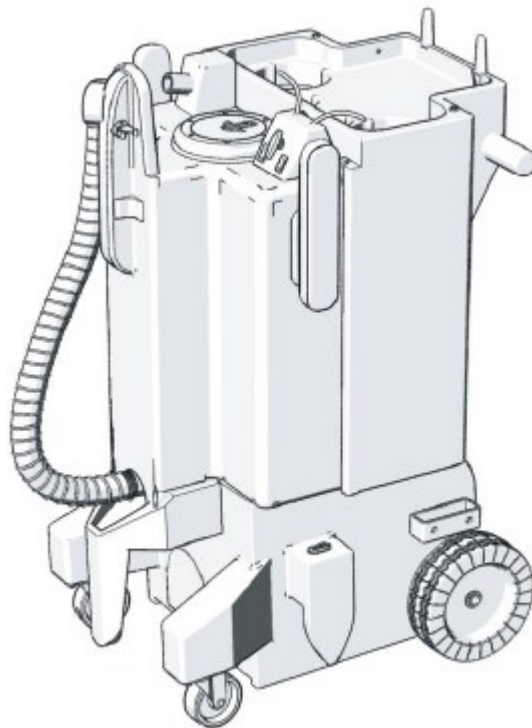




# Operator & Parts Manual

## KaiVac<sup>®</sup> 2100 Series

2150 Serial Number 2150-2247 to Current



**Revision Sheet**

Release No.	Date	Revision Description
101513	10/15/13	Operator & Parts Manual Released
121713	12/17/13	Modified the Rotomold Warranty to 5 years.

NOTE: Specifications and parts are subject to change without notice

**Kaivac, Inc.**

401 S. Third Street  
 Hamilton, OH 45011

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# OPERATOR & PARTS MANUAL

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## 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: \_\_\_\_\_ Zip Code: \_\_\_\_\_

- |                                 |                                 |   |  |
|---------------------------------|---------------------------------|---|--|
| <input type="checkbox"/> KV1750 | <input type="checkbox"/> KV1250 | <input type="checkbox"/> KV2150               | <input type="checkbox"/> KV1715AC                |
| <input type="checkbox"/> KV1715 | <input type="checkbox"/> KV1215 | <input type="checkbox"/> OMNIFLEX<br>Pump Box | <input type="checkbox"/> OMNIFLEX<br>Wet/Dry Vac |

Serial Number: \_\_\_\_\_

**Type of Business**

- |   |   |                                       |
|---|---|---------------------------------------|
| <input type="checkbox"/> School/University    | <input type="checkbox"/> Contract Cleaner | <input type="checkbox"/> Office       |
| <input type="checkbox"/> Hospital/Health Care | <input type="checkbox"/> Industrial       | <input type="checkbox"/> Other: _____ |

**Intended Uses (check all that apply)**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Restroom Cleaning | <input type="checkbox"/> Cleaning Around Machines | <input type="checkbox"/> Classroom Cleaning |
| <input type="checkbox"/> Floor Stripping   | <input type="checkbox"/> Stairwell Cleaning       | <input type="checkbox"/> Other: _____       |
| <input type="checkbox"/> Kitchen Cleaning  | <input type="checkbox"/> Lockers & Showers        | <input type="checkbox"/>                    |
| <input type="checkbox"/> Carpet Extraction | <input type="checkbox"/> Hallway Cleaning         | <input type="checkbox"/>                    |

Thank you for registering for our warranty program.

**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.

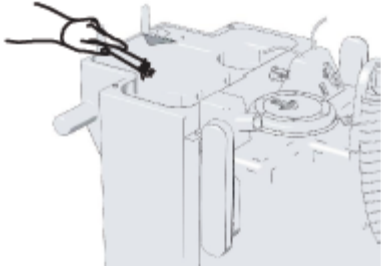

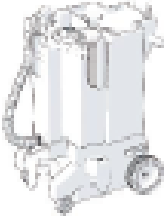

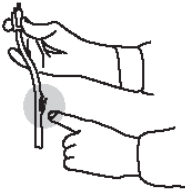
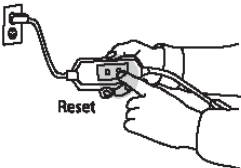
 **WARNING:** When using this product, basic precautions should always be followed, including the following:

- ◆ 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.

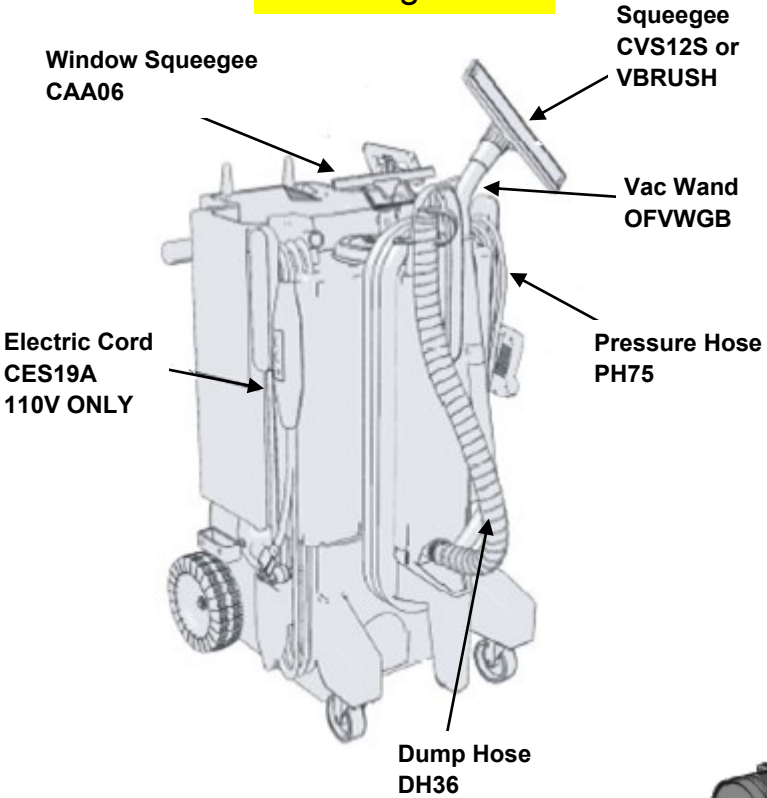
**FOR INDOOR USE ONLY**

## 2.1 PREPARING YOUR KAIIVAC FOR USE

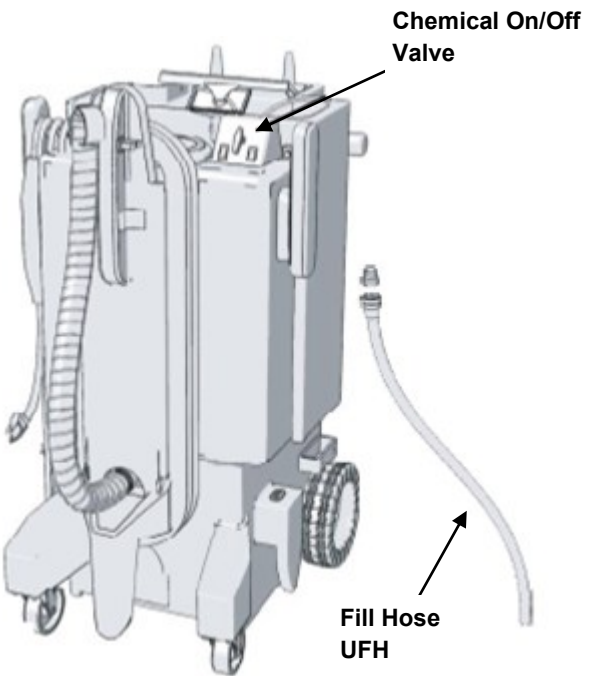
<p>1. Fill machine with clean, cool water.</p>	
<p>2. Prepare the cleaning solution you will be using by attaching the chemical feed line and cap to the top of your chemical bottle and selecting the proper metering tip. (See placard for metering tip information)</p>	
<p>3. Check machine for all tools and supplies needed to complete task. See "Tool Arrangement" in Section 2.2 of this manual.</p>	
<p>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.</p>	
<p>5. Check all hoses and spray lines for damage prior to use. If damage is found, do not continue until proper repairs are completed.</p>	
<p>6. Plug in machine and test GFCI (Ground Fault Circuit Interrupter) to ensure it is working properly. You are now ready.</p>	

## 2.2 KAIIVAC TOOL ARRANGEMENT

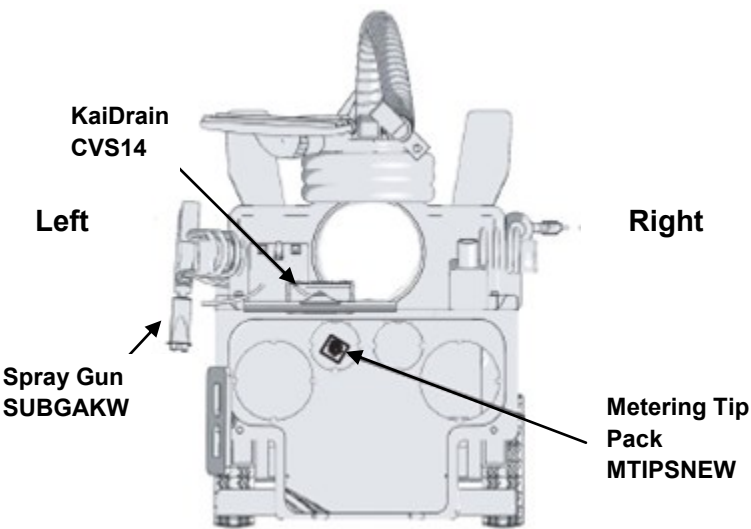
Front Right View



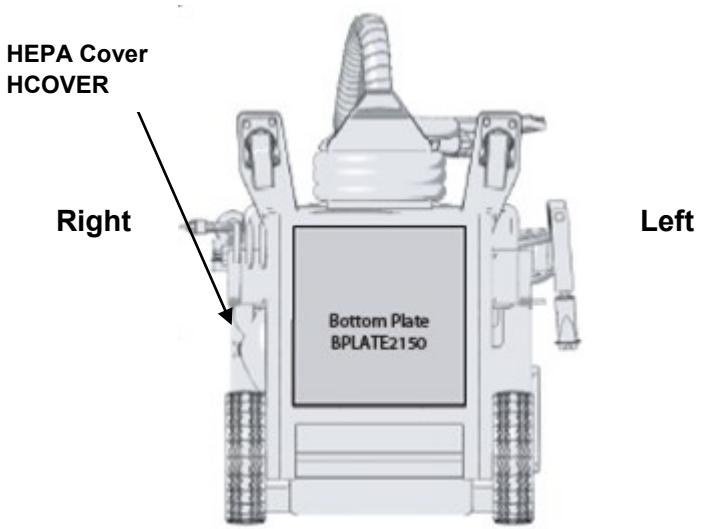
Front Left View



Overhead View



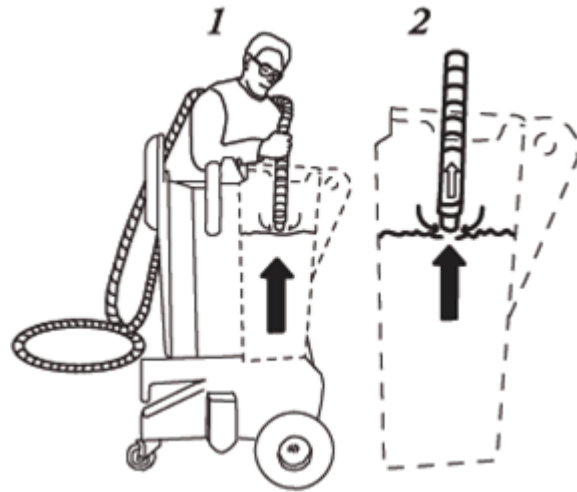
Bottom View



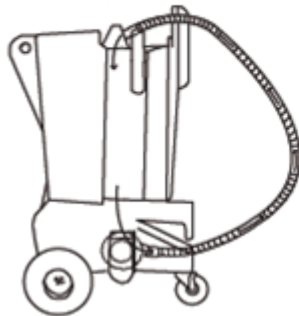


## 2.3 VAC TANK & HOSE CLEANOUT INSTRUCTIONS

1. Unwrap vac hose and lay it on floor.
2. Suck water and air from water tank. Lower hose end to surface of water gulping both air and water. This action flushes soils from line and quickly empties water tank.



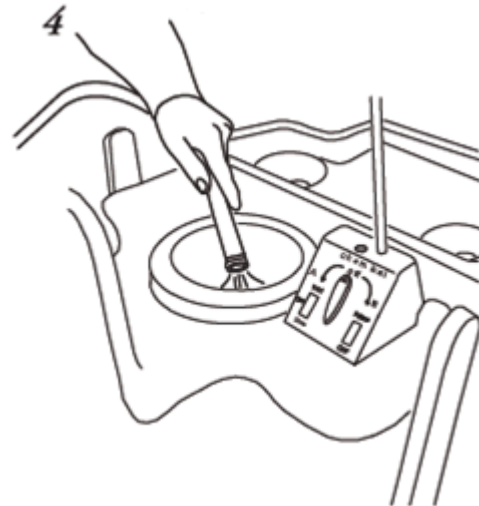
*\*Dry vac hose by connecting hose ends to vac motor, then discharge air into vac tank*



3. Vac hose can now be wrapped onto machine. Leave vac motor running while wrapping to avoid water dripping from end of hose. To completely dry hose leave vac motor running for about 3 minutes.



4. With Dump Hose opened to floor drain, spray inside of vac tank with clean water moving hose in a circular pattern to insure tank walls and float shutoff are rinsed.



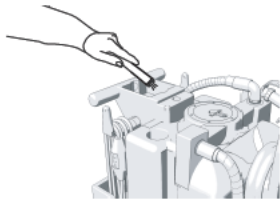
Tank and Hose Cleaning

**2.4 S.I.M.P.L.E PROCESS**

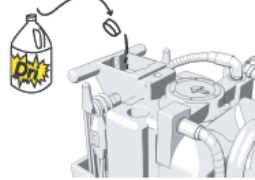
\*Applicable to all units, KV1700 Series shown for illustration.

**S**et-up

Fill with clean, cool water



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

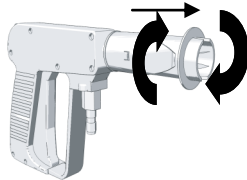


Select metering tip and insert into cap barb



**I**nject

Chemicals

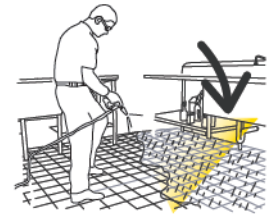


Fan Spray

**LOW Pressure Mode**



Fan Spray



**M**anual

Brush



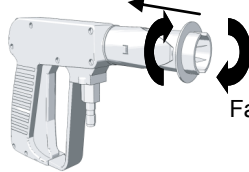
Manually brush heavily soiled areas



**P**ressure

wash and rinse

Fresh Water

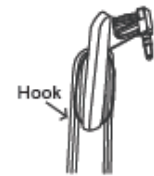


Fan Spray

**HIGH Pressure Mode**



**L**oop



Adjust last loop (if needed)

**E**xtract



### 3.1 MACHINE MAINTENANCE

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

Item	Procedure
Floor Squeegee	<ul style="list-style-type: none"> <li>• Check condition of squeegee blades and wheels on the floor tool.</li> <li>• Rough floor surfaces will cause the blades and wheels to wear out more quickly. Replace as necessary</li> </ul>
Spray Gun	<ul style="list-style-type: none"> <li>• Check spray pattern. If spray pattern will not pinpoint, clean orifice by removing it with an Allen wrench and flushing. Replace if needed.</li> <li>• If nozzle becomes difficult to move from high to low pressure lubricate nozzle with lithium grease.</li> </ul>
Pressure Hose	<ul style="list-style-type: none"> <li>• Wipe clean after each use.</li> <li>• Check for cuts or frays in the hose jacket, particularly at the end of the fittings. Replace hose if cuts are found</li> </ul>
Water Tank	<ul style="list-style-type: none"> <li>• Check condition of filter in water tank. Clean as needed.</li> <li>• 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.</li> </ul>
Vacuum Tank	<ul style="list-style-type: none"> <li>• Empty and flush vacuum tank.</li> <li>• Clean and disinfect.</li> <li>• Check the float shutoff screen to be sure it is not plugged up. A plugged filter screen restricts airflow and results in reduced suction.</li> </ul>
Leaks	<ul style="list-style-type: none"> <li>• Be alert for leaks around hoses, fittings, spray wand, tanks or elsewhere.</li> <li>• Discontinue use until leaks are repaired</li> </ul>
Electrical System	<ul style="list-style-type: none"> <li>• The ground fault circuit interrupter (GFCI) must be tested before each use.</li> <li>• Electric cord must be inspected for tears or cuts in the insulation.</li> </ul>
Vacuum Wand	<ul style="list-style-type: none"> <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	<ul style="list-style-type: none"> <li>• Replace every 3-6 months depending on use</li> </ul>

## 3.2 TROUBLESHOOTING

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

Area	Problem	Possible Cause	Solution
Electrical	No Power to pump or vac motor	Machine not plugged in	Plug machine in
		Switch not "on"	Check switches for "on"
		GFCI tripped	Test and reset GFCI
		Building circuit overloaded	Check and reset circuit
		Switch wires loose	Disconnect power and check for loose wire
		Connections loose	Disconnect Power and check for loose wire under panel
	Electrical burning smell	Vac motor brushes worn	Remove vac motor and repair
		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
Vacuum System	No / Weak vacuum	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
		Dump hose plug missing	Contact dealer and replace
		Access lid not tight	Tighten lid hand tight
		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 exhaust	Vac tank full	Dump vac tank
		Float shutoff missing	Replace
Excessive foam in vac tank		Use defoamer	
Blow Dry System	No air flow	Hose disconnected	Reconnect hose
	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

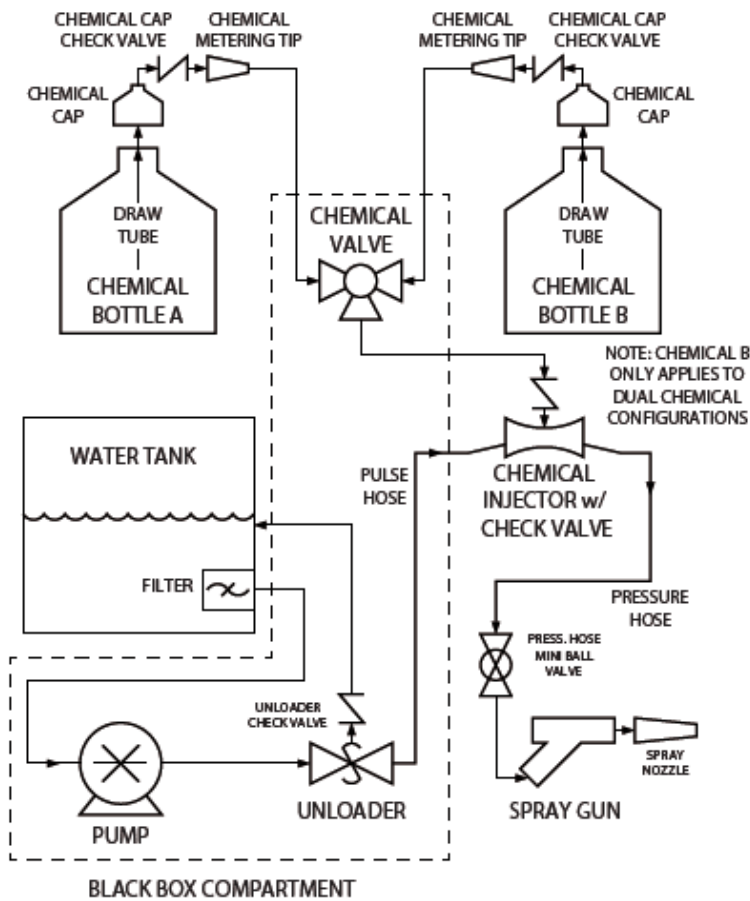
Area	Problem	Possible Cause	Solution
High Pressure System	No water from pump or low pressure	Out of Water	Fill water tank
		Gun nozzle plugged	Remove orifice with Allen wrench and clean
		Air in pump (vapor lock)	Use power prime technique
		Gun orifice missing	Replace orifice
		Water tank filter plugged	Clean tank and filter
		In - line bowl filter plugged	Remove filter cover and clean
		Bowl filter lid loose	Gently tighten bowl cover
		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
	Bad fan pattern or pinpoint pattern on gun	Debris in nozzle	Remove orifice with Allen wrench and clean
Orifice damaged		Remove and replace	
Chemical Injection System	No chemical flow	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	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
		Kink in Chemical line	Replace Chemical line

Area	Problem	Possible Cause	Solution
Chemical Injection System continued	Not enough chemical	Metering tip plugged	Remove and clean
		Wrong metering tip	Check and replace per chart
	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 System	Dump hose will not empty tank	Dump hose cap not removed	Remove cap
		Clog in bottom of tank	Tip dump contents, remove debris
	Dump hose leaks	Hose cut	If leak is less than 4" from tank side, cut and reattach, or replace
		Clamp loose	Tighten hose clamp
		Dump cap missing	Replace cap
Wheels and Casters	Wheels won't roll, or they rub	Flat tires	Inflate tires to 30 p. s. i.
		Debris wrapped around axle	Check for debris on axle
		Bearings tight	Grease bearings
		Wheels too loose on axle	Remove wheel, add washers to take up slack
		Bearings falling out	Replace bearing assembly
Squeegee Head	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
		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	

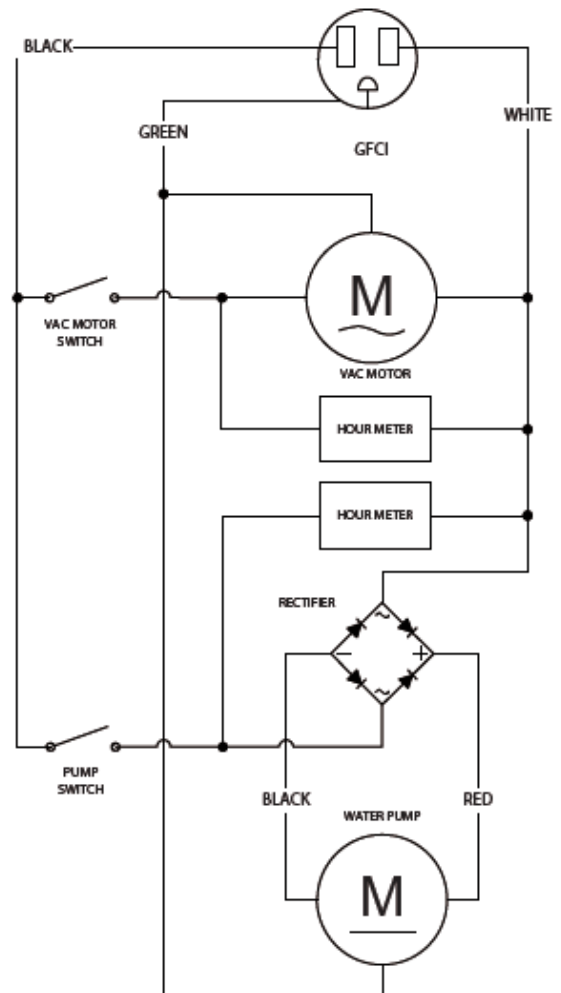
3.3 PUMP & ELECTRICAL DIAGRAM

# Schematic Diagrams Kaivac 2100 series

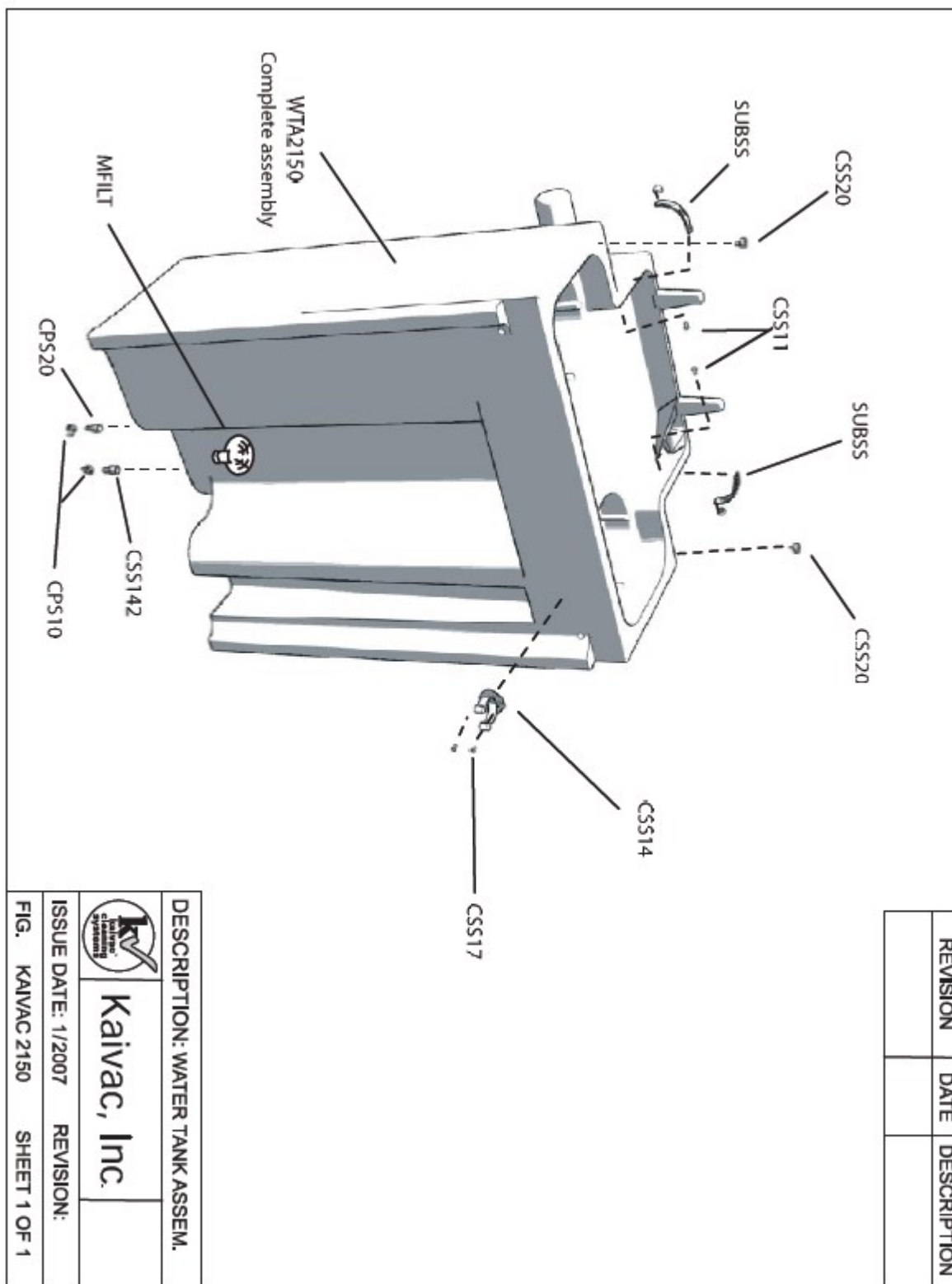
PUMP DIAGRAM  
KAIVAC 2100 SERIES



WIRING DIAGRAM  
KAIVAC 2100 SERIES



### 3.3 MACHINE DIAGRAMS



DESCRIPTION: WATER TANK ASSEM.

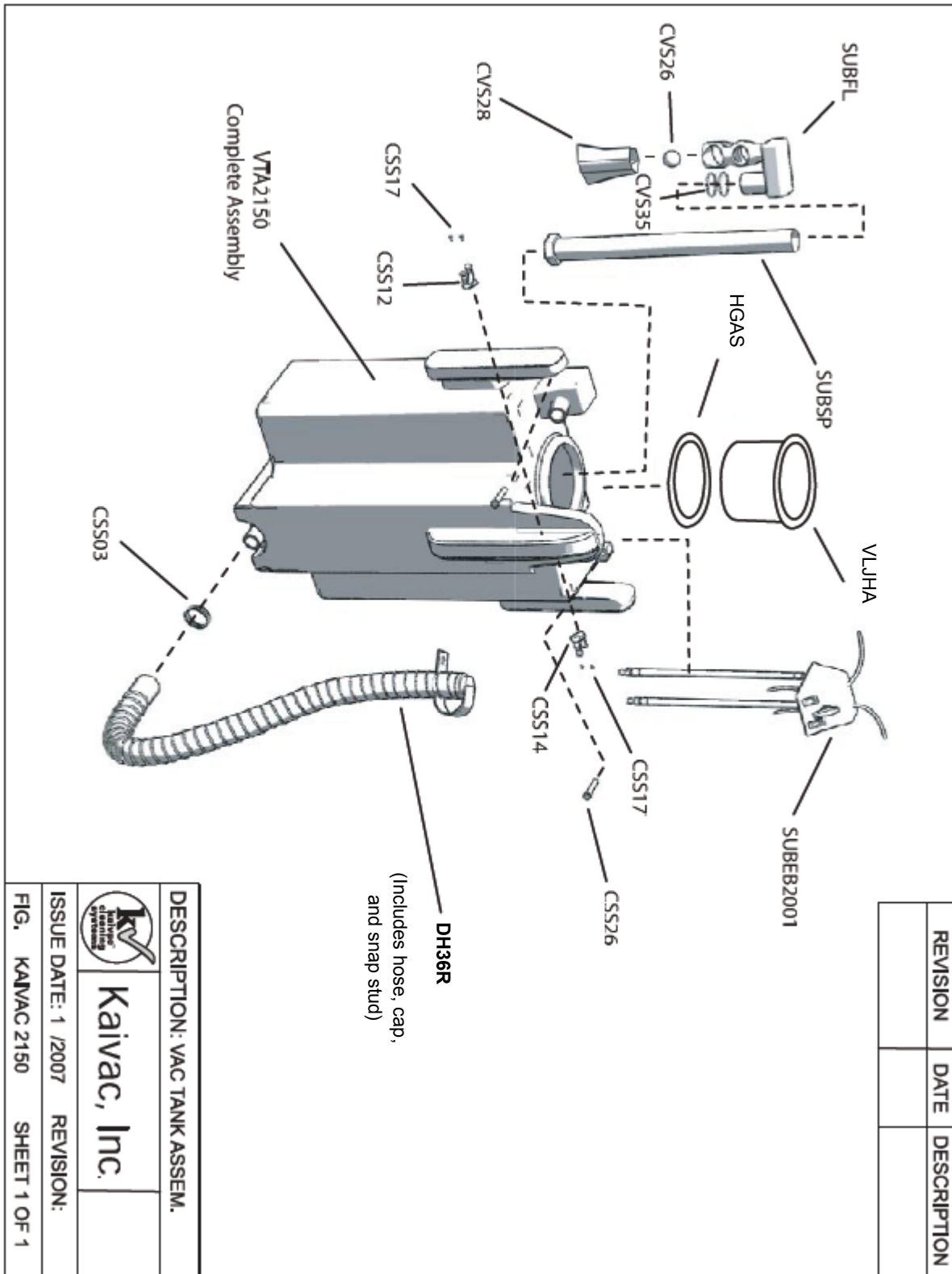
**Kaivac, Inc.**

ISSUE DATE: 1/2007      REVISION:

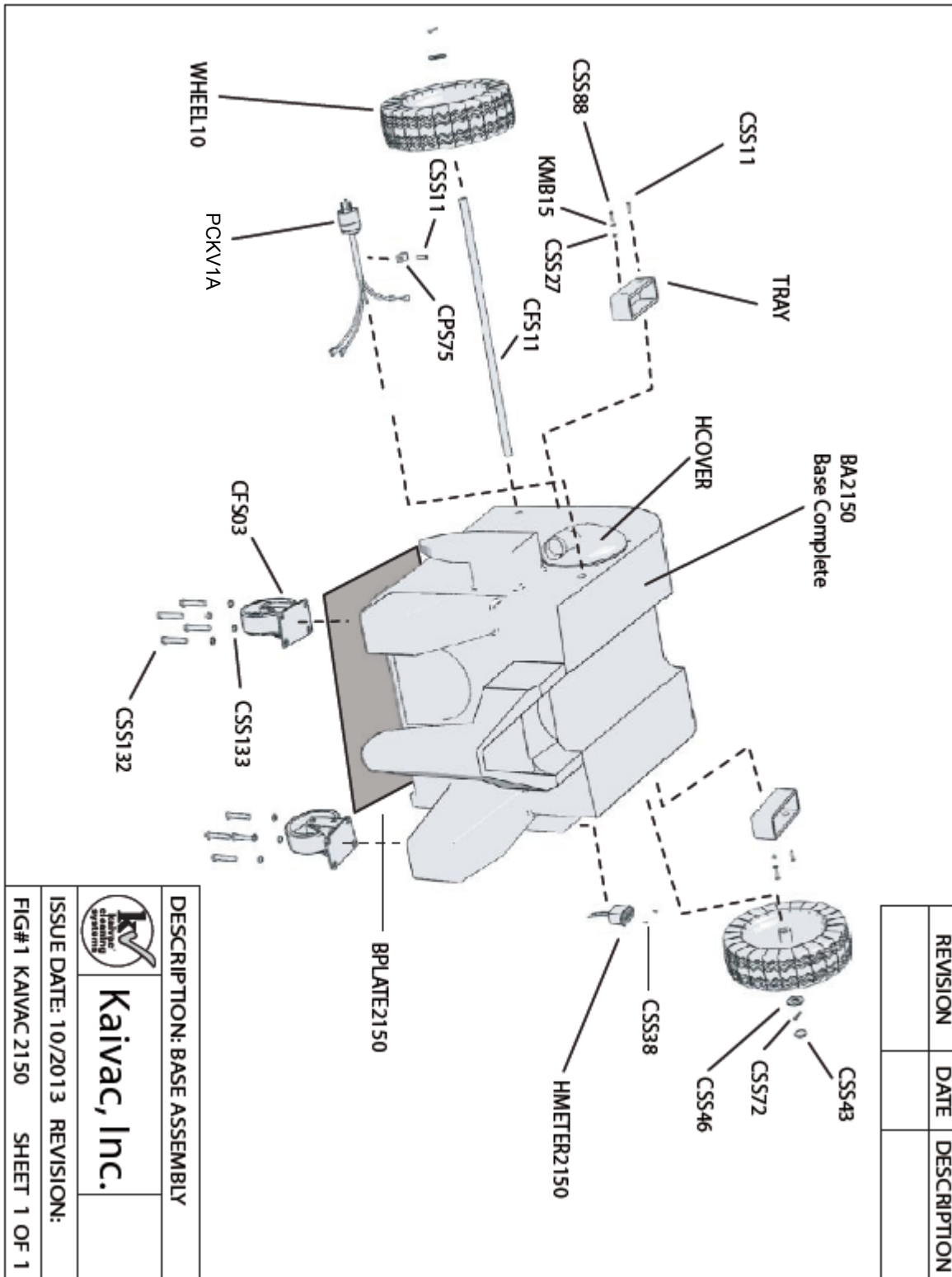
FIG. KAVAC 2150      SHEET 1 OF 1



### 3.3 MACHINE DIAGRAMS



### 3.3 MACHINE DIAGRAMS



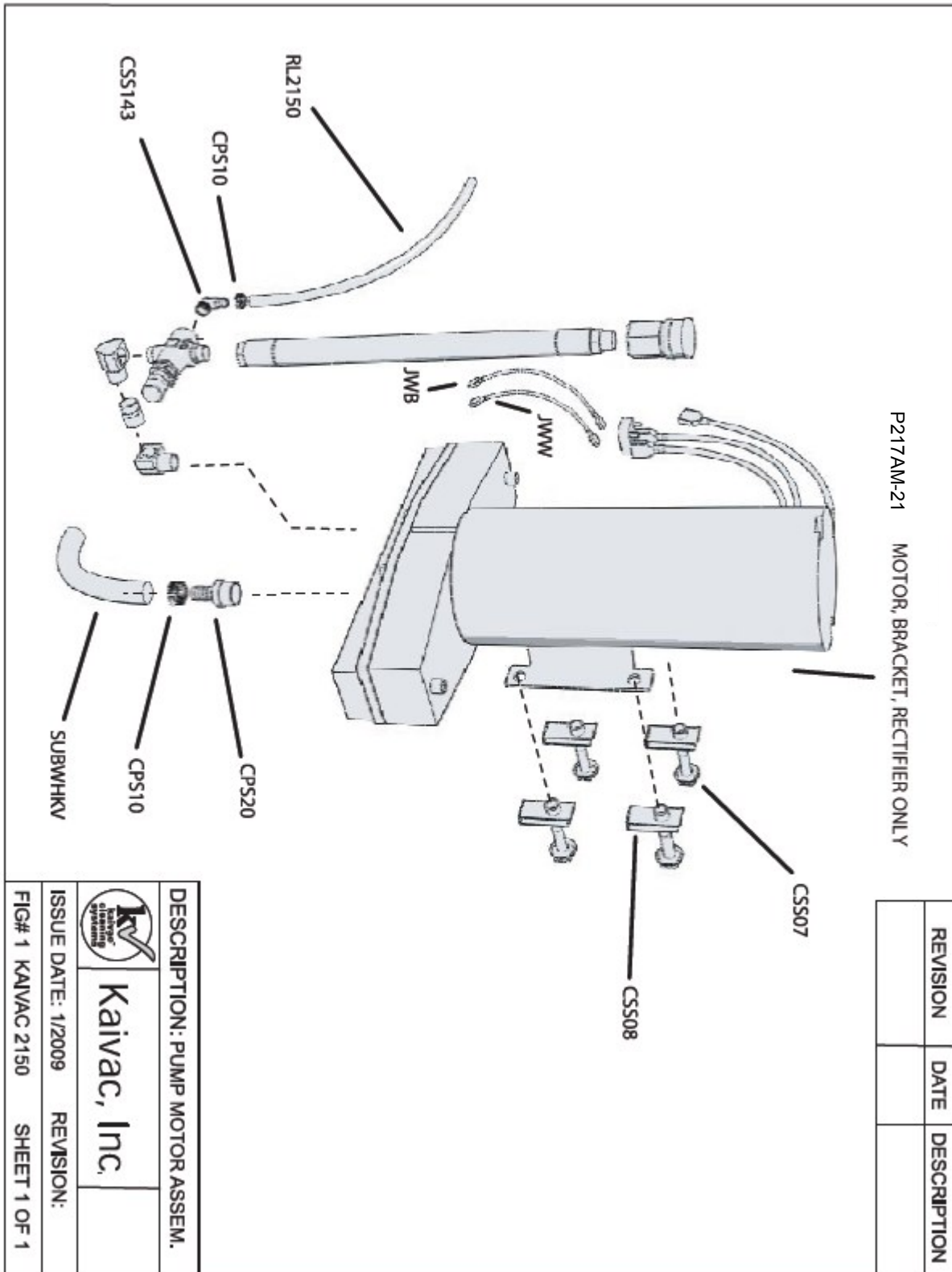
DESCRIPTION: BASE ASSEMBLY

**Kaivac, Inc.**

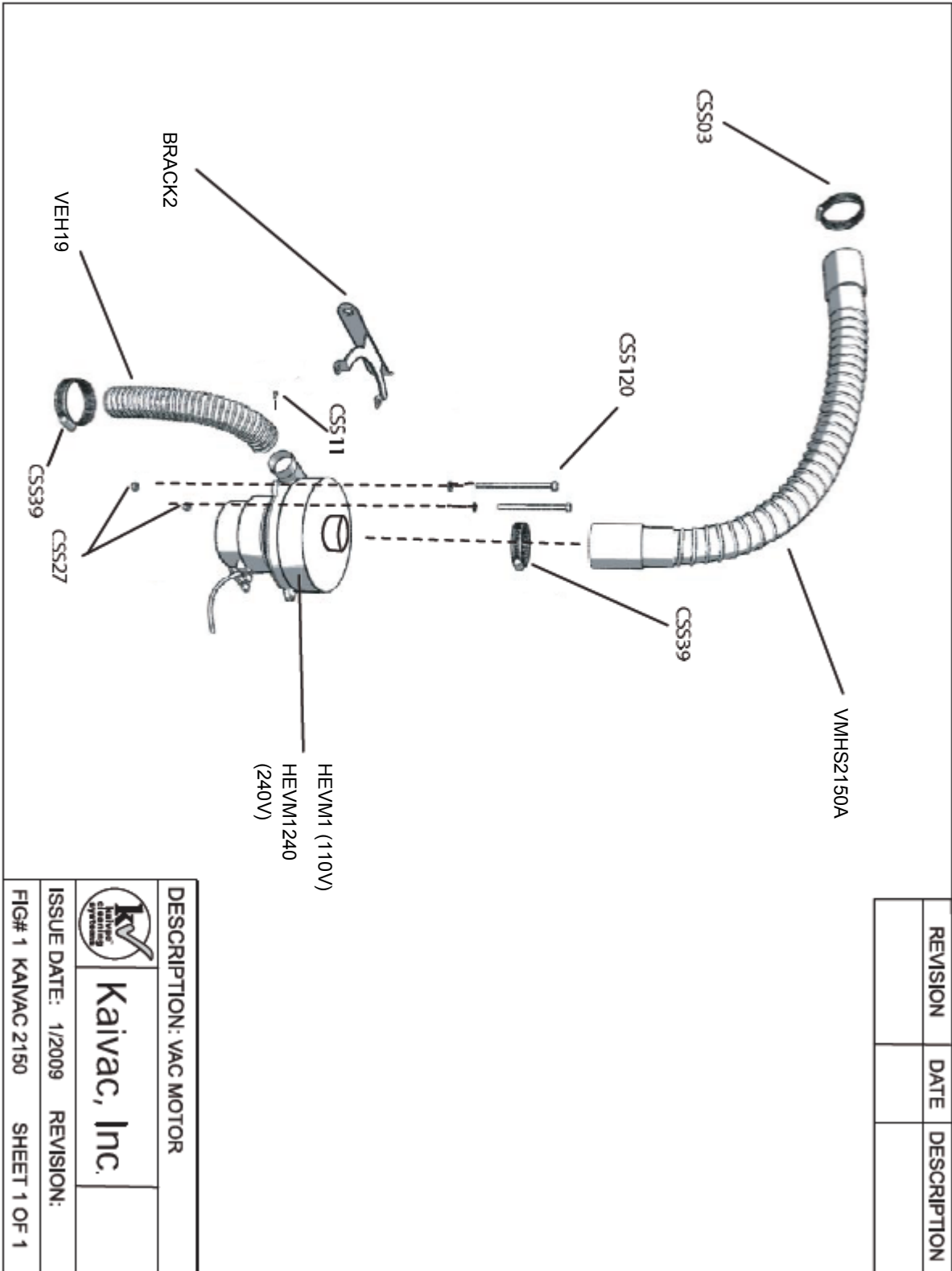
ISSUE DATE: 10/2013 REVISION:

FIG#1 KAVAC 2150 SHEET 1 OF 1

### 3.3 MACHINE DIAGRAMS



### 3.3 MACHINE DIAGRAMS



REVISION	DATE	DESCRIPTION

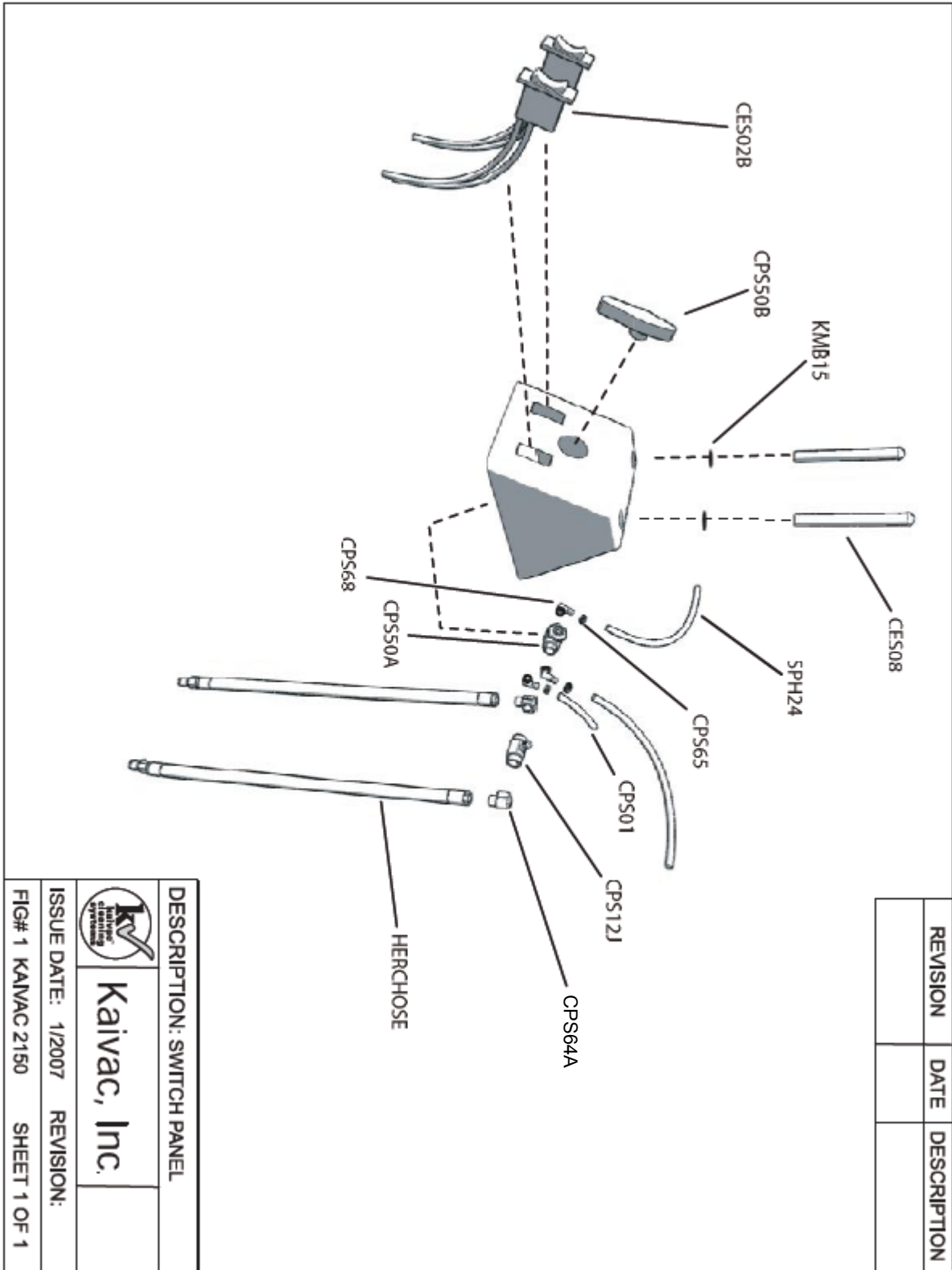
DESCRIPTION: VAC MOTOR

**Kaivac, Inc.**

ISSUE DATE: 1/2009    REVISION:

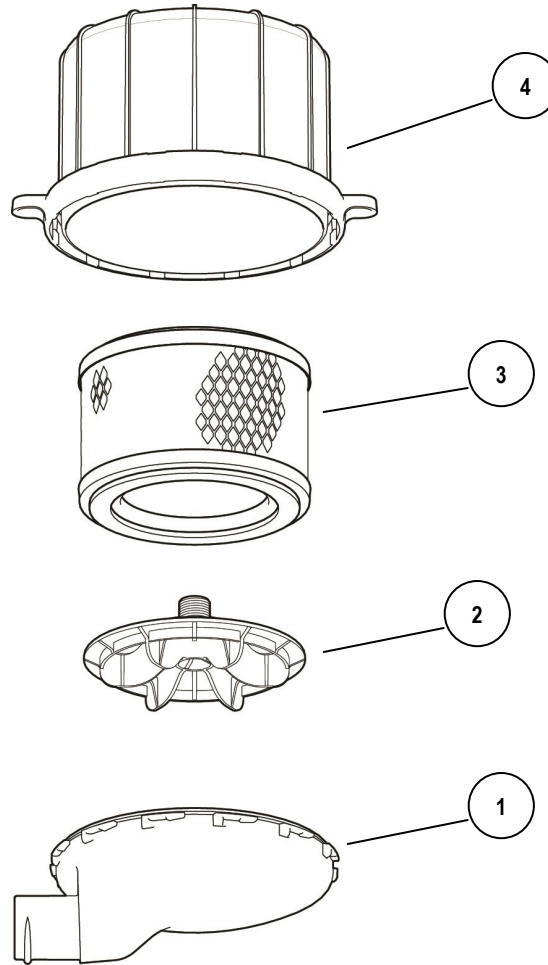
FIG# 1 KAVAC 2150    SHEET 1 OF 1

### 3.3 MACHINE DIAGRAMS



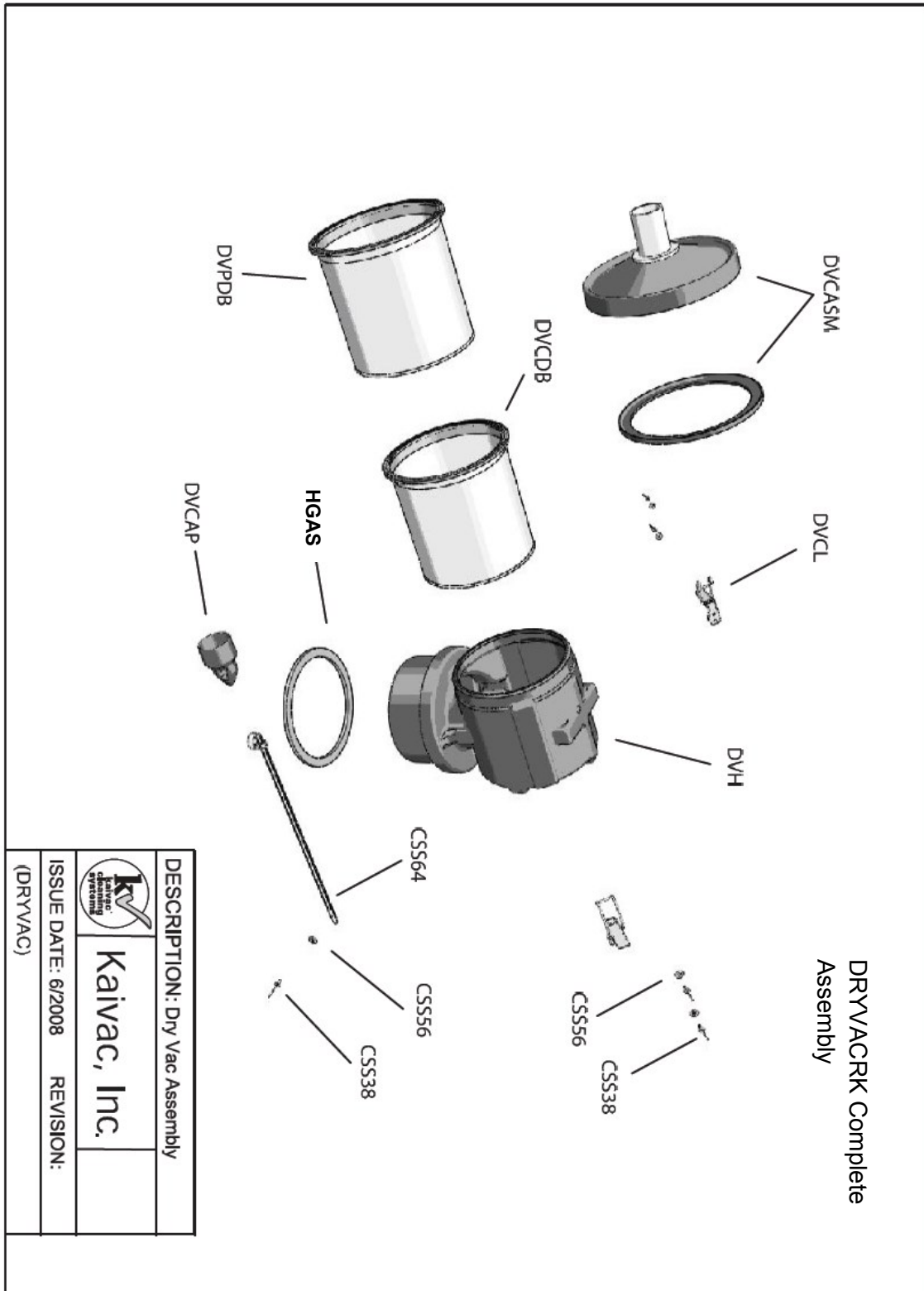
### 3.3 MACHINE DIAGRAMS

#### 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

### 3.3 MACHINE DIAGRAMS



### 3.4 PARTS LIST

PART NUMBER - DESCRIPTION	QTY
BASE ASSEMBLY KV2150 (BA2150)	
BASE2150 - BASE FOR 2150 WITH HEPA ASSEMBLY	1
CFS11 - AXLE 5/8 DIA X 23 IN	1
WHEEL10 - FLAT FREE TIRE 10IN 5/8 HUB	2
CSS72 - COTTER PIN 1/8 DIA X 11/4 LG	2
CSS43 - 5/8 PUSH CAP NUT	2
CSS46 - 5/8 STEEL WASHER	2
CFS03 - 5 IN CASTER , MOUNTING PLATE	2
CSS132 - 5/16-18X1 BUTTON HEAD	8
CSS133 - 5/16 SPLIT LOCK WASHER 300 SS	8
KMB16 - 3/8 SST FLAT WASHER	8
WATER TANK ASSEMBLY KV2150 (WTA2150)	
CFS06 - WATER TANK YELLOW ASSEMBLY	1
MFILT - MUSHROOM FILTER	1
CPS20 - 3/8 NPT X 1/2 BRASS HOSE BARB	1
CSS142 - 3/8 INCH BRASS HOSE BARB	1
NFSIL - NFSI LABEL	1
OMLAB2 - OMNIFLEX MAINTENANCE LABEL BLADES	1
DH36 - 36" X 1.5" DUMP HOSE 2" CUFF	1
CSS03 - 1 9/16 - 2 1/2 HOSE CLAMP	1
CSS12 - 15 CLAMP , FOR DUMP HOSE	1
CSS14 - 13 CLAMP , FOR TOOLS	2
CSS17 - NO 8 FLAT HEAD SQUARE SCREW	6
SUBSS - WRAP AND SNAP	2
CSS20 - SNAP STUD	2
VAC TANK ASSEMBLY KV2150 (VTA2150)	
CFS05 - VACUUM TANK ASSEMBLY	1
SUBFL - FLOAT SHUT-OFF SUBASSEMBLY	1
CVS32 - FLOAT SHUT OFF BODY	1
CVS31 - #54 SPINWELD FITTING FOR FLOAT	1
CVS28 - FILTER BAG	1
CSS63 - TIE WRAP FOR FLOAT	1
CVS26 - 2 IN DIA PLASTIC BALL	1
CVS35 - AS568A-219 BUNA N O RING	2



### 3.4 PARTS LIST

PART NUMBER - DESCRIPTION	QTY
CONT. FOR TANK ASSEMBLIES	
CSS57 - 3/8 X 3/4 LNG SST SCREW	5
CSS49 - 5/16 FLAT WASHER	1
CSS26 - 3/8 X 1 1/2 LONG CAPSCREW	2
CSS51 - 3/8 WASHERS	3
CSS48 - 3/8 SST LARGE OD WASHER	1
CPS70 - HOSE TIE DOWN , BLACK	1
CSS11 - NO 10 X 3/4 SELF DRILLING	1
VAC MOTOR ASSEMBLY (VMA2150 (110V), VMA3S240V (240V))	1
HEVM1 - HIGH EFFICIENCY 120V VAC MOTOR HEVM1240V—HIGH EFF VAC MOTOR 240V	1
CSS203 - HEX HEAD BOLT 1/4 20 X 1 1/4	2
CSS44 - 1/4 FLAT WASHER	2
BRACK2 - BRACKET FOR BLOW MOTOR ON 2150	1
CSS08 - 5/16-18 U-NUT	2
CSS27 - 1/4 NYLOC NUT	2
VEH19 - VAC MOTOR EXHAUST HOSE 19 INCH	1
CSS39 - 1 1/16 - 2 HOSE CLAMP	1
CSS11 - NO 10 X 3/4 SELF DRILLING	4
CSS127 - QUICK DISCONNECT TERMINAL	1
CSS134 - INSULATED QUICK CONNECT	1
CES24 - 16 GAUGE BLACK WIRE	1.25
CSS127 - QUICK DISCONNECT TERMINAL	1
VMHS2150A - VAC MOTOR HOSE FOR KV2150	1
CSS127 - QUICK DISCONNECT TERMINAL	1
PUMP ASSEMBLY (PA2172150 (110V), PA2150240V-2 (240V))	1
P217AM-21 - 2150 PUMP SERIES 217V-110/M9253F PUMP217240VDC—PUMP SERIES 217V-095/M11 240V	1
SUBWHKV - WATER LINE FOR KV2150	1
RL2150 - RETURN LINE FOR 2150	1
CSS08 - 5/16-18 U-NUT	2
JWW - JUMPER WIRE WHITE 12 IN	1
CSS127 - QUICK DISCONNECT TERMINAL	1
CSS64 - TIE WRAP FOR FILTERS	1







