

INTAKE FACILITY

취수설비



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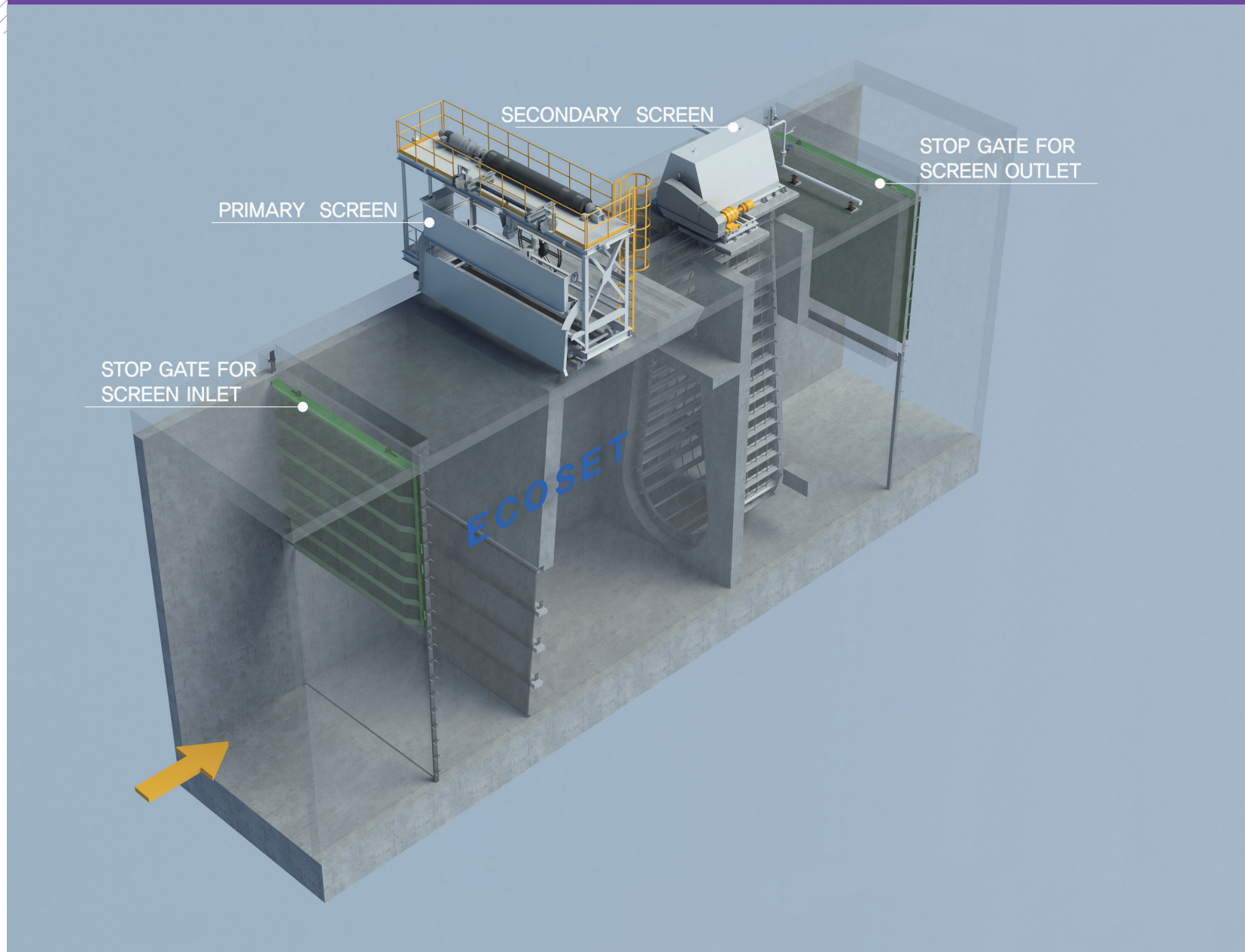
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INTAKE FACILITY

취수설비



■ 취수설비(Intake Facility)는 발전플랜트, 석유화학플랜트, 담수 및 산업설비에서 주요기기를 포함한 설비에 냉각수를 공급하는 설비로써, 유입되는 냉각수내의 불순물이나 협잡물(Debris)을 제거하는 설비입니다.

취수설비(Intake Facility System)는 Screen System, Screen Wash Water System, Screen Waste Water System 그리고 Auxiliary Supporting System으로 구성되어 있으며, Screen System의 경우 Primary Screen과 Secondary Screen으로 나뉘어져 2차에 걸쳐 부피가 큰 협잡물과 작은 협잡물을 순차적으로 제거합니다. 또한 Screen System의 보조 장치인 Stoplog는 Screen Bay와 Pump Bay 내의 해수 유입을 차단하여 Screen 설비 및 Pump의 유지보수에 사용됩니다.

Screen Wash Water System은 강한 세척수를 이용하여 Secondary Screen의 Wire Mesh Panels에 붙은 끈적한 이물질 제거하며, 동시에 Trash Pit로 제거된 협잡물을 이송하는 설비입니다.

Screen Waste Water System은 Trash Pit에 걸러진 이물질에서 협잡물만 분리하여, Hoist나 Cargo등으로 배출하는 설비입니다.

Auxiliary Supporting System은 전기, 계장을 이용한 자동 운영을 공급하며, 방식설비는 해수내 설비 부식 방지에 적용됩니다.

■ Intake Facility System is the system that removes debris from the cooling water, which is supplied to industrial plants such as thermal power plant, petrochemical plant, desalination plant and industrial plant.

Intake Facility System consists of screen system, screen wash water system, screen waste water system, and auxiliary supporting system. Consisting of Primary Screen and Secondary Screen, Screen System removes large and small debris in series.

Also, the auxiliary device, Stoplog, shuts off the influent of seawater within Screen Bay and Pump Bay and it is used when screen system and pump are under maintenance.

Screen Wash Water System uses high-pressure water to remove sticky substances that are adhered to the wire mesh panels on the Secondary Screen and transports the raked debris to Trash Pit simultaneously.

Screen Waste Water System separates debris from Trash Pit and discharge them by hoist or cargo.

Auxiliary Supporting System is operated automatically with power supply and instrumentation, and it is used in order to prevent corrosion.

1. Screen System

Primary Screening Device

- Trash Rake Bar Screen
- Revolving Rake Bar Screen
- Rotary Bar Screen
- Movable Gripper Bar Screen

Secondary Screening Device

- TWS (Through Flow Type)
- TBS (Center Flow Type)
- TBS (Dual Flow Type)
- Drum Screen (Single / Double Entry)

Stop Gate & Logs / Manual & Motorized Sluice Gate Storage Stand

2. Screen Wash Water System

Piping & Support,
MOV & Valves,
Pump and Strainer,
Trash Container

3. Screen Waste Water System

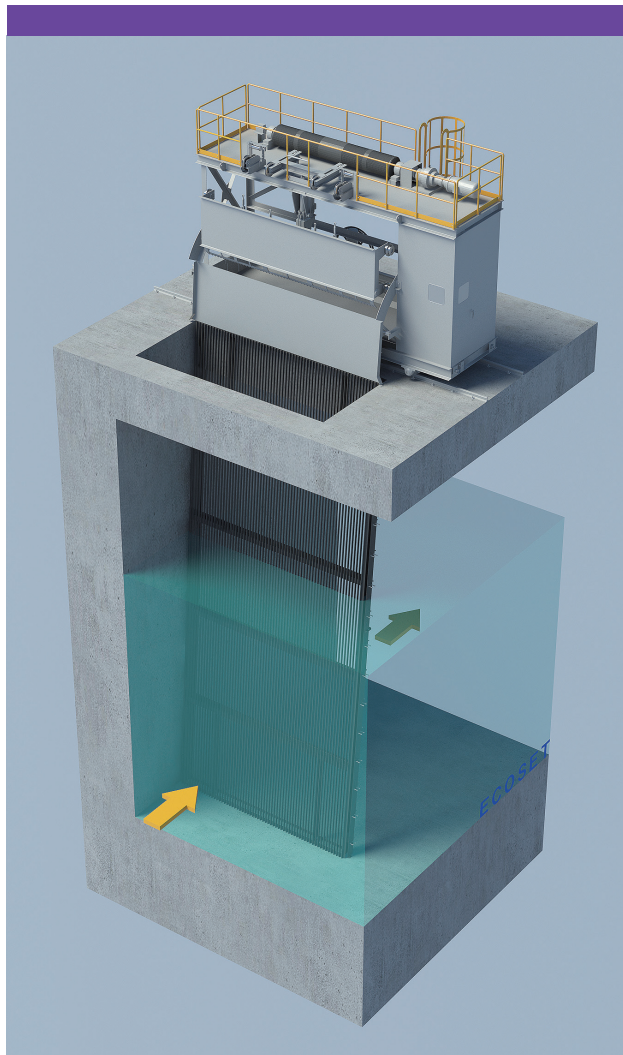
Piping & Support,
MOV & Valves,
Pump. Hoist / Monorail / Cargo.

4. Auxiliary Supporting System

Electrical & Instrument System /
Cathodic Protection System

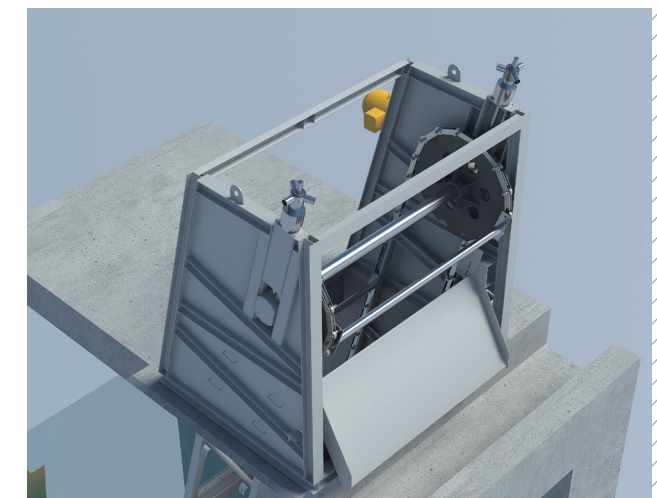
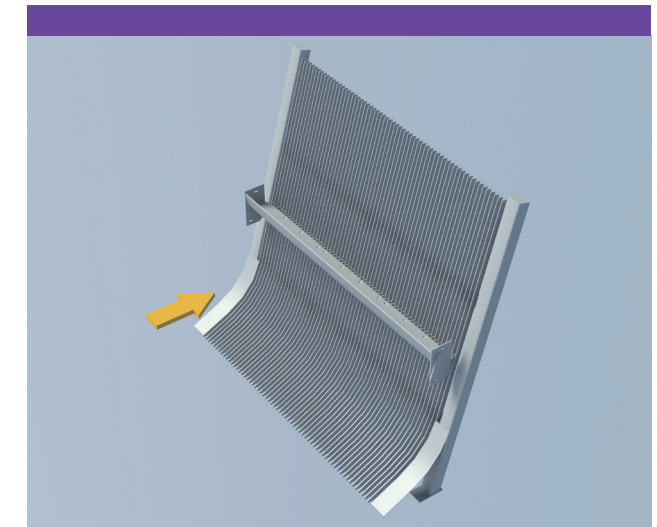
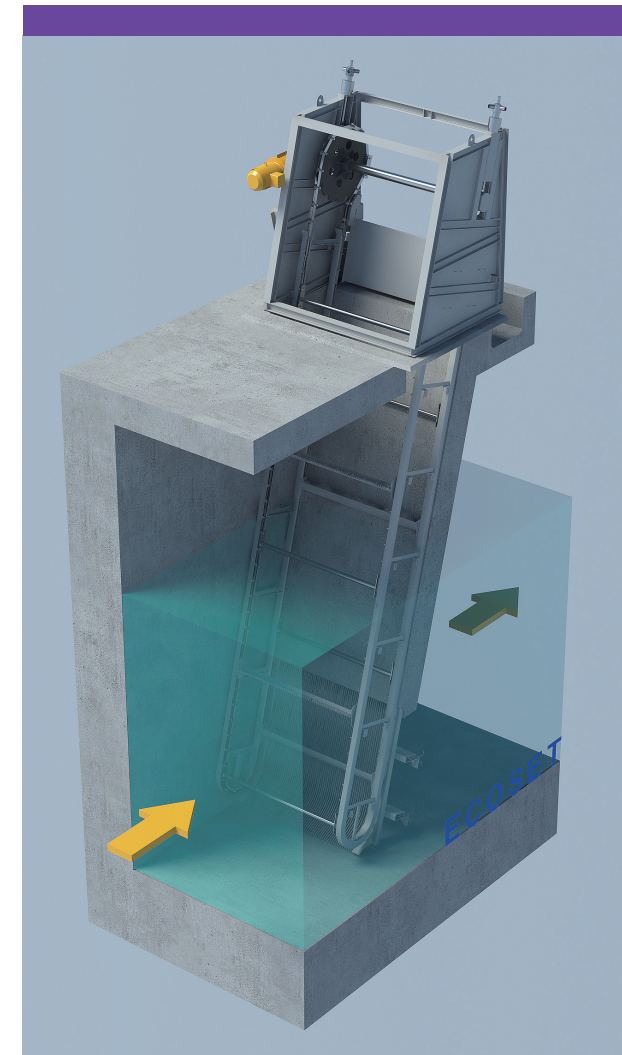
Primary Screening Device

TRASH RAKE BAR SCREEN



Primary Screening Device

REVOLVING RAKE BAR SCREEN



Design Data	
TYPE	Trash Rake Bar Screen
Bar Space	30~100mm
Number of Rakes per Screen	1ea
Diameter of wire rope	8~14mm
Angle of Inclination	75~80deg.
Rotating Speed	9m/min
Max. Allowable Head	1~2mWC

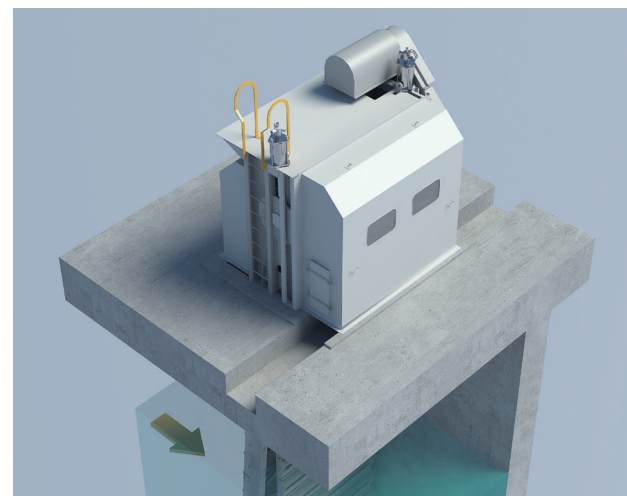
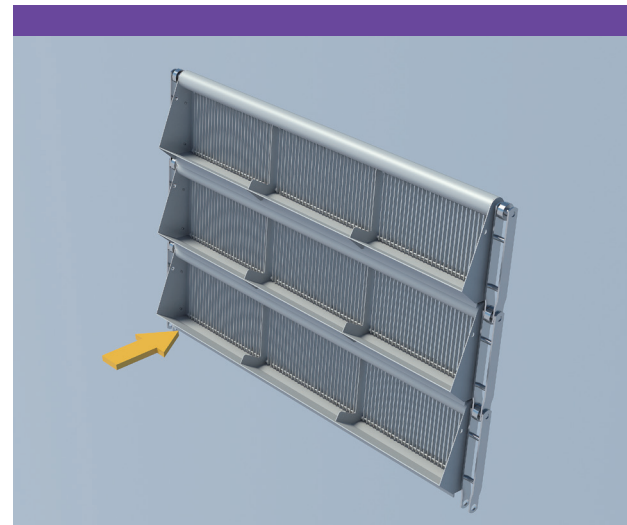
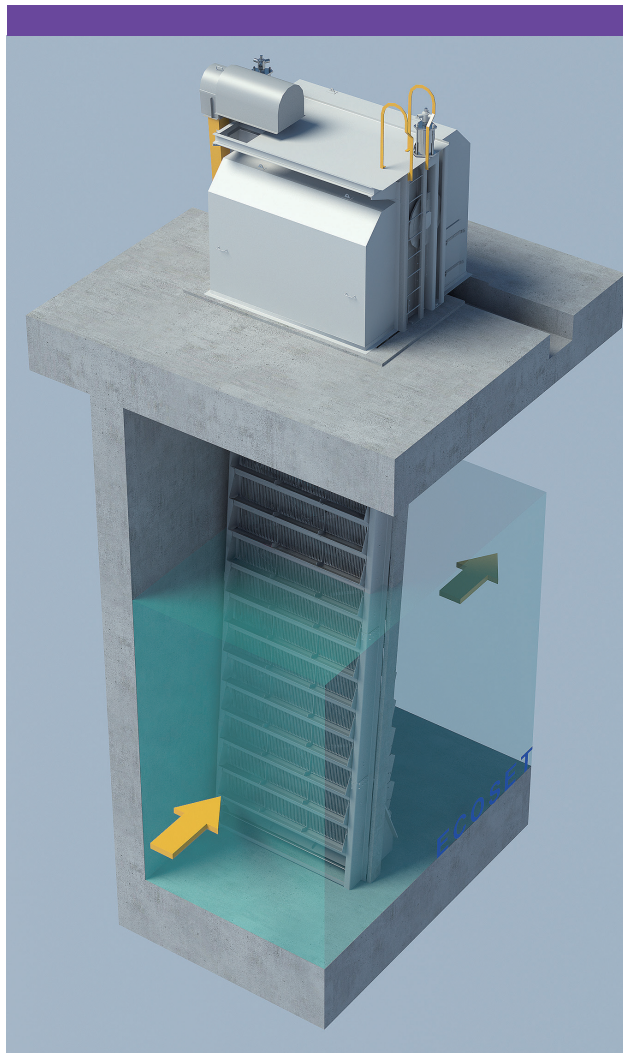
Component	
• Frame Ass'y	• Ladder & Handrail
• Hoisting Ass'y	• Operating Room
• Traversing Unit Ass'y	• Cable Reel Ass'y
• Rake Ass'y	• Control Panel Ass'y
• Rake Way Ass'y	• Bar Screen Ass'y
• Fixed Arm Ass'y	
• Lifting Arm Ass'y	

Design Data	
TYPE	Revolving Rake Bar Screen
Bar Space	10~50mm
Number of Rakes per Screen	8ea
Pitch of Carrying Chain	250mm
Angle of Inclination	75~80deg.
Rotating Speed	Low : 3~6m/min High : 6~12m/min
Max. Allowable Head	1~2mWC

Component	
• Drive Unit Ass'y	• Distance Pipe Ass'y
• Guide Ass'y	• Support Frame
• Head Shaft Ass'y	• Bar Screen Ass'y
• Chain Ass'y	• Chute
• Rake Ass'y	

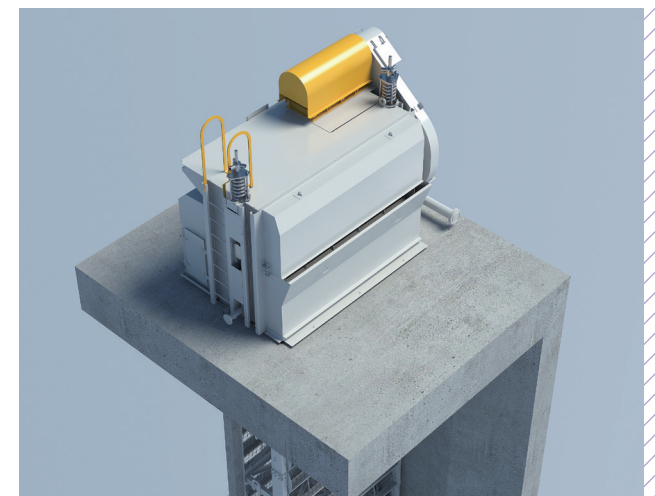
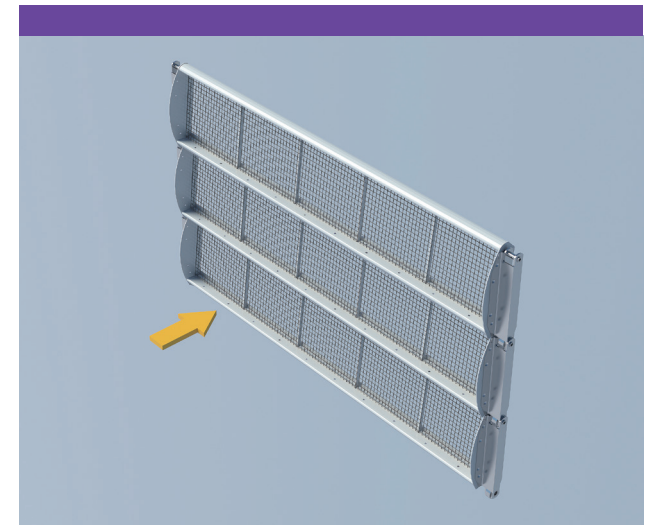
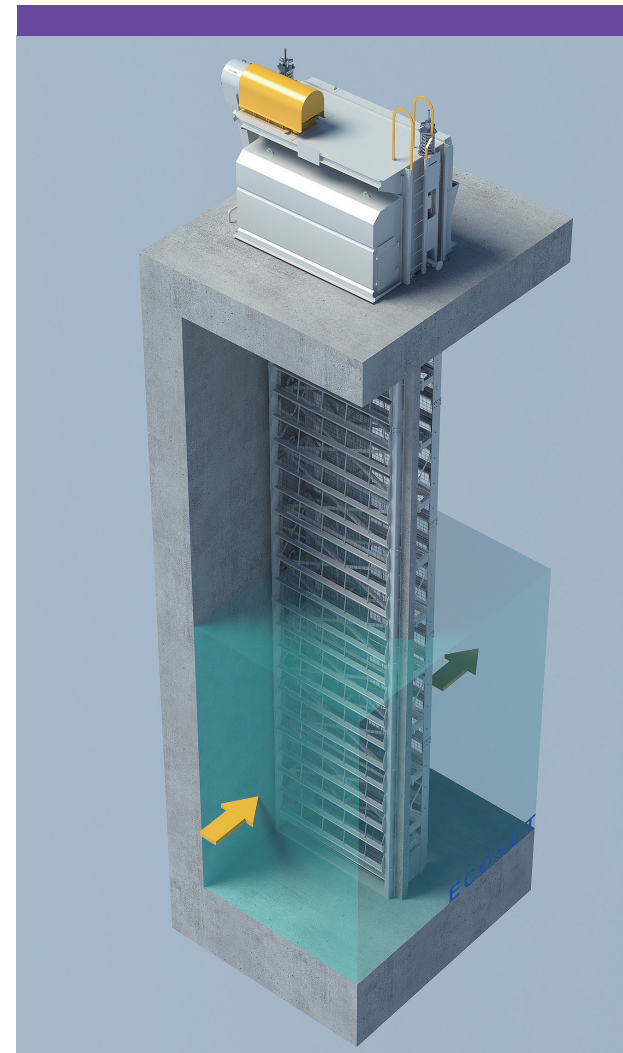
Primary Screening Device

ROTARY BAR SCREEN



Secondary Screening Device

TWS (Through Flow Type)



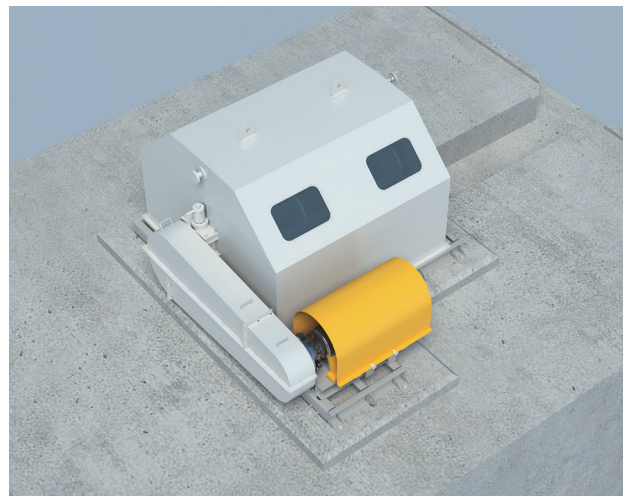
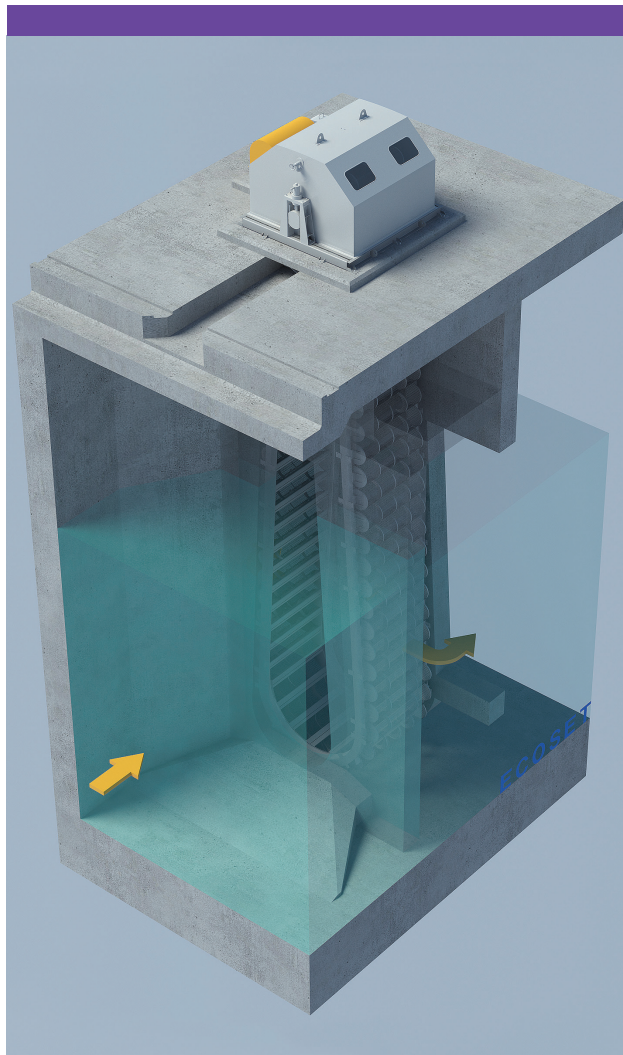
Design Data	
TYPE	Rotary Bar Screen
Bar Space	10~50mm
Pitch of Carrying Chain	600mm
Angle of Inclination	80~85deg.
Rotating Speed	Low : 3~6m/min High : 6~12m/min
Max. Allowable Head	1~2mWC

Component	
• Drive Unit Ass'y	• Middle Frame Ass'y
• Head Shaft Ass'y	• Boot Section Ass'y
• Foot Shaft Ass'y	• Front Splash Housing Ass'y
• Basket Ass'y	• Rear Splash Housing Ass'y
• Carrier Chain Ass'y	• Drive Chain Guard Ass'y
• Head Section Ass'y	• Spray Pipe Ass'y
• Upper Frame Ass'y	

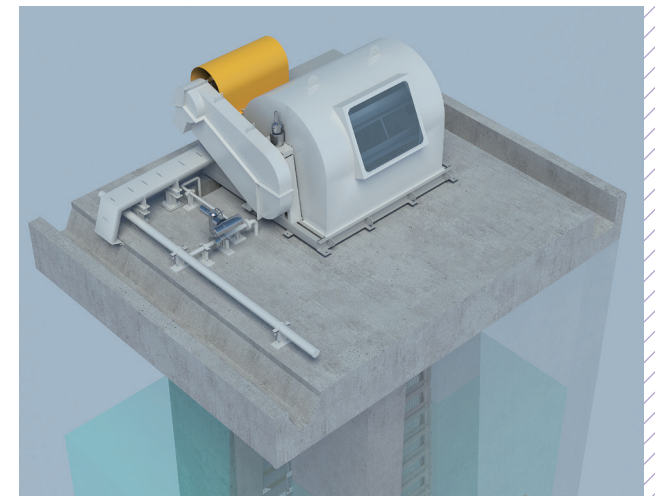
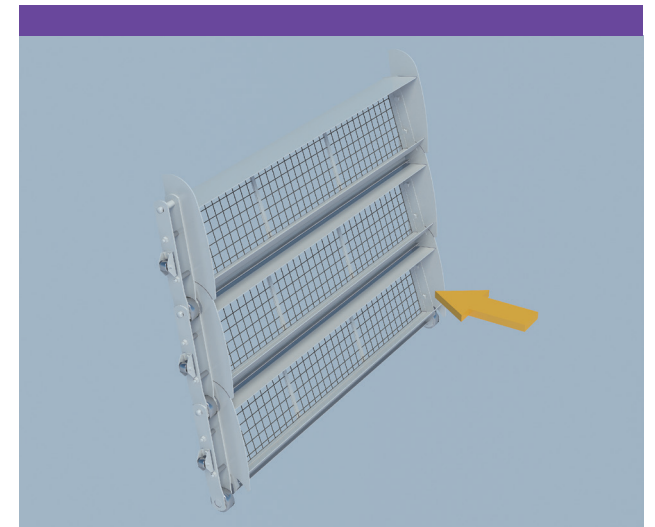
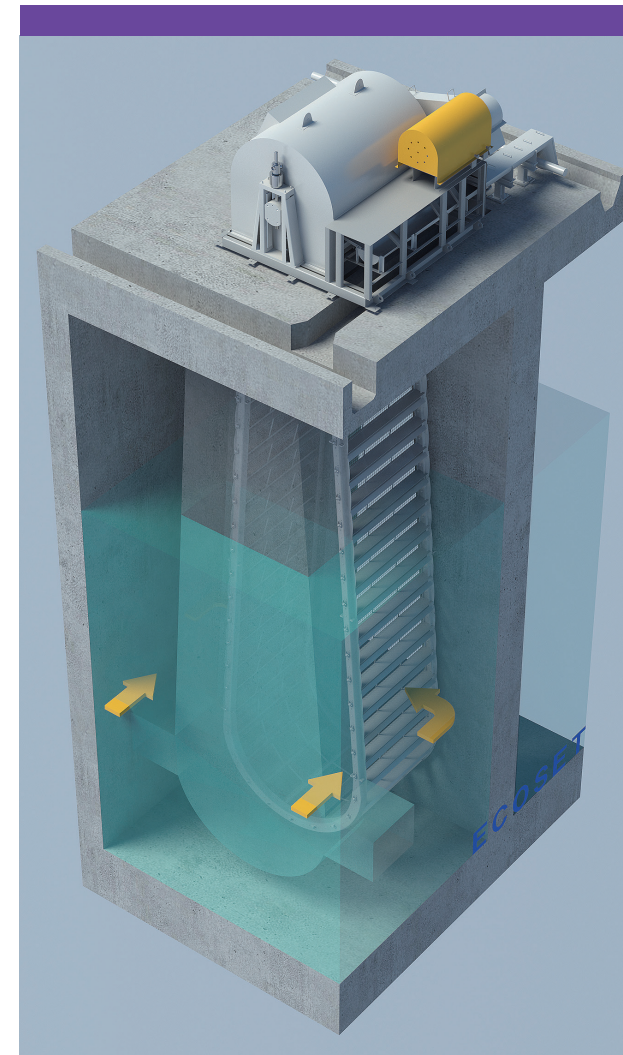
Design Data	
TYPE	Through Flow
Flow Direction	Single Entry & Single Exit
Wire Mesh Opening Size	5~15mm
Pitch of Carrying Chain	610mm
Rotating Speed	Low : 3~6m/min High : 6~12m/min
Max. Allowable Head	1~2mWC

Component	
• Drive Unit Ass'y	• Screen Basket Ass'y
• Head Shaft Ass'y	• Carrier Chain Ass'y
• Foot Shaft Ass'y	• Head Section Ass'y
• Spray Pipe Ass'y	• Upper Intermediate Section Ass'y
• Drive Chain Guard Ass'y	• Intermediate Section Ass'y
• Front Splash Housing Ass'y	• Upper Boot Section Ass'y
• Rear Splash Housing Ass'y	• Boot Section Ass'y
	• Embedded Guide Ass'y

Secondary Screening Device **TBS (Center Flow Type)**



Secondary Screening Device **TBS (Dual Flow Type)**



Design Data	
TYPE	Center Flow
Flow Direction	Single Entry (Inside) & Double Exit (Outside)
Wire Mesh Opening Size	2~10mm
Pitch of Carrying Chain	500mm
Rotating Speed	Low : 3~6m/min High : 6~12m/min
Max. Allowable Head	1~2mWC

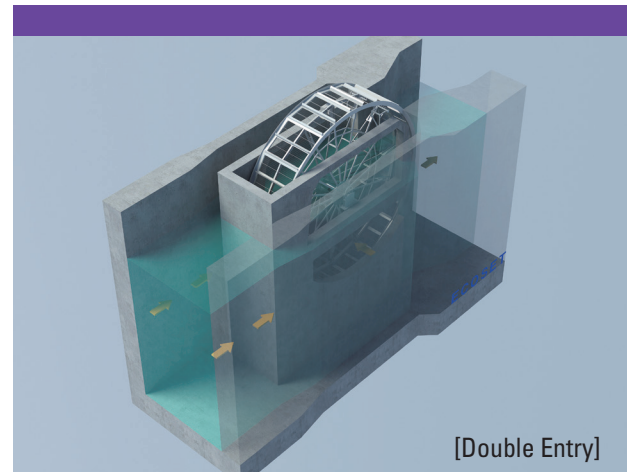
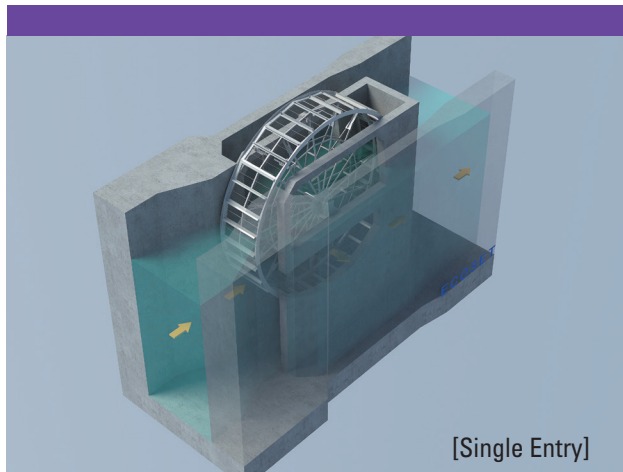
Component	
• Guide Ass'y	• Side Seal Ass'y
• Drive Unit Ass'y	• Pressure Strip Ass'y
• Basket Ass'y	• Joint Rubber Ass'y
• Chain Ass'y	• Waste Trough Spray Pipe Ass'y
• Housing	
• Spray Pipe Ass'y	
• Waste Trough Ass'y	

Design Data	
TYPE	Dual Flow
Flow Direction	Double Entry (Outside) & Single Exit (Inside)
Wire Mesh Opening Size	2~10mm
Pitch of Carrying Chain	460mm
Rotating Speed	Low : 3~6m/min High : 6~12m/min
Max. Allowable Head	1~2mWC

Component	
• Guide Ass'y	• Carrier Chain Ass'y
• Drive Unit Ass'y	• Basket Ass'y
• Spray & Nozzle Ass'y	• Chute
• Housing	
• Chain Guard Ass'y	

Secondary Screening Device

DRUM SCREEN (Single / Double Entry)



Design Data

TYPE	Drum Screen
Flow Direction	Single Entry / Double Entry
Wire Mesh Opening Size	2~10mm
Rotating Speed	Low : 3~6m/min High : 6~12m/min
Max. Allowable Head	1~2mWC

Component

- Main Frame Ass'y
- Shaft & Tube Ass'y
- Seal Ass'y
- Mesh Frame Ass'y
- Drive Unit Ass'y
- Trough Ass'y
- Seal Plate Ass'y
- Spray Pipe Ass'y
- Cover Ass'y

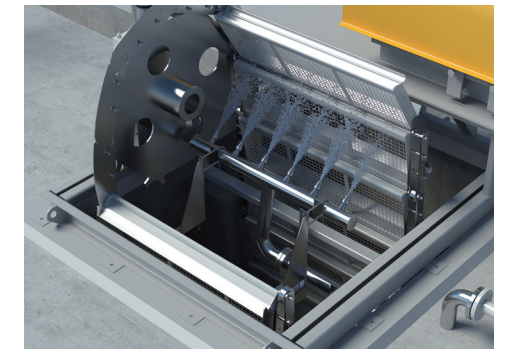
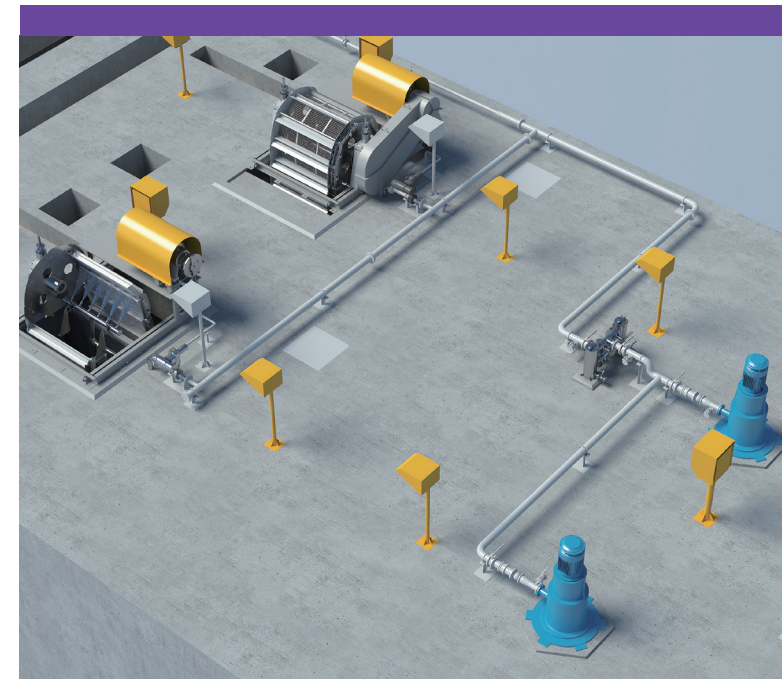
STOP GATE & LOGS / MANUAL & MOTORIZED SLUICE GATE



Component

- Stop Gate & Log
- Manual & Motorized Sluice Gate
- Lifting Beam
- Storage Stand

SCREEN WASH WATER SYSTEM



Component

- Spray Water Pump Ass'y
- Manual & Auto Strainer Ass'y
- Spray Pipe & Support
- MOV & Valves
- Trash Container
- Manual & Motorized Sluice Gate

SCREEN WASTE WATER SYSTEM



Component

- Dewatering Pump Ass'y
- Dewatering Pipe & Support
- MOV & Valves
- Hoist / Cargo / Monorail