

Inverted Bucket Steam Traps

**Model
IB18H**

CAST IRON HORIZONTAL INVERTED BUCKET STEAM TRAPS

Bestobell's IB18H Series steam traps are horizontal bucket traps featuring a side inlet and side outlet. They are ideal for general purpose steam service and feature a heavy duty cast iron body and stainless steel bucket for long-term operation and reliability. For process, heating and drip leg services with pressures to 250 psig (17,2 bar). Available in sizes 1/2" through 2".

Inverted bucket steam traps utilize the difference between the density of gas and liquid. The bucket is submerged, once the trap has been primed after installation. When steam enters the trap, it collects in the inverted bucket causing it to become buoyant, and rise close to the discharge valve. When condensate enters the trap, and the steam condenses within the bucket, the weight of the bucket multiplied by the linkage's leverage, exceeds the differential pressure hold in the valve to the seat and the bucket sinks. This opens the discharge valve to discharge accumulated air, CO₂, other non-condensable gasses, and the condensate. As the condensate drains and steam enters the trap, the cycle repeats with the bucket filling with steam, rising again to close the discharge valve.

- **Easy in-line inspection and maintenance:** simply remove the top for easy access to the trap internals for inspection or repair
- **Unique linkage system** – multiplies the force exerted by the bucket for assisted opening against pressure for maximum flow capacities



ORDERING SCHEMATIC

| MODEL | | | | 6 | 7 | 8 | |
|-------|---|---|---|---|---|---|---|
| I | B | 1 | 8 | H | 4 | 1 | 7 |

| 6 | SIZE |
|---|--------|
| 2 | 1/2" |
| 3 | 3/4" |
| 4 | 1" |
| 5 | 1-1/4" |
| 6 | 1-1/2" |
| 7 | 2" |
| 8 | 2-1/2" |

| 7 | CONNECTIONS |
|---|-------------|
| 1 | NPT |

| 8 | | ORIFICE | |
|--------|--------|---------|---------|
| Size | Number | Size | Max ΔP |
| 1/2" | = 6 | 3/32 | 150 psi |
| 3/4" | = 6 | 3/32 | 250 psi |
| | = 8 | 1/8 | 125 psi |
| 1" | = 7 | 7/64 | 250 psi |
| | = 10 | 5/32 | 125 psi |
| 1-1/4" | = 12 | 3/16 | 250 psi |
| | = 16 | 1/4 | 125 psi |
| 1-1/2" | = 18 | 9/32 | 225 psi |
| | = 22 | 11/32* | 125 psi |
| 2" | = 18 | 9/32 | 225 psi |
| | = 22 | 11/32* | 125 psi |
| 2-1/2" | = 24 | 3/8 | 250 psi |
| | = 32 | 1/2 | 125 psi |



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CAST IRON HORIZONTAL INVERTED BUCKET STEAM TRAPS

Model: IB18H: horizontal type, side inlet, side outlet

Line Sizes: 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2"

End Connections: Threaded (NPT)

SPECIFICATIONS

Maximum Temperature: 450°F (232°C)

Maximum Pressure: 1/2": 150 psi (10 bar); 3/4" – 2-1/2": 250 psi (17 bar)

MATERIALS

Body & Cover: Cast Iron (ASTM A48, Cl. 30)

Valve Seat: Hardened Stainless Steel

Bucket & Linkage: Stainless Steel

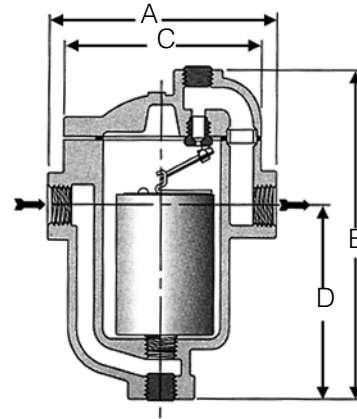
Strainer: Stainless Steel 304

Gasket: Non-Asbestos Fiber

PRESSURE RATINGS

| Size | Standard Orifice | Product Designator | Max ΔP | Max Allowable Pressure |
|--------|------------------|--------------------|---------|------------------------|
| 1/2" | 6 | IB18H210-6 | 150 psi | 150 psi |
| | 6 | IB18H310-6 | 250 psi | 250 psi |
| 3/4" | 8 | IB18H310-8 | 125 psi | 250 psi |
| | 10 | IB18H410-10 | 125 psi | 250 psi |
| 1" | 7 | IB18H410-7 | 250 psi | 250 psi |
| | 12 | IB18H510-12 | 250 psi | 250 psi |
| 1-1/4" | 16 | IB18H510-16 | 125 psi | 250 psi |
| | 18 | IB18H610-18 | 225 psi | 250 psi |
| 1-1/2" | 22 | IB18H610-22 | 125 psi | 250 psi |
| | 18 | IB18H710-18 | 225 psi | 250 psi |
| 2" | 22 | IB18H710-22 | 125 psi | 250 psi |
| | 24 | IB18H810-24 | 250 psi | 250 psi |
| 2-1/2" | 32 | IB18H810-32 | 125 psi | 250 psi |

DIMENSIONS



| Size | A | B | C | D | # Bolts | Weight |
|------------|-------|-------|-------|-------|---------|---------|
| 1/2" | 5.06 | 5.94 | 3.75 | 3.31 | 6 | 5.7 lb |
| | 128 | 150 | 95 | 84 | | 2.6 kg |
| 3/4" | 5.06 | 7.00 | 3.75 | 4.38 | 6 | 6.7 lb |
| | 128 | 178 | 95 | 111 | | 3.0 kg |
| 1" | 7.00 | 9.09 | 5.63 | 5.00 | 8 | 22 lb |
| | 178 | 231 | 143 | 127 | | 10 kg |
| 1-1/4" | 8.13 | 12.25 | 7.00 | 7.25 | 6 | 32 lb |
| | 206 | 311 | 178 | 181 | | 14.5 kg |
| 1-1/2", 2" | 10.19 | 16.06 | 9.06 | 7.88 | 8 | 75 lb |
| | 258 | 408 | 230 | 200 | | 34 kg |
| 2-1/2" | 13.00 | 20.69 | 11.25 | 11.00 | 8 | 125 lb |
| | 330 | 525 | 285 | 279 | | 57 kg |

CAPACITY CHARTS: DISCHARGE CAPACITIES

| Size | Orifice # | Differential Pressure, PSI | | | | | | | | | | | | | | | | | | |
|--------|-----------|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| | | 1 | 5 | 10 | 15 | 20 | 25 | 40 | 50 | 60 | 70 | 80 | 100 | 125 | 150 | 180 | 200 | 225 | 250 | |
| 1/2" | 3/32 | 40 | 70 | 110 | 150 | 200 | 240 | 310 | 340 | 375 | 420 | 440 | 480 | 540 | 570 | | | | | |
| | | (18) | (32) | (50) | (68) | (91) | (109) | (141) | (155) | (170) | (191) | (200) | (218) | (245) | (259) | | | | | |
| 3/4" | 3/32 | 60 | 100 | 150 | 190 | 240 | 260 | 340 | 380 | 420 | 450 | 470 | 520 | 575 | 620 | 670 | 700 | 730 | 760 | |
| | | (27) | (45) | (68) | (86) | (109) | (118) | (155) | (173) | (191) | (205) | (214) | (236) | (261) | (282) | (305) | (318) | (332) | (345) | |
| 1" | 7/64 | 130 | 220 | 340 | 390 | 460 | 490 | 590 | 650 | 700 | 750 | 800 | 860 | 950 | | | | | | |
| | | (59) | (100) | (155) | (177) | (209) | (223) | (268) | (295) | (318) | (341) | (364) | (391) | (432) | | | | | | |
| 1-1/4" | 3/16 | 300 | 560 | 680 | 800 | 900 | 1000 | 1220 | 1320 | 1440 | 1600 | 1650 | 1800 | 2000 | 2800 | 3000 | 3200 | 3350 | 3500 | |
| | | (136) | (255) | (309) | (364) | (409) | (455) | (555) | (600) | (655) | (727) | (750) | (818) | (909) | (1273) | (1364) | (1455) | (1523) | (1591) | |
| 1-1/2" | 9/32 | 400 | 700 | 950 | 1100 | 1300 | 1550 | 1800 | 1900 | 2030 | 2150 | 2300 | 2500 | 2600 | | | | | | |
| | | (182) | (318) | (432) | (500) | (591) | (705) | (818) | (864) | (923) | (977) | (1045) | (1136) | (1182) | 8000 | 8600 | 9100 | 9600 | | |
| 2" | 11/32 | 1000 | 1900 | 2400 | 2800 | 3250 | 3600 | 4400 | 4750 | 5300 | 5700 | 6100 | 6600 | 7500 | 8000 | 8600 | 9100 | 9600 | | |
| | | (455) | (864) | (1091) | (1273) | (1477) | (1636) | (2000) | (2159) | (2409) | (2591) | (2773) | (3000) | (3409) | (3636) | (3909) | (4136) | (4364) | | |
| 2-1/2" | 3/8 | 1500 | 2600 | 3200 | 3900 | 4500 | 5100 | 6200 | 6900 | 7500 | 8150 | 8500 | 9600 | 11000 | | | | | | |
| | | (682) | (1182) | (1455) | (1773) | (2045) | (2318) | (2818) | (3136) | (3409) | (3705) | (3864) | (4364) | (5000) | 8000 | 8600 | 9100 | 9600 | | |
| 2-1/2" | 1/2 | 1800 | 3400 | 4500 | 5400 | 6100 | 6900 | 8500 | 9200 | 9650 | 10500 | 11500 | 12800 | 14200 | 15600 | 15900 | 17500 | 18250 | 19000 | |
| | | (818) | (1545) | (2045) | (2455) | (2773) | (3136) | (3864) | (4182) | (4386) | (4773) | (5227) | (5818) | (6455) | (7091) | (7227) | (7955) | (8295) | (8636) | |

Note: Utilize proper safety factors when selecting application. Capacities represent condensate in lbs per hour; kg/hr shown in (). 1 psi = 14.5 bar.