



SGP

Integrated Pump Gate >>>

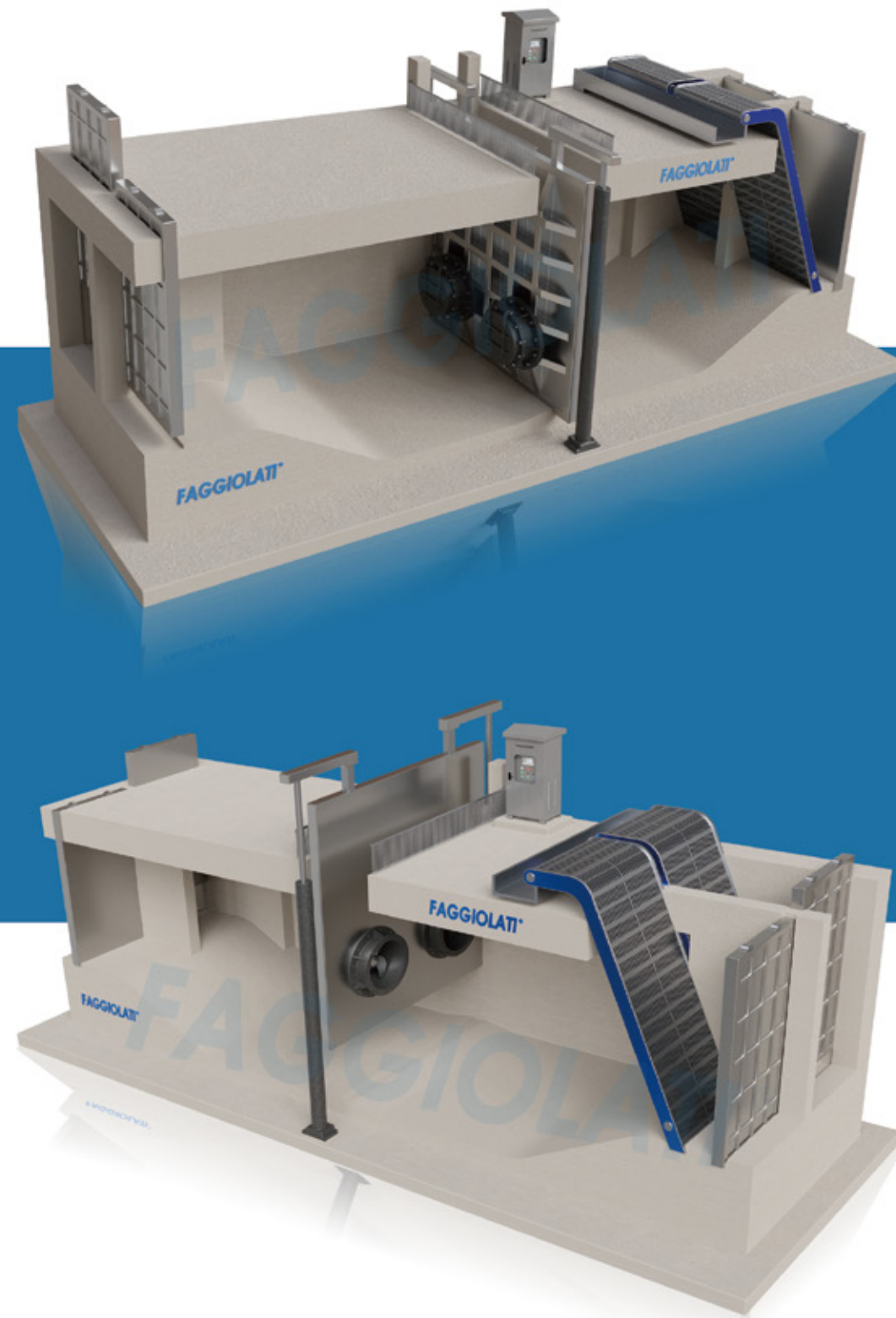
FAGGIOLATI®



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FAGGIOLATI®



FAGGIOLATI SGP integrated pump gate

Integrated solutions for sponge city construction, flood prevention and drainage and river training







FAGGIOLATI integrated pump gate will pump and gate two kinds of equipment into one, integrated opening and closing system, pumping system, interceptor system, liquid level monitoring, water quality monitoring and intelligent control of a variety of superior devices as a whole, forming a complete water conservancy system. The whole system is highly integrated, occupies a small area, without the need to establish a separate fixed pump room (pumping station).

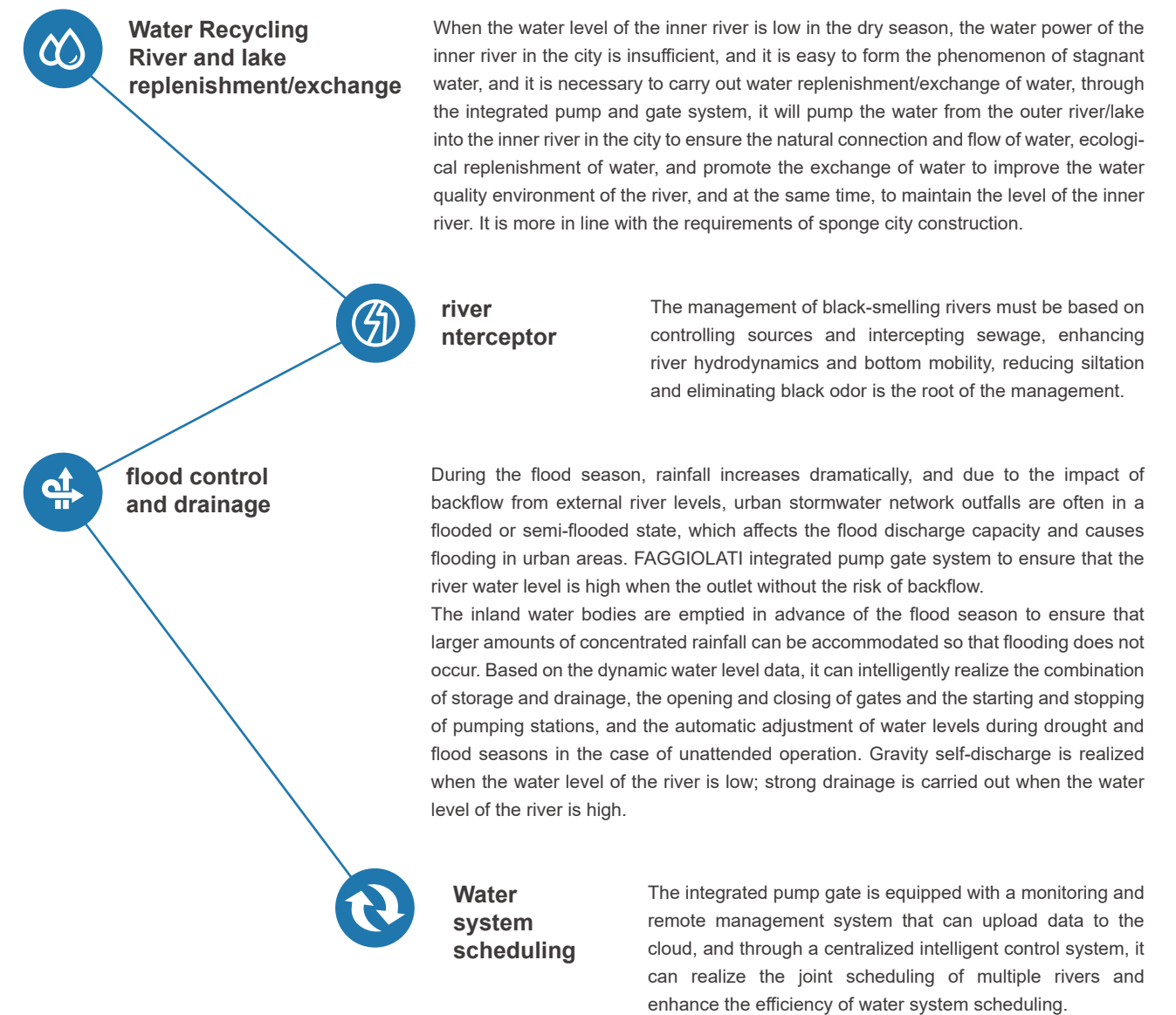
The integrated pump-gate utilizes pumps for water transfer, and then controls the flow and level of water through the gates, which greatly improves the efficiency and safety of the water conservancy project.





Applications

-  flood control and drainage
-  Internal river and lake storage
-  water circulation
-  Recharge of rivers and lakes
-  river training
-  Upgrading of old locks and stations



Technical characteristics

Compact and space-saving

Faziolatti integrated pump gate using the river itself storage space, the combination of pumps and gates, pumps are installed directly on the gate, the gate is both a water-blocking structure, but also the foundation of the pump support, without the need to establish the pump room, greatly saving the footprint.

Innovative solutions, intelligent and efficient

The system is tailor-made and integrated with advanced software systems and hardware devices to make intelligent decisions in real time according to environmental conditions and provide timely feedback to the operator. Higher degree of intelligence, real-time monitoring, local control, remote control and fault prediction.

Precise design and reliable operation

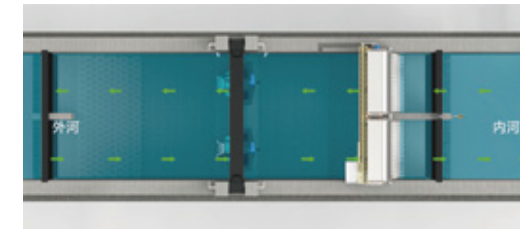
FAGGIOLATI integrated pump and gate system adopts CFD fluid dynamics to simulate and analyze the flow pattern of the river, and obtains technical data such as the flow rate and flow pattern of the pump inlet through the advanced design tools, and then designs accurately to ensure that the integrated pump and gate system can operate reliably under different working conditions.

Excellent performance for different working conditions

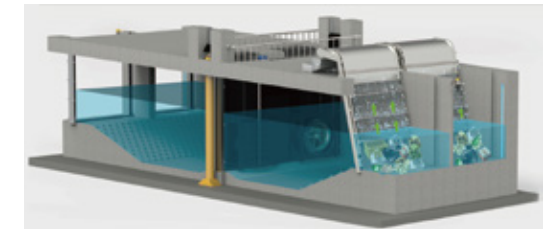
Dry season storage, flood season emptying, water circulation, river management Faziolatti integrated pump gate to meet a variety of working conditions, high system matching, good hydraulic performance, high efficiency, the river overflow capacity increased by more than 1 times, the operation of the pump gate will be a comprehensive consideration of the existing natural conditions of the factors to cope with the comfortable.

Simple installation and easy maintenance

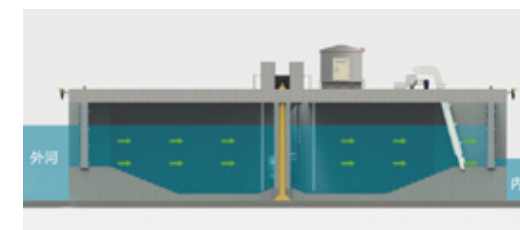
FAGGIOLATI integrated pump gate pumps and gates in one, highly integrated, simpler to install and easier to maintain.



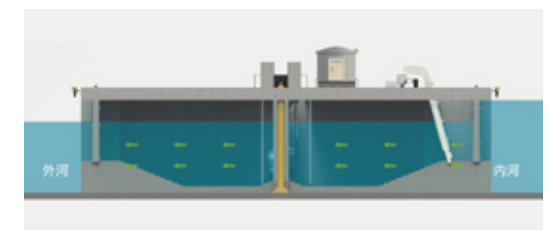
Exchange of internal and external river water bodies



River training



Outflow from outer river to inner river



Inland waterways drain to outlying rivers

Gravity self-flow mode

When the water level of the inner river is higher than the water level of the outer river, the gates and grates of the integrated pump-gate system are fully opened, the water body before and after the pump-gate is fully connected, and the water body of the inner river discharges to the outer river/lake through gravity self-flow.

Gate Breaking Mode

When the water level of the inner river is lower than the water level of the outer river, the gates and grates of the integrated pump-gate system will automatically close, cutting off the flow of water before and after the pump-gate.

pumping mode

When the water level of the inner river continues to rise and reaches the alarm level, the gate and grill of the integrated pump gate system will be closed, and the pump will be opened automatically for pumping to realize the strong drainage of rainwater from the inner river to the outer river. If optional two-way pump gate, can realize free switching, two-way pumping.

System integration solutions for high operational efficiency

Gate pump

- The FAGGIOLATI special-purpose water pumps are designed for high flow and low head conditions, and their size and cable fixing and support structures have been optimized for integral installation with the sluice gate. The system is more compatible, with low power loss and high operation efficiency. The system is optimized for high performance.
- Optional bi-directional pumping function enables multi-purpose use of one station and reduces project investment.

Slap door

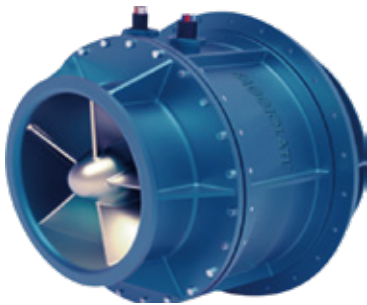
Optional automatic gate and pump linkage to realize two-way water in and out, and real-time monitoring of the opening angle. In the multi-purpose gate station can realize the function of bearing reverse water pressure.

Gates and opening and closing systems

- According to the customer's design requirements, river section and site environmental requirements, a variety of opening and closing methods can be selected (vertical opening and closing, side opening and closing, up and over opening and closing), safer and more reliable operation.
- The system as a whole is analyzed by FEA finite element analysis to ensure that the structural strength meets the requirements of working conditions, and the center of gravity and load of the product are precisely calculated for safer and more reliable operation.

Control system

Remote, local, automatic, semi-automatic, manual, according to the customer's requirements for the control of key parameters, FAGGIOLATI integrated pump and gate system can be accepted by the customer's control center or FAGGIOLATI cloud platform for real-time control, to provide timely and accurate data information, so that our customers control everything.



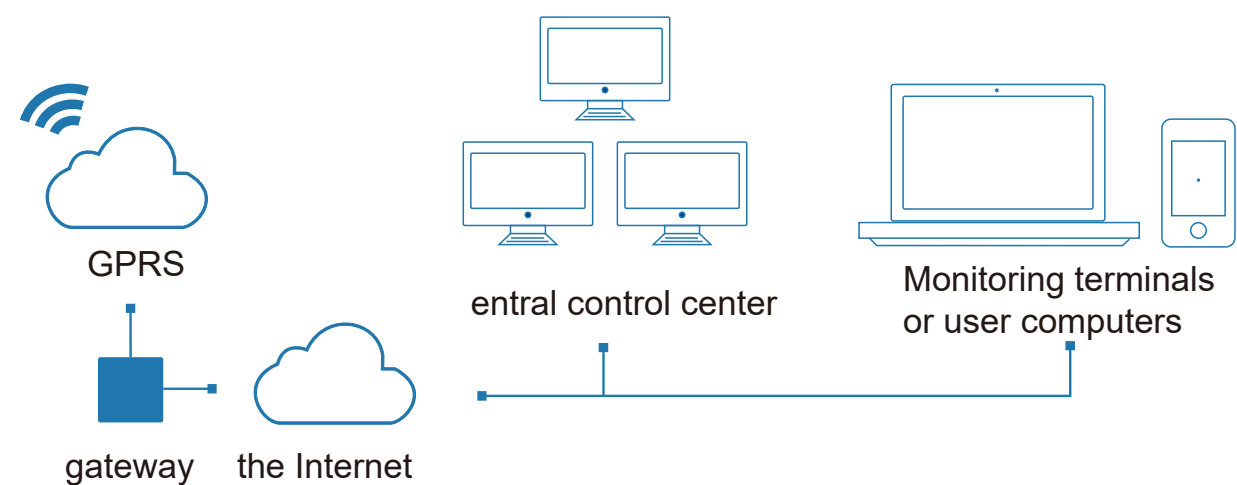
Suitable for high flow and low head applications, the compact, lightweight design provides high stability and low noise, ensuring that both the pump and the sluice gate operate under low vibration conditions. The wet-stator construction eliminates the need for sealing the windings and provides excellent cooling.

Maximum flow rate:18,000m³/h	fluid temperature:0~40℃
Maximum lift:8m	caliber:350~2,000mm
Motor power:22-1,100kW	Installation:Vertical or horizontal



Applicable to large flow, low head conditions, high operating efficiency. It can solve the problem of flood control along the rivers and lakes where the water level rises and falls greatly. The motor and pump form a single unit, more convenient and quicker on-site installation, longer service life.

Maximum flow rate:76,500m³/h	fluid temperature:0~40℃
Maximum lift:13m	caliber:350~2,000mm
Motor power:7.5-2,000kW	Installation:Vertical or horizontal



control system

Real-time monitoring

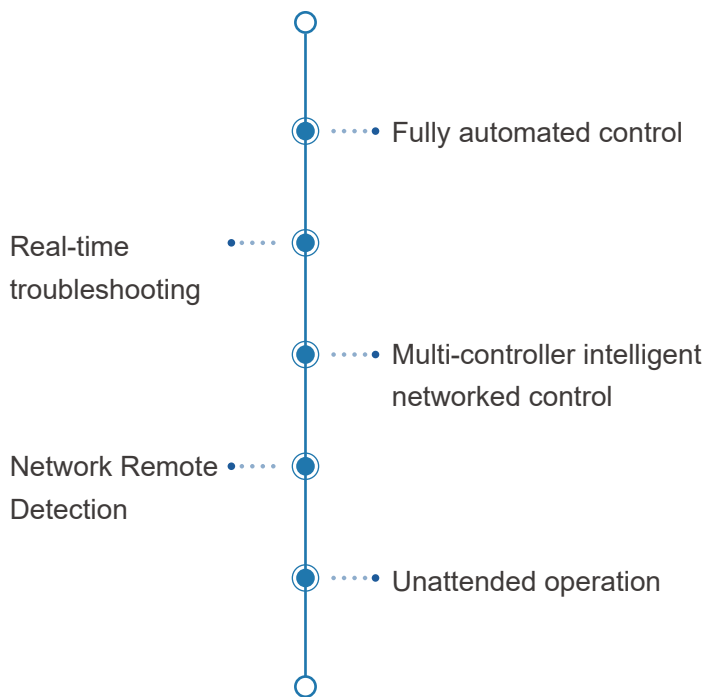
FAGGIOLATI control system is equipped with data acquisition module, which can carry out online monitoring of water quality and water quantity, and real-time or historical data can be accessed at any time. Through the central control, it can display the operation of each gate and pump system and the hydraulic and hydrological information, providing timely and accurate data for river water replenishment, water system scheduling, flood control and drainage.

Local and remote control

FAGGIOLATI integrated pumps and gates can be controlled both locally and remotely. Based on the customer's requirements for water quality, liquid level and other key parameters to set, automatic opening and closing of pumps, gates, automatic liquid level alarm. Users in the cell phone, PC remote control, send commands, truly unattended, for the operation and management to provide more convenience.

fault prediction

FAGGIOLATI's intelligent control system is designed to collect and analyze integrated pump gate alarm management and telemetry systems, enabling automatic fault prediction and pinpointing, and real-time notification of authorized management and routine maintenance personnel for rapid personnel scheduling. Our system puts the customer in control.

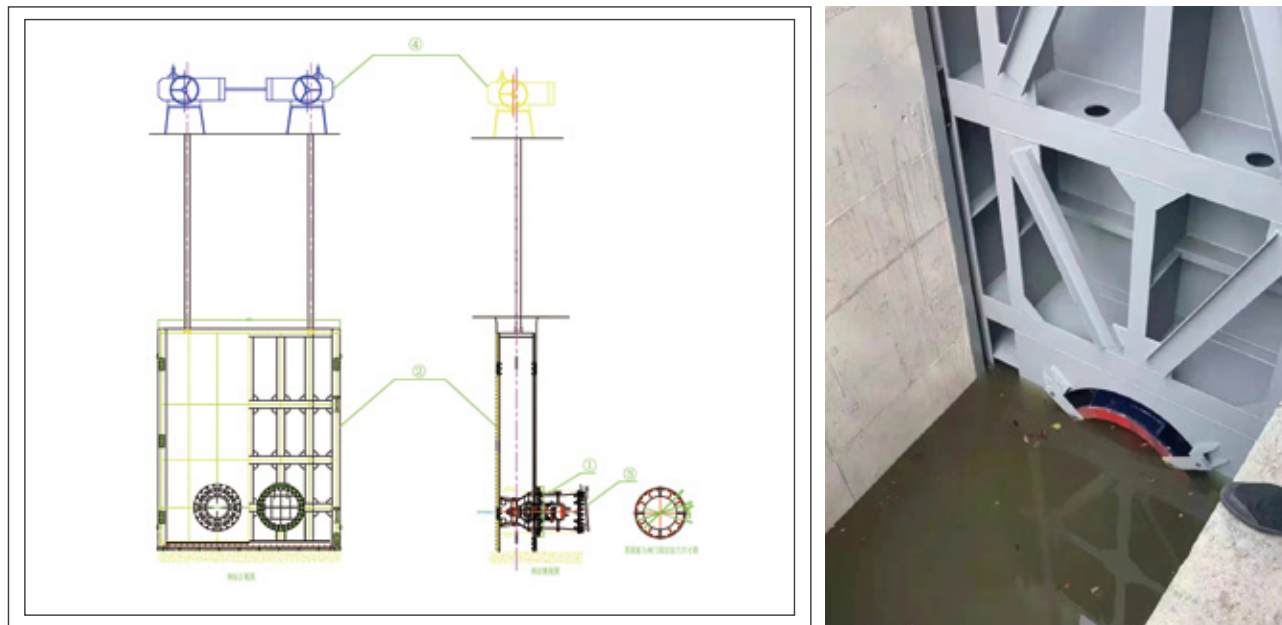


Integrated pump gate technical parameters

Parameter type	Technical Parameters
Maximum flow rate	150,000m³/h
Maximum lift	12m
Motor power	7.5-2000kW
fluid temperature	0-40℃
Medium conditions	pH 4-10
working environment	Temperature: -20℃~120℃; Humidity: 95%
Maximum working head	Unidirectional pressure forward: 10m, reverse: 5m Bidirectional pressure: 10m
Design head	≤15m (including backwash head)
Net orifice width range	0.5~10m (according to specific working conditions)
Orifice Clear Height Range	0.7~10m (according to specific working conditions)
Inland water design level	1~7m (according to specific working conditions)
Outer River Design Level	1-9m (according to specific working conditions)

The integrated pump and gate system is customized according to the design requirements, working condition characteristics, etc. For specific selection, please contact FAGGIOLATI.

classic example



Xinghua City Flood Control Project

Project Background

Zheng Banqiao hometown Xinghua City is located in the hinterland of the Lixiahe River, with typical landscape characteristics of the Lixiahe River, the central city of flat terrain, surrounded by water on all sides, the water network, the city floating on the water, since ancient times, there is a "Lotus Leaf Ground," the name. During the flood season, most of the residential areas in the city are flooded, and the scene of "cars driving in the water and boats traveling on the street" often occurs. Many factories were forced to stop production, the people suffer.

Xinghua municipal party committee, the municipal government to build urban flood control project as the government's "No. 1 project", in order to ensure that the effective construction of urban flood control project, by the Xinghua City Water Conservancy Bureau is specifically responsible for the implementation of urban flood control project. Take "to the river block, district defense" approach, the city is divided into eight areas, the construction of flood control dike (wall) 45 kilometers, flood gates 46, the formation of urban flood control project of the overall system.

Prescription

Remodeling of old traditional gate station

To renovate and strengthen the original old gate station, replace the original gate pumps, add new integrated pump-gate control system, improve the river flood discharge capacity, flood season to ensure that the flood water passes through unhindered, non-flood season can be realized in the river water interaction and circulation, the river overflow capacity increased by more than double.

New integrated pump gate system

The design of the new hydraulic vertical heavy opening and closing integrated pump and gate system uses CFD fluid dynamics to simulate and analyze the flow pattern of the river channel, and highly integrates the opening and closing system, pumping system, fouling stopping system, liquid level monitoring, water quality monitoring, and intelligent control, etc. The system makes use of the river channel's own storing space, and does not take up any section of the river channel, thus greatly saving the occupied land.

FAGGIOLATI has provided innovative design ideas for the whole project in Xinghua city flood control project. FAGGIOLATI integrated pump gate system built a flood wall in the city, so that the people of the water town are no longer suffering from flooding; at the same time, effectively improve the water environment of the river; the old city has a historical value of the ancient architecture has also played a very good protection. Greatly improve the efficiency and safety of water conservancy projects.



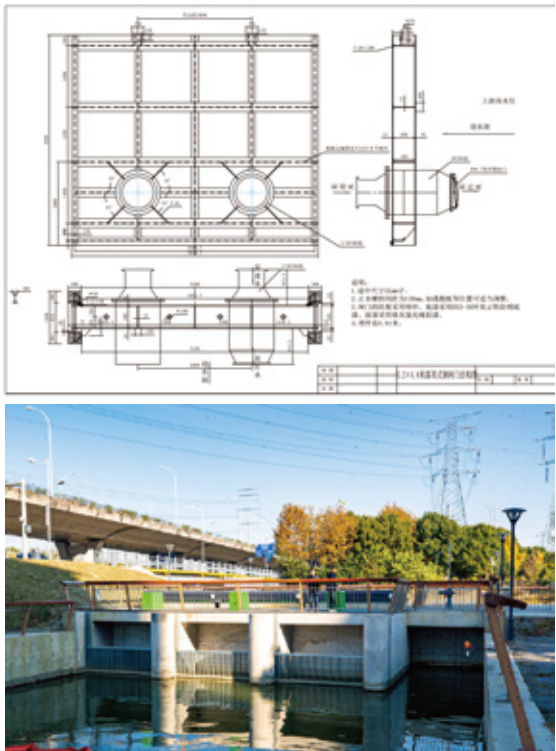
Project Background

Dafeng City is located on the shore of the Yellow Sea, at the end of the Huaihe River Basin, and has been a flood corridor in the Lixia River area since ancient times. Urban ground elevation is generally around 2.1 m, the lowest place is only 1.7 m. Once in the flood season, the rainfall intensity is greater, longer, flooding occurs from time to time. Early construction of the traditional flood pumping station has been far from being able to adapt to the needs of urbanization.

Prescription

After undertaking this project, the technicians carried out a site survey, FAGGIOLATI CFD engineers use their own solid professional background knowledge in fluid mechanics and a wealth of experience in the application of the results of the simulation to make a more accurate analysis and optimization. And then FAGGIOLATI engineers then use FEA finite element analysis three-dimensional software, the main water level combination of integrated pump gate stress check, deflection check, self-vibration analysis, etc., to further optimize the design of the gate structure to protect the integrated pump gate system safety and stability.

Integrated pump gate through the advanced software system and hardware equipment precision integration, realize the flood control, flood control, river water system management of intelligent solutions. Ensure that the urban production, living order is normal, the real realization of urban and rural water systems, "water, river, safety, ecological".



Dafeng District Urban River Improvement and Flood Control and Drainage Project

A range of services to extend the life of your equipment

We offer a range of services to extend the life of your equipment, from simple plant maintenance services to full program operations and maintenance. All of our services are characterized by high quality procedures, high health and hygiene standards, and a high degree of flexibility to meet the needs of your business.

FAGGIOLATI always maintains a collaborative relationship with the client's staff so that all work can be done efficiently and with minimal disruption to the site. Our work includes:

- On-site maintenance and repair
- On-site equipment testing
- Energy Management Services

A reliable service partner
Our goal is to be a business partner that provides specific solutions to improve the operating conditions of our users. The key to our success is our loyalty to consistently serve our customers.

Reliability
The reliability of your equipment lies in the longevity of replacement parts and repaired damaged and worn parts, and you can rely on our expert advice and our commitment to ensuring that every job is done the right way every time. The dedication of our service team is well known in the industry, and customers can rely on us to solve those unexpected and difficult problems.

Rapid Response
When the customer has a special need, willingness or emergency, we will make a solution in a short time and quickly put it into practice. We are available 24 hours a day, 7 days a week, for urgent calls from our customers. We are not only experts in meeting the needs of our customers' equipment, but also customize service and maintenance plans to meet the needs of our customers throughout the life cycle of their equipment.

Factory Spare Parts
FAGGIOLATI keeps critical spare parts on hand and immediately available when maintenance personnel need them - a key element of an effective maintenance strategy. FAGGIOLATI has a well-stocked centralized inventory of spare parts and an efficient logistic system that ensures fast delivery of commonly used spare parts. Our software systems, with the technical assistance of our product specialists, can help you with equipment identification and parts selection. We have an extensive network of jobs strategically located close to our customers for quick response. Our factory has a team of senior engineers and is fully equipped to repair and rebuild all types of pumps and water treatment equipment. Senior engineers have direct access to technical support from the Fagiolati manufacturing center. Factory repairs utilize original spare parts to increase the value of the equipment - improving reliability and reducing energy consumption. In most markets, we offer:

- | | |
|---------------------------------------|---|
| ✓ Maintenance of FAGGIOLATI equipment | ✓ Maintenance of non-FAGGIOLATI equipment |
| ✓ Installation and disassembly | ✓ Commissioning and testing after repair |



Replacement and Upgrade
Due to the gradual aging of equipment, operating costs gradually rise and naturally pale in comparison to brand new products. Our technical support staff can help customers identify and prioritize which parts to replace or upgrade and when. We will help select the most appropriate replacement product, provide selection assistance and technical support, and also take full responsibility for installation and commissioning as may be required.

Installation and Commissioning
Installation and commissioning of equipment can sometimes be a complex task. Incorrect or poor quality installations may not be easily detected, but are often the root cause of high operating costs, low reliability and shortened equipment life. FAGGIOLATI's equipment installation services are carried out by specially trained engineers who know how to work safely and who have all the experience required for installation and commissioning. Our service engineers can also demonstrate to your service team how to operate the equipment and recommend more cost effective maintenance programs. These services include:

- | | |
|---|--|
| ✓ Installation of machinery and equipment | ✓ Installation of electrical equipment |
| ✓ On-site commissioning and testing | ✓ Remote monitoring and maintenance |

Regular Maintenance
Regular maintenance of equipment reduces the probability of major breakdowns and emergency downtime. This translates into lower costs and greater predictability to reduce complaints and increase customer satisfaction. FAGGIOLATI scheduled maintenance services include comprehensive technical support activities, including routine site visits to monitor equipment conditions and scheduled equipment overhauls to restore efficient operations. These efforts will enable:

- ✓ Reduced downtime, saving customers' costs and time consumption
- ✓ Efficient, energy-saving operation of equipment
- ✓ Low wear and tear on equipment
- ✓ Parameters, early warning reasonable settings
- ✓ More security