



MÖJJ ENGINEERING SYSTEMS LTD.



Evaporator

**Excellence Through Innovation**

# EXPERIENCE

Over 36 years of Evaporation Experience

Over 500 Installations of Evaporator Plants Worldwide



Evaporator plants supplied in India as well as Overseas

1 Evaporators

2 Agitated Thin Film Dryers

3 Stripper Column

● Excellence through Innovation ●

## About us :

Mojj , a name synonymous with excellence & professionalism for almost two decades has over 500 installations of evaporator plants worldwide and has its head office & manufacturing unit located at Pune.



We have wide experience & in-house infrastructure to custom design, engineer, manufacture & commission the evaporator plants to suit specific needs of the customer.

Mojj is globally accepted in terms of Evaporator technology. Our wide & vast experience in supply of evaporators has enabled us to provide the best customized design for diverse capacities of small as well as MNC customer.

Based on our experience we select the right scheme of evaporators for process plants which are ideally suitable for concentrating a range of solution including highly heat sensitive liquid where original properties of the product have to be preserved & the stability of the product is vital.

We offer custom built plants which can be specially designed & sized to optimize the operation cost vis - a - vis the initial investment single or multiple effect system using falling film & forced circulation either alone or combination with ATFD or pusher centrifuge to meet product requirement.

We offer system as a package unit inclusive of preheaters, thermovapour recompressor, vapour separators ,vacuum pump,

## Why Mojj?

1] One stop shop for wide range of Evaporator products handled

- Falling Film
- Forced Circulation
- Agitated Thin Film Evaporator
- Natural Circulation

2] Most customized & thermally efficient solution provider

3] Optimum & well balanced systems are designed with simulation, programme developed in house.

4] Quality heat transfer solutions provider



MOJJ, a Single source of all types of evaporators under one roof.

## Full Range of Evaporators

### 1 Forced Circulation

They are short tube evaporators with very high velocity in tubes. They are the conventional type preferred mostly for fouling & viscous products.



### 2 Falling Film

They are long tube evaporators most suitable for low temperature applications for high thermal efficiency.

They can be used for non-fouling & non-viscous products.



### 3 Natural Circulation (Batch Type)

They are vertical fixed short tube type Calendria with inbuilt vapour separator is provided. They are conventionally preferred for high concentration.

3



4

### 4 Agitated Thin Film Evaporator / Dryer

This Agitated Thin Film Evaporator designed as film type evaporator/dryer for higher concentration where falling film and rising film evaporator cannot function and aim is to achieve thick concentrated product for example- Chawanprash.

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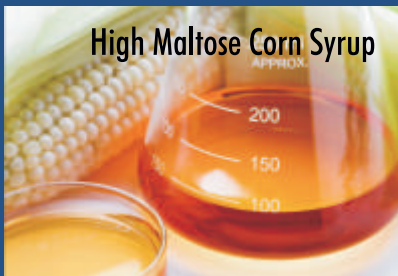
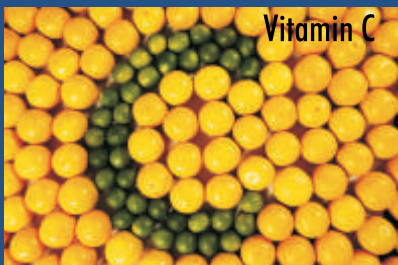
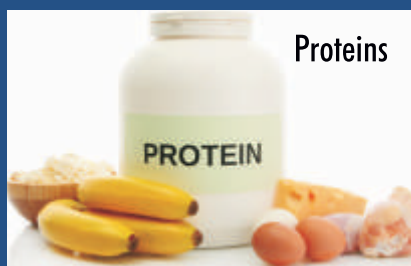
# Application of Evaporators in Industry

Based on our experience we select the right scheme of single effect or multieffect evaporator for the process plants. We built our evaporator plant in combination with Stripper Column, Agitated thin film dryer or with Pusher Centrifuge to suit each & every specific application in mind of customer.

May it be highly temperature sensitive product or highly fouling & scaling product. Or, it may be a specific requirement of reducing operating costs. All requirements are assessed and need fulfillment is incorporated at the design stage itself.

## Food & Pharmaceutical Industry

Our experience in food & pharmaceutical industries for process evaporators



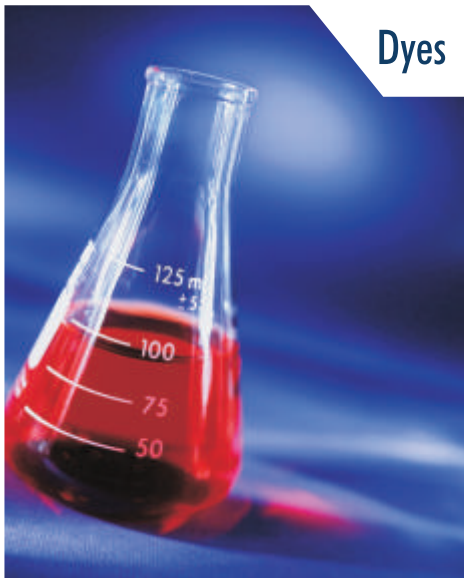
# Evaporators in Chemical Industries

Other than food & Pharmaceutical industries we have experience in chemical industries

## Dye Intermediate



## Dyes



## Calcium Chloride



## Phosphoric Acid



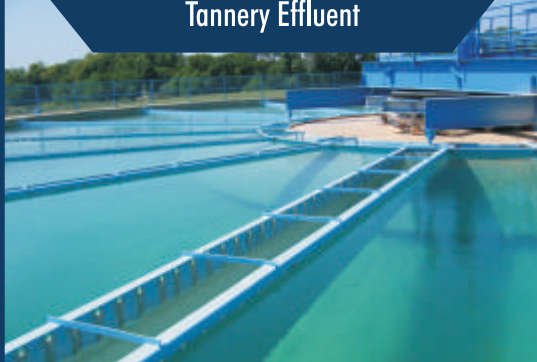
## Caustic Soda



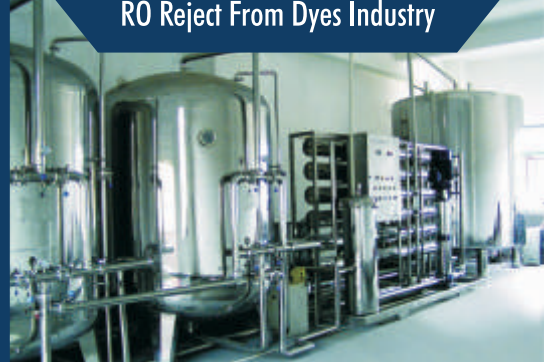
# Evaporators as Waste treatment plant

Our vast experience as waste treatment /effluent treatment plant

Tannery Effluent



RO Reject From Dyes Industry



Pharma Effluent



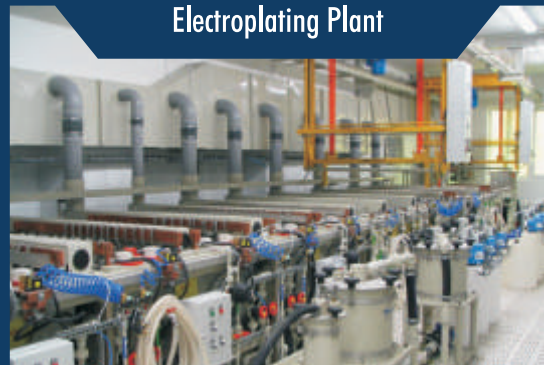
RO Reject From Automobile Industry



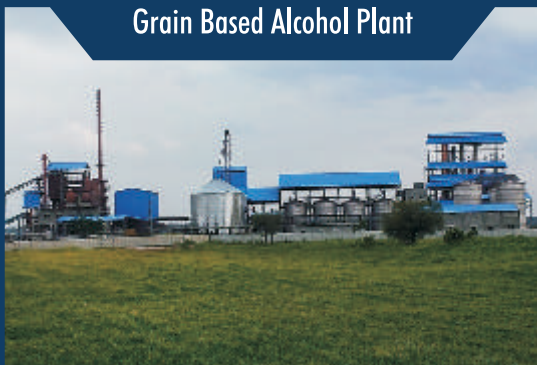
Paper & Pulp



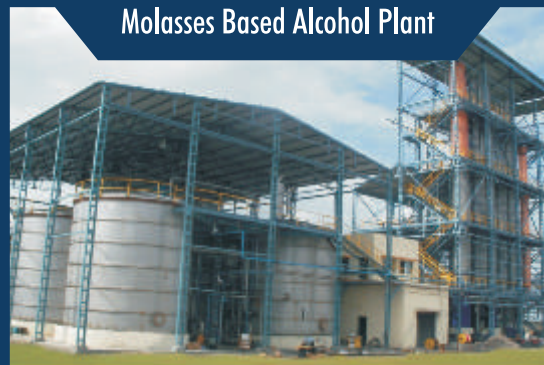
Electroplating Plant



Grain Based Alcohol Plant



Molasses Based Alcohol Plant





## Process Evaporator

The food & pharmaceutical industry generally use Falling Film evaporator which are the most efficient of all types thermally. Due to efficient liquid distributor plate design in the falling film evaporator, optimum wetting rate is continuously maintained inside the tubes and this increases the heat transfer rate. Thus finally desired concentration is achieved.

These type of process evaporators are used either with forward flow or backward flow or combination of forward & backward flow as per the nature of product.

- **Waste Treatment Evaporator Plant**

These are the appropriate combination of Falling Film & Forced circulation type evaporators which are designed optimally to deliver the best efficiencies & least operating cost.

- **Heat Recovery**

By flash pulling the outgoing streams like product & condensate, maximum heat recovery within the system is ensured & that accounts for substantial steam reduction.



## Multieffect Evaporator With Our Other Products

Depending upon the nature of product we offer various combination such as

- Multieffect evaporator with Stripper Column
- Multieffect evaporator with ATFD
- Multieffect Evaporator with Spray Dryer

With our experience in drying , evaporation & also of molasses fermentation Moiji is in a Unique position to offer customized solution for waste water to ensure zero discharge.

Combining this experience we have given large evaporators for Vinasse/ cane molasses spent wash concentration both in raw as well as Bio Methanated condition.





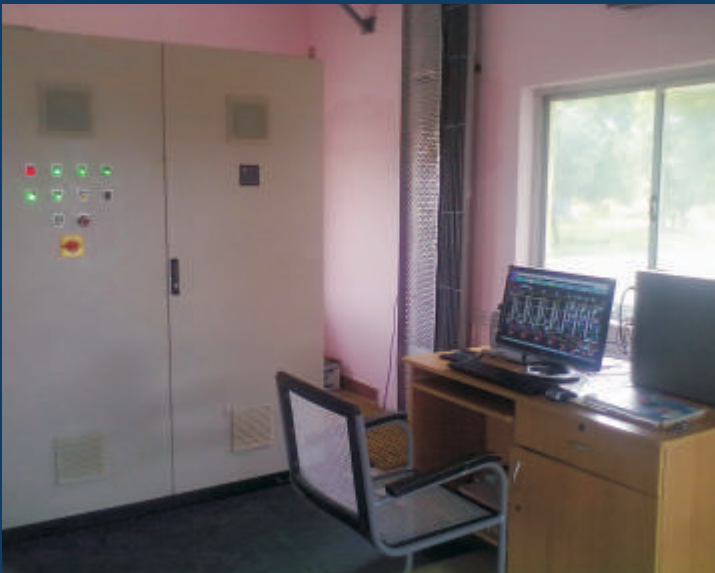
## Design Code & Material of Construction



We design all equipments & pressure vessels under code of ASME sec VIII division I. For Tubesheet we follow TEMA class C. PED certification & GMP for all pressure vessels is done as per requirement.

Our evaporators are normally manufactured in stainless steel SS304/ SS316 depending upon application. Other material like SS316L, 904L, Titanium, Hastelloy & other special materials can also be offered.

## Instrumentation



We have in house instrumentation team which provides solution for instrumentation

The performance, safety and efficiency of a evaporator system depends upon accurate monitoring & control of the operating parameters and control logic.

We offer our evaporator plants with MCC & ICP Panel/ PLC Panel with SCADA .

# Photos Of Evaporator Plants Supplied By US

Multieffect Evaporator      Mahindra & Mahindra  
( Chakan, Pune)



Divi's Laboratories  
( Hyderabad )



Multieffect Evaporator      Vishtech CETP  
(Tamilnadu)



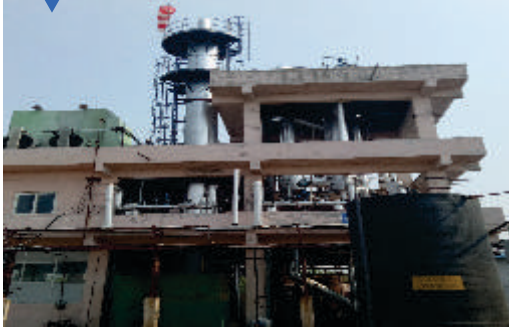
Dr. Reddy's Laboratory  
(Miryalaguda, Andhrapradesh)



Multieffect Evaporator      Haris Marine  
(Mangalore, Karnataka)



HY-GRO Chemicals Pharmtek Pvt. Ltd.  
(Bollaram, Hyderabad)





Multi-effect Evaporator

LUPIN LRP  
(Pune, Maharashtra)

Multi-effect Evaporator  
With ATFD

National Company For Sulphur  
& Products  
(Saudi Arabia)



Stripper Column  
&  
MEE with ATFD

Dr. Reddy's Laboratory  
(Srikkakulam, Andhra Pradesh)

# Mojj Philosophy

We believe and recognize the basic fact that each customer has his own specific and not so specific needs to be catered to, requirements to be met and problems to be solved. We therefore strive in giving our services suited to these specific and peculiar needs of our customer. This calls for understanding these needs and transferring them into an engineering solution. No aspect of a plant is too minor to be ignored and no process requirement too complex to be met.

## Range of Products

### Dryers

- Spray
- Fluid Bed
- Flash
- Rotary
- Conduction

### Evaporators

- Falling Film
- Forced Circulation
- Scraped Surface
- Wiped Film
- Natural Circulation

### Bio-Technology

- Fermentation and Distillation
- Composting
- Pre-Clarifiers

### Mixers

- Top Entry
- Side Entry
- Blenders
- Blungers

### Turnkey plants

- Non Dairy Creamer
- Powder Milk
- Starch
- Detergents

### Pollution Control

- Flue Gas Spray Scrubber
- Wet Scrubber
- Incinerators
- Bag Filters
- Thermal oxidiser through Anguil USA



**MÖJJ ENGINEERING  
SYSTEMS LTD.**

### **MOJJ Engineering Systems Ltd.**

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### **Email**

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### **Website**

[www.mojipune.com](http://www.mojipune.com)

### **Branch offices At**

New Delhi | Ahmedabad | Bangalore | Chennai

### **Works (India)**

Unit I : Bhosari, Pune | Unit II : Ranjangaon, Pune | Unit III : Markal (Alandi), Pune | Unit IV : Vatva, Ahmedabad

**Concept to Commissioning**