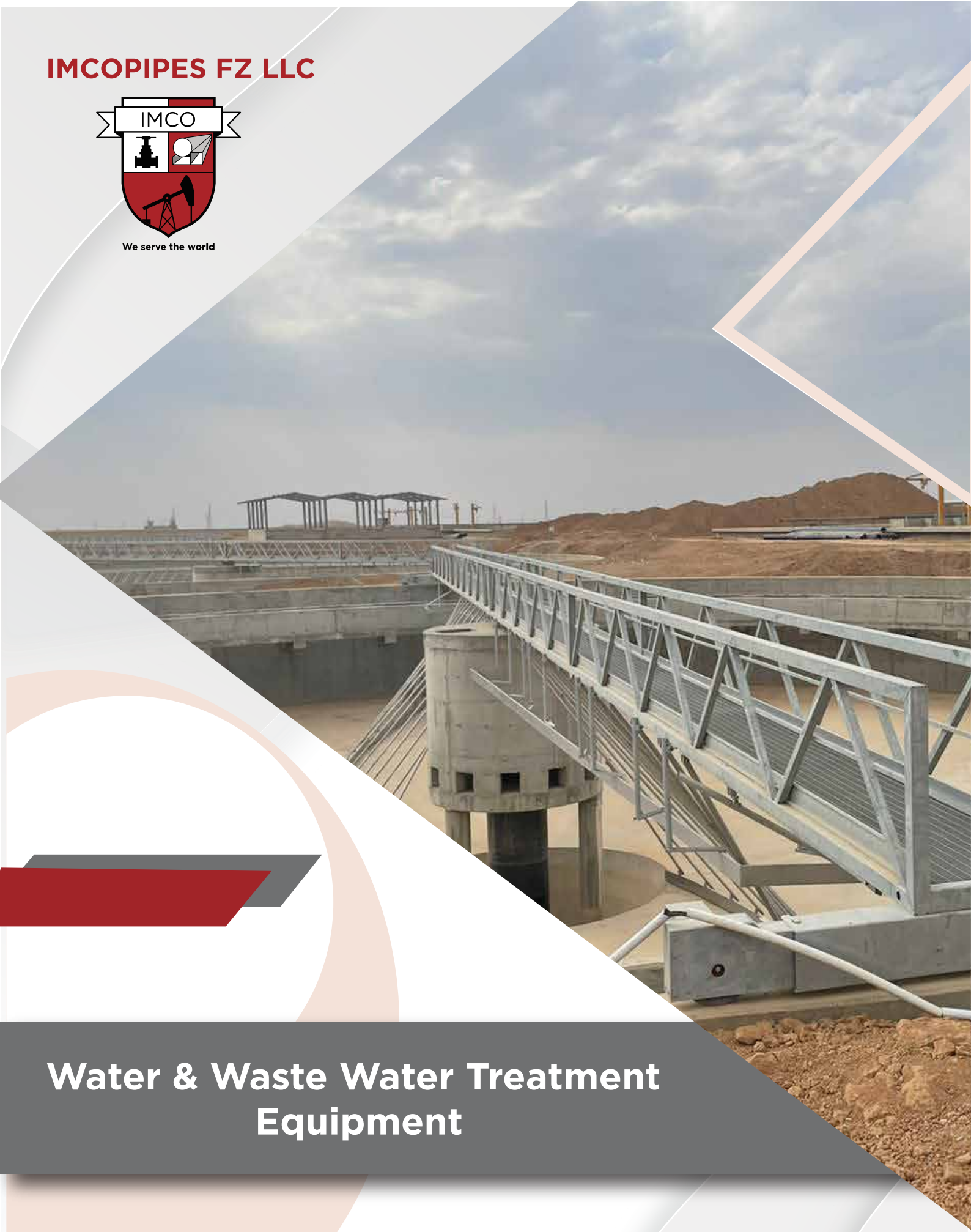
IMCOPIPES FZ LLC

We serve the world



Water & Waste Water Treatment Equipment

www.imcopipes.com

About Imcopipes

For over five decades, Imcopipes has been a trusted partner to the water, oil, and civil infrastructure sectors. Established in 1967, we have grown into a global supplier known for delivering high-quality products backed by competitive pricing, flexibility, and responsive customer support.

Today, our footprint extends across 31 countries, including Germany, Iraq, Mozambique, Nigeria, the United Kingdom, Egypt, Kenya, Saudi Arabia, and New Zealand. From Europe to Africa and West Asia, we serve government infrastructure programs, private sector developments, and long-standing EPC partnerships.

Our manufacturing is primarily based in internationally certified factories in China, supported by our in-house procurement and quality control teams. This allows us to guarantee that every product meets or exceeds market standards—giving our clients confidence in every shipment. Our reputation for consistency and quality is why so many have relied on Imcopipes for decades.

Water & Wastewater Treatment Solutions

Imcopipes delivers comprehensive solutions for both drinking water and wastewater treatment applications. Our product range includes:

- Ductile iron and steel pipes and fittings
- A full line of valves (ductile iron and steel)
- Mechanical equipment, pumps, and controls
- Electrical components for system integration
- Containerized WTP/WWTP solutions up to full turnkey city water treatment plants

Whether you're upgrading an existing plant or building a new facility, we provide all the components required for a reliable, cost-effective, and long-lasting solution.

Expanded Wastewater Treatment Capabilities

In addition to our core offering of pipelines, valves, and mechanical systems, Imcopipes supplies a comprehensive suite of equipment essential for modern wastewater treatment plants. This includes:

- **Coarse and fine screening systems** for primary solid-liquid separation.
- **Feed and sludge pumps** with duty-standby configurations and level monitoring.
- **Aeration blowers** (including coarse bubble and fine bubble systems) for biological treatment and sludge digestion.
- **Mixers and diffusers** to enhance treatment efficiency and oxygen transfer.
- **MBBR (Moving Bed Biofilm Reactor) media** for advanced biological treatment.
- **Tertiary sand and carbon filtration units** for final polishing and contaminant removal.
- **pH correction systems,** chlorine dosing units, and control panels with PLC-based automation for plant optimization.

These components are designed for seamless integration into existing or new facilities and are engineered for high durability, easy maintenance, and compliance with international performance standards. Whether you need a single piece of equipment or a complete system, Imcopipes offers a dependable solution backed by decades of experience.

Containerized water treatment plant model (WHO safe drinking water)

Containerized drinking water treatment plant is a water purification equipment that treats river water, lake water, ground water as the water source.

The raw water will be collected from the river/lake and fed to the plant via pump or gravity fed system, in order to produce potable water for several domestic purposes (human consumption and other common uses).

The treated water can meet to achieve the WHO Safe drinking water which will be tested and confirmed on plant Factory Acceptance tests and on commissioning of plant at the Site.

Technical Specifications and Standards:

Item	Raw Water (River water) to be treated	Treated water conforming to WHO safe drinking water guide lines
Turbidity	Up to 500NTU (Nephelometric Turbidity Units)	≤ 5NTU
pH	5-8.5 (pH scale)	6.5-8.5
Colour	Up to 3000 (Hazen Units)	≤15
Temperature	15 – 35 (°C)	-
Conductivity	<300 (µs/cm)	≤2000 (µs/cm) at 200C
TDS	Up to 2500 ppm	≤500 ppm
TSS	Up to 50 ppm	0 ppm
Fecal coliforms		Nil/100ml

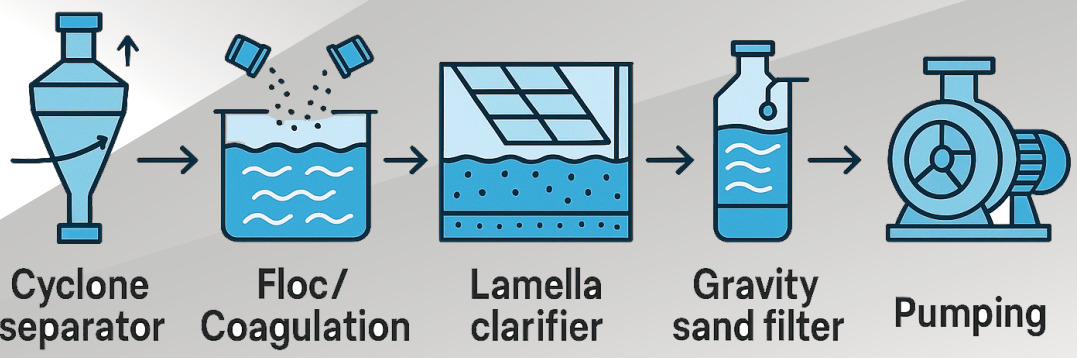
Product Features

The equipment adopts flocculation reaction, high-efficiency inclined tube sedimentation, multi-layer filter material filtration and other processes.

The equipment is installed in a container for easy transportation. The equipment control adopts automatic control and is easy to use.

Process chart

Cyclone separator---- Floc/Coagulation ---- Lamella clarifier----Gravity sand filter----Disinfection---- Pumping



The treatment plant main components

Cyclone separator

The device is used to separate those large inorganic particles in the Raw Water (diameter greater than 0.5mm).
Specially Designed for reliable separation in water treatment.
It was developed using extensive laboratory tests, a comprehensive literature review and computational fluid dynamics (CFD) modelling.
This combined structure occupies less area and has higher efficiency.

Feature:
Less area occupation, compact structure.

Floc/Coagulation

The aim of flocculation-coagulation process is to remove the very thin particles, called colloids that are very important water constituents.
They cause turbulence and a lot of times form stable colloidal suspensions

Lamella clarifier

The water with flocs flows to the lamella clarifier. The lamella clarifier uses lamella packs, and solid-liquid separation is completed through an inclined lamella packs which installation angle is 60°,in contrast to conventional sedimentation, lamella sedimentation offers a high sedimentation surface when available terrain surface is reduced.

The treatment plant main components

Gravity sand filter

The sand filtration is to remove all small particles and flocks that have not been removed in clarification process, in order to obtain clear water ready for public supply.

Disinfection

In order to ensure that the final water quality meets WHO requirements and that E. coli is controlled within limits, chlorine must be added to ensure that free chlorine reaches the target.

Equipment Model

Model	Capacity (m^3/hr)	Equipment Size(mm)	Inlet DN	Outlet DN	Equipment weight(ton)	Running weight(ton)	Control panel room size(mm)
CWW-5	5	4.3m in 40ft H container	50	65	5.5	16	Integrated
CWW-10	10	5.3m in 40ft H container	65	80	7.6	21	Integrated
CWW-15	15	5.8m in 40ft H container	80	100	9.5	26	Integrated
CWW-20	20	6.9m in 40ft H container	80	100	12	32	Integrated
CWW-30	30	7.3m in 40ft H container	100	125	14	37	Integrated
CWW-40	40	8.5m in 40ft H container	100	125	17	52	Integrated
CWW-50	50	10m in 40ft H container	125	150	22	62	Integrated
CWW-60	60	40ft H container	125	150	26	82	Integrated
CWW-80	80	40ft H container	150	200	31	92	20ft container

Containerized sea water RO plant (WHO safe drinking water)

The containerized sea water RO plant uses seawater as raw water and uses RO membrane to desalinate the seawater to produce drinking water that meets the drinking water standards of the WHO.

The treated water can achieve the WHO Safe drinking water which will be tested and confirmed on plant factory acceptance tests and on commissioning of plant at the Site.

Technical Specifications and Standards:

Item	Raw Water (Sea water) to be treated	Treated water conforming to WHO safe drinking water guide lines
Turbidity	≤ 5NTU	≤ 5NTU
pH	5-8.5 (pH scale)	6.5-8.5
Colour	Up to 3000 (Hazen Units)	≤15
Temperature	15 – 35 (°C)	-
Conductivity	<68000 (µs/cm)	≤2000 (µs/cm) at 200C
Total hardness	Up to 1200 ppm	200 ppm
Fecal coliforms		Nil/100ml

Product Features

The equipment is installed in a container for easy transportation.

The equipment control adopts automatic control and is easy to use.

All equipment is inside the container with anti-theft.

Process chart

Sew water pump ---- Lamella clarifier (option) ---- Containerized sew water plant (UF+SWRO+Disinfection) ----Cleaning water tank

Seawater has a high salt content, and a seawater reverse osmosis device is used in the process to remove most of the anions, cations, organic matter and bacteria in the water. The reverse osmosis (RO) primary desalination system consists of RO membrane components, highpressure pumps, circulation pumps, RO cleaning devices, controls, pipelines, instruments, etc.

RO parameters

RO design water output 1250 m³/day (m³/h)
Raw water flow: 120m³/h
Fresh water flow: 60m³/h
Concentrate discharge: 60m³/h
Minimum working pressure: 60.0bar
Inlet water temperature: 20°C
Water recovery rate: 50%
RO membrane design service life: 3 years
Inlet water source: seawater
Selected membrane specifications: SWC3+

RO parameters

Selected RO shell: 80.240-SP5
Concentrate side Langeril index: (FI=1.6＞0)will cause scaling,...
(scale inhibitor should be added)
Inlet water TDS<34000 mg/L
Production water TDS <1000mg/L
Operating pressure 10-13bar
Model and specification: SWC3+ (120 pieces),
Recovery rate: 50%
Power supply: 360KW

Control system and functions

This system adopts centralized control mode, PLC microcomputer control, equipment operation, monitoring and other constants dynamically display operation constants and water quality changes;

• Single equipment is equipped with working instruments and monitoring instruments.

• MCP control cabinet is set in the control room to display the operating conditions of the system (inlet and outlet water conductivity, high-pressure pump switch, inlet and outlet water flow, pressure and other parameters)

• Reverse osmosis is set with a low-pressure protector at the inlet of the high-pressure pump. When the inlet pressure of the high-pressure pump is <0.1Mpa, the high-pressure pump automatically stops working.

• A high-pressure sensor is set at the outlet of the reverse osmosis high-pressure pump. When the working pressure is greater than a certain set value, the high-pressure pump stops running to prevent damage to the downstream pipeline and membrane elements.

• An inlet electric slow-opening valve is set at the outlet of the high-pressure pump. When the high-pressure pump starts, the electric slow-opening valve starts 2 seconds in advance to prevent the pipeline and membrane elements of the reverse osmosis device from being damaged by the instantaneous impact of high pressure.

• Inlet, concentrated water and fresh water valves: mainly adjust the RO inlet, water output, inlet pressure, concentrated water pressure and recovery rate.

• Conductivity meter and thermometer: The conductivity meter is used to monitor the changes in the conductivity of the RO inlet and outlet water, and the thermometer shows the changes in the water output of the RO membrane at different temperatures.

• High-pressure pump: pressurization meets the inlet pressure requirements of the RO membrane element.

• Check valve: mainly used after shutdown to prevent the back pressure in the RO pressure pipe from damaging the high-pressure pump and the low-pressure pipeline parts before the pump.

• Flushing: Flushing is set in the system, and the reverse osmosis inlet water is used to automatically flush the membrane surface according to the set time (or during shutdown) to maintain the cleanliness of the membrane surface, reduce the number of chemical cleaning times of the reverse osmosis device, and help extend the service life of the membrane element.

• Liquid level automatic control: mainly used to prevent the highpressure pump from continuing to run and damaging the high-pressure pump when the water is cut off. Another function is to stop the RO when the intermediate water tank is full to prevent the intermediate water tank from overflowing.

What the buyer needs to prepare:

Power supply system

The system must have a 360KW, 380V, 3-phase five-wire power supply, which is distributed to the main control box.

Raw water source

The customer must provide at least 140m3/Hr supply to the containerized sew water RO plant.

Equipment foundation

12.4*2.8m, bearing 10ton/㎡ is required




1. Fine Screen for water treatment adopts a rotary type, which is arranged on the horizontal axis by a special shape of the plow shaped rake tooth on the horizontal axis.

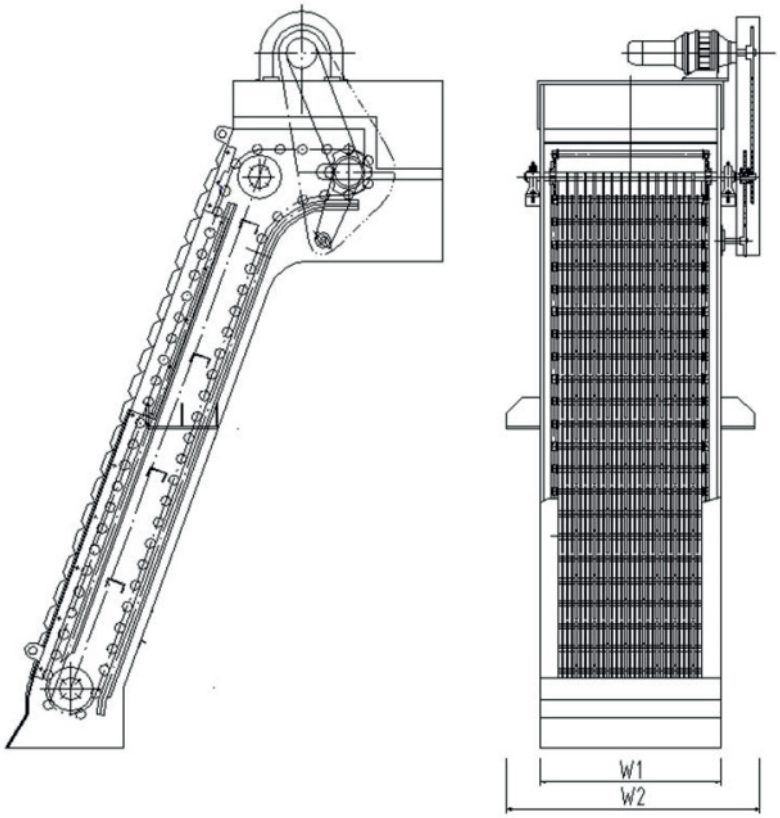
2. It is assembled into different clearance according to the flow of water. It is installed at the entrance of the pump station or the water treatment system.

3. When the driving device drives the chain tooth chain to move up and down, the water is mixed.

4. When the material is picked up by the rake chain chain, the liquid flows through the gap, and after the equipment turns to the top of the upper vertex, the chain tooth chain changes the direction of operation.

5. The material depends on the downward movement. The material depends on itself from the tooth from the tooth. When the tooth is transferred from the reverse side to the bottom, the continuous operation of the other circular movement is started, and then it it continuously removed from the water, to achieve the purpose of seperating solid and liquid.

Fine Screens Specifications



Model	Flow rate (m^3/d)	Flow speed (m/s)	Gap (mm)	Power (Kw)	Angle	Channel width (mm)	W1 (mm)	W2 (mm)	Screw size
400	700-6000	0.5	3,5,20	0.37-0.75	60-80	500	400	750	4-M10
500	800-8000		3,5,20	0.37-0.75		600	500	850	4-M10
600	900-10000		3,5,20	0.75-1.1		700	600	950	4-M16
700	1000-12000		3,5,20	0.75-1.1		800	700	1050	4-M16
800	2000-15000		3,5,20	0.75-1.1		900	800	1150	4-M16
900	5000-18000		3,5,20	1.1-1.5		1000	900	1250	4-M16
1000	10000-20000		3,5,20	1.1-1.5		1100	1000	1350	4-M20
1100	11000-22000		3,5,20	1.5-2.2		1200	1100	1450	4-M20
1200	12000-24000		3,5,20	1.5-2.2		1300	1200	1550	4-M20
1250	12500-25000		3,5,20	1.5-3		1350	1250	1600	4-M20
1500	15000-30000		3,5,20	1.5-3		1600	1500	1850	4-M20

Application of Fine Screen

Fine Screen for water treatment is a kind of advanced water treatment solid-liquid separation equipment, mainly used for waste water treatment plants, sewage pretreatment device, municipal sewage pumping station, the rain water plant and power plant cooling water inlet.

Fine Screens for water treatment are also widely used in textile, printing and dyeing, food, aquatic products, paper making, slaughtering, leather and other industries of water treatment engineering, is the ideal solid-liquid separation equipment in water treatment industry

Technical parameters of Fine Screen

1. Equipment and rake specifications:
The specifications of Fine Screen for water treatment are divided into KFS 300-3600 type according to the width of the machine is more than 1800mm, then the machine is made and connected. The gap is divided into 2mm, 3mm, 5mm, 10mm, 20mm, 30mm, 40mm, 50mm, and other specifications. The gate gap is selected from the amount of water, lifting height, the total amount of solid liquid separation, the shape of the separated material and the size of the particles. According to user needs, the choice of material is ABS engineering plastics, nylon, stainless steel rake teeth production; the main frame has two kinds of stainless steel and carbon steel corrosion.

2. Specification of Fine Screen for water treatment: equipment standard groove depth of 1500mm, can be arbitrarily widened and lengthened according to users' needs and actual conditions.

Equipment characteristics

1. The greatest advantage of Fine Screen for water treatment is high automation, high separation efficiency, low power consumption, no noise and good corrosion resistance. Under the condition of unmanned tube, the overload safety protection device can be guaranteed. When the equipment fails, the sound and light alarm and automatic shutdown can be produced, and the equipment can be avoided. Load work.

2. The Fine Screen for water treatment can adjust the operation intervalof the equipment according to the needs of the user and realize periodic operation. It can be automatically controlled according to the level difference between the front and back of the grid, and has the manual control function to facilitate the maintenance. Users can choose according to different work needs.

3. Because of the reasonable design of the equipment, when Fine Screen for water treatment is working, it has a strong self purification ability and will not be blocked, so the daily maintenance work is very little.













Penstock Wall Mounted

1. Structure

The penstock is a rectangular stainless steel frame structure. The driving device is installed on the beam of the penstocks frame, and the door frame is installed on both sides of the pool wall. Door panels, door frames, guide rails, screws and driving devices should have sufficient strength and rigidity, and their tensile, compression and shear strength safety factors should be greater than 5 to ensure the normal operation of the equipment. The penstocks plate is provided with a well- shaped rib on one side to increase the strength, and the water facing surface is a flat plate, and the seal of the penstocks is sealed with rubber. The working pressure is required to be 0.02MPa, and the leakage is not more than 1.25l/min.

The manual opening and closing device is driven by screw and nut, and the screw is made of stainless steel, which can automatically adjust the swing of the screw during transmission without damaging the seal of the penstocks. The diameter of the handwheel is less than 500mm, the opening and closing device must be directly installed on the upper part of the mast, and the height should satisfy the manual operation of the handwheel.

The penstocks structure is made as light, strong, beautiful in appearance and easy to operate as far as possible while meeting the rigidity requirements. If manufacturers have better suggestions and newer products, they can provide options but they must be confirmed by the owner and engineer. For the description of the electric device, please refer to the dual- purpose hoist for the cast iron penstocks and flashlight.

2. Material of main components

Door panel, door frame, guide rail, screw: stainless steel. Sealing strip: Nitrile rubber. A variety of other matrrials are availiable on request as well as different solutions for actuation.

3. Anti- corrosion

Non- metal and non- ferrous metals are not coated with anti- corrosion coatings. The remaining parts are cleaned of burrs, oxide scales, rust spots, sticky sand, scars and oily dirt before painting, and the penstocks, risers, fleshy and sharp edges, etc., are leveled, and sandblasted, and the level of surface treatment it is Sa21/2 level.

4. Torch dual- purpose opening and closing device

The dual- purpose opening and closing device with flashlight, its protection level is IP55; the opening and closing device ha manual/electric function, when switching to manual, its manual operating force is <150N; the opening and closing device has strok and torque control device; in the opening and closing device. Equipped with a moisture- proof heating device to prevent the contact effect of electrical components from being affected by accumulation. The motor is suitable for power supply 380 3- phase, 50 Hz, and insulation class F. The output speed of the opening and closing device is n=24r/min, and the opening and closing speed v≈0.25m/min. Adopt switch type electric actuator.

Options:

- Special electric device for multi- turn penstocks.
- Squirrel cage induction motor, insulation class F.
- Voltage 380V 3P 50HZ, allowable voltage fluctuation ±5%
- Working time～2 15 minutes.
- Equipped with 2 limit switches (1 penstocks position open/1 penstocks position closed), so that the penstocks can be limited in any position.
- Equipped with 2 torque switches (1 opening position/1 closing position).
- Equipped with a motor overheating protection switch.
- Protection level of actuator IP55.
- The manual wheel operated in an emergency situation can be automatically disengaged when the motor is started, and the manual wheel is stationary when the motor is running.
- Equipped with mechanical valve position display (penstocks opening display panel)
- Passive output contacts: open in place, close in place, fault, manual/remote control.
- Passive input contacts: open, close.
- The output terminal can shift the open and close control signal to the valve body.
- Operation selection switch: on-site-off-remote control.
- Action button: open-stop-off.
- Penstocks status indicator light (3 lights).



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