



300 Series Inverted Bucket Steam Trap

Forged Carbon Steel for Vertical Installation

For Pressures to 650 psig (45 bar)...Capacities to 20,000 lb/hr (9,072 kg/hr)

Description

Armstrong offers its 300 Series forged carbon steel traps for vertical installation with a choice of screwed, socketweld or flanged connections.

A unique leverage system multiplies the force provided by the bucket to open the valve against system pressure. The mechanism is free-floating, and has no fixed pivots to create wear or friction.

Because the mechanism is located at the top of the trap, no dirt can collect on the orifice. Small particles of dirt are held in suspension until discharged by the full differential purging action when the bucket sinks, pulling the valve off the seat.

The discharge orifice is surrounded by a water seal, preventing live steam loss. Automatic air venting is provided by a small vent hole in the bucket, which provides continuous automatic air and CO₂ venting at steam temperature.

Inverted bucket traps drain continuously, allowing no condensate backup. They are also resistant to water hammer.

For Superheat Service:

1. Don't oversize the orifice; a restricted orifice may be advisable.
2. Specify a burnished valve and seat and an extended inlet tube and check valve.
3. Provide a drip leg of adequate diameter and length.
4. Provide a generous length (2'-3') of inlet piping, with the trap below the main.
5. Don't insulate the trap or the inlet piping.

Connections

Screwed NPT and BSPT

Socketweld

Flanged

See page 185 for dimensional information for flanged and socketweld connections.

Materials

Body:

ASTM A105

Models 312, 313, 316 are also available with cast 316 stainless steel bodies and all stainless steel internals

Internals:

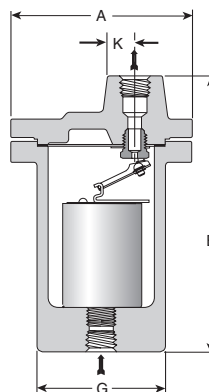
All stainless steel—304 (Models 314, 315 and 316 have cast iron bucket weights)

Valve and seat:

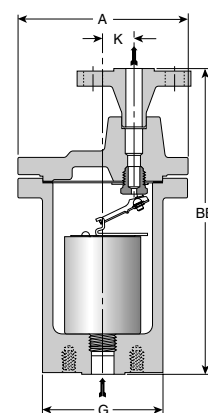
Hardened chrome steel—17-4PH or Titanium

Options

- Stainless steel internal check valve
- Thermic vent bucket 250 psig (17 bar) maximum
- Scrub wire



Series 300 Trap



Series 300-FW Trap

Specification

Inverted bucket steam trap, type ... in forged carbon steel, with continuous air venting at steam temperature, free-floating stainless steel mechanism, and discharge orifice at the top of the trap.

How to Order

Specify:

- Model number
- Size and type of pipe connection. When flanges are required, specify type of flange in detail
- Maximum working pressure that will be encountered or orifice size
- Any options required

Pressure-Temperature Rating for Forged Steel Traps

Model No.	Max. Oper. Pressure, Sat. Steam		Maximum Allowable Pressure (Vessel Design) of Pressure-Containing Parts at Indicated Temperature							
			°F		°C		°F		°C	
			-20/+650	-28/+343	700	371	750	399	800	427
	psig	bar	psig	bar	psig	bar	psig	bar	psig	bar
310	400	27.5	770	48	770	48	730	50	600	41
312	600	41	600	41	600	41	560	38.5	500	34.5
313	650	45	1,080	74	1,080	74	970	67	780	54
314	650	45	1,130	78	1,120	77	990	68	810	56
315	650	45	1,015	70	965	66.5	860	59	690	47.5
316	650	45	1,100	76	1,050	72	940	65	760	52

NOTES: Maximum operating pressure to be marked on nameplate will be determined by actual orifice used. Maximum allowable pressures shown in boldface will be marked on nameplate, unless otherwise requested. Traps with flanges may have different pressure-temperature ratings.

300 Series Bottom Inlet, Top Outlet Traps. Add suffix "CV" to trap number for internal check valve.

Model No. Screwed or SW	310 310-FW		312 312-FW		313 313-FW		314 314-FW		315 315-FW		316 316-FW	
Model No. Flanged	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
Pipe Connections	1/2, 3/4	15, 20	1/2, 3/4, 1	15, 20, 25	1/2, 3/4, 1	15, 20, 25	1, 1-1/4	25, 32	1, 1-1/4, 1-1/2	25, 32, 40	1-1/2, 2	40, 50
"A" (Diameter)	4-5/8	117	6-3/4	171	8	203	8-5/8	219	9-3/4	248	11-7/8	302
"B" (Height, Screwed or SW)	7-15/16	202	10-3/16	259	11-1/2	292	13-11/16	348	15	381	17-1/8	435
"BB"	12-1/16*	306*	12-5/16	313	13-7/8	352	16-1/16	408	17-9/16	446	19-11/16	500
"G" (Body OD)	3-1/16	78	4-3/4	121	5-1/8	130	5-3/4	146	6-5/8	168	8-3/8	213
"K" (¢ Outlet to ¢ Inlet)	9/16	14.3	1-1/4	31.7	1-7/16	36.5	1-7/16	36.5	1-3/4	44.4	2-1/8	54.0
Number of Bolts	6				8				9		10	
Weight Scr. or SW lb (kg)	10 (4.5)		30 (13.6)		50 (22.7)		70 (31.8)		98 (44.5)		179 (81.2)	
Weight, Flanged lb (kg)	12 (5.4)		32 (14.5)		51 (23.1)		73 (33.1)		103 (46.7)		184 (83.5)	

*"BB" dimensions shown are for 3/4" conn., Class 600 flanged No. 310-FW. Consult factory for dimensions of models with other connection sizes and/or flanges.

Designs, materials, weights and performance ratings are approximate and subject to change without notice. Visit armstronginternational.com for up-to-date information.

300 Series Inverted Bucket Steam Trap

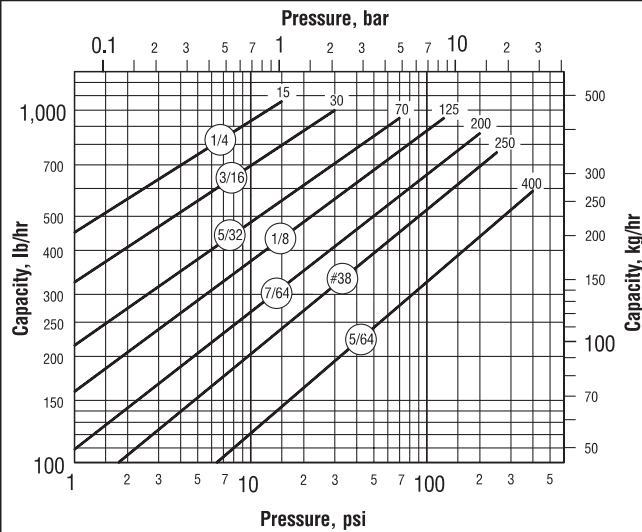
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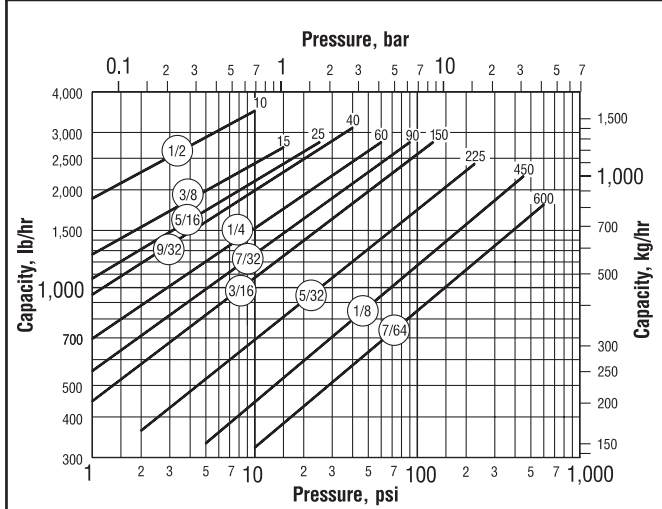


Steam Trapping and
Tracing Equipment

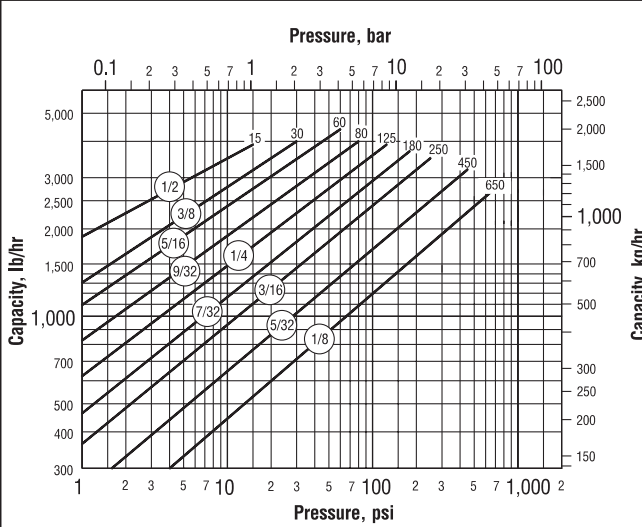
Model 310 Capacity



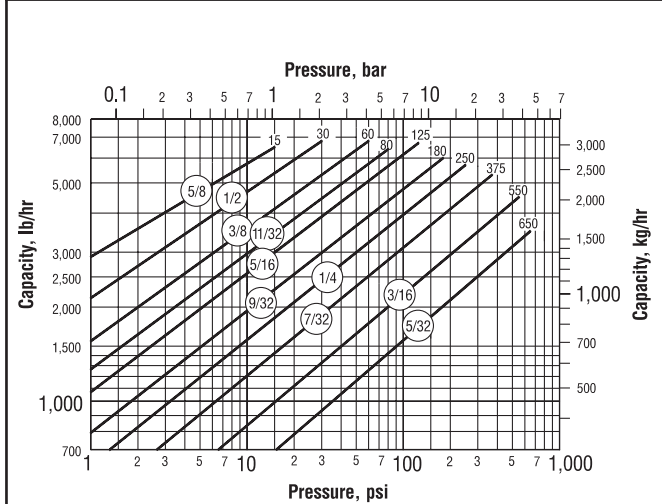
Model 312 Capacity



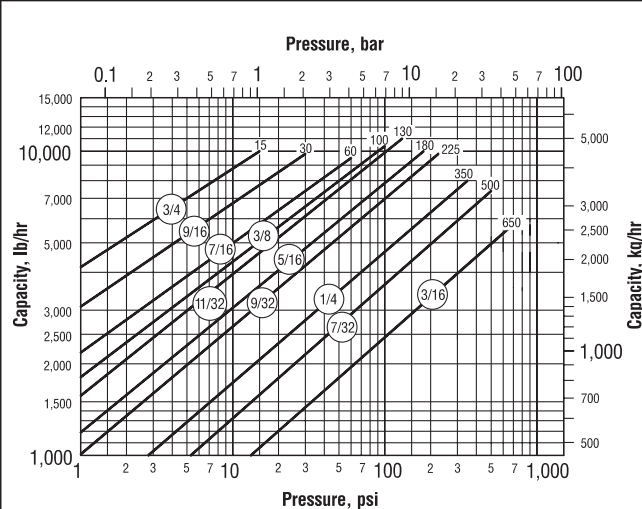
Model 313 Capacity



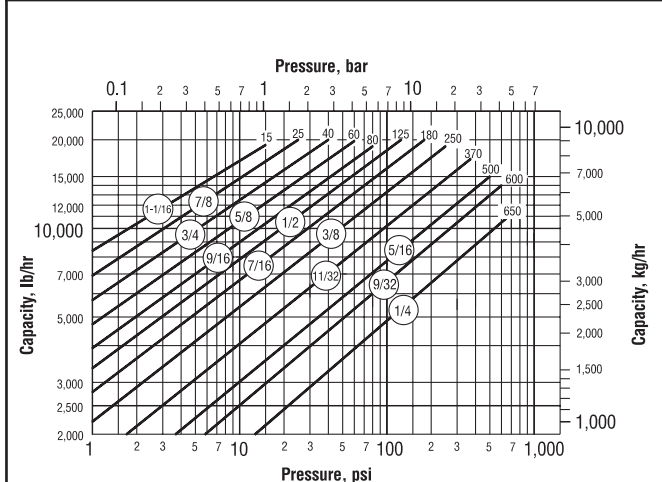
Model 314 Capacity



Model 315 Capacity



Model 316 Capacity



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