

SIoux SOLUTION HEATERS

**STRIP YOUR CARBON
COLUMN UP TO FIVE
TIMES FASTER**



- **Economical**
- **Fast**
- **Easy to Install,
Operate & Maintain**
- **Compact**
- **Designed Specifically
for the Mining
Industry**

SIoux

APPLICATION

Sioux Corporation's solution heaters are designed for the heap leaching process used in precious metals mining. They are currently being operated in the U.S. and many other countries throughout the world. The rugged, reliable design provides an instant, continuous supply of hot solution which increases stripping speed, therefore lowering overhead and increasing profit.

Sioux Solution Heaters are easy to operate, and will last for many years with little maintenance.

These rugged units come fully equipped with controls and instrumentation. Choose from LP gas, natural gas, or oil-fired models.



Model D-2000-SS

OPERATION

Basic operation of a Sioux Solution Heater is simple: A burner (which is fired by your choice of oil, LP or natural gas), heats solution passing through a heavy-duty welded stainless steel coil, producing a continuous temperature rise of your solution after an initial startup period of 3-5 minutes. Outlet temperature and flow rate can be held at precise levels.

Hot solution is available within minutes of startup, and units can be run continuously. No preheating and no recovery time is needed. Units can be used in a new installation or can be added to an existing set-up. Heater output ratings are 1,000,000 to 3,000,000 BTU/hour.

Installation of units is simple. Just install the solution heater to required utilities and you're ready to operate the unit. Units are compact and can be moved if necessary.

Units have few moving parts and the coil holds only 12 gallons of solution, so maintenance is minimal.

Units are modular so you can make a minimal investment to start, and expand your system as your operation grows.



Model D-3000-SS

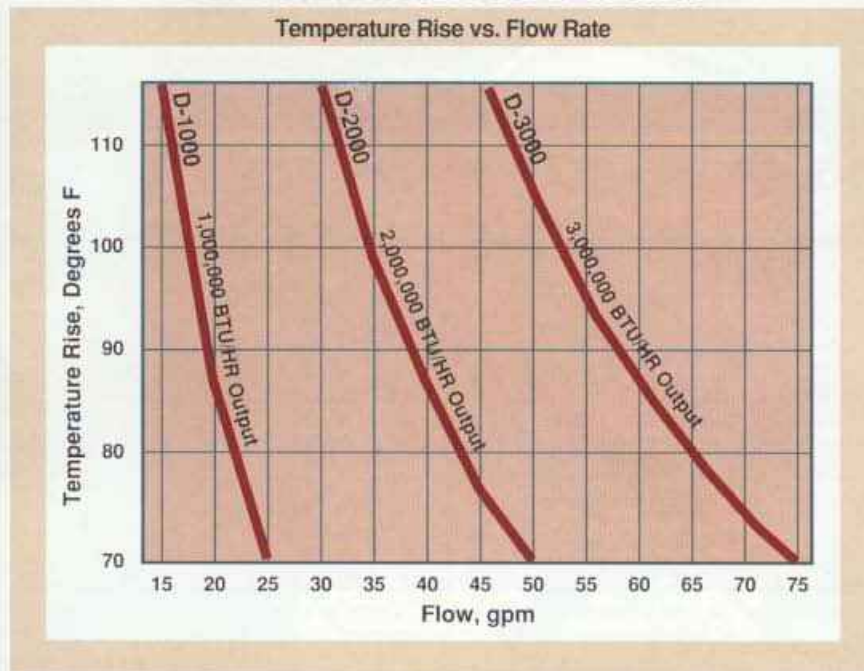
PERFORMANCE

Use this chart to select Basic Solution Heater size. Locate the gallons per minute of solution, then locate required temperature rise (temperature rise is the difference between the desired output solution temperature and the incoming solution temperature). Select a model that meets or exceeds the BTU/hour figure from the specification chart

below. Performance shown on-curve is based on heating water and is conservative.

Recommended maximum discharge temperature is 270°F for all models. Minimum flow is 15 GPM per module. (15 GPM for D-1000; 30 GPM for D-2000; 45 GPM for D-3000).

PERFORMANCE FOR D SERIES

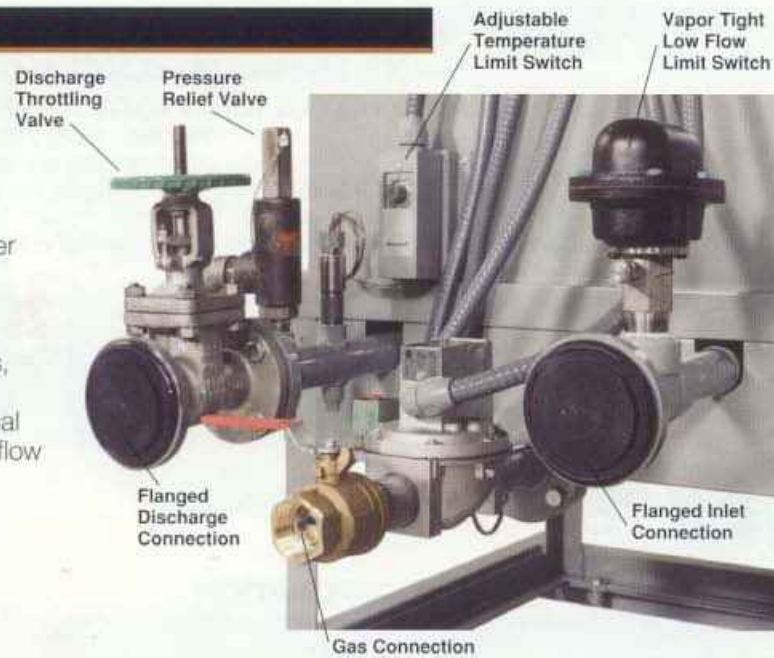


Performance Chart Notes:

1. Solution flow rates vary with pressure. Required pressure at inlet is 50 to 75 PSI.
2. All ratings are based upon operation in an ambient temperature of 70°F (21.1°C) at sea level.
3. Derate 4% per each 1,000 feet altitude above sea level.

STANDARD FEATURES

The heavy-duty construction of the Sioux Solution Heater features an all-welded 14-gauge steel frame and stainless steel wetted parts. Paint is baked-on alkyd primer with grey finish coat, free of heavy metals. Heating coil is 1-1/4" O.D., type 304 stainless steel, vertically-mounted, electrically-welded. Connections are flanged for easy replacement. Type 304 stainless steel socket weld fittings, controls and relief valve. Burner (oil, LP or natural gas) includes flame monitoring safety ignition system. Additional safety features include high temperature limit switch, low flow limit switch, bi-metal thermometer, and stainless steel discharge throttling valve.



OPTIONS AND ACCESSORIES

Draft Diverter/Damper Exhaust Assembly—Draft diverter equalizes stack pressure, while damper (manual or motorized) restricts cold air from coming down stack, which may freeze liquid in the heating coil. Motorized version is 115-volt electrically-operated. Stack opening is 16" diameter and the assembly is 48" high. (**NOTE:** When using a manual or motorized draft diverter/damper, each 1,000,000 BTU/hour model requires one draft diverter/damper assembly; 2,000,000 BTU/hour model requires two assemblies; 3,000,000 BTU/hour model requires three assemblies.)

SA-58g Manual Draft Diverter/Damper

SA-58h Motorized Draft Diverter/Damper—115 volt, electrically-operated.

Inlet Isolation Valve—Inlet and discharge valves are needed if operator wants to shut off solution flow at an individual unit, for maintenance or repair, instead of shutting down complete system. All units come standard with discharge valve which can also be used for throttling flow; inlet solution valve is optional.

SA-72 1/2" Flanged Inlet Isolation Valve

Rain Cap—Helps keep rain water out of burner. One 16" diameter rain cap required for each 1,000,000 BTU/hour section.

SA-66 Rain Cap

Alternative Electricals—Electrical voltage, frequency or phase other than listed standard.

SA-52a Alternate Voltage or Frequency

SA-52b Single-Phase or Three-Phase

SPECIFICATIONS

Model	Nominal BTU/Hour (In millions)	Continuous Current (Amps)			Number of Burner Systems in the complete heater		Number of Solution Connections	Electricals	Approximate Unit Dimensions (L" x W" x H")		Approximate Unit Weight (lbs.)		Approximate Shipping Weight (lbs.)	
		Oil, 115v.	Oil, 230 v.	Gas	Oil	Gas			Oil	Gas	Oil	Gas	Oil	Gas
D SERIES														
D-1000	1M	5.0	2.5	1.0	1	1 (A)	1 (B)	(C)	60 x 37 x 77	60 x 37 x 71	1,000	960	1,030	1,010
D-2000	2M	10.00	5.0	1.0	2	2 (A)	2 (B)	(C)	60 x 72 x 77	60 x 72 x 71	1,700	1,800	1,800	1,900
D-3000	3M	15.00	7.5	1.0	3	3 (A)	3 (B)	(C)	60 x 104 x 77	60 x 104 x 71	2,500	2,700	2,780	2,960

A Gas inlet connection is 1-1/2" diameter pipe.

B. Inlet water connection is 1-1/2" diameter pipe.

C. Standard electricals are 115/1/60 or 230/1/60.

GENERAL INSTALLATION GUIDELINES:

- Oil-fired units:
 - Approximate fuel consumption: 7.3 GPH (at 150 PSI with No. 1 fuel oil) per 1,000,000 BTU/hour burner.
 - Preferred fuel is No. 1 fuel oil or good grade kerosene. No. 2 fuel oil may be used, but may cause coil to become coated with carbon/soot.
- Gas-fired units:
 - Approximate fuel consumption (when fired in accordance with gas pressure requirements) below:
 - Natural gas-fired units: Estimated 1,400 CFH per 1,000,000 BTU/hour burner (reducing fuel consumption will increase efficiency).
 - LP gas-fired units: Estimated 15.58 GPH or 66 lbs./hour per 1,000,000 BTU/hour burner.
 - Gas pressure requirements:
 - Natural gas-fired units: 7-9" water column pressure at burner (0.25 to 0.33 PSI).
 - LP gas-fired units:
 - 11-13" water column pressure at burner (0.40-0.47 PSI).
 - Consult your local gas supplier for capabilities and requirements of your local service.

Note: Units are designed to be operated indoors, above 45°F.

**SIoux IS AN INDUSTRY LEADER IN CUSTOM-BUILT MACHINES.
CALL OR FAX US TODAY TO QUOTE ANY SPECIAL APPLICATIONS:
PHONE: (605) 763-3333**

FAX: (605) 763-3334

Office Hours: 8:00 a.m. - 4:30 p.m. Central Time, Monday-Friday

Sioux also manufactures quality cleaning equipment: Steam Cleaners • Hot and Cold Pressure Washers • Combination Cleaners • Steam Generators

Full one year limited warranty on all units and replacement parts.

For warranty specifications and limitations of Sioux Corporation, see Form #847-94. The information contained in this brochure does not constitute a warranty.

Before ordering a Sioux Solution Heater verify that sufficient utilities are available to operate the unit. See specific unit requirements on Specifications Chart.

Performance ratings are based on heating water, with 50° inlet water temperature and 70°F ambient air temperature, at sea level. Performance may vary +/-10%.

Sioux Corporation reserves the right to make such changes as deemed advisable which represent improvement of performance and/or reliability.

Conformance to local codes is responsibility of customer.

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SIoux

"Quality Since 1939"

SIoux CORPORATION

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