

## JASH MAHR MASCHINENBAU™ “MM2MM”™ MULTIRAKE SCREEN

*Jash Mahr Maschinenbau™ “MM2MM”™ Multirake screen is manufactured in technical collaboration with Mahr Maschinenbau, GmbH, Austria, a company with a history of over 87 years. As of 2014, over 300 screens using “MM2MM”™ technology are in use in over 8 countries worldwide.*

### APPLICATION:

“MM2MM”™ Multi rake screen is a mechanically cleaned fine / coarse screening equipment used to prevent fine / medium sized floating wastes from travelling to the pumps located into the wet well / pump chamber of the water and waste water pumping station or to prevent fine sized floating wastes from travelling further into the water and waste water treatment plants. “MM2MM”™ Fine multi-raking screens with 2 mm to 4 mm (0.08” - 0.16”) spacing are also used to reduce the load on very fine Traveling water screens or Perforated screens used in MBR based treatment plants. These screens are ideal for use in pumping stations having channel widths as high as 4.5 meters (15’) and channel depth of up to 60 meters (198’).

### CONSTRUCTION:

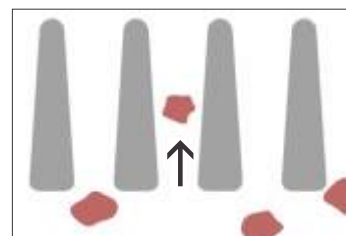
“MM2MM”™ Multirake screen comprise of equally spaced taper bars covering the width of the screen and extending to the top of water level at an inclination of 75 - 80°. The bars are followed by a debris plate extending up to the discharge point located above the platform. Multiple rakes are then used to rake the waste trapped on the bars and transfer it to the operating platform. The screen design is based on stress calculations to withstand three times the maximum water pressure.

### WORKING:

Upon receiving the signal, the rake on the upstream side of the screen starts moving carrying the wastes upward. When the rake reaches to the discharge point, the wiper wipes the waste from the rake and discharges the waste on to the inbuilt chute. The waste coming from the chute can either be collected in to the collection bin or on to the conveyor installed across the screen. The rakes are spaced apart and can be set to achieve cleaning interval of less than ten second. The overload device can be programmed to jump the drive into a faster cleaning interval when the differential water level gets too high. The jam removal feature provided in the screen enables the rake to travel automatically for short reverse and then forward direction for a pre-determined number of cycles so as to try and remove an obstruction.

### SALIENT FEATURES:

- High reliability due to rugged construction- able to withstand minimum 3 times the maximum water depth specified.
- Engineering superiority - “ MM2MM”™ screen design can be used for fine as well as coarse screening application.
- Very narrow bar spacing - screens with bar spacing as low as 2 mm (0.08”) can be supplied.
- Superior bar profile - bars are in taper section resulting in to very low head loss.
- Replaceable bars - bars when damaged can be individually replaced in installed condition.
- Future convertibility - replaceable bars enable easy conversion of screen from higher spacing to lower spacing at a later date.
- Very strong rake - made of water jet cut plate of 16 mm (0.64”) thickness.
- Jam removing feature - in event of any blockage, rake can travel automatically for short reverse-forward-reverse direction for pre-determined number of cycles.
- Variable speed-upon sensing flooding situation, rake can automatically operate up to 2 times the normal speed to remove accumulated waste faster.



Tapered Bar Profile



Individual Replaceable Bars



Strong Profiled Rake



“MM2MM”™ Multirake Screen for Kukrail SPS, Lucknow, India

- Superior sprockets and chains - heavy duty sprockets and chains made of stainless steel and chain pins made of hardened stainless steel material of special grade.
- Very effective overload device - backed up by an electromechanical overload device.
- Special grade ceramic bushes - provided in lower sprockets to ensure very long operative life.
- Insensitive to grit and stone.
- Minimum welding - avoids distortion during manufacturing there by offering high functional reliability.
- Continuous welding - eliminates possibility of fissure corrosion.
- Very heavy construction - eliminates need of anchoring to the side walls or top of the channel thereby facilitating easy removal of the screen from the channel in future for any major maintenance.
- Hygienic enclosure above platform.
- Factory assembled and pre-shipment tested- ensures effectivity of movement.
- Easy and faster erection - the screen to be just lowered in to ready made channel for installation.



Special Sprocket and Chain



Electromechanical Overload Device

#### SPECIFICATION:

Bar spacing	Minimum 2 mm (0.08")
Channel width	up to 4,500 mm (15')
Channel depth	up to 60,000 mm (198'), larger depth on request
Material of construction	Stainless steel 304, 316, other materials on request



“MM2MM”™ Multirake Screen for DJB Interceptor SPS, Rithala, New Delhi, India



“MM2MM”™ Multirake Screen with Top Enclosure



“MM2MM”™ Multirake Screen Installed at Zuikerbosch WTP

Inset: Weeds and Algae removed per day