

# — SIoux DESCALER —

**DISSOLVES WATER SCALE - LIME, RUST & LITHIUM CARBONATE**

**• EFFECTIVE • BIODEGRADABLE • PLEASANT ODOR • SAFE • ECONOMICAL • SIMPLE**

Formulated to rapidly clean mineral scale from water passages in water cooled or heated equipment. Improves efficiency, lowers operating costs, conserves energy and extends the usable life of cleaned equipment. Safe on steel, iron, brass, copper, plastic, rubber, and other materials. Use by circulating through water passages in Sioux water heaters, pressure washers, steam cleaners, and steam generators. Fortified with powerful low foaming wetting and penetrating agents, safe solvents and superior corrosion inhibitors. Does not contain toxic cresols or other tar oils that require SARA title III, Section 313 spill loss or disposal reporting.

**FOR INDUSTRIAL USE ONLY**

**CAUTION - KEEP OUT OF THE REACH OF CHILDREN.** Concentrate contains a low percentage of hydrochloric acid, a severe eye irritant. If eye contact occurs, wash from eyes with water until irritation stops. If irritation persists, see a physician. If ingested, drink lots of water or milk and consult a physician.

SAFE
SIMPLE
RAPID
ECONOMICAL



*Reliability Since 1939*

HEALTH	1
FLAMMABILITY	0
REACTIVITY	0
PERSONAL PROTECTION	B

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# DIRECTIONS

## PRESSURE WASHERS & STEAM CLEANERS

*- If lime buildup is severe, an alternate pump should be considered to protect the seals of the machine pump*

1. If your machine has a solution valve, close the solution valve tightly.
2. Turn off the water supply.
3. Disconnect the discharge hose at the gun and place the end of the hose into the float tank, making sure it is secure and will not fall out. (If your machine does not have a float tank, use a 5 gallon bucket in place of a float tank. Pump the descaler from the bucket directly into the heat exchanger, and place the discharge hose back into the bucket. Follow the remaining steps using the bucket as the float tank).
4. Check water level in the float tank. Assure that the float tank is  $\frac{1}{2}$  full of water.
5. Slowly add Sioux Descaler to the float tank until it is full. This should achieve a 1:1 ratio of water and descaler solution. Acceptable descaler/water ratios range from 1:1 to 1:3. The process will work with any dilution within this range, but will work faster when the solution is more concentrated.
6. Turn ON the pump switch, allowing a closed-loop system recirculation of the solution.
7. Once recirculation has begun, check the pH level of the holding tank solution every 15 minutes using litmus paper. The coil is completely descaled when the pH level is acidic and constant. If the pH increases above 5 between litmus paper tests, add more Sioux Descaler to the float tank. Once the solution pH remains constant below 5 between two 15 minute increments, the delimiting is complete. This can take up to 2 hours depending on the severity of the scale buildup.
8. When the process is complete, turn OFF the pump.
9. Remove the hose from the float tank and place in drain.
10. Turn on water supply and reactivate the pump. Flush the system with clear water for at least 5 minutes. For increased life of the equipment, flush with alkaline solution (e.g. soap) to neutralize descaler.
11. Turn OFF pump. Shut off water supply. Reattach tank to discharge hose. Return to normal use.

## WATER HEATERS

*- If lime buildup is severe, an alternate pump should be considered to protect the seals of the machine pump*

*- You will need a holding tank (30 gallon minimum) for delimiting solution and two hoses long enough to run from your water heater to the holding tank.*

1. Connect one hose to the delimiting connection on the inlet side of the pump and place the opposite end into the holding tank.
2. Connect the second hose to the delimiting connection on the discharge side of the water heater and place the opposite end into the holding tank.
3. Secure the hoses to the holding tank to prevent them from falling out.
4. Fill the holding tank with approximately 15 gallons of water.
5. Close the main water inlet valve and main discharge valve to the water heater.
6. Open the delimiting valve on the inlet (suction) side of the pump. Open the delimiting valve on the discharge side of the water heater.
7. Perform a test by turning ON the pump and inspecting hoses and connections for any leaks. Make necessary adjustments.
8. Turn ON the pump and add 5-15 gallons of Sioux Descaler to the water in the holding tank. Acceptable descaler/water ratios range from 1:1 to 1:3. The process will work with any dilution within this range, but will work faster when the solution is more concentrated.
9. Once recirculation has begun, check the pH level of the holding tank solution every 15 minutes using litmus paper. The coil is completely descaled when the pH level is acidic and constant. If the pH increases above 5 between litmus paper tests, add more Sioux Descaler to the holding tank. Once the solution pH remains constant below 5 between two 15 minute increments, the delimiting complete. This can take up to 4 hours depending on the severity of the scale buildup.
10. Upon completion of the delimiting process, turn OFF the pump.
11. Replace solution in the holding tank with clean water.
12. Turn pump ON to circulate clean water, flushing solution from the coil for 10-15 minutes.
13. Turn pump OFF.
14. Replace flush solution in the holding tank with an alkaline solution (e.g. soap).
15. Turn pump ON to circulate alkaline solution and neutralize any remaining reaction from the Sioux Descaler.
16. Turn pump OFF.
17. Close the delimiting valve on the inlet (suction) side of the pump. Close the delimiting valve on the discharge side of the water heater.
18. Open the main water inlet valve and discharge valve to the water heater.
19. Turn pump ON.
20. Record the inlet and discharge pressure readings in your maintenance records for future reference on the coil condition.

## STEAM-FLO®

*Items required: Centrifugal pump (5-10 gpm @ minimum 10 feet of head), 1" hoses (2), tee and ball valve, litmus paper, small container for solution sample.*

1. Drain the machine.
2. Fill the machine with a descaler and water solution. Acceptable Descaler/Water ratios range from 1:1 to 1:3. The process will work with any dilution within this range, but will work faster when the solution is more concentrated.
  - a. For SF-20/25: You must have at least 135 gallons of solution in the machine to cover all tubes (which is the normal operating level of the unit as indicated by the water level in the sight gauge of the water feeder).
  - b. For SF-11: You must have at least 55 gallons of solution in the machine to cover all tubes (which is the normal operating level of the unit as indicated by the water level in the sight gauge of the water feeder).
3. Connect hoses from the drain on the machine to the inlet side of your circulation pump and from the discharge side of your pump to the outlet of the machine. This will allow the machine to circulate the descaler.
4. Turn ON the circulation pump.
5. Once recirculation has begun, check the pH level of the solution every 30 minutes using litmus paper. The Steam-Flo® is completely descaled when the pH level is acidic and constant. If the pH increases above 5 between litmus paper tests, add more Sioux Descaler. Once the solution pH remains constant below 5 between two 30 minute increments, the delimiting is complete. This can take up to 4 hours depending on the severity of the scale buildup.
6. Shut OFF the pump switch.
7. Drain the machine.
8. Fill the machine with clean water and add alkaline solution (e.g. soap) to achieve a pH above 7 inside the boiler; this neutralizes the descaler.
9. Turn ON the circulation pump and circulate for approximately 10 minutes.
10. Drain the machine and flush with fresh water.

**CAUTION!** DESCALER REMAINING IN EQUIPMENT WILL CAUSE CORROSION, SERIOUS DAMAGE TO METAL PLUMBING, AND CAN RESULT IN PINHOLES IN HEAT EXCHANGER. BE SURE TO COMPLETELY NEUTRALIZE AND PURGE SYSTEM OF DESCALER.

**DISPOSAL** - Dissolved water scale residues should be sewered with lots of water. This descaler is mildly acidic after use and contains nontoxic salts after being used to remove potable water scale residues. If you use with city or potable well water, the soent cleaner can be sewered. Please check local codes and regulations before disposing.

For questions or to order additional SIOUX DESCALER please call

Toll Free 888-763-8833 or 605-763-3333

