STEAM TRAPS

IB Series

Inverted Bucket Steam Traps

Revised 7/2002

Model	**1031, 1032, 1033, 1034, 1031S, 1041, 1042, 1044, 1038S**
Sizes	1/2", 3/4", 1", 1-1/4", 1-1/2"
Connections	NPT
Body Material	Cast Iron
Options	Internal check valve, air vent
PMO Max. Operating Pressure	**250 PSIG**
TMO Max. Operating Temperature	450ºF
PMA Max. Allowable Pressure	250 PSIG up to 450ºF
TMA Max. Allowable Temperature	450ºF @ 250 PSIG

1031/1032/1033/ 1034/1031S

1031S includes integral strainer

1041/1042/1044/1038S include integral strainer

TYPICAL APPLICATIONS

DRIP, TRACER, PROCESS: The **IB Series** inverted bucket traps are available in several sizes and capacity ranges. Inverted bucket traps can handle superheated steam when a check valve is used. The smaller traps are primarily used in drip and tracer applications. These traps are also used on unit heaters, laundry equipment, and other process equipment where slow start-up due to poor air handling capability can be tolerated. Larger sizes are used on process equipment; however, since bucket traps have limited air handling capability, F&T traps are the preferred choice.

HOW IT WORKS

When there is condensate in the system, the inverted bucket inside the steam trap sits on the bottom of the trap due to its inherent weight. This allows condensate to enter the trap and to be discharged through the seat orifice located at the top. When steam enters the trap, the bucket floats to the surface and closes off the discharge valve containing the steam in the system. Eventually steam is bled off through a small hole in the top of the bucket causing the bucket to sink which repeats the cycle.

FEATURES

- **Handles superheated steam (use internal check valve option to eliminate loss of prime)**
- **Water hammer resistant**
- **In-line repairability is simplified by having all internals attached to the cover**
- **Valve & seat are at the top of the trap making it less sensitive to dirt**
- **All stainless steel internals with hardened valve & seat**

SAMPLE SPECIFICATION

The steam trap shall be on an inverted bucket trap design. Trap body and cover shall be of cast iron construction with all stainless steel internals and hardened seat and disc.

MAINTENANCE

All working components can be replaced with the trap body remaining in-line. The repair kit for the traps contain a lever and seat assembly with gasket. For full maintenance details see Installation and Maintenance Manual.

OPTIONS

Blowdown valve connection available on 1041, 1042, 1044 & 1038S. Thermic vent to improve air handling capability. Internal check valve for superheat or condensate backflow applications.

HOW TO ORDER

Determine from system requirements, the maximum pressure the trap will see and the amount of condensate the trap needs to handle.

Search down the PMO column in the capacity chart for required pressure. Move across to the right to determine if that model can handle the differential pressure it will be operating at.

Specify: Model, Pipe Size, and PMO.

Example:

3/4" IB-1034 80 PSI 80 PSI max operating pressure

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CAPACITIES – *Condensate (lbs/hr)*

Model	Pipe Size	Orifice Size	PMO PSIG	Differential Pressure (PSI) 1/4	1/2	1	2	5	10	15	20	30	50	60	70	80	100	125	150	180	200	250
1031 1041 1031S*	1/2", 3/4"	3/16"	20	139	200	270	340	450	560	640	690											
	1/2", 3/4"	1/8"	80					300	350	400	440	500	580	635	660	690						
	1/2", 3/4"	7/64"	125					240	280	320	350	410	490	520	560	580	640	680				
	1/2", 3/4"	#38	150						250	280	300	350	400	420	450	470	500	550	570			
1032 1042	1/2", 3/4", 1"	1/4"	15	191	300	450	590	830	950	1060												
	1/2", 3/4", 1"	3/16"	30					530	700	820	880	1000										
	1/2", 3/4", 1"	5/32"	70						500	560	620	710	840	900	950							
	1/2", 3/4", 1"	1/8"	125									560	670	720	780	800	860	950				
	1/2", 3/4", 1"	7/64"	200										500	550	580	620	650	700	810	840	860	
	1/2", 3/4", 1"	#38	250											500	530	550	580	630	660	690	710	760
1033	1/2", 3/4"	5/16"	15	350	570	850	1140	1600	1900	2100												
	1/2", 3/4"	1/4"	30					1000	1300	1600	1800	2050										
	1/2", 3/4"	3/16"	70					750	950	1200	1375	1600	1900	2000	2200							
	1/2", 3/4"	5/32"	125								900	1100	1380	1480	1600	1650	1800	2000				
	1/2", 3/4"	1/8"	200									700	900	980	1080	1120	1220	1400	1500	1560	1600	
	1/2", 3/4"	7/64"	250											600	700	800	900	1000	1100	1180	1220	1300
1034 1044	3/4", 1"	1/2"	15	950	1410	1880	2300	2900	3500	3900												
	3/4", 1"	3/8"	30					2200	2800	3300	3500	4000										
	3/4", 1"	5/16"	60					1750	2200	2600	2900	3500	4100	4400								
	3/4", 1"	9/32"	80						1800	2100	2400	2800	3300	3600	3800	4000						
	3/4", 1"	1/4"	125						1650	1800	1900	2200	2600	2800	3000	3200	3600	3900				
	3/4", 1"	7/32"	180									1800	2100	2300	2500	2700	2900	3200	3500	3700		
	3/4", 1"	3/16"	250										1700	1800	2000	2100	2300	2700	2800	3100	3200	3500
1038S	1-1/4", 1-1/2"	1/2"	15	1188	1763	2350	2875	3625	4375	4875												
	1-1/4", 1-1/2"	3/8"	30					2750	3500	4125	4375	5125										
	1-1/4", 1-1/2"	5/16"	60					2188	2750	3250	3625	4375	5125	5500								
	1-1/4", 1-1/2"	9/32"	80						2250	2625	3000	3500	4125	4500	4750	5000						
	1-1/4", 1-1/2"	1/4"	125						2063	2250	2375	2750	3250	3500	3750	4000	4500	4875				
	1-1/4", 1-1/2"	7/32"	180									2063	2375	2875	3125	3375	3625	4000	4375	4625		
	1-1/4", 1-1/2"	3/16"	250										2125	2250	2500	2625	2875	3375	3500	3875	4000	4375

** 1031S available with 125 PSI only*

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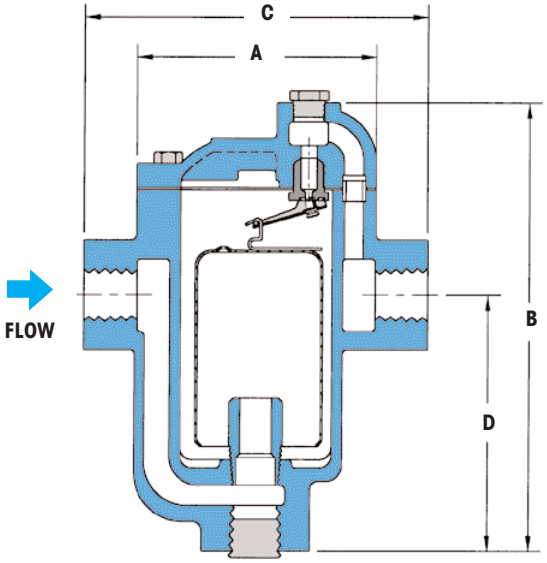
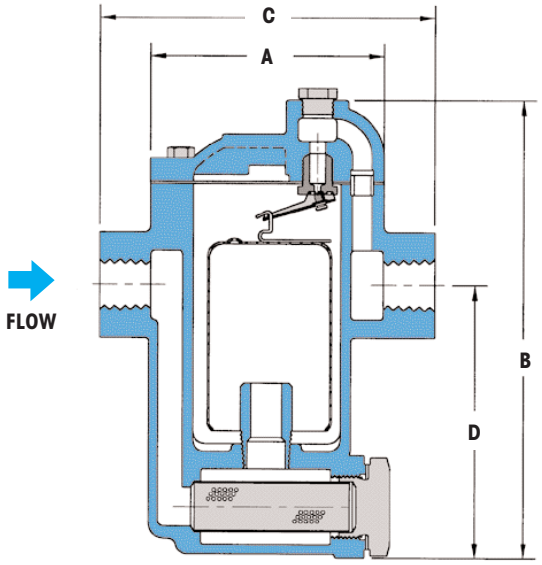
MATERIALS

Body & Cover	Cast Iron, ASTM A-278 Class 30
Nuts & Bolts	High-Tensile Steel
Gasket	Non-Asbestos Fiber
Bucket	Stainless Steel
Lever & Seat Assembly	Stainless Steel
Valve & Seat	Hardened Stainless Steel
Integral Strainer*	Stainless Steel

**1031S, 1038S, 1041, 1042, 1044 models only.*



1031/1031S/1032/1033/1034



1041/1042/1044/1038S with Strainer

DIMENSIONS & WEIGHTS – *inches/pounds*

Model	Capacity (lbs/hr)	A	B	C	D	Weight (lbs)
1031	690	3-3/4	5-7/8	5	2-3/4	5
1031S*	690	3-3/4	5-7/8	5	2-3/4	5
1032	1060	3-3/4	6-7/8	5	4-1/4	6
1033	2200	5-5/8	9-1/16	6-1/2	5-3/8	15
1034	4100	7	11-3/4	7-3/4	7-1/32	27
1041*	690	3-3/4	6-1/16	5	3-7/16	5
1042*	1060	3-3/4	7-1/6	5	4-7/16	6
1044*	4100	7	12-3/8	7-1/8	7-3/8	30
1038S*	5500	7	12-3/8	7-1/8	7-3/8	30

**** With Integral Strainer***

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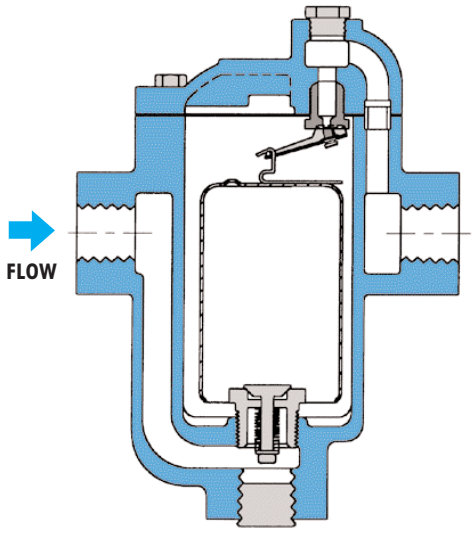
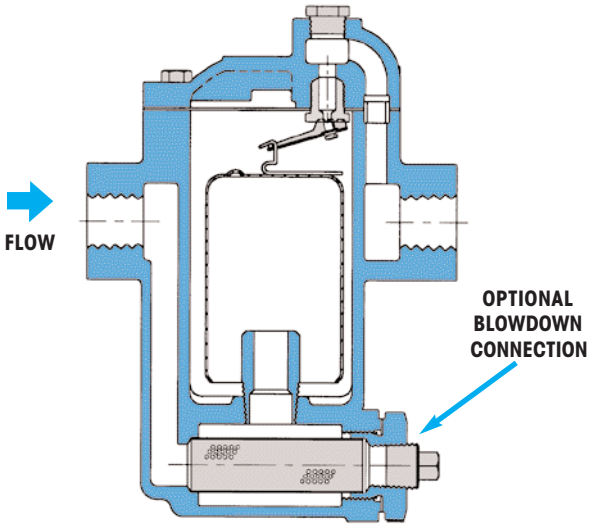


CHECK VALVE

The optional internal check valve allows the bucket trap to retain its prime even when exposed to superheated steam. Under vacuum conditions it will also stop condensate from back-flowing from the condensate return line into the steam system.



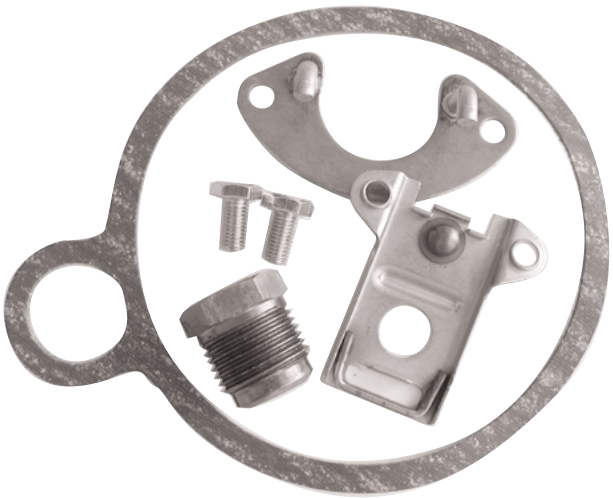
BLOWDOWN CONNECTION OPTION

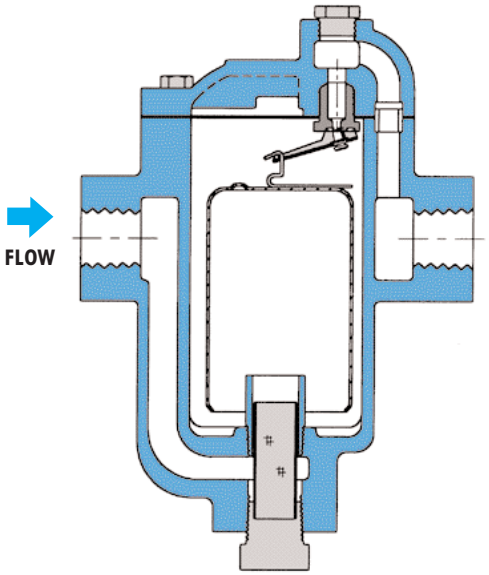
A blowdown valve connection is available as an option on the **1041**, **1042**, **1044**, and **1038S** models. This simplifies maintenance by allowing the strainer to be cleaned without removal. User to supply blowdown valve.

REPLACEMENT KITS

More economical than replacing the entire steam trap is to replace the lever and seat assembly. Also available are replacement screens, gaskets and buckets.

When ordering replacement lever and seat assemblies specify model and operating pressure. Reference price sheet for exact x-reference to Armstrong PCA Kits.





1031S

The **1031S** is equipped with a small protection screen to guard against dirt in the steam system. It is a more economical alternative than the 1041 which has a full-port strainer. Specifically designed for use in laundries. Available in 125 PSI only.

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