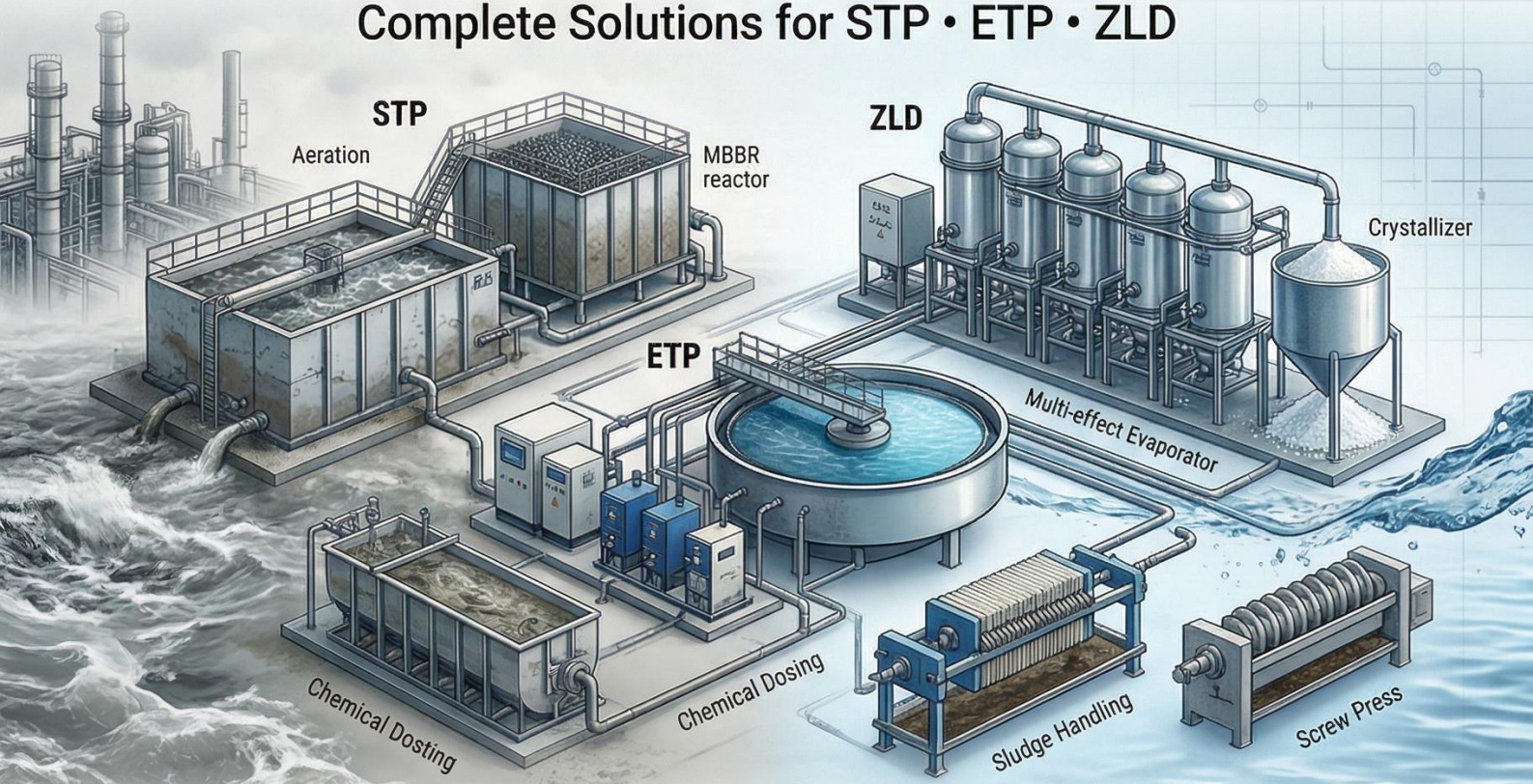




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WASTE WATER TREATMENT SYSTEMS

Complete Solutions for STP • ETP • ZLD



SYSTEM RANGE

Sewage Treatment Plants (STP)	Effluent Treatment Plants (ETP)	Zero Liquid Discharge (ZLD)	Sludge Management Systems	Process Equipment	Automation Systems
					
Turnkey EPC Solutions	Compliance Ready Systems	Automation & Control	Energy Optimized Design	Custom Engineered Plants	
Industrial Effluent	Municipal Sewage	Chemical Processing	Textile Industry	Pharma & Food	

From Waste to Reuse

Rain Power Filtration

106, Tirth Bhoomi Industrial Estate, Bakrol, Ahmedabad – 382435, Gujarat, India

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COMPANY PROFILE

ABOUT

Rain Power Filtration is an engineering-driven organization specializing in wastewater treatment solutions including STP, ETP, and ZLD systems. The company delivers complete solutions from design to commissioning with a focus on regulatory compliance, compliance, operational efficiency, and long-term reliability.

Core capability includes in-house fabrication, system integration, and automation for industrial and municipal wastewater applications.

CORE VALUES



Engineering
Discipline



Environmental
Responsibility



Quality
Commitment



Operational
Reliability



Continuous
Improvement



VISION

Vision: To deliver efficient and reliable wastewater treatment systems that meet environmental standards and support sustainable water reuse.



MISSION



Design systems based on real
effluent characteristics



Ensure compliance with
discharge norms



Deliver robust and reliable
plant performance



Optimize operational and
maintenance efficiency



ENGINEERING STRENGTH

- In-house fabrication (SS / MS / FRP)
- Experience in STP, ETP, and ZLD systems
- Integration of mechanical + chemical + biological processes
- Automation and control system capability
- Focus on compliance and performance

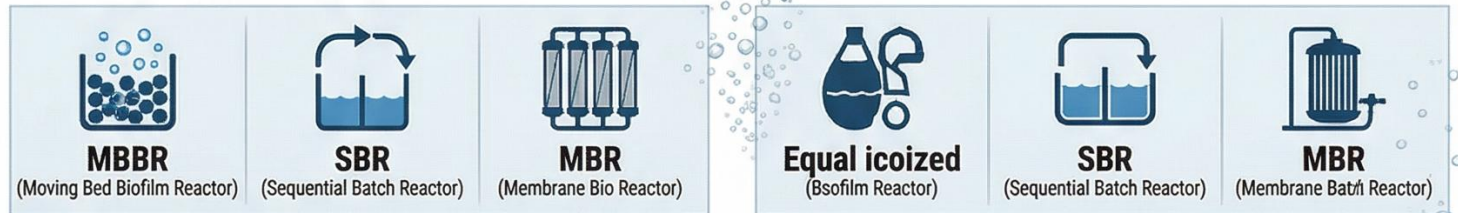
Engineered for Compliance. Designed for Performance.



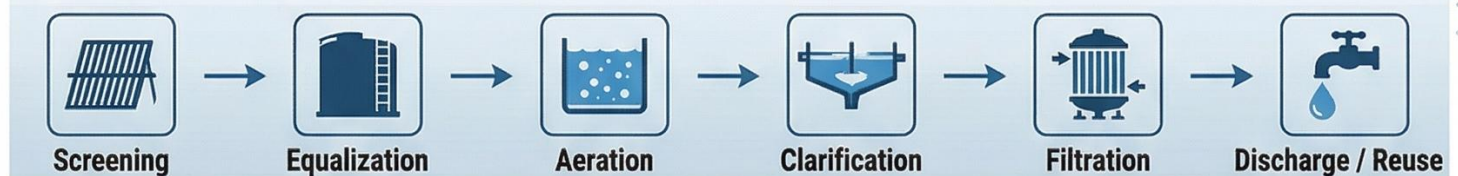
SEWAGE TREATMENT PLANT (STP)



TECHNOLOGY OPTIONS



PROCESS FLOW



SYSTEM FUNCTION

- Removes BOD / COD
- Reduces suspended solids
- Treats domestic sewage
- Produces reusable water

DESIGN OPTIONS

- Civil Constructed STP (Large-scale RCC Tanks)
- Prefabricated STP (Skid / Containerized Units)
- Modular Expandable Systems (Scalable Solutions)

TECHNICAL RANGE

- Capacity – 10 KLD to 5000+ KLD
- MOC – SS / MS / FRP / RCC
- Automation – Manual / PLC based

FABRICATION & EXECUTION

- In-house fabrication of tanks and equipment
- Prefabricated skid-mounted plant manufacturing
- Complete civil work execution available
- End-to-end EPC capability

APPLICATIONS

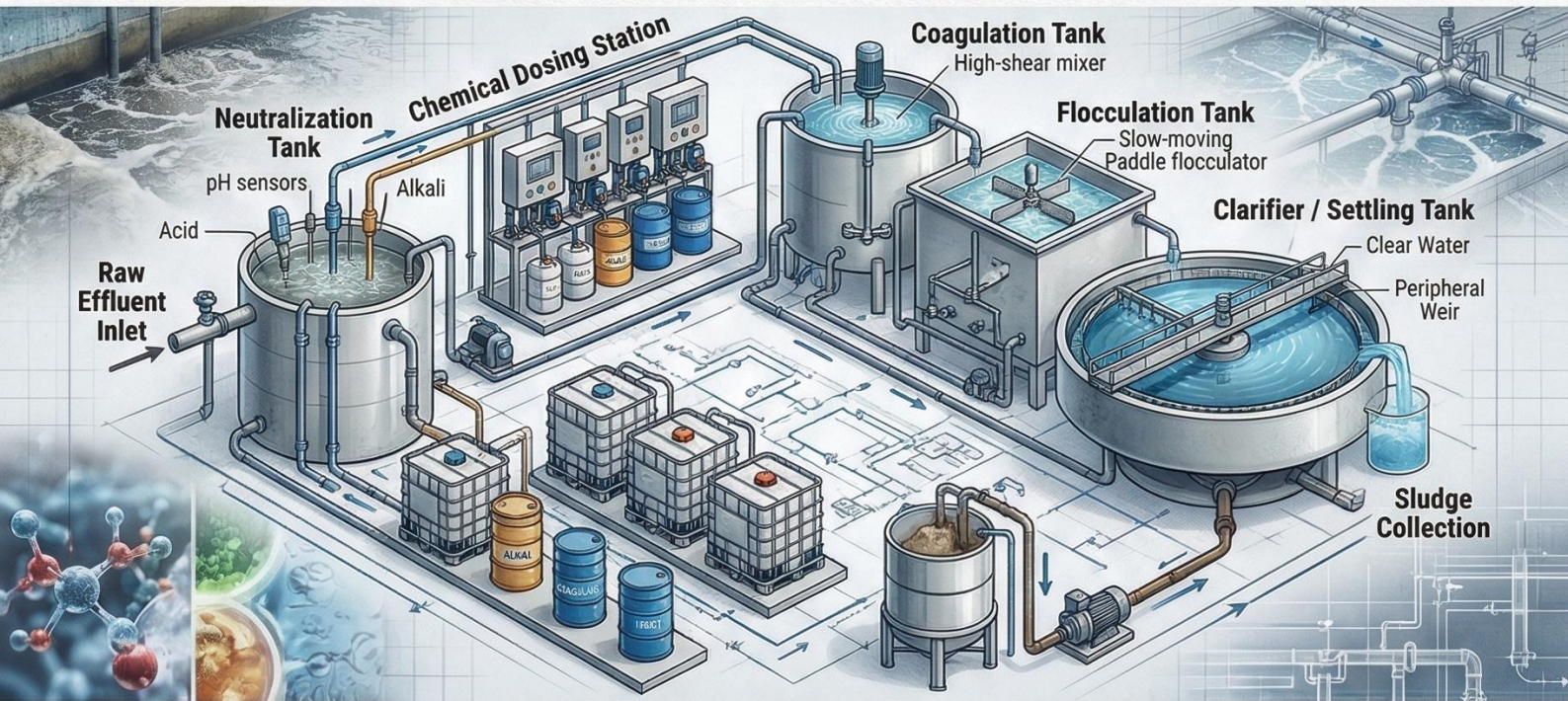


KEY FEATURES



Flexible Design. Reliable Treatment.

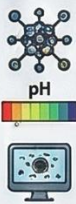
EFFLUENT TREATMENT PLANT (ETP)



PROCESS STAGES



Raw Effluent → Neutralization → Coagulation → Flocculation → Clarifier → Treated Water



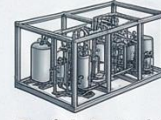
- Removes COD / BOD
- Neutralizes pH
- Removes suspended solids
- Treats industrial effluent



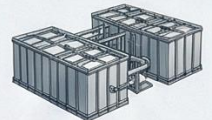
DESIGN OPTIONS



Civil Constructed ETP



Prefabricated / Skid-Mounted ETP



Modular Systems

FABRICATION & EXECUTION



In-house fabrication of tanks and skids



Complete chemical dosing integration



Civil construction capability available



End-to-end EPC execution

APPLICATIONS



Textile industry



Chemical industry



Pharmaceutical plants



Food processing



Dye & paint industries

TECHNICAL RANGE

	Capacity – 1 KLD to 2000+ KLD
	MOC – SS / MS / FRP / RCC
	Operation – Manual / Semi / Automatic

KEY FEATURES

	Handles high contamination load		Chemical treatment optimized		Scalable system
	Flexible process design				

SLUDGE HANDLING

	Sludge generation control		Integration with filter press / dewatering systems
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Designed for Complex Effluents. Built for Compliance.

ZERO LIQUID DISCHARGE (ZLD) SYSTEM

Complete Wastewater Recovery & Reuse Solution



Effluent → RO → MEE → ATFD → Solid Waste + Recovered Water

System Function

- Maximizes water recovery
- Eliminates liquid discharge
- Recovers reusable water
- Produces solid waste for disposal



Reverse Osmosis (RO)



Multi Effect Evaporator (MEE)



ATFD / Crystallizer

Design Options

- Skid-mounted modular systems
- Civil-based large capacity plants
- Hybrid ZLD configurations

- In-house fabrication of pressure vessels and piping
- Integration of thermal and membrane systems
- Civil construction capability available
- Complete EPC execution

Fabrication & Execution

- In-house fabrication of pressure vessels and piping
- Integration of thermal and membrane systems
- Hybrid ZLD configurations

Technical Range

Capacity	Recovery	MOC
10 KLD to 1000+ KLD	Up to 95%+	SS / Alloy Steel / MS

Applications

- Textile industries
- Chemical plants
- Pharmaceutical units
- Power plants
- High pollution industries

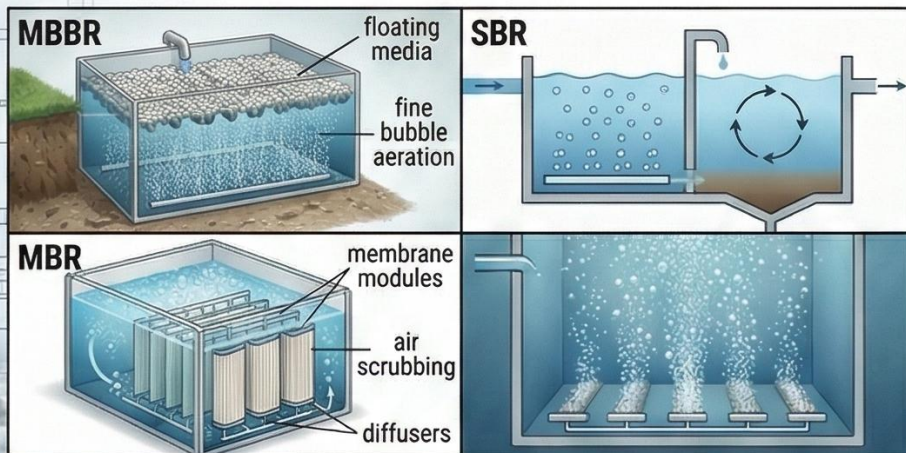
Key Features

- Zero discharge compliance
- High recovery efficiency
- Robust thermal system design
- Energy optimization options

Sludge / Salt Management

- Salt recovery
- Solid waste handling
- Integration with sludge systems

Smart Technology Selection for Efficient Wastewater Treatment



MBBR — Biofilm-based continuous system



SBR — Batch cycle treatment



MBR — Membrane-based advanced system



- Removes BOD and COD using biological processes
- Improves treated water quality for discharge or reuse

Process Selection Matrix

Condition	Recommended Technology
Low budget STP	MBBR
High-quality reuse	MBR + RO
Space constraint	SBR / MBR
High oil content	O&G + DAF
High COD industrial waste	ETP + MEE
Zero discharge required	ZLD
Fluctuating load	Equalization + SBR
Pharma / chemical	ETP + RO + EDI

Technology Comparison

Parameter	MBBR	SBR	MBR
Process Type	Continuous	Batch	Membrane + Bio
Footprint	Medium	Medium	Compact
Output Quality	Moderate	Good	Very High
TSS Removal	Medium	High	Near Zero
Automation	Low-Medium	Medium-High	High
Capex	Low	Medium	High
Opex	Low	Medium	Medium-High
Best Use	Budget STP	Variable Load	High Reuse

Quick Decision **MBBR** → Cost-effective **SBR** → Flexible **MBR** → Premium quality

Process Flow Equalization → Biological Treatment → Clarification → Filtration

Key Features

- Flexible technology selection
- Handles load variation
- Scalable design
- Efficient biological performance

Applications

- Sewage treatment
- Industrial wastewater
- Mixed effluent systems
- Reuse applications

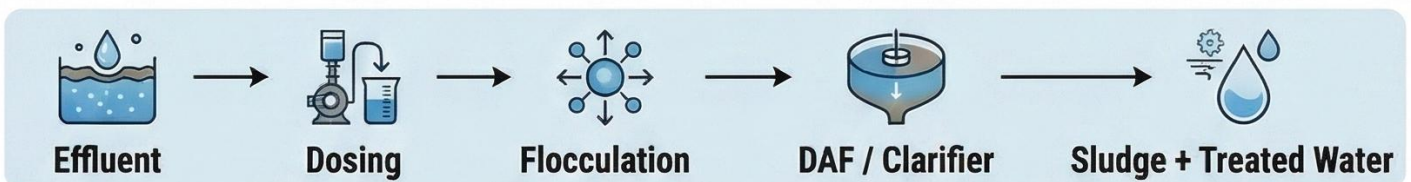
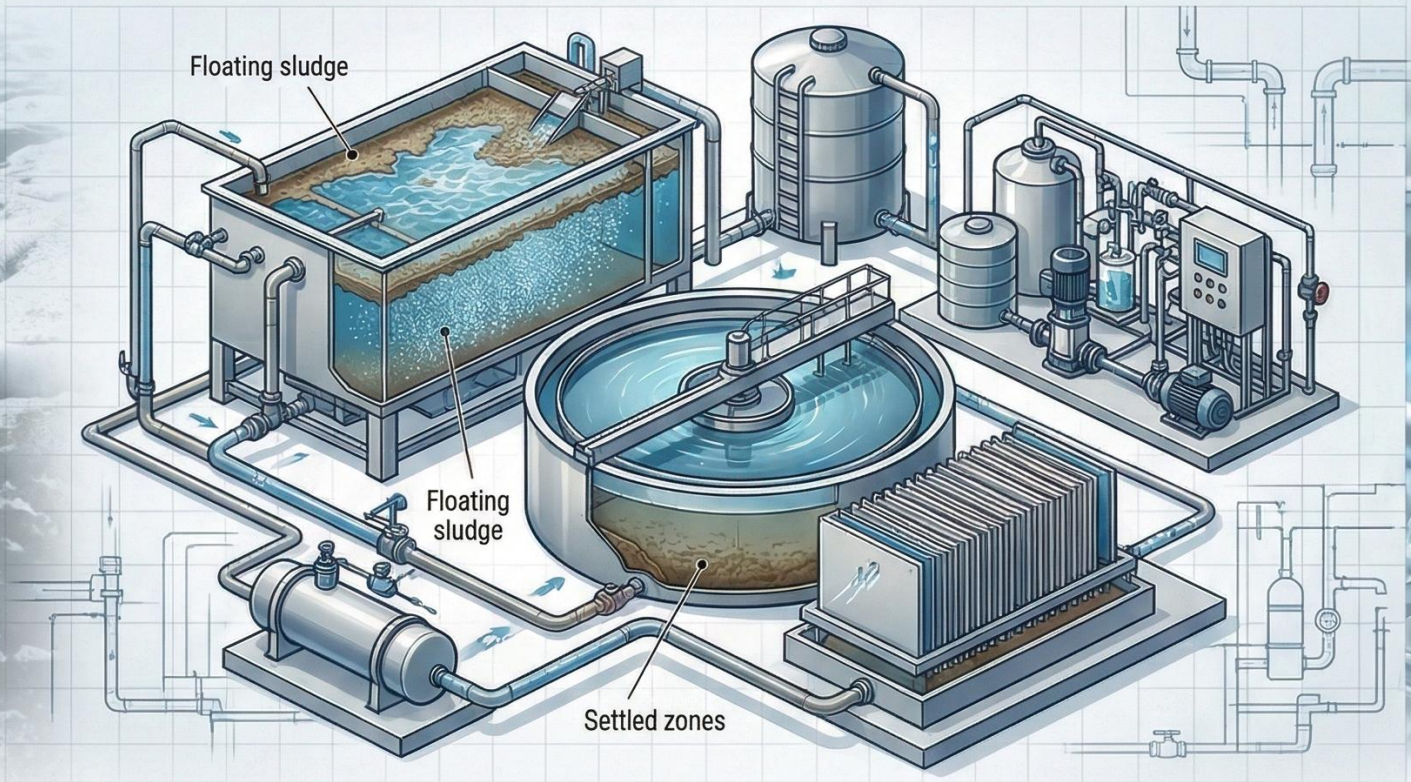
Engineering Advantage

Correct technology selection ensures performance stability, cost efficiency, and regulatory compliance

Right Technology. Right Performance.

PHYSICAL & CHEMICAL TREATMENT SYSTEMS

Primary Treatment for Industrial Wastewater



- | | | | |
|--|---|---|--|
|  System Function <ul style="list-style-type: none"> Removes oil & grease Removes suspended solids Reduces turbidity Prepares water for biological treatment |  Key Components <ul style="list-style-type: none"> Chemical dosing system Flocculation tank Air saturation system (DAF) Sludge skimmer Clarifier mechanism |  Applications <ul style="list-style-type: none"> Textile wastewater Chemical industries Food processing Oil & grease removal Pharma effluent |  Key Features <ul style="list-style-type: none"> Effective primary treatment Handles high contamination load Compact systems (lamella) Scalable design |
|--|---|---|--|

Technical Range

Capacity	— 1 KLD to 2000+ KLD
MOC	— SS / MS / FRP
Operation	— Manual / Automatic



Sludge Handling Link

Generated sludge directed to dewatering systems (filter press / centrifuge)

Engineering Note

Correct chemical dosing and floc formation are critical for system performance

Strong Primary Treatment. Stable Downstream Performance.

SLUDGE MANAGEMENT SYSTEMS

Efficient Sludge Dewatering & Disposal Solutions



SYSTEM OVERVIEW



Filter Press —
High dryness
cake



Screw Press —
Continuous
operation



Centrifuge —
High-speed
separation



Wave Separator —
Primary sludge
separation

PROCESS FLOW



Sludge



Thickening



Dewatering



Cake Disposal

◆ FILTER PRESS

- Batch operation
- High solid recovery
- Dry sludge cake output

◆ SCREW PRESS

- Continuous dewatering
- Low power consumption
- Compact design

◆ CENTRIFUGE

- High-speed separation
- Suitable for fine sludge
- Automated operation

◆ WAVE SEPARATOR

- Primary sludge separation
- Removes coarse solids
- Pre-treatment stage

TECHNICAL RANGE

Capacity —	1 m ² /hr to 100 m ² /hr	Operation —
Moisture Reduction —	Up to 70–90% dryness	Manual / Semi / Fully Automatic

APPLICATIONS

- STP sludge
- ETP sludge
- Chemical sludge
- Industrial waste solids

KEY FEATURES

- ⌚ Reduces sludge volume
- ✈ Easy disposal
- 📈 Improves plant efficiency
- 🔄 Continuous / batch options available



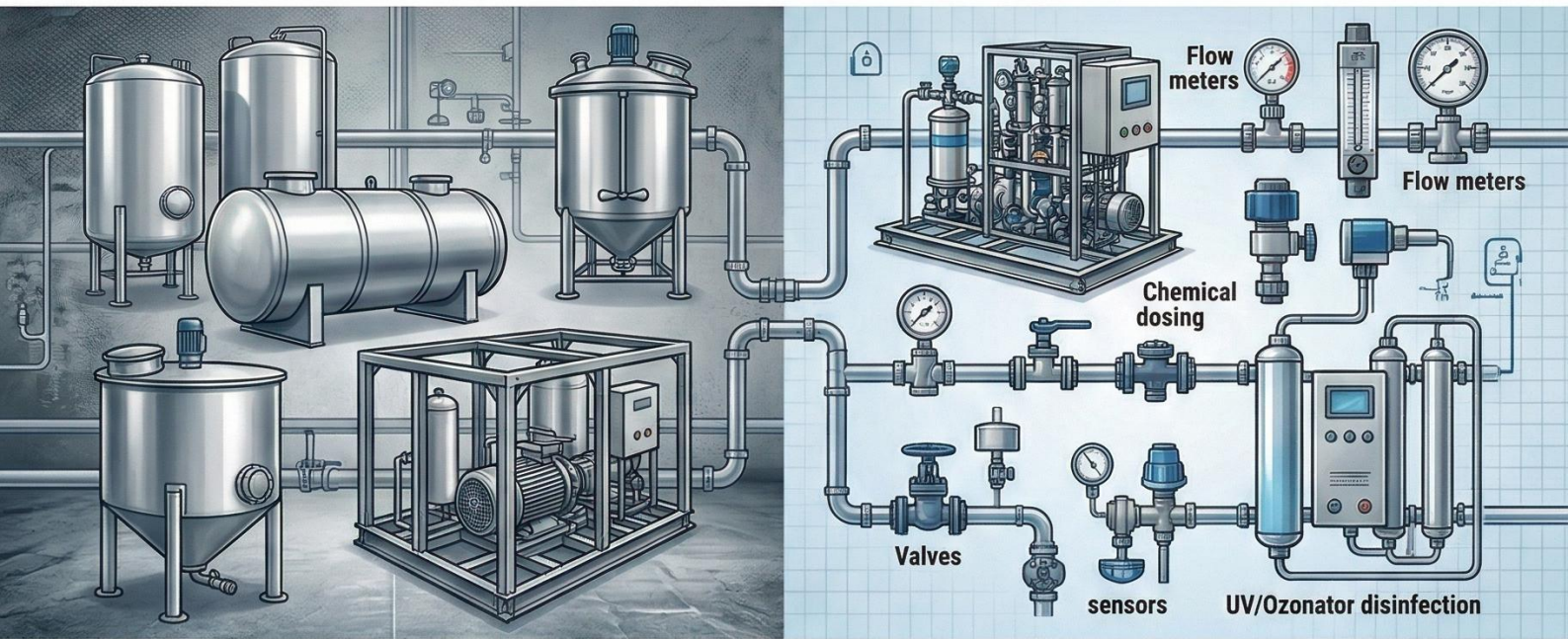
SYSTEM INTEGRATION

Compatible with STP, ETP and ZLD systems for complete waste management.

From Sludge to Solid Waste — Complete Handling Solution

PROCESS EQUIPMENT, INSTRUMENTS & COMPONENTS

Complete Mechanical & Control Integration for Treatment Systems



PROCESS EQUIPMENT

Equipment Range

- Storage Tanks
- Process Tanks
- Mixer & Agitator Tanks
- Hopper Bottom Tanks
- Skid Structures

Design Flexibility

- Vertical / Horizontal
- Round / Rectangular / Square
- Custom-built systems

MOC Options

- SS304 / SS316

INSTRUMENTS & COMPONENTS

Systems Covered

- Dosing Systems
- Flow Meters
- Pressure Gauges
- Valves & Sensors
- UV Systems
- Ozonators

Function

- Measurement
- Control
- Disinfection
- Disinfection
- Automation support

TECHNICAL RANGE CENTER

Capacity — 100 L to 100,000+ L **Pressure** — Atmospheric to design-based **Automation** — Manual / PLC based

APPLICATIONS STP / ETP / ZLD, Industrial wastewater, Chemical processing, Water treatment plants

Equipment → Instrumentation → Control → System Performance

KEY FEATURES

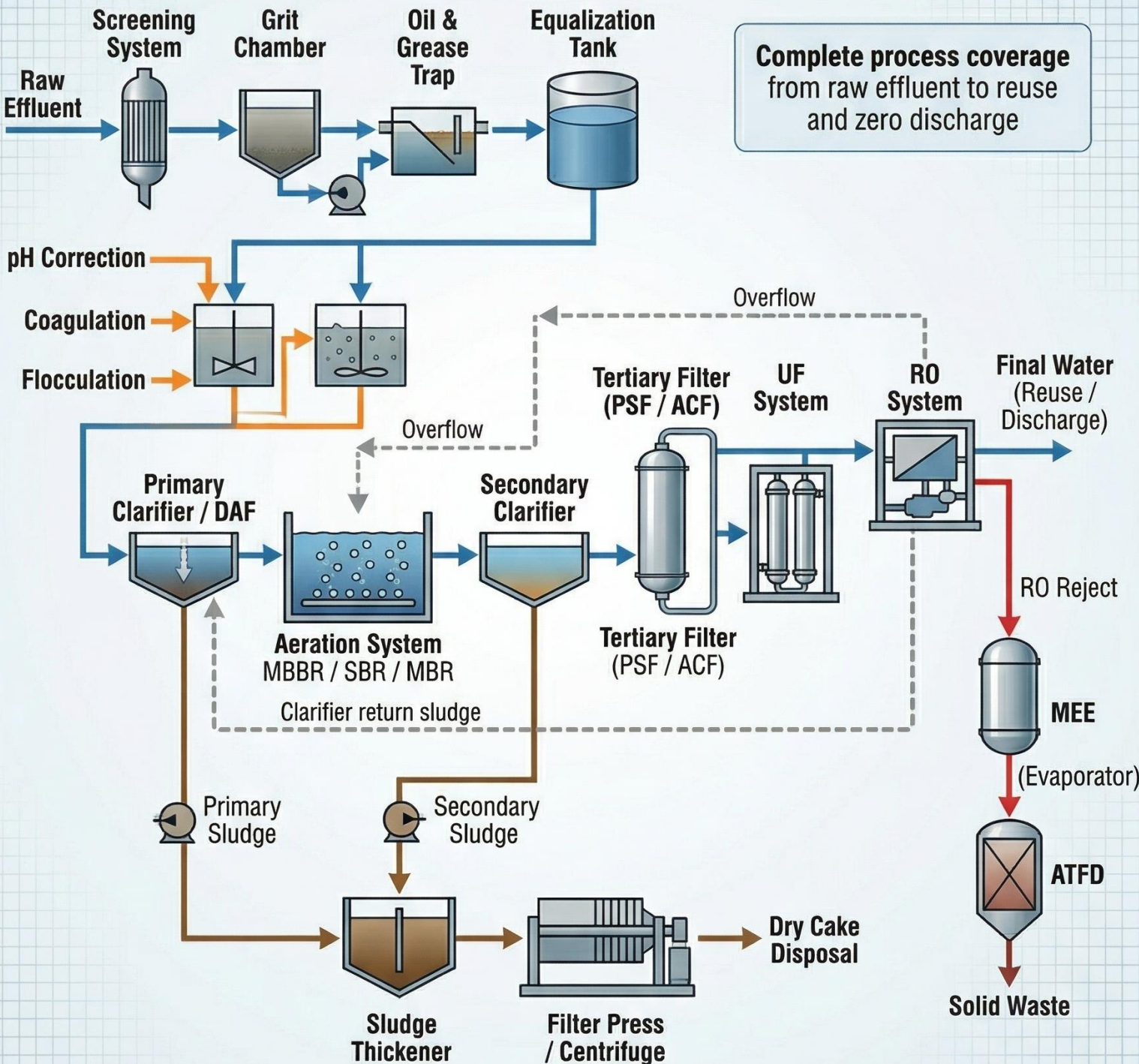
- In-house fabrication
- Accurate instrumentation
- Complete system integration
- Reliable performance

Mechanical strength + control precision ensures stable plant operation

Built to Perform. Controlled to Perfection.

PROCESS FLOW DIAGRAM – WASTE WATER TREATMENT SYSTEM

STP • ETP • ZLD Integrated Process Flow

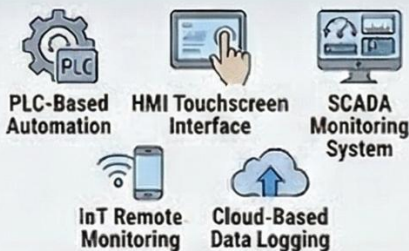


Engineered Process. Complete Treatment.



CONTROL, AUTOMATION & SMART MONITORING SYSTEMS

Intelligent Plant Control with Real-Time Data & Automation



CONTROL PANEL SYSTEMS



ONLINE ANALYZERS (SMART MONITORING)

COD Analyzer – Organic load tracking
BOD Analyzer – Biological monitoring
pH Meter – Process control
TSS Analyzer – Solids monitoring
Turbidity Meter – Clarity measurement

INSTRUMENTATION SYSTEMS

- Flow Meters
- Pressure Sensors
- Level Sensors
- Dosing Control Systems

AUTOMATION FUNCTION

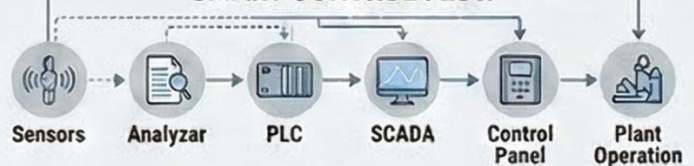


- Real-time data acquisition
- Automated process control
- Remote system monitoring
- Alarm and fault detection
- Data logging and reporting

ADVANCED AUTOMATION

Integration of PLC, SCADA, IoT, and analyzers enables fully automated, data-driven plant operation with minimal manual intervention.

SMART CONTROL FLOW



KEY FEATURES

- Fully automated plant
- Remote monitoring (mobile / desktop)
- Real-time alerts and alarms
- User-friendly HMI interface
- High accuracy and reliability

APPLICATIONS

- STP / ETP / ZLD plants
- Industrial wastewater systems
- Process industries
- Smart water infrastructure

ENGINEERING ADVANTAGE

In-house panel manufacturing with complete automation integration ensures better control, faster response, and reliable plant performance.

Automate the Process. Control the Performance.





ENGINEERED SOLUTIONS. RELIABLE PERFORMANCE.



Complete wastewater treatment solutions from design to commissioning
Integrated engineering, fabrication, automation, and execution
Reliable systems built for long-term performance



Design &
Engineering



Manufacturing
& Fabrication



Installation &
Commissioning



Automation
& Control



AMC &
Support

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From Wastewater to Reusable Resource

