



Heat and Water Recovery

MANUFACTURER OF INNOVATIVE CONCEPTS IN STEAM MANAGEMENT



**MAXI
THERM**

maxi-therm.net

Heat and Water Recovery

The Maxi-Therm eliminates an unsightly “smoke-stack” from your plant, reduces water consumption for make-up, and saves energy. The payback is both on paper, and makes your plant a better neighbor!

The Maxi-Therm is a simple flash steam heat recovery device that economically recovers the BTU's and hot water lost by flash vents. The heat of the flash steam can be recovered to pre-heat water or air.

The Maxi-Therm is directly installed in the vent piping and can capture both the sensible and latent heat.

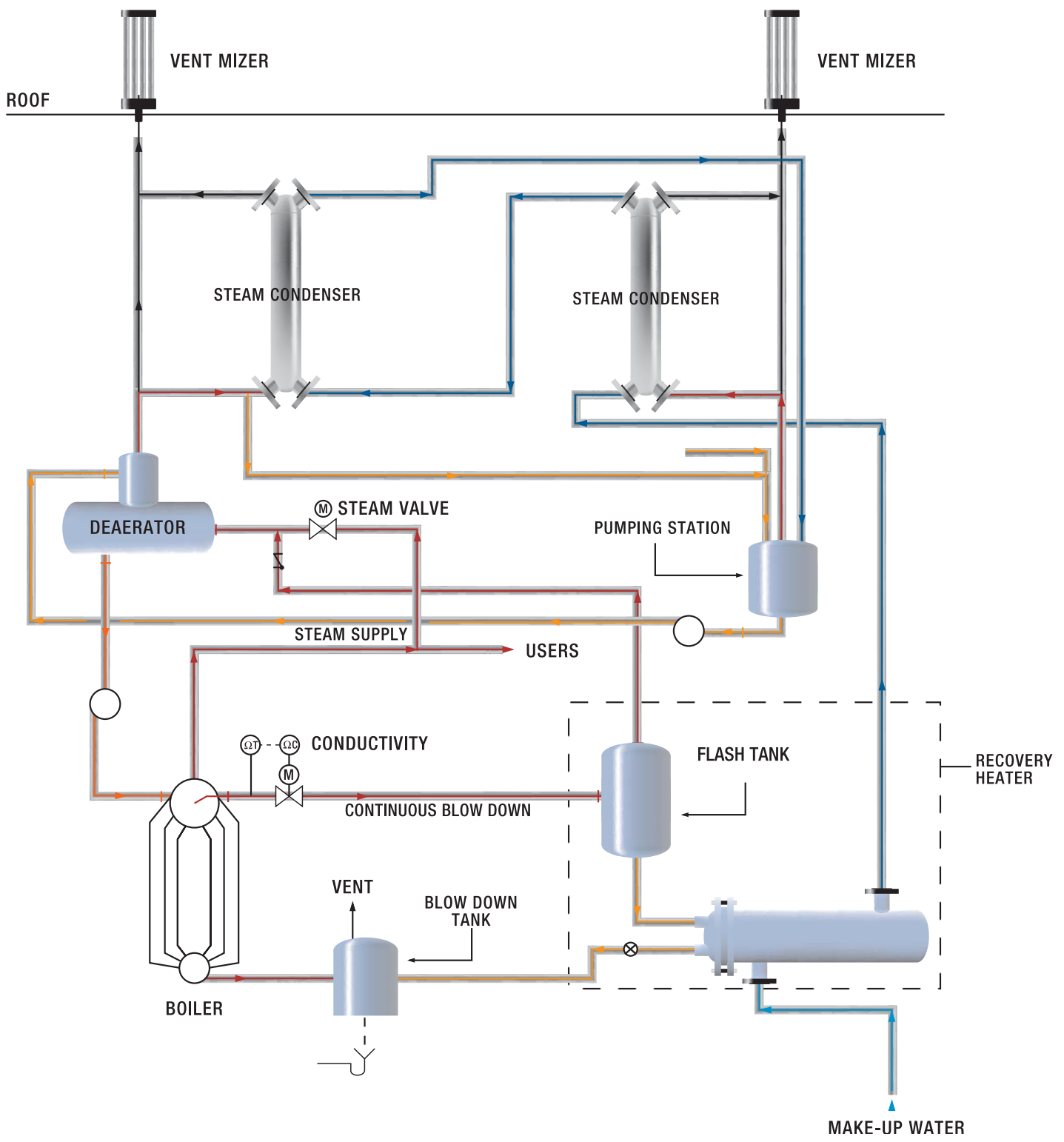
The make-up water demand on the boiler is reduced by recovering the water, and as a bonus, it is already pre-heated.

A unique atmospheric closed loop condensate return system.

Maxi-Therm HR units can be used for:

- Flash Recovery
- Elimination of “Smoke Stacks”
- DA Tank Efficiency
- Vaporizer Recovery

Heat and Water Recovery





STEAM CONDENSER



VENT MIZER



RECOVERY HEATER



Vent-Mizer Savings

Reclaim energy that normally escapes to atmosphere through the steam system vent pipes.

The Vent-Mizer condenses vapor using the surrounding air. Hot water is recovered (already chemically treated) for return to the boiler.

The selection of the Vent-Mizer is based on vent size and capacity, and the average pressure of steam producing the condensate. The return on investment is usually high, and payback period low.

Advantages

The Vent-Mizer offers several other advantages. The design helps keep ice from accumulating on the roof during the winter months. The apparatus reduces the possibility of burning any workers on the roof, or damage to membrane roofing systems, by eliminating most hot water droplets spraying from the vent. Environmentally, it eliminates the emission of treatment chemicals contained in the droplets which escape from the traditional vent. It reduces the quantity of make-up water required by the boiler. For nearby residents, the visual environment is also improved since there is a significant reduction of "smoke" in the atmosphere.

Return on investment example

Let us take the example of a receiver tank on a condensate pumping station, which receives an average of 7000 lbs/hr condensate, with condensate source of 60psig. About 10% of condensate will flash (revaporize) in a 0 psig atmospheric vent (normally a 4 inch vent pipe). So, about 700lbs/hr of vapor will be flowing to atmosphere from the 4 inch pipe. This vapor can be condensed and recovered using the external ambient air.

Normal make-up water will need to be heated as it enters the boiler. If the water recovered from the vent can be returned at 200°F, and entering water would be heated from 40°F, we will recover the heat of 160 btu/lb (by using 1btu/lb for each 1°F of water) equals: 700lb/h X 160 BTU/LB = 112,000 btu/hr.

Assuming the tank operates 8000 hrs/yr and that steam cost is \$6.50/million BTUs:
8000hrs/yr X 112,000 btu/hr X \$6.5/million BTU = \$5,824.00/yr

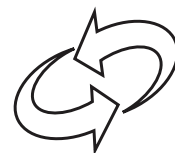
Note that these savings do not account for the recovery of chemicals, or the safety benefits. The cost for a 4 inch Vent-Mizer is estimated at \$4,500.00 and installation is estimated at \$2,000.00 by a qualified contractor, for a total of \$6,500.00 In this example, the period of return on the investment would be about 14 months. If a facility has 5 vents, a potential savings of \$26,880.00 /yr is possible.



Conclusion

The Vent-Mizer can be used on pumped deaerators, tanks and flash tanks. Most importantly, the system does not require any piping changes. It is simple to install and requires only basic supports. Water cooled units are also available.

Contact Maxi-Therm for more information:
877-MAXITHERM or on the web
at www.maxi-therm.net



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