

PT21

INVERTED BUCKET STEAM TRAPS (CAST IRON)



DESCRIPTION:

Inverted bucket steam trap with all stainless steel internals. Best suited for equipment drains with medium to heavy condensate loads. Intermittent operation.

FEATURES:

The inverted bucket arrangement operates on the density difference between steam and water, giving a cyclic operation for discharge of the accumulated condensate.

High condensate handling capacities even at low pressures, permit the use of small trap sizes to suit many applications.

The valve and valve seat are hardened by a special induction hardening process to withstand continuous, prolonged operation.

Perfect shut-off, no steam loss.

SIZES:

NPS 1/2, 3/4, 1, 1 1/2

CONNECTIONS:

Screwed (NPT/BSPT/BSP)

LIMITING CONDITIONS:

PMA: Max. allowable pressure	250 psig
TMA: Max. allowable temp.	428 °F
Maximum operating back pressure at the outlet should not exceed 90% of the inlet pressure	
Minimum diff. pressure for satisfactory operation	1.5 psi
Cold hydro test pressure	375 psig

INSTALLATION:

The trap must be fitted vertically, with the inlet from the bottom and the outlet at the top. Correct vertical fitment is essential for easy movement of the bucket. Care must be taken to ensure that the trap level is below the level of the equipment to be drained. The bypass arrangement should be above the level of the trap.

Fitment of a strainer before the trap inlet is recommended to prevent entry of dirt / foreign particles into the trap. Full-port isolation valves should be fitted before and after the trap, to be used when the trap has to be opened for maintenance.

MAINTENANCE:

This product has to be removed from the line for maintenance. It is recommended that the trap be opened periodically and the internals inspected for wear, damage, and dirt. All worn or damaged parts should be replaced with new spares. A new internal kit comprising of the valve pin, valve seat, bracket and lever should be replaced as a set. The bucket vent hole should be cleaned.

IMPORTANT:

Ensure that the trap is primed by opening the inlet valve only a crack, at commissioning, allowing water to fill the trap before the steam enters. The inlet valve should be opened fully only after the trap is filled with water.

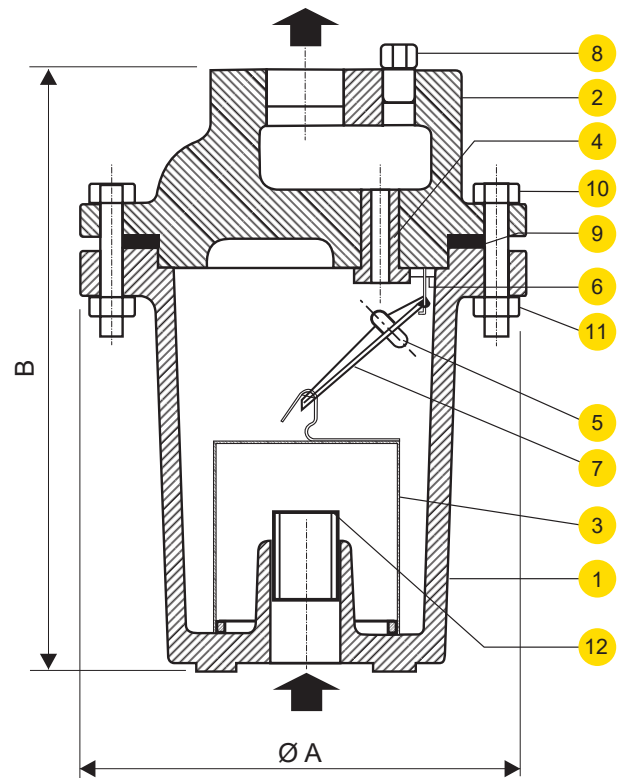
The trap should be installed as close as possible to the equipment to be drained. For new pipelines, ensure that the lines are properly flushed, prior to fitting the trap.

MATERIAL:

NO.	PART	MATERIAL	QTY.
1.	BODY	CAST IRON	01
2.	COVER	CAST IRON	01
3.	BUCKET ASSLY	AISI 304 with CS reinforcing ring	01
4.	VALVE SEAT (Hardened)	AISI 410/ 420	01
5.	VALVE PIN (Hardened)		01
6.	BRACKET	AISI 304	01
7.	LEVER	AISI 304	01
8.	PLUG	CARBON STEEL	01
9.	GASKET	Non CAF	01
10.	BOLT	High Tensile	*
11.	NUT	High Tensile	*
12.	PIPE	CARBON STEEL	01

Note: All internal screws are AISI 304

* Sizes 1/2", 3/4" - 6 Nos., 1", 1 1/2" - 8 Nos.



DIMENSIONS:

Nominal in inches

MODEL	SIZE	ØA	B	Wt.
PT21	1/2"	4.53	6.1	8.15 lbs
	3/4"	4.53	6.69	9.25 lbs
	1"	7.32	11.1	35.20 lbs
	1 1/2"	8.39	11.81	41.80 lbs

AVAILABLE SPARES:

Spare Kit: Valve Pin, Valve Seat, Bracket & Lever Assly., Bucket Assly., Gasket.
(Op. diff. press. should be specified.)

ORDERING INFORMATION:

Refer 'How to Order' page

Local regulations may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only. In the interest of development and improvement of the product, we reserve the right to change the specifications without prior notice.

ACTUAL CONTINUOUS DISCHARGE CAPACITY OF TRAPS IN POUNDS OF HOT CONDENSATE PER HOUR

MODEL	SIZE (INCH)	ORIFICE SIZE (INCH)	DIFFERENTIAL PRESSURE (psi)																			
			4	7	15	30	43	57	70	85	100	115	128	142	156	170	185	199	213	228	250	
			DISCHARGE CAPACITY																			
PT21	1/2"	3/32	175	220	265	330	395	440	485	505	550	575	595	615	640	660	685	695	725	750	770	
		7/64	220	255	320	395	450	530	575	605	640	670	715	750	795	825	850	-	-	-	-	
		1/8	285	320	420	530	630	705	750	795	825	860	-	-	-	-	-	-	-	-	-	
		5/32	330	405	505	640	750	815	880	-	-	-	-	-	-	-	-	-	-	-	-	
		3/16	440	595	770	925	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT21	3/4"	1/4	550	750	880	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		7/64	220	265	350	475	575	640	715	770	835	880	935	990	1035	1055	1080	1100	1125	1145	1165	
		1/8	275	320	405	550	660	750	835	905	990	1055	1100	1145	1190	1235	1280	-	-	-	-	
		5/32	330	405	550	705	880	1035	1145	1280	1365	1455	1540	-	-	-	-	-	-	-	-	-
		3/16	505	685	905	1125	1320	1475	1585	-	-	-	-	-	-	-	-	-	-	-	-	-
PT21	1"	1/4	660	835	1100	1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		3/16	660	835	1015	1365	1740	2050	2370	2645	2975	3250	3525	3800	4075	4295	4625	4835	5065	5285	5505	
		7/32	880	1125	1550	2070	2535	2920	3360	3745	4130	4460	4845	5175	5395	5505	-	-	-	-	-	
		1/4	1100	1410	1950	2645	3195	3745	4295	4845	5065	5285	5505	-	-	-	-	-	-	-	-	-
		9/32	1365	1850	2535	3525	4295	5065	5505	-	-	-	-	-	-	-	-	-	-	-	-	-
PT21	1 1/2"	1/4	990	1210	1675	2205	2535	2755	2975	3250	3470	3690	3910	4130	4405	4625	4845	5065	5285	5505	5725	
		9/32	1320	1630	2070	2755	3195	3635	3965	4405	4735	5065	5395	5670	5890	6165	6390	6610	6830	-	-	
		5/16	1760	2070	2535	3195	3855	4405	4845	5285	5615	6055	6390	6830	7050	7270	-	-	-	-	-	
		11/32	1980	2370	2865	3635	4295	4955	5615	6280	6830	7490	7930	-	-	-	-	-	-	-	-	-
		3/8	2205	2590	3195	4075	4955	5725	6390	7160	7710	-	-	-	-	-	-	-	-	-	-	-
	7/16	3/16	2645	3195	3965	5285	6390	7270	-	-	-	-	-	-	-	-	-	-	-	-	-	
		9/16	3305	4405	5615	6610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		3/4	5285	6165	7050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Guidelines on use of Capacity Chart

- Go to the differential pressure column corresponding to or slightly higher than, but not less than the operating differential pressure at which the trap is to be used. Move vertically downwards and select a suitable model and orifice size.
- The selected capacity should be equal to or higher than the condensate load after including a safety factor of 2 to 3. Oversizing is not recommended.
- Example - Operating conditions = I) Inlet press. 57 psig II) Back press. 14 psig III) Condensate load 440 lbs/hr. IV) Safety factor 2. Model Selected: PT 21-3/4" • Orifice Size : 5/32" • Capacity 880 lbs/hr @ a diff. press. of 43 psi.