

HEAT RECOVERY SYSTEMS - Boiler Surface Blowdown

- Recovers 90% of heat (BTU's) otherwise lost to drain.
- Most applications have a R.O.I. < 6 months to 1 year.
- Compact, durable, and mechanically actuated, provides years of tough service with minimal operator attention or maintenance required.
- Complete with drain valve, heat exchanger, flash tank, relief valve, inlet manifold, and gauges.
- Three different styles to choose from, (20) total models.
- Blowdown Capacities from 1,500 to 50,000 PPH.
- Thousands of units in service, hundreds for longer than 20 years.



SAMPLE COOLERS and Complete FREE STANDING SAMPLING STATIONS

- Cool condensate, blowdown water, & steam for chemical analysis.
- Many models available in different sizes and materials.
- Units available to handle pressures up to 4,925 PSIG.
- Cost effective, durable, and repairable.
- Predesigned sampling panels. Madden also builds to order.
- FEATURES:
 - Saves on labor and material costs by providing all necessary piping, gauges, valves, sink, and coolers.
 - Protects the operator and your measuring instrumentation.
 - Hot samples can flash causing inaccurate readings, this ensures precise measuring of boiler water properties.



**Traditional
Overflow Tank**

Boiler Blowoff Vessels: BLOWDOWN TANKS and SEPARATORS

- Rugged equipment to cool intermittent, bottom boiler blowdown to safely discharge into local sewer systems.
- Enables operator to meet thermal discharge temperature limits.
- Traditional tanks (left picture) can be sized to handle many different blowdown or return processes in the boiler room.
- Increases boiler room equipment service life and performance by removing dissolved solids and other impurities from the boiler system.
- Madden has over 65 years of experience helping design boiler blowdown vessels. We build to order and provide standard systems.

For Design and Sizing Assistance, Let Madden Know:

- Number of blowdown processes.
- Boiler or return process operating pressure.
- Blowdown line size.
- Steam drum dimensions for Water Tube Boilers.
- Nominal capacity for Fire Tube Boilers.



Blowdown Separator
(Stock Options Available)

CHEMICAL FEED SYSTEMS - General Purpose & Boiler Room Specific

- Madden builds chemical feed systems to specifications as well as offers (5) predesigned systems:
 - (2) Compact systems for general purpose.
 - (3) Duty/standby style for boiler water treatment.
- HDPE and SS Tanks up to 500-gallon capacities.
- Rugged steel bases and piping assemblies.
- Includes ancillary equipment on suction and discharge.
- Includes tanks, pumps, mixers, and optional controls.
- Turnkey systems save on installation time and costs.
- Madden can assist with the design or build to specifications when provided.



**General Purpose, Compact
Chem Feed System**



**Custom Duty/Standby Style
Chem Feed System**

MINI CHEMICAL DOSING SKIDS

- Already have premixed chemical totes? Consider a simple dosing skid.
- Preassembled chemical metering packages without the tank and mixer.
- Quick connects on the suction side allow for easy change out of 55-gallon chemical drum or 4' X 4' chemical totes.
- Compact, takes up less than 3 square feet of floor space.
- Bent 7 ga. steel bases provide longevity and portability via 3" lift.
- Predesigned systems and build to order available.
- PVC and 316SS designs are standard, other materials available upon request.



Orifice Meter - Cutaway

ADJUSTABLE ORIFICE METER VALVES - Boiler Blowdown Flow Control

- Extremely durable and versatile adjustable flow control valves. Provide (17) orifices per unit.
- Intended for boiler blowdown flow control but used for any high-pressure flow control application.
- Precise, repeatable flow control of hot, dirty water.
- Remains accurate for a minimum of 10 years.
- Integral sediment chamber and drain valve increases service life.

"Our Mission is to produce proven, rugged, quality steam system equipment that will provide excellent performance and value for our customers."