

**Advanced**

# Multi-effect Evaporator

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## SALIENT FEATURES


**W**ater has become a precious resource for industries. Factors like increasing demands, contamination of natural water bodies and low availability of fresh water are forcing industries to recycle wastewater. Membrane based processes such as Reverse Osmosis (RO) are widely used to recover good quality water. However, this process generates reject stream with higher concentration of salts and impurities. Evaporators are used to further concentrate this reject stream, where heat energy is used to reduce water content. Zero Liquid Discharge (ZLD) plants are becoming mandatory for industries due to stringent discharge standards. Thus, evaporators become a critical for water-resource recovery for zero liquid discharge plants. Evaporators operate at higher temperature and selection of metallurgy is a critical aspect. Wastewater varies with every application and case-specific customization thus becomes important. Appropriate sizing and engineering is required to ensure smooth and long lasting operations of MEEs. Therefore, the use of correct metallurgy, appropriate sizing and case specific evaluation would define success of water recovery and ZLD plants.





**Capacity Range: 5 to 250 m<sup>3</sup>/day to 250000 lit/day**  
(available for larger capacity, if required)


<p><b>Feed &amp; Product Quality</b> Any reject stream with dissolved solids (concentration &gt; 1% i.e. 10000 ppm) and free from Suspended Solids, COD/BOD, Temporary Hardness, Oil and Reactive Silica.</p>	<p><b>Product</b> Powder form, solids with &lt; 10% free moisture after using ATFD or with &lt; 25% moisture after Pusher Centrifuge.</p>	<p><b>Condensate</b> Clear liquid with &lt; 250 ppm dissolved solids and neutral pH.</p>
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**Energy Efficient**  
& Optimized MEE Process Design
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**Less Footprint**  
Requirement and Compact System
- 

**Non-Scaling Preheater Design (\*Patented)**  
Minimum CIP requirements with higher uptime
- 

**24/7 MEE System Operation** with Online Heat Exchanger Cleaning Mechanism (\*Optional Feature) Downtime Reduction from 20 hours to less than 6 hours per week
- 

**~40% Less Steam Requirement than Other Manufactures,** For same water recovery rate with same number of MEE stages
- 

**Zero Make-Up Water Requirement**  
For MEE Cooling Tower
- 

**Single Condenser Design** with In-built Dephlegmator Section
- 

**In-house R&D and Effluent Water**  
Characterization Facility

# Market Segments

Automobiles



Food & Beverages



Chemical



Petrochemicals



Cement



Sugar



Metals & Minerals



Textiles



Power

Pharmaceuticals



Packaging & Paper



Distilleries



Polymer and Polyester



**THERMAX**

Sustainable Solutions in  
Energy & Environment

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