

**Case Study**

**Laundry Wastewater Treatment  
(Wuhan Railway Washing Center Project)**

The project mainly deals with the washing sewage of quilt covers, bed sheets, pillow cases, headrest pieces and other personal items on all high-speed trains, bullet trains and ordinary speed trains from Wuhan Railway Bureau and Wuhan three railway stations.

The sewage characteristics of this project are: the waste water contains a lot of short fibers, a large number of laundry powder foam, COD<sub>Cr</sub> value is higher, the wastewater is turbid, and sometimes it has a very deep color. The waste water is large and has a small amount of foam, which contains less suspended matter and smaller COD<sub>Cr</sub> value. The amount of waste water drained is small, and the water quality is slightly better than that of cleaning waste water.



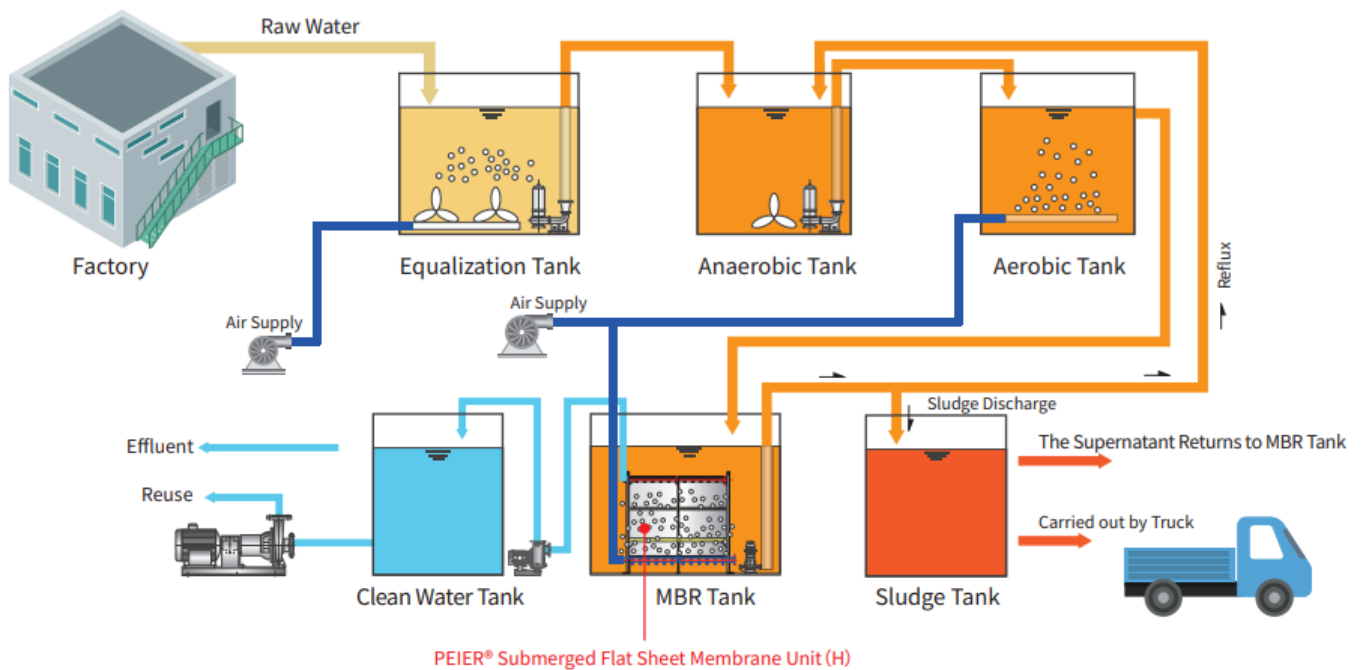
**1. Outline of the Facility**

|                           |  |
|---------------------------|--|
| <b>Location</b>           | Wuhan City, Hubei Province               |
| <b>Type of Wastewater</b> | Laundry wastewater                       |
| <b>Flow</b>               | 600m <sup>3</sup> /D                     |
| <b>Commissioned</b>       | Since Nov.,2021 ( Peier MBR in 6 groups) |

## 2. MBR Process Flow Sheet

According to the types of pollutants in sewage and the discharge of various sewage, the sewage treatment station adopts the following processes for sewage treatment:

### Process Flow Chart of Wastewater Treatment (Wuhan Railway Washing Center Project)



## 3. Design Parameter and Actual Data

| Type               | Parameter                   | Influent | Design | Actual | Capacity m <sup>3</sup> /D |
|--------------------|-----------------------------|----------|--------|--------|----------------------------|
| Laundry Wastewater | COD <sub>Cr</sub> (mg/L)    | ≤209     | ≤50    | 16     | ≤ 600                      |
|                    | BOD <sub>5</sub> (mg/L)     | ≤93.5    | ≤25    | 5.4    |                            |
|                    | SS (mg/L)                   | ≤40      | ≤10    | 1.3    |                            |
|                    | Chroma (degrees)            | ≤9       | ≤20    | 3      |                            |
|                    | pH                          | 6~9      | 6~9    | 7~8    |                            |
|                    | Turbidity (NTU)             | ≤16      | ≤5     | 0.8    |                            |
|                    | Escherichia Coli (PCs. / L) | ----     | 1500   | ----   |                            |

"Design" values of effluent are regulatory limits. "Actual" values are average values.

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