

NOTICE



Follow recommended safety practices while performing all work. Refer to the FS Solutions/Guzzler/Vactor/TRUVAC/Westech Safety Manual for additional information.

This manual is available at: www.vactor.com

Number: SB 0306

DATE: 05/19/2020

PURPOSE:

The following procedure is for converting Vactor and TRUVAC trucks with water heaters to dispense wet steam at 250° F. This bulletin may be used as a guide to convert other models or other manufacturers water heaters but to do so is at your own risk. Vactor has not validated other makes or models.

UNITS TO SERVICE:

HXX units with the Alkota model 49978 800K water heater or the Alkota model 49875-30 400K.

WARRANTY COVERAGE:

NA

LENGTH OF TIME

NA

PARTS AVAILABILITY: TBD

SPECIAL TOOLS:

NA

PARTS REQUIRED:

See attached drawings



PROCEDURE:

1. Shut down the unit on level ground, set the brake, and follow lockout/tagout procedures.
2. Procure all the required parts noted on the drawings. Both model conversion drawings are included. The photos show the larger Alkota unit. Procedure is the same for both.

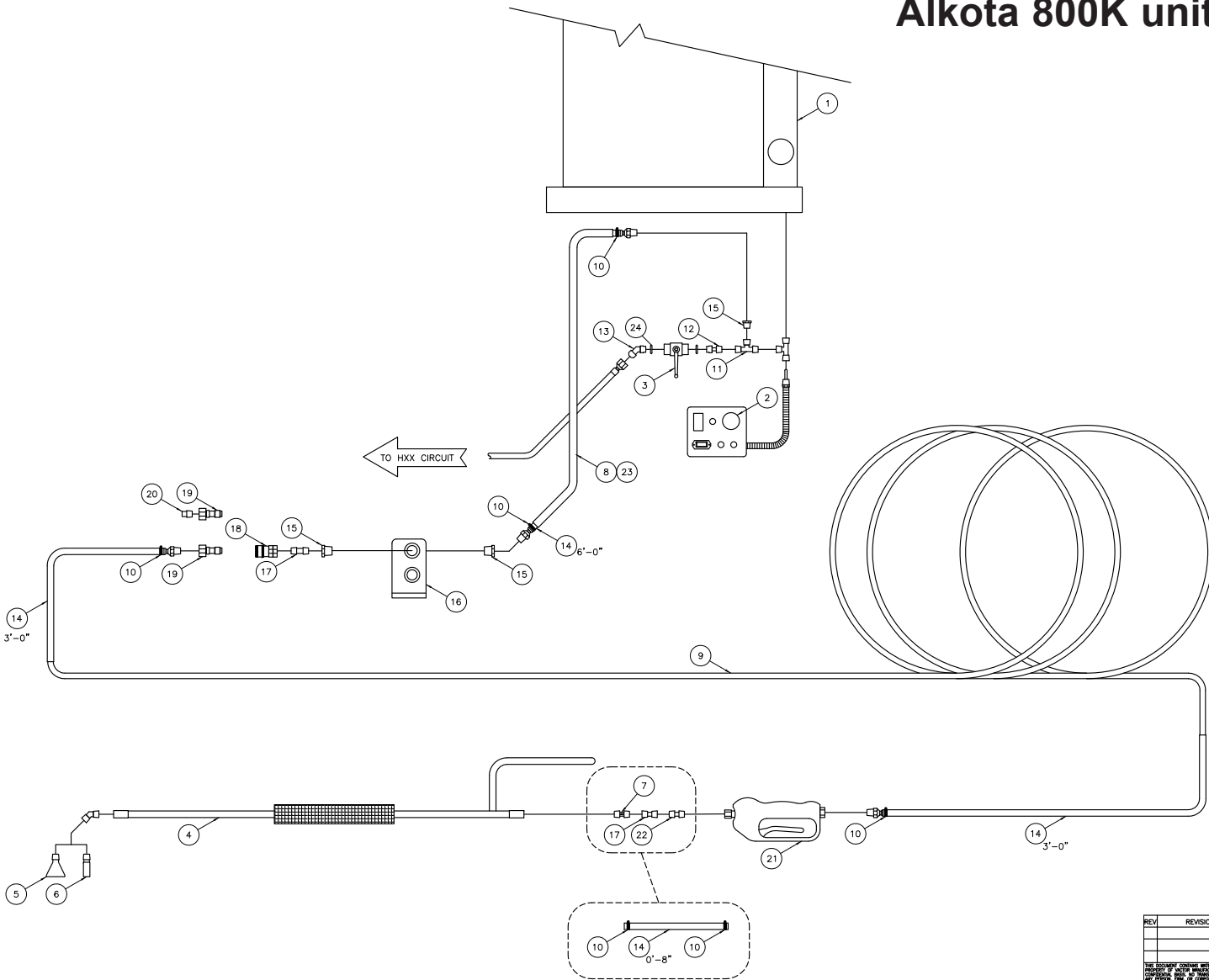


Follow the operating and safety instructions of that third-party product manufacturer for its equipment. Additionally, all safety, use instructions and warnings provided by Vactor in its operations manuals, safety manuals, this bulletin, and otherwise must also be strictly followed.

Vactor makes no representations or warranties in any respect regarding this modification or its effectiveness for any covid-19 purpose. It is your responsibility to evaluate the safe and effective use of this modified Vactor truck for any sanitizing or cleaning purpose. This modification is not intended for any other Vactor model or any competitor's truck.

For assistance contact Vactor Technical Service at: (877) 342-5374

Alkota 800K units



PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY.
1		HEATER	REF
2	49830CG	HIGH TEMP THERMOSTAT (300F)	1
3	512914B	HIGH TEMP BALL VALVE	1
4	512977	STEAM WAND	1
5	512977B	STEAM WAND, FAN	1
6	512977A	STEAM WAND, ROUND	1
7	45688L	STEAM ORIFICE (3/32")	1
8	512978D	HIGH TEMP HOSE, 6'-0"	1
9	512978E	HIGH TEMP HOSE, 50'-0"	1
10	40043	HOSE CLAMP	6
11	16475B	SERVICE TEE, 8FNPT X 8FNPT X 8MNPT	1
12	70690A	ADAPTER, 8MORB X 8MNPT, ST	1
13	70336	ADAPTER, 45DEG, 8MORB X 8MJIC	1
14	512494	PROTECTIVE SLEEVE	13'
15	70542C	REDUCER BUSHING, 8 X 6 NPT	3
16	62124D	QUICK COUPLER BRACKET	1
17	45117	ADAPTER, 6MNPT X 6MNPT	2
18	512991A	QUICK COUPLER 3/8FNPT, HIGH TEMP	1
19	512991B	QUICK COUPLER 3/8MNPT, HIGH TEMP	2
20	16645B	PIPE PLUG 3/8"	1
21	48383D	HANDGUN TRIGGER	1
22	40589G	ADAPTER, 6MNPT X 4MNPT	1
23	507997	PROTECTIVE HEAT SLEEVE	6'
24	513315A	VITON ORING O8	2

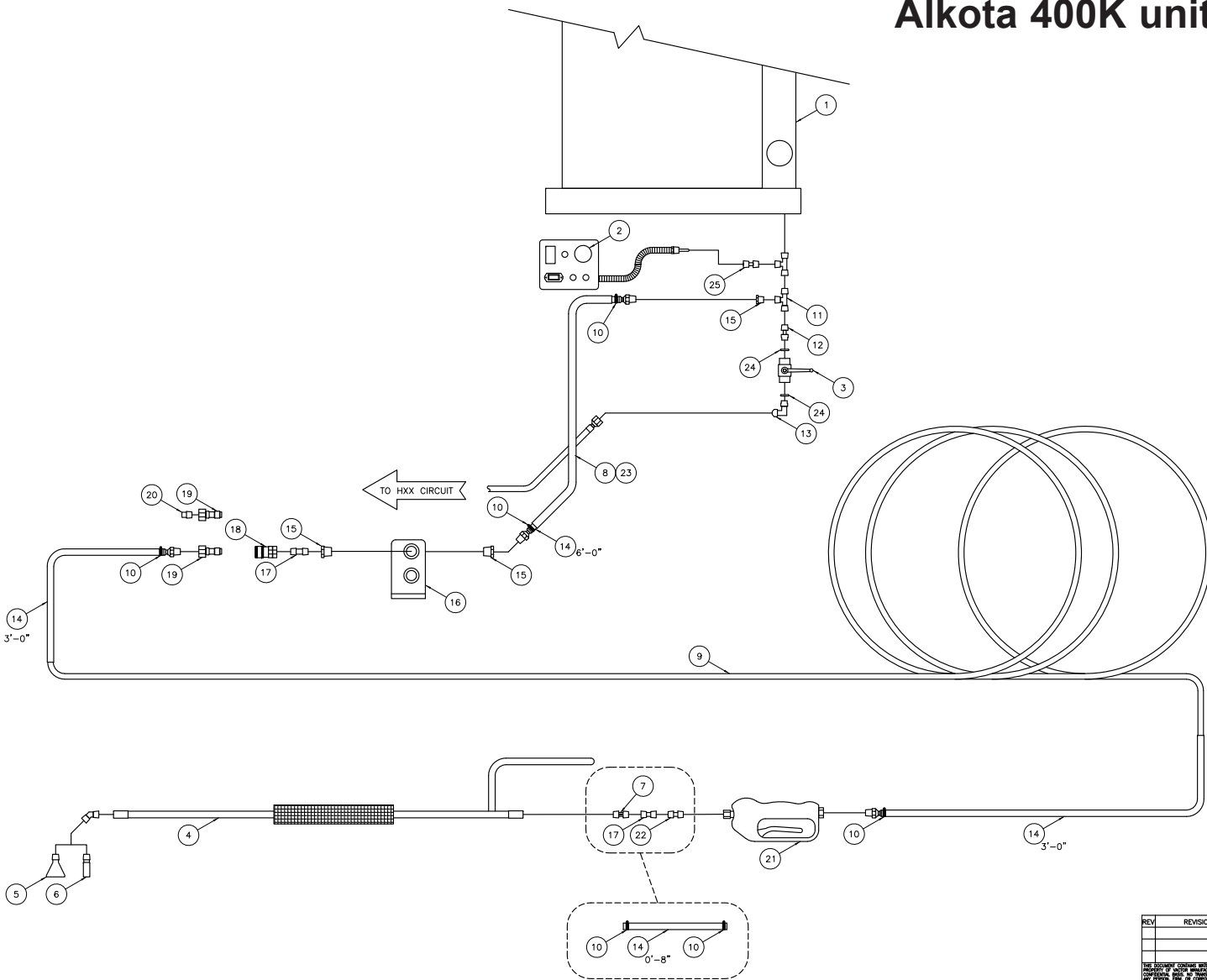
Water tank temperature (F)	Minimum required water pressure (PSI)
50	1500
60	1600
70	1800
80	2000
90	2300
100	2600
110	3000

REV.	REVISIONS	BY	DATE	ECN#	DIMS. IN. INCHES
					TOLERANCES UNLESS NOTED
					ENGINEERING TOLERANCE FACTOR
					STANDARD EDD020
					POIN
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					SIZE
					PART NO.
					REV

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VACTOR Manufacturing Inc. STREATOR, IL
 NAME
 STEAM CONVERSION BOOK HEATER
 SHEET 1 OF 1
 DRAWN JLD
 DATE 4/20/20
 SCALE NONE
 SIZE D
 PART NO. 512990A
 REV 0

Alkota 400K units



PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY.
1		HEATER	REF
2	49830CG	HIGH TEMP THERMOSTAT (300F)	1
3	512914B	HIGH TEMP BALL VALVE	1
4	512977	STEAM WAND	1
5	512977B	STEAM WAND, FAN	1
6	512977A	STEAM WAND, ROUND	1
7	45688M	STEAM ORIFICE (1/16")	1
8	512978D	HIGH TEMP HOSE, 6'-0"	1
9	512978E	HIGH TEMP HOSE, 50'-0"	1
10	40043	HOSE CLAMP	6
11	16475B	SERVICE TEE, 8FNPT X 8FNPT X 8MNPT	1
12	70690A	ADAPTER, 8MORB X 8MNPT, ST	1
13	70530	ADAPTER, 90DEG, 8MORB X 8M/JIC	1
14	512494	PROTECTIVE SLEEVE	13'
15	70542C	REDUCER BUSHING, 8 X 6 NPT	3
16	62124D	QUICK COUPLER BRACKET	1
17	45117	ADAPTER, 8MNPT X 6MNPT	2
18	512991A	QUICK COUPLER 3/8FNPT, HIGH TEMP	1
19	512991B	QUICK COUPLER 3/8MNPT, HIGH TEMP	2
20	16645B	PIPE PLUG 3/8"	1
21	48383D	HANDGUN TRIGGER	1
22	40589G	ADAPTER, 6MNPT X 4MNPT	1
23	507997	PROTECTIVE HEAT SLEEVE	6'
24	513315A	VITON ORING O8	2
25	16988C	ADAPTER, 8 X 8 NPT	1

Water tank temperature (F)	Minimum required water pressure (PSI)
50	1500
60	1650
70	1750
80	2020
90	2250
100	2550
110	2950

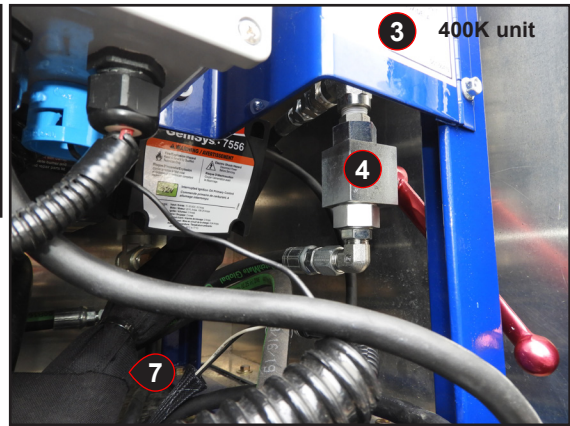
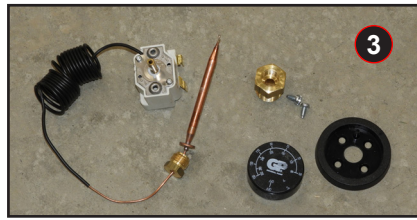
REV.	REVISIONS	BY	DATE	ECN#	DIMS. IN INCHES
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					ENGINEERING TOLERANCE FACTOR STANDARD ESD200
					FORM 1
					DRAWN JLD
					DATE 3/1/20
					SCALE NONE
					SIZE D
					PART NO. 512990B
					REV 0

VACTOR Manufacturing Inc. STREATOR, IL
 NAME STEAM CONVERSION 400K HEATER

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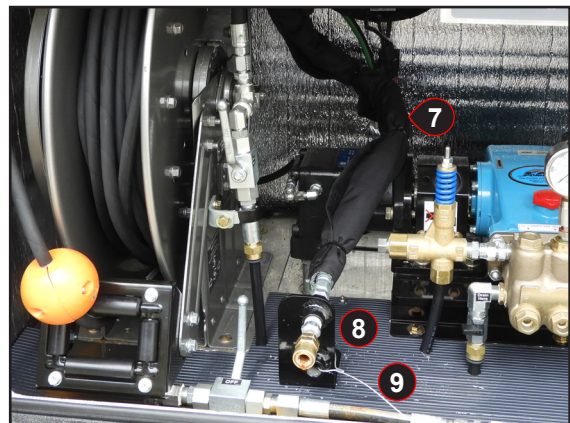
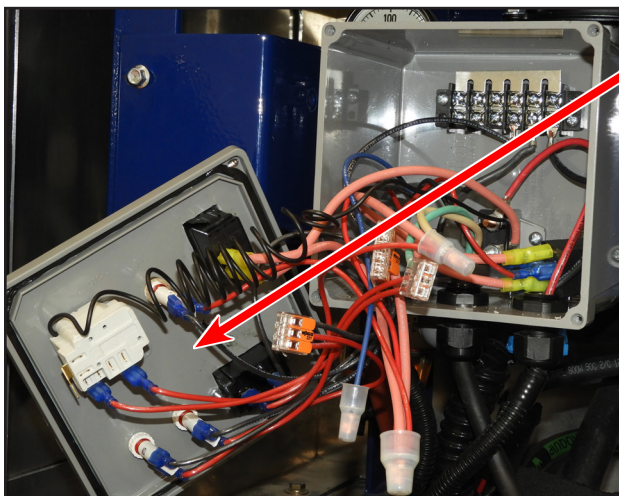
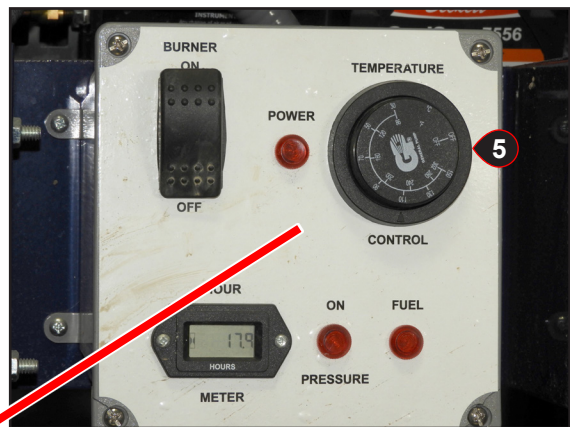
PROCEDURE CONTINUED:

3. Replace the thermocouple (included with the 49830CG-30 thermostat). Disconnect the water hose and rotate the Tee as shown on the 800K unit. On 400K units orient the first Tee to the rear of the heater cabinet for the thermocouple.



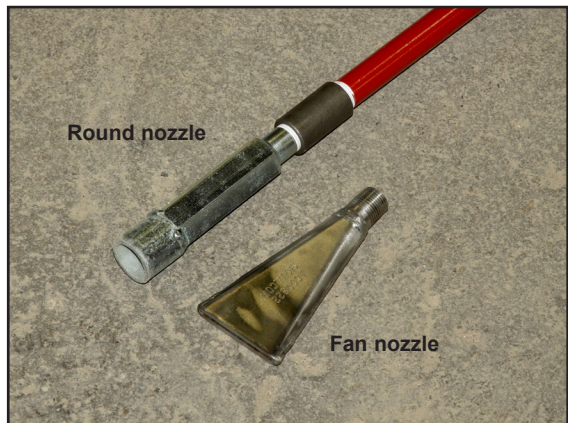
Note: The adapters that plumb into the ball valve come with buna orings, these orings must be switched out with the viton orings (513315A-30) provided with the kit.

4. Install the Tee, elbow, adapter, valve and adapter as shown. Refer to drawings for part numbers. 800K unit is shown.
5. Replace the existing thermostat with the new higher rated one (0-300° F) (49830CG-30)
6. Route the existing HXX hose to the 70336-30 adapter. Refer to drawings for part numbers. 800K unit is shown.
7. Install the protective sleeve 512494-30 on to the 512978D-30 hose with a 40043-30 hose clamp at each end, and install the protective heat sleeve 507997-30 around the hose assembly and route it from the 70336-30 adapter through to the water cabinet.
8. Install the bracket and fittings 62124D-30, 46773D-30, 70542C-30, 45117-30 and 512991A-30 as shown to the water cabinet floor.
9. Assemble fittings 512991B-30 and 16645B-30 which are used to plug the port when the hose is not attached. They can be tethered as shown to avoid loss.



PROCEDURE CONTINUED:

10. Install the new orifice (45688L-30) into the handle of the steam wand. (45688M-30 for the 400K water heater)
11. Install the protective sleeves 512494-30 to each end of the 515978E-30 hose. Install a 40043-30 hose clamp at the fitting ends.
12. Install the 512494-30 protective sleeve with 40043-30 hose clamps at each end over the fittings between the steam wand handgun trigger when assembling.



PROCEDURE CONTINUED:

Operation

Operation is basically the same as normally used with hot water. Refer to your operators manual for details.

- When the valve is closed then you are in steam mode, when the valve is open you are in HXX mode. In HXX mode remove the steam hose and plug the hose port.
- The new thermostat allows operating at higher temperatures. **Do not exceed 250° F.**
- The only quick connect allowed is the one in the operator cabinet. There should be no quick connects at the steam wand end.
- Run cool water through the system to cool it down before shutting off the pump.
- There is a temperature sensor in the system to prevent over heating if recirc is used.
- Uncoil the hose reel completely before use.
- Steam heat is hotter than boiling water (212°F, 100°C) and increases in temperature as pressure increases. The danger from steam in industrial applications is due to the great heat and pressures involved. Water changes to steam at higher temperatures when under pressure. If the steam escapes, massive quantities of heat are released. This, combined with high pressures, can prove to be dangerous for the operator.
- The HXX system is not designed to run at high temperatures. There is no automatic high temperature shut off for the HXX system. The operator must take care to not run high temp water through the HXX system.
- A high pressure test while the water is cool can be used to check for leaks.
- The Vactor handgun is rated to 3000PSI and 300° F.

Wear appropriate safety equipment including:

Waterproof apparel, protective boots, insulated gloves, safety glasses, goggles, hearing protection (ear plugs and/or ear muffs) and a hard hat with a face shield.



WARNING

Hot Water Can Burn

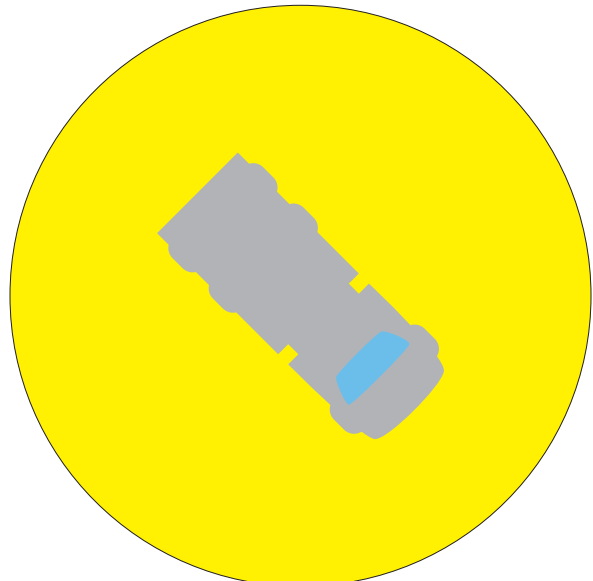
Avoid contact with the water stream. The water heater can produce water at temperatures greater than 125° (F). and could result in death or serious injury from burns.



NOTICE

Safe Work Zone

Bystanders must be kept at safe distance from the work area.



PROCEDURE CONTINUED:

Use the charts below to determine the correct water pressure. Additional adjustments to the pressure can be made. Higher pressure = cooler steam temps, lower pressure = higher steam temps. **Pressure should be adjusted to maintain a constant 240° to 250° F steam temperature.**

The minimum system pressure is 1500PSI to operate.

The following tables detail the optimal water temperature and pressure for most efficient steam operation.

Alkota model 49978 water heater

Water tank temperature (F)	Minimum Required Pressure (PSI)
50	1500
60	1600
70	1800
80	2000
90	2300
100	2600
110	3000

Alkota model 49875-30 water heater

Water tank temperature (F)	Minimum Required Pressure (PSI)
50	1500
60	1650
70	1750
80	2020
90	2250
100	2550
110	2950

SAFETY INSTRUCTIONS

Unit operator must hold the pendant/remote during vacuum operations and stay within line of sight of the hose end operation. In an emergency, use the E-stop or pendant/remote to disable the vacuum. Maintain clear access to all E-stops and place an operator near one.

WARNING

Handguns Use High Pressure Water

High pressure water can cause serious injury or death.

- Wear appropriate safety equipment including: Waterproof apparel, protective boots, insulated gloves, safety glasses or goggles, hearing protection (ear plugs and/or ear muffs) and a hard hat with a face shield.
- Never point the handgun at or near a person or animal.
- Bleed pressure from handgun by shutting off pressure and pressing the trigger before disconnecting from high pressure connection.
- Use only handgun and connection supplied with the unit; never use common low pressure handguns or connectors with the high pressure system.



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NOTICE

Fire hazard

Do not use water heater when unit is in motion.

For proper combustion air flow and to avoid fuel build up the unit must be stationary and the cabinet door must be open during operation.



CAUTION

Overheating water tank can damage tank insulation.

Water must not be heated above 100° (F).

Consult the factory for additional information.

49857 rA



Safety Guidelines for SteamGun™ Use

Revised January 20, 2019

General

The gun valve is rated at 103.4 BAR or 1500 PSI and 232°C or 450°F. Do not exceed these maximum guidelines. The gun is designed for steam cleaning and high volume hot pressure washing applications where the temperature does not exceed the specifications.

Daily Checks

Before each use:

1. Check the swivel to ensure there are no leaks. Tighten the packings as necessary. If leaks continue, replace packings.
2. Check the valve pin for leaking. Tighten as necessary.
3. Check the nozzle and orifice to ensure they are tight and will not come loose during use.
4. Check the CoolGrip™ for debris. Dislodge any debris from the grip to ensure the grip remains cool.
5. Check hose connections for tightness. Tighten daily.
6. Check barrel tightness to ensure barrel is secure to SteamGun™.
7. Ensure that the lever valve shuts the steam off completely. Normally a small amount of residual steam and moisture will drain from the barrel, but it should stop within a minute.

Operation

1. Steam can cause severe burns. It is extremely important that all hose and gun connections are tight and not leaking and that the gun shuts off completely.
2. The lever handle, gun handle and CoolGrip™ barrel will insulate the operator from the heat of the steam. At the same time it is highly advisable to wear insulated safety gloves to avoid burns.
3. Proper protective clothing is advised. It is likely that the operator will experience splash back from the surface to be cleaned. Any dirt, grease, or chemicals on the surface of the material being cleaned or contained in the steam should be expected to come in contact with the operator. For this reason it is important that the operator wears safety clothing appropriate for handling the chemicals involved and as required by local regulations. Sioux Corporation recommends the use of chemical safety glasses, chemical wet suits, and boots. The user must consult their national or regional safety guidelines for the necessary required safety suits and goggles for the specific chemicals, greases or oils that will be contacted.
4. The lever handle of the SteamGun™ is designed to shut off when released. Under no circumstances should the gun lever be locked open.
5. While the SteamGun™ is designed to be extremely durable; dropping it or using it to pry or scrape can cause damage that will make usage unsafe.
6. Never point the SteamGun™ at another individual whether or not the gun valve is open.
7. Hold the nozzle of the gun at least a few inches away from the surface to be cleaned.
8. If the SteamGun™ was not purchased with a hose swivel, make sure the hose is untangled. Bound and tangled hose can cause the gun to twist out of the operator's hands.