

ISAAC BOILERS



BLOWDOWN VESSELS



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Boiler Blowdown

Steam boilers must be blow down at regular intervals to remove the suspended and dissolved solids formed during the course production of steam. These un-dissolved solids in the boiler water can give rise to foaming and scaling of the boiler tubes and shell.

Standards

Isaac blowdown vessels are constructed to ASME Section VIII Div I Standards and should be regularly inspected by a competent person such as an insurance inspector during the course of Manufacture. ASME Code construction include design approval, material certification, independent approval of the welders and welding processes. On completion, a data dossier is prepared and issued to the customer.

Sizing and Selection of Blowdown Vessel

Blowdown vessel is sized and selected based on the flow rate and proportion of flash steam release.

Factors to be considered

Boiler pressure, No. of boiler, blow down line size, Frequency of Blow down etc.

Pressure/Temperature Limits

Body designs conditions	PN 16
Maximum allowable pressure	7 bar g @ 171°C
Maximum allowable temperature	171°C @ 7 bar g
Maximum operating temperature PM60	109°C
Maximum cold hydraulic test pressure	12 bar g
Maximum test pressure	17 bar g

Standards

- Constructed in Carbon steel
- Silver finish paint
- Tangential inlet with strike plates facilitate phase separation
- Lifting eyes

Connections

- Pressure gauge
- Cooling kit
- Thermometer

Selection

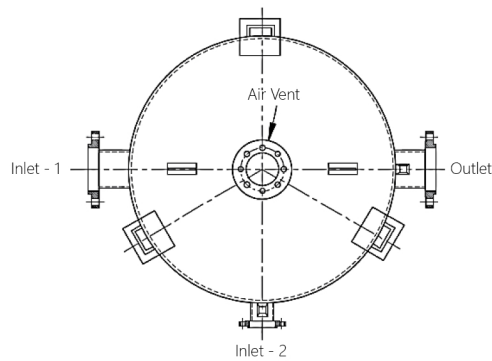
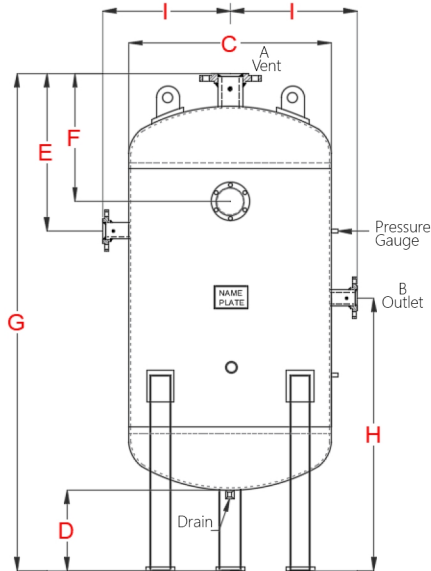
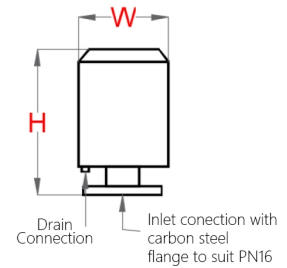
Boiler Size	Model
Up to 1000 kg/hr	IB-90
Up to 2500 kg/hr	IB-175
Up to 3500 kg/hr	IB-295
Up to 5000 kg/hr	IB-435
Up to 10,000 kg/hr	IB-800
Up to 15,000 kg/hr	IB-1300
Up to 18,000 kg/hr	IB-1800

Other accessories used in the Blowdown Vessel

Vent Head

Stainless steel vent head which fits on top of the flash steam vent pipe. The vent head incorporates an internal separator to remove water spray from the steam and discharge it separately through the drain connection.

Vent head type	IV-100	IV-150	IV-200	IV-250
Inlet size	100	150	200	250
Drain size	1"	1"	1 1/2"	1 1/2"
H	320	390	430	495
W	240	340	425	525



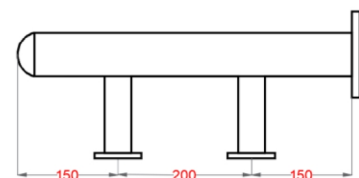
Dimensions

Blowdown Vessel Type	IB-90	IB-175	IB-295	IB-435	IB-800	IB-1300	IB-1800
A flanged PN16**	100	100	150	150	200	200	250
B flanged PN16**	85	85	105	105	155	155	155
C	460	610	765	915	1205	1500	1800
D	400	400	400	400	400	400	400
E	500	540	580	630	705	770	840
F	310	350	390	440	525	590	660
G	1850	1930	2000	2100	2300	2400	2500
H	1080	1125	1165	1215	1290	1355	1430
I	330	405	485	560	705	850	1000
Number of legs	3	3	3	3	3	3	3
Weight	185	220	275	392	480	892	1275
Capacities-standing water	90	175	275	430	800	1300	1800

**All type of flanges available. Consult factory

Manifold

For blowdown vessel inlets on multi-boiler installations. Available with Carbon steel welded construction manifold size DN50 flanged PN16 or DN25 flanged PN16 and with 2 to 6 branches sizes 15,20,25,40 or 50mm. hydraulically tested to 24 bar g. Paint finish grey.



Stop valve and line drain valve

Cast steel stop valve with stainless steel valve seat and disc. Flanged with PNI6 flanges.

Pressure Gauge

Useful to read the pressure during blowdown. The pressure gauge (4" dial) is fitted with 3/8" BSP 'U' siphon and 3/8" BSP gauge cock.

Cooling water system (Optional)

Designed to cool the standing water in the blowdown vessel prior to discharge into the drain. The system is thermostatically controlled and injects cooling water into the blowdown vessel when standing water exceeds a set temperature (typically 40°C). This equipment is particularly useful when nearest drain cannot handle the temperature. It consists of Globe valve, Check valve, Self Acting Temperature controller, Y-Strainer, Sensor pocket.

How to specify

Furnish and install blowdown vessel model IB ----- manufactured by ISAAC boilers. The blowdown vessel to be manufactured as per ASME code for 250 psi g design and tested to 375 psi g or to BS 5500. The blowdown vessel shall be furnished with a striking plate attached to the shell at the point of inlet impingement.

Furnish the following accessories along with the Blowdown vessel.

- Vent head
- Manifold for multiple boiler
- Cooling water trim that consists of Globe valve, Strainer, Self Acting Temperature Controllers and Non Return Valve.



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