



LOMBAR
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Excellence Engineered Evaporator systems

MVR EVAPORATOR

systems designed for direct salts output



Our Company has always been in the forefront towards implementing simplified processes and by innovating products for a simpler working principle.

Our MVR Evaporators have incorporated Reactor type working principle. It consists of an agitator Mixer with Helical Coil Heat Exchanger submerged inside the reactor.

Due to this design, the Effluent to be treated and concentrated does not choke or clog inside the Heat Exchanger. It helps us to Concentrate the Effluent beyond the Precipitation levels.

Old Conventional Systems had Calandria Heat Exchanger which choked regularly.

Lombar Industries MVR Evaporators perform efficiently without the worry of choking / Clogging and can concentrate the Effluent at levels where the Salts in the Effluent precipitate completely.

Advantages

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ATFD NOT Needed

Upto 60% Salt Concentration

No Choking

Precipitated Salt Output

Easy Descaling

Easy Maintenance

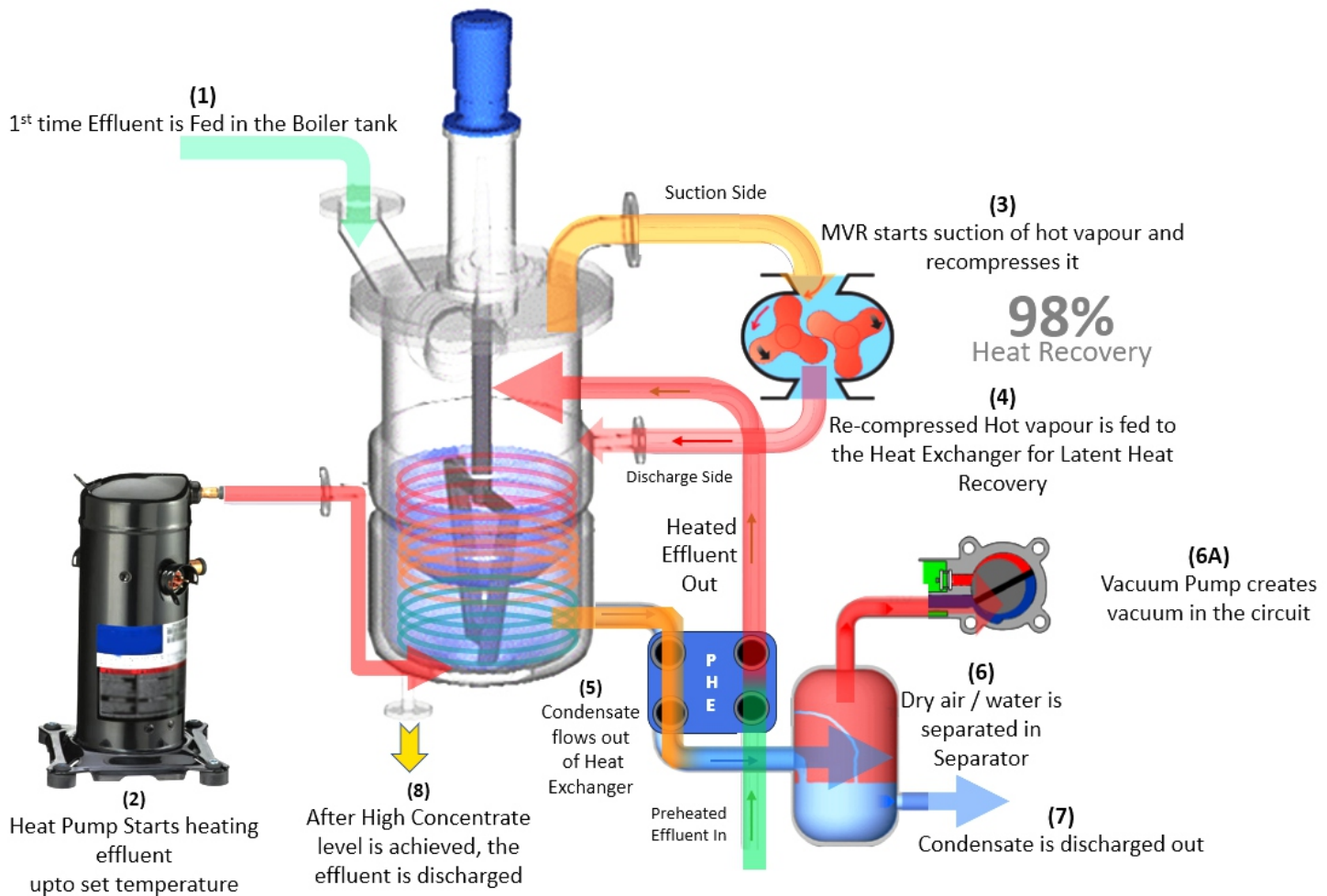
Our MVR Evaporators are incorporated with Reactor Technology which enables our Clients to operate our Evaporators in a much easier way.

Lesser complications result into low down time and happier operators.

Due to High Concentrate Output, further drying process to achieve ZLD is very easy and Cheap.

Simpler methods such as Filter Press / Centrifuge / Screw Press can be implemented to separate the salts from the remaining Liquid.

How it Works ?



Our Evaporators are designed on the principle of Distillation and Recovery of Latent Heat.

Step 1: 1st Time the new Effluent is fed in the Evaporator Boiler Tank.

Step 2: The Heat Pump Starts Heating the Effluent upto a set temperature.

Step 3: After the Set Temperature is achieved, the Heat Pump turns Off and the Vacuum Pump Starts. It generates Deep Vacuum in the complete circuit of the Evaporator system. As the Vacuum is achieved in the Boiler tank, the Effluent start to boil.

Step 4: The MVR Compressor starts. It inhales a huge volume of Water vapour / Latent Heat released from the Boiler Tank and re-compresses it at a higher pressure and temperature.

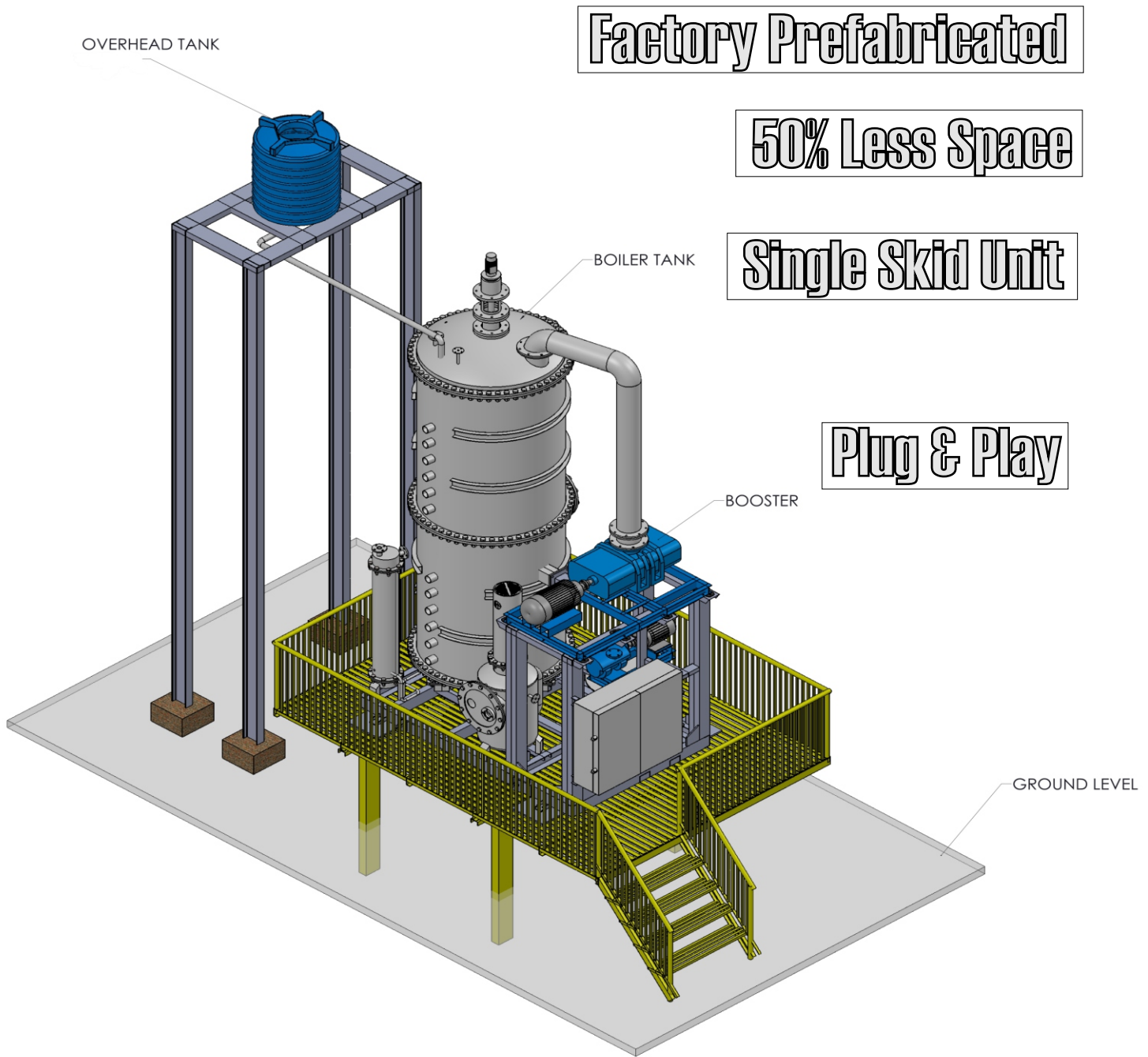
Step 5: The compressed Water vapour is passed through the Helical Coil Heat Exchanger where it releases all the Latent Heat to the Effluent inside the Boiler tank. Due to this the Water vapour changes its phase and converts into condensate. Here the Latent Heat Recovery stage is processed. Due to this, the Heat required by the Effluent to evaporate is again recovered back enabling it to evaporate.

Step 6: The Condensate passes through a Pre Heat Exchanger where is releases all the sensible heat to the incoming ambient temperature Effluent.

Step 7: The Condensate cools down and gets collected in the Air / Water Separator tank further to be pumped out of the system. The Non - Condensable gases are released back into the atmosphere by the Vacuum Pump.

Ease of Installation

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Factory Prefabricated

50% Less Space

Single Skid Unit

Plug & Play

Our Evaporators are very Easy to Install and Commission.

Due to our Skid mounted Assembly, our Evaporators can be installed in Plug and Play type. They Do Not require any Heavy Fabrication at site during Installation.

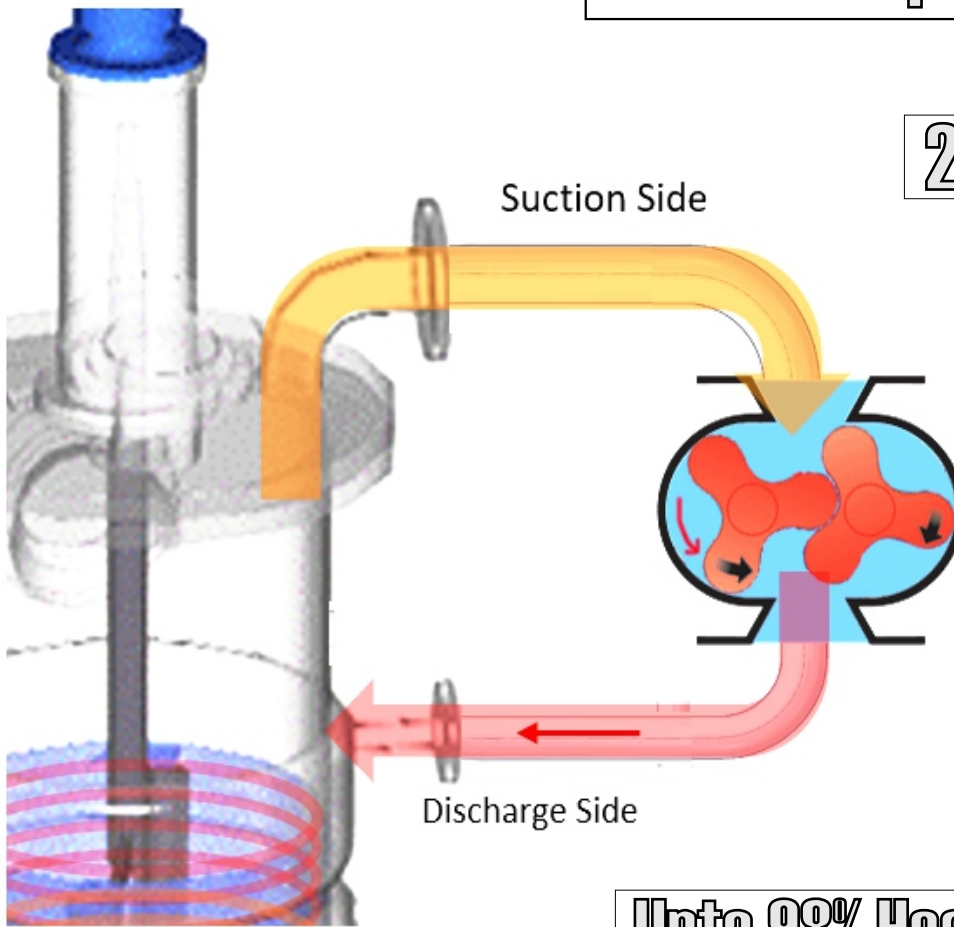
Similarly Site readiness is at a minimum and requires only basic Elevation pillars and Walkways.

Our Evaporators save almost 50% Space compared to conventional Evaporators.

MVR Technology ?

75% Less Operating Cost

20 KW / 1 KL



Upto 98% Heat Recovery

MVR technology is currently most widely used in the field of Waste Water Evaporation.

The main advantage of this Technology is that it can recover a huge amount of Latent heat during Evaporation and feed it back to the input Effluent which is yet to be evaporated.

Thus due to Heat Recovery, NO CONTINUOUS External Heat source is required. Thus directly impacts immensely on the Running cost of the Evaporator.

MODEL NO / CAPACITY	INPUT LOAD KW/HR	EFFLUENT INPUT FLOW RATE (LPH)	EFFLUENT INPUT TDS RANGE	CONDENSATE FLOW RATE (LPH)	CONCENTRATE OUTPUT TDS	DIMENSIONS (mm)	WEIGHT kgs
500 LPH	16	500	1500 - 130000	470	450000 - 600000	4000 L X 2000 W x 5500 H	11000
1000 LPH	22	1000	1500 - 130000	930	450000 - 600000	4000 L X 2500 W x 6000 H	14000
1500 LPH	29	1500	1500 - 130000	1390	450000 - 600000	4500 L X 2500 W x 6000 H	16000
2000 LPH	35	2000	1500 - 130000	1850	450000 - 600000	5000 L X 2800 W x 6500 H	18500
3000 LPH	49	3000	1500 - 130000	2800	450000 - 600000	5500 L X 3000 W x 6500 H	28000
5000 LPH	89	5000	1500 - 130000	4300	450000 - 600000	6000 L X 3500 W x 7500 H	38000

All above models are :

Inbuilt with Heat Pumps and MVR technology.

Inbuilt with CIP system.

Inbuilt with Automatic Level Sensors, Concentration Timer, Alarms and Temp Controlers

Fully automatic function: Auto Effluent Feed, Auto Condensate Discharge, Auto Concentrate Drain.

Included with Concentrator Unit.

Electrical Supply 3 Phase, Electrical source only. No external Heat source required.

Skid Mounted Ready for installation and commissioning.

Excellence Engineered

Evaporator Systems



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