



SRI VALLABAI ENGINEERINGS

Mfrs. & suppliers of : Evaporator , ATFD

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We are doing

OUR PRODUCTS

- Evaporator
- ATFD
- Crystallizer
- Cartridge filter
- Sand filter
- Softener plant
- Parallel plate separator
- Pressure vessel
- MS & SS -Round, Square & conical Tank

SERVICES

- Evaporator Jet pump Cleaning
- Pump service
- Evaporator & ATFD Plant O & M
- Machinery Erection
- Pipe line fabrication MS,SS & GI
- Welding Inspection

SALES

- ❖ Pump
- ❖ Cooling Tower
- ❖ Evaporator Spares
- ❖ SS & MS Fittings (Bend, Flange, valve, pipe)

Comparison

For Example - **From 50 KLD MEE**

Reject 10% = 5KLD To ATFD (Agitated Thin film Dryer) or
ESEP (Elevated Solar Evaporation pan)

1. Area Requirement

Agitated Thin film Dryer (ATFD)	Elevated Solar Evaporation pan (ESEP)
14 Sq.mtr	1333 Sq.Mtr (5KL x 222.2 Sq.mtr/ = 1111Sq.Mtr + 20% Extra Area Total = 1333 Sq.mtr)

2. Project Cost

ATFD (14 sq.Mtr)		ESEP (1333Sq.Mtr)	
Full SS	Rs.36,00,000.00	Civil Construction Cost Rs.6500/Sq.Mtr	Rs.86,64,500.00
SS/MS	Rs.30,00,000.00	HDPE Sheet Rs.220/Sq.mtr	Rs.2,92,260.00
Civil Construction (MS Structural civil Column & cooling tower civil tank)	Rs.4,00,000.00	Land Value as per perundurairai Sipcot norms = Rs.740/sq.mtr	Rs.9,86,420.00
Land Value as per perundurairai Sipcot norms = Rs.740/sq.mtr	Rs.10,360.00	Total Cost = Rs.99,43,180.00	
Total cost (Full SS)	Rs.40,10,360.00		
Total cost (SS/MS)	Rs.34,10,360.00		

3. Operating Cost

ATFD (10hr/day) – 5KLD				
Power Cost	10KW/hr	100 KW/day	Rs.7.5/KW	Rs.750.00/day
Steam Cost	350kg/hr	3500kg/day	Rs.1.25/kg	Rs.4,375.00/day
Operating Cost	Nil (We can Use MEE operator for ATFD operating)			
Maintenance cost	Rs.3000/ month			Rs.100/day
Total Cost	Rs.5,225.00/day			

ESEP - 5KLD	
Power Cost	Nil
Steam Cost	Nil
Labour cost	Rs.1200/day (2 labour)
Maintenance cost	Nil
Total Cost	Rs.1,200.00/day

Advantages

ATFD (5KLD)	ESEP (5KLD)
<ul style="list-style-type: none">❖ Project cost low (40% of ESEP)❖ Low TDS to high TDS (Min 1000PPM)❖ Hardness No Limit❖ No Chemical requirement❖ Easy of operation❖ Low space❖ Less maintenance❖ Easy to handle salt removing❖ Only 10 hr Needed to achieve 5KLD ZLD❖ Weather conditions not affect process time❖ Final powder with 1% Moisture	<ul style="list-style-type: none">❖ Operating cost low

Disadvantages

ATFD (5KLD)	ESEP (5KLD)
<ul style="list-style-type: none">❖ Operating Cost High	<ul style="list-style-type: none">❖ High Capital investment❖ High Space Occupies❖ Leakages & over flow problems❖ Salt Recovery Depend up on weather conditions❖ Evaporation day time only (9AM to 5AM)❖ Final Salt with in 30 to 40% of moisture❖ It is not function rain season

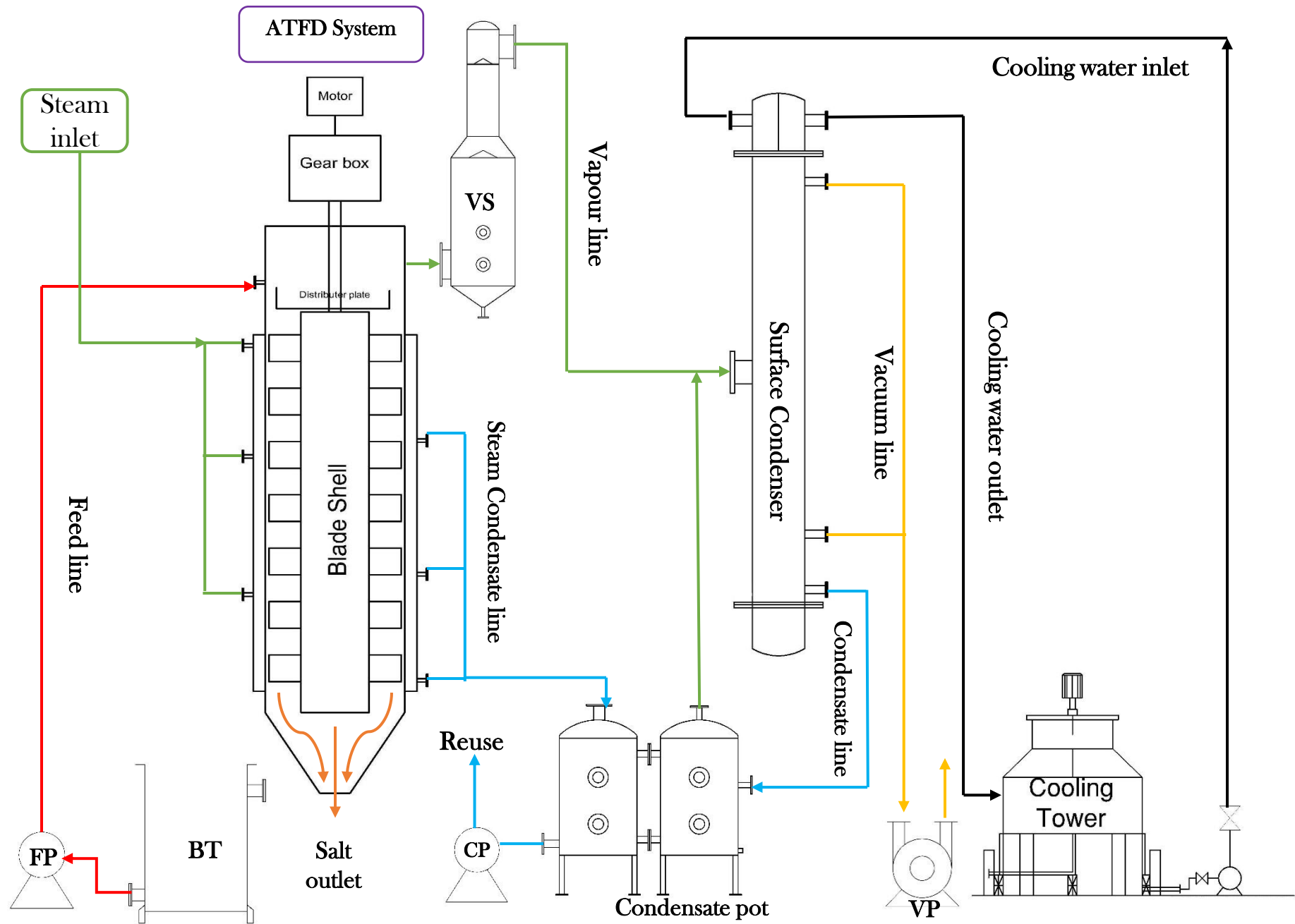
Elevated Solar Evaporation pan (ESEP)



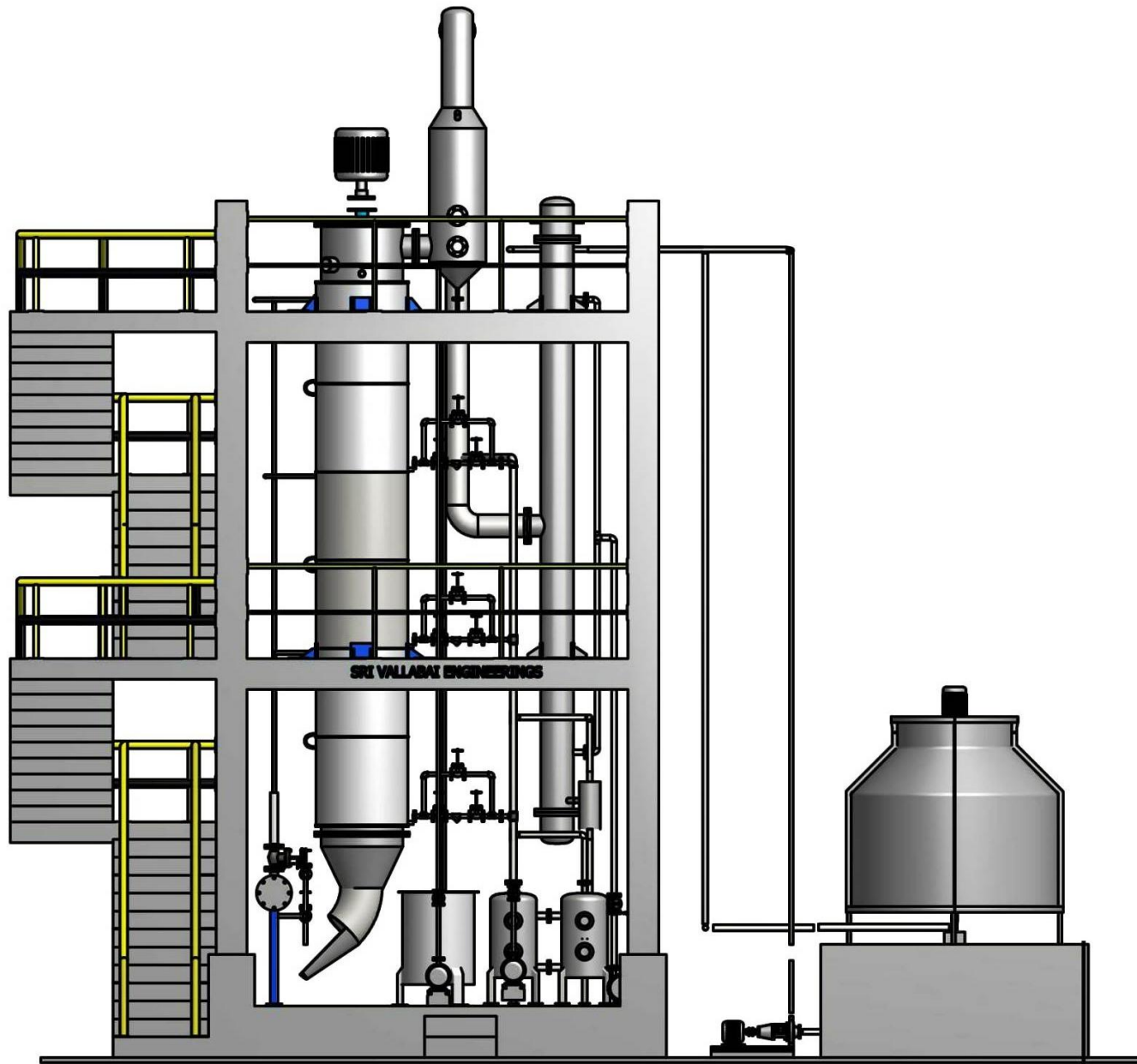
Elevated Solar Evaporation pan (ESEP)



ATFD(Agitated Thin film Dryer)



ATFD CAD Drawing



1000 LIT ATFD (PCETP)



Plant Specification

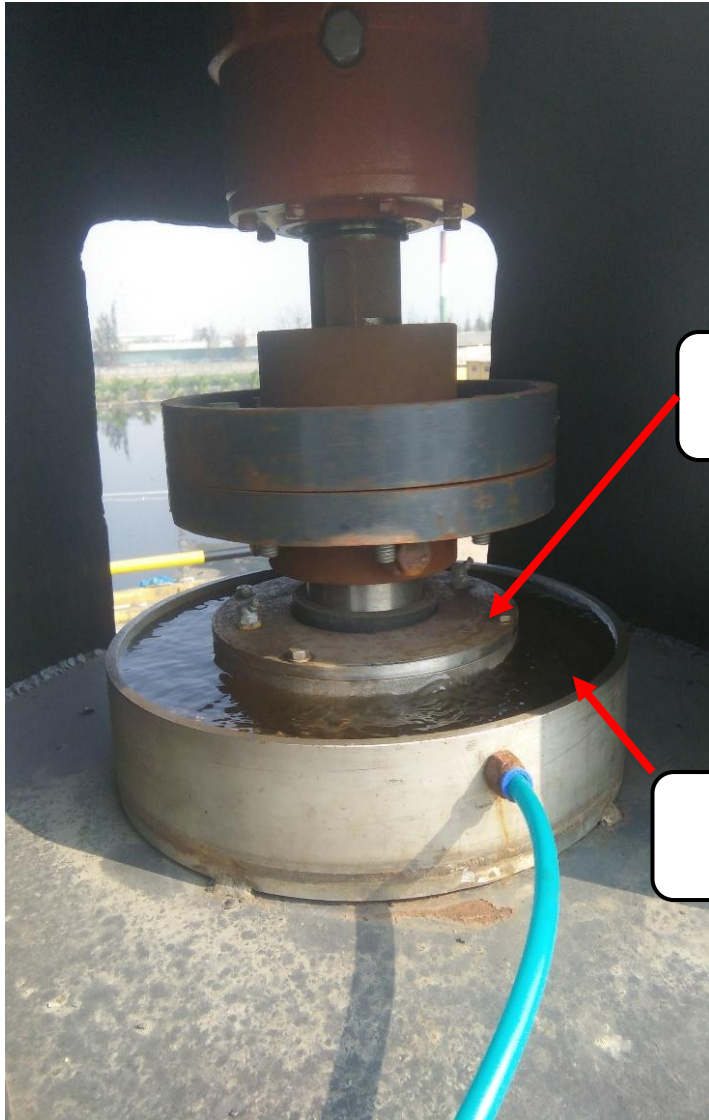
1. Feed Rate: **1000 lit/hr**
2. TDS Range: **300000PPM**
3. Steam consumption : **830 kg/hr**
4. Recovery : **700 lit/hr**
5. Reject(powder) : **295 kg/hr**
6. Condensate water TDS: **<100PPM**
7. Outlet Hardness: **10PPM**
8. Power consumption : **40HP**

ATFD MAINTENANCE

- ✓ Monthly Once Gearbox oil level checking
- ✓ Weekly Once Top & Bottom Bearing lubrication checking
- ✓ Proper Steam Trap Checkup at starting & stopping of Plant
- ✓ Every month Cooling Tower Performance Checkup

ATFD MAINTENANCE

Top



**Bearing
lubrication**

**Water
cooling**

Bottom



LIQUID SHELL



BLADE SHELL



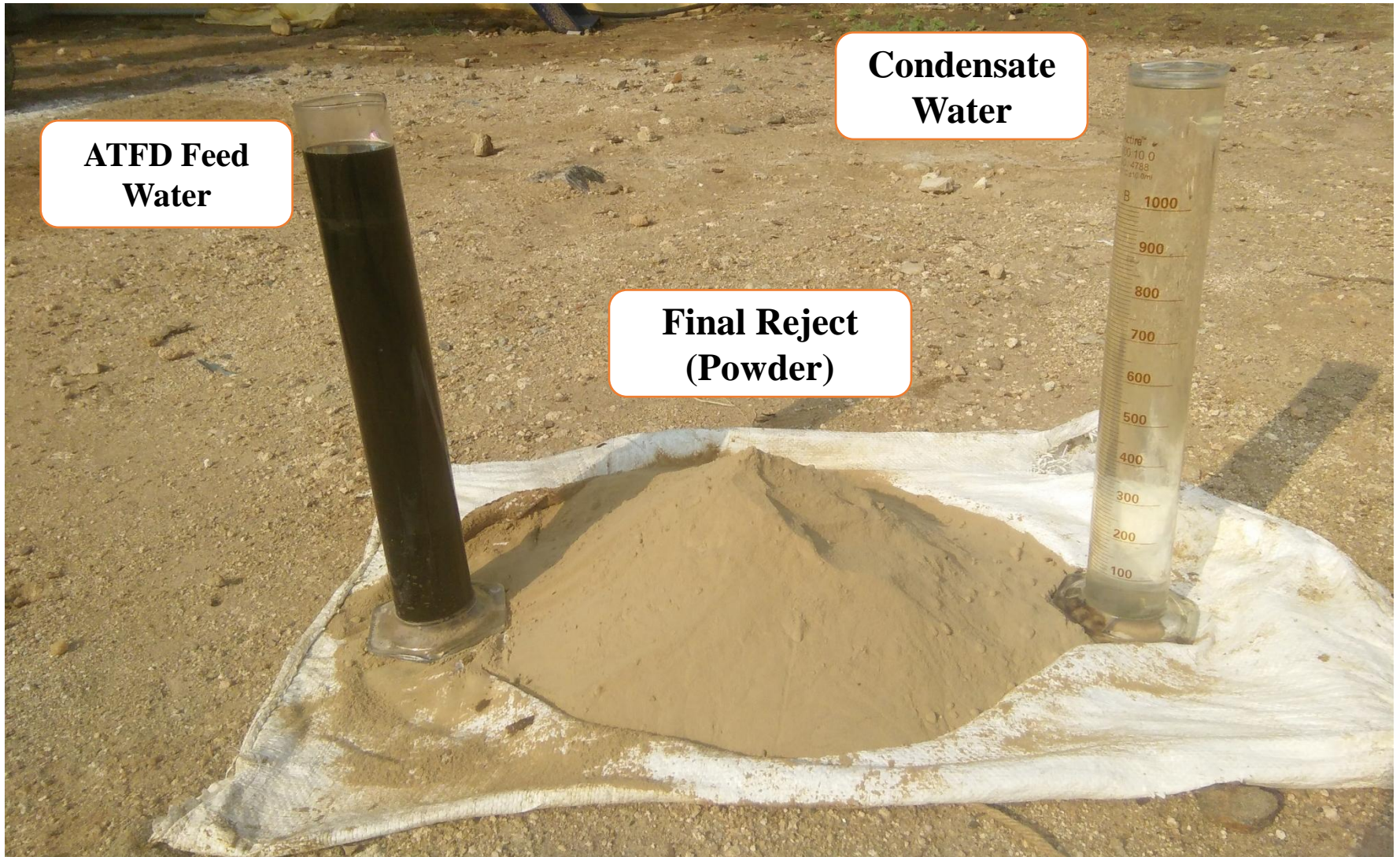
GEAR BOX SETUP



ATFD Video



Feed, Condensate water & Final powder



**ATFD Feed
Water**

**Condensate
Water**

**Final Reject
(Powder)**

Final powder Disposal



**MEE plants from 5 KLD to 120KLD
ATFD 50 to 1000 lit/hr**

MEE With ATFD 10KLD



MEE 20KLD



MEE 120 KLD With ATFD 750 lit/hr



ATFD 1000 lit/hr



MEE 40KLD



ATFD 500 lit/hr



MEE 30KLD



Cooling Condenser



Crystallizer



Sand filter

Parallel plate separator



MS & SS -Round, Square & conical Tank

Chemical storage Tank



← **STP Plant**

Thank you