



PRIMETRAP BEFORE RETURNING ON THE AIR!

Installation, Operation and Maintenance of Inverted Bucket Air Traps

To get the best results from your Armstrong 211, 212, 213, 310, 312, and 313 BVS Model Air Traps, you should observe the installation and operation recommendations below.

Traps Are Not Separators

Armstrong Air Traps will remove all water knocked down by an air separator, or they will remove water that accumulates in the bottom of an air receiver or air line. Frequently, however, water in compressed air is in the form of a fine mist or fog. It is impossible for any air trap to remove these fine particles of water. A separator is required to condense the fog into a stream of water which the trap can remove easily.

Installation

1. Inverted Bucket Traps should be installed below and close to the unit being drained, or as directed by the equipment manufacturer. They should be accessible to the maintenance man.
2. Blow down the line at full air pressure to remove pipe cuttings and scale before connecting the trap.
3. **Prime bodies of inverted bucket air traps before turning on the air.**

Clean Piping:

First install piping and valve ahead of trap, then blow down at full air pressure to remove loose dirt. Last of all, screw the trap into position.

Priming Inverted Bucket Traps:

Before opening the air valve, the body of the trap should be primed or filled with water. Otherwise the trap bucket will not be able to float and close the discharge valve. The trap can be primed through the test plug in the trap cap, or by removing the cap from the body.

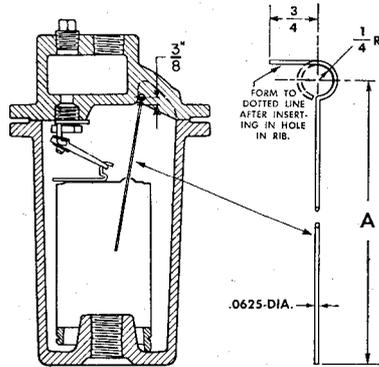


Fig. 1 — How vent scrubbing wire is installed in inverted bucket steam trap to convert to air service when oil may plug vent.

SCRUBBING WIRE DIMENSION

Trap Number	Len th "A"
211 310	2 1/4"
212 312	3"
213 313	5"

Vent Scrubber:

When Armstrong Inverted Bucket Traps are ordered for compressed air service, a bucket vent scrubbing wire is provided, as shown in Fig. 1. If you are using an Armstrong Steam Trap on compressed air service, and the bucket vent should become clogged by a heavy film of oil, either enlarge the vent or install a scrubbing wire. For vent enlargement, first try a No. 46 drill. If this is not enough, then try a No. 42 drill.

To install the vent scrubbing wire, drill a 5/32" hole across the center rib of the trap cap. Also drill out the bucket vent to 3/32". After forming the 1/16" scrubbing wire to dimensions shown, the wire is inserted in the bucket vent and the mechanism reassembled. Then the loop end is inserted in the hole drilled in the cap and bent to hold it in place but free to swing in any direction (see Fig. 1). The movement between the wire and bucket will prevent the formation of any oil film.

Operating Characteristics - Armstrong Air Traps

Normally, there is an intermittent air loss through the inverted bucket air trap. This is the air that passes through the small vent in the top of the bucket and amounts to approximately 7 to 10 cubic feet of free air per hour. It is this small air loss through the vent that makes it practical to install an inverted bucket air trap above the drip point. When the trap has a lot of water to handle the air loss is materially reduced.

Trap Inspection and Maintenance

While this trap will handle ordinary oil and sediment, cleaning is sometimes necessary on account of oil and dirt building up a heavy coating on the trap mechanism. If you find this to be the case, arrange to clean the trap at regular intervals. Be sure to clean both the body and cap, as well as the mechanism.

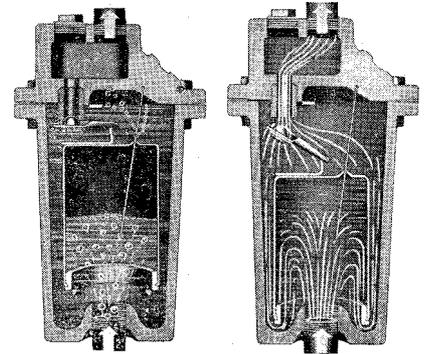


Fig. 2 — No. 213BVS inverted bucket trap. After priming the trap with water, the valve in the inlet pipe to the trap is opened, allowing air and water to enter. Water in the bucket is displaced by air until bucket floats and closes discharge valve at top of trap. When additional water enters bucket, it loses buoyancy and pulls on valve lever, opening discharge valve.

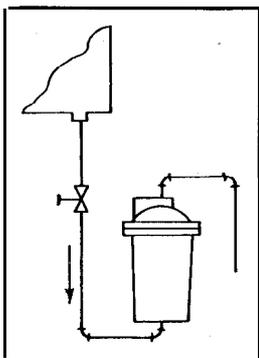
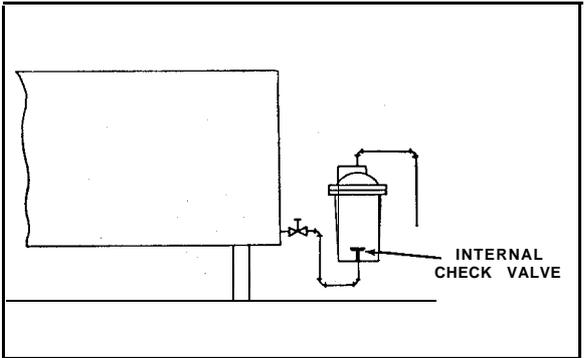


Fig. 3 — Standard hook-up for a No. 213BVS Air Trap. Be sure to fill trap body with water before opening the valve.

Fig. 4 — The No. 213BVS inverted bucket trap draining air receiver. Note trap should either have internal check valve or a swing check to prevent prime loss when air pressure drops.



HOW OIL AFFECTS TRAP OPERATION

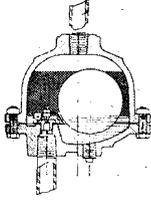


Fig. 5
Ball Float

Oil floats to top, water is discharged from bottom. Body will fill with oil. If oil is heavy, trap is likely to stop operating.

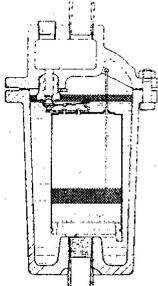


Fig. 6
Inverted Bucket

Oil floats to top and is discharged ahead of water. Oil does not interfere with operation of trap.

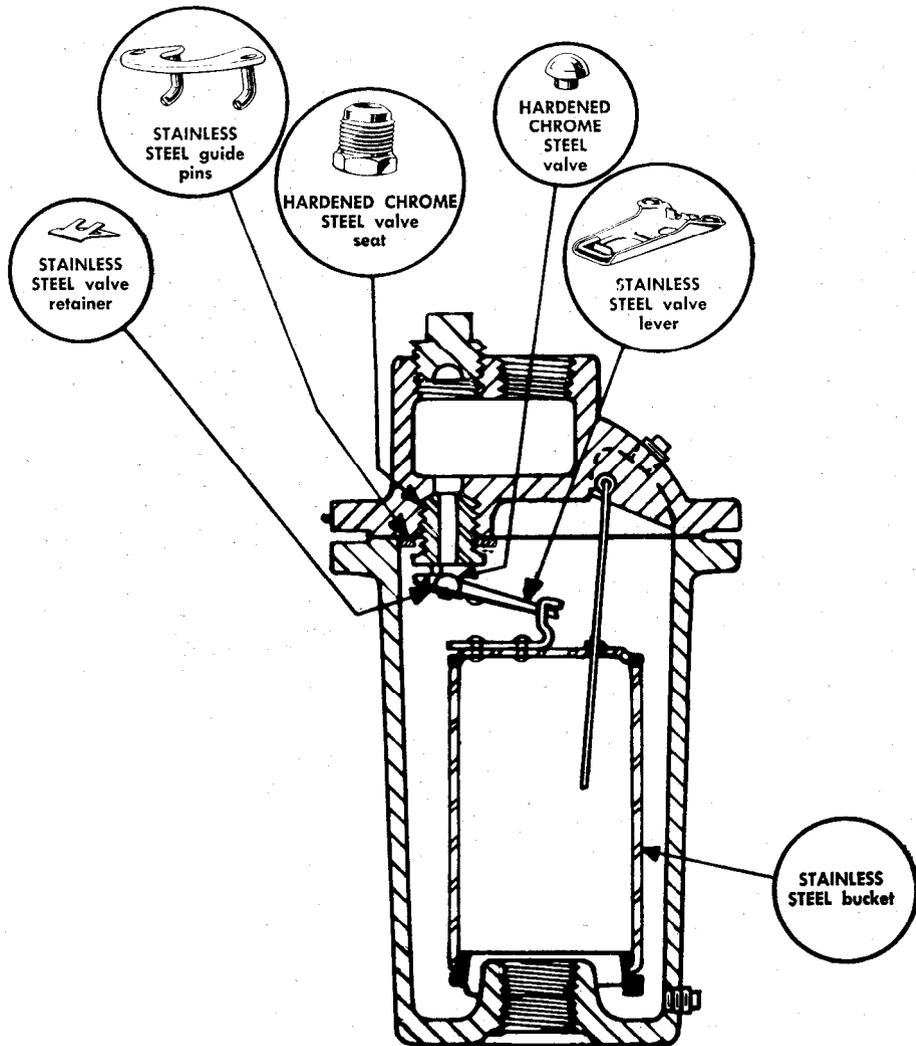
The No. 213 Armstrong Inverted Bucket Air Trap is ideal for draining intercoolers, aftercoolers, separators and air receivers where heavy oil must be discharged along with the water. The suitability of this size and type has been proved by thousands of installations.

DESIRABLE FEATURES:

1. Low cost and capacity.
2. Oil is discharged first — See Fig. 6 and then compare with Fig. 5. Bucket vent scrubbing wire keeps bucket vent open at all times.

3. Handles dirt. There are no dead spots in which dirt can collect — no chance for dirt to settle on valve and seat which are at top of the trap.
4. Open bucket cannot collapse.
5. All SS mechanism will last for years.
6. Can be installed above the drip point.

AIR LOSS. There will be a loss of from 7 to 10 cu. ft. of free air per hour through the bucket vent. This is a small price to pay for automatic and dependable drainage of both water and oil. No other type of trap will do the job as well.



How to Order Repair Parts. For operating mechanisms, specify trap number and maximum operating pressure or orifice size. For gaskets, specify trap number. For body and cap, specify trap number and size of pipe connections.

A Mechanism Less Bucket or Pressure Change Assembly includes: valve seat, valve, valve retainer, lever and guide pin assembly with screws. These parts come in matched sets with orifice size stamping on the lever and guide pin assembly, as well as on the orifice itself — see Pressure Change Assembly, below.

A Mechanism Less Bucket (no change in operating pressure) will make an old trap practically as good as new since the trap bucket is normally subject to little wear. When ordering, specify maximum working pressure.



Armstrong

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Manufacturers of inverted Bucket, Float and Thermostatic, Controlled Disc and Thermostatic Steam Traps • Compressed Air Traps • Automatic Air Vents • Refrigerant Purgers • Strainers • Conditioned-Steam and Evaporative Pan Humidifiers

