

Energy Efficient Because It's So Reliable

The inverted bucket is the most reliable steam trap operating principle known. The heart of its simple design is a unique leverage system that multiplies the force provided by the bucket to open the valve against pressure. Since the bucket is open at the bottom, it resists damage from water hammer, and wear points are heavily reinforced for long life.

The inverted bucket has only two moving parts—the valve lever assembly and the bucket. That means no fixed points, no complicated linkages. Nothing to stick, bind or clog.

Wear and corrosion resistance

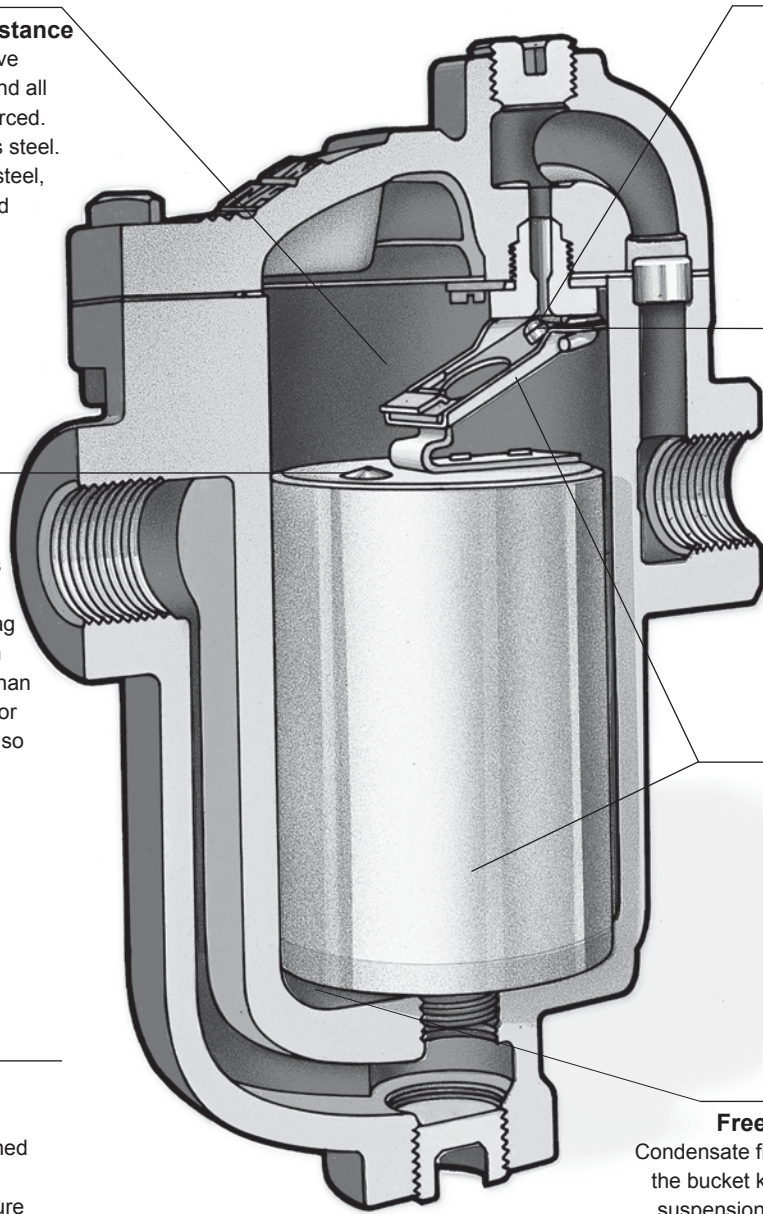
Free-floating guided lever valve mechanism is "frictionless," and all wear points are heavily reinforced. All working parts are stainless steel. Valve and seat are stainless steel, individually ground and lapped together in matched sets.

Continuous air and CO₂ venting

Vent in top of bucket provides continuous automatic air and CO₂ venting with no cooling lag or threat of air binding. Steam passing through vent is less than that required to compensate for radiation losses from the trap so it's not wasted.

Excellent operation against back pressure

Since trap operation is governed by the difference in density of steam and water, back pressure in the return line has no effect on the ability of the trap to open for condensate and close against steam.



Virtually no steam loss

Steam does not reach the watersealed discharge valve.

Purging action

Snap opening of the valve creates a momentary pressure drop and turbulence in the unit drained. This breaks up films of condensate and air and speeds their flow to the trap.

Dependable operation

Simple, direct operation with nothing to stick, bind or clog. Only two moving parts—the valve lever and the bucket.

Freedom from dirt problems

Condensate flow under the bottom edge of the bucket keeps sediment and sludge in suspension until it is discharged with the condensate. Valve orifice opens wide and closes tightly. No buildup of dirt or close clearances to be affected by scale.

Resistance to damage from water hammer

Open bucket or float will not collapse as a result of water hammer

*last updated 11/15



Inverted Bucket Steam Trap

Conserves Energy Even in the Presence of Wear

Armstrong inverted bucket steam traps open and close based on the difference in density between condensate and steam—the inverted bucket principle. They open and close gently, minimizing wear. This simple fact means that inverted buckets are subject to less wear than some other types of traps.

In fact, as an Armstrong inverted bucket trap wears, its tight seal actually improves. The ball valve and seat of the Armstrong trap provide essentially line contact—resulting in a tight seal because the entire closing force is concentrated on one narrow seating ring.

An Armstrong inverted bucket trap continues to operate efficiently with use. Gradual wear slightly increases the diameter of the seat and alters the shape and diameter of the ball valve. But, as this occurs, a tight seal is still preserved—the ball merely seats itself deeper.

Corrosion-Resistant Parts

The stainless steel valve and seat of the Armstrong inverted bucket steam trap are individually ground and lapped together in matched sets. All other working parts are wear- and corrosion-resistant stainless steel.

Venting of Air and CO₂

The Armstrong inverted bucket provides continuous automatic air and CO₂ venting with no cooling lag or threat of air binding.

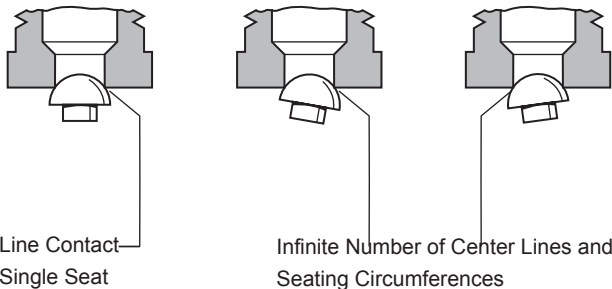
Operation Against Back Pressure

The Armstrong inverted bucket has excellent performance against back pressure. It has no adverse effect on inverted bucket operation other than to reduce its capacity by the low differential. The bucket simply requires less force to pull the valve open and cycle the trap.

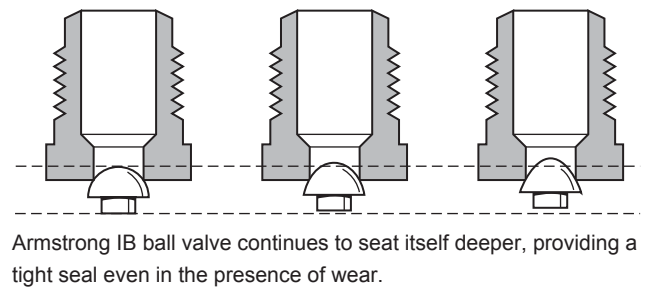
Freedom From Dirt Problems

Armstrong designed its inverted bucket to be virtually free of dirt problems. The valve and seat are at the top of the trap, far away from the larger particles of dirt, which fall to the bottom. Here the up-and-down action of the bucket pulverizes them. Since the valve of an inverted bucket is either fully closed or open, dirt particles pass freely. And the swift flow of condensate from under the bucket's edge creates a unique self-scrubbing action that sweeps dirt out of the trap.

Armstrong IB Valve Seating/Ball Valve



IB Valve Wear Characteristics



*last updated 11/15