

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: DN15, 20, 25, 40

CONNECTIONS: Screwed (NPT/BSPT/BSP)

LIMITING CONDITIONS:

PMA: Max. allowable pressure	17.5 bar(g)
TMA: Max. allowable temp.	220 °C
Maximum operating back pressure at the outlet should not exceed 90% of the inlet pressure	
Minimum diff. pressure for satisfactory operation	0.1 bar
Cold hydro test pressure	35 bar(g)

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.

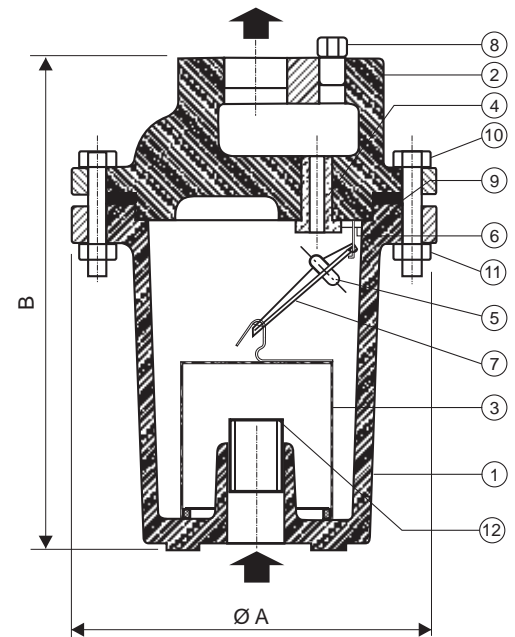
The trap should be installed as close as possible to the equipment to be drained. For new pipelines, ensure that the lines are properly flushed, prior to fitting the trap.

MATERIAL:

No.	PART	MATERIAL	Qty. (Nos.)
1.	BODY	CAST IRON	01
2.	COVER	CAST IRON	01
3.	BUCKET ASSLY.	AISI 304 with CS reinforcing ring	01
4.	VALVE SEAT (Hardened)	13% CR STEEL /	01
5.	VALVE PIN (Hardened)	AISI 410/ 420	01
6.	BRACKET	AISI 304	01
7.	LEVER	AISI 304	01
8.	PLUG	CARBON STEEL	01
9.	GASKET	CAF / Non CAF	01
10.	BOLT	ASTM A193 Gr. B7	*
11.	NUT	ASTM A194 Gr. 2H	*
12.	PIPE	CARBON STEEL	01

Note: All internal screws are AISI 304

* Sizes DN15,20 - 6 Nos., DN25,40 - 8 Nos.


DIMENSIONS - Nominal in mm

MODEL	SIZE	Ø A	B	Wt.
PT21-15	DN15	115	155	3.70 kg
PT21-20	DN20	115	170	4.20 kg
PT21-25	DN25	186	282	16 kg
PT21-40	DN40	213	300	19 kg

AVAILABLE SPARES:

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

Bucket Assly., Gasket.

HOW TO ORDER:

PT21-20 DN20 BSP P

ORDERING INFORMATION:

- 1) Inlet Pressure in bar (g)
- 2) Back Pressure in bar (g)
- 3) Operating Temperature in °C
- 4) Condensate Load in kg/hr
- 5) Size & Model
- 6) End Connections

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.



PENNANT

PT-21
Discharge Capacity Chart for Inverted Bucket Traps

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

Model	Valve Size (mm)	DIFFERENTIAL PRESSURE (bar)																		
		0.25	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.5
PT21-15	2.5	80	100	120	150	180	200	220	230	250	260	270	280	290	300	310	315	330	340	350
	2.8	100	115	140	180	205	240	260	275	290	305	325	340	360	375	385	-----	-----	-----	-----
	3.2	130	145	190	240	285	320	340	360	375	390	-----	-----	-----	-----	-----	-----	-----	-----	-----
	4.0	150	185	230	290	340	370	400	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	4.8	200	270	350	420	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	6.4	250	340	400	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
PT21-20	2.8	100	120	160	215	260	290	325	350	380	400	425	450	470	480	490	500	510	520	530
	3.2	125	145	185	250	300	340	380	410	450	480	500	520	540	560	580	-----	-----	-----	-----
	4.0	150	185	250	320	400	470	520	580	620	660	700	-----	-----	-----	-----	-----	-----	-----	-----
	4.8	230	310	410	510	600	670	720	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	6.4	300	380	500	680	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	-----	300	380	460	620	790	930	1075	1200	1350	1475	1600	1725	1850	1950	2100	2200	2300	2400	2500
PT21-25	4.8	300	380	460	620	790	930	1075	1200	1350	1475	1600	1725	1850	1950	2100	2200	2300	2400	2500
	5.6	400	510	700	940	1150	1325	1525	1700	1875	2025	2200	2350	2450	2500	-----	-----	-----	-----	-----
	6.4	500	640	880	1200	1450	1700	1950	2200	2300	2400	2500	-----	-----	-----	-----	-----	-----	-----	-----
	7.0	620	840	1150	1600	1950	2300	2500	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	7.9	900	1200	1500	2050	2400	2600	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	9.5	1300	1550	1900	2500	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
PT21-40	12.7	2200	2450	2800	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	6.4	450	550	760	1000	1150	1250	1350	1475	1575	1675	1775	1875	2000	2100	2200	2300	2400	2500	2600
	7.0	600	740	940	1250	1450	1650	1800	2000	2150	2300	2450	2575	2675	2800	2900	3000	3100	-----	-----
	7.9	800	940	1150	1450	1750	2000	2200	2400	2550	2750	2900	3100	3200	3300	-----	-----	-----	-----	-----
	8.7	900	1075	1300	1650	1950	2250	2550	2850	3100	3400	3600	-----	-----	-----	-----	-----	-----	-----	-----
	9.5	1000	1175	1450	1850	2250	2600	2900	3250	3500	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
PT21-40	11.2	1200	1450	1800	2400	2900	3300	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	14.3	1500	2000	2550	3000	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	19.0	2400	2800	3200	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

July 2008

- 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 valve 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. 4 bar(g) II) Back press. 1 bar(g) III) Condensate load 200 kg/hr. IV) Safety factor 2.
- Model Selected: PT21-20 • Valve Size : 4.0 mm • Capacity 400 kg/hr @ a diff. pressure of 3 bar.**