



New Pump Gate System

# FLOOD BUSTER

Yu Kurita  
ISHIGAKI Company Ltd

# About ISHIGAKI

▶ Establishment

1958

▶ Number of Employees (Group Total)

927

▶ Products

Screw  
Press



Filter Press



Polishing  
Filter



Vertical Pump



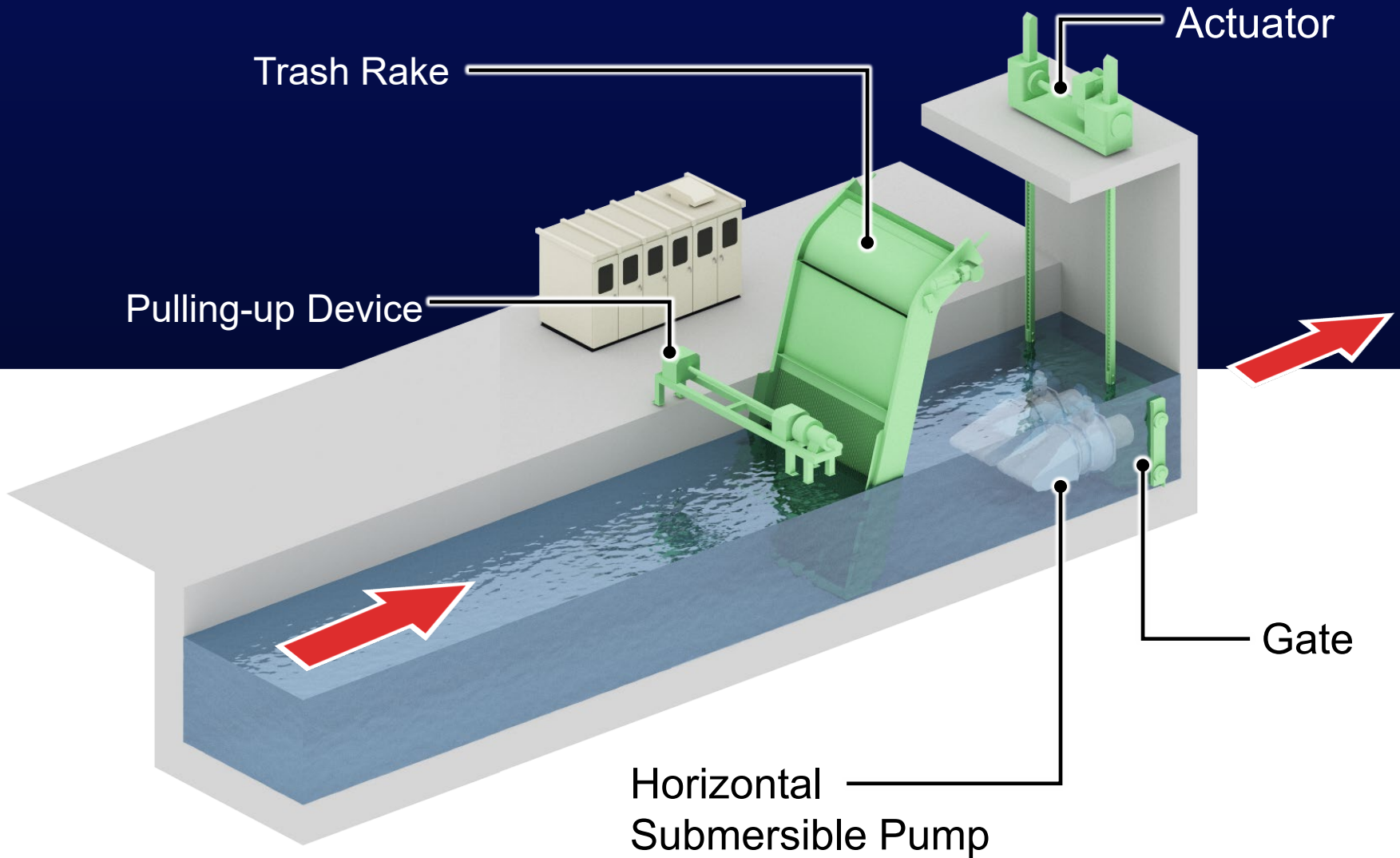
Submersible  
Pump



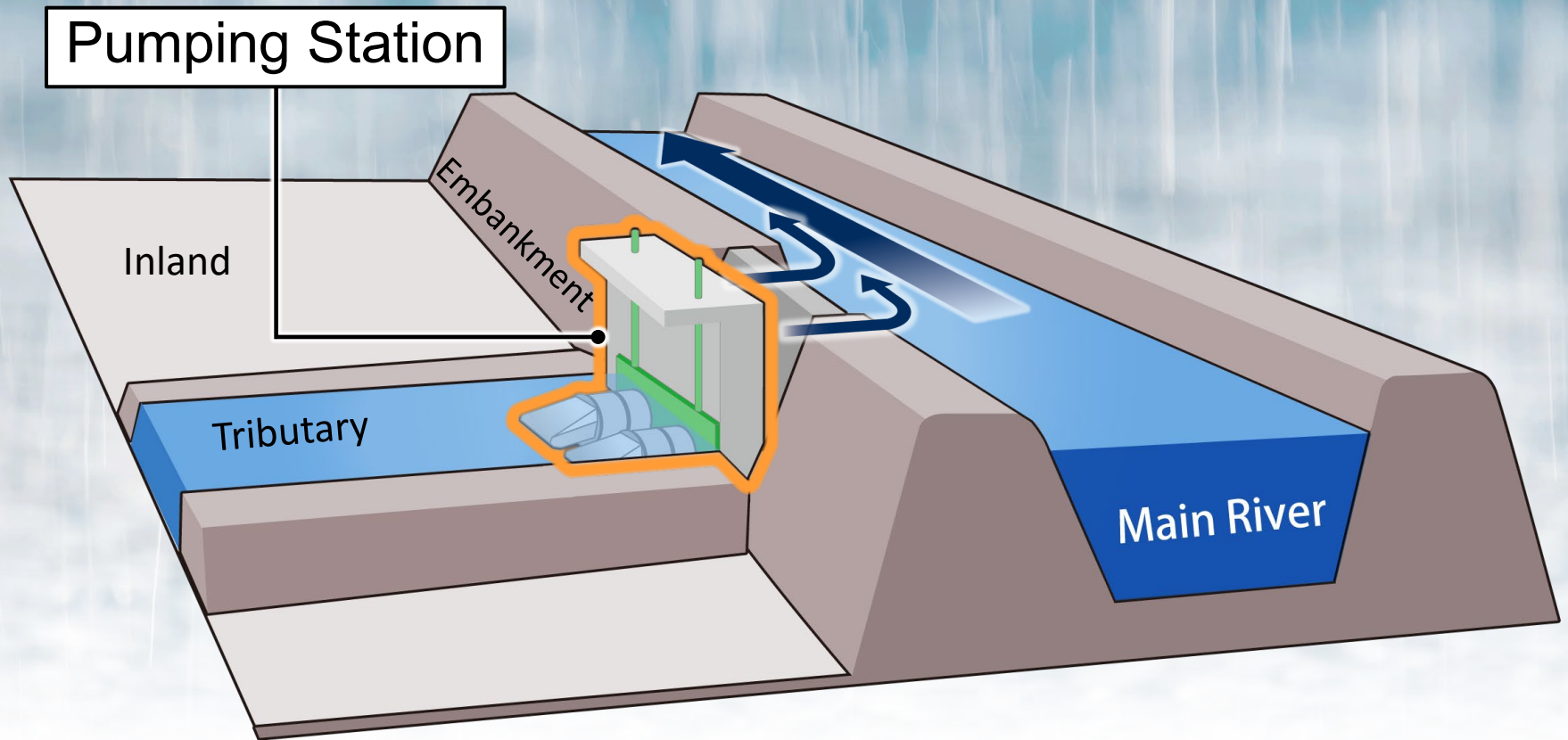
Pump  
Gate



# Pump Gate



# Role of Pumping Station



**Pump gates and pumping stations prevent flood damage.**

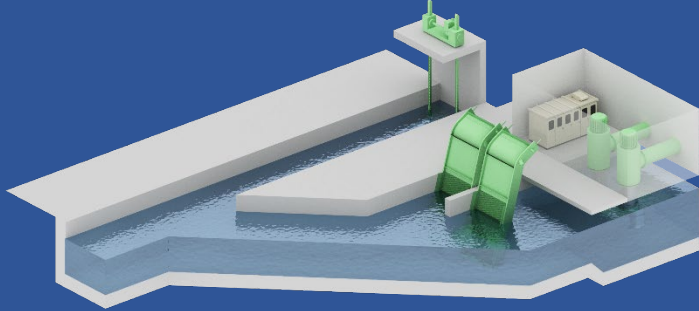


# 1

## Comparison of Pumping Stations and Pump Gates

present condition

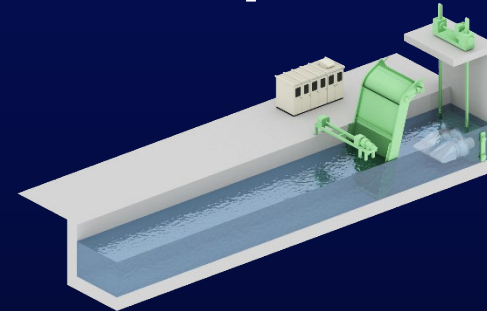
# Pumping Station



Flood Control

new proposition

# Pump Gate



Long construction period



Short construction period



Large land acquisition



Small land acquisition



Pump house



No Pump house



Expensive



Lower cost



Lots of equipment



Less equipment



Lots of maintenance



Less maintenance



present condition

# Pumping Station

# VS

new proposition

# Pump Gate



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Lots of maintenance



Short construction period



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No Pump house



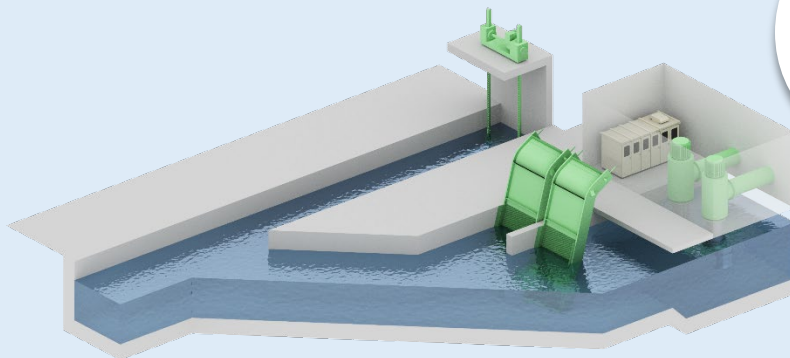
Lower cost



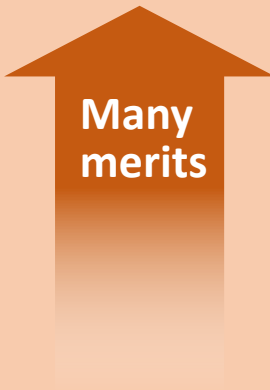
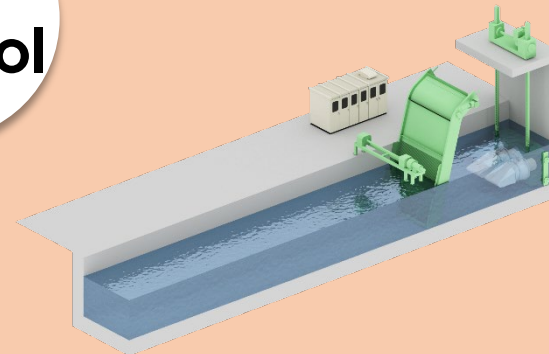
Less equipment



Less maintenance



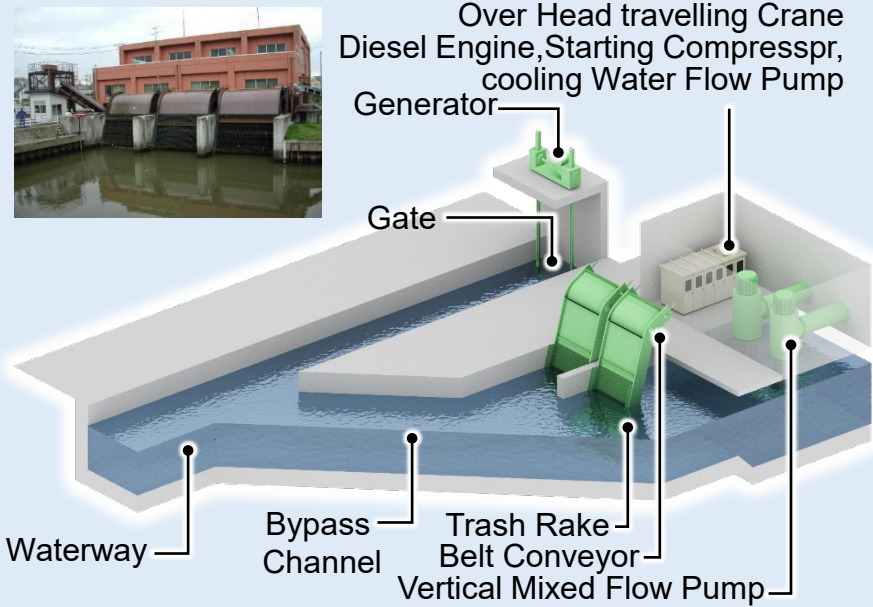
## Flood Control



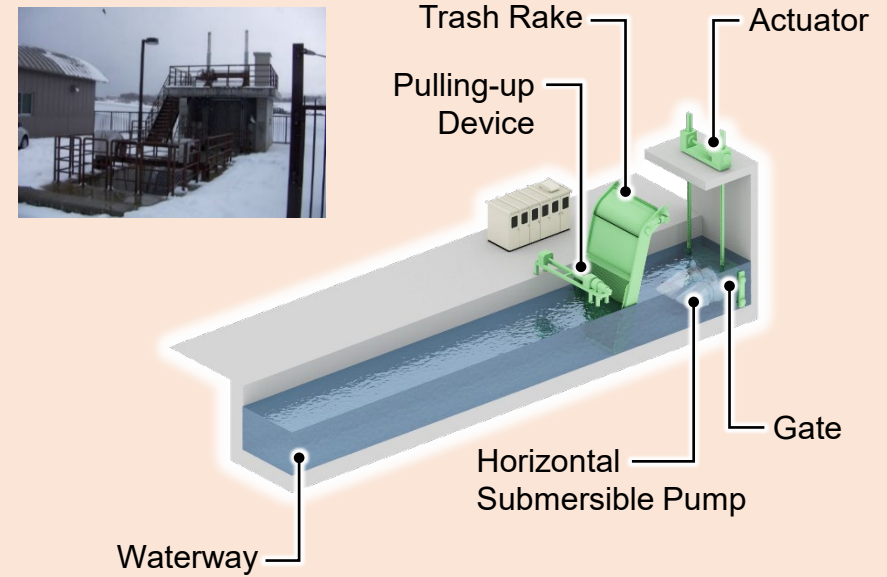
Many merits



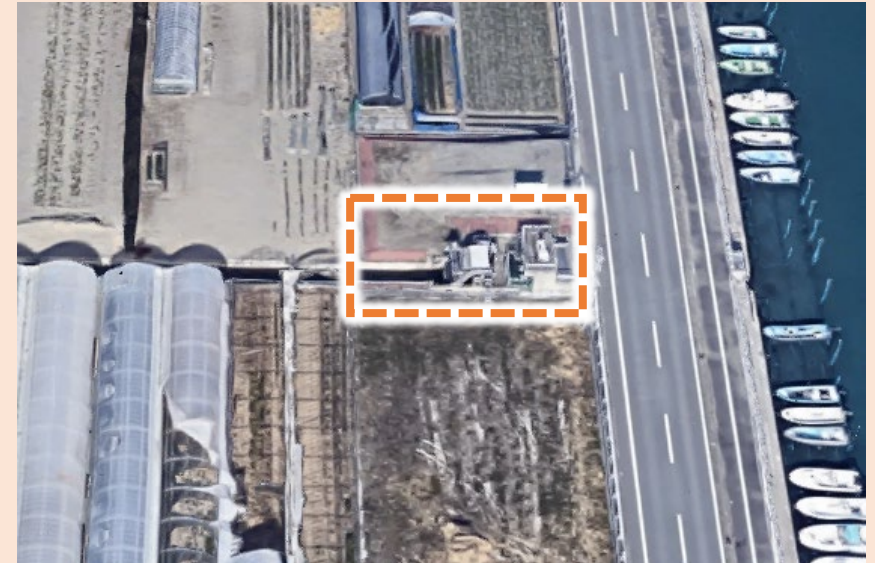
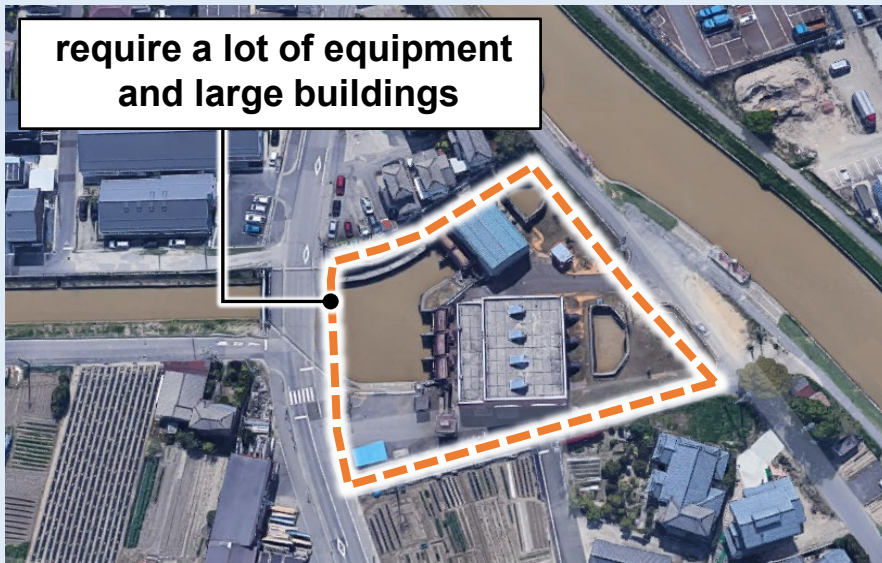
## Pumping Station



## Pump Gate



**require a lot of equipment  
and large buildings**

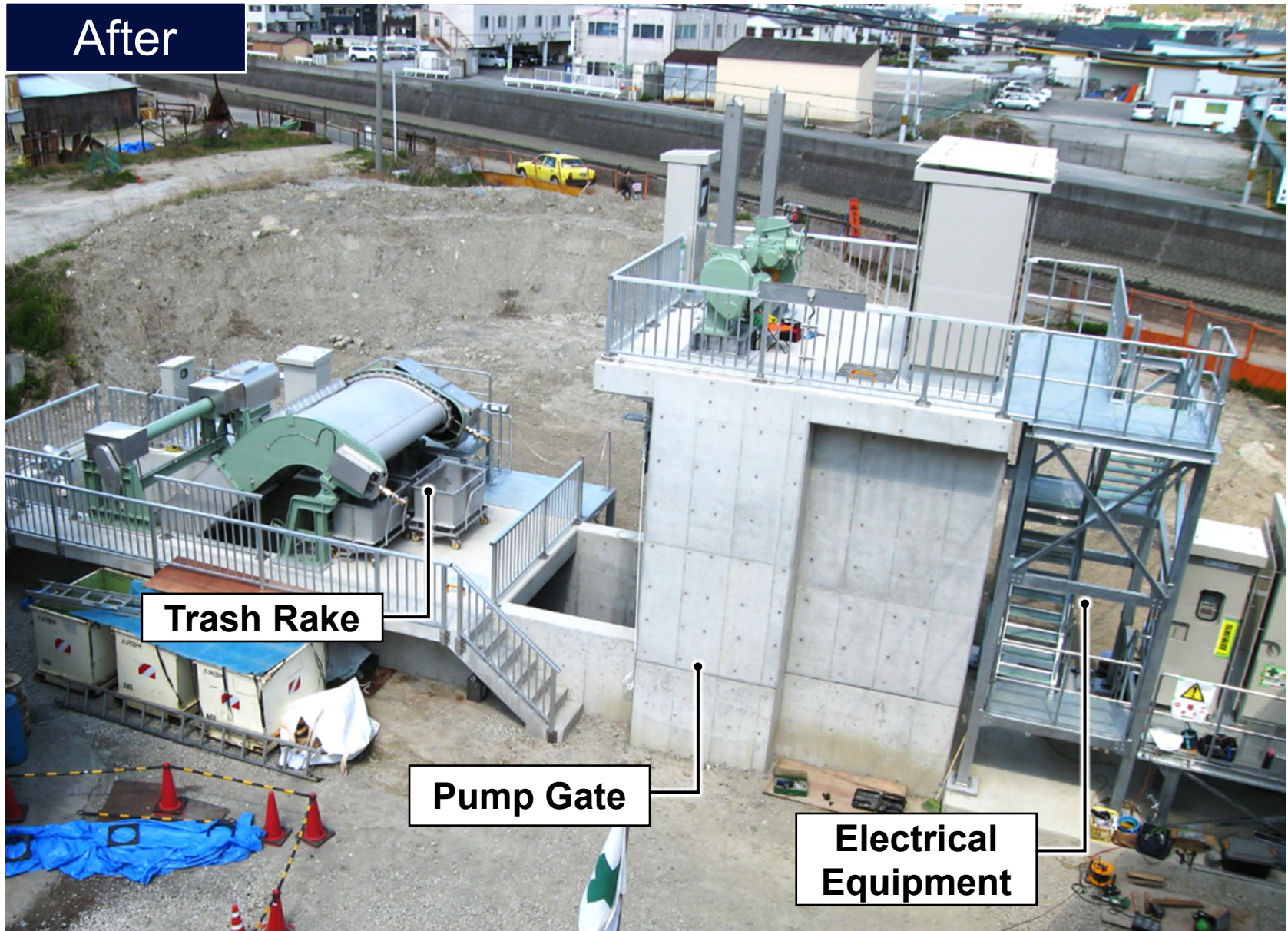




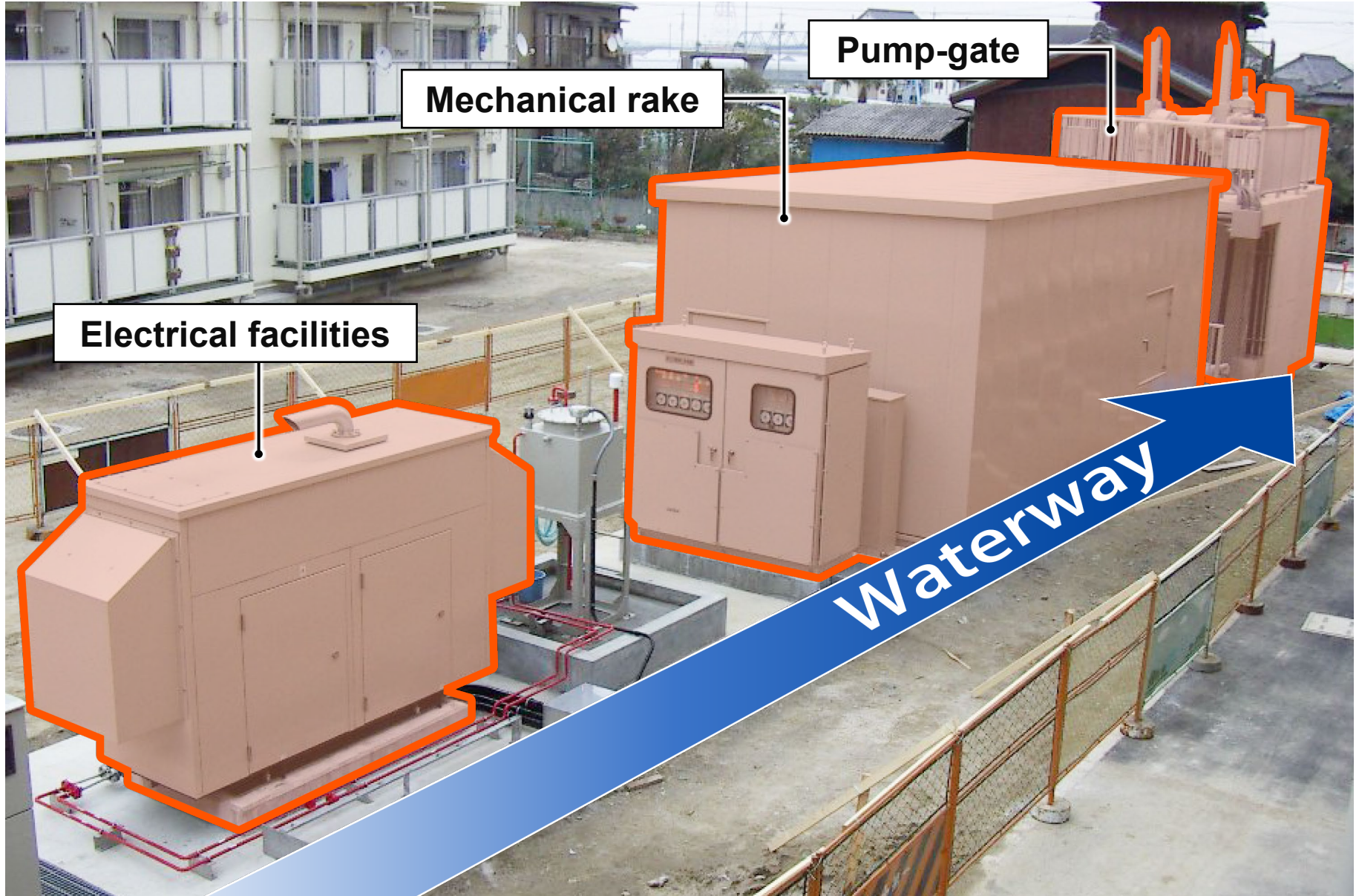
Before







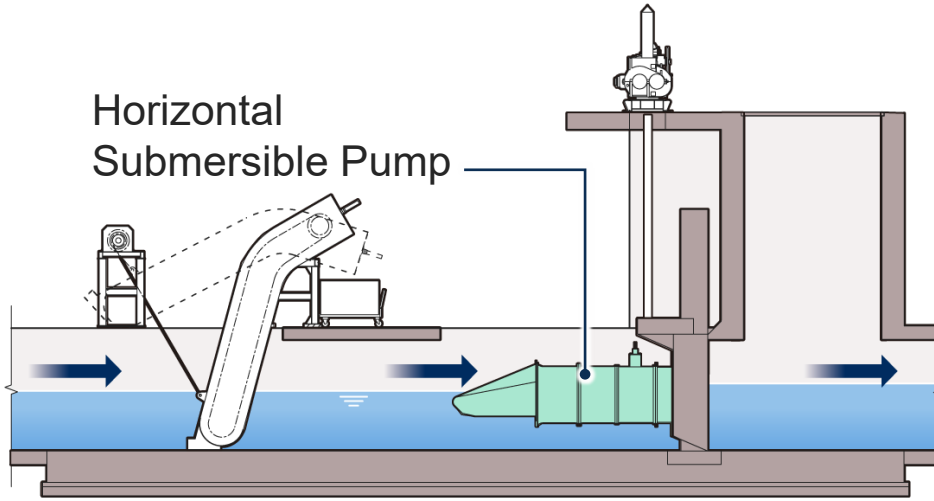




# 2

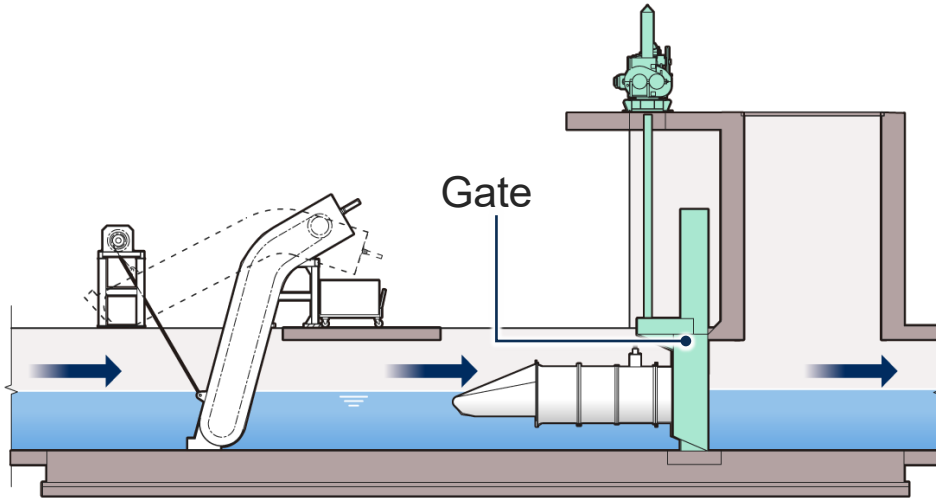
## Components of the Pump Gates

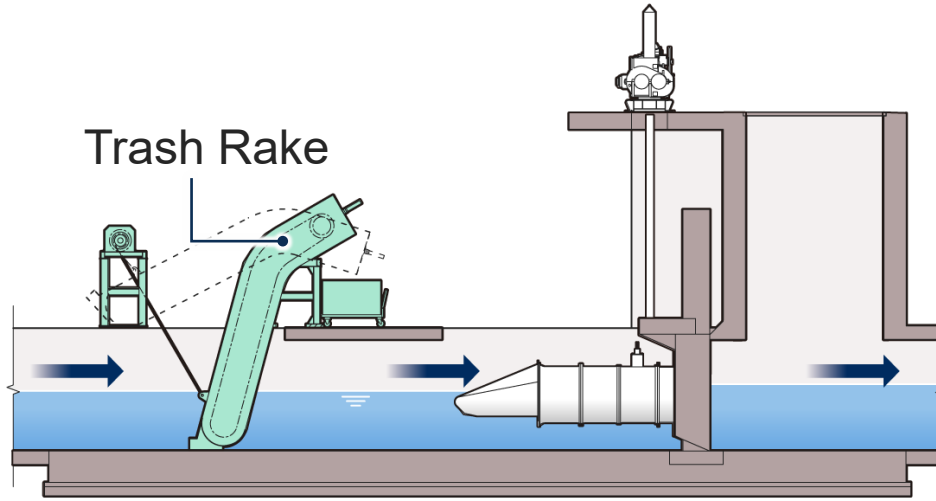






# Main Equipment - Gate







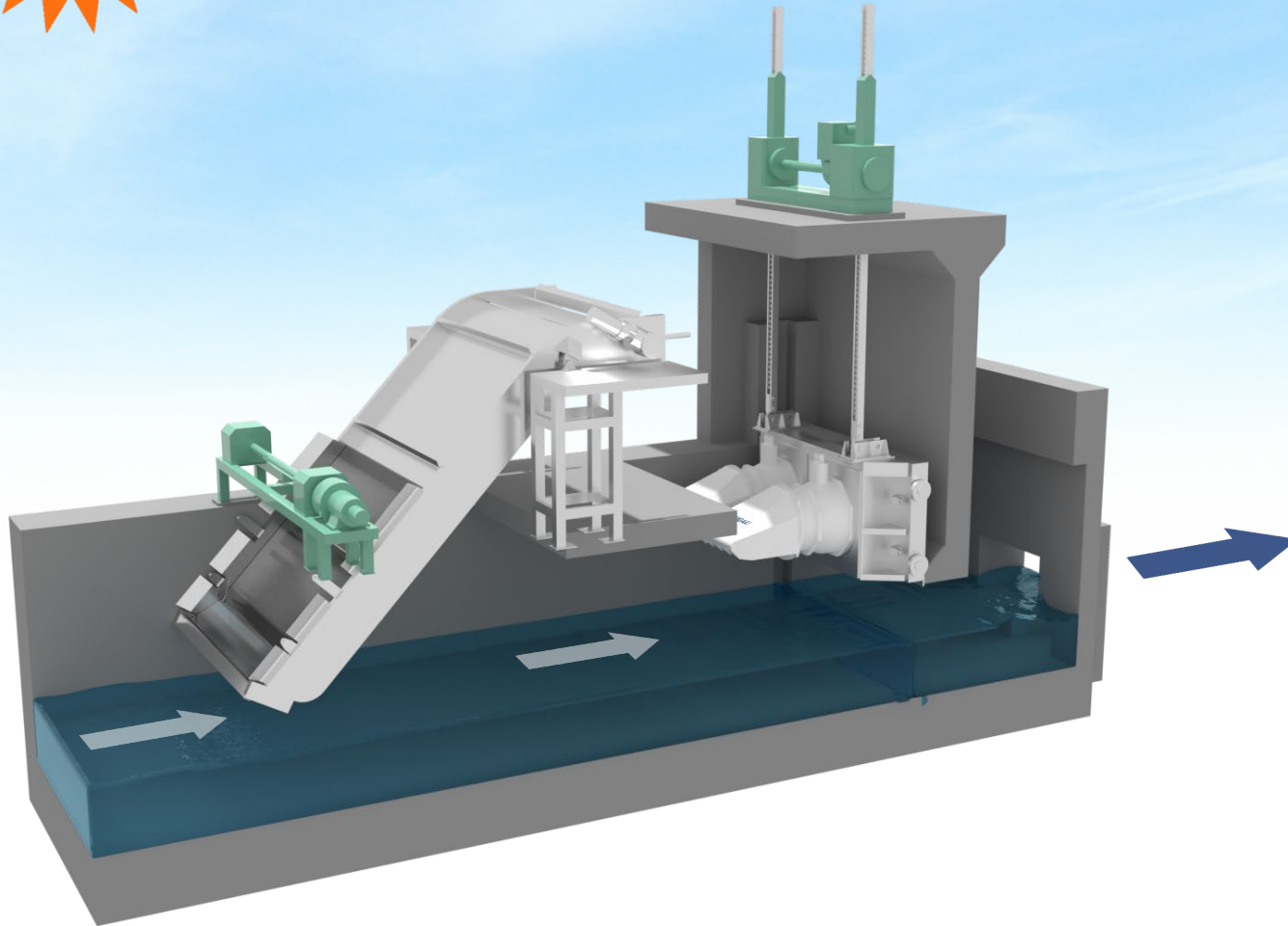
# 3

## Operation of the pump gates



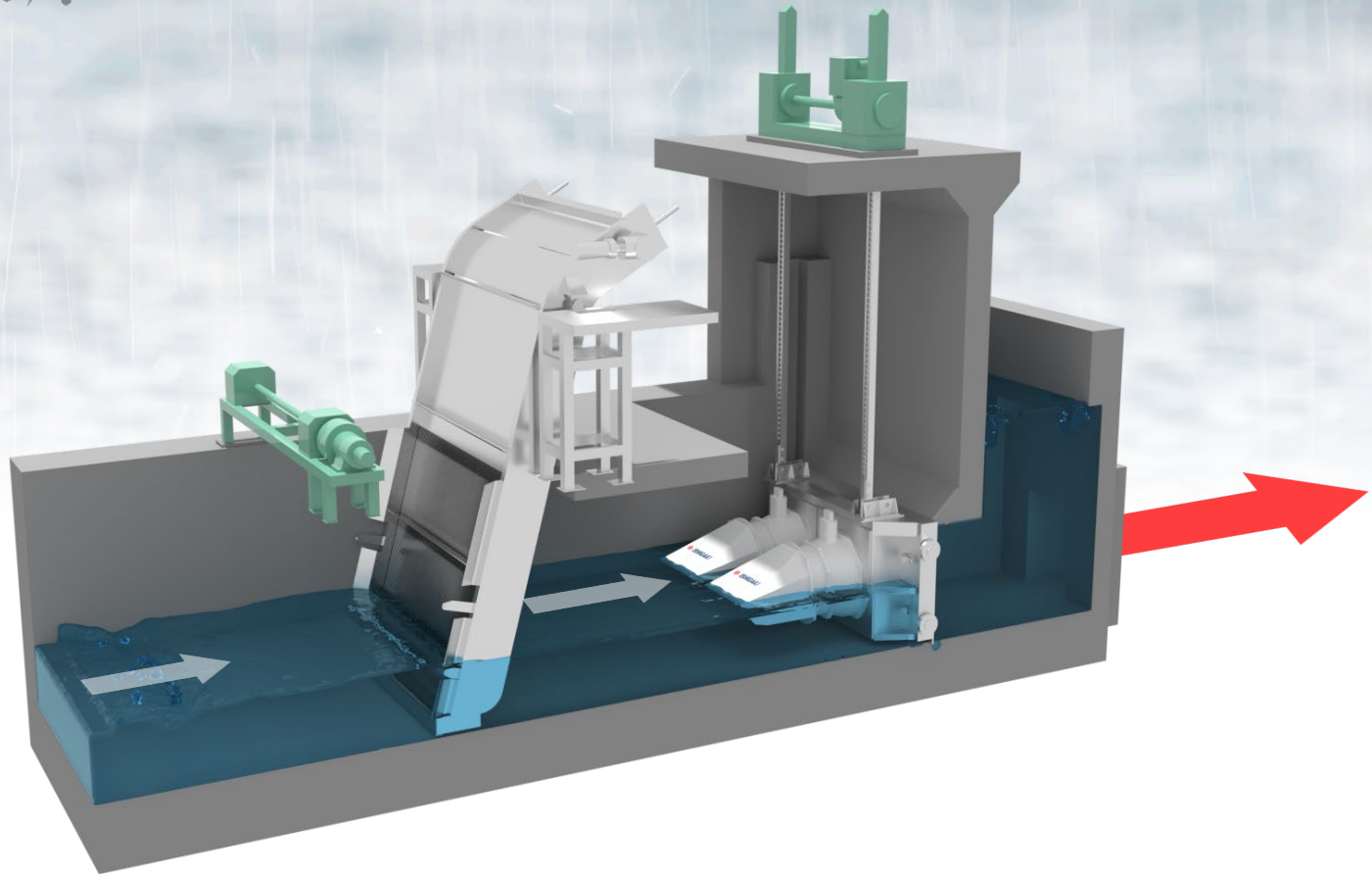


## Natural Drainage





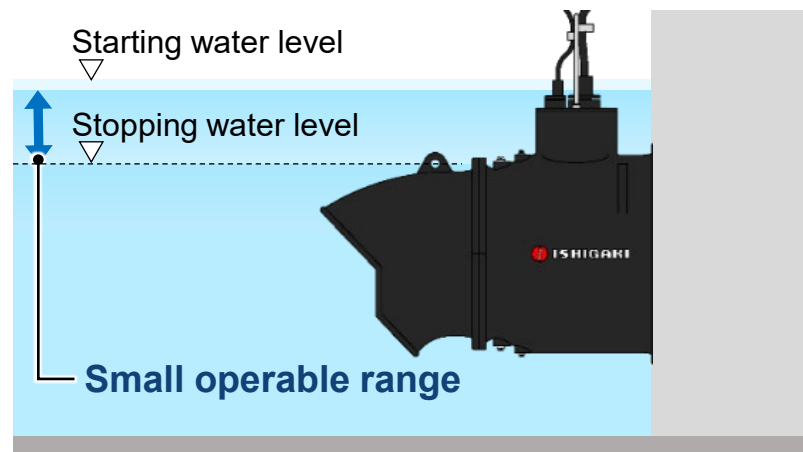
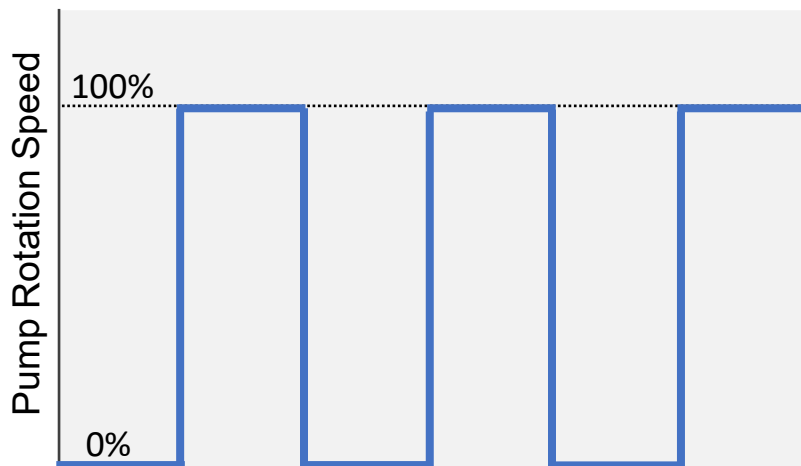
## Forced Drainage



4

Special Pumps for Pump Gates  
**FLOOD BUSTER**

## Problem of Existing Pump for Pump Gate



**Start and stop repeatedly**

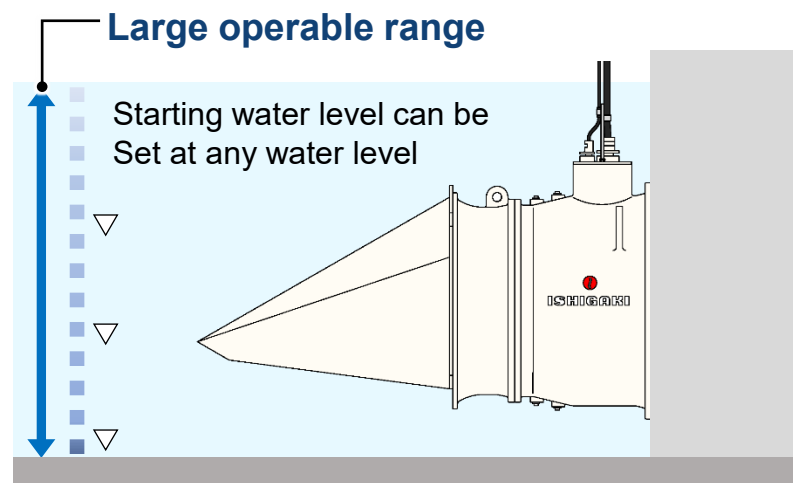
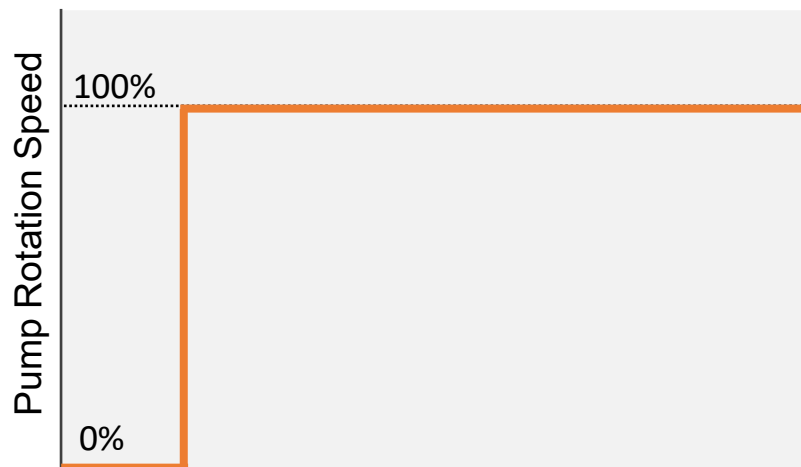
**“Cycle ON/OFF” increases a risk of  
breakdown on electric board**

**In the worst case,  
the electrical board will burn.**





## Flood Buster solve the problem



\*No stopping water level is required

**No need to start and stop repeatedly**

**Operation at any water level with full speed**

**Flood Buster has less load on the electric board than the existing pump.**



## 1. Simple operation

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Once you press the start button you can leave it.

Flood Buster will stop automatically 30 minutes after water level indicator detects that the water level does not rise.



## 2. No inverter required

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Since there is no inverter, Flood Buster is hard to break down and life cycle cost is cheap.

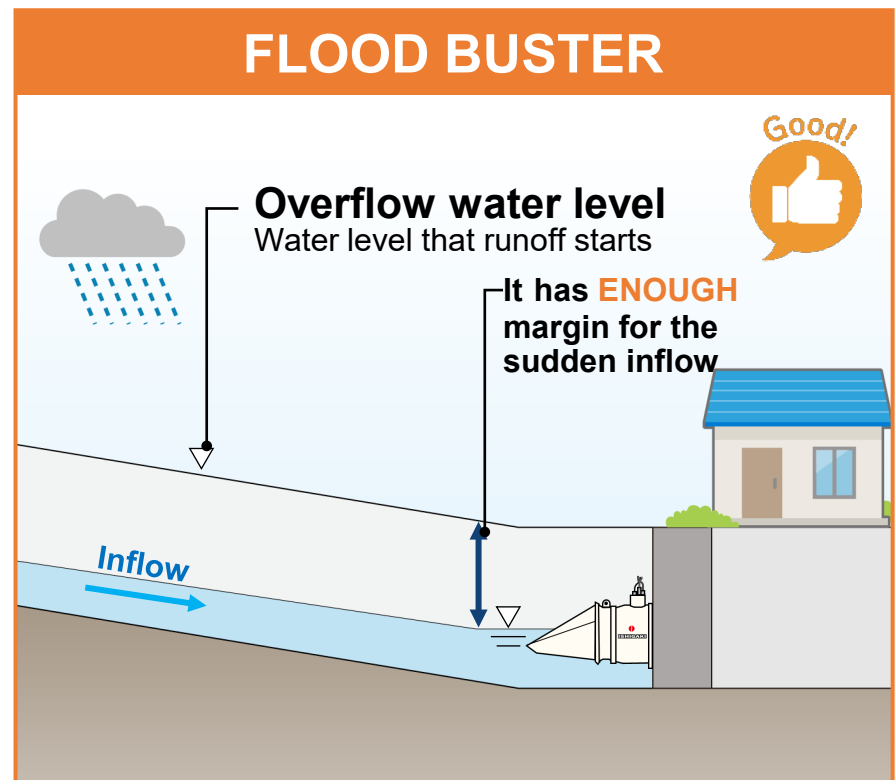
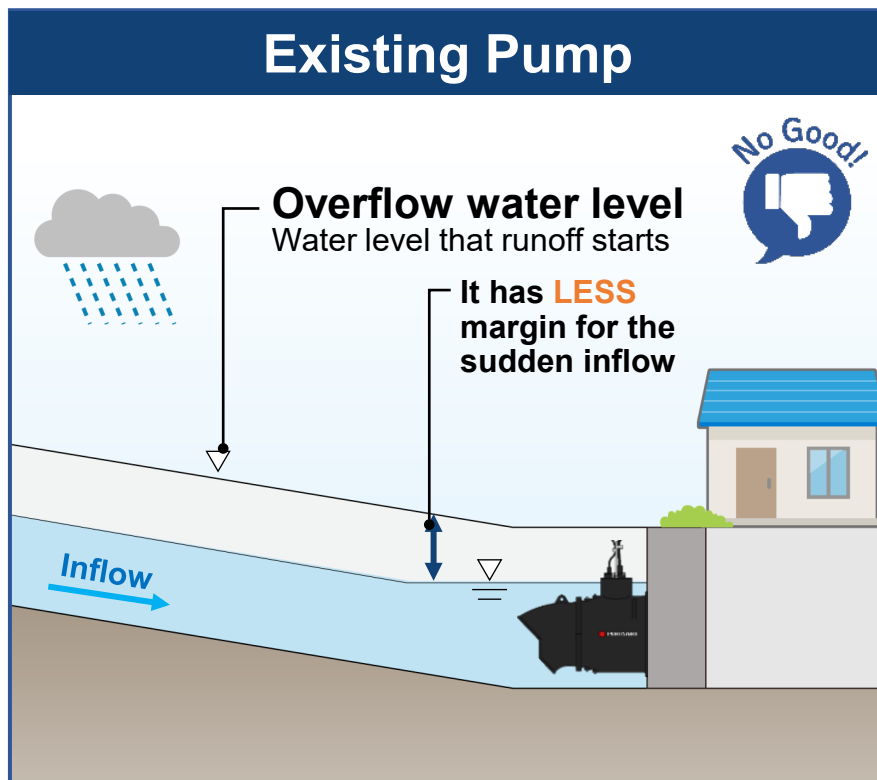




**Reliability**

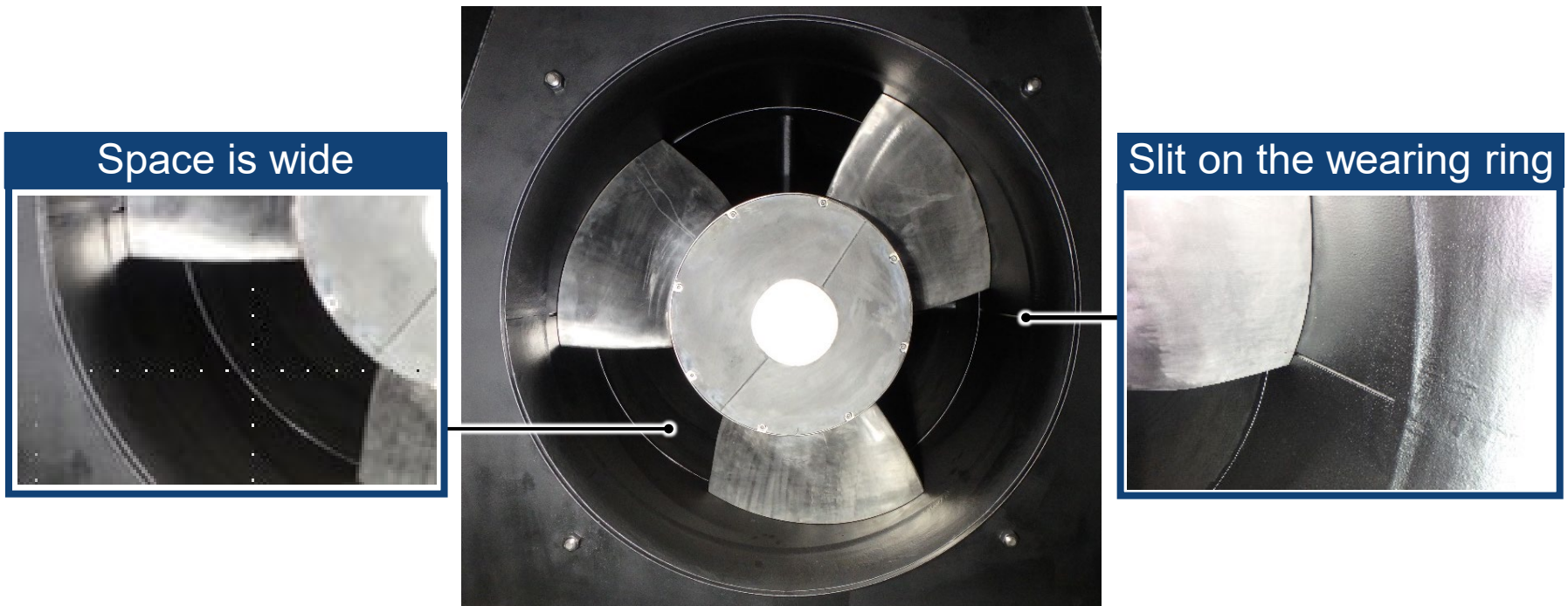
## 3. Inundation risk reduction

The water level can be kept low at all times because there is no stopping water level and standby operation is possible.



## 4. Garbage passes impeller easily

Garbage that is **20%** of the pump diameter can pass through.





## 4. Garbage passes impeller easily

### ▶ Garbage for test



### ▶ Throwing garbage to the waterway



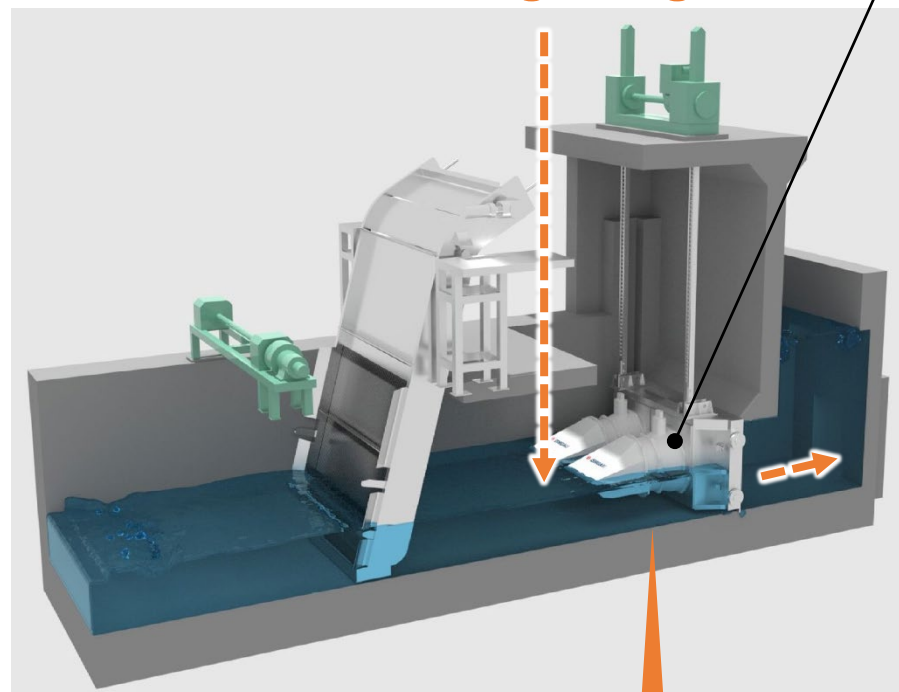
### ▶ Garbage after passing through the pump



## FLOOD BUSTER

Φ600mm × 51m<sup>3</sup>/min × 4m × 55kW × 2台

Throw garbage



All garbage thrown in passed through without clogging

## 5. Easy Maintenance

0. Before Maintenance



1. Remove Fence



2. Put Grating



3. Temporary Platform for Maintenance



60 Pumping Stations

116 Pumps





## Balut Pumping Station

Pump Gate Overview



Pump Gate  $\Phi$ 1200mm



## Building Skelton

**Manila, Philippines**

$\Phi$ 1200mm, 3cms, H3m, 170kW  $\times$  1set

July 2019



## Kyoguchi Pumping Station

Pump Gate Overview



Pump Gate  $\Phi$ 700mm



## Mobile Generator

Hyogo, Japan

$\Phi$ 700mm, 1.05cms, H2.6m, 55kW  $\times$  2sets

June 2018



## Shinkango Pumping Station

Pump Gate Overview



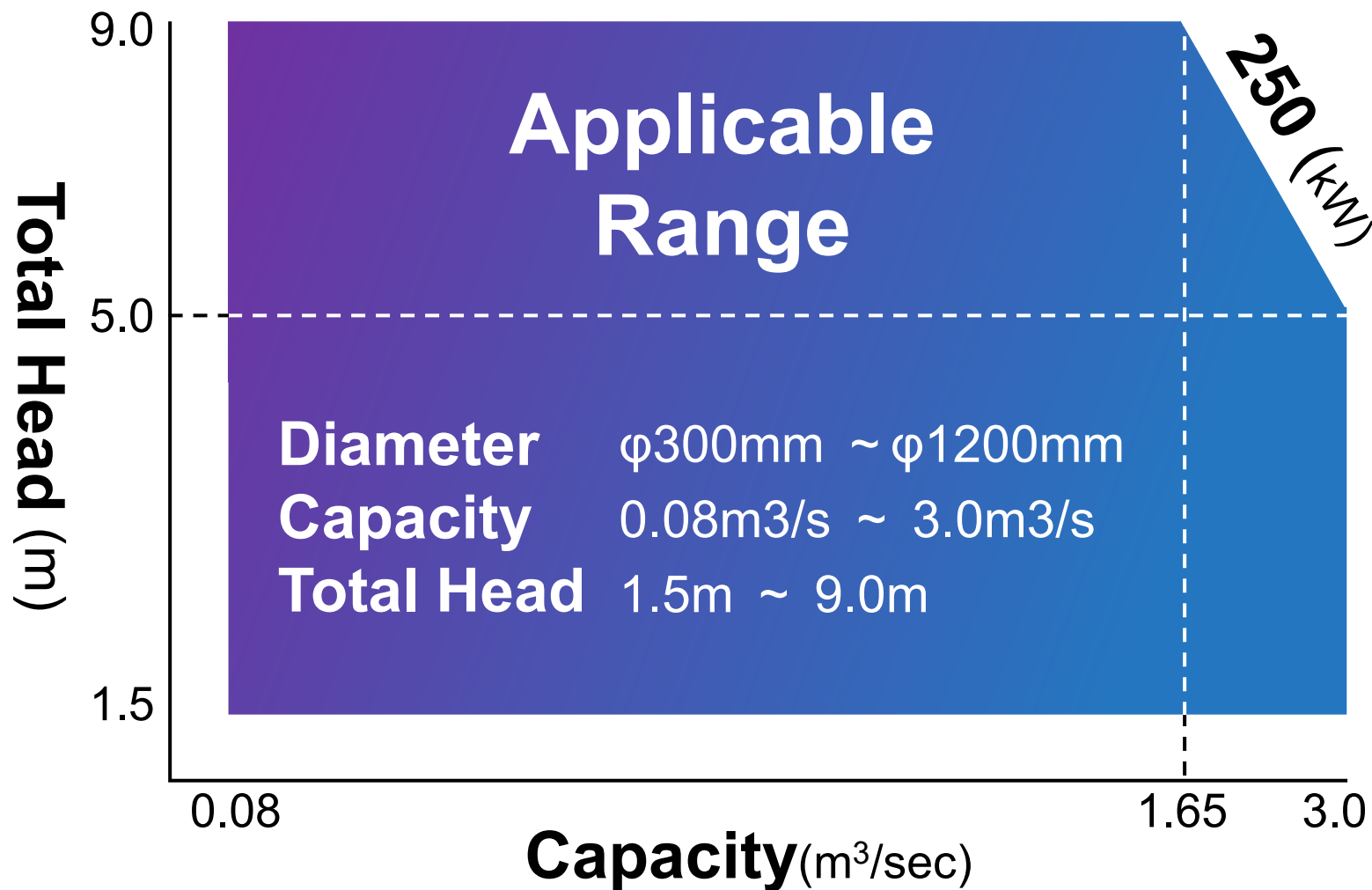
Pump Gate  $\Phi$ 1000mm



**Shizuoka, Japan**

$\Phi$ 1000mm, 2.48cms, H3.0m, 132kW  $\times$  2sets

June 2019



Compact

Not expensive

No need to acquire land

Short construction period

+

Easy operation

No risk of Cycle On/Off



**If drainage facility is required ...**

**in Limited Place**

**in Limited Period**

**with Limited Budget**

# Please consider FLOOD BUSTER



[www.ishigaki.co.jp/en](http://www.ishigaki.co.jp/en)

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<https://www.youtube.com/watch?v=3hy7FMYNqak>