



Low Temperature Evaporator

"MVR based Recycling Solution
for Wastewater to Clean Water"

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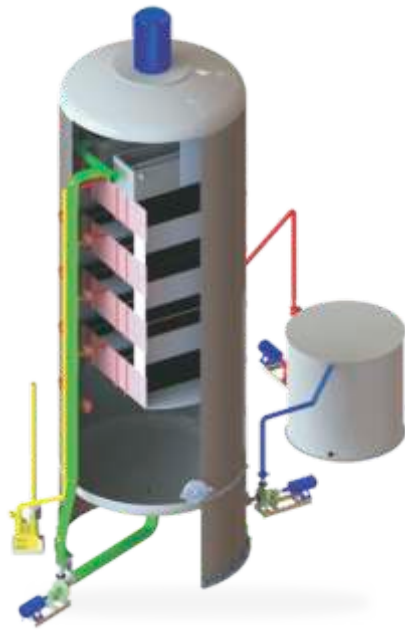
SUSTAINABLE ENVIRONMENT DEVELOPERS
(Formerly Spray Engineering Devices)

TECHNOLOGY AT A GLANCE

Low Temperature Evaporator is an innovative system to recover clean water along with concentrated solution separately, by processing industrial/ domestic wastewater/solution of wide variety. Low Temperature Evaporator is used to concentrate various fluids by evaporating excess water upto 85%-99% depending on Boiling Point Elevation (BPE) of fluid. All excess water is recovered as clean water or condensate separately along with concentrated fluid.

Low Temperature Evaporator is comprised of highly energy efficient Plate Evaporator (LTEM[®]) and Mechanical Vapor Re-compression (MVR), to evaporate excess water by the use of compressed vapors generated from solution itself.

- Enhances the capabilities of processing viscous fluids.
- Plate evaporator ensures better HTC with optimal energy consumption.
- MVR recycles steam required for evaporation thus eliminates continuous use of external heating source during operation.
- High pressure compressed vapors enters in evaporator calandria which evaporates the excess water and generates low pressure vapors.
- Low pressure vapors are then compressed by MVR and recycled in Low Temperature Evaporator resulting in highly energy efficient process.



SALIENT FEATURES

Low Temperature Evaporator offers high flexibility & precise control over process parameters especially to deal with heat sensitive liquor concentration.

- No need of steam generation unit, heat reject units and chemicals.
- Suitable for handling wide variety of fluids/wastewater.
- High flexibility & precise control over process parameters.
- Operation at lowest ΔT .
- Minimal electric power consumption.
- Elimination of subsequent degradation due to thermal injury.
- Prevention of ground water table depletion.
- Highly energy efficient.
- Elimination of regular heating source.
- Reduced manpower requirement.
- Low Capex and Opex.
- Plug and play system.
- More Eco-friendly.

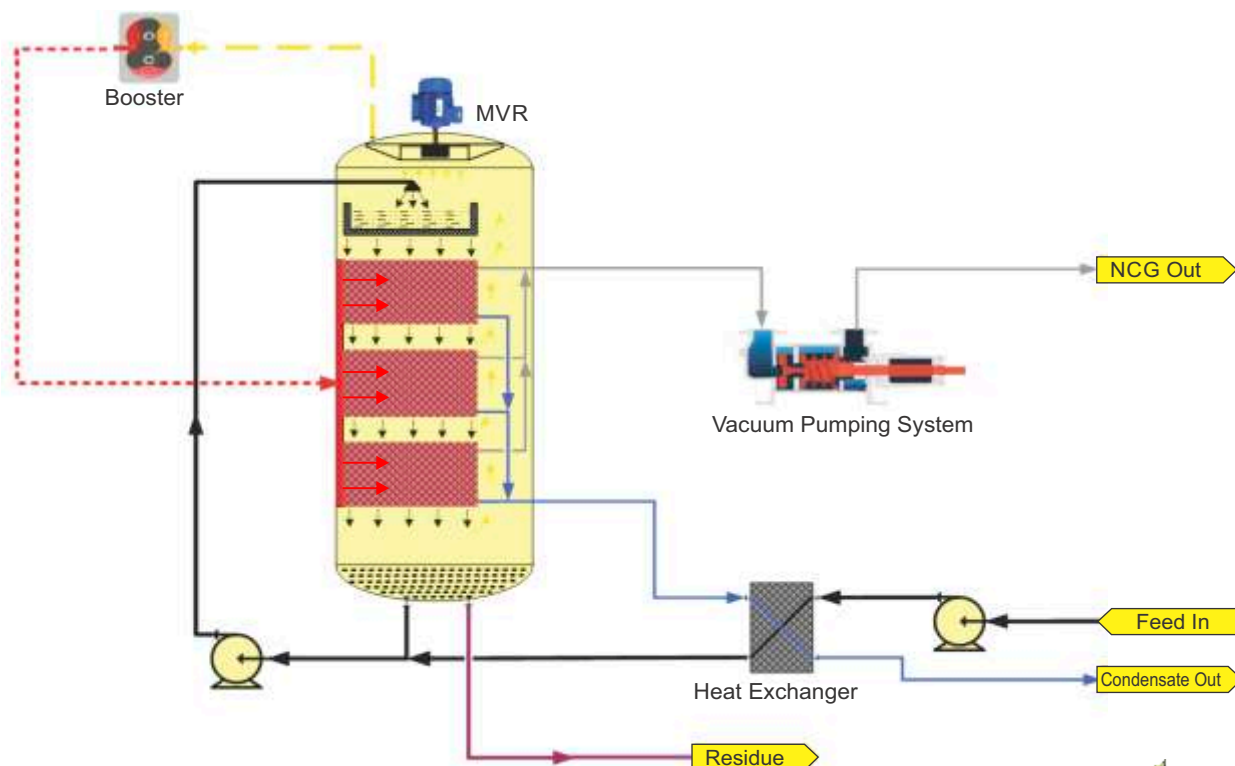
DESIGN FEATURES

Low Temperature Evaporator is a vertical cylindrical vessel consists of inbuilt high efficiency Compressor/ Turbofan Impeller at the top, which discharges compressed vapors at 360° in the space surrounding the Plate Heat Exchanger, which is placed at the middle plate heat exchanger. This design has a small foot print area which delivers the highest evaporation. Top mounting of the MVR impeller on the evaporator eliminates the need for separate foundation and vapor ducting to interconnect evaporator along with less pressure drops of the recycling vapors.

- Peripheral ductless steam/compressed vapor entry to plate heat exchanger.
- Efficient Feed Inlet Distribution System to ensure proper wetting of the entire heating surface.
- Compact Design with less foot print area.
- Fully Automatic with control panels.



SCHEMATIC DIAGRAM



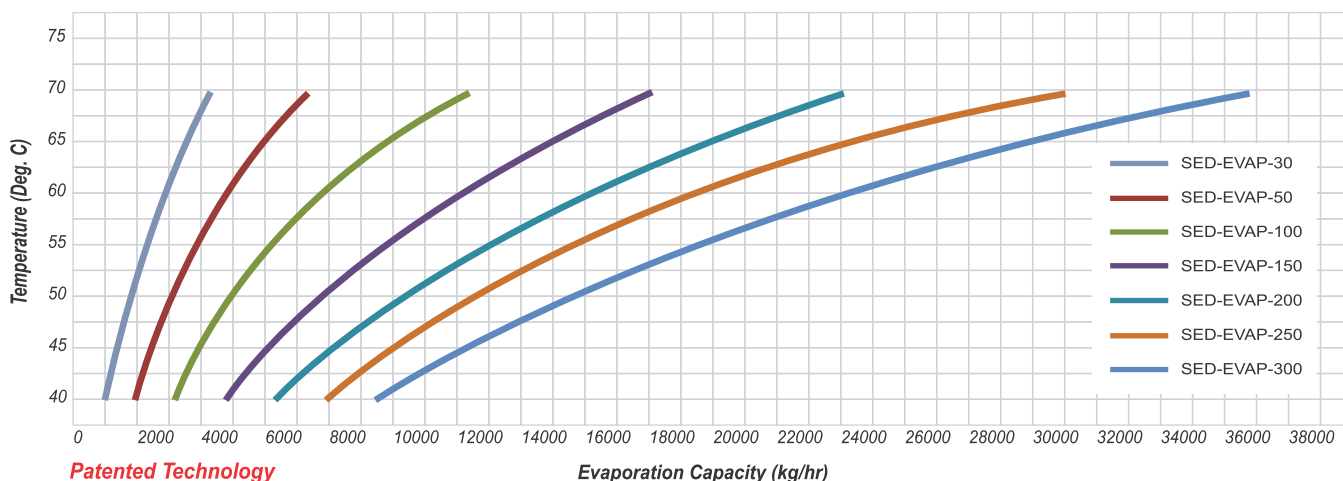
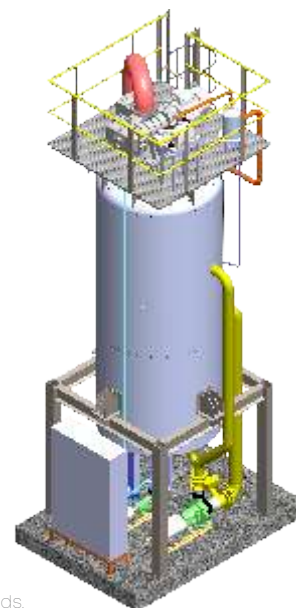
PRODUCT RANGE

Low Temperature Evaporator is capable for recovering 85% - 99% of the water present in the wastewater stream. Standard product ranges are :

Model	Water Evaporation Capacity (Kg/hr.)	Compressor/Turbofan (*kW Installed)
SED-EVAP-30	1000-3000	18/22/30/37
SED-EVAP-50	3000-5000	37/45/55
SED-EVAP-100	5000-10000	55/75/90/110
SED-EVAP-150	10000-15000	110/132/160
SED-EVAP-200	15000-20000	110/132/160/180/220/250
SED-EVAP-250	20000-25000	220/250/280/300
SED-EVAP-300	25000-30000	280/300/350

*Actual *kW will be based on the evaporation capacity & design ΔT of Compressor/Turbofan*

NOTE: Besides our Standard Range, SED also offers Customized Evaporation Solutions to suit the individual customer's needs.



INSTALLATIONS



Dyeing Industry



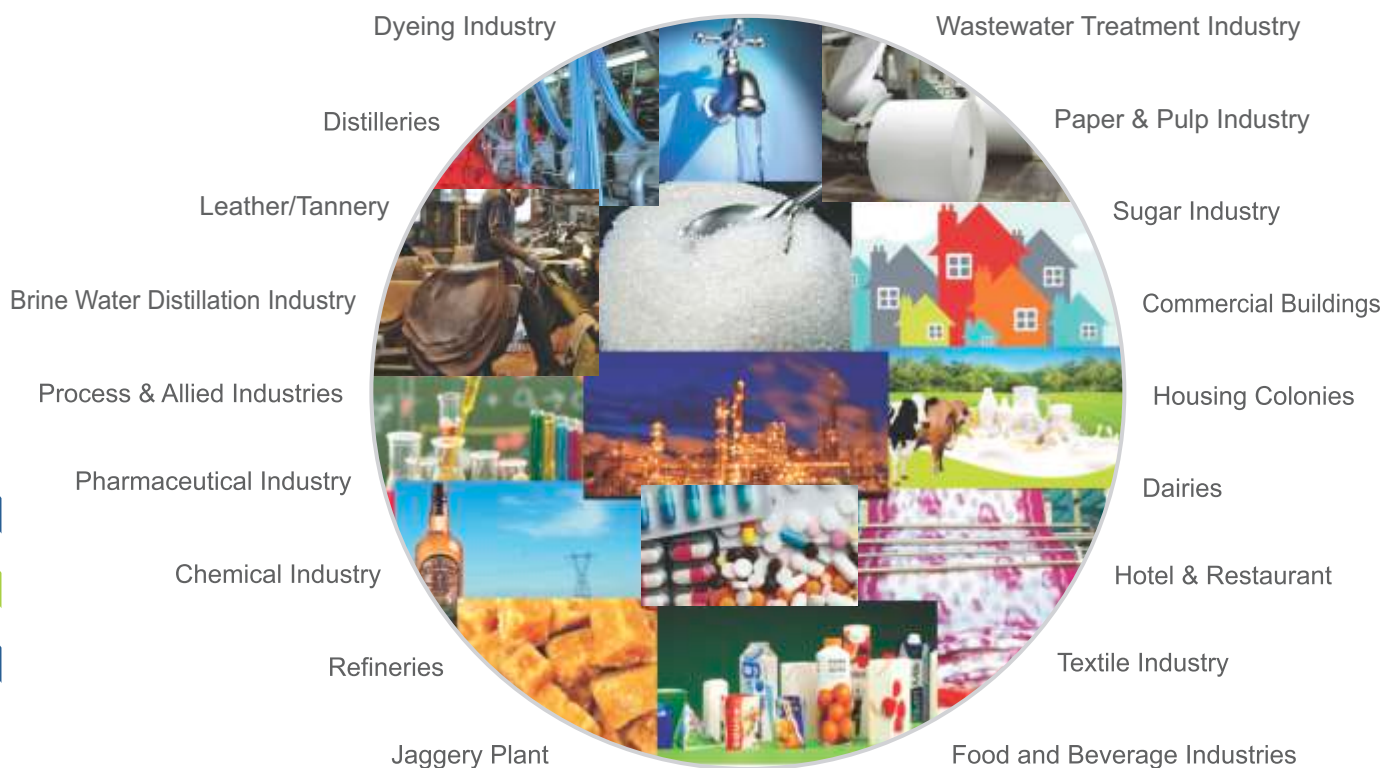
Paper Industry



Distillery

Low Temperature Evaporator is indigenously developed for evaporation of water from wastewater at low temperature with energy efficient operation and provides sustainable solution.

APPLICATIONS



Sustainable Environment Developers

(Formerly Spray Engineering Devices)