

Racking Machine



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GENERAL MECHANICAL WORKS PVT. LTD.

An ISO 9001 : 2008 Certified Company



Racking Machine

Trash Rack Cleaning Machine (TRCM) is used to reliably remove debris (branches, trunks, leaves, grass, bamboo etc.) coming with the water & getting struck on the Trash Racks and blocking the flow of water to ensure unobstructed flow of water to the turbines. Removal of debris can be done without shutting the plant.

Depending on the density of blockage, trash rack cleaning machines can cause large improvement in generation capacity of the Hydro Power Stations. Particularly, in the flood seasons, when the leaves from trees or in the winter when ice covers some parts, cleaning machines can guarantee an increase in capacity of upto 20-30 %.

Whatever the blockage is like grass, leaves, branches, trees or plastics – GMW has developed various trash cleaning mechanisms for removal and disposal of such debris.

Most of our systems can be equipped with additional crane and grappler for handling of logs, heavy debris, etc.



TRCM with Revolving Apron Plate



TRCM with Hydraulic Grab



TRCM with Hydraulic Boom Crane

Features of

- Hydraulic and electric controls are all accommodated inside weather proof control cabin.
- Rake can be operated automatically (automatic startup can be with pushbutton, and/or differential level controls) and manually to clean all the trashrack bays with one raking unit.
- Requires no conveyors. Can dump the raked debris directly into a truck.
- Flexible - Curved Track as an option.



TRCM with Hydraulic Telescoping Boom



Hydraulic TRCM



TRCM with Additional Gate/Trash Rack Lifting Mechanism

Hydraulic Trash Rack Cleaning Machine

Available in semi automatic and fully automatic variants. Operation for raking is completely hydraulic.

Positive raking force to pierce thick layer of debris for effective penetration, raking and cleaning hydraulically.

The cleaning length of a hydraulic jib trashrack cleaner has been limited to 15 or 20 meters for techno-economical and architectural (height) reasons.

The rake head is provided with replaceable scraper bar(s) and utilizes hydraulic controls to apply pressure against the trash rack during the cleaning process.

Inclined or vertical trash rack can also be cleaned without any requirement of additional guides.

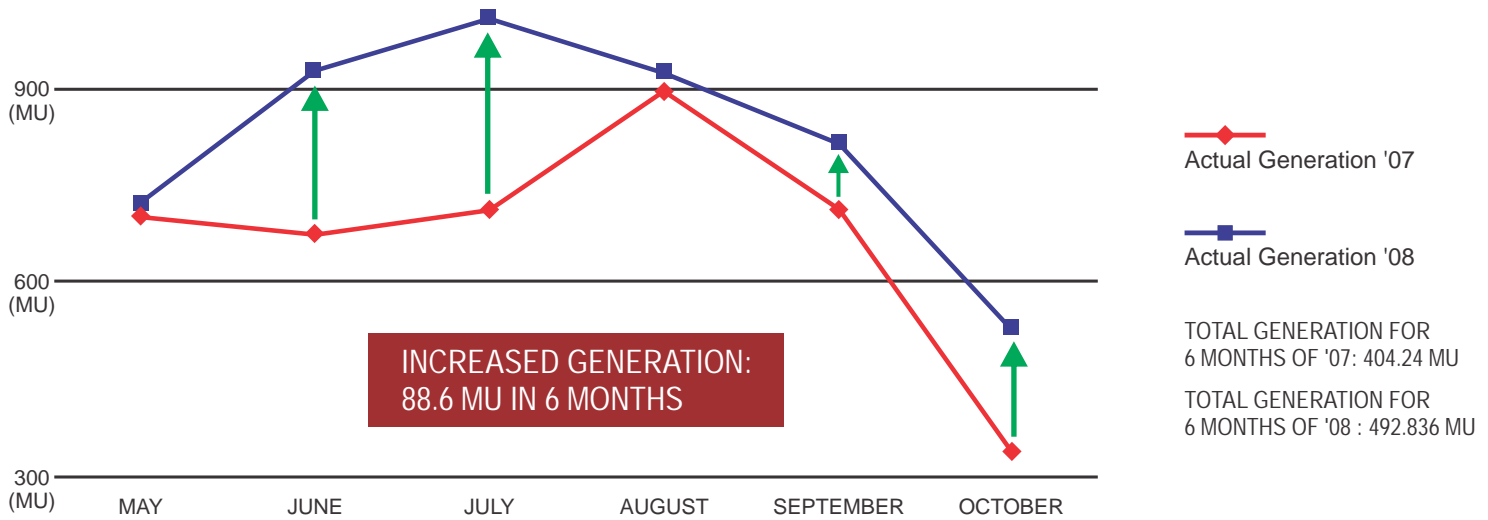
The Rake, when operated in manual mode can pick up floating debris in front of the intake.

All equipment are custom designed for site requirements and can be retrofitted to existing sites.

the Machine

- The machine can be supplied with several optional attachments. (i.e. hydraulic gripper, log gripper, cleaning rake etc.)
- The rake can be used to remove other equipment such as the trashracks or stoplogs for servicing with an optional attachment.
- Available in Rope Operated and Hydraulic Variants.
- Low maintenance, with no operating parts permanently submerged.

Generation Data (in Million Units) for 126 MW Hydro Electric Project in Himachal Pradesh, India Before vs After Installation of GMW TRCM (Actual Data)



WE ALSO EXECUTE ON EPC BASIS

HYDROMECHANICAL EQUIPMENT	: Vertical Lift Fixed Wheel Gates, Radial Gates with Rope Drum Operated or Hydraulically Operated Hoists for Barrages, Dams, Power Houses.
STRUCTURAL STEEL	: Fabrication and Erection of Heavy Steel Structures for Station Building, Coal Bunker, Switchyard etc. of Power Plants.
INTAKE EQUIPMENT	: Travelling Water Screens, Trash Racks, Bar Screens, Stoplog Gates, Mobile Cleaning Machines.
PIPING SYSTEM	: Piping Systems of Low Pressure, Fire Protection System, F.O. and Large Dia Piping for Thermal and Hydro Electric Projects.
TANKS	: Floating roof and fixed roof Storage Tanks for Fuel Oil, D.M. Water, Lube Oil, etc.
BALANCE OF PLANT (BOP)	: Design, Supply and Installation of BOP Systems for Power Plants.

SOME OF THE MACHINES INSTALLED

Sr. No.	Name of Customer	Brief Description of Work and Name of Project	Consultant
1.	Kurichha Hydropower Plant, DGPC, Mongar, Bhutan.	Hydraulic Trash Rack Cleaning Machine (TRCM) with Stoplog lifting mechanism configuration of Kurichhu Dam Intakes. (Under Execution)	DGPCL
2.	West Bengal State Electricity Distribution Company Ltd.	Trash Rack Cleaning Machine (TRCM), Trash Rack Additional Support system, required for TRCM and all related civil construction work on / near existing bridge of Power house-I of TCFHP.	WBSEDCL
3.	Orissa Hydro Power Corporation Ltd. Bhubaneswar	1 No. PLC Based fully Hydraulic Mobile Trash Rack Cleaning Machine including Trash Racks, differential level measurement systems for 3x24MW Chiplma Power House intake.	OHPC
4.	Druk Green Power Corpn. Ltd., Chhukha, Bhutan.	2 Nos. Hydraulically Operated Trash Cleaning Machines for Chhukha Dam Intakes.	--
5.	Himachal Pradesh State Elec. Board. Mandi, H.P.	1 No. Hydraulic Trash Rack Cleaning Machine with Grappler Device at Power Intake for Larji Hydro Electric Project (126 MW), Dist. Mandi.	--
6.	Tamil Nadu Electricity Board Erode.	1 No. PLC Based Automatic Trash Rack Cleaning Machine (TRCM) for Bhavani Kattalai Barrage - I [BKB-1 HEP (2 x 15 MW)].	--
7.	AD Hydro Power Ltd., Noida.	2 Nos. Trash Rack Cleaning Machines, Trash Racks for 2 x 96 MW Allain Duhangan Hydro Electric Project.	ICCS
8.	Tala Hydroelectric Project Authority Gedu - Bhutan	Trash Rack Cleaning Machine along with Hydraulic Grappler Device. at Tala Hydroelectric Project (1020 MW).	WAPCOS
9.	Irrigation Dept., Govt. of Uttaranchal, Uttarkashi	Mobile Trash Rack Cleaning Machine with Revolving Apron Plate for Power Intake at Maneri Bhali Stage - II.	--
10.	Satluj Jal Vidyut Nigam Ltd. Jhakri, Dist. Shimla (H.P.)	Trash Rack Cleaning Machine with Hydraulic Grappler Crane for Dam Intake of 1500 MW HEP.	--
11.	Hirbodan-EPC Company Tehran	Stoplogs with guides & Lifting Beam, Bar Screen, Automatic Raking Machine and Travelling Band Screen with Wash Water System for Neka Combined Cycle Power Plant Cooling System.	--
12.	Navyuga Engineering Co. Ltd. Visakhapatnam	2 Nos. Trash Racks, 2 Nos. Automatic Trash Cleaning Device, 08 Nos. Gates, 2 Nos. Travelling Water Screens for Simhadri TPP Stage-I (2x500 MW) of NTPC.	NTPC Fichtner



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