

# Inverted Bucket Steam Traps

**Model  
IB18V**

## CAST IRON VERTICAL INVERTED BUCKET STEAM TRAP

Bestobell's IB18V Series vertical style inverted bucket traps are ideal for general condensate removal service and feature a heavy-duty cast iron body and stainless steel bucket for long-term operation and reliability. For process, heating and dripleg services with pressures to 250 psig (17,2 bar). Available in 1/2" through 2" sizes.

Inverted bucket steam traps operate on the simple principle that steam, a gas, will provide buoyancy to an inverted bucket in water. The bucket, due to its weight, is submerged within a "prime" of water. The bucket pulls down on a lever system and holds the discharge valve open, allowing flow and discharge of condensate through the trap. When steam enters the trap, it collects in the inverted bucket causing it to become buoyant. The bucket floats upward closing the discharge valve through the linkage arrangement. When condensate again enters the trap, and as the steam under the bucket condenses, the weight of the bucket, multiplied by the linkage's leverage, exceeds the differential pressure holding the valve plug to the valve seat, and the bucket sinks. This opens the valve to discharge condensate and accumulated non-condensable gases. As the condensate drains and the steam enters the trap, the cycle repeats.

- **Easy in-line inspection and maintenance:** simply remove the top for easy access to the trap internals for inspection or repair



## ORDERING SCHEMATIC

MODEL				6	7	8	
I	B	1	8	V	4	1	7

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

7	CONNECTIONS
1	NPT

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



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### CAST IRON VERTICAL INVERTED BUCKET STEAM TRAPS

Model: IB18V: vertical type, bottom inlet, top outlet  
 Line Sizes: 1/2", 3/4", 1", 1-1/4", 1-1/2", 2"  
 End Connections: Threaded (NPT)

#### MATERIALS

Body & Cover: Cast Iron (ASTM A48, Cl. 30)  
 Valve & Seat: Hardened Stainless Steel  
 Bucket & Linkage: Stainless Steel  
 Body/Cover Gasket: Non-Asbestos Fiber

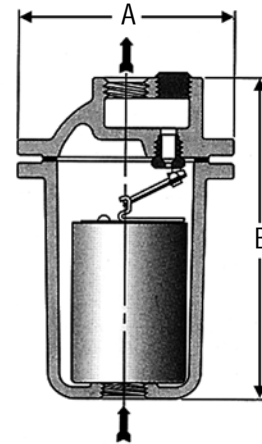
#### SPECIFICATIONS

Maximum Temperature: 450°F (232°C)

#### PRESSURE RATINGS

Size	Standard Orifice	Product Designator	Max ΔP	Max Allowable Pressure
1/2"	6	IB18V210-6	250 psi	250 psi
	8	IB18V210-8	125 psi	250 psi
3/4"	7	IB18V310-7	250 psi	250 psi
	10	IB18V10-10	125 psi	250 psi
1"	12	IB18V410-12	250 psi	250 psi
	16	IB18V410-16	125 psi	250 psi
1-1/4"	18	IB18V510-18	225 psi	250 psi
	22	IB18V510-22	125 psi	250 psi
1-1/2"	18	IB18V610-18	225 psi	250 psi
	22	IB18V610-22	125 psi	250 psi
2"	24	IB18V710-24	225 psi	250 psi
	32	IB18V710-32	125 psi	250 psi

#### DIMENSIONS



Size	A	B	# Bolts	Weight
1/2"	4.25	6.38	6	9.9
	108	162		4.5
3/4"	A	B	8	Weight
	5.63	8.00		13.5
1"	134	203	8	6.0
	187	270		14.5
1-1/4"	A	B	8	Weight
	9.06	14.38		60
1-1/2"	238	368	8	30
	238	368		30
2"	A	B	12	Weight
	10.25	16.69		115
	286	432		52

#### CAPACITY CHARTS: DISCHARGE CAPACITIES

Size	Orifice #	Differential Pressure, PSI																		
		1	5	10	15	20	25	30	40	50	60	70	80	100	125	150	180	200	225	250
1/2"	5/32	60 (27)	100 (45)	150 (68)	190 (86)	240 (109)	260 (118)	290 (132)	340 (154)	380 (173)	420 (191)	450 (204)	470 (214)	520 (236)	575 (261)	620 (282)	670 (304)	700 (318)	730 (332)	760 (345)
	6/18	130 (59)	220 (100)	340 (154)	390 (177)	460 (209)	490 (223)	510 (232)	590 (268)	650 (295)	700 (318)	750 (341)	800 (364)	860 (391)	950 (432)					
3/4"	7/64	130 (59)	240 (109)	340 (154)	370 (168)	420 (191)	470 (214)	520 (236)	590 (268)	650 (295)	700 (318)	760 (345)	810 (368)	900 (409)	1010 (459)	1100 (500)	1165 (529)	1230 (559)	1265 (575)	1300 (591)
	5/32	300 (136)	560 (254)	680 (309)	800 (364)	900 (409)	1000 (454)	1070 (486)	1220 (554)	1320 (600)	1440 (654)	1600 (727)	1650 (750)	1800 (818)	2000 (909)					
1"	3/16	400 (182)	700 (318)	950 (432)	1100 (500)	1300 (591)	1550 (704)	1700 (773)	1800 (818)	1900 (864)	2030 (923)	2150 (977)	2300 (1045)	2500 (1136)	2600 (1182)	2800 (1273)	3000 (1364)	3200 (1454)	3350 (1523)	3500 (1591)
	1/4	600 (273)	1100 (500)	1300 (591)	1600 (727)	1800 (818)	1900 (864)	2000 (909)	2300 (1045)	2600 (1182)	2850 (1295)	3050 (1386)	3300 (1500)	3600 (1636)	3900 (1773)					
1-1/4"	9/32	1000 (454)	1900 (864)	2400 (1091)	2800 (1273)	3250 (1477)	3600 (1636)	3800 (1727)	4400 (2000)	4750 (2159)	5300 (2409)	5700 (2591)	6100 (2773)	6600 (3000)	7500 (3409)	8000 (3636)	8600 (3909)	9100 (4136)	9600 (4364)	
1-1/2"	11/32	1500 (682)	2600 (1182)	3200 (1454)	3900 (1773)	4500 (2045)	5100 (2318)	5400 (2454)	6200 (2818)	6900 (3136)	7500 (3409)	8150 (3704)	8600 (3909)	9600 (4364)	11000 (5000)					
2"	3/8	1800 (818)	3400 (1545)	4500 (2045)	5400 (2454)	6100 (2773)	6900 (3136)	7500 (3409)	8500 (3864)	9200 (4182)	9650 (4386)	10500 (4773)	11500 (5227)	12800 (5818)	14200 (6454)	15600 (7091)	16500 (7500)	17500 (7954)	18250 (8273)	
	1/2	2600 (1182)	5000 (2273)	6400 (2909)	7800 (3545)	8900 (4045)	9700 (4409)	10500 (5250)	12000 (5454)	13000 (5909)	14400 (6545)	15900 (7227)	17000 (7409)	18000 (8182)	20000 (9091)					

Note: Utilize proper safety factors when selecting application. Capacities represent condensate in lbs per hour; kg/hr shown in ( ). 1 psi = 14.5 bar. Do not use cast iron bodied traps in applications where thermal and hydraulic shock exist. See Delta Element models.