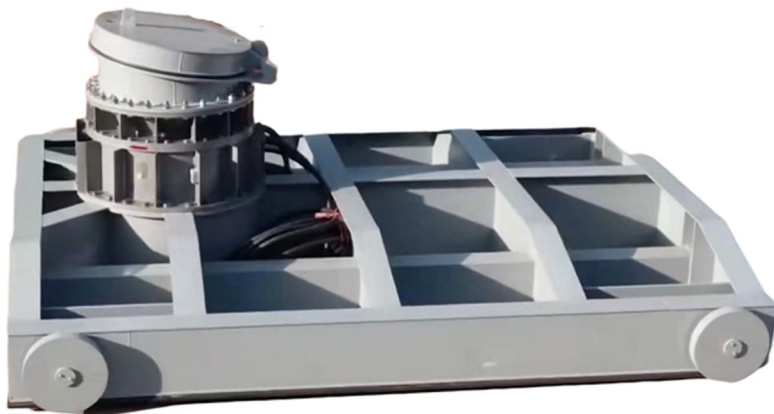




Pump and
Partners



Integrated Pumping Gate

REAL

CHINA PUMP
CONSULTANCY

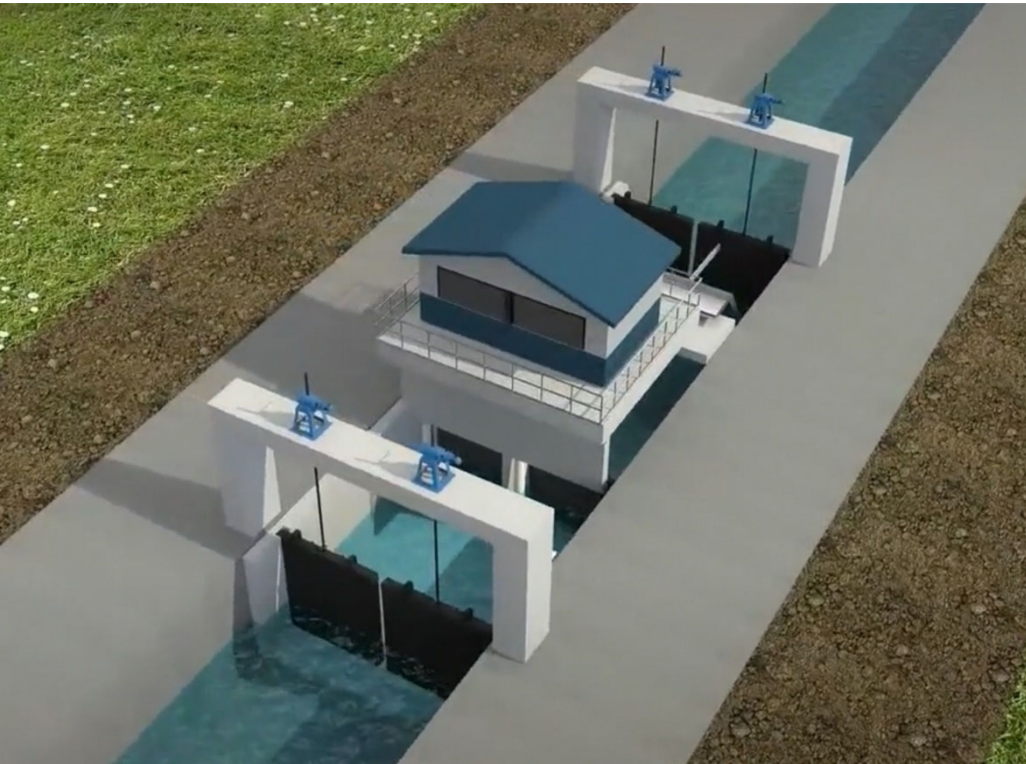
Flood and storm water control

River water drainage and irrigation

Water level control in coastal and low-lying areas

Water exchange and inside water regulation

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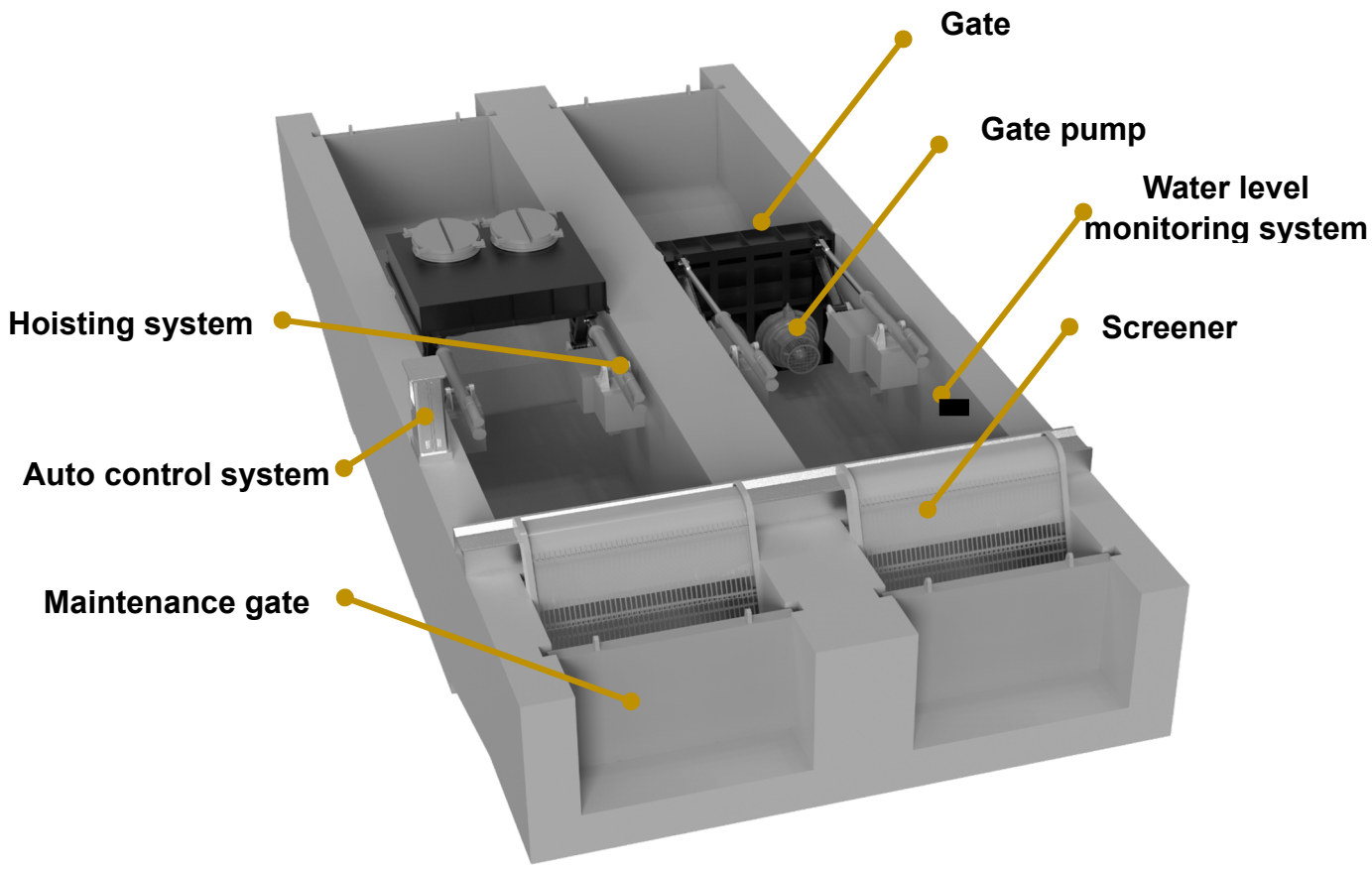
- Premium hydraulic efficiency
- Market-leading compact and lightweight design
- Non-clogging performance provided by backswept self-cleaning design
- Various types of construction and layout
- Material variants

Integrated pump gate is new type of river drainage and damming equipment. It adopts new design of combining pump and gate to be one integrated system, and equipping with control system and auxiliaries, to make automatic control of water achieved.

The system consists of gate (submersible pump included), bulkhead gate, screen & trash remover, hoist, control system and detecting devices, and can be widely applied to water transfer and river regulation & recovery.

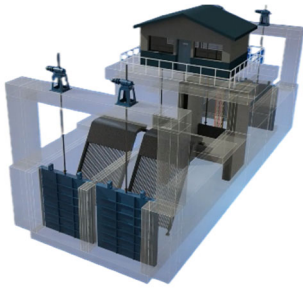
Comparing with conventional pump station, its compact design saves more footprint and construction time. The rigid robust structure and smart control guarantee safe, efficient operation.

Construction



Applications:

- Flood and storm water control
- River water drainage and irrigation
- Water level control in coastal and low-lying areas
- Water exchange and inside water regulation



Specifications:

Flow: up to 5 m³/s

Head: 3-5.5 m

Motor Power: 30-315 kW

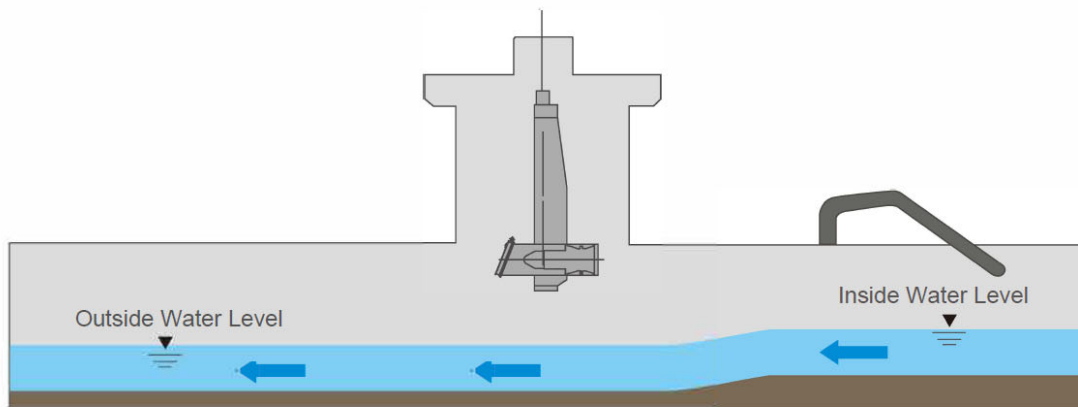
Discharge Diameter: 350-1,400 mm

Installation Methods: Vertical, Horizontal

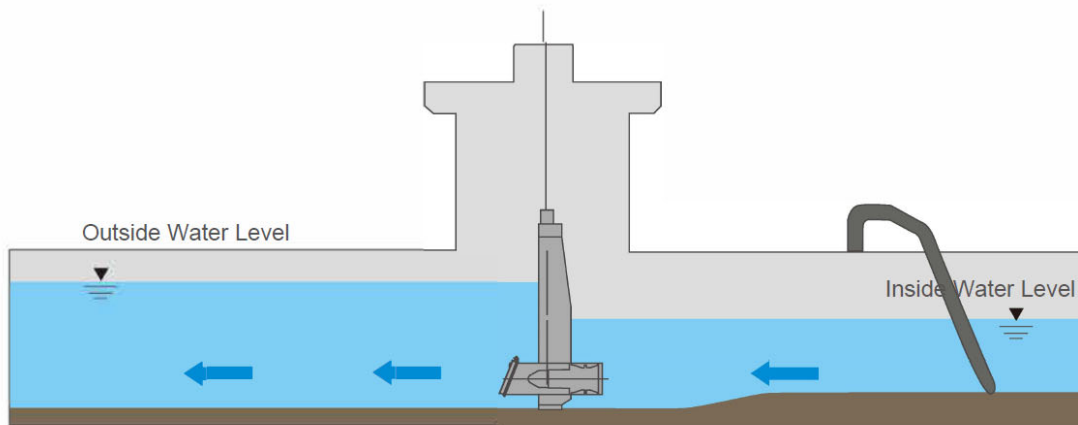


Specially engineered submersible gate pump

Concept of Gate Pumping Station



Inside Water Level > Outside Water Level



Inside Water Level < Outside Water Level

- When inside water level is higher than outside water level, gate pump will open completely. The gate pumps and screen will open and discharge the inside water by gravity flow.
- When inside water level is lower than outside water level, gate pump and screen will close simultaneously. If inside water level reaches up to pump start level, pump and screen will operate automatically in order to forcibly discharge inside water toward outside.

Advantages

1. Compared with conventional pump station

A gate pump station serves as a flood and pump simultaneously,

Can be installed on an existing waterway,

Require small space and lower cost, ideal for both urban and rural areas

2. Specially designed horizontal propeller pump and tubular pump, with optimized hydraulics

Reduce the risk of vibration

Strengthen connection stability between motor and gate

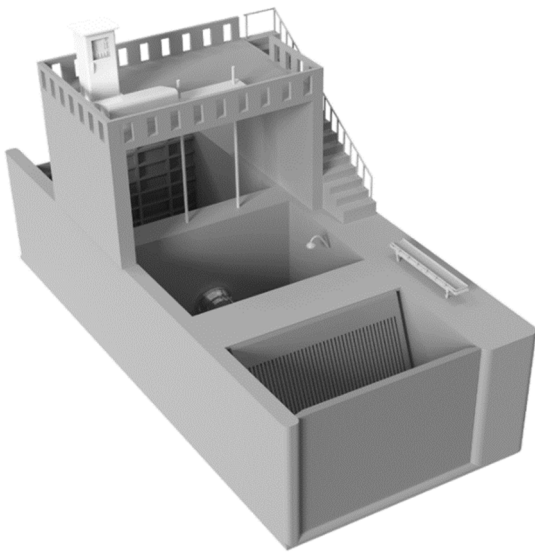
Modified cable leading method and pump installation method for easy maintenance

Submersible tubular pump with better performance is available

3. Four types of arrangements provided to meet all situation

4. Up to 4 pumps can be equipped with one gate

Typical Arrangements



Gate hoisted vertically by hoist system

● Advantages

High hoisting capacity. Less embedded parts.

Small footprint.

Low cost.

● Disadvantages

Civil construction for hoist is required.

Landscape not good enough.

Gate hoisted vertically by hydraulic system

● Advantages

Faster lifting speed and stable structure.

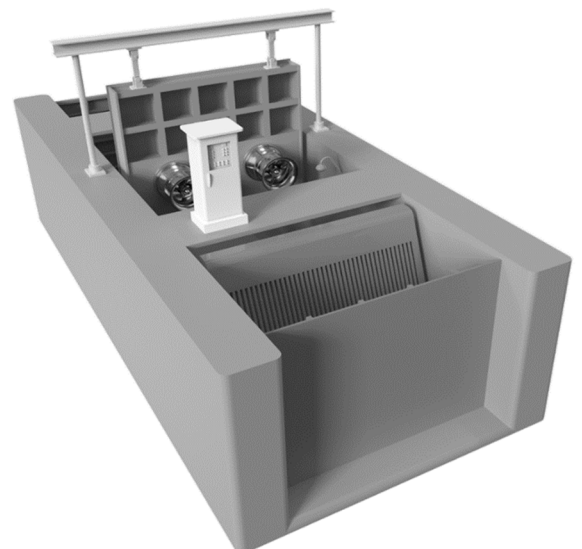
Small footprint and compact design.

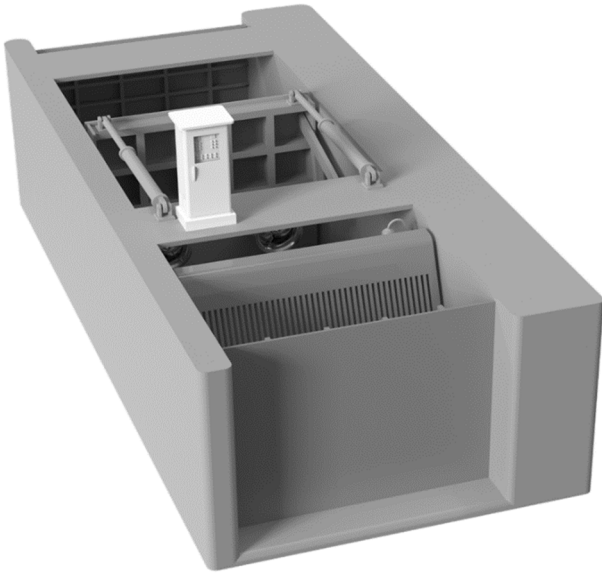
Easy maintenance.

● Disadvantages

High requirement of civil work and water proof

Landscape not as good as flip type





Gate flipped vertically by hydraulic system

- **Advantages**

- Faster lifting speed and stable structure.
- Less part above land and good landscape.
- Easy maintenance.

- **Disadvantages**

- Longer than other types. Bigger footprint.

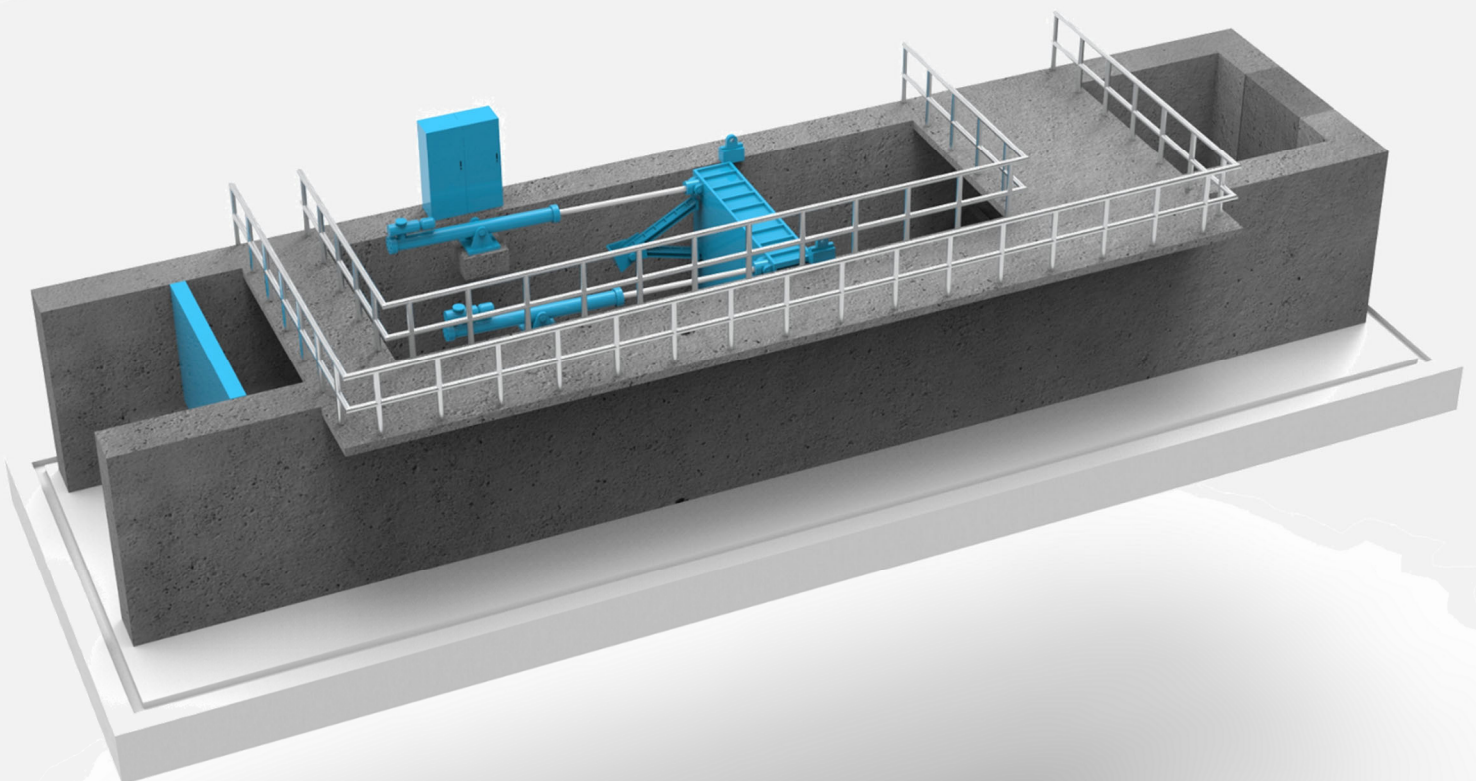
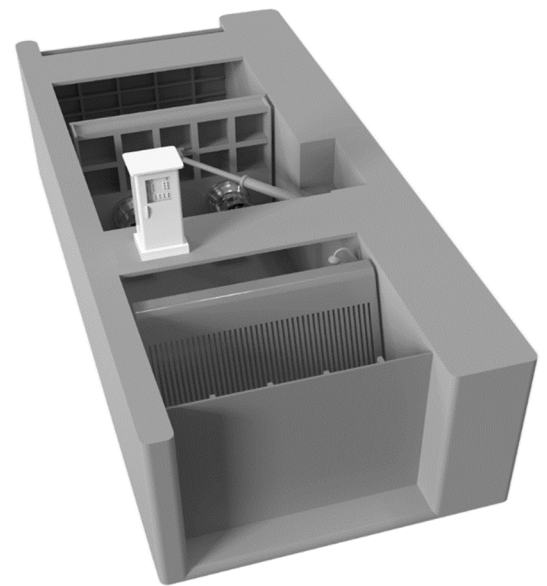
Gate flipped horizontally by hydraulic system

- **Advantages**

- Completely embedded underground.
- Good landscape.
- Smaller footprint than vertically flip type.

- **Disadvantages**

- Maintenance not easy enough.
- Thicker wall required to install hydraulic system.
- High protection grade and cost for hydraulic system.



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