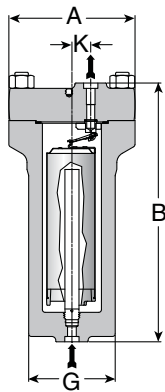




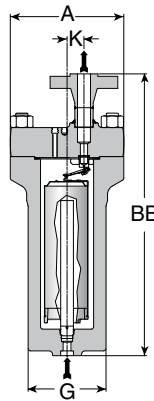
# 5000 Series Inverted Bucket Steam Traps

Forged Chrome-moly Steel for Vertical Installation  
For Pressures to 124 bar...Capacities to 2 340 kg/h

Steam Trapping and Steam Tracing Equipment



Series 5133G & 5155G Traps



Series 5133G-FW & 5155G-FW Traps



## Description

Armstrong offers its 5000 Series forged chrome-moly 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. This provides continuous automatic air and CO<sub>2</sub> venting at steam temperature.

Inverted bucket traps drain continuously, although discharging intermittently, to prevent condensate backup. They are also resistant to water hammer.

**Operation on Superheat.** A normally operating bucket trap is filled with saturated steam and condensate. Superheated steam can enter only as fast as the steam inside can condense. As a result, the temperature of the trap is at (or slightly below) saturated steam temperature, regardless of the degree of superheat.

**Trap Selection.** The pressure-containing parts of the steam trap should safely withstand the maximum pressure and temperature conditions of the system. For example, a trap is required for a 68 bar main at 510°C. The normal operating temperature of the trap will be about 286°C.

A Model 5133G trap should be selected, even though several smaller traps are capable of handling the working pressure.

## 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 (600-900 mm) of inlet piping, with the trap below the main.
5. Don't insulate the trap or the inlet piping.

## Connections

Screwed BSPT and NPT  
Socketweld  
Flanged DIN or ANSI (welded)

## Materials

Body: ASTM A182 F22 Class 3  
Internals: All stainless steel – 304  
Valve and seat: Titanium

## Options

- Stainless steel internal check valve
- Burnished valve and seat

**Table ST-102-1. 5000 Series Bottom Inlet, Top Outlet Trap (dimensions in mm)**

Add suffix "CV" to trap number for internal check valve.

Model No. Screwed or SW Model No. Flanged	5133G 5133G-FW	5155G 5155G-FW
Pipe Connections	15 – 20 – 25	20 – 25 – 32
"A" Flange Diameter	216	264
"B" Face-to-Face (screwed & SW)	362	412
"BB" Face-to-Face (flanged PN160*)	457 – 463 – 470	540 – 540 – 540
"G" Body Outside Diameter	140	194
"K" $\varnothing$ Outlet to $\varnothing$ Inlet	33,0	44,5
Number of Bolts	8	10
Weight in kg (screwed & SW)	44,5	77,5
Weight in kg (flanged PN160*)	47,0 – 47,5 – 48,0	89,0 – 89,5 – 90,0

\* Other flange sizes, ratings and face-to-face dimensions are available on request.

All models are CE Marked according to the PED (97/23/EC).

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

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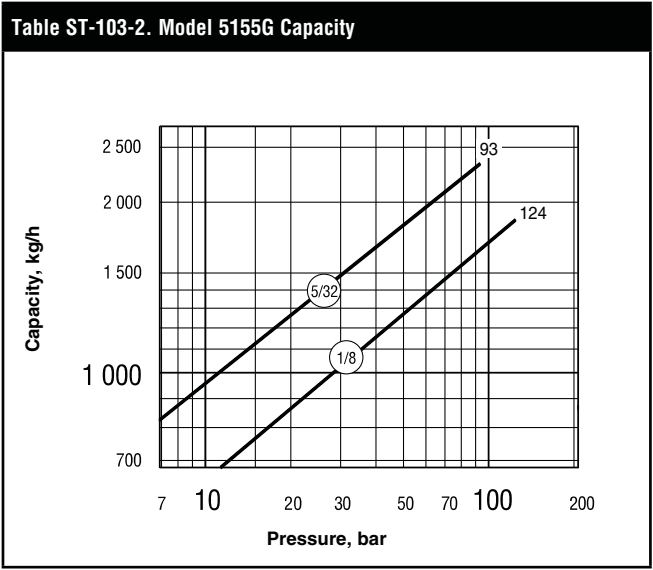
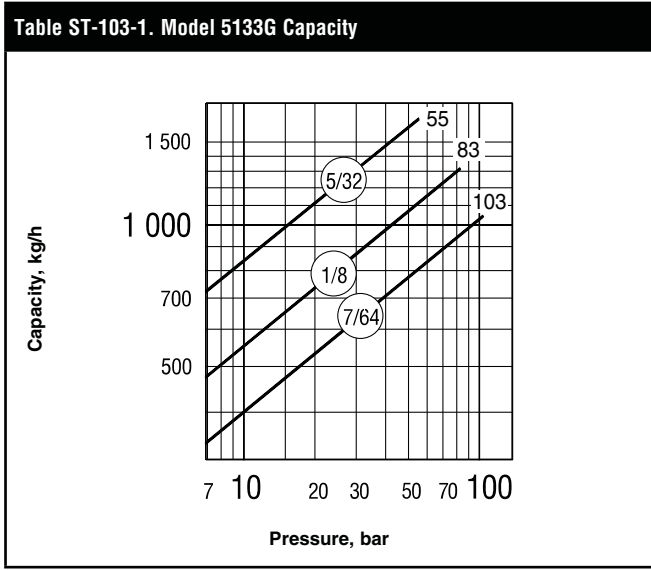
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Steam Trapping and  
Steam Tracing Equipment



**Table ST-103-3. Pressure-Temperature Rating for Forged Steel Traps**

Model No.	Maximum Operating Pressure, Saturated Steam	Maximum Allowable Pressure (Vessel Design)† of Pressure-Containing Parts at Indicated Temperature							
		-28 / +343°C	371°C	399°C	427°C	454°C	482°C	510°C	538°C
	bar	bar							
<b>5133G</b>	103	146	146	146	<b>146</b>	137	119	93	64
<b>5155G</b>	124	174	174	174	<b>174</b>	163	143	111	76.5

**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.  
Maximum back pressure is 99% of inlet pressure.

## Options

**Internal Check Valves** are spring loaded stainless steel and screw into an extended inlet tube having a pipe coupling at the top to save fittings, labor and money. Internal check valves may result in slightly reduced capacities.

**Screwed Connections** are available in all sizes for pressures of 63 bar or less. Traps for pressures of 63 bar or higher are available with socketweld or flanged connections.

## Specification

Inverted bucket steam trap, type ... in forged chrome-moly steel, with continuous air venting at steam temperature, free-floating stainless steel mechanism, with the discharge orifice at the top of the trap. Maximum allowable back pressure 99% of inlet pressure.

## 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

† May be derated depending on flange rating and type.

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