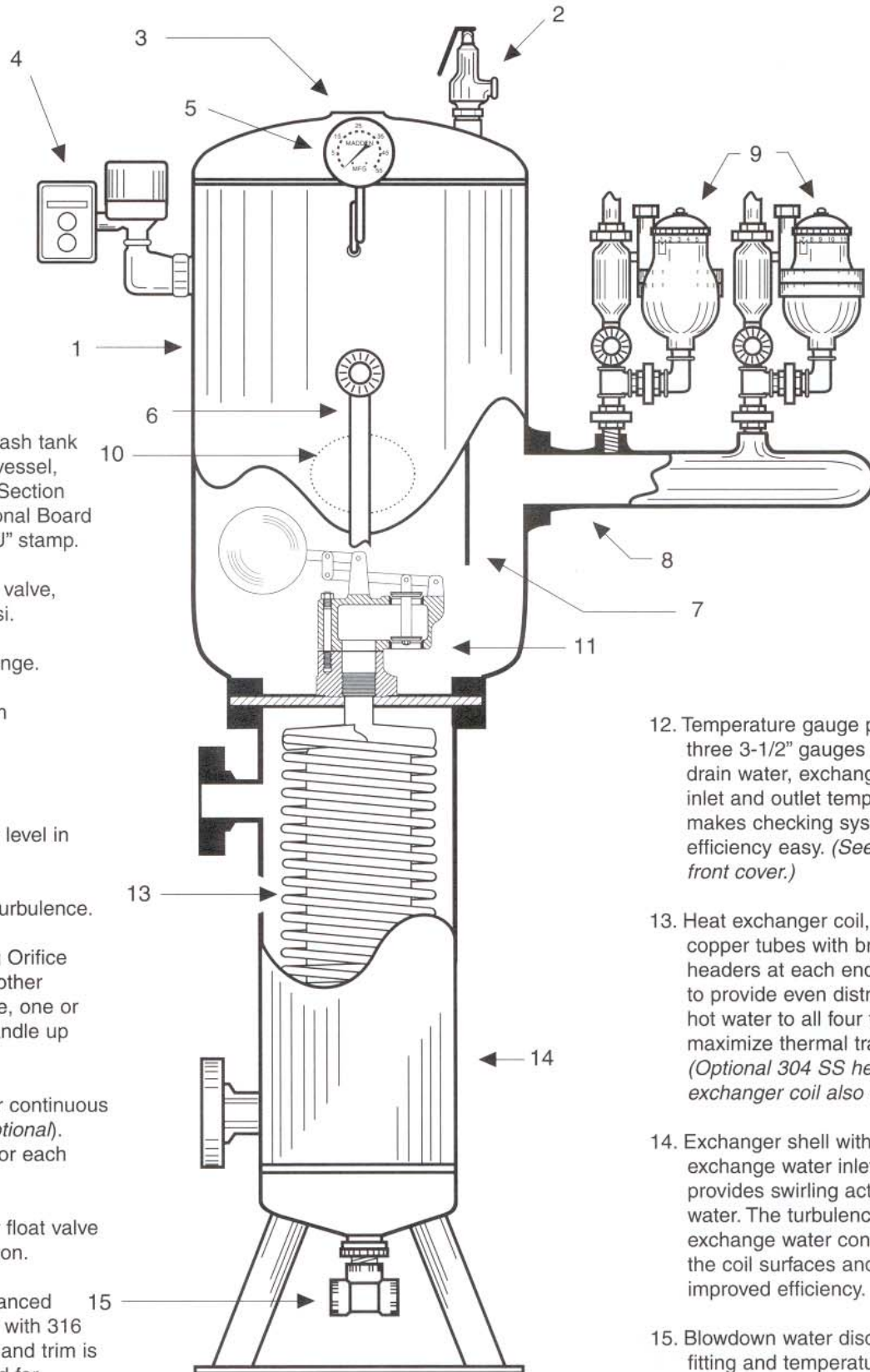


Madden Features - Type HV

5 Models - 3,000 to 15,000 lbs. per hour capacity



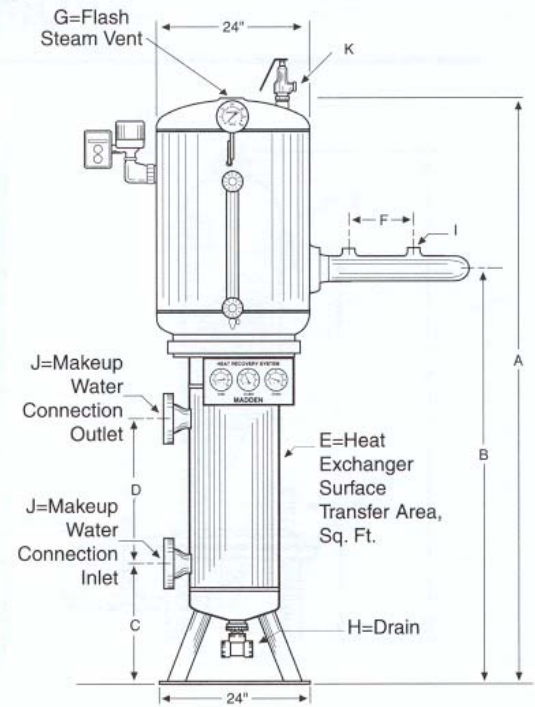
- 1. ASME code welded flash tank and heat exchanger vessel, 150 psi construction Section VIII, Div. 1. With National Board Serial Number and "U" stamp.
- 2. Safety pressure relief valve, normally set for 40 psi.
- 3. Flash steam outlet flange.
- 4. High water level alarm system (*optional*).
- 5. Pressure Gauge.
- 6. Sight gauge for water level in flash tank.
- 7. Baffle creates water turbulence.
- 8. Manifold for mounting Orifice Meter or connecting other blowdown supply pipe, one or two manifolds can handle up to six boilers.
- 9. Madden Orifice Meter continuous blowdown control (*optional*). One meter required for each boiler. (See page 3.)
- 10. 6" x 8" hand hole for float valve access and inspection.
- 11. Continuous flow balanced pressure float valve with 316 stainless steel float and trim is specifically designed for blowdown service.

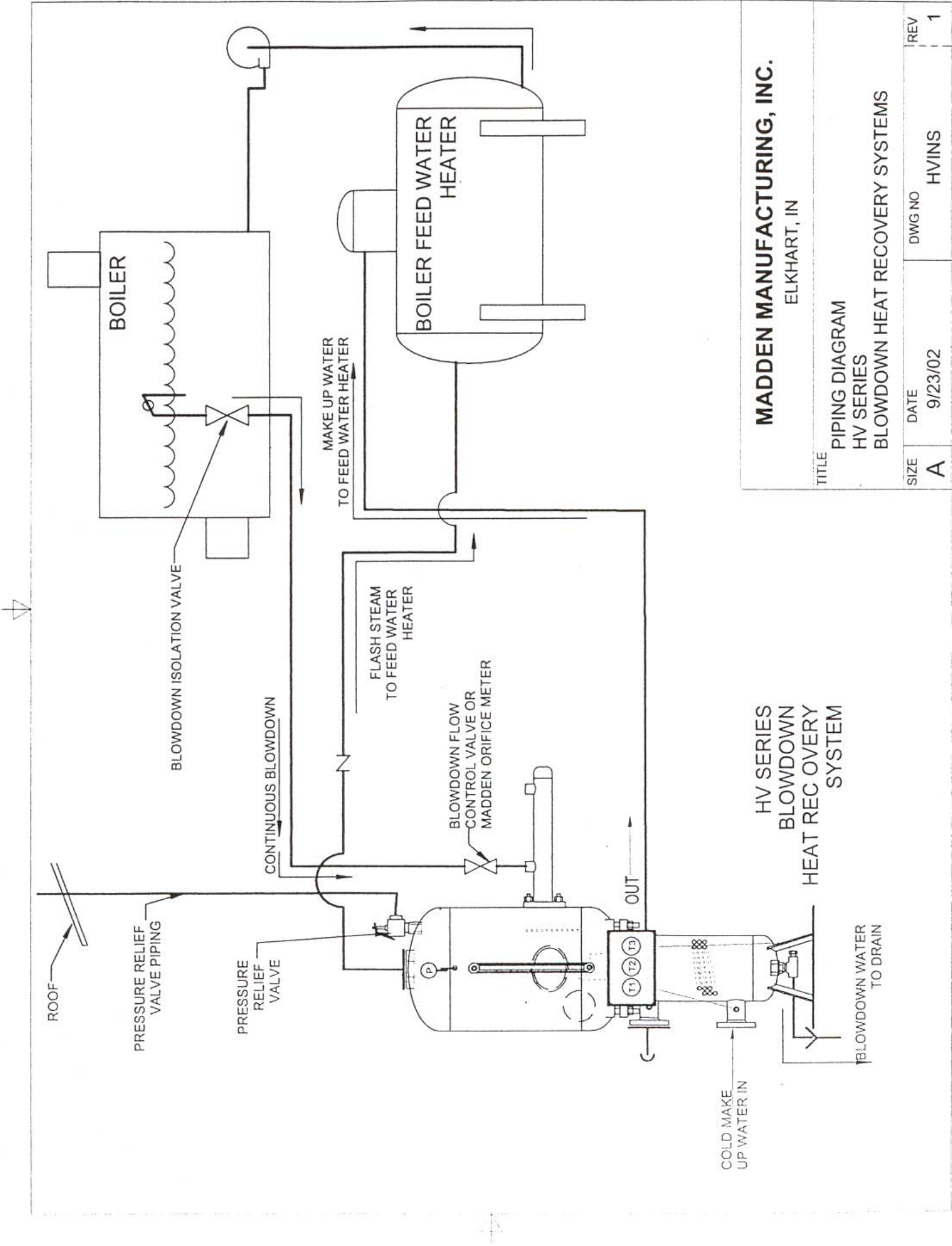
- 12. Temperature gauge panel with three 3-1/2" gauges to monitor drain water, exchange water inlet and outlet temperatures, makes checking system efficiency easy. (See photo on front cover.)
- 13. Heat exchanger coil, four 7/8" copper tubes with bronze headers at each end. Designed to provide even distribution of hot water to all four tubes to maximize thermal transfer. (*Optional 304 SS heat exchanger coil also available.*)
- 14. Exchanger shell with flanged exchange water inlet and outlet provides swirling action in the water. The turbulence assures exchange water contact with the coil surfaces and improved efficiency.
- 15. Blowdown water discharge fitting and temperature bulb.

Dimensions Type HV Heat Recovery Systems

Model Number	HV030	HV050	HV070	HV090	HV120	HV150
Blowdown Capacity lb/hr	3,000	5,000	7,000	9,000	12,000	15,000
A (OAH)	77"	83"	89"	95"	104"	122"
B	49-5/8"	55-5/8"	61-5/8"	67-5/8"	76-5/8"	94-5/8"
C	15"	15"	15"	15"	15"	15"
D	16-1/2"	22-1/2"	28-1/2"	34-1/2"	43-1/2"	61-1/2"
E	17	21	25	29	35	46
F	13"	13"	13"	13"	13"	13"
G	3" FLG	3" FLG	4" FLG	4" FLG	4" FLG	4" FLG
H	1-1/2" NPTF	1-1/2" NPTF	1-1/2" NPTF	1-1/2" NPTF	1-1/2" NPTF	1-1/2" NPTF
I	*1"	*1"	*1"	*1"	*1"	*1"
J	3" FLG	3" FLG	4" FLG	4" FLG	4" FLG	4" FLG
K	1-1/2"	2"	2-1/2"	3"	3"	3"
Ship Wgt.	1,200 lbs.	1,300 lbs.	1,400 lbs.	1,500 lbs.	1,700 lbs.	1,900 lbs.

* I Dimension 1-1/4" when Model 650 Orifice Meter is used.





MADDEN MANUFACTURING, INC.
ELKHART, IN

TITLE
PIPING DIAGRAM
HV SERIES
BLOWDOWN HEAT RECOVERY SYSTEMS

SIZE	DATE	DWG NO	REV
A	9/23/02	HVINS	1