

MADDEN

ENGINEERED PRODUCTS, LLC

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BLOWDOWN SEPARATORS OPERATOR'S MANUAL

*The economical and floor space friendly way to safely
dispose of hot bottom boiler blowdown.*



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Blowdown Separator Installation Instructions

BD Separator Model No. _____

National Board Serial No. _____

Purpose and Function of Separator: Blowdown Separators are used to safely flash and cool intermittent bottom boiler blowdown. These flash tanks receive blowdown from up to 300 PSI boilers via centrifugal inlet. This centrifugal motion aids the separation of flash steam and condensate within the vessel. The steam is then safely vented to atmosphere and the remaining condensate drains into the attached aftercooler. The aftercooler provides a space with baffle to help quench the hot waste water with cold water from the cold water supply spool. The resulting mixture of water and fresh cooling water entering the aftercooler will be $\leq 140^{\circ}$ Fahrenheit as it is drained to a city sewer or other waste water area.

Design: This tank has been fabricated to meet ASME Sec. VIII, Div. 1 standards.

Installation:

1. Once the system is at the job site inspect for signs of physical shipping damage and to ensure conformity to drawing specifications.
 - a. If any damage or nonconforming parts are observed contact the factory for resolution before installing.
2. Erect and secure the system to the appropriate platform/skid, or lag directly to the floor. The vessel has (3) support legs with footpads containing bolt holes.
3. Vent: pipe vent to ensure steam will not harm personnel in the room which the blowdown tank is installed. Specifics should be provided by the installing contractor and/or the project's design engineering firm.
4. Drain: pipe to floor drain/city sewer. Specifics should be provided by the installing contractor and/or the project's design engineering firm.
5. Quenching water supply line/spool: it is recommend to include a Y-strainer, self operating water supply valve, and a check valve as a quenching water supply "line". For a "spool" Madden recommends isolating the regulating valve with (2) gate valves, and including a bypass line with a globe valve for manual control of quenching water. Ensure there is enough city water pressure to supply the required cold water flow to the aftercooler (consult factory if needed). Further specifics should be provided by the installing contractor and/or the project's design engineering firm.
6. Centrifugal Inlet(s): from the boiler, pipe the boiler blowdown line(s) the rest of the way to this vessel's centrifugal inlet pipe(s). Only one boiler should be blowdown down at a time, never simultaneously. Specifics should be provided by the installing contractor and/or the project's design engineering firm.
7. Ancillary Equipment: install appropriate gauges and valves as necessary.
8. Initial Operation: Madden recommends blowing down for 5-10 seconds while another operator observes the self-operating cold water supply valve. Ensure this actuates before performing a normal/full blowdown process.

Recommended Storage & Handling Blowdown Separators & Tanks

1. Inspection and Mounting

Your boiler blowdown equipment system has been inspected and performance tested at the factory. Upon arrival visually inspect vessels and ancillary equipment to make sure there has been no shipping damage. If there has been damage, do not operate the equipment. Contact the factory or the local sales representative. If the equipment is not damaged, lag the equipment to the floor and then attach piping and ancillary equipment

2. Handling

Most Madden boiler blowdown equipment is easily handled with a standard shop fork lift, occasionally needing forklift extensions. Special lifts or other handling issues will be stated by Madden before shipment in the rare case it is necessary.

3. Storage & Preservation

For storage, Madden recommends our boiler blowdown equipment be used indoors. If outdoor use is absolutely necessary Madden recommends NEMA4X electrical enclosures, IP55 (or higher) motor enclosures, and either epoxy painted or stainless steel skids.

For cases where preservation is necessary before installation, Madden recommends covering your boiler blowdown equipment with a plastic tarp and keeping it in doors if possible. For most ancillary equipment, routine maintenance is not necessary. Barring an unforeseen circumstance, your unit should start up quickly and easily once properly installed.

4. Repairs and service

Set up a file folder for your boiler blowdown equipment to include the operating manual and parts list. Record the national board serial number(s) and u-stamp numbers. If the invoice for the boiler blowdown equipment is available, include it as it may have other useful data. Read the operators manual and parts list and follow the instructions. Set up a preventive maintenance inspection and service schedule and keep a record of the service in the file.

5. Help line

If questions or problems occur during the set up or operation of your Madden boiler blowdown equipment, contact your local sales representative or the Madden factory for assistance.

Phone: 574-295-4292 from 7:30 am - 4:00 pm EST, FAX: 574-295-7562

Email: info@maddenep.com and Website: www.maddenep.com.

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