

IB21V & IB41V Series Steel Inverted Bucket Steam Traps



Bestobell's IB21V and IB41V Series inverted bucket traps are ideal for higher pressure services and feature a heavy-duty carbon steel body and stainless steel bucket for long-term operation and reliability. For process, heating and dripleg services. For applications to 300 psig (20.7 bar), select the 1/2" or 3/4" IB21V Series. For pressures up to 600 psig (41.5 bar), select the 1/2" to 2" IB41V Series.

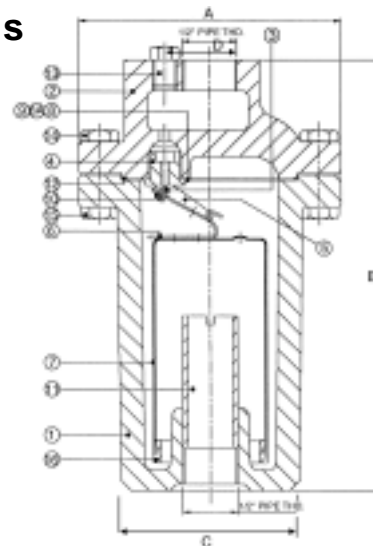
- **Easy inspection and maintenance** — simply remove the top for easy access to the trap internals for inspection or repair.
- **Unique linkage system** — multiplies the force exerted by the bucket for assisted opening against pressure for maximum flow capacities.
- **Hardened stainless steel valve and seat** — for minimal corrosion and increased operating life of the steam trap.
- **Continuous air and CO₂ venting** — maximizes heat transfer while minimizing corrosion.
- **Rugged Design** — withstands the effects of water hammer, vibration and corrosive environments.

Bestobell IB21V & IB41V Series Inverted Bucket Traps

Principle of Operation

Inverted bucket steam traps utilize the variance between the density of gas and liquid in operation. 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 bouyant, and lift to close the discharge valve. When condensate enters the trap, the weight of the bucket multiplied by the leverage, exceeds the differential pressure holding the valve to the seat and the bucket sinks. This opens the discharge valve to discharge accumulated air, CO₂, other condensible gases and the condensate. As the condensate drains and steam enters the trap, the cycle repeats with the bucket filling with steam, and floating up to close the discharge valve.

Dimensions



Specifications

Models:

- IB21V
- IB41V

Line Sizes:

IB21V: 1/2", 3/4"

IB41V: 1/2", 3/4", 1", 1-1/2", 2"

End Connections: NPT (socket weld ends)

Materials:

- Body & Cover: Carbon Steel (ASTM A105)
- Bucket & Linkage: Stainless Steel
- Valve & Seat: Heat treated chrome steel, 44Rc
- Body/Cover Gasket:

Maximum Temperature: 850°F (454°C)

Pressure Ratings: PMA and PMO per capacity per model and size.

Discharge Capacities

Capacities shown in blue represent condensate in lbs. per hour; kg/hr shown in (). 1 psi = 14.5 bar.

Model Size	IB21V 1/2"	IS21V 3/4"	IB41V 1/2"-3/4"	IB41V 1"	IB41V 1-1/2"	IB41V 2"
A	4.6 (116)	5.6 (143)	7.4 (187)	8.0 (203)	9.8 (248)	11.5 (301)
B	6.9 (176)	7.8 (199)	8.4 (214)	10.3 (262)	13.6 (345)	15.0 (380)
C	3.3 (83)	4.1 (105)	5.0 (127)	5.2 (131)	6.6 (168)	8.4 (213)
D	0.79 (20)	1.14 (29)	1.5 (39)	1.5 (39)	1.6 (41)	2.0 (50)
# Bolts	10	22	35	51	90	139
Weight Lbs (Kg)	10 (4.5)	22 (10)	35 (16)	51 (23)	90 (41)	139 (63)

Note: dimensions shown in () represent mm.

#	Name	Material	#	Name	Material
1	Body	C.I. ASTM A48 Class 30	9	Screw for Guide Pin Plate	AISI 304
2	Cover	C.I. ASTM A48 Class 30	10	Valve Clip	AISI 304
3	Valve	Chrome Steel	11	Internal Tube	C.I. Pipe
4	Valve Seat	Chrome Steel	12	Gasket	PTFE
5	Lever	AISI 304	13	Plug	Steel
6	Buck Clip	AISI 304	14	Bolt	SAE Gr. 5
7	Bucket	AISI 304	15	Nut	SAE Gr. 5
8	Guide Pin Plate	AISI 304	16	Bucket Weight	Steel
8A	Guide Pins	AISI 304			

Size	Orifice #	Differential Pressure PSI																		
		10	25	50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600
IB21V 1/2"	6	150 (68)	260 (118)	380 (173)	460 (209)	520 (236)	575 (261)	620 (282)	665 (302)	700 (318)	730 (332)	760 (345)	780 (354)	800 (364)						
IB21V 3/4"	7	150 (68)	275 (125)	425 (193)	575 (261)	700 (318)	825 (375)	900 (409)	975 (443)	1050 (477)	1125 (511)	1200 (545)	1250 (568)	1300 (591)						
IB41V 1/2"	7	300 (136)	400 (182)	600 (273)	750 (341)	790 (359)	825 (375)	875 (398)	925 (420)	975 (443)	1060 (482)	1150 (523)	1200 (545)	1250 (568)	1375 (625)	1450 (659)	1500 (682)	1650 (750)	1725 (784)	1800 (818)
IB41V 3/4"	8	325 (148)	490 (223)	725 (329)	950 (432)	1100 (500)	1250 (568)	1400 (636)	1500 (682)	1600 (727)	1680 (764)	1750 (795)	1825 (829)	1900 (864)	2000 (909)	2085 (948)	2170 (986)	2250 (1023)	2325 (1057)	2400 (1091)
IB41V 1"	8	325 (148)	490 (223)	725 (329)	950 (432)	1100 (500)	1250 (568)	1400 (636)	1500 (682)	1600 (727)	1680 (764)	1750 (795)	1825 (829)	1900 (864)	2000 (909)	2085 (948)	2170 (986)	2250 (1023)	2325 (1057)	2400 (1091)
IB41V 1-1/2"	12	900 (409)	1400 (636)	1900 (864)	2300 (1045)	2600 (1182)	2900 (1318)	3200 (1454)	3400 (1545)	3500 (1591)	3700 (1682)	4000 (1818)	4150 (1886)	4300 (1954)	4500 (2045)	4700 (2136)	4900 (2227)	5100 (2318)	5400 (2454)	5700 (2591)
IB41V 2"	18	2500 (1136)	3500 (1591)	4600 (2091)	5700 (2591)	6500 (2954)	7100 (3227)	7700 (3500)	8300 (3773)	9000 (4091)	9250 (4204)	9500 (4318)	10000 (4545)	10500 (4773)	11000 (5000)	11800 (5364)	12300 (5591)	13000 (5909)	13500 (6136)	14000 (6364)

Select for application utilizing proper safety factors. Capacity shown in pounds/hour, continuous discharge rate.