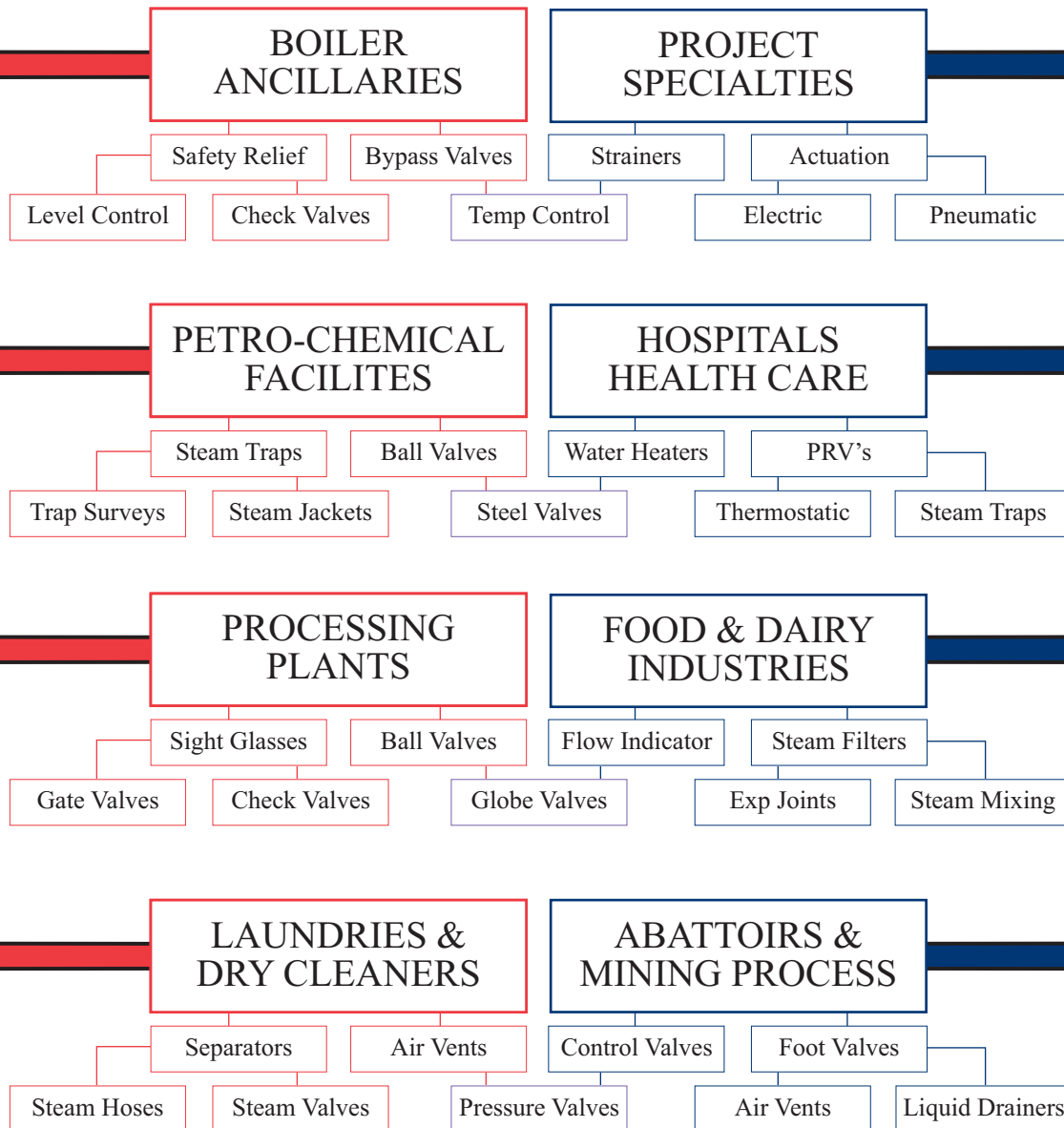


# ARMSTRONG STEAM & ENGINEERING

Pty. Ltd.

## Valves, Actuators & Pipeline Specialties



### From Concept to Conclusion



# Armstrong® 2000 Series Stainless Steel Traps

The Armstrong stainless steel traps—Series 1000, Series U-1000, Series 1800 and Series 2000—have high resistance to damage from freeze-ups. They also offer high resistance to wear and corrosion for longer service reliability, and they provide continuous air venting.

Armstrong stainless steel traps provide maximum ease and economy of installation, inspection or replacement. What's more, an Armstrong stainless steel trap is the ideal solution for trapping applications such as tracer lines, steam mains, and heating and processing applications.

### 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.

### 360° universal 304 stainless steel connector

Provides quick, easy in-line renewability along with all the proven advantages of an inverted bucket operation. Also available with optional IS-2 integral strainer connector with 20 x 20 mesh stainless steel strainer.

### Virtually no steam loss

Steam does not reach the water-sealed discharge valve.

### Continuous air and CO<sub>2</sub> venting

Vent in top of bucket provides continuous automatic air and CO<sub>2</sub> 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.

### 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.

### Sealed, tamperproof 304-L stainless steel package

Able to withstand freeze-ups without damage.

### Dependable operation

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

### Excellent operation against back pressure

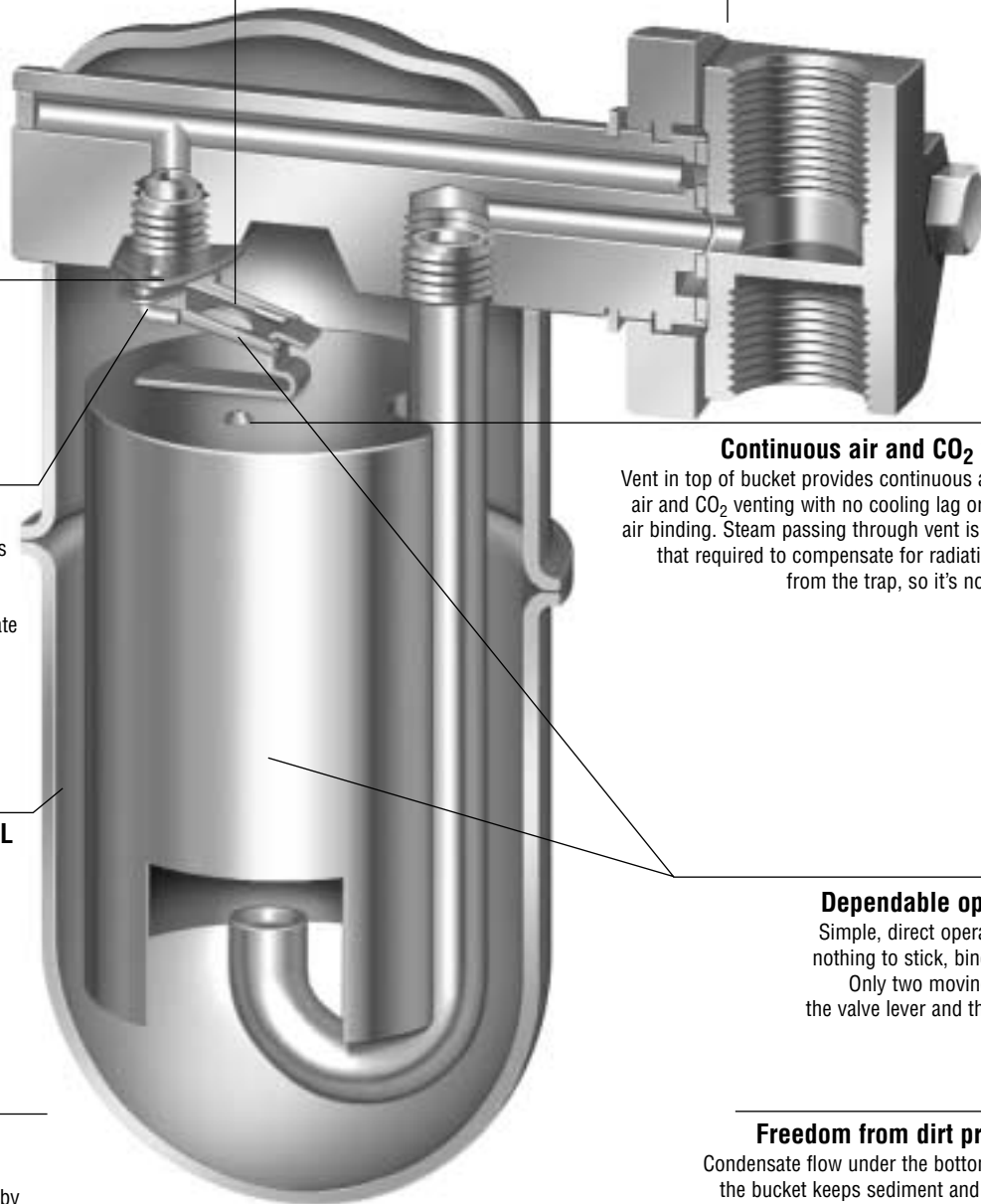
Since trap operation is governed by the difference in density of steam and water, back pressure in the return line has no effect on the ability of the trap to open for condensate and close against steam.

### Resistance to damage from water hammer

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

### 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.



## 2000 Series Stainless Steel Traps

### For Pressures to 650 (45 bar) psig... Capacities to 1,300 lbs/hr (590 kg/hr)

With the Series 2000 360° universal connector, you can install inverted bucket efficiency and long service life in *any* piping configuration with little or no repiping. You get the reliability of the inverted bucket operating principle, plus all the benefits of all-stainless steel construction:

- A sealed, tamperproof package
- A compact, lightweight trap
- The ability to withstand freeze-ups without damage
- Exceptional corrosion resistance
- A three-year guarantee against defective materials or workmanship

Series 2000 steam traps combine savings in three important areas: energy, installation and replacement. The 360° universal connector provides quick, easy in-line renewability along with all the proven advantages of an inverted bucket operation. Choice of NPT or BSPT screwed connections, or socketweld connections.

Also available with IS-2 integral strainer connector.



Available with  
Standard Connector



Available with  
IS-2 Integral Strainer Connector  
(shown with optional blowdown valve)



# 2000 Series Inverted Bucket Steam Trap

All Stainless Steel With 360° Connector

For Pressures to 650 psig (45 bar)...Capacities to 1,300 lb/hr (590 kg/hr)

Steam Trapping and Steam Tracing Equipment

## Description

With the 2000 Series' 360° universal connector, you can install inverted bucket efficiency and long service life in any piping configuration with little or no repiping. You get the reliability of the inverted bucket operating principle, plus all the benefits of all-stainless steel construction:

- A sealed, tamperproof package
- A compact, lightweight trap
- The ability to withstand freeze-ups without damage
- Exceptional corrosion resistance
- A three-year guarantee against defective materials, defective workmanship.

2000 Series steam traps combine savings in three important areas: energy, installation and replacement. The 360° universal connector provides quick, easy in-line replacement along with all the proven advantages of inverted bucket operation.

Also available with optional IS-2 integral strainer connector.

## Maximum Operating Conditions

Maximum allowable pressure (vessel design):

- Model 2010, 2011: 400 psig @ 800°F (28 bar @ 427°C)
- Model 2022: 650 psig @ 600°F (45 bar @ 315°C)

Maximum operating pressure:

- Model 2010: 200 psig (14 bar)
- Model 2011: 400 psig (28 bar)
- Model 2022: 650 psig @ 600°F (45 bar @ 316°C)  
627 psig @ 700°F (43 bar @ 371°C)  
604 psig @ 800°F (41.6 bar @ 427°C)

## Connections

- Screwed NPT and BSPT
- Socketweld
- Flanged (consult factory)

## Materials

- Body: ASTM-A 240 Grade 304L
- Internals: All stainless steel—304
- Valve and seat: Hardened chrome steel
- Connector body (std & IS-2): Stainless steel—304

## Options

- Insu-Pak™ insulation for Models 2010/2011
- Stainless steel pop drain for Models 2011/2022
- Bucket vent wire
- Probe connection for Models 2011/2022
- Strainer blowdown valve for IS-2 connector

## 360° Connector Styles

- Standard connector
- IS-2 connector with integral strainer
- IS-2 connector with integral strainer with blowdown valve

## Specification

Inverted bucket steam trap, type ... in all stainless steel, freeze resistant, with 360° universal connector, having continuous air venting at steam temperature, free-floating stainless steel mechanism, and orifice at the top of the trap.

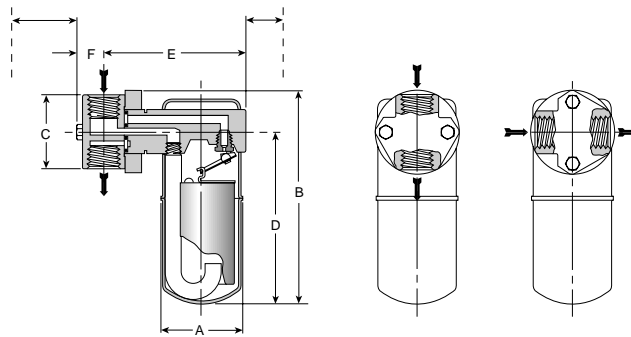
## How to Order

Specify:

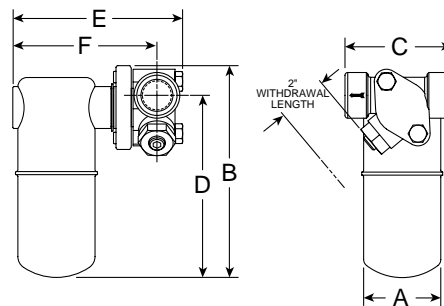
- Model number
- Size and type of pipe connection
- Type of 360° connector (with or without strainer)
- Maximum working pressure that will be encountered or orifice size
- Any options required

Allow 2-1/2" clearance for bolt installation and removal.

Allow 2-1/2" clearance for trap installation and removal.



Model 2011 Trap With Standard Connector



Series 2010-2022 With IS-2 Connector

### 2000 Series Traps With Standard Connector

Model No.	2010		2011		2022	
	in	mm	in	mm	in	mm
Pipe Connections	1/2, 3/4	15, 20	1/2, 3/4	15, 20	1/2, 3/4	15, 20
"A" (Diameter)	2-11/16	68	2-11/16	68	3-7/8	98
"B" (Height)	6	152	6-15/16	176	8-11/16	221
"C" (Face to Face)	2-3/8	60	2-3/8	60	2-3/8	60
"D" (Bottom to $\varnothing$ )	4-19/32	117	5-9/16	141	7-3/8	187
"E" ( $\varnothing$ to Outside)	4-9/16	115	4-9/16	115	5-3/4	146
"F" ( $\varnothing$ to Bolt)	1	25	1	25	1	25
Weight lb (kg)	4-1/4 (1.9)		4-1/2 (2.0)		7 (3)	

### 2000 Series Traps With IS-2 Integral Strainer Connector

Model No.	2010				2011				2022			
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
Pipe Connections	1/2, 3/4	15, 20	1	25	1/2, 3/4	15, 20	1	25	1/2, 3/4	15, 20	1	25
"A" (Diameter)	2-11/16	68	2-11/16	68	2-11/16	68	2-11/16	68	3-7/8	98	3-7/8	98
"B" (Height)*	6	152	6	152	6-15/16	176	6-15/16	176	8-11/16	221	8-11/16	221
"C" (Face to Face)	3-1/2	89	4	102	3-1/2	89	4	102	3-1/2	89	4	102
"D" (Bottom to $\varnothing$ )*	5	127	5	127	6	152	6	152	7-3/4	197	7-3/4	197
"E" (Outside to Bolt)	5-1/2	140	5-11/16	144	5-1/2	140	5-11/16	144	6-11/16	170	6-7/8	175
"F" ( $\varnothing$ to Outside)	4-5/8	117	4-13/16	122	4-5/8	117	4-13/16	122	5-13/16	148	6	152
Weight lb (kg)	4-3/4 (2.2)		5-1/4 (2.4)		5 (2.3)		5-1/2 (2.5)		7 (3)			

\*Add 1/2" (15 mm) to "B" and "D" dimensions when optional probe connection is required.

All dimensions and weights are approximate. Use certified print for exact dimensions. Design and materials are subject to change without notice.

# 2000 Series Inverted Bucket Steam Trap

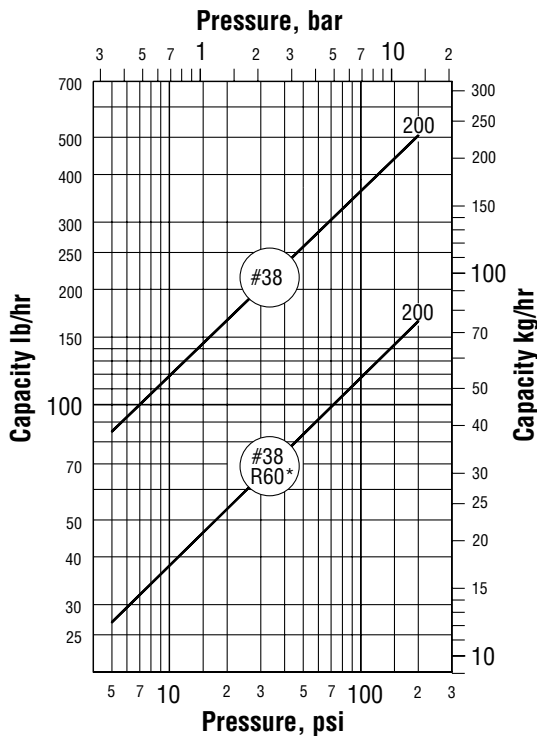
All Stainless Steel With 360° Connector

For Pressures to 650 psig (45 bar)...Capacities to 1,300 lb/hr (590 kg/hr)

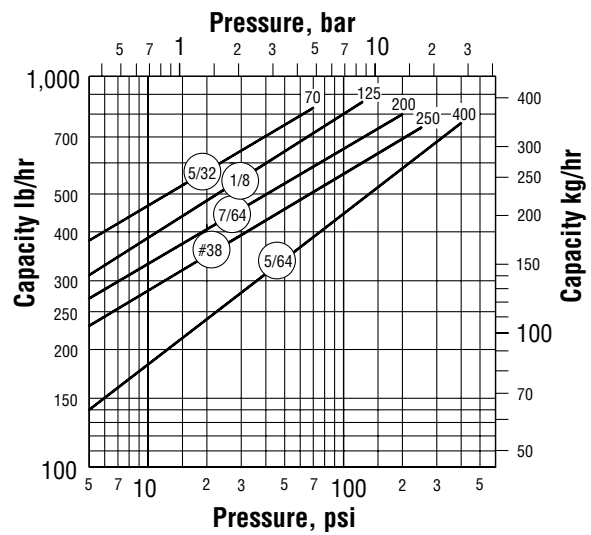


Steam Trapping and Steam Tracing Equipment

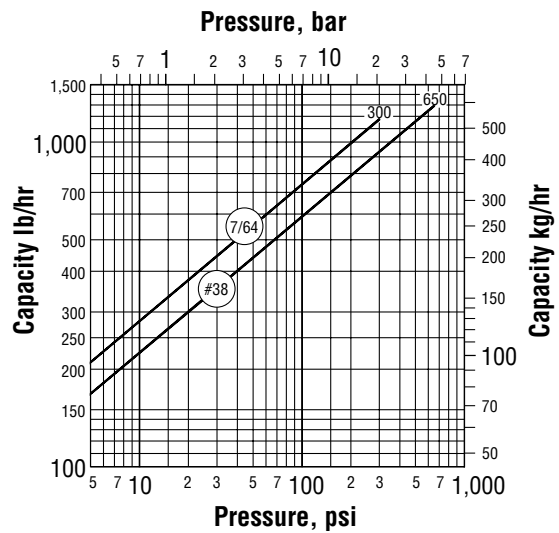
**Model 2010 Capacity**



**Model 2011 Capacity**



**Model 2022 Capacity**



\*NOTE: Because the orifice is located at the top, inverted bucket steam traps handle dirt and scale better than other types of traps. However, in applications where extremely dirty conditions exist, care should be exercised in the use of all types of restricted-orifice, reduced-capacity traps.

## Connectors

Besides the inverted bucket traps, the standard connector or IS-2 connector with integral strainer can also be used on thermostatic, thermostatic wafer and disc traps.

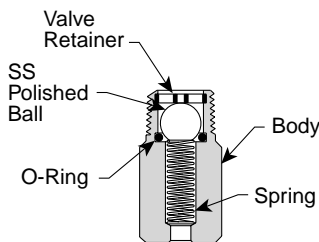


CD-3300 Disc Trap  
With IS-2 Integral Strainer Connector

## Options

### Pop Drain for Freeze Protection

In general, a properly selected and installed Armstrong trap will not freeze as long as steam is coming to the trap. If the steam supply is shut off, a pop drain should be used to automatically drain the trap. Stainless steel pop drain available for Models 2011 and 2022.



### Maximum Operating Conditions

Pressure: 600 psig (41 bar)  
Temperature: 350°F (177°C)

### Insu-Pak™

Now you can insulate the in-line traps in your plant without complicating regular trap maintenance. Insu-Pak, a simple reusable insulation package, cuts the time and cost of in-field installation because it goes on in a snap. And it comes off just as easily. The Insu-Pak can prevent trap freeze-up when used with a properly designed condensate manifold. Designed for use with Model 2010 and Model 2011 traps.



Probe connections are available for trap monitoring for Models 2011 and 2022.