



## Installation and Maintenance

### Series 1000, 1800 and 2000 Inverted Bucket Steam Traps

*This bulletin should be used by experienced personnel as a guide to the installation of the Armstrong Series 1000, 1800, and 2000 Inverted Bucket Steam Traps. Selection or installation of equipment should always be accompanied by competent technical assistance. You are encouraged to contact Armstrong International, Inc. or its local sales representative for additional information.*

#### INSTALLATION

Steam trap installation is critical from both a performance and maintenance aspect. Installation of the trap is simplified if you follow these guidelines:

1. Before installing the trap, clean out the line by blowing down at full steam pressure. Blowdown any strainers ahead of the trap.
2. Install the trap so that it is **ACCESSIBLE** for inspection and repair, **BELOW** the drip point whenever possible, and **CLOSE** to the vertical drip leg.
3. Install strainers ahead of traps if specified or when dirt conditions warrant their use.
4. Use pipe dope or Teflon™ tape sparingly on male threads only. Leave the end thread exposed to avoid introducing the sealant into the system.
5. For proper operation, the trap body must be upright in a “vertical to the eye” position. See Figures 1-1, 1-2, and 1-3 for proper trap orientation and wrenching surfaces. **NOTE: Use of wrenching surfaces other than specified on the Series 2000 connector can result in damage to the gasket seating area.**

**Note: Use crosshatched area only for wrenching surface.**

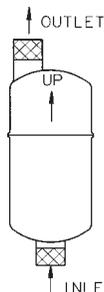


Figure 1-1: Series 1000

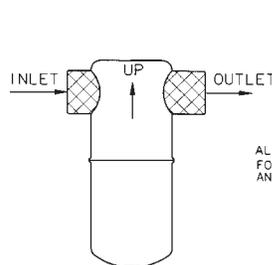


Figure 1-2: Series 1800

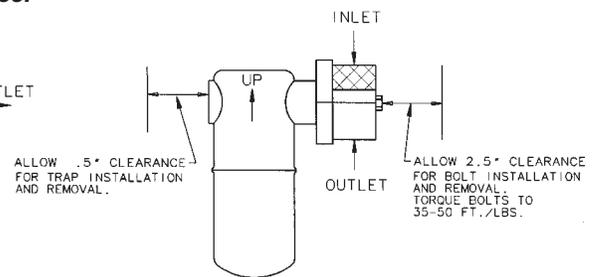


Figure 1-3: Series 2000



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6. Observe pressure limitations stated on the trap label. For maximum operating pressures see Table 2-1. Traps with thermic buckets are limited to a maximum operating pressure of 250 psig, unless otherwise limited by specific model number.

7. Do not exceed the maximum differential pressure (difference between inlet and outlet pressure) marked on the trap label and stamped on the trap. Exceeding the maximum differential pressure will cause the trap to lock shut. Higher pressure traps, however, may be used at all lower pressures provided they are of sufficient capacity.

8. Closed Return Systems: It is convenient for replacement and trap testing purposes to install an isolation valve on each side of the trap with a test valve between the trap outlet and the downstream isolation valve. Trap replacement is further simplified by installing a union on the inlet and outlet sides of the trap. Where applicable, place unions at right angles, not in line, to facilitate trap removal.

9. **All inverted bucket type steam traps require that a water seal be established inside the trap. When placing in operation, open the inlet valve slowly so that the trap can catch its prime.**

**Table 2-1. Maximum Operating Pressure**

1010 and U-1010	150 psi
1810 and 2010	200 psi
1011, U-1011, 1811 and 2011	400 psi
1022, U-1022 and 1013	450 psi
1822, 2022	650 psi

### MAINTENANCE

1. When the steam trap is suspected of malfunctioning, it can be checked by observing the discharge of the trap. Inverted bucket traps discharge intermittently except under very low load conditions. If the trap is locked shut, check the pressure differential to verify that the maximum differential pressure (stamped on the trap) is not exceeded.

If the trap is blowing live steam, close the inlet valve for a few minutes, then gradually open so that the trap can catch its prime. Do not confuse the discharge of flash steam with live steam loss. If the trap continues to blow live steam, remove the trap from the line, back flush it with compressed air or water, and check it again for normal operation.

2. If it can not be made to operate normally, verify that the trap is correct for the application (capacity, differential pressure, etc.). If correct, install a new steam trap of the same series and of equal capacity in its place. **NOTE:** When performing maintenance on any steam trap, the common practice is to remove the trap in question and immediately install a good trap in its place. Maintenance can then be performed with minimum equipment downtime.

For assistance with an unusual installation or service problems, contact your Armstrong Representative or Armstrong International's application engineering department.



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