

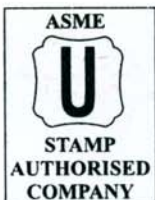
# REFORMER

STEAM REFORMER BY MAZDA AND C-R

TO

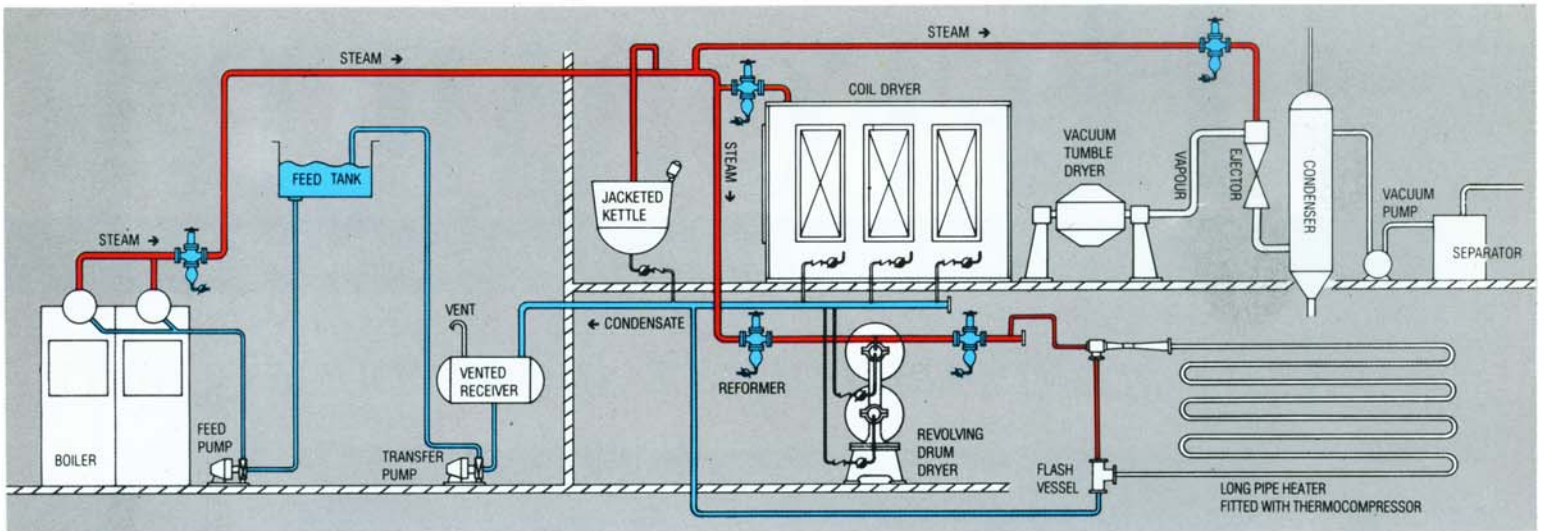
IMPROVE PLANT PERFORMANCE AND PRODUCT QUALITY

**A** new advanced design to help you improve the efficiency and effectiveness of your business by offering you, unrivalled knowledge of improving steam quality at minimum capital outlay and running costs.

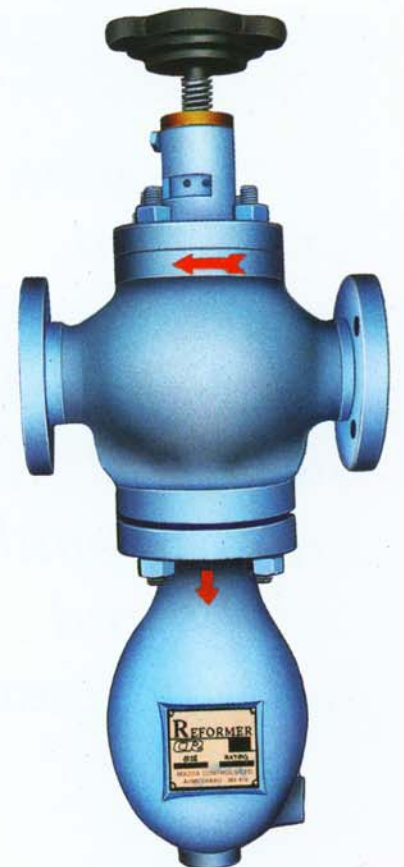
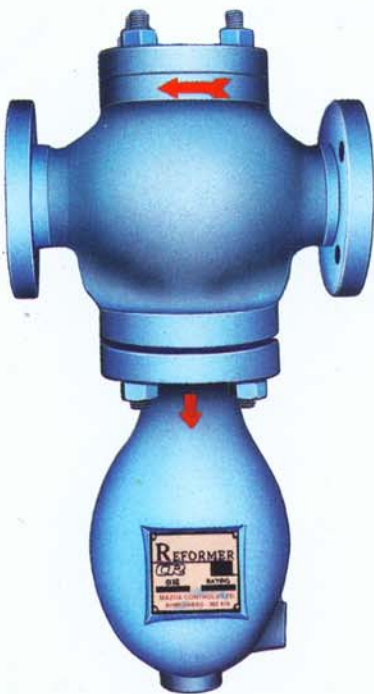


Patent Pending

## Recommended installations of Reformer valves in an existing process plant



*On any steam distribution system Reformer can help you achieve maximum efficiency and save energy all along the line*



**C**lean steam and compressed air mean maximum efficiency and minimum maintenance. Dust, scale, rust, jointing material, weld metal and other foreign particles will clog valves, put drain traps out of action, block orifices and ruin processes.



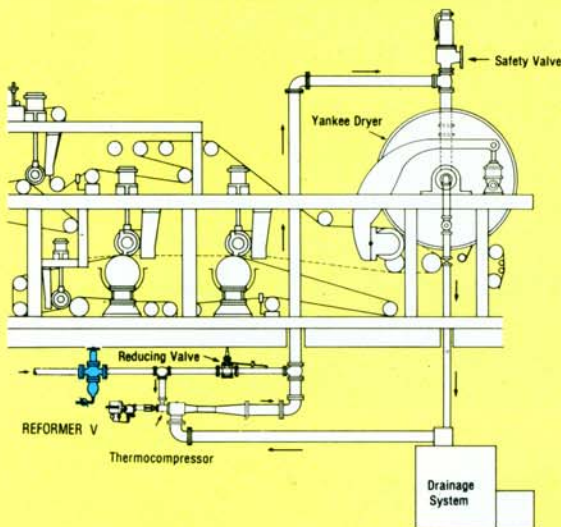
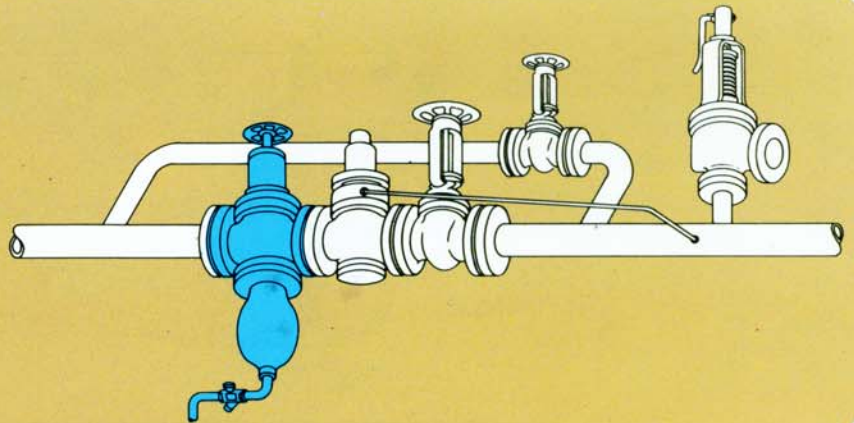
Steam as dry as possible at the point of use is important. Steam Separators improve the rate of heat transfer.

**S**eparators can promote higher production for lower fuel cost because steam contains more heat than hot water at the same pressure.

## Some typical reformer applications for fuel savings and increased production

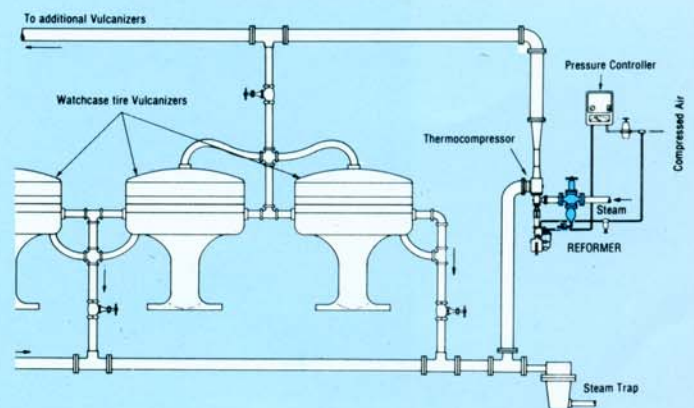
### Increased productivity of steam using equipment

Reformer Valve in a reducing system will improve steam equipment productivity, pressure reducing valve service life is extended, since the effective removal of condensate and scale protects the main valve from erosion.



### Yankee dryer increased production with savings in fuel

Installed at a paper factory in Gujarat on dryers and cylinders paper making machine production was increased by 1 foot in 20 feet and fuel consumption reduced.



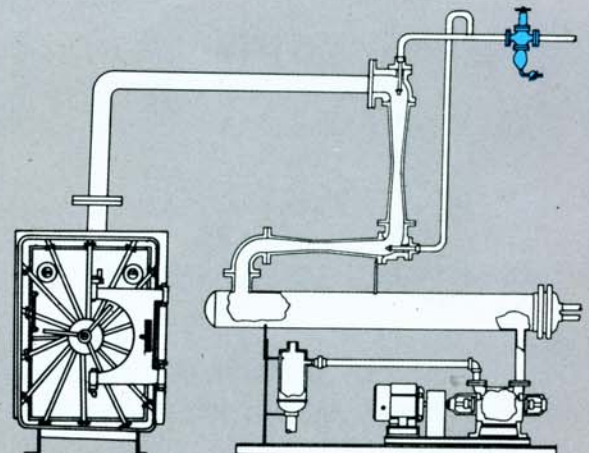
### Vulcanizers

Better Rubber with fuel savings.

By installing a reformer valve production was increased by maintaining a uniform temperature and avoided undercured spots in the rubber and a better product was produced with less spoilage. Production was also increased and a fuel savings of 10 % was realised.

### Steam jet ejectors

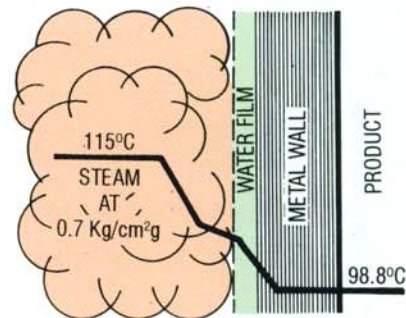
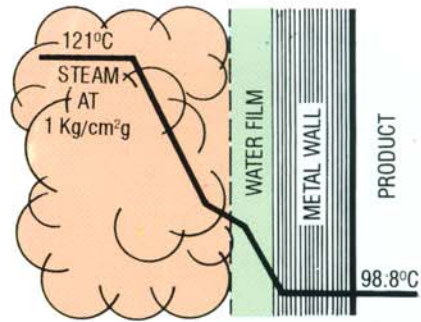
Installation of Reformer unit has improved the vacuum performance at a leading food processor. Reforming valves greatly improve the efficiency of Steam jet ejectors. Wet steam or poor quality of steam is detrimental to steam jet vacuum systems. In many cases by installing reforming valve the required vacuum is achieved and enhancing the performance of the plant under vacuum with most advantageous operating results.



## Reformer for optimum heat transfer

The illustration shows diagrammatically the flow of heat from a steam space to a product being heated. The final temperature must be  $98.8^{\circ}\text{C}$ . The steam temperature must be sufficiently above this for heat to flow through the water film and metal. If the resistance of water film can be decreased the steam pressure can be reduced. In the diagram, by reducing the water film on the steam side by one half, the steam pressure necessary can be cut from  $1 \text{ Kg/cm}^2\text{g}$  to  $0.7 \text{ Kg/cm}^2\text{g}$ . Installation of a reformer at the steam supply lines to the process plants will not only enable process plant to give its best output but also allow it to operate most efficiently at the lowest possible pressure.

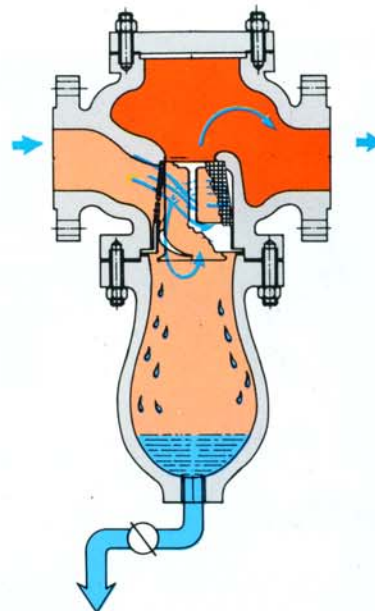
Remember wet steam supply deposits its excess water, increasing the resistant water film at the heat transfer surface, thus impeding heat transfer. This water film is between 60 and 70 times more resistant to heat transfer than the iron or steel wall of the heating surface.



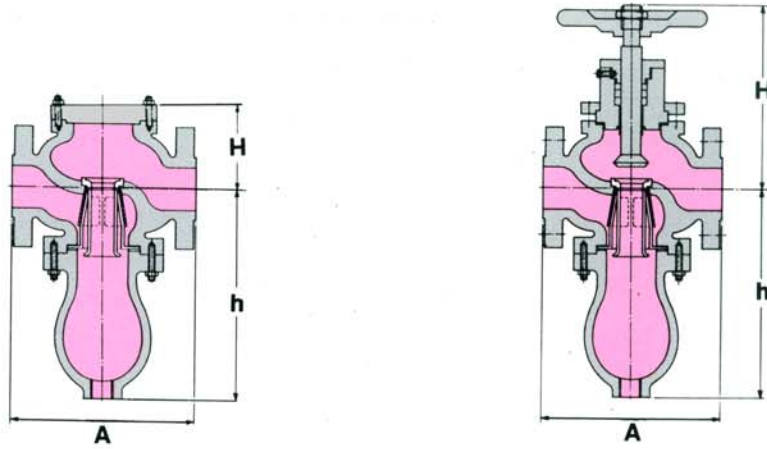
## Operation and separation efficiency

Reformer filters and separates water particles from flowing stream by employing the two best methods of separation.

A confounded series of vanes and fins change the steam, air or gas flow into a high speed cyclone flow, separating even mist - like condensate with 98 % efficiency. The fluid velocity is first maintained but the flow is given a twist so that the heavier water droplets are flung out of suspension by centrifugal force against the sides of the vessel. The flow area is then increased so that the fluid velocity drops to prevent pick-up of separated water.



Separation efficiency test conducted in our in-house steam test facility with Croll-Reynolds Company, Inc. USA Steam Calorimeter.



<b>DIMENSIONAL DETAILS</b>										
<b>REFORMER</b>					<b>REFORMER VALVE</b>					
Size	A	H	h	Weight	Size	A	H	h	Weight	Connection
15	155.0	215.0	245.0	10 Kgs	15	155.0	85.0	245.0	12 Kgs	Screwed
20	155.0	215.0	245.0	10 Kgs	20	155.0	85.0	245.0	12 Kgs	Screwed
25	188.0	210.0	260.0	15 Kgs	25	188.0	90.0	260.0	17 Kgs	Flanged
40	246.0	250.0	340.0	20 Kgs	40	246.0	110.0	340.0	25 Kgs	Flanged
50	263.0	300.0	360.0	25 Kgs	50	263.0	125.0	360.0	30 Kgs	Flanged
80	318.0	375.0	415.0	50 Kgs	80	318.0	145.0	415.0	56 Kgs	Flanged
100	367.0	430.0	490.0	70 Kgs	100	367.0	145.0	490.0	80 Kgs	Flanged

**NOTES :**

1. All dimensions are in mm and are to be used for estimation only.
2. Certified drawings will be supplied on request.
3. 15mm and 20mm sizes have screwed connections. Standard screwed connections are BSP (parallel) threads. Other threads can be supplied, if required i.e. NPT, DIN etc.
4. Sizes above 100mm can be made available on request.
5. The flanged connections are to ANSI 150 # and 300 # raised face. Higher ratings will be applied depending on the duty conditions.



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