged  Check metering tip for clog  Injector plugged  Air entering system  Check for air entering system around chemical lines or injector  Injector installed backwards  Wards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall			Regulator failed	Replace
Bad fan pattern or pinpoint pattern on gun			Hose kinked	Unkink and check for damage
pinpoint pattern on gun  Orifice damaged Remove and replace  Out of chemical Refill chemical  Safety cap not secure Check safety cap / tighten  Chemical valve "off" Check on / off valve  Safety cap plugged Replace cap  Spray gun in wrong Make sure gun nozzle is pulled out away from gun chemical mode  Metering tip plugged Check metering tip for clog  Injector plugged Remove safety cap from chemical and blow small amounts of compressed air into line  Air entering system Check for air entering system around chemical lines or injector  Injector installed backwards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall				Remove and replace seals
Chemical Injection System  No chemical flow  No chemical flow  Out of chemical Safety cap not secure Check safety cap / tighten  Chemical valve "off" Check on / off valve  Safety cap plugged Replace cap  Spray gun in wrong Make sure gun nozzle is pulled out away from gun chemical mode  Metering tip plugged Check metering tip for clog  Injector plugged Remove safety cap from chemical and blow small amounts of compressed air into line  Air entering system Check for air entering system around chemical lines or injector  Injector installed backwards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall		pinpoint pattern on	Debris in nozzle	
Safety cap not secure  Check safety cap / tighten  Chemical valve "off" Check on / off valve  Safety cap plugged Replace cap  Spray gun in wrong mode Metering tip plugged Check metering tip for clog  Injector plugged Remove safety cap from chemical and blow small amounts of compressed air into line  Air entering system Check for air entering system around chemical lines or injector  Injector installed backwards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall		gun	Orifice damaged	Remove and replace
Chemical Injection System  No chemical flow  No chemical flow  No chemical flow  Chemical Injection System  No chemical flow  No chemical flow  Chemical Injection System  No chemical flow  Chemical Injector plugged  Injector plugged  Remove safety cap from chemical and blow small amounts of compressed air into line  Air entering system  Check for air entering system around chemical lines or injector  Injector installed backwards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall			Out of chemical	Refill chemical
Chemical Injection System  No chemical flow  Injector plugged  Check for air entering system around chemical lines or injector  Injector installed back-wards  No chemical flow  Injector plugged  Check for air entering system around chemical into line  Check for air entering system around chemical flow  Check for air entering system around chemical flow  No chemical flow			Safety cap not secure	Check safety cap / tighten
Chemical Injection System  No chemical flow  No			Chemical valve "off"	Check on / off valve
Chemical Injection System  No chemical flow  Injector plugged  Remove safety cap from chemical and blow small amounts of compressed air into line  Check for air entering system around chemical lines or injector  Injector installed backwards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall			Safety cap plugged	Replace cap
No chemical flow  Injector plugged  Remove safety cap from chemical and blow small amounts of compressed air into line  Air entering system  Check for air entering system around chemical lines or injector  Injector installed backwards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall				
No chemical flow  Injector plugged Remove safety cap from chemical and blow small amounts of compressed air into line  Air entering system Check for air entering system around chemical lines or injector  Injector installed backwards If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall	Chemical Injection		Metering tip plugged	Check metering tip for clog
Injector installed backwards  Injector installed backwards  If fluttering or pulsing sound can be heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall	-	No chemical flow	Injector plugged	Remove safety cap from chemical and blow small amounts of compressed air into line
wards heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and reinstall			Air entering system	
Kink in Chemical line Replace Chemical line			I -	heard while spraying or when machine is running it is possible that your injector is in backwards. Remove and rein-
			Kink in Chemical line	Replace Chemical line

Area	Problem	Possible Cause	Solution
	Not enough chemical	Metering tip plugged	Remove and clean
		Wrong metering tip	Check and replace per chart
Chemical Injection System continued	Chemical line blows off safety cap	Debris in injector	Remove safety cap from chemical and blow small amounts of compressed air into line
	Water back flows into chemical bottle	Bad seat on injector check valve	Check injector o - ring or replace
		Bad safety cap	Replace safety cap
	Dump hose will not emp- ty tank	Dump hose cap not removed	Remove cap
		Clog in bottom of tank	Tip dump contents, remove debris
Dump System		Hose cut	If leak is less than 4" from tank side, cut and reattach, or replace
	Dump hose leaks	Clamp loose	Tighten hose clamp
		Dump cap missing	Replace cap
		Flat tires	Inflate tires to 30 p. s. i.
		Debris wrapped around axle	Check for debris on axle
Wheels and Casters	Wheels won't roll, or they rub	Bearings tight	Grease bearings
		Wheels too loose on axle	Remove wheel, add washers to take up slack
		Bearings falling out	Replace bearing assembly
	Floor streaks	Worn blades or wheels	Replace wheels and / or blades
	Squeegee head doesn't easily rotate when installed on wand	Brass ring on wand not in groove	Loosen coupling nut and re-position head on groove
Squeegee Head		Coupling nut too tight	Loosen 1 / 2 turn
	Head won't stay on wand	Coupling nut cracked	Replace
		Brass ring worn	Replace
	Premature blade wear	Squeegee wheels worn	Check wheels for wear / replace
	Sucks to the floor too tightly	Squeegee wheels worn	Check wheels for wear / replace

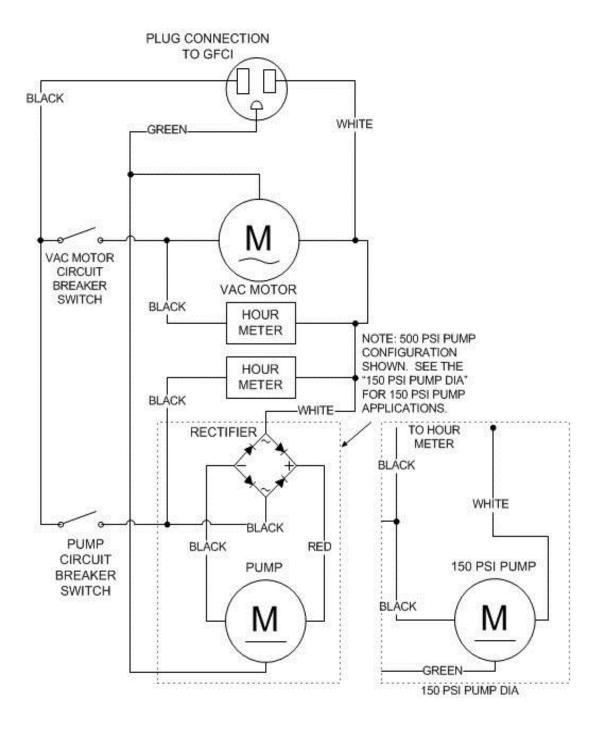
#### 3.4 VACUUM DIAGRAM

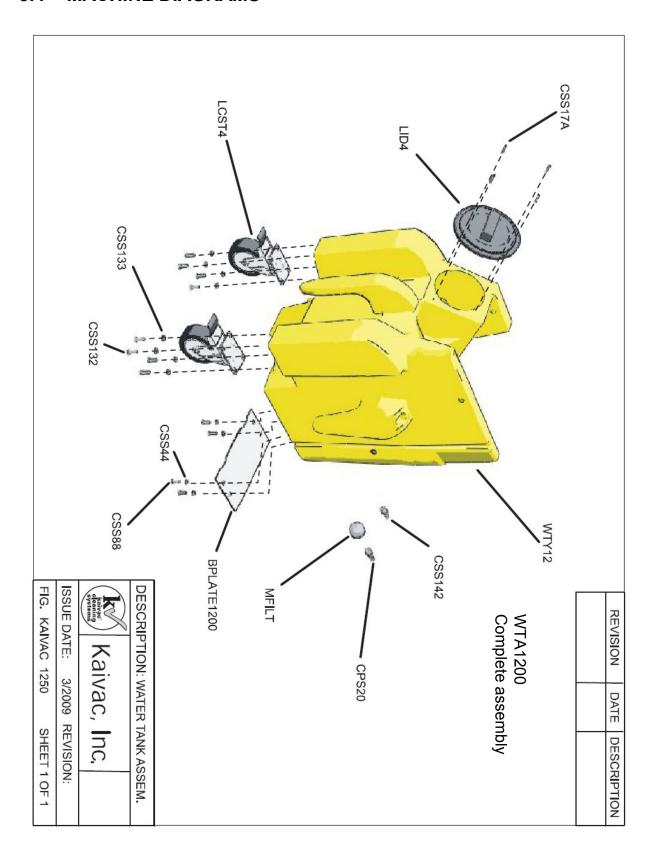


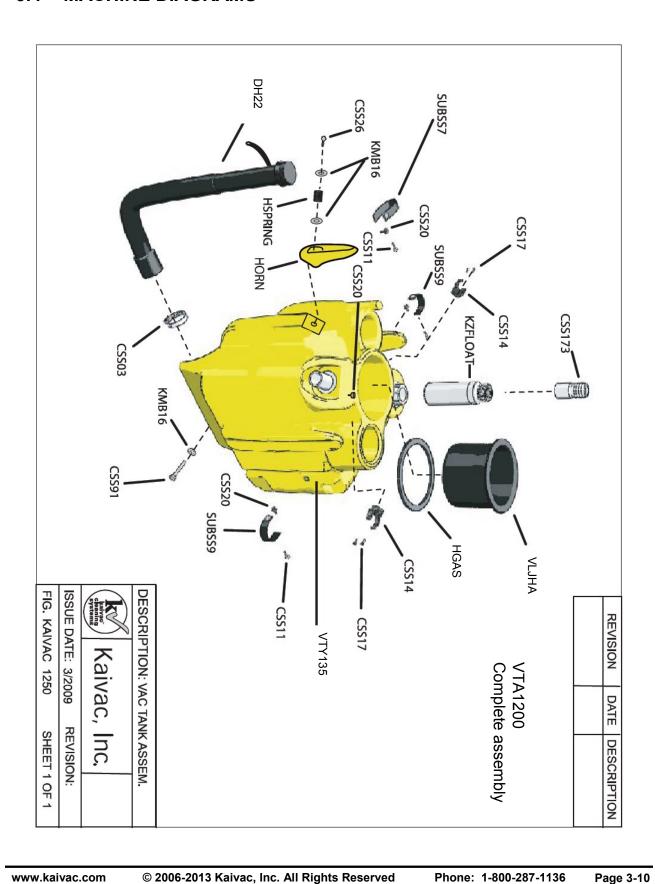
#### 3.4 PUMP DIAGRAM

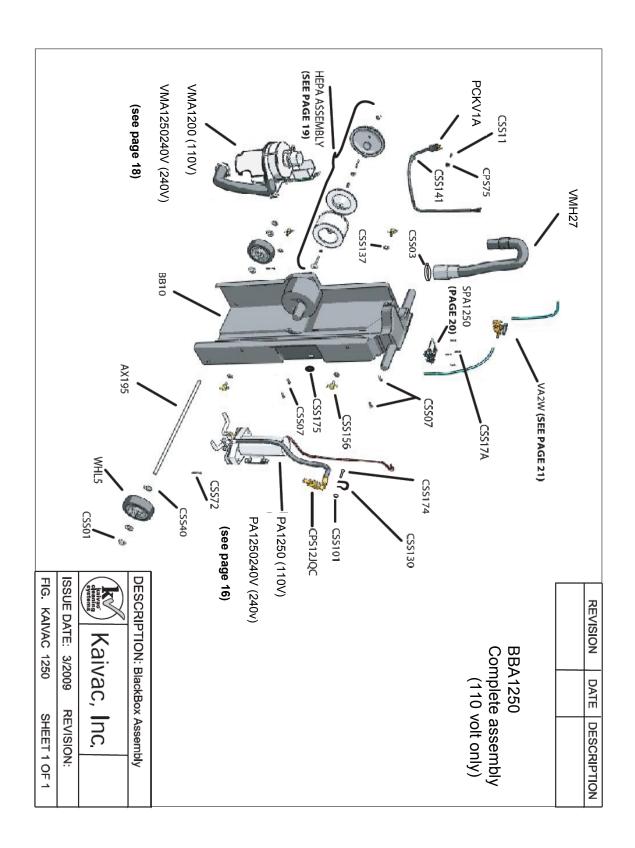


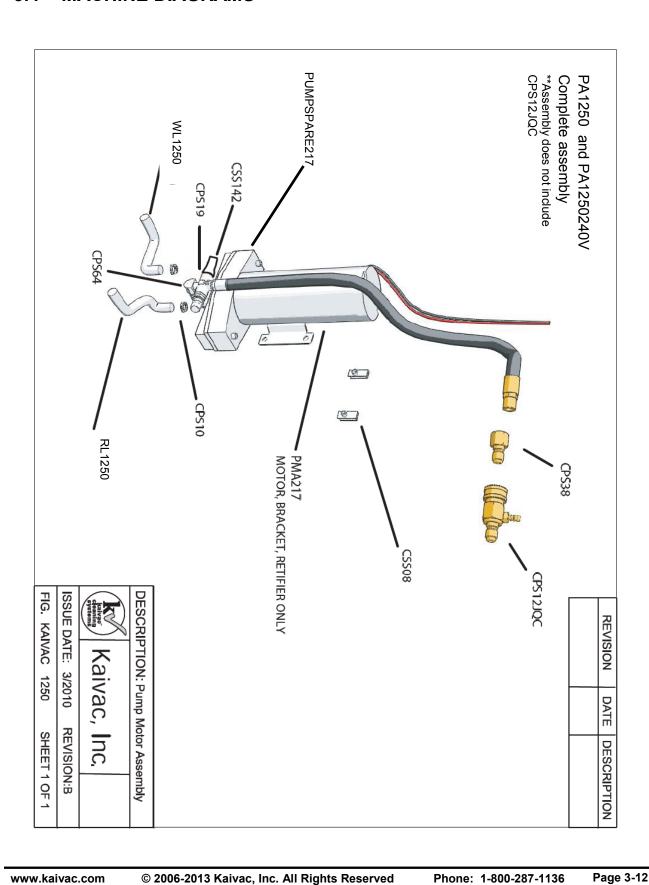
#### 3.4 ELECTRICAL DIAGRAM

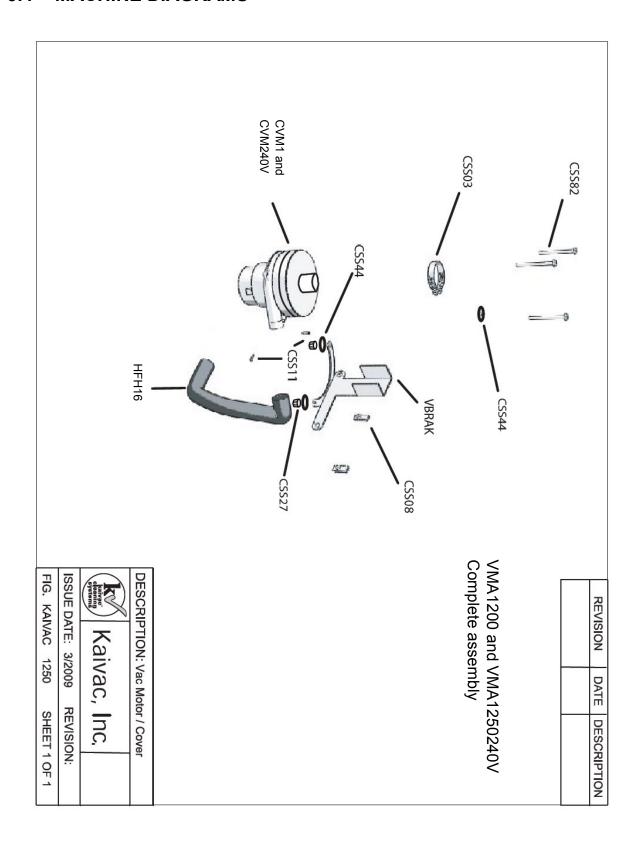




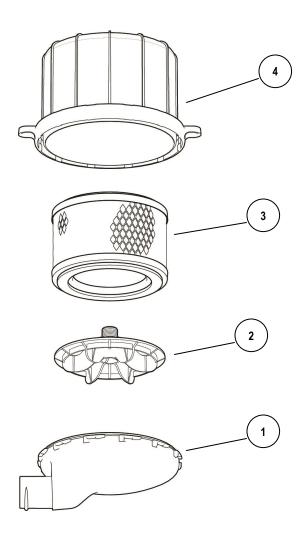




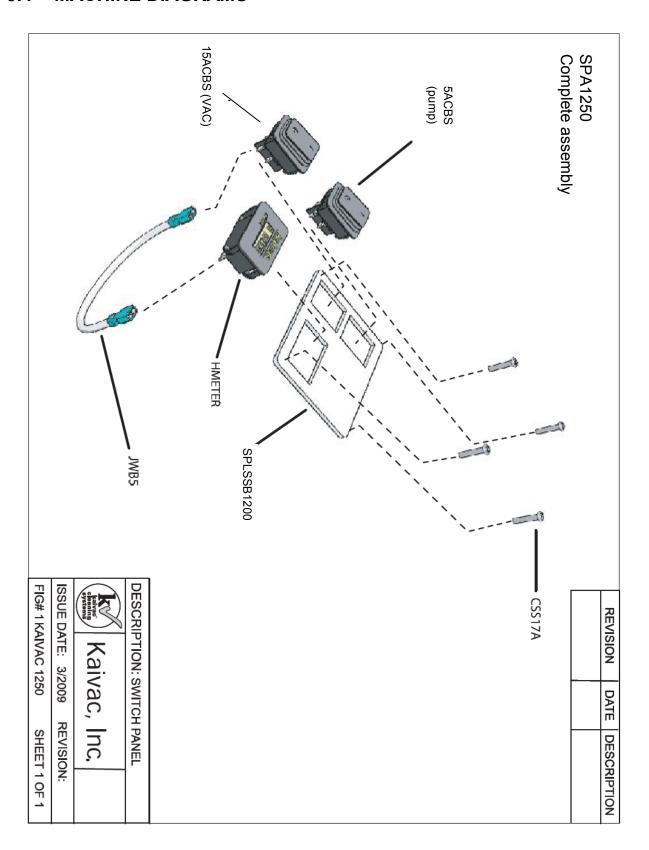


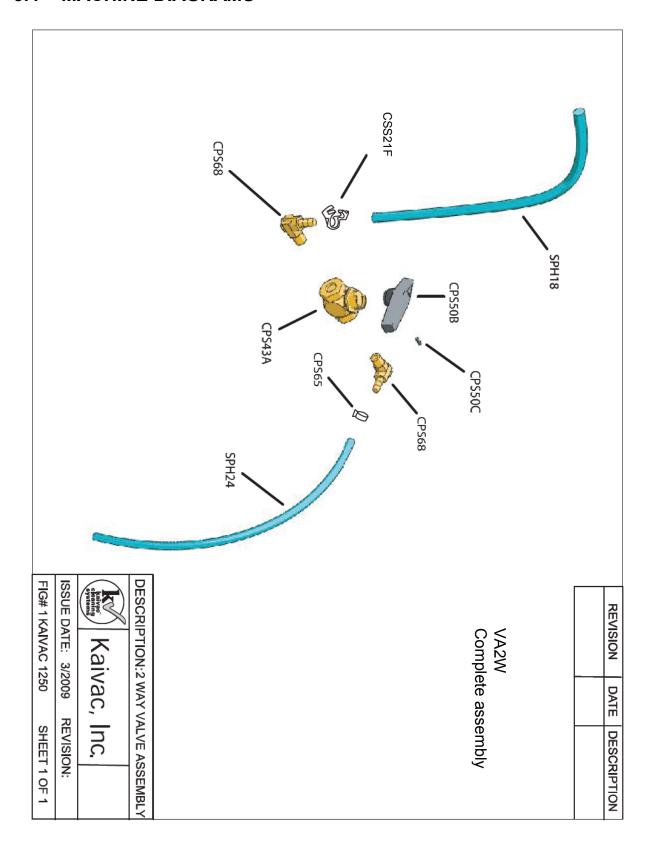


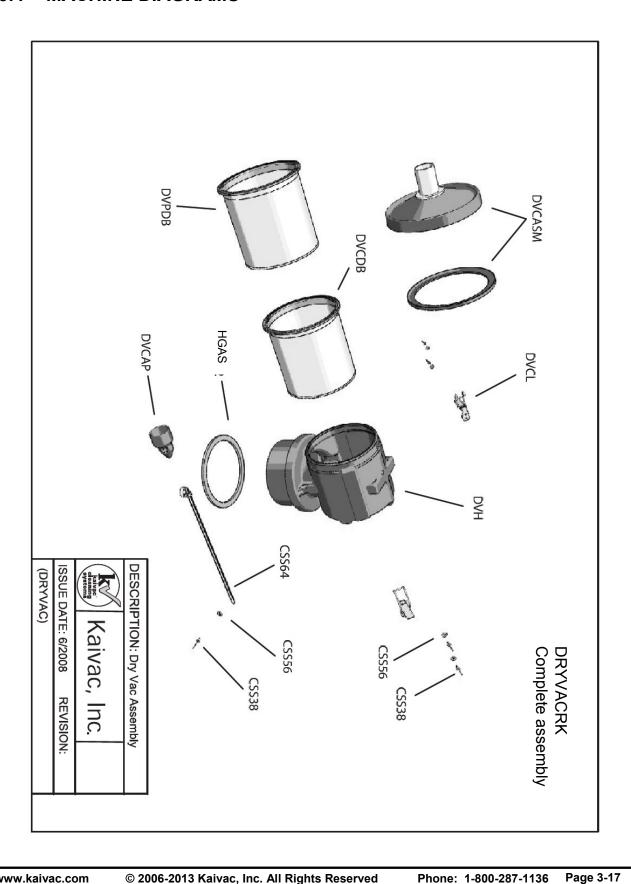
# HEPA HOUSING ASSEMBLY (HEPAHA2)



#	PART NO.	PART DESCRIPTION
1	HCOVER	HEPA COVER
2	FKEEP2	HEPA FILTER KEEPER
3	HEPA	HEPA FILTER
4	HEPAH2	HEPA FILTER HOUSING







WATER TANK ASSEMBLY (WTA1200)   1	′
ASSEM 1  CPS20 - 3/8 X 1/2 HOSE BARB 1  CSS142 - 3/8 INCH BRASS HOSE BARB 1  MFILT - MUSHROOM FILTER 1  LID4 - LID WITH TETHER 4 1/4 IN 1  CSS17A - 8 SST SCREW 3/4 4  CSS11 - NO 10 X 3/4 SELF DRILLING 1  LCST4 - 4 TOTAL LOCK CASTER 2  CSS133 - 5/16 SPLIT LOCK WASHER 300 SS 8  CSS132 - 5/16-18X1 BUTTON HEAD 8  GR2 - KV LOGO STICKER 2  CSS14 - 13 CLAMP , FOR TOOLS 1	
CPS20 - 3/8 X 1/2 HOSE BARB       1         CSS142 - 3/8 INCH BRASS HOSE BARB       1         MFILT - MUSHROOM FILTER       1         LID4 - LID WITH TETHER 4 1/4 IN       1         CSS17A - 8 SST SCREW 3/4       4         CSS11 - NO 10 X 3/4 SELF DRILLING       1         LCST4 - 4 TOTAL LOCK CASTER       2         CSS133 - 5/16 SPLIT LOCK WASHER 300 SS       8         CSS132 - 5/16-18X1 BUTTON HEAD       8         GR2 - KV LOGO STICKER       2         CSS14 - 13 CLAMP , FOR TOOLS       1	
CSS142 - 3/8 INCH BRASS HOSE BARB  MFILT - MUSHROOM FILTER  LID4 - LID WITH TETHER 4 1/4 IN  CSS17A - 8 SST SCREW 3/4  CSS11 - NO 10 X 3/4 SELF DRILLING  LCST4 - 4 TOTAL LOCK CASTER  CSS133 - 5/16 SPLIT LOCK WASHER 300 SS  CSS132 - 5/16-18X1 BUTTON HEAD  B GR2 - KV LOGO STICKER  CSS14 - 13 CLAMP , FOR TOOLS  1	
MFILT - MUSHROOM FILTER       1         LID4 - LID WITH TETHER 4 1/4 IN       1         CSS17A - 8 SST SCREW 3/4       4         CSS11 - NO 10 X 3/4 SELF DRILLING       1         LCST4 - 4 TOTAL LOCK CASTER       2         CSS133 - 5/16 SPLIT LOCK WASHER 300 SS       8         CSS132 - 5/16-18X1 BUTTON HEAD       8         GR2 - KV LOGO STICKER       2         CSS14 - 13 CLAMP , FOR TOOLS       1	
LID4 - LID WITH TETHER 4 1/4 IN       1         CSS17A - 8 SST SCREW 3/4       4         CSS11 - NO 10 X 3/4 SELF DRILLING       1         LCST4 - 4 TOTAL LOCK CASTER       2         CSS133 - 5/16 SPLIT LOCK WASHER 300 SS       8         CSS132 - 5/16-18X1 BUTTON HEAD       8         GR2 - KV LOGO STICKER       2         CSS14 - 13 CLAMP , FOR TOOLS       1	
CSS17A - 8 SST SCREW 3/4       4         CSS11 - NO 10 X 3/4 SELF DRILLING       1         LCST4 - 4 TOTAL LOCK CASTER       2         CSS133 - 5/16 SPLIT LOCK WASHER 300 SS       8         CSS132 - 5/16-18X1 BUTTON HEAD       8         GR2 - KV LOGO STICKER       2         CSS14 - 13 CLAMP , FOR TOOLS       1	
CSS11 - NO 10 X 3/4 SELF DRILLING       1         LCST4 - 4 TOTAL LOCK CASTER       2         CSS133 - 5/16 SPLIT LOCK WASHER 300 SS       8         CSS132 - 5/16-18X1 BUTTON HEAD       8         GR2 - KV LOGO STICKER       2         CSS14 - 13 CLAMP , FOR TOOLS       1	
LCST4 - 4 TOTAL LOCK CASTER       2         CSS133 - 5/16 SPLIT LOCK WASHER 300 SS       8         CSS132 - 5/16-18X1 BUTTON HEAD       8         GR2 - KV LOGO STICKER       2         CSS14 - 13 CLAMP , FOR TOOLS       1	
CSS133 - 5/16 SPLIT LOCK WASHER 300 SS       8         CSS132 - 5/16-18X1 BUTTON HEAD       8         GR2 - KV LOGO STICKER       2         CSS14 - 13 CLAMP , FOR TOOLS       1	
CSS132 - 5/16-18X1 BUTTON HEAD       8         GR2 - KV LOGO STICKER       2         CSS14 - 13 CLAMP , FOR TOOLS       1	
GR2 - KV LOGO STICKER 2 CSS14 - 13 CLAMP , FOR TOOLS 1	
CSS14 - 13 CLAMP , FOR TOOLS 1	
CSS17 - NO 8 FLAT HEAD SQUARE SCREW 2	
VAC TANK ASSEMBLY (VTA1200) 1	
VTY135 - VAC TANK YELLOW 13.5 LBS 1200 S	
ASSEM 1	
KZFLOAT - FLOAT SHUT OFF 1	
CSS173 - 1 1/4 NPT X 1 1/2 HOSE ADAPTER 1	
DH22 - STAY CLEAN DUMP HOSE 1.5 X 22.5 IN 1	
CSS03 - 1 9/16 - 2 1/2 HOSE CLAMP 1	
CSS14 - 13 CLAMP , FOR TOOLS 2	
CSS17 - NO 8 FLAT HEAD SQUARE SCREW 4	
SUBSS9 - 9 IN. SNAP AND STRAP 2	
SUBSS7 - 7 IN SNAP AND STRAP 1	
CSS20 - SNAP STUD 5	
CSS11 - NO 10 X 3/4 SELF DRILLING 3	
CSS91 - 3/8 X 2 1/4 BOLT 2	
KMB16 - 3/8 SST FLAT WASHER 2	
CSS58 - 3/8 X 16 X 1 SST SCREW 1	
CSS48 - 3/8 SST LARGE OD WASHER 1	
FIG8LABEL - FIGURE 8 LABEL 1-1/4 X 3-1/4	
VAC LID, JUG HOLDER ASSEM (VLJHA)	
VLJH - VAC LID , JUG HOLDER 1	
HGAS - HEPA BLOW COVER GASKET 1	

PART NUMBER - DESCRIPTION	QTY
BLACK BOX ASSEMBLY (BBA1250)	1
BB10 - BLACK BOX 1200 S 10 LB ASSEMBLY	1
CSS200 - ADHESIVE CABLE CLAMP	2
AX195 - AXLE 19.75 X 1/2 CR STEEL	1
WHL5 - 5 X 1 1/2 TPU WHEEL W-1/2 BB	2
CSS40 - 1/2 DIA WASHERS	2
CSS72 - COTTER PIN 1/8 DIA X 11/4 LG	2
CSS01 - 1/2 IN PUSH CAP NUT	2
VMA1200—VAC MOTOR ASY (110V)	
VMA1250240V—VAC MOTOR ASY (240V)	1
PA1250 - PUMP ASSEM FOR KV1250	
PA1250240V—PUMP ASSEM FOR (240V)	1
CSS07 - 5/16-18 X 1 HEX HEAD	4
CSS136 - 6 NATURAL CABLE TIE	1
CSS175 - 3/4 ID X 1 3/8 OD GROMMET	1
CSS130 - RUBBER CUSHIONED STEEL LOOP	1
CSS174 - 1/4-20 X 5/8 MACHINE SCREW SS	1
CSS101 - ACORN NUT 1/4 20	1
PCKV1 - 22 IN. POWER CORD WITH MOLDED	1
CSS141 - 3/8 ID X 7/8 OD RUBBER GROMMET	1
CPS75 - CABLE CLAMP FOR EXT. CORD	2
CSS11 - NO 10 X 3/4 SELF DRILLING	2
CSS17A - 8 SST SCREW 3/4	2
HEPAHA2 - HEPA HOUSING ASSEMBLY	1
HEPALAB - HEPA WARNING LABEL	1
VA2W - VALVE ASSEM 2 WAY FOR KV1250	1
SPA1250 - SWITCH PANEL ASSEM FOR KV1250	1
CSS17A - 8 SST SCREW 3/4	6
CPS12JQC - QUICK CONNECT INJECTOR	1
CSS21F - SNAP GRIP HOSE CLAMP SIZE C	1
CSS39 - 1 1/16 - 2 HOSE CLAMP	1
SP1250 - SERIAL PLATE FOR KV1250	1
SERIALLABEL - SERIAL NUMBER LABEL	2
NFSIL - NFSI LABEL	1
CSS308 - 1200 BLACK BOX HOSE HOOK	1
CSS48 - 3/8 SST LARGE OD WASHER	1
CSS54 - 3/8 HEX NUT	1
CSS127 - QUICK DISCONNECT TERMINAL	1
OMLAB2 - OMNIFLEX MAINTENANCE LABEL	1
BLADES	1
	1
	1

PART NUMBER - DESCRIPTION	QTY
1250 PUMP ASSEMBLY (PA1250 (110V) PA1250240V (240V)	1
P217AM-12 - 1250 PUMP SERIES 217V-110/M9253F	1
WL1250 - WATER LINE FOR KV1250	1
RL1750 - RETURN LINE FOR 1750	1
CSS08 - 5/16-18 U-NUT	2
JWW - JUMPER WIRE WHITE 12 IN	1
JWB - JUMPER WIRE BLACK 12 IN	1
CSS127 - QUICK DISCONNECT TERMINAL	1
CSS64 - TIE WRAP FOR FILTERS	1
CPS10 - 7/16 - 25/32 HOSE CLAMP	2
VAC MOTOR ASSEMBLY (VMA1200)(110V) VMA1250240V (240V)	1
CVM1 - MOTOR FOR BUILDSREPLACEMENTS-	
USE CVM1R	1
CSS28 - TREMCO CLEAR RTV SILICONE SEALANT	0.01
CES24 - 16 GAUGE BLACK WIRE	0.5
CSS127 - QUICK DISCONNECT TERMINAL	1
CES27 - 16-14 GAUGE BUTT SPLICES	1
HFH16 - HEPA FILTER HOSE 16 IN FOR	1
CSS39 - 1 1/16 - 2 HOSE CLAMP	1
CSS11 - NO 10 X 3/4 SELF DRILLING	2
VBRAK - VAC MOTOR BRACKET KV1200	1
CSS44 - 1/4 FLAT WASHER	2
CSS27 - 1/4 NYLOC NUT	2
CSS203 - HEX HEAD BOLT 1/4 20 X 1 1/4	2
CSS08 - 5/16-18 U-NUT	2
VMH27 - VAC MOTOR HOSE NEW	1
VALVE ASSEM 2 WAY FOR KV1250 (VA2W)	
CPS43A - 2 WAY BRASS VALVE VITON SEALS	1
CPS68 - 90 DEG. 1/8 NPT MALE X	2
CPS65 - 1/2 IN CLAMP	1
CSS21F - SNAP GRIP HOSE CLAMP SIZE C	1
SPH18 - 2 WAY VALVE HOSE FOR KV1250	1
SPH24 - ELEC BOX CHEMICAL HOSE 24 IN	1

PART NUMBER - DESCRIPTION	QTY
1200 SERIES SWITCH PANEL ASSEMBLY (SPA1250)	1
HMETER - SNAP IN DIGITAL HOUR METER	1
JWB5 - JUMPER WIRE BLACK 5 IN	1
CSS123 - QUICK CONNECT PIGGY BACK TERM	1
SPLSSB1200 - SWITCH PLATE SS W/ BREAKER	1
15ACBS - 15 AMP CIRCUIT BREAKER SWITCH	1
5ACBS - 5 AMP CIRCUIT BREAKER SWITCH	1
STANDARD ACCESSORIES 1200 SERIES	
BPLATE1200 - BOTTOM PLATE FOR 1200 SERIES	1
CSS88 - 1/4-20 X 3/4 SST SCREW	4
CSS44 - 1/4 FLAT WASHER	4
CSS156 - 3/8 X 3/4 T THUMB SCREW YELLOW	3
CSS48 - 3/8 SST LARGE OD WASHER	3
CPS65 - 1/2 IN CLAMP	1
GFCI25 - GFCI 25 FT (110V ONLY)	1
PH45 - PRESSURE HOSE ASSEM 45 FT	1
SUBGAKW - PRESSURE GUN GREEN DOT (110V)	1
MTIPSNEW - METERING TIP PACK	1
CHCAPA - CHEM CAP W/SAFETY CHECK VALVE AND	
SCREEN	1
1250ACC - 1250 ACCESSORY KIT	1
1200BX1 - TOP BOX FOR KV1200 UNITS	1
1200BX2 - BOTTOM BOX FOR KV1200 UNITS	1
FH6FT - FILL HOSE 6 FT	1
CSS114 - NYLON SNAP GRIP CLAMP SIZE F	1

PART NUMBER - DESCRIPTION	QTY
1250 ACCESSORY KIT (1250ACC)	
VHST45 - 45 FT STRETCH HOSE 5 TO 1 RATIO	1
DRWED - DOOR WEDGIE	1
TBAG - TOTE BAG	1
OFVWGB - VAC WAND W/ STRAP & GROUT BRUSH	1
VBRUSH - SQUEEGEE HEAD BRUSH COMPLETE	1
CVS12S - 14.5 SQUEEGEE HEAD WITH SS WHEELS	1
CVS13 - BLOW NOZZLE	1
CAA06 - WINDOW SQUEEGEE COMPLETE	1
CVS14 - KAIDRAIN GULPER TOOL	1
SUBBLHSST - 33 FT BLOW HOSE	1
QS1200 - QUICK START FOR KV1200 SERIES	1
MANUAL1200 - MANUAL FOR 1200 SERIES	1
KTDVD - KAITUTOR TRAINING DVD DISK	1
FGHA - FAUCET TO GARDEN HOSE ADAPTER	1
PLCRD - PLACARD FOR 1200 1700 2100 SERIES	
UNITS	1
STF - SMART TOWEL FLYER	1
STY - YELLOW SMART TOWEL EA	1
12ACCBX - 24 1/4 X 20 1/4 X 6 1200 ACCESSORY BOX	1
1215 ACCESSORY KIT (1215ACC)	
VHKVJRST - BLACK STRETCH VAC HOSE W/ BLACK	
CUFFS	1
OFVWGB - VAC WAND W/ STRAP & GROUT BRUSH	1
VBRUSH - SQUEEGEE HEAD BRUSH COMPLETE	1
QS1200 - QUICK START FOR KV1200 SERIES	1
KTDVD - KAITUTOR TRAINING DVD DISK	1
MANUAL1200 - KAIVAC 1215 MANUAL	1
STF - SMART TOWEL FLYER	1
STY - YELLOW SMART TOWEL EA	1
12ACCBX - 24 1/4 X 20 1/4 X 6 1200 ACCESSORY BOX	1