



## Headworks® Installs Two Enormous MS® Bar Screens in India

### Background

Shahad Temghar Water Treatment Plant is located along the Shahad River in Maharashtra, India - just 60 km northeast of Mumbai. The Pump Station houses 12 motors, 9 of which pump 285 MLD each day, serving a population of 5 million people in Thane City.

### Challenge

Heavy debris from the Shahad River was clogging the intake structure and transfer pumps at the Water Treatment Plant preventing the facility from running all nine pumps. A manual screen was installed with hopes of reducing maintenance issues, but the large debris from the river was too much for it to handle.

Over the course of three to four days, the blockage gradually reduced the flow by 60% - forcing the entire pump station to be shut down. In order to restore the flow back to full capacity, a ten member crew had to be called to the site to clean the manual screens. This routine maintenance could take anywhere between three to six hours in total. Additionally, each pump was back washed two to three times each day for up to 30 minutes to clear the strainer. The customer was weary of this downtime and recurring expense.

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Customer: STEM Water Distribution & Infrastructure Company  
EPC Contractor: Crystal Industrial Syndicate Pvt. Limited  
Industry: Water Intake Facility

### KEY FACTS

- **Number of Screens:** 2
- **Flow Capacity per Screen:** 720.6 MLD
- **Bar Spacing:** 10 mm
- **Screen Width:** 3.45 m
- **Screen Length:** 15.25 m
- **Material of Construction:** SS304
- **Raw Materials:**
  - 22,202 kilograms of stainless steel and plate metal
  - 6,916 kilograms of screenfield bar
  - 122 meters of chain

## Solution

The conditions of the Shahad River demanded two bar screens with 10 mm spacing that could withstand total flow of up to 1,442 MLD. Headworks designed and fabricated two MS Bar Screens for installation at the intake of the Shahad River. Comparable in height to a five story building, the screens measure 15.25 meters in length by 3.45 meters in width. Custom crates were manufactured to transport the screens from the United States to India.

Crystal Industrial Syndicate Pvt. Limited was the EPC contractor for the job and was given only 24 hours to install both bar screens. Since the plant supplied water to 5 million people, time was of the essence. The process involved blocking the inlet channel with a coffer dam, removing the old screens, and finally installing the new screens. Since several high voltage power lines ran above the channel, the installation was quite a challenge, but Crystal Industrial Syndicate Pvt. Limited was able to finish the job on schedule.

Two months following the installation, the plant was thrilled to report that the 10 person crew had not been called for routine maintenance and the strainer had only been back washed once (previously a daily requirement). In the near future, the plant will be upgraded to 600 MLD from the current 285 MLD, since the channel can now deliver uninterrupted flow. The installation was a true success and everyone at the plant is very pleased with the performance of the Headworks MS Bar Screens.



*22,202 kilograms of stainless steel and plate metal were required for the construction of both screens.*

*“ Everyone at the plant is very pleased with the performance of the Headworks MS Bar Screen. Most notable has been the bar screen’s ability to reduce the frequency of back washing and channel cleaning. This will allow us to increase our flow capacity and generate additional revenue. ”*

*- Kamal Lalla  
Civil Engineer*



*The installation was completed in sections.*



*The screens were successfully installed in the summer of 2012*

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